

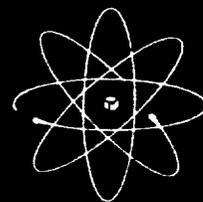
410972

health and safety laboratory

DATA ON THE DEPOSITION OF STRONTIUM 90 DURING 1958

PREPARED FOR THE HEARINGS ON FALLOUT BEFORE
THE JOINT COMMITTEE ON ATOMIC ENERGY.

April 20, 1959



UNITED STATES ATOMIC ENERGY COMMISSION
NEW YORK OPERATIONS OFFICE

4620

Connect Table 7

DATA ON THE DEPOSITION OF STRONTIUM-90
DURING 1958

Prepared for the Hearings on Fallout before
the Joint Committee on Atomic Energy.

May 5 - 8, 1959

John H. Harley
Edward P. Hardy Jr.
Stanley Klein
S. Allan Lough

April 20, 1959

Health and Safety Laboratory
UNITED STATES ATOMIC ENERGY COMMISSION
New York, N. Y.

Table of Contents

	<u>Page</u>
Introduction	2
Monthly Collection Networks	3
Precipitation Collections	4
Soil Analyses	5
Summary of Pot Data	7
Tungsten Data	9

This report summarizes the data available from the Health and Safety Laboratory on the deposition of Strontium-90 during 1958. The data thus serve to bring up to date HASL-42, "Environmental Contamination from Weapons Tests", which included data through the end of 1957.

This report includes not only information developed at the Health and Safety Laboratory but analyses performed by analytical contractors. A considerable amount of the information will be made part of other reports submitted to the Joint Committee for their consideration.

Some of the analyses reported here were completed after the issuance of the last quarterly supplement to HASL-42 and will not be otherwise published until the next supplement. The policy on data publication has been to include all material available at the time of preparation of these quarterly supplements, or a report such as the present one.

The deposition of Strontium-90 may be described in two ways: one is the rate of fallout, usually on the basis of monthly collections and the other is the cumulative deposition based on soil analyses. These two methods are considered supplementary since none of the monthly pot collections were started early enough to allow valid estimates of the accumulated deposit. On the other hand, difficulties in the sampling and analysis of soils prevent use of soil data for short term rate measurements.

Monthly Collection Networks

Monthly collections of fallout have been made for a period of several years using stainless steel pots. The network reporting results for 1958 is mapped in Fig. 1. The stations are also listed in Table 1.

In order to expand the collecting network, an improved device consisting of a plastic funnel and ion exchange column has been developed. Through the cooperation of Dr. Lester Machta of the U. S. Weather Bureau, an additional 22 sites were put into operation in February of 1959. These are shown superimposed on the pot network in Fig. 2, and listed in Table 2. Negotiations are under way to further expand the funnel network outside the United States and to substitute funnels for existing pots.

Precipitation Collections

Collection and analysis of individual rainfalls or other precipitations have been made at three sites. The first of these stations has been in operation since 1955 at Pittsburgh, Pa., and two others in Westwood, N.J., and Richmond, Cal., were initiated in 1958. The available data from these three stations for 1958 are listed in Tables 4, 5, and 6.

The results of these analyses have been subject to numerous interpretations and no additional interpretation will be attempted here.

Soil Analyses

Two sets of data are available on the Strontium-90 content of soils. The first network includes 17 sites in the United States where sampling and analysis have been carried out by HASL personnel. These sites have been sampled annually in October and results for 1955, 1956, and 1957 were included in HASL-42. The locations are shown in Fig. 3 and those analyses available at this time for 1958 samples are listed in Table 7. Additional results should be ready before the Congressional Hearings and will be listed in an addendum to be furnished about the first of May.

The second is a series of samples collected by Dr. Lyle T. Alexander of the U. S. Department of Agriculture at selected sites throughout the world. These samples have been analyzed at the Health and Safety Laboratory and the results of the two most recent collections are mapped in Figs. 4 and 5. The interpretation of these results will be presented in a separate report by Dr. Alexander.

In any program that depends heavily on the quality of chemical analysis, it is desirable to know the reliability of the analytical data. As a test of quality, samples have been submitted to the HASL analysts by Dr. Alexander, identified only by the sample number. A considerable group of these were submitted as blind duplicates and form a good

check on reproducibility of samples where the identity is not known. Table 8 lists a series of results of such tests.

Summary of Pot Data

The interpretation of fallout data has always been complicated by the introduction of fresh fission products into the atmosphere. This has prevented clean-cut separation of debris from individual tests or even series of tests.

Three major test series have been reported for 1958, the U.S.S.R. series in the spring and fall and the U.S. series in the summer. As a typical example of the data in Table 3, the complete results for the HASL pot station in New York City are plotted in Fig. 6. This figure indicates an increased rate of fallout during 1958 compared to previous years.

The high variability of all fallout sampling and analysis requires smoothing by grouping of data. As an example of the patterns produced by such smoothing, Fig. 7 summarizes the Strontium-90 pot data for 1958 grouped by quarter of the year and by 20° latitude bands. The four quarters consistently show a maximum in the 30-50°N band and a minimum in the equatorial region. It should be noted that the numbers of stations in the five bands are 11, 9, 2, 8, and 6. Therefore, the equatorial region may be less reliable than the other four bands. The southern hemisphere maximum is in the 10-30°S band rather than the most

*Since we need
any data thing
the!*

southerly, and unfortunately stations are not available above 50° in either hemisphere.

In the latitude bands measured, the total Strontium-90 fallout for 1958 would be estimated as 0.76 megacuries. Because of the heavy injections during 1958, it is not possible to use this as a measure of stratospheric depletion. If an extended period free of tests continues, such rates should be readily determined. It should be pointed out, however, that the rate found would not necessarily reflect past rates. The stratospheric depletion rate is not a basic physical constant, but may be a function of the characteristics of the tests producing the stratospheric burden.

It is possible to roughly estimate the age of fission products by the use of isotopic ratios such as the $\text{Sr}^{89}/\text{Sr}^{90}$ or $\text{Ba}^{140}/\text{Sr}^{90}$ because of the difference in yields and half-lives. The $\text{Ba}^{140}/\text{Sr}^{90}$ ratio is only valuable for fairly fresh debris and is measured in precipitation samples. The $\text{Sr}^{89}/\text{Sr}^{90}$ ratio has been calculated for the pot stations in Table 3, and the grouped data are plotted in Fig. 7.

The most obvious features are,

1. None of the differences between bands are extremely marked.
2. The average age of the debris is greater in the southern hemisphere.
3. After the U.S. summer tests, the average age of the debris is lowest in the equatorial band.

Tungsten Data

During the U.S. summer tests in the Pacific, Tungsten-185 was produced. This nuclide has a half-life of 74 days and furnishes a tracer for this particular test series. The available analyses of pot samples are included in Table 3.

In order to compare total Tungsten-185 fallout at various times, the activity has been extrapolated back to an arbitrary date, June 1, 1958. This also allows addition of results for several months on a sound basis. These extrapolated values, grouped by latitude band for the months available, are shown in Table 9.

For the months (September, October, November) when all bands have data, the totals indicate low Tungsten-185 fallout in the equatorial and the 10-30°S bands, about one-fourth to one-third of that found in the other three bands.

In addition, the data indicate the extrapolated Tungsten-185 fallout to be approximately equal for each of the five months. This is perhaps surprising and may be an artificial indication caused by the grouping.

The total Tungsten-185 deposition, extrapolated to June 1, 1958, may be estimated as 18 megacuries between 50°N and 50°S. By January 1, 1959, this would have decayed to about 2.5 megacuries.

The mean monthly W^{185}/Sr^{90} ratios are listed in Table 10. Considering the same three months as above, it is notable that,

1. The southernmost band shows a markedly lower ratio than the other bands.
2. The maximum ratio appears in the equatorial band.
3. In the three northernmost bands, two peaks appear, in September and November.

The end of this period should represent stratospheric fallout, as tropospheric material should be very low by October and November. Interpretation of the data and the indications noted is largely a meteorological problem and will not be attempted here.

Table 1

LIST OF POT STATIONS ACTIVE DURING 1958

United States

Birmingham, Alabama
Richmond, California
W. Los Angeles, California
Coral Gables, Florida
AEC Lab, Coconut Island, Oahu, Hawaii
Gartley Hall, University of Hawaii, Oahu, Hawaii
Lemont, Illinois
Louisville, Kentucky
Westwood, New Jersey
New York, New York
Tulsa, Oklahoma
Pittsburgh, Pennsylvania
Vermillion, South Dakota
Houston, Texas
Salt Lake City, Utah
Seattle, Washington

Australia

Adelaide
Brisbane
Darwin
Melbourne
Perth
Sydney
Townsville

Austria

Klagenfurt
Vienna

Brazil

Itaici, State of Sao Paulo
Nova Friburgo, State of Rio
Sao Jose dos Campos, State of Sao Paulo

Chile

Santiago

Colombia

Bogota

Table 1 (Contd.)

Japan

Hiroshima
Nagasaki

Kenya

Kikuyu

Pakistan

Karachi

Senegal

Dakar

Southern Rhodesia

Salisbury

Taiwan

Tainan
Taipai
Taitung

Tasmania

Hobart

Thailand

Bangkok

Union of South Africa

Durban
Pretoria

Table 2

LIST OF FUNNEL STATIONS STARTED IN FEBRUARY 1959

United States

Anchorage, Alaska
Barrow, Alaska
Cold Bay, Alaska
Juneau, Alaska
San Francisco, California
Denver, Colorado
Hilo, Hawaii
Mauna Loa, Hawaii
International Falls, Minnesota
Columbia, Missouri
Helena, Montana
Williston, North Dakota
Medford, Oregon
Columbia, South Carolina
Dallas, Texas
El Paso, Texas
Houston, Texas
Green Bay, Wisconsin
Silver Hill, Maryland

Outside United States

Canton Island
Truk
Wake

Table 3

POT ANALYSES 1958

United States Sites

Alabama, Birmingham
California, Richmond
California, West Los Angeles
Florida, Coral Gables
Hawaii, Oahu, AEC Lab, Coconut Island
Hawaii, Oahu, Gartley Hall, University of Hawaii
Hawaii, Oahu, Weather Station, Coconut Island
Illinois, Lemont
Kentucky, Louisville
New Jersey, Westwood
New York, New York
Oklahoma, Tulsa
Pennsylvania, Pittsburgh
South Dakota, Vermillion
Texas, Houston
Utah, Salt Lake City
Washington, Seattle

Outside United States Sites

Australia, Adelaide
Australia, Brisbane
Australia, Darwin
Australia, Melbourne
Australia, Perth
Australia, Sydney
Australia, Townsville
Austria, Kalgenfurt
Austria, Vienna
Brazil, Itaipu, State of Sao Paulo
Brazil, Nova Friburgo, State of Rio
Brazil, Sao Jose dos Campos, State of Sao Paulo
Chile, Santiago
Colombia, Bogota
Japan, Hiroshima
Japan, Nagasaki
Kenya, Kikuyu
Pakistan, Karachi
Senegal, Dakar
Southern Rhodesia, Salisbury
Taiwan, Tainan
Taiwan, Taipei
Taiwan, Taitung
Tasmania, Hobart
Thailand, Bangkok
Union of South Africa, Durban
Union of South Africa, Pretoria

Weather Stations - "Bravo", "Charlie", "Delta", "Echo"

MONTHLY FALLOUT COLLECTIONS

Alabama, Birmingham	milliouries per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at Sampling Midpoint	no W185 ml ² on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ ml ²	ppt'n. in inches
Sampling Period	Sr ⁹⁰	W185					
1957 April through December							
1958 January	0.66 ± 0.03	11.4 ± 1.4	17			5.45 ± 0.12	3.42
February	0.24 ± 0.01	3.4 ± 0.5	12			6.11 ± 0.12	5.14
March	0.38 ± 0.02	6.4 ± 0.7	16			6.35 ± 0.13	3.03
April	1.67 ± 0.05	24.4 ± 0.18	14			6.73 ± 0.13	3.51
May	1.17 ± 0.05	20.7 ± 0.7	15			8.40 ± 0.13	2.33
June	0.65 ± 0.04	24.5 ± 0.5	38			9.56 ± 0.14	3.10
July	2.11 ± 0.02	88.77 ± 0.11	42			10.21 ± 0.14	6.79
August	1.06 ± 0.04	46.74 ± 0.47	44			12.32 ± 0.14	1.98
September	0.49 ± 0.03	19.1 ± 0.6	39	131.9 ± 6.5	269	13.36 ± 0.15	5.74
October	0.26 ± 0.02	6.34 ± 0.26	26	22.6 ± 2.7	87	14.03 ± 0.15	2.31
November	0.60 ± 0.03	29.1 ± 0.9	48	96.6 ± 4.4	161	14.73 ± 0.15	3.38
December	1.09 ± 0.13	59.3 ± 1.3	50	139 ± 5	127	15.82 ± 0.20	1.89

1959 January sample started first week April '59

MONTHLY FALLOUT COLLECTIONS

California, West Los Angeles
 millicrouries per square mile
 at midpoint of sampling period

Sampling Period	Sr90	Sr89	W185
1956 December through 1957 December			
1958 January	0.44 ± 0.02	7.2 ± 0.9	
February	0.90 ± 0.05	11.5 ± 1.0	
March	1.30 ± 0.08	33.6 ± 3.1	
April	1.50 ± 0.00	13.4 ± 0.2	
May	0.05 ± 0.03	2.4 ± 0.5	
June	0.10 ± 0.01	0.40 ± 0.04	
July	0.160 ± 0.003	0.37 ± 0.04	
August	0.08 ± 0.01	2.70 ± 0.07	
September	0.08 ± 0.03	2.30 ± 0.31	5.74 ± 0.48
October	0.15 ± 0.02	5.90 ± 0.26	4.16 ± 0.46
November	0.11 ± 0.02	3.88 ± 0.16	2.18 ± 0.25
December	0.07 ± 0.02	1.45 ± 0.12	

sample started first week April '59

no W185 mi2 on 6-1-58	no Sr90 mi2 on 6-1-58	Cumulative no Sr90 mi2	ppt'n. in inches
		4.94 ± 0.10	1.49
		5.37 ± 0.10	6.26
		6.28 ± 0.11	5.25
		7.58 ± 0.13	2.04
		9.08 ± 0.13	0.01
		9.13 ± 0.14	trace
		9.23 ± 0.14	trace
		9.39 ± 0.14	0.02
		9.46 ± 0.14	0.03
		9.54 ± 0.14	0.32
		9.69 ± 0.14	trace
		9.80 ± 0.15	0.01
15.5 ± 1.3	194		
14.9 ± 1.6	99		
10.6 ± 1.2	96		
6.2 ± 0.8	89		

Sr89/Sr90
 at Sampling
 Midpoint

14	11	24	9	48	4	2	36	29	39	35	21
----	----	----	---	----	---	---	----	----	----	----	----

MONTHLY FALLOUT COLLECTIONS

California, Richmond	millieuries per square mile at midpoint of sampling period		Sr-90 W185	Sr-89/Sr-90 at Sampling Midpoint	no W185 ml 2 on 6-1-58	W185 Sr-90 on 6-1-58	Cumulative no Sr-90 ml 2	ppt'n. in limboc
	Sr-90	Sr-89						
1958 3/20-4/3/58	4.47 ± 0.07	69.5 ± 7.9	20				3.74 ± 1.04	6.64
	3.00 ± 0.05	75.0 ± 5.9	25				4.11 ± 1.04	2.57
4/3-4/30/58	0.38 ± 0.01	6.07 ± 0.04	16				4.18 ± 1.04	0.80
	0.36 ± 0.01	4.06 ± 0.07	11				4.65 ± 1.05	0.47
May	0.33 ± 0.01	6.7 ± 0.2	20		0.313 ± 0.009	1.5	4.70 ± 1.06	0
	0.42 ± 0.01	6.8 ± 0.2	16		0.281 ± 0.017	2.3	4.91 ± 1.06	0
June	0.21 ± 0.00	1.28 ± 0.03	6		2.39 ± 0.03	52		
	0.12 ± 0.00	1.47 ± 0.02	12		2.39 ± 0.03	39		
July	0.046 ± 0.003	0.88 ± 0.02	19		3.39 ± 0.06	170		
	0.062 ± 0.003	0.92 ± 0.01	15		2.88 ± 0.06	137		
August	0.020 ± 0.001	0.537 ± 0.008	27					
	0.021 ± 0.001	0.543 ± 0.009	26					

MONTHLY FALLOUT COLLECTIONS

Florida, Coral Gables	milliouries per square mile at midpoint of sampling period		Sr-89/Sr-90 at Sampling Midpoint	mc W185 ml on 6-1-58	W185 Sr-90 on 6-1-58	Cumulative mc Sr-90 ml	ppt'n. in inches
	Sr-90	Sr-89					
1957 April through January 6, 1958							
1958 1/6-2/6	0.29 ± 0.01	4.9 ± 0.5	17			5.63 ± 0.07	2.63*
2/6-3/6	0.22 ± 0.01	2.7 ± 0.3	12			5.93 ± 0.08	1.76*
3/6-4/6	0.60 ± 0.00	5.3 ± 0.9	9			6.14 ± 0.08	5.08*
4/6-5/6	0.49 ± 0.03	10.3 ± 0.6	21			7.23 ± 0.08	1.70*
5/6-6/6	1.70 ± 0.04	17.4 ± 0.7	28			8.93 ± 0.09	16.47*
6/6-7/6	1.39 ± 0.08	22.43 ± 0.45	16			10.32 ± 0.12	9.31*
7/6-8/6	0.77 ± 0.02	11.46 ± 0.34	54			11.09 ± 0.12	4.30*
8/6-9/6	6.20 ± 0.12	55.04 ± 0.62	9			17.29 ± 0.17	9.82*
9/6-10/6	0.60 ± 0.03	26.1 ± 0.7	144	142 ± 4	237	17.89 ± 0.17	3.76*
10/6-11/6	0.74 ± 0.04	26.3 ± 0.6	36	54.3 ± 1.8	73	18.63 ± 0.18	3.27*
11/6-12/6	0.63 ± 0.03	28.8 ± 0.9	146	147.1 ± 3.0	75	19.26 ± 0.18	4.25*
12/6-1/6/59	2nd milk by middle of April '59						5.91*
1958 January	sample not started 1st week April '59						

* For collection periods as shown.

MONTHLY FALLOUT COLLECTIONS

Hawaii, Oahu, Cartley Hall, Univ. of Hawaii
 millicuries per square mile
 at midpoint of sampling period

Sampling Period	Sr90	Sr99	Sr99/Sr90 at Sampling Midpoint	mc W185 ml on 6-1-58	W185/Sr90 on 6-1-58	Cumulative mc Sr90 ml ²	Ppt'n. in inches
1957 June through January 6, 1958							
1958 January	0.71 ± 0.03	10.5 ± 1.4	15			2.81 ± 0.10	3.30
February	0.36 ± 0.02	4.1 ± 0.6	11			3.52 ± 0.10	2.62
March	1.33 ± 0.08	28.3 ± 3.3	21			3.88 ± 0.11	17.75
April	0.84 ± 0.02	12.8 ± 0.5	15			5.21 ± 0.13	1.39
May	1.15 ± 0.04	10.0 ± 0.4	9			6.05 ± 0.13	2.37
June	1.21 ± 0.05	2.13 ± 0.76	2			7.20 ± 0.14	1.76
July	0.07 ± 0.01	3.93 ± 0.11	57			8.41 ± 0.15	3.42
August	0.70 ± 0.03	37.13 ± 0.66	54			8.48 ± 0.15	7.69
September	0.73 ± 0.04	18.7 ± 0.6	26	71.4 ± 3.2	98	9.18 ± 0.15	1.48
October	1.56 ± 0.05	3.17 ± 0.22	2.0	102.5 ± 3.9	66	9.91 ± 0.16	4.57
November	0.19 ± 0.03	22.4 ± 0.8	146	37.7 ± 3.2		11.47 ± 0.16	0.77
December	1.12 ± 0.12	56.6 ± 1.2	51			11.96 ± 0.17	3.30
1959 January		19.4 ± 0.4		162 ± 3		13.08 ± 0.20	

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Hawaii, Oahu, Weather Station, Coconut Island
millicuries per square mile
at midpoint of sampling period

<u>Sampling Period</u>	<u>Sr90</u>	<u>Sr89</u>	<u>N185</u>	<u>Sr89/Sr90 at Sampling Midpoint</u>	<u>mo N185 ml² on 6-1-58</u>	<u>W185 Sr90 on 6-1-58</u>	<u>Cumulative mo Sr90 ml²</u>	<u>ppt'n. in inches</u>
1957 July through January 6, 1958								
1958 January	0.22 ± 0.01	3.4 ± 0.6	15				3.93 ± 0.02	1.76
February	0.70 ± 0.05	6.2 ± 1.2	9				4.15 ± 0.02	2.83
March	1.65 ± 0.08	23.4 ± 1.3	14				4.85 ± 0.05	15.41
April	0.90 ± 0.02	15.9 ± 0.3	18				6.50 ± 0.10	1.28
May	1.02 ± 0.04	7.1 ± 0.4	7				7.40 ± 0.10	1.85
June	0.08 ± 0.02	0.14 ± 0.01	2				8.42 ± 0.11	1.58
July	1.16 ± 0.04	52.0 ± 0.5	45				9.50 ± 0.11	3.29
August	0.51 ± 0.05	23.35 ± 0.36	46				9.66 ± 0.12	5.55
September	0.53 ± 0.03	16.6 ± 0.6	31	10.4 ± 0.7	28.1 ± 1.9	53	10.70 ± 0.13	2.36
October	0.89 ± 0.04	21.3 ± 0.5	24	6.57 ± 0.99	23.5 ± 2.1	26	11.59 ± 0.14	8.45
November	0.46 ± 0.04	17.6 ± 0.7	38				12.05 ± 0.15	1.50
December	1.48 ± 0.11	62.7 ± 1.1	42				13.53 ± 0.18	4.32
1959 January								5.43
February								5.00

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Illinois, Lemont Sampling Period	milliuries per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at Sampling Midpoint	no W185 ml ² on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ ml ²	ppt'n. in limbs
	Sr ⁸⁹	W185					
1956 December through December 19, 1957			10			5.94 ± 0.07	1.45
1958 January	0.30 ± 0.00	3.0 ± 0.4				6.24 ± 0.07	0.33
February	lost						1.64
March	0.57 ± 0.05	13.5 ± 0.9	24			6.81 ± 0.09	3.12
April	0.79 ± 0.03	16.1 ± 0.5	20			7.60 ± 0.09	6.43
May	4.87 ± 0.03	61.2 ± 2.0	13			12.47 ± 0.10	4.74
June	0.09 ± 0.01	1.15 ± 0.04	13			12.56 ± 0.10	2.51
July	3.67 ± 0.10	23.2 ± 0.4	6			16.23 ± 0.14	1.86
August	0.33 ± 0.04	13.5 ± 0.9	41			16.56 ± 0.15	2.12
September	0.76 ± 0.03	28.1 ± 0.8	37	53.2 ± 2.5	70	17.32 ± 0.15	1.58
October	1.04 ± 0.07	56.1 ± 2.3	54	40.9 ± 2.0	40	18.36 ± 0.16	0.57
November	2nd milk middle of April '59						
December	Not started first week April '59						
1959 January							

MONTHLY FALLOUT COLLECTIONS

Kentucky, Louisville

Sampling Period	milliouries per square mile at midpoint of sampling period		Sr ⁸⁹ / Sr ⁹⁰ at Sampling Midpoint	no W185 ml ² on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ ml ²	ppt'n. in inches
	Sr ⁹⁰	Sr ⁸⁹					
1958 9/18-10/1	0.24 ± 0.02 0.26 ± 0.01	3.95 ± 0.08 3.68 ± 0.07	16 14			0.25 ± 0.01	2.83
October	0.52 ± 0.017 0.41 ± 0.015	10.56 ± 0.11 10.82 ± 0.11	20 26			0.715 ± 0.09	1.65
November	0.61 ± 0.02 0.71 ± 0.02	11.48 ± 0.18	19 —			1.375 ± 0.11	2.77
December	0.58 ± 0.02 0.60 ± 0.02	23.82 ± 0.19 24.10 ± 0.19	41 40			1.965 ± 0.11	1.19
1959 January	2.10 ± 0.03 2.28 ± 0.03	95.65 ± 0.29 97.83 ± 0.29	46 43			4.155 ± 0.17	5.51
February	1.63 ± 0.03 1.54 ± 0.03	47.86 ± 0.19 52.79 ± 0.21	29 34			5.745 ± 0.18	2.76

MONTHLY FALLOUT COLLECTIONS

New Jersey, Westwood Sampling Period	milli-curies per square mile at midpoint of sampling period		Sr ⁹⁰ / Sr ⁹⁰ Midpoint	no W185 mi ² on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ mi ²	ppt'n. in inches
	Sr ⁸⁹	W185					
1957 August through December							
1958 January	1.15 ± 0.02 1.91 ± 0.02					4.78 ± 0.45	6.42
February	0.46 ± 0.01 1.00 ± 0.02					6.31 ± 0.71	
March	0.99 ± 0.02 1.02 ± 0.02					7.04 ± 0.81	
April	1.61 ± 0.04 1.85 ± 0.04					8.06 ± 0.81	4.92
May	2.66 ± 0.03 2.95 ± 0.03	45.6 ± 0.3 32.1 ± 0.3				9.79 ± 0.82	6.38
June	1.06 ± 0.03 1.03 ± 0.02	30.1 ± 0.3 34.2 ± 0.3				12.60 ± 1.04	3.98
July	1.10 ± 0.02 1.11 ± 0.02	10.5 ± 0.3 15.3 ± 0.2				13.65 ± 1.04	1.90
August	1.21 ± 0.03 1.01 ± 0.03	42.4 ± 0.4 45.8 ± 0.4		28 17		14.76 ± 1.04	2.78
September	0.67 ± 0.02 0.73 ± 0.02	26.3 ± 1.1 24.2 ± 1.0		10 15		15.87 ± 1.06	4.31
October	1.67 ± 0.03 1.61 ± 0.03	73.77 ± 0.48 83.38 ± 0.44		38 41		16.48 ± 1.06	2.66
November	1.38 ± 0.02 1.38 ± 0.02	53.50 ± 0.28 53.11 ± 0.28		21 24		18.12 ± 1.06	4.72
December	0.76 ± 0.03 0.82 ± 0.02	25.74 ± 0.19 21.65 ± 0.16		29 25		19.50 ± 1.06	3.46
				44 52		20.29 ± 1.06	1.08
				39 38			
				34 30			

MONTHLY FALLOUT COLLECTIONS

New York, New York

Sampling Period	milliCuries per square mile at midpoint of sampling period		Sr-89/ Sr-90	Sr-89/ Sr-90 at sampling Midpoint	no W185 ml ² on 6-1-58	W185/ Sr-90 on 6-1-58	Cumulative no Sr-90 ml ²	ppt'n. in inches
	Sr-90	W185						
2-1-54 to 12-31-57							39.27 ± 0.75	3.79
1958 January	1.20 ± 0.05 1.37 ± 0.05			21 17			40.52 ± 0.75	2.98
February	1.23 ± 0.07			13			41.75 ± 0.75	3.19
March	0.94 ± 0.07 0.84 ± 0.07			16 18			42.64 ± 0.75	6.14
April	1.52 ± 0.12(1)			10.5 ± 6(3)			44.17 ± 0.86	3.25
May	2.70 ± 0.07 2.57 ± 0.06			11 10			46.80 ± 0.86	2.55
June	1.84 ± 0.06 1.67 ± 0.05			11 12			50.13 ± 0.91	3.68
July	1.58 ± 0.29(2)			11			50.73 ± 0.91	2.36
August	0.60 ± 0.05(1)			20			51.38 ± 0.92	4.44
September	0.65 ± 0.11(1)			28 ± 1(3)			52.44 ± 0.97	5.46
October	1.06 ± 0.33(1)			53 ± 15(3)			53.31 ± 1.00	1.85
November	0.98 ± 0.21(1)			29 ± 11(3)				1.85
December	1.77 ± 0.48(1)			16 15				
1959 1/13-1/30	1.19 ± 0.13(1)			23 30				

(1) Four analyses.
 (2) Three analyses.
 (3) Two Sr-89 analyses.

MONTHLY FALLOUT COLLECTIONS

Oklahoma, Tulsa Sampling Period	milliouries per square mile at midpoint of sampling period		Sr-89/ Sr-90	Sr-89/ Sr-90 at Sampling Midpoint	no W185 mi ² on 6-1-58	W185 Sr-90 on 6-1-58	Cumulative no Sr-90 mi ²	ppt'n. in inches
	Sr-90	Sr-89						
1958 January	0.35 ± 0.02	5.3 ± 0.7	15				0.35 ± 0.02	1.78
February	0.40 ± 0.02	3.0 ± 0.3	8				0.75 ± 0.03	0.86
March	2.29 ± 0.06	22.7 ± 1.0	10				3.04 ± 0.07	6.14
April	2.84 ± 0.15	34.2 ± 1.1	12				5.88 ± 0.16	4.64
May	2.22 ± 0.67	20.1 ± 0.7	9				8.10 ± 0.69	3.44
June	1.47 ± 0.05	22.1 ± 0.72	15				9.57 ± 0.69	3.08
July	1.92 ± 0.05	169.2 ± 1.03	88				11.49 ± 0.69	3.33
August	1.05 ± 0.03	55.46 ± 0.45	53				12.54 ± 0.69	3.58
September	0.90 ± 0.03	32.7 ± 0.9	36		120 ± 14	133	13.44 ± 0.69	3.61
October	0.20 ± 0.02	4.59 ± 0.35	23		61.1 ± 2.1	306	13.64 ± 0.69	0.21
November	0.47 ± 0.02	3.86 ± 0.23	8				14.11 ± 0.69	1.39
December	0.57 ± 0.03	26.0 ± 1.0	16				14.68 ± 0.69	0.82

MONTHLY FALLOUT COLLECTIONS

Pennsylvania, Pittsburgh	milliCuries per square mile		Sr ⁹⁰	Sr ⁸⁹	Sr ⁸⁹ /Sr ⁹⁰ at midpoint of sampling period	no W185 on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ ml ²	ppt'n. in inches
	at midpoint of sampling period	at midpoint of sampling period							
Sampling Period	Sr ⁹⁰	Sr ⁸⁹	W185	Sr ⁸⁹ /Sr ⁹⁰ at midpoint	no W185 on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ ml ²	ppt'n. in inches	
1957 July 3 through December 31									
1958 January	0.57 ± 0.03	4.4 ± 0.7	---	7	---	---	2.07 ± 0.21	3.40	
	0.57 ± 0.03	4.3 ± 0.5	---	7	---	---	2.64 ± 0.21	1.00	
February	0.29 ± 0.02	3.5 ± 0.5	---	12	---	---	2.95 ± 0.21	3.36	
	0.33 ± 0.03	4.2 ± 0.5	---	12	---	---	3.36 ± 0.21	3.87	
March	0.41 ± 0.02	5.3 ± 0.6	---	12	---	---	4.23 ± 0.50	3.87	
	0.42 ± 0.02	5.1 ± 0.5	---	12	---	---	4.98 ± 0.51	3.00	
April	1.20 ± 0.09	19.6 ± 2.0	---	15	---	---	7.19 ± 0.52	8.47	
	0.54 ± 0.54	7.7 ± 1.3	---	13	---	---	9.22 ± 0.56	5.33	
May	0.76 ± 0.04	8.4 ± 0.8	2.30	11	2.30	2.30	10.67 ± 0.57	4.34	
	0.73 ± 0.04	9.7 ± 0.8	1.35 ± 0.43	13	1.35 ± 0.43	1.35 ± 0.43	11.26 ± 0.57	3.13	
June	2.28 ± 0.14	34. ± 3.	6.73 ± 0.82	15	6.73 ± 0.82	3	12.38 ± 0.57	4.01	
	2.15 ± 0.12	36 ± 3	7.96 ± 0.82	17	7.96 ± 0.82	4	13.04 ± 0.57		
July	1.89 ± 0.09	96 ± 8	73.0 ± 2.7	51	73.0 ± 2.7	59	14.29 ± 0.57		
	2.16 ± 0.12	90 ± 6	73.0 ± 2.7	42	73.0 ± 2.7	51			
August	1.44 ± 0.08	43 ± 4	36.1 ± 1.3	30	36.1 ± 1.3	51			
	1.47 ± 0.12	40 ± 3	36.8 ± 1.3	27	36.8 ± 1.3	51			
September	0.59 ± 0.03	18.3 ± 0.8	19.2 ± 1.0	31	19.2 ± 1.0	88			
	0.59 ± 0.03	15.9 ± 0.7	16.0 ± 0.7	27	16.0 ± 0.7	73			
October	0.48 ± 0.02	16.7 ± 0.7	17.5 ± 0.8	35	17.5 ± 0.8	130			
	0.49 ± 0.02	14.2 ± 0.8	lost	29	lost	---			
November	0.66 ± 0.04	24.8 ± 2.0	8.1 ± 0.4	38	8.1 ± 0.4	60			
	0.62 ± 0.03	24.7 ± 1.2	11.1 ± 0.6	40	11.1 ± 0.6	87			
December	0.65 ± 0.03	19.5 ± 1.8	4.7 ± 0.3	30	4.7 ± 0.3	42			
	0.67 ± 0.03	19.0 ± 0.8	5.6 ± 0.3	28	5.6 ± 0.3	49			
1959 January	1.38 ± 0.06	34.5 ± 1.2	5.7 ± 0.3	25	5.7 ± 0.3	34			
	1.12 ± 0.05	34.0 ± 1.8	11.8 ± 0.4	30	11.8 ± 0.4	88			

MONTHLY FALLOUT COLLECTIONS

South Dakota, Vermillion

Sampling Period	millieuries per square mile at midpoint of sampling period		Sr-90 at sampling midpoint	no W185 mi ² on 6-1-58	W185 Sr-90 on 6-1-58	Cumulative no Sr-90 mi ²	ppt'n. in inches
	Sr-90	W185					
1957 April through December						9.18 ± 0.19	
1958 January	0.08 ± 0.01	1.39 ± 0.4	17			9.26 ± 0.19	0.22
February	0.38 ± 0.02	5.5 ± 0.5	13			9.64 ± 0.19	2.13
March	0.20 ± 0.01	2.79 ± 0.3	13			9.84 ± 0.19	0.52
April	2.54 ± 1.00	31.0 ± 1.0	12			12.38 ± 0.19	3.15
May	2.28 ± 0.06	36.0 ± 1.0	16			14.66 ± 0.21	1.85
June	0.16 ± 0.02	0.87 ± 0.04	5			14.82 ± 0.21	1.09
July	2.42 ± 0.08	75.94 ± 1.39	31			17.24 ± 0.22	4.47
August	0.50 ± 0.02	24.60 ± 0.50	49			17.74 ± 0.22	0.19
September	0.29 ± 0.02	12.5 ± 0.4	43	14.8 ± 2.4	51	18.03 ± 0.23	0.88
October	0.06 ± 0.01	1.37 ± 0.15	23	10.4 ± 1.4	173	18.09 ± 0.23	0
November	0.74 ± 0.04	34.8 ± 1.0	47	56.6 ± 2.4	76	18.83 ± 0.23	0.94
December	0.21 ± 0.03	7.82 ± 0.32	37	26.1 ± 5.5	124	19.04 ± 0.23	0.07

1959 January sample started first week April '59

MONTHLY FALLOUT COLLECTIONS

Texas, Houston	Sampling Period	milliouries per square mile at midpoint of sampling period		Sr89/Sr90 at sampling midpoint	no W185 on 6-1-58	W185/Sr90 on 6-1-58	Cumulative no Sr90/mi ²	ppt'n. in inches
		Sr90	Sr89					
1958 May		0.37 ± 0.01	3.6 ± 0.1	10	---	---	0.38 ± 0.01	1.55
		0.38 ± 0.02	3.4 ± 0.2	9	---	---	1.08 ± 0.32	2.10
June		0.67 ± 0.03	15.6 ± 0.3	23	---	---	1.63 ± 0.52	1.94
		0.74 ± 0.02	18.7 ± 0.3	23	lost ± 1	22.7 ± 1.1	2.24 ± 0.52	6.44
July		0.62 ± 0.02	41.0 ± 0.7	66	56 ± 1	84.8 ± 1.5		
		0.48 ± 0.02	31.5 ± 0.5	66	55 ± 1	83.3 ± 1.5		
8-1 to 9-8		0.61 ± 0.02	32 ± 1	53	80 ± 1	168 ± 2		
		0.61 ± 0.02	37 ± 1	61	82 ± 2	173 ± 4		

MONTHLY FALLOUT COLLECTIONS

Utah, Salt Lake City

Sampling Period	millicuries per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at sampling midpoint	no W185 mi ² on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ mi ²	ppt'n. in inches
	Sr ⁹⁰	W185					
1956 December through 1957 December							
1958 January	0.70 ± 0.05	10.7 ± 1.0	15			13.06 ± 0.19	0.87
February	1.10 ± 0.04	13.9 ± 1.7	13			13.76 ± 0.19	2.20
March	1.47 ± 0.08	16.5 ± 0.4	32			14.86 ± 0.20	2.19
April	2.10 ± 0.05	26.9 ± 0.3	13			16.33 ± 0.22	2.92
May	1.30 ± 0.06	15.8 ± 0.8	12			18.43 ± 0.22	0.30
June	0.28 ± 0.02	3.26 ± 0.20	12			19.73 ± 0.23	0.04
July	0.0603 ± 0.003	6.44 ± 0.35	107			20.01 ± 0.23	0.05
August	0.71 ± 0.11	31.55 ± 0.64	44			20.07 ± 0.23	0.23
September						20.78 ± 0.26	0.25
October	0.10 ± 0.03	4.68 ± 0.32	47	11.9 ± 1.7	119		trace
November	0.25 ± 0.02	4.04 ± 0.18	16				1.13
12/12-1/12/59	3.07 ± 0.15	131 ± 2	43	107 ± 3	35		0.54

sample started first week April '59

1959 January

MONTHLY FALLOUT COLLECTIONS

Australia, Darwin	millicuries per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at Sampling Midpoint	no W185 ml on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ ml ²	ppt'n. in inches
	Sr ⁹⁰	Sr ⁸⁹					
1958 July	0.43 ± 0.01	5.71 ± 0.11	13	6.86 ± 1.64	172	0.43 ± 0.01	0.12
August	0.04 ± 0.01	0.91 ± 0.18	23	3.8 ± 1.3	3	0.47 ± 0.01	0.01*
September	1.24 ± 0.04	53.2 ± 1.3	43	23.7 ± 1.9	91		0
October	0.26 ± 0.02	6.34 ± 0.32	24	25.6 ± 1.5	95		5.07
November	0.27 ± 0.02	20.6 ± 0.7	76	36.0 ± 2.1			7.16*
December		5.40 ± 0.31					

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Australia, Melbourne

Sampling Period	milliouries per square mile at midpoint of sampling period		Sr-89/Sr-90 at Sampling Midpoint	no W185 mi ² on 6-1-58	W185 Sr-90 on 6-1-58	Cumulative no Sr-90 mi ²	ppt'n. in inches
	Sr-90	Sr-89					
1958 June	0.08 ± 0.01	0.20 ± 0.05	3			0.08 ± 0.01	
July	0.05 ± 0.01	1.07 ± 0.06	21			0.13 ± 0.01	
August	0.18 ± 0.01	2.22 ± 0.40	12	6.3 ± 1.8	17	0.31 ± 0.02	3.19*
September	0.24 ± 0.02	6.64 ± 0.32	28	11.5 ± 0.8	48	0.55 ± 0.03	3.12
October	0.45 ± 0.03	8.92 ± 0.33	20	27.4 ± 1.4	61	1.00 ± 0.04	3.90
November	2nd milk by middle of April '59						
December	sample started first week April '59						
1959 January	sample not started 1st week April '59						

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Australia, Perth	Sampling Period	milliouries per square mile at midpoint of sampling period		Sr 89/Sr 90 at sampling midpoint	no W185 mi ² on 6-1-58	W185 Sr 90 on 6-1-58	Cumulative no Sr 90 mi ²	ppt'n. in inches
		Sr 90	Sr 89					
1958	6/11-7/1	0.093 ± 0.003	0.83 ± 0.4	9			0.093 ± 0.003	16.38
	July	0.156 ± 0.001	2.40 ± 0.06	15	10.4 ± 1.6	58	0.43 ± 0.01	2.66*
	August	0.18 ± 0.01	7.18 ± 1.44	40	14.2 ± 1.7	43	0.76 ± 0.02	0.20
	September	0.33 ± 0.02	10.2 ± 0.4	31	5.5 ± 1.3	50	0.87 ± 0.03	2.73
	October	0.11 ± 0.02	2.23 ± 0.27	20	14.0 ± 1.7	127	0.98 ± 0.06	0.39
	November	0.11 ± 0.02	1.90 ± 0.17	17	16.2 ± 1.9			0.49*
	December		2.88 ± 0.34					
	1959 January		2.44 ± 0.28					

sample not started 1st week April '59

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Australia, Sydney	Sampling Period	milliCuries per square mile at midpoint of sampling period		Sr ⁹⁰ / Sr ⁸⁹	Sr ⁸⁹ / Sr ⁹⁰ at Sampling Midpoint	no W185 ml 2 on 6-1-58	W185 / Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ / ml ²	ppt'n. in inches
		Sr ⁹⁰	W185						
1958	6/3-7/1	0.34 ± 0.02		0.32 ± 0.08	1			0.34 ± 0.02	1.17
	July	0.26 ± 0.01		6.06 ± 0.13	23	21.0 ± 2.0	148	0.60 ± 0.02	3.71*
	August	0.44 ± 0.02	19 ± 1	10.3 ± 1.0	43	4.1 ± 1.9	16	1.04 ± 0.03	1.17
	September	0.25 ± 0.02	(-) 0.47 ± 0.13	1.51 ± 0.71	--	16.4 ± 1.2	68	1.29 ± 0.04	2.34
	October	0.24 ± 0.02	6.13 ± 0.28	4.59 ± 0.34	26	19.1 ± 1.8	91	1.53 ± 0.04	0.78
	November	0.21 ± 0.02	3.17 ± 0.19	3.91 ± 0.37	15	24.2 ± 2.9		1.74 ± 0.04	5.84*
	December			3.63 ± 0.43					

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

<u>Australia, Townsville</u>		milliouries per square mile at midpoint of sampling period		<u>Sr99</u>	<u>Sr90</u>	<u>Sr99/Sr90</u> at Sampling Midpoint	<u>no W185</u> mi ² on 6-1-58	<u>W185</u> Sr90 on 6-1-58	<u>Cumulative</u> no Sr90 mi ²	<u>ppt'n. in</u> inches
1958	6/6-7/1	0.25 ± 0.01	3.93 ± 0.04			16			0.25 ± 0.01	0
	July	0.10 ± 0.01	0.43 ± 0.02			4			0.35 ± 0.01	0.07*
	August	0.07 ± 0.02	0.90 ± 0.13	3.59 ± 0.82		13	7.18 ± 1.64	103	0.42 ± 0.02	0.23
	September	lost								0.12
	October	0.06 ± 0.03	1.14 ± 0.34	6.75 ± 0.48		19	24.1 ± 1.7			1.17
	November	2nd milk by middle of April '59								3.49*
	December			2.40 ± 0.35			16.0 ± 2.3			
1959	January									

sample not started first week April '59

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Australia, Brisbane	Sampling Period	millicuries per square mile at midpoint of sampling period		Sr89/Sr90 at sampling midpoint	mc W185 / mi ² on 6-1-58	W185 Sr90 on 6-1-58	Cumulative mc Sr90 / mi ²	ppt'r in inches	
		Sr90	W185						
1958	June	0.053 ± 0.008	2.25 ± 0.07	42			0.053 ± 0.03	0	
	July	0.011 ± 0.001	0.00 ± 0.004	--	9.2 ± 2.0	58	0.064 ± 0.03	1.65*	
	August	0.16 ± 0.01	7.39 ± 0.54	46	16.2 ± 1.6	56	0.227 ± 0.033	1.95	
	September	0.29 ± 0.02	8.72 ± 0.36	30	84.6 ± 2.5	90	0.517 ± 0.039	1.56	
	October	0.95 ± 0.04	58.4 ± 1.3	61			1.417 ± 0.056	1.56	
	November	2nd milk middle of April '59							1.17
	December	sample started first week April '59							

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Australia, Adelaide	milliouries per square mile at midpoint of sampling period		Sr ⁸⁹ / Sr ⁹⁰	Sr ⁸⁹ / Sr ⁹⁰ at sampling midpoint	mc W185 ml on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative mc Sr ⁹⁰ ml ²	ppt'n. in inches
	Sr ⁹⁰	W185						
1958 6/6-7/1	0.036 ± 0.011	0.66 ± 0.04	18				0.04 ± 0.01	3.12
July	0.16 ± 0.01	2.22 ± 0.06	14		17.7 ± 2.0	54	0.20 ± 0.02	1.17
August	0.33 ± 0.02	14.8 ± 0.9	45	8.65 ± 0.98	19.5 ± 1.2	38	0.53 ± 0.02	2.35*
September	0.50 ± 0.03	8.95 ± 0.39	18	7.23 ± 0.44	40.0 ± 1.8	56	1.03 ± 0.04	3.00*
October	0.71 ± 0.04	13.0 ± 0.4	18	11.2 ± 0.5			1.74 ± 0.05	2.34
November	0.21 ± 0.03	2.88 ± 0.25	14				1.95 ± 0.06	0.25
December				2.41 ± 0.78				

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Washington, Seattle Sampling Period	milliCuries per square mile at midpoint of sampling period		Sr ⁹⁰ / Sr ⁹⁰	Sr ⁸⁹ / Sr ⁹⁰ at sampling midpoint	no W185 ml on 6-1-58	W185 Sr ⁹⁰ on 6-1-58	Cumulative no Sr ⁹⁰ ml	ppt'n. in inches
	Sr ⁹⁰	W185						
1958 4/18-30	0.51 ± 0.01	7.45 ± 0.15		15			0.51 ± 0.01	1.34
May	2.12 ± 0.06	12.3 ± 0.36		6			2.63 ± 0.06	0.92
June	0.57 ± 0.05	14.75 ± 0.40		26			3.20 ± 0.08	0.72
July	0.040 ± 0.003	0.16 ± 0.04		4			3.24 ± 0.08	trace
8/1-9/3	0.158 ± 0.014	1.22 ± 0.05		8			3.40 ± 0.08	0.32
September	0.50 ± 0.03	24.6 ± 0.7	87.4 ± 6.6	49	236 ± 18	472	3.90 ± 0.08	1.47
October	0.64 ± 0.03	30.8 ± 0.7	7.77 ± 0.56	48	27.8 ± 2.0	43	4.04 ± 0.09	3.12
November	sample lost at site							6.53
December	1.62 ± 0.09	202 ± 3	9.50 ± 0.35	125	55.9 ± 2.1	35		5.51
1959 January			16.4 ± 0.5		126 ± 4			

MONTHLY FALLOUT COLLECTIONS

Austria, Klagenfurt Sampling Period	milliouries per square mile at midpoint of sampling period		Sr 89/Sr 90 at Sampling Midpoint	mc W185 ml on 6-1-58	W185 Sr 90 on 6-1-58	Cumulative mc Sr 90 ml ²	ppt'n. in 100lbs
	Sr 90	Sr 89					
1957 August through December						1.90 ± 0.06	
1958 January	0.13 ± 0.01	3.1 ± 0.4	24			2.03 ± 0.06	2.73
February	0.17 ± 0.02	1.6 ± 0.2	10			2.20 ± 0.07	2.74
March	1.15 ± 0.05	33 ± 0.7	29			3.35 ± 0.08	1.56
April	1.26 ± 0.06	23 ± 1.0	18			4.61 ± 0.11	1.56
May	0.49 ± 0.03	8.7 ± 0.3	18			5.10 ± 0.11	8.19
June			6				5.07
July	3.51 ± 0.12	19.34 ± 0.72	27	71.2 ± 3.1	31		6.63
August	2.28 ± 0.06	62.0 ± 1.8	26	71.4 ± 2.7	89		2.73
September	0.80 ± 0.04	20.7 ± 0.8	22	11.4 ± 0.1	63		3.12
October	0.66 ± 0.03	14.4 ± 0.5	52	39.0 ± 2.1	85		3.90
November	0.46 ± 0.02	23.7 ± 0.7		34.8 ± 2.7			3.51
December							

MONTHLY FALLOUT COLLECTIONS

Austria, Vienna	milliouries per square mile at midpoint of sampling period		Sr89/Sr90 at Sampling Midpoint	no W185 ml2 on 6-1-58	W185 Sr90 on 6-1-58	Cumulative mc Sr90 ml2	ppt'n. in inches
	Sr90	W185					
1957 June through December						4.14 ± 0.11	
1958 January	0.16 ± 0.01	4.0 ± 0.5	25			4.30 ± 0.11	1.17
February	0.27 ± 0.02	3.9 ± 0.7	14			4.57 ± 0.11	2.34
March	0.35 ± 0.01	5.4 ± 0.2	15			4.92 ± 0.11	2.73
April	0.71 ± 0.05	12.7 ± 0.9	18			5.63 ± 0.12	
May	0.692 ± 0.034	11.5 ± 0.4	17			6.32 ± 0.12	0.78
June	3.13 ± 0.08	2.8 ± 0.4	1			9.45 ± 0.15	5.85
July	1.07 ± 0.03	13.29 ± 0.45	12			10.52 ± 0.15	1.95
August	1.84 ± 0.09	37.2 ± 1.6	20	74.1 ± 3.7	40	12.36 ± 0.18	3.90
September	0.02 ± 0.02	8.26 ± 0.38	413 ?	4.1 ± 2.2	76	12.38 ± 0.18	0.78
October	0.76 ± 0.04	24.6 ± 0.8	34	46.4 ± 2.9	61	13.14 ± 0.18	2.73
November	0.48 ± 0.04	20.1 ± 0.7	42	28.0 ± 1.1	58	13.62 ± 0.18	1.17
December		6.92 ± 0.53		46.1 ± 3.5			2.73

MONTHLY FALLOUT COLLECTIONS

Sampling Period	Brazil, Itaipol, State of São Paulo milliouries per square mile at midpoint of sampling period		Sr90 Sr89	Sr89/Sr90 at Sampling Midpoint	no W185 m ² on 6-1-58	W185 Sr90 on 6-1-58	Cumulative no Sr90 m ²	ppt'n. in inches
	Sr90	W185						
1958 August	0.262 ± 0.019	16.3 ± 1.0	14.1 ± 1.2	62			0.262 ± 0.019	
September		Sample at NSEC			22.7 ± 6.0	45	0.76 ± 0.04	
October	0.50 ± 0.03	16.4 ± 0.6	6.35 ± 1.67	33	14.0 ± 1.3	39	1.12 ± 0.05	
November	0.36 ± 0.03	25.4 ± 1.0	3.52 ± 0.33	71				

MONTHLY FALLOUT COLLECTIONS

Brasil, Nova Friburgo, State of Rio

millicuries per square mile
at midpoint of sampling period

Sr90 Sr89 W185

Sampling Period

1958 8/3-8/29	0.14 ± 0.02	2.91 ± 0.43	21	no W185 mi ² on 6-1-58	no Sr90 mi ²	Cumulative no Sr90 mi ²	ppt'n. in inches
September	0.48 ± 0.03	31.1 ± 0.9	65	58.9 ± 2.7		0.62 ± 0.04	
October	0.83 ± 0.03	13.1 ± 0.4	16	95.4 ± 2.8		1.45 ± 0.05	

November

MONTHLY FALLOUT COLLECTIONS

Brazil, São José dos Campos, State of São Paulo

millicuries per square mile
at midpoint of sampling period

Sampling Period	at midpoint of sampling period		Sr-90/Sr-90 at Sampling Midpoint	mc W185/mi ² on 6-1-58	W185/Sr-90 on 6-1-58	Cumulative mc Sr-90/mi ²	ppt'n. in inches
	Sr-90	W185					
1958 July	0.12 ± 0.02	6.1 ± 1.0	24	9.4 ± 1.5	78		
August							
September		14.5 ± 1.2		39.1 ± 3.2			
October	0.62 ± 0.03	7.34 ± 0.80	59	26.2 ± 2.9	42		
November	0.48 ± 0.03	9.39 ± 0.50	20				

MONTHLY FALLOUT COLLECTIONS

Columbia, Bogota

milliouries per square mile
at midpoint of sampling period

Sampling Period	<u>Sr90</u>	<u>Sr89</u>	<u>Sr89/Sr90 at Sampling Midpoint</u>	<u>mc W185 mi² on 6-1-58</u>	<u>W185 Sr90 on 6-1-58</u>	<u>Cumulative mc Sr90 mi²</u>	<u>ppt'n. in inches</u>
1958 January	0.04 ± 0.01	0.49 ± 0.1	12			0.10 ± 0.02	0.35
February	0.04 ± 0.01	0.58 ± 0.2	15			0.14 ± 0.02	0.61
March	0.12 ± 0.01	0.46 ± 0.04	4			0.26 ± 0.02	1.79
April	0.025 ± 0.02	0.82 ± 0.29	33			0.29 ± 0.03	2.89
May	0.12 ± 0.01	1.55 ± 0.10	13			0.41 ± 0.03	1.05
June	0.02 ± 0.03	2.66 ± 0.04	133 †			0.43 ± 0.03	
July	0.10 ± 0.01	4.40 ± 0.11	43	19.1 ± 1.4	96	0.53 ± 0.10	
August	0.20 ± 0.02	18.4 ± 0.6	92	8.1 ± 1.3	14	0.73 ± 0.12	
September	0.06 ± 0.02	4.31 ± 0.32	72	20.4 ± 1.5	227 †	0.79 ± 0.13	
October	0.09 ± 0.02	3.75 ± 0.34	416 †			0.88 ± 0.13	
November	0.10 ± 0.02	4.38 ± 0.27	44			0.98 ± 0.13	
December							

sample not started first week April '59

MONTHLY FALLOUT COLLECTIONS

<u>Japan, Hiroshima</u>		milliouries per square mile at midpoint of sampling period		Sr89 / Sr90 at Sampling Midpoint		no W185 m ² on 6-1-58		W185 / Sr90 on 6-1-58		Cumulative no Sr90 m ²		ppt'n. in inches	
<u>Sampling Period</u>	<u>Sr90</u>	<u>Sr89</u>	<u>W185</u>										
1956 August through December 1957													
1958 January	0.24 ± 0.04	5.4 ± 0.7		23						5.80 ± 0.12		2.65	
February	0.25 ± 0.01	2.9 ± 0.3		12						6.04 ± 0.13		2.95	
March	0.92 ± 0.06	10.5 ± 1.0		11						6.29 ± 0.13		4.88	
April	3.37 ± 0.02	36.0 ± 0.9		10						7.21 ± 0.14		10.49	
May	1.06 ± 0.06	14.1 ± 0.8		14						10.58 ± 0.14		3.74	
June	0.64 ± 0.02	6.69 ± 0.24		11						11.64 ± 0.15		3.98	
July	0.43 ± 0.02	0.000 ± 0.003		--						12.28 ± 0.15		6.90	
August	2.66 ± 0.07	44.9 ± 0.6		17						12.71 ± 0.15		9.87	
September	0.42 ± 0.03	22.0 ± 0.7	26.5 ± 1.1	52			71.6 ± 3.0	63		15.37 ± 0.17		3.59	
October	0.79 ± 0.03	37.8 ± 0.9	1.03 ± 0.27	48			3.7 ± 1.0	5		15.79 ± 0.17		4.88	
November	0.71 ± 0.04	5.85 ± 0.37		8						16.58 ± 0.17		2.38	
December	0.57 ± 0.08	35.6 ± 0.8		62						17.29 ± 0.18		1.95	
1959 January										17.86 ± 0.19			

sample started first week April '59

MONTHLY FALLOUT COLLECTIONS

Japan, Nagasaki

Sampling Period	milliCuries per square mile at midpoint of sampling period		Sr-90/Sr-90 at Sampling Midpoint	mc W185 / ml ² on 6-1-58	W185 / Sr-90 on 6-1-58	Cumulative mc Sr-90 / ml ²	ppt'n. in inches
	Sr-90	Sr-89					
1956 August through December 1957						7.90 ± 0.15	
1958 January	0.60 ± 0.05	9.9 ± 1.5	16			8.50 ± 0.16	2.50
February	0.55 ± 0.03	6.0 ± 0.8	11			9.05 ± 0.16	2.77
March	1.13 ± 0.06	15.8 ± 1.2	14			10.18 ± 0.17	5.38
April	2.52 ± 0.07	38.7 ± 1.2	15			12.70 ± 0.19	14.94
May	1.75 ± 0.06	7.2 ± 0.7	4			14.45 ± 0.20	7.29
June	0.88 ± 0.11	30.6 ± 1.1	35			15.33 ± 0.23	5.93
July	2.10 ± 0.05	180.7 ± 0.9	86			17.43 ± 0.23	1.33
August	0.50 ± 0.03	29.9 ± 0.6	60			17.93 ± 0.23	14.27
September	0.26 ± 0.03	13.5 ± 0.5	52	46.8 ± 3.0	180	18.19 ± 0.24	2.77
October	0.55 ± 0.03	24.0 ± 0.7	44	45.0 ± 2.1	82	18.74 ± 0.24	6.67
November	0.61 ± 0.03	29.3 ± 0.9	48	35.7 ± 2.2		19.35 ± 0.24	2.11
December		25.1 ± 0.8		167.3 ± 5.3			
1959 January		13.6 ± 0.6		113.3 ± 5.0			3.86

MONTHLY FALLOUT COLLECTIONS

Kenya, Kibuyu

Sampling Period	millicuries per square mile at midpoint of sampling period		Sr-89/Sr-90 at Sampling Midpoint	no W185 ml/2 on 6-1-58	W185/Sr-90 on 6-1-58	Cumulative no Sr-90 ml/2	Ppt'n. in inches
	Sr-90	Sr-89					
1957 January through December						1.30 ± 0.07	
1958 January	0.03 ± 0.01	0.71 ± 0.35	24			1.33 ± 0.07	0.90*
February	0.14 ± 0.03	1.64 ± 0.21	12			1.47 ± 0.08	5.46*
March	0.22 ± 0.01	1.08 ± 0.04	5			1.69 ± 0.08	3.41*
April	0.13 ± 0.01	0.75 ± 0.16	6			1.82 ± 0.08	4.79*
May	0.90 ± 0.05	4.92 ± 0.06	5			2.72 ± 0.10	11.82*
June	0.22 ± 0.01	6.6 ± 0.2	30			2.94 ± 0.10	
July	0.26 ± 0.01	12.6 ± 0.2	48			3.20 ± 0.10	
August	0.13 ± 0.01	3.1 ± 0.1	24			3.33 ± 0.10	
September	0.07 ± 0.05	3.50 ± 0.91	50	9.7 ± 1.2	139	3.40 ± 0.11	
October	0.25 ± 0.02	6.46 ± 0.23	26	9.8 ± 1.2	39	3.65 ± 0.11	
November	0.15 ± 0.03	5.48 ± 0.27	37	14.3 ± 2.6		3.80 ± 0.11	
December	2nd milk middle of April '59						2.54*
1959 January	sample not started first week April '59						

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Pakistan, Karachi

Sampling Period	millicuries per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at Sampling Midpoint	mc W185 / ml ² on 6-1-58	W185 / Sr ⁹⁰ on 6-1-58	Cumulative mc Sr ⁹⁰ / ml ²	ppt'n. in inches
	Sr ⁹⁰	W185					
1958 February	0.02 ± 0.01	0.91 ± 0.18	45			0.02 ± 0.01	0.39
March	0.07 ± 0.00	0.28 ± 0.02	40			0.09 ± 0.01	0
April	0.13 ± 0.01	0.50 ± 0.03	4			0.22 ± 0.01	0
May	0.39 ± 0.01	0.96 ± 0.03	3			0.61 ± 0.02	0
June	0.07 ± 0.01	0.92 ± 0.05	13			0.68 ± 0.02	0
July	0.29 ± 0.02	15.4 ± 1.0	53	8.2 ± 1.5	7	0.97 ± 0.03	
August	0.15 ± 0.04	4.70 ± 0.57	31			1.12 ± 0.05	
September	0.56 ± 0.03	34.2 ± 0.8	61			1.68 ± 0.06	
October	0.06 ± 0.01	0.93 ± 0.24	16			1.74 ± 0.06	
November	0.04 ± 0.02	0.35 ± 0.16	9			1.78 ± 0.06	0
December				74.0 ± 4.7			0.04
		11.1 ± 0.7					

MONTHLY FALLOUT COLLECTIONS

<u>Senegal, Dakar</u>	<u>Sampling Period</u>	$\frac{\text{Sr}90}{\text{Sr}89}$	$\frac{\text{milliCuries per square mile at midpoint of sampling period}}{\text{Sr}89}$	$\frac{\text{Sr}89/\text{Sr}90 \text{ at Sampling Midpoint}}{\text{Sr}89}$	$\frac{\text{no W185 ml}^2 \text{ on 6-1-58}}{\text{Sr}90}$	$\frac{\text{Cumulative no Sr90 ml}^2}{\text{Sr}90}$	$\frac{\text{ppt'n. in inches}}{\text{Sr}90}$
1958	7/5-8/4	0.23 ± 0.02	0.000 ± 0.003			0.23 ± 0.02	0
	8/4-9/4	0.033 ± 0.003	0.000 ± 0.004			0.26 ± 0.02	0
	9/5-10/5						
	10/5-11/5						
	11/5-12/5						
	12/5-1/5/59			21.9 ± 0.9	59.2 ± 2.4		

NORTHELY FALLOUT COLLECTIONS

Southern Rhodesia, Salisbury

Sampling Period	milliouries per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at Sampling Midpoint	mc W185 / ml ² on 6-1-58	W185 / Sr ⁹⁰ on 6-1-58	Cumulative mc Sr ⁹⁰ / ml ²	ppt'n. in inches
	Sr ⁹⁰	Sr ⁸⁹					
1957 November through December						0.21 ± 0.02	
1958 January	0.10 ± 0.01	0.39 ± 0.13	4			0.31 ± 0.02	5.87
February	0.04 ± 0.01	0.23 ± 0.05	5			0.35 ± 0.02	8.98
March	0.02 ± 0.01	0.13 ± 0.03	7			0.37 ± 0.03	0.57
April	0.16 ± 0.01	2.82 ± 0.02	18			0.53 ± 0.03	1.87
May	0.55 ± 0.04					1.08 ± 0.05	trace
June	0.02 ± 0.003	0.19 ± 0.02	9			1.10 ± 0.05	
July	0.02 ± 0.003	0.27 ± 0.03	14			1.12 ± 0.05	
August	0.05 ± 0.004	0.000 ± 0.004				1.17 ± 0.05	
September	0.17 ± 0.02	12.1 ± 0.4	71	24.9 ± 1.5	146	1.34 ± 0.05	
October	0.43 ± 0.03	13.6 ± 0.8	32	35.0 ± 2.2	81	1.77 ± 0.06	
November	0.35 ± 0.04	4.28 ± 0.21	12	40.4 ± 1.6	115	2.12 ± 0.07	
December	0.41 ± 0.03	3.82 ± 0.24	9	54.5 ± 2.3	133	2.53 ± 0.08	4.67

1959 January sample not started first week April '59

MONTHLY FALLOUT COLLECTIONS

Taiwan, Tainan

Sampling Period	Sr90 ± 0.01	milliCuries per square mile at midpoint of sampling period	W185 ± 0.01	Sr89/Sr90 at Sampling Midpoint	mc W185 mi ² on 6-1-58	W185 Sr90 on 6-1-58	Cumulative mc Sr90 mi ²	ppt'n. in inches
1958 January	0.03 ± 0.01	0.75 ± 0.14		25			0.03 ± 0.01	0.86
February	0.07 ± 0.01	0.87 ± 0.12		12			0.10 ± 0.01	0.77
March	0.19 ± 0.02	1.91 ± 0.19		10			0.29 ± 0.02	3.49
April	0.05 ± 0.00	0.62 ± 0.01		12			0.34 ± 0.02	0.15
May	0.412 ± 0.024	23.8 ± 0.56		58			0.75 ± 0.03	4.92
June	0.22 ± 0.02	10.3 ± 0.6		47			0.97 ± 0.04	3.74
July	1.01 ± 0.02	66.0 ± 0.4		65			1.98 ± 0.04	28.21
August	0.30 ± 0.01	3.0 ± 0.1		10			2.28 ± 0.05	
September	0.37 ± 0.02	18.4 ± 0.5	6.88 ± 0.40	50	18.6 ± 1.1	50	2.65 ± 0.05	
October	± 0.02	1.58 ± 2.84	2.49 ± 0.40	158 †	8.9 ± 1.4	890 †	2.66 ± 0.05	
November	± 0.02	1.10 ± 2.48	0.06 ± 0.05	110 †	0.24 ± 0.20	24 †	2.67 ± 0.05	
December			10.0 ± 1.0		66.6 ± 6.7			
Yearly Total			1.24 ± 0.20		10.3 ± 1.7			

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

<u>Taiwan, Taipei</u>	<u>Sr90</u>	<u>milliCuries per square mjd</u> <u>at midpoint of sampling period</u>	<u>Sr89</u>	<u>W185</u>	<u>Sr89/Sr90</u> <u>at Sampling</u> <u>Midpoint</u>	<u>mc W185</u> <u>ml 2</u> <u>on 6-1-58</u>	<u>W185</u> <u>Sr90</u> <u>on 6-1-58</u>	<u>Cumulative</u> <u>mc Sr90</u> <u>ml 2</u>	<u>ppt'n. in</u> <u>inches</u>
1958 February	0.15 ± 0.01	1.4 ± 0.2	1.4 ± 0.2		9			0.15 ± 0.01	9.57*
March	0.10 ± 0.01	1.4 ± 0.02	1.4 ± 0.02		14			0.25 ± 0.01	5.40*
April	0.57 ± 0.01	6.3 ± 0.3	6.3 ± 0.3		11			0.82 ± 0.02	2.24*
May	0.31 ± 0.03	11.4 ± 0.3	11.4 ± 0.3		37			1.13 ± 0.03	4.13*
June	1.01 ± 0.03	34.6 ± 0.7	34.6 ± 0.7		34			2.14 ± 0.04	8.49*
July	0.07 ± 0.01	22.9 ± 0.3	22.9 ± 0.3		327 ?			2.21 ± 0.05	20.43*
August	0.57 ± 0.02	22.3 ± 0.3	22.3 ± 0.3	18.7 ± 0.7	51	50.5 ± 1.9	220	3.01 ± 0.05	7.02
September	0.23 ± 0.02	10.8 ± 0.4	10.8 ± 0.4	16.6 ± 0.6	54	59.3 ± 2.1	74	3.81 ± 0.06	3.51
October	0.80 ± 0.03	43.4 ± 1.2	43.4 ± 1.2	17.2 ± 0.5	44	83.9 ± 2.4	74	4.94 ± 0.13	1.95
November	1.13 ± 0.12	149.7 ± 1.3	149.7 ± 1.3	18.2 ± 0.5	32	107.1 ± 2.9	53	6.95 ± 0.20	5.85
December	2.01 ± 0.15	63.2 ± 1.4	63.2 ± 1.4	13.9 ± 0.5		115.8 ± 4.1			
1959 January									

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Taiwan, Taibung

Sampling Period	millieuries per square mile at midpoint of sampling period		Sr99/Sr90 at Sampling Midpoint	mc W185 ml2 on 6-1-58	W185 Sr90 on 6-1-58	Cumulative mc Sr90 ml2	ppt'n. in inches
	Sr90	Sr89					
1958 April	0.22 ± 0.01	2.29 ± 0.13	10			0.22 ± 0.01	1.17
May	0.184 ± 0.023	4.6 ± 0.2	25			0.40 ± 0.02	6.86
June	0.57 ± 0.06	32.1 ± 1.0	56			0.97 ± 0.07	4.30
July	0.45 ± 0.02	23.4 ± 0.3	51			1.42 ± 0.07	15.73
August	0.07 ± 0.004	0.04 ± 0.02	1			1.49 ± 0.07	
September	0.22 ± 0.02	8.86 ± 0.46	40	72.2 ± 4.6	328	1.71 ± 0.07	
October				23.9 ± 1.5	298		
November	0.08 ± 0.02	3.97 ± 0.21	50				
December	2nd milk by middle of April '59			37.5 ± 3.4			
1959 January							

* Data reported by stations.

MONTHLY FALLOUT COLLECTIONS

Tasmania, Hobart	Sampling Period	milliCuries per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at Sampling Midpoint	mo W185 / ml ² on 6-1-58	W185 / Sr ⁹⁰ on 6-1-58	Cumulative mo Sr ⁹⁰ / ml ²	ppt'n. in inches
		Sr ⁹⁰	W185					
1958	6/13-7/1	0.08 ± 0.02	0.17 ± 0.03	2.2			0.08 ± 0.02	
	July	1.07 ± 0.10	0.000 ± 0.004	32	8.4 ± 2.1	42	1.15 ± 0.10	
	August	0.20 ± 0.01	6.51 ± 0.42	24	5.4 ± 0.7	68	1.35 ± 0.10	
	September	0.08 ± 0.02	1.96 ± 0.19	14	7.3 ± 0.8	21	1.43 ± 0.10	
	October	0.34 ± 0.02	4.69 ± 0.25	15			1.77 ± 0.11	
	November	0.29 ± 0.03	4.15 ± 0.31		45.3 ± 0.3			5.14
	December		6.80 ± 0.39					

MONTHLY FALLOUT COLLECTIONS

Thailand, Bangkok	Sampling Period	milli-curies per square mile at midpoint of sampling period		Sr ⁸⁹ /Sr ⁹⁰ at Sampling Midpoint	mc W185 m12 on 6-1-58	mc W185 m12 on 6-1-58	Cumulative mc Sr ⁹⁰ m12	ppt'n. in inches
		Sr ⁸⁹	W185					
1957 March through December								
1958	January	0.12 ± 0.01	0.95 ± 0.14	8			0.58 ± 0.04	1.56
	February		sample lost in transit	5			0.54 ± 0.04	0.12
	March	0.04 ± 0.00	0.12 ± 0.02	44			0.58 ± 0.05	0.12
	April	0.04 ± 0.03	1.68 ± 0.03	17			0.63 ± 0.06	1.56
	May	0.05 ± 0.03	0.93 ± 0.37	79			0.80 ± 0.06	7.02
	June	0.17 ± 0.01	13.4 ± 0.1	86			1.20 ± 0.06	6.63
	July	0.10 ± 0.02	31.3 ± 1.0	144			1.43 ± 0.06	12.48
	August	0.228 ± 0.016	10.1 ± 0.6	144			1.47 ± 0.07	12.48
	September	0.04 ± 0.02	1.84 ± 0.33	46	17.9 ± 1.7	448	1.59 ± 0.07	6.97
	October	0.12 ± 0.02	5.82 ± 0.29	48	46.8 ± 2.5	390	1.61 ± 0.07	0.48
	November	0.02 ± 0.02	1.15 ± 0.53	57	6.9 ± 1.2	345		0
	December		3.33 ± 0.72		22.2 ± 4.8			

* Data reported by station.

MONTHLY FALLOUT COLLECTIONS

Union of South Africa, Pretoria		milliouries per square mile at midpoint of sampling period		Sr90		Sr89		W185		Sr89/Sr90 at Sampling Midpoint		mc W185 ml on 6-1-58		W185 Sr90 on 6-1-58		Cumulative mc Sr90 ml		ppt'n. in inches		
Sampling Period	Sr90	Sr90	Sr89	W185	Sr90	Sr89	W185	Sr90/Sr90 at Sampling Midpoint	mc W185 ml on 6-1-58	W185 Sr90 on 6-1-58	Sr89/Sr90 at Sampling Midpoint	mc W185 ml on 6-1-58	mc Sr90 ml	W185 Sr90 on 6-1-58	mc Sr90 ml	Sr90 on 6-1-58	Cumulative mc Sr90 ml	W185 Sr90 on 6-1-58	ppt'n. in inches	
1957 July through December																				
1958 January	0.10 ± 0.01	0.29 ± 0.14	0.06 ± 0.01	0.18 ± 0.05	0.11 ± 0.00	0.17 ± 0.06	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
February	0.06 ± 0.01	0.18 ± 0.05	0.11 ± 0.00	0.32 ± 0.04	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
March	0.11 ± 0.00	0.32 ± 0.04	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
April	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
May	0.49 ± 0.04	-----	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
June	0.02 ± 0.003	0.65 ± 0.02	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
July	0.051 ± 0.004	1.98	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
August	0.01 ± 0.02	1.94 ± 2.42	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
September	0.02 ± 0.04	35.5 ± 1.5	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
October	0.06 ± 0.04	28.8 ± 1.0	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
November	0.06 ± 0.02	6.28 ± 0.33	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
December	0.06 ± 0.02	2nd milk by middle of April '59	0.17 ± 0.06	0.50 ± 0.61	0.17 ± 0.06	0.50 ± 0.61	0.49 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.051 ± 0.004	0.01 ± 0.02	0.01 ± 0.04	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003	0.02 ± 0.003
1959 January																				
February		sample not started 1st week April '59																		

* Data reported by station.

Strontium 90 in Fallout Collected at Sea
56° 30' N, 51° 00' W (Station "Bravo")

no #185
mi²
on 6-1-58

W185/Sr90
on
6-1-58

ppt'n. in
inches

Sr89/Sr90
at sampling
midpoint

milliCuries per square mile
at midpoint of sampling period

W195

Sr20

Sampling Period

Sampling Period	Sr20	Sr89	milliCuries per square mile at midpoint of sampling period	Sr89/Sr90 at sampling midpoint	no #185 mi ² on 6-1-58	W185/Sr90 on 6-1-58	ppt'n. in inches
2-25-58			sample received at HASL but not accounted for				
3-5-58			no samples received at HASL for this period				
6-4-58			3.23 ± 0.21	12			
15-17-58			37.6 ± 1.3				
6-4, 8, 10-12			no samples received at HASL for this period				
6-22-58			0.67 ± 0.02				
7-14-58			2.11 ± 0.11				
8-9-58			no samples received at HASL for this period				
7-14-58			0.16 ± 0.09	10			
8-14-58			6.35 ± 0.07	16			
8-9-58			4.4 ± 0.2	17			
8-25-58			0.27 ± 0.02				
8-25-58			5.00 ± 2.16	21	10.0 ± 2.4		
8-25-58			0.30 ± 0.12		128.0 ± 5.7		
9-15-58			0.11 ± 0.03		1.8 ± 2.7		
8-28-58			2.28 ± 0.04				
9-15-58			(-)0.64 ± 0.15	19			
9-27-58			0.01 ± 0.01				
9-27-58			2.10 ± 0.15				
10-6-58			0.11 ± 0.01	30			
11-4-58			no samples received at HASL for this period				
10-6-58			0.12 ± 0.02				
11-19-58			3.63 ± 0.20				
11-19-58			no samples received at HASL for this period				
11-22-58			0.09 ± 0.05	45			
11-25-58			4.02 ± 0.70	34			
11-25-58			4.41 ± 0.83				
12-1-58			0.13 ± 0.06				
11-25-58			no samples received at HASL for this period				
12-1-58			0.13 ± 0.03	43			
12-8-58			5.61 ± 0.36				
12-28-58			in process				
1-5-59							

no samples received at HASL for this period
 0.45 ± 0.34

1-5-59
 1-12-59

2-20-59

3-3-59

1

Strontium 90 in Fallout Collected at Sea

44° 00' N, 41° 00' W (Station "Delta")

Sampling Period	Sr90 milliecuries per square mile at midpoint of sampling period	Sr89 at midpoint of sampling period	Sr89/Sr90 at sampling midpoint	mc W185 mi ² on 6-1-58	ppt'n. in inches on 6-1-58
6-2-58	0.10 ± 0.05	1.2 ± 0.4	12		
6-16-58	1.46 ± 0.02	10.0 ± 0.4	7		
7-7-58	no samples received at HASL for this period				
7-17-58	0.04 ± 0.01	0.01 ± 0.01	0.3		
7-18-58	no samples received at HASL for this period				
7-19-58	0.27 ± 0.01	4.98 ± 0.09	18		
7-20-58	no samples received at HASL for this period				
8-1-58	0.02 ± 0.02	0.38 ± 0.024	19	5.0 ± 1.9	250
8-19-58	0.01 ± 0.01	0.43 ± 0.79	43	8.1 ± 2.4	810
9-29-58	0.04 ± 0.02	2.71 ± 0.33	68	48.6 ± 2.1	1215
10-10-58	0.03 ± 0.02	2.41 ± 0.23	68	5.8 ± 1.5	193
10-13-58	0.33 ± 0.03	45.6 ± 1.5	130		
10-16-58	0.15 ± 0.04	5.05 ± 0.30	32	10.5 ± 1.6	28
10-21-58	0.37 ± 0.04	11.1 ± 0.4	30	16.2 ± 2.1	77
11-1-58	0.21 ± 0.03	14.4 ± 0.5	68	17.4 ± 1.4	50
11-10-58	0.35 ± 0.06	10.2 ± 0.5	9		
11-22-58	sample counted	2.87 ± 0.24	41	2.3 ± 3.2	33
11-27-58	0.07 ± 0.02	sample counted			
12-2-58		0.34 ± 0.48			
12-3-58		0.09 ± 0.22			
12-16-58		1.42 ± 0.64			
12-22-58		no samples received at HASL for this period			
1-4-59		in process			
1-5-59		no samples received at HASL for this period			
1-12-59		in process			
1-18-59		in process			
2-3-59		in process			
2-11-59		in process			
2-23-59		in process			

Table 4
PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania

Collector Area: 2.58 ft²

Sampling Period from to	At End of Sampling Period						Cumulative ² mc Sr ⁹⁰ /mi ²	ppt'n. in inches
	mc Sr ⁸⁹ mi ²	mc Ba ¹⁴⁰ mi ²	mc Sr ⁹⁰ mi ²	Sr ⁸⁹ Sr ⁹⁰	Ba ¹⁴⁰ Sr ⁹⁰			
1958								
12-29-57	1-2	0.49 ± 0.06 0.49 ± 0.10	0.12 ± 0.03 0.06 ± 0.02	0.051 ± 0.003 0.052 ± 0.004	9.7 9.4	2.4 1.2	23.88 ± 0.17	0.13
1-2	1-3	±0.02 ±0.03	±0.005 ±0.007	0.008 ± 0.002 0.006 ± 0.002			---	trace
1-3	1-8	0.16 ± 0.02 0.18 ± 0.03	0.11 ± 0.01 0.15 ± 0.02	0.014 ± 0.003 0.015 ± 0.003	11 13	7.9 10	23.90 ± 0.17	0.04
1-8	1-16	1.02 ± 0.15 0.98 ± 0.10	±0.04 ±0.06	0.059 ± 0.006 0.056 ± 0.004	15 15		23.97 ± 0.17	1.61
1-16	1-18	0.13 ± 0.02 0.13 ± 0.03	0.05 ± 0.01 0.05 ± 0.01	0.014 ± 0.004 ±0.008	9.6	3.8	23.98 ± 0.17	0.01
1-18	1-23	2.00 ± 0.19 2.14 ± 0.39	0.17 ± 0.04 0.09 ± 0.03	0.148 ± 0.008 0.139 ± 0.008	13 15	1.2 0.6	24.13 ± 0.17	0.48
1-23	1-26	2.82 ± 0.39 3.07 ± 0.34	0.29 ± 0.03 0.28 ± 0.03	0.239 ± 0.011 0.200 ± 0.011	12 15	1.2 1.4	24.35 ± 0.17	0.90
1-26	1-28	0.44 ± 0.04 0.49 ± 0.06	0.10 ± 0.01 0.10 ± 0.01	0.031 ± 0.002 0.035 ± 0.004	14 14	3.1 2.7	24.38 ± 0.17	0.15
1-28	1-31	0.39 ± 0.03 0.42 ± 0.04	±0.01 0.05 ± 0.02	0.030 ± 0.003 0.032 ± 0.002	13 13	1.7	24.41 ± 0.17	0.08
1-31	2-3	0.18 ± 0.02 0.18 ± 0.03	0.02 ± 0.01 ±0.01	0.023 ± 0.002 0.020 ± 0.002	7.6 9.2	0.9	24.43 ± 0.17	0.04

Table 4 - Cont'd.

PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania - Cont'd.

Collector Area: 2.58 ft²

1958 Sampling Period from to	At End of Sampling Period					ppt'n. in inches
	mo Sr ⁸⁹ / mi ²	mo Ba ¹⁴⁰ / mi ²	mo Sr ⁹⁰ / mi ²	Sr ⁸⁹ / Sr ⁹⁰	Ba ¹⁴⁰ / Sr ⁹⁰	
2-3	1.22 ± 0.10	0.11 ± 0.02	0.106 ± 0.005	12	1.0	0.12
2-6	0.83 ± 0.15	0.07 ± 0.02	0.075 ± 0.004	11	0.9	24.52 ± 0.17
2-8	1.36 ± 0.29	0.07 ± 0.03	0.105 ± 0.005	13	0.6	24.63 ± 0.17
2-8	1.12 ± 0.34	≤ 0.04	0.115 ± 0.006	9.7		24.66 ± 0.17
2-17	0.29 ± 0.03	≤ 0.05	0.028 ± 0.003	10		24.69 ± 0.17
2-17	0.32 ± 0.02	≤ 0.03	0.031 ± 0.002	10		dry
2-24	0.25 ± 0.04	≤ 0.02	0.030 ± 0.003	8.5		0.32
2-24	0.24 ± 0.05	≤ 0.02	0.028 ± 0.003	8.6		0.07
2-27	0.73 ± 0.15	≤ 0.02	0.065 ± 0.005	11		dry
2-27	1.02 ± 0.10	≤ 0.01	0.087 ± 0.004	12		0.45
3-1	0.21 ± 0.02	≤ 0.004	0.014 ± 0.002	14	1.1	24.82 ± 0.17
3-1	0.23 ± 0.06	≤ 0.004	0.020 ± 0.002	11	1.1	24.97 ± 0.17
3-10	0.29 ± 0.02	≤ 0.04	0.033 ± 0.003	8.8	1.7	24.99 ± 0.17
3-10	0.26 ± 0.04	≤ 0.02	0.020 ± 0.003	8.5	5.3	25.08 ± 0.17
3-15	1.75 ± 0.29	0.18 ± 0.04	0.166 ± 0.012	10	8.4	
3-15	1.61 ± 0.29	0.16 ± 0.03	0.145 ± 0.014	11		
3-18	0.13 ± 0.02	0.30 ± 0.07	0.018 ± 0.003	7.2		
3-18	0.15 ± 0.02	0.72 ± 0.07	0.014 ± 0.004	11		
3-18	0.85 ± 0.07	0.51 ± 0.07	0.098 ± 0.005	8.7		
3-18	0.92 ± 0.10	0.81 ± 0.09	0.096 ± 0.005	9.6		

Table 4 - Cont'd.

PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania - Cont'd.

Collector Area: 2.58 ft²

1958 Sampling Period from to	At End of Sampling Period					Cumulative mo Sr90/ml ²	Ba 140 Sr90	Ba 140 Sr90	Cumulative mo Sr90/ml ²	ft ² in inches
	mo Sr90 ml ²	mo Ba 140 ml ²	mo Sr90 ml ²	Sr90 ml ²	Ba 140 Sr90					
3-22	1.36 ± 0.24 1.51 ± 0.19	0.70 ± 0.08 0.75 ± 0.08	0.150 ± 0.008 0.150 ± 0.008	9.1 10	4.7 5.0	25.23 ± 0.17			0.70	
3-26	0.92 ± 0.10 1.26 ± 0.12	1.51 ± 0.34 1.41 ± 0.12	0.050 ± 0.003 0.053 ± 0.004	18 24	30 27	25.29 ± 0.17				
4-2	1.22 ± 0.15 0.97 ± 0.15	1.61 ± 0.15 1.26 ± 0.12	0.093 ± 0.005 0.068 ± 0.004	13 14	17 19	25.37 ± 0.17				
4-6	5.25 ± 0.49 5.20 ± 0.39	6.04 ± 0.49 5.84 ± 0.44	0.34 ± 0.02 0.33 ± 0.02	15 16	18 18	25.71 ± 0.17				
4-8	6.91 ± 0.68 6.04 ± 0.63	5.79 ± 0.49 5.70 ± 0.39	0.50 ± 0.03 0.52 ± 0.03	14 12	12 11	26.22 ± 0.17				
4-12	0.21 ± 0.04 0.14 ± 0.02	0.85 ± 0.07 0.40 ± 0.03	0.012 ± 0.002 0.014 ± 0.002	16 10	67 30	26.23 ± 0.17				
4-19	3.31 ± 0.49 3.46 ± 0.58	2.14 ± 0.15 2.43 ± 0.19	0.288 ± 0.021 0.219 ± 0.011	12 16	7.7 11	26.48 ± 0.17				
4-22	0.34 ± 0.07 0.35 ± 0.08	0.26 ± 0.02 0.20 ± 0.02	0.031 ± 0.003 0.033 ± 0.004	11 11	8.6 6.3	26.52 ± 0.17				
4-24	2.29 ± 0.24 2.43 ± 0.29	1.16 ± 0.08 1.43 ± 0.12	0.206 ± 0.012 0.209 ± 0.012	11 12	5.7 6.8	26.72 ± 0.17				
4-28	4.50 ± 0.79 3.89 ± 0.88	1.44 ± 0.12 1.41 ± 0.13	0.35 ± 0.02 0.38 ± 0.02	13 10	4.2 3.7	27.09 ± 0.18				

Table 4 - Cont'd.

PRECIPITATION COLLECTIVES - Pittsburgh, Pennsylvania - Cont'd.

Collection Area: 2.58 ft²

At Midpoint of Sampling Period

1958	Sampling Period from to	mc Sr ⁸⁹ / ml ²	mc Ba ¹⁴⁰ / ml ²	mc W ¹⁸⁵ / ml ²	mc Sr ⁹⁰ / ml ²	Sr ⁸⁹ / Sr ⁹⁰	Ba ¹⁴⁰ / Sr ⁹⁰	Cumulative mc Sr ⁹⁰ / ml ²	ppt'n. in inches
	4-29	4.77 ± 0.44 4.29 ± 0.34	1.23 ± 0.16	<0.172 <0.061	0.38 ± 0.02 0.40 ± 0.02	12.6 10.7	3.2	27.46 ± 0.18	1.5 1.5
	5-4	1.20 ± 0.12 1.17 ± 0.10	0.35 ± 0.04	<0.487 <0.070	0.092 ± 0.006 0.086 ± 0.005	13.0 13.6	3.9	27.55 ± 0.18	0.20 0.20
	5-5	6.57 ± 0.58 6.14 ± 0.49	1.70 ± 0.19	<0.557 <0.103	0.42 ± 0.02 0.41 ± 0.02	15.6 15.0	4.0	27.96 ± 0.18	1.09 1.09
	5-8	2.29 ± 0.20 2.58 ± 0.19	0.64 ± 0.10	<0.061 <0.061	0.195 ± 0.015 0.185 ± 0.012	11.7 13.9	3.3	28.15 ± 0.18	0.23 0.23
	5-10	0.34 ± 0.11 0.24 ± 0.02	0.06 ± 0.02	<0.139 <0.139	0.024 ± 0.002 0.013 ± 0.002	14.2 18.5	2.5	28.17 ± 0.18	-- --
	5-13	4.33 ± 0.58 3.74 ± 0.39	---	<0.054 <0.069	0.42 ± 0.02 0.33 ± 0.02	10.3 11.3	---	28.55 ± 0.18	0.21
	5-17	4.77 ± 0.44 4.29 ± 0.34	---	<0.041 <0.149	0.195 ± 0.02 0.151 ± 0.01	24.5 28.4	---	28.72 ± 0.18	trace trace
	5-19	1.20 ± 0.12 1.17 ± 0.09	---	<0.042 <0.060	0.41 ± 0.02 0.40 ± 0.04	2.9 2.9	---	29.12 ± 0.18	0.23 0.23
	5-24	1.98 ± 0.15 2.07 ± 0.12	0.91 ± 0.20 0.49 ± 0.15	<0.067 <0.944	0.151 ± 0.01 0.199 ± 0.02	1.3 1.0	6.0 2.5	29.30 ± 0.18	0.41 0.41
	5-28	5.1 ± 0.6 3.6 ± 0.3	3.3 ± 0.3 4.8 ± 1.2	4.93 2.12 ± 0.35	0.253 ± 0.015 0.224 ± 0.005	20 16	13 21	29.54 ± 0.19	0.72 0.72
	6-2	1.34 ± 0.13 0.92 ± 0.12	1.0 ± 0.2	1.05 ± 0.24 0.93 ± 0.18	0.061 ± 0.009 0.043 ± 0.008	22 21	16 lost	29.59 ± 0.19	0.10 0.10
	6-6	1.08 ± 0.12	2.3 ± 0.3	0.61 ± 0.22	0.079 ± 0.006 lost	14 lost	29 lost	29.67 ± 0.19	0.11 0.11
	6-10	2.46 ± 0.16 2.53 ± 0.16	---	0.62 ± 0.16 0.72 ± 0.22	0.127 ± 0.010 0.131 ± 0.010	19 19	lost lost	29.80 ± 0.19	0.22 0.22
	6-13	2.07 ± 0.18 2.66 ± 0.16	2.7 ± 0.4 2.9 ± 0.4	0.49 ± 0.20 0.52 ± 0.21	0.224 ± 0.018 0.244 ± 0.021	9.2 11	12 12	30.03 ± 0.19	0.70 0.70
	6-19	2.58 ± 0.20 2.45 ± 0.20	1.05 ± 0.15 0.70 ± 0.10	1.06 ± 0.23 0.42 ± 0.17	0.210 ± 0.010 0.188 ± 0.010	12 13	5.0 3.7	30.23 ± 0.19	0.65 0.65

Table 4 - Cont'd.
 PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania - Cont'd.

Collector Area: 2.58 ft²

Sampling Period from to	At Midpoint of Sampling Period						Cumulative mo Sr ⁹⁰ /mi ²	ppt'n. in inches
	mo Sr ⁸⁹ mi ²	mo Ba ¹¹⁰ mi ²	mo W ¹⁸⁵ mi ²	mo Sr ⁹⁰ mi ²	Sr ⁸⁹ Sr ⁹⁰	Ba ¹¹⁰ Sr ⁹⁰		
1958 6-20 to 6-22	2.20 ± 0.20 1.93 ± 0.18	<0.5 <0.3	0.73 ± 0.17 <0.23	0.175 ± 0.010 0.194 ± 0.015	12 9.9	<2.8 <1.5	30.41 ± 0.19	0.16 0.16
6-22 to 6-23	1.00 ± 0.12 1.29 ± 0.10	0.35 ± 0.15 <0.2	<0.28 <0.10	0.106 ± 0.006 0.148 ± 0.010	9.4 8.7	3.3 <1.4	30.54 ± 0.19	0.12 0.12
6-23 to 6-24	0.55 ± 0.09 0.64 ± 0.06	<0.3 <0.3	0.48 ± 0.17 0.49 ± 0.16	0.062 ± 0.003 0.080 ± 0.006	8.9 8.0	<4.8 <3.8	30.61 ± 0.19	0.05 0.05
6-24 to 6-26	2.20 ± 0.20 2.59 ± 0.30	2.6 ± 0.3 2.3 ± 0.2	<0.68 <0.38	0.114 ± 0.006 0.117 ± 0.007	19 22	23 20	30.73 ± 0.19	0.17 0.17
6-26 to 7-3	0.22 ± 0.03 0.34 ± 0.04	<0.10 0.16 ± 0.06	<0.38 <0.37	0.019 ± 0.003 0.026 ± 0.003	12 13	<5.3 6.1	30.75 ± 0.19	dry dry
7-3 to 7-7	6.8 ± 0.5 8.3 ± 1.0	10.3 ± 0.8 11.0 ± 0.8	2.56 ± 0.37 3.04 ± 0.37	0.296 ± 0.030 0.292 ± 0.020	23 28	35 38	31.04 ± 0.19	1.15 1.15
7-7 to 7-8	0.27 ± 0.04 0.35 ± 0.04	<0.12 0.61 ± 0.10	<0.57	0.013 ± 0.002 0.016 ± 0.003	21 22	<9.2 38	31.06 ± 0.19	0.2 0.2
7-8 to 7-11	9.7 ± 0.7 14.6 ± 1.4	16.0 ± 1.5 24.5 ± 2.0	1.40 ± 0.21 1.57 ± 0.24	0.244 ± 0.015 0.258 ± 0.015	39.8 56.6	65.6 95.0	31.31 ± 0.24	1.25 1.25
7-11 to 7-12	2.44 ± 0.24 2.56 ± 0.20	4.3 ± 0.4 4.2 ± 0.4	0.81 ± 0.22 0.73 ± 0.17	0.067 ± 0.010 0.060 ± 0.004	36.4 42.7	64.2 70.0	31.37 ± 0.24	0.26 0.26
7-12 to 7-14	4.2 ± 0.4 4.0 ± 0.4	6.1 ± 0.4 6.1 ± 0.5	2.19 ± 0.37 2.07 ± 0.24	0.097 ± 0.007 0.076 ± 0.006	43 53	63 80	31.46 ± 0.25	0.28 0.28
7-14 to 7-15	5.8 ± 0.6 6.2 ± 0.6	6.3 ± 0.5 8.9 ± 0.7	4.16 ± 0.49 4.63 ± 0.49	0.132 ± 0.007 0.111 ± 0.006	43 56	48 80	31.58 ± 0.25	0.78 0.78
7-15 to 7-16	4.5 ± 0.4 3.9 ± 0.4	7.1 ± 0.5 7.3 ± 0.5	2.02 ± 0.37 2.61 ± 0.37	0.056 ± 0.004 0.058 ± 0.003	80 67	127 126	31.64 ± 0.25	0.29 0.29
7-16 to 7-21	2.42 ± 0.22 1.87 ± 0.18	7.9 ± 1.5 4.8 ± 0.6	2.73 ± 0.37 2.38 ± 0.37	0.048 ± 0.004 0.056 ± 0.004	50.4 33.4	164.6 85.7	31.69 ± 0.25	trace trace
7-21 to 7-22	11.8 ± 1.0 12.5 ± 1.4	15.3 ± 1.4 11.7 ± 1.0	11.02 ± 1.04 14.37 ± 1.22	0.190 ± 0.010 0.200 ± 0.010	62.1 62.5	80.5 58.5	31.89 ± 0.25	0.88 0.88
7-22 to 7-23	3.2 ± 0.3 3.1 ± 0.3	3.6 ± 0.3 3.6 ± 0.3	3.54 ± 0.44 4.17 ± 0.58	0.055 ± 0.003 0.060 ± 0.003	58 52	65 60	31.94 ± 0.25	0.35 0.35

Table 4 - Cont'd.

PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania - Cont'd.

Collector Area: 2.58 ft²

Sampling Period from to	At Midpoint of Sampling Period						Cumulative no Sr ⁹⁰ /mi ²	Ba ¹⁴⁰ / Sr ⁹⁰	Pft'n. in inches
	no Sr ⁸⁹ / mi ²	no Ba ¹⁴⁰ / mi ²	no W ¹⁸⁵ / mi ²	no Sr ⁹⁰ / mi ²	Sr ⁸⁹ / Sr ⁹⁰	Ba ¹⁴⁰ / Sr ⁹⁰			
1958 7-23	4.2 ± 0.5	2.5 ± 0.2	6.06 ± 0.65	0.150 ± 0.008	28	17	32.11 ± 0.25	0.40	
	4.4 ± 0.5	3.7 ± 0.3	6.23 ± 0.57	0.180 ± 0.010	24	20			
7-24	0.58 ± 0.06	0.35 ± 0.04	0.66 ± 0.16	0.026 ± 0.003	22	13	32.13 ± 0.25	0.03	
	0.62 ± 0.06	0.40 ± 0.08	1.97 ± 0.22	0.019 ± 0.002	33	21			
7-25	11.5 ± 0.9	11.5 ± 0.8	0.53 ± 0.16	0.173 ± 0.010	66	66	32.30 ± 0.25	1.40	
	11.2 ± 0.8	12.7 ± 0.8	0.52 ± 0.16	0.159 ± 0.008	70	80			
7-29	1.86 ± 0.16	2.05 ± 0.18	1.52 ± 0.30	0.057 ± 0.005	32.6	36.0	32.36 ± 0.25	0.25	
	2.08 ± 0.20	2.50 ± 0.23	1.95 ± 0.32	0.076 ± 0.010	27.4	33.0			
7-30	7.2 ± 0.6	6.0 ± 0.4	5.28 ± 0.52	0.205 ± 0.010	35	29	32.56 ± 0.25	1.13	
	5.9 ± 0.5	6.8 ± 0.5	6.06 ± 0.54	0.189 ± 0.010	31	36			
7-31	2.56 ± 0.24	2.4 ± 0.2	1.43 ± 0.16	0.041 ± 0.003	62	58	32.60 ± 0.25	0.37	
	2.41 ± 0.20	2.9 ± 0.3	1.49 ± 0.17	0.039 ± 0.003	62	74			
8-1	5.5 ± 0.4	4.7 ± 0.3	6.07 ± 0.36	0.149 ± 0.007	37	32	32.74 ± 0.25	1.88	
	5.5 ± 0.5	4.7 ± 0.4	3.96 ± 0.26	0.131 ± 0.007	42	36			
8-3	1.89 ± 0.18	1.76 ± 0.16	1.45 ± 0.18	0.076 ± 0.008	24.9	23.2	32.82 ± 0.25	0.17	
	2.18 ± 0.23	1.82 ± 0.16	1.31 ± 0.16	0.078 ± 0.005	27.9	23.3			
8-7	7.4 ± 0.5	4.5 ± 0.4	4.38 ± 0.24	0.34 ± 0.02	21.8	13.2	33.15 ± 0.25	1.17	
	7.0 ± 0.6	4.3 ± 0.4	2.72 ± 0.19	0.32 ± 0.02	21.9	13.4			
8-8	2.66 ± 0.28	2.68 ± 0.22	1.48 ± 0.17	0.061 ± 0.004	43.6	44.0	33.21 ± 0.25	0.09	
	2.86 ± 0.28	2.68 ± 0.24	0.96 ± 0.15	0.063 ± 0.005	45.4	42.5			
8-12	0.77 ± 0.15	0.64 ± 0.07	0.42 ± 0.13	0.022 ± 0.005	35.0	29.1	33.23 ± 0.25	0.04	
	0.79 ± 0.10	0.61 ± 0.08	<0.24	0.018 ± 0.005	43.9	33.9			
8-14	2.62 ± 0.35	1.91 ± 0.16	0.35 ± 0.13	0.078 ± 0.006	33.6	24.5	33.30 ± 0.25	0.13	
	2.36 ± 0.30	2.05 ± 0.17	lost	0.063 ± 0.005	34.2	29.7			
8-15	3.64 ± 0.32	2.17 ± 0.21	0.34 ± 0.14	0.098 ± 0.008	37.1	22.1	33.40 ± 0.25	0.17	
	3.79 ± 0.30	1.90 ± 0.23	0.55 ± 0.18	0.097 ± 0.008	39.1	19.6			
8-16	0.16 ± 0.07	0.19 ± 0.10	0.58 ± 0.13	0.012 ± 0.005	13.3	15.8	33.41 ± 0.25	trace	
	0.24 ± 0.03	<0.12	<0.24	0.015 ± 0.004	16.0	<100			
8-17	1.92 ± 0.18	1.32 ± 0.20	0.96 ± 0.17	0.067 ± 0.004	28.7	19.7	33.48 ± 0.25	0.12	
	1.42 ± 0.12	0.73 ± 0.15	1.29 ± 0.17	0.061 ± 0.005	23.3	12.0			
8-21	1.53 ± 0.20	1.07 ± 0.16	1.34 ± 0.15	0.067 ± 0.004	22.8	16.0	33.54 ± 0.25	0.11	
	1.71 ± 0.12	1.8 ± 0.9	0.67 ± 0.15	0.062 ± 0.004	27.6	29.0			

Table 4 - Cont'd.

PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania - Cont'd.

Collector Area 2.58 ft²

1958	Sampling Period from to	At Midpoint of Sampling Period						Ba 110 Sr 90	Ba 110 Sr 90	Cumulative mc Sr 90/mi ²	ppt'n. in inches
		mc Sr 89 mi ²	mc Ba 110 mi ²	mc W 185 mi ²	mc Sr 90 mi ²	Sr 89 Sr 90	Ba 110 Sr 90				
	8-22	4.48 ± 0.30 3.94 ± 0.75	2.9 ± 1.1 3.4 ± 1.1	1.71 ± 0.15 1.75 ± 0.15	0.151 ± 0.055 0.131 ± 0.012	29.7 30.1	19.2 26.0	33.68 ± 0.25	0.95 0.95		
	8-25	3.02 ± 0.10 3.41 ± 0.35	lost lost	4.15 ± 0.25 1.61 ± 0.15	0.123 ± 0.022 0.119 ± 0.024	24.6 28.7	--	33.80 ± 0.25	0.13 0.13		
	9-2	3.08 ± 0.15 3.69 ± 0.28	1.4 ± 0.2 1.9 ± 0.6	2.26 ± 0.10 2.77 ± 0.15	0.115 ± 0.007 0.131 ± 0.006	26.8 28.2	12.2 14.5	33.93 ± 0.25	0.64 0.64		
	9-5	1.76 ± 0.10 1.82 ± 0.10	0.9 ± 0.3 1.3 ± 0.3	1.63 ± 0.16 2.42 ± 0.18	0.068 ± 0.007 0.055 ± 0.004	25.9 33.1	13.2 23.6	33.99 ± 0.25	0.44 0.44		
	9-7	0.20 ± 0.06 0.23 ± 0.08	lost lost	0.43 ± 0.08 0.75 ± 0.15	<0.020 <0.010	>10 >23	--	34.00 ± 0.25	0 0		
	9-14	1.06 ± 0.09 1.11 ± 0.07	0.30 ± 0.10 0.32 ± 0.11	1.29 ± 0.13 1.77 ± 0.14	0.040 ± 0.004 0.058 ± 0.005	26.5 19.1	7.5 5.5	34.05 ± 0.25	0.20 0.20		
	9-16	1.28 ± 0.08 0.82 ± 0.06	0.37 ± 0.10 0.33 ± 0.08	1.03 ± 0.12 lost	0.041 ± 0.003 0.054 ± 0.006	32.0 15.2	9.0 6.1	34.10 ± 0.25	0.35 0.35		
	9-17	0.34 ± 0.04 0.32 ± 0.04	0.09 ± 0.04 <0.06	0.36 ± 0.10 lost	0.018 ± 0.004 0.011 ± 0.003	18.9 29.1	5.0 <5.5	34.12 ± 0.25	0.08 0.08		
	9-18	1.56 ± 0.10 1.73 ± 0.15	0.43 ± 0.11 0.51 ± 0.15	2.97 ± 0.18 2.29 ± 0.20	0.041 ± 0.004 0.051 ± 0.006	38.0 33.9	10.5 10.0	34.16 ± 0.25	1.08 1.08		
	9-21	0.37 ± 0.04 0.37 ± 0.04	lost lost	0.15 ± 0.08 0.59 ± 0.08	0.020 ± 0.005 0.019 ± 0.007	18.5 19.5	--	34.18 ± 0.25	0.08 0.08		
	9-22	4.81 ± 0.35 4.52 ± 0.20	2.39 ± 0.51 1.18 ± 0.35	2.75 ± 0.23 5.02 ± 0.28	0.164 ± 0.009 0.155 ± 0.010	29 29	15 8	34.34 ± 0.25	1.14 1.14		
	9-27	1.39 ± 0.07 1.42 ± 0.12	0.36 ± 0.10 0.58 ± 0.12	1.31 ± 0.12 1.24 ± 0.15	0.063 ± 0.009 0.067 ± 0.007	22 21	6 9	34.41 ± 0.25	0.33 0.33		
	10-1	0.26 ± 0.06 0.23 ± 0.03	0.61 ± 0.14 0.17 ± 0.05	2.83 ± 0.20 2.38 ± 0.20	0.020 ± 0.004 0.014 ± 0.002	13 16	31 12	34.42 ± 0.25	dry dry		
	10-11	0.78 ± 0.10 1.30 ± 0.12	3.47 ± 0.30 3.37 ± 0.20	1.20 ± 0.12 1.43 ± 0.20	0.034 ± 0.003 0.033 ± 0.003	22.9 39.4	102.1 102.1	34.46 ± 0.25	0.04 0.04		
	10-18	2.39 ± 0.25 1.95 ± 0.12	5.6 ± 0.4 5.0 ± 0.3	1.84 ± 0.25 2.49 ± 0.28	0.076 ± 0.006 0.056 ± 0.012	31 35	74 89	34.52 ± 0.25	0.08 0.08		

Table 4 - Cont'd.

PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania - Cont'd.

Collector Area: 2.58 ft²

At Midpoint of Sampling Period

Sampling Period from to	no Sr ⁸⁹ mi ²	no Ba ¹⁴⁰ mi ²	no W ¹⁸⁵ mi ²	no Sr ⁹⁰ mi ²	Sr ⁸⁹ Sr ⁹⁰	Ba ¹⁴⁰ Sr ⁹⁰	Cumulative no Sr ⁹⁰ /mi ²	ppt'n. in inches
1958								
10-23	2.64 ± 0.12	10.3 ± 1.1	0.85 ± 0.16	0.061 ± 0.006	43	169	34.58 ± 0.25	0.21
10-25	2.66 ± 0.13	7.4 ± 0.4	0.79 ± 0.15	0.064 ± 0.005	42	116		0.21
10-26	2.07 ± 0.10	6.6 ± 0.3	0.73 ± 0.14	0.046 ± 0.005	45	143	34.63 ± 0.25	0.21
10-26	2.03 ± 0.16	7.1 ± 0.4	0.54 ± 0.10	0.048 ± 0.005	42	148		0.21
10-26	3.69 ± 0.16	12.2 ± 0.6	0.93 ± 0.14	0.087 ± 0.006	42	140	34.72 ± 0.25	0.28
10-26	3.71 ± 0.18	13.0 ± 0.8	1.13 ± 0.15	0.086 ± 0.005	43	151		0.28
10-28	0.67 ± 0.07	2.39 ± 0.16	0.29 ± 0.09	0.020 ± 0.005	34	120	34.74 ± 0.25	0.02
10-28	0.59 ± 0.08	lost	0.32 ± 0.10	0.018 ± 0.003	33	—		0.02
11-2	5.02 ± 0.35	11.7 ± 0.5	1.36 ± 0.14	0.089 ± 0.006	56	131	34.82 ± 0.25	0.31
11-3	5.28 ± 0.35	9.8 ± 0.4	lost	0.079 ± 0.006	67	124		0.31
11-3	0.40 ± 0.03	0.58 ± 0.04	0.31 ± 0.09	0.004 ± 0.002	100	145	34.82 ± 0.25	0.02
11-3	0.46 ± 0.04	1.37 ± 0.07	0.19 ± 0.09	0.005 ± 0.003	92	274		0.02
11-6	3.19 ± 0.13	2.96 ± 0.15	0.82 ± 0.08	0.075 ± 0.005	43	39	34.90 ± 0.25	0.13
11-9	2.88 ± 0.15	5.12 ± 0.24	0.73 ± 0.13	0.071 ± 0.004	41	72		0.13
11-9	3.47 ± 0.15	4.43 ± 0.22	1.00 ± 0.16	0.083 ± 0.006	42	53	34.97 ± 0.25	0.30
11-9	3.37 ± 0.16	3.34 ± 0.26	0.29 ± 0.15	0.066 ± 0.004	51	51		0.30
11-10	3.65 ± 0.16	8.0 ± 0.4	1.65 ± 0.13	0.109 ± 0.008	33	73	35.07 ± 0.25	0.25
11-10	3.38 ± 0.30	6.7 ± 0.4	1.52 ± 0.14	0.097 ± 0.013	35	69		0.25
11-15	0.40 ± 0.03	2.20 ± 0.20	0.74 ± 0.16	0.009 ± 0.004	44	244	35.59 ± 0.25	trace
11-15	0.36 ± 0.05	1.22 ± 0.09	0.30 ± 0.09	0.017 ± 0.003	21	72		trace
11-16	0.67 ± 0.04	1.21 ± 0.16	0.34 ± 0.07	0.012 ± 0.003	56	101	35.61 ± 0.25	0.03
11-16	0.60 ± 0.05	1.35 ± 0.12	0.24 ± 0.08	0.014 ± 0.008	43	98		0.03
11-17	0.91 ± 0.05	1.03 ± 0.06	0.34 ± 0.08	0.016 ± 0.003	57	64	35.63 ± 0.25	0.24
11-17	0.86 ± 0.07	1.17 ± 0.05	0.18 ± 0.09	0.023 ± 0.003	37	51		0.04
11-18	2.86 ± 0.12	1.57 ± 0.07	lost	0.059 ± 0.004	48	27	35.69 ± 0.25	0.19
11-18	2.72 ± 0.14	2.35 ± 0.11	0.36 ± 0.08	0.059 ± 0.005	46	40		0.19
11-19	1.24 ± 0.06	1.57 ± 0.07	1.01 ± 0.25	0.043 ± 0.005	29	37	35.73 ± 0.25	0.02
11-19	1.14 ± 0.08	1.51 ± 0.12	0.87 ± 0.10	0.046 ± 0.018	25	33		0.02
11-24	0.82 ± 0.04	0.34 ± 0.06	0.42 ± 0.15	0.026 ± 0.006	32	36	35.76 ± 0.25	0.02
11-26	0.79 ± 0.04	0.86 ± 0.06	0.54 ± 0.25	0.033 ± 0.006	24	26		0.02
11-26	3.45 ± 0.15	1.99 ± 0.12	0.39 ± 0.18	0.080 ± 0.006	43	85	35.83 ± 0.25	0.08
11-29	3.04 ± 0.16	2.72 ± 0.13	2.48 ± 0.25	0.073 ± 0.006	42	37		0.98

Table 4 - Cont'd.

PRECIPITATION COLLECTIONS - Pittsburgh, Pennsylvania - Cont'd.

Collector Area: 2.58 ft²

Sampling Period from to	At Midpoint of Sampling Period						Ball 0 Sr 90	Cumulative mc Sr 90/ml ²	ppt'n. in inches
	mc Sr 89 ml ²	mc Ball 0 ml ²	mc W 185 ml ²	mc Sr 90 ml ²	Sr 89 Sr 90	Ball 0 Sr 90			
1958									
11-29	2.75 ± 0.13 4.07 ± 0.20	1.93 ± 0.18 2.53 ± 0.11	1.45 ± 0.13 1.89 ± 0.14	0.074 ± 0.009 0.130 ± 0.016	37 31	26 19	35.92 ± 0.25	0.26 0.26	
12-4	5.10 ± 0.05 2.11 ± 0.22	2.95 ± 0.14 1.27 ± 0.09	2.78 ± 0.21 1.09 ± 0.14	0.141 ± 0.007 0.069 ± 0.005	36 31	21 18	36.00 ± 0.25	0.25 0.25	
12-6	2.76 ± 0.18 4.96 ± 0.35	2.12 ± 0.10 3.23 ± 0.45	1.28 ± 0.12 2.14 ± 0.16	0.081 ± 0.005 0.118 ± 0.013	34 42	26 27	36.10 ± 0.25	0.13 0.13	
12-9	1.01 ± 0.06 0.92 ± 0.06	0.56 ± 0.08 0.45 ± 0.06	1.51 ± 0.12 1.41 ± 0.13	0.044 ± 0.008 0.053 ± 0.006	23 17	13 8	36.15 ± 0.25	0.08 0.08	
12-14	0.93 ± 0.15 0.74 ± 0.05	0.48 ± 0.04 0.47 ± 0.06	1.56 ± 0.12 1.23 ± 0.13	0.029 ± 0.004 0.031 ± 0.004	32 24	17 15	36.18 ± 0.25	trace trace	
12-17	3.88 ± 0.17 3.77 ± 0.18	1.31 ± 0.09 1.06 ± 0.09	1.86 ± 0.12 1.85 ± 0.12	0.091 ± 0.011 0.108 ± 0.010	43 35	14 10	36.28 ± 0.25	0.21 0.21	
12-20	3.57 ± 0.18 2.89 ± 0.13	0.75 ± 0.08 0.65 ± 0.06	0.97 ± 0.09 1.29 ± 0.11	0.082 ± 0.007 0.097 ± 0.004	44 30	9 7	36.37 ± 0.25	0.11 0.11	
12-23	0.74 ± 0.07 0.73 ± 0.05	0.18 ± 0.04 0.11 ± 0.04	1.15 ± 0.11 1.15 ± 0.11	0.023 ± 0.003 0.022 ± 0.004	32 33	8 5	36.39 ± 0.25	dry dry	

Table 5

PRECIPITATION COLLECTIONS - Westwood, New Jersey

At Midpoint of Sampling Period

Sampling Period from to	no Sr mi ²	no Sr 89 mi ²	no Ba 140 mi ²	Sr 89 Sr 90	Ba 140 Sr 90	Cumulative no Sr 90/mi ²	Precipitation in inches
1958 2-4	0.013 ± 0.002 0.049 ± 0.002	0.111 ± 0.006 0.142 ± 0.009	0.075 ± 0.060 0.293 ± 0.018	8.5 9.0	5.8 6.0	0.031 ± 0.025	0.754
2-10	0.015 ± 0.002 0.007 ± 0.002	0.024 ± 0.022 0.009 ± 0.004	≤ 0.011 ≤ 0.011	1.6 1.3		0.042 ± 0.026	0.149
2-17	0.005 ± 0.002 0.012 ± 0.002	≤ 0.020 0.024 ± 0.004	0.007 0.018 ± 0.003	< 4.0 2.0	1.5	0.050 ± 0.026	0.000
2-25	0.256 ± 0.011 0.139 ± 0.006	4.278 ± 0.063 3.36 ± 0.009	0.499 ± 0.025 0.374 ± 0.008	17 13	1.9 0.8	0.398 ± 0.133	0.188
2-28	0.010 ± 0.027 ≤ 0.002	0.080 ± 0.015 0.099 ± 0.004	0.027 ± 0.003 0.004 ± 0.002	8.0 —	2.7 —	0.104 ± 0.133	0.005
3-1	0.026 ± 0.003 0.064 ± 0.002	0.275 ± 0.006 0.707 ± 0.010	0.046 ± 0.005 0.055 ± 0.009	10 11	1.8 0.9	0.149 ± 0.136	0.139
3-3	0.033 ± 0.009	0.522 ± 0.042	0.034 ± 0.008	16	1.0	0.182 ± 0.136	0.600
3-4	0.010 ± 0.002 ≤ 0.002	0.013 ± 0.009 0.019 ± 0.007	≤ 0.005 ≤ 0.011	1.3 —	—	0.488 ± 0.136	0.000
3-10	0.230 ± 0.009 0.285 ± 0.011	2.77 ± 0.05 3.56 ± 0.06	0.846 ± 0.030 4.337 ± 0.062	12 12	3.7 15	0.746 ± 0.141	1.409
3-15	0.0552 ± 0.005 0.0784 ± 0.0026	0.453 ± 0.018 0.877 ± 0.017	0.537 0.666 ± 0.121	8.2 11	9.7 8.5	0.612 ± 0.142	0.529
3-20	0.117 ± 0.003 0.085 ± 0.003	1.44 ± 0.03 1.187 ± 0.025	1.18 0.773 ± 0.077	12 14	10 9.1	0.913 ± 0.144	0.559

Table 5 - Cont'd.

PRECIPITATION COLLECTIONS - Westwood, New Jersey

Sampling Period from to	no Sr ⁹⁰ /ml ²		no Sr ⁸⁹ /ml ²		At Midpoint of Sampling Period no Ba ¹³⁷ /ml ²		no Sr ⁹⁰ /ml ²		no Sr ⁹⁰ /ml ²		Precipitation in inches
	no Sr ⁹⁰ /ml ²	±	no Sr ⁹⁰ /ml ²	±	no Ba ¹³⁷ /ml ²	±	no Sr ⁹⁰ /ml ²	±	no Sr ⁹⁰ /ml ²	±	
1958 3-21	0.005	± 0.002	0.036	± 0.007	0.015	± 0.007	0.015	± 0.007	7.2	3.0	0.031
3-22	0.005	± 0.0020	0.013	± 0.0045	0.0267	± 0.0073	0.0267	± 0.0073	—	—	0.020
3-25	0.025	± 0.0024	0.434	± 0.01	0.260		0.260		17	10	0.290
3-27	0.021	± 0.0015	0.386	± 0.014	0.452		0.452		16	18	0.300
3-25	0.113	± 0.003	1.87	± 0.02	—	0.585	—	0.585	16	11	0.190
3-27	0.128	± 0.003	2.17	± 0.03	1.414	± 0.198	1.414	± 0.198	17	24	0.349
3-31	0.0708	± 0.0021	1.56	± 0.02	1.74		1.74		22	20	0.190
3-31	0.0818	± 0.0026	2.09	± 0.02	1.71		1.71		25	78	1.949
4-1	0.023	± 0.003	0.915	± 0.014	1.79	± 0.179	1.79	± 0.179	40	53	0.349
4-7	0.0292	± 0.0026	1.08	± 0.01	1.57		1.57		37	37	1.329
4-7	0.144	± 0.015	13.1	± 0.1	16.5		16.5		30	48	0.020
4-7	0.421	± 0.015	12.4	± 0.1	20.5		20.5		29	270	0.010
4-8	0.011	± 0.002	1.566	± 0.013	2.97	± 0.30	2.97	± 0.30	142	59	0.600
4-8	0.020	± 0.002	0.831	± 0.012	1.18	± 0.12	1.18	± 0.12	41	36	1.439
4-14	0.446	± 0.055	11.3	± 0.1	16.0		16.0		25	9.8	0.010
4-21	0.212	± 0.004	7.12	± 0.08	2.070	± 0.163	2.070	± 0.163	34	15	0.600
4-21	0.069	± 0.008	0.865	± 0.023	1.06	± 0.11	1.06	± 0.11	12	60	0.010
4-21	0.034	± 0.003	1.101	± 0.012	2.05	± 0.20	2.05	± 0.20	32	49	0.010
4-22	0.009	± 0.003	0.208	± 0.010	0.445	± 0.092	0.445	± 0.092	23	8.2	0.600
4-22	0.032	± 0.004	0.257	± 0.016	0.264	± 0.019	0.264	± 0.019	8.0	6.8	1.439
4-24	0.168	± 0.005	2.862	± 0.025	1.140	± 0.015	1.140	± 0.015	17	3.9	0.600
4-24	0.282	± 0.007	3.021	± 0.031	1.101	± 0.081	1.101	± 0.081	11	11	1.439
4-28	0.327	± 0.008	5.705	± 0.040	1.081		1.081		17	11	0.600
4-28	0.201	± 0.006	4.628	± 0.031	2.224	± 0.028	2.224	± 0.028	23	—	1.439

Table 5 - Cont'd.

PRECIPITATION COLLECTIONS - Westwood, New Jersey

Sampling Period from 1958	At Midpoint of Sampling Period										Cumulative mc Sr ⁹⁰ /ml ²	Precipitation in inches
	mc Sr ⁹⁰ ml ²	mc Sr ⁸⁹ ml ²	mc Ba ¹⁴⁰ ml ²	mc W ¹⁸⁵ ml ²	Sr ⁸⁹ Sr ⁹⁰	Ba ¹⁴⁰ Sr ⁹⁰	Ba ¹⁴⁰ Sr ⁹⁰	Sr ⁸⁹ Sr ⁹⁰	Sr ⁸⁹ Sr ⁹⁰	Ba ¹⁴⁰ Sr ⁹⁰		
4-28	0.036 ± 0.004 0.058 ± 0.004	0.324 ± 0.013 0.250 ± 0.018	0.322 ± 0.039 0.162 ± 0.026		9.0 4.3		8.9 2.8				2.552 ± 0.254	0.020
4-29	0.216 ± 0.006 0.158 ± 0.005	4.642 ± 0.032 3.276 ± 0.025	1.733 ± 0.057 1.325 ± 0.044		21 21		8.0 8.4				2.738 ± 0.257	1.129
4-30	0.308 ± 0.006 0.272 ± 0.010	4.518 ± 0.031 4.371 ± 0.034	2.397 ± 0.046 2.385 ± 0.042		15 16		7.8 8.8				3.028 ± 0.258	0.900
5-5	0.045 ± 0.017 0.296 ± 0.049	0.685 ± 0.051 4.397 ± 0.033	1.313 ± 0.023 1.707 ± 0.005		15 15		29 5.7				3.199 ± 0.313	0.439
5-6	0.281 ± 0.005 0.174 ± 0.005	4.816 ± 0.104 3.226 ± 0.031	1.424 ± 0.062 1.299 ± 0.018		17 18		5.1 7.4				3.426 ± 0.320	0.949
5-8	0.200 ± 0.011 0.279 ± 0.006	2.987 ± 0.089 5.516 ± 0.056	0.624 ± 0.018 1.981 ± 0.020		15 20		3.1 7.1				3.666 ± 0.327	0.500
5-12	0.612 ± 0.008 0.564 ± 0.007	9.720 ± 0.051 6.189 ± 0.057	2.304 ± 0.028 1.551 ± 0.019		16 11		3.8 2.8				4.254 ± 0.329	0.320
5-16	0.070 ± 0.004 0.073 ± 0.004	0.808 ± 0.016 0.676 ± 0.017	0.188 ± 0.010 0.229 ± 0.011		12 9.3		2.7 3.1				4.326 ± 0.329	0.059
5-19	0.100 ± 0.004 0.079 ± 0.004	1.472 ± 0.018 1.333 ± 0.017	0.456 ± 0.015 0.421 ± 0.013		15 17		4.6 5.3				4.415 ± 0.329	0.149
5-20	0.127 ± 0.005 0.119 ± 0.004	1.310 ± 0.015 1.441 ± 0.014	0.344 ± 0.012 0.251 ± 0.010		10 9.6		2.7 2.1				4.538 ± 0.329	0.030
5-21	0.142 ± 0.009 0.127 ± 0.010	1.354 ± 0.074 1.823 ± 0.060	0.348 ± 0.018 0.260 ± 0.017		9.5 14		2.4 2.0				4.672 ± 0.329	0.059

Table 5 - Cont'd.

PRECIPITATION COLLECTIONS - Westwood, New Jersey

Sampling Period from 1958	At Midpoint of Sampling Period										Precipitation in inches
	mc Sr ⁹⁰ ml ²	mc Sr ⁸⁹ ml ²	mc Ba ¹⁴⁰ ml ²	mc W ¹⁸⁵ ml ²	Sr ⁸⁹ Sr ⁹⁰	Ba ¹⁴⁰ Sr ⁹⁰	Cumulative mc Sr ⁹⁰ /ml ²				
5-23	0.729 ± 0.012	1.946 ± 0.029	1.494 ± 0.040	0.80 ± 0.02	2.7	2.0	5.378 ± 0.331			0.900	
5-26	0.682 ± 0.011	2.107 ± 0.026	1.629 ± 0.021	0.47 ± 0.02	3.1	2.4	5.164 ± 0.331			0.049	
5-29	0.079 ± 0.008	0.228 ± 0.008	0.239 ± 0.013	0.20 ± 0.02	2.9	3.0	5.488 ± 0.331			0.010	
5-29	0.092 ± 0.008	0.268 ± 0.007	0.319 ± 0.012	0.18 ± 0.01	2.9	3.5					
6-3	0.024 ± 0.004	0.131 ± 0.006	0.310 ± 0.026	0.23 ± 0.03	5.4	13					
6-3	0.025 ± 0.006	0.128 ± 0.007	0.292 ± 0.022	0.22 ± 0.03	5.1	12					
6-10	0.168 ± 0.014	2.305 ± 0.109	3.607 ± 0.105	1.25 ± 0.05	14	21	5.710 ± 0.340			0.12	
6-10	0.277 ± 0.014	2.213 ± 0.115	2.848 ± 0.082	1.09 ± 0.03	8.0	10					
6-11	0.133 ± 0.012	3.01 ± 0.07	1.663 ± 0.033	1.32 ± 0.03	23	12	5.839 ± 0.340			0.19	
6-11	0.124 ± 0.023	2.752 ± 0.176	1.841 ± 0.031	1.39 ± 0.07	22	15					
6-12	0.040 ± 0.006	1.059 ± 0.052	0.705 ± 0.021	0.62 ± 0.03	26	18	5.893 ± 0.340			0.045	
6-12	0.068 ± 0.005	1.122 ± 0.044	0.785 ± 0.029	0.54 ± 0.02	16	12					
6-14	0.143 ± 0.003	2.902 ± 0.046	2.71 ± 0.27	1.19 ± 0.04	20	19	6.034 ± 0.340			0.45	
6-14	0.138 ± 0.014	3.129 ± 0.083	2.27 ± 0.23	1.12 ± 0.03	23	16					
6-19	0.181 ± 0.015	0.890 ± 0.09	0.461 ± 0.046	0.30 ± 0.02	4.9	2.5	6.256 ± 0.345			0.68	
6-19	0.263 ± 0.013	1.53 ± 0.08	0.481 ± 0.04	0.32 ± 0.02	5.8	1.8					
6-23	0.151 ± 0.003	2.075 ± 0.038	0.582 ± 0.013	0.18 ± 0.01	14	3.8	6.428 ± 0.347			0.72	
6-23	0.194 ± 0.003	2.114 ± 0.042	0.560 ± 0.018	0.60 ± 0.02	11	2.9					
6-27	0.103 ± 0.005	2.486 ± 0.046	2.155 ± 0.036	0.27 ± 0.01	24	21	6.538 ± 0.347			0.50	
6-27	0.118 ± 0.003	2.440 ± 0.041	2.780 ± 0.056	0.38 ± 0.01	21	24					
7-3	0.021 ± 0.002	0.489 ± 0.030	0.851 ± 0.019	0.34 ± 0.01	23	40	6.552 ± 0.347			0.00	
7-3	50.009	0.356 ± 0.024	0.635 ± 0.014	0.27 ± 0.02							
7-7	0.211 ± 0.004	6.550 ± 0.055	11.716 ± 0.056	0.94 ± 0.01	31	56	6.727 ± 0.351			0.92	
7-7	0.138 ± 0.009	4.929 ± 0.047	8.430 ± 0.050	0.68 ± 0.01	36	61					

Table 5 - Cont'd.

PRECIPITATION COLLECTIONS - Westwood, New Jersey

At Midpoint of Sampling Period

Sampling Period from to	no Sr ⁹⁰ mi ²	no Sr ⁸⁹ mi ²	no Ba ¹¹⁰ mi ²	no W ¹⁸⁵ mi ²	Sr ⁸⁹ Sr ⁹⁰	Ba ¹¹⁰ Sr ⁹⁰	Cumulative no Sr ⁹⁰ /mi ²	prt'ns. in inches
1958 8-15	0.219 ± 0.007 0.268 ± 0.007	7.08 ± 0.29 7.60 ± 0.31	3.42 ± 0.15 3.39 ± 0.14	5.35 ± 0.01 3.96 ± 0.05	28.4 28.4	13.7 12.6	8.00 ± 0.35	0.76 0.76
8-18	0.058 ± 0.003 0.064 ± 0.003	1.37 ± 0.06 1.81 ± 0.07	0.93 ± 0.04 1.06 ± 0.05	lost lost	23.6 28.3	16.0 16.6	8.06 ± 0.35	0.05 0.05
8-23	0.114 ± 0.004 0.122 ± 0.004	4.22 ± 0.17 4.52 ± 0.18	2.32 ± 0.10 2.34 ± 0.10	6.12 ± 0.01 5.76 ± 0.01	37.0 37.0	20.4 19.2	8.18 ± 0.36	1.38 1.38
8-25	0.015 ± 0.004 0.022 ± 0.004	0.20 ± 0.02 0.17 ± 0.02	0.30 ± 0.03 0.32 ± 0.02	3.13 ± 0.04 3.48 ± 0.04	13.6 7.9	20.2 14.5	8.20 ± 0.36	--
9-4	0.101 ± 0.004 0.099 ± 0.004	2.96 ± 0.12 2.59 ± 0.10	0.93 ± 0.04 0.94 ± 0.04	5.07 ± 0.08 5.68 ± 0.06	29.3 26.2	9.2 9.5	8.30 ± 0.36	0.69 0.69
9-8	0.018 ± 0.003 0.014 ± 0.002	0.46 ± 0.03 0.51 ± 0.03	0.26 ± 0.03 0.28 ± 0.03	lost 2.33 ± 0.04	25.8 36.2	14.3 19.5	8.31 ± 0.36	0.03 0.03
9-10	0.133 ± 0.007 0.139 ± 0.006	4.51 ± 0.18 4.26 ± 0.17	1.38 ± 0.06 1.38 ± 0.09	9.06 ± 0.10 11.2 ± 0.1	33.9 30.6	10.4 9.9	8.45 ± 0.36	1.72 1.72
9-18	0.083 ± 0.006 0.076 ± 0.004	1.99 ± 0.08 1.86 ± 0.07	0.44 ± 0.02 0.85 ± 0.05	5.56 ± 0.07 4.67 ± 0.06	24.0 24.4	5.3 11.1	8.53 ± 0.36	0.64 0.64
9-22	0.133 ± 0.005 0.123 ± 0.004	3.58 ± 0.04 3.44 ± 0.03	0.84 ± 0.004 1.55 ± 0.05	lost lost	26.9 27.9	6.3 12.6	8.66 ± 0.36	0.64 0.64
9-27	0.057 ± 0.003	1.65 ± 0.02	0.21 ± 0.01	lost	29.2	3.6	8.71 ± 0.36	0.44 0.44
9-30	0.110 ± 0.004 0.139 ± 0.005	3.13 ± 0.04 3.30 ± 0.04	5.42 ± 0.15 1.44 ± 0.06	6.06 ± 0.08 5.97 ± 0.08	22.3 23.7	38.7 10.3	8.85 ± 0.36	1.03 1.03
10-2	0.029 ± 0.005 0.055 ± 0.008	0.27 ± 0.03 0.31 ± 0.04	1.47 ± 0.14 2.17 ± 0.11	1.67 ± 0.01 2.22 ± 0.02	9.1 5.6	50.3 39.2	8.90 ± 0.36	0.02 0.02
10-10	0.027 ± 0.007 0.044 ± 0.004	0.60 ± 0.02 0.79 ± 0.02	1.58 ± 0.04 2.56 ± 0.12	1.53 ± 0.02 1.21 ± 0.02	22.0 17.7	57.8 57.9	8.93 ± 0.36	0.04 0.04
10-14	0.043 ± 0.003	2.19 ± 0.02	6.69 ± 0.10	lost	51.4	157.0	8.98 ± 0.36	0.09 0.09
10-15	0.023 ± 0.003 0.020 ± 0.003	0.35 ± 0.01 0.40 ± 0.03	2.98 ± 0.15 2.79 ± 0.09	lost lost	15.3 19.7	129.5 139.5	9.00 ± 0.36	dry dry

Table 5 - Cont'd.

PRECIPITATION COLLECTIONS - Westwood, New Jersey

Sampling Period from to	At Midpoint of Sampling Period										Cumulative mo Sr ⁹⁰ /ml ²	Ppt'n. in inches	
	mo Sr ⁹⁰ / ml ²	mo Sr ⁸⁹ / ml ²	mo Ba 110 ml ²	mo Sr ¹⁰⁵ / ml ²	Sr ⁸⁹ / Sr ⁹⁰	Ba 110 Sr ⁹⁰	mo Sr ⁹⁰ / ml ²	mo Sr ¹⁰⁵ / ml ²	Sr ⁸⁹ / Sr ⁹⁰	Ba 110 Sr ⁹⁰			
1958													
10-22	0.121 ± 0.005	3.57 ± 0.02	4.09 ± 0.07	lost	29.5	33.8					9.14 ± 0.36	1.59	
10-23	0.173 ± 0.005	5.21 ± 0.02	4.92 ± 0.02	6.52 ± 0.04	30.1	28.4							
10-27	0.516 ± 0.006	36.4 ± 0.5	156 ± 1	13.9 ± 0.1	59.0	253.2					9.76 ± 0.36	2.40	
10-29	0.067 ± 0.004	3.95 ± 0.05	17.3 ± 0.5	1.26 ± 0.02	58.9	258.2					9.83 ± 0.36	0.09	
10-29	0.077 ± 0.004	3.56 ± 0.04	13.3 ± 0.2	1.38 ± 0.01	16.2	172.8						0.09	
11-3	0.275 ± 0.006	12.6 ± 0.1	32.3 ± 0.3	5.73 ± 0.02	45.8	117.0					10.10 ± 0.36	0.72	
11-3	0.267 ± 0.006	12.2 ± 0.1	27.9 ± 0.1	8.29 ± 0.05	45.6	104.4						0.72	
11-10	0.245 ± 0.005	8.40 ± 0.07	22.9 ± 0.3	5.61 ± 0.04	34.2	93.4					10.12 ± 0.36	0.32	
11-10	0.233 ± 0.004	8.33 ± 0.07	18.6 ± 0.2	6.75 ± 0.04	35.7	79.8						0.32	
11-18	0.453 ± 0.014	16.4 ± 0.1	40.5 ± 0.4	6.68 ± 0.05	36.2	89.4					10.24 ± 0.36	0.70	
11-18	0.333 ± 0.006	16.8 ± 0.1	38.0 ± 0.3	8.01 ± 0.04	50.4	114.1						0.70	
11-19	0.021 ± 0.003	0.66 ± 0.02	1.43 ± 0.03	0.99 ± 0.01	31.5	68.7					10.26 ± 0.36	0.09	
11-19	0.025 ± 0.003	0.80 ± 0.02	1.53 ± 0.03	0.70 ± 0.003	31.7	60.7						0.09	
11-26	0.131 ± 0.004	4.16 ± 0.05	6.54 ± 0.10	3.00 ± 0.02	32	50					10.99 ± 0.37	0.12	
11-26	0.127 ± 0.003	4.28 ± 0.05	5.65 ± 0.11	3.08 ± 0.03	34	44						0.12	
12-1	0.564 ± 0.006	18.5 ± 0.1	19.1 ± 0.1	16.9 ± 0.10	33	34					10.93 ± 0.37	2.30	
12-1	0.520 ± 0.006	20.1 ± 0.01	20.7 ± 0.2	17.1 ± 0.10	39	40							
12-4	0.115 ± 0.004	5.25 ± 0.05	4.95 ± 0.08	3.27 ± 0.03	36	34					11.08 ± 0.37	0.68	
12-4	0.162 ± 0.004	5.36 ± 0.04	4.59 ± 0.06	3.83 ± 0.03	33	28						0.68	
12-8	0.087 ± 0.003	3.17 ± 0.03	3.35 ± 0.11	2.39 ± 0.02	37	39					11.17 ± 0.37	0.16	
12-8	0.096 ± 0.003	3.11 ± 0.03	2.23 ± 0.09	1.84 ± 0.04	32	23						0.16	
12-10	0.066 ± 0.007	2.91 ± 0.04	2.78 ± 0.05	1.84 ± 0.02	44	42					11.26 ± 0.37	0.20	
12-10	0.095 ± 0.003	3.20 ± 0.04	2.63 ± 0.10	1.71 ± 0.02	34	28						0.20	
12-15	0.027 ± 0.003	1.11 ± 0.02	1.39 ± 0.13	1.38 ± 0.03	41	52					11.29 ± 0.37	0.02	
12-15	0.043 ± 0.004	1.16 ± 0.03	1.09 ± 0.10	1.10 ± 0.03	27	25						0.02	
12-23	50.0042	0.31 ± 0.01	0.43 ± 0.04	0.46 ± 0.26	273	2102					11.29 ± 0.37	dry	
12-23	50.0045	0.29 ± 0.02	0.60 ± 0.08	0.26 ± 0.01	265	2133						dry	
12-30	0.110 ± 0.004	3.50 ± 0.03	1.47 ± 0.04	1.00 ± 0.01	32	13					11.40 ± 0.37	0.22	
12-30	0.105 ± 0.004	3.59 ± 0.03	1.27 ± 0.03	0.84 ± 0.01	34	12						0.22	

Table 6

PRECIPITATION COLLECTIONS - Richmond, California

Sampling Period from to	At Midpoint of Sampling Period					Ba 110 Sr 90	Cumulative mo Sr 90/ml ²	ppt'n. in inches
	mo Sr 90 ml ²	mo Sr 89 ml ²	mc Ba 110 ml ²	Sr 89 Sr 90	Ba 110 Sr 90			
1958								
3-20	1.328 ± 0.094 0.270 ± 0.006	8.72 ± 0.28 12.88 ± 0.15	61.05 ± 0.45 75.05 ± 0.65	11 16	76 94	1.597 ± 0.265	1.16 1.16	
3-21	0.441 ± 0.010 0.416 ± 0.008	6.84 ± 0.12 9.51 ± 0.16	67.25 ± 0.75 102.05 ± 1.0	16 23	152 245	2.453 ± 0.268	2.45 2.45	
3-24	0.044 ± 0.002 0.047 ± 0.003	0.989 ± 0.018 0.983 ± 0.037	3.24 ± 0.06 3.66 ± 0.14	21 21	74 78	2.514 ± 0.271	0.06 0.06	
3-26	0.104 ± 0.005 0.176 ± 0.006	1.51 ± 0.03 1.51 ± 0.03	5.97 ± 0.10 7.42 ± 0.13	14 8.5	57 42	2.824 ± 0.289	0.40 0.40	
3-28	0.460 ± 0.007 0.559 ± 0.012	12.56 ± 2.03 14.36 ± 2.36	35.4 ± 0.25 38.7 ± 0.60	27 26	77 69	3.842 ± 0.311	2.58 2.58	
4-1	1.012 ± 0.018 0.900 ± 0.016	7.12 ± 0.13 16.77 ± 0.20	32.4 ± 0.4 29.27 ± 0.33	7.0 19	32 33	4.798 ± 0.331	1.84 1.84	
4-4	0.386 ± 0.008 0.351 ± 0.007	4.71 ± 0.08 5.16 ± 0.09	10.30 ± 0.16 14.22 ± 0.22	12 15	26 40	5.166 ± 0.332	0.73 0.73	
4-7	0.0070 ± 0.0005 0.0078 ± 0.0006	0.008 ± 0.003 0.117 ± 0.004	0.38 ± 0.02 0.64 ± 0.03	12 15	54 106	5.173 ± 0.332	dry dry	
4-14	0.0027 ± 0.0002 0.0038 ± 0.0003	0.013 ± 0.002 0.042 ± 0.002	0.20 ± 0.01 0.17 ± 0.01	16 11	74 45	5.176 ± 0.332	dry dry	
4-21	0.0035 ± 0.0004 0.0042 ± 0.003	0.041 ± 0.002 0.047 ± 0.002	0.12 ± 0.01 0.27 ± 0.01	12 11	34 64	5.180 ± 0.332	dry dry	
4-28	0.0051 ± 0.0002 0.0038 ± 0.0002	0.053 ± 0.002 0.039 ± 0.002	0.024 ± 0.003 0.070 ± 0.002	10 10	18 18	5.185 ± 0.332	dry dry	

Table 6 - Cont'd.

PRECIPITATION COLLECTIONS - Richmond, California - Cont'd.

Sampling Period from to	At Midpoint of Sampling Period										Cumulative mo Sr90/mi ²	ppt'n. in inches	
	mo Sr90 / 2 mi ²	mo Sr89 / 2 mi ²	mo Ba110 / 2 mi ²	mo W185 / 2 mi ²	Sr89 / Sr90	Ba110 / Sr90	mo Sr90 / mi ²	mo Sr89 / mi ²	mo Ba110 / mi ²	mo W185 / mi ²			
1958													
5-5	0.062 ± 0.002	0.72 ± 0.02	0.26 ± 0.01	0.037 ± 0.007	11.6	4.3	5.249 ± 0.332					dry	
5-12	0.065 ± 0.002	0.69 ± 0.02	0.27 ± 0.01	0.039 ± 0.002	10.6	4.2						dry	
5-19	0.005 ± 0.0002	0.11 ± 0.01	0.60 ± 0.02	lost	20.4	11.1	5.190 ± 0.332					dry	
5-19	0.005 ± 0.0002	0.11 ± 0.01	0.65 ± 0.02	lost	20.4	12.0						dry	
5-24	0.266 ± 0.005	6.7 ± 0.1	6.1 ± 0.3	2.43 ± 0.08	25.2	22.9	5.559 ± 0.337					dry	
5-19	0.353 ± 0.010	6.1 ± 0.2	7.6 ± 0.2	2.30 ± 0.05	17.3	21.5						dry	
5-24	0.020 ± 0.001	0.082 ± 0.002	0.066 ± 0.004	0.141 ± 0.002	4.1	3.3	5.576 ± 0.337					0.80	
6-2	0.014 ± 0.001	0.081 ± 0.002	0.076 ± 0.004	0.184 ± 0.002	5.8	5.4						0.80	
6-2	0.092 ± 0.002	1.04 ± 0.02	0.29 ± 0.01	lost	11.3	3.2	5.670 ± 0.337					0.43	
6-9	0.095 ± 0.002	1.12 ± 0.02	0.31 ± 0.01	lost	11.8	3.3						0.43	
6-9	0.039 ± 0.001	0.373 ± 0.002	0.21 ± 0.01	2.20 ± 0.02	12.9	5.3	5.726 ± 0.338					0.04	
6-13	0.072 ± 0.002	0.355 ± 0.005	0.18 ± 0.01	0.83 ± 0.01	4.9	2.5						0.04	
6-13	0.010 ± 0.001	0.145 ± 0.002	0.100 ± 0.005	0.043 ± 0.007	14.3	10.0	5.738 ± 0.338					dry	
6-20	0.014 ± 0.001	0.166 ± 0.002	0.110 ± 0.005	4.9 ± 0.04	11.9	7.9						dry	
6-20	0.010 ± 0.001	0.097 ± 0.002	0.156 ± 0.005	0.092 ± 0.008	9.7	15.6	5.748 ± 0.338					dry	
6-24	0.010 ± 0.001	0.128 ± 0.002	lost	lost	12.8	--						dry	
6-24												dry	
6-27												dry	
6-27	0.009 ± 0.001	0.039 ± 0.001	0.052 ± 0.002	0.136 ± 0.006	4.3	5.3	5.75 ± 0.34					dry	
6-27	0.005 ± 0.001	0.045 ± 0.001	0.073 ± 0.002	0.203 ± 0.009	9.2	13.9						dry	
7-3	0.0136 ± 0.0005	0.274 ± 0.002	0.95 ± 0.02	0.95 ± 0.02	20.1	69.8	5.77 ± 0.34					dry	
7-3	0.0141 ± 0.0005	0.396 ± 0.008	1.64 ± 0.02	1.64 ± 0.02	28.0	116.3						dry	
7-11	0.019 ± 0.001	0.243 ± 0.008	0.228 ± 0.005	lost	12.7	12.0	5.79 ± 0.34					dry	
7-18	lost	lost	lost	lost	--	--						dry	

Table 6 - Cont'd.

PRECIPITATION COLLECTIONS - Richmond, California - Cont'd.

Sampling Period from to	At Midpoint of Sampling Period						Ba 110 Sr 90	Ba 110 Sr 90	Cumulative mo Sr ⁹⁰ /ml ²	ppt'n. in inches
	mo Sr ⁹⁰ ml ²	mo Sr ⁸⁹ ml ²	mo Ba 110 ml ²	mo W 185 ml ²	Sr 89 Sr 90	Ba 110 Sr 90				
1958										
7-18	0.0138 ± 0.0005	0.254 ± 0.002	0.65 ± 0.01				18.4	47.1	5.80 ± 0.34	dry
7-25	0.0138 ± 0.0005	0.252 ± 0.002	0.45 ± 0.01				18.2	32.6		dry
8-1	0.081 ± 0.004	0.60 ± 0.01	0.570 ± 0.005				7.4	7.0	5.88 ± 0.34	dry
8-1	0.069 ± 0.003	0.63 ± 0.01	0.660 ± 0.005				9.1	9.5		dry
8-8	0.007 ± 0.001	0.087 ± 0.004	0.158 ± 0.002				12.4	22.5	5.89 ± 0.34	dry
8-1	0.005 ± 0.001	0.082 ± 0.004	0.123 ± 0.005				16.4	26.4		dry
8-8	0.024 ± 0.002	0.030 ± 0.006	0.171 ± 0.005	0.029			1.2	7.1	5.92 ± 0.34	dry
8-15	0.044 ± 0.003	0.032 ± 0.005	0.158 ± 0.005	lost			0.7	3.6		dry
8-15	0.036 ± 0.002	0.338 ± 0.005	0.46 ± 0.02	0.64 ± 0.01			9.4	12.8	5.96 ± 0.34	dry
8-22	0.044 ± 0.004	0.269 ± 0.010	0.48 ± 0.02	0.65 ± 0.02			6.1	10.9		dry
8-22	0.005 ± 0.001	0.088 ± 0.005	0.074 ± 0.002				17.6	14.8	5.97 ± 0.34	dry
8-29	0.005 ± 0.001	0.085 ± 0.004	0.084 ± 0.002				17.0	16.8		dry
8-29	<0.001	0.087 ± 0.002	0.064 ± 0.002	0.583 ± 0.013					5.97 ± 0.34	dry
9-6	0.001 ± 0.001	0.089 ± 0.002	0.118 ± 0.002	0.112 ± 0.007			22.5	<22.8	5.99 ± 0.34	dry
9-6	0.028 ± 0.001	0.63 ± 0.02	<0.64	1.55 ± 0.05			30.4	<23.3		dry
9-13	0.021 ± 0.001	0.64 ± 0.02	<0.49	1.67 ± 0.06			3.8	4.0	6.00 ± 0.34	dry
9-13	0.006 ± 0.001	0.023 ± 0.002	0.024 ± 0.001	0.34 ± 0.02			5.8	6.2		dry
9-20	0.005 ± 0.001	0.029 ± 0.002	0.031 ± 0.001	0.35 ± 0.02			15.6	5.6	6.02 ± 0.34	0.05
9-20	0.016 ± 0.001	0.25 ± 0.01	0.09 ± 0.01	0.85 ± 0.02			18.5	6.4		0.05
9-20	0.014 ± 0.001	0.26 ± 0.01	0.09 ± 0.01	0.76 ± 0.02					6.02 ± 0.34	dry
9-23	0.002 ± 0.001	0.030 ± 0.002	0.016 ± 0.001	0.087 ± 0.002					6.02 ± 0.34	dry
9-23	0.001 ± 0.001	0.026 ± 0.001	0.017	0.148 ± 0.005						dry
9-30	0.006 ± 0.001	0.028 ± 0.001	0.14 ± 0.01	0.24 ± 0.01			4.7	23	6.02 ± 0.34	dry
9-30	0.004 ± 0.001	0.026 ± 0.001	0.13 ± 0.01	0.28 ± 0.01			6.5	32		dry

Table 6 - Cont'd.

PRECIPITATION COLLECTIONS - Richmond, California - Cont'd.

Sampling Period from to	At Midpoint of Sampling Period						Ba 110 Sr 90	Ba 110 Sr 90	Cumulative mc Sr 90/mi ²	ppt'n. in inches
	mo Sr 90 mi ²	mo Sr 89 mi ²	mc Ba 110 mi ²	mc N 185 mi ²	Sr 89 Sr 90	Sr 89 Sr 90				
1958										
10-7	0.003 ± 0.001 0.003 ± 0.001	0.029 ± 0.002 0.074 ± 0.018	0.028 ± 0.002 0.026	0.44 ± 0.01 0.37 ± 0.01	10 25	9	6.02	dry dry		
10-14	0.02 ± 0.01 0.02 ± 0.01	0.60 ± 0.01 0.54 ± 0.01	1.47 ± 0.06 1.10 ± 0.03	0.40 ± 0.01 0.54 ± 0.02	30 27	74 55	6.04	0.17 0.17		
10-20	0.003 ± 0.001 0.005 ± 0.001	0.075 ± 0.002 0.086 ± 0.002	0.76 ± 0.01 1.30 ± 0.02	0.220 ± 0.005 0.204 ± 0.005	25 17	253 260	6.05	dry dry		
10-27	0.004 ± 0.001 0.007 ± 0.001	0.105 ± 0.002 0.088 ± 0.002	1.33 ± 0.01 1.63 ± 0.03	0.41 ± 0.02 lost	26 12	332 232	6.05	dry dry		
11-3	0.005 ± 0.003	0.36 ± 0.01	0.73 ± 0.03 0.92 ± 0.03	0.243 ± 0.002 0.243 ± 0.002	72	146	6.06	0.04 0.04		
11-10										
11-17	0.008 ± 0.003 0.019 ± 0.006	0.26 ± 0.01 0.24 ± 0.01	0.73 ± 0.03 0.42 ± 0.02	0.26 ± 0.01 0.25 ± 0.01	32 13	91 22	6.07	dry dry		
11-24	0.014 ± 0.001 0.012 ± 0.001	0.128 ± 0.005 0.105 ± 0.004	0.338 ± 0.005 0.182 ± 0.005	0.233 ± 0.012 0.174 ± 0.011	9 9	24 15	6.08	dry dry		
11-24	0.008 ± 0.001 0.013 ± 0.001	0.156 ± 0.004 0.151 ± 0.005	0.268 ± 0.005 0.248 ± 0.010	0.238 ± 0.002 0.274 ± 0.002	20 12	34 19	6.09	trace trace		
12-1	0.002 ± 0.001 0.005 ± 0.001	0.080 ± 0.006 0.124 ± 0.003	0.095 ± 0.002 0.087 ± 0.002	0.14 ± 0.01 0.16 ± 0.01	40 25	48 17	6.10	dry dry		
12-8										
12-15	0.001 ± 0.001 0.005 ± 0.001	0.071 ± 0.002 0.051 ± 0.002	0.077 ± 0.002 0.046 ± 0.002	0.13 ± 0.01 0.12 ± 0.01	10	9	6.10	dry dry		
12-15	0.087 ± 0.006 0.089 ± 0.007	2.39 ± 0.04 2.73 ± 0.05	1.44 ± 0.03 1.52 ± 0.03	0.63 ± 0.02 1.16 ± 0.04	27 31	16 17	6.18	0.62 0.62		

Table 6 - Cont'd.

PRECIPITATION COLLECTIONS - Richmond, California - Cont'd.

Sampling Period from to	At Midpoint of Sampling Period										Cumulative mc Sr90/mi ²	ppt'n. in inches	
	mc Sr90 mi ²	mc Sr89 mi ²	mc Ba110 mi ²	mc W185 mi ²	Sr89 Sr90	Ba110 Sr90	mc Sr90 mi ²	mc Sr89 mi ²	mc Ba110 mi ²	mc W185 mi ²			
1958													
12-22 12-29	0.190 ± 0.012 0.165 ± 0.011	6.60 ± 0.06 6.34 ± 0.06	2.5 ± 0.1 2.7 ± 0.1	0.93 ± 0.02 1.04 ± 0.02	35 38	13 16	6.36					1.15 1.15	
12-29 1-7-59	0.629 ± 0.021 0.665 ± 0.021	25.8 ± 0.2 24.4 ± 0.2	7.54 ± 0.12 7.88 ± 0.13	3.99 ± 0.15 4.40 ± 0.17	41 37	12 12	7.01					1.68 1.68	
1959													
1-7 1-13	0.42 ± 0.04 0.39 ± 0.01	15.8 ± 0.1 15.8 ± 0.1	3.89 ± 0.08 4.19 ± 0.05	2.42 ± 0.08 2.68 ± 0.10	38 40	9 11	7.42					2.01 2.01	
1-13 1-20	0.021 ± 0.001 0.021 ± 0.002	0.320 ± 0.016 0.306 ± 0.016	0.152 ± 0.005 0.218 ± 0.006	1.34 ± 0.05 1.22 ± 0.05	15 14	7 10	7.44					dry dry	
1-20 1-26	0.259 ± 0.009 0.240 ± 0.008	7.22 ± 0.04 7.14 ± 0.04	1.09 ± 0.04 1.10 ± 0.04	2.94 ± 0.06 3.76 ± 0.07	28 30	4 4	7.69					0.54 0.54	
1-26 1-28	0.065 ± 0.008 0.050 ± 0.007	1.09 ± 0.02 1.09 ± 0.02	0.125 ± 0.005 0.130 ± 0.005	0.263 ± 0.013 0.244 ± 0.011	17 22	2 3	7.75					0.19 0.19	
1-28 2-4	0.034 ± 0.002 0.031 ± 0.002	0.429 ± 0.020 0.494 ± 0.023	0.102 ± 0.002 0.114 ± 0.002	1.87 ± 0.08 1.75 ± 0.08	13 16	3 4	7.78					trace trace	
2-4 2-9	0.008 ± 0.001 0.005 ± 0.001	0.058 ± 0.003 0.061 ± 0.002	<0.011 <0.010	0.167 ± 0.008 1.145 ± 0.007	7 12		7.79					dry dry	

Table 7
1958 U. S. SOIL ANALYSES

Sampled by HASL personnel and sent directly to Beltsville for preparation. Allquots were sent to HASL as blind duplicates. Seventeen locations were sampled and at six locations two sites were sampled.

<u>Site</u>	<u>mc Sr⁹⁰ / ml²</u>	<u>rate / Inch of rain *</u>
Binghamton	42	0.19
Des Moines	84 57	0.55 <i>X in error</i>
Rapid City	74 70	0.77
Jacksonville	36	0.12
Atlanta	37	0.14
Memphis	37	0.11
Los Angeles	16	0.25
Grand Junction	39	0.75

* Precipitation values used were mean of 1953-58.

Note:- Results for remaining fifteen sites will be available about May 1, and blind duplicates for all sites one week later.

Table 8

REPRODUCIBILITY OF SOIL ANALYSES

Blind Duplicates - 1958 U. S. Soils

<u>Beltsville #</u>	<u>d/m Sr⁹⁰</u> <u>kg Soil</u>
592	63 ± 2
5961	65 ± 5
598	52 ± 3
5947	56 ± 3
5919	549 ± 7
5950	574 ± 8
5921	491 ± 8
5978	494 ± 8
5922	38 ± 2
5953	40 ± 2
5924	58 ± 3
5944	53 ± 3
5925	697 ± 25
5960	681 ± 8
5926	46 ± 3
5967	47 ± 3
5931	295 ± 5
5964	282 ± 6
5932	26 ± 3
5972	21 ± 3
5933	181 ± 5
5943	162 ± 6
5936	57 ± 3
5968	49 ± 3
5937	471 ± 7
5966	434 ± 6

Error term - one standard deviation due to counting.

Table 8 (Contd.)

Blind Duplicates - 1958 U. S. Soils (Contd.)

<u>Beltsville #</u>	<u>d/m/ Sr⁹⁰ / kg Soil</u>
5938	35 ± 3
5981	38 ± 2
5941	480 ± 8
5971	477 ± 17

Blind Duplicates - 1958 Foreign Soils

56453	16 ± 3	} *
58306	15 ± 3	
	18 ± 3	
58308	236 ± 7	} *
	247 ± 8	
58816	231 ± 6	} *
	237 ± 6	
58220	75 ± 5	} *
	75 ± 5	
581042	73 ± 3	

* duplicate analyses.

Error term - one standard deviation due to counting.

Table 9

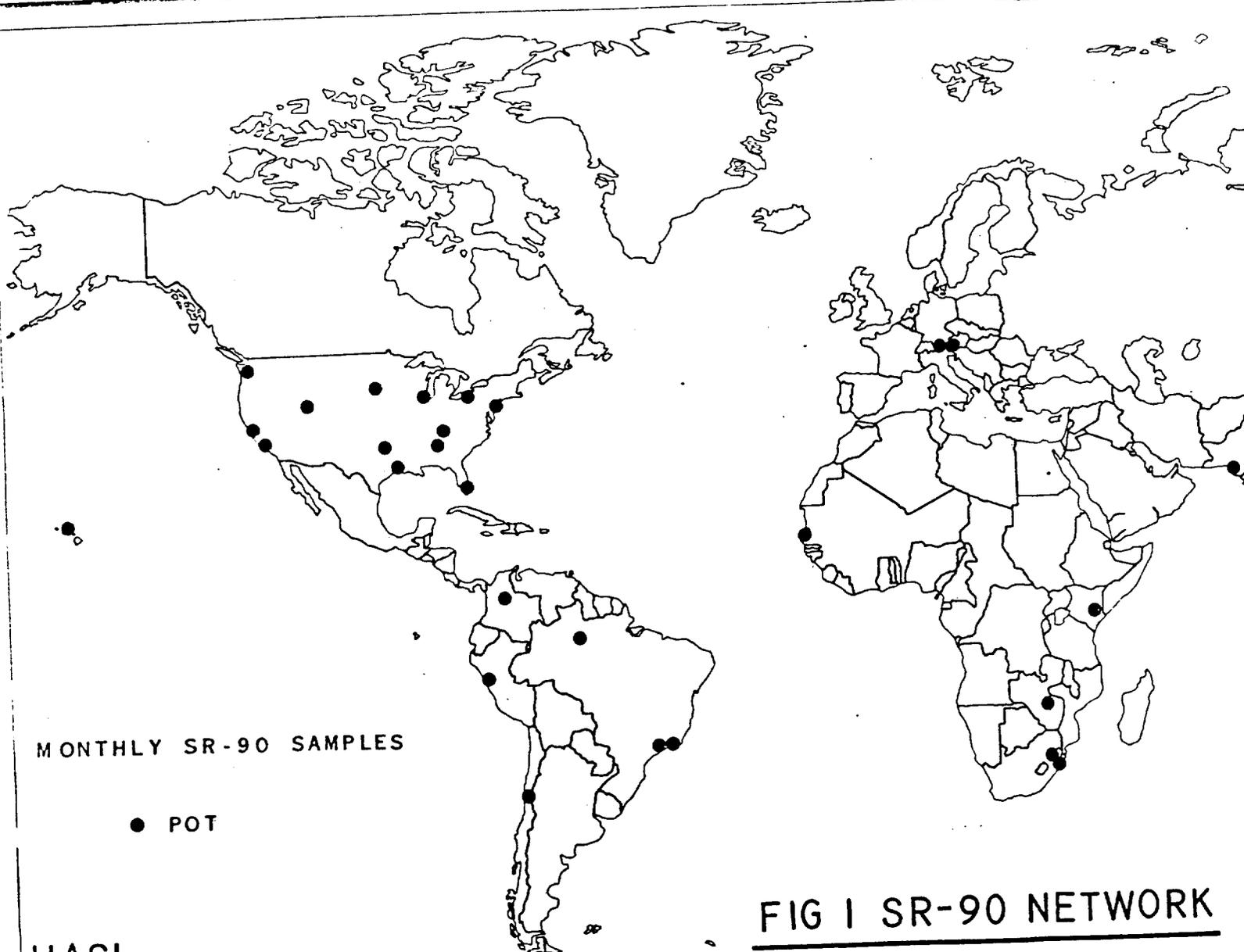
MEAN mc/mi² AS OF JUNE 1, 1958

<u>Latitude Band</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
30° - 50° N	73	65	33	61	74
10° - 30° N	-	64	43	40	68
10°N - 10°S	19	9	15	14	-
10° - 30° S	8	26	38	65	34
30° - 50° S	16	10	21	16	20

Table 10

MEAN RATIO AS OF JUNE 1, 1958

<u>Latitude Band</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
30° - 50° N	68	125	58	98	70
10° - 30° N	-	145	72	95	44
10°N - 10°S	119	150	88	117	-
10° - 30° S	73	49	70	162	68
30° - 50° S	50	40	60	80	-



MONTHLY SR-90 SAMPLES

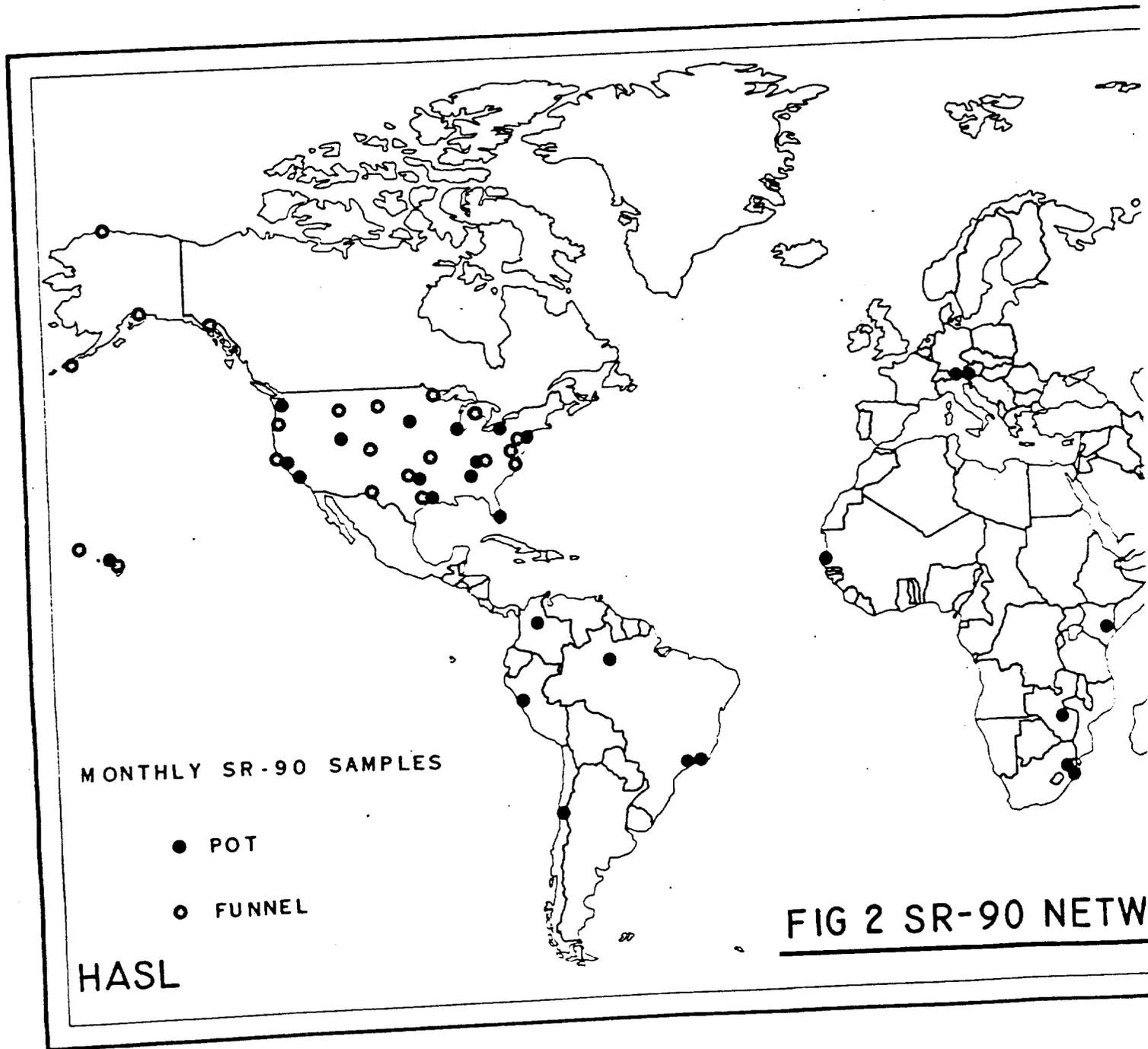
● POT

HASL

FIG 1 SR-90 NETWORK



FIG 1 SR-90 NETWORK



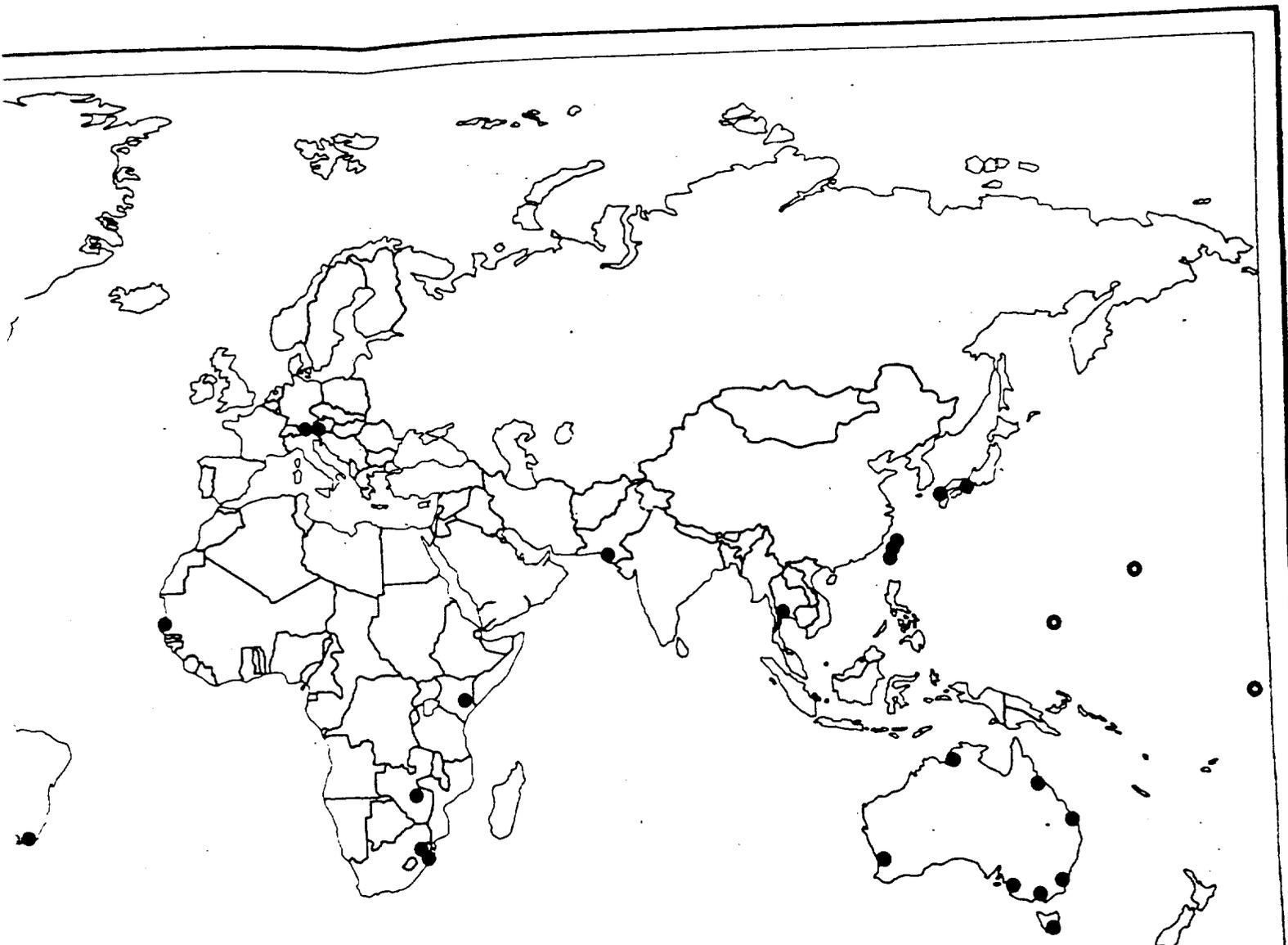


FIG 2 SR-90 NETWORK

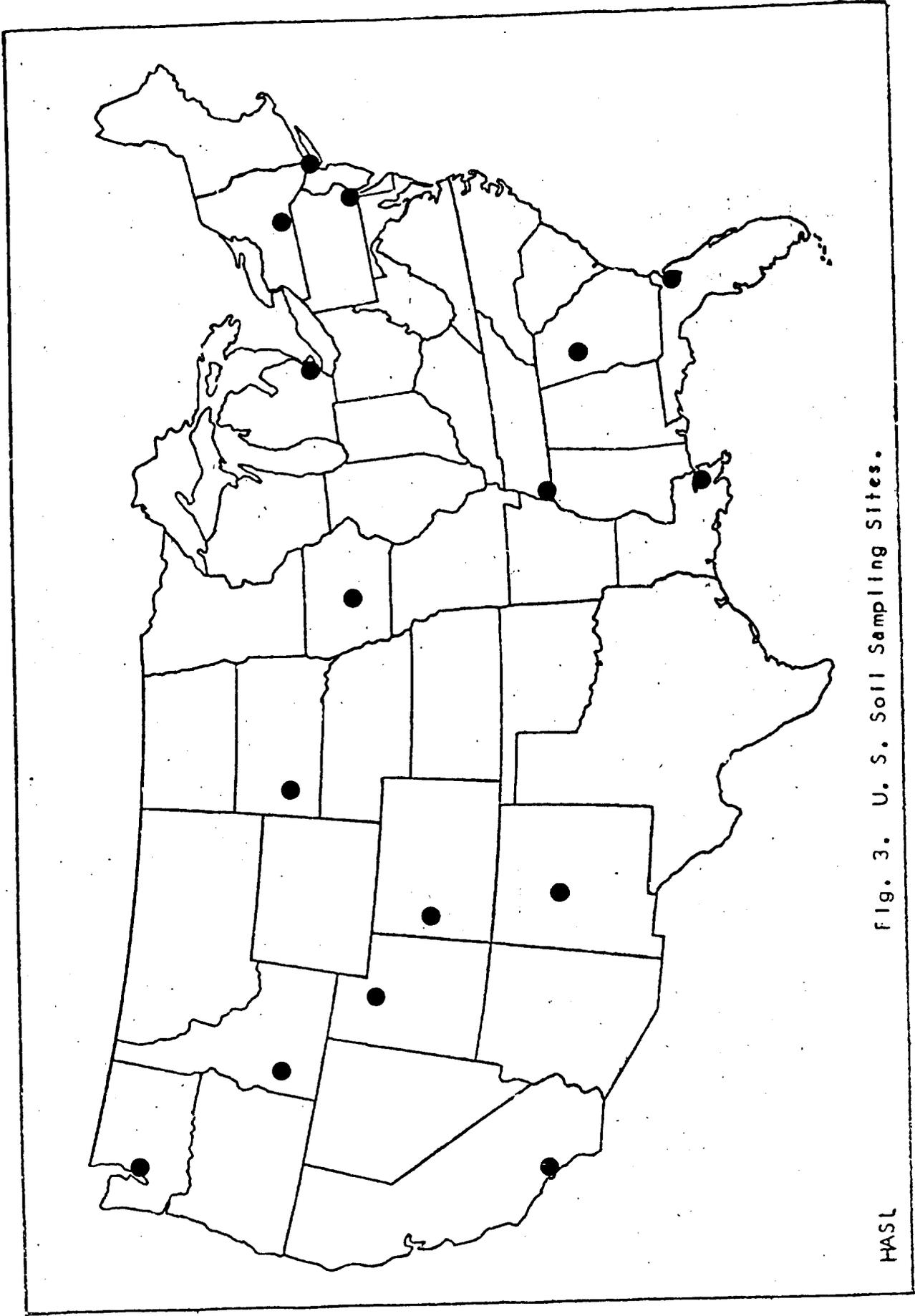
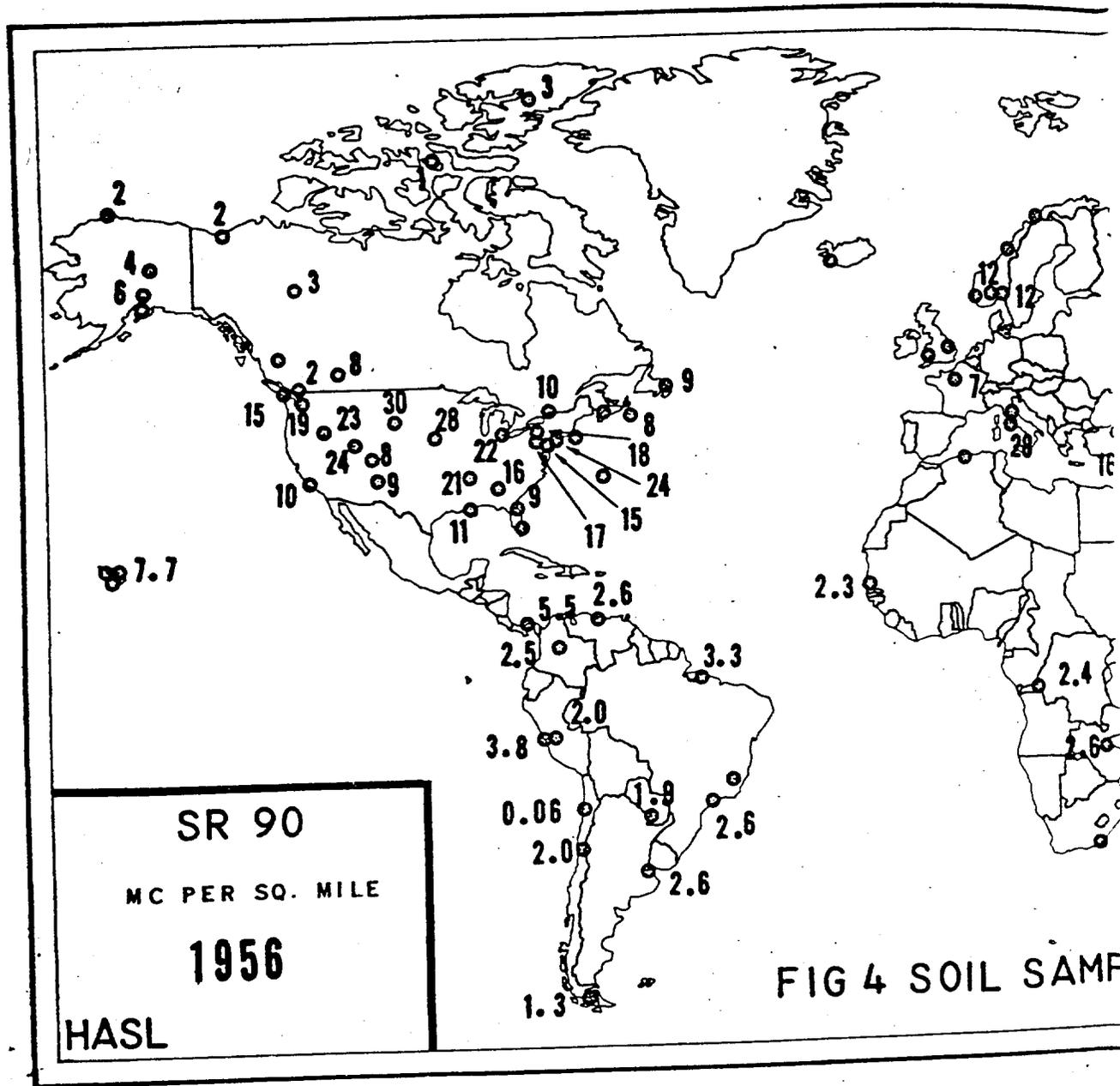


Fig. 3. U. S. Soil Sampling Sites.

HASL



1959

Y

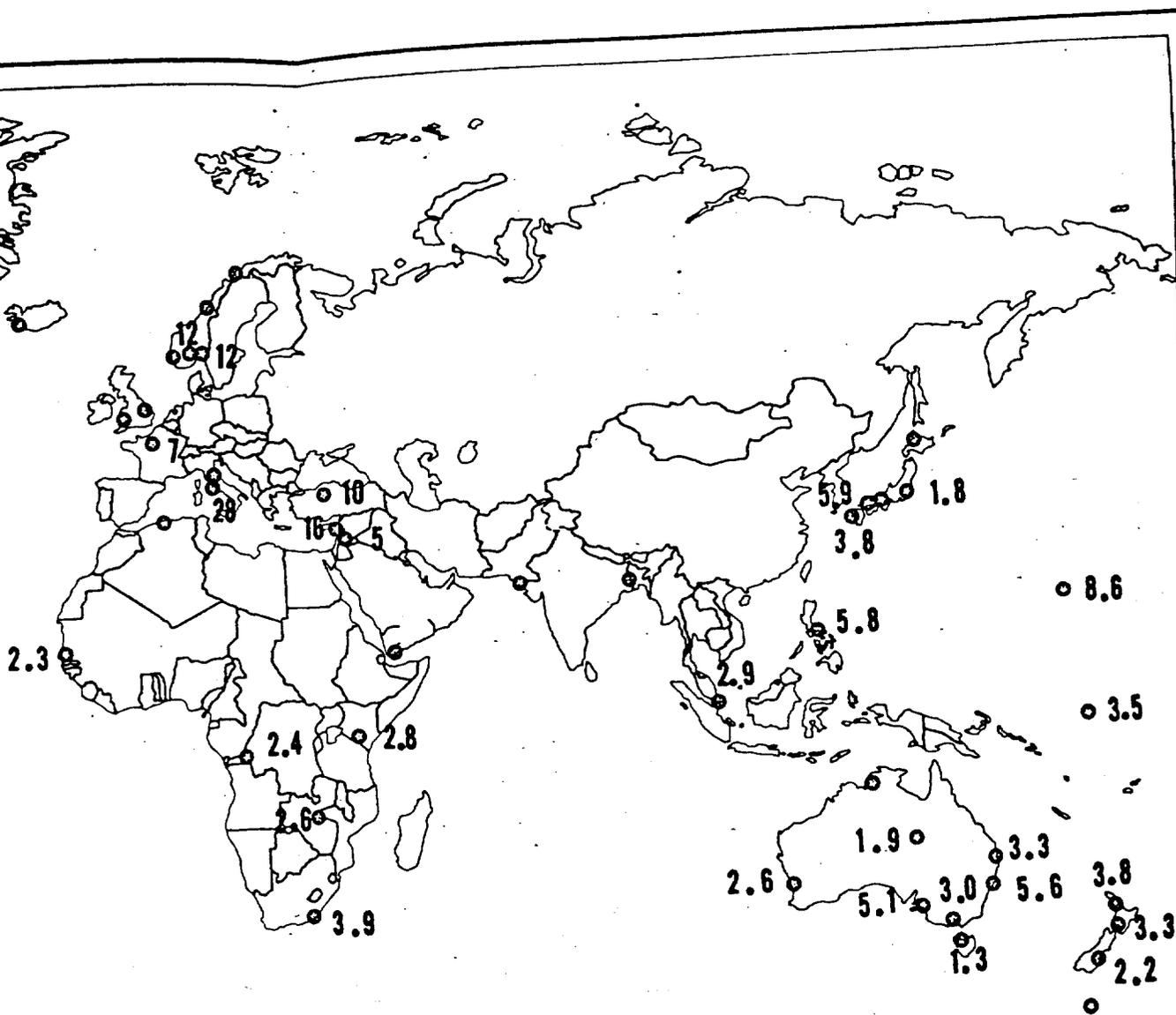
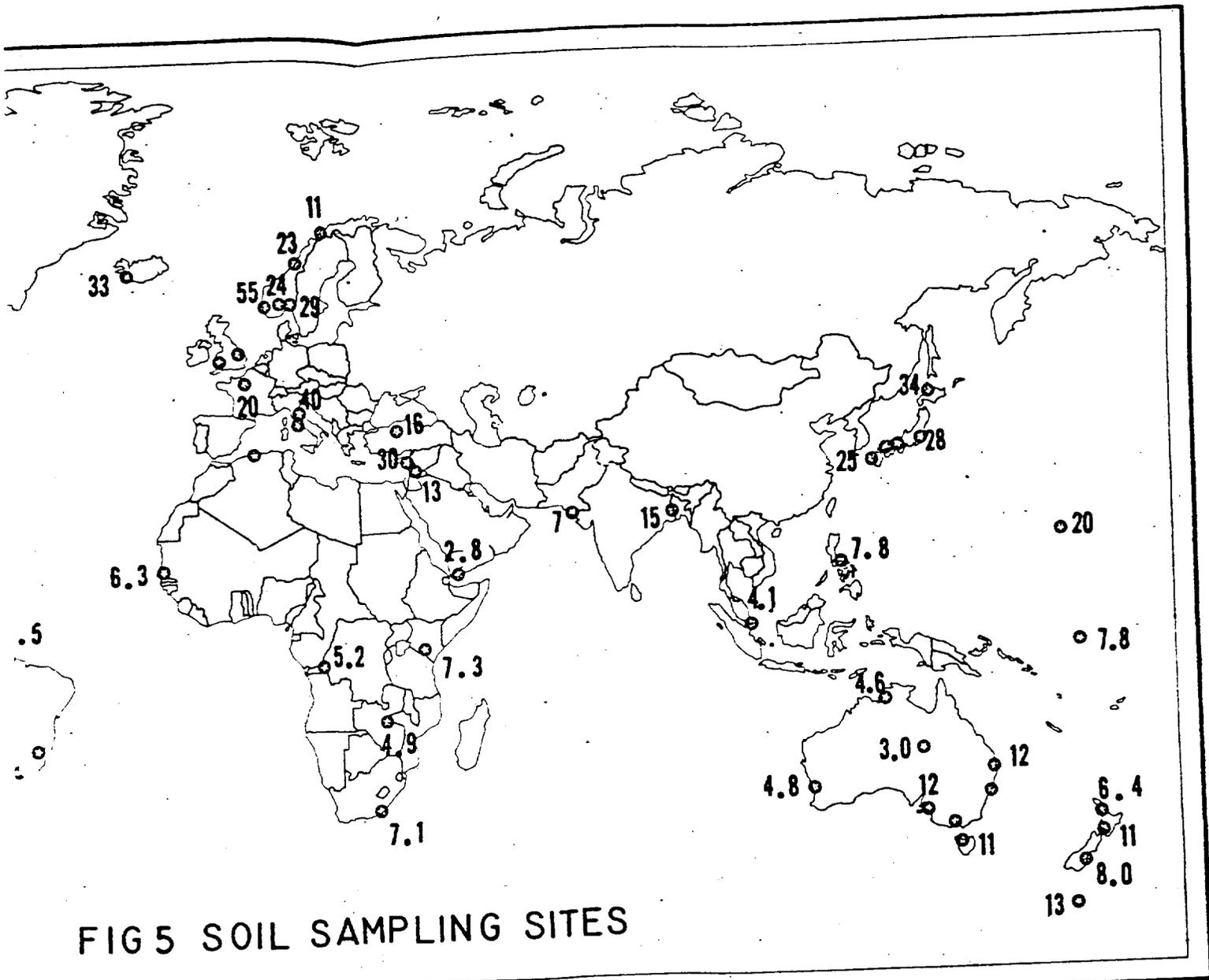
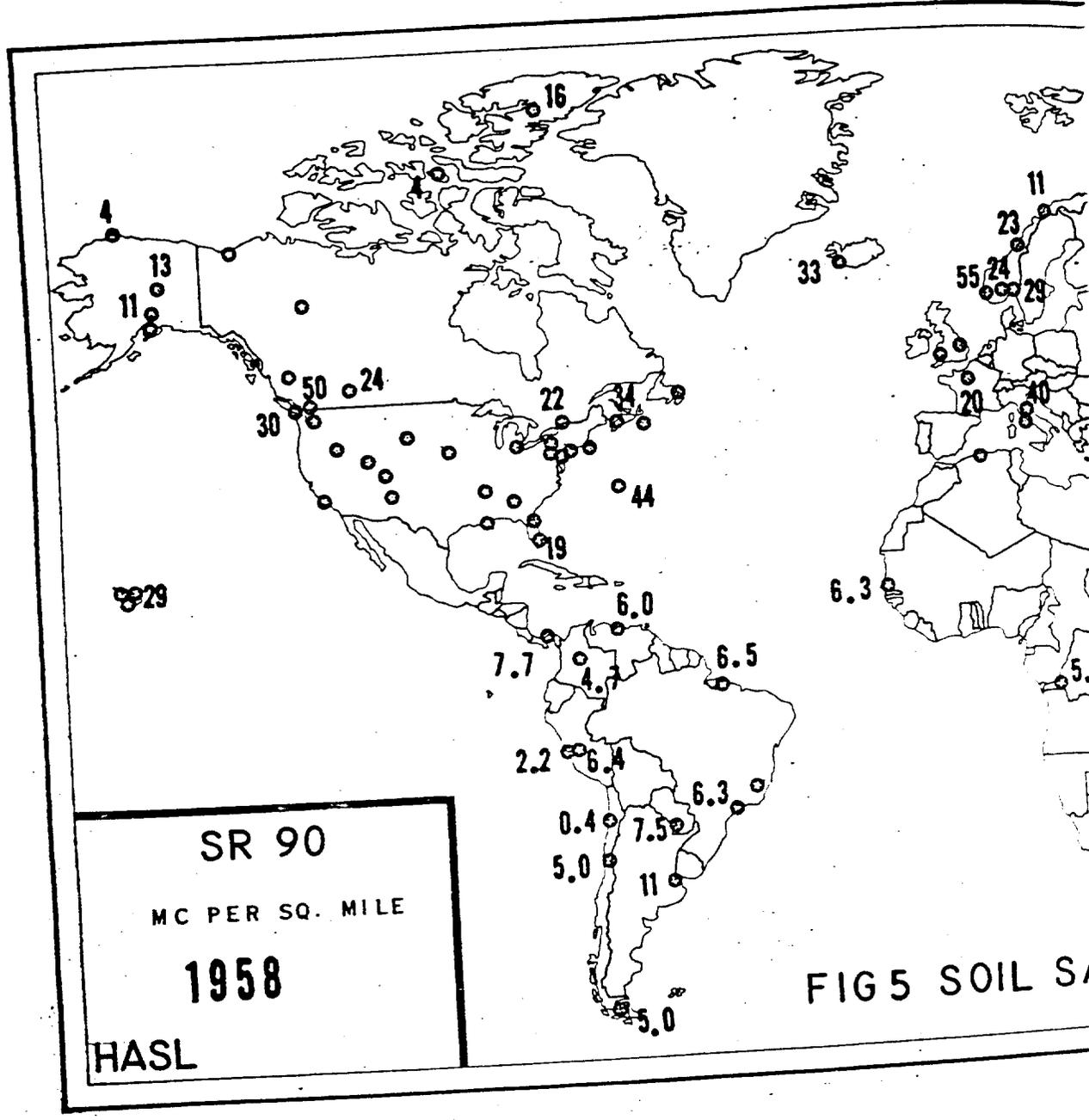
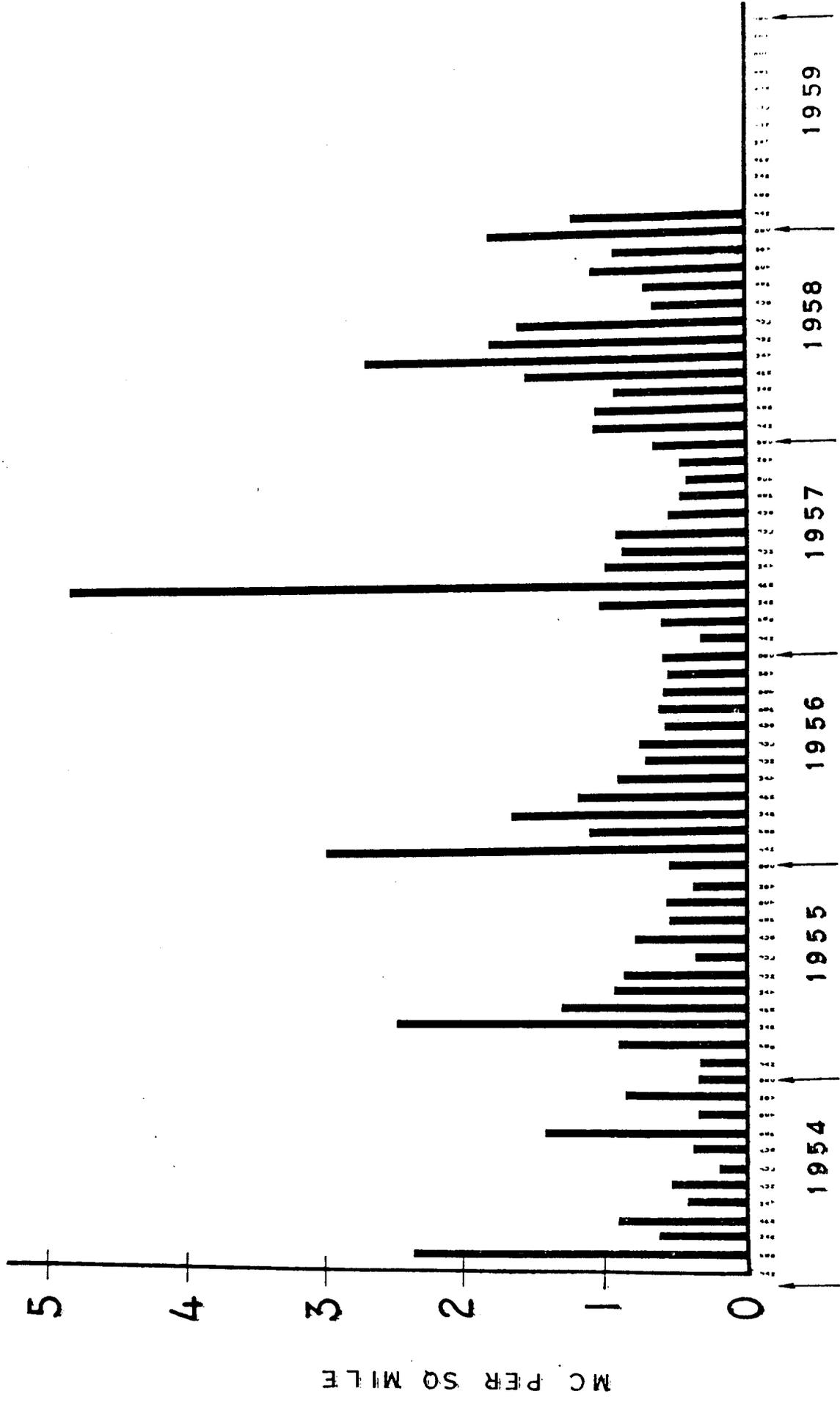


FIG 4 SOIL SAMPLING SITES

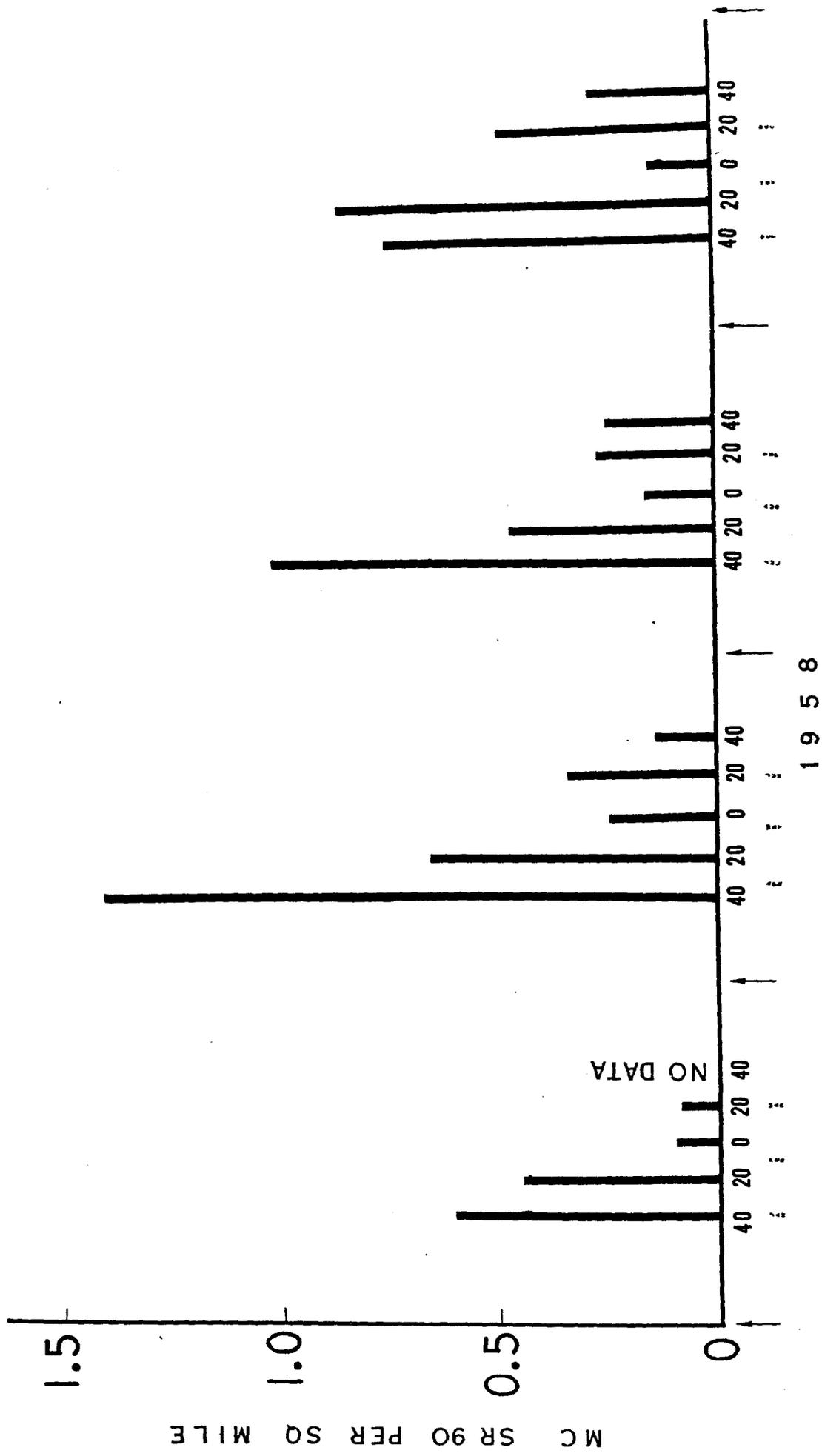


1959





HASL FIG 6 MONTHLY SR 90 NEW YORK CITY



HASL FIG 7 QUARTERLY SR 90 DEPOSITION BY 20° LATITUDE BANDS - '58 POTS

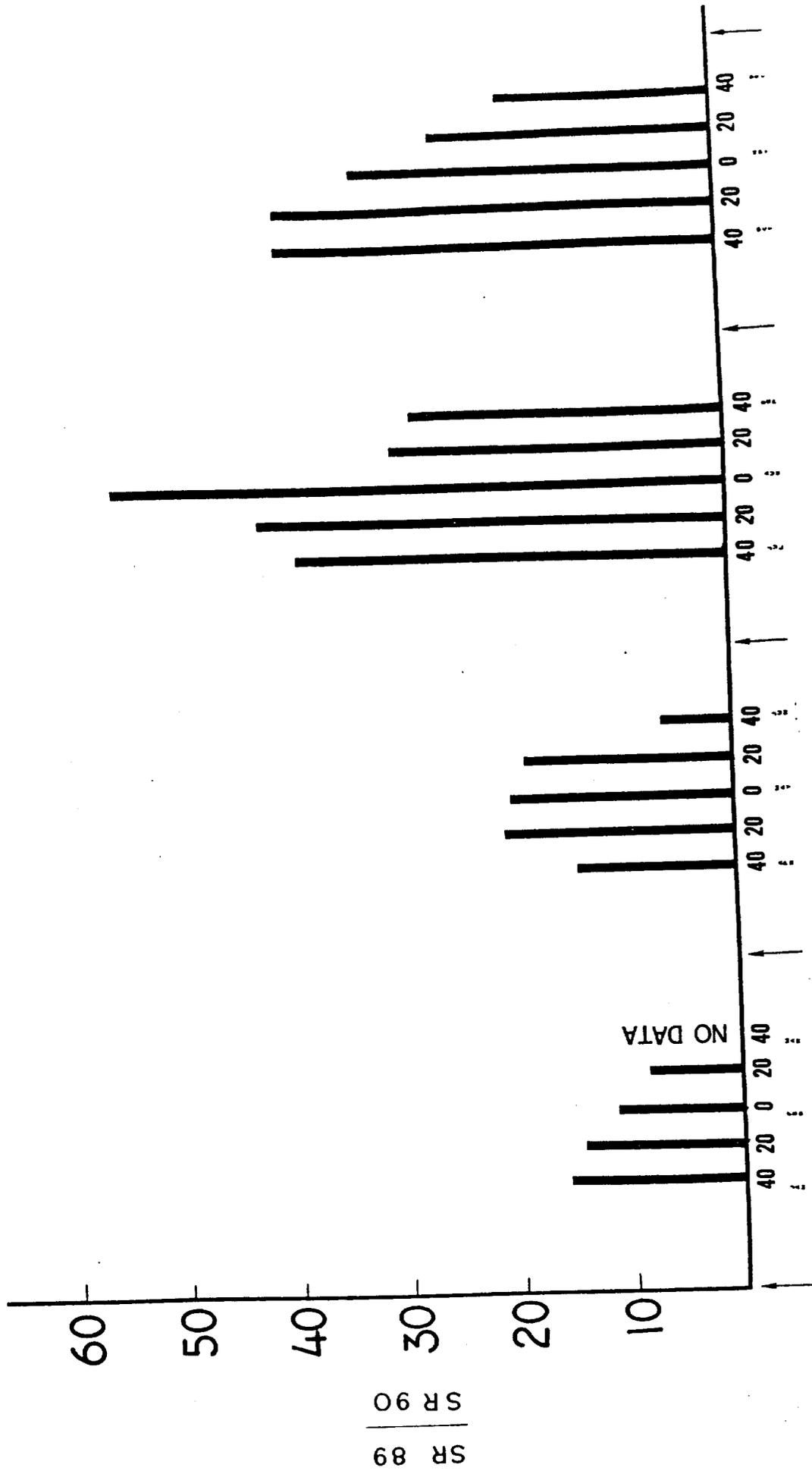


FIG 8 QUARTERLY SR ⁸⁹/₉₀ RATIOS BY 20° LATITUDE BANDS 1958 POTS

HASL