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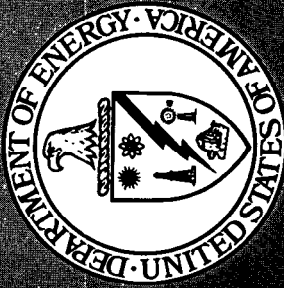
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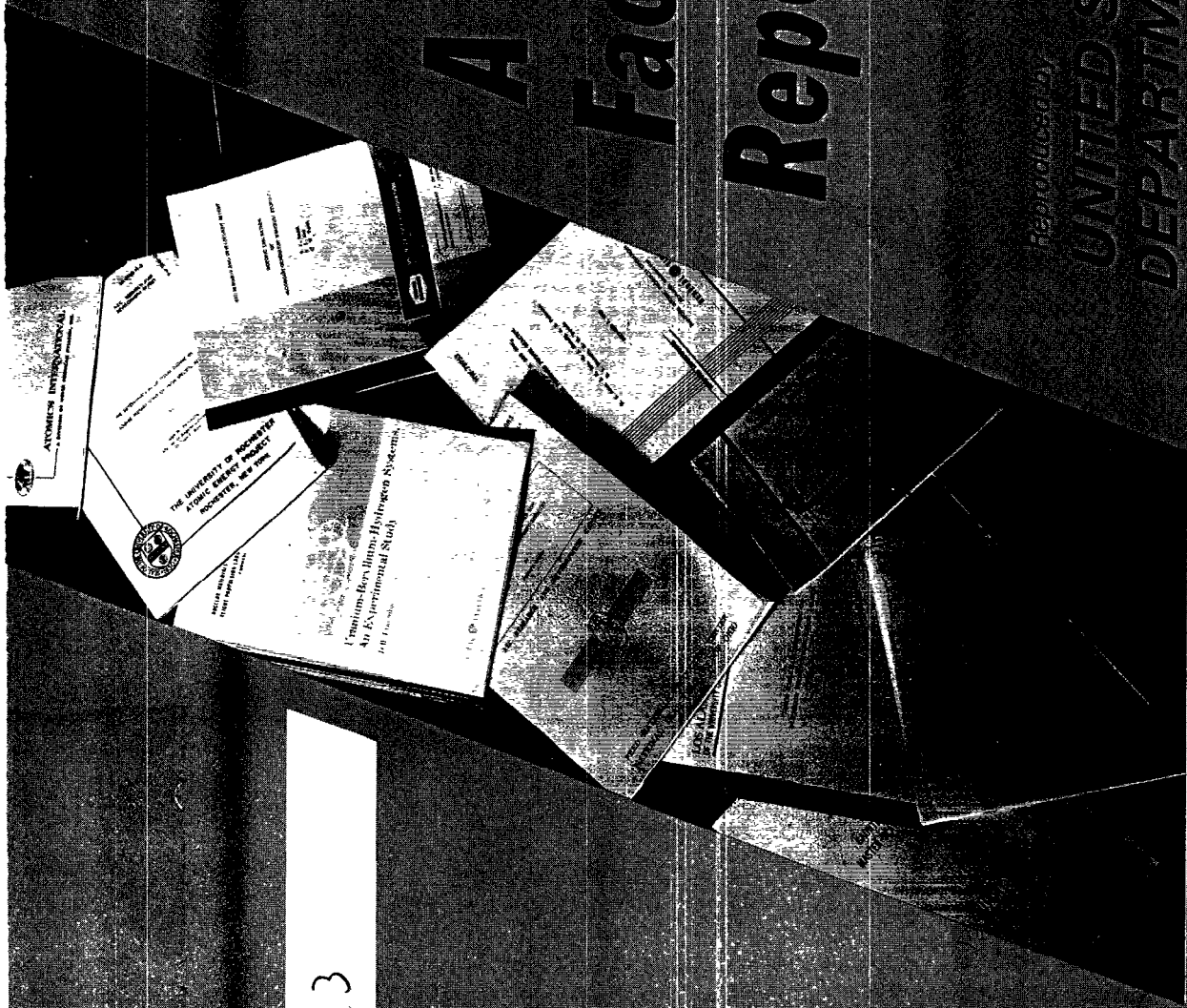
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SUMMARY OF GUMMED FILM RESULTS
THROUGH DECEMBER, 1959

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September 5, 1960.

U. S. ATOMIC ENERGY COMMISSION
New York Operations Office
Health and Safety Laboratory

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ABSTRACT

The data for gummed film fallout measurements through December 1959 are reported. While the initial purpose of the gummed film network was to determine the geographic distribution and time of arrival of fallout, considerable effort has been devoted to computation of strontium 90 deposition and infinity gamma dose. These latter computations have been satisfactory for the period of observation and furnish data for locations not covered by other types of measurement.

Detailed comparisons are made between strontium 90 estimates from gummed film and analyses made on pot and soil samples. Comparable tests of the gamma dose estimate are not possible.

The bulk of the report consists of summary tables for each gummed film station listing the monthly estimates of strontium 90 deposition and infinity gamma dose.

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In the Health and Safety Laboratory we are grateful to the gummed film staff for preparing and counting the enormous number of samples involved and to the staff of the Statistics Branch for handling the card punching, computation and printing of data. The strontium 90 analyses which have been used for comparison were made under the general direction of Edward P. Hardy, Jr. and Gerald Hamada.

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CONTENTS

	<u>Page</u>
ABSTRACT	ii
ACKNOWLEDGEMENTS	iii

SECTION I

INTRODUCTION	1
Historical	1
The Computation Model	5
Defects of System	7
EXPERIMENTAL DATA	10
Comparison of Duplicate Stations	11
Evaluation of Strontium 90 Data	14
Evaluation of Infinity Gamma Dose Data	23
SUMMARY	30
PROCEDURE FOR GUMMED FILM	32
Sampling	32
Sample Preparation	32
Counting	33
Data Handling	34
BIBLIOGRAPHY	36

SECTION II

MONTHLY SUMMARIES FOR INDIVIDUAL STATIONS	37
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For many years, gummed film sampling comprised the only widespread network for measuring fallout. This technique fulfilled its original purposes of delineating the geographic distribution of fallout and indicating the time of arrival of radioactive material. While the test pattern remained simple and included only fission devices, it was also possible to estimate individual long-lived nuclides such as Sr^{90} and to estimate the fallout infinity gamma dose.

More complex test patterns and delayed fallout from thermonuclear devices made the Sr^{90} and gamma dose estimates very difficult. Despite the complexities, considerable effort has been devoted to testing various mathematical models to allow computation of these two parameters and thus to extract the utmost from the available data. This report describes the model adopted and gives the results of these computations in some detail. In addition, comparisons have been made with more direct measurements of Sr^{90} fallout where these are available.

The data indicate that useful information on Sr^{90} deposition has been obtained by the gummed film technique. The gamma dose estimates cannot be confirmed, but are the best available for any network.

Historical

The first detection of radioactive fallout away from the site of the explosion was in Rochester, New York, in February of 1951, although Webb⁽¹⁾ had reported activity of unknown origin in paperboard in 1945. The Health and Safety Laboratory was subsequently given the responsibility of determining the relative fallout at distances beyond 200 miles from the Nevada test site. Later this responsibility was modified to delineating world-wide fallout from the megaton weapons fired in the Pacific and elsewhere.

The original measurements were extremely simple as only the total mixed fission product beta activity was required. These data gave information on the arrival of fallout and to some extent on the relative fallout contribution at different locations.

In the first network of 10 stations set up for the United States in the spring of 1951, the collector was a metal tray having an area of about 9 square feet. A layer of water was maintained in the tray and every twenty-four hours the contents were filtered to obtain the particulate activity. The water, including any rainfall, was collected in a polyethylene bottle. These samples were prepared for beta counting and measured with Geiger tubes against Radium D+E standards.

For the fall 1951 tests the network was expanded to 61 stations and 20 of these had gummed paper samplers as well as trays. These stations were operated for the Atomic Energy Commission by the U. S. Weather Bureau. The gummed papers were forwarded to the Health and Safety Laboratory for ashing and counting. The results on these stations were reported by the Health and Safety Laboratory in 1952.⁽²⁾

The network in the United States for the spring 1952 tests included 109 deposition stations with gummed paper samplers. The data were reported in 1953 by Eisenbud and Harley.⁽³⁾

During the fall 1952 Pacific tests the network consisted of 51 gummed paper stations in the continental United States and 60 elsewhere in North America and overseas. All later samplings were with a gummed acetate film instead of gummed paper which gave a smaller amount of ash. In the spring 1953 Nevada series, 96 U. S. stations and 29 others were in operation, and in the spring 1954 Pacific series, the network was 39 U. S. stations plus

81 others. These data were also reported by Eisenbud and Harley. (4,5)

The network since 1954 has been quite stable. In January 1959 it consisted of 46 U. S. stations, 68 elsewhere in North America and overseas and 64 maintained in cooperation with other countries through the United Nations.

As the approach to fallout problems became more sophisticated, it was desirable to have a measure of individual radionuclides, particularly Sr^{90} and to have an estimate of the gamma dose delivered to the population in various geographic areas. Actual Sr^{90} measurements could best be performed on monthly samples but, because of the radiochemistry involved, this collection system grew very slowly. It was apparent that it would be very useful if a reasonable estimate of the Sr^{90} deposition could be made from the total beta measurements on gummed film.

In the period before megaton weapons were fired, the radioactive debris stayed in the troposphere and was cleared out with an average life of about one month. Thus, it was usually possible to attribute fallout to a single burst and to make reasonable estimates of the Sr^{90} content based on total beta measurements. It was also possible by a knowledge of the nuclides produced, to estimate the infinite plane gamma dose.

The original calculations of Sr^{90} deposition from measurements of total beta activity on ashed gummed-film samples were performed as follows:

1. The activity measured on a given sampling day was attributed to the test immediately preceding that sampling day.
2. The measured activity on the counting day was extrapolated to a fixed day (usually the first day of the following year) by the formula

$$A = A_c \left[\frac{C - B}{E - B} \right]^{1.2}$$

where,

A_c = β activity on counting day

C = Counting day

B = Burst day

E = Extrapolation day

3. The Sr^{90} fraction of the total beta activity on this day was taken from modified Hunter and Ballou⁽⁶⁾ curves.
4. The Sr^{90} activity values for the individual days were summed by months and these sums added for the desired period. The same data were also used to compute an infinity gamma dose using the calculation system described by Hallden and Harley.⁽⁷⁾

The data reported for fallout through September 1955⁽⁵⁾ were based on the above computations, but comparison of the estimated Sr^{90} values with available radiochemical data showed the method was inadequate. The actual fallout was older and contained a higher percentage of Sr^{90} than the model indicated.

A new model was then devised to take stratospheric debris into account. Tests of this model appeared to give reasonable agreement between estimated and measured Sr^{90} . This was the general system:

1. Estimates of the yields of total fission products and of Sr^{90} were obtained for each weapon test.
2. The total fission-product yield for each test was added to the calculated fission-product residue from previous tests. (The $T^{-1.2}$ law was used for decaying total fission product activity.)
3. The combined fission-product yield was used to estimate an effective burst date. This was used with samples following each test to extrapolate from counting date to a fixed computing date.
4. The Sr^{90} activity from each test was added to the accumulated Sr^{90} from previous tests. (No Sr^{90} decay was included)
5. The Sr^{90} to fission-product beta activity ratio was computed and applied to the measured beta activity on each sample.

These data were reported by Eisenbud and Harley⁽⁸⁾ covering fallout through June 1957. The model was applied only to the results obtained after May 1956.

Unfortunately, later calculations have cast doubt on the validity of the effective burst date concept and actual errors of computation have been uncovered. The present model was designed to overcome some of the objections to the previous one. All of the data since the beginning of 1954 have been recomputed according to this third model.

It would have been technically possible to introduce a number of experimentally determined refinements into the model, but the cost of computation for some 375,000 pieces of data would have been prohibitive. Therefore, the relatively simple model described had to be accepted.

The Computation Model

The present model was designed to take into account new data on Sr⁹⁰ yield, stratospheric and tropospheric residence times and the decay of Sr⁹⁰. The model will first be outlined and then its defects will be discussed.

1. An estimate of the fission yield is obtained for each weapon test.
2. The value of 133 megacuries of beta activity per nominal bomb⁽⁹⁾ is used to obtain total megacuries of fission products at one day.
3. The value of 0.00105 percent of Sr⁹⁰ is used to obtain total megacuries of Sr⁹⁰ at one day.
4. The megacuries of mixed fission products produced in each test are decayed by the $T^{-1.2}$ law for each subsequent day and the results for all tests summed.
5. The megacuries of Sr⁹⁰ produced in each test are decayed with a half-life of 27.7 years for each subsequent day and the results for all tests summed.
6. Both the mixed fission products and Sr⁹⁰ are also corrected for tropospheric ($< 3/4$ MT) and stratospheric ($> 3/4$ MT) deposition using half-residence times of 20 days and 4 years respectively.

7. The mixed fission products existing on sampling day after decay and deposition corrections are further decayed to counting day.
8. The ratio of mixed fission products on sampling day (from all tests before sampling day) to that on counting day is used to correct the beta activity of individual samples back to sampling day.
9. The ratio of Sr^{90} to mixed fission products present from all tests on sampling day is used to compute the Sr^{90} deposition from the individual samples.
10. The daily values are summed to give the total deposition for the month. This value is divided by the number of actual samples in the month and multiplied by the expected number to give the final value for monthly Sr^{90} deposition. This value is as of the sampling month.
11. The computed beta activity on sampling day is treated by the method of Hallden and Harley⁽⁷⁾ to obtain the infinity gamma dose from fallout on that day. This calculation takes into account the apportionment of the computed beta activity among the debris of different ages.
12. The daily gamma values are summed and corrected as for the monthly Sr^{90} deposition.

The mathematical expressions are:

$$\frac{A_s}{A_c} = \frac{\sum_{i=1}^n \frac{I_{ni}}{(t_s - t_{ni})^{1.2}} e^{-\lambda(t_s - t_{ni})}}{\sum_{i=1}^n \frac{I_{ni}}{(t_c - t_{ni})^{1.2}} e^{-\lambda(t_c - t_{ni})}}$$

A_s = β Activity on sampling day dpm/ft²

A_c = β Activity on counting day dpm/ft²

i = Burst number

I_{ni} = Yield for burst i , Mc of mixed fission products at 1 day

t_s = Sampling day

t_{ni} = Burst day

λ = Deposition constant

$$\text{Sr}^{90} = \frac{A_s}{80} \cdot \frac{1.05 \times 10^{-5}}{D} \sum_{i=1}^n I_{ni} e^{-(\lambda + 6.8 \times 10^{-5})(t_s - t_{ni})}$$

Where

$$D = \sum_{i=1}^n I_{ni} \frac{1}{(t_s - t_{ni})^{1.2}} e^{-\lambda(t_s - t_{ni})}$$

$$\text{Sr}^{90} = \text{mc/mi}^2 \text{ of Sr}^{90}$$

$$\lambda = 3.5 \times 10^{-2} \text{ for } I_{ni} \text{ 5000 (Tropospheric)}$$

$$\lambda = 4.7 \times 10^{-4} \text{ for } I_{ni} \text{ 5000 (Stratospheric)}$$

$$\text{Dose} = A_s \frac{3.0 \times 10^{-6}}{D} \sum_{i=1}^n I_{ni} \frac{1}{(t_s - t_{ni})^{1.425}} e^{-\lambda(t_s - t_{ni})}$$

Dose = Infinity γ dose in millirads

Defects of System

There are a number of defects in the overall gummed film system and in fact, it only deserves the effort expended because there were no other types of sampling available for the time and locations at which most of these measurements were made. These defects will be discussed individually even though it is not possible to give good numerical estimates of the errors involved.

1. The measurement is a total beta count only and is subject to the errors of self-absorption and the change in average energy of mixed fission products with time. The self-absorption is partially corrected for by using basic standards with the same weight of material as found in the average fallout sample. No correction is made for such heavy or light samples as may appear from time to time. The average energy of the mixed fission products has been calculated in this Laboratory based on the assumptions that the average energy is one-third the maximum energy of the beta particle and that the percentage of each isotope in fallout samples follows the Hunter and Ballou⁽⁶⁾ calculations.

The average energies calculated on this basis are:

10 days	0.32 Mev
80 days	0.30 Mev
150 days	0.28 Mev
2 years	0.48 Mev

The average energy of potassium 40 according to Marinelli, Brinkerhoff and Hine⁽¹⁰⁾ is 0.40 Mev. We believe this to be the best approximation of the energy for mixed fission products among the available long-lived isotopes.

2. There are losses both in the collection process and in the sample processing. These are corrected for only by the overall factor of 1.6 relating mixed fission product β activity found in pot samples to that found in composite gummed film samples for the same periods. This factor of 1.6 was shown to be a good average value for New York City over a period of two years in 1954 and 1955, but does not necessarily apply to each individual sample. Welford⁽¹¹⁾ has shown the relative loss of several nuclides and has found a factor of 1.85 for the year 1958.
3. The general formula depends on the $T^{-1.2}$ law which is not absolutely applicable to each sample and each type of debris. On the average, however, for fallout remote from the test site, it is the best value presently available. (Later reports, such as NRDL-247 indicate an exponent of -1.25 which is not appreciably different.)
4. No allowance is made for fission product fractionation or for induced activities. The fractionation is probably less critical at considerable distances from the test site but radiochemical data are not available for checking this point. Most of the induced activities are of relatively short half-life and are not counted with the time lag inherent in the system.
5. The general formula does not allow for differences in geographic distribution of the debris. (For instance the 1958 USSR polar tests did not appear in the southern hemisphere). All samples are treated by the same formula. The effect of this can only be shown by comparing computed Sr^{90} values with the few data available for measured Sr^{90} deposition.
6. The general formula does not allow a time lag for the debris to reach different geographic areas. The inclusion of such a lag would have made the computation impossibly complex.
7. The general formula does not allow for distribution of megaton debris between the stratosphere, troposphere and local deposition. This could have been included but would have essentially doubled the computation. This was not considered worth while since the estimates of this distribution are of doubtful validity.

8. The general formula does not allow for the cases when almost all of the debris came from a single burst. The individual daily results, however, have been reviewed. Where the presence of fallout, known trajectories and supplementary data indicate that the fallout does result largely from a single burst, corrections have been made individually. This, of course, results in decreasing the Sr⁹⁰ and gamma dose values for these particular samples. Since only markedly high values can be detected, the process may destroy the relationship between stations so corrected and those not corrected.

EXPERIMENTAL DATA

For the most part, the experimental data are derived from the average of duplicate daily gummed film samples analyzed as described in the section on Procedure. The monthly summaries of estimated Sr^{90} deposition and infirity gamma dose make up the bulk of this report, but certain data have been extracted in this section to compare with more direct measurements or with other estimates. The evaluations are separated into comparison of duplicate stations, Sr^{90} data and gamma dose data. There are certain cases where daily data are not available. Since these may enter into the evaluations attempted, they are described below.

During certain periods in 1955 and 1956, the daily gummed film samples were composited on a monthly basis for counting. The purpose of this compositing was not to reduce the counting load but was an attempt to collect sufficient gummed film ash to make a radiochemical analysis for Sr^{90} . This effort was not successful as it was found that the collection efficiency for Sr^{90} was considerably poorer than the efficiency for the total mixed fission products. This was later confirmed by Welford⁽¹¹⁾ in his measurements on New York City samples.

The composite samples have been treated in the computation process as though all activity had been deposited on the 15th of the sampling month. This should not lead to any marked computation errors since the compositing was only carried out during periods or at stations where local fallout was not expected. All composite samples are marked as such in the summary tables for each station.

Because of the large number of samples being handled and because of difficulties in the field, there are not always sufficient daily samples

to justify a monthly summary. In the data tables, we have arbitrarily taken the reporting of less than 10 days in the month to be an insufficient sample. As it is desirable to obtain an estimate of cumulative values for comparison with soil data and to approximate the total deposition where other data are lacking, missing months have been filled in by geographic interpolation. In the arbitrary system selected, the three closest stations are averaged for geographic interpolation with some weight being given to the months immediately before and after the missing month. These interpolated estimates are marked as such in the summary tables for each station.

Comparison of Duplicate Stations

Since duplicate films were exposed daily at most of the network stations, there is a considerable body of data on paired samples at the same location. A statistical treatment of the duplicates is planned as an exercise in mathematical statistics, but this project will not be complete for some time. It might be noted that visual inspection shows remarkable agreement for the most part. This may be taken as an indication that we are usually dealing with a statistically valid number of particles deposited on each film.

It is possible to compare results from two stations in the same city for a few cases. Such data have been tabulated for New York City (Table 1) and for Tokyo and Durban (Table 2). While it is not necessarily true that such paired stations will give identical results, they should be close.

The tables indicate a number of differences, but the overall agreement is reasonable. It is not possible to attribute errors individually to sampling, analysis, or computation.

TABLE 1

Comparison of Two Gunned Film Stations at New York City,
 HASL (136) and La Guardia Airport (117)
 mc/mi² of Strontium 90

Month	1954		1955		1958	
	136	117	136	116	136	117
1	-	-	.12	.03*	-	-
2	.51	.05	.33	.27	.34	.36
3	.07	.04	-	-*	.76	.81
4	.09	.05	-	-	2.69	2.03
5	.22	.06	-	-	.72	.82
6	.09	.07	.92	.68	.64	.56
7	.06	.06	.27	.10*	.36	.73
8	.11	.08	.38	.10*	.20	.25
9	.27	.26	.23	.11*	.41	.32
10	.10	.10	.20	.26*	.72	.87
11	1.44	.47	.13	.25	.78	.75
12	.14	.08*	.20	.16	.86	.63

* Composite Sample

- Data missing for HASL Station (136)

TABLE 2a

Comparison of Two Gunned Film Stations at Tokyo
mc/mi² of Strontium 90

<u>Year</u>	<u>Month</u>	<u>Station 805</u>	<u>Station 820</u>
1956	11	0.33	0.21
	12	0.20	0.22
1957	1	0.27	0.21
	2	0.75	0.53
	3	0.70	0.55
	4	1.13	3.59
	5	0.90	1.23
	6	0.58	0.53
	7	0.86	1.21
	8	0.35	0.37
	9	0.61	0.87

TABLE 2b

Comparison of Two Gunned Film Stations at Durban
mc/mi² of Strontium 90

<u>Year</u>	<u>Month</u>	<u>Station 713</u> <u>Univ. of Durban</u>	<u>Station 723</u> <u>Natal Airport</u>	
1957	6	0.04	0.06	
	7	0.13	0.19	
	8	0.20	0.29	
	9	0.20	0.23	
	10	0.21	0.05	
	11	0.08	0.08	
	12	0.07	0.22	
	1958	1	0.08	0.11
		2	0.03	0.22
		3	0.01	0.47
		4	0.01	0.01
		5	0.10	0.18
6		0.03	0.03	
7		0.07	0.05	
8		0.05	0.19	
9		0.18	0.19	
10		0.10	0.16	
11		0.09	0.03	
12		0.09	0.07	

Evaluation of Sr⁹⁰ Data

In estimating the validity of gummed film values for Sr⁹⁰, we have available radiochemical Sr⁹⁰ measurements in monthly pot samples and in soil samples. The earliest useful pot data began in April 1954 at New York City but even as late as January 1957, only a few stations were available. For the soil collections, a few locations were sampled in October of 1955 and a larger number in 1956 and 1958.

Pot samples, like gummed film, are a measure of fallout rate. The analyses are available on a monthly basis and no decay corrections are required.

The comparison of calculated and measured values must be made with a degree of caution and the pot values should not be automatically assumed as correct. In all of the comparative tables we have indicated where certain pot values are suspect. Suspicion is raised where other radiochemical data, such as Strontium-89/90 ratios indicate possible error in the Sr⁹⁰ analysis. It is also possible, of course, that other pot samples may have suffered losses in the sample transfer without disturbing the 89/90 ratio. There is a possible added factor in that many pot-gummed film comparisons are made for cases when the two collectors are separated by some distance even though in the same city.

Three sets of data are presented for New York City. Table 3 shows the pot data and the computed Sr⁹⁰ values based on the original single burst assumption for several months in 1956. The computed Sr⁹⁰ is obviously very low and the apparent age of the fallout is much greater than was assumed. This disagreement was the reason for seeking a better model.

Table 4 compares pot values with Sr⁹⁰ computed by the present model. Inspection of this table brings out several points:

TABLE 3

Comparison of Pot Analyses With Single Burst
Gummed Film Estimates of Sr⁹⁰ (New York City)

<u>Sampling Period</u>	<u>Pot Sr⁹⁰ mc/mi²</u>	<u>Gummed Film Sr⁹⁰ Estimate (mc/mi²)</u>
May 1956	0.83	0.11
June	.63	.01
July	.72	.03
August	.53	.05
September	.32	.04
October	.54	.03
November	.51	.03

TABLE 4

New York City
Comparison of Pot Analyses and
Gummed Film Estimates of Strontium 90 (mc/mi²)

Month	1954		1955		1956		1957		1958		1959	
	Pot	Film	Pot	Film	Pot	Film	Pot	Film	Pot	Film	Pot	Film
1	--	--	0.23	0.03**	0.27	0.31**	0.27	0.25	1.28	0.80	1.39	1.29
2	--	0.05	0.87	0.27	1.07	0.77	0.52	0.34	1.23	0.36	1.63	1.12
3	0.59	0.04	2.43	1.57*	1.78	0.33**	1.04	0.76	0.89	0.81	5.10	2.18
4	0.88	0.05	1.24	1.11*	0.81	1.48**	4.81	3.32	1.52	1.72	6.28	2.45
5	0.38	0.06	0.94	0.83*	0.83	1.35	0.93	0.51	2.63	0.82	1.49	1.17
6	0.48	0.07	0.82	0.68	0.63	0.27	0.82	0.58	1.75	0.56	4.82	0.88
7	0.15	0.06	0.38	0.10**	0.72	0.33	0.84	0.84	1.58	0.28	0.49	0.01
8	0.26	0.08	0.70	0.10**	0.53	0.25	0.50	0.56	0.60	0.25	0.68	0.10
9	1.40	0.26	0.51	0.11**	0.32	0.46	0.41	0.92	0.65	0.32	0.12	0.08
10	0.27	0.10	0.47	0.26**	0.54	0.22	0.38	0.37	1.06	0.87	0.36	0.05
11	0.81	0.47	0.35	0.25	0.51	0.28	0.42	0.42	0.98	0.75	0.31	0.04
12	0.33	0.08**	0.55	0.16	0.55	0.33	0.60	0.66	1.77	0.63	0.51	0.06
Pot/film ratio	4.37		1.73		1.34		1.20		1.95		2.46	

* Corrected for local fallout

** Monthly composite gummed film

1. The gummed film results tend to be low when compared to pot analyses.
2. Results from composite samples are even lower with respect to the pot analyses than the summed daily values compared in adjoining months.
3. The highest daily pot/film ratios are found in 1954, and the next highest are found in 1958 and 1959.
4. The daily pot/film ratios are generally good during 1955, 1956 and 1957.

Since the composite gummed film results were excessively low, a comparison was made for the months of February through June of 1955 where the samples from stations in the United States were run by both methods. This comparison showed the summed daily values to be 5 times as high as the composites on the average. This value may not be generally applicable and has not been used in preparing the summary tables for individual stations. The most probable causes are loss of sample in compositing and insufficient correction for self-absorption.

The monthly pot samples collected in New York City from 1954 through 1958 were analyzed for total β activity as well as for Sr^{90} . These total β activity values have been treated by the present model, assuming the monthly collection to have been a single sample taken on the 15th of the month. (Pot samples before January 1957 were collected weekly and the effective date was taken as mid-week). This computation allows comparison of calculated and measured Sr^{90} from the same collector.

The data in Table 5 show a marked improvement over the comparison made in Table 4. This is surprising, since they are based on the same model and a factor (1.6) has been included to correct for gummed film efficiency. The difference is very marked for 1958, and an inspection of the

TABLE 5

Comparison of Sr^{90} Values Measured in Pot Samples Collected In
New York City With Those Computed From Total β Activity in The Same Pot Samples
Data Given in mc/mi^2

Month	1954		1955		1956		1957		1958	
	Meas.	Comp.	Meas.	Comp.	Meas.	Comp.	Meas.	Comp.	Meas.	Comp.
1	-	-	0.23	0.04	0.27	.52	0.27	-	1.28	1.41
2	-	-	0.87	0.27	1.07	.64	0.52	0.37	1.23	.99
3	0.59	-	2.43	2.51	1.78	1.71	1.04	0.68	0.89	2.58
4	0.88	0.26	1.24	1.50	0.81	1.88	4.81	1.38	1.52	4.50
5	0.38	0.05	0.94	-	0.83	1.10	0.93	1.12	2.63	1.84
6	0.48	0.03	0.82	0.74	0.63	0.13	0.82	0.94	1.75	.72
7	0.15	0.05	0.38	0.12	0.72	0.22	0.84	2.26	1.58	1.11
8	0.26	0.07	0.70	0.33	0.53	0.58	0.50	2.83	0.60	.35
9	1.40	0.56	0.51	0.16	0.32	0.73	0.41	2.65	0.65	.54
10	0.27	0.15	0.47	0.31	0.54	0.26	0.38	0.51	1.06	2.67
11	0.81	0.70	0.35	0.26	0.51	0.47	0.42	0.01	0.98	.98
12	0.33	0.21	0.55	0.14	0.55	0.64	0.60	0.92	1.77	1.91
Meas/comp. Ratio	2.38		1.34		0.96		0.82		0.81	

total β activity relation for routine pots and films was made. The total β ratio of pot/film for 1958 was found to be 2.25 rather than 1.6.

The change in collection efficiency factor does not account for the difference between the computed values for pots and gummed film. It is not possible to evaluate the numerous other factors, such as the use of a single sampling date for a monthly collection; and no explanation is available.

Data for pot-gummed film comparisons at locations other than New York City are presented in Tables 6, 7 and 8. Since the earliest results are for 1957, there is no confirmation of the low estimates for 1954. As was the case for New York City, the 1957 comparison is better than that for 1958 and 1959.

It has been found from the HASL pot network data that little of the debris from the USSR tests in the fall of 1958 appeared far south of the equator. The model would be expected to strongly underestimate the Sr^{90} in the lower latitudes at the end of 1958 and in 1959. The data from Durban and Pretoria in Table 7 seem to confirm this.

Soil analyses provide only cumulative Sr^{90} deposition data, and not deposition rates. Since the inherent error (not including sampling) in soil analysis is about 10%⁽¹²⁾, the subtraction of Sr^{90} soil values to obtain deposition rate is not satisfactory. Thus, the only valid comparison of gummed film data with soils is for accumulated deposition.

There is a factor not accounted for in the comparisons made here. Soil values are reported as of the time of collection, while the summed gummed film values are as of their collection date. These summed values are therefore too high by about 3% per year, as no allowance has been made for Sr^{90} decay after deposition.

TABLE 6

Comparison of Pot Analyses and Gunned Film Estimates of Strontium 90
Data given in mc/mi²

		Chicago		Salt Lake City		Los Angeles		Nagasaki		Hiroshima	
		Pot	Film	Pot	Film	Pot	Film	Pot	Film	Pot	Film
1957	1	0.30	.29	0.80	.47	0.99	.45	1.01	.93	0.29	.32
	2	0.27	.35	0.83	.59	0.76	.27	0.17	.51	0.53	.29
	3	0.47	.49	2.39	1.53	0.09*	.37	0.38	.36	0.23	.48
	4	1.15	.86	2.30	1.78	0.84	.56	1.98	1.16	1.12	1.33
	5	0.27	.67	0.81	1.49	0.24	.20	0.72	.37	0.57	.59
	6	0.48	.75	1.61	2.07	0.12	.16	0.27	.19	0.49	.23
	7	1.57	1.34	0.94	2.40	0.92	.39	1.07	.85	0.82	.56
	8	0.75	.65	1.28	2.06**	0.05	.08	0.46	.34	0.05	.07
	9	0.10	.79	0.15*	1.88**	0.04	.14	0.26	.19	0.28	.36
	10	0.22	.27	0.99	1.77	0.26	.19	0.21	.28	lost	.30
	11	0.15	.14	0.41	.31	0.27	.16	0.19	.09	0.14	.09
	12	- -	.49	0.64	.43	0.20	.46	0.17	.39	0.36	.23
1958	1	0.30	.16	0.70	.39	0.44	.23	0.60	.38	0.24	.30
	2	lost	.19	1.10	.49	0.90	.36	0.55	.32	0.25	.24
	3	lost	1.24	1.47	2.26	1.30	.93	1.13	.69	0.92	.82
	4	0.57	2.37	2.10	3.69	1.60	.76	2.52	1.22	3.37	1.83
	5	0.79	.96	1.30	1.69	0.05*	.27	1.75*	.24	1.06	.52
	6	4.87	1.49	0.28	.75	0.10	.05	0.88	.49	0.64	.35
	7	0.09*	.56	0.06*	.59	0.16	.06	2.10	2.60	0.43	1.39
	8	3.67*	.44	0.71	.57	0.08	.15	0.50	.33	2.66*	.29
	9	0.33	.21	- -	.24	0.08	.08	0.26	.10	0.42	.20
	10	0.76	.35	0.10	.38	0.15	.14	0.55	.30	0.79	.58
	11	1.04	.39	0.26	.42	0.11	.18	0.61	.22	0.71	.27
	12	0.42	.25	- -	.95	0.07	.12	2.16	.72	0.57	.40
1959	1	1.00	0.38	2.46	1.27	1.82	0.42	3.00	1.10	1.81	0.85
	2	- -	0.76	2.56	1.24	3.31	1.54	2.14	1.09	2.45	1.27
	3	- -	3.41	4.56	1.21	0.10	0.42	3.74	1.56	5.55	2.77
	4	4.41	2.62	5.84	2.64	0.63	0.67	7.60	2.53	6.52	2.39
	5	4.19	2.01	- -	3.77	0.22	0.16	3.02	0.93	0.40	0.99
	6	0.58	0.52	2.40	1.44	0.09	0.08	0.74	.35	1.09	0.57
	7	0.33	0.17	0.53	0.41	0.09	0.06	1.73	.64	- -	0.51
	8	- -	0.08	- -	0.25	0.05	0.06	0.19	.18	- -	0.16
	9	0.90	0.08	0.69	0.20	0.03	0.05	0.13	.04	0.04	0.09
	10	- -	0.08	0.25	0.15	0.12	0.09	0.06	.08	0.27	0.09
	11	- -	0.05	0.93	0.15	0.03	0.02	0.09	.06	0.13	0.10
	12	- -	0.05	0.26	0.10	0.39	0.11	0.36	.08	0.16	0.07

* Pot Value Suspect

** Best Estimate, Not Formula

TABLE 7

Comparison of Pot Analyses and Gunned Film Estimates of Strontium 90
Data given in Mc/mi²

		<u>Miami</u>		<u>Honolulu</u>		<u>Bangkok</u>		<u>Durbin</u>			<u>Pretoria</u>		<u>Vienna</u>	
		Pot	Film	Pot	Film	Pot	Film	Pot	Film	Film	Pot	Film	Pot	Film
								713	723					
1957	7	1.51	1.25	0.42	.47	0.02	.36	0.01	.13	.19	0.06	.43	1.95	.91
	8	0.75	1.17	0.31	.27	0.04	.32	0.10	.20	.29	0.07	.11	0.79	1.29
	9	0.52	.35	0.16	.26	0.07	.01	0.23	.20	.23	0.45	.14	0.59	2.12
	10	0.41	.45	0.13	.12	0.02	.18	0.24	.21	.05	0.19	.13	0.03	.09
	11	0.29	.15	0.64	--	0.01	.01	0.32	.08	.08	0.10	.05	0.22	.20
	12	0.63	.22	0.57	--	--	.02	0.22	.07	.22	0.12	.08	0.11	.09
1958	1	0.29	.19	0.71	.27	0.12	.07	0.02	.08	.11	0.10	.08	0.16	.17
	2	0.22	.14	0.36	.16	lost	.03	0.18	.03	.22	0.06	.19	0.27	.39
	3	0.60	.19	1.33	.89	0.04	.02	0.09	.01	.47	0.11	.10	0.35	.60
	4	0.49	.17	0.84	.51	0.04	.07	0.46*	.01	.01	0.17	.04	0.71	.79
	5	1.70	.34	1.15	.58	0.05	.19	0.91*	.10	.18	0.49	.47	0.69	.51
	6	1.39	.22	1.21	.38	0.17	.15	0.04	.03	.03	0.02	.07	3.13*	.84
	7	0.77	.15	0.07*	.53	0.40	.65	0.44*	.07	.05	0.05	.05	1.07	.33
	8	6.20*	.41	0.70	.22	0.23	.25	0.02	.05	.19	0.01	.04	1.84	.31
	9	0.60	.21	0.73	.12	0.04	.10	0.40	.18	.19	0.59	.22	0.02*	.09
	10	0.74	.22	1.56	.19	0.12	.02	0.38	.10	.06	0.86	.19	0.76	.17
	11	0.63	.13	0.49	.13	0.02	.03	0.60	.09	.03	0.36	.19	0.48	.13
	12	1.86	.51	1.12	.45	0.03	.03	0.60	.09	.07	0.76	.06	1.17	.58
1959	1	1.16	0.46	2.21	0.96	0.01	--	0.56	0.10	0.13	0.48	0.10	0.43	0.32
	2	0.90	0.73	3.91	1.48	0.05	0.25	0.14	0.12	0.08	0.52	0.06	--	0.69
	3	6.00	1.30	4.86	1.08	0.54	0.18	--	0.07	0.26	0.13	0.00	1.15	0.71
	4	--	0.68	2.11	0.85	0.05	0.19	0.17	0.72	0.09	--	0.16	3.87	2.44
	5	3.52	0.81	1.61	1.96	0.14	0.56	0.24	0.04	0.18	0.08	0.20	2.59	1.93
	6	--	0.42	1.07	0.23	0.25	0.17	0.05	0.04	--	0.03	0.22	4.15	1.84
	7	1.72	0.19	--	0.10	0.48	0.19	0.08	0.13	0.10	0.05	0.20	2.32	0.88
	8	0.50	0.12	--	--	0.11	0.12	0.17	0.10	0.21	0.00	0.19	0.94	0.45
	9	0.46	0.06	--	--	0.06	0.63	--	0.07	0.15	0.12	0.18	0.05	0.25
	10	0.17	0.04	--	--	0.03	0.08	0.24	0.12	0.10	0.07	0.11	--	0.29
	11	0.20	0.06	--	--	0.00	0.06	0.43	0.09	0.11	0.17	0.07	0.08	0.16
	12	--	0.06	--	--	0.16	0.10	0.27	0.09	0.07	0.24	0.08	--	0.08

* Pot Value Suspect

TABLE 8

Comparison of Pot Analyses and
Gummed Film Estimates of Strontium 90
Data Given in mc/mi²

		<u>Bogota</u>			<u>Karachi</u>	
		Pot	Film 615	Film 621	Pot	Film
1958	1	.04	.18	.17	- -	- -
	2	.04	.17	- -	.02	.25
	3	.12	.08	.03	.07	.12
	4	.02	.02	.02	.13	.19
	5	.12	.02	.10	.39	.41
	6	.02	.06	.04	.07	.30
	7	.10	.15	.08	.29	.31
	8	.20	.06	.16	.15	.21
	9	.06	.05	.04	.06	.04
	10	.09	.05	.04	.06	.04
	11	.10	.03	.06	.04	.10
	12	- -	.04	.05	lost	.30
1959	1	- -	0.13	0.06	0.29	0.32
	2	0.06	0.08	0.09	- -	0.39
	3	0.07	0.02	0.06	0.15	
	4	0.25	0.09	0.12	0.47	0.61
	5	0.02	0.07	0.06	- -	0.40
	6	- -	0.03		- -	0.44
	7	- -	0.23		0.47	0.41
	8	0.04			0.06	0.31
	9	0.02		0.07	0.11	0.25
	10	- -		0.07	- -	0.11
	11	0.33		0.03	0.12	0.14
	12	- -		0.03	- -	0.10

Table 9 presents comparisons of soil analyses and gummed film estimates for 17 sites in the United States. Once again, the model produces low results, particularly for the 1958 samplings.

It should be noted that the gummed film estimate is high for Albuquerque, Grand Junction and Salt Lake City in 1955, 1956 and 1957. Even the 1958 estimates are high for the first two. This has been studied in some detail and is not considered to be the result of local fallout. The pot-film comparison for Salt Lake City in Table 6 shows high film estimates even when no local fallout is present, such as in the spring of 1958. A possible explanation is an increased collection efficiency for the gummed film in dry areas. This may be enhanced by the collection of windblown material by the film. The windblown debris on the soil may later be blown off, while this is not possible with a gummed surface.

Table 10 presents the data available for other soil sampling sites. The results appear similar to those in previous tables, but the agreement is better than for U. S. soil sites.

Evaluation of Infinity Gamma Dose Data

There are no data at hand by which the gamma dose calculated from the gummed film measurements can be checked. While dosimetric measurements have been possible at a few locations following relatively high fallout from single bursts, no direct measurements are available on a continuous basis.

Gustafson⁽¹³⁾ has made some spectrometric measurements on soils and computed the gamma dose rate for the vicinity of Chicago. This is a laborious process and again, repeated observations over any extended period have not been reported.

TABLE 9

Comparison of Soil Analyses and Gunned Film
 Estimates of Sr⁹⁰ at 17 Sites in the United States
 Data given in mc/mi²

Location	Oct. '55		Oct. '56		Oct. '57		Oct. '58	
	Soil	Film	Soil	Film	Soil	Film	Soil	Film
Albuquerque	5.1	16.2	9.3	22.8	20.5	34.0	27.2	43.6
Atlanta	7.9	8.6	16.1	13.6	20.2	20.9	36.9	26.1
Binghamton	11.4	4.5	17.3	7.5	22.8	12.0	39.6	17.0
Boise	16.2	10.1	23.4	15.3	22.2	23.2	38.8	31.2
Des Moines	8.9	8.2	28.0	14.4	24.2	25.3	55.2	32.0
Detroit	11.1	9.1	21.9	15.2	29.9	20.8	39.9	25.8
Grand Junction	3.8	18.9	7.5	24.8	23.7	35.4	38.9	43.5
Jacksonville	8.7	5.8	8.6	8.6	25.5	15.7	36.0	20.9
Los Angeles	2.1	3.6	9.9	5.7	8.3	8.8	18.8	12.4
Memphis	15.8	11.0	20.8	14.7	38.0	22.6	36.8	28.9
New Orleans	7.8	9.1	11.1	14.4	30.4	22.8	33.9	28.4
New York	12.6	7.9	24.1	14.1	34.0	23.1	- -	31.0
Philadelphia	8.8	8.7	15.4	12.8	22.7	18.2	43.7	23.4
Rapid City	19.5	6.7	30.3	10.5	31.7	18.4	74.1	21.9
Rochester	8.0	6.9	18.0	11.2	27.9	16.5	34.1	21.5
Salt Lake City	13.9	24.5	24.1	31.8	20.0	48.4	75.2	60.2
Seattle	7.8	5.6	19.3	10.4	27.5	14.8	30.7	21.6

TABLE 10

Comparison of Soil Analyses and Gunned Film
 Estimates of Strontium 90
 Data given in mc/mi²

Location	1956			1958		
	Sampling Month	Soil	Film	Sampling Month	Soil	Film
Fairbanks, Alaska	8	4.2	7.0	6	12.5	12.6
Panama Canal Zone	1	4.9	2.6	2	7.1	7.4
		6.0			9.0	
Lima, Peru	1	3.8	2.4	2	2.2	5.2
Buenos Aires, Argentina	1	2.6	2.7	2	11.2	6.2
Bogota, Columbia	1	2.5	2.5	2	4.7	6.0
Oslo, Norway	8	11.6	4.9	9	28.6	12.7
Durban, Union of South Africa	9	4.7	4.0	3	6.9	5.8
		3.2				
Hiroshima, Japan	4	5.5	5.0			
Nagasaki, Japan	4	3.8	6.0			
Tokyo, Japan	4	1.8	7.0	2	30.4	17.9
					24.6	
Melbourne, Australia	4	3.0	3.7			
Wellington, New Zealand	4	3.3	2.5	3	9.7	4.8
Singapore	4	2.6	4.1	2	4.2	6.4
		3.2				
Sydney, Australia	4	5.6	4.0			
Wake Island	4	8.6	4.7	2	20.2	11.9
Canton Island	11	3.5	2.8	2	4.7	5.1
					11.3	
Honolulu, Hawaii	11	7.7	6.3	2	32.6	11.3

The original computation of gamma dose from total beta activity on gummed film⁽⁷⁾ was developed to meet this lack of suitable dose estimates. Unfortunately, the gamma dose calculations are subject to the same errors in evaluating multiple bursts as the Sr⁹⁰ estimates.

The gamma dose computed is the air dose to infinite time from uniform fallout on an infinite smooth plane. No reduction for shielding or weathering has been introduced, nor has there been included any build-up factor for scattering. The usual overall reduction factor is 10⁽¹⁴⁾ for converting to gonad dose. It might be noted here that the thirty year dose is only slightly less than the infinity dose.

There is a second possible estimate of gamma dose. If we assume that Cs¹³⁷ is produced and deposited in a fixed ratio to Sr⁹⁰, the dose from Cs¹³⁷ can be computed. The calculations are based on the same assumptions as the total beta activity⁽⁷⁾. The modified formulas are:

$$\text{Dose} = 6.64 \times 10^{-10} \sum N \text{ in mrad}$$

where,

$$\text{Dose} = \text{Cs}^{137} \text{ infinity } \gamma \text{ dose in millirads}$$

$$\sum N = \text{Total Cs}^{137} \text{ gamma disintegrations to infinity per sq. ft.}$$

Accepting a half-life for Cs¹³⁷ of 26.6 years and an initial β dpm ratio for Cs¹³⁷/Sr⁹⁰ of 1.75, there would be 2.8×10^9 Cs¹³⁷ β disintegrations to infinity per sq. ft. for each mc/mi² of Sr⁹⁰. This would give 2.3×10^9 Cs¹³⁷ γ disintegrations per sq. ft.

The final formula would be:

$$\text{Dose} = 1.5 (\text{mc/mi}^2 \text{ Sr}^{90}) \text{ in mrad}$$

The estimate of gamma dose based on Cs¹³⁷ will be extremely low for fallout occurring shortly after a test and will improve with age of the debris.

Since the dose calculation for Cs^{137} requires only multiplication of the Sr^{90} mc/mi^2 by 1.5, this has not been done for the general tables. The comparison has been made in Table 11, however, for the dose deposited each year at New York City. The same data are shown in Table 12 for Salt Lake City, where a larger proportion of fresh fallout might be expected.

In Table 11, the gamma dose estimate from the pot Sr^{90} determinations is the highest, as would be expected from the New York City Sr^{90} comparison of pots and films. The Cs^{137} Film/Total γ Film ratios are the same for the two cities, indicating that the high yield tests overwhelm any effect from fresh fallout.

TABLE 11

Comparison of Infinity Gamma Dose Estimates
For New York City

<u>Year</u>	<u>Cs¹³⁷ Pot (1)</u>	<u>Cs¹³⁷ Film (2)</u>	<u>Total γ Film (3)</u>
1954*	8.3	1.9	3.5
1955	14.2	8.2	9.1
1956	12.8	9.6	10.6
1957	17.3	14.3	16.3
1958	23.9	12.3	18.3
1959	<u>34.8</u>	<u>14.1</u>	<u>17.7</u>
TOTAL	111.3	60.4	75.5

* Starting March 1

(1) Sr⁹⁰ from pots x 1.5

(2) Sr⁹⁰ from gummed film x 1.5

(3) Calculated by formula including all fission products

TABLE 12

Comparison of Infinity Gamma Dose Estimates
for Salt Lake City

<u>Year</u>	<u>Cs¹³⁷ (1)</u>	<u>Total γ (2)</u>
1954	3.9	8.9
1955	20.3	24.5
1956	9.9	12.3
1957	25.2	29.0
1958	18.6	25.8
1959	<u>19.2</u>	<u>23.2</u>
TOTAL	97.1	123.7

(1) Sr⁹⁰ from gummed film x 1.5

(2) Calculated by formula including all fission products

SUMMARY

While the gummed film network fulfilled its original purpose of delineating fallout patterns, this report has been devoted to the extension of the β activity measurements to the estimation of Sr^{90} deposition and infinity gamma dose. The computations have been based on a simple model, but yield Sr^{90} estimates that are generally within a factor of two from measured values.

It would be possible to improve the gummed film estimates by adopting a more sophisticated model, but the added cost would not be justified. The present results have required much greater effort than was expected and have appeared more slowly than was hoped.

The gummed film Sr^{90} estimates are lower in most cases than the measured values at nearby sampling sites. The deviation is probably a combination of many effects:

1. The estimate of Sr^{90} yield may be low, particularly for fractionated debris, where long range fallout is enriched in this nuclide.
2. The gummed film efficiency is variable and is probably lowest during heavy rainfalls when a large fraction of the Sr^{90} is deposited.
3. The gummed film efficiency continues to decrease in the absence of large scale tests, for the percentage of long-lived Sr^{90} and Cs^{137} increases and their retention is poor.
4. The present model is poor during periods of repeated high yield tests, as there is no delay included for arrival time from either the troposphere or stratosphere. The debris is thus always considered to be fresher than the actual fallout.

The results presented in this report have some value in the absence of direct measurements. While it is not possible to evaluate all situations, the data may be used for geographic interpolation between stations where Sr^{90} results are available. It is also possible to make reasonable estimates for

stations having only gummed film sampling by the use of a regional Pot/Gummed Film factor. As an example, the following table was developed from the northern hemisphere stations where pot data were collected.

Average Pot/Gummed Film Ratios for the Northern Hemisphere

<u>Month</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>
Jan.	1.4	1.6	2.1
Feb.	1.3	1.8	2.0
Mar.	1.2	1.1	2.8
Apr.	1.4	1.0	2.1
May	.9	1.6	1.6
June	1.0	2.4	2.5
July	1.1	1.2	2.6
Aug.	.7	2.1	1.9
Sept.	.5	2.3	1.5
Oct.	.7	2.0	2.1
Nov.	1.3	2.0	2.4
Dec.	1.1	2.5	3.5
Mean Ratio	1.0	1.8	2.3

These average ratio factors can still yield only an approximation and probably hold only for the northern hemisphere.

There is some justification for applying the same factors to the infinity gamma dose data as well. Most of the errors can be divided into two classes, poor collection of fission products and those involved in the model computation. Poor collection would affect the Sr⁹⁰ and γ dose values equally. The computation model is equivalent except for the factors of % Sr⁹⁰, and of γ disintegrations per β dpm. The first is approximately a $T^{+1.2}$ function, while the second is approximately $T^{+0.73}$ for the first year and $T^{+1.2}$ thereafter. Thus, the average Pot/Film ratio may be a reasonable correction factor.

There has been no attempt in this report to depict the geographical distribution of Sr⁹⁰. The data do not warrant this, as soil and pot analyses are more reliable for this purpose.

PROCEDURE FOR GUMMED FILM

Sampling

The sampling medium is a rubber base cement spread on a 13" x 13" cellulose acetate backing and covered with glassine paper for protection. For sampling, the glassine is removed and the film attached to a cadmium-plated steel frame having a one foot square opening. The frame is held three feet above the ground on a stand. Each paper is exposed for twenty-four hours, the sampling being started at 12³⁰ Greenwich Civil Time at each station. At the end of the sampling period fresh films are put in place on spare frames and exchanged with the exposed films. The exposed films are stripped off and folded with the gummed sides together into a size suitable for mailing. Most sampling stations collect duplicate samples, and the two samples plus a field data card giving the location, date of sampling, and weather information are forwarded to the Health and Safety Laboratory.

Sample Preparation

An important point in processing is maintaining identification of the sample from receipt to the reporting of the analytical results. For this purpose a six digit serial number is assigned to each sample. The first three digits indicate the day of analysis on a counting house calendar basis, while the last three digits indicate the number of the sample run during that day. When the sample envelope is opened, a prenumbered label is placed on the data card and the gummed films are placed in steel cans for ashing. These ashing cans are used as crucibles and are discarded after a single use. For convenience and speed of operation they are held in groups of ten in a stainless steel rack and the rack number and position within the rack are the actual indication of sample number for each can.

The samples are ashed at 500 to 550° C in electrically-heated muffle furnaces which hold individual racks. The ashing process is accelerated by feeding in about one liter of oxygen per minute to each furnace and requires slightly under one hour for completion. After cooling, the ash is transferred to a 1-1/4" diameter plastic counting planchet. Each planchet has been labeled with a gummed label which is a duplicate of the one used on the data card. This maintains the proper continuity and agreement of serial numbers. The planchets are then sealed between two layers of vinyl tape in groups of eighty. The sealing is done with a high frequency heater which makes a ring seal around each planchet. The samples are spaced about 9" on centers and the resultant tape can be readily handled in an automatic counter.

Each tape contains four blanks consisting of unexposed papers run through the process and four counter standards. Counter background is determined from the blanks and counter efficiency and reliability is determined from the standards.

Counting

The samples are analyzed on automatic beta counters with Geiger tube detectors. A reel of eighty planchets is loaded into the counter and the first sample is positioned above the Geiger tube which is mounted face up. The sample is separated from the tube face by a single thickness of vinyl tape and is held in position by a fixed stop which engages the side of the planchet. The counts are registered on a four Dekatron scaler. Simultaneously, 600 pulses per minute are applied to this scaler and are recorded on a duplicate parallel scaler. When 10,000 count plus time pulses are recorded on the first scaler, the number of time pulses is punched on paper tape by a Data Transfer and Recording (DTR) system developed by the Instrumentation

Division. At the same time, the serial number corresponding to the sample, machine identification and other data are punched into the tape. The sample stop is disengaged by a solenoid and the next sample is pulled into place and counted. In that way, with eight units operating, 640 samples, blanks and standards can be counted in a twenty-four hour period.

The basic standardization of the counters is set up on potassium chloride. The K^{40} isotope, present in consistent amounts in all potassium compounds, gives a disintegration rate of 29.0 dps per gram of potassium or 912 dpm per gram of potassium chloride. It has been found that the average weight of ash from fallout samples is about 100 mg. While the counter standards used are compressed pellets of four grams to reduce the counting time, their effective disintegration rate is referred to 100 mg of potassium chloride.

Data Handling

All calculations are performed on IBM equipment. The field data cards are turned over to punch operators where location, date of sampling, serial number, and weather data are punched. The paper strips from the DTR unit are automatically transferred to separate IBM cards. The two sets of data are then combined on the basis of sample serial number, and the single cards are ready for computation. Figure 1 is a flow sheet of the system indicating all of the steps carried out in producing the final reports.

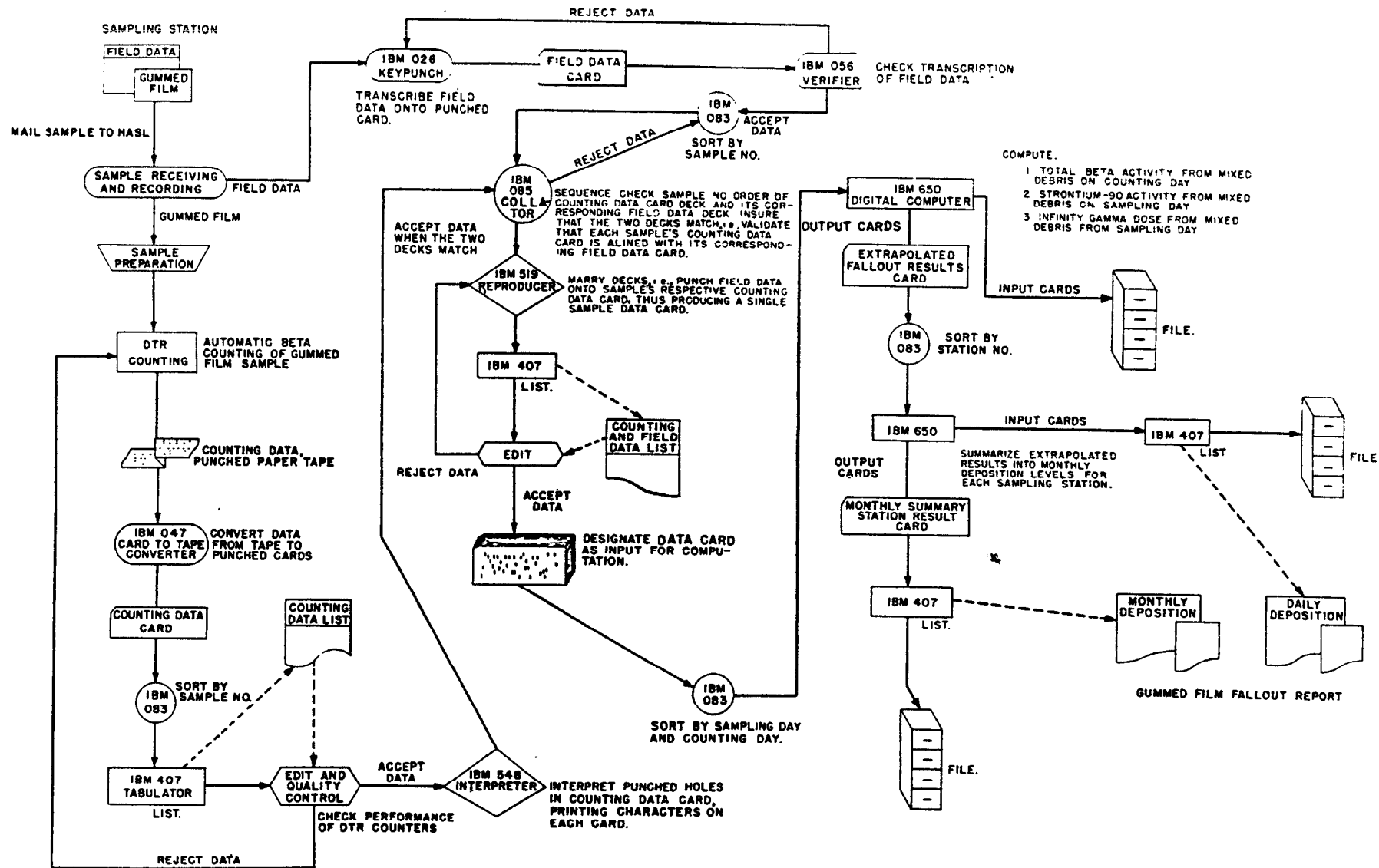


FIGURE NO. 1

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SECTION II

MONTHLY SUMMARIES FOR INDIVIDUAL STATIONS

Because of the change in emphasis for different test series and because of differences between Nevada Tests and Pacific and Foreign Tests, the network has been subject to considerable change over the years. The majority of the data presented are for sampling stations which have had a continuous history since the end of 1952 when the first world-wide network was established. Some stations entering the network later, particularly those set up in cooperation with the U. N. Scientific Committee on the Effects of Atomic Radiation, are also included.

Stations having data for only limited periods are not listed. These would include:

1. Special stations operating for short periods of time around the two United States test sites.
2. Certain stations operating in cooperation with the U. S. Public Health Service.
3. Other stations not forwarding samples on a continuous basis.

A map of the network is given in Figure 2. The stations operating directly with HASL (Table 13) are distinguished from those operating through the United Nations Scientific Committee (Table 14). Table 15 is made up of the summary tables for all stations in order of station number.

In all of the summary tables, composite samples are marked with a single asterisk (*). Where geographical interpolation was required to fill out a table, the values are marked with a double asterisk (**).

The effect of fresh fallout from single bursts has been taken into account in some cases. For these months, a figure also appears in the column headed "Formula". This figure represents the actual value calculated by the model, while the figure under "Best Estimate" represents the value obtained after allowing for fresh fallout. In all other cases, the "Best Estimate" figure is also the calculated value.

In the final totals, the pre-1954 data are based on single burst computations described in the "Historical" section of this report.

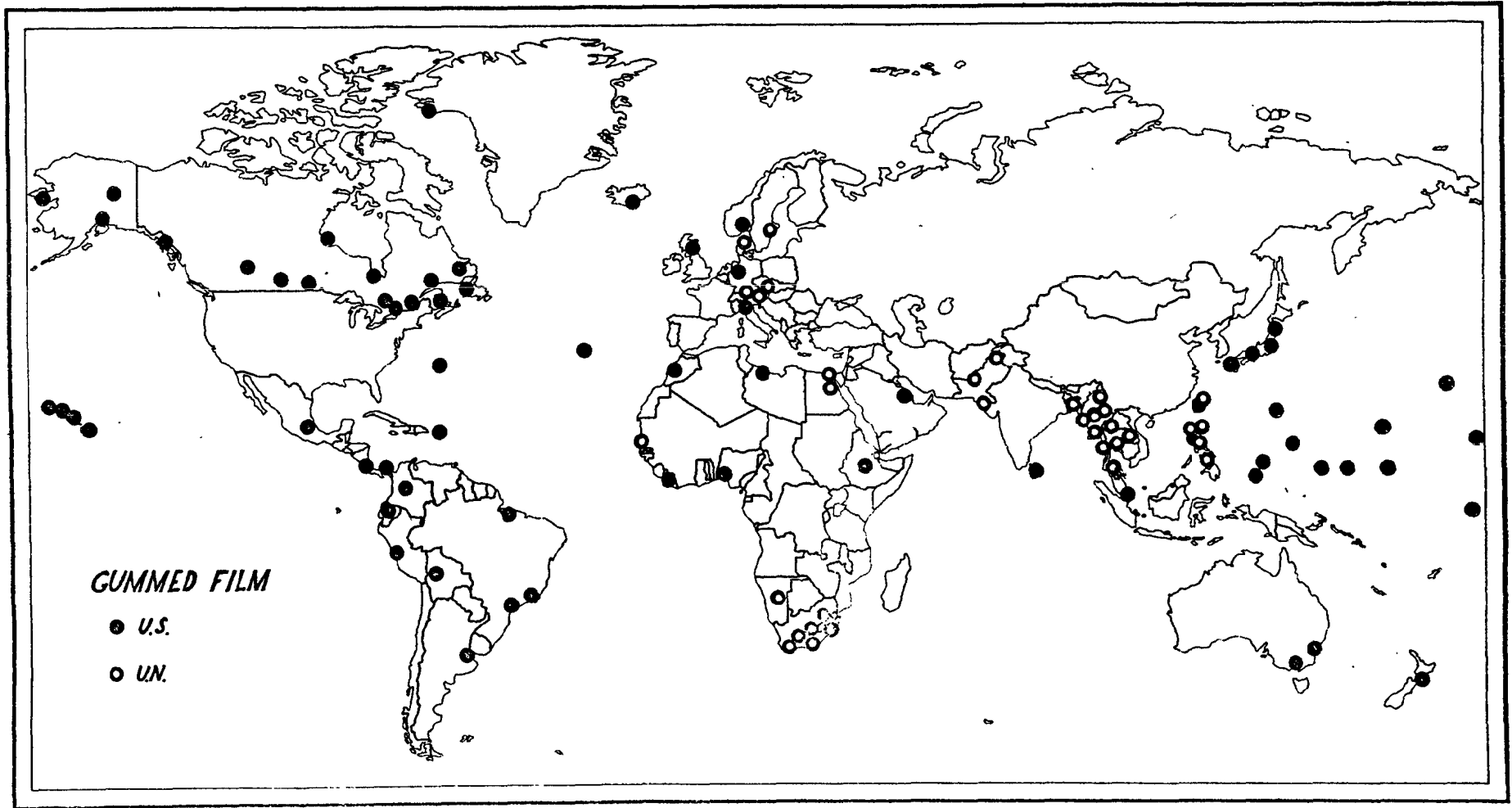


Figure 2

TABLE 13

NUMERICAL INDEX OF AEC
WORLD-WIDE NETWORK STATIONS

101 Detroit, Michigan
102 Louisville, Kentucky
103 Knoxville, Tennessee
105 Memphis, Tennessee
108 Atlanta, Georgia
115 Philadelphia, Pennsylvania
116 Pittsburgh, Pennsylvania
117 New York City, LaGuardia
118 Binghamton, New York *
122 Rochester, New York
127 New Haven, Connecticut
132 Jacksonville, Florida
133 Miami, Florida
134 Washington, D. C.
137 Cleveland, Ohio
138 Cape Hatteras, North Carolina
139 Concord, New Hampshire
141 Boston, Massachusetts
204 Corpus Christi, Texas
206 Dallas, Texas
209 Wichita, Kansas
211 Scottsbluff, Nebraska
212 Rapid City, South Dakota
216 Minneapolis, Minnesota
219 Des Moines, Iowa
221 St. Louis, Missouri
222 Chicago, Illinois
225 New Orleans, Louisiana
304 Boise, Idaho
309 Billings, Montana
310 Salt Lake City, Utah
314 Tucson, Arizona
321 Grand Junction, Colorado
323 Albuquerque, New Mexico
326 Las Vegas, Nevada
401 Seattle, Washington
404 Medford, Oregon
407 San Francisco, California
410 Los Angeles, California
501 Anchorage, Alaska
502 North Bay, Ontario, Canada
503 Moosonee, Ontario, Canada
504 Moncton, New Brunswick, Canada
505 Montreal, Quebec, Canada
507 Seven Islands, Quebec, Canada
508 Winnipeg, Manitoba, Canada

TABLE 13 (Cont)

509 Churchill, Manitoba, Canada
510 Regina, Saskatchewan, Canada
511 Edmonton, Alberta, Canada
515 Deep River, Ontario, Canada
516 Goose Bay, Newfoundland, Canada
517 Stephenville, Newfoundland, Canada
518 Thule, Greenland
519 Keflavik, Iceland
522 Nome, Alaska
523 Fairbanks, Alaska
524 Juneau, Alaska
525 San Juan, Puerto Rico
601 Panama Canal Zone, Albrook AFB
602 Bermuda, Kindley AFB
603 Lima, Peru
604 San Jose, Costa Rica
605 Lagens, Azores
606 Buenos Aires, Argentina
608 Sao Paulo, Brazil
611 Belem, Brazil
612 La Paz, Bolivia
613 Quito, Ecuador
614, Mexico City, Mexico
615 Bogota, Colombia
701 Prestwick, Scotland
702 Rhein Main, Germany
703 Pretoria, Union of South Africa
705 Dhahran, Saudi Arabia
706 Sidi Slimane, Morocco
708 Oslo, Norway
710 Tripoli, Libya, Wheelus AFB
711 Lagos, Nigeria
713 Durban, Union of So. Africa, University
714 Monrovia, Liberia
715 Milan, Italy
717 Addis Ababa, Ethiopia
723 Durban, Union of So. Africa, Natal Airport
801 Hiroshima, Japan
802 Nagasaki, Japan
804 Taipei, Taiwan, First Station
805 Tokyo, Japan, Haneda AFB
806 Misawa, Japan
810 Melbourne, Australia
811 Wellington, New Zealand
813 Colombo, Ceylon
814 Singapore
815 Sydney, Australia
901 Guam, Marianas
903 Iwo Jima, Volcano Islands

TABLE 13 (Cont)

904 Manila, Phillipines, Clarke AFB
905 Johnson Island
906 French Frigate Shoals, Hawaii
907 Midway Island
908 Wake Island
909 Canton, Phoenix Islands
910 Ponape, Marshall Islands
911 Truk, Caroline Islands
912 Yap, Palau Islands
913 Koror, Palau Islands
914 Lihue, Hawaii
915 Honolulu, Hawaii
916 Hilo, Hawaii
922 Kwajalein, Marshall Islands

TABLE 14

NUMERICAL INDEX OF STATIONS OPERATED COOPERATIVELY
BY AEC AND GOVERNMENT OF INDICATED COUNTRY

621 Bogota, Colombia, Tibaitata
722 Vienna, Austria, Wien Hohe Warte
724 Salzburg, Austria
725 Innsbruck, Austria
726 Krippenstein, Austria
727 Klagenfurt, Austria
728 Port Elizabeth, Union of So. Africa
729 Cape Town, Union of So. Africa
730 Beaufort, Union of So. Africa
731 Bloemfontein, Union of So. Africa
732 Windhoek, Union of So. Africa
735 Stockholm, Sweden
737 Dakar, French West Africa
821 Quetta, Pakistan
822 Peshawar, Pakistan
823 Karachi, Pakistan
824 Dacca, Pakistan
825 Bangkok, Thailand
826 Chiangmai, Thailand
827 Ubol, Thailand
828 Songkhla, Thailand
829 Taipei, Taiwan, Second Station
830 Rangoon, Burma
831 Taipei, Taiwan, Third Station
832 Akyab, Burma
833 Lashio, Burma
834 Moulmein, Burma
835 Prome, Burma
836 Mergui, Burma
837 Mandalay, Burma
838 Myitkyina, Burma

TABLE 15

Monthly Summaries of Estimated Sr⁹⁰ Deposition
and Infinity Gamma Dose Through December 1959

Stations are listed in order of
station numbers as given in
Tables 13 and 14.

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 101

LOCATION DETROIT, MICHIGAN

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.09*		0.21*		0.28
Feb.		.06		.49		.52		.27
March		.03		2.53		.35*		.41
April		.13	7.57	2.24		.60**		.88
May		.05		.61		2.25		.61
June		.10		.22*	#	.30		.54
July		.05		.11*		.19		.67
Aug.		.04		.13*		.43		.24
Sept.		.19		.12*		.60		.89
Oct.		.20		.11**		.32		.28
Nov.		.34		.22		.26		.14
Dec.		<u>.00</u>		<u>.15</u>		<u>.28</u>	.82	<u>0.64</u>
TOTAL		1.23		7.02		6.31		5.85

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.25		0.48		
Feb.		.16		.83		
March		.24		1.82	Pre-1954	1.22
April		1.08		2.64	1954	1.23
May		.64		1.78	1955	7.02
June		.57		.47	1956	6.31
July		.33		.17	1957	5.85
Aug.		.21		.11	1958	5.01
Sept.		.23		.07	1959	<u>8.53</u>
Oct.		.41		.07	Total	35.2
Nov.		.53		.03		
Dec.		<u>.36</u>		<u>.06</u>		
TOTAL		5.01		8.53		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 101

LOCATION DETROIT, MICHIGAN

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.1		0.2*		0.3*		0.5
Feb.		.1		1.0		.8		.4
March		.2		4.9		.5*		.7
April		.7	14.1	4.2		.9**		1.6
May		.2		1.1		3.4		1.0
June		.4		.4*		.6		1.0
July		.1		.2*		.4		1.1
Aug.		.1		.2*		1.0		.4
Sept.		.5		.2*		1.3		1.4
Oct.		.5		.2**		.6		.6
Nov.		.8		.4		.5		.2
Dec.		<u>.0</u>		<u>.2</u>		<u>.5</u>	1.5	<u>1.2</u>
TOTAL		3.7		13.2		10.8		10.1

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		1.0		
Feb.		.3		1.7		
March		.5		3.4	Pre-1954	4.3
April		1.8		4.8	1954	3.7
May		1.3		3.1	1955	13.2
June		1.1		.8	1956	10.8
July		.9		.3	1957	10.1
Aug.		.5		.2	1958	11.1
Sept.		.5		.1	1959	<u>16.7</u>
Oct.		1.4		.1	Total	70.0
Nov.		1.6		.1		
Dec.		<u>.8</u>		<u>.1</u>		
TOTAL		11.1		16.7		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 102

LOCATION LOUISVILLE, KENTUCKY

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.06*		0.18*		0.41
Feb.		.07		.45		.73		.55
March		.15	2.46	1.16		.65*		.68
April		.08		.82		.11*		.80
May		.04	10.22	4.57		.65		.65
June		.06		.48*		.29	1.26	1.03
July		.14		.26*		.54	2.62	1.51
Aug.		.05		.09*		.47		.99
Sept.		.13		.11*		.69		.78
Oct.		.22		.23*		.24		.21
Nov.		.32		.17		.13		.13
Dec.		<u>.03</u>		<u>.32</u>		<u>.23</u>		<u>.37</u>
TOTAL		1.33		8.72		4.91		8.07

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.41		1.21		
Feb.		.38		1.32		
March		.82		2.56	Pre-1954	1.44
April		1.72		2.97	1954	1.33
May		1.02		1.40	1955	8.72
June		.71		.63	1956	4.91
July		.88		.18	1957	8.07
Aug.		.23		.12	1958	7.68
Sept.		.22		.10	1959	<u>10.72</u>
Oct.		.18		.08	Total	42.9
Nov.		.51		.08		
Dec.		<u>.60</u>		<u>.07</u>		
TOTAL		7.68		10.72		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 102

LOCATION LOUISVILLE, KENTUCKY

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.3*		0.7
Feb.		.1		.9		1.2		.9
March		.8	4.7	2.9		1.0*		1.1
April		.4		1.5		.2*		1.4
May		.2	18.6	8.3		1.1		1.1
June		.2		.8*	#	.6	2.3	1.8
July		.4		.4*		1.3	4.3	2.5
Aug.		.1		.1*		1.0		1.6
Sept.		.3		.2*		1.5		1.3
Oct.		.5		.4*		.4		.4
Nov.		.7		.3		.3		.3
Dec.		<u>.0</u>		<u>.6</u>		<u>.4</u>		<u>.7</u>
TOTAL		3.7		16.5		9.3		13.8

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.7		2.6		
Feb.		.6		2.6		
March		1.6		4.9	Pre-1954	6.3
April		3.0		5.4	1954	3.7
May		2.0		2.4	1955	16.5
June		1.3		1.0	1956	9.3
July		2.3		.3	1957	13.8
Aug.		.6		.2	1958	16.1
Sept.		.5		.1	1959	<u>19.8</u>
Oct.		.6		.1	Total	86.0
Nov.		1.5		.1		
Dec.		<u>1.4</u>		<u>.1</u>		
TOTAL		16.1		19.8		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 103

LOCATION KNOXVILLE, TENNESSEE

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.02		0.07*		0.19*		0.36
Feb.		.07		.23		.61		.42
March		.10		1.55		.22*		.47
April		.06		.80		.28*		.47
May		.10	9.58	3.10		.37		.39
June		.05		.15*	#	.20		.68
July		.07		.08*		.75	1.74	1.28
Aug.		.10		.06*		.21		.58
Sept.		.06		.38*		.27		1.73
Oct.		.10		.27*		.23		.86
Nov.		.38		.08		.22		.30
Dec.		<u>.01</u>		<u>.34</u>		<u>.29</u>		<u>.55</u>
TOTAL		1.12		7.01		3.85		8.09

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.41		0.83		
Feb.		.40		1.31		
March		.58		1.43	Pre-1954	1.31
April		1.45		1.79	1954	1.12
May		.60		1.00	1955	7.01
June		.31		.40	1956	3.85
July		.40		.12	1957	8.09
Aug.		.17		.13	1958	5.90
Sept.		.16		.06	1959	<u>7.26</u>
Oct.		.34		.08	Total	34.5
Nov.		.46		.06		
Dec.		<u>.62</u>		<u>.05</u>		
TOTAL		5.90		7.26		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 103

LOCATION KNOXVILLE, TENNESSEE

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.3*		0.6
Feb.		.1		.5		1.0		.7
March		.6		2.9		.3*		.7
April		.3		1.5		.4*		.8
May		.5	17.3	5.6	*	.6		.7
June		.2		.3*		.4		1.2
July		.2		.1*		1.7	2.8	2.0
Aug.		.3		.1*		.5		.9
Sept.		.1		.6*		.6		3.2
Oct.		.2		.4*		.4		1.7
Nov.		.9		.1		.4		.6
Dec.		.0		.6		.6		1.0
TOTAL		3.4		12.8		7.2		14.1

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.7		1.8		
Feb.		.7		2.6		
March		1.1		2.7	Pre-1954	8.2
April		2.5		3.2	1954	3.4
May		1.2		1.8	1955	12.8
June		.6		.7	1956	7.2
July		1.1		.2	1957	14.1
Aug.		.4		.2	1958	12.5
Sept.		.4		.1	1959	13.6
Oct.		.9		.1	Total	72.0
Nov.		1.4		.1		
Dec.		1.5		.1		
TOTAL		12.5		13.6		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 105

LOCATION MEMPHIS, TENNESSEE

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.05*		0.30*		0.36
Feb.		.08		.39		.46		.31
March		.14	1.27	0.76		.30*		.85
April		.08		1.61		.48*		.92
May		.20	10.01	2.53		.83		.68
June		.09		.40*		.16	1.06	0.72
July		.07		.10*	#	.27	1.90	1.25
Aug.		.04		.11*		.21		1.09
Sept.		.06		.04*		.28	1.01	0.63
Oct.		.08		.10*		.14		.74
Nov.		.18		.07		.12		.26
Dec.		<u>.03</u>		<u>.17</u>		<u>.23</u>		<u>.37</u>
TOTAL		1.09		6.33		3.79		8.18

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.32		1.16		
Feb.		.32		.89		
March		1.12		1.97	Pre-1954	3.83
April		1.58		1.53	1954	1.09
May		.60		.66	1955	6.33
June		.44		.55	1956	3.79
July		.60		.19	1957	8.18
Aug.		.26		.13	1958	6.51
Sept.		.18		.05	1959	<u>7.35</u>
Oct.		.22		.05	Total	37.1
Nov.		.44		.09		
Dec.		<u>.43</u>		<u>.08</u>		
TOTAL		6.51		7.35		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 105

LOCATION MEMPHIS, TENNESSEE

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.5*		0.6
Feb.		.1		.8		.7		.5
March		.7	2.4	1.6		.5*		1.4
April		.5		3.0		.7*		1.7
May		1.1	18.1	4.6		1.3		1.2
June		.3		.7*		.3	1.9	1.3
July		.2		.2*		.6	3.1	2.1
Aug.		.1		.2*		.5		1.8
Sept.		.1		.1*		.6	1.6	1.0
Oct.		.2		.2*		.3		1.6
Nov.		.4		.1		.2		.5
Dec.		<u>.1</u>		<u>.3</u>		<u>.4</u>		<u>.7</u>
TOTAL		3.8		11.9		6.6		14.4

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.5		2.5		
Feb.		.6		1.8		
March		2.2		3.7	Pre-1954	23.3
April		2.7		2.8	1954	3.8
May		1.2		1.2	1955	11.9
June		.8		.9	1956	6.6
July		1.6		.3	1957	14.4
Aug.		.7		.2	1958	13.7
Sept.		.4		.1	1959	<u>13.8</u>
Oct.		.7		.1	Total	88.0
Nov.		1.3		.1		
Dec.		<u>1.0</u>		<u>.1</u>		
TOTAL		13.7		13.8		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 108

LOCATION ATLANTA, GEORGIA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.05*		0.27*		0.35
Feb.		.07		.11		.71		.43
March		.15		1.10		.16*		.76
April		.08		.94		0.86		1.22
May		.12	7.62	3.28		.45		.27
June		.13		.21*	#	.21		.68
July		.13		.13*		.72	1.04	0.62
Aug.		.05		.05*		.29		.47
Sept.		.03		.42*		.23	3.36	1.57
Oct.		.04		.10*		.24	1.22	0.63
Nov.		.34		.68		.12		.15
Dec.		<u>.02</u>		<u>.17</u>		<u>.18</u>		<u>.33</u>
TOTAL		1.20		7.24		4.44		7.47

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.38		0.61		
Feb.		.44		1.18		
March		.60		2.22	Pre-1954	1.04
April		1.47		1.64	1954	1.20
May		.49		.70	1955	7.24
June		.35		.36	1956	4.44
July		.45		.25	1957	7.47
Aug.		.26		.14	1958	5.75
Sept.		.19		.09	1959	<u>7.42</u>
Oct.		.11		.07	Total	34.6
Nov.		.30		.07		
Dec.		<u>.71</u>		<u>.09</u>		
TOTAL		5.75		7.42		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 108

LOCATION ATLANTA, GEORGIA

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.4*	0.6
Feb.	.1	.2	1.1	.7
March	.7	2.1	.2*	1.2
April	.4	1.8	1.6	2.2
May	.7	13.8 6.0 #	.7	.5
June	.5	.4*	.4	1.2
July	.4	.2*	1.6	1.7 1.1
Aug.	.2	.1*	.6	.7
Sept.	.1	.7*	.5	6.8 3.0
Oct.	.1	.2*	.4	2.3 1.3
Nov.	.8	1.1	.2	.3
Dec.	<u>.1</u>	<u>.3</u>	<u>.3</u>	<u>.6</u>
TOTAL	4.1	13.2	8.0	13.4

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.6	1.3		
Feb.	.8	2.4		
March	1.2	4.2	Pre-1954	3.7
April	2.5	3.0	1954	4.1
May	1.0	1.2	1955	13.2
June	.7	.6	1956	8.0
July	1.2	.4	1957	13.4
Aug.	.7	.2	1958	11.9
Sept.	.4	.1	1959	<u>13.7</u>
Oct.	.3	.1	Total	68.0
Nov.	.8	.1		
Dec.	<u>1.7</u>	<u>.1</u>		
TOTAL	11.9	13.7		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 115

LOCATION PHILADELPHIA, PENNSYLVANIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.05*		0.08*		0.20
Feb.		.05		.29		.55		.23
March		.04		1.35		.39*		.85
April		.02	1.49	.87		.28*		.87
May		.03	2.93	1.85		1.03		.31
June		.05		.87		.23		.49
July		.06		.15*		.31		.56
Aug.		.06		.16*		.14		.14
Sept.		.19		.12*		.43		.93
Oct.		.08		.15*		.19		.38
Nov.		.27		.08		.22		.17
Dec.		<u>.02</u>		<u>.33</u>		<u>.25</u>		<u>.34</u>
TOTAL		0.91		6.27		4.10		5.47

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.44		0.89		
Feb.		.31		.89		
March		.65		1.42	Pre-1954	1.94
April		1.35		1.89	1954	0.91
May		.52		.37	1955	6.27
June		.35		.40	1956	4.10
July		.28		.10	1957	5.47
Aug.		.24		.12	1958	5.77
Sept.		.17		.06	1959	<u>6.29</u>
Oct.		.39		.05	Total	30.8
Nov.		.44		.05		
Dec.		<u>.63</u>		<u>.05</u>		
TOTAL		5.77		6.29		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 115

LOCATION PHILADELPHIA, PENNSYLVANIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.1*		0.4
Feb.		.1		.6		.9		.4
March		.2		2.6		.6*		1.4
April		.1	2.8	1.6		.4*		1.5
May		.2	5.3	3.3		1.5		.5
June		.2		1.5		.5		.9
July		.2		.2*		.7		.9
Aug.		.2		.3*		.3		.2
Sept.		.5		.2*		.9		1.5
Oct.		.2		.2*		.4		.9
Nov.		.6		.1		.4		.3
Dec.		<u>.1</u>		<u>.6</u>		<u>.5</u>		<u>.6</u>
TOTAL		2.6		11.3		7.2		9.5

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.7		1.9		
Feb.		.5		1.8		
March		1.3		2.7	Pre-1954	5.8
April		2.3		3.4	1954	2.6
May		1.0		.6	1955	11.3
June		.7		.7	1956	7.2
July		.7		.2	1957	9.5
Aug.		.6		.2	1958	12.5
Sept.		.4		.1	1959	<u>11.9</u>
Oct.		1.5		.1	Total	61.0
Nov.		1.3		.1		
Dec.		<u>1.5</u>		<u>.1</u>		
TOTAL		12.5		11.9		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 116

LOCATION PITTSBURGH, PENNSYLVANIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.05		0.04*		0.35*		0.30
Feb.		.06		.24		1.17		.42
March		.07		1.36		.37*		.47
April		.05	1.19	.81		1.43*		1.26
May		.04	4.19	1.70		1.38		.33
June		.09		.67	#	.34		.87
July		.08		.12*		.33	1.27	0.88
Aug.		.08		.09*		.36		.33
Sept.		.17		.06*		.58		.54
Oct.		.15		.13*		.21		.39
Nov.		.25		.11		.28		.15
Dec.		<u>.05</u>		<u>.23</u>		<u>.29</u>		<u>.34</u>
TOTAL		1.14		5.56		7.09		6.28

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.40		0.80		
Feb.		.28		1.35		
March		.23		1.44	Pre-1954	1.28
April		2.10		2.72	1954	1.14
May		.82		1.45	1955	5.56
June		.64		.60	1956	7.09
July		.45		.18	1957	6.28
Aug.		.20		.10	1958	6.28
Sept.		.22		.06	1959	<u>8.96</u>
Oct.		.23		.10	Total	36.6
Nov.		.43**		.09		
Dec.		<u>.28**</u>		<u>.07</u>		
TOTAL		6.28		8.96		

ESTIMATE OF INFINITY 7 DOSE FROM GUMMED FILM

STATION # 116

LOCATION PITTSBURGH, PENNSYLVANIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.1		0.1*		0.6*		0.5
Feb.		.1		.5		1.9		.7
March		.4		2.6		.6*		.8
April		.2	2.1	1.5		2.1*		2.1
May		.2	7.5	3.0		2.1		.6
June		.4		1.2	#	.7		1.6
July		.2		.2*		.8	2.1	1.4
Aug.		.2		.1*		.8		.5
Sept.		.4		.1*		1.3		.9
Oct.		.4		.2*		.4		.8
Nov.		.6		.2		.5		.3
Dec.		<u>.1</u>		<u>.4</u>		<u>.6</u>		<u>.6</u>
TOTAL		3.3		10.1		12.4		10.8

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.7		1.7		
Feb.		.5		2.7		
March		.5		2.7	Pre-1954	3.9
April		3.6		4.9	1954	3.3
May		1.6		2.5	1955	10.1
June		1.2		1.0	1956	12.4
July		1.2		.3	1957	10.8
Aug.		.5		.2	1958	12.4
Sept.		.5		.1	1959	<u>16.4</u>
Oct.		.9		.1	Total	69.0
Nov.		.7**		.1		
Dec.		<u>.5**</u>		<u>.1</u>		
TOTAL		12.4		16.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 117

LOCATION NEW YORK CITY

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.03*		0.31*		0.25
Feb.		.05		.27		.77		.34
March		.04	3.51	1.57		.33*		.76
April		.05	1.65	1.11		1.48*		3.32
May		.06	1.85	.83		1.35		.51
June		.07		.68	#	.27		.58
July		.06		.10*		.33		.84
Aug.		.08		.10*		.25		.56
Sept.		.25		.11*		.46		.92
Oct.		.10		.26*		.22		.37
Nov.		.47		.25		.28		.42
Dec.		<u>.08</u>		<u>.16</u>		<u>.33</u>		<u>.66</u>
TOTAL		1.35		5.47		6.38		9.53

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.80		1.29		
Feb.		.36		1.12		
March		.81		2.18	Pre-1954	1.48
April		1.72		2.45	1954	1.35
May		.82		1.17	1955	5.47
June		.56		.88	1956	6.38
July		.28		.01	1957	9.53
Aug.		.25		.10	1958	8.17
Sept.		.32		.08	1959	<u>9.43</u>
Oct.		.87		.05	Total	41.8
Nov.		.75		.04		
Dec.		<u>.63</u>		<u>.06</u>		
TOTAL		8.17		9.43		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 117

LOCATION NEW YORK CITY

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		.5*		.4
Feb.		.1		.5		1.2		.6
March		.2	6.8	2.1		.5*		1.2
April		.2	3.1	2.0		2.2*		5.5
May		.3	3.3	1.5	*	2.0		.9
June		.3		1.2		.5		1.0
July		.2		.2*		.7		1.4
Aug.		.2		.2*		.5		.9
Sept.		.7		.2*		1.0		1.4
Oct.		.2		.4*		.4		.8
Nov.		1.1		.4		.5		.9
Dec.		<u>.1</u>		<u>.3</u>		<u>.6</u>		<u>1.2</u>
TOTAL		3.6		9.1		10.6		16.3

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		1.3		2.8		
Feb.		.7		2.3		
March		1.6		4.1	Pre-1954	5.4
April		3.0		4.4	1954	3.6
May		1.6		2.0	1955	9.1
June		1.1		1.5	1956	10.6
July		.7		.0	1957	16.3
Aug.		.7		.2	1958	18.3
Sept.		.7		.1	1959	<u>17.7</u>
Oct.		3.2		.1	Total	81.0
Nov.		2.2		.1		
Dec.		<u>1.5</u>		<u>.1</u>		
TOTAL		19.3		17.7		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 118

LOCATION BINGHAMTON, NEW YORK

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.01*		0.05*		0.11
Feb.		.05		.12		.28		.12
March		.02		.59		.26*		.27
April		.04		.91		.27*		.62
May		.03		.77		.72		.45
June		.06		.17*		.40		.48
July		.09		.09*		.18		.72
Aug.		.09		.05*		.25		.52
Sept.		.26		.04*		.30	1.04	0.66
Oct.		.09		.12*		.07		.35
Nov.		.30		.21		.08		.11
Dec.		<u>.01</u>		<u>.10</u>		<u>.11</u>		<u>.29</u>
TOTAL		1.08		3.18		2.87		4.70

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.39**		0.28		
Feb.		.28**		.41		
March		.25		1.01	Pre-1954	0.59
April		.85		1.24	1954	1.08
May		.91		.63	1955	3.18
June		.61		1.00	1956	2.87
July		.37		.20	1957	4.70
Aug.		.23		.12	1958	5.46
Sept.		.22		.07	1959	<u>5.16</u>
Oct.		.47		.06	Total	23.0
Nov.		.55		.07		
Dec.		<u>.33</u>		<u>.07</u>		
TOTAL		5.46		5.16		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 118

LOCATION BINGHAMTON, NEW YORK

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.0*		0.1*		0.2
Feb.		.1		.2		.5		.2
March		.1		1.1		.4*		.4
April		.2		1.7		.4*		1.2
May		.1		1.4		1.1		.8
June		.2		.3*		.8		.9
July		.3		.2*		.4		1.2
Aug.		.2		.1*		.5		.8
Sept.		.7		.1*		.6	1.8	1.2
Oct.		.2		.2*		.1		.8
Nov.		.7		.4		.1		.2
Dec.		<u>.0</u>		<u>.2</u>		<u>.2</u>		<u>.5</u>
TOTAL		2.8		5.9		5.2		8.4

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.7**		0.6		
Feb.		.5**		.8		
March		.5		1.9	Pre-1954	2.0
April		1.4		2.2	1954	2.8
May		1.8		1.1	1955	5.9
June		1.1		1.7	1956	5.2
July		1.0		.3	1957	8.4
Aug.		.6		.2	1958	12.2
Sept.		.5		.1	1959	<u>9.2</u>
Oct.		1.7		.1	Total	46
Nov.		1.6		.1		
Dec.		<u>.8</u>		<u>.1</u>		
TOTAL		12.2		9.2		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 122

LOCATION ROCHESTER, NEW YORK

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.00		0.03*		0.11*		0.16
Feb.		.05		.14		.39		.17
March		.02		1.23		.18*		.31
April		.06	3.64	1.46		.93*		1.07
May		.03	3.04	1.23		1.05		.52
June		.09		.14*	*	.27		.81
July		.05		.09*		.19		.47
Aug.		.11		.08*		.28		.43
Sept.		.29		.36*		.34		.73
Oct.		.16		.10*		.12		.25
Nov.		.18		.13		.09		.17
Dec.		<u>.01</u>		<u>.25</u>		<u>.29</u>		<u>.28</u>
TOTAL		1.05		5.24		4.24		5.37

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.21		0.57		
Feb.		.21		.88		
March		.25		.99	Pre-1954	1.02
April		.96		2.63	1954	1.05
May		.74		1.27	1955	5.24
June		.73		.54	1956	4.24
July		.35		.12	1957	5.37
Aug.		.19		.09	1958	5.46
Sept.		.30		.08	1959	<u>7.35</u>
Oct.		.60		.05	Total	29.7
Nov.		.46		.06		
Dec.		<u>.46</u>		<u>.07</u>		
TOTAL		5.46		7.35		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 122

LOCATION ROCHESTER, NEW YORK

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.2*		0.3
Feb.		.1		.3		.6		.3
March		.1		2.4		.3*		.5
April		.3	6.7	2.3		1.4*		2.0
May		.1	5.5	2.2		1.6		.9
June		.3		.3*		.5		1.4
July		.1		.1*		.4		.8
Aug.		.3		.1*		.6		.7
Sept.		.7		.6*		.8		1.2
Oct.		.4		.2*		.2		.5
Nov.		.4		.2		.2		.3
Dec.		<u>.0</u>		<u>.4</u>		<u>.6</u>		<u>.5</u>
TOTAL		2.8		9.2		7.4		9.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		1.2		
Feb.		.4		1.8		
March		.5		1.9	Pre-1954	3.1
April		1.7		4.7	1954	2.8
May		1.5		2.2	1955	9.2
June		1.4		.9	1956	7.4
July		.9		.2	1957	9.4
Aug.		.5		.1	1958	12.5
Sept.		.7		.1	1959	<u>13.4</u>
Oct.		2.1		.1	Total	58
Nov.		1.3		.1		
Dec.		<u>1.1</u>		<u>.1</u>		
TOTAL		12.5		13.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 127

LOCATION NEW HAVEN, CONNECTICUT

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.05*		0.23*		0.19
Feb.		.07		.45		.45		.27
March		.03	2.20	1.09		.54*		.58
April		.04	2.81	1.33		.84*		2.29
May		.02	1.64	.71		.83		.46
June		.04		.20*	#	.23		.32
July		.06		.09*		.25		.50
Aug.		.06		.11*		.14		.76
Sept.		.23		.09*		.36		.70
Oct.		.10		.23*		.12		.47
Nov.		.39		.05		.18		.24
Dec.		<u>.07</u>		<u>.21</u>		<u>.31</u>		<u>.52</u>
TOTAL		1.15		4.57		4.48		7.30

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.53		0.93		
Feb.		.33		.75		
March		.63		1.89	Pre-1954	1.21
April		1.04		2.45	1954	1.15
May		.78		.92	1955	4.57
June		.42		.72	1956	4.48
July		.24		.13	1957	7.30
Aug.		.17		.10	1958	5.82
Sept.		.23		.05	1959	<u>8.16</u>
Oct.		.39		.09	Total	32.7
Nov.		.66		.05		
Dec.		<u>.40</u>		<u>.08</u>		
TOTAL		5.82		8.16		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 127

LOCATION NEW HAVEN, CONNECTICUT

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.4*		0.3
Feb.		.1		.9		.7		.4
March		.1	4.2	1.9		.8*		.9
April		.2	5.2	2.4		1.2*		3.8
May		.1	3.0	1.3		1.3		.8
June		.2		.4*		.5		.6
July		.2		.1*		.5		.8
Aug.		.2		.2*		.3		1.2
Sept.		.6		.1*		.8		1.1
Oct.		.2		.4*		.2		1.0
Nov.		.9		.1		.3		.5
Dec.		<u>.2</u>		<u>.4</u>		<u>.6</u>		<u>.9</u>
TOTAL		3.0		8.3		7.6		12.3

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.9		2.0		
Feb.		.6		1.5		
March		1.2		3.6	Pre-1954	5.3
April		1.8		4.4	1954	3.0
May		1.5		1.6	1955	8.3
June		.8		1.2	1956	7.6
July		.6		.2	1957	12.3
Aug.		.4		.2	1958	12.7
Sept.		.5		.1	1959	<u>15.1</u>
Oct.		1.5		.1	Total	64
Nov.		1.9		.1		
Dec.		<u>1.0</u>		<u>.1</u>		
TOTAL		12.7		15.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 132

LOCATION JACKSONVILLE, FLORIDA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.04*		0.11*		0.10
Feb.		.06		.07		.24		.26
March		.11		.57		.27*		.38
April		.07		.41		.19*		.67
May		.10	3.83	2.23		.34		.31
June		.12		.15*	#	.19		.44
July		.10		.09*		.48		2.02
Aug.		.08		.06*		.24		.79
Sept.		.13		.05*		.24		1.48
Oct.		.09		.09*		.32		.40
Nov.		.16		.06		.08		.13
Dec.		<u>.01</u>		<u>.22</u>		<u>.08</u>		<u>.52</u>
TOTAL		1.07		4.04		2.78		7.50

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.48		0.74		
Feb.		.43		1.32		
March		.83		1.73	Pre-1954	0.92
April		1.11		.88	1954	1.07
May		.52		.81	1955	4.04
June		.30		.93	1956	2.78
July		.40		.11	1957	7.50
Aug.		.24		.18	1958	5.42
Sept.		.17		.08	1959	<u>6.98</u>
Oct.		.15		.04	Total	28.7
Nov.		.15		.10		
Dec.		<u>.64</u>		<u>.06</u>		
TOTAL		5.42		6.98		

ESTIMATE OF INFINITY γ DOSE FROM SUMMED FILM

STATION # 132

LOCATION JACKSONVILLE, FLORIDA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.2*		0.2
Feb.		.1		.1		.4		.4
March		.7		1.1		.4*		.6
April		.4		.8		.3*		1.3
May		.5	6.9	4.0		.6		.5
June		.5		.3*		.4		.8
July		.3		.1*		1.1		3.3
Aug.		.2		.1*		.5		1.2
Sept.		.3		.1*		.5		2.8
Oct.		.2		.1*		.6		.9
Nov.		.4		.1		.2		.3
Dec.		<u>.0</u>		<u>.4</u>		<u>.2</u>		<u>1.0</u>
TOTAL		3.6		7.3		5.4		13.3

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.8		1.6		
Feb.		.7		2.6		
March		1.7		3.3	Pre-1954	4.1
April		1.9		1.6	1954	3.6
May		1.0		1.4	1955	7.3
June		.6		1.6	1956	5.4
July		1.1		.2	1957	13.3
Aug.		.6		.3	1958	11.2
Sept.		.4		.1	1959	<u>13.1</u>
Oct.		.5		.1	Total	58
Nov.		.4		.2		
Dec.		<u>1.5</u>		<u>.1</u>		
TOTAL		11.2		13.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 133

LOCATION MIAMI, FLORIDA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.05		0.02*		0.17*		0.13
Feb.		.06		.41		.05		.21
March		.15		.31		.12*		.29
April		.16		.61		.47*		.25
May		.36	4.04	2.10		.64		.30
June		.25		.02*	#	.19		.30
July		.21		.14*		.38		1.25
Aug.		.12		.09*		.34		1.17
Sept.		.10		.04*		.45		.35
Oct.		.15		.09*		.30		.45
Nov.		.19		.08		.05		.15
Dec.		<u>.01</u>		<u>.17</u>		<u>.08</u>		<u>.22</u>
TOTAL		1.81		4.08		3.24		5.07

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.19		0.46		
Feb.		.14		.73		
March		.19		1.30	Pre-1954	1.36
April		.17		.68	1954	1.81
May		.34		.81	1955	4.08
June		.22		.42	1956	3.24
July		.15		.19	1957	5.07
Aug.		.41		.12	1958	2.88
Sept.		.21		.06	1959	<u>4.96</u>
Oct.		.22		.07	Total	23.4
Nov.		.13		.06		
Dec.		<u>.51</u>		<u>.06</u>		
TOTAL		2.88		4.96		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 133

LOCATION MIAMI, FLORIDA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.1		0.0*		0.3*		0.2
Feb.		.1		.8		.1		.3
March		.9		.6		.2*		.5
April		.8		1.1		.7*		.5
May		2.0	7.3	3.8		1.0		.5
June		1.0		.0*		.4		.5
July		.7		.2*		.8		2.1
Aug.		.3		.1*		.7		1.9
Sept.		.3		.1*		1.0		.6
Oct.		.4		.1*		.6		.9
Nov.		.4		.1		.1		.3
Dec.		<u>.0</u>		<u>.3</u>		<u>.2</u>		<u>.4</u>
TOTAL		7.0		7.2		6.1		8.7

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.3		1.0		
Feb.		.2		1.5		
March		.4		2.5	Pre-1954	5.9
April		.3		1.2	1954	7.0
May		.7		1.4	1955	7.2
June		.4		.7	1956	6.1
July		.4		.3	1957	8.7
Aug.		1.0		.2	1958	6.5
Sept.		.5		.1	1959	<u>9.2</u>
Oct.		.7		.1	Total	51
Nov.		.4		.1		
Dec.		<u>1.2</u>		<u>.1</u>		
TOTAL		6.5		9.2		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 134

LOCATION WASHINGTON, D.C., SILVER HILL

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.00		0.07*		0.20*		0.26
Feb.		.07		.19		.39		.32
March		.04	.93	0.50		.56*		.47
April		.04	1.53	0.62		.62*		.56
May		.04	2.85	1.67	*	1.17		.35
June		.09		.29		.24		.64
July		.06		.09*		.24		.47
Aug.		.10		.11*		.14		.28
Sept.		.09		.43*		.40		.59
Oct.		.08**		.10*		.25		.27
Nov.		.36**		.12		.17		.14
Dec.		<u>.06</u>		<u>.27</u>		<u>.13</u>		<u>.32</u>
TOTAL		1.03		4.42		4.51		4.67

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.34		0.70		
Feb.		.33		1.03		
March		.48		1.07	Pre-1954	0.86
April		1.16		2.34	1954	1.03
May		.33		.72	1955	4.42
June		.35		.48	1956	4.51
July		.25		.11	1957	4.67
Aug.		.21		.08	1958	4.84
Sept.		.15		.05	1959	<u>6.75</u>
Oct.		.26		.05	Total	27.1
Nov.		.44		.04		
Dec.		<u>.54</u>		<u>.08</u>		
TOTAL		4.84		6.75		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 134

LOCATION WASHINGTON, D.C., SILVER HILL

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.3*		0.4
Feb.		.1		.4		.6		.5
March		.2	1.8	1.0		.9*		.8
April		.2	2.1	1.1		.9*		1.0
May		.2	5.1	3.0	#	1.8		.6
June		.3		.5		.5		1.1
July		.2		.1*		.6		.8
Aug.		.3		.2*		.3		.4
Sept.		.2		.7*		.9		1.0
Oct.		.2**		.2*		.5		.5
Nov.		.7**		.2		.3		.3
Dec.		.1		.5		.3		.6
TOTAL		2.7		8.0		7.9		8.0

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.6		1.5		
Feb.		.6		2.1		
March		.9		2.0	Pre-1954	3.0
April		2.0		4.2	1954	2.7
May		.7		1.2	1955	8.0
June		.7		.8	1956	7.9
July		.7		.2	1957	8.0
Aug.		.5		.1	1958	10.3
Sept.		.3		.1	1959	<u>12.5</u>
Oct.		.8		.1	Total	52
Nov.		1.2		.1		
Dec.		<u>1.3</u>		<u>.1</u>		
TOTAL		10.3		12.5		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 137

LOCATION CLEVELAND, OHIO

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.09		0.08*		0.25*		.29
Feb.		.09		.34		.39		.30
March		.04	3.46	.84		.32*		.81
April		.14	10.44	3.20		.40*		2.28
May		.07	1.92	0.95	#	1.07		.44
June		.15		.31*		.81		.65
July		.07		.20*		.36		.71
Aug.		.12		.01*		.42		.33
Sept.		.18		.08*		.70		.76
Oct.		.34		.06*		.14		.52
Nov.		.18		.06		.13		.12
Dec.		<u>.31</u>		<u>.25</u>		<u>.21</u>		<u>.32</u>
TOTAL		1.74		6.38		5.20		7.53

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.73		0.66		
Feb.		.29		.96		
March		.24		1.39	Pre-1954	1.37
April		1.72		3.05	1954	1.74
May		.74		1.89	1955	6.38
June		.65		.42	1956	5.20
July		.35		.18	1957	7.53
Aug.		.30		.17	1958	7.01
Sept.		.27		.08	1959	<u>8.97</u>
Oct.		.61		.05	Total	38.2
Nov.		.71		.09		
Dec.		<u>.40</u>		<u>.03</u>		
TOTAL		7.01		8.97		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 137

LOCATION CLEVELAND, OHIO

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.1		0.2*		0.4*		.5
Feb.		.2		.7		.6		.5
March		.2	6.7	1.6		.5*		1.4
April		.7	19.4	7.5		.6*		4.1
May		.4	3.5	1.7	#	1.9		.7
June		.6		.5*		1.4		1.2
July		.2		.3*		.6		1.2
Aug.		.3		.0*		.7		.5
Sept.		.5		.1*		1.2		1.2
Oct.		.8		.1*		.2		1.1
Nov.		.4		.1		.2		.2
Dec.		<u>.4</u>		<u>.4</u>		<u>.4</u>		<u>.6</u>
TOTAL		4.8		13.2		8.7		13.2

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		1.2		1.4		
Feb.		.5		1.9		
March		.5		2.6	Pre-1954	5.2
April		3.0		5.5	1954	4.8
May		1.5		3.3	1955	13.2
June		1.2		.7	1956	8.7
July		.9		.3	1957	13.2
Aug.		.8		.3	1958	15.5
Sept.		.6		.1	1959	<u>16.4</u>
Oct.		2.3		.1	Total	77
Nov.		2.1		.1		
Dec.		<u>.9</u>		<u>.1</u>		
TOTAL		15.5		16.4		

ESTIMATE OF Sr-90 DEPOSITION FROM GUMMED FILM

STATION # 138

LOCATION CAPE HATTERAS, NORTH CAROLINA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.05		0.02*		0.65*		.42
Feb.		.04		.11		.53		.50
March		.06		.65		.29*		.56
April		.02		.37		.24*		.32
May		.04		2.16		.15		.25
June		.04		.14*		.26		.28
July		.09		.06*		.27	2.12	1.20
Aug.		.27		.05*		.27		.60
Sept.		.17		.04*		.18		1.14
Oct.		.07		.03*		.25		.35
Nov.		.33		.21		.09		.28
Dec.		.03**		.22		.06		.51
TOTAL		1.21		4.06		3.24		6.41

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.24		0.60		
Feb.		.25		1.54		
March		.39		1.71	Pre-1954	1.23**
April		.60		1.60	1954	1.21
May		.17		.77	1955	4.06
June		.22		.22	1956	3.24
July		.10		.23	1957	6.41
Aug.		.15		.04	1958	3.25
Sept.		.24		.09	1959	6.95
Oct.		.13		.06	Total	26.4
Nov.		.32		.04		
Dec.		.44		.05		
TOTAL		3.25		6.95		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 138

LOCATION CAPE HATTERAS, NORTH CAROLINA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	.1	0.0*	1.0*	.7
Feb.	.1	.2	.9	.9
March	.3	1.3	.4*	1.0
April	.1	.7	.4*	.6
May	.2	3.9	.3	.4
June	.1	.2*	.5	.5
July	.3	.1*	.5	5.1 2.0
Aug.	.8	.1*	.5	.9
Sept.	.4	.1*	.3	2.2
Oct.	.2	.0*	.4	.7
Nov.	.7	.4	.2	.6
Dec.	<u>.1**</u>	<u>.4</u>	<u>.1</u>	<u>.9</u>
TOTAL	3.4	7.4	5.7	11.4

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	1.3		
Feb.	.4	3.1		
March	.8	3.2	Pre-1954	4.8**
April	1.0	2.9	1954	3.4
May	.3	1.3	1955	7.4
June	.4	.4	1956	5.5
July	.2	.4	1957	11.4
Aug.	.4	.1	1958	6.8
Sept.	.6	.1	1959	<u>13.1</u>
Oct.	.4	.1	Total	52
Nov.	.9	.1		
Dec.	<u>1.0</u>	<u>.1</u>		
TOTAL	6.8	13.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 139

LOCATION CONCORD, NEW HAMPSHIRE

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.05		0.02*		0.15*		0.09
Feb.		.03		.33		.17		.11
March		.01		.47		.13*		.32
April		.02	1.95	1.13		.27*		.55
May		.05		.59		.60		.45
June		.03		.19*		.18		.29
July		.07		.06*		.11	1.14	0.65
Aug.		.04		.08*		.09		.69
Sept.		.16		.05*		.27		1.22
Oct.		.09		.08*		.12		.24
Nov.		.13		.06		.14		.15
Dec.		<u>.03</u>		<u>.11</u>		<u>.21</u>		<u>.33</u>
TOTAL		0.71		3.17		2.44		5.09

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.16		0.45		
Feb.		.12		.41		
March		.39		.90	Pre-1954	1.23**
April		.67	1.63		1954	0.71
May		.52	.61		1955	3.17
June		.32	.85		1956	2.44
July		.20	.12		1957	5.09
Aug.		.12	.09		1958	3.70
Sept.		.18	.07		1959	<u>5.31</u>
Oct.		.23	.08		Total	21.6
Nov.		.48	.03			
Dec.		<u>.31</u>	<u>.07</u>			
TOTAL		3.70	5.31			

ESTIMATE OF INFINITY 7 DOSE FROM GUMMED FILM

STATION # 139

LOCATION CONCORD, NEW HAMPSHIRE

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.1		0.0*		0.2*		0.2
Feb.		.1		.6		.3		.2
March		.1		.9		.2*		.5
April		.1	3.6	2.1		.4*		.9
May		.2		1.1		.9		.8
June		.1		.3*		.4		.5
July		.2		.1*		.3	1.9	1.1
Aug.		.1		.1*		.2		1.1
Sept.		.4		.1*		.6		1.9
Oct.		.2		.1*		.2		.6
Nov.		.3		.1		.3		.3
Dec.		<u>.0</u>		<u>.2</u>		<u>.4</u>		<u>.6</u>
TOTAL		1.9		5.7		4.4		8.7

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.3		1.0		
Feb.		.2		.8		
March		.8		1.7	Pre-1954	4.8**
April		1.2		3.0	1954	1.9
May		1.0		1.1	1955	5.7
June		.6		1.4	1956	4.4
July		.5		.2	1957	8.7
Aug.		.3		.1	1958	8.4
Sept.		.4		.1	1959	<u>9.7</u>
Oct.		.9		.1	Total	44
Nov.		1.4		.1		
Dec.		<u>.8</u>		<u>.1</u>		
TOTAL		8.4		9.7		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 141

LOCATION BOSTON, MASSACHUSETTS

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.19	0.03*	0.33*	0.22
Feb.	.19	.42	.36	.24
March	.03	.100	.34*	.53
April	.03	2.22 1.13	.27*	.92
May	.02	.98	.63	.62
June	.07	.43	.30	.50
July	.09	.16*	.17	.50
Aug.	.09	.12*	.11	.42
Sept.	.40	.06*	.47	.60
Oct.	.46	.18*	.20	.30
Nov.	.39	.07	.24	.22
Dec.	<u>.01</u>	<u>.15</u>	<u>.30</u>	<u>.32</u>
TOTAL	1.97	3.83	3.72	5.27

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.60	0.72		
Feb.	.30	0.75		
March	.75	1.11	Pre-1954	2.69
April	1.87	2.75	1954	1.97
May	.79	.81	1955	3.83
June	.54	.68	1956	3.72
July	.29	.15	1957	5.27
Aug.	.25	.12	1958	7.07
Sept.	.28	.05	1959	<u>7.33</u>
Oct.	.32	.05	Total	31.9
Nov.	.53	.04		
Dec.	<u>.55</u>	<u>.10</u>		
TOTAL	7.07	7.33		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 141

LOCATION BOSTON, MASSACHUSETTS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.2		0.1*		0.5*		0.4
Feb.		.3		.8		.6		.4
March		.2		1.9		.5*		.8
April		.2	4.1	2.2		.4*		1.6
May		.1		1.8	*	1.0		1.1
June		.3		.7		.6		.7
July		.3		.3*		.4		.8
Aug.		.2		.2*		.2		.7
Sept.		1.0		.1*		1.0		1.0
Oct.		1.1		.3*		.4		.7
Nov.		.9		.1		.5		.4
Dec.		<u>.0</u>		<u>.3</u>		<u>.6</u>		<u>.6</u>
TOTAL		4.8		8.8		6.7		9.2

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		1.0		1.6		
Feb.		.6		1.5		
March		1.5		2.1	Pre-1954	24.8
April		3.2		5.0	1954	4.8
May		1.6		1.4	1955	8.8
June		1.0		1.1	1956	6.7
July		.8		.2	1957	9.2
Aug.		.6		.2	1958	15.2
Sept.		.7		.1	1959	<u>9.0</u>
Oct.		1.2		.1	Total	78
Nov.		1.6		.1		
Dec.		<u>1.4</u>		<u>.1</u>		
TOTAL		15.2		9.0		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION #204

LOCATION CORPUS CHRISTI, TEXAS

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.07*		0.11*		0.20
Feb.		.12		.34		.08		.23
March		.16		.26		.11*		.42
April		.17		.65		.14*		.32
May		.19	1.90	.99	#	.23		.38
June		.08		.07*		.08		.70
July		.05		.06*		.14		.22
Aug.		.05		.04*		.23		.33
Sept.		.09		.08*		.27		.37
Oct.		.10		.06*		.16		.37
Nov.		.11		.18		.19		.16
Dec.		<u>.00</u>		<u>.06</u>		<u>.13</u>		<u>.30</u>
TOTAL		1.16		2.86		1.87		4.00

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan,		0.42		1.54		
Feb,		.38		2.06		
March		.34		.85	Pre-1954	0.87
April		.40		1.50	1954	1.16
May		.24		.38	1955	2.86
June		.06		.26	1956	1.87
July		.11		.09	1957	4.00
Aug.		.20		.06	1958	3.45
Sept.		.19		.06	1959	<u>6.95</u>
Oct,		.26		.04	Total	21.2
Nov,		.18		.05		
Dec.		<u>.67</u>		<u>.06</u>		
TOTAL		3.45		6.95		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 204

LOCATION CORPUS CHRISTI, TEXAS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		0.2*		0.3
Feb.		.2		.7		.1		.4
March		.8		.5		.2*		.7
April		1.0		1.2		.2*		.6
May		1.1	3.4	1.7		.3		.6
June		.3		.1*		.2		1.4
July		.2		.1*		.3		.4
Aug.		.1		.1*		.5		.5
Sept.		.2		.1*		.6		.6
Oct.		.2		.1*		.3		.9
Nov.		.3		.3		.4		.4
Dec.		<u>.0</u>		<u>.1</u>		<u>.2</u>		<u>.6</u>
TOTAL		4.4		5.2		3.5		7.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.7		3.3		
Feb.		.6		4.1		
March		.7		1.6	Pre-1954	3.1
April		.7		2.7	1954	4.4
May		.5		.7	1955	5.2
June		.1		.4	1956	3.5
July		.3		.1	1957	7.4
Aug.		.5		.1	1958	7.5
Sept.		.4		.1	1959	<u>13.4</u>
Oct.		.9		.1	Total	44
Nov.		.5		.1		
Dec.		<u>1.6</u>		<u>.1</u>		
TOTAL		7.5		13.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 206

LOCATION DALLAS, TEXAS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.03*		0.22**		0.15
Feb.		.14		.17		.40		.34
March		.17	1.75	.90		.29*		.85
April		.18		.87		.64*		2.53
May	.52	0.34	25.56	6.21		.42		.61
June		.17		.20*	#	.23		.96
July		.10		.08*		.94		.37
Aug.		.05		.08*		.20		.49
Sept.		.05		.07*		.11	1.64	.80
Oct.		.27		.12*		.22		.47
Nov.		.10		.03		.12		.27
Dec.		<u>.02</u>		<u>.10</u>		<u>.14</u>	.38	<u>.23</u>
TOTAL		1.63		9.06		3.93		8.07

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.48		0.48		
Feb.		.38		.95		
March		.81		1.67	Pre-1954	1.84
April		.93		1.58	1954	1.63
May		.33		1.58	1955	9.06
June		.46		.46	1956	3.93
July		.26		.12	1957	8.07
Aug.		.32		.10	1958	4.85
Sept.		.11		.06	1959	<u>7.16</u>
Oct.		.19		.05	Total	36.5
Nov.		.27		.06		
Dec.		<u>.31</u>		<u>.05</u>		
TOTAL		4.85		7.16		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 206

LOCATION DALLAS, TEXAS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.4**		0.3
Feb.		.2		.3		.6		.6
March		.9	3.3	1.8		.4*		1.4
April		1.0		1.6		.9*		4.6
May	2.10	1.8	46.3	11.1		.7		1.0
June		.6		.3*		.5		1.9
July		.3		.1*		1.9		.6
Aug.		.1		.1*		.4		.8
Sept.		.1		.1*		.2	2.6	1.3
Oct.		.6		.2*		.4		1.0
Nov.		.2		.1		.2		.5
Dec.		<u>.1</u>		<u>.2</u>		<u>.3</u>	.7	<u>.4</u>
TOTAL		5.9		16.0		6.9		14.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.8		1.0		
Feb.		.6		1.9		
March		1.6		3.1	Pre-1954	8.2
April		1.6		2.9	1954	5.9
May		.7		2.8	1955	16.0
June		.8		.8	1956	6.9
July		.7		.2	1957	14.4
Aug.		.8		.2	1958	10.0
Sept.		.3		.1	1959	<u>13.3</u>
Oct.		.7		.1	Total	75
Nov.		.7		.1		
Dec.		<u>.7</u>		<u>.1</u>		
TOTAL		10.0		13.3		

ESTIMATE OF Sr.⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 209

LOCATION WICHITA, KANSAS

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	0.03*	0.17*	0.17
Feb.	.29	.27	.24	.21
March	.07	1.67	0.61	.28* .61
April	.07	6.20	2.23	.27* 1.05
May	.40	4.17	1.65	.72 1.56
June	.21	.38*	.22	1.49 1.04
July	.09	.09*	# .94	.76
Aug.	.14	.03*	.30	.48
Sept.	.10	.09*	.40	4.31 1.65
Oct.	.14	.06*	.13	.46
Nov.	.06	.05	.09	.26
Dec.	<u>.09</u>	<u>.12</u>	<u>.17</u>	<u>.17</u>
TOTAL	1.70	5.57	3.93	8.42

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.13	0.28		
Feb.	.28	.46		
March	.36	1.11	Pre-1954	2.56
April	1.73	1.75	1954	1.70
May	.49	1.08	1955	5.57
June	.67	.48	1956	3.93
July	.71	.23	1957	8.42
Aug.	.28	.08	1958	5.70
Sept.	.34	.06	1959	<u>5.67</u>
Oct.	.22	.07	Total	33.6
Nov.	.18	.05		
Dec.	<u>.31</u>	<u>.02</u>		
TOTAL	5.70	5.67		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 209

LOCATION WICHITA, KANSAS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.3*		0.3
Feb.		.5		.5		.4		.4
March		.4	3.2	1.1		.4*		1.0
April		.4	11.4	4.1		.4*		1.8
May		2.4	7.6	3.0		1.3		2.6
June		.8		.7*		.4	2.7	1.8
July		.3		.1*		2.3		1.3
Aug.		.4		.1*		.7		.7
Sept.		.2		.1*		.9	6.7	2.7
Oct.		.3		.1*		.2		1.1
Nov.		.1		.1		.2		.5
Dec.		<u>.3</u>		<u>.2</u>		<u>.3</u>		<u>.3</u>
TOTAL		6.1		10.2		7.8		14.5

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.2		.6		
Feb.		.5		.9		
March		.7		2.1	Pre-1954	9.8
April		3.0		3.2	1954	6.1
May		1.0		1.9	1955	10.2
June		1.3		.8	1956	7.8
July		1.9		.4	1957	14.5
Aug.		.7		.1	1958	12.2
Sept.		.8		.1	1959	<u>10.3</u>
Oct.		.8		.1	Total	71
Nov.		.5		.1		
Dec.		<u>.8</u>		<u>.1</u>		
TOTAL		12.2		10.3		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 211

LOCATION SCOTTSBLUFF, NEBRASKA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.04*		0.14*		0.14
Feb.		.10		.17		.19		.10
March		.02	2.48	1.36		.20*		.26
April		.10	1.86	1.02		.51*		.78
May		.31	8.13	1.43	*	.15		1.05
June		.27		.29*		.58	1.60	.86
July		.21		.23*		1.35	3.07	1.60
Aug.		.24		.14*		.47		.86
Sept.		.17		.08*		.44		1.53
Oct.		.20		.11*		.16		.70
Nov.		.08		.27		.09		.13
Dec.		<u>.01</u>		<u>.24</u>		<u>.17</u>		<u>.36</u>
TOTAL		1.75		5.38		4.45		8.37

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan,		0.16		0.36		
Feb,		.17		.45		
March		.37		1.08	Pre-1954	1.71
April		.68		1.23	1954	1.75
May		.88		2.64	1955	5.38
June		1.13		1.21	1956	4.45
July		.73		.31	1957	8.37
Aug.		.27		.11	1958	5.86
Sept.		.30		.09	1959	<u>7.67</u>
Oct,		.24		.05	Total	35.2
Nov,		.36		.06		
Dec.		<u>.57</u>		<u>.08</u>		
TOTAL		5.86		7.67		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 211

LOCATION SCOTTSBLUFF, NEBRASKA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.2*		0.3
Feb.		.2		.3		.3		.2
March		.1	4.8	2.6		.3*		.4
April		.5	3.5	1.8		.8*		1.5
May		1.8	14.8	2.6	#	.3		1.8
June		1.0		.5*		1.1	2.0	1.6
July		.7		.4*		3.0	5.0	2.7
Aug.		.7		.2*		1.0		1.4
Sept.		.4		.1*		.9		2.4
Oct.		.5		.2*		.3		1.4
Nov.		.2		.5		.2		.3
Dec.		<u>.1</u>		<u>.4</u>		<u>.3</u>		<u>.6</u>
TOTAL		6.2		9.7		8.7		14.6

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.3		0.8		
Feb.		.3		.9		
March		.7		2.0	Pre-1954	4.8
April		1.2		2.2	1954	6.2
May		1.7		4.6	1955	9.7
June		2.2		2.0	1956	8.7
July		2.0		.5	1957	14.6
Aug.		.7		.2	1958	13.2
Sept.		.7		.1	1959	<u>13.6</u>
Oct.		.9		.1	Total	71
Nov.		1.1		.1		
Dec.		<u>1.4</u>		<u>.1</u>		
TOTAL		13.2		13.6		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 212

LOCATION RAPID CITY, SOUTH DAKOTA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04**		0.02*		0.08*		0.08
Feb.		.06		.20		.21**		.09
March		.02		.34		.15*		.19
April		.02		.57		.24*		.44
May		.16	2.79	1.14		.52		.60
June		.19		.47*	*	.37		.57
July		.18		.27*		.89	10.70	3.70
Aug.		.20		.19*		.43		.82
Sept.		.13		.15*		.44		.87
Oct.		.10		.13*		.20		.44
Nov.		.07		.05		.02		.06
Dec.		<u>.03**</u>		<u>.17</u>		<u>.13</u>		<u>.39</u>
TOTAL		1.20		3.70		3.68		8.25

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan,		0.16		0.19		
Feb,		.05		.18		
March		.38		.47	Pre-1954	2.05
April		.56		1.10	1954	1.20
May		.47		1.15	1955	3.70
June		.43		.47	1956	3.68
July		.29		.10	1957	8.25
Aug.		.25		.07	1958	3.30
Sept.		.15		.10	1959	<u>3.96</u>
Oct,		.28		.06	Total	26.1
Nov.		.16		.05		
Dec.		<u>.12</u>		<u>.02</u>		
TOTAL		3.30		3.96		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 212

LOCATION RAPID CITY, SOUTH DAKOTA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0**		0.0*		0.1*		0.1
Feb.		.1		.4		.3**		.1
March		.1		.6		.2*		.3
April		.1		1.1		.4*		.8
May		.9	5.0	2.2		.8		1.0
June		.7		.8*		.7		1.0
July		.6		.5*		2.1	17.3	7.5
Aug.		.6		.3*		1.0		1.3
Sept.		.3		.2*		1.0		1.4
Oct.		.2		.2*		.4		.9
Nov.		.2		.1		.0		.1
Dec.		.1**		.3		.2		.7
TOTAL		3.9		6.7		7.2		15.2

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.3		0.4		
Feb.		.1		.4		
March		.7		.9	Pre-1954	10.7
April		.9		2.0	1954	3.9
May		.9		2.0	1955	6.7
June		.8		.8	1956	7.2
July		.8		.2	1957	15.2
Aug.		.6		.1	1958	7.2
Sept.		.3		.1	1959	<u>7.2</u>
Oct.		1.0		.1	Total	58
Nov.		.5		.1		
Dec.		.3		.1		
TOTAL		7.2		7.2		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 216

LOCATION MINNEAPOLIS, MINNESOTA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04*		0.02*		0.16*		0.13
Feb.		.06		.14		.12		.21
March		.14		.39		.18*		1.07
April		.11		.55		.48*		.58
May		.07	2.70	1.29		1.24		1.17
June		.16		.36*		.93		.78
July		.17		.23*	#	.57		1.84
Aug.		.19		.12*		.56		.72
Sept.		.21		.16*		.53		1.07
Oct.		.24		.24*		.48		.47
Nov.		.19		.98		.18		.14
Dec.		<u>.03**</u>		<u>.33</u>		<u>.15</u>		<u>.72</u>
TOTAL		1.61		3.91		5.58		8.90

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.23		0.47		
Feb.		.15		.30		
March		.13		.47	Pre-1954	1.44
April		1.80		1.55	1954	1.61
May		1.16		2.30	1955	3.91
June		.85		.81	1956	5.58
July		.27		.29	1957	8.90
Aug.		.57		.15	1958	6.25
Sept.		.20		.10	1959	<u>6.67</u>
Oct.		.40		.10	Total	34.4
Nov.		.37		.07		
Dec.		<u>.12</u>		<u>.06</u>		
TOTAL		6.25		6.67		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 216

LOCATION MINNEAPOLIS, MINNESOTA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0**	0.0*	0.3*	0.2
Feb.	.1	.3	.1	.3
March	.8	.7	.3*	1.7
April	.5	1.0	.7*	1.1
May	.3	6.6 2.5	1.9	2.0
June	.6	.6*	1.8	1.4
July	.5	.4*	1.3	3.0
Aug.	.5	.2*	1.2	1.1
Sept.	.5	.3*	1.2	1.8
Oct.	.6	.4*	.9	1.0
Nov.	.4	.1	.3	.3
Dec.	<u>.1**</u>	<u>.6</u>	<u>.3</u>	<u>1.3</u>
TOTAL	4.9	7.1	10.3	15.2

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	1.0		
Feb.	.2	.6		
March	.3	.9	Pre-1954	6.2
April	3.1	2.8	1954	4.9
May	2.3	4.0	1955	7.1
June	1.6	1.4	1956	10.3
July	.7	.5	1957	15.2
Aug.	1.5	.2	1958	13.4
Sept.	.5	.1	1959	<u>11.8</u>
Oct.	1.4	.1	Total	69
Nov.	1.1	.1		
Dec.	<u>.3</u>	<u>.1</u>		
TOTAL	13.4	11.8		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 219

LOCATION DES MOINES, IOWA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04**		0.05*		0.91*		0.17
Feb.		.07		.29		.28		.21
March		.16	1.94	0.86		.03*		.52
April		.14	1.61	1.02		.03*		2.11
May		.07	9.02	1.47		1.34		.99
June		.13		.20*	#	.33		.81
July		.16		.16*		.62	1.88	1.53
Aug.		.22		.12*		1.13		1.40
Sept.		.22		.08*		.94		1.55
Oct.		.27		.18*		.39		1.26
Nov.		.19		.39		.21		.20
Dec.		<u>.03**</u>		<u>.21</u>		<u>.12</u>		<u>.24</u>
TOTAL		1.70		5.04		5.93		10.99

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.17		0.47		
Feb.		.18		.48		
March		.31		1.60	Pre-1954	2.06
April		2.23		2.37	1954	1.70
May		.71		2.81	1955	5.04
June		.78		.44	1956	5.93
July		.83		.17	1957	10.99
Aug.		.43		.15	1958	6.82
Sept.		.35		.09	1959	<u>8.76</u>
Oct.		.31		.05	Total	41.3
Nov.		.35		.04		
Dec.		<u>.17</u>		<u>.09</u>		
TOTAL		6.82		8.76		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 219

LOCATION DES MOINES, IOWA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0**	0.1*	0.8*	0.3
Feb.	.1	.6	.5	.4
March	.8	3.8	1.7	.8
April	.8	3.0	1.8	3.8
May	.3	16.4	2.6	1.7
June	.5	.4*	.6	1.5
July	.5	.3*	1.4	3.1
Aug.	.6	.2*	2.5	2.2
Sept.	.6	.1*	2.1	2.5
Oct.	.7	.3*	.7	3.2
Nov.	.6	.6	.4	.4
Dec.	<u>.1**</u>	<u>.4</u>	<u>.2</u>	<u>.4</u>
TOTAL	5.6	9.1	12.3	19.7

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.3	1.0		
Feb.	.3	1.0		
March	.6	3.0	Pre-1954	8.5
April	3.8	4.3	1954	5.6
May	1.4	4.9	1955	9.1
June	1.5	.7	1956	12.3
July	2.2	.3	1957	19.7
Aug.	1.1	.2	1958	14.2
Sept.	.8	.1	1959	<u>15.8</u>
Oct.	.8	.1	Total	85
Nov.	1.0	.1		
Dec.	<u>.4</u>	<u>.1</u>		
TOTAL	14.2	15.8		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 221

LOCATION ST. LOUIS, MISSOURI

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04**		0.07*		0.25*		0.40
Feb.		.09		.44		.57		.66
March		.09	6.09	1.46		.72*		1.08
April		.10	2.55	1.77		.61*		1.73
May		.14	11.14	2.15	#	1.36		1.25
June		.25		.34*		.34		1.21
July		.13		.23*		.80	3.22	2.05
Aug.		.30		.10*		.47		.71**
Sept.		.15		.10*		.92		1.41
Oct.		.26		.33*		.33		.71
Nov.		.27		.37		.24		.25
Dec.		.03**		.24		.23		.57
TOTAL		1.91		7.60		6.84		12.03

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.51		0.57		
Feb.		.67		.91		
March		1.48		2.14	Pre-1954	1.23**
April		2.69		2.03	1954	1.91
May		.86		2.52	1955	7.60
June		.99		0.27	1956	6.84
July		1.29		.24	1957	12.03
Aug.		.46		.15	1958	10.56
Sept.		.21		.09	1959	<u>9.11</u>
Oct.		.30		.08	Total	49.3
Nov.		.65		.02		
Dec.		<u>.45</u>		<u>.09</u>		
TOTAL		10.56		9.11		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 221

LOCATION ST. LOUIS, MISSOURI

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0**		0.1*		0.4*		0.7
Feb.		.2		.9		.9*		1.1
March		.5	11.8	2.8		1.1*		1.7
April		.6	4.7	3.3		.9		3.0
May		.6	20.3	3.9	#	2.3		2.1
June		.9		.6*		.7		2.2
July		.6		.4*		1.8	5.2	3.3
Aug.		.9		.2*		1.0		1.1**
Sept.		.4		.2*		2.0		2.2
Oct.		.6		.5*		.6		1.6
Nov.		.6		.6		.5		.5
Dec.		<u>.1**</u>		<u>.4</u>		<u>.4</u>		<u>1.0</u>
TOTAL		6.0		13.9		12.6		20.3

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.9		1.2		
Feb.		1.6		1.8		
March		2.9		4.1	Pre-1954	4.8**
April		4.6		3.7	1954	6.0
May		1.7		4.4	1955	13.9
June		1.8		.5	1956	12.6
July		3.4		.4	1957	20.3
Aug.		1.2		.2	1958	22.6
Sept.		.5		.1	1959	<u>16.6</u>
Oct.		1.0		.1	Total	97
Nov.		1.9		.0		
Dec.		<u>1.1</u>		<u>.1</u>		
TOTAL		22.6		16.6		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 222

LOCATION CHICAGO, ILLINOIS

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.07*		0.27		0.29
Feb.		.19		.43		.18		.35
March		.07	3.06	1.03		.48*		.49
April		.14		.94		.46*		.86
May		.05	4.34	1.66	*	1.84		.67
June		.11		.27*		.13		.75
July		.07		.16*		.23		1.34
Aug.		.19		.06*		.39		.65
Sept.		.20		.09*		.47		.79
Oct.		.14		.16*		.11		.27
Nov.		.55		.37		.07		.14
Dec.		.00		.10		.16		.49
TOTAL		1.75		5.34		4.79		7.09

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.16		0.38		
Feb.		.19		.76		
March		1.24		3.41	Pre-1954	1.76
April		2.37		2.62	1954	1.75
May		.96		2.01	1955	5.34
June		1.49		.52	1956	4.79
July		.56		.17	1957	7.09
Aug.		.44		.08	1958	8.61
Sept.		.21		.08	1959	<u>10.21</u>
Oct.		.35		.08	Total	39.6
Nov.		.39		.05		
Dec.		.25		.05		
TOTAL		8.61		10.21		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 222

LOCATION CHICAGO, ILLINOIS

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.4*	0.5
Feb.	.3	.8	.3	.6
March	.3	5.9	2.0	.7*
April	.7	1.7	.7*	1.5
May	.2	7.9	3.0	2.7
June	.4	.5*	.3	1.3
July	.2	.3*	.6	2.2
Aug.	.5	.1*	.9	1.0
Sept.	.5	.1*	1.0	1.2
Oct.	.3	.3*	.2	.6
Nov.	1.2	.6	.1	.3
Dec.	<u>.0</u>	<u>.2</u>	<u>.3</u>	<u>.9</u>
TOTAL	4.6	9.7	8.1	12.0

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.3	0.8		
Feb.	.3	1.5		
March	2.5	6.4	Pre-1954	7.7
April	4.1	4.7	1954	4.6
May	1.9	3.5	1955	9.7
June	2.8	.9	1956	8.1
July	1.5	.3	1957	12.0
Aug.	1.2	.1	1958	18.0
Sept.	.5	.1	1959	<u>18.6</u>
Oct.	1.2	.1	Total	79
Nov.	1.1	.1		
Dec.	<u>.6</u>	<u>.1</u>		
TOTAL	18.0	18.6		

ESTIMATE OF Sr-90 DEPOSITION FROM GUMMED FILM

STATION # 225

LOCATION NEW ORLEANS, LOUISIANA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	0.05*	0.39*	0.35
Feb.	.08	.17	.46	.40
March	.18	.49	.38*	.74
April	.23	1.10	.20*	.94
May	.16	7.40 2.87	.63	.45
June	.19	.29*	.47	3.75 1.52
July	.23	.34*	1.25	1.37
Aug.	.12	.24*	.57	.82
Sept.	.22	.15*	.34	.90
Oct.	.11	.10*	.24	.41
Nov.	.23	.21	.19	.24
Dec.	<u>.03</u>	<u>.22</u>	<u>.25</u>	<u>.35</u>
TOTAL	1.82	6.23	5.37	8.49

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.38	0.76		
Feb.	.53	1.18		
March	.55	3.13	Pre-1954	1.44
April	.71	.89	1954	1.82
May	.70	.87	1955	6.23
June	.38	.45	1956	5.37
July	.82	.12	1957	8.49
Aug.	.52	.07	1958	5.47
Sept.	.26	.08	1959	<u>7.68</u>
Oct.	.21	.06	Total	36.5
Nov.	.17	.06		
Dec.	<u>.24</u>	<u>.01</u>		
TOTAL	5.47	7.68		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 225

LOCATION NEW ORLEANS, LOUISIANA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.6*		0.6
Feb.		.1		.3		.7		.7
March		1.0		.9		.6*		1.2
April		1.3		2.0	*	.3*		1.6
May		.9	13.4	5.2		1.0		.8
June		.7		.5*		.9	6.7	2.8
July		.7		.6*		2.8		2.2
Aug.		.4		.4*		1.3		1.3
Sept.		.6		.2*		.8		1.5
Oct.		.3		.2*		.4		.9
Nov.		.5		.3		.4		.5
Dec.		<u>.1</u>		<u>.4</u>		<u>.5</u>		<u>.6</u>
TOTAL		6.6		11.1		10.3		14.7

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.6		1.6		
Feb.		.9		2.4		
March		1.1		6.0	Pre-1954	8.0
April		1.2		1.6	1954	6.6
May		1.4		1.5	1955	11.1
June		.8		.8	1956	10.3
July		2.2		.2	1957	14.7
Aug.		1.4		.1	1958	12.0
Sept.		.6		.1	1959	<u>14.5</u>
Oct.		.7		.1	Total	77
Nov.		.5		.1		
Dec.		<u>.6</u>		<u>.0</u>		
TOTAL		12.0		14.5		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 304

LOCATION BOISE, IDAHO

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.05*		0.37*		0.21
Feb.		.09		.15		.30		.40
March		.03		.35		.26*		.80
April		.03		1.28		.87*		.84
May		.43	5.82	1.88		.87		1.10
June		.11		.25*		.38		.62
July		.10		.14*		.58	3.54	0.85
Aug.		.11		.07*		.24		.36
Sept.		.11		.05*		.23	1.73	1.31
Oct.		.08		.15*		.44		1.13
Nov.		.09		.15		.12		.16
Dec.		<u>.03</u>		<u>.53</u>		<u>.18</u>		<u>.47</u>
TOTAL		1.25		5.05		4.84		8.25

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.39		1.00		
Feb.		.30		1.02		
March		2.08		1.48	Pre-1954	4.49
April		1.62		1.04	1954	1.25
May		.81		2.07	1955	5.05
June		.58		.51	1956	4.84
July		.37		.17	1957	8.25
Aug.		.55		.14	1958	8.28
Sept.		.20		.38	1959	<u>7.94</u>
Oct.		.40		.06	Total	40.1
Nov.		.42		.05		
Dec.		<u>.56</u>		<u>.02</u>		
TOTAL		8.28		7.94		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 304

LOCATION BOISE, IDAHO

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.6*	0.4
Feb.	.1	.3	.5	.7
March	.2	.7	.4*	1.3
April	.1	2.4	1.3*	1.6
May	2.7	10.5	3.4	1.9
June	.4	.4*	.7	1.2
July	.3	.2*	1.3	5.7
Aug.	.3	.1*	.5	.6
Sept.	.3	.1*	.5	3.5
Oct.	.2	.2*	.8	2.2
Nov.	.2	.2	.2	.3
Dec.	.1	.9	.3	.8
TOTAL	4.9	9.0	8.4	14.8

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.7	2.1		
Feb.	.5	2.0		
March	3.9	2.8	Pre-1954	3.6
April	2.8	1.9	1954	4.9
May	1.6	3.6	1955	9.0
June	1.1	.9	1956	8.4
July	1.0	.3	1957	14.8
Aug.	1.4	.2	1958	17.6
Sept.	.5	.6	1959	<u>14.6</u>
Oct.	1.6	.1	Total	73
Nov.	1.2	.1		
Dec.	<u>1.3</u>	<u>.0</u>		
TOTAL	17.6	14.6		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 309

LOCATION BILLINGS, MONTANA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.03*		0.14*		0.13
Feb.		.06		.05		.15		.21
March		.01		.20		.26*		.30
April		.05		.86		.55*		1.12
May	.41	0.36	5.39	1.63	*	.85		1.15
June		.18		.52*		.78		1.82
July		.16		.36*		.98	5.20	2.29
Aug.		.23		.15*		.62		1.79
Sept.		.12		.16*		.55		1.24
Oct.		.10		.07*		.29		1.19
Nov.		.13		.25		.21		.13
Dec.		.01		.26		.21		.24
TOTAL		1.45		4.54		5.59		11.61

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.16		0.41		
Feb.		.10		.22		
March		.39		.80	Pre-1954	1.61
April		1.59		1.27	1954	1.45
May		1.05		2.40	1955	4.54
June		.94		1.07	1956	5.59
July		.43		.36	1957	11.61
Aug.		.47		.21	1958	7.06
Sept.		.35		.08	1959	<u>6.99</u>
Oct.		.83		.08	Total	38.9
Nov.		.48		.06		
Dec.		.27		.03		
TOTAL		7.06		6.99		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 309

LOCATION BILLINGS, MONTANA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.2*		0.2
Feb.		.1		.1		.2		.3
March		.0		.4		.4*		.5
April		.2		1.6		.8*		2.1
May	2.5	1.9	9.8	2.9	*	1.3		1.9
June		.7		.9*		1.5		3.4
July		.5		.6*		2.3	8.3	3.6
Aug.		.5		.6*		2.3		2.9
Sept.		.3		.3*		1.2		2.0
Oct.		.2		.1*		.6		2.4
Nov.		.3		.4		.4		.3
Dec.		<u>.0</u>		<u>.4</u>		<u>.4</u>		<u>.4</u>
TOTAL		4.9		8.1		10.7		20.0

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.3		0.9		
Feb.		.2		.4		
March		.7		1.5	Pre-1954	7.1
April		2.7		2.3	1954	4.9
May		2.0		4.2	1955	8.1
June		1.8		1.8	1956	10.7
July		1.1		.6	1957	20.0
Aug.		1.2		.3	1958	15.7
Sept.		.8		.1	1959	<u>12.3</u>
Oct.		2.8		.1	Total	79
Nov.		1.5		.1		
Dec.		<u>.6</u>		<u>.0</u>		
TOTAL		15.7		12.3		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 310

LOCATION SALT LAKE CITY, UTAH

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04**		0.03*		0.62*		0.47
Feb.		.05		.12		.29		.59
March		.02	4.25	1.61		.14*		1.53
April		.14	6.78	1.84		.67*		1.77
May		.60	44.25	7.16	#	1.30		1.49
June		.23		.37*		.33		2.07
July		.21		.43*		.79		2.40
Aug.		.20		.25*		.49	4.63	2.06
Sept.		.21		.16*		.64	2.66	1.88
Oct.		.25		.30*		.80		1.77
Nov.		.65	3.10	.70		.30		.31
Dec.		.01**		.56		.26		.43
TOTAL		2.61		13.53		6.63		16.77

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.39		1.27		
Feb.		.49		1.24		
March		2.26		1.21	Pre-1954	9.64
April		3.69		2.64	1954	2.61
May		1.69		3.77	1955	13.53
June		.75		1.44	1956	6.63
July		.59		.41	1957	16.77
Aug.		.57		.25	1958	12.42
Sept.		.24		.20	1959	<u>12.82</u>
Oct.		.38		.14	Total	74.4
Nov.		.42		.15		
Dec.		.95		.10		
TOTAL		12.42		12.82		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 310

LOCATION SALT LAKE CITY, UTAH

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0*		0.1*		1.0*		0.8
Feb.		.1		.2		.5		1.0
March		.1	8.2	3.2		.2*		2.5
April		.7	12.6	3.1		1.0*		3.3
May		3.3	80.4	13.3		2.1		2.6
June		.9		.6*		.6		3.8
July		.7		.7*		1.8		3.9
Aug.		.6		.4*		1.1	7.7	3.2
Sept.		.5		.3*		1.4	4.2	2.9
Oct.		.6		.5*		1.5		3.5
Nov.		1.4	5.0	1.1		.6		.7
Dec.		.0*		1.0		.5		.8
TOTAL		8.9		24.5		12.3		29.0

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.7		2.7		
Feb.		.8		2.5		
March		4.4		2.3	Pre-1954	34.7
April		6.4		4.7	1954	8.9
May		3.3		6.6	1955	24.5
June		1.4		2.4	1956	12.3
July		1.5		.7	1957	29.0
Aug.		1.5		.4	1958	25.8
Sept.		.6		.3	1959	<u>23.2</u>
Oct.		1.6		.2	Total	158
Nov.		1.3		.2		
Dec.		<u>2.3</u>		<u>.2</u>		
TOTAL		25.8		23.2		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 314

LOCATION TUCSON, ARIZONA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.03**		0.27*		0.33
Feb.		.06		.23		.28		.23
March		.17		1.29		.69*		.33
April		.29		.22		.22*		.32
May		.80		.59		.16		.62
June		.18		.14*	#	.49	1.73	1.01
July		.40		.19*		1.56	13.67	3.82
Aug.		.12		.13*		.53		1.42
Sept.		.10		.05*		.32		.51
Oct.		.05		.23*		.24		.63
Nov.		.04		.58**		.20		.46
Dec.		.00		.03		.11		.49
TOTAL		2.24		3.71		5.07		10.17

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.14		0.31		
Feb.		.28		.30		
March		1.31		.37	Pre-1954	1.17
April		1.65		.98	1954	2.24
May		.52		.32	1955	3.71
June		.55		.55	1956	5.07
July		1.48		.34	1957	10.17
Aug.		.74		.03	1958	7.90
Sept.		.25		.10	1959	3.52
Oct.		.33		.10	Total	33.8
Nov.		.57		.06		
Dec.		.08		.06		
TOTAL		7.90		3.52		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 314

LOCATION TUCSON, ARIZONA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1**		0.4*		0.6
Feb.		.1		.4		.5		.4
March		1.0		2.4		1.0*		.5
April		1.5		.4		.3*		.6
May		4.6		1.1		.3		1.0
June		.7		.2*		.9	3.1	1.8
July		1.3		.3*		3.8	22.7	5.8
Aug.		.3		.2*		1.2		2.2
Sept.		.3		.1*		.7		.9
Oct.		.1		.4*		.5		1.3
Nov.		.1		1.0**		.4		1.0
Dec.		<u>.0</u>		<u>.1</u>		<u>.2</u>		<u>0.9</u>
TOTAL		10.0		6.7		10.2		17.0

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.2		0.7		
Feb.		.5		.6		
March		2.6		.7	Pre-1954	3.2
April		2.8		1.8	1954	10.0
May		1.0		.6	1955	6.7
June		1.2		.9	1956	10.2
July		3.9		.6	1957	17.0
Aug.		2.0		.1	1958	17.7
Sept.		.6		.1	1959	<u>6.4</u>
Oct.		1.1		.1	Total	71
Nov.		1.6		.1		
Dec.		<u>.2</u>		<u>.1</u>		
TOTAL		17.7		6.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 321

LOCATION GRAND JUNCTION, COLORADO

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.04*		0.19*		0.36
Feb.		.08		.06		.44		.21
March		.08	4.70	2.88		.26*		.86
April		.19	11.37	5.80		.84*		1.36
May		.45	9.13	1.84		.90		1.19
June		.20		.35*		.49		1.23
July		.16		.19*	#	1.06	2.68	1.78
Aug.		.22		.09*		.37		.66
Sept.		.24		.09*		.32		1.49
Oct.		.15		.09*		.37		1.16
Nov.		.43	1.94	.45		.14		.25**
Dec.		<u>.00</u>		<u>.20</u>		<u>.16</u>		<u>.23</u>
TOTAL		2.24		12.08		5.54		10.78

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.32		0.23		
Feb.		.18		.70		
March		1.68		.90	Pre-1954	5.24
April		1.45		2.19	1954	2.24
May		1.22		2.54	1955	12.08
June		.83		.91	1956	5.54
July		1.02		.29	1957	10.78
Aug.		.31		.13	1958	8.42
Sept.		.40		.14	1959	<u>8.20</u>
Oct.		.24		.08	Total	52.5
Nov.		.52		.04		
Dec.		<u>.25</u>		<u>.05</u>		
TOTAL		8.42		8.20		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 321

LOCATION GRAND JUNCTION, COLORADO

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.3*		0.6
Feb.		.1		.1		.7		.4
March		.5	9.0	5.7		.4*		1.4
April		1.0	21.1	10.8		1.2*		2.4
May		2.5	16.5	5.0		1.4		2.0
June		.8		.6*		1.0		2.2
July		.5		.3*		2.4	4.4	2.7
Aug.		.6		.2*		.8		1.0
Sept.		.6		.2*		.7		2.3
Oct.		.4		.1*		.7		2.4
Nov.		1.0	3.1	.8		.3		.5**
Dec.		.0		.3		.3		.4
TOTAL		8.0		24.2		10.2		18.3

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.5		1.5		
Feb.		.3		1.4		
March		3.3		1.7	Pre-1954	31.0
April		2.5		4.0	1954	8.0
May		2.4		4.4	1955	24.2
June		1.6		1.5	1956	10.2
July		2.7		.5	1957	18.3
Aug.		.8		.2	1958	18.1
Sept.		.9		.2	1959	15.7
Oct.		1.0		.1	Total	126
Nov.		1.5		.1		
Dec.		.6		.1		
TOTAL		18.1		15.7		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 323

LOCATION ALBUQUERQUE, NEW MEXICO

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04**		0.03*		0.34*		0.23
Feb.		.25	1.07	.18		.37		.27
March		.48	3.78	.62		.06*		.81
April		.22		.85		.12*		.95
May		.22	4.99	.71	*	.12*		1.66
June		.24		.52*		1.37	2.11	1.34
July		.24		.26*		1.77	4.62	2.64
Aug.		.16		.28*		.55		.78
Sept.		.14		.22*		.25	3.17	1.29
Oct.		.11		.19*		.30		.96
Nov.		.61		.60		.24		.30
Dec.		<u>.01**</u>		<u>.14</u>		<u>.08</u>		<u>.47</u>
TOTAL		3.26		4.60		6.12		11.70

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.25		0.26		
Feb.		.35		.29		
March		.83		.93	Pre-1954	9.09
April		2.45		2.16	1954	3.26
May		1.29		2.15	1955	4.60
June		.99		.85	1956	6.12
July		1.22		.45	1957	11.70
Aug.		.84		.15	1958	9.25
Sept.		.27		.11	1959	<u>7.61</u>
Oct.		.35		.12	Total	51.6
Nov.		.21		.08		
Dec.		<u>.20</u>		<u>.06</u>		
TOTAL		9.25		7.61		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 323

LOCATION ALBUQUERQUE, NEW MEXICO

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0**		0.1*		0.5*		0.4
Feb.		.4	2.1	.3		.6		.4
March		2.7	7.2	1.2		.1*		1.3
April		1.2		1.6		.2*		1.6
May		4.3	9.0	1.3		1.2		2.8
June		.9		.9*		2.7	3.8	2.4
July		.8		.4*		4.2	7.6	4.3
Aug.		.5		.5*		1.2		1.2
Sept.		.4		.4*		.5	5.0	2.1
Oct.		.3		.3*		.6		1.9
Nov.		1.4		1.0		.5		.6
Dec.		<u>0.0**</u>		<u>.2</u>		<u>.1</u>		<u>.9</u>
TOTAL		12.9		8.2		12.4		19.9

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		0.6		
Feb.		.6		.6		
March		1.6		1.7	Pre-1954	54.3
April		4.3		3.9	1954	12.9
May		2.5		3.8	1955	8.2
June		1.9		1.4	1956	12.4
July		3.3		.7	1957	19.9
Aug.		2.2		.2	1958	19.9
Sept.		.6		.2	1959	<u>13.5</u>
Oct.		1.4		.2	Total	141
Nov.		.6		.1		
Dec.		<u>.5</u>		<u>.1</u>		
TOTAL		19.9		13.5		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 326

LOCATION LAS VEGAS, NEVADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.00		0.05*		0.35*		0.33
Feb.		.03		.20		.05		.12
March		.01	5.48	1.65		.31*		.32
April		.04	2.20	0.90	#	.59*		.37
May		.30		1.31		.45		.57
June		.09		.25*		.22		.37
July		.12		.03*		.60		1.04
Aug.		.10		.08*		.09		.15
Sept.		.03		.20*		.02		.55
Oct.		.17		.17*		.31		.22
Nov.		.43		.03		.11		.13
Dec.		.02		.18		.13		.34
TOTAL		1.34		5.05		3.23		4.51

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.37		0.29		
Feb.		.21		.67		
March		.74		.65	Pre-1954	5.88
April		1.27		.64	1954	1.34
May		.50		1.36	1955	5.05
June		.16		.46	1956	3.23
July		.51		.15	1957	4.51
Aug.		.46		.09	1958	6.35
Sept.		.26		.10	1959	<u>4.67</u>
Oct.		1.00		.15	Total	31.0
Nov.		.72		.07		
Dec.		.15		.04		
TOTAL		6.35		4.67		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 326

LOCATION LAS VEGAS, NEVADA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.6*	0.6
Feb.	.0	.4	.1	.2
March	.0	10.3	3.2	.5*
April	.2	4.1	1.4	.9*
May	1.6	2.4	.7	1.0
June	.3	.4*	.4	.7
July	.4	.1*	1.5	1.7
Aug.	.3	.1*	.2	.2
Sept.	.1	.3*	.0	1.0
Oct.	.4	.3*	.6	.5
Nov.	1.0	.0	.2	.3
Dec.	<u>.1</u>	<u>.3</u>	<u>.3</u>	<u>.6</u>
TOTAL	4.4	9.0	6.0	8.0

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	0.6		
Feb.	.4	1.3		
March	1.5	1.2	Pre-1954	23.7
April	2.2	1.2	1954	4.4
May	1.0	2.4	1955	9.0
June	.3	.8	1956	6.0
July	1.3	.2	1957	8.0
Aug.	1.3	.1	1958	15.5
Sept.	.6	.2	1959	<u>8.4</u>
Oct.	4.0	.2	Total	75
Nov.	2.1	.1		
Dec.	<u>.4</u>	<u>.1</u>		
TOTAL	15.5	8.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 401

LOCATION SEATTLE, WASHINGTON

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.02**	0.09*	0.60*	0.20
Feb.	.07	.25	.38	.40
March	.01	.69	.67*	.67
April	.01	.64	.18*	.49
May	.34	.38	.35	.28
June	.12	.10*	.53	.42
July	.03	.11*	.31	.40
Aug.	.17	.27*	.12	.21
Sept.	.14	.06*	.36	.40
Oct.	.10	.16*	.37	.37
Nov.	.10	.31	.19	.39
Dec.	<u>.08**</u>	<u>.58</u>	<u>.39</u>	<u>.38</u>
TOTAL	2.04	3.64	4.45	4.61

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.86	1.21		
Feb.	.46	1.22		
March	.81	1.99	Pre-1954	0.84
April	1.64	1.90	1954	2.04
May	.77	1.07	1955	3.64
June	.61	.63	1956	4.45
July	.06	.24	1957	4.61
Aug.	.14	.11	1958	7.88
Sept.	.20	.07	1959	<u>8.64</u>
Oct.	.42	.05	Total	32.1
Nov.	.59	.09		
Dec.	<u>1.32</u>	<u>.06</u>		
TOTAL	7.88	8.64		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 401

LOCATION SEATTLE, WASHINGTON

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0**		0.2*		1.0*		0.3
Feb.		.1		.5		.6		.7
March		.0		1.3		1.0*		1.1
April		.1		1.2		.3*		.9
May		2.2		.7	#	.5		.5
June		.5		.2*		1.0		.8
July		.1		.2*		.7		.7
Aug.		.5		.5*		.3		.3
Sept.		.4		.1*		.7		.8
Oct.		.2		.3*		.7		.8
Nov.		2.2		.5		.4		.9
Dec.		<u>.2**</u>		<u>1.0</u>		<u>.7</u>		<u>.7</u>
TOTAL		6.5		6.7		7.9		8.5

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		1.4		2.6		
Feb.		.8		2.4		
March		1.5		3.8	Pre-1954	2.2
April		2.8		3.4	1954	6.5
May		1.5		1.9	1955	6.7
June		1.2		1.1	1956	7.9
July		.2		.4	1957	8.5
Aug.		.3		.2	1958	16.5
Sept.		.5		.1	1959	<u>16.2</u>
Oct.		1.4		.1	Total	62
Nov.		1.7		.1		
Dec.		<u>3.2</u>		<u>.1</u>		
TOTAL		16.5		16.2		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 404

LOCATION MEDFORD, OREGON

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.02	0.06*	0.39*	0.21
Feb.	.06	.20	.30	.46
March	.01	.32	.20*	.55
April	.03	.41	.37*	.33
May	.09	.20	.50	.43
June	.05	.10*	.27	.11
July	.05	.01*	.29	.17
Aug.	.03	.01*	.16	.06
Sept.	.05	.05*	.27	.41
Oct.	.05	.03*	.29	.33
Nov.	.07	.17	.08	.14
Dec.	<u>.02</u>	<u>.51</u>	<u>.13</u>	<u>.39</u>
TOTAL	.53	2.07	3.25	3.59

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.35	0.80		
Feb.	.32	.63		
March	1.95	.67	Pre-1954	0.77
April	1.54	.54	1954	.53
May	.37	1.28	1955	2.07
June	.68	.36	1956	3.25
July	.24	.09	1957	3.59
Aug.	.19	.05	1958	6.65
Sept.	.12	.05	1959	<u>4.89</u>
Oct.	.36	.07	Total	21.8
Nov.	.21	.04		
Dec.	<u>.32</u>	<u>.31</u>		
TOTAL	6.65	4.89		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 404

LOCATION MEDFORD, OREGON

	<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0	0.1*	0.6*		0.4
Feb.		.1	.4	.5		.8
March		.1	.6	.3*		.9
April		.2	.7	.5*		.6
May		.5	.4 #	.8		.7
June		.2	.2*	.5		.2
July		.1	.0*	.7		.3
Aug.		.1	.0*	.3		.1
Sept.		.1	.1*	.6		.7
Oct.		.1	.0*	.5		.7
Nov.		.1	.3	.2		.3
Dec.		<u>.1</u>	<u>.9</u>	<u>.2</u>		<u>.7</u>
TOTAL		1.7	3.7	5.7		6.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.6		1.7		
Feb.		.5		1.3		
March		3.7		1.3	Pre-1954	1.5
April		2.7		1.0	1954	1.7
May		.7		2.2	1955	3.7
June		1.3		.6	1956	5.7
July		.7		.1	1957	6.4
Aug.		.5		.1	1958	13.6
Sept.		.3		.1	1959	<u>9.1</u>
Oct.		1.2		.1	Total	42
Nov.		.6		.1		
Dec.		<u>.8</u>		<u>.5</u>		
TOTAL		13.6		9.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 407

LOCATION SAN FRANCISCO, CALIFORNIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		.01		0.10*		0.87*		0.49
Feb.		.08		.16		.42		.47
March		.03		.15		.23*		.55
April		.02		.38		.29*		.33
May		.11	.83	.32	*	.17		.38
June		.05		.05*		.10		.15
July		.02		.04*		.11		.11
Aug.		.03		.02*		.08		.09
Sept.		.06		.20*		.12		.40
Oct.		.05		2.81*		.32		.21
Nov.		.05		.20		.06		.06
Dec.		<u>.06</u>		<u>1.01</u>		<u>.08</u>		<u>.46</u>
TOTAL		.57		5.44		2.85		3.70

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.37		0.91		
Feb.		.55		1.01		
March		3.21		.61	Pre-1954	0.67
April		1.78		.42	1954	.57
May		.34		.32	1955	5.44
June		.21		.10	1956	2.85
July		.09		.04	1957	3.70
Aug.		.10		.06	1958	7.16
Sept.		.07		.06	1959	<u>3.67</u>
Oct.		.10		.04	Total	24.1
Nov.		.12		.04		
Dec.		<u>.22</u>		<u>.06</u>		
TOTAL		7.16		3.67		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 407

LOCATION SAN FRANCISCO, CALIFORNIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		1.4*		0.8
Feb.		.1		.3		.7		.8
March		.4		.3		.3*		.9
April		.1		.7		.4*		.6
May		.6	1.5	.6		.3		.6
June		.2		.1*		.2		.3
July		.1		.1*		.3		.2
Aug.		.1		.0*		.2		.1
Sept.		.1		.3*		.3		.7
Oct.		.1		4.5*		.6		.5
Nov.		.1		.3		.1		.1
Dec.		.1		1.7		.2		.8
TOTAL		2.0		9.1		5.0		6.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.6		2.0		
Feb.		.9		2.0		
March		6.0		1.2	Pre-1954	1.4
April		3.2		.8	1954	2.0
May		.7		.6	1955	9.1
June		.4		.2	1956	5.0
July		.2		.1	1957	6.4
Aug.		.3		.1	1958	13.8
Sept.		.2		.1	1959	<u>7.4</u>
Oct.		.4		.1	Total	45
Nov.		.4		.1		
Dec.		.5		.1		
TOTAL		13.8		7.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 410

LOCATION LOS ANGELES, CALIFORNIA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.10*		0.23*		0.45
Feb.		.04		.10		.30		.27
March		.01		.13		.14*		.37
April		.04		.29	#	.38*		.56
May		.19	1.74	.48		.29		.20
June		.06		.08*		.06		.16
July		.04		.04*		.17		.39
Aug.		.05		.04*		.06		.08
Sept.		.08		.40*		.09		.14
Oct.		.04		.03*		.09		.19
Nov.		.19		.49		.09		.16
Dec.		<u>.16</u>		<u>.16</u>		<u>.15</u>		<u>.46</u>
TOTAL		.94		2.34		2.05		3.43

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.23		0.42		
Feb.		.36		1.54		
March		.93		.42	Pre-1954	0.65
April		.76		.67	1954	.94
May		.27		.16	1955	2.34
June		.05		.08	1956	2.05
July		.06		.06	1957	3.43
Aug.		.15		.06	1958	3.33
Sept.		.08		.05	1959	<u>3.68</u>
Oct.		.14		.09	Total	16.4
Nov.		.18		.02		
Dec.		<u>.12</u>		<u>.11</u>		
TOTAL		3.33		3.68		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 410

LOCATION LOS ANGELES, CALIFORNIA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.1		0.2*		0.4*		0.8
Feb.		.1		.2		.5		.4
March		.1		.2		.2*		.6
April		.2		.5		.6*		1.1
May		1.1	3.1	.9		.4		.3
June		.2		.1*		.1		.3
July		.1		.1*		.4		.6
Aug.		.2		.1*		.1		.1
Sept.		.2		.7*		.2		.2
Oct.		.1		.0*		.2		.4
Nov.		.4		.8		.2		.3
Dec.		<u>.5</u>		<u>.2</u>		<u>.3</u>		<u>.8</u>
TOTAL		3.3		4.1		3.6		5.9

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.4		0.9		
Feb.		.6		3.1		
March		1.9		.8	Pre-1954	1.2
April		1.3		1.2	1954	3.3
May		.5		.3	1955	4.1
June		.1		.1	1956	3.6
July		.2		.1	1957	5.9
Aug.		.4		.1	1958	7.0
Sept.		.2		.1	1959	<u>7.0</u>
Oct.		.6		.1	Total	32
Nov.		.5		.0		
Dec.		<u>.3</u>		<u>.2</u>		
TOTAL		7.0		7.0		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 501

LOCATION ANCHORAGE, ALASKA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.00*		0.25*		0.16
Feb.		.03		.15		.41		.22
March		.00		.13		.21*		.16
April		.01		.26		.35*		.10
May		.06		.06	#	.30		.17
June		.03		.17*		.30		.21
July		.06		.15*		.07		.26
Aug.		.05		.17*		.19		.22
Sept.		.10		.07*		.31		.69
Oct.		.09		.34*		.12		.18
Nov.		.05		.06		.31		.11
Dec.		<u>.05</u>		<u>.26</u>		<u>.06</u>		<u>.13</u>
TOTAL		.57		1.82		2.88		2.61

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.30		0.32		
Feb.		.17		.38		
March		.16		.34	Pre-1954	0.74
April		.67		.44	1954	.57
May		.42		.60	1955	1.82
June		.45		.37	1956	2.88
July		.20		.44	1957	2.61
Aug.		.16			1958	3.57
Sept.		.15			1959	<u> </u>
Oct.		.54			Total	
Nov.		.18				
Dec.		<u>.17</u>		<u> </u>		
TOTAL		3.57				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 501

LOCATION ANCHORAGE, ALASKA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.0*		0.4*		0.3
Feb.		.1		.3		.7		.4
March		.0		.2		.3*		.3
April		.1		.5		.5*		.2
May		.3		.1		.5		.3
June		.1		.3*		.6		.4
July		.2		.3*		.2		.4
Aug.		.1		.3*		.4		.3
Sept.		.3		.1*		.7		1.2
Oct.		.2		.5*		.2		.4
Nov.		.1		.1		.7		.2
Dec.		<u>.1</u>		<u>.4</u>		<u>.2</u>		<u>.4</u>
TOTAL		1.6		3.1		5.3		4.6

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.5		0.7		
Feb.		.3		.8		
March		.3		.6	Pre-1954	2.0
April		1.1		.8	1954	1.6
May		.8		1.0	1955	3.1
June		.9		.6	1956	5.3
July		.5		.7	1957	4.6
Aug.		.4			1958	7.6
Sept.		.4			1959	
Oct.		1.5			Total	
Nov.		.5				
Dec.		<u>.4</u>		<u></u>		
TOTAL		7.6				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 502

LOCATION NORTH BAY, ONTARIO, CANADA

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.04	0.05*	0.13*	0.20
Feb.	.09	.66	.10	.29
March	.01	2.59 .75	.33*	.14
April	.04	2.14 1.15	.30*	.59
May	.03	1.18	.77	.81
June	.11	.20*	.35	.50**
July	.08	.09*	.19	.65**
Aug.	.09	.09*	.20	.38
Sept.	.33	.17*	.48	.99
Oct.	.14	.31*	.23	.37
Nov.	.26	.47	.22	.31
Dec.	<u>.01</u>	<u>.23</u>	<u>.27</u>	<u>.32</u>
TOTAL	1.23	5.35	3.57	5.55

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.29	0.41		
Feb.	.36	.38		
March	.45	.76	Pre-1954	0.63
April	1.64	1.34	1954	1.23
May	1.15	1.67	1955	5.35
June	.92	.75	1956	3.57
July	.19	.34	1957	5.55
Aug.	.32	.13	1958	6.97
Sept.	.24	.14	1959	<u>6.22</u>
Oct.	.48	.10	Total	29.5
Nov.	.46	.15		
Dec.	<u>.47</u>	<u>.05</u>		
TOTAL	6.97	6.22		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 502

LOCATION NORTH BAY, ONTARIO, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.2*		0.3
Feb.		.2		1.3		.2		.5
March		.0	5.0	1.5		.5*		.2
April		.2	4.0	2.0		.4*		1.1
May		.1		2.1	*	1.2		1.4
June		.4		.4*		.7		.9**
July		.3		.2*		.4		1.1**
Aug.		.1		.1*		.4		.6
Sept.		.8		.3*		1.1		1.5
Oct.		.3		.5*		.4		.8
Nov.		.6		.8		.5		.6
Dec.		<u>.0</u>		<u>.4</u>		<u>.5</u>		<u>.6</u>
TOTAL		3.0		9.7		6.5		9.6

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.5		0.9		
Feb.		.6		.8		
March		.9		1.4	Pre-1954	2.0
April		2.8		2.4	1954	3.0
May		2.3		2.9	1955	9.7
June		1.8		1.3	1956	6.5
July		.5		.6	1957	9.6
Aug.		.8		.2	1958	14.7
Sept.		.6		.2	1959	<u>11.2</u>
Oct.		1.5		.2	Total	57.0
Nov.		1.3		.2		
Dec.		<u>1.1</u>		<u>.1</u>		
TOTAL		14.7		11.2		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM SUMMER FILM

STATION # 503

LOCATION MOOSE JONES, ONTARIO, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.01*		0.20*		0.03
Feb.		.08		.11		.28**		.09
March		.00		.09		.23*		.15
April		.01		.16		.37*		.36
May		.01		.51	#	.53		.73
June		.06		.16*		.64		.68
July		.06		.23*		.32		.60
Aug.		.09		.13*		.15		.53
Sept.		.03		.07*		.40		.90
Oct.		.10		.09*		.35		.26
Nov.		.14		.02		.06		.39
Dec.		<u>.01</u>		<u>.10</u>		<u>.06</u>		<u>.24</u>
TOTAL		.59		1.68		3.59		4.96

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.08		0.07		
Feb.		.06		.11		
March		.24		.15	Pre-1954	1.02
April		.58		.72	1954	.59
May		.69		2.11	1955	1.68
June		.85		1.54	1956	3.59
July		.15		.58	1957	4.96
Aug.		.24		.20	1958	3.74
Sept.		.23		.08	1959	<u>5.85</u>
Oct.		.21		.10	Total	21.4
Nov.		.33		.08		
Dec.		<u>.08</u>		<u>.11</u>		
TOTAL		3.74		5.85		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 503

LOCATION MOOSONEE, ONTARIO, CANADA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.0*	0.4*	0.1
Feb.	.1	.2	.4*	.1
March	.0	.2	.3*	.2
April	.0	.3	.6*	.7
May	.0	.9	.8	1.2
June	.2	.3*	1.3	1.2
July	.2	.4*	.8	1.0
Aug.	.3	.2*	.3	.8
Sept.	.1	.1*	.9	1.6
Oct.	.2	.1*	.7	.6
Nov.	.3	.0	.1	.9
Dec.	<u>.0</u>	<u>.2</u>	<u>.1</u>	<u>.4</u>
TOTAL	1.4	2.9	6.7	8.8

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.1	0.1		
Feb.	.1	.2		
March	.5	.3	Pre-1954	5.6
April	1.0	1.3	1954	1.4
May	1.4	3.6	1955	2.9
June	1.6	2.6	1956	6.7
July	.4	.9	1957	8.8
Aug.	.6	.3	1958	8.1
Sept.	.5	.1	1959	<u>9.9</u>
Oct.	.7	.2	Total	43.0
Nov.	1.0	.1		
Dec.	<u>.2</u>	<u>.2</u>		
TOTAL	8.1	9.9		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 504

LOCATION MONCTON, NEW BRUNSWICK, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.03		0.03*		0.61*		0.10
Feb.		.03		.10		.06		.08
March		.01		.44		.18*		.18
April		.01		.34		.29*		.38
May		.01		.71		.57		.51
June		.03		.15*		.25		.38
July		.07		.14*		.23		.36
Aug.		.16		.12*		.12		.34
Sept.		.12		.07*		.33		.64
Oct.		.11		.12*		.16		.28
Nov.		.26		.07		.10		.16
Dec.		<u>.02</u>		<u>.18</u>		<u>.21</u>		<u>.40</u>
TOTAL		.86		2.47		3.11		3.81

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.07		0.27		
Feb.		.17		.30		
March		.15		.70	Pre-1954	1.49
April		.28		.96	1954	.86
May		.20		.97	1955	2.47
June		.20		.71	1956	3.11
July		.08		.29	1957	3.81
Aug.		.10		.09	1958	2.64
Sept.		.19		.12	1959	<u>4.74</u>
Oct.		.71		.11	Total	19.1
Nov.		.38		.15		
Dec.		<u>.11</u>		<u>.07</u>		
TOTAL		2.64		4.74		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 504

LOCATION MONCTON, NEW BRUNSWICK, CANADA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	1.0*	0.2
Feb.	.0	.2	.1	.1
March	.0	.8	.3*	.3
April	.0	.6	.4*	.7
May	.1	1.3 *	.9	.8
June	.1	.3*	.5	.7
July	.2	.2*	.5	.6
Aug.	.5	.2*	.3	.5
Sept.	.6	.1*	.7	1.0
Oct.	.3	.2*	.3	.6
Nov.	.6	.1	.2	.3
Dec.	<u>.1</u>	<u>.3</u>	<u>.4</u>	<u>.7</u>
TOTAL	2.5	4.4	5.6	6.5

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.1	0.6		
Feb.	.3	.6		
March	.3	1.3	Pre-1954	3.6
April	.5	1.7	1954	2.5
May	.4	1.7	1955	4.4
June	.4	1.2	1956	5.6
July	.2	.5	1957	6.5
Aug.	.3	.1	1958	6.8
Sept.	.4	.2	1959	<u>8.4</u>
Oct.	2.5	.2	Total	38.0
Nov.	1.1	.2		
Dec.	<u>.3</u>	<u>.1</u>		
TOTAL	6.8	8.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 505

LOCATION MONTREAL, QUEBEC, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.03		0.02*		0.22*		0.13
Feb.		.06		.17		.07		.18
March		.01	1.38	.94		.26*		.23
April		.02	1.44	.88		.53*		.46
May		.02		.93	*	1.00		.76
June		.08		.26*		.22		.41
July		.08		.10*		.21		.54
Aug.		.11		.10*		.14		.24
Sept.		.06		.14*		.35		1.06
Oct.		.17		.08*		.18		.27
Nov.		.31		.15		.13		.19
Dec.		.18		.26		.26		.42
TOTAL		1.13		4.03		3.57		4.89

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.29		1.27		
Feb.		.60		.94		
March		.36		.69	Pre-1954	1.00
April		1.40		1.46	1954	1.13
May		1.17		.59	1955	4.03
June		.87		.88	1956	3.57
July		.31		.41	1957	4.89
Aug.		.21		.28	1958	6.79
Sept.		.32		.16	1959	<u>7.26</u>
Oct.		.39		.24	Total	28.7
Nov.		.45		.27		
Dec.		.42		.07		
TOTAL		6.79		7.26		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 505

LOCATION MONTREAL, QUEBEC, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.0*		0.3*		0.2
Feb.		.1		.3		.1		.3
March		.1	2.7	1.8		.4*		.4
April		.1	2.7	1.6		.8*		.8
May		.1		1.7		1.5		1.3
June		.3		.4*		.4		.8
July		.3		.2*		.4		.9
Aug.		.2		.2*		.3		.4
Sept.		.3		.2*		.8		1.6
Oct.		.4		.1*		.4		.5
Nov.		.7		.2		.2		.4
Dec.		<u>.2</u>		<u>.4</u>		<u>.5</u>		<u>.8</u>
TOTAL		2.8		7.1		6.1		8.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.5		2.7		
Feb.		1.0		1.9		
March		.7		1.3	Pre-1954	3.2
April		2.4		2.6	1954	2.8
May		2.3		1.0	1955	7.1
June		1.7		1.5	1956	6.1
July		.8		.7	1957	8.4
Aug.		.5		.4	1958	14.5
Sept.		.8		.3	1959	<u>13.3</u>
Oct.		1.5		.4	Total	55.0
Nov.		1.3		.4		
Dec.		<u>1.0</u>		<u>.1</u>		
TOTAL		14.5		13.3		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 507

LOCATION SEVEN ISLANDS, QUEBEC, CANADA

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.04	0.02*	1.05*	0.05
Feb.	.05	.15	.03*	.05
March	.00	.23	.11*	.10
April	.02	.09	.12	.26
May	.02	.30	.45	.58
June	.03	.25*	.33	.58
July	.08	.27*	.19	.46
Aug.	.09	.17*	.19	.38
Sept.	.08	.12*	.27	1.39
Oct.	.22	.11*	.20	.30
Nov.	.32	.30	.10**	.08
Dec.	<u>.01</u>	<u>.47</u>	<u>.27</u>	<u>.18</u>
TOTAL	.96	2.48	3.31	4.41

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.09	0.09		
Feb.	.12	.10		
March	.13	.08	Pre-1954	1.12
April	.72	.40	1954	.96
May	.67	1.32	1955	2.48
June	.90	1.21	1956	3.31
July	.17	.54	1957	4.41
Aug.	.26	.32	1958	3.92
Sept.	.23	.47	1959	<u>4.96</u>
Oct.	.30	.21	Total	21.2
Nov.	.26	.14		
Dec.	<u>.07</u>	<u>.08</u>		
TOTAL	3.92	4.96		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 507

LOCATION SEVEN ISLANDS, QUEBEC, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.0*		1.7*		0.1
Feb.		.1		.3		.1		.1
March		.0		.4		.2*		.2
April		.1		.2		.2*		.4
May		.1		.5 *		.8		1.0
June		.1		.4*		.6		1.1
July		.2		.5*		.5		.8
Aug.		.3		.3*		.4		.6
Sept.		.2		.2*		.6		2.2
Oct.		.5		.2*		.4		.6
Nov.		.7		.5		.2**		.2
Dec.		.0		.8		.5		.3
TOTAL		<u>2.3</u>		<u>4.4</u>		<u>6.2</u>		<u>7.6</u>

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.2		0.2		
Feb.		.2		.2		
March		.3		.2	Pre-1954	5.2
April		1.2		.7	1954	2.3
May		1.3		2.3	1955	4.4
June		1.7		2.0	1956	6.2
July		.4		.9	1957	7.6
Aug.		.7		.5	1958	8.5
Sept.		.6		.7	1959	<u>8.3</u>
Oct.		1.0		.3	Total	42.0
Nov.		.7		.2		
Dec.		.2		.1		
TOTAL		<u>8.5</u>		<u>8.3</u>		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 508

LOCATION WINNIPEG, MANITOBA, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.03*		0.83*		0.19
Feb.		.03		.05		.05**		1.74
March		.02		.11		.16**		.56
April		.02		.80		.11*		.46
May		.05	1.67	1.01	*	.91		.45
June		.08		.34*		.28		.89
July		.08		.16*		.24	4.38	1.58
Aug.		.04		.13*		.25		1.00
Sept.		.09		.10*		.39		.83
Oct.		.07		.23*		.24		.34
Nov.		.07		.13		.13		.05
Dec.		<u>.08</u>		<u>.46</u>		<u>.14</u>		<u>.34</u>
TOTAL		.67		3.55		3.73		8.43

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.08		1.05		
Feb.		.30		.15**		
March		.78		.28**	Pre-1954	2.20
April		1.06		.91	1954	.67
May		1.11		1.25	1955	3.55
June		.46		1.14	1956	3.73
July		.17		.70	1957	8.43
Aug.		.34		.49	1958	6.25
Sept.		.24		.14	1959	<u>6.38</u>
Oct.		.22		.13	Total	30.2
Nov.		.34		.08		
Dec.		<u>1.15</u>		<u>.06</u>		
TOTAL		6.25		6.38		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 508

LOCATION WINNIPEG, MANITOBA, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		1.3*		0.3
Feb.		.0		.1		.1*		2.9
March		.1		.2		.3**		.9
April		.1		1.5		.2*		.9
May		.3	3.0	1.9 *		1.4		.7
June		.3		.6*		.5		1.6
July		.3		.3*		.5	7.1	2.6
Aug.		.1		.2*		.5		1.6
Sept.		.1		.2*		.9		1.3
Oct.		.1		.4*		.5		.7
Nov.		.1		.2		.2		.1
Dec.		.1		.8		.3		.6
TOTAL		1.6		6.5		6.7		14.2

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.1		2.3		
Feb.		.5		.3**		
March		1.5		.5**	Pre-1954	6.0
April		1.8		1.6	1954	1.6
May		2.1		2.2	1955	6.5
June		1.0		1.9	1956	6.7
July		.5		1.1	1957	14.2
Aug.		.9		.8	1958	13.6
Sept.		.6		.2	1959	<u>11.3</u>
Oct.		.8		.2	Total	60
Nov.		1.0		.1		
Dec.		<u>2.8</u>		<u>.1</u>		
TOTAL		13.6		11.3		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 509

LOCATION CHURCHILL, MANITOBA, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.01*		0.05*		0.09
Feb.		.03		.02		.05**		.07
March		.01		.08		.04*		.15
April		.00		.17		.05*		.11
May		.01		.12		.11		.12
June		.04		.24*		.14		.16
July		.03		.12*		.10		.49
Aug.		.04		.11*		.03		.33
Sept.		.09		.08*		.21		.83
Oct.		.04		.08*		.20		.13
Nov.		.09		.11		.03		.02
Dec.		<u>.01</u>		<u>.07</u>		<u>.11</u>		<u>.06</u>
TOTAL		.43		1.21		1.12		2.56

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.49		0.07		
Feb.		.22		.04		
March		.12		.08	Pre-1954	0.65
April		.63		.11	1954	.43
May		.10		.24	1955	1.21
June		.22		.25	1956	1.12
July		.12		.77	1957	2.56
Aug.		.10		.36	1958	2.51
Sept.		.13		.23	1959	<u>2.48</u>
Oct.		.09		.08	Total	11.0
Nov.		.23		.04		
Dec.		<u>.06</u>		<u>.21</u>		
TOTAL		2.51		2.48		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 509

LOCATION CHURCHILL, MANITOBA, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.0*		0.1*		0.2
Feb.		.1		.0		.1**		.1
March		.0		.2		.1*		.2
April		.0		.3		.1*		.2
May		.0		.2		.2		.2
June		.1		.4*		.3		.3
July		.1		.2*		.2		.8
Aug.		.1		.2*		.1		.5
Sept.		.1		.1*		.4		1.3
Oct.		.1		.1*		.4		.3
Nov.		.2		.2		.1		.0
Dec.		<u>.0</u>		<u>.1</u>		<u>.2</u>		<u>.1</u>
TOTAL		.8		2.0		2.3		4.2

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.8		0.1		
Feb.		.4		.1		
March		.2		.1	Pre-1954	1.3
April		1.1		.2	1954	.8
May		.2		.4	1955	2.0
June		.4		.4	1956	2.3
July		.3		1.3	1957	4.2
Aug.		.3		.6	1958	5.1
Sept.		.3		.4	1959	<u>4.1</u>
Oct.		.3		.1	Total	20.0
Nov.		.7		.1		
Dec.		<u>.1</u>		<u>.3</u>		
TOTAL		5.1		4.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 510

LOCATION REGINA, SASKATCHEWAN, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.01*		0.06*		0.09
Feb.		.02		.04		.03		.09
March		.00		.05		.20*		.16
April		.02		1.01		.14*		.59
May		.09	1.44	.81		.63		.61
June		.04		.33*		.80		.65
July		.12		.14*		.22	7.38	2.92
Aug.		.18		.15*		.23		2.76
Sept.		.01		.09*		.24		1.51
Oct.		.16		.12*		.21		.66
Nov.		.18		.15		.06		.11
Dec.		<u>.01</u>		<u>.09</u>		<u>.24</u>		<u>.33</u>
TOTAL		.87		2.99		3.06		10.48

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.03		0.17		
Feb.		.17		.15		
March		.10		.32	Pre-1954	0.90
April		1.07		.92	1954	.87
May		1.15		1.95	1955	2.99
June		.61		1.53	1956	3.06
July		.20		.55	1957	10.48
Aug.		.45		.32	1958	4.69
Sept.		.20		.30	1959	<u>6.51</u>
Oct.		.49		.14	Total	29.5
Nov.		.12		.08		
Dec.		<u>.10</u>		<u>.08</u>		
TOTAL		4.69		6.51		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 510

LOCATION REGINA, SASKATCHEWAN, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.0*		0.1*		0.1
Feb.		.0		.1		.0		.2
March		.0		.1		.3*		.3
April		.1		1.9		.2*		1.1
May		.5	2.6	1.7		1.0		1.0
June		.1		.6* #		1.5		1.2
July		.4		.2*		.6	11.8	3.9
Aug.		.5		.3*		.5		4.0
Sept.		.0		.1*		.5		2.5
Oct.		.4		.2*		.4		1.3
Nov.		.4		.2		.1		.2
Dec.		<u>.0</u>		<u>.2</u>		<u>.4</u>		<u>.6</u>
TOTAL		2.4		5.6		5.6		16.5

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.1		0.4		
Feb.		.3		.3		
March		.2		.6	Pre-1954	2.8
April		1.8		1.7	1954	2.4
May		2.2		3.4	1955	5.6
June		1.2		2.6	1956	5.6
July		.5		.9	1957	16.5
Aug.		1.2		.5	1958	10.6
Sept.		.5		.5	1959	<u>11.3</u>
Oct.		2.1		.2	Total	55.0
Nov.		.3		.1		
Dec.		<u>.2</u>		<u>.1</u>		
TOTAL		10.6		11.3		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 511

LOCATION EDMONTON, ALBERTA, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.01*		0.10*		0.09
Feb.		.02		.04		.05**		.10
March		.01		.35		.25*		.18
April		.05		.24		.29*		.78
May		.12		.50	#	1.19		1.02
June		.06		.23*		.83		.75
July		.13		.24*		.54		.85
Aug.		.14		.24*		.23		.59
Sept.		.09		.15*		.93		1.37
Oct.		.05		.16*		.17		.31
Nov.		.10		.05		.10		.08
Dec.		<u>.00</u>		<u>.08</u>		<u>.11</u>		<u>.10</u>
TOTAL		.81		2.29		4.79		6.22

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.13		0.23		
Feb.		.23		.26		
March		.27		.43	Pre-1954	0.82
April		1.19		.67	1954	.81
May		1.68		1.42	1955	2.29
June		1.19		1.78	1956	4.79
July		.25		.82	1957	6.22
Aug.		.44		.39	1958	6.30
Sept.		.31		.17	1959	<u>6.35</u>
Oct.		.32		.11	Total	27.6
Nov.		.13		.10		
Dec.		<u>.16</u>		<u>.07</u>		
TOTAL		6.30		6.35		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 511

LOCATION EDMONTON, ALBERTA, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.0*		0.2*		0.2
Feb.		.0		.1		.1**		.2
March		.0		.7		.4*		.3
April		.3		.4		.4*		1.5
May		.6		.9		1.9		1.7
June		.2		.4*		1.6		1.4
July		.4		.4*		1.2		1.4
Aug.		.4		.4*		.5		.9
Sept.		.1		.2*		2.1		2.8
Oct.		.1		.3*		.3		.6
Nov.		.2		.1		.2		.2
Dec.		<u>.0</u>		<u>.1</u>		<u>.2</u>		<u>.2</u>
TOTAL		2.3		4.0		9.1		11.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.2		0.5		
Feb.		.4		.5		
March		.5		.8	Pre-1954	2.3
April		2.1		1.2	1954	2.3
May		3.3		2.5	1955	4.0
June		2.4		3.0	1956	9.1
July		.7		1.3	1957	11.4
Aug.		1.1		.6	1958	13.2
Sept.		.7		.3	1959	<u>11.1</u>
Oct.		1.0		.2	Total	63
Nov.		.4		.1		
Dec.		<u>.4</u>		<u>.1</u>		
TOTAL		13.2		11.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 515

LOCATION DEEP RIVER, ONTARIO, CANADA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		.12*		0.11*		0.10
Feb.		.05		.20		.05		.10
March		.07		.28		.12*		.16
April		.05	1.51	.59		.67*		.46
May		.05	5.52	1.52	*	.66		.39
June		.05		.24*		.23		.41
July		.07		.02*		.18		.80
Aug.		.08		.04*		.08		.21
Sept.		.09		.07*		.11		.99
Oct.		.07		.09*		.18		.08
Nov.		.07		.10		.14		.12
Dec.		<u>.08</u>		<u>.05</u>		<u>.13</u>		<u>.13</u>
TOTAL		.77		3.32		2.66		3.95

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.08		0.18		
Feb.		.06		.26		
March		.27		.44	Pre-1954	0.94
April		.58	1.43		1954	.77
May		.90	1.42		1955	3.32
June		.79	.51		1956	2.66
July		.43	.49		1957	3.95
Aug.		.17	.31		1958	4.43
Sept.		.22	.13		1959	<u>5.32</u>
Oct.		.40	.06		Total	21.4
Nov.		.40	.05			
Dec.		<u>.13</u>	<u>.04</u>			
TOTAL		4.43	5.32			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 515

LOCATION DEEF RIVER, ONTARIO, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		.2*		0.2*		0.2
Feb.		.1		.4		.1*		.2
March		.1		.5		.2		.2
April		.3	2.8	1.1		1.0*		.8
May		.3	9.9	2.8	#	1.0		.7
June		.2		.4*		.5		.7
July		.2		.0*		.4		1.3
Aug.		.1		.1*		.2		.3
Sept.		.1		.1*		.3		1.6
Oct.		.1		1*		.3		.2
Nov.		.1		.2		.3		.3
Dec.		<u>.1</u>		<u>.1</u>		<u>.3</u>		<u>.2</u>
TOTAL		1.7		6.0		4.8		c.'

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.1		0.4		
Feb.		.1		.5		
March		.5		.8	Pre-1954	2.8
April		1.0		2.6	1954	1.7
May		1.7		2.5	1955	6.0
June		1.5		.9	1956	4.8
July		1.1		.8	1957	6.7
Aug.		.4		.5	1958	9.9
Sept.		.5		.2	1959	<u>9.5</u>
Oct.		1.5		.1	Total	41.0
Nov.		1.2		.1		
DEC		<u>.3</u>		<u>.1</u>		
TOTAL		9.9		9.5		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 516

LOCATION GOOSE BAY, NEWFOUNDLAND, CANADA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	.04*	.26*	0.09
Feb.	.09	.04	.05	.11
March	.01	.07	.08*	.18
April	.01	.42	.05*	.39
May	.02	.50	.50	.53
June	.07	.43*	.31	.68
July	.07	1.88*	.40	.55
Aug.	.08	.56*	.13	.56
Sept.	.15	.41*	.25	1.16
Oct.	.12	.15*	.25	.29
Nov.	.13	.09	.15	.27
Dec.	<u>.03</u>	<u>.18</u>	<u>.06</u>	<u>.05</u>
TOTAL	.82	4.77	2.49	4.86

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.20	0.18		
Feb.	.16	.20		
March	.42	.23	Pre-1954	1.08
April	.68	.73	1954	.82
May	.71	1.52	1955	4.77
June	.61	.89	1956	2.49
July	.14	.40	1957	4.86
Aug.	.17	.33	1958	3.76
Sept.	.20	.11	1959	
Oct.	.15	.10	Total	
Nov.	.20			
Dec.	<u>.12</u>			
TOTAL	3.76			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 516

LOCATION GOOSE BAY, NEWFOUNDLAND, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		.1**		.4*		0.2
Feb.		.2		.1		.1		.2
March		.0		.1		.1*		.3
April		.0		.8		.1*		.7
May		.1		.9		.8		.9
June		.3		.7*		.6		1.2
July		.2		3.2*		.9		.9
Aug.		.2		.9*		.3		.9
Sept.		.4		.7*		.5		1.8
Oct.		.3		.2*		.5		.6
Nov.		.3		.2		.3		.6
Dec.		<u>.0</u>		<u>.3</u>		<u>.1</u>		<u>.1</u>
TOTAL		2.0		8.2		4.7		8.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.3		0.4		
Feb.		.3		.4		
March		.8		.4	Pre-1954	4.4
April		1.2		1.3	1954	2.0
May		1.4		2.6	1955	8.2
June		1.2		1.5	1956	4.7
July		.4		.6	1957	8.4
Aug.		.4		.5	1958	7.9
Sept.		.5		.2	1959	
Oct.		.5		.1	Total	
Nov.		.6				
Dec.		<u>.3</u>		<u></u>		
TOTAL		7.9				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 217

LOCATION STEPHENVILLE, NEWFOUNDLAND, CANADA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.02		0.07*		0.26*		0.19
Feb.		.03		.19		.22		.13
March		.02		.40		.30*		.19
April		.02		.32		.48*		1.17
May		.04		.53		.90		.67
June		.05		.40*		.35		.54
July		.14		.27*		.14		.51
Aug.		.14		.31*		.21		.60
Sept.		.18		.23*		.39		1.20
Oct.		.33		.20*		.26		.47
Nov.		.48		.58		.32		.22
Dec.		<u>.02</u>		<u>.20</u>		<u>.33</u>		<u>.68</u>
TOTAL		1.47		3.70		4.16		6.57

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.23		0.16		
Feb.		.27		.38		
March		.28		.27	Pre-1954	1.53
April		.94		.91	1954	1.47
May		.99		1.95	1955	3.70
June		.55		.67	1956	4.16
July		.19		.61	1957	6.57
Aug.		.21		.36	1958	5.28
Sept.		.29		.25	1959	<u> </u>
Oct.		.58			Total	
Nov.		.56				
Dec.		<u>.19</u>		<u> </u>		
TOTAL		5.28				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 517

LOCATION STEPHENVILLE, NEWFOUNDLAND, CANADA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.2*	0.4*	0.3
Feb.	.1	.4	.4	.2
March	.0	.8	.5*	.3
April	.1	.6	.7*	2.0
May	.2	1.0 *	1.4	1.2
June	.2	.7*	.7	1.0
July	.4	.4*	.3	.8
Aug.	.4	.5*	.5	.9
Sept.	.5	.4*	.8	1.9
Oct.	.8	.3*	.5	1.0
Nov.	1.1	1.1	.6	.5
Dec.	<u>.1</u>	<u>.3</u>	<u>.6</u>	<u>1.2</u>
TOTAL	3.9	6.7	7.4	11.3

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	0.3		
Feb.	.4	.8		
March	.5	.5	Pre-1954	7.9
April	1.6	1.6	1954	3.9
May	1.9	3.4	1955	6.7
June	1.1	1.1	1956	7.4
July	.5	1.0	1957	11.3
Aug.	.5	.6	1958	11.9
Sept.	.7	.4	1959	
Oct.	2.2		Total	
Nov.	1.6			
Dec.	<u>.5</u>	<u></u>		
TOTAL	11.9			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 518

LOCATION THULE, GREENLAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.01*		0.13*		0.06
Feb.		.04		.17		.11		.08
March		.00		.02		.06*		.08
April		.01		.09	*	.09*		.14
May		.02		.18		.39		.46
June		.04		.10*		.23		.68
July		.07		.09*		.25		1.00
Aug.		.05		.17*		.18		.57
Sept.		.04		.13*		.14		.63
Oct.		.04		.24*		.16		.31**
Nov.		.00		.28		.05		.14**
Dec.		<u>.03</u>		<u>.12</u>		<u>.05</u>		<u>.11</u>
TOTAL		.38		1.60		1.84		4.26

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.35		0.38		
Feb.		.17		.29		
March		.40		.21	Pre-1954	0.67
April		.31		.32	1954	.38
May		.37		.64	1955	1.60
June		.28		.62	1956	1.84
July		.17		.56	1957	4.26
Aug.		.15		.12	1958	2.86
Sept.		.10		.10	1959	<u> </u>
Oct.		.24		.16	Total	
Nov.		.11				
Dec.		<u>.19</u>		<u> </u>		
TOTAL		2.86				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 518

LOCATION THULE, GREENLAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.0*	0.2*	0.1
Feb.	.1	.3	.2	.1
March	.0	.0	.1*	.1
April	.0	.2	.1*	.3
May	.1	.3	.6	.8
June	.1	.2*	.4	1.2
July	.2	.2*	.6	1.6
Aug.	.1	.3*	.4	.9
Sept.	.1	.2*	.3	1.0
Oct.	.1	.4*	.3	.7**
Nov.	.0	.4	.1	.3**
Dec.	<u>.0</u>	<u>.2</u>	<u>.1</u>	<u>.2</u>
TOTAL	.8	2.7	3.4	7.3

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.6	0.8		
Feb.	.3	.6		
March	.8	.4	Pre-1954	1.0
April	.6	.6	1954	.8
May	.7	1.1	1955	2.7
June	.5	1.0	1956	3.4
July	.4	.9	1957	7.3
Aug.	.4	.2	1958	6.0
Sept.	.2	.2	1959	<u> </u>
Oct.	.8	.2	Total	
Nov.	.3			
Dec.	<u>.4</u>	<u> </u>		
TOTAL	6.0			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 519

LOCATION KEFLAVIK, ICELAND

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.03*		0.34*		0.43
Feb.		.06		.03*		.11**		.15
March		.02		.27		.60*		.30
April		.01		.87		.52*		.84
May		.01		.42		1.03		.48
June		.02		.25*	#	.64		.28
July		.06		.35*		.22		.50
Aug.		.08		.21*		.13		.47
Sept.		.06		.17*		.36		.77
Oct.		.12		.03*		.34		.62
Nov.		.30		.20		.30		
Dec.		<u>.09</u>		<u>.36**</u>		<u>.22</u>		
TOTAL		.87		3.19		4.81		

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.						
Feb.						
March					Pre-1954	0.90
April					1954	.87
May					1955	3.19
June					1956	4.81
July					1957	
Aug.					1958	
Sept.					1959	<u> </u>
Oct.					Total	
Nov.						
Dec.		<u> </u>		<u> </u>		
TOTAL						

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 519

LOCATION KEFLAVIK, ICELAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.5*		0.8
Feb.		.1		.1*		.2**		.2
March		.2		.5		.9*		.5
April		.0		1.6		.8*		1.6
May		.1		.8		1.9		.8
June		.1		.4*		1.3		.5
July		.2		.6*		.5		.8
Aug.		.2		.4*		.3		.7
Sept.		.2		.3*		.8		1.3
Oct.		.3		.1*		.6		1.5
Nov.		.7		.3		.6		
Dec.		.1		.6**		.4		
TOTAL		2.2		5.8		8.8		

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.						
Feb.						
March					Pre-1954	2.0
April					1954	2.2
May					1955	5.8
June					1956	8.8
July					1957	
Aug.					1958	
Sept.					1959	
Oct.					Total	
Nov.						
Dec.						
TOTAL						

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 522

LOCATION NOME, ALASKA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.02*		0.09*		0.16
Feb.		.03		.16		.10*		.07
March		.02		.04		.11		.15
April		.00		.02		.19*		.23
May		.01		.05		.11		.36
June		.03		.20*		.13		.24
July		.06		.11*		.08		.15
Aug.		.10		.14*		.14		.32
Sept.		.13		.13*		.24		.67
Oct.		.09		.05*		.14		.39
Nov.		.11		.14		.05		.21
Dec.		<u>.04</u>		<u>.18</u>		<u>.15</u>		<u>.15</u>
TOTAL		.66		1.24		1.53		3.10

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.06		0.39		
Feb.		.12		.24		
March		.42		.14	Pre-1954	0.99
April		1.50		.36	1954	.66
May		.26		.73	1955	1.24
June		.49		.58	1956	1.53
July		.15		.23	1957	3.10
Aug.		.14		.24	1958	3.87
Sept.		.11		.24	1959	<u>3.40</u>
Oct.		.30		.09	Total	14.8
Nov.		.16		.08		
Dec.		<u>.16</u>		<u>.08</u>		
TOTAL		3.87		3.40		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 522

LOCATION NOME, ALASKA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.0*		0.1*		0.3
Feb.		.1		.3		.2		.1
March		.2		.1		.2*		.2
April		.0		.0		.3*		.4
May		.1		.1		.2		.6
June		.1		.4*		.3		.4
July		.2		.2*		.2		.2
Aug.		.3		.2*		.3		.5
Sept.		.3		.2*		.5		1.1
Oct.		.2		.1*		.3		.9
Nov.		.2		.3		.1		.5
Dec.		<u>.1</u>		<u>.3</u>		<u>.3</u>		<u>.3</u>
TOTAL		1.8		2.2		3.0		5.5

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.1		0.8		
Feb.		.2		.5		
March		.8		.3	Pre-1954	3.4
April		2.6		.7	1954	1.8
May		.5		1.3	1955	2.2
June		.9		1.0	1956	3.0
July		.4		.4	1957	5.5
Aug.		.3		.4	1958	8.0
Sept.		.3		.4	1959	<u>6.1</u>
Oct.		1.0		.1	Total	30.0
Nov.		.5		.1		
Dec.		<u>.4</u>		<u>.1</u>		
TOTAL		8.0		6.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 523

LOCATION FAIRBANKS, ALASKA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	0.01*	0.03*	0.06
Feb.	.04	.04	.06	.09
March	.00	.09	2.38*	.15
April	.00	.13	.48*	.18
May	.01	.21	.47	.61
June	.04	.45*	.28	.62
July	.05	.26*	.10	.40
Aug.	.05	.27*	.23	.50
Sept.	.07	.12*	.32	.67
Oct.	.05	.03*	.13	.17
Nov.	.04	.06	.01	.04
Dec.	<u>.04</u>	<u>.07</u>	<u>.02</u>	<u>.11</u>
TOTAL	.43	1.74	4.51	3.60

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.06	0.10		
Feb.	.10	.07		
March	.22	.14	Pre-1954	0.99
April	.54	.31	1954	.43
May	.45	.89	1955	1.74
June	.70	.78	1956	4.51
July	.27	.65	1957	3.60
Aug.	.08	.48	1958	2.79
Sept.	.16	.19	1959	<u>4.10</u>
Oct.	.09	.39	Total	18.2
Nov.	.06	.06		
Dec.	<u>.06</u>	<u>.04</u>		
TOTAL	2.79	4.10		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 523

LOCATION FAIRBANKS, ALASKA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.0*		0.0*		0.1
Feb.		.1		.1		.1		.2
March		.0		.2		3.6*		.2
April		.0		.2		.7*		.3
May		.1		.4		.7		1.0
June		.1		.8*		.5		1.1
July		.2		.4*		.2		.6
Aug.		.1		.4*		.5		.8
Sept.		.2		.2*		.7		1.1
Oct.		.1		.0*		.2		.4
Nov.		.1		.1		.0		.1
Dec.		<u>.1</u>		<u>.1</u>		<u>.9</u>		<u>.2</u>
TOTAL		1.1		2.9		7.2		6.1

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.1		0.2		
Feb.		.2		.1		
March		.4		.3	Pre-1954	3.4
April		1.0		.6	1954	1.1
May		.9		1.5	1955	2.9
June		1.4		1.3	1956	7.2
July		.7		1.1	1957	6.1
Aug.		.2		.8	1958	6.0
Sept.		.4		.3	1959	<u>7.0</u>
Oct.		.3		.6	Total	34.0
Nov.		.2		.1		
Dec.		<u>.2</u>		<u>.1</u>		
TOTAL		6.0		7.0		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 524

LOCATION JUNEAU, ALASKA

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.04	0.08*	0.13*	0.21
Feb.	.15	.12	.31	.28
March	.00	.23	.26*	.29
April	.00	.31	.44*	.63
May	.02	.61	.37	.67
June	.02	.19*	.09	.27
July	.06	.08*	.04	.17
Aug.	.03	.22*	.21	.30
Sept.	.10	.10*	.44	.48
Oct.	.23	.15*	.25	.40
Nov.	.30	.18	.43	.22
Dec.	<u>.04</u>	<u>.24</u>	<u>.46</u>	<u>.26</u>
TOTAL	.99	2.51	3.43	4.18

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.53	0.55		
Feb.	.36	.91		
March	.62	1.52	Pre-1954	0.99
April	.61	1.14	1954	.99
May	.34	.96	1955	2.51
June	.47	1.06	1956	3.43
July	.11	.38	1957	4.18
Aug.	.08		1958	5.86
Sept.	.18		1959	<u> </u>
Oct.	.70		Total	
Nov.	.86			
Dec.	<u>1.00</u>	<u> </u>		
TOTAL	5.86			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 524

LOCATION JUNEAU, ALASKA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.2*		0.2*		0.4
Feb.		.3		.2		.5		.5
March		.0		.4		.4*		.5
April		.0		.6		.7*		1.1
May		.1		1.1		.6		1.1
June		.1		.3*		.2		.5
July		.2		.1*		.1		.3
Aug.		.1		.4*		.5		.5
Sept.		.2		.2*		1.0		.9
Oct.		.6		.2*		.5		.9
Nov.		.7		.3		.9		.4
Dec.		<u>.1</u>		<u>.4</u>		<u>.9</u>		<u>.5</u>
TOTAL		2.4		4.4		6.5		7.6

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.9		1.2		
Feb.		.6		1.8		
March		1.2		2.9	Pre-1954	3.4
April		1.1		2.1	1954	2.4
May		.7		1.7	1955	4.4
June		.9		1.8	1956	6.5
July		.3		.6	1957	7.6
Aug.		.2			1958	13.8
Sept.		.4			1959	
Oct.		2.5			Total	
Nov.		2.6				
Dec.		<u>2.4</u>		<u> </u>		
TOTAL		13.8				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 525

LOCATION SAN JUAN, PUERTO RICO

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.04	.07*	0.25*	0.20
Feb.	.04	.15	1.17	.08
March	.16	.92	.23*	.36
April	.05	.40	.32*	.21
May	.16	1.44	.54	.14
June	.23	.14*	.28	.21
July	.06	.09*	.14	.53
Aug.	.11	.08*	.24	.48
Sept.	.15	.06*	.15	.53
Oct.	.11	.10*	.25	.14
Nov.	.10	.11	.18	.08
Dec.	.02	.26	.13	.25
TOTAL	1.23	3.20	3.88	3.21

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.23	0.60		
Feb.	.26	.72		
March	.13	.70	Pre-1954	1.03
April	.23	.85	1954	1.23
May	.29	.73	1955	3.20
June	.33	.46	1956	3.88
July	.15	.25	1957	3.21
Aug.	.31	.12	1958	2.68
Sept.	.18	.11	1959	<u>5.05</u>
Oct.	.13	.25	Total	20.3
Nov.	.21	.11		
Dec.	.23	.15		
TOTAL	2.68	5.05		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 525

LOCATIONS SAN JUAN, PUERTO RICO

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	.2*	0.4*	0.4
Feb.	.1	.3	1.9	.1
March	.9	1.8	.3*	.6
April	.3	.7	.5*	.4
May	.8	2.6 1.5	.8	.2
June	.9	.2*	.5	.4
July	.2	.1*	.4	.9
Aug.	.3	.1*	.5	.7
Sept.	.4	.1*	.3	.9
Oct.	.3	.2*	.5	.3
Nov.	.2	.2	.3	.2
Dec.	<u>.1</u>	<u>.4</u>	<u>.2</u>	<u>.4</u>
TOTAL	4.5	5.8	6.6	5.5

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	1.3		
Feb.	.4	1.4		
March	.3	1.3	Pre-1954	3.4
April	.4	1.5	1954	4.5
May	.6	1.3	1955	5.8
June	.6	.8	1956	6.6
July	.4	.4	1957	5.5
Aug.	.8	.2	1958	5.8
Sept.	.4	.2	1959	<u>9.2</u>
Oct.	.4	.4	Total	41
Nov.	.6	.2		
Dec.	<u>.5</u>	<u>.2</u>		
TOTAL	5.8	9.2		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 601

LOCATION PANAMA CANAL ZONE, ALBROOK AFB

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.03*		0.08*		0.07
Feb.		.02		.07		.20		.08
March		.13		.02*		.14*		.05
April		.10		.04*		.12*		.06
May		.16		.06*		.25		.09
June		.18		.02*		.05		.18
July		.04**		.03*		.45		.43
Aug.		.12		.05*		.31		.58**
Sept.		.09		.21*		.12		.15
Oct.		.05		.05*		.19		.20
Nov.		.08**		.10		.24		.07
Dec.		.06		.10		.09		.26
TOTAL		<u>1.07</u>		<u>.78</u>		<u>2.24</u>		<u>2.22</u>

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.37		0.18		
Feb.		.06		.12		
March		.01		.10	Pre-1954	0.72
April		.10		.17	1954	1.07
May		.10		.30	1955	.78
June		.09		.12	1956	2.24
July		.28		.23	1957	2.22
Aug.		.39		.08	1958	2.13
Sept.		.26			1959	
Oct.		.21			Total	
Nov.		.12				
Dec.		.14				
TOTAL		<u>2.13</u>				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 601

LOCATION PANAMA CANAL ZONE, ALBROOK AFB

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.1*	0.1
Feb.	.0	.1	.3	.1
March	.7	.0*	.2*	.1
April	.6	.1*	.2*	.1
May	.8	.1*	.4	.2
June	.7	.0*	.1	.3
July	.1**	.1*	1.0	.7
Aug.	.3	.1*	.7	.9*
Sept.	.2	.3*	.3	.2
Oct.	.1	.1*	.3	.4
Nov.	.2**	.2	.5	.1
Dec.	<u>.1</u>	<u>.2</u>	<u>.2</u>	<u>.5</u>
TOTAL	3.8	1.4	4.3	3.7

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.6	0.4		
Feb.	.1	.2		
March	.0	.2	Pre-1954	1.8
April	.2	.3	1954	3.8
May	.2	.5	1955	1.4
June	.2	.2	1956	4.3
July	.7	.4	1957	3.7
Aug.	1.0	.1	1958	4.9
Sept.	.6		1959	
Oct.	.7		Total	
Nov.	.3			
Dec.	<u>.3</u>			
TOTAL	4.9			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 602

LOCATION BERMUDA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	0.03*	0.77*	0.48
Feb.	.06	.16	.40	.28
March	.07	.55*	.83*	.67
April	.02	.14*	.31*	.48
May	.20	.33*	.27	.42
June	.08	.15*	.06	1.99
July	.07	.10*	.48	
Aug.	.10	.08*	.22	
Sept.	.12	.06*	.40	
Oct.	.09	.13*	.38	
Nov.	.27	.23	.11	.25
Dec.	<u>.34</u>	<u>.51</u>	<u>.27</u>	<u>.46</u>
TOTAL	1.46	2.47	4.50	

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	1.14	1.49		
Feb.		1.14		
March		1.36	Pre-1954	1.57
April		.98	1954	1.46
May		.55	1955	2.47
June		.60	1956	4.50
July		.24	1957	
Aug.		.28	1958	
Sept.		.18	1959	
Oct.			Total	
Nov.				
Dec.	<u>1.28</u>			
TOTAL				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 602

LOCATION BERMUDA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	1.2*	0.8
Feb.	.1	.3	.7	.5
March	.4	1.0*	1.3*	1.1
April	.1	.3*	.5*	.9
May	1.1	.6*	.4	.7
June	.3	.3*	.1	3.6
July	.2	.2*	1.0	
Aug.	.3	.1*	.5	
Sept.	.3	.1*	.9	
Oct.	.2	.2*	.7	
Nov.	.6	.4	.2	.5
Dec.	<u>.4</u>	<u>.9</u>	<u>.5</u>	<u>.8</u>
TOTAL	4.0	4.5	8.0	

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	1.9	3.2		
Feb.		2.3		
March		2.6	Pre-1954	8.3
April		1.8	1954	4.0
May		1.0	1955	4.5
June		1.0	1956	8.0
July		.4	1957	
Aug.		.4	1958	
Sept.		.3	1959	
Oct.			Total	
Nov.				
Dec.	<u>3.0</u>			
TOTAL				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 603

LOCATION LIMA, PERU

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.07*		0.03*		0.07
Feb.		.04**		.04		.10		.08**
March		.03		.07*		.18*		.07
April		.07		.09*		.12*		.08
May		.04		.07*		.03		.08
June		.03		.02*		.08		.11
July		.07		.04*		.08		.14
Aug.		.05		.06*		.19		.13
Sept.		.08		.13*		.17		.20
Oct.		.10		.11**		.19		.13
Nov.		.09		.07**		.09		.22
Dec.		<u>.01</u>		<u>.10**</u>		<u>.02</u>		<u>.15</u>
TOTAL		.65		.87		1.29		1.46

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.07		0.06		
Feb.		.15**		.06		
March		.02		.03	Pre-1954	.87**
April		.02		.09	1954	.65
May		.04		.15	1955	.87
June		.11			1956	1.29
July		.18			1957	1.46
Aug.		.13			1958	1.21
Sept.		.19			1959	
Oct.		.18			Total	
Nov.		.05				
Dec.		<u>.07**</u>				
TOTAL		1.21				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 603

LOCATION LIMA, PERU

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.0*	0.1
Feb.	.1*	.1	.2	.2**
March	.5	.1*	.3*	.1
April	.4	.2*	.2*	.1
May	.2	.1*	.1	.1
June	.1	.0*	.2	.2
July	.2	.1*	.2	.2
Aug.	.1	.1*	.4	.2
Sept.	.2	.2*	.4	.4
Oct.	.2	.2**	.4	.3
Nov.	.2	.1**	.2	.5
Dec.	<u>.0</u>	<u>.2**</u>	<u>.0</u>	<u>.3</u>
TOTAL	2.2	1.5	2.6	2.7

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.1	0.1		
Feb.	.3**	.1		
March	.0	.0	Pre-1954	3.7**
April	.0	.2	1954	2.2
May	.1	.3	1955	1.5
June	.2		1956	2.6
July	.5		1957	2.7
Aug.	.3		1958	2.8
Sept.	.4		1959	
Oct.	.5		Total	
Nov.	.2			
Dec.	<u>.2**</u>			
TOTAL	2.8			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 604

LOCATION SAN JOSE, COSTA RICA

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.04	0.00*	0.07*	0.04
Feb.	.02	.03	.12	.05
March	.16	.04*	.11*	.07
April	.05	.02*	.02*	.06
May	.15	.05*	.11	.12
June	.28	.04*	.09	.20
July	.07	.02*	.23	.31
Aug.	.14	.04*	.31	.30
Sept.	.10	.05*	.12	.28
Oct.	.10	.03*	.14	.09
Nov.	.07	.02	.05	.06
Dec.	<u>.01</u>	<u>.07</u>	<u>.05</u>	<u>.31</u>
TOTAL	1.19	.43	1.42	1.89

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.27	0.05		
Feb.	.14	.15		
March	.07	.12	Pre-1954	0.84
April	.13	.13	1954	1.19
May	.23	.21	1955	.43
June	.21	.15	1956	1.42
July	.52	.19	1957	1.89
Aug.	.53		1958	2.99
Sept.	.24		1959	
Oct.	.15		Total	
Nov.	.06			
Dec.	<u>.44</u>			
TOTAL	2.99			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 604

LOCATION SAN JOSE, COSTA RICA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.0*		0.1*		0.1
Feb.		.0		.1		.2		.1
March		.9		.1*		.2*		.1
April		.3		.0*		.0*		.1
May		.8		.1*		.2		.2
June		1.1		.1*		.2		.4
July		.2		.0*		.5		.5
Aug.		.4		.1*		.7		.5
Sept.		.1		.1*		.3		.4
Oct.		.2		.0*		.3		.2
Nov.		.2		.0		.1		.1
Dec.		<u>.0</u>		<u>.1</u>		<u>.1</u>		<u>.6</u>
TOTAL		4.2		0.7		2.9		3.3

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.4		0.1		
Feb.		.2		.3		
March		.1		.2	Pre-1954	3.7
April		.2		.2	1954	4.2
May		.4		.4	1955	0.7
June		.4		.3	1956	2.9
July		1.4		.3	1957	3.3
Aug.		1.3			1958	6.9
Sept.		.5			1959	
Oct.		.6			Total	
Nov.		.2				
Dec.		<u>1.1</u>		<u> </u>		
TOTAL		6.9				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 605

LOCATION LAGENS, AZORES

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	0.04*	0.21*	0.36
Feb.	.06	.08*	.64**	.41
March	.03	.18*	1.47*	.68
April	.04	.24*	.54*	.29
May	.02	.04*	.55	.25
June	.07	.39*	.16	.39
July	.05	.01*	.22	.98
Aug.	.13	.15*	.26	.40
Sept.	.12	.12*	.26	.42
Oct.	.19	.10*	.40	.28
Nov.	.13	.22**	.13	.19
Dec.	<u>.30</u>	<u>.52**</u>	<u>.42</u>	<u>.24</u>
TOTAL	1.18	2.09	5.26	4.85

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.25	1.54		
Feb.	.31	1.05		
March	1.22	2.03	Pre-1954	--
April	.88	1.02	1954	1.18
May	.50	1.72	1955	2.09
June	.54	.80	1956	5.26
July	.19	.46	1957	4.85
Aug.	.18	.45	1958	5.48
Sept.	.21	.33	1959	
Oct.	.25		Total	
Nov.	.45			
Dec.	<u>.50</u>			
TOTAL	5.48			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 605

LOCATION LAGENS, AZORES

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.3*		0.6
Feb.		.1		.2*		1.1**		.7
March		.2		.3*		2.2*		1.1
April		.3		.4*		.8*		.5
May		.1		.1*		.9		.4
June		.3		.7*		.3		.7
July		.1		.1*		.5		1.6
Aug.		.4		.2*		.6		.6
Sept.		.3		.2*		.6		.7
Oct.		.5		.2*		.8		.6
Nov.		.3		.4**		.3		.4
Dec.		<u>.4</u>		<u>.9**</u>		<u>.8</u>		<u>.5</u>
TOTAL		3.0		3.8		9.2		8.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		3.3		
Feb.		.5		2.1		
March		2.4		3.9	Pre-1954	--
April		1.6		1.8	1954	3.0
May		1.0		3.0	1955	3.8
June		1.0		1.3	1956	9.2
July		.5		.7	1957	8.4
Aug.		.5		.7	1958	11.8
Sept.		.5		.5	1959	
Oct.		.9			Total	
Nov.		1.3				
Dec.		<u>1.2</u>				
TOTAL		11.8				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 606

LOCATION BUENOS AIRES, ARGENTINA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.06*		0.23*		0.13
Feb.		.07		.10		.06		.11
March		.04		.05*		.54*		.07
April		.01		.04*		.08*		.05
May		.03		.20*		.13		.16
June		.02		.04*		.04		.10
July		.04		.03*		.07		.21
Aug.		.04		.04*		.21		.15
Sept.		.07		.08*		.14		.09
Oct.		.10		.16*		.11		.15
Nov.		.15		.13		.17		.12
Dec.		<u>.01</u>		<u>.16</u>		<u>.13</u>		<u>.18</u>
TOTAL		.62		1.19		1.91		1.52

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.15		0.13		
Feb.		.13		.11		
March		.04		.09	Pre-1954	0.89
April		.03		.11	1954	.62
May		.11		.10	1955	1.19
June		.10		.11	1956	1.91
July		.29		.12	1957	1.52
Aug.		.18			1958	1.61
Sept.		.14			1959	<u> </u>
Oct.		.13			Total	
Nov.		.15				
Dec.		<u>.16</u>		<u> </u>		
TOTAL		1.61				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 606

LOCATION BUENOS AIRES, ARGENTINA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.4*		0.2
Feb.		.1		.2		.1		.2
March		.2		.1*		.8*		.1
April		.0		.1*		.1*		.1
May		.1		.4*		.2		.3
June		.1		.1*		.1		.2
July		.1		.1*		.1		.3
Aug.		.1		.1*		.5		.2
Sept.		.2		.3*		.3		.1
Oct.		.2		.2*		.2		.3
Nov.		.3		.2		.3		.2
Dec.		.0		.3		.2		.3
TOTAL		<u>1.4</u>		<u>2.1</u>		<u>3.2</u>		<u>2.5</u>

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.3		0.3		
Feb.		.2		.2		
March		.1		.2	Pre-1954	3.8
April		.0		.2	1954	1.4
May		.2		.2	1955	2.1
June		.2		.2	1956	3.2
July		.8		.2	1957	2.5
Aug.		.5			1958	3.8
Sept.		.3			1959	
Oct.		.3			Total	
Nov.		.5				
Dec.		.4				
TOTAL		<u>3.8</u>				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 608

LOCATION SAO PAULO, BRAZIL

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	.04	0.06*	0.11*	0.16
Feb.	.05	.06*	.04	.10
March	.03	.06*	.22*	.08
April	.03	.03*	.07*	.05
May	.15	.15*	.02	.06
June	.10	.03*	.13	
July	.03	.05*	.08	
Aug.	.10	.06*	.12	
Sept.	.10	.05*	.22	.20
Oct.	.11	.12*	.11	.21
Nov.	.04	.12	.09**	.02
Dec.	<u>.01</u>	<u>.04</u>	<u>.09</u>	<u>.09</u>
TOTAL	.79	.83	1.30	

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.		0.03		
Feb.				
March			Pre-1954	--
April			1954	.79
May			1955	.83
June			1956	1.30
July			1957	
Aug.			1958	
Sept.			1959	<u> </u>
Oct.			Total	
Nov.	.10			
Dec.	<u>.11</u>	<u> </u>		
TOTAL				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 608

LOCATION SAO PAULO, BRAZIL

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		.0		0.1*		0.2*		0.3
Feb.		.1		.1*		.1		.2
March		.2		.1*		.3*		.1
April		.2		.1*		.1*		.1
May		.8		.3*		.1		.1
June		.4		.0*		.3		
July		.1		.1*		.3		
Aug.		.3		.1*		.3		
Sept.		.2		.1*		.5		.3
Oct.		.3		.2*		.2		.4
Nov.		.1		.2		.2**		.0
Dec.		<u>.0</u>		<u>.1</u>		<u>.2</u>		<u>.2</u>
TOTAL		2.7		1.5		2.8		

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.				0.1		
Feb.						
March					Pre-1954	- -
April					1954	2.7
May					1955	1.5
June					1956	2.8
July					1957	
Aug.					1958	
Sept.					1959	<u> </u>
Oct.					Total	
Nov.		.3				
Dec.		<u>.3</u>		<u> </u>		
TOTAL						

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 611

LOCATION BELEM, BRAZIL

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04			0.09
Feb.	.06			.17
March	.04		1.48**	.14
April	.08		.10*	.08
May	.27		#	1.43
June	.18	.05*		
July	.09			
Aug.	.06		.46	.19
Sept.	.25		.33	.19
Oct.	.21	.56*	.09	
Nov.	.05			.05
Dec.	<u>.01</u>	<u>.07</u>	<u> </u>	<u>.05</u>
TOTAL	1.34			

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.09	0.23		
Feb.	.13	.89		
March	.16	.51	Pre-1954	--
April	.11	.34	1954	1.34
May	.04	.13	1955	
June	.34	.49	1956	
July	.20	.31	1957	
Aug.	.29	.25	1958	1.76
Sept.	.20	.12	1959	<u> </u>
Oct.	.04	.26	Total	
Nov.	.03			
Dec.	<u>.13</u>	<u> </u>		
TOTAL	1.76			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 611

LOCATION BELEM, BRAZIL

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0						0.2
Feb.		.1						.3
March		.2				2.2*		.2
April		.4				.2*		.1
May		1.3						2.4
June		.7		.1*				
July		.3						
Aug.		.2				1.0		.3
Sept.		.7				.7		.3
Oct.		.5		.6*		.2		
Nov.		.1						.1
Dec.		.0		.1				.1
TOTAL		4.5						

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.2		0.5		
Feb.		.2		1.8		
March		.3		1.0	Pre-1954	--
April		.2		.6	1954	4.5
May		.1		.2	1955	
June		.6		.8	1956	
July		.5		.5	1957	
Aug.		.7		.4	1958	3.8
Sept.		.5		.2	1959	
Oct.		.1		.4	Total	
Nov.		.1				
Dec.		.3				
TOTAL		3.8				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

TATION # 612

LOCATION LA PAZ, BOLIVIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
an.	0.04	0.19*	0.06*	0.10
eb.	.04	.06	.05	.11
aroh	.10	.04*	.11*	.04
pril	.08	.03*	.05*	.04
ay	.45	.30*	.08	.35
une	.08	.04*	.03	.10
uly	.07	.04*	.26	.08
ug.	.34	.04**	.23	.49
ept.	.48	.09*	.31	.23
et.	.21	.23*	.14	.11
ov.	.42	.13	.08	.05
ec.	<u>.01</u>	<u>.09</u>	<u>.19</u>	<u>.06</u>
TOTAL	2.32	1.28	1.59	1.76

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
an.	0.09	0.07		
eb.	.18	.08		
aroh	.06	.03	Pre-1954	0.90
pril	.08	.05	1954	2.32
ay	.06	.09	1955	1.28
une	.16	.08	1956	1.59
uly	.23	.39	1957	1.76
ug.	.15		1958	2.29
ept.	.35		1959	
et.	.63		Total	
ov.	.17			
ec.	<u>.13</u>			
TOTAL	2.29			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 612

LOCATION LA PAZ, BOLIVIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.4*		0.1*		0.1
Feb.		.1		.1		.1		.2
March		.5		.1*		.2*		.1
April		.4		.1*		.1*		.6
May		2.5		.5*		.1		.6
June		.3		.1*		.1		.2
July		.2		.1*		.5		.1
Aug.		.5		.1**		.5		.8
Sept.		1.2		.1*		.7		.4
Oct.		.5		.4*		.3		.2
Nov.		1.0		.2		.1		.1
Dec.		<u>.0</u>		<u>.1</u>		<u>.4</u>		<u>.1</u>
TOTAL		7.2		2.3		3.2		3.1

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.1		0.2		
Feb.		.3		.2		
March		.1		.1	Pre-1954	3.8
April		.2		.1	1954	7.2
May		.1		.2	1955	2.3
June		.3		.1	1956	3.2
July		.6		.6	1957	3.1
Aug.		.4			1958	5.5
Sept.		.8			1959	<u> </u>
Oct.		1.8			Total	
Nov.		.5				
Dec.		<u>.3</u>		<u> </u>		
TOTAL		5.5				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 613

LOCATION QUITO, ECUADOR

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.07*		0.04*		0.05
Feb.		.04		.12		.03		.04
March		.11		.02*		.06*		.06
April		.20		.01*		.02*		.04
May		.13		.14*		.00		.19
June		.04		.01*	*	.00		.08
July		.03		.02*		.02		.07
Aug.		.03		.03*		.08		.13
Sept.		.10		.08*		.11		.18
Oct.		.08		.02*		.08		.10
Nov.		.01		.02		.09		.08
Dec.		<u>.01</u>		<u>.07</u>		<u>.09</u>		<u>.07</u>
TOTAL		.82		.61		.62		1.09

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.44		0.09		
Feb.		.09		.15		
March		.10		.08	Pre-1954	0.84
April		.02		.07	1954	.82
May		.05		.06	1955	.61
June		.06		.10	1956	.62
July		.07		.11	1957	1.09
Aug.		.09		.06	1958	1.35
Sept.		.13			1959	
Oct.		.24			Total	
Nov.		.03				
Dec.		<u>.03</u>		<u></u>		
TOTAL		1.35				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 613

LOCATION QUITO, ECUADOR

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.4*		0.1*		0.1
Feb.		.1		.2		.1		.1
March		.6		.0*		.1*		.1
April		1.1		.0*		.0*		.1
May		.7		.3*		.0		.3
June		.1		.0*		.0		.1
July		.1		.0*		.1		.1
Aug.		.1		.0*		.2		.2
Sept.		.3		.1*		.3		.3
Oct.		.2		.0*		.2		.2
Nov.		.0		.0		.2		.2
Dec.		<u>.0</u>		<u>.1</u>		<u>.2</u>		<u>.1</u>
TOTAL		3.3		1.1		1.5		1.9

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.7		0.2		
Feb.		.1		.3		
March		.2		.2	Pre-1954	3.6
April		.0		.1	1954	3.3
May		.1		.1	1955	1.1
June		.1		.2	1956	1.5
July		.2		.2	1957	1.9
Aug.		.2		.1	1958	2.7
Sept.		.3			1959	<u> </u>
Oct.		.6			Total	
Nov.		.1				
Dec.		<u>.1</u>		<u> </u>		
TOTAL		2.7				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 614

LOCATION MEXICO CITY, MEXICO

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.03*		0.05*		0.08
Feb.		.05		.05		.09		.22
March		.47		.17		.19*		.15
April		.36		.14		.27*		.30
May		1.13		.39		1.08		.49
June		.24		.13*	#	.09		.99
July		.09		.08*		.46		1.66
Aug.		.16		.01*		.56		.68
Sept.		.10		.28*		.29		.44
Oct.		.06		.10*		.21		.39
Nov.		.06		.07		.11		.22
Dec.		.00		.09		.07		.25
TOTAL		<u>2.76</u>		<u>1.54</u>		<u>3.47</u>		<u>5.87</u>

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.23		0.13		
Feb.		.19		.21		
March		.05		.19	Pre-1954	0.92
April		.29		.62	1954	2.76
May		1.05		.65	1955	1.54
June		.52		.27	1956	3.47
July		.45		.21	1957	5.87
Aug.		.51			1958	3.86
Sept.		.21			1959	
Oct.		.09			Total	
Nov.		.11				
Dec.		.16				
TOTAL		<u>3.86</u>				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 614

LOCATION MEXICO CITY, MEXICO

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.1*		0.1
Feb.		.1		.1		.1		.4
March		2.6		.3		.3*		.2
April		1.9		.3		.4*		.6
May		6.5		.7	#	1.6		.8
June		.9		.2*		.2		1.8
July		.2		.1*		1.0		2.7
Aug.		.2		.0*		1.2		1.1
Sept.		.1		.5*		.6		.8
Oct.		.1		.2*		.4		.9
Nov.		.1		.1		.2		.4
Dec.		<u>.0</u>		<u>.1</u>		<u>.1</u>		<u>.4</u>
TOTAL		12.7		2.7		6.2		10.2

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.4		0.3		
Feb.		.3		.4		
March		.1		.4	Pre-1954	3.9
April		.5		1.1	1954	12.7
May		2.1		1.1	1955	2.7
June		1.0		.5	1956	6.2
July		1.2		.3	1957	10.2
Aug.		1.3			1958	8.4
Sept.		.5			1959	
Oct.		.3			Total	
Nov.		.3				
Dec.		<u>.4</u>		<u> </u>		
TOTAL		8.4				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 615

LOCATION BOGOTA, COLOMBIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.03*		0.11*		0.05**
Feb.		.03		.08		.18		.06**
March		.14		.05*		.23*		.06**
April		.06		.02*		.09**		.05**
May		.05		.10*		.33		.07
June		.04		.01*	#	.16		.12
July		.02		.02*		.28		.08
Aug.		.05		.04*		.23**		.14
Sept.		.07		.43*		.12**		.17
Oct.		.01**		.08*		.14**		.07
Nov.		.09		.05		.13**		.03
Dec.		<u>.03**</u>		<u>.13</u>		<u>.08**</u>		<u>.41</u>
TOTAL		.63		1.04		2.08		1.31

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.18		0.13		
Feb.		.17		.08		
March		.08		.02	Pre-1954	- -
April		.02		.09	1954	.63
May		.02		.07	1955	1.04
June		.06		.03	1956	2.08
July		.15			1957	1.31
Aug.		.06			1958	.91
Sept.		.05			1959	<u> </u>
Oct.		.05			Total	
Nov.		.03				
Dec.		<u>.04</u>		<u> </u>		
TOTAL		.91				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 615

LOCATION BOGOTA, COLOMBIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.2*		.1**
Feb.		.1		.2		.3		.1**
March		.8		.1*		.3*		.1**
April		.3		.0*		.2**		.1**
May		.3		.2*		.5		.1
June		.2		.0*		.3		.2
July		.1		.0*		.6		.1
Aug.		.1		.1*		.5**		.2
Sept.		.2		.7*		.3**		.3
Oct.		.0**		.1*		.3**		.1
Nov.		.2		.1		.3**		.1
Dec.		.1**		.2		.2**		.7
TOTAL		2.4		1.8		4.0		2.2

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.3		0.3		
Feb.		.3		.2		
March		.2		.0	Pre-1954	--
April		.0		.2	1954	2.4
May		.0		.1	1955	1.8
June		.1		.0	1956	4.0
July		.4			1957	2.2
Aug.		.1			1958	1.9
Sept.		.1			1959	
Oct.		.2			Total	
Nov.		.1				
Dec.		.1				
TOTAL		1.9				

ESTIMATE OF Sr-90 DEPOSITION FROM GUMMED FILM

STATION # 621

LOCATION BOGOTA COLOMBIA, TIBAITATA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.14
Sept.				.06
Oct.				.01
Nov.				.06
Dec.				.03
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.17	0.06	
Feb.		.09	
March	.03	.06	Pre-1954
April	.02	.12	1954
May	.10	.06	1955
June	.04		1956
July	.08		1957
Aug.	.16		1958
Sept.	.03	.07	1959
Oct.	.04	.07	Total
Nov.	.06	.03	
Dec.	.05	.03	
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 621

LOCATION BOGOTA COLOMBIA, TIBAITATA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.2
Sept.				.1
Oct.				.0
Nov.				.1
Dec.				<u>.1</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.3	0.1	
Feb.		.2	
March	.1	.1	Pre-1954
April	.0	.2	1954
May	.2	.1	1955
June	.1		1956
July	.2		1957
Aug.	.4		1958
Sept.	.1	.1	1959 <u> </u>
Oct.	.1	.1	Total
Nov.	.2	.0	
Dec.	<u>.1</u>	<u>.0</u>	
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 701

LOCATION PRESTWICK, SCOTLAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.02		0.05*		0.41*		0.30
Feb.		.13		.03*		.18		.23
March		.01		.07*		.21*		.59
April		.01		.24*		.24*		.64
May		.02		.10*		.72		.46
June		.04		.24*	*	.20		.33
July		.07		.07*		.58		.30
Aug.		.17		.10*		.11		.37
Sept.		.37		.10*		.48		.54
Oct.		.26		.15*		.38		.38
Nov.		.43		.37		.35		.29
Dec.		<u>.12</u>		<u>.66</u>		<u>.38</u>		<u>.19</u>
TOTAL		1.65		2.18		4.24		4.61

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.42		0.52		
Feb.		.22		1.04		
March		.47		.93	Pre-1954	1.05
April		.94		1.72	1954	1.65
May		.49		1.16	1955	2.18
June		.49		.89	1956	4.24
July		.23		.44	1957	4.61
Aug.		.19		.16	1958	4.84
Sept.		.17		.19	1959	<u> </u>
Oct.		.21		.19	Total	
Nov.		.22		.15		
Dec.		<u>.79</u>		<u> </u>		
TOTAL		4.84				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 701

LOCATION PRESTWICK, SCOTLAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.7*	0.5
Feb.	.2	.1*	.3	.4
March	.1	.1*	.3*	.9
April	.1	.4*	.4*	1.2
May	.1	.2*	1.1	.8
June	.2	.4*	.4	.6
July	.2	.1*	1.4	.5
Aug.	.5	.2*	.2	.6
Sept.	.9	.2*	1.0	.9
Oct.	.6	.2*	.7	.8
Nov.	1.0	.7	.7	.6
Dec.	<u>.4</u>	<u>1.1</u>	<u>.7</u>	<u>.3</u>
TOTAL	4.3	3.8	7.9	8.1

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.7	1.1		
Feb.	.4	2.1		
March	.9	1.8	Pre-1954	1.8
April	1.6	3.1	1954	4.3
May	1.0	2.0	1955	3.8
June	1.0	1.5	1956	7.9
July	.6	.7	1957	8.1
Aug.	.5	.2	1958	10.5
Sept.	.4	.3	1959	
Oct.	.7	.3	Total	
Nov.	.8	.2		
Dec.	<u>1.9</u>	<u></u>		
TOTAL	10.5			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 702

LOCATION RHEIN MAIN, GERMANY

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.07	0.03*	0.24*	0.15
Feb.	.07	.68	.06	.39
March	.08	.24*	.18*	.88
April	.01	.21*	.56*	.47
May	.01	.38*	.59	.27
June	.04	.29*	.25	.37
July	.09	.15*	.31	.89**
Aug.	.12	.11*	.20	.87**
Sept.	.11	.33*	.16	2.85**
Oct.	.10	.20*	.17	.09**
Nov.	.40	.11	.12	.06**
Dec.	<u>.28</u>	<u>.36</u>	<u>.13</u>	<u>.31</u>
TOTAL	1.38	3.09	2.97	7.60

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.24	0.52		
Feb.	.27	.41		
March	.66	1.35	Pre-1954	0.58
April	.83	1.51	1954	1.38
May	1.16	.90	1955	3.09
June	.79	.90	1956	2.97
July	.29	.33	1957	7.60
Aug.	.34	.37	1958	5.85
Sept.	.15	.39	1959	
Oct.	.32		Total	
Nov.	.18			
Dec.	<u>.62</u>			
TOTAL	5.85			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 702

LOCATION RHEIN MAIN, GERMANY

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.1		0.1*		0.4*		0.3
Feb.		.1		1.4		.1		.6
March		.2		.5*		.3*		1.4
April		.1		.4*		.8*		.9
May		.1		.7* #		1.0		.5
June		.1		.5*		.5		.7
July		.3		.3*		.7		1.5**
Aug.		.3		.2*		.4		1.4**
Sept.		.3		.5*		.3		3.6**
Oct.		.2		.3*		.3		.2**
Nov.		.9		.2		.2		.1**
Dec.		<u>.4</u>		<u>.6</u>		<u>.3</u>		<u>.6</u>
TOTAL		3.1		5.7		5.3		11.8

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		1.1		
Feb.		.4		.8		
March		1.3		2.6	Pre-1954	2.1
April		1.4		2.7	1954	3.1
May		2.3		1.6	1955	5.7
June		1.5		1.5	1956	5.3
July		.8		.5	1957	11.8
Aug.		.9		.6	1958	12.4
Sept.		.4		.6	1959	
Oct.		1.0			Total	
Nov.		.5				
Dec.		<u>1.5</u>		<u> </u>		
TOTAL		12.4				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 703

LOCATION PRETORIA, UNION OF SOUTH AFRICA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.03*		0.03*		0.10
Feb.		.03		.06		.04		.03
March		.01		.03*		.02*		.06
April		.01		.02*		.04*		.05
May		.09		.19*		.22		.06
June		.03		.02*	*	.04		.21
July		.02		.02*		.08		.43
Aug.		.09		.02*		.03		.11
Sept.		.23		.03*		.19		.14
Oct.		.21		.16*		.25		.13
Nov.		.11		.02		.12		.05
Dec.		<u>.01</u>		<u>.18</u>		<u>.09</u>		<u>.08</u>
TOTAL		.88		0.78		1.15		1.45

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.08		0.11		
Feb.		.18		.06		
March		.10		.14**	Pre-1954	0.68
April		.04		.16	1954	.88
May		.46		.20	1955	0.78
June		.07		.22	1956	1.15
July		.05		.20	1957	1.45
Aug.		.04		.19	1958	1.68
Sept.		.22		.18	1959	<u>1.72</u>
Oct.		.19		.11	Total	8.3
Nov.		.19		.07		
Dec.		<u>.06</u>		<u>.08</u>		
TOTAL		1.68		1.72		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 703

LOCATION PRETORIA, UNION OF SOUTH AFRICA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.0*		0.2
Feb.		.1		.1		.1		.1
March		.0		.1*		.0*		.1
April		.1		.0*		.1*		.1
May		.4		.3*		.6		.1
June		.1		.0*		.1		.4
July		.1		.0*		.2		.7
Aug.		.1		.0*		.1		.2
Sept.		.6		.0*		.4		.2
Oct.		.5		.2*		.5		.3
Nov.		.2		.0		.2		.1
Dec.		<u>.0</u>		<u>.3</u>		<u>.2</u>		<u>.1</u>
TOTAL		2.2		1.1		2.5		2.6

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.1		0.2		
Feb.		.3		.1		
March		.2		.3**	Pre-1954	0.9
April		.1		.3	1954	2.2
May		.9		.3	1955	1.1
June		.1		.4	1956	2.5
July		.1		.3	1957	2.6
Aug.		.1		.3	1958	3.7
Sept.		.5		.3	1959	<u>2.9</u>
Oct.		.6		.2	Total	16
Nov.		.6		.1		
Dec.		<u>.1</u>		<u>.1</u>		
TOTAL		3.7		2.9		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

TATION # 705

LOCATION DHAHRAN, SAUDI ARABIA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		.05*		0.20*		0.33
Feb.		.10		.05		.28		.40
March		.09		.02*		.53*		.39
April		.08		.15*		.26*		1.24
May		.07		.10*		.24		1.16
June		.06		.02*		.13		.22
July		.06		.01*		.12		.20
Aug.		.04		.01*		.19		.30
Sept.		.09		.00*		.19		.25
Oct.		.03		.04*		.05		.10
Nov.		.00		.01*		.08		.08
Dec.		<u>.09</u>		<u>.15</u>		<u>.18</u>		<u>.19</u>
TOTAL		.75		.61		2.45		4.86

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		1.07		1.16		
Feb.		.19		.59		
March		.42		1.37	Pre-1954	0.93
April		.60		.54	1954	.75
May		.36		1.26	1955	.61
June		.23		.32	1956	2.45
July		.18		.15	1957	4.86
Aug.		.12		.28	1958	3.88
Sept.		.06		.08	1959	
Oct.		.03		.10	Total	
Nov.		.23		.12		
Dec.		<u>.39</u>		<u></u>		
TOTAL		3.88				

ESTIMATE OF INFINITE DOSE FROM SUMMED FILM

STATION # 705

LOCATION DHAHRAN, SAUDI ARABIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.3*		0.6
Feb.		.2		.1		.4		.7
March		.5		.3*		.8*		.6
April		.4		.3*		.4*		2.3
May		.4		.2*		.4		2.0
June		.2		.0*		.3		.4
July		.2		.0*		.3		.3
Aug.		.1		.0*		.4		.5
Sept.		.2		.0*		.4		.4
Oct.		.1		.0*		.1		.2
Nov.		.0		.0*		.2		.2
Dec.		<u>.2</u>		<u>.2</u>		<u>.3</u>		<u>.3</u>
TOTAL		2.5		1.2		4.3		8.5

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		1.8		2.5		
Feb.		.3		1.2		
March		.8		2.6	Pre-1954	2.5
April		1.0		1.0	1954	2.5
May		.7		2.2	1955	1.2
June		.4		.5	1956	4.3
July		.5		.2	1957	8.5
Aug.		.3		.4	1958	7.5
Sept.		.1		.1	1959	<u> </u>
Oct.		.1		.1	Total	
Nov.		.6		.2		
Dec.		<u>.9</u>		<u> </u>		
TOTAL		7.5				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

TATION # 706

LOCATION SIDI SLIMANE, MOROCCO

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.06*		0.48*		0.26
Feb.		.04		.15		.87		.15
March		.07		.25*		.86*		.51
April		.03		.26*		.99*		.57
May		.03		.08*		.93		.35
June		.04		.34*	*	.25		.13
July		.02		.36*		.09		.32
Aug.		.02		.02*		.24		.28
Sept.		.03		.39*		.11		.59
Oct.		.06		.15*		.27		.53
Nov.		.19		.20		.22		.26
Dec.		<u>.07</u>		<u>.53</u>		<u>.13</u>		<u>.65</u>
TOTAL		.64		2.79		5.44		4.60

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.36		0.62		
Feb.		.30		1.01		
March		.42		1.59	Pre-1954	0.79**
April		4.27		1.02	1954	.64
May		.75		1.51	1955	2.79
June		.72		.15	1956	5.44
July		.18		.38	1957	4.60
Aug.		.10**		.17	1958	10.95
Sept.		.33**		.12	1959	
Oct.		.53**			Total	
Nov.		.86				
Dec.		<u>2.13</u>				
TOTAL		10.95				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 706

LOCATION SIDI SLIMANE, MOROCCO

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.8*		0.5
Feb.		.1		.3		1.4		.2
March		.4		.5*		1.3*		.8
April		.2		.5*		1.5*		1.1
May		.2		.1*		1.4		.6
June		.2		.6*		.5		.2
July		.0		.6*		.2		.5
Aug.		.1		.0*		.5		.4
Sept.		.1		.6*		.2		.9
Oct.		.1		.2*		.5		1.1
Nov.		.4		.4		.5		.5
Dec.		<u>.1</u>		<u>.9</u>		<u>.2</u>		<u>1.2</u>
TOTAL		1.9		4.8		9.0		8.0

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.6		1.3		
Feb.		.5		2.0		
March		.8		3.0	Pre-1954	2.0**
April		7.2		1.9	1954	1.9
May		1.5		2.7	1955	4.8
June		1.4		.3	1956	9.0
July		.5		.6	1957	8.0
Aug.		.3**		.3	1958	23.4
Sept.		.8**		.2	1959	
Oct.		2.3**			Total	
Nov.		2.4				
Dec.		<u>5.1</u>				
TOTAL		23.4				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 708

LOCATION OSLO, NORWAY

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.08*		0.10*		0.35
Feb.		.19		.07		.10		.12
March		.02		.07*		.26*		.20
April		.01		.15*		.21*		.29
May		.03		.16*		.52		.70
June		.05		.19*	#	.28		.55
July		.05		.06*		.29		.43
Aug.		.09		.09*		.12		.35
Sept.		.10		.10*		.34		.27
Oct.		.14		.12*		.14		.18
Nov.		.15		.09		.19		.11
Dec.		<u>.04</u>		<u>.29</u>		<u>.12</u>		<u>.31</u>
TOTAL		.91		1.47		2.67		3.86

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.58		0.12		
Feb.		.16		.29		
March		.28		1.03	Pre-1954	0.77
April		.72		1.56	1954	.91
May		.43		1.07	1955	1.47
June		.45		1.03	1956	2.67
July		.27			1957	3.86
Aug.		.23			1958	3.79
Sept.		.19			1959	<u> </u>
Oct.		.21			Total	
Nov.		.19				
Dec.		<u>.18</u>		<u> </u>		
TOTAL		3.79				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 708

LOCATION OSLO, NORWAY

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.2*		0.2*		0.6
Feb.		.3		.1		.2		.2
March		.1		.1*		.4*		.3
April		.1		.3*		.3*		.6
May		.1		.3*		.8		1.2
June		.2		.3*		.5		1.0
July		.2		.1*		.7		.7
Aug.		.2		.1*		.3		.5
Sept.		.3		.2*		.7		.5
Oct.		.3		.2*		.3		.4
Nov.		.3		.2		.4		.2
Dec.		.1		.5		.2		.6
TOTAL		2.2		2.6		5.0		6.8

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		1.0		0.3		
Feb.		.3		.6		
March		.5		2.0	Pre-1954	1.9
April		1.2		2.8	1954	2.2
May		.9		1.9	1955	2.6
June		.9		1.7	1956	5.0
July		.7			1957	6.8
Aug.		.3			1958	7.8
Sept.		.4			1959	
Oct.		.6			Total	
Nov.		.6				
Dec.		.4				
TOTAL		7.8				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 710

LOCATION TRIPOLI, LIBYA, WHEELUS AFB

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
n.	0.04	0.23*	0.36*	0.81
b.	.11	.09**	.77	.17
rch	.06	.17*	.61*	.31
ril	.11	.22*	2.53*	.63
y	.11	.31*	.46	.72
ne	.18	.27*	.13	1.12
ly	.07	.10*	.05	.20
g.	.03	.01*	.08	.28
pt.	.11	.08*	.31	.76
t.	.24	.42*	.33	1.15
v.	.42	.33	.41	.38
c.	<u>.30</u>	<u>.80</u>	<u>.37</u>	<u>.39</u>
TOTAL	1.78	3.03	6.41	6.92

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
n.	1.50	2.76		
b.	.57	3.20		
rch	.36	1.92	Pre-1954	0.80
ril	.84	1.23	1954	1.78
y	.42	3.81	1955	3.03
ne	.62	.74	1956	6.41
ly	.18	.73	1957	6.92
g.	.10	.16	1958	7.72
pt.	.33	.27	1959	
t.	.53		Total	
v.	.35**			
c.	<u>1.92</u>			
TOTAL	7.72			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 710

LOCATION TRIPOLI, LIBYA, WHEELUS AFB

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.5*	0.6*	1.4
Feb.	.2	.2**	1.2	.3
March	.4	.3*	.9*	.5
April	.6	.4*	3.8*	1.1
May	.6	.6*	.7	1.2
June	.7	.5*	.3	2.0
July	.2	.2*	.1	.3
Aug.	.1	.0*	.2	.4
Sept.	.3	.1*	.6	1.2
Oct.	.6	.7*	.6	2.6
Nov.	1.0	.6	.8	.8
Dec.	<u>.5</u>	<u>1.4</u>	<u>.7</u>	<u>.7</u>
TOTAL	5.2	5.5	10.5	12.5

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	2.5	5.9		
Feb.	1.1	6.4		
March	.7	3.7	Pre-1954	3.0
April	1.4	2.2	1954	5.2
May	.8	6.6	1955	5.5
June	1.2	1.2	1956	10.5
July	.5	1.2	1957	12.5
Aug.	.3	.3	1958	17.2
Sept.	.8	.4	1959	<u> </u>
Oct.	2.3		Total	
Nov.	1.0**			
Dec.	<u>4.6</u>	<u> </u>		
TOTAL	17.2			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # -711

LOCATION LAGOS, NIGERIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.08*		.03*		0.06
Feb.		.02		.02*		.12		.10
March		.01		.03*		.14*		.25
April		.01		.06*		.31*		.23
May		.01		.00*		.18		.11
June		.01			*	.10		.42
July		.05				.11		
Aug.		.01				.12		.61
Sept.		.04				.06		
Oct.		.00				.33		.10
Nov.		.02				.09		.09
Dec.		<u>.03</u>						<u>.41</u>
TOTAL		.25						

	<u>1958</u>		<u>1959</u>		
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	
Jan.		0.07			
Feb.					
March					Pre-1954 0.78
April					1954 .25
May					1955
June					1956
July					1957
Aug.					1958
Sept.					1959 _____
Oct.					Total
Nov.					
Dec.					
TOTAL					

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 711

LOCATION LAGOS, NIGERIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		0.0*		0.1
Feb.		.0		.0*		.2		.2
March		.0		.1*		.2*		.4
April		.1		.1*		.5*		.4
May		.1		.0*		.3		.2
June		.0				.2		.7
July		.1				.2		
Aug.		.0				.3		1.0
Sept.		.1				.1		
Oct.		.0				.6		.2
Nov.		.0				.2		.2
Dec.		<u>.0</u>						<u>.7</u>
TOTAL		.4						

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.1				
Feb.						
March					Pre-1954	2.0
April					1954	.4
May					1955	
June					1956	
July					1957	
Aug.					1958	
Sept.					1959	<u> </u>
Oct.					Total	
Nov.						
Dec.		<u> </u>		<u> </u>		
TOTAL						

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 713

LOCATION DURBAN, UNION OF SOUTH AFRICA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
1.		0.04		0.03**		0.03*		0.07
2.		.02		.06**		.05		.05
ch		.01		.03**		.02		.06
ril		.02		.02**		.04**		.05
r		.02		.19**		1.51**		.06
ne		.01		.01*	*	.04**		.04
ly		.03		.02**		.09		.13
3.		.02		.02**		.08		.20
st.		.04		.26*		.05		.20
4.		.09		.06*		.06		.21
r.		.10		.06		.14		.08
5.		<u>.05</u>		<u>.04</u>		<u>.07</u>		<u>.07</u>
TOTAL		.45		.80		2.18		1.22

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
1.		0.08		.10		
2.		.22		.12		
ch		.01		.07	Pre-1954	0.79**
ril		.01		.72	1954	.45
r		.10		.04	1955	.80
ne		.03		.04	1956	2.18
ly		.07		.13	1957	1.22
3.		.05		.10	1958	1.03
st.		.18		.07	1959	<u>1.69</u>
t.		.10		.12	Total	8.2
v.		.09		.09		
5.		<u>.09</u>		<u>.09</u>		
TOTAL		1.03		1.69		

Note: Pretoria only station available for interpolation

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 713

LOCATION DURBAN, UNION OF SOUTH AFRICA

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.0	0.1**	0.0*	0.1
Feb.	.0	.1**	.1	.1
March	.1	.1**	.0*	.1
April	.1	.0**	.1**	.1
May	.1	.3**	3.6**	.1
June	.0	.0* #	.1**	.1
July	.1	.0**	.2	.2
Aug.	.1	.0**	.2	.4
Sept.	.1	.4*	.1	.3
Oct.	.2	.1*	.1	.5
Nov.	.2	.1	.3	.2
Dec.	<u>.1</u>	<u>.1</u>	<u>.1</u>	<u>.1</u>
TOTAL	1.1	1.3	4.9	2.3

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.1	0.2		
Feb.	.5	.2		
March	.0	.1	Pre-1954	2.0**
April	.0	1.3	1954	1.1
May	.2	.1	1955	1.3
June	.1	.1	1956	4.9
July	.2	.2	1957	2.3
Aug.	.1	.2	1958	2.4
Sept.	.4	.1	1959	<u>2.9</u>
Oct.	.3	.2	Total	17
Nov.	.3	.1		
Dec.	<u>.2</u>	<u>.1</u>		
TOTAL	2.4	2.9		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 714

LOCATION MONROVIA, LIBERIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.05*		0.08*		0.11
Feb.		.04		.02*		.06		.10
March		.08		.05*		.13*		.13
April		.08		.12*		.16*		.07
May		.10		.10*		.30		.13
June		.27		.09*	#	.29		.35
July		.17		.06*		.22		.77
Aug.		.14		.07*		.40		.50
Sept.		.09		.07*		.29		.32
Oct.		.14		.19*		.19		.13
Nov.		.14		.09		.17		.09
Dec.		<u>.09</u>		<u>.05</u>		<u>.16</u>		<u>.09</u>
TOTAL		1.38		.96		2.45		2.79

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.60		0.27		
Feb.		.19		.45		
March		.19		.41	Pre-1954	0.79**
April		.30		.33	1954	1.38
May		.33		.31	1955	.96
June		.29		.38	1956	2.45
July		.30		.14	1957	2.79
Aug.		.32			1958	3.21
Sept.		.24			1959	
Oct.		.21			Total	
Nov.		.09				
Dec.		<u>.15</u>				
TOTAL		3.21				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 714

LOCATION MONROVIA, LIBERIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.1*	0.2
Feb.	.1	.0*	.1*	.2
March	.5	.1*	.2*	.2
April	.4	.2*	.2*	.1
May	.5	.2*	.5	.2
June	1.0	.2*	.6	.6
July	.6	.1*	.5	1.3
Aug.	.4	.1*	.9	.8
Sept.	.2	.1*	.7	.5
Oct.	.3	.3*	.4	.3
Nov.	.3	.1	.3	.2
Dec.	.2	.1	.3	.2
TOTAL	4.5	1.6	4.8	4.8

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	1.0	0.6		
Feb.	.3	.9		
March	.4	.8	Pre-1954	2.0**
April	.5	.6	1954	4.5
May	.7	.5	1955	1.6
June	.6	.6	1956	4.8
July	.8	.2	1957	4.8
Aug.	.8		1958	6.9
Sept.	.5		1959	
Oct.	.6		Total	
Nov.	.3			
Dec.	.4			
TOTAL	6.9			

ESTIMATE OF Sr-90 DEPOSITION FROM GERMED FILM

TATION # 715

LOCATION MILAN, ITALY

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
an.		0.07		0.02*		0.21*		0.08
eb.		.07		.04*		.06		.09
arch		.05		.05*		.39*		.10
pril		.04		.07*		.76*		.19
ay		.03		.34*		.98		.13
une		.24		.73*	*	.39		.25
uly		.04		.30*		.29		.21
ug.		.03		.16*		.20		.18
ept.		.11		.10*		.55		.19
ct.		.01		.48*		.17		.09
ov.		.09		.06		.03		.04
eo.		<u>.01</u>		<u>.14</u>		<u>.06</u>		<u>.05</u>
TOTAL		.79		2.49		4.09		1.60

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
an.		0.17		0.27		
eb.		.29		.34		
arch		.23		.74	Pre-1954	0.79**
pril		.17		1.54	1954	.79
ay		.19		1.40	1955	2.49
une		.19		.96	1956	4.09
uly		.08		.74	1957	1.60
ug.		.10		.20	1958	1.80
ept.		.08			1959	
ct.		.08			Total	
ov.		.07				
ec.		<u>.15</u>				
TOTAL		1.80				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 715

LOCATION MILAN, ITALY

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.1	0.0*	0.3*	0.1
Feb.	.1	.1*	.1	.1
March	.2	.1*	.6*	.2
April	.2	.1*	1.1*	.3
May	.2	.6*	1.6	.2
June	.5	.7*	.7	.4
July	.1	.5*	.6	.3
Aug.	.1	.3*	.4	.3
Sept.	.2	.2*	1.2	.3
Oct.	.0	.8*	.3	.2
Nov.	.2	.1	.1	.1
Dec.	<u>.0</u>	<u>.2</u>	<u>.1</u>	<u>.1</u>
TOTAL	1.9	3.7	7.1	2.6

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.3	0.6		
Feb.	.5	.7		
March	.5	1.4	Pre-1954	2.0**
April	.3	2.8	1954	1.9
May	.4	2.4	1955	3.7
June	.4	1.6	1956	7.1
July	.2	1.2	1957	2.6
Aug.	.3	.3	1958	3.9
Sept.	.2		1959	
Oct.	.2		Total	
Nov.	.2			
Dec.	<u>.4</u>			
TOTAL	3.9			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 717

LOCATION ADDIS ABABA, ETHIOPIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	0.08*	0.05*	0.05
Feb.	.04	.03	.09	.21
March	.10	.05*	.11*	.12
April	.09	.10*	.34*	.17
May	.15	.06*	.16	.36
June	.33	.22*	.14	.55
July	.21	.24*	.21	.57
Aug.	.30	.31*	.27	.55
Sept.	.26	.09*	.35	.40
Oct.	.09	.06*	.22	.36
Nov.	.03	.01	.01	.04
Dec.	.01	.12	.04	.07
TOTAL	1.65	1.37	1.99	3.45

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.19	0.17		
Feb.	.06	.26		
March	.11	.45	Pre-1954	0.79**
April	.17	.74	1954	1.65
May	.16	- -	1955	1.37
June	.51	.46	1956	1.99
July	.70	.16	1957	3.45
Aug.	.53	.18	1958	3.17
Sept.	.43		1959	
Oct.	.10		Total	
Nov.	.02			
Dec.	.19			
TOTAL	3.17			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 717

LOCATION ADDIS ABABA, ETHIOPIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		0.1*		0.1
Feb.		.1		.1		.2		.3
March		.5		.1*		.2*		.2
April		.5		.2*		.5*		.3
May		.7		.1*		.3		.6
June		1.3		.4*		.3		1.0
July		.7		.4*		.5		.9
Aug.		.8		.5*		.6		.9
Sept.		.7		.1*		.8		.7
Oct.		.2		.1*		.4		.8
Nov.		.1		.0		.0		.1
Dec.		<u>.0</u>		<u>.2</u>		<u>.1</u>		<u>.1</u>
TOTAL		5.6		2.4		4.0		6.0

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.3		0.4		
Feb.		.1		.5		
March		.2		.9	Pre-1954	2.0**
April		.3		1.4	1954	5.6
May		.3		- -	1955	2.4
June		1.0		.8	1956	4.0
July		1.9		.3	1957	6.0
Aug.		1.4		.3	1958	7.4
Sept.		1.0			1959	
Oct.		.3			Total	
Nov.		.1				
Dec.		<u>.5</u>		<u></u>		
TOTAL		7.4				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 722

LOCATION VIENNA, AUSTRIA, WIEN HOHE WARTE

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				.52
July				.91
Aug.				1.29
Sept.				2.11
Oct.				.09
Nov.				.20
Dec.				<u>.09</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.17	0.32		
Feb.	.39	.69		
March	.60	.71	Pre-1954	
April	.79	2.44	1954	
May	.51	1.93	1955	
June	.84	1.84	1956	
July	.33	.88	1957	
Aug.	.30	.45	1958	4.90
Sept.	.09	.25	1959	<u>10.04</u>
Oct.	.17	.29	Total	
Nov.	.13	.16		
Dec.	<u>.58</u>	<u>.08</u>		
TOTAL	4.90	10.04		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 722

LOCATION VIENNA, AUSTRIA, WIEN HOHE WARTE

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June.			#	.9
July				1.5
Aug.				2.0
Sept.				3.4
Oct.				.2
Nov.				.4
Dec.				.2
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.3	0.7	
Feb.	.7	1.4	
March	1.2	1.3	Pre-1954
April	1.4	4.4	1954
May	1.0	3.4	1955
June	1.6	3.1	1956
July	.9	1.4	1957
Aug.	.8	.7	1958 10.5
Sept.	.2	.4	1959 <u>17.5</u>
Oct.	.6	.4	Total
Nov.	.4	.2	
Dec.	<u>1.4</u>	<u>.1</u>	
TOTAL	10.5	17.5	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 723

LOCATION DURBAN, UNION OF SOUTH AFRICA, NATAL AIRPORT

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June			*	.06
July				.19
Aug.				.29
Sept.				.23
Oct.				.05
Nov.				.08
Dec.				<u>.22</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.11	0.12	
Feb.	.22	.08	
March	.47	--	Pre-1954
April	.01	.09	1954
May	.18	.18	1955
June	.03	.10	1956
July	.05	.21	1957
Aug.	.19	.15	1958 1.61
Sept.	.19	.10	1959 <u> </u>
Oct.	.06	.11	Total
Nov.	.03	.07	
Dec.	<u>.07</u>	<u> </u>	
TOTAL	1.61		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 723

LOCATION DURBAN, UNION OF SOUTH AFRICA, NATAL AIRPORT

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				.1
July				.3
Aug.				.5
Sept.				.4
Oct.				.1
Nov.				.2
Dec.				.4
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.2	0.3	
Feb.	.4	.2	
March	.9	--	Pre-1954
April	.0	.2	1954
May	.4	.3	1955
June	.1	.2	1956
July	.1	.3	1957
Aug.	.5	.2	1958 3.5
Sept.	.4	.1	1959
Oct.	.2	.2	Total
Nov.	.1	.1	
Dec.	.2		
TOTAL	3.5		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 724

LOCATION SALZBURG, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June			#	.70
July				1.01
Aug.				.98
Sept.				2.85
Oct.				.07
Nov.				.10
Dec.				<u>.42</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.26	0.32	
Feb.	.49	.61	
March	.31	.90	Pre-1954
April	2.28	1.66	1954
May	1.22	3.08	1955
June	1.20	1.90	1956
July	.53	.92	1957
Aug.	.34	.68	1958 . 9.07
Sept.	.20	.22	1959 <u>10.70</u>
Oct.	1.04	.15	Total
Nov.	.22	.12	
Dec.	<u>.98</u>	<u>.14</u>	
TOTAL	9.07	10.70	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 724

LOCATION SALZBURG, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				1.2
July				1.6
Aug.				1.5
Sept.				4.6
Oct.				.2
Nov.				.2
Dec.				.8
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	0.7		
Feb.	.8	1.2		
March	.6	1.7	Pre-1954	
April	4.0	3.0	1954	
May	2.5	5.3	1955	
June	2.2	3.2	1956	
July	1.5	1.5	1957	
Aug.	.9	1.1	1958	19.9
Sept.	.5	.3	1959	<u>18.6</u>
Oct.	3.6	.2	Total	
Nov.	.6	.2		
Dec.	<u>2.3</u>	<u>.2</u>		
TOTAL	19.9	18.6		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 725

LOCATION INNSBRUCK, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				1.02
July				.81
Aug.				2.40
Sept.				2.92
Oct.				.09
Nov.				.06
Dec.				<u>.43</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.22	.44	
Feb.	.53	.53	
March	.58	.53	Pre-1954
April	1.22	1.48	1954
May	.66	2.15	1955
June	.69	2.03	1956
July	.37	.90	1957
Aug.	.43	.43	1958 6.43
Sept.	.23	.17	1959 <u>10.54</u>
Oct.	.52	.48	Total
Nov.	.09	1.34	
Dec.	<u>.89</u>	<u>.06</u>	
TOTAL	6.43	10.54	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 725

LOCATION INNSBRUCK, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				1.8
July				1.3
Aug.				3.8
Sept.				4.7
Oct.				.2
Nov.				.1
Dec.				.8
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	0.9		
Feb.	.9	1.1		
March	1.1	1.0		Pre-1954
April	2.1	2.7		1954
May	1.3	3.7		1955
June	1.3	3.4		1956
July	1.0	1.5		1957
Aug.	1.1	.7		1958
Sept.	.5	.3		1959
Oct.	1.8	.7		
Nov.	.3	2.0		
Dec.	<u>2.1</u>	<u>.1</u>		
TOTAL	13.9	18.1		Total

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 726

LOCATION KRIPPENSTEIN, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June			#	.68
July				.65
Aug.				.81
Sept.				2.42
Oct.				.13
Nov.				.04
Dec.				<u>.08</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.08	0.17		
Feb.	.14	.25		
March	.44	.70		Pre-1954
April	.38	.57		1954
May	.58	1.43		1955
June	.57	1.57		1956
July	.28	1.18		1957
Aug.	.30	.64		1958 3.46
Sept.	.17	.32		1959 <u>7.31</u>
Oct.	.13	.10	Total	
Nov.	.12	.32		
Dec.	<u>.27</u>	<u>.02</u>		
TOTAL	3.46	7.31		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 726

LOCATION KRIPPENSTEIN, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				1.2
July				1.1
Aug.				1.3
Sept.				4.0
Oct.				.3
Nov.				.1
Dec.				.1
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.1	0.4		
Feb.	.2	.5		
March	.9	1.3	Pre-1954	
April	.7	1.0	1954	
May	1.2	2.5	1955	
June	1.1	2.6	1956	
July	.7	1.9	1957	
Aug.	.8	1.0	1958	7.6
Sept.	.4	.5	1959	<u>12.4</u>
Oct.	.4	.1	Total	
Nov.	.4	.5		
Dec.	.7	.1		
TOTAL	7.6	12.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 727

LOCATION KLAGENFURT, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June			*	1.06
July				1.08
Aug.				.83
Sept.				.46
Oct.				.09
Nov.				.06
Dec.				<u>.09</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.18	0.14	
Feb.	.07	.18	
March	.24	.77	Pre-1954
April	1.22	1.38	1954
May	.65	1.55	1955
June	1.02	1.32	1956
July	.39	.73	1957
Aug.	.37	1.17	1958 4.97
Sept.	.13	.30	1959 <u>7.79</u>
Oct.	.08	.13	Total
Nov.	.20	.02	
Dec.	<u>.42</u>	<u>.10</u>	
TOTAL	4.97	7.79	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 727

LOCATION KLAGENFURT, AUSTRIA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				1.9
July				1.8
Aug.				1.3
Sept.				.9
Oct.				.2
Nov.				.1
Dec.				.2
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.3	0.3	
Feb.	.1	.4	
March	.5	1.4	Pre-1954
April	2.1	2.5	1954
May	1.3	2.6	1955
June	1.9	2.2	1956
July	1.0	1.2	1957
Aug.	1.0	1.9	1958 10.4
Sept.	.3	.5	1959 <u>13.3</u>
Oct.	.3	.2	Total
Nov.	.6	.0	
Dec.	<u>1.0</u>	<u>.1</u>	
TOTAL	10.4	13.3	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 728

LOCATION PORT ELIZABETH, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				.07
July				.16
Aug.				.15
Sept.				.13
Oct.				.13
Nov.				.06
Dec.				.05
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.27	0.09	
Feb.	.10	.03	
March	.36	.14**	Pre-1954
April	.05	.14	1954
May	.05	.48	1955
June	.06	.22**	1956
July	.04	.06	1957
Aug.	.02	.09	1958 1.26
Sept.	.08	.06	1959 <u>2.59</u>
Oct.	.06	.12	Total
Nov.	.07	.06	
Dec.	<u>.10</u>	<u>.10</u>	
TOTAL	1.26	1.59	

ESTIMATE OF INFINITY DOSE FROM GUMMED FILM

STATION # 128

LOCATION PORT ELIZABETH, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				.1
July				.3
Aug.				.2
Sept.				.2
Oct.				.3
Nov.				.1
Dec.				<u>.1</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.5	0.2		
Feb.	.2	.1		
March	.7	.3**	Pre-1954	
April	.1	.3	1954	
May	.1	.8	1955	
June	.1	.4**	1956	
July	.1	.1	1957	
Aug.	.0	.1	1958	2.6
Sept.	.2	.1	1959	<u>2.9</u>
Oct.	.2	.2	Total	
Nov.	.2	.1		
Dec.	<u>.2</u>	<u>.2</u>		
TOTAL	2.6	2.9		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 729

LOCATION CAPETOWN, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				.18
July				.11
Aug.				1.30
Sept.				.01
Oct.				.08
Nov.				.05
Dec.				.10
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.14	0.07		
Feb.	.16	.04		
March	.34	.14**	Pre-1954	
April	.05	.08	1954	
May	.05	.09	1955	
June	.02	.10	1956	
July	.09	.11	1957	
Aug.	.09	.35	1958	1.64
Sept.	.02	.13	1959	<u>1.36</u>
Oct.	.03	.11	Total	
Nov.	.41	.08		
Dec.	<u>.24</u>	<u>.06</u>		
TOTAL	1.64	1.36		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 729

LOCATION CAPETOWN, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				.3
July				.2
Aug.				2.1
Sept.				.0
Oct.				.2
Nov.				.1
Dec.				.2
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.2	0.2	
Feb.	.3	.1	
March	.7	.3**	Pre-1954
April	.1	.1	1954
May	.1	.2	1955
June	.0	.2	1956
July	.2	.2	1957
Aug.	.2	.6	1958 3.6
Sept.	.0	.2	1959 <u>2.5</u>
Oct.	.1	.2	Total
Nov.	1.1	.1	
Dec.	<u>.6</u>	<u>.1</u>	
TOTAL	3.6	2.5	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 730

LOCATION BEAUFORT, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June			*	.04
July				.16
Aug.				.14
Sept.				.02
Oct.				.25
Nov.				.03
Dec.				<u>.08</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	1.24	0.14		
Feb.	.10	.39		
March	.24	.14**	Pre-1954	
April	.08	.09	1954	
May	.04	.19	1955	
June	.09	.19	1956	
July	.05	.19	1957	
Aug.	.01	.15	1958	2.55
Sept.	.07	.19	1959	<u>1.96</u>
Oct.	.29	.14	Total	
Nov.	.10	.08		
Dec.	<u>.24</u>	<u>.07</u>		
TOTAL	2.55	1.96		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 730

LOCATION BEAUFORT, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				.1
July				.3
Aug.				.2
Sept.				.0
Oct.				.5
Nov.				.1
Dec.				.1
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	2.0	0.3	
Feb.	.2	.8	
March	.5	.3**	Pre-1954
April	.1	.2	1954
May	.1	.3	1955
June	.2	.3	1956
July	.1	.3	1957
Aug.	.0	.2	1958 5.1
Sept.	.2	.3	1959 <u>3.4</u>
Oct.	.8	.2	Total
Nov.	.3	.1	
Dec.	<u>.6</u>	<u>.1</u>	
TOTAL	5.1	3.4	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 731

LOCATION BLOEMFONTEIN, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June			#	.71
July				.35
Aug.				.45
Sept.				.16
Oct.				.09
Nov.				.11
Dec.				<u>.14</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.15	0.05		
Feb.	.13	.04		
March	.11	.14**	Pre-1954	
April	.32	.26	1954	
May	.12	.13	1955	
June	.12	.37	1956	
July	.05	.23	1957	
Aug.	.04	.06	1958	1.50
Sept.	.07	.17	1959	<u>1.77</u>
Oct.	.13	.14	Total	
Nov.	.12	.10		
Dec.	<u>.14</u>	<u>.08</u>		
TOTAL	1.50	1.77		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 731

LOCATION BLOEMFONTEIN, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				1.2
July				.6
Aug.				.7
Sept.				.3
Oct.				.2
Nov.				.2
Dec.				<u>.3</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.3	.1		
Feb.	.2	.1		
March	.2	.3**	Pre-1954	
April	.6	.5	1954	
May	.3	.2	1955	
June	.2	.6	1956	
July	.1	.4	1957	
Aug.	.1	.1	1958	3.4
Sept.	.2	.3	1959	<u>3.1</u>
Oct.	.5	.2	Total	
Nov.	.4	.2		
Dec.	<u>.3</u>	<u>.1</u>		
TOTAL	3.4	3.1		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 732

LOCATION WINDHOEK, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May			*	
June				.91
July				.17
Aug.				.16
Sept.				.05
Oct.				.02
Nov.				.08
Dec.				.10
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.09	0.14		
Feb.	.88	.06		
March	.12	.14**	Pre-1954	
April	.14	.19	1954	
May	.19	.15	1955	
June	.08	.22**	1956	
July	.09	.53	1957	
Aug.	.19	.32	1958	2.40
Sept.	.10	.13	1959	<u>2.16</u>
Oct.	.09	.14	Total	
Nov.	.21	.07		
Dec.	<u>.22</u>	<u>.07</u>		
TOTAL	2.40	2.16		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 732

LOCATION WINDHOEK, UNION OF SOUTH AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				1.5
July				.3
Aug.				.2
Sept.				.1
Oct.				.0
Nov.				.2
Dec.				<u>.2</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.1	.3	
Feb.	1.4	.1	
March	.2	.3**	Pre-1954
April	.3	.3	1954
May	.4	.3	1955
June	.1	.4**	1956
July	.2	.9	1957
Aug.	.5	.5	1958 4.8
Sept.	.2	.2	1959 <u>3.7</u>
Oct.	.3	.2	Total
Nov.	.6	.1	
Dec.	<u>.5</u>	<u>.1</u>	
TOTAL	4.8	3.7	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 735

LOCATION STOCKHOLM, SWEDEN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.13
Sept.				
Oct.				.11
Nov.				.15
Dec.				<u>.04</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.07	0.15	
Feb.	.06	.06	
March	.14	.25	Pre-1954
April	1.45	.69	1954
May	.56	1.10	1955
June	.85	.47	1956
July	1.46	.65	1957
Aug.	.11	.22	1958 5.43
Sept.	.08	.17	1959 <u>4.33</u>
Oct.	.14	.26	Total
Nov.	.24	.18	
Dec.	<u>.27</u>	<u>.13</u>	
TOTAL	5.43	4.33	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 735

LOCATION STOCKHOLM, SWEDEN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.2
Sept.				
Oct.				.2
Nov.				.3
Dec.				.1
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.1	.3		
Feb.	.1	.1		
March	.3	.5		Pre-1954
April	2.5	1.3		1954
May	1.1	1.9		1955
June	1.7	.8		1956
July	4.2	1.1		1957
Aug.	.3	.4		1958 12.2
Sept.	.2	.3		1959 7.6
Oct.	.4	.4		Total
Nov.	.7	.3		
Dec.	.6	.2		
TOTAL	12.2	7.6		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 737

LOCATION DAKAR, FRENCH WEST AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.11
Sept.				.05
Oct.				.06
Nov.				.02
Dec.				<u>.18</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.			
Feb.			
March	.01		Pre-1954
April	.03		1954
May	.37		1955
June	.42		1956
July	.14		1957
Aug.			1958
Sept.			1959 <u> </u>
Oct.	.15		Total
Nov.	.18		
Dec.			
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 737

LOCATION DAKAR, FRENCH WEST AFRICA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.2
Sept.				.1
Oct.				.1
Nov.				.0
Dec.				.3
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.			
Feb.			
March	.0		Pre-1954
April	.1		1954
May	.7		1955
June	.8		1956
July	.4		1957
Aug.			1958
Sept.			1959
Oct.	.6		Total
Nov.	.5		
Dec.			
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 801

LOCATION HIROSHIMA, JAPAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.04	0.07*	0.41*	0.32
Feb.	.08	.06	.21	.29
March	.04	.13*	.52*	.48
April	.03	.19*	.67*	1.33
May	.17	.22*	.50	.59
June	.12	.12*	.84	.23
July	.11	.08*	.23	.56
Aug.	.05	.06*	.16	.30**
Sept.	.13	.05*	.27	.36
Oct.	.06	.11*	.20	.30
Nov.	.26	.28	.13	.09
Dec.	<u>.05</u>	<u>.22</u>	<u>.40</u>	<u>.23</u>
TOTAL	1.14	1.59	4.54	5.08

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.30	0.85		
Feb.	.24	1.27		
March	.82	2.77	Pre-1954	1.09
April	1.83	2.39	1954	1.14
May	.52	.99	1955	1.59
June	.35	.57	1956	4.54
July	1.39	.51	1957	5.08
Aug.	.30	.16	1958	7.20
Sept.	.20	.09	1959	<u>9.86</u>
Oct.	.58	.09	Total	30.5
Nov.	.27	.10		
Dec.	<u>.40</u>	<u>.07</u>		
TOTAL	7.20	9.86		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 801

LOCATION HIROSHIMA, JAPAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.7*	0.6
Feb.	.1	.1	.3	.5
March	.3	.2*	.8*	.8
April	.2	.4*	1.0*	2.5
May	1.0	.4*	.8	1.0
June	.5	.2*	1.6	.4
July	.3	.1*	.5	.9
Aug.	.1	.1*	.3	.6**
Sept.	.3	.1*	.6	.6
Oct.	.1	.2*	.4	.6
Nov.	.6	.5	.2	.2
Dec.	<u>.1</u>	<u>.4</u>	<u>.8</u>	<u>.4</u>
TOTAL	3.6	2.8	8.0	9.1

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.5	1.8		
Feb.	.4	2.6		
March	1.6	5.2	Pre-1954	4.2
April	3.1	4.3	1954	3.6
May	1.1	1.7	1955	2.8
June	.8	.9	1956	8.0
July	3.7	.8	1957	9.1
Aug.	.8	.3	1958	16.3
Sept.	.5	.1	1959	<u>18.0</u>
Oct.	2.1	.1	Total	62
Nov.	.8	.1		
Dec.	<u>.9</u>	<u>.1</u>		
TOTAL	16.3	18.0		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 802

LOCATION NAGASAKI, JAPAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
n.	0.04	0.46*	0.76*	0.93
b.	.09	.06	.25	.51
rch	.01	.15*	.41*	.36
rfl	.03	.22*	.37*	1.16
y	.15	.13*	.50	.37
ne	.15	.10*	.68	.19
ly	.21	.05*	.27	.85
g.	.03	.03*	.15	.34
pt.	.05	.06*	.09	.19
t.	.07	.04*	.24	.28
v.	.28	.15	.08	.09
s.	<u>.05</u>	<u>.24</u>	<u>.30</u>	<u>.39</u>
TOTAL	1.16	1.69	4.10	5.66

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
n.	0.38	1.10		
b.	.32	1.09		
rch	.69	1.56	Pre-1954	1.38
rfl	1.22	2.53	1954	1.16
y	.24	.93	1955	1.69
ne	.49	.35	1956	4.10
ly	2.60	.64	1957	5.66
g.	.33	.18	1958	7.61
pt.	.10	.04	1959	<u>8.64</u>
t.	.30	.08	Total	30.2
v.	.22	.06		
s.	<u>.72</u>	<u>.08</u>		
TOTAL	7.61	8.64		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 802

LOCATION NAGASAKI, JAPAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	1.0*	0.1*	1.6
Feb.	.2	.1	.4	.8
March	.1	.3*	.6*	.6
April	.1	.4*	.5*	2.2
May	.8	.2*	.8	.6
June	.5	.2*	1.3	.3
July	.7	.1*	.5	1.4
Aug.	.1	.1*	.3	.5
Sept.	.1	.1*	.2	.3
Oct.	.2	.1*	.4	.6
Nov.	.6	.3	.2	.2
Dec.	<u>.1</u>	<u>.4</u>	<u>.6</u>	<u>.7</u>
TOTAL	3.5	3.3	5.9	9.8

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.6	2.4		
Feb.	.5	2.2		
March	1.3	2.9	Pre-1954	6.6
April	2.1	4.6	1954	3.5
May	.5	1.6	1955	3.3
June	1.0	.6	1956	5.9
July	7.2	1.0	1957	9.8
Aug.	.8	.3	1958	17.7
Sept.	.2	.1	1959	<u>16.0</u>
Oct.	1.2	.1	Total	63
Nov.	.6	.1		
Dec.	<u>1.7</u>	<u>.1</u>		
TOTAL	17.7	16.0		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

TATION # 804

LOCATION TAIPEI, TAIWAN

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
an.	0.04	0.23*	1.10*	0.87
eb.	.06	.04	.71	1.96
arch	.02	.11*	1.08*	1.31
pril	.14	.27*	1.13*	1.45
ay	.25	.23*	1.52	.68
ine	.07	.38*	.85	.17
ily	.20	.14*	1.77	.19
ig.	.07	.08*	.53	.31
opt.	.12	.16*	.54	.54
it.	.46	.62*	.19**	.27
iv.	.51	.61	1.19	.29
so.	<u>.05</u>	<u>1.02</u>	<u>.22**</u>	<u>.40</u>
TOTAL	1.99	3.89	10.83	8.44

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
un.	0.72	1.12		
ub.	.76	1.26		
urch	.53	1.18	Pre-1954	--
uril	.51	1.44	1954	1.99
y.	.54	.24	1955	3.89
me	.53	.54	1956	10.83
ly	1.82	.18	1957	8.44
g.	.18	.23	1958	7.76
pt.	.15	.20	1959	<u>6.79</u>
t.	.48	.16	Total	
iv.	.70	.13		
so.	<u>.84</u>	<u>.11</u>		
TOTAL	7.76	6.79		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 804

LOCATION TAIPEI, TAIWAN

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.5*		1.8*		1.5
Feb.		.1		.1		1.2		3.3
March		.1		.2*		1.6*		2.1
April		.7		.5*		1.7*		2.7
May		1.2		.4* #		2.4		1.2
June		.3		.7*		1.7		.3
July		.7		.2*		4.9		.3
Aug.		.2		.1*		1.2		.5
Sept.		.3		.3*		1.2		.8
Oct.		1.1		1.0*		.4**		.6
Nov.		1.2		1.1		2.3		.6
Dec.		<u>.1</u>		<u>1.8</u>		<u>.5**</u>		<u>.7</u>
TOTAL		6.0		6.9		20.9		14.6

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		1.2		2.4		
Feb.		1.3		2.5		
March		1.1		2.3	Pre-1954	- -
April		.9		2.6	1954	6.0
May		1.1		.4	1955	6.9
June		1.1		.9	1956	20.9
July		4.9		.3	1957	14.6
Aug.		.5		.4	1958	18.3
Sept.		.4		.3	1959	<u>12.7</u>
Oct.		1.8		.2	Total	
Nov.		2.0		.2		
Dec.		<u>2.0</u>		<u>.2</u>		
TOTAL		18.3		12.7		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 805

LOCATION TOKYO, JAPAN, HANEDA AFB

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.06*		0.60*		0.27
Feb.		.09**		.11		.34		.75
March		.13**		.31*		.54*		.70
April		.03		.41*		.54*		1.13
May		.20		.28*	*	.44		.90
June		.09		.26*		.37		.58
July		.09		.10*		.26		.86
Aug.		.12		.12*		.30		.35
Sept.		.23		.14*		.55		.61
Oct.		.29		.49*		.70		.41
Nov.		.31		.22		.33		.15
Dec.		<u>.37</u>		<u>.24</u>		<u>.20</u>		<u>.27</u>
TOTAL		1.99		2.74		5.17		6.98

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.23		0.45		
Feb.		.25		.94		
March		3.24		1.85	Pre-1954	0.83
April		2.20		2.07	1954	1.99
May		1.00		2.16	1955	2.74
June		.43		1.42	1956	5.17
July		.54		.98	1957	6.98
Aug.		.25		.36	1958	9.83
Sept.		.24		.16	1959	<u> </u>
Oct.		.50			Total	
Nov.		.53				
Dec.		<u>.42</u>		<u> </u>		
TOTAL		9.83				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 805

LOCATION TOKYO, JAPAN, HANEDA AFB

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	1.0*	0.5
Feb.	.2**	.2	.5	1.3
March	.3**	.6*	.8*	1.1
April	.2	.7*	.8*	2.1
May	1.1	.5*	.7	1.5
June	.3	.5*	.7	1.0
July	.3	.2*	.7	1.4
Aug.	.3	.2*	.6	.5
Sept.	.6	.2*	1.2	1.1
Oct.	.7	.8*	1.3	.8
Nov.	.7	.4	.6	.3
Dec.	<u>1.2</u>	<u>.4</u>	<u>.4</u>	<u>.5</u>
TOTAL	5.9	4.8	9.3	12.1

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.4	1.0		
Feb.	.4	1.9		
March	6.3	3.5	Pre-1954	3.2
April	3.8	3.7	1954	5.9
May	2.1	3.8	1955	4.8
June	.8	2.4	1956	9.3
July	1.5	1.6	1957	12.1
Aug.	.7	.6	1958	20.9
Sept.	.5	.3	1959	
Oct.	1.9		Total	
Nov.	1.5			
Dec.	<u>1.0</u>			
TOTAL	20.9			

ESTIMATE OF Sr-90 DEPOSITION FROM GUMMED FILM

TATION # 806

LOCATION MISAWA, JAPAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
an.	0.04	0.08*	0.48*	0.43
eb.	.11	.12	.29	.50
arch	.35	.16*	1.16*	.51
pril	.02	.31*	.55*	1.01
ay	.18	.61*	.60	.58
une	.08	.22*	.22	.29
uly	.08	.12*	.51	.57
ug.	.07	.15*	.23	.39
ept.	.22	.10*	.35	.56
ot.	.27	.31*	.39	.72
ov.	.29	.27	.34	.18
eo.	<u>.05</u>	<u>.81</u>	<u>.22</u>	<u>.41</u>
TOTAL	1.76	3.25	5.34	6.15

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
an.	0.22	0.79		
eb.	.27**	1.61		
arch	1.41	2.81	Pre-1954	0.68
pril	2.66	2.45	1954	1.76
ay	1.10	2.67	1955	3.25
une	.39	2.12	1956	5.34
uly	.37	.85	1957	6.15
ug.	.50	.21	1958	10.30
ept.	.49		1959	
ot.	.95		Total	
ov.	.92			
eo.	<u>1.02</u>			
TOTAL	10.30			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 806

LOCATION MISAWA, JAPAN

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		0.8*		0.8
Feb.		.2		.2		.5		.8
March		.6		.3*		1.8*		.8
April		.1		.6*		.8*		1.9
May		1.0		1.1*		1.0		1.0
June		.3		.4*		.4		.5
July		.3		.2*		1.1		.9
Aug.		.1		.2*		.5		.6
Sept.		.6		.2*		.7		.9
Oct.		.7		.5*		.7		1.6
Nov.		.7		.4		.6		.4
Dec.		<u>.1</u>		<u>1.4</u>		<u>.4</u>		<u>.7</u>
TOTAL		4.7		5.7		9.3		10.8

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		1.7		
Feb.		.5*		3.2		
March		2.7		5.3	Pre-1954	2.6
April		4.6		4.4	1954	4.7
May		2.2		4.6	1955	5.7
June		.8		3.6	1956	9.3
July		1.0		1.4	1957	10.8
Aug.		1.3		.3	1958	23.4
Sept.		1.1			1959	
Oct.		3.7			Total	
Nov.		2.7				
Dec.		<u>2.4</u>				
TOTAL		23.4				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 810

LOCATION MELBOURNE, AUSTRALIA

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.04	0.02*	0.23*	0.05
Feb.	.10	.02*	.05	.09
March	.01	.05*	.09*	.03
April	.01	.04*	.35*	.12
May	.01	.38*		.08
June	.01	.06*		.42
July	.01	.06*		.07
Aug.	.22**	.05*		.49
Sept.	.07	.15*		.31
Oct.	.09	.19*	.23	1.30
Nov.	.12	.06	.14	.26
Dec.	<u>.03</u>	<u>.19</u>	<u>.13</u>	<u>.46</u>
TOTAL	.72	1.29		3.68

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.		0.06		
Feb.		.10		
March		.04	Pre-1954	--
April			1954	.72
May			1955	1.29
June			1956	
July			1957	3.68
Aug.			1958	
Sept.			1959	<u> </u>
Oct.			Total	
Nov.				
Dec.	<u> </u>	<u> </u>		
TOTAL				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 810

LOCATION MELBOURNE, AUSTRALIA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		.0		0.0*		0.4*		0.1
Feb.		.2		.0*		.1		.2
March		.0		.1*		.1*		.0
April		.0		.1*		.5*		.2
May		.1		.7*				.1
June		.0		.1*				.8
July		.0		.1*				.1
Aug.		.5**		.1*				.8
Sept.		.2		.3*				.5
Oct.		.2		.3*		.4		2.6
Nov.		.3		.1		.3		.5
Dec.		.1		.3		.2		.8
TOTAL		1.6		2.2				6.7

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.				0.1		
Feb.				.2		
March				.1	Pre-1954	--
April					1954	1.6
May					1955	2.2
June					1956	
July					1957	6.7
Aug.					1958	
Sept.					1959	
Oct.					Total	
Nov.						
Dec.						
TOTAL						

ESTIMATE OF Sr-90 DEPOSITION FROM OMMED FILM

STATION # 811

LOCATION WELLINGTON, NEW ZEALAND

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.03*		0.14*		0.07
Feb.		.05		.03*		.04		.03
March		.01		.06*		.22*		.07
April		.00		.07*	#	.06*		.07
May		.01		.28*		.02		.12
June		.02		.03*		.06		.10
July		.05		.04*		.03		.32
Aug.		.03		.04**		.03		.12
Sept.		.12		.02*		.03		.14**
Oct.		.20		.04*		.04		.17**
Nov.		.05		.05		.08		.27
Dec.		<u>.04</u>		<u>.05</u>		<u>.07</u>		<u>.06</u>
TOTAL		.62		.74		.82		1.54

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.07		0.05		
Feb.		.19		.07		
March		.06		.07	Pre-1954	0.78
April		.07		.06	1954	.62
May		.13		.16	1955	.74
June		.03		.14	1956	.82
July		.17		.12	1957	1.54
Aug.		.06		.08	1958	.93
Sept.		.03		.07	1959	<u> </u>
Oct.		.04			Total	
Nov.		.02				
Dec.		<u>.06</u>		<u> </u>		
TOTAL		.93				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 811

LOCATION WELLINGTON, NEW ZEALAND

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.2*		0.1
Feb.		.1		.1*		.1		.1
March		.1		.1*		.3*		.1
April		.0		.1*		.1*		.1
May		.0		.5*		.0		.2
June		.1		.1*		.1		.2
July		.1		.1*		.1		.5
Aug.		.1		.1**		.1		.2
Sept.		.3		.0*		.1		.3**
Oct.		.5		.1*		.1		.4**
Nov.		.1		.1		.2		.5
Dec.		<u>.1</u>		<u>.1</u>		<u>.1</u>		<u>.1</u>
TOTAL		1.5		1.5		1.5		2.8

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.1		0.1		
Feb.		.3		.1		
March		.1		.1	Pre-1954	2.8
April		.1		.1	1954	1.5
May		.3		.3	1955	1.5
June		.1		.2	1956	1.5
July		.5		.2	1957	2.8
Aug.		.2		.1	1958	2.1
Sept.		.1		.1	1959	
Oct.		.1			Total	
Nov.		.1				
Dec.		<u>.1</u>		<u></u>		
TOTAL		2.1				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 813

LOCATION COLOMBO, CEYLON

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.02*		0.15*		0.06
Feb.		.04		.02*		.03		.07
March		.27		.07*		.11*		.12
April		.15		.05*		.21*		.07
May	2.37	.74		.13*	*	.06		.23
June		.11		.13*		.07		.14
July		.12		.23*		.12		.20
Aug.		.10		.03*		.08		.19
Sept.		.04		.04*		.12		.12
Oct.		.08		.10*		.17		.09
Nov.		.04		.04		.09		.05
Dec.		.05		.04		.07		.27
TOTAL		<u>1.78</u>		<u>0.90</u>		<u>1.28</u>		<u>1.61</u>

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.10				
Feb.		.14				
March		.08			Pre-1954	1.32
April		.17			1954	1.78
May		.31		1.67	1955	0.90
June		.19		.51	1956	1.28
July		.52		.82	1957	1.61
Aug.		.26		.15	1958	2.20
Sept.		.16			1959	
Oct.		.18			Total	
Nov.		.05**				
Dec.		.04**				
TOTAL		<u>2.20</u>				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 813

LOCATION COLOMBO, CEYLON

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.2*		0.1
Feb.		.1		.0*		.1		.1
March		1.6		.1*		.2*		.2
April		.8		.1*		.3*		.1
May	13.4	4.2		.2*		.1		.4
June		.4		.2*		.1		.3
July		.4		.4*		.3		.3
Aug.		.3		.1*		.2		.3
Sept.		.1		.1*		.3		.2
Oct.		.2		.2*		.3		.2
Nov.		.1		.1		.2		.1
Dec.		.1		.1		.1		.5
TOTAL		8.3		1.7		2.4		2.8

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.2				
Feb.		.2				
March		.2			Pre-1954	5.8
April		.3			1954	8.3
May		.6		2.9	1955	1.7
June		.4		.9	1956	2.4
July		1.4		1.3	1957	2.8
Aug.		.7		.2	1958	5.1
Sept.		.4			1959	
Oct.		.5			Total	
Nov.		.1**				
Dec.		.1**				
TOTAL		5.1				

ESTIMATE OF Sr-90 DEPOSITION FROM GUMMED FILM

STATION # 814

LOCATION SINGAPORE

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		.05**		0.10*		0.03
Feb.		.06		.03**		.03		.08
March		.31		.10**		.24*		.04
April		.13		.09**		.06*		.04
May		.44		.15**		.05		.07
June		.06		.08**		.19		.05
July		.07		.07**		.14		.19**
Aug.		.08		.04*		.09		.21**
Sept.		.07		.20*		.08		.15
Oct.		.03		.03*		.14		.11
Nov.		.05		.09**		.09		.04
Dec.		<u>.07</u>		<u>.06**</u>		<u>.08**</u>		<u>.28**</u>
TOTAL		1.41		.99		1.29		1.29

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.06		0.23		
Feb.		.10		.26		
March		.12		.15	Pre-1954	1.32
April		.07		.17	1954	1.41
May		.05		.11	1955	.99
June		.15		—	1956	1.29
July		1.71		.18	1957	1.29
Aug.		.35**			1958	3.15
Sept.		.25**			1959	
Oct.		.04			Total	
Nov.		.08				
Dec.		<u>.17**</u>				
TOTAL		3.15				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 814

LOCATION SINGAPORE

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.0	.1**	0.2*	0.1
Feb.	.1	.0**	.1	.1
March	2.0	.2**	.4*	.1
April	.7	.2**	.1*	.1
May	2.7	.3**	.1	.1
June	.2	.1**	.4	.1
July	.2	.1**	.4	.3**
Aug.	.2	.1*	.2	.3**
Sept.	.2	.3*	.2	.2
Oct.	.1	.0*	.3	.2
Nov.	.1	.1**	.2	.1
Dec.	<u>.1</u>	<u>.1**</u>	<u>.1**</u>	<u>.5**</u>
TOTAL				

	<u>1958</u>	<u>1959</u>		
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.1	0.5		
Feb.	.2	.5		
March	.2	.3	Pre-1954	5.8
April	.1	.3	1954	6.6
May	.1	.2	1955	1.6
June	.3	—	1956	2.7
July	4.4	.3	1957	2.2
Aug.	.9**		1958	8.6
Sept.	.6**		1959	
Oct.	.1		Total	
Nov.	.2			
Dec.	<u>.4**</u>			
TOTAL				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 815

LOCATION SYDNEY, AUSTRALIA

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.10*		0.18*		0.07
Feb.		.05		.04*		.10		.10
March		.01		.06**		.11*		.10
April		.00		.06*		.07*		.04
May		.02		.41*		.05		.02
June		.01		.04**		.07		.04
July		.01		.05**		.05		.02
Aug.		.56		.05**		.03		.11
Sept.		.15		.09**		.02		.12
Oct.		.09		.08*		.19		.20
Nov.		.10		.08		.11		.05
Dec.		<u>.03</u>		<u>.13</u>		<u>.11</u>		<u>.67</u>
TOTAL		1.07		1.19		1.09		1.54

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.12		0.10		
Feb.		.20		.11		
March		.04		.09	Pre-1954	1.32
April		.03		.10	1954	1.07
May		.04		.15	1955	1.19
June		.02		.29	1956	1.09
July		.06			1957	1.54
Aug.		.12			1958	.85
Sept.		.07			1959	
Oct.		.04**			Total	
Nov.		.04				
Dec.		<u>.07</u>				
TOTAL		.85				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 815

LOCATION SYDNEY, AUSTRALIA

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		0.3*		0.1
Feb.		.1		.1*		.2		.2
March		.0		.1**		.2*		.2
April		.0		.1*		.1*		.1
May		.1		.7*		.1		.0
June		.0		.1**		.1		.1
July		.0		.1**		.1		.0
Aug.		.8		.1**		.1		.2
Sept.		.4		.1**		.0		.2
Oct.		.2		.1*		.4		.4
Nov.		.2		.1		.2		.1
Dec.		.0		.2		.2		1.2
TOTAL		1.8		2.0		2.0		2.8

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.2		0.2		
Feb.		.3		.2		
March		.1		.2	Pre-1954	5.8
April		.0		.2	1954	1.8
May		.1		.3	1955	2.0
June		.4		.5	1956	2.0
July		.1			1957	2.8
Aug.		.3			1958	2.2
Sept.		.2			1959	
Oct.		.2**			Total	
Nov.		.1				
Dec.		.2				
TOTAL		2.2				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 821

LOCATION QUETTA, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				0.15
Feb.				.49
March				.58
April				1.18
May				.67
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		1.15	
Feb.	.29	1.90	
March	.60	1.17	Pre-1954
April	.57	1.82	1954
May	.50	1.17	1955
June	.20	.56	1956
July	.27	.38	1957
Aug.	.14	.32	1958
Sept.	.05	.19	1959 <u>8.93</u>
Oct.	.15	.11	Total
Nov.	.12	.08	
Dec.	<u>.57</u>	<u>.08</u>	
TOTAL		8.93	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 821

LOCATION QUETTA, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				0.3
Feb.				.8
March				.9
April				2.2
May				1.1
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		2.4	
Feb.	.5	3.8	
March	1.2	2.2	Pre-1954
April	1.0	3.4	1954
May	1.0	2.1	1955
June	.4	.9	1956
July	.7	.6	1957
Aug.	.4	.5	1958
Sept.	.1	.3	1959
Oct.	.6	.2	Total
Nov.	.3	.1	
Dec.	<u>1.3</u>	<u>.1</u>	
TOTAL		16.6	<u>16.6</u>

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 822

LOCATION PESHAWAR, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		1.33	
Feb.	.35	1.98	
March	1.54	1.25**	Pre-1954
April	2.35	1.69	1954
May	3.38	3.89	1955
June	.98	1.58	1956
July	.56	.84	1957
Aug.	.67	.36	1958
Sept.	.17	.36	1959 <u>13.81</u>
Oct.	.27	.34	Total
Nov.	.12	.08	
Dec.	<u>.36</u>	<u>.11</u>	
TOTAL		13.81	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 822

LOCATION PESHAWAR, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		2.9	
Feb.	.6	4.1	
March	3.0	2.4**	Pre-1954
April	4.2	3.1	1954
May	6.9	6.8	1955
June	2.1	2.7	1956
July	1.4	1.4	1957
Aug.	1.7	.6	1958
Sept.	.4	.6	1959 <u>25.4</u>
Oct.	.8	.5	Total
Nov.	.3	.1	
Dec.	<u>.9</u>	<u>.2</u>	
TOTAL		25.4	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 823

LOCATION KARACHI, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				0.06
Feb.				.15
March				.14
April				.22
May			#	.19
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		0.32	
Feb.	.25	.39	
March	.12	1.25**	Pre-1954
April	.19	1.41**	1954
May	.41	.40	1955
June	.30	.44	1956
July	.31	.41	1957
Aug.	.21	.31	1958
Sept.	.13	.26	1959 <u>5.55</u>
Oct.	.04	.11	Total
Nov.	.10	.15	
Dec.	<u>.30</u>	<u>.10</u>	
TOTAL		5.55	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 823

LOCATION KARACHI, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				0.1
Feb.				.2
March				.2
April				.4
May				.3
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.	_____	_____	_____	_____
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		0.7	
Feb.	.4	.8	
March	.2	2.4**	Pre-1954
April	.3	2.6**	1954
May	.8	.7	1955
June	.6	.7	1956
July	.8	.7	1957
Aug.	.6	.5	1958
Sept.	.3	.4	1959 <u>10.0</u>
Oct.	.1	.2	Total
Nov.	.3	.2	
Dec.	.7	.1	
TOTAL		10.0	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 824

LOCATION DACCA, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				0.16
Feb.				.22
March				.36
April			#	.43
May				.40
June				
July				
Aug.				.41
Sept.				
Oct.				
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.66	0.33	
Feb.	.33	.82	
March	.36	1.32	Pre-1954
April	.90	.73	1954
May	.72	1.27	1955
June	.35	.78	1956
July	.21	.22	1957
Aug.	.25	.42	1958 4.03
Sept.	.08	.06	1959 <u>6.23</u>
Oct.	.08	.18	Total
Nov.	.03	.03	
Dec.	<u>.06</u>	<u>.07</u>	
TOTAL	4.03	6.23	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 824

LOCATION DACCA, PAKISTAN

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				0.3
Feb.				.4
March				.6
April				.8
May				.7
June				
July				
Aug.				.6
Sept.				
Oct.				
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	1.1	0.7	
Feb.	.6	1.6	
March	.7	2.5	Pre-1954
April	1.5	1.3	1954
May	1.5	2.2	1955
June	.7	1.3	1956
July	.5	.4	1957
Aug.	.7	.7	1958 7.6
Sept.	.2	.1	1959 <u>11.2</u>
Oct.	.2	.3	Total
Nov.	.1	.0	
Dec.	<u>.2</u>	<u>.1</u>	
TOTAL	7.6	11.2	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 825

LOCATION BANGKOK, THAILAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.01	0.01*	0.06*	
Feb.	.05	.01*		
March	.37	.02*	.05*	.08
April	.08	.02*	.11*	.06
May	.33	.03*		.01
June	.10	.04*		.06
July	.10	.04*		.36
Aug.	.07	.02*		.32
Sept.	.02	.04*		.01
Oct.	.01	.06*		.18
Nov.	.05			.01
Dec.	.01			.02
TOTAL	1.20			

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.07	.26		
Feb.	.03	.25		
March	.02	.18	Pre-1954	
April	.07	.19	1954	
May	.19	.56	1955	
June	.15	.17	1956	
July	.65	.19	1957	
Aug.	.25	.12	1958	1.61
Sept.	.10	.63	1959	<u>2.79</u>
Oct.	.02	.08	Total	
Nov.	.03	.06		
Dec.	.03	.10		
TOTAL	1.61	2.79		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 825

LOCATION BANGKOK, THAILAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.0*		0.1*		
Feb.		.1		.0*				
March		1.8		.0*		.1*		.1
April		.3		.0*		.2*		.1
May		2.1		.1*				.0
June		.2		.1*				.1
July		.2		.1*				.6
Aug.		.1		.0*				.5
Sept.		.1		.1*				.0
Oct.		.1		.1*				.4
Nov.		.2						.0
Dec.		.0						.0
TOTAL		5.2						

	<u>1958</u>		<u>1959</u>		
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	
Jan.		0.1		.5	
Feb.		.0		.5	
March		.0		.3	Pre-1954
April		.1		.3	1954
May		.4		1.0	1955
June		.3		.3	1956
July		1.8		.3	1957
Aug.		.7		.2	1958
Sept.		.2		1.0	1959
Oct.		.1		.1	Total
Nov.		.1		.1	
Dec.		.1		.1	
TOTAL		3.9		4.7	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 826

LOCATION CHIENGMAI, THAILAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				.10
April				.16
May			*	.23
June				.14
July				.22
Aug.				.12
Sept.				.04
Oct.				.05
Nov.				.01
Dec.				.06
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.05	0.11	
Feb.	.07	.53	
March	.01	.42	Pre-1954
April	.10	.81	1954
May	.15	.55	1955
June	.09	.15	1956
July	.10	.10	1957
Aug.	.07	.12	1958 .84
Sept.	.12	.11	1959 <u>3.54</u>
Oct.	.07	.50	Total
Nov.	.02	.07	
Dec.	<u>.02</u>	<u>.07</u>	
TOTAL	.84	3.54	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 826

LOCATION CHIENGMAI, THAILAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				.2
April				.3
May				.4
June				.3
July				.4
Aug.				.2
Sept.				.1
Oct.				.1
Nov.				.1
Dec.				.1
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.1	0.2	
Feb.	.1	1.1	
March	.0	.8	Pre-1954
April	.2	1.5	1954
May	.3	1.0	1955
June	.2	.3	1956
July	.3	.2	1957
Aug.	.2	.2	1958 2.0
Sept.	.3	.2	1959 <u>6.5</u>
Oct.	.2	.8	Total
Nov.	.1	.1	
Dec.	<u>.0</u>	<u>.1</u>	
TOTAL	2.0	6.5	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 828

LOCATION SONGKHLA, THAILAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				.12
April				.04
May				.01
June				.00
July				.15
Aug.				.11
Sept.				.02
Oct.				.16
Nov.				.03
Dec.				.02
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.07	0.13		
Feb.	.02	.10		
March	.01	.12	Pre-1954	
April	.01	.07	1954	
May	.02	.21	1955	
June	.10	.17	1956	
July	.61	.14	1957	
Aug.	.16	.01	1958	1.51
Sept.	.16	.12	1959	<u>1.18</u>
Oct.	.04	.02	Total	
Nov.	.13	.03		
Dec.	<u>.18</u>	<u>.06</u>		
TOTAL	1.51	1.18		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 828

LOCATION SONGKHLA, THAILAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				.2
April				.1
May				.0
June				.0
July				.2
Aug.				.2
Sept.				.0
Oct.				.3
Nov.				.1
Dec.				.0
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.1	0.3	
Feb.	.0	.2	
March	.0	.2	Pre-1954
April	.0	.1	1954
May	.0	.4	1955
June	.2	.3	1956
July	1.6	.2	1957
Aug.	.4	.0	1958 3.6
Sept.	.4	.2	1959 <u>2.0</u>
Oct.	.1	.0	Total
Nov.	.4	.0	
Dec.	<u>.4</u>	<u>.1</u>	
TOTAL	3.6	2.0	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 827

LOCATION UBOL, THAILAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				.06
April				.01
May				.11
June				.07
July				.27
Aug.				.11
Sept.				.21
Oct.				.03
Nov.				.01
Dec.				.01
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.04	0.04		
Feb.	.01	.06		
March	.04	.14	Pre-1954	
April	.06	.10	1954	
May	.28	.16	1955	
June	.18	.51	1956	
July	.81	.11	1957	
Aug.	.21	.14	1958	2.05
Sept.	.24	.46	1959	<u>1.90</u>
Oct.	.07	.06	Total	
Nov.	.10	.07		
Dec.	<u>.01</u>	<u>.05</u>		
TOTAL	2.05	1.90		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 827

LOCATION UBOL, THAILAND

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				.1
April				.0
May				.2
June				.1
July				.4
Aug.				.2
Sept.				.3
Oct.				.1
Nov.				.0
Dec.				.0
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.1	0.1		
Feb.	.0	.1		
March	.1	.3	Pre-1954	
April	.1	.2	1954	
May	.6	.3	1955	
June	.4	.9	1956	
July	2.2	.2	1957	
Aug.	.5	.2	1958	5.1
Sept.	.6	.7	1959	<u>3.3</u>
Oct.	.2	.1	Total	
Nov.	.3	.1		
Dec.	<u>.0</u>	<u>.1</u>		
TOTAL	5.1	3.3		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 829

LOCATION TAIPEI, TAIWAN, SECOND STATION

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.20	0.22		
Feb.	.28	.31		
March	.11	.12		Pre-1954
April	.09	.52		1954
May	.80	.23		1955
June	.30	.15		1956
July	.54	.19		1957
Aug.	.22	.25		1958 2.93
Sept.	.15	.24		1959 <u>2.53</u>
Oct.	.05	.10	Total	
Nov.	.04	.10		
Dec.	<u>.15</u>	<u>.10</u>		
TOTAL	2.93	2.53		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 829

LOCATION TAIPEI, TAIWAN, SECOND STATION

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.3	0.5	
Feb.	.5	.6	
March	.2	.2	Pre-1954
April	.2	.9	1954
May	1.5	.4	1955
June	.8	.2	1956
July	1.4	.3	1957
Aug.	.6	.4	1958 6.5
Sept.	.4	.4	1959 <u>4.3</u>
Oct.	.2	.2	Total
Nov.	.1	.1	
Dec.	<u>.3</u>	<u>.1</u>	
TOTAL	6.5	4.3	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 830

LOCATION RANGOON, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.22
Sept.				1.48
Oct.				.10
Nov.				.06
Dec.				<u>.03</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.03	--	
Feb.	.35	--	
March	.06	--	Pre-1954
April	1.33	.22	1954
May	.16	.44	1955
June	.49	.25	1956
July	.67	--	1957
Aug.	.34	.27	1958
Sept.	.18		1959 <u> </u>
Oct.	.10		Total
Nov.	.04		
Dec.			
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 830

LOCATION RANGOON, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.4
Sept.				2.5
Oct.				.2
Nov.				.1
Dec.				.1
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.1	--	
Feb.	.6	--	
March	.1	--	Pre-1954
April	2.2	.4	1954
May	.3	.8	1955
June	1.0	.4	1956
July	1.8	--	1957
Aug.	.9	.4	1958
Sept.	.4		1959
Oct.	.4		Total
Nov.	.1		
Dec.			
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 831

LOCATION TAIPEI, TAIWAN, THIRD STATION

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		0.76	
Feb.		.33	
March		1.28	Pre-1954
April	.23	.95	1954
May	.69	.54	1955
June	.50	.14	1956
July	.91	.26	1957
Aug.	.15	.32	1958
Sept.	.19	.22	1959 <u>5.91</u>
Oct.	.08	.51	Total
Nov.	.12	.35	
Dec.	<u>.27</u>	<u>.25</u>	
TOTAL		5.91	

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 831

LOCATION TAIPEI, TAIWAN, THIRD STATION

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				
Nov.				
Dec.	<u> </u>	<u> </u>	<u> </u>	<u> </u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.		1.6	
Feb.		.7	
March		2.4	Pre-1954
April	.4	1.7	1954
May	1.3	.9	1955
June	1.1	.2	1956
July	2.4	.4	1957
Aug.	.4	.5	1958
Sept.	.4	.3	1959 <u>10.4</u>
Oct.	.3	.8	Total
Nov.	.3	.5	
Dec.	<u>.6</u>	<u>.4</u>	
TOTAL		10.4	

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 832

LOCATION AKYAB, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.08
Sept.				.13
Oct.				.03
Nov.				.05
Dec.				<u>.01</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.01		
Feb.			
March			Pre-1954
April	.33		1954
May	.39		1955
June	.38		1956
July	.63		1957
Aug.	.36		1958
Sept.	.20		1959 <u> </u>
Oct.		.00	Total
Nov.		.00	
Dec.		<u>.00</u>	
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 832

LOCATION AKYAB, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.1
Sept.				.2
Oct.				.1
Nov.				.1
Dec.				.0
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.0		
Feb.			
March			Pre-1954
April	.6		1954
May	.8		1955
June	.8		1956
July	1.6		1957
Aug.	1.0		1958
Sept.	.5		1959
Oct.		.0	Total
Nov.		.0	
Dec.		.0	
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 834

LOCATION MOULMEIN, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.25
Sept.				
Oct.				.03
Nov.				.07
Dec.				.11
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.11		
Feb.			
March			Pre-1954
April			1954
May	.24		1955
June	.56		1956
July	.63		1957
Aug.	.21		1958
Sept.	.21		1959
Oct.	.10		Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 834

LOCATION MOULMEIN, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.4
Sept.				
Oct.				.1
Nov.				.1
Dec.				.2
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.2		
Feb.			
March			Pre-1954
April			1954
May	.5		1955
June	1.1		1956
July	1.7		1957
Aug.	.5		1958
Sept.	.5		1959
Oct.	.3		Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 833

LOCATION LASHIO, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.27
Sept.				.33
Oct.				.03
Nov.				.04
Dec.				.10
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.06		
Feb.	.11		
March	.25		Pre-1954
April	.29		1954
May	.80		1955
June	.23		1956
July	.24		1957
Aug.	.13		1958
Sept.			1959
Oct.			Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 833

LOCATION LASHTO, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.5
Sept.				.5
Oct.				.1
Nov.				.1
Dec.				.2
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.1		
Feb.	.2		
March	.5		Pre-1954
April	.5		1954
May	1.6		1955
June	.5		1956
July	.6		1957
Aug.	.3		1958
Sept.			1959
Oct.			Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 835

LOCATION PROME, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				0.02
Sept.				.31
Oct.				.08
Nov.				.05
Dec.				<u>.09</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	.10		
Feb.	.16		
March	.22		Pre-1954
April	.15		1954
May	.07		1955
June	.25		1956
July	.39		1957
Aug.			1958
Sept.			1959 <u> </u>
Oct.			Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 835

LOCATION PROME, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.0
Sept.				.5
Oct.				.2
Nov.				.1
Dec.				<u>.2</u>
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.2		
Feb.	.3		
March	.4		Pre-1954
April	.3		1954
May	.1		1955
June	.5		1956
July	1.0		1957
Aug.			1958
Sept.			1959 <u> </u>
Oct.			Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 837

LOCATION MANDALAY, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.08
Sept.				.06
Oct.				.01
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.02	0.06	
Feb.	.01	.08	
March	.29	.26	Pre-1954
April	.28	--	1954
May	.36	.10	1955
June	.16	.18	1956
July	.13	.21	1957
Aug.		.11	1958
Sept.		.05	1959
Oct.		.18	Total
Nov.		.08	
Dec.		.09	
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 837

LOCATION MANDALAY, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.1
Sept.				.1
Oct.				.0
Nov.				
Dec.				
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.0	0.1	
Feb.	.0	.2	
March	.6	.5	Pre-1954
April	.5	—	1954
May	.7	.2	1955
June	.3	.3	1956
July	.4	.3	1957
Aug.		.2	1958
Sept.		.1	1959
Oct.		.3	Total
Nov.		.1	
Dec.		.1	
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 838

LOCATION MYITKYINA, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				.10
Nov.				.04
Dec.				.05
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.12		
Feb.	.24		
March	.65		Pre-1954
April	.39		1954
May	.27		1955
June	.24		1956
July	.08		1957
Aug.	.20		1958
Sept.			1959
Oct.			Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 838

LOCATION MYITKYINA, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				
Sept.				
Oct.				.2
Nov.				.1
Dec.				.1
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.2		
Feb.	.4		
March	1.2		Pre-1954
April	.8		1954
May	.6		1955
June	.6		1956
July	.2		1957
Aug.	.5		1958
Sept.			1959
Oct.			Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 836

LOCATION MERGUI, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.24
Sept.				.41
Oct.				.05
Nov.				.02
Dec.				.17
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.11		
Feb.			
March			Pre-1954
April	.07		1954
May	.14		1955
June	.14		1956
July	.34		1957
Aug.	.17		1958
Sept.	.28		1959
Oct.	.18		Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 836

LOCATION MERGUI, BURMA

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.				
Feb.				
March				
April				
May				
June				
July				
Aug.				.4
Sept.				.7
Oct.				.1
Nov.				.0
Dec.				.3
TOTAL				

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>	
Jan.	0.2		
Feb.	.0		
March			Pre-1954
April	.1		1954
May	.3		1955
June	.3		1956
July	.9		1957
Aug.	.5		1958
Sept.	.6		1959
Oct.	.5		Total
Nov.			
Dec.			
TOTAL			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 901

LOCATION GUAM, MARIANAS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		.04		0.04*		0.78*		0.25
Feb.		.09		.05*		.30		.30
March	1.43	0.43		.09*		.65*		.24
April		.48		.08*		.23*		.21
May		1.54		.28*	10.57	4.09		.29
June		.28		.07*	8.30	3.16		.15
July		.16		.05*	2.61	1.52		.20
Aug.		.20		.05*		1.42		.27
Sept.		.16		.08*		.64		.23
Oct.		.19		.13*		.53		.30
Nov.		.17		.14		.30		.07
Dec.		<u>.01</u>		<u>.19**</u>		<u>.33</u>		<u>.29</u>
TOTAL		3.75		1.25		13.95		2.80

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		.14		0.48		
Feb.		.23		.75		
March		.19		.87	Pre-1954	2.59
April		.22		.71	1954	3.75
May	5.93	5.18		.49	1955	1.25
June	8.60	5.67		.17	1956	13.95
July	12.65	5.81		.30	1957	2.80
Aug.		1.13		.26	1958	19.67
Sept.		.45		.18	1959	
Oct.		.18			Total	
Nov.		.23				
Dec.		<u>.24</u>				
TOTAL		19.67				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 901

LOCATION GUAM, MARIANAS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		1.3*		0.4
Feb.		.2		.1*		.5		.5
March	4.2	2.7		.2*		1.1*		.4
April		2.7		.2*		.3*		.4
May		8.2		.5*	21.5	7.1		.5
June		1.0		.1*	16.1	4.5		.3
July		.5		.1*	7.1	2.7		.3
Aug.		.6		.1*		3.3		.4
Sept.		.4		.1*		1.4		.4
Oct.		.5		.2*		1.0		.8
Nov.		.4		.2		.6		.1
Dec.		.0		.3*		.6		.5
TOTAL		17.2		2.2		24.4		5.0

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.2		1.0		
Feb.		.4		1.5		
March		.4		1.7	Pre-1954	13.2
April		.4		1.3	1954	17.2
May	11.7	10.0		.9	1955	2.2
June	16.8	10.8		.3	1956	24.4
July	34.8	13.5		.5	1957	5.0
Aug.		2.9		.4	1958	41.5
Sept.		1.0		.3	1959	
Oct.		.6			Total	
Nov.		.7				
Dec.		.6				
TOTAL		41.5				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 903

LOCATION IWO JIMA, VOLCANO ISLANDS

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	.04	0.11*	0.28*	0.37
Feb.	.04	.11	.17	.49
March	.04	.08*	.25*	.52
April	.12	.19*	.14*	.94
May	.31	.08*	.32	.26
June	.15	.06*	.10	.06
July	.11	.07*	.18	.18
Aug.	.08	.05*	.34	.08
Sept.	.09	.07*	.23	.17
Oct.	.10	.14*	.14	.13
Nov.	.15	.37	.11	.25
Dec.	.05	.24	.40	.23
TOTAL	1.28	1.57	2.66	3.68

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.11	0.65		
Feb.	.35	.27		
March	.41	.58	Pre-1954	14.06
April	.30	.65	1954	1.28
May	.77	.30	1955	1.57
June	2.01	.18	1956	2.66
July	3.42	.22	1957	3.68
Aug.	.26	.19	1958	7.35
Sept.	.14	.14	1959	<u>3.90</u>
Oct.	.23	.40	Total	34.5
Nov.	.14	.17		
Dec.	.59	.15		
TOTAL	7.35	3.90		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 903

LOCATION IWO JIMA, VOLCANO ISLANDS

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.2*	0.5*	0.7
Feb.	.1	.2	.3	.8
March	.2	.2*	.4*	.8
April	.7	.3*	.2*	1.6
May	1.5	.1*	.7	.4
June	.6	.1*	.2	.1
July	.4	.1*	.4	.3
Aug.	.2	.1*	.7	.1
Sept.	.2	.1*	.5	.3
Oct.	.2	.2*	.3	.3
Nov.	.4	.6	.2	.5
Dec.	<u>.1</u>	<u>.4</u>	<u>.7</u>	<u>.4</u>
TOTAL	4.6	2.6	5.1	6.3

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.2	1.4		
Feb.	.6	.5		
March	.8	1.1	Pre-1954	91.5
April	.5	1.2	1954	4.6
May	1.5	.5	1955	2.6
June	4.1	.3	1956	5.1
July	9.3	4.3	1957	6.3
Aug.	.7	.3	1958	15.5
Sept.	.3	.2	1959	<u>6.9</u>
Oct.	.7	.6	Total	132
Nov.	.4	.2		
Dec.	<u>1.4</u>	<u>.2</u>		
TOTAL	15.5	6.9		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 904

LOCATION MANILA PHILLIPINES, CLARKE AFB

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.03*		0.12*		0.05
Feb.		.04		.04		.02		.03
March		.30		.00*		.09*		.05
April		.26		.17*		.08*		.10
May		.33		.01*		.58**		.15
June		.23		.07*		.78		.07
July		.20		.04*	2.33	0.64		.23
Aug.		.08		.03*		.40		.20
Sept.		.25		.05*		.16		.14
Oct.		.07		.13*		.14		.09
Nov.		.04		.08		.11		.03
Dec.		<u>.01</u>		<u>.03</u>		<u>.06</u>		<u>.21</u>
TOTAL		1.85		.68		3.18		1.35

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.09		.07		
Feb.		.20		.06		
March		.08		.18	Pre-1954	2.54
April		.20		.12	1954	1.85
May		.84		.12	1955	.68
June		.56		.12	1956	3.18
July		.91		.10	1957	1.35
Aug.		.25		.12	1958	3.44
Sept.		.14		.17	1959	
Oct.		.07		.13	Total	
Nov.		.03				
Dec.		<u>.07</u>				
TOTAL		5.44				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 904

LOCATION MANILA PHILIPPINES, CLARKE AFB

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.2*		0.1
Feb.		.1		.1		.0		.1
March		1.7		.0*		.1*		.1
April		1.5		.3*		.1*		.2
May		1.7		.0*	*	.9**		.3
June		.9		.1*		1.5		.1
July		.7		.1*	6.9	1.6		.4
Aug.		.1		.0*		.9		.3
Sept.		.6		.1*		.4		.2
Oct.		.2		.1*		.3		.2
Nov.		.1		.1		.2		.1
Dec.		<u>.0</u>		<u>.1</u>		<u>.1</u>		<u>.4</u>
TOTAL		7.6		1.1		6.3		2.5

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.1		.2		
Feb.		.3		.1		
March		.2		.3	Pre-1954	13.4
April		.3		.2	1954	7.6
May		1.6		.2	1955	1.1
June		1.2		.2	1956	6.3
July		2.5		.2	1957	2.5
Aug.		.6		.2	1958	7.6
Sept.		.3		.3	1959	
Oct.		.2		.2	Total	
Nov.		.1				
Dec.		<u>.2</u>				
TOTAL		7.6				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 905

LOCATION JOHNSON ISLAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.01		0.08*		0.66*		0.29
Feb.		.04		.11		.49		.29
March	0.79	0.21		.09*		.76*		.29
April	3.59	1.28		.11*		.46*		.18
May		.79		.08*		.52		.25
June		.12		.08*	#	.92		.15
July		.14		.04*	5.92	2.14		.49
Aug.		.07		.05*		.37		.43**
Sept.		.05		.05*		.44		.12
Oct.		.08		.06*		.21		.12
Nov.		.20		.33		.18		.07
Dec.		<u>.08</u>		<u>.24</u>		<u>.32</u>		<u>.16</u>
TOTAL		3.07		1.32		7.47		2.84

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.21		.54		
Feb.		.21		.85		
March		1.16**		.78	Pre-1954	0.63
April		.83		.55	1954	3.07
May		.46		.44	1955	1.32
June		.55		.21	1956	7.47
July		1.64		.11	1957	2.84
Aug.		.35		.13	1958	6.46
Sept.		0.21		.12	1959	<u>4.07</u>
Oct.		.21		.06	Total	25.9
Nov.		.26		.14		
Dec.		<u>.37</u>		<u>.14</u>		
TOTAL		6.46		4.07		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 905

LOCATION JOHNSON ISLAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		1.1*		0.5
Feb.		.1		.2		.8		.5
March	7.7	1.4		.2*		1.2*		.5
April	23.8	7.5		.2*		.7*		.3
May		4.5		.1*		.8		.4
June		.5		.1*		1.8		.3
July		.2		.1*	# 11.8	4.8		.8
Aug.		.2		.1*		.9		.7**
Sept.		.1		.1*		.9		.2
Oct.		.2		.1*		.4		.3
Nov.		.4		.5		.3		.1
Dec.		<u>.1</u>		<u>.4</u>		<u>.6</u>		<u>.3</u>
TOTAL		15.2		2.3		14.3		4.9

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.3		1.1		
Feb.		.3		1.7		
March		2.3**		1.5	Pre-1954	2.2
April		1.4		1.0	1954	15.2
May		.9		.8	1955	2.3
June		1.1		.4	1956	14.3
July		4.2		.2	1957	4.9
Aug.		.9		.2	1958	14.1
Sept.		0.5		.2	1959	<u>7.6</u>
Oct.		.6		.1	Total	61
Nov.		.7		.2		
Dec.		<u>.9</u>		<u>.2</u>		
TOTAL		14.1		7.6		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 906

LOCATION FRENCH FRIGATE SHOALS, HAWAII

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.01		0.04*		0.29*		0.43
Feb.		.04		.05*		1.21		.37
March		.02		.17*		.52*		.21
April		0.39		.07*		.46*		.44
May		.37		.10*		.30		.33
June		.09		.07*	*	.45		.19
July		.06		.06*	1.82	1.03		.26
Aug.		.09		.08*		.23		.21
Sept.		.06		.07*		.42		.26
Oct.		.20		.06*		.38		.20**
Nov.		.10		.14		.21		.17
Dec.		<u>.04</u>		<u>.19**</u>		<u>.13</u>		<u>.17</u>
TOTAL		1.47		1.10		5.63		3.24

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.	0.46	0.26		1.14		
Feb.		.33		.74		
March		1.09		.51	Pre-1954	0.83
April		.79		1.01	1954	1.47
May		.20		.73	1955	1.10
June		.42		.38	1956	5.63
July		.26		.22	1957	3.24
Aug.		.18		.13	1958	5.26
Sept.		.87		.24	1959	<u>5.31</u>
Oct.		.16		.07	Total	22.8
Nov.		.41		.07		
Dec.		<u>.29</u>		<u>.07</u>		
TOTAL		5.26		5.31		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 906

LOCATION FRENCH FRIGATE SHOALS, HAWAII

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.5*		0.7
Feb.		.0		.1*		2.0		.6
March		.1		.3*		.8*		.3
April		2.7		.1*		.7*		.8
May		2.1		.2*		.5		.6
June		.3		.1*		.9		.4
July		.2		.1*	3.7	2.0		.4
Aug.		.3		.1*		.5		.3
Sept.		.1		.1*		.9		.5
Oct.		.5		.1*		.7		.4**
Nov.		.2		.2		.4		.4
Dec.		<u>.1</u>		<u>.3**</u>		<u>.3</u>		<u>.3</u>
TOTAL		6.6		1.8		10.1		5.7

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.	0.8	0.4		2.5		
Feb.		.5		1.5		
March		2.2		1.0	Pre-1954	3.1
April		1.4		1.8	1954	6.6
May		.4		1.3	1955	1.8
June		.8		.6	1956	10.1
July		.7		.3	1957	5.7
Aug.		.5		.2	1958	11.2
Sept.		1.9		.4	1959	<u>9.9</u>
Oct.		.5		.1	Total	48
Nov.		1.2		.1		
Dec.		<u>.7</u>		<u>.1</u>		
TOTAL		11.2		9.9		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 907

LOCATION MIDWAY ISLAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.01		0.07*		0.97*		0.60
Feb.		.04		.52		.44		.46
March		.04		.09*		.20*		.30
April		.03		.06*		.25*		.72
May		.09		.07*		.29		.54
June		.07		.06*	*	.17		.14
July		.12		.14*		.30		.29
Aug.		.03		.12*		.31		.39
Sept.		.12		.09*		.65		.20
Oct.		.05		.13*		.21		.19
Nov.		.01		.38		.08		.09
Dec.		<u>.04</u>		<u>2.36</u>		<u>.26</u>		<u>.13</u>
TOTAL		.65		4.09		4.13		4.05

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.49		2.30		
Feb.		.58		.76		
March		.76		1.72	Pre-1954	1.30
April		.50		2.60	1954	.65
May		.37		.78	1955	4.09
June	1.94	1.30		.65	1956	4.13
July		.22		.57	1957	4.05
Aug.		.39		.34	1958	6.05
Sept.		.13		.31	1959	<u>10.78</u>
Oct.		.19		.32	Total	31.0
Nov.		.38		.33		
Dec.		<u>.74</u>		<u>.10</u>		
TOTAL		6.05		10.78		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 907

LOCATION MIDWAY ISLAND

	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>
Jan.	0.0	0.1*	1.6*	1.0
Feb.	.1	1.0	.7	.8
March	.2	.2*	.3*	.5
April	.2	.1*	.8*	1.4
May	.5	.1*	.5	.9
June	.3	.1*	.3	.3
July	.4	.2*	.7	.5
Aug.	.1	.2*	.7	.6
Sept.	.3	.1*	1.4	.4
Oct.	.1	.2*	.4	.4
Nov.	.1	.6	.2	.2
Dec.	<u>.1</u>	<u>4.1</u>	<u>5</u>	<u>.2</u>
TOTAL	2.4	7.0	8.1	7.2

	<u>1958</u>		<u>1959</u>			
	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>	<u>Formula Best Est.</u>		
Jan.	0.8	5.0				
Feb.	1.0	1.5				
March	1.5	3.3			Pre-1954	5.1
April	.9	4.8			1954	2.4
May	.7	1.3			1955	7.0
June	3.8	2.6	1.1		1956	8.1
July	.6	.9	.9		1957	7.2
Aug.	1.1	.5	.5		1958	13.0
Sept.	.3	.5	.5		1959	<u>20.0</u>
Oct.	.6	.5	.5		Total	63.0
Nov.	1.1	.5	.5			
Dec.	<u>1.8</u>	<u>.1</u>	.1			
TOTAL	13.0	20.0				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 909

LOCATION CANTON, PHOENIX ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.02*		0.07*		0.05
Feb.		.08		.03		.01		.04
March	3.67	.91		.02*		.04*		.05
April		.08		.01*		.01*		.06
May		.35		.00*		.09		.07
June		.15		.01*	#	.19		.18
July		.07		.02*		.15		.08
Aug.		.07		.02*		.06		.11
Sept.		.06		.01*		.12		.10
Oct.		.06		.03*		.03		.09
Nov.		.03		.08		.02		0.05
Dec.		<u>.05</u>		<u>.02</u>		<u>.04</u>		<u>.50</u>
TOTAL		1.95		.24		.83		1.38

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.15		0.04		
Feb.		.09		.07		
March		.05		.21	Pre-1954	0.45
April		.05		.09	1954	1.95
May		.37		.15	1955	.24
June		.07		.24	1956	.83
July		.13		.09	1957	1.38
Aug.		.40			1958	1.53
Sept.		.08			1959	<u> </u>
Oct.		.10			Total	
Nov.		.02				
Dec.		<u>.02</u>		<u> </u>		
TOTAL		1.53				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 909

LOCATION CANTON, PHOENIX ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.0*		0.1*		0.1
Feb.		.1		.1		.0		.1
March	27.8	6.2		.0*		.1*		.1
April		.5		.0*		.0*		.1
May		1.9		.0*		.1		.1
June		.6		.0*		.4		.3
July		.2		.0*		.3		.1
Aug.		.2		.0*		.1		.2
Sept.		.1		.0*		.3		.2
Oct.		.1		.0*		.1		.2
Nov.		.1		.1		.0		.1
Dec.		.1		.0		.1		.9
TOTAL		10.1		0.2		1.6		2.5

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.3		0.1		
Feb.		.1		.1		
March		.1		.4	Pre-1954	1.4
April		.1		.2	1954	10.1
May		.8		.3	1955	0.2
June		.2		.4	1956	1.6
July		.3		.2	1957	2.5
Aug.		1.0			1958	3.6
Sept.		.2			1959	
Oct.		.3			Total	
Nov.		.1				
Dec.		.1				
TOTAL		3.6				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 908

LOCATION WAKE ISLAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.05*		0.30*		0.22
Feb.		.05		.11		.50		.28
March		.09		.21*		.22*		.21
April		.08		.15*		.14*		.22
May		.12		.09*		1.03		.22
June		.08		.04*	#	.52		.18
July		.13		.04*	4.40	1.11		.39
Aug.		.07		.08*		.24		.20
Sept.		.28		.07*		.22		.23
Oct.		.15		.11*		.29		.27
Nov.		.13		.11		.16		.24
Dec.		<u>.04</u>		<u>.32</u>		<u>.17</u>		<u>.27</u>
TOTAL		1.26		1.38		4.90		2.93

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.21		0.55		
Feb.		.19		.57		
March		.39		.54	Pre-1954	1.03
April		.58	1.01		1954	1.26
May		.29	.81		1955	1.38
June		1.08	.34		1956	4.90
July	2.75	1.91	.44		1957	2.93
Aug.		.63			1958	6.18
Sept.		.35			1959	
Oct.		.22			Total	
Nov.		.17				
Dec.		<u>.16</u>				
TOTAL		6.18				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 908

LOCATION WAKE ISLAND

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.5*		0.4
Feb.		.1		.2		.8		.5
March		.6		.4*		.3*		.3
April		.5		.3*		.2*		.4
May		.6		.2*		1.7		.4
June		.3		.1* #		1.0		.3
July		.4		.1*	9.9	2.6		.6
Aug.		.2		.1*		.5		.3
Sept.		.7		.1*		.5		.4
Oct.		.4		.2*		.5		.6
Nov.		.3		.2		.3		.6
Dec.		.1		.5		.3		.5
TOTAL		4.2		2.5		9.4		5.3

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		1.2		
Feb.		.3		1.1		
March		.8		1.0	Pre-1954	4.0
April		1.0		1.8	1954	4.2
May		.6		1.4	1955	2.5
June		2.1		.6	1956	9.4
July	7.1	4.9		.7	1957	5.3
Aug.		1.7			1958	14.2
Sept.		.8			1959	
Oct.		.7			Total	
Nov.		.5				
Dec.		.4				
TOTAL		14.2				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 911

LOCATION TRUK, CAROLINE ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.09*		0.41*		0.14
Feb.		.02		.07		.13		.21
March		1.39		.05*		.27*		.08
April		.55		.10*		.23*		.09
May	6.24	1.52		.05*	1.48	1.05		.12
June		.30		.07*	4.10	2.22		.13
July		.13		.02*	4.07	1.74		.38
Aug.		.10		.05*		.30		.21
Sept.		.04		.04*		.17		.16
Oct.		.02		.05*		.05		.10
Nov.		.10		.09		.11		.09
Dec.		<u>.06</u>		<u>.20</u>		<u>.13</u>		<u>.24</u>
TOTAL		4.27		.88		6.81		1.95

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.10		0.39		
Feb.		.04		.97		
March		.07		.62	Pre-1954	1.51
April		.22		.58	1954	4.27
May	4.89	3.40		.33	1955	.88
June	10.20	4.61		.19	1956	6.81
July	3.80	3.73		.19	1957	1.95
Aug.		.55			1958	13.49
Sept.		.30			1959	<u> </u>
Oct.		.18			Total	
Nov.		.09				
Dec.		<u>.20</u>		<u> </u>		
TOTAL		13.49				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 911

LOCATION TRUK, CAROLINE ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.2*		0.7*		0.2
Feb.		.0		.1		.2		.3
March		10.9		.1*		.4*		.1
April		3.5		.2*		.3*		.2
May	43.1	9.5		.1*	2.9	1.7		.2
June		1.1		.1*	8.2	5.2		.2
July		.4		.0*	14.0	5.2		.6
Aug.		.1		.1*		.7		.3
Sept.		.1		.1*		.4		.3
Oct.		.2		.1*		.1		.2
Nov.		.2		.1		.2		.2
Dec.		<u>.1</u>		<u>.3</u>		<u>.3</u>		<u>.5</u>
TOTAL		26.1		1.5		15.4		3.3

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.2		0.8		
Feb.		.1		1.9		
March		.1		1.2	Pre-1954	5.6
April		.4		1.0	1954	26.1
May	9.6	6.6		.6	1955	1.5
June	19.3	9.1		.3	1956	15.4
July	10.2	8.2		.3	1957	3.3
Aug.		1.4			1958	28.1
Sept.		.7			1959	<u> </u>
Oct.		.5			Total	
Nov.		.3				
Dec.		<u>.5</u>				
TOTAL		28.1				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 910

LOCATION PONAPE, MARSHALL ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.06*		0.26*		0.21
Feb.		.04		.08		.20		.22
March		1.42		.05*		.26*		.21
April	4.11	1.11		.07*		.22*		.11
May	4.28	1.15		.06*	.88	0.55		.18
June	.30	0.24		.03*	2.32	1.37		.23
July		.13		.04*		1.56		.30
Aug.		.09		.03*		.29		.27**
Sept.		.47		.05*		.13		.10
Oct.		.09		.10*		.08		.09
Nov.		.18		.37		.07		.06
Dec.		<u>.08</u>		<u>.19</u>		<u>.09</u>		<u>0.30</u>
TOTAL		5.04		1.13		5.08		2.28

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.05		0.64		
Feb.		.14		1.30		
March		.18		.85	Pre-1954	4.11
April		.45		1.17	1954	5.04
May	11.77	4.96		.54	1955	1.13
June	6.31	3.84		.17	1956	5.08
July		2.00		.28	1957	2.28
Aug.		.42		.24	1958	13.60
Sept.		.93		.17	1959	
Oct.		.31		.11	Total	
Nov.		.13		.09		
Dec.		<u>.19</u>		<u>.11</u>		
TOTAL		13.60				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 910

LOCATION PONAPE, MARSHALL ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.4*		0.4
Feb.		.0		.2		.3		.4
March		9.6		.1*		.4*		.3
April	28.3	6.8		.1*		.3*		.2
May	29.3	6.4		.1*	1.9	1.1		.3
June	1.2	0.9		.1*	6.5	2.5		.4
July		.4		.1*		3.8		.5
Aug.		.2		.1&		.6		.4**
Sept.		1.2		.1*		.3		.2
Oct.		.2		.2*		.2		.2
Nov.		.4		.7		.1		.1
Dec.		<u>.1</u>		<u>.3</u>		<u>.2</u>		<u>0.5</u>
TOTAL		26.2		2.2		10.2		3.9

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.1		1.4		
Feb.		.2		2.6		
March		.4		1.6	Pre-1954	16.5
April		.8		2.1	1954	26.2
May	23.2	9.8		.9	1955	2.2
June	13.5	7.6		.3	1956	10.2
July		5.5		.5	1957	3.9
Aug.		1.1		.4	1958	29.3
Sept.		2.1		.3	1959	
Oct.		.8		.2	Total	
Nov.		.3		.1		
Dec.		<u>.4</u>		<u>--</u>		
TOTAL		29.3				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 913

LOCATION KOROR, PALAU ISLANDS

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		.04*		0.13*		0.08
Feb.		.06		.04		.07		.11
March		.92		.05*		.15*		.04
April		.95		.03*		.11*		.10
May		.93		.05*		.19		.13
June		.17		.03*	*	.41		.08
July		.08		.01*		1.20		.22
Aug.		.10		.02*		.16		.15
Sept.		.09		.05*		.07		.16
Oct.		.07		.05*		.13		.13
Nov.		.05		.18		.18		.05
Dec.		.02		.14		.11		.19
TOTAL		3.48		.69		2.91		1.44

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.05		0.25		
Feb.		.18		.59		
March		.08		.29	Pre-1954	0.94
April		.15		.51	1954	3.48
May		.94		.36	1955	.69
June		2.16		.08	1956	2.91
July	2.99	2.50		.07	1957	1.44
Aug.		.34		.06	1958	6.89
Sept.		.15		.09	1959	<u>2.57</u>
Oct.		.12		.09	Total	18.9
Nov.		.07		.09		
Dec.		.15		.09		
TOTAL		6.89		2.57		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 913

LOCATION KOROR, PALAU ISLANDS

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.1*	0.2*	0.1
Feb.	.1	.1	.1	.2
March	6.4	.1*	.2*	.1
April	5.8	.1*	.2*	.2
May	6.0	.1*	.3	.2
June	.6	.1*	.8	.1
July	.2	.0*	3.3	.4
Aug.	.3	.0*	.4	.2
Sept.	.2	.1*	.2	.3
Oct.	.2	.1*	.2	.3
Nov.	.1	.3	.4	.1
Dec.	<u>.1</u>	<u>.2</u>	<u>.2</u>	<u>.3</u>
TOTAL	20.0	1.3	6.5	2.5

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.1	0.5		
Feb.	.3	1.2		
March	.2	.5	Pre-1954	3.4
April	.3	.9	1954	20.0
May	1.9	.6	1955	1.3
June	4.3	.1	1956	6.5
July	8.2 6.9	.1	1957	2.5
Aug.	.9	.1	1958	16.0
Sept.	.3	.1	1959	<u>4.4</u>
Oct.	.3	.1	Total	54.0
Nov.	.2	.1		
Dec.	<u>.3</u>	<u>.1</u>		
TOTAL	16.0	4.4		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 912

LOCATION YAP, PALAU ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>
Jan.		0.01		0.05*		0.32*		0.06
Feb.		.04		.04*		.05		.09
March		1.27		.10*		.17*		.09
April	4.04	1.14		.05*		.10*		.11
May		.49		.03*		.62		.16
June		.10		.05*	*	.45		.12
July		.10		.03*		.91		.26
Aug.		.06		.06*		.08		.17
Sept.		.07		.03*		.09		.19
Oct.		.15		.08*		.02		.08
Nov.		.08		.11		.15		.09
Dec.		<u>.05</u>		<u>.10</u>		<u>.05</u>		<u>.73</u>
TOTAL		3.56		0.72		3.01		2.20

	<u>1958</u>		<u>1959</u>			
		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>		
Jan.		0.11		0.40		
Feb.		.10		1.08		
March		.09		.42	Pre-1954	2.30
April		.10		.48	1954	3.56
May	3.03	1.82		.44	1955	0.72
June	5.25	3.30		.09	1956	3.01
July	3.26	1.45		.08	1957	2.20
Aug.		.67		.12	1958	8.15
Sept.		.20		.11	1959	<u>3.76</u>
Oct.		.11		.14	Total	23.7
Nov.		.06		.19		
Dec.		<u>.14</u>		<u>.21</u>		
TOTAL		8.15		3.76		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 912

LOCATION YAP, PALAU ISLANDS

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.0		0.1*		0.5*		0.1
Feb.		.1		.1*		.1		.2
March		9.7		.2*		.3*		.1
April	25.3	7.0		.1*		.2*		.2
May		2.7		.1*		1.0		.3
June		.4		.1*		.9		.2
July		.3		.1*		2.3		.4
Aug.		.2		.1*		.2		.3
Sept.		.2		.1*		.2		.4
Oct.		.4		.1*		.1		.2
Nov.		.2		.2		.3		.2
Dec.		<u>.1</u>		<u>.2</u>		<u>.1</u>		<u>1.4</u>
TOTAL		21.3		1.5		6.2		4.0

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.2		.8		
Feb.		.2		2.2		
March		.2		.8	Pre-1954	7.8
April		.2		.9	1954	21.3
May	5.9	3.7		.8	1955	1.5
June	9.9	6.5		.2	1956	6.2
July	8.6	3.9		.1	1957	4.0
Aug.		1.7		.2	1958	18.0
Sept.		.5		.2	1959	<u>7.0</u>
Oct.		.4		.2	Total	66.0
Nov.		.2		.3		
Dec.		<u>.3</u>		<u>.3</u>		
TOTAL		18.0		7.0		

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 914

LOCATION LIHUE, HAWAII

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.04		0.09*		0.39*		0.62
Feb.		.04		.15		.32		.65
March		.04		.12*		.36*		.26
April		.85		.06*		.10*		.36
May		.15		.09*		.44		0.33
June		.08		.06*	#	.40		.24
July		.09		.04*		1.00		.40
Aug.		.06		.06*		.15		.43
Sept.		.04		.05*		.60		.28
Oct.		.21		.10*		.25		.17
Nov.		.06		0.13		.18		.17
Dec.		<u>.05</u>		<u>.20</u>		<u>.46</u>		<u>.49</u>
TOTAL		1.71		1.15		4.65		4.40

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.27		1.92		
Feb.		.24		1.91		
March		1.11		1.63	Pre-1954	0.61
April		.67		1.78	1954	1.71
May		.50		1.20	1955	1.15
June		.68		.40	1956	4.65
July		.64		.29	1957	4.40
Aug.		.32		.48	1958	5.85
Sept.		.22		.28	1959	<u> </u>
Oct.		.21		.18	Total	
Nov.		.19		.09		
Dec.		<u>.80</u>		<u> </u>		
TOTAL		5.85				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 914

LOCATION LIHUE, HAWAII

	<u>1954</u> <u>Formula Best Est.</u>	<u>1955</u> <u>Formula Best Est.</u>	<u>1956</u> <u>Formula Best Est.</u>	<u>1957</u> <u>Formula Best Est.</u>
Jan.	0.0	0.2*	0.6*	1.1
Feb.	.1	.3	.5	1.1
March	.3	.2*	.6*	.4
April	5.1	.1*	.1*	.6
May	.8	.2*	.7	.5
June	.3	.1*	.8	.4
July	.3	.1*	2.1	.6
Aug.	.2	.1*	.3	.7
Sept.	.1	.1*	1.3	.5
Oct.	.5	.2*	.5	.4
Nov.	.1	.2	.3	.4
Dec.	<u>.1</u>	<u>.3</u>	<u>.9</u>	<u>.9</u>
TOTAL	7.9	2.1	8.7	7.6

	<u>1958</u> <u>Formula Best Est.</u>	<u>1959</u> <u>Formula Best Est.</u>		
Jan.	0.5	4.1		
Feb.	.4	3.9		
March	2.2	3.1	Pre-1954	2.2
April	1.1	3.2	1954	7.9
May	1.0	2.1	1955	2.1
June	1.3	.7	1956	8.7
July	1.6	.5	1957	7.6
Aug.	.8	.8	1958	12.5
Sept.	.5	.4	1959	
Oct.	.7	.3	Total	
Nov.	.5	.1		
Dec.	<u>1.9</u>			
TOTAL	12.5			

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 916

LOCATION HILO, HAWAII

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.17*		0.47*		0.65
Feb.		.03		.55		1.00		.71
March		.12		.28*		.84*		.76
April		.86		.21*		.30*		.70
May	1.48	0.73		.31*		1.22		.71
June		.13		.22*	*	1.04		.49
July		.10		.20*		1.65		.83
Aug.		.06		.12*		.40		.58
Sept.		.06		.11*		.61		.43
Oct.		.11		.16*		.36		.30
Nov.		.05		.21		.26		.25
Dec.		<u>.05</u>		<u>.19</u>		<u>.32</u>		<u>.57</u>
TOTAL		2.34		2.73		8.47		6.98

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.26		1.47		
Feb.		.33		4.57		
March		1.47		2.84	Pre-1954	1.02
April		1.95		3.58	1954	2.34
May		1.33		3.07	1955	2.73
June		.75		.94	1956	8.47
July		.63		.63	1957	6.98
Aug.		.55			1958	9.20
Sept.		.34			1959	<u> </u>
Oct.		.44			Total	
Nov.		.51				
Dec.		<u>.73</u>		<u> </u>		
TOTAL		9.20				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 916

LOCATION HILO, HAWAII

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.4*		0.7*		1.1
Feb.		.0		1.1		1.6		1.2
March		.7		.5*		1.3*		1.2
April		5.0		.4*		.4*		1.3
May	9.4	4.1		.6*		1.9		1.2
June		.5		.4* #		2.1		.9
July		.3		.3*		3.4		1.4
Aug.		.2		.2*		.9		.9
Sept.		.2		.2*		1.3		.7
Oct.		.3		.3*		.7		.6
Nov.		.1		.4		.5		.5
Dec.		<u>.1</u>		<u>.3</u>		<u>.6</u>		<u>1.0</u>
TOTAL		11.5		5.1		15.4		12.0

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		3.1		
Feb.		.6		9.1		
March		2.9		5.4	Pre-1954	3.8
April		3.4		6.5	1954	11.5
May		2.6		5.3	1955	5.1
June		1.4		1.6	1956	15.4
July		1.7		1.0	1957	12.0
Aug.		1.4			1958	19.8
Sept.		.8			1959	
Oct.		1.5			Total	
Nov.		1.4				
Dec.		<u>1.7</u>				
TOTAL		19.8				

ESTIMATE OF Sr⁹⁰ DEPOSITION FROM GUMMED FILM

STATION # 915

LOCATION HONOLULU, HAWAII

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>
Jan.		0.04		0.04*		0.21*		0.34
Feb.		.03		.16		.40		.51
March		.15		.11*		.25*		.21
April	2.55	0.68		.11*		.24*		.28
May		.38		.09*	#	.23		.15
June		.11		.10*		1.06		.18
July		.11		.07*		1.01		.47
Aug.		.04		.07*		.08		.27
Sept.		.04		.04*		.22		.26
Oct.		.09		.10*		.15		.12
Nov.		.05		.06		.14		.20**
Dec.		<u>.01</u>		<u>.17</u>		<u>.11</u>		<u>.41**</u>
TOTAL		1.73		1.12		4.10		3.40

	<u>1958</u>		<u>1959</u>			
		<u>Formula Best Est.</u>		<u>Formula Best Est.</u>		
Jan.		0.27		0.96		
Feb.		.16		1.48		
March		.89		1.08	Pre-1954	0.49
April		.51		.86	1954	1.73
May		.58		1.96	1955	1.12
June		.38		.23	1956	4.10
July		.53		.10	1957	3.40
Aug.		.22			1958	4.43
Sept.		.12			1959	<u> </u>
Oct.		.19			Total	
Nov.		.13				
Dec.		<u>.45</u>		<u> </u>		
TOTAL		4.43				

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 915

LOCATION HONOLULU, HAWAII

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.1*		0.3*		0.6
Feb.		.1		.3		.6		.8
March		.8		.2*		.4*		.3
April	15.2	3.9		.2*		.4*		.5
May		2.1		.2*		.4		.3
June		.4		.2*		2.1		.3
July		.3		.1*		2.1		.8
Aug.		.1		.1*		.2		.4
Sept.		.1		.1*		.5		.4
Oct.		.2		.2*		.3		.2
Nov.		.1		.1		.3		.4**
Dec.		.0		.3		.2		.7**
TOTAL		8.1		2.1		7.8		5.7

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.4		2.0		
Feb.		.3		3.0		
March		1.8		2.0	Pre-1954	1.8
April		.9		1.5	1954	8.1
May		1.1		3.4	1955	2.1
June		.8		.4	1956	7.8
July		1.4		.2	1957	5.7
Aug.		.6			1958	9.7
Sept.		.3			1959	
Oct.		.6			Total	
Nov.		.4				
Dec.		1.1				
TOTAL		9.7				

ESTIMATE OF Sr-90 DEPOSITION FROM GUMMED FILM

STATION # 922

LOCATION KWAJALEIN, MARSHALL ISLANDS

	1954		1955		1956		1957	
	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.	Formula	Best Est.
Jan.		0.04		0.14*		0.32**		0.16
Feb.		.04		.14		.17		.21
March	38.55	3.15		.07*		.16*		.10
April	3.93	1.08		.11**		.43*		.08
May	20.04	2.15		.07**	4.43	0.76		.07
June		.30		.05**	14.40	1.44		.20
July		.18		.05*		4.36		.24
Aug.		.16		.08*		.89		.33
Sept.		.19		.07*		.38		.20
Oct.		.02		.16*		.28		.08
Nov.		.03		.19**		.24		.13**
Dec.		.08		.24**		.12		.16
TOTAL		7.42		1.37		9.55		1.96

	1958		1959			
	Formula	Best Est.	Formula	Best Est.		
Jan.		0.08		0.40		
Feb.		.26		.52		
March		.10		.38	Pre-1954	- -
April		.12		.70	1954	7.42
May	12.13	5.91		.26	1955	1.37
June		1.31		.13	1956	9.55
July		1.64		.16	1957	1.96
Aug.		.35		.17	1958	10.22
Sept.		.12		.05	1959	3.09
Oct.		.14		.07	Total	
Nov.		.05		.14		
Dec.		.14		.11		
TOTAL		10.22		3.09		

ESTIMATE OF INFINITY γ DOSE FROM GUMMED FILM

STATION # 922

LOCATION KWAJALEIN, MARSHALL ISLANDS

	<u>1954</u>		<u>1955</u>		<u>1956</u>		<u>1957</u>	
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>
Jan.		0.0		0.3*		0.5**		0.3
Feb.		.0		.3		.3		.3
March	314.3	25.0		.1*		.2*		.2
April	26.3	6.5		.2**		.6*		.1
May	133.2	13.2		.1**	10.6	2.0		.1
June		1.2		.1**	27.4	5.8		.4
July		.6		.1*		9.1		.4
Aug.		.5		.1*		2.0		.5
Sept.		.5		.1*		.9		.3
Oct.		.1		.3*		.5		.2
Nov.		.1		.4**		.5		.3**
Dec.		<u>.1</u>		<u>.4**</u>		<u>.2</u>		<u>.3</u>
TOTAL		35.8		2.5		22.6		3.4

	<u>1958</u>		<u>1959</u>			
	<u>Formula</u>	<u>Best Est.</u>	<u>Formula</u>	<u>Best Est.</u>		
Jan.		0.1		0.9		
Feb.		.5		1.0		
March		.2		.7	Pre-1954	- -
April		.2		1.3	1954	35.8
May	24.3	12.9		.5	1955	2.5
June		2.5		.2	1956	22.6
July		4.4		.3	1957	3.4
Aug.		.9		.3	1958	22.8
Sept.		.3		.1	1959	<u>4.9</u>
Oct.		.4		.1	Total	
Nov.		.1		.2		
Dec.		<u>.3</u>		<u>.2</u>		
TOTAL		22.8		4.9		