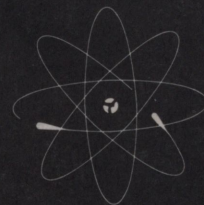


HASL-164

health and safety laboratory

FALLOUT PROGRAM
QUARTERLY SUMMARY REPORT

October 1, 1965



UNITED STATES ATOMIC ENERGY COMMISSION
NEW YORK, N. Y. 10014

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HEALTH AND SAFETY LABORATORY

FALLOUT PROGRAM
QUARTERLY SUMMARY REPORT

(June 1, 1965 through September 1, 1965)

Prepared by

Edward P. Hardy, Jr.
Joseph Rivera

Environmental Studies Division

Preceding reports in this series:

HASL-42, -51, -65, -77, -84, -88,
-95, -105, -111, -113, -115,
-117, -122, -127, -131, -132
-135, -138, -140, -142, -144,
-146, -149, -155, -158, and
-161.

October 1, 1965

UNITED STATES ATOMIC ENERGY COMMISSION

New York Operations Office

NYOO
Health and Safety

FALLOUT PROGRAM
QUARTERLY SUMMARY REPORT

October 1, 1965

ABSTRACT

This report presents current data from the HASL Fallout Program, the National Radiation Laboratory in New Zealand and Argonne National Laboratory. Radionuclide levels in monthly fallout, milk, tap water, diet and upper air samples are given in tabular form. Also included are interpretive reports and notes dealing with fission yield and fission product decay, a material balance of strontium-90, plutonium-238 from SNAP-9A, the half-time of cesium-137 in man, cesium-137 in man and his diet, and strontium-90 in infant diets. A bibliography of recent literature pertinent to nuclear debris studies is given at the end of the report.

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Introduction

Every three months, the Health and Safety Laboratory issues a report summarizing current information obtained at HASL pertaining to fallout. This report, the latest in the series, contains information that became available during the period from June 1, 1965 to September 1, 1965. The next report is scheduled for publication on January 1, 1966. Preceding reports in the series, starting with HASL-42, "Environmental Contamination from Weapons Tests", and continuing through HASL-51, -65, -77, -84, -88, -95, -105, -111, -113, -115, -117, -122, -127, -131, -132, -135, -138, -140, -142, -144, -146, -149, -155, -158, -161, and -164 (this report); may be purchased from the Clearinghouse for Federal Scientific and Technical Information, CFSTI, 5285 Port Royal Road, Springfield, Virginia 22151.

To give a more complete picture of the current fallout situation and to provide a medium for rapid publication of fallout data, these quarterly reports often contain information from other laboratories and programs, some of which are not part of the general AEC program. To assist in developing, as rapidly as possible, provisional interpretations of the data, special interpretive reports and notes prepared by scientists working in the field of fallout are also included from time to time. Many of these scientists are associated in some way with the general AEC program. Information developed outside of HASL is identified as such and is gratefully acknowledged by the Laboratory. In this report, data from the National Radiation Laboratory in New Zealand and the Division of Biological and Medical Research at Argonne National Laboratory are included.

A portion of the radiochemical analyses are carried out by commercial laboratories under contract to the HASL Environmental Studies and Radiochemistry Divisions. The results of these analyses are reported as part of HASL's regular fallout program. The contractor analytical laboratories are Nuclear Science and Engineering Corporation, Pittsburgh, Pennsylvania; Isotopes, Incorporated, Westwood, New Jersey; Radiochemistry, Incorporated, Louisville, Kentucky; Tracerlab, Division of LFE, Richmond, California; Controls for Radiation, Incorporated, Cambridge, Massachusetts; Hazleton-Nuclear Science Corporation, Palo Alto, California and Food, Chemical and Research Laboratories, Incorporated, Seattle, Washington.

This report is divided into four main parts:

1. HASL Fallout Program Data,
2. Data from Sources Other Than HASL
3. Interpretive Reports and Notes, and
4. Recent Publications Related to Fallout.

FALLOUT PROGRAM

Quarterly Summary Report

October 1, 1965

- Part I - HASL Fallout Program Data
 - 1. Fallout Deposition
 - 1.1 Monthly Precipitation
 - 1.11 Sr-89 and Sr-90 at 156 World-Wide Sites

At present, there are 49 monthly monitoring sites in the United States and 107 in foreign countries. A map showing the sites is presented as Figure 1, page 4. The collections are made using either stainless steel pots with exposed areas of 0.82 square feet, or plastic funnels with exposed areas of 0.77 square feet to which are attached ion-exchange columns.

In late 1958 and 1959, the monthly samples were analyzed for strontium-90 and strontium-89. The strontium-89 measurements were discontinued in 1960 at most sites and resumed starting with the September 1961 collections. Starting with the 1960 May and June collections, the monthly samples were combined on a two month basis since strontium-90 levels had dropped considerably. Analyses of individual monthly collections were resumed in September 1961.

To facilitate the accurate storage, retrieval and handling of the data generated from the monthly fallout collections network, all data obtained previously have been transcribed to punched cards. To accomplish this transcription several rigid criteria were applied to the data. One condition was that only monthly data were punched onto the cards. In the few cases where collections were incomplete or where collection times over-lapped calendar months, the data were corrected to yield monthly values by interpolation using rainfall and observed concentrations in rainfall as guides. Where any corrections to the data have been made they are so indicated. In every case the best estimate of the true Sr-90 deposition, rainfall and Sr-89/Sr-90 ratios, have been listed.

The data printed out from the punched cards are presented in Tables 1a and 1b, pages 5 through 169. All ratios of Sr-89 to Sr-90 have been extrapolated to the mid-point of the sampling month. Calculated values of the concentration of strontium in precipitation are given in units of pCi Sr-90 per liter. The annual precipitation in inches and the strontium-90 deposition in mCi per square mile are listed in the extreme right hand column when data for an entire year are available. The groups or organizations responsible for the sampling are also identified on the individual site data sheets. Monthly Sr-90 deposition values for New York City since 1954 are shown in graph form in Figure 2, page 36.

The only data not included in the punched card system are those from the samples collected aboard a U. S. Coast Guard Weather Ship, stationed in the North Atlantic. Because of the nature of the special problems associated with this collection station, the sampling periods have been very variable, and it was therefore decided to include these values as taken, and not attempt to put them on a monthly basis. These appear on page 59 .

HASL MONTHLY FALLOUT SAMPLING NETWORK

● Pot ○ Column

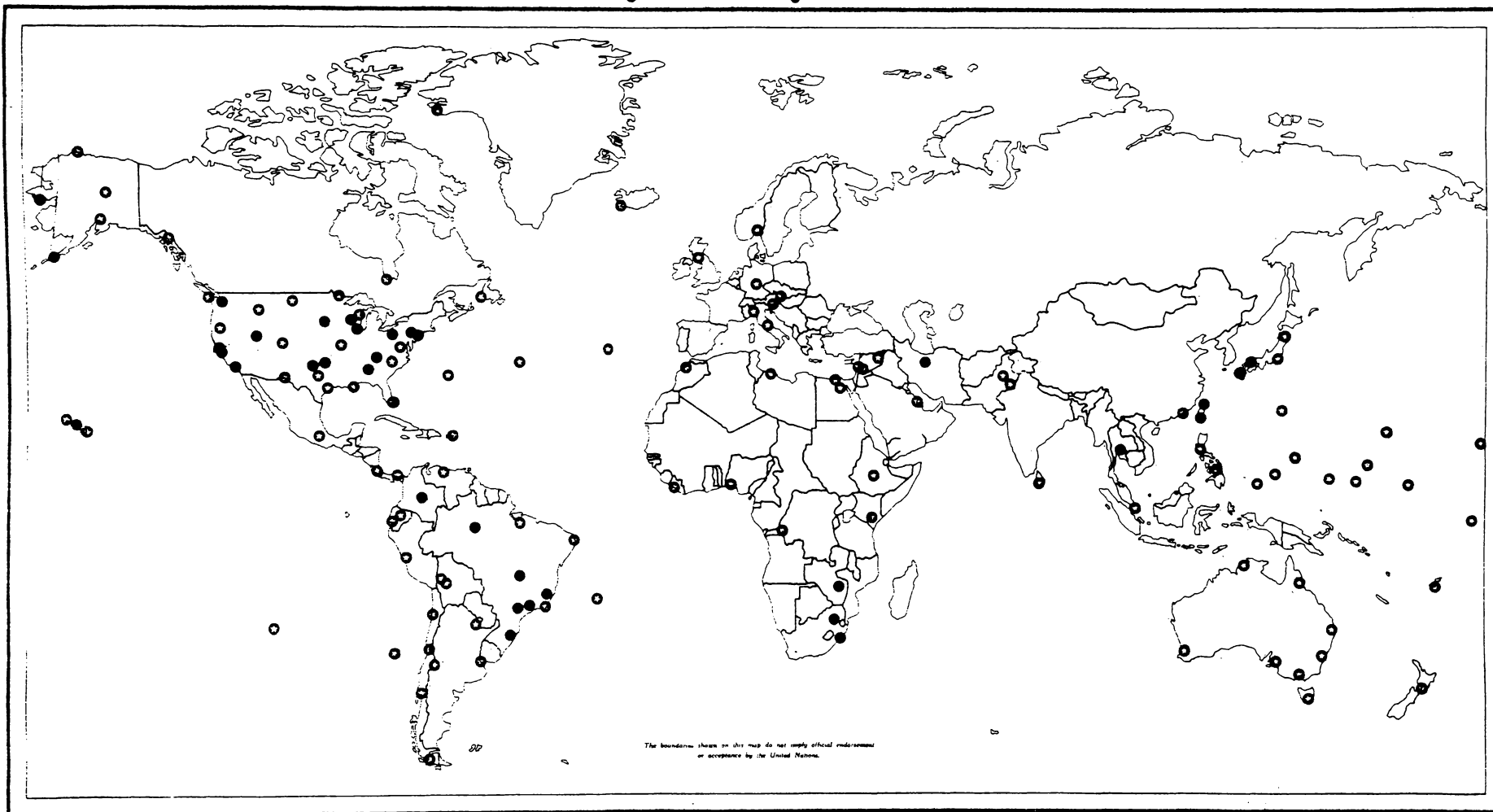


FIGURE 1

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ALABAMA, BIRMINGHAM

LAT. 33 30N LONG. 86 55W ALT. 600 FT. (POT)

SOURCE: SOUTHERN RESEARCH INSTITUTE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957	PRECIP. (INCHES)	6.00	3.73	6.08	5.41	2.96	7.70	2.62	4.19	9.59	1.81	5.67	4.01	59.77
	SR-90 (MC/SQ.MI.)	--	--	--	0.83	0.39	0.95	0.80	1.10	0.42	0.34	0.22	0.40	E
	SR-90 CONC. (PC/L)	--	--	--	2.28	1.98	1.82	4.71	3.95	0.61	2.89	0.61	1.52	
	SR-89/SR-90	--	--	--	--	9.4	31.	--	8.4	67.	75.	20.	18.	
1958	PRECIP. (INCHES)	3.42	5.14	3.03	3.51	2.33	3.10	6.79	1.98	5.74	2.31	3.38	1.29	42.02
	SR-90 (MC/SQ.MI.)	0.66	0.24	0.38	1.67	1.17	0.65	2.11	1.06	0.49	0.26	0.60	1.09	10.38
	SR-90 CONC. (PC/L)	2.89	0.76	1.98	7.30	7.60	3.19	4.71	8.21	1.37	1.67	2.74	12.77	
	SR-89/SR-90	17.	12.	16.	14.	15.	38.	42.	44.	39.	26.	48.	50.	
1959	PRECIP. (INCHES)	4.16	3.52	5.13	2.81	8.27	2.09	3.61	3.64	5.95	6.21	3.84	2.46	51.69
	SR-90 (MC/SQ.MI.)	1.27	1.50	6.17	--	3.05	1.57	1.68	--	0.44	0.20	0.28	0.28	E
	SR-90 CONC. (PC/L)	4.71	6.54	18.24	--	5.62	11.40	7.14	--	1.06	0.46	1.06	1.67	
	SR-89/SR-90	38.	48.	5.5	--	11.6	4.5	2.7	--	3.9	*	0.66	*	
1960	PRECIP. (INCHES)	5.05	3.36	6.31	2.28	2.28	2.74	2.06	4.09	2.73	3.45	3.24	3.21	40.80
	SR-90 (MC/SQ.MI.)	0.31	0.29	0.82	0.51	0.64C	0.67C	0.16C	0.32C	0.12C	0.16C	0.07C	0.07C	4.14
	SR-90 CONC. (PC/L)	0.91	1.37	1.98	3.34	4.26	3.65	1.22	1.22	0.61	0.76	0.30	0.30	
	SR-89/SR-90	*	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	1.49	17.67	9.22	4.33	2.45	4.85	10.17	3.56	2.42	2.05	4.29	13.98	76.48
	SR-90 (MC/SQ.MI.)	0.05C	0.55C	0.91C	0.43C	0.54C	1.07C	0.46C	0.16C	0.21	0.10	0.97	1.92	7.37
	SR-90 CONC. (PC/L)	0.46	0.46	1.52	1.52	3.34	3.34	0.76	0.61	1.37	0.76	3.50	2.13	
	SR-89/SR-90	--	--	--	--	--	--	--	--	28.	62.	72.	59.	
1962	PRECIP. (INCHES)	8.64	4.39	5.21	2.99	1.26	3.59	3.89	3.49	3.69	2.03	6.41	2.55	48.14
	SR-90 (MC/SQ.MI.)	4.52	2.88	3.72	8.29	1.72	1.80	1.35	1.46	0.79	--	2.94	1.19	E
	SR-90 CONC. (PC/L)	7.90	10.03	10.79	42.10	20.82	7.60	5.32	6.38	3.19	--	6.99	7.14	
	SR-89/SR-90	46.	25.	22.	14.	11.	9.	21.	15.	15.	--	53.	50.	
1963	PRECIP. (INCHES)	7.32	3.25	6.31	6.70	3.72	8.44	6.54	1.53	1.21	0.11	4.00	5.94	55.07
	SR-90 (MC/SQ.MI.)	3.82	1.49	4.93	13.45	6.99	7.87	12.81	2.29	1.32	0.33	0.13	2.00	57.43
	SR-90 CONC. (PC/L)	7.90	6.99	11.86	30.55	28.58	14.14	29.79	22.80	16.57	45.60	0.46	5.17	
	SR-89/SR-90	26.	39.	18.	13.	6.9	2.5	*	*	*	1.00	*	*	
1964	PRECIP. (INCHES)	5.40	4.11	9.44	9.90	3.20	4.08	4.34	2.78	3.26	2.95	3.24	5.09	57.79
	SR-90 (MC/SQ.MI.)	2.36	6.18	4.09	0.74	2.74	5.34	3.49	1.49	0.74	0.78	0.32	0.02	28.29
	SR-90 CONC. (PC/L)	6.69	22.80	6.54	1.06	13.07	19.91	12.16	8.21	3.50	3.95	1.52	0.00	
	SR-89/SR-90	*	*	*	*	*	*	--	--	--	*	2.90	--	
1965	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.71	0.12	2.46	1.39	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

- : DATA NOT AVAILABLE
- *: ZERO OR TRACE
- A: APPROXIMATE
- B: LOWER LIMIT OF REPORTED DATA
- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ALASKA, ANCHORAGE

LAT. 61 10N LONG. 149 59W ALT. 90 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	0.95	0.85	1.32	0.73	0.02	4.43	3.75	1.68	0.86	0.69	1.39	E
SR-90 (MC/SQ.MI.)	--	--	--	1.20	0.96	0.24	1.84	0.60	0.27	0.10	0.06	0.14	E
SR-90 CONC. (PC/L)	--	--	--	13.83	20.06	182.40	6.38	2.43	2.43	1.82	1.37	1.52	
SR-89/SR-90	--	--	--	13.	6.8	6.3	2.9	1.3	0.8	1.4	1.9	*	
1960 PRECIP. (INCHES)	0.72	0.45	0.22	0.33	0.42	0.24	2.76	3.70	4.79	0.39	0.39	1.04	15.45
SR-90 (MC/SQ.MI.)	0.21	0.21	0.17	0.26	*	*	*	*	0.32	--	0.04C	0.10C	E
SR-90 CONC. (PC/L)	4.41	7.14	11.70	12.01	0.00	0.00	0.00	0.00	1.06	--	1.52	1.52	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.57	0.46	0.35	1.37	0.47	1.48	2.20	1.93	5.50	2.81	0.77	1.06	19.97
SR-90 (MC/SQ.MI.)	0.34C	0.10C	0.03C	0.12C	0.04C	0.11C	0.21C	0.18C	0.28	0.34	0.19	0.82	2.76
SR-90 CONC. (PC/L)	3.34	3.34	1.37	1.37	1.37	1.06	1.52	1.37	0.76	1.82	3.80	11.70	
SR-89/SR-90	--	--	--	--	--	--	--	--	63.	53.	83.	59.	
1962 PRECIP. (INCHES)	0.88	0.74	0.58	0.25	1.57	3.40	0.72	1.92	1.45	1.56	0.49	1.18	14.74
SR-90 (MC/SQ.MI.)	0.27	0.65	0.57	0.91	0.85	2.28	1.10	1.13C	0.86C	0.52	0.32	0.55	10.01
SR-90 CONC. (PC/L)	4.71	13.38	14.90	55.33	8.21	10.18	23.26	8.97	8.97	5.02	9.88	7.14	
SR-89/SR-90	--	32.	19.	19.	9.	6.	4.	16. C	16. C	28.	29.	44.	
1963 PRECIP. (INCHES)	2.17	1.35	1.48	1.78	0.44	1.82	--	2.85	0.98	1.01	0.12	1.65	E
SR-90 (MC/SQ.MI.)	0.83	2.25	1.09	2.02	1.68	3.58	--	10.37	1.63	0.82	0.32	0.50	E
SR-90 CONC. (PC/L)	5.78	25.38	11.25	17.18	58.06	29.94	--	55.33	25.23	12.31	40.58	4.56	
SR-89/SR-90	33.	26.	14.	10.	7.2	3.1	--	1.	*	*	*	*	
1964 PRECIP. (INCHES)	0.35	1.15	1.15	0.70B	0.97	1.73	--	2.16	0.81	2.29	2.71	0.63	E
SR-90 (MC/SQ.MI.)	0.42	0.56	1.02	1.22B	1.92	1.47	--	1.60	0.81	1.23	0.54	0.18	E
SR-90 CONC. (PC/L)	18.24	7.45	13.53	26.45	30.10	12.92	--	11.25	15.20	8.21	3.04	4.41	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	0.90	1.50	--	
1965 PRECIP. (INCHES)	0.57	0.67	0.83	0.30									E
SR-90 (MC/SQ.MI.)	0.15	0.08	0.48	0.13									E
SR-90 CONC. (PC/L)	3.95	1.82	8.82	6.54									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ALASKA, BARROW

LAT. 71 16N LONG. 156 50W ALT. 13 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	0.31	0.17	0.01	1.42	1.16	1.12	1.28	0.06	0.15	E
SR-90 (MC/SQ.MI.)	--	--	--	0.03	0.38	0.18	0.82	0.18	0.02	0.02	0.03	*	E
SR-90 CONC. (PC/L)	--	--	--	1.52	34.05	273.60	8.82	2.43	0.30	0.30	7.60	0.00	
SR-89/SR-90	--	--	--	12.	8.	5.7	3.6	2.4	*	*	*	*	
1960 PRECIP. (INCHES)	0.14	1.30	0.07	0.44	0.20	0.23	0.20	1.18	0.53	0.37	0.02	0.39	5.07
SR-90 (MC/SQ.MI.)	0.50	0.19	0.18	0.14	0.08C	0.09C	--	--	0.09C	0.06C	0.00C	0.08C	E
SR-90 CONC. (PC/L)	54.26	2.28	39.06	4.86	6.08	5.93	--	--	2.58	2.43	0.00	3.19	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.27	0.07	0.22	0.15	0.01	0.08	1.80	1.31	0.31	0.44	0.19	0.11	4.96
SR-90 (MC/SQ.MI.)	0.52C	0.13C	0.10C	0.06C	0.01C	0.07C	0.16C	0.11C	0.12	0.03	0.01	*	1.32
SR-90 CONC. (PC/L)	29.34	28.27	6.84	6.08	15.20	13.38	1.37	1.22	5.93	1.06	0.76	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	33.	32.	*	*	
1962 PRECIP. (INCHES)	0.88	0.66	0.24	0.26	5.60	--	--	--	0.98	0.53	--	0.06	E
SR-90 (MC/SQ.MI.)	*	*	*	0.02	1.99	1.19	--	--	1.52	0.01	--	*	E
SR-90 CONC. (PC/L)	0.00	0.00	0.00	1.22	5.47	--	--	--	23.56	0.30	--	0.00	
SR-89/SR-90	*	*	--	18.	10.	5.	--	--	18.	16.	--	*	
1963 PRECIP. (INCHES)	0.52	0.27	--	--	--	--	--	--	0.19	0.92	0.13	0.03	E
SR-90 (MC/SQ.MI.)	0.16	0.31	--	--	--	--	--	--	0.58	0.07	0.23	0.24	E
SR-90 CONC. (PC/L)	4.71	17.48	--	--	--	--	--	--	46.36	1.22	26.90	121.60	
SR-89/SR-90	40.	19.	--	--	--	--	--	--	*	*	*	--	
1964 PRECIP. (INCHES)	--	--	--	--	--	0.36	0.08	0.36	0.10	0.81	0.29	0.17	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.66	0.25	0.54	0.04	0.08	0.03	*	E
SR-90 CONC. (PC/L)	--	--	--	--	--	27.82	47.58	22.80	6.08	1.52	1.52	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.04	*	0.29	0.66									E
SR-90 (MC/SQ.MI.)	*	*	*	0.02									E
SR-90 CONC. (PC/L)	0.00	--	0.00	0.46									
SR-89/SR-90	--	--	--	--									

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ALASKA, COLD BAY

LAT. 55 12N LONG. 162 43W ALT. 102 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	3.50	0.88	2.34	2.56	2.08	3.23	2.25	5.27	4.35	5.93	1.37	E
SR-90 (MC/SQ.MI.)	--	1.03	--	2.07	1.86	3.55	1.77	0.57	0.39	0.16	0.60	0.45	E
SR-90 CONC. (PC/L)	--	4.41	--	13.38	11.10	25.99	8.36	3.80	1.06	0.61	1.52	5.02	
SR-89/SR-90	--	29.	--	9.	11.	5.0	3.1	1.4	0.46	1.2	0.4	0.6	
1960 PRECIP. (INCHES)	3.75	2.42	0.65	1.54	1.97	1.57	1.18	4.33	2.75	4.00	8.94	4.72	37.82
SR-90 (MC/SQ.MI.)	--	0.32	0.21	0.01	0.22C	0.18C	0.07C	0.26C	0.11C	0.15C	0.15C	0.08C	E
SR-90 CONC. (PC/L)	--	1.98	4.86	0.15	1.67	1.67	0.91	0.91	0.61	0.61	0.30	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.95	1.62	1.73	1.68	0.95	0.12	1.08	3.50	1.93	1.91	4.10	2.79	23.36
SR-90 (MC/SQ.MI.)	0.09C	0.07C	0.20C	0.20C	0.03C	0.00C	--	--	0.36	0.44	0.75	--	E
SR-90 CONC. (PC/L)	0.76	0.61	1.82	1.82	0.46	0.00	--	--	2.89	3.50	2.74	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	78.	75.	85.	--	
1962 PRECIP. (INCHES)	2.53	1.53	--	0.76	2.37	0.12	3.42	1.98	3.84	4.16	2.57	1.02	E
SR-90 (MC/SQ.MI.)	--	--	--	0.68	3.94	2.58	0.84	1.78	1.30	0.45	0.61	0.28	E
SR-90 CONC. (PC/L)	--	--	--	13.53	25.23	326.80	3.80	13.68	5.17	1.67	3.65	4.10	
SR-89/SR-90	--	--	--	14.	7.	10.	15.	13.	24.	33.	41.	43.	
1963 PRECIP. (INCHES)	4.91	0.43	3.02	1.66	1.32	1.06	4.28	2.69	3.61	3.02	1.46	2.01	29.47
SR-90 (MC/SQ.MI.)	0.79	0.61	1.87	3.11	2.70	2.74	7.30	5.98	3.78	0.97	0.79	0.64	31.28
SR-90 CONC. (PC/L)	2.43	21.58	9.42	28.42	31.16	39.22	25.99	33.74	15.96	4.86	8.21	4.86	
SR-89/SR-90	30.	29.	13.	4.	5.9	1.2	2.	*	*	*	*	*	
1964 PRECIP. (INCHES)	1.33	1.73	1.32	0.21	1.15	1.85	1.68	3.56	5.25	3.37	--	1.31	E
SR-90 (MC/SQ.MI.)	1.56	1.19	1.31	2.25	2.98	2.67	2.96	2.32	1.55	0.14	--	1.11	E
SR-90 CONC. (PC/L)	17.78	10.49	15.05	162.79	39.37	21.89	26.75	9.88	4.56	0.61	--	12.92	
SR-89/SR-90	*	0.2	*	*	*	--	--	--	--	10.00	--	--	
1965 PRECIP. (INCHES)	2.52	2.78	3.05	0.83									E
SR-90 (MC/SQ.MI.)	0.06	0.48	1.66	0.49									E
SR-90 CONC. (PC/L)	0.30	2.58	8.21										
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ALASKA, FAIRBANKS

LAT. 64 49N LONG. 147 52W ALT. 468 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960 PRECIP. (INCHES)	--	--	0.20	0.39	0.24	0.79	1.38	1.57	3.05	0.92	0.41	0.23	E
SR-90 (MC/SQ.MI.)	--	--	0.18	0.22	0.07C	0.22C	0.16C	0.19C	0.05C	0.02C	*	*	E
SR-90 CONC. (PC/L)	--	--	13.68	8.51	4.41	4.26	1.82	1.82	0.30	0.30	0.00	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.27	0.17	0.47	0.37	0.24	0.89	2.38	2.85	1.91	1.17	0.47	0.59	11.78
SR-90 (MC/SQ.MI.)	*	*	0.11C	0.09C	0.10C	0.38C	0.07C	0.09C	0.38	0.04	0.07	0.14	1.47
SR-90 CONC. (PC/L)	0.00	0.00	3.50	3.65	6.38	6.54	0.46	0.46	3.04	0.46	2.28	3.65	
SR-89/SR-90	--	--	--	--	--	--	--	--	32.	70.	58.	51.	
1962 PRECIP. (INCHES)	0.69	1.26	0.76	0.27	0.62	2.22	4.35	5.00	0.43	0.28	0.17	0.56	16.61
SR-90 (MC/SQ.MI.)	0.22	0.58	0.47	0.21	0.57	2.56	1.96	1.70	0.34	0.17	0.64	0.10	9.52
SR-90 CONC. (PC/L)	4.86	6.99	9.42	11.86	13.98	17.48	6.84	5.17	12.01	9.27	57.15	2.74	
SR-89/SR-90	58.	27.	19.	10.	9.	7.	6.	33.	51.	28.	43.	50.	
1963 PRECIP. (INCHES)	1.78	0.27	2.10	0.49	0.11	2.01	2.45	2.51	0.19	1.63	0.18	0.38	14.10
SR-90 (MC/SQ.MI.)	0.39	0.90	1.56	1.04	0.78	6.29	6.57	4.20	0.48	0.45	0.05	0.19	22.90
SR-90 CONC. (PC/L)	3.34	50.62	11.25	32.22	107.77	47.58	40.74	25.38	38.46	4.26	4.26	7.60	
SR-89/SR-90	36.	25.	18.	11.	5.6	*	2.	*	*	2.1	*	*	
1964 PRECIP. (INCHES)	0.69A	1.45A	0.73A	0.68	0.97	1.33	1.28	2.37	0.85	0.53	0.86	0.34	12.08
SR-90 (MC/SQ.MI.)	0.15	0.28	0.18	0.58	1.13	3.55	0.02	1.57	0.36	0.32	0.24	0.18	8.56
SR-90 CONC. (PC/L)	3.34	2.89	3.80	12.92	17.63	40.58	0.30	10.03	6.38	9.12	4.26	8.06	
SR-89/SR-90	*	0.3	*	0.61	2.00	--	--	--	--	5.00	*	--	
1965 PRECIP. (INCHES)	0.07	0.32	0.26	0.47									E
SR-90 (MC/SQ.MI.)	0.11	0.06	0.35	0.29									E
SR-90 CONC. (PC/L)	23.86	2.89	20.52	9.42									
SR-89/SR-90	--	--	--	--									

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ALASKA, JUNEAU

LAT. 58 22N LONG. 134 35W ALT. 16 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEP.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANN. TOTAL</u>
1959	PRECIP. (INCHES)	--	--	--	--	3.79	1.36	7.39	5.75	5.84	6.04	6.82	5.88	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	5.63	1.43	1.78	0.94	0.47	0.24	0.54	0.34	E
	SR-90 CONC. (PC/L)	--	--	--	--	22.65	15.96	3.65	2.43	1.22	0.61	1.22	0.91	
	SR-89/SR-90	--	--	--	--	7.5	5.0	3.2	1.8	0.90	0.86	0.4	0.8	
1960	PRECIP. (INCHES)	3.86	2.05	5.26	1.57	1.57	3.54	4.33	4.77	8.66	8.95	5.12	0.39	50.07
	SR-90 (MC/SQ.MI.)	0.44	0.25	0.40	0.28	0.27C	0.61C	0.57C	0.63C	--	0.56	0.16	--	E
	SR-90 CONC. (PC/L)	1.67	1.82	1.22	2.74	2.58	2.58	1.98	1.98	--	0.91	0.46	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	3.76	4.07	2.67	3.92	4.75	3.22	6.04	12.31	7.01	10.20	6.10	4.04	68.09
	SR-90 (MC/SQ.MI.)	0.22C	0.24C	0.49C	0.72C	0.58C	0.40C	0.33C	0.67C	--	1.46	0.89	0.73	E
	SR-90 CONC. (PC/L)	0.91	0.91	2.74	2.74	1.82	1.82	0.76	0.76	--	2.13	2.28	2.74	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	94.	82.	62.	
1962	PRECIP. (INCHES)	6.99	0.76	5.00	1.99	2.85	4.75	4.75	5.21	9.75	7.39	4.03	8.16	61.63
	SR-90 (MC/SQ.MI.)	1.03	0.16	1.33	0.13	1.35	3.60	2.54	0.92	3.68	2.43	1.86	1.84	20.87
	SR-90 CONC. (PC/L)	2.28	3.19	4.10	1.06	7.14	11.55	8.06	2.74	5.78	5.02	6.99	3.50	
	SR-89/SR-90	46.	*	30.	15.	9.	10.	8.	8.	23.	32.	47.	42.	
1963	PRECIP. (INCHES)	6.55	--	3.75	3.85	2.02	4.53	5.22	1.20	--	7.78	3.91	4.56	E
	SR-90 (MC/SQ.MI.)	2.26	--	6.57	1.81	2.92	7.25	13.13	3.62	--	0.97	1.06	2.36	E
	SR-90 CONC. (PC/L)	5.32	--	26.60	7.14	22.04	24.32	38.30	45.90	--	1.82	4.10	7.90	
	SR-89/SR-90	49.	--	19.	10.	8.3	4.3	2.	*	--	3.7	*	*	
1964	PRECIP. (INCHES)	3.14	8.48	4.38	--	4.35	6.85	6.94	3.48	2.59	7.35	4.89	4.24	E
	SR-90 (MC/SQ.MI.)	2.20	4.06	3.21	--	10.18	6.99	3.14	2.22	0.04	1.84	0.65	0.86	E
	SR-90 CONC. (PC/L)	10.64	7.30	11.10	--	35.57	15.50	6.84	9.73	0.30	3.80	1.98	3.04	
	SR-89/SR-90	*	*	*	--	*	--	--	--	--	7.10	*	--	
1965	PRECIP. (INCHES)	7.75	5.10	1.66	3.33									E
	SR-90 (MC/SQ.MI.)	1.09	0.97	0.99	1.38									E
	SR-90 CONC. (PC/L)	2.13	2.89	9.12	6.23									
	SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ALASKA, NOME

LAT. 64 30N LONG. 165 30W ALT. 23 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960	PRECIP. (INCHES)	--	0.93	0.17	0.17	1.09	0.39	1.79	1.79	2.76	1.27	0.39	1.03	E
	SR-90 (MC/SQ.MI.)	--	0.21	0.12	0.08	0.13C	0.05C	0.02C	0.02C	--	0.15	*	*	E
	SR-90 CONC. (PC/L)	--	3.50	10.79	7.14	1.82	1.98	0.15	0.15	--	1.82	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.92	*	0.18	2.15	0.38	2.80	3.45	1.94	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	*	*	0.09C	0.63C	0.20C	0.11C	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	0.00	0.00	3.65	3.50	0.91	0.91	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1962	PRECIP. (INCHES)	0.97	--	0.83	0.16	0.59	0.43	--	--	1.70	--	--	--	E
	SR-90 (MC/SQ.MI.)	1.10	--	2.03C	0.39C	0.36	0.68	--	--	3.18	--	--	--	E
	SR-90 CONC. (PC/L)	17.18	--	37.24	37.09	9.27	24.02	--	--	28.42	--	--	--	
	SR-89/SR-90	24.	--	15. C	15. C	11.	8.	--	--	12.	--	--	--	
1963	PRECIP. (INCHES)	2.04	--	--	--	--	--	--	--	--	--	--	0.96	E
	SR-90 (MC/SQ.MI.)	1.74	--	--	--	--	--	--	--	--	--	--	0.53	E
	SR-90 CONC. (PC/L)	12.92	--	--	--	--	--	--	--	--	--	--	8.36	
	SR-89/SR-90	36.	--	--	--	--	--	--	--	--	--	--	*	
1964	PRECIP. (INCHES)	--	--	0.74	--	0.44	0.04	0.25	2.11	5.72	1.24	--	0.64	E
	SR-90 (MC/SQ.MI.)	--	--	0.18	--	0.73	0.08	0.39	0.13	1.24	0.05	--	0.03	E
	SR-90 CONC. (PC/L)	--	--	3.65	--	25.23	30.40	23.71	0.91	3.34	0.61	--	0.76	
	SR-89/SR-90	--	--	1.3	--	1.40	--	--	--	--	12.00	--	--	
1965	PRECIP. (INCHES)	--	0.13	1.59	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	*	0.06	--	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	0.00	0.61	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CALIFORNIA, W LOS ANGELES

LAT. 34 04N LONG. 118 27W ALT. 410 FT. (POT)

SOURCE: LAB.OF NUCLEAR MEDICINE AND RADIATION BIOLOGY,SCHOOL OF MEDICINE, UCLA

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1956 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	0.49	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.15	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	4.71	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	44.	
1957 PRECIP. (INCHES)	3.88	1.94	0.95	1.33	0.27	0.06	0.03	*	*	1.51	0.51	2.10	12.58
SR-90 (MC/SQ.MI.)	0.99	0.76	0.09	0.84	0.24	0.12	0.92	0.05	0.04	0.26	0.27	0.20	4.78
SR-90 CONC. (PC/L)	3.95	5.93	1.37	9.58	13.53	30.40	466.18	--	--	2.58	8.06	1.52	
SR-89/SR-90	15.	--	--	--	15.	13.	0.9	4.0	6.9	17.	18.	20.	
1958 PRECIP. (INCHES)	1.49	6.26	5.25	2.04	0.01	*	*	0.02	0.03	0.32	*	0.01	15.43
SR-90 (MC/SQ.MI.)	0.44	0.90	1.30	1.50	0.05	0.10	0.16	0.08	0.08	0.15	0.11	0.07	4.94
SR-90 CONC. (PC/L)	4.56	2.13	3.80	11.25	76.00	--	--	60.80	40.58	7.14	--	106.40	
SR-89/SR-90	14.	11.	24.	9.	48.	4.	2.	36.	29.	39.	35.	21.	
1959 PRECIP. (INCHES)	1.11	3.72	*	0.39	*	*	*	*	0.04	0.01	0.06	1.11	6.44
SR-90 (MC/SQ.MI.)	1.82	3.31	0.10	0.63	0.22	0.09	0.09	0.05	0.03	0.12	0.03	0.39	6.88
SR-90 CONC. (PC/L)	24.93	13.53	--	24.62	--	--	--	--	11.40	182.40	7.60	5.32	
SR-89/SR-90	41.	28.	15.	12.	8.5	3.4	*	7.0	*	0.67	*	*	
1960 PRECIP. (INCHES)	2.83	2.90	0.21	2.00	*	*	*	*	*	*	2.67	0.06	10.67
SR-90 (MC/SQ.MI.)	0.25	0.18	--	0.13	0.06C	0.06C	0.04C	0.04C	0.05C	0.05C	0.15C	0.00C	E
SR-90 CONC. (PC/L)	1.37	0.91	--	1.06	--	--	--	--	--	--	0.91	0.00	
SR-89/SR-90	--	2.8	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.28	*	0.46	0.29	*	*	0.01	0.30	0.04	*	2.02	1.44	5.84
SR-90 (MC/SQ.MI.)	0.17C	0.00C	0.12C	0.08C	0.03C	0.02C	0.02C	0.58C	0.15	0.09	1.66	0.91	3.83
SR-90 CONC. (PC/L)	1.98	--	3.95	4.26	--	--	30.40	29.34	57.00	--	12.46	9.58	
SR-89/SR-90	--	--	--	--	--	--	--	--	5.8	43.	74.	51.	
1962 PRECIP. (INCHES)	2.68	15.66	1.23	*	0.05	*	*	*	*	0.33	0.47	0.2	20.62
SR-90 (MC/SQ.MI.)	1.81	8.51	1.38	0.18	0.19	0.14	0.11	0.16	0.05	0.26	0.11	0.20	13.10
SR-90 CONC. (PC/L)	10.34	8.21	17.02	--	57.76	--	--	--	--	12.01	3.50	15.20	
SR-89/SR-90	40.	34.00	20.00	10.00	5.00	4.00	6.00	11.00	18.00	40.00	24.00	35.	
1963 PRECIP. (INCHES)	0.39	3.30	3.36	1.78	0.01	0.15	*	0.29	0.85	0.65	3.35	0.3	14.43
SR-90 (MC/SQ.MI.)	0.50	2.59	8.38	4.09	0.60	1.52	0.12	0.28	1.17	0.69	1.09	0.07	21.10
SR-90 CONC. (PC/L)	19.46	11.86	37.85	34.96	912.00	153.98	--	14.74	20.98	16.11	5.02	3.50	
SR-89/SR-90	27.00	35.00	9.20	9.00	8.40	3.40	*	*	*	0.5	*	*	
1964 PRECIP. (INCHES)	1.58	0.01	1.92	0.70	0.01	0.34	*	*	*	0.50	2.50	4.50	12.06
SR-90 (MC/SQ.MI.)	0.53	0.10	2.02	0.10	0.07	--	0.52	0.15	0.26	0.19	1.24	0.27	E
SR-90 CONC. (PC/L)	5.17	152.00	15.96	2.13	106.40	--	--	--	--	5.78	7.60	0.91	
SR-89/SR-90	*	*	*	--	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.50	0.50	1.81	5.85									E
SR-90 (MC/SQ.MI.)	1.97	0.22	0.90	3.13									E
SR-90 CONC. (PC/L)	59.89	6.69	7.60	8.21									
SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: CALIFORNIA, PALO ALTO LAT. 37 30N LONG. 122 15W ALT. 20 FT. (POT)

SOURCE: HAZELTON-NUCLEAR SCIENCE CORP.

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1962	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	2.38	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.74	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	4.71	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	45.	
1963	PRECIP. (INCHES)	3.34	1.89	4.47	4.02	5.84	0.01	*	*	0.18	0.99	2.74	*	23.48
	SR-90 (MC/SQ.MI.)	2.27	3.36	3.58	4.79	2.15	0.28	0.40	0.85	0.29	0.37	0.87	0.08	19.29
	SR-90 CONC. (PC/L)	10.34	27.06	12.16	18.09	5.62	425.60	--	--	24.47	5.62	4.86	--	
	SR-89/SR-90	34.	22.	14.5	9.8	6.0	4.5	4.5	2.8	1.3	1.0	0.9	0.7	
1964	PRECIP. (INCHES)	3.41	0.25	1.39	0.04	0.52	0.54	*	0.18	*	0.87	3.21	5.16	E
	SR-90 (MC/SQ.MI.)	1.91	0.25	1.49	0.14	0.56	0.31	0.07	0.20	0.03	0.27	0.86	1.26	7.35
	SR-90 CONC. (PC/L)	8.51	15.20	16.26	53.20	16.42	8.66	--	16.87	--	4.71	4.10	3.65	
	SR-89/SR-90	*	0.3	*	*	*	*	--	--	--	2.00	1.95	0.16	
1965	PRECIP. (INCHES)	2.92	0.76											E
	SR-90 (MC/SQ.MI.)	0.96	0.33											E
	SR-90 CONC. (PC/L)	5.02	6.54											
	SR-89/SR-90	0.06	0.09											

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CALIFORNIA, PALO ALTO

LAT. 37 30N LONG. 122 15W ALT. 20 FT. (COLUMN)

SOURCE: HAZELTON-NUCLEAR SCIENCE CORP.

COLLECTIONS TERMINATED AFTER JUNE 1964

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1962 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	2.38	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.58	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	3.65	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	47.	
1963 PRECIP. (INCHES)	3.34	1.89	4.47	4.02	5.84	0.01	*	*	0.18	0.99	2.74	*	23.48
SR-90 (MC/SQ.MI.)	1.87	1.29	3.07	3.95	1.79	0.42	0.10	0.21	0.32	0.53	1.23	0.19	14.97
SR-90 CONC. (PC/L)	8.51	10.34	10.49	14.90	4.71	638.40	--	--	27.06	8.21	6.84	--	
SR-89/SR-90	35.	24.	15.4	10.1	6.2	4.1	2.8	2.9	1.8	1.2	1.0	0.5	
1964 PRECIP. (INCHES)	3.41	0.04	1.41	0.04	0.52	0.54							E
SR-90 (MC/SQ.MI.)	1.99	0.26	1.03	0.18	0.57	0.32							E
SR-90 CONC. (PC/L)	8.82	98.80	11.10	68.40	16.72	8.97							
SR-89/SR-90	0.6	0.3	0.1	0.06	*	*							

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CALIFORNIA, RICHMOND

LAT. 37 56N LONG. 108 38W ALT. 65 FT. (POT)

SOURCE: TRACERLAB, INC.

COLLECTIONS TERMINATED AFTER JUNE 1963

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958 PRECIP. (INCHES)	--	--	6.64	--	*	--	*	*	0.05	0.21	*	1.77	E
SR-90 (MC/SQ.MI.)	--	--	3.74	0.58	0.59	0.26	0.09	0.03	0.07	0.08	0.01	0.39	E
SR-90 CONC. (PC/L)	--	--	8.51	--	--	--	--	--	21.28	5.78	--	3.34	
SR-89/SR-90	--	--	22.	11.	18.	9.	17.	26.	19.	30.	17.	36.	
1959 PRECIP. (INCHES)	4.42	6.12	0.81	0.44	*	*	*	*	2.91	*	*	1.62	16.32
SR-90 (MC/SQ.MI.)	1.88	2.66	0.77	0.49	0.22	0.02	*	0.02	0.08	0.02	*	0.12	6.28
SR-90 CONC. (PC/L)	6.54	6.54	14.44	16.87	--	--	--	--	0.46	--	--	1.06	
SR-89/SR-90	30.	28.	15.	10.	6.6	6.4	*	2.7	1.4	0.9	2.5	0.6	
1960 PRECIP. (INCHES)	5.50	4.63	2.45	1.05	0.33	*	*	*	*	0.28	5.06	0.77	20.07
SR-90 (MC/SQ.MI.)	0.36	0.36	0.43	0.08	0.07	0.01	0.02	0.02	0.01	0.02	0.12	0.09	1.59
SR-90 CONC. (PC/L)	1.06	1.22	2.74	1.22	3.19	--	--	--	--	1.06	0.30	1.82	
SR-89/SR-90	1.0	0.9	5.7	0.6	0.3	*	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.98	1.18	2.79	0.99	0.39	*	*	0.08	0.30	0.09	4.98	1.20	14.98
SR-90 (MC/SQ.MI.)	0.12	0.06	0.19	0.14	0.27	0.02	0.03	0.04	0.03	0.07	1.31	0.65	2.93
SR-90 CONC. (PC/L)	0.61	0.76	1.06	2.13	10.49	--	--	7.60	1.52	11.86	3.95	8.21	
SR-89/SR-90	--	--	--	--	--	--	--	--	19.	91.	75.	44.	
1962 PRECIP. (INCHES)	1.19	8.88	0.85	0.31	*	*	*	0.10	0.10	6.53	0.90	3.30	22.16
SR-90 (MC/SQ.MI.)	0.82	4.25	0.69	0.77	0.04	0.11	0.08	0.06	0.09	1.07	0.32	1.01	9.31
SR-90 CONC. (PC/L)	10.49	7.30	12.31	37.70	--	--	--	9.12	13.68	2.43	5.47	4.71	
SR-89/SR-90	39.	26.	21.	11.	7.6	4.7	3.6	3.6	14.	17.	49.	37.	
1963 PRECIP. (INCHES)	4.45	2.12	3.97	4.30	0.45	*							E
SR-90 (MC/SQ.MI.)	2.54	2.42	5.77	6.75	1.06	0.25							E
SR-90 CONC. (PC/L)	8.66	17.33	22.04	23.86	35.87	--							
SR-89/SR-90	29.	22.	16.	9.	6.3	2.2							

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- 15 -

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CALIFORNIA, RICHMOND

LAT. 37 56N LONG. 108 38W ALT. 65 FT. (COLUMN)

SOURCE: TRACERLAB, INC.

COLLECTIONS TERMINATED AFTER JUNE 1963

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1961 PRECIP. (INCHES)	--	--	--	--	--	--	*	0.08	0.30	0.09	5.80	0.38	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.01	0.04	0.04	0.06	0.86	0.25	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	7.60	1.98	10.18	2.28	10.03	
SR-89/SR-90	--	--	--	--	--	--	--	--	7.2	9.2	93.	49.	
1962 PRECIP. (INCHES)	1.19	6.26	3.17	0.31	*	*	*	0.10	0.10	6.50	0.90	3.30	21.83
SR-90 (MC/SQ.MI.)	0.72	3.21	2.24	0.69	0.05	0.14	0.11	0.13	0.17	0.99	0.63	1.01	10.09
SR-90 CONC. (PC/L)	9.27	7.75	10.79	33.90	--	--	--	19.76	25.84	2.28	10.64	4.71	
SR-89/SR-90	38.	29.	16.	12.	7.9	4.9	2.9	7.6	8.1	16.	30.	37.	
1963 PRECIP. (INCHES)	4.45	2.12	3.97	4.30	0.45	*							E
SR-90 (MC/SQ.MI.)	2.60	2.05	3.95	6.33	1.93	0.31							E
SR-90 CONC. (PC/L)	8.82	14.74	15.05	22.34	65.21	--							
SR-89/SR-90	36.	22.	20.	10.	2.8	3.8							

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CALIFORNIA, SAN FRANCISCO LAT. 37 37N LONG. 122 23W ALT. 97 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	--	4.66	0.30	0.37	0.04	*	*	*	2.30	*	*	1.97	E
	SR-90 (MC/SQ.MI.)	--	0.50	--	0.39	0.36	--	0.05	0.09	0.10	0.01	0.18	--	E
	SR-90 CONC. (PC/L)	--	1.67	--	15.96	136.80	--	--	--	0.61	--	--	--	
	SR-89/SR-90	--	26.	--	14.	8.1	--	1.0	*	*	*	*	--	
1960	PRECIP. (INCHES)	4.49	3.48	1.17	0.73	0.54	*	*	*	*	0.28	4.33	5.21	20.23
	SR-90 (MC/SQ.MI.)	0.48	0.23	0.24	0.22	0.13C	0.00C	*	*	0.00C	0.05C	0.03C	0.04C	1.42
	SR-90 CONC. (PC/L)	1.67	1.06	3.19	4.56	3.65	--	--	--	--	2.74	0.15	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.64	1.18	3.39	1.25	0.60	0.10	*	0.04	0.41	0.03	4.37	1.82	15.83
	SR-90 (MC/SQ.MI.)	--	0.33	0.36C	0.14C	0.27C	0.05	0.00C	0.02	0.02	0.06	0.87	0.29	E
	SR-90 CONC. (PC/L)	--	4.26	1.67	1.67	6.84	7.60	--	7.60	0.76	30.40	3.04	2.43	
	SR-89/SR-90	--	--	--	--	--	--	--	--	7.8	60.	74.	60.	
1962	PRECIP. (INCHES)	1.70	8.48	2.98	0.34	*	*	*	0.03	0.09	7.30	0.36	2.97	24.25
	SR-90 (MC/SQ.MI.)	0.74	3.42	1.12	0.54	0.14	0.08	5.26	0.04	0.61	0.52	0.18	0.54	13.19
	SR-90 CONC. (PC/L)	6.69	6.08	5.78	24.17	--	--	--	20.22	103.06	1.06	7.60	2.74	
	SR-89/SR-90	41.	27.	19.	11.	7.	10.	6.	6.	20.	31.	35.	61.	
1963	PRECIP. (INCHES)	4.47	2.03	3.94	3.70	0.50	*	*	*	0.07	1.34	3.29	0.58	19.92
	SR-90 (MC/SQ.MI.)	1.87	1.66	3.10	3.88	0.88	3.06	0.04	0.07	0.18	0.74	1.05	0.94	17.47
	SR-90 CONC. (PC/L)	6.38	12.46	12.01	15.96	26.75	--	--	--	39.06	8.36	4.86	24.62	
	SR-89/SR-90	25.	31.	21.	11.9	9.3	1.0	4.	*	*	*	*	*	
1964	PRECIP. (INCHES)	4.35	0.27	1.95	0.01	0.32	0.06	*	0.01	*	1.53	3.13	5.42	17.05
	SR-90 (MC/SQ.MI.)	1.86	0.36	1.41	0.30	0.54	0.45	0.12	0.11	*	0.39	0.59	1.34	7.47
	SR-90 CONC. (PC/L)	6.54	20.22	10.94	456.00	25.69	114.00	--	167.20	--	3.80	2.89	3.80	
	SR-89/SR-90	1.	*	*	*	*	--	--	--	--	3.70	*	--	
1965	PRECIP. (INCHES)	4.37	0.91	1.76	3.47									E
	SR-90 (MC/SQ.MI.)	1.08	0.25	0.97	1.51									E
	SR-90 CONC. (PC/L)	3.80	4.10	8.36	6.69									
	SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: COLORADO, DENVER

LAT. 39 46N LONG. 104 53W ALT. 5283 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	1.24	1.31	2.85	1.35	3.33	0.44	0.83	0.25	1.82	2.46	0.40	0.26	16.54
	SR-90 (MC/SQ.MI.)	--	0.63	--	--	8.03	1.13	0.70	0.30	0.10	0.22	--	0.04	E
	SR-90 CONC. (PC/L)	--	7.30	--	--	36.63	39.06	12.77	18.24	0.76	1.37	--	2.28	
	SR-89/SR-90	--	5.2	--	--	7.3	4.4	2.8	1.5	1.1	*	--	*	
1960	PRECIP. (INCHES)	1.04	1.66	0.89	2.56	2.27	0.63	1.31	0.79	0.39	2.46	0.39	1.57	15.96
	SR-90 (MC/SQ.MI.)	0.18	0.21	0.17	--	0.78C	0.12C	*	*	0.03C	0.17C	0.01C	0.03C	E
	SR-90 CONC. (PC/L)	2.58	1.98	2.89	--	5.17	2.89	0.00	0.00	1.22	1.06	0.46	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.07	0.66	2.51	1.06	4.12	1.11	1.60	1.21	4.67	0.77	0.98	0.30	19.06
	SR-90 (MC/SQ.MI.)	0.06C	0.57C	0.40C	0.17C	0.91C	0.24C	0.21C	0.15C	0.27	0.14	0.29	0.01	3.42
	SR-90 CONC. (PC/L)	13.07	13.07	2.43	2.42	3.34	3.34	1.98	1.82	0.91	2.74	4.56	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	38.	63.	58.	56.	
1962	PRECIP. (INCHES)	1.33	1.06	0.52	1.10	0.84	1.52	0.54	0.58	0.07	0.05	0.68	0.17	8.46
	SR-90 (MC/SQ.MI.)	0.16	--	0.37	2.54	2.02	3.54	0.87	0.80	0.28	0.39	0.25	0.10	E
	SR-90 CONC. (PC/L)	1.82	--	10.79	35.11	36.48	35.42	24.47	20.98	60.80	118.56	5.62	8.97	
	SR-89/SR-90	38.	--	18.	14.	9.	10.	7.	12.	10.	39.	31.	34.	
1963	PRECIP. (INCHES)	0.71	0.21	1.42	0.03	0.68	3.59	0.55	1.98C	1.79C	0.31	0.45	0.51	12.23
	SR-90 (MC/SQ.MI.)	0.21	--	0.58	0.40	4.24	10.5	2.90	2.87C	1.93C	2.12	1.73	0.27	E
	SR-90 CONC. (PC/L)	4.56	--	6.23	202.62	94.85	44.38	80.10	22.04	16.42	103.97	58.37	8.06	
	SR-89/SR-90	40.	--	21.	9.	6.5	1.22	2.	--	--	0.8	*	*	
1964	PRECIP. (INCHES)	0.26	1.04	1.38	1.25	2.53	0.82	0.71	0.27	0.41	0.18	0.88	0.40	10.13
	SR-90 (MC/SQ.MI.)	0.23	0.48	0.58	0.82	3.80	11.87	3.40	0.78	0.50	0.25	0.68	0.40	23.79
	SR-90 CONC. (PC/L)	13.38	6.99	6.38	10.03	22.80	220.10	72.81	43.93	18.54	21.13	11.70	15.20	
	SR-89/SR-90	*	0.4	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	1.00	1.27	1.20	1.05									E
	SR-90 (MC/SQ.MI.)	0.11	0.15	0.46	0.63									E
	SR-90 CONC. (PC/L)	1.67	1.82	5.78	9.12									E
	SR-89/SR-90	--	--	--	--									E

NOTES

- : DATA NOT AVAILABLE
- *: ZERO OR TRACE
- A: APPROXIMATE
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- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: FLORIDA, CORAL GABLES

LAT. 25 44N LONG. 80 17W ALT. 10 FT. (POT)

SOURCE: UNIVERSITY OF MIAMI SCHOOL OF MEDICINE, DEPARTMENT OF BIOCHEMISTRY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	5.04	10.11	5.82	8.54	13.62	6.27	3.98	2.54	2.84	E
SR-90 (MC/SQ.MI.)	--	--	--	0.53	0.50	0.56	1.51	0.75	0.52	0.41	0.29	0.63	E
SR-90 CONC. (PC/L)	--	--	--	1.67	0.76	1.52	2.74	0.91	1.22	1.52	1.67	3.34	
SR-89/SR-90	--	--	--	--	19.	36.	--	58.	40.	48.	16.	15.	
1958 PRECIP. (INCHES)	2.63	1.76	5.08	1.70	16.47	9.31	4.30	9.82	3.76	3.27	4.25	5.91	68.26
SR-90 (MC/SQ.MI.)	0.29	0.22	0.60	0.49	1.70	1.39	0.77	6.20	0.60	0.74	0.63	1.86	15.49
SR-90 CONC. (PC/L)	1.67	1.98	1.82	4.41	1.52	2.28	2.74	9.58	2.43	3.50	2.28	4.71	
SR-89/SR-90	17.	12.	9.	21.	28.	16.	54.	9.	44.	36.	46.	29.	
1959 PRECIP. (INCHES)	2.45	2.35	4.51	1.97	11.86	15.19	9.80	10.12	9.18	7.90	12.56	1.13	89.02
SR-90 (MC/SQ.MI.)	1.16	0.90	6.0	1.54	3.52	--	1.72	0.50	0.46	0.17	0.20	0.02	E
SR-90 CONC. (PC/L)	7.14	5.78	20.22	11.86	4.56	--	2.74	0.76	0.76	0.30	0.30	0.30	
SR-89/SR-90	36.	24.	17.	11.	7.3	--	2.6	2.8	0.97	*	*	*	
1960 PRECIP. (INCHES)	0.70	1.71	0.87	10.89	3.54	6.30	5.12	4.33	24.41	10.63	2.36	0.39	71.25
SR-90 (MC/SQ.MI.)	0.07	0.11	0.07	1.33	--	--	0.13	0.44	0.18C	0.08C	0.15C	0.02C	E
SR-90 CONC. (PC/L)	1.52	0.91	1.22	1.82	--	--	0.46	1.52	0.15	0.15	0.91	0.76	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	5.00	0.63	1.94	0.55	6.81	10.48	1.91	4.68	3.40	3.92	2.15	0.13	41.60
SR-90 (MC/SQ.MI.)	0.17	0.02	0.13	0.24	--	--	0.05C	0.13C	0.08	0.29	0.36	0.26	E
SR-90 CONC. (PC/L)	0.46	0.46	1.06	6.69	--	--	0.46	0.46	0.30	1.06	2.58	30.40	
SR-89/SR-90	--	--	--	--	--	--	--	--	45.	84.	89.	65.	
1962 PRECIP. (INCHES)	1.46	0.12	2.80	1.18	0.91	10.36	3.74	8.02	7.82	1.50	4.15	0.20	42.26
SR-90 (MC/SQ.MI.)	0.61	0.62	1.60	3.50	0.96	2.08	1.29	0.95	1.22	1.32	0.40	0.38	14.93
SR-90 CONC. (PC/L)	6.38	78.58	8.66	45.14	15.96	3.04	5.17	1.82	2.43	13.38	1.52	28.88	
SR-89/SR-90	41.	35.	15.	11.	17.	13.	17.00	8.00	13.00	41.00	47.00	33.00	
1963 PRECIP. (INCHES)	0.65	3.45	0.73	0.33	6.34	6.80	1.77	4.77	11.12	4.43	1.43	4.26	46.08
SR-90 (MC/SQ.MI.)	1.16	1.40	3.86	9.41	6.09	6.17	1.67	1.52	3.81	4.80	0.90	1.12	41.91
SR-90 CONC. (PC/L)	27.06	6.23	80.41	433.50	14.59	13.83	14.29	4.86	5.17	16.42	9.58	3.95	
SR-89/SR-90	41.00	32.00	13.00	13.00	2.30	0.60	5.70	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.45	2.21	0.50	3.31	4.67	10.48	5.51	9.84	4.22	9.77	3.00	6.24	60.20
SR-90 (MC/SQ.MI.)	1.94	1.01	0.32	--	7.87	5.56	2.51	1.38	0.65	0.18	0.14	0.14	E
SR-90 CONC. (PC/L)	65.51	6.99	9.73	--	25.69	8.06	6.99	2.13	2.28	0.30	0.76	0.30	
SR-89/SR-90	*	*	*	--	*	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	--	--	*	*									E
SR-90 (MC/SQ.MI.)	0.47	0.73	0.70C	0.70C									E
SR-90 CONC. (PC/L)	--	--	--	--									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: FLORIDA, MIAMI

LAT. 25 49N LONG. 80 17W ALT. 13 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	0.65	3.45	0.73	0.33	6.34	6.80	1.77	4.77	11.12	4.43	1.43	4.26	46.08
	SR-90 (MC/SQ.MI.)	--	1.94	2.72	1.73	6.85	8.87	2.33	1.96	1.58	3.21	0.82	0.81	E
	SR-90 CONC. (PC/L)	--	8.51	56.70	79.65	16.42	19.76	20.06	6.23	2.13	10.94	8.66	2.89	
	SR-89/SR-90	--	28.	19.00	11.00	6.50	1.40	2.00	*	1.40	1.4	*	*	
1964	PRECIP. (INCHES)	0.45	2.21	0.50	3.31	4.69	10.48	5.51	9.84	4.22	9.77	3.00	6.24	60.22
	SR-90 (MC/SQ.MI.)	0.49	1.23	0.48	2.49	5.28	5.18	3.01	1.19	0.78	0.52	0.52	0.63	21.80
	SR-90 CONC. (PC/L)	16.57	8.51	14.59	11.40	17.18	7.45	8.36	1.82	2.74	0.76	2.58	1.52	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	19.00	2.10	--	
1965	PRECIP. (INCHES)	1.98	2.98	3.97	1.20									E
	SR-90 (MC/SQ.MI.)	0.40	0.25	0.84	0.12									E
	SR-90 CONC. (PC/L)	3.04	1.22	3.19	1.52									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: HAWAII, HILO

LAT. 19 43N LONG. 155 04W ALT. 36 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION (ISLAND OF HAWAII)

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	--	13.13	7.59	7.92	7.01	2.93	5.78	7.40	1.32	5.88	30.05	14.37	E
	SR-90 (MC/SQ.MI.)	--	6.02	--	1.74	2.56	0.49	1.02	0.91	0.02	0.03	0.25	0.31	E
	SR-90 CONC. (PC/L)	--	6.99	--	3.34	5.62	2.58	2.74	1.82	0.30	0.15	0.15	0.30	
	SR-89/SR-90	--	8.	--	11.	9.00	5.5	3.5	1.7	*	*	*	*	
1960	PRECIP. (INCHES)	25.95	15.97	7.13	15.04	11.70	6.73	9.68	12.88	12.00	10.63	14.93	4.13	146.77
	SR-90 (MC/SQ.MI.)	0.56	0.82	0.55	1.44	1.57	--	0.41C	0.55C	0.08C	0.07C	0.64C	0.17C	E
	SR-90 CONC. (PC/L)	0.30	0.76	1.22	1.52	1.98	--	0.61	0.61	0.15	0.15	0.61	0.61	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.34	20.50	5.75	5.52	8.12	5.78	5.47	7.78	6.76	22.95	12.84	16.04	119.85
	SR-90 (MC/SQ.MI.)	0.31C	2.76C	0.47C	0.46C	0.88C	0.73C	0.20C	0.29C	0.08	0.72	--	1.43	E
	SR-90 CONC. (PC/L)	1.98	1.98	1.22	1.22	1.67	1.98	0.61	0.61	0.15	0.46	--	1.37	
	SR-89/SR-90	--	--	--	--	--	--	--	--	55.	91.	--	58.	
1962	PRECIP. (INCHES)	2.51	5.31	10.88	2.93	13.58	3.39	8.01	4.15	9.49	2.40	6.63	2.31	71.59
	SR-90 (MC/SQ.MI.)	0.80	3.70	5.70	0.82	8.75	2.18	2.74	1.25	2.61	--	2.77	0.84	E
	SR-90 CONC. (PC/L)	4.86	10.64	7.90	4.26	9.73	9.73	5.17	4.56	4.26	--	6.38	5.47	
	SR-89/SR-90	42.	31.	22.	13.	9.	10.	12.	8.	26.	--	49.	47.	
1963	PRECIP. (INCHES)	1.14	1.70	15.85	30.75	12.60	10.91	12.40	7.66	10.18	11.36	1.91	0.77	117.23
	SR-90 (MC/SQ.MI.)	1.06	2.23	11.80	0.86	15.99	12.5	7.40	7.14	3.88	4.67	2.75	0.63	70.91
	SR-90 CONC. (PC/L)	14.14	19.91	11.25	0.46	19.30	17.48	9.12	14.14	5.78	6.23	21.89	12.46	
	SR-89/SR-90	35.	23.	15.	11.	7.5	1.7	2.	1.	1.7	*	*	*	
1964	PRECIP. (INCHES)	14.65	18.22	19.58	11.03	25.01	7.01	6.39	7.36	12.62	11.56	23.38	9.65	166.46
	SR-90 (MC/SQ.MI.)	8.00	8.18	13.53	4.86	17.73	0.65	4.80	2.44	2.10	3.47	1.05	0.99	67.80
	SR-90 CONC. (PC/L)	8.36	6.84	10.49	6.69	10.79	1.37	11.40	5.02	2.58	4.56	0.61	1.52	
	SR-89/SR-90	*	0.1	*	*	*	--	--	--	--	9.80	*	--	
1965	PRECIP. (INCHES)	9.28	3.71	8.33	18.49									E
	SR-90 (MC/SQ.MI.)	3.21	1.87	3.72	4.45									E
	SR-90 CONC. (PC/L)	5.32	7.60	6.84	3.65									
	SR-89/SR-90	--	--	--	--									

NOTES

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: HAWAII, HONOLULU

LAT. 21 19N LONG. 157 50W ALT. 78 FT. (POT)

SOURCE: HAWAIIAN MARINE LABORATORY, UNIVERSITY OF HAWAII (ISLAND OF OAHU)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	--	--	0.83	1.62	3.09	0.62	0.28	4.87	4.02	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.58	0.42	0.31	0.16	0.13	0.64	0.57	E
SR-90 CONC. (PC/L)	--	--	--	--	--	10.64	3.95	1.52	3.95	6.99	1.98	2.13	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	3.30	2.62	17.75	1.39	2.37	1.76	3.42	7.69	1.48	4.57	0.77	3.30	50.42
SR-90 (MC/SQ.MI.)	0.71	0.36	1.33	0.84	1.15	1.21	0.07	0.70	0.73	1.56	0.49	1.12	10.27
SR-90 CONC. (PC/L)	3.34	2.13	1.06	9.12	7.45	10.49	0.30	1.37	7.45	5.17	9.73	5.17	
SR-89/SR-90	15.	11.	21.	15.	9.	2.	57.	54.	26.	2.	46.	51.	
1959 PRECIP. (INCHES)	4.15	5.48	1.28	3.13	3.37	0.30	1.24	2.56C	2.56C	0.91	1.57	2.44	28.99
SR-90 (MC/SQ.MI.)	2.21	3.91	4.86	2.11	1.61	1.07	--	0.41C	0.41C	0.16	0.21	0.38	E
SR-90 CONC. (PC/L)	8.06	10.79	57.76	10.18	7.30	54.26	--	2.43	2.43	2.74	1.98	2.43	
SR-89/SR-90	33.	31.	18.	12.	8.	4.0	--	--	--	*	*	*	
1960 PRECIP. (INCHES)	2.19	2.41	2.40	2.18	3.86	1.44	1.18	2.23	1.48	2.24	2.37	5.20	29.18
SR-90 (MC/SQ.MI.)	0.19	0.33	0.14	0.55	0.55	0.06	0.15C	0.28C	0.15C	0.23C	0.24C	0.54C	3.41
SR-90 CONC. (PC/L)	1.37	2.13	0.91	3.80	2.13	0.61	1.98	1.98	1.52	1.52	1.52	1.52	
SR-89/SR-90	--	0.8	--	--	*	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	5.57	4.52	1.19	1.48	1.59	2.60	2.30	3.42	3.15	7.65	2.55	1.32	37.34
SR-90 (MC/SQ.MI.)	0.46C	0.38C	0.26C	0.33C	0.31C	0.52C	--	0.38	0.34	0.72	0.63	0.91	E
SR-90 CONC. (PC/L)	1.22	1.22	3.34	3.34	2.89	3.04	--	1.67	1.67	1.37	3.80	10.49	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	20.	81.	54.	
1962 PRECIP. (INCHES)	2.75	2.63	2.09	1.06	0.31	0.12	3.23	1.96	1.87	1.67	0.30	1.79	19.78
SR-90 (MC/SQ.MI.)	0.93	2.77	3.56	0.56	2.54	1.45	0.59	--	0.91	0.46	0.23	1.30	E
SR-90 CONC. (PC/L)	5.17	15.96	25.84	8.06	124.49	183.62	2.74	--	7.45	4.26	11.70	11.10	
SR-89/SR-90	46.	23.	20.	14.	8.	7.	6.	--	7.	19.	14.	4.	
1963 PRECIP. (INCHES)	9.87	0.55	11.84	12.66	2.48	1.62	3.23	0.58	0.27	1.67	1.05	1.91	47.73
SR-90 (MC/SQ.MI.)	4.18	4.76	8.22	7.69	3.07	9.70	3.39	2.28	2.34	1.15	0.43	2.03	49.24
SR-90 CONC. (PC/L)	6.38	131.48	10.49	9.27	18.85	91.05	15.96	59.74	131.78	10.49	6.23	16.11	
SR-89/SR-90	31.	29.	11.	12.	7.5	*	1.	*	*	*	*	*	
1964 PRECIP. (INCHES)	4.41	1.49	5.69	4.08	1.75	0.73	3.81	1.61	1.64	1.31	5.82	6.37	38.71
SR-90 (MC/SQ.MI.)	1.06	1.80	4.60	3.07	3.07	1.80	2.02	1.49	1.08	1.32	1.70	0.13	23.14
SR-90 CONC. (PC/L)	3.65	18.39	12.31	11.40	26.60	37.54	8.06	14.14	10.03	15.35	4.41	0.30	
SR-89/SR-90	*	*	*	0.34	--	--	--	--	--	1.80	1.50	--	
1965 PRECIP. (INCHES)	3.22	2.99	1.26	4.44									E
SR-90 (MC/SQ.MI.)	0.76	1.29	1.35	0.05									E
SR-90 CONC. (PC/L)	3.65	6.54	16.26	0.15									
SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- F: FIVE YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: HAWAII, LIHUE

LAT. 21 59N LONG. 159 21W ALT. 115 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION (ISLAND OF KAUAI)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1960 PRECIP. (INCHES)	0.97	4.14	9.72	1.16	2.70	1.46	1.19	1.82	7.36	2.48	6.98	2.75	42.73
SR-90 (MC/SQ.MI.)	--	--	--	--	0.58C	0.31C	0.08C	0.13C	0.16C	0.06C	0.14C	0.06C	E
SR-90 CONC. (PC/L)	--	--	--	--	3.19	3.19	1.06	1.06	0.30	0.30	0.30	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.25	2.19	3.42	4.99	1.02	0.07	2.70	1.82	1.65	4.71	3.09	6.19	33.10
SR-90 (MC/SQ.MI.)	0.13C	0.23C	0.17C	0.24C	0.38C	0.03C	*	*	0.17	0.33	1.02	0.66	3.36
SR-90 CONC. (PC/L)	1.52	1.67	0.76	0.76	5.62	6.54	0.00	0.00	1.52	1.06	5.02	1.67	
SR-89/SR-90	--	--	--	--	--	--	--	--	123.	111.	103.	65.	
1962 PRECIP. (INCHES)	14.24	23.40	13.08	2.37	10.88	6.87	1.65	7.05	1.31	2.69C	2.69C	1.14	87.37
SR-90 (MC/SQ.MI.)	3.49A	3.49A	3.49A	2.23A	4.43A	1.07A	0.78A	--	1.60	0.80C	0.80C	1.35	E
SR-90 CONC. (PC/L)	3.80	2.28	4.10	14.29	6.23	2.43	7.14	--	18.54	4.56	4.56	17.94	
SR-89/SR-90	--	--	--	18.00A	8.00A	17.00A	15.00A	--	17.	--	--	44.	
1963 PRECIP. (INCHES)	12.31	1.68A	6.31	8.84	1.57	1.95	1.71	1.34	2.12	1.02	0.58	3.40	42.83
SR-90 (MC/SQ.MI.)	2.31	1.76A	5.54	6.32	3.11	4.69	1.45	0.74	0.56	0.59	0.27	0.91	28.25
SR-90 CONC. (PC/L)	2.89	15.96	13.38	10.79	30.10	36.63	12.92	8.36	3.95	8.82	7.14	4.10	
SR-89/SR-90	65.	29. A	10.	10.	11.1	2.2	2.	*	0.5	0.5	*	1.	
1964 PRECIP. (INCHES)	7.01	1.73	10.16	2.88	2.29	1.02	3.00	2.08	2.17	3.26	9.46	6.07	51.13
SR-90 (MC/SQ.MI.)	4.19	0.40	3.44	4.47	2.18	11.41	2.01	0.91	0.48	1.23	0.98	0.25	31.95
SR-90 CONC. (PC/L)	9.12	3.50	5.17	23.56	14.44	170.09	10.18	6.69	3.34	5.78	1.52	0.61	
SR-89/SR-90	*	*	1.2	*	*	--	--	--	--	6.50	*	--	
1965 PRECIP. (INCHES)	7.57	2.52	0.90	8.11									E
SR-90 (MC/SQ.MI.)	0.77	0.88	0.84	1.17									E
SR-90 CONC. (PC/L)	1.52	5.32	14.14	2.13									
SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

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C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

=: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: HAWAII, MAUNA LOA LAT. 19 32N LONG. 155 35W ALT. 11150 FT. (COLUMN)

SOURCE: MAUNA LOA OBSERVATORY (ISLAND OF HAWAII)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	3.51	0.11	0.88	*	*	5.76	5.76	2.82	2.18	2.82	0.28	E
SR-90 (MC/SQ.MI.)	--	1.26	--	0.02	0.05	0.01	0.09	--	--	0.02	*	0.10	E
SR-90 CONC. (PC/L)	--	5.47	--	0.30	--	--	0.30	--	--	0.15	0.00	5.47	
SR-89/SR-90	--	26.	--	120.	6.7	*	*	--	--	*	*	*	
1960 PRECIP. (INCHES)	0.30	2.11	2.15	1.03	1.12	2.31	0.04	0.71	0.33	1.20	0.69	1.63	13.62
SR-90 (MC/SQ.MI.)	0.15	0.18	0.19	0.14	0.16C	0.34C	*	*	0.00C	0.01C	*	*	1.17
SR-90 CONC. (PC/L)	7.60	1.37	1.37	2.13	2.13	2.28	0.00	0.00	0.00	0.15	0.00	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.17	1.26	0.63	0.77	1.02	0.07	*	1.00	0.67	3.32	2.91	2.87	14.69
SR-90 (MC/SQ.MI.)	0.02C	0.13C	0.13C	0.15C	--	--	0.00C	0.02C	*	0.06	0.04	0.09	E
SR-90 CONC. (PC/L)	1.82	1.52	3.19	2.89	--	--	--	0.30	0.00	0.30	0.15	0.46	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	66.	88.	86.	
1962 PRECIP. (INCHES)	1.24	0.13	2.14	1.78	2.15	0.49	0.03	0.64	1.36	0.05	0.04	0.02	10.07
SR-90 (MC/SQ.MI.)	0.42	0.05	1.05	1.07	1.48	0.19	0.01	0.04	0.14	0.01	5.98	0.06	10.50
SR-90 CONC. (PC/L)	5.17	5.78	7.45	9.12	10.49	5.93	5.02	0.91	1.52	3.04	D	45.60	
SR-89/SR-90	40.	62.	18.	13.	19.	13.	1.	*	14.	*	36.	17.	
1963 PRECIP. (INCHES)	3.5	0.59	4.36	6.47	4.14	0.87	1.98	1.81	1.68	0.18	0.17	*	25.75
SR-90 (MC/SQ.MI.)	0.82	0.39	2.17	0.81	3.67	1.96	1.00	0.47	0.43	0.08	0.05	0.60	12.45
SR-90 CONC. (PC/L)	3.50	10.03	7.60	1.98	13.53	34.20	7.75	3.95	3.95	6.69	4.41	--	
SR-89/SR-90	15.	31.	15.	12.	8.5	3.2	2.	*	1.2	*	*	2.	
1964 PRECIP. (INCHES)	0.32	0.28	2.50	0.82	2.51	0.11	1.09	1.03	1.24	0.90	1.20	2.45	14.45
SR-90 (MC/SQ.MI.)	0.30	0.26	0.80	0.60	0.59	0.02	0.52	0.15	0.09	0.12	0.16	0.23	3.84
SR-90 CONC. (PC/L)	14.29	14.14	4.86	11.10	3.65	2.74	7.30	2.28	1.06	1.98	1.98	1.37	
SR-89/SR-90	*	*	1.8	*	*	--	--	--	--	*	3.90	--	
1965 PRECIP. (INCHES)	1.58	0.75	1.03	2.77									E
SR-90 (MC/SQ.MI.)	0.41	0.16	0.24	0.47									E
SR-90 CONC. (PC/L)	3.95	3.19	3.50	2.58									
SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ILLINOIS, ARGONNE

LAT. 41 42N LONG. 87 59W ALT. 746 FT. (POT)

SOURCE: ARGONNE NATIONAL LABORATORY, INDUSTRIAL HYGIENE AND SAFETY DIVISION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1956 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	1.26	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.14	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	1.67	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	18.	
1957 PRECIP. (INCHES)	2.06	1.77	1.98	6.09	3.21	5.94	8.98	5.36	1.08	3.15	2.72	1.95	44.29
SR-90 (MC/SQ.MI.)	0.30	0.27	0.47	1.15	0.27	0.48	1.57	0.75	0.12	0.22	0.20	--	E
SR-90 CONC. (PC/L)	2.28	2.28	3.65	2.89	1.22	1.22	2.58	2.13	1.67	1.06	1.06	--	
SR-89/SR-90	15.	--	--	--	8.3	17.	--	--	62.	28.	14.	--	
1958 PRECIP. (INCHES)	--	--	0.33	1.64	3.21	6.43	4.74	2.51	1.86	2.12	1.58	0.57	E
SR-90 (MC/SQ.MI.)	--	--	--	0.57	0.79	4.87	0.09	3.67	0.33	0.76	1.04	0.42	E
SR-90 CONC. (PC/L)	--	--	--	5.32	3.80	11.55	0.30	22.19	2.74	5.47	10.03	11.25	
SR-89/SR-90	--	--	--	24.	20.	13.	13.	6.	41.	37.	54.	59.	
1959 PRECIP. (INCHES)	2.12	2.39	3.91	4.00	3.87	5.94	4.77	1.63	2.17	2.86	3.01	2.00	38.67
SR-90 (MC/SQ.MI.)	1.00	--	--	4.41	4.19	0.58	0.33	--	0.90	--	--	--	E
SR-90 CONC. (PC/L)	7.14	--	--	16.72	16.42	1.52	1.06	--	6.23	--	--	--	
SR-89/SR-90	37.	--	--	10.	7.6	4.5	*	--	--	--	--	--	
1960 PRECIP. (INCHES)	3.54	3.16	1.18	3.15	2.76	3.94	3.54	1.18	1.57	1.57	1.18	1.18	27.95
SR-90 (MC/SQ.MI.)	--	0.21	1.09	0.64	--	*	0.39C	0.13C	0.12C	0.12C	0.05C	0.05C	E
SR-90 CONC. (PC/L)	--	1.06	13.98	3.04	--	0.00	1.67	1.67	1.22	1.22	0.61	0.61	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.28	0.91	2.95	3.27	1.53	3.74	2.99	6.07	14.17	3.49	1.66	1.89	42.95
SR-90 (MC/SQ.MI.)	0.03C	0.11C	0.60C	0.65C	0.46C	1.12C	0.22	0.28	0.15	0.44	0.90	0.70	5.66
SR-90 CONC. (PC/L)	1.67	1.82	3.04	3.04	4.56	4.56	1.06	0.76	0.15	1.98	8.21	5.62	
SR-89/SR-90	--	--	--	--	--	--	--	*	63.	83.	83.	64.	
1962 PRECIP. (INCHES)	2.52	1.81	1.81	1.58	2.91	2.56	4.15	2.06	1.72	1.34	0.86	0.33	23.65
SR-90 (MC/SQ.MI.)	1.55	1.47	0.06	1.62	6.96	1.67	1.87	0.24	0.82	1.04	0.31	0.24	17.85
SR-90 CONC. (PC/L)	9.42	12.31	0.46	15.66	36.33	9.88	6.84	1.82	7.30	11.86	5.47	11.10	
SR-89/SR-90	35.	31.	25.	11.	10.	8.	17.	20.	33.	28.	56.	49.	
1963 PRECIP. (INCHES)	0.98	0.75	1.84	3.14	2.32	2.40	7.05	1.21	2.11	0.99	1.24	0.55	24.58
SR-90 (MC/SQ.MI.)	0.63	0.29	6.35	3.61	4.57	9.93	8.58	1.08	0.96	1.33	0.66	0.46	38.45
SR-90 CONC. (PC/L)	9.73	5.93	52.44	17.48	29.94	62.93	18.54	13.53	6.84	20.37	8.06	12.77	
SR-89/SR-90	24.	35.	18.	14.	8.5	1.6	2.	*	*	*	2.4	*	
1964 PRECIP. (INCHES)	0.36	0.60	3.01	5.44	1.82	2.98	3.54	1.96	3.48	0.24	1.67	1.06	26.16
SR-90 (MC/SQ.MI.)	0.74	0.33	3.34	7.11	3.10	8.35	2.06	1.38	1.00	0.13	0.87	0.11	28.52
SR-90 CONC. (PC/L)	31.31	8.36	16.87	19.91	25.84	42.56	8.82	10.64	4.41	8.21	7.90	1.52	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	19.00	*	--	
1965 PRECIP. (INCHES)	3.41	1.71	2.52	3.79									E
SR-90 (MC/SQ.MI.)	1.08	0.45	0.22	2.02									E
SR-90 CONC. (PC/L)	4.86	3.95	1.37	8.06									
SR-89/SR-90	--	--	--	0.40									

NOTES

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: KENTUCKY, LOUISVILLE

LAT. 38 13N LONG. 85 48W ALT. 450 FT. (POT)

SOURCE: RADIOCHEMISTRY, INC.

COLLECTIONS TERMINATED IN JULY 1963

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	2.83	1.65	2.77	1.19	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.25	0.47	0.66	0.59	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	1.37	4.26	3.65	7.60	
SR-89/SR-90	--	--	--	--	--	--	--	--	15.	23.	19.	41.	
1959 PRECIP. (INCHES)	5.51	2.76	2.13	1.68	4.42	1.11	2.61	5.20	0.48	3.26	4.15	3.77	37.08
SR-90 (MC/SQ.MI.)	2.19	1.59	3.16	3.35	2.98	0.93	0.67	0.29	0.08	0.35	0.23	0.44	16.26
SR-90 CONC. (PC/L)	6.08	8.82	22.50	30.25	10.18	12.77	3.95	0.91	2.58	1.67	0.91	1.82	
SR-89/SR-90	45.	32.	23.	13.	12.	7.	4.0	0.7	2.0	1.1	1.4	2.4	
1960 PRECIP. (INCHES)	2.55	4.31	2.42	1.17	3.52	10.11	1.99	1.79	3.00	1.58	3.35	2.04	37.83
SR-90 (MC/SQ.MI.)	0.91	1.22	0.38	0.58	1.19	1.30	0.19	0.15	0.10	0.18	0.13	0.07	6.40
SR-90 CONC. (PC/L)	5.47	4.26	2.43	7.60	5.17	1.98	1.52	1.22	0.46	1.67	0.61	0.46	
SR-89/SR-90	2.4	1.4	4.1	0.4	0.2	0.2	0.5	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.41	5.24	7.63	4.83	9.00	3.59	5.80	0.92	1.48	2.00	4.23	3.76	50.89
SR-90 (MC/SQ.MI.)	0.14	0.34	0.52	1.06	1.23	0.44	0.43	0.17	0.10	0.26	0.76	0.88	6.33
SR-90 CONC. (PC/L)	0.91	0.91	1.06	3.34	2.13	1.82	1.06	2.74	1.06	1.98	2.74	3.50	
SR-89/SR-90	--	--	--	--	--	--	--	--	32.	70.	83.	63.	
1962 PRECIP. (INCHES)	4.03	6.58	3.58	1.44	2.90	5.94	0.65	2.08	3.68	4.70	1.60	2.72	39.90
SR-90 (MC/SQ.MI.)	2.06	2.39	3.01	1.33	3.93	4.01	1.04	0.86	0.54	1.67	2.77	1.19	24.80
SR-90 CONC. (PC/L)	7.75	5.47	12.77	13.98	20.67	10.34	24.32	6.23	2.28	5.47	26.30	6.69	
SR-89/SR-90	46.	27.	25.	15.	17.	10.	14.	15.	33.	17.	23.	27.	
1963 PRECIP. (INCHES)	1.18	1.27	9.04	1.87	4.56	4.18							E
SR-90 (MC/SQ.MI.)	1.70	2.19	7.00	3.97	15.03	10.48							E
SR-90 CONC. (PC/L)	21.89	26.14	11.70	32.22	50.16	38.15							
SR-89/SR-90	26.	20.	13.	15.	7.	6.							

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: KENTUCKY, LOUISVILLE

LAT. 38 13N LONG. 85 48W ALT. 450 FT. (COLUMN)

SOURCE: RADIOCHEMISTRY, INC.

COLLECTIONS TERMINATED IN JULY 1961

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1958	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	2.83	1.65	2.77	1.19	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.23	0.43	1.00	0.54	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	1.22	3.95	5.47	6.84	
	SR-89/SR-90	--	--	--	--	--	--	--	--	21.	32.	7.	40.	
1959	PRECIP. (INCHES)	5.51	2.76	2.13	1.68	4.42	1.11	2.61	5.20	0.48	3.26	4.15	3.77	37.08
	SR-90 (MC/SQ.MI.)	1.23	1.41	2.78	0.22	2.49	0.53	0.47	0.21	0.09	0.25	0.24	0.47	10.39
	SR-90 CONC. (PC/L)	3.34	7.75	19.91	1.98	8.51	7.30	2.74	0.61	2.89	1.22	0.91	1.82	
	SR-89/SR-90	39.	19.	21.	32.	11.	6.	0.9	0.5	1.5	2.2	0.8	0.9	
1960	PRECIP. (INCHES)	2.55	4.31	2.42	1.17	3.52	10.11	1.99	1.79	3.00	1.58	3.35	2.04	37.83
	SR-90 (MC/SQ.MI.)	0.67	0.89	0.50	0.50	1.40	1.27	0.07	0.12	*	0.12	0.06	0.08	5.68
	SR-90 CONC. (PC/L)	3.95	3.19	3.19	6.54	6.08	1.98	0.61	1.06	0.00	1.22	0.30	0.61	
	SR-89/SR-90	4.3	1.7	1.5	0.8	0.2	*	0.5	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.41	5.24	7.63	4.83	9.00	3.59							E
	SR-90 (MC/SQ.MI.)	0.14	0.28	0.92C	0.53C	1.15	0.45							E
	SR-90 CONC. (PC/L)	0.91	0.76	1.82	1.67	1.98	1.98							
	SR-89/SR-90	--	--	--	--	--	--							

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: LOUISIANA, NEW ORLEANS

LAT. 30 00N LONG. 90 03W ALT. 3 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1960 PRECIP. (INCHES)	--	--	--	--	3.15	1.57	4.33	6.51	4.00	4.33	0.60	4.17	E
SR-90 (MC/SQ.MI.)	--	--	--	--	0.18C	0.09C	*	*	*	*	0.05C	0.33C	E
SR-90 CONC. (PC/L)	--	--	--	--	0.91	0.91	0.00	0.00	0.00	0.00	1.22	1.22	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	6.94	9.00	8.53	2.88	7.27	8.01	10.38	7.26	8.90	0.51	8.66	5.99	84.33
SR-90 (MC/SQ.MI.)	0.15	0.19C	0.91C	0.31C	0.67C	0.75C	0.34C	0.23C	0.10	0.06	0.41	0.42	4.54
SR-90 CONC. (PC/L)	0.30	0.30	1.67	1.67	1.37	1.37	0.46	0.46	0.15	1.82	0.76	1.06	
SR-89/SR-90	--	--	--	--	--	--	--	--	36.	60.	81.	66.	
1962 PRECIP. (INCHES)	4.19	1.17	1.60	2.66	1.31	8.87	4.70	--	2.52	3.29	1.96	4.47	E
SR-90 (MC/SQ.MI.)	1.66	0.61	1.49	2.87	1.22	2.36	1.14	0.56	0.56	0.32	0.17	1.13	14.09
SR-90 CONC. (PC/L)	6.08	7.90	14.14	16.42	14.14	4.10	3.65	--	3.34	1.52	1.37	3.80	
SR-89/SR-90	41.	29.	18.	14.	17.	15.	24.	17.	6.	26.	40.	41.	
1963 PRECIP. (INCHES)	5.21	5.90	1.00	1.84	3.17	4.16	6.40	2.12	7.35	0.15	7.85	5.25	50.40
SR-90 (MC/SQ.MI.)	1.56	1.60	0.66	2.28	2.72	3.06	4.97	2.62	0.74	0.27	1.84	1.51	23.83
SR-90 CONC. (PC/L)	4.56	4.10	10.03	18.85	13.07	11.25	11.86	18.85	1.52	27.36	3.50	4.41	
SR-89/SR-90	30.	26.	18.	14.6	15.7	3.7	3.	*	*	*	*	*	
1964 PRECIP. (INCHES)	9.60	5.35	5.45	5.66	1.69	5.52	5.90	3.88	4.93	3.50	3.51	3.10	58.09
SR-90 (MC/SQ.MI.)	5.07	3.10	3.29	4.84	1.23	2.43	2.36	1.15	0.41	0.25	0.34	0.44	24.91
SR-90 CONC. (PC/L)	8.06	8.82	9.12	13.07	11.10	6.69	6.08	4.56	1.22	1.06	1.52	2.13	
SR-89/SR-90	*	0.2	*	*	*	--	--	--	--	10.00	3.80	--	
1965 PRECIP. (INCHES)	4.48	5.25	1.95	0.33									E
SR-90 (MC/SQ.MI.)	0.50	0.96	0.49	0.36									E
SR-90 CONC. (PC/L)	1.67	2.74	3.80	16.57									
SR-89/SR-90	--	--	--	--									

NOTES

- : DATA NOT AVAILABLE
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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MARYLAND, SILVER HILL

LAT. 38 59N LONG. 77 28W ALT. 270 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU

SITE DISCONTINUED OCTOBER 1960

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		---	---	---	---	---	---	---	---	---	---	---	---	-----
1959	PRECIP. (INCHES)	--	2.08	2.85	4.78	2.69	4.89	5.18	2.22	2.07	3.49	2.50	3.90	E
	SR-90 (MC/SQ.MI.)	--	1.81	--	5.87	1.92	2.04	0.48	0.26	0.10	0.26	0.21	0.40	E
	SR-90 CONC. (PC/L)	--	13.22	--	18.70	10.79	6.38	1.37	1.82	0.76	1.06	1.22	1.52	
	SR-89/SR-90	--	2.7	--	7.8	8.4	5.7	2.8	1.2	*	0.6	*	*	
1960	PRECIP. (INCHES)	--	3.94	1.76	3.45	4.93	1.18	4.65	7.36	3.47				E
	SR-90 (MC/SQ.MI.)	--	0.37	0.17	--	0.80C	0.19C	0.38C	0.59C	--				E
	SR-90 CONC. (PC/L)	--	1.37	1.52	--	2.43	2.43	1.22	1.22	--				
	SR-89/SR-90	--	--	--	--	--	--	--	--	--				

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MINNESOTA, INTL FALLS

LAT. 48 34N LONG. 93 26W ALT. 1180 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	0.38	0.42	0.39	4.48	1.66	3.61	5.12	2.67	2.09	1.20	0.93	E
SR-90 (MC/SQ.MI.)	--	0.11	--	1.08	5.01	--	2.92	0.97	0.18	0.19	0.05	0.07	E
SR-90 CONC. (PC/L)	--	4.41	--	42.10	17.02	--	12.31	2.89	1.06	1.37	0.61	1.22	
SR-89/SR-90	--	60.	--	11.	7.4	--	3.1	1.4	0.66	1.2	*	4.3	
1960 PRECIP. (INCHES)	0.57	0.33	0.40	2.03	2.02	2.36	3.06	2.49	1.87	1.94	1.41	1.67	20.15
SR-90 (MC/SQ.MI.)	0.10	0.01	1.00	0.75	--	--	0.08C	0.07C	0.16C	0.16C	*	*	E
SR-90 CONC. (PC/L)	2.74	0.46	38.00	5.62	--	--	0.46	0.46	1.37	1.22	0.00	0.00	
SR-89/SR-90	--	*	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.46	0.85	0.68	2.39	1.76	0.70	4.90	2.79	7.36	0.89	0.97	0.93	24.68
SR-90 (MC/SQ.MI.)	0.13C	0.23C	0.23C	0.78C	0.82C	0.33C	0.56C	0.32C	0.62	0.24	0.31	0.22	4.79
SR-90 CONC. (PC/L)	4.26	4.10	5.17	5.02	7.14	7.14	1.67	1.67	1.22	4.10	4.86	3.65	
SR-89/SR-90	--	--	--	--	--	--	--	--	132.	66.	70.	61.	
1962 PRECIP. (INCHES)	0.94	1.27	0.76	1.80	6.15	3.45	6.61	2.62	3.57	0.23	0.49	--	E
SR-90 (MC/SQ.MI.)	0.18	0.40	0.73	0.12	8.95	5.33	1.94	1.28	1.28	0.17	0.46	--	E
SR-90 CONC. (PC/L)	2.89	4.71	14.59	1.06	22.19	23.41	4.41	7.45	5.47	11.25	14.29	--	
SR-89/SR-90	42.	31.	22.	15.	11.	10.	7.	7.	32.	37.	46.	--	
1963 PRECIP. (INCHES)	0.22	1.03	0.59	2.91	4.71	2.08	4.99	3.13	2.52	0.34	1.12	1.19	24.83
SR-90 (MC/SQ.MI.)	0.52	0.38	0.68	13.21	13.06	4.87	13.18	7.24	2.31	0.64	0.97	0.52	57.58
SR-90 CONC. (PC/L)	35.87	5.62	17.48	69.01	42.10	35.57	40.13	35.11	13.98	28.58	13.22	6.69	
SR-89/SR-90	26.	21.	16.	9.	7.4	0.3	2.	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.74	0.63	0.65	2.92	2.12	7.48	1.96	6.54	3.32	0.42	0.73	0.84	28.35
SR-90 (MC/SQ.MI.)	0.17	0.45	0.47	4.76	7.90	1.26	4.10	2.10	0.76	0.56	0.28	0.18	22.99
SR-90 CONC. (PC/L)	3.50	10.79	10.94	24.78	56.70	2.58	31.77	4.86	3.50	20.22	5.78	3.19	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	11.00	5.78	--	
1965 PRECIP. (INCHES)	0.22	0.43	1.34	1.37									E
SR-90 (MC/SQ.MI.)	*	0.14	0.10	2.19									E
SR-90 CONC. (PC/L)	0.00	5.02	1.06	24.32									
SR-89/SR-90	--	--	--	*									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MISSOURI, COLUMBIA

LAT. 38 58N LONG. 92 20W ALT. 778 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL	
	----	----	----	----	----	----	----	----	----	----	----	----	-----	
1959	PRECIP. (INCHES)	--	2.14	3.39	2.42	4.35	0.12	3.97	1.10	5.41	4.19	0.56	1.91	E
	SR-90 (MC/SQ.MI.)	--	3.65	3.95	2.92	3.90	0.38	0.56	0.11	0.24	0.26	0.17	0.29	E
	SR-90 CONC. (PC/L)	--	25.99	17.78	18.39	13.68	48.18	2.13	1.52	0.61	0.91	4.56	2.28	
	SR-89/SR-90	--	2.4	27.	11.	7.6	4.2	2.5	*	1.5	0.68	*	0.9	
1960	PRECIP. (INCHES)	1.55	1.85	2.19	5.12	4.19	3.35	2.65	0.27	2.65	4.33	0.84	1.69	30.68
	SR-90 (MC/SQ.MI.)	0.16	0.37	0.30	--	0.71C	0.57C	*	*	0.10C	0.17C	*	*	E
	SR-90 CONC. (PC/L)	1.52	3.04	2.13	--	2.58	2.58	0.00	0.00	0.61	0.61	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.69	2.04	4.68	4.70	6.33	5.26	5.66	1.97	8.20	2.86	3.36	1.63	47.38
	SR-90 (MC/SQ.MI.)	*	*	0.69C	0.69C	0.99C	0.82C	0.48C	0.17C	0.29	0.40	0.58	0.48	5.59
	SR-90 CONC. (PC/L)	0.00	0.00	2.28	2.28	2.43	2.43	1.22	1.37	0.61	2.13	2.58	4.41	
	SR-89/SR-90	--	--	--	--	--	--	--	--	15.	100.	81.	72.	
1962	PRECIP. (INCHES)	1.66	2.00	3.40	1.33	2.59	1.41	3.58	4.14	6.73	2.48	0.74	0.77	30.83
	SR-90 (MC/SQ.MI.)	0.68	2.28	2.85	2.77	5.82	1.79	2.41	0.83	0.10	0.13	0.72	0.78	21.16
	SR-90 CONC. (PC/L)	6.23	17.33	12.77	31.62	34.20	19.30	10.18	3.04	0.15	0.76	14.74	15.35	
	SR-89/SR-90	43.	40.	20.	14.	16.	11.	14.	21.	9.	29.	38.	36.	
1963	PRECIP. (INCHES)	0.40	0.18	3.43	2.15	4.53	1.26	5.70	4.32	2.07	0.78	1.76	0.60	27.18
	SR-90 (MC/SQ.MI.)	0.39	0.46	1.97	5.10	2.95	4.99	6.62	5.18	1.53	1.32	0.85	0.36	31.72
	SR-90 CONC. (PC/L)	14.90	38.91	8.66	36.02	9.88	60.19	17.63	18.24	11.25	25.69	7.30	9.12	
	SR-89/SR-90	22.	24.	25.	10.9	8.1	0.5	1.	*	0.6	1.2	*	*	
1964	PRECIP. (INCHES)	0.75	1.64	3.66	7.01	6.73	2.98	3.29	0.77	2.96	0.36	3.12	1.30	34.57
	SR-90 (MC/SQ.MI.)	1.23	1.06	3.36	4.35	9.68	4.84	3.21	0.77	0.76	0.32	0.34	0.36	30.28
	SR-90 CONC. (PC/L)	24.93	9.88	13.98	9.42	21.89	24.62	14.90	15.20	3.95	13.53	1.67	4.26	
	SR-89/SR-90	*	*	*	0.84	*	--	--	--	--	4.70	*	--	
1965	PRECIP. (INCHES)	2.52	1.15	3.40	4.49									E
	SR-90 (MC/SQ.MI.)	1.12	0.52	2.14	0.60									E
	SR-90 CONC. (PC/L)	6.69	6.84	9.58	1.98									
	SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MONTANA, HELENA

LAT. 46 36N LONG. 112 00W ALT. 3893 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	0.02	0.72	1.56	1.90	0.11	0.36	0.46	0.95	1.45	0.14	E
SR-90 (MC/SQ.MI.)	--	--	0.58	2.02	1.54	2.32	0.40	0.09	0.17	--	0.03	0.17	E
SR-90 CONC. (PC/L)	--	--	440.80	42.71	15.05	18.54	55.33	3.80	5.62	--	0.30	18.39	
SR-89/SR-90	--	--	25.	*	8.7	5.3	2.8	2.5	*	--	*	1.2	
1960 PRECIP. (INCHES)	0.24	0.25	0.21	1.56	0.94	0.23	1.02	2.10	0.13	0.26	0.19	0.34	7.47
SR-90 (MC/SQ.MI.)	0.06	0.11	0.11	0.52	0.09C	0.02C	0.17C	0.35C	0.04C	0.07C	*	*	1.54
SR-90 CONC. (PC/L)	3.80	6.69	7.90	5.02	1.52	1.37	2.58	2.58	4.71	4.10	0.00	0.00	
SR-89/SR-90	*	0.8	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.09	0.06	1.03	0.87	1.39	0.78	1.05	0.65	1.16	0.16	0.37	0.55	8.16
SR-90 (MC/SQ.MI.)	0.08C	0.05C	0.26C	0.21C	0.19C	0.11C	0.24C	0.15C	0.10	0.11	0.27	0.11	1.88
SR-90 CONC. (PC/L)	13.53	12.62	3.80	3.65	2.13	2.13	3.50	3.50	1.37	10.49	11.10	3.04	
SR-89/SR-90	--	--	--	--	--	--	--	--	50.	47.	22.	68.	
1962 PRECIP. (INCHES)	0.67	0.66	0.54	0.90	3.82	2.09	1.61	1.80	0.31	0.95	0.57	0.14	14.06
SR-90 (MC/SQ.MI.)	0.10	0.35	0.42	0.15	4.29	3.45	3.46	2.70	0.52	0.56	0.29	0.20	16.49
SR-90 CONC. (PC/L)	2.28	8.06	11.86	2.58	17.02	25.08	32.68	22.80	25.54	8.97	7.75	21.74	
SR-89/SR-90	54.	30.	19.	18.	8.	10.	25.	10.	13.	20.	40.	19.	
1963 PRECIP. (INCHES)	0.44	0.25	0.23	1.01	1.33	2.47	0.92	0.60	1.30	1.39	0.29	1.29	11.52
SR-90 (MC/SQ.MI.)	0.32	0.37	0.37	3.18	3.94	11.3	0.47	3.14	1.73	1.86	0.32	0.42	27.42
SR-90 CONC. (PC/L)	11.10	22.50	24.47	47.88	44.99	69.46	7.75	79.50	20.22	20.37	16.72	5.02	
SR-89/SR-90	24.	22.	10.	7.	11.6	2.2	--	*	0.3	*	*	*	
1964 PRECIP. (INCHES)	0.31	0.26	0.52	0.68	3.33	2.46	0.83	1.87	0.20	0.04	0.53	0.98	12.01
SR-90 (MC/SQ.MI.)	0.39	0.45	0.13	1.19	3.70	7.14	2.82	1.53	0.43	0.18	0.16	0.27	18.39
SR-90 CONC. (PC/L)	19.15	26.30	3.80	26.60	16.87	44.08	51.68	12.46	32.68	68.40	4.56	4.26	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	3.70	--	
1965 PRECIP. (INCHES)	0.36	0.49	0.85	0.98									E
SR-90 (MC/SQ.MI.)	0.12	0.12	0.38	0.58									E
SR-90 CONC. (PC/L)	5.02	3.65	6.84	8.97									
SR-89/SR-90	--	--	--	5.30									

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D: RATIO EXCEEDS 999.99

SITE: NEW JERSEY, WESTWOOD

LAT. 41 00N LONG. 74 02W ALT. 125 FT. (POT)

SOURCE: ISOTOPES, INC.

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	1.11	1.18	0.81	0.55	1.15	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	6.42	--	4.92	6.38	3.98	1.90	2.78	4.31	2.66	4.72	3.46	1.08	E
SR-90 (MC/SQ.MI.)	1.53	0.73	1.01	1.73	2.81	1.05	1.11	1.11	0.70	1.64	1.38	0.79	15.59
SR-90 CONC. (PC/L)	3.65	--	3.19	4.10	10.79	8.36	6.08	3.95	3.95	5.32	6.08	11.10	
SR-89/SR-90	--	--	--	23.	12.	13.	40.	23.	27.	48.	39.	32.	
1959 PRECIP. (INCHES)	2.66	2.19	3.76	3.23	1.08	5.46	6.21	5.80	2.42	6.36	4.25	4.63	48.05
SR-90 (MC/SQ.MI.)	1.39	1.45	4.69	6.36	2.63	3.78	1.76	1.00	0.08	0.42	0.27	0.33	24.16
SR-90 CONC. (PC/L)	7.90	10.03	19.00	29.94	37.09	10.49	4.26	2.58	0.46	1.06	0.91	1.06	
SR-89/SR-90	29.	25.	14.	10.	6.	4.	1.2	0.4	*	0.94	1.10	1.81	
1960 PRECIP. (INCHES)	3.13	4.89	2.14	3.99	2.70	1.50	8.33	6.73	6.95	2.59	2.96	2.06	47.97
SR-90 (MC/SQ.MI.)	0.25	0.72	0.37	0.79	0.80	0.49	0.58	0.33	0.28	0.12	0.13	0.08	4.94
SR-90 CONC. (PC/L)	1.22	2.28	2.58	3.04	4.56	5.02	1.06	0.76	0.61	0.76	0.61	0.61	
SR-89/SR-90	*	1.89	0.4	*	*	*	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.96A	3.53A	4.86	6.17	2.79	1.95	6.83	5.47	3.68	2.06	2.95	3.46	46.71
SR-90 (MC/SQ.MI.)	0.19	0.25	0.81	1.58	0.67	0.47	0.39	0.20	0.16	0.30	1.17	1.44	7.63
SR-90 CONC. (PC/L)	0.91	1.06	2.58	3.95	3.65	3.65	0.91	0.61	0.61	2.28	6.08	6.38	
SR-89/SR-90	--	--	--	--	--	--	--	--	30.	72.	84.	49.	
1962 PRECIP. (INCHES)	2.95	4.44	4.57	3.37	1.26	6.29	1.29	7.47	3.45	4.70	4.61	2.85	47.25
SR-90 (MC/SQ.MI.)	1.48	3.05	2.11	5.52	2.64	4.79	2.61	3.45	1.24	3.10	2.49	2.96	35.44
SR-90 CONC. (PC/L)	7.60	10.49	6.99	24.93	31.92	11.55	30.70	6.99	5.47	10.03	8.21	15.81	
SR-89/SR-90	46.	31.	19.	12.	9.7	5.4	6.5	5.1	15.	26.	34.	29.	
1963 PRECIP. (INCHES)	2.09	1.20	4.02	0.95	2.51	3.55	4.76	1.80	4.69	0.92	4.48	1.51	32.48
SR-90 (MC/SQ.MI.)	2.61	2.70	6.29	7.78	9.83	6.31	13.4	5.72	5.34	1.56	2.55	1.43	65.52
SR-90 CONC. (PC/L)	19.00	34.20	23.71	124.49	59.58	27.06	42.86	48.34	17.33	25.84	8.66	14.44	
SR-89/SR-90	29.	19.	12.	7.6	5.3	3.6	2.4	1.8	1.2	1.0	0.6	0.3	
1964 PRECIP. (INCHES)	3.48	1.89	2.24	6.14	1.05	2.46	5.09	1.00	1.28	1.36	2.40	4.32	32.71
SR-90 (MC/SQ.MI.)	2.69	1.10	3.51	6.68	2.23	6.20	2.78	1.12	0.29	0.81	0.89	0.21	28.51
SR-90 CONC. (PC/L)	11.70	8.82	23.86	16.57	32.22	38.30	8.36	17.02	3.50	9.12	5.62	0.76	
SR-89/SR-90	0.2	0.2	*	--	--	--	--	--	--	*	0.74	*	
1965 PRECIP. (INCHES)	2.52	3.04	1.56										E
SR-90 (MC/SQ.MI.)	1.10	1.70	1.40										E
SR-90 CONC. (PC/L)	6.69	8.51	13.68										
SR-89/SR-90	--	--	--										

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B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: NEW JERSEY, WESTWOOD

LAT. 41 00N LONG. 74 02W ALT. 125 FT. (COLUMN)

SOURCE: ISOTOPIES, INC.

COLLECTIONS TERMINATED IN JULY 1964

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	--	--	--	3.23	1.08	5.46	6.21	5.80	2.42	6.36	4.25	4.63	E
	SR-90 (MC/SQ.MI.)	--	--	--	4.62	1.48	4.35	1.13	0.63	0.12	0.35	0.23	0.25	E
	SR-90 CONC. (PC/L)	--	--	--	21.74	20.82	12.16	2.74	1.67	0.76	0.91	0.76	0.76	
	SR-89/SR-90	--	--	--	8.8	5.6	3.4	1.9	1.2	*	0.9	1.7	1.5	
1960	PRECIP. (INCHES)	3.13	4.89	2.14	3.99	2.70	1.50	8.33	6.73	6.95	2.59	2.96	2.06	47.97
	SR-90 (MC/SQ.MI.)	0.33	0.49	0.38	0.69	0.76	0.59	0.41	0.18	0.22	0.18	0.10	*	4.33
	SR-90 CONC. (PC/L)	1.67	1.52	2.74	2.58	4.26	5.93	0.76	0.46	0.46	1.06	0.46	0.00	
	SR-89/SR-90	0.3	1.6	0.1	*	*	*	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.96A	3.53A	4.86	6.17	2.79	1.95	6.83	5.47	3.68	2.06	2.95	3.46	46.71
	SR-90 (MC/SQ.MI.)	0.53	0.45	1.04	1.07	0.59	0.43	0.43	0.47	0.16	0.25	1.08	1.28	7.78
	SR-90 CONC. (PC/L)	2.74	1.98	3.19	2.58	3.19	3.34	0.91	1.37	0.61	1.82	5.62	5.62	
	SR-89/SR-90	--	--	--	--	--	--	--	--	16.	69.	72.	57.	
1962	PRECIP. (INCHES)	2.95	4.44	4.57	3.37	1.26	6.29	1.29	7.47	3.45	4.70	4.61	2.85	47.25
	SR-90 (MC/SQ.MI.)	1.36	2.84	1.87	4.89	2.98	5.42	2.37	2.86	1.35	2.97	1.25	3.88	34.04
	SR-90 CONC. (PC/L)	6.99	9.73	6.23	22.04	36.02	13.07	27.97	5.78	5.93	9.58	4.10	20.67	
	SR-89/SR-90	40.	30.	18.	14.	9.1	4.8	6.1	6.1	14.	25.	38.	19.	
1963	PRECIP. (INCHES)	2.09	1.20	4.02	0.95	2.91	3.55	4.76	1.80	4.69	0.92	6.22	1.51	34.62
	SR-90 (MC/SQ.MI.)	2.58	2.33	3.82	7.43	9.66	4.72	12.0	5.26	4.63	1.49	2.50	1.40	57.82
	SR-90 CONC. (PC/L)	18.70	29.49	14.44	118.86	50.46	20.22	38.30	44.38	15.05	24.62	6.08	14.14	
	SR-89/SR-90	27.	18.	13.	5.9	5.1	4.1	2.8	2.5	1.3	1.0	0.6	*	
1964	PRECIP. (INCHES)	3.48	1.89	4.24	6.14	1.05	2.46							E
	SR-90 (MC/SQ.MI.)	1.37	1.38	3.49	--	2.06	4.76							E
	SR-90 CONC. (PC/L)	5.93	11.10	12.46	--	29.79	29.34							
	SR-89/SR-90	0.2	*	0.2	--	--	--							

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

SITE: NEW YORK, NEW YORK LAT. 40 40N LONG. 73 50W ALT. 55 FT. (PDT)

SOURCE: HEALTH AND SAFETY LABORATORY, U. S. ATOMIC ENERGY COMMISSION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1954 PRECIP. (INCHES)	--	1.81	3.25	2.70	3.10	1.32	0.96	6.09	4.75	1.99	4.93	3.03	E
SR-90 (MC/SQ.MI.)	--	2.37	0.52	0.34	0.48	0.46	0.14	0.19	1.47	0.20	0.65	0.33	E
SR-90 CONC. (PC/L)	--	19.91	2.43	1.98	2.28	5.32	2.28	0.46	4.71	1.52	1.98	1.67	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1955 PRECIP. (INCHES)	0.77	3.01	3.71	1.97	2.64	2.52	0.51	10.86	2.67	6.87	4.12	0.25	39.90
SR-90 (MC/SQ.MI.)	0.23	0.87	2.43	1.24	0.89	0.87	0.25	0.68	0.43	0.35	0.42	0.55	9.21
SR-90 CONC. (PC/L)	4.56	4.41	9.88	9.58	5.17	5.32	7.45	0.91	2.43	0.76	1.52	33.44	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1956 PRECIP. (INCHES)	1.54	4.18	5.03	2.78	2.20	2.99	3.13	2.56	2.32	3.61	2.62	3.29	36.25
SR-90 (MC/SQ.MI.)	2.71	1.26	1.61	0.77	1.04	0.80	0.46	0.74	0.32	0.31	0.89	0.55	11.46
SR-90 CONC. (PC/L)	26.75	4.56	4.86	4.26	7.14	4.10	2.28	4.41	2.13	1.37	5.17	2.58	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1957 PRECIP. (INCHES)	1.70	2.43	1.99	4.51	3.67	1.85	1.47	2.87	3.01	3.27	4.46	5.26	36.49
SR-90 (MC/SQ.MI.)	0.26	0.53	1.03	4.80	0.94	0.82	0.84	0.50	0.41	0.38	0.42	0.60	11.53
SR-90 CONC. (PC/L)	2.28	3.34	7.90	16.11	3.95	6.69	8.66	2.58	2.13	1.82	1.37	1.67	
SR-89/SR-90	24.	21.	--	--	12.	28.	18.	59.	47.	61.	21.	20.	
1958 PRECIP. (INCHES)	3.79	2.98	3.19	6.14	3.25	2.55	3.68	2.36	4.44	5.46	1.85	1.25	40.94
SR-90 (MC/SQ.MI.)	1.29	1.23	0.89	1.52	2.63	1.76	1.58	0.60	0.65	1.06	0.98	1.77	15.96
SR-90 CONC. (PC/L)	5.17	6.23	4.26	3.80	12.31	10.49	6.54	3.80	2.28	2.89	8.06	21.58	
SR-89/SR-90	21.	16.	17.	12.	11.	12.	11.	20.	28.	53.	29.	46.	
1959 PRECIP. (INCHES)	2.34	1.69	3.77	1.91	1.33	4.20	4.28	4.45	1.11	4.83	4.22	4.64	38.77
SR-90 (MC/SQ.MI.)	1.19	1.73	5.09	6.28	1.30	4.44	0.49	0.68	0.12	0.36	0.31	0.51	22.50
SR-90 CONC. (PC/L)	7.75	15.50	20.52	50.01	14.90	16.11	1.67	2.28	1.67	1.06	1.06	1.67	
SR-89/SR-90	32.	23.	13.	12.	5.2	5.04	3.33	1.0	1.05	0.33	0.32	*	
1960 PRECIP. (INCHES)	2.40	4.43	2.96	3.05	2.97	1.74	8.29	6.26	5.38	2.82	3.05	3.04	46.39
SR-90 (MC/SQ.MI.)	0.45	0.81	0.32	0.42	0.73	0.43	0.27	0.22	0.15	0.11	0.12	0.11	4.14
SR-90 CONC. (PC/L)	2.89	2.74	1.67	2.13	3.80	3.80	0.46	0.61	0.46	0.61	0.61	0.61	
SR-89/SR-90	0.3	1.5	1.0	0.9	0.2	0.4	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.88	3.96	4.23	5.08	3.60	2.87	4.92	3.13	1.70	2.21	2.71	3.04	39.33
SR-90 (MC/SQ.MI.)	0.11	0.17	0.68	0.97	0.83	0.43	0.20	0.12	0.06	0.30	0.96	1.44	6.27
SR-90 CONC. (PC/L)	0.91	0.61	2.43	2.89	3.50	2.28	0.61	0.61	0.61	2.13	5.32	7.14	
SR-89/SR-90	--	--	--	--	--	--	--	--	72.	87.	83.	47.	
1962 PRECIP. (INCHES)	2.62	3.74	2.97	3.00	1.26	3.76	1.67	5.71	3.10	3.15	3.94	2.26	37.18
SR-90 (MC/SQ.MI.)	1.26A	2.53A	1.29A	4.62A	2.80A	3.03A	3.22A	2.41A	1.16A	2.03A	1.60A	2.71A	28.66
SR-90 CONC. (PC/L)	7.30	10.34	6.54	23.41	33.74	12.31	29.34	6.38	5.62	9.73	6.23	18.24	
SR-89/SR-90	50. A	30. A	15. A	11. A	10. A	7. A	5. A	7. A	18. A	30. A	27. A	33. A	A
1963 PRECIP. (INCHES)	1.93	2.55	3.61	1.27	2.16	2.72	2.19	3.21	3.95	0.14	8.24	2.31	34.28
SR-90 (MC/SQ.MI.)	2.39A	5.32A	4.54A	10.17A	8.36A	4.22A	5.84A	9.79A	4.20A	0.23A	4.64A	2.16A	61.86
SR-90 CONC. (PC/L)	18.85	31.77	19.15	121.75	58.82	23.56	40.58	46.36	16.11	24.93	8.51	14.29	
SR-89/SR-90	30. A	19. A	21. A	--	5.20A	5.20A	3.40A	1.50A	1.30A	0.90A	0.60A	0.50A	
1964 PRECIP. (INCHES)	4.62	2.93	2.57	5.09	0.57	2.67	4.17	0.24	1.69	1.73	2.55	4.16	32.99
SR-90 (MC/SQ.MI.)	2.70	5.44	4.75	12.27	1.36	6.60	3.32	1.01	0.60	0.75	0.84	1.46	41.10
SR-90 CONC. (PC/L)	8.82	28.27	28.12	36.63	36.33	37.54	12.16	63.99	5.47	6.54	5.02	5.32	
SR-89/SR-90	0.3	--	--	--	--	--	--	--	--	1.20	*	--	
1965 PRECIP. (INCHES)	3.09	3.66	2.49	2.90	1.58	1.27							E
SR-90 (MC/SQ.MI.)	0.99	1.96	2.13	2.62	1.11	1.64							E
SR-90 CONC. (PC/L)	4.86	8.21	13.07	13.68	10.64	19.61							
SR-89/SR-90	--	--	--	*	--	--							

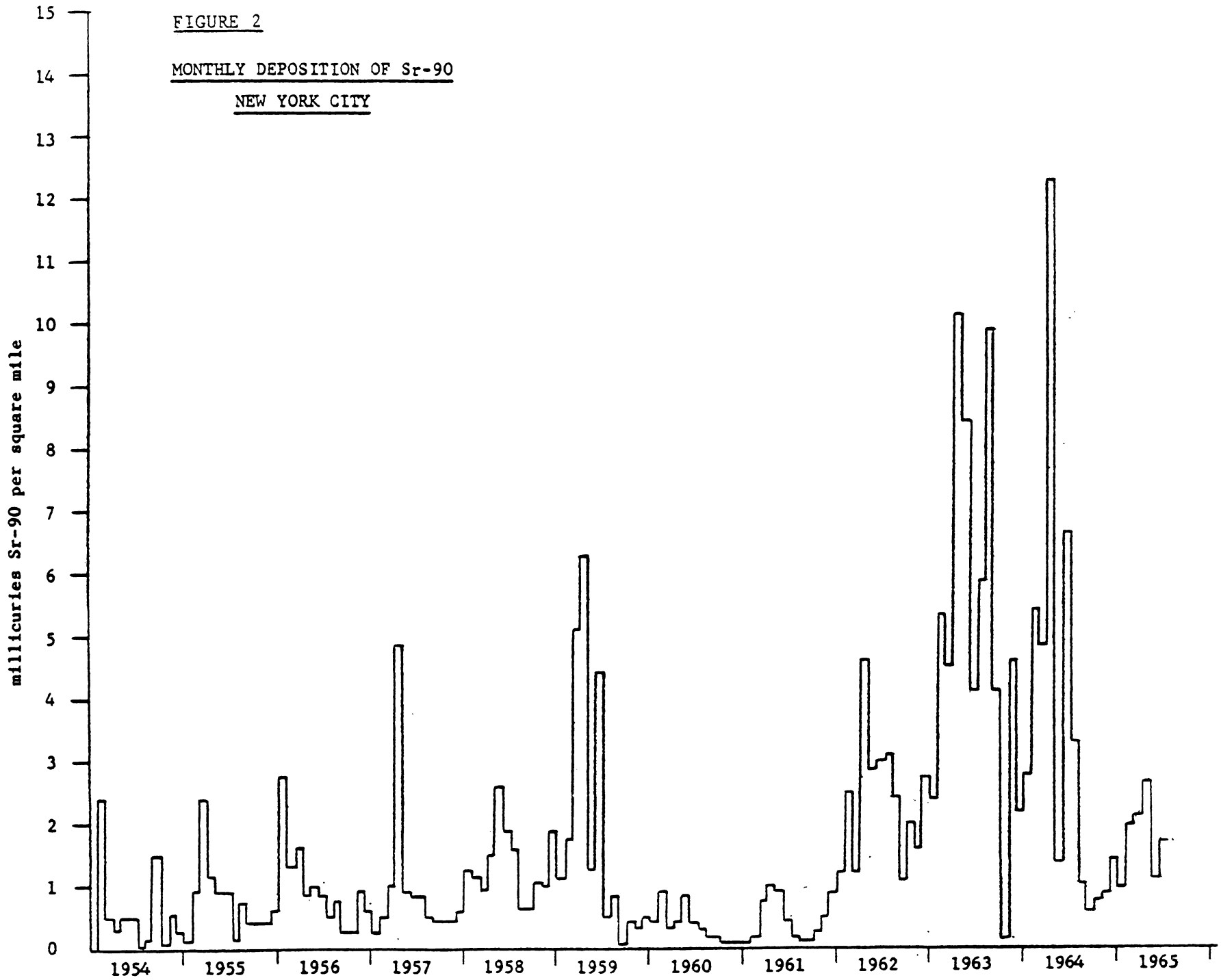
NOTES

- : DATA NOT AVAILABLE
- *: ZERO OR TRACE
- A: APPROXIMATE
- B: LOWER LIMIT OF REPORTED DATA
- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

FIGURE 2

MONTHLY DEPOSITION OF Sr-90

NEW YORK CITY



MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: NORTH DAKOTA, WILLISTON

LAT. 48 10N LONG. 103 38W ALT. 16 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU OFFICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	0.23	0.51	0.17	0.30	0.78	4.93	0.17	1.08	3.74	1.38	1.71	0.54	15.54
	SR-90 (MC/SQ.MI.)	--	0.22	--	0.69	1.01	2.30	0.76	0.18	0.31	0.07	0.05	0.13	E
	SR-90 CONC. (PC/L)	--	6.54	--	34.96	19.61	7.14	67.94	2.58	1.22	0.76	0.46	3.65	
	SR-89/SR-90	--	23.	--	12.	7.5	6.8	2.9	*	0.59	*	1.8	1.3	
1960	PRECIP. (INCHES)	0.61	0.39	0.28	1.11	1.73	5.22	0.89	2.98	0.05	0.02	0.64	0.45	14.37
	SR-90 (MC/SQ.MI.)	--	0.14	0.26	0.58	0.13C	0.41C	0.07C	0.25C	0.09C	0.03C	0.03C	0.03C	E
	SR-90 CONC. (PC/L)	--	5.47	14.14	7.90	1.22	1.22	1.22	1.22	27.36	22.80	0.76	1.06	
	SR-89/SR-90	--	0.7	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.09	1.25	0.12	2.39	0.58	0.43	1.80	0.14	2.49	0.07	0.09	0.05	9.50
	SR-90 (MC/SQ.MI.)	0.06C	0.84C	0.03C	0.56C	0.20C	0.15C	0.32C	0.02C	0.24	0.08	0.07	0.12	2.69
	SR-90 CONC. (PC/L)	10.18	10.18	3.80	3.50	5.17	5.32	2.74	2.13	1.52	17.33	11.86	36.48	
	SR-89/SR-90	--	--	--	--	--	--	--	--	24.	27.	51.	52.	
1962	PRECIP. (INCHES)	0.47	0.95	0.60	0.38	3.50	3.14	4.10	1.97	0.43	2.08	0.38	0.27	18.27
	SR-90 (MC/SQ.MI.)	0.09	0.23	0.47	0.72	4.90	2.88	3.70	0.44	0.33	0.74	0.70	0.18	15.38
	SR-90 CONC. (PC/L)	2.89	3.65	11.86	28.73	21.28	13.98	13.68	3.34	11.70	5.47	27.97	10.18	
	SR-89/SR-90	56.	28.	21.	14.	8.	9.	11.	10.	10.	25.	35.	24.	
1963	PRECIP. (INCHES)	0.35	0.53	0.70	2.33	2.05	3.00	6.20	1.62	0.11	*	0.27	0.30	17.46
	SR-90 (MC/SQ.MI.)	0.14	0.62	0.42	2.31	2.25	10.2	3.42	1.15	0.66	0.19	0.50	0.65	22.51
	SR-90 CONC. (PC/L)	6.08	17.78	9.12	15.05	16.72	51.68	8.36	10.79	91.20	--	28.12	32.98	
	SR-89/SR-90	23.	22.	12.	10.	5.8	2.8	2.	*	0.4	*	*	*	
1964	PRECIP. (INCHES)	0.45	0.12	0.94	1.08	1.10	5.92	2.24	1.14	0.40	0.27	0.65	1.28	15.59
	SR-90 (MC/SQ.MI.)	0.79	0.04	0.12	0.74	1.87	7.61	0.89	1.26	0.52	0.38	0.18	0.05	14.45
	SR-90 CONC. (PC/L)	26.75	5.02	1.98	10.49	25.84	19.61	6.08	16.87	19.76	21.43	4.26	0.61	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	1.70	*	--	
1965	PRECIP. (INCHES)	0.71	0.10	0.48	0.99									E
	SR-90 (MC/SQ.MI.)	0.23	*	0.05	0.80									E
	SR-90 CONC. (PC/L)	4.86	0.00	1.52	12.31									
	SR-89/SR-90	--	--	--	*									

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NOTES

- : DATA NOT AVAILABLE
- *: ZERO OR TRACE
- A: APPROXIMATE
- B: LOWER LIMIT OF REPORTED DATA
- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: OHIO, WOOSTER

LAT. 44 45N LONG. 81 56W ALT. 910 FT. (POT)

SOURCE: OHIO STATE UNIVERSITY AGRICULTURAL EXPERIMENT STATION, DEPT. OF AGRONOMY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1963													
PRECIP. (INCHES)	--	--	--	--	--	--	--	2.41	1.60	0.52	1.55	0.73	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	3.41	1.39	0.54	1.04	0.31	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	21.43	13.22	15.81	10.18	6.38	
SR-89/SR-90	--	--	--	--	--	--	--	*	*	0.5	*	*	
1964													
PRECIP. (INCHES)	1.52	1.45	7.58	6.03	5.74	4.04	2.55	5.14	0.67	1.06	1.30	3.50	40.58
SR-90 (MC/SQ.MI.)	2.88	1.41	4.00	8.14	7.85	7.87	3.49	1.95	0.30	0.23	--	0.24	E
SR-90 CONC. (PC/L)	28.73	14.74	8.06	20.52	20.82	29.64	20.82	5.78	6.84	3.34	--	1.06	
SR-89/SR-90	1.2	*	1.3	*	*	--	--	--	--	17.00	--	--	
1965													
PRECIP. (INCHES)	3.07	1.91	2.32	1.98									E
SR-90 (MC/SQ.MI.)	1.32	0.24	0.22	2.07									E
SR-90 CONC. (PC/L)	6.54	1.98	1.37	15.96									
SR-89/SR-90	--	--	--	*									

NOTES

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- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: OKLAHOMA, MIDWEST CITY LAT. 35 25N LONG. 97 30W ALT. 1194 FT. (POT)
 SOURCE: HAZELTON-NUCLEAR SCIENCE CORP., THRU MR. E. COLLET

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1963													
PRECIP. (INCHES)	--	--	--	--	--	--	5.94	2.45	1.81	0.20	1.99	0.67	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	4.33	2.09	1.37	0.44	1.17	0.42	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	11.10	12.92	11.55	33.44	8.97	9.58	
SR-89/SR-90	--	--	--	--	--	--	4.60	2.10	1.10	1.00	2.70	0.20	
1964													
PRECIP. (INCHES)	0.67	1.98	1.34A	2.10	3.74	0.68	0.96	3.74	3.50	1.14	6.17	0.67	26.69
SR-90 (MC/SQ.MI.)	0.46	2.66	3.66	3.45	6.57	1.90	1.19	1.40	1.08	0.94	1.20	0.11	24.62
SR-90 CONC. (PC/L)	10.49	20.37	41.50	24.93	26.75	42.41	18.85	5.62	4.71	12.46	2.89	2.43	
SR-89/SR-90	*	*	*	*	*	*	--	--	--	1.90	3.42	0.27	
1965													
PRECIP. (INCHES)	1.99	1.13											E
SR-90 (MC/SQ.MI.)	0.36	1.39											E
SR-90 CONC. (PC/L)	2.74	18.70											
SR-89/SR-90	*	0.06											

NOTES

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- B: LOWER LIMIT OF REPORTED DATA
- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: OKLAHOMA, TULSA

LAT. 36 07N LONG. 95 58W ALT. 804 FT. (POT)

SOURCE: JERSEY PRODUCTION RESEARCH COMPANY

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958	PRECIP. (INCHES)	1.78	0.86	6.14	4.39	3.69	3.08	3.33	3.58	3.61	0.21	1.39	0.82	32.88
	SR-90 (MC/SQ.MI.)	0.35	0.40	2.29	2.84	2.22	1.47	1.92	1.05	0.90	0.20	0.47	0.57	14.68
	SR-90 CONC. (PC/L)	3.04	7.14	5.62	9.88	9.12	7.30	8.82	4.41	3.80	14.44	5.17	10.64	
	SR-89/SR-90	15.	8.	10.	12.00	9.00	15.	88.	53.	36.	23.	8.	46.	
1959	PRECIP. (INCHES)	1.23C	1.23C	3.02	1.46	6.66	3.30	9.85	2.13	7.42	9.08	1.48	2.53	49.39
	SR-90 (MC/SQ.MI.)	1.97C	1.97C	6.45	3.19	5.95	1.61	1.45	0.26	0.56	0.08	0.06	0.55	24.10
	SR-90 CONC. (PC/L)	24.32	24.32	32.53	33.14	13.53	7.45	2.28	1.82	1.22	0.15	0.61	3.34	
	SR-89/SR-90	--	--	13.	8.6	8.3	4.2	2.3	1.7	0.38	*	*	*	
1960	PRECIP. (INCHES)	1.22	2.65	1.06	3.63	8.91	1.65	9.01	1.87	0.89	3.53	0.63	3.01	38.06
	SR-90 (MC/SQ.MI.)	0.17	--	0.38	0.96	1.68C	0.31C	1.01C	0.21C	0.29	--	0.03C	0.12C	E
	SR-90 CONC. (PC/L)	2.13	--	5.47	3.95	2.89	2.89	1.67	1.67	5.02	--	0.76	0.61	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.66	2.86	3.30	1.49	4.55C	4.55C	10.88	3.16	7.37	0.86	3.18	1.65C	44.51
	SR-90 (MC/SQ.MI.)	0.12C	0.45C	0.98C	0.44C	1.29C	1.29C	0.69C	0.20C	0.27	0.36	0.49	1.84C	8.42
	SR-90 CONC. (PC/L)	2.74	2.43	4.56	4.56	4.26	4.26	0.91	0.91	0.61	6.38	2.28	17.02	
	SR-89/SR-90	--	--	--	--	--	--	--	--	84.	113.	99.	--	
1962	PRECIP. (INCHES)	1.65C	1.65C	3.24	3.40	1.69	5.52	4.83	3.10	10.50	3.92	1.23C	1.23C	41.96
	SR-90 (MC/SQ.MI.)	1.84C	1.84C	--	2.28	5.61	2.88	--	--	1.95	1.04	1.17C	1.17C	E
	SR-90 CONC. (PC/L)	17.02	17.02.	--	10.18	50.46	7.90	--	--	2.89	4.10	14.44	14.44	
	SR-89/SR-90	--	--	--	19.	20.	15.	--	--	12.	32.	--	--	
1963	PRECIP. (INCHES)	0.98	0.42	2.84	2.21	2.49	0.53	10.60	3.28	2.01	0.18	2.28	0.98	28.80
	SR-90 (MC/SQ.MI.)	0.27	1.56	2.05	4.68	6.62	1.80	7.07	2.73	0.52C	0.52C	0.52C	0.45	28.79
	SR-90 CONC. (PC/L)	4.26	56.39	10.94	32.22	40.43	51.68	10.18	12.62	3.95	43.93	3.50	6.99	
	SR-89/SR-90	22.00	27.00	25.00	12.00	*	*	*	*	--	--	--	*	
1964	PRECIP. (INCHES)	0.63	2.17	3.96	5.87	4.77	5.79	1.80	6.14	3.33	1.24	6.90	1.67	44.27
	SR-90 (MC/SQ.MI.)	0.57	--	6.10	3.38C	4.14C	4.37	3.13	--	--	1.22	--	--	E
	SR-90 CONC. (PC/L)	13.68	--	23.41	8.82	13.22	11.40	26.45	--	--	14.90	--	--	
	SR-89/SR-90	1.0	--	*	--	--	--	--	--	--	*	--	--	

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: OREGON, MEDFORD

LAT. 42 22N LONG. 122 52W ALT. 1312 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	1.99	2.78	0.88	0.59	1.40	0.27	*	0.28	0.29	0.61	0.16	1.17	10.42
	SR-90 (MC/SQ.MI.)	--	0.92	--	1.27	2.78	0.54	0.05	0.15	0.15	0.05	0.16	*	E
	SR-90 CONC. (PC/L)	--	5.02	--	32.68	30.25	30.40	--	8.21	7.90	1.22	15.20	0.00	
	SR-89/SR-90	--	25.	--	9.9	8.6	4.6	5.3	2.1	4.1	0.97	*	*	
1960	PRECIP. (INCHES)	2.35	4.12	4.40	0.67	1.97	*	0.09	0.03	0.18	0.38	4.70	1.71	20.60
	SR-90 (MC/SQ.MI.)	0.42	0.42	0.27	0.46	0.69C	0.00C	*	*	0.05C	0.12C	0.15C	0.05C	2.63
	SR-90 CONC. (PC/L)	2.74	1.52	0.91	10.49	5.32	--	0.00	0.00	4.26	4.86	0.46	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	1.12	2.74	3.05	0.96	1.86	0.34	0.10	0.15	0.93	2.57	3.33	2.60	19.75
	SR-90 (MC/SQ.MI.)	0.30C	0.76	0.25C	0.08C	0.51C	0.09C	0.09C	0.12C	0.07	0.19	0.26	0.57	3.29
	SR-90 CONC. (PC/L)	4.10	4.26	1.22	1.22	4.10	3.95	13.68	12.16	1.22	1.06	1.22	3.34	
	SR-89/SR-90	--	--	--	--	--	--	--	--	21.	90.	87.	55.	
1962	PRECIP. (INCHES)	1.69	1.05	1.00	0.81	0.80	0.15	*	1.00	0.76	6.27	4.43	4.68	22.64
	SR-90 (MC/SQ.MI.)	0.50	0.47	1.01	0.76	1.44	0.31	0.02	0.35	0.18	0.86	1.16	0.89	7.95
	SR-90 CONC. (PC/L)	4.56	6.84	15.35	14.29	27.36	31.46	--	5.32	3.65	2.13	3.95	2.89	
	SR-89/SR-90	63.	42.	19.	14.	10.	9.	12.	16.	12.	25.	53.	50.	
1963	PRECIP. (INCHES)	1.75	2.47	0.88	2.25	2.23	0.92	0.15	0.26	0.26	1.40	5.25	1.05	18.87
	SR-90 (MC/SQ.MI.)	2.46	1.58	1.02	4.17	4.92	2.62	1.86	1.40	0.69	0.08	1.08	0.86	22.74
	SR-90 CONC. (PC/L)	21.43	9.73	17.63	28.12	33.59	43.32	188.48	81.78	40.28	0.91	3.19	12.46	
	SR-89/SR-90	31.	31.	17.	6.	7.8	*	*	1.	0.9	*	*	*	
1964	PRECIP. (INCHES)	5.60	0.82	2.15	0.37	0.82	0.79	0.93	0.22	0.15	0.90	3.75	12.72	29.22
	SR-90 (MC/SQ.MI.)	1.58	0.49	1.32	0.50	0.91	2.70	2.46	0.82	0.19	0.41	1.00	2.44	14.82
	SR-90 CONC. (PC/L)	4.26	9.12	9.27	20.52	16.87	51.98	40.28	56.70	19.30	6.99	4.10	2.89	
	SR-89/SR-90	*	0.5	*	0.72	*	--	--	--	--	2.00	1.80	--	
1965	PRECIP. (INCHES)	4.29	0.70	0.41	3.07									E
	SR-90 (MC/SQ.MI.)	1.58	0.26	0.52	0.62									E
	SR-90 CONC. (PC/L)	5.62	5.62	19.30	3.04									
	SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PENNSYLVANIA, PITTSBURGH LAT. 40 26N LONG. 80 00W ALT. 745 FT. (POT)

SOURCE: NUCLEAR SCIENCE AND ENGINEERING CORP.
COLLECTIONS TERMINATED IN JUNE 1963

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1957	PRECIP. (INCHES)	--	--	--	--	--	--	4.51	0.49	4.62	1.94	2.17	4.93	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.86	0.16	0.15	0.31	0.29	0.63	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	2.89	5.02	0.46	2.43	1.98	1.98	
	SR-89/SR-90	--	--	--	--	--	--	--	--	39.	27.	14.	13.	
1958	PRECIP. (INCHES)	3.40	1.00	3.36	3.87	3.87	3.00	8.47	5.33	4.34	0.84	3.13	1.18	41.79
	SR-90 (MC/SQ.MI.)	0.66	0.36	0.48	1.00	0.86	2.55	2.35	1.68	0.68	0.56	0.74	0.77	12.69
	SR-90 CONC. (PC/L)	2.89	5.47	2.13	3.95	3.34	12.92	4.26	4.86	2.43	10.18	3.65	9.88	
	SR-89/SR-90	7.	11.	11.	13.	11.	14.	41.	25.	25.	28.	34.	26.	
1959	PRECIP. (INCHES)	2.80	4.01	2.50	3.65	2.92	3.60	3.32	3.52	1.41	4.59	3.10	2.87	38.29
	SR-90 (MC/SQ.MI.)	1.44	2.00	3.45	5.39	2.91	2.06	0.67	0.44	0.06	0.35	0.35	0.35	19.47
	SR-90 CONC. (PC/L)	7.75	7.60	20.98	22.50	15.20	8.66	3.04	1.98	0.61	1.22	1.67	1.82	
	SR-89/SR-90	24.	21.	18.	10.	7.	5.	3.	1.8	0.3	0.2	0.5	0.4	
1960	PRECIP. (INCHES)	2.89	2.07	1.61	1.59	4.71	3.51	2.89	2.50	3.08	1.93	1.38	2.76	30.92
	SR-90 (MC/SQ.MI.)	0.25	0.38	0.33	0.51	0.81	0.80	0.47	0.24	0.17	0.15	0.12	0.20	4.43
	SR-90 CONC. (PC/L)	1.37	2.74	3.04	4.86	2.58	3.50	2.43	1.52	0.91	1.22	1.37	1.06	
	SR-89/SR-90	0.26	1.3	1.8	0.45	0.13	0.14	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.90	3.01	3.68	3.44	3.39	4.23	4.08	3.28	1.68	3.09	3.22	2.04	36.04
	SR-90 (MC/SQ.MI.)	0.13	0.59	0.77	1.12	0.95	0.85	0.43	0.20	0.07	0.41	0.69	0.98	7.19
	SR-90 CONC. (PC/L)	2.13	3.04	3.19	5.02	4.26	3.04	1.67	0.91	0.61	1.98	3.19	7.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	19.	66.	78.	63.	
1962	PRECIP. (INCHES)	2.03	3.56	3.02	4.56	2.60	1.61	3.17	2.58	6.86	2.15	1.39	2.34	35.87
	SR-90 (MC/SQ.MI.)	1.31	2.07	2.27	3.86	3.51	1.55	3.79	3.22	1.52	1.38	1.60	1.89	27.97
	SR-90 CONC. (PC/L)	9.88	8.82	11.40	12.92	20.52	14.59	18.24	19.00	3.34	9.73	17.48	12.31	
	SR-89/SR-90	49.	29.	21.	15.	9.6	6.4	6.0	5.0	19.	24.	43.	32.	
1963	PRECIP. (INCHES)	1.97	2.55	6.85	3.04	1.66								E
	SR-90 (MC/SQ.MI.)	2.05	2.34	7.34	7.90	5.71								E
	SR-90 CONC. (PC/L)	15.81	13.98	16.26	39.52	52.29								
	SR-89/SR-90	29.	23.	14.	9.	7.								

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PENNSYLVANIA, PITTSBURGH

LAT. 40 26N LONG. 80 00W ALT. 745 FT. (COLUMN)

SOURCE: NUCLEAR SCIENCE AND ENGINEERING CORP.

COLLECTIONS TERMINATED IN JUNE 1963

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960 PRECIP. (INCHES)	--	2.06	1.61	1.59	4.71	3.87	2.89	2.50	3.08	1.93	1.38	2.76	E
SR-90 (MC/SQ.MI.)	--	0.18	0.19	0.34	--	0.47	0.01	0.60	0.27	0.46	0.35	0.36	E
SR-90 CONC. (PC/L)	--	1.37	1.82	3.19	--	1.82	0.00	3.65	1.37	3.65	3.80	1.98	
SR-89/SR-90	18.	3.3	1.9	1.0	1.1	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.90	3.01	3.68	3.44	3.86	3.76	4.08	3.28	1.68	3.09	3.22	2.04	36.04
SR-90 (MC/SQ.MI.)	0.25	0.55	0.44	0.37	0.40	0.21	0.32	0.05	0.02	0.16	0.60	0.75	4.12
SR-90 CONC. (PC/L)	4.26	2.74	1.82	1.67	1.52	0.91	1.22	0.30	0.15	0.76	2.89	5.62	
SR-89/SR-90	--	--	--	--	--	--	--	--	21.	52.	79.	60.	
1962 PRECIP. (INCHES)	2.03	3.56	3.02	4.56	2.60	1.61	3.17	2.58	6.86	2.15	1.39	2.34	35.87
SR-90 (MC/SQ.MI.)	1.45	2.08	2.39	2.27	4.00	1.75	3.18	1.92	1.39	1.15	1.28	1.51	24.37
SR-90 CONC. (PC/L)	10.79	8.82	12.01	7.60	23.41	16.57	15.20	11.25	3.04	8.06	13.98	9.88	
SR-89/SR-90	45.	30.	21.	14.	11.	6.2	6.9	5.4	18.	22.	45.	35.	
1963 PRECIP. (INCHES)	1.97	2.55	6.85	3.04	1.66								E
SR-90 (MC/SQ.MI.)	1.82	2.24	6.78	7.04	5.64								E
SR-90 CONC. (PC/L)	13.98	13.38	15.05	35.26	51.68								
SR-89/SR-90	29.	21.	13.	10.	6.								

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: SOUTH CAROLINA, COLUMBIA

LAT. 33 57N LONG. 81 07W ALT. 217 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	2.64	5.79	2.67	13.87	4.52	7.12	12.09	0.67	2.42	E
SR-90 (MC/SQ.MI.)	--	--	--	2.52	1.31	0.49	--	0.31	0.13	0.52	0.21	0.13	E
SR-90 CONC. (PC/L)	--	--	--	14.44	3.50	2.74	--	1.06	0.30	0.61	4.71	0.76	
SR-89/SR-90	--	--	--	12.2	7.4	4.9	--	1.6	0.91	0.65	*	14.	
1960 PRECIP. (INCHES)	7.15	5.53	6.17	3.91	1.47	2.37	4.79	0.27	3.94	1.71	0.68	2.37	40.36
SR-90 (MC/SQ.MI.)	0.72	1.01	0.65	0.50	0.32C	0.51C	0.28C	0.02C	0.18C	0.08C	0.07C	0.24C	4.58
SR-90 CONC. (PC/L)	1.52	2.74	1.67	1.98	3.34	3.34	0.91	1.06	0.76	0.76	1.52	1.52	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.93	8.95	0.29	0.01	2.98	1.95	5.70	14.94	1.46	0.82	1.01	4.74	45.78
SR-90 (MC/SQ.MI.)	0.38C	1.16C	0.49C	0.02C	0.21C	0.13C	0.15C	0.39C	0.07	0.03	0.10	1.04	4.17
SR-90 CONC. (PC/L)	1.98	1.98	25.69	30.40	1.06	1.06	0.46	0.46	0.76	0.61	1.52	3.34	
SR-89/SR-90	--	--	--	--	--	--	--	--	13.	142.	174.	60.	
1962 PRECIP. (INCHES)	6.49	5.24	5.30	3.21	4.11	2.99	2.67	4.14	2.85	0.84	4.53	2.27	44.64
SR-90 (MC/SQ.MI.)	1.86	2.15	4.08	0.23	3.91	2.25	1.86	0.83	1.26	0.05	0.18	0.82	19.48
SR-90 CONC. (PC/L)	4.41	6.23	11.70	1.06	14.44	11.40	10.64	3.04	6.69	0.91	0.61	5.47	
SR-89/SR-90	38.	30.	19.	12.	9.	8.	13.	21.	73.	23.	32.	47.	
1963 PRECIP. (INCHES)	7.47A	3.94	3.28	4.18	2.87	4.84	2.48	1.91	3.98	*	4.20	5.12	44.27
SR-90 (MC/SQ.MI.)	--	1.73	2.72	7.71	3.06	6.47	5.18	1.51	1.24	0.07	1.44	1.76	E
SR-90 CONC. (PC/L)	--	6.69	12.62	27.97	16.26	20.37	31.77	12.01	4.71	--	5.17	5.17	
SR-89/SR-90	--	34.	20.	13.5	12.5	2.4	0.7	*	0.4	*	*	*	
1964 PRECIP. (INCHES)	6.27	5.33	6.16	3.60	2.63	2.97	10.32	9.97	6.93	10.34	1.36	4.58	70.46
SR-90 (MC/SQ.MI.)	0.87	3.81	4.40	1.91	2.95	3.36	3.98	1.25	0.72	0.92	0.24	0.84	25.25
SR-90 CONC. (PC/L)	2.13	10.79	10.79	8.06	17.02	17.18	5.93	1.98	1.52	1.37	2.74	2.74	
SR-89/SR-90	--	0.3	*	1.80	*	--	--	--	--	1.20	6.20	--	
1965 PRECIP. (INCHES)	1.43	5.33	7.68	3.99									E
SR-90 (MC/SQ.MI.)	0.48	*	2.41	0.04									E
SR-90 CONC. (PC/L)	5.17	0.00	4.71	0.15									
SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: SOUTH DAKOTA, VERMILLION

LAT. 42 47N LONG. 96 56W ALT. 1220 FT. (POT)

SOURCE: UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	1.35	4.17	2.37	4.29	1.62	3.14	1.67	1.49	*	E
SR-90 (MC/SQ.MI.)	--	--	--	0.51	1.74	1.01	2.80	1.11	0.87	0.93	0.14	0.06	E
SR-90 CONC. (PC/L)	--	--	--	5.78	6.38	6.54	9.88	10.49	4.26	8.51	1.37	--	
SR-89/SR-90	--	--	--	--	11.	25.	68.	--	33.	51.	15.	16.	
1958 PRECIP. (INCHES)	0.22	2.13	0.52	3.15	1.85	1.09	4.47	0.19	0.88	*	0.94	0.07	15.51
SR-90 (MC/SQ.MI.)	0.08	0.38	0.20	2.54	2.28	0.16	2.42	0.50	0.29	0.06	0.74	0.21	9.86
SR-90 CONC. (PC/L)	5.47	2.74	5.78	12.31	18.70	2.28	8.21	39.98	5.02	--	12.01	45.60	
SR-89/SR-90	17.	13.	13.	12.	16.	5.	31.	49.	43.	23.	47.	37.	
1959 PRECIP. (INCHES)	0.27	0.84	1.02	1.33	7.87	2.73	1.32	3.15	2.60	2.60	2.02	1.44	27.19
SR-90 (MC/SQ.MI.)	0.09	0.90	2.14	3.27	--	1.52	--	--	0.42	0.37	0.24	0.15	E
SR-90 CONC. (PC/L)	5.02	16.26	31.92	37.39	--	8.51	--	--	2.43	2.13	1.82	1.52	
SR-89/SR-90	25.	24.	18.	12.	--	5.1	--	--	0.37	0.31	*	1.3	
1960 PRECIP. (INCHES)	0.29	0.10	1.09	3.54	7.38	1.84	1.36	5.77	2.79	0.73	1.04	0.42	26.35
SR-90 (MC/SQ.MI.)	0.03	0.06	0.70	0.86	2.48C	0.61C	0.18C	0.72C	0.24C	0.06C	0.11C	0.05C	6.10
SR-90 CONC. (PC/L)	1.52	9.12	9.73	3.65	5.17	5.02	1.98	1.82	1.37	1.22	1.67	1.82	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.17	0.88	0.88	0.87	3.93	3.04	1.17	3.85	2.05	1.43	0.90	0.94	20.11
SR-90 (MC/SQ.MI.)	0.01C	0.06C	0.28C	0.28C	1.04C	0.81C	0.12C	0.40C	0.74	0.17	0.90	0.25	5.06
SR-90 CONC. (PC/L)	0.91	1.06	4.86	4.86	3.95	4.10	1.52	1.52	5.47	1.82	15.20	4.10	
SR-89/SR-90	--	--	--	--	--	--	--	--	141.	65.	62.	53.	
1962 PRECIP. (INCHES)	0.14	1.09	3.01	1.90	5.77	5.51	4.45	2.93	2.95	0.66	0.12	0.13	28.66
SR-90 (MC/SQ.MI.)	0.15	1.24	3.30	5.05	15.5	4.03	2.57	3.33	2.93	0.93	0.08	--	E
SR-90 CONC. (PC/L)	16.26	17.33	16.72	40.43	40.89	11.10	8.82	17.33	15.05	21.43	10.18	--	
SR-89/SR-90	38.	60.	19.	10.	9.	4.	26.	11.	13.	27.	29.	--	
1963 PRECIP. (INCHES)	0.88	0.25	0.78	1.65	1.96	4.49	2.84	2.68	2.21	0.47	0.10	0.51	18.82
SR-90 (MC/SQ.MI.)	0.27	0.45	4.56	7.55	7.67	13.09	5.53	4.08	1.26	1.18	0.23	0.03	45.90
SR-90 CONC. (PC/L)	4.71	27.36	88.92	69.62	59.43	44.38	29.64	23.10	8.66	38.15	34.96	0.91	
SR-89/SR-90	30.	28.	20.	12.	10.1	4.8	0.4	*	1.0	1.0	*	*	
1964 PRECIP. (INCHES)	0.16	0.11	1.82	3.74	3.46	4.21	4.08	3.96	2.80	0.07	0.14	0.67	25.22
SR-90 (MC/SQ.MI.)	0.35	0.40	1.55	10.93	7.36	11.86	3.30	0.05	1.21	0.39	0.10	0.08	37.58
SR-90 CONC. (PC/L)	33.29	55.33	12.92	44.38	32.38	42.86	12.31	0.15	6.54	84.66	10.79	1.82	
SR-89/SR-90	*	*	1.8	*	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.12	1.70	1.11	2.28									E
SR-90 (MC/SQ.MI.)	0.16	0.09	1.58	2.15									E
SR-90 CONC. (PC/L)	20.22	-0.76	21.58	14.29									
SR-89/SR-90	--	--	--	*									

NOTES

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- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: TENNESSEE, CHATTANOOGA LAT. 35 03N LONG. 85 20W ALT. 676 FT. (POT)

SOURCE: ISOTOPES, INC., THRU UNIVERSITY OF CHATTANOOGA, DEPARTMENT OF GEOLOGY

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	--	--	--	--	--	--	--	0.83	0.94	*	6.82	4.70	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	1.50	0.96	0.12	2.02	1.59	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	27.51	15.50	--	4.56	5.17	
	SR-89/SR-90	--	--	--	--	--	--	--	1.70	1.00	*	0.60	0.60	
1964	PRECIP. (INCHES)	5.63	5.50	11.40	9.83	4.94	3.32	5.58	6.19	2.98	3.83	3.41	2.98	65.59
	SR-90 (MC/SQ.MI.)	3.35	4.80	4.88	11.40	5.47	3.70	2.22	1.88	0.50	1.11	0.55	0.14	40.00
	SR-90 CONC. (PC/L)	9.12	13.22	6.54	17.63	16.87	16.87	6.08	4.56	2.58	4.41	2.43	0.76	
	SR-89/SR-90	0.30	0.20	*	--	--	--	--	--	--	2.88	*	1.06	
1965	PRECIP. (INCHES)	3.26	4.70	10.00										E
	SR-90 (MC/SQ.MI.)	0.98	1.40	2.13										E
	SR-90 CONC. (PC/L)	4.56	4.56	3.19										
	SR-89/SR-90	--	--	--										

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TEXAS, DALLAS

LAT. 32 51N LONG. 96 51W ALT. 524 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	--	2.47	1.26	0.72	3.18	3.16	3.25	1.77	3.51	11.38	1.93	5.85	E
	SR-90 (MC/SQ.MI.)	--	2.13	--	2.84	5.4	0.88	0.29	0.09	0.20	0.01	0.14	0.32	E
	SR-90 CONC. (PC/L)	--	13.07	--	59.89	25.84	4.26	1.37	0.76	0.91	0.00	1.06	0.76	
	SR-89/SR-90	--	33.	--	11.	7.4	5.2	2.1	*	1.3	*	*	*	
1960	PRECIP. (INCHES)	3.21	2.83	0.95	2.98	2.23	3.22	7.34	3.31	2.61	3.74	0.82	8.50	41.74
	SR-90 (MC/SQ.MI.)	0.55	0.06	0.32	0.50	0.20C	0.29C	*	*	0.05C	0.06C	0.00C	0.11C	2.14
	SR-90 CONC. (PC/L)	2.58	0.30	5.17	2.58	1.37	1.37	0.00	0.00	0.30	0.30	0.00	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	3.39	3.21	4.90	1.66	1.31	7.85	1.30	0.19	5.54	3.41	4.04	3.19	39.99
	SR-90 (MC/SQ.MI.)	0.29C	0.27C	0.75C	0.25C	0.10C	0.62C	*	*	0.08	0.07	0.11	0.68	3.22
	SR-90 CONC. (PC/L)	1.37	1.22	2.28	2.28	1.22	1.22	0.00	0.00	0.15	0.30	0.46	3.19	
	SR-89/SR-90	--	--	--	--	--	--	--	--	87.	101.	--	63.	
1962	PRECIP. (INCHES)	1.32	3.02	2.35	8.95	2.00	4.63	8.52	3.38	6.27	7.29	5.72	1.29	54.74
	SR-90 (MC/SQ.MI.)	0.82	1.03	2.54	7.42	0.93	3.57	0.75	0.34	0.07	--	1.63	1.79	E
	SR-90 CONC. (PC/L)	9.42	5.17	16.42	12.62	7.14	11.70	1.37	1.52	0.15	--	4.26	21.13	
	SR-89/SR-90	38.	--	18.	12.	19.	8.	18.	20.	14.	--	23.	38.	
1963	PRECIP. (INCHES)	0.49	0.30	0.66	6.36	1.94	1.48	1.71	0.02	0.94	0.01	1.80	1.81	17.52
	SR-90 (MC/SQ.MI.)	0.39	0.77	1.01	5.83	3.55	0.52	1.35	0.25	0.32	0.40	1.43	0.39	16.21
	SR-90 CONC. (PC/L)	12.16	39.06	23.26	13.98	27.82	5.32	12.01	190.00	5.17	608.00	12.01	3.34	
	SR-89/SR-90	45.	31.	15.	11.7	8.5	3.5	2.	1.	0.6	*	*	*	
1964	PRECIP. (INCHES)	3.27	1.25	4.53	3.23	3.39	0.30	0.19	3.63	10.67	0.77	5.38	0.86	37.47
	SR-90 (MC/SQ.MI.)	1.31	2.80	4.04	4.06	5.22	1.58	0.56	0.89	0.66	0.26	0.05	0.29	21.72
	SR-90 CONC. (PC/L)	6.08	34.05	13.53	19.15	23.41	80.10	44.84	3.80	0.91	5.17	0.15	5.17	
	SR-89/SR-90	*	*	*	0.02	*	--	--	--	--	3.70	--	--	
1965	PRECIP. (INCHES)	1.87	5.36	2.00	2.03									E
	SR-90 (MC/SQ.MI.)	0.36	0.90	0.60	0.82									E
	SR-90 CONC. (PC/L)	2.89	2.58	4.56	6.08									
	SR-89/SR-90	--	--	--	--									

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

- 47 -

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TEXAS, EL PASO

LAT. 31 48N LONG. 106 24W ALT. 3948 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	0.21	*	0.07	0.15	0.30	0.46	0.40	2.39	*	0.58	0.14	0.29	4.99
SR-90 (MC/SQ.MI.)	--	0.15	--	0.75	1.00	0.46	0.48	0.32	0.05	0.04	0.03	0.12	E
SR-90 CONC. (PC/L)	--	--	--	76.00	50.62	15.20	18.24	1.98	--	1.06	3.19	6.23	
SR-89/SR-90	--	23.	--	9.4	7.7	4.2	3.2	2.5	*	*	*	3.1	
1960 PRECIP. (INCHES)	0.72	0.37	0.21	0.02	0.04	0.76	3.61	0.77	0.01	0.77	0.11	1.73	9.12
SR-90 (MC/SQ.MI.)	0.24	0.20	0.34	0.14	0.02C	0.45C	0.02C	0.00C	0.00C	0.06C	0.01C	0.20C	1.68
SR-90 CONC. (PC/L)	5.02	8.21	24.62	106.40	7.60	8.97	0.15	0.00	0.00	1.22	1.37	1.82	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.41	*	0.29	0.01	*	0.27	2.18	1.40	0.69	0.18	1.63	0.63	7.69
SR-90 (MC/SQ.MI.)	0.84C	0.00C	0.38	0.01	0.00C	0.10C	0.12C	0.07C	--	0.06	0.43	0.61	E
SR-90 CONC. (PC/L)	31.16	--	19.91	15.20	--	5.62	0.91	0.76	--	5.02	3.95	14.74	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	57.	106.	58.	
1962 PRECIP. (INCHES)	0.94	0.58	0.24	0.10	*	*	1.82	*	3.54	0.55	0.21	0.30	8.28
SR-90 (MC/SQ.MI.)	1.00	0.39	0.29	0.70	0.09	--	0.70	0.13	0.66	0.07	0.44	0.32	E
SR-90 CONC. (PC/L)	16.11	10.18	18.39	106.40	--	--	5.78	--	2.89	1.98	31.92	16.26	
SR-89/SR-90	44.	25.	22.	13.	12.	--	11.	22.	11.	25.	50.	38.	
1963 PRECIP. (INCHES)	0.13	0.53	*	*	0.71	0.05	0.52	1.03	0.64	0.55	0.76	*	4.92
SR-90 (MC/SQ.MI.)	0.33	0.60	0.08	0.25	1.31	0.55	1.54	1.42	0.28	0.34	0.97	0.14	7.81
SR-90 CONC. (PC/L)	38.61	17.18	--	--	28.12	167.20	44.99	20.98	6.69	9.42	19.46	--	
SR-89/SR-90	40.	19.	6.6	4.	6.4	0.5	0.8	*	0.5	1.0	*	*	
1964 PRECIP. (INCHES)	*	*	0.99	0.08	0.02	*	0.18	0.76	2.40	0.40	*	0.52	5.35
SR-90 (MC/SQ.MI.)	1.22	0.13	1.78	0.87	0.13	0.48	1.54	0.44	0.71	0.16	0.40	0.18	8.04
SR-90 CONC. (PC/L)	--	--	27.36	165.38	98.80	--	130.11	8.82	4.56	6.08	--	5.32	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	2.80	*	--	
1965 PRECIP. (INCHES)	0.19	0.59	0.03	0.01									E
SR-90 (MC/SQ.MI.)	0.03	0.13	0.13	*									E
SR-90 CONC. (PC/L)	2.43	3.34	65.82	0.00									
SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TEXAS, HOUSTON

LAT. 29 39N LONG. 95 17W ALT. 72 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	--	11.33	1.58	7.76	6.20	2.78	9.67	8.45	4.76	5.76	1.90	4.16	E
	SR-90 (MC/SQ.MI.)	--	0.20	--	5.54	6.63	0.44	--	0.26	0.21	0.09	0.10	0.31	E
	SR-90 CONC. (PC/L)	--	0.30	--	10.79	16.26	2.43	--	0.46	0.61	0.30	0.76	1.06	
	SR-89/SR-90	--	7.8	--	11.	6.2	5.0	--	0.68	0.90	*	0.59	*	
1960	PRECIP. (INCHES)	3.23	3.93	0.38	1.84	0.90	14.66	2.34	7.42	0.61	7.32	3.69	8.97	55.29
	SR-90 (MC/SQ.MI.)	0.35	0.82	0.38	0.60	0.01C	0.24C	0.11C	0.33C	0.02C	0.21C	0.06C	0.15C	3.28
	SR-90 CONC. (PC/L)	1.67	3.19	15.20	5.02	0.15	0.30	0.76	0.61	0.46	0.46	0.30	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	4.44	3.88	1.84	2.42	3.59	11.11	10.07	4.17	7.89	0.05	10.20	3.31	62.97
	SR-90 (MC/SQ.MI.)	0.93C	0.81C	0.28C	0.38C	0.13C	0.39C	0.37C	0.16C	0.06	0.03	0.34	0.33	4.21
	SR-90 CONC. (PC/L)	3.19	3.19	2.28	2.43	0.61	0.61	0.61	0.61	0.15	9.12	0.46	1.52	
	SR-89/SR-90	--	--	--	--	--	--	--	--	4.9	40.	67.	64.	
1962	PRECIP. (INCHES)	1.73	0.71	0.94	4.81	1.15	7.40	0.07	2.77	3.97	3.12	5.68	4.78	37.13
	SR-90 (MC/SQ.MI.)	0.96	0.48	0.86	0.06	0.42	2.12	0.16	0.58	0.38	3.23	1.25	1.04	11.54
	SR-90 CONC. (PC/L)	8.36	10.34	13.83	0.15	5.62	4.41	34.81	3.19	1.52	15.81	3.34	3.34	
	SR-89/SR-90	40.	26.	18.	16.	16.	16.	24.	12.	14.	36.	76.	46.	
1963	PRECIP. (INCHES)	3.09	2.60	0.55	0.92	0.62	7.79	2.08	1.85	1.94	0.30	5.72	4.83	32.29
	SR-90 (MC/SQ.MI.)	0.76	1.65	0.80	0.02	0.68	7.12	1.87	0.79	0.52	0.36	1.56	2.49	18.62
	SR-90 CONC. (PC/L)	3.80	9.58	22.04	0.30	16.72	13.83	13.68	6.54	4.10	18.24	4.10	7.90	
	SR-89/SR-90	8.	30.	16.	*	8.2	0.9	1.	*	*	*	*	*	
1964	PRECIP. (INCHES)	2.89	4.97	2.24	1.63	2.25	1.89	1.68	2.61	6.76	2.35	4.28	5.57	39.12
	SR-90 (MC/SQ.MI.)	0.94	3.63	1.41	0.98	1.39	1.26	4.55	0.54	0.23	0.41	0.66	0.63	16.63
	SR-90 CONC. (PC/L)	5.02	11.10	9.58	9.12	9.42	10.18	41.19	3.19	0.46	2.58	2.28	1.67	
	SR-89/SR-90	*	0.2	*	0.22	*	--	--	--	--	10.00	--	--	
1965	PRECIP. (INCHES)	1.87	3.27	0.81	0.95									E
	SR-90 (MC/SQ.MI.)	0.24	*	1.00	0.78									E
	SR-90 CONC. (PC/L)	1.98	0.00	18.70	12.46									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TEXAS, HOUSTON

LAT. 29 45N LONG. 95 25W ALT. 40 FT. (POT)

SOURCE: TRACERLAB, INC.

COLLECTIONS DISCONTINUED IN JULY 1963

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1958 PRECIP. (INCHES)	--	--	--	--	1.55	2.10	1.94	6.44	8.90	5.90	1.65	0.54	E
SR-90 (MC/SQ.MI.)	--	--	--	--	0.38	0.71	0.55	0.61	0.51	0.64	0.25	0.48	E
SR-90 CONC. (PC/L)	--	--	--	--	3.80	5.17	4.26	1.37	0.91	1.67	2.28	13.53	
SR-89/SR-90	--	--	--	--	10.	23.	66.	57.	30.	34.	32.	41.	
1959 PRECIP. (INCHES)	5.58	6.11	0.84	6.92	7.5	6.52	8.17	6.99	4.24	4.89	1.45	5.69	64.90
SR-90 (MC/SQ.MI.)	1.21	1.85	1.43	4.09	6.01	0.96	0.87	0.34	0.40	0.60	0.04	0.21	18.01
SR-90 CONC. (PC/L)	3.34	4.56	25.84	8.97	12.16	2.28	1.67	0.76	1.37	1.82	0.46	0.61	
SR-89/SR-90	34.	22.	17.	11.	5.7	5.2	3.5	1.8	1.1	0.9	3.	0.9	
1960 PRECIP. (INCHES)	1.95	3.99	--	0.85	0.88	14.38	5.48	7.42	1.86	10.85	4.73	6.72	E
SR-90 (MC/SQ.MI.)	0.15	0.62	--	0.25	0.08	0.58	0.10	0.32	0.07	0.24	0.11	0.17	E
SR-90 CONC. (PC/L)	1.22	2.43	--	4.41	1.37	0.61	0.30	0.61	0.61	0.30	0.30	0.46	
SR-89/SR-90	0.5	3.44	--	2.3	0.3	0.1	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	4.44	6.46	1.84	2.42	3.59	8.57	8.61	3.23	7.89	0.21	5.70	0.88	53.84
SR-90 (MC/SQ.MI.)	0.25	0.47	0.24	0.67	0.15	0.41	0.27	0.21	0.08	0.03	0.39	0.35	3.52
SR-90 CONC. (PC/L)	0.91	1.06	1.98	4.26	0.61	0.76	0.46	1.06	0.15	2.13	1.06	6.08	
SR-89/SR-90	--	--	--	--	--	--	--	--	7.	58.	54.	48.	
1962 PRECIP. (INCHES)	1.25	0.60	0.60	4.81	1.15	7.40	1.39C	1.39C	3.97	3.12	5.68	4.73	36.09
SR-90 (MC/SQ.MI.)	0.81	0.67	1.02	4.82	0.45	4.13	0.68C	0.68C	0.53	1.17	2.47	1.86	19.29
SR-90 CONC. (PC/L)	9.88	17.02	25.84	15.20	5.93	8.51	7.45	7.45	1.98	5.78	6.54	5.93	
SR-89/SR-90	59.	27.	18.	13.	20.	8.7	--	--	8.0	22.	79.	30.	
1963 PRECIP. (INCHES)	3.09	1.75	0.55	0.92	0.62	--							E
SR-90 (MC/SQ.MI.)	2.46	2.88	0.98	2.16	2.50	5.61							E
SR-90 CONC. (PC/L)	12.16	25.08	27.06	35.72	61.26	--							
SR-89/SR-90	31.	22.	8.9	5.8	6.6	0.2							

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TEXAS, HOUSTON

LAT. 29 45N LONG. 95 25W ALT. 40 FT. (COLUMN)

SOURCE: TRACERLAB, INC.

COLLECTIONS DISCONTINUED IN JULY 1963

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1961	PRECIP. (INCHES)	--	--	--	--	--	--	8.61	3.23	7.89	0.21	5.70	0.88	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.09	0.17	0.02	0.03	0.30	0.31	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	0.15	0.76	0.00	2.13	0.76	5.32	
	SR-89/SR-90	--	--	--	--	--	--	--	--	12.	63.	75.	75.	
1962	PRECIP. (INCHES)	1.25	0.60	0.60	4.81	1.15	7.40	0.07	2.70	3.97	3.12	5.68	4.73	36.08
	SR-90 (MC/SQ.MI.)	1.17	1.01	1.82	4.91	0.46	2.69	0.42	0.87	0.27	1.25	1.64	1.66	18.17
	SR-90 CONC. (PC/L)	14.29	25.54	46.06	15.50	6.08	5.47	91.20	4.86	1.06	6.08	4.41	5.32	
	SR-89/SR-90	40.	28.	19.	14.	17.	8.5	13.	9.2	9.0	23.	0.66	40.	
1963	PRECIP. (INCHES)	3.09	1.75	0.55	0.92	0.62	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	1.27	2.32	0.63	0.82	2.40	4.96	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	6.23	20.22	17.48	13.53	58.82	--	--	--	--	--	--	--	
	SR-89/SR-90	30.	26.	21.	12.	8.4	0.7	--	--	--	--	--	--	

NOTES

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- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: UTAH, SALT LAKE CITY

LAT. 40 46N LONG. 110 49W ALT. 4970 FT. (POT)

SOURCE: U. S. PUBLIC HEALTH SERVICE, INDUSTRIAL HYGIENE FIELD STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1956 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	1.67	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.31	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	2.89	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1957 PRECIP. (INCHES)	1.37	0.72	2.18	3.24	3.37	1.47	0.31	1.69	0.33	0.78	1.37	1.61	18.44
SR-90 (MC/SQ.MI.)	0.8	0.83	2.39	2.30	0.81	1.61	0.94	1.28	0.15	0.59	0.41	0.64	12.75
SR-90 CONC. (PC/L)	8.82	17.48	16.72	10.79	3.65	16.72	46.06	11.55	6.84	11.55	4.56	6.08	
SR-89/SR-90	16.	14.	9.3	--	1.3	24.	--	--	40.	49.	15.	12.	
1958 PRECIP. (INCHES)	0.87	2.20	2.19	2.92	0.30	0.04	0.05	0.23	0.25	*	1.13	0.54	10.72
SR-90 (MC/SQ.MI.)	0.70	1.10	1.47	2.10	1.30	0.28	0.06	0.71	--	0.10	0.25	3.07	E
SR-90 CONC. (PC/L)	12.16	7.60	10.18	10.94	65.82	106.40	18.24	46.97	--	--	3.34	86.49	
SR-89/SR-90	15.	13.	32.	13.	12.	12.	107.	44.	--	47.	16.	43.	
1959 PRECIP. (INCHES)	1.60	1.41	0.79	1.61	2.05	1.38	0.19	1.76	1.66	0.22	0.10	1.05	13.82
SR-90 (MC/SQ.MI.)	2.46	2.56	4.56	5.84	5.95	2.40	0.53	--	0.69	0.25	0.93	0.26	E
SR-90 CONC. (PC/L)	23.41	27.66	87.70	55.18	44.08	26.45	42.41	--	6.38	17.33	141.36	3.80	
SR-89/SR-90	--	27.	18.	10.	10.	5.8	3.0	--	1.30	0.40	0.11	*	
1960 PRECIP. (INCHES)	0.96	1.58	2.45	1.11	0.79	0.39	0.02	1.18	0.39	1.18	1.57	0.39	12.01
SR-90 (MC/SQ.MI.)	0.17	0.40	1.08	0.93	0.04C	0.02C	0.00C	0.16C	0.01C	0.03C	0.30	--	E
SR-90 CONC. (PC/L)	2.74	3.80	6.69	12.77	0.76	0.76	0.00	2.13	0.46	0.46	2.89	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.07	2.05	1.85	0.94	0.24	0.07	0.55	1.18	1.10	1.60	1.15	0.88	11.68
SR-90 (MC/SQ.MI.)	0.03C	0.85C	0.75C	0.38C	0.05C	0.02C	0.08C	0.16C	0.20	1.13	0.65	2.31	6.61
SR-90 CONC. (PC/L)	6.54	6.23	6.23	6.08	3.19	4.41	2.28	2.13	2.74	10.79	8.66	39.98	
SR-89/SR-90	--	--	--	--	--	--	--	--	12.	82.	71.	56.	
1962 PRECIP. (INCHES)	0.84	1.42	2.32	2.99	2.12	0.48	2.52	0.26	1.	0.93	0.56	0.16	15.60
SR-90 (MC/SQ.MI.)	1.16	4.50	5.53	6.77	10.66	0.33	1.77	0.51	0.50	1.48	0.90	0.22	34.33
SR-90 CONC. (PC/L)	20.98	48.18	36.18	34.35	76.46	10.49	10.64	29.79	7.60	24.17	24.47	20.98	
SR-89/SR-90	40.	25.	18.	13.	8.	20.	25.	14.00	17.	3.	41.	55.	
1963 PRECIP. (INCHES)	0.53	0.67	2.11	4.06	0.23	1.67	*	0.54	1.08	1.05	1.56	0.84	14.34
SR-90 (MC/SQ.MI.)	1.08C	1.08C	3.50	20.26	2.06	12.38	0.47	1.88	2.40	2.28	1.45	0.73	49.57
SR-90 CONC. (PC/L)	31.01	24.47	25.23	75.85	136.19	112.63	--	52.90	33.74	32.98	14.14	13.22	
SR-89/SR-90	--	--	18.	10.	5.6	5.9	0.7	*	*	0.4	*	--	
1964 PRECIP. (INCHES)	1.01	0.35	2.27	3.55	1.91	2.61	0.08	0.35	--	0.55	1.73	3.51	E
SR-90 (MC/SQ.MI.)	2.17	1.06	4.60	14.77	5.98	17.05	0.42	0.81	--	1.38	1.69	0.37	E
SR-90 CONC. (PC/L)	32.68	46.06	30.86	63.23	47.58	99.26	79.80	35.11	--	38.15	14.90	1.67	
SR-89/SR-90	*	0.5	*	*	*	--	--	--	--	*	1.20	--	
1965 PRECIP. (INCHES)	2.25	--	0.75	2.11									E
SR-90 (MC/SQ.MI.)	1.36	--	0.82	2.03									E
SR-90 CONC. (PC/L)	9.12	--	16.57	14.59									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: VIRGINIA, STERLING

LAT. 38 59N LONG. 77 28W ALT. 270 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU, OBSERVATIONAL TEST AND DEVELOPMENT CENTER

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL	
1960	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	1.45	1.91	1.78	E	
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.15C	0.34C	0.32C	E	
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	1.52	2.74	2.74		
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--		
1961	PRECIP. (INCHES)	3.20	4.13	4.05	3.22	3.50	3.46	3.19	3.56	3.73	3.25	2.59	2.90	40.78
	SR-90 (MC/SQ.MI.)	0.14C	0.17C	0.76C	0.61C	0.59C	0.59C	0.23C	0.26C	0.10	0.31	0.79	0.82	5.37
	SR-90 CONC. (PC/L)	0.61	0.61	2.89	2.89	2.58	2.58	1.06	1.06	0.46	1.52	4.71	4.26	
	SR-89/SR-90	--	--	--	--	--	--	--	20.	90.	57.	48.		
1962	PRECIP. (INCHES)	1.91	3.90	5.91	2.42	4.04	4.12	1.37	0.17	2.27	1.35	5.02	2.91	35.39
	SR-90 (MC/SQ.MI.)	0.86	2.70	1.61	2.74	4.34	2.47	1.22	0.23	1.06	0.69	1.56	0.92	20.40
	SR-90 CONC. (PC/L)	6.84	10.49	4.10	17.18	16.26	9.12	13.53	20.52	7.14	7.75	4.71	4.86	
	SR-89/SR-90	43.	27.	19.	13.	9.	10.	7.	10.	16.	28.	47.	52.	
1963	PRECIP. (INCHES)	1.42	1.63	4.89	1.06	1.55	6.03	0.99	5.17	3.07	0.12	7.03	2.73	35.69
	SR-90 (MC/SQ.MI.)	1.48	2.41	4.36	6.16	2.21	7.84	2.70	3.69	1.13	0.31	2.22	1.04	35.55
	SR-90 CONC. (PC/L)	15.81	22.50	13.53	88.31	21.74	19.76	41.50	10.79	5.62	39.22	4.86	5.78	
	SR-89/SR-90	30.	20.	17.	10.2	9.1	8.7	2.	1.	1.2	*	*	*	
1964	PRECIP. (INCHES)	3.35	2.61	2.27	3.72	0.64	1.09	2.17	2.84	3.49	1.70	1.71	3.97	29.56
	SR-90 (MC/SQ.MI.)	1.97	2.64	2.62	4.89	1.85	2.09	1.96	0.86	0.58	0.44	0.26	0.84	21.00
	SR-90 CONC. (PC/L)	8.97	15.35	17.48	19.91	43.93	29.18	13.68	4.56	2.58	3.95	2.28	3.19	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	1.90	0.80	--	
1965	PRECIP. (INCHES)	3.00	2.87	4.28	2.45									E
	SR-90 (MC/SQ.MI.)	0.51	0.76	1.32	1.90									E
	SR-90 CONC. (PC/L)	2.58	3.95	4.71	11.86									
	SR-89/SR-90	--	--	--	*									

NOTES

- : DATA NOT AVAILABLE
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- A: APPROXIMATE
- B: LOWER LIMIT OF REPORTED DATA
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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: WASHINGTON, SEATTLE LAT. 47 35N LONG. 122 20W ALT. 10 FT. (POT)

SOURCE: FOOD, CHEMICAL AND RESEARCH LABORATORIES, INC.

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	--	--	--	--	--	--	1.81	1.57	0.94	4.19	7.92	4.75	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	1.27	1.79	2.41	2.70	3.85	2.77	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	10.64	17.33	38.91	9.73	7.45	8.82	
	SR-89/SR-90	--	--	--	--	--	--	2.80	2.20	0.20	1.00	0.10	0.40	
1964	PRECIP. (INCHES)	7.39	1.25	2.97	1.33	1.39	3.07	--	0.98	1.86	0.65	4.48	4.48	E
	SR-90 (MC/SQ.MI.)	3.91	1.48	3.65	4.00	4.84	2.98	1.76	0.85	0.78	0.46	2.08	1.62	28.41
	SR-90 CONC. (PC/L)	8.06	17.94	18.70	45.75	52.90	14.74	--	13.22	6.38	10.79	6.99	5.47	
	SR-89/SR-90	0.20	0.20	*	*	*	*	*	*	*	0.80	1.80	*	
1965	PRECIP. (INCHES)	5.83	4.35	0.77	3.56									E
	SR-90 (MC/SQ.MI.)	1.30	3.18	0.83	1.83									E
	SR-90 CONC. (PC/L)	3.34	11.10	16.42	7.75									
	SR-89/SR-90	--	--	--	--									

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: WASHINGTON, SEATTLE

LAT. 47 35N LONG. 122 20W ALT. 10 FT. (POT)

SOURCE: LABORATORY OF RADIATION BIOLOGY, UNIVERSITY OF WASHINGTON

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1958	PRECIP. (INCHES)	--	--	--	1.34	0.92	0.72	*	0.32	1.47	3.12	6.53	5.51	E
	SR-90 (MC/SQ.MI.)	--	--	--	0.51	2.12	0.57	0.04	0.16	0.50	0.64	--	1.62	E
	SR-90 CONC. (PC/L)	--	--	--	5.78	34.96	12.01	--	7.60	5.17	3.19	--	4.41	
	SR-89/SR-90	--	--	--	15.	6.	26.	4.	8.	49.	48.	--	125.	
1959	PRECIP. (INCHES)	7.98	3.64	4.12	3.59	1.60	1.82	0.93	0.60	4.60	2.67	8.14	1.15	40.84
	SR-90 (MC/SQ.MI.)	--	1.98	3.47	3.64	5.08	1.31	1.29	--	0.44	0.29	0.41	0.06	E
	SR-90 CONC. (PC/L)	--	8.21	12.77	15.35	48.34	10.94	21.13	--	1.52	1.67	0.76	0.76	
	SR-89/SR-90	--	28.	17.	6.1	8.5	4.3	2.9	--	*	*	*	*	
1960	PRECIP. (INCHES)	5.48	4.01	4.08	2.88	2.68	0.39	*	1.57	0.97	3.96	2.69	0.64	29.35
	SR-90 (MC/SQ.MI.)	0.50	--	0.35	0.47	0.79C	0.12C	0.00C	0.24C	0.08C	0.33C	0.52C	0.12C	E
	SR-90 CONC. (PC/L)	1.37	--	1.37	2.43	4.41	4.71	--	2.28	1.22	1.22	2.89	2.89	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	7.71	9.11	4.45	2.35	3.07	0.43	0.75	0.82	0.46	2.83	4.39	5.58	41.95
	SR-90 (MC/SQ.MI.)	0.38C	0.44C	0.67C	0.35C	--	--	0.06C	0.07C	0.06	0.60	1.20	2.53	E
	SR-90 CONC. (PC/L)	0.76	0.76	2.28	2.28	--	--	1.22	1.37	1.98	3.19	4.10	6.84	
	SR-89/SR-90	--	--	--	--	--	--	--	--	115.	78.	70.	45.	
1962	PRECIP. (INCHES)	2.43	--	--	--	--	--	1.11	1.96	2.02	3.41	--	3.83	E
	SR-90 (MC/SQ.MI.)	1.53	1.56	4.20	2.37	2.64	0.89	0.56	1.21	1.86	0.75	2.22	1.91	21.70
	SR-90 CONC. (PC/L)	9.58	--	--	--	--	--	7.60	9.42	13.98	3.34	--	7.60	
	SR-89/SR-90	39.	48.	17.	11.	6.	8.	5.	9.	25.	45.	44.	60.	
1963	PRECIP. (INCHES)	1.91	3.97	2.98	2.75	0.94	1.95	0.85	0.76	0.69	4.16	7.63	4.93	33.52
	SR-90 (MC/SQ.MI.)	1.92	3.02	3.94	5.33	1.35	5.47	3.83	1.72	2.09	3.67	4.25	3.10	39.69
	SR-90 CONC. (PC/L)	15.35	11.55	20.06	29.49	21.89	42.71	68.55	34.35	46.06	13.38	8.51	9.58	
	SR-89/SR-90	46.	41.	18.	13.	6.1	*	2.	*	*	*	*	*	
1964	PRECIP. (INCHES)	8.16	1.55	3.20	1.29	1.07	3.68	0.84	1.46	2.01	0.83	8.11	4.86	37.06
	SR-90 (MC/SQ.MI.)	3.10	2.11	2.51	3.80	4.74	6.62	2.20	1.24	0.91	0.34	1.64	0.32	29.53
	SR-90 CONC. (PC/L)	5.78	20.67	11.86	44.84	67.34	27.36	39.82	12.92	6.84	6.23	3.04	1.06	
	SR-89/SR-90	*	*	*	*	1.00	--	--	--	--	*	1.70	--	
1965	PRECIP. (INCHES)	5.83	4.28	0.44	3.79									E
	SR-90 (MC/SQ.MI.)	1.44	0.94	0.03	1.17									E
	SR-90 CONC. (PC/L)	3.80	3.34	1.06	4.71									
	SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: WASHINGTON, TATOOSH ISL.

LAT. 48 22N LONG. 124 36W ALT. 85 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	12.08	7.61	10.50	8.16	2.36	2.78	1.40	1.61	5.21	6.20	10.28	9.38	77.57
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.09	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	*	
1960	PRECIP. (INCHES)	9.70	6.99	9.35	8.27	6.10	1.78	0.3	4.92	2.84	9.95	10.48	7.81	78.49
	SR-90 (MC/SQ.MI.)	0.09	0.71	1.16	0.34	0.17C	0.05C	0.01C	0.17C	0.07C	0.24C	0.27C	0.20C	3.48
	SR-90 CONC. (PC/L)	0.15	1.52	1.82	0.61	0.46	0.46	0.46	0.46	0.30	0.30	0.46	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	14.99	21.16	8.70	5.36	3.45	1.76	0.81	2.39	2.50	9.44	9.27	11.89	91.72
	SR-90 (MC/SQ.MI.)	0.75C	1.05C	--	1.68	0.72C	0.36C	0.04	0.11	0.46	1.23	1.21	2.40	E
	SR-90 CONC. (PC/L)	0.76	0.76	--	4.71	3.19	3.04	0.76	0.76	2.74	1.98	1.98	3.04	
	SR-89/SR-90	--	--	--	--	--	--	--	--	32.	106.	90.	62.	
1962	PRECIP. (INCHES)	7.11	3.67	6.26	10.20	2.12	1.77	0.89	4.78	3.66	6.48	16.30	12.92	76.16
	SR-90 (MC/SQ.MI.)	2.12	1.74	3.50	4.42	1.96	0.87	1.07	1.45	--	--	6.39	0.06	E
	SR-90 CONC. (PC/L)	4.56	7.14	8.51	6.54	13.98	7.45	18.24	4.56	--	--	5.93	0.00	
	SR-89/SR-90	44.	33.	19.	14.	9.	9.	--	9.	--	--	50.	15.	
1963	PRECIP. (INCHES)	2.86	8.97	6.40	5.76	3.33	1.90	4.67	--	1.23	13.62	14.79	15.13	E
	SR-90 (MC/SQ.MI.)	0.89	5.41	8.23	7.12	3.26	2.93	8.26	--	4.43	7.46	5.74	0.32	E
	SR-90 CONC. (PC/L)	4.71	9.12	19.61	18.85	14.90	23.41	26.90	--	54.72	8.36	5.93	0.30	
	SR-89/SR-90	48.	20.	24.	12.	7.3	1.	2.	--	0.4	1.2	*	0.9	
1964	PRECIP. (INCHES)	14.22	6.80	8.62	3.47		1.05	3.73	2.51	7.04	4.60	7.88	7.25	E
	SR-90 (MC/SQ.MI.)	6.98	3.42	5.61	0.40		4.12	2.90	1.71	1.21	1.08	1.68	2.53	E
	SR-90 CONC. (PC/L)	7.45	7.60	9.88	1.82		59.58	11.86	10.34	2.58	3.50	3.19	5.32	
	SR-89/SR-90	*	*	*	0.07		--	--	--	--	*	2.10	--	
1965	PRECIP. (INCHES)	12.77	13.05	2.94	5.03									E
	SR-90 (MC/SQ.MI.)	1.29	2.93	0.96	2.20									E
	SR-90 CONC. (PC/L)	1.52	3.34	5.02	6.69									
	SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: WISCONSIN, APPLETON LAT. 44 15N LONG. 88 25W ALT. 751 FT. (POT)

SOURCE: SOTOPES, INC.; THRU THE INSTITUTE OF PAPER CHEMISTRY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1963 PRECIP. (INCHES)	--	--	--	--	--	--	--	1.98	3.82	0.62	1.69	0.57	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	3.88	3.98	1.73	2.44	0.53	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	29.79	15.81	42.41	21.89	14.14	
SR-89/SR-90	--	--	--	--	--	--	--	1.90	1.40	1.00	0.60	0.50	
1964 PRECIP. (INCHES)	1.04	0.16	1.66	2.60	5.32	1.51	5.53	2.43	3.93	0.31	2.13	0.55	27.17
SR-90 (MC/SQ.MI.)	1.54	0.30	2.13	3.50	6.38	2.00	3.08	1.85	1.69	0.98	1.16	0.42	25.03
SR-90 CONC. (PC/L)	22.50	28.58	19.46	20.52	18.24	20.06	8.51	11.55	6.54	48.03	8.21	11.55	
SR-89/SR-90	0.20	*	0.20	--	--	--	--	--	--	*	*	*	
1965 PRECIP. (INCHES)	0.68	0.76	3.15										E
SR-90 (MC/SQ.MI.)	0.42	0.36	1.40										E
SR-90 CONC. (PC/L)	9.42	7.14	6.69										
SR-89/SR-90	--	--	--										

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: WISCONSIN, GREEN BAY

LAT. 44 29N LONG. 88 08W ALT. 689 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	1.98	1.87	2.84	3.86	1.26	4.21	2.71	5.17	3.27	1.61	2.85	E
SR-90 (MC/SQ.MI.)	--	0.63	--	5.34	2.10	1.42	0.94	0.65	0.21	0.26	0.12	0.25	E
SR-90 CONC. (PC/L)	--	4.86	--	28.58	8.21	17.18	3.34	3.65	0.61	1.22	1.06	1.37	
SR-89/SR-90	--	13.	--	15.	*	4.7	2.4	1.4	1.3	0.6	*	0.6	
1960 PRECIP. (INCHES)	1.04	0.48	1.21	3.13	7.75	3.07	1.87	3.52	3.09	2.32	0.69	0.10	28.27
SR-90 (MC/SQ.MI.)	0.22	0.01	0.94	--	0.28C	0.11C	0.02C	0.05C	0.39C	0.29C	0.15C	0.02C	E
SR-90 CONC. (PC/L)	3.19	0.30	11.86	--	0.61	0.61	0.15	0.15	1.98	1.98	3.34	3.04	
SR-89/SR-90	--	*	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.31	0.93	2.12	1.67	1.42	4.31	4.91	2.48	5.02	3.34	2.60	1.27	30.38
SR-90 (MC/SQ.MI.)	0.05C	0.15C	0.51C	0.41C	0.52C	1.57C	--	0.58	0.17	0.37	0.41	0.23	E
SR-90 CONC. (PC/L)	2.43	2.43	3.65	3.80	5.62	5.47	--	3.50	0.46	1.67	2.43	2.74	
SR-89/SR-90	--	--	--	--	--	--	--	--	50.	96.	76.	64.	
1962 PRECIP. (INCHES)	1.27	2.02	1.14	2.55	2.86	4.35	2.70	2.86	3.87	1.94	0.84	1.03	27.43
SR-90 (MC/SQ.MI.)	0.26	1.70	1.87	2.62	0.55	4.73	2.10	2.58	0.09	1.29	0.59	0.24	18.62
SR-90 CONC. (PC/L)	3.04	12.77	24.93	15.66	2.89	16.57	11.86	13.68	0.30	10.03	10.64	3.50	
SR-89/SR-90	39.	28.	18.	13.	112.	8.	10.	15.	21.	23.	39.	30.	
1963 PRECIP. (INCHES)	1.02	0.59	2.58	0.98	1.54	2.67	2.77	2.07	3.00	0.73	1.63	0.73	20.31
SR-90 (MC/SQ.MI.)	0.54	0.15	3.29	3.41	4.34	6.83	5.75	3.13	2.79	1.29	1.08	0.45	33.05
SR-90 CONC. (PC/L)	8.06	3.80	19.46	52.90	42.86	38.91	31.62	22.95	14.14	26.90	10.03	9.42	
SR-89/SR-90	28.	33.	19.	10.2	7.9	*	1.	1.	*	1.5	*	*	
1964 PRECIP. (INCHES)	1.14	0.26	1.76	2.55	4.14	1.05	4.55	2.72	6.74	0.66	2.07	0.70	28.34
SR-90 (MC/SQ.MI.)	1.36	0.18	1.34	3.67	4.48	4.12	3.95	2.01	0.91	0.56	0.63	0.39	23.60
SR-90 CONC. (PC/L)	18.09	10.49	11.55	21.89	16.42	59.58	13.22	11.25	2.13	12.92	4.56	8.51	
SR-89/SR-90	*	1.6	*	1.10	*	--	--	--	--	1.70	4.20	--	
1965 PRECIP. (INCHES)	0.93	0.85	2.38	3.62									E
SR-90 (MC/SQ.MI.)	0.34	0.33	0.82	2.76									E
SR-90 CONC. (PC/L)	5.62	5.93	5.17	11.55									
SR-89/SR-90	--	--	--	*									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS: UNITED STATES SITES (cont'd.)

Site: U. S. COAST GUARD "ECHO" STATION 35°00'N, 48°00'W

		(7/15-8/5)	(8/5-25)	(8/25-9/15)	(9/16-10/7)	10/7-28)	(10/28-11/17)	(11/18-12/8)	(12/8-30)						
1963	Precip. (in.)	--	0.30	--	1.38	3.71	3.93	0.74	2.07						
	Sr-90 (mc/mi ²)	0.59	0.66	1.62	1.10	1.03	1.43	0.19	1.05						
	Sr-89/Sr-90	*	*	1	*	*	*	*	*						
		(12/31-1/19)	(1/20-31)	(2/1-9)	(2/10-3/1)	(3/2-23)	(3/23-4/13)	(4/13-5/3)	(5/3-25)	(5/25-6/15)	(6/15-7/4)	(7/4-26)	(8/1-19)	(8/19-9/5)	(9/5-10/1)
1964	Precip. (in.)	0.97	0.79	--	2.32	2.07	--	1.58	0.93	2.24	0.94	3.49	1.86	1.65	4.17
	Sr-90 (mc/mi ²)	0.71	3.43	0.79	1.44	1.74	--	1.94	0.52	1.16	0.14	1.45	1.27	0.35	0.98
	Sr-89/Sr-90	*	*	*	*	*	--	*	*	--	--	--	--	--	--
		(10/1-19/64)	(10/19-11/8/64)	(11/8-28/64)	(11/28/64-1/1/65)										
		4.28	2.06	0.73	1.52										
		0.50	0.67	*	0.60										
		--	--	--	--										
		(1/1-8/65)	(1/8-30)	(1/30-2/19/65)	(2/19-3/13/65)	(3/13-4/3/65)	(4/3-25/65)								
1965	Precip. (in.)	--	--	1.69	2.25	2.09	4.66								
	Sr-90 (mc/mi ²)	0.54	0.65	0.23	0.52	1.74	--								
	Sr-89/Sr-90	--	--	--	--	--	--								

NOTES:

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ARGENTINA, BUENOS AIRES

LAT. 34 37S LONG. 58 26W ALT. 66 FT. (COLUMN)

SOURCE: COMISION NACIONAL DE ENERGIA ATOMICA

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	0.15	11.0	7.47	1.49	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.05	0.43	0.24	0.22	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	5.02	0.61	0.46	2.28	
SR-89/SR-90	--	--	--	--	--	--	--	--	2.9	*	*	*	
1960 PRECIP. (INCHES)	2.36	1.26	8.14	1.70	0.11	1.45	6.13	1.10	3.51	7.94	0.61	1.78	36.09
SR-90 (MC/SQ.MI.)	0.02	0.10	0.31	0.10	0.12	0.15	*	*	0.05C	0.14C	0.06C	0.17C	1.22
SR-90 CONC. (PC/L)	0.15	1.22	0.61	0.91	16.57	1.52	0.00	0.00	0.15	0.30	1.52	1.52	
SR-89/SR-90	48.	*	--	--	*	*	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	7.81	3.83	2.26	3.78	5.22	1.43	1.88	1.37	1.26	4.88	4.63	5.54	43.89
SR-90 (MC/SQ.MI.)	0.47C	0.23C	0.03C	0.05C	0.02C	0.00C	0.27C	0.18C	0.11	0.58	0.56	0.31	2.81
SR-90 CONC. (PC/L)	0.91	0.91	0.15	0.15	0.00	0.00	2.13	1.98	1.37	1.82	1.82	0.91	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	1.	
1962 PRECIP. (INCHES)	3.30	2.97	2.18	2.73	0.48	0.51	3.35	2.00	4.13	0.59	4.83	4.01	31.08
SR-90 (MC/SQ.MI.)	0.35	0.13	0.01	0.01	0.07	0.20	0.07	0.16	0.27	0.12	0.84	0.14	2.37
SR-90 CONC. (PC/L)	1.67	0.61	0.00	0.00	2.28	5.93	0.30	1.22	1.06	3.04	2.58	0.46	
SR-89/SR-90	0.7	5.	6.	10.	111.	28.	45.	32.	36.	16.	10.	11.	
1963 PRECIP. (INCHES)	3.49	3.02	8.04	3.47	1.93	5.73	1.97	4.65	4.93	5.68	5.28	6.80	54.99
SR-90 (MC/SQ.MI.)	0.39	0.03	0.34	0.13	0.13	0.19	0.14	0.16	0.45	0.31	0.22	0.35	2.84
SR-90 CONC. (PC/L)	1.67	0.15	0.61	0.61	1.06	0.46	1.06	0.46	1.37	0.76	0.61	0.76	
SR-89/SR-90	11.	--	*	*	1.	1.	*	*	3.	*	1.6	1.0	
1964 PRECIP. (INCHES)	1.52	7.24	9.05	3.39	3.43	1.93	0.58	2.35	2.53	2.49	2.62	1.99	39.12
SR-90 (MC/SQ.MI.)	0.25	0.38	0.28	0.23	0.41	0.30	0.24	0.29	0.65	0.96	0.85	0.56	5.40
SR-90 CONC. (PC/L)	2.43	0.76	0.46	1.06	1.82	2.43	6.23	1.82	3.95	5.93	4.86	4.26	
SR-89/SR-90	*	*	--	--	--	--	--	--	--	*	--	--	
1965 PRECIP. (INCHES)	3.58	4.04	1.45	5.53	0.49								E
SR-90 (MC/SQ.MI.)	--	--	0.23	--	--								E
SR-90 CONC. (PC/L)	--	--	2.43	--	--								
SR-89/SR-90	--	--	--	--	--								

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D: RATIO EXCEEDS 999.99

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ARGENTINA, FORMOSA

LAT. 26 11S LONG. 58 10W ALT. 190 FT. (COLUMN)

SOURCE: COMISION NACIONAL DE ENERGIA ATOMICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1961	PRECIP. (INCHES)	--	--	--	--	--	2.80	4.07	1.84	6.04	6.48	6.83	7.11	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.05	0.46	--	--	0.17	0.14	0.20	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	0.30	1.67	--	--	0.46	0.30	0.46	
	SR-89/SR-90	--	--	--	--	--	--	*	--	--	*	*	*	
1962	PRECIP. (INCHES)	9.14	4.87	6.25	7.68	6.37	0.09	0.94	1.23	2.34	4.68	0.01	3.96	47.56
	SR-90 (MC/SQ.MI.)	0.20	0.16	0.12	0.11	0.16	0.09	0.10	0.20	0.24	3.33	0.28	0.26	5.25
	SR-90 CONC. (PC/L)	0.30	0.46	0.30	0.15	0.46	15.20	1.67	2.43	1.52	10.79	425.60	1.06	
	SR-89/SR-90	*	4.	4.	17.	49.	*	*	30.	27.	16.	8.	8.	
1963	PRECIP. (INCHES)	8.93	4.17	4.83	6.96	3.61	3.77	3.26	0.23	0.72	0.89	3.54	5.37	46.28
	SR-90 (MC/SQ.MI.)	0.29	--	0.10	0.15	0.11	0.13	--	0.08	0.22	0.04	0.19	0.15	E
	SR-90 CONC. (PC/L)	0.46	--	0.30	0.30	0.46	0.46	--	5.32	4.71	0.61	0.76	0.46	
	SR-89/SR-90	34.	--	*	*	*	*	--	*	*	2.	*	*	
1964	PRECIP. (INCHES)	1.86	1.75	7.26	13.70	4.00	0.85	1.60	--	--	0.80	2.86	8.03	E
	SR-90 (MC/SQ.MI.)	0.08	0.09	0.04	0.04	--	0.02	0.09	0.51	0.80	0.24	*	0.35	E
	SR-90 CONC. (PC/L)	0.61	0.76	0.15	0.00	--	0.30	0.91	--	--	4.56	0.00	0.61	
	SR-89/SR-90	*	*	--	--	--	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	3.90	7.50	2.48	5.87	4.27								E
	SR-90 (MC/SQ.MI.)	--	--	0.16	--	--								E
	SR-90 CONC. (PC/L)	--	--	0.91	--	--								
	SR-89/SR-90	--	--	--	--	--								

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ARGENTINA, MALARGUE

LAT. 35 29S LONG. 69 35W ALT. 4723 FT. (COLUMN)

SOURCE: COMISION NACIONAL DE ENERGIA ATOMICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	0.80	0.17	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	0.21	0.16	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	3.95	14.29	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	*	*	
1960	PRECIP. (INCHES)	0.92	0.85	0.17	0.11	1.00	1.83	0.68	*	0.15	0.66	0.46	0.52	7.35
	SR-90 (MC/SQ.MI.)	0.24	0.21	0.05	0.03	0.06C	0.10C	*	*	0.06C	0.08C	0.01C	0.01C	0.85
	SR-90 CONC. (PC/L)	3.95	3.80	4.41	4.10	0.91	0.76	0.00	--	6.08	1.82	0.30	0.30	
	SR-89/SR-90	0.02	*	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.09	0.04	0.74	0.14	0.53	2.32	0.20	0.97	0.98	0.53	0.11	0.32	6.97
	SR-90 (MC/SQ.MI.)	0.41C	0.19C	0.13C	0.02C	0.06C	0.27C	0.09C	0.45	0.36	0.04	0.07	0.12	2.21
	SR-90 CONC. (PC/L)	69.31	72.20	2.74	2.13	1.67	1.82	6.84	6.99	5.62	1.22	9.73	5.78	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	0.88	0.82	0.52	*	0.49	2.12	0.37	*	0.04	0.68	0.35	1.32	7.59
	SR-90 (MC/SQ.MI.)	0.20	0.52	0.10	*	0.05	0.17	--	0.06	0.06	0.17	--	0.42	E
	SR-90 CONC. (PC/L)	3.50	9.58	2.89	--	1.52	1.22	--	--	22.80	3.80	--	4.86	
	SR-89/SR-90	*	*	2.	--	22.	17.	--	32.	*	14.	--	*	
1963	PRECIP. (INCHES)	1.16	6.15	1.63	*	0.02	1.01	2.77	1.44	2.43	2.97	1.61	0.80	21.99
	SR-90 (MC/SQ.MI.)	--	0.86	0.12	0.02	0.03	0.06	0.15	0.31	0.26	0.06	0.09	0.04	E
	SR-90 CONC. (PC/L)	--	2.13	1.06	--	22.80	0.91	0.76	3.34	1.67	0.30	0.91	0.76	
	SR-89/SR-90	--	*	2.	--	*	*	*	4.	*	22.	*	8.5	
1964	PRECIP. (INCHES)	0.13	0.06	1.76	0.18	0.01	0.27	0.53	--	--	2.15	1.91	0.54	E
	SR-90 (MC/SQ.MI.)	0.06	0.04	0.08	0.05	0.02	--	0.01	*	0.49	*	0.53	0.36	E
	SR-90 CONC. (PC/L)	6.99	10.18	0.76	4.26	30.40	--	0.30	--	--	0.00	4.26	10.18	
	SR-89/SR-90	*	2.4	--	--	--	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	--	--	2.44	1.40	2.09								E
	SR-90 (MC/SQ.MI.)	--	--	0.25	--	--								E
	SR-90 CONC. (PC/L)	--	--	1.52	--	--								
	SR-89/SR-90	--	--	--	--	--								

NOTES

- : DATA NOT AVAILABLE
- *: ZERO OR TRACE
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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, ADELAIDE

LAT. 34 56S LONG. 138 35E ALT. 140 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1958	PRECIP. (INCHES)	--	--	--	--	--	0.23	3.18	2.35	3.00	2.45	0.33	0.25	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.04	0.16	0.33	0.50	0.71	0.21	0.10	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	2.58	0.76	2.13	2.58	4.41	9.73	6.08	
	SR-89/SR-90	--	--	--	--	--	16.	14.	45.	18.	18.	14.	14.	
1959	PRECIP. (INCHES)	0.29	0.83	0.93	0.34	0.15	0.36	1.48	1.85	1.27	0.89	0.93	2.00	11.32
	SR-90 (MC/SQ.MI.)	0.08	0.21	0.06	0.05	0.05	0.04	0.11	0.20	0.22	0.29	0.18	0.13	1.62
	SR-90 CONC. (PC/L)	4.26	3.80	0.91	2.28	5.02	1.67	1.06	1.67	2.58	5.02	2.89	1.06	
	SR-89/SR-90	--	5.7	8.3	--	*	*	5.4	6.0	*	--	1.1	2.3	
1960	PRECIP. (INCHES)	0.38	1.88	0.84	2.19	4.77	1.60	1.42	1.58	3.64	0.86	3.80	0.11	23.07
	SR-90 (MC/SQ.MI.)	0.08	0.03	0.11	0.14	0.11C	0.04C	0.11C	0.13C	0.47C	0.11C	0.55C	0.02C	1.90
	SR-90 CONC. (PC/L)	3.19	0.30	1.98	0.91	0.30	0.46	1.22	1.22	1.98	1.98	2.13	2.74	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.19	0.32	0.28	4.80	1.28	2.56	2.05	1.51	0.94	0.44	0.32	0.22	14.91
	SR-90 (MC/SQ.MI.)	0.06C	0.11C	0.01C	0.17C	0.11C	0.22C	0.22C	0.16C	0.12	0.41	0.32	0.12	2.03
	SR-90 CONC. (PC/L)	4.86	5.17	0.61	0.61	1.37	1.37	1.67	1.67	1.98	14.14	15.20	8.36	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	0.56	0.88	0.92	0.08	3.65	2.13	1.33	2.31	0.58	2.58	0.53	1.69	17.24
	SR-90 (MC/SQ.MI.)	0.16	0.33	0.15	0.06	0.23	0.26	0.24	0.14	0.10	0.36	0.32	0.29	2.64
	SR-90 CONC. (PC/L)	4.41	5.78	2.43	1.40	0.91	1.82	2.74	0.91	2.58	2.13	9.12	2.58	
	SR-89/SR-90	*	*	*	5.	5.	36.	24.	18.	21.	15.	8.	7.	
1963	PRECIP. (INCHES)	3.15	0.09	0.03	1.84	5.08	4.05	3.09	2.55	1.31	1.85	0.24	0.11	24.29
	SR-90 (MC/SQ.MI.)	0.68	0.19	0.01	0.28	0.60	0.35	0.36	0.05	0.19	0.30	0.18	0.14	3.33
	SR-90 CONC. (PC/L)	3.34	32.07	5.02	2.28	1.82	1.37	1.37	0.30	2.28	2.43	11.40	19.30	
	SR-89/SR-90	18.	4.8	3.	9.1	*	0.4	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	0.41	0.36	0.09	2.34	1.94	1.44	4.10	1.34	3.13	3.25	4.04	0.81	23.25
	SR-90 (MC/SQ.MI.)	0.19	0.18	0.05	0.30	0.27	0.48	0.91	0.43	1.49	0.77	0.71	0.42	6.20
	SR-90 CONC. (PC/L)	6.99	7.60	8.51	1.98	2.13	5.02	3.34	4.86	7.30	3.65	2.74	7.90	
	SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965	PRECIP. (INCHES)	0.09	*	0.37										E
	SR-90 (MC/SQ.MI.)	0.18	0.13	0.20										E
	SR-90 CONC. (PC/L)	30.40	--	8.21										
	SR-89/SR-90	--	--	--										

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, BRISBANE

LAT. 27 28S LONG. 153 02E ALT. 137 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1958 PRECIP. (INCHES)	--	--	--	--	--	9.31	0.14	1.65	1.95	1.38	1.14	11.07	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.05	0.01	0.16	0.29	0.95	0.25	0.24	E
SR-90 CONC. (PC/L)	--	--	--	--	--	0.15	1.06	1.52	2.28	10.49	3.34	0.30	
SR-89/SR-90	--	--	--	--	--	44.	*	46.	30.	62.	19.	--	
1959 PRECIP. (INCHES)	7.26	5.36	5.84	0.99	1.16	0.46	2.59	0.18	4.07	4.69	7.98	5.26	45.84
SR-90 (MC/SQ.MI.)	0.49	0.01	0.28	0.07	0.14	0.18	0.11	0.06	0.30	0.38	0.28	0.36	2.66
SR-90 CONC. (PC/L)	1.06	0.00	0.76	1.06	1.82	5.93	0.61	5.02	1.06	1.22	0.61	1.06	
SR-89/SR-90	10.4	--	3.5	2.9	4.4	--	0.9	*	*	1.1	*	*	
1960 PRECIP. (INCHES)	3.21	4.55	3.25	0.74	1.65	1.12	1.49	0.46	1.20	1.20	4.68	4.56	28.11
SR-90 (MC/SQ.MI.)	0.16	0.22	0.16	0.07	0.14C	0.10C	0.05C	0.02C	0.14C	0.14C	0.42C	0.39C	2.01
SR-90 CONC. (PC/L)	0.76	0.76	0.76	1.37	1.22	1.37	0.46	0.61	1.82	1.82	1.37	1.37	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	6.36	6.96	1.62	1.07	1.31	1.22	2.91	1.03	2.22	5.16	7.92	4.57	42.35
SR-90 (MC/SQ.MI.)	0.24C	0.25C	0.20C	0.13C	0.10C	0.09C	0.15C	0.05C	0.20	0.54	0.33	0.34	2.62
SR-90 CONC. (PC/L)	0.61	0.61	1.82	1.82	1.22	1.06	0.76	0.76	1.37	1.52	0.61	1.06	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	6.44	3.79	4.33	1.74	1.27	0.70	4.69	3.52	1.73	1.28	3.37	8.53	41.39
SR-90 (MC/SQ.MI.)	0.42	0.26	0.34	0.05	0.08	0.10	0.35	0.18	0.30	0.28	0.57	0.92	3.85
SR-90 CONC. (PC/L)	1.06	1.06	1.22	0.46	0.91	2.13	1.06	0.76	2.58	3.34	2.58	1.67	
SR-89/SR-90	*	*	*	12.	38.	41.	22.	18.	9.	12.	11.	8.	
1963 PRECIP. (INCHES)	5.80	1.46	14.22	2.31	7.07	0.36	0.02	2.74	0.67	3.41	5.19	6.72	49.97
SR-90 (MC/SQ.MI.)	0.62	0.16	0.99	0.20	0.30	0.06	0.02	0.31	0.14	0.58	0.36	0.81	4.55
SR-90 CONC. (PC/L)	1.67	1.67	1.06	1.37	0.61	2.58	15.20	1.67	3.19	2.58	1.06	1.82	
SR-89/SR-90	5.4	8.0	*	*	*	*	1.	*	*	*	*	*	
1964 PRECIP. (INCHES)	3.17	6.16	11.62	3.52	3.21	1.13	1.55	0.85	3.56	2.21	2.01	7.78	46.77
SR-90 (MC/SQ.MI.)	0.40	0.47	0.42	0.28	0.15	0.26	0.12	0.38	0.63	0.31	0.63	1.13	5.18
SR-90 CONC. (PC/L)	1.98	1.22	0.61	1.22	0.76	3.50	1.22	6.84	2.74	2.13	4.71	2.28	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	4.82	1.81	0.32										E
SR-90 (MC/SQ.MI.)	1.03	0.27	0.17										E
SR-90 CONC. (PC/L)	3.19	2.28	8.06										
SR-89/SR-90	--	--	--										

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, DARWIN

LAT. 12 28S LONG. 130 51E ALT. 97 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1958 PRECIP. (INCHES)	--	--	--	--	--	--	0.13	0.01	*	1.49	5.98	7.16	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.43	0.04	0.62	0.26	0.27	0.63	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	50.31	60.80	--	2.58	0.76	1.37	
SR-89/SR-90	--	--	--	--	--	--	13.	22.	43.	24.	78.	12.	
1959 PRECIP. (INCHES)	17.41	4.07	5.54	13.04	0.48	*	*	*	1.38	0.73	5.45	12.93	61.03
SR-90 (MC/SQ.MI.)	0.48	0.33	0.47	0.04	0.05	0.02	0.01	*	0.06	0.06	0.32	0.13	1.97
SR-90 CONC. (PC/L)	0.46	1.22	1.22	0.00	1.52	--	--	--	0.61	1.22	0.91	0.15	
SR-89/SR-90	8.8	5.8	2.8	*	*	*	7.0	*	*	*	*	*	
1960 PRECIP. (INCHES)	22.36	16.30	17.56	3.20	0.52	*	*	*	0.08	0.76	3.02	4.11	67.91
SR-90 (MC/SQ.MI.)	0.06	0.20	0.24	0.07	0.07C	0.00C	0.02C	0.02C	0.02C	0.15C	0.11C	0.16C	1.12
SR-90 CONC. (PC/L)	0.00	0.15	0.15	0.30	1.98	--	--	--	3.80	3.04	0.61	0.61	
SR-89/SR-90	10.	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	10.36	14.50	3.71	3.83	0.01	*	*	*	0.02	2.41	2.11	2.16	39.11
SR-90 (MC/SQ.MI.)	0.04C	0.06C	0.10C	0.11C	0.09C	0.00C	0.03C	0.03C	0.01	0.38	0.24	0.12	1.21
SR-90 CONC. (PC/L)	0.00	0.00	0.46	0.46	136.80	--	--	--	7.60	2.43	1.67	0.91	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	22.47	18.30	6.90	1.04	*	0.01	0.01	*	*	2.30	5.60	6.51	63.14
SR-90 (MC/SQ.MI.)	0.06	0.16	0.19	0.05	0.08	0.03	0.04	0.04	0.01	0.10	0.14	0.28	1.18
SR-90 CONC. (PC/L)	0.00	0.15	0.46	0.76	--	45.60	60.80	--	--	0.61	0.46	0.61	
SR-89/SR-90	*	*	*	10.	*	*	18.	7.	*	22.	14.	8.	
1963 PRECIP. (INCHES)	12.22	13.00	8.95	4.93	*	*	*	*	*	1.81	2.43	9.01	52.35
SR-90 (MC/SQ.MI.)	0.35	0.18	0.14	0.20	0.13	0.05	0.04	0.13	0.09	0.21	0.30	0.22	2.04
SR-90 CONC. (PC/L)	0.46	0.15	0.30	0.61	--	--	--	--	--	1.82	1.82	0.30	
SR-89/SR-90	*	5.3	3.	3.1	*	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	12.56	0.07	13.81	4.97	0.07	0.08	*	*	2.78	3.23	15.42	10.33	63.32
SR-90 (MC/SQ.MI.)	0.65	0.35	0.52	0.23	0.02	0.03	0.04	0.06	0.30	0.37	1.11	0.52	4.20
SR-90 CONC. (PC/L)	0.76	76.00	0.61	0.76	4.41	5.78	--	--	1.67	1.67	1.06	0.76	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	5.32	7.73	23.42										E
SR-90 (MC/SQ.MI.)	0.63	0.19	0.50										E
SR-90 CONC. (PC/L)	1.82	0.30	0.30										
SR-89/SR-90	--	--	--										

NOTES

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- A: APPROXIMATE
- B: LOWER LIMIT OF REPORTED DATA
- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, HOBART

LAT. 42 53S LONG. 147 20E ALT. 177 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958 PRECIP. (INCHES)	--	--	--	--	--	1.34	2.16	5.44	0.87	4.82	1.28	5.14	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.08	0.06	0.20	0.08	0.34	0.29	0.48	E
SR-90 CONC. (PC/L)	--	--	--	--	--	0.91	0.46	0.61	1.37	1.06	3.50	1.37	
SR-89/SR-90	--	--	--	--	--	2.1	--	32.	25.	14.	15.	--	
1959 PRECIP. (INCHES)	1.36	1.67	0.44	2.06	0.71	1.38	2.15	0.63	3.08	1.00	0.83	3.94	19.25
SR-90 (MC/SQ.MI.)	0.31	0.29	0.10	0.08	0.10	0.09	0.07	0.19	0.16	0.25	0.12	0.17	1.93
SR-90 CONC. (PC/L)	3.50	2.58	3.50	0.61	2.13	1.06	0.46	4.56	0.76	3.80	2.13	0.61	
SR-89/SR-90	9.3	7.2	4.0	*	5.0	4.4	4.3	1.0	*	1.7	*	*	
1960 PRECIP. (INCHES)	2.46	0.49	0.59	9.75	3.81	1.99	2.13	1.03	3.29	2.57	1.16	0.39	29.66
SR-90 (MC/SQ.MI.)	0.21	0.07	0.06	0.32	0.11	0.06	0.08C	0.04C	0.12C	0.10C	0.16C	0.06C	1.39
SR-90 CONC. (PC/L)	1.37	2.13	1.52	0.46	0.46	0.46	0.61	0.61	0.61	0.61	2.13	2.28	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.14	1.20	0.78	1.97	1.23	2.36C	2.36C	2.84	1.31	1.16	0.53	1.63	18.51
SR-90 (MC/SQ.MI.)	0.15C	0.15C	0.15	--	0.16	0.19C	0.19C	0.23C	0.21	0.35	0.06	0.22	E
SR-90 CONC. (PC/L)	1.98	1.98	2.89	--	1.98	1.22	1.22	1.22	2.43	4.56	1.67	1.98	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	1.36	0.54	1.39	1.65	2.59	2.43	2.57	3.63	3.84	2.95	0.91	1.73	25.59
SR-90 (MC/SQ.MI.)	0.21	0.12	0.12	0.07	0.08	0.16	0.16	0.11	0.19	0.19	0.18	0.21	1.80
SR-90 CONC. (PC/L)	2.28	3.34	1.37	0.61	0.46	1.06	0.91	0.46	0.76	0.91	3.04	1.82	
SR-89/SR-90	*	*	*	*	*	20.	5.	20.	19.	--	10.	7.	
1963 PRECIP. (INCHES)	0.88	1.04	1.15	0.40	1.20	1.11	3.66	1.49	1.62	1.22	1.26	0.55	15.58
SR-90 (MC/SQ.MI.)	0.19	0.21	0.12	0.07	0.27	0.09	0.23	0.08	0.16	0.25	0.41	0.22	2.30
SR-90 CONC. (PC/L)	3.34	3.04	1.52	2.74	3.50	1.22	0.91	0.76	1.52	3.04	5.02	6.08	
SR-89/SR-90	5.8	4.0	7.	3.6	3.8	*	*	--	*	*	*	*	
1964 PRECIP. (INCHES)	1.61	6.72	2.18	1.12	3.67	2.24	2.46	1.93	2.19	1.21	2.13	3.58	31.04
SR-90 (MC/SQ.MI.)	0.26	0.73	0.11	0.19	0.31	0.15	0.34	0.34	0.36	0.19	0.53	1.01	4.52
SR-90 CONC. (PC/L)	2.43	1.67	0.76	2.58	1.22	1.06	2.13	2.74	2.43	2.43	3.80	4.26	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	2.47	0.31	1.79										E
SR-90 (MC/SQ.MI.)	0.94	0.25	0.51										E
SR-90 CONC. (PC/L)	5.78	12.31	4.26										
SR-89/SR-90	--	--	--										

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

- 99 -

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, MELBOURNE

LAT. 37 49S LONG. 144 58E ALT. 155 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1958	PRECIP. (INCHES)	--	--	--	--	--	0.72	1.98	3.19	3.03	4.04	2.77	1.25	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.08	0.05	0.18	0.24	0.45	0.28	0.24	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	1.67	0.46	0.91	1.22	1.67	1.52	2.89	
	SR-89/SR-90	--	--	--	--	--	2.5	22.	12.	28.	20.	--	11.	
1959	PRECIP. (INCHES)	0.54	1.28	4.10	0.62	1.47	2.42	2.57	1.85	4.10	3.26	0.92	2.74	25.87
	SR-90 (MC/SQ.MI.)	0.18	0.32	0.24	0.10	0.11	0.20	0.12	0.15	0.27	--	0.24	0.24	E
	SR-90 CONC. (PC/L)	5.02	3.80	0.91	2.43	1.06	1.22	0.76	1.22	1.06	--	3.95	1.37	
	SR-89/SR-90	*	4.4	4.6	*	3.6	*	*	--	*	--	*	*	
1960	PRECIP. (INCHES)	1.80	2.41	0.38	7.67	3.75	0.78	2.04	2.79	3.64	1.53	5.43	2.52	34.74
	SR-90 (MC/SQ.MI.)	0.19	0.12	0.16	0.25	0.08C	0.02C	0.12C	0.17C	0.39C	0.16C	0.60C	0.28C	2.54
	SR-90 CONC. (PC/L)	1.67	0.76	6.38	0.46	0.30	0.46	0.91	0.91	1.67	1.52	1.67	1.67	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	1.32	1.48	2.36	2.98	3.07	2.02	2.11	2.20	1.01	1.41	1.03	1.86	22.85
	SR-90 (MC/SQ.MI.)	0.13C	0.15C	0.20C	0.25C	0.23C	0.15C	0.15C	0.15C	0.12	0.29	0.38	0.28	2.48
	SR-90 CONC. (PC/L)	1.52	1.52	1.22	1.22	1.06	1.06	1.06	1.06	1.82	3.19	5.62	2.28	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	2.37	1.21	0.38	1.06	4.58	1.65	1.70	2.10	1.22	4.37	1.05	1.39	23.08
	SR-90 (MC/SQ.MI.)	0.45	0.39	0.13	0.16	0.15	0.02	0.21	0.15	0.25	0.28	0.26	0.43	2.88
	SR-90 CONC. (PC/L)	2.89	4.86	5.17	2.28	0.46	0.15	1.82	1.06	3.04	0.91	3.80	4.71	
	SR-89/SR-90	*	*	*	5.	3.	*	16.	9.	9.	19.	8.	7.	
1963	PRECIP. (INCHES)	6.92	1.92	1.92	0.43	3.06	1.68	3.29	1.73	3.61	3.46	0.98	0.77	29.77
	SR-90 (MC/SQ.MI.)	0.49	0.46	0.24	0.12	0.33	0.14	0.41	0.08	0.34	0.58	0.56	0.24	3.99
	SR-90 CONC. (PC/L)	1.06	3.65	1.98	4.26	1.67	1.22	1.82	0.76	1.37	2.58	8.66	4.71	
	SR-89/SR-90	--	--	8.	2.9	*	*	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	0.09	4.70	1.10	3.94	2.98	1.14	2.73	2.04	3.05	2.68	1.35	3.76	29.56
	SR-90 (MC/SQ.MI.)	0.09	0.68	0.33	0.37	0.38	0.30	0.70	0.66	1.04	0.41	0.92	1.56	7.44
	SR-90 CONC. (PC/L)	15.20	2.13	4.56	1.37	1.98	3.95	3.95	4.86	5.17	2.28	10.34	6.23	
	SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965	PRECIP. (INCHES)	0.52	0.02	0.55										E
	SR-90 (MC/SQ.MI.)	0.53	0.07	0.29										E
	SR-90 CONC. (PC/L)	15.50	53.20	8.06										
	SR-89/SR-90	--	--	--										

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, PERTH

LAT. 31 57S LONG. 115 51E ALT. 210 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958	PRECIP. (INCHES)	--	--	--	--	--	2.76	16.73	2.66	1.33	2.56	0.46	0.49	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.09	0.16	0.18	0.33	0.11	0.11	0.15	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	0.46	0.15	1.06	3.80	0.61	3.65	4.71	
	SR-89/SR-90	--	--	--	--	--	8.9	15.	40.	31.	20.	17.	14.	
1959	PRECIP. (INCHES)	0.23	0.34	0.20	1.23	2.96	6.36	3.06	4.54	1.20	2.10	1.41	0.52	24.15
	SR-90 (MC/SQ.MI.)	0.06	0.08	0.12	0.10	0.25	0.28	0.19	0.23	0.21	0.18	0.06	0.02	1.78
	SR-90 CONC. (PC/L)	3.95	3.65	9.12	1.22	1.22	0.61	0.91	0.76	2.74	1.37	0.61	0.61	
	SR-89/SR-90	13.	7.0	5.0	4.0	3.2	*	4.7	*	*	*	*	*	
1960	PRECIP. (INCHES)	1.06	0.22	2.27	0.72	5.33	4.44	7.38	2.54	2.55	1.06	0.30	0.34	28.21
	SR-90 (MC/SQ.MI.)	0.05	0.07	0.08	0.05	0.13C	0.10C	0.33C	0.12C	0.18C	0.07C	0.05C	0.07C	1.30
	SR-90 CONC. (PC/L)	0.76	4.86	0.61	1.06	0.30	0.30	0.61	0.76	1.06	1.06	2.58	3.19	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.44	0.32	1.64	3.86	3.41	6.40	6.45	6.03	1.80	0.96	0.16	0.90	32.37
	SR-90 (MC/SQ.MI.)	0.12C	0.09C	0.11C	0.20C	0.08C	0.15C	0.29C	0.27C	0.18	0.16	0.06	0.22	1.93
	SR-90 CONC. (PC/L)	4.10	4.26	1.06	0.76	0.30	0.30	0.61	0.61	1.52	2.58	5.78	3.65	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	0.07	0.33	1.64	0.34	5.96	5.68	6.07	3.39	2.83	0.93	1.51	0.53	29.28
	SR-90 (MC/SQ.MI.)	0.08	0.09	0.03	0.05	--	0.35	0.31	0.17	0.18	0.08	0.14	0.17	E
	SR-90 CONC. (PC/L)	17.33	4.10	0.30	2.28	--	0.91	0.76	0.76	0.91	1.37	1.37	4.86	
	SR-89/SR-90	*	*	*	*	--	29.	19.	19.	14.	5.	4.	8.	
1963	PRECIP. (INCHES)	0.63	0.75	1.25	2.59	7.14	8.55	6.10	7.63	2.91	1.38	0.27	0.04	39.24
	SR-90 (MC/SQ.MI.)	0.01	0.07	0.16	0.46	0.31	0.21	0.25	0.31	0.35	0.45	0.31	0.21	3.10
	SR-90 CONC. (PC/L)	0.30	1.37	1.98	2.74	0.61	0.30	0.61	0.61	1.82	5.02	17.48	79.80	
	SR-89/SR-90	--	6.2	7.	5.7	*	*	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	*	0.14	1.49	2.82	0.55	11.60	9.52	5.71	3.69	2.57	0.28	1.14	39.51
	SR-90 (MC/SQ.MI.)	0.07	0.06	0.10	0.08	0.13	1.75	1.35	1.59	0.41	0.54	0.18	0.04	6.30
	SR-90 CONC. (PC/L)	--	6.54	1.06	0.46	3.65	2.28	2.13	4.26	1.67	3.19	9.73	0.61	
	SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965	PRECIP. (INCHES)	0.49	0.04	0.39										E
	SR-90 (MC/SQ.MI.)	0.21	0.06	0.10										E
	SR-90 CONC. (PC/L)	6.54	22.80	3.95										
	SR-89/SR-90	--	--	--										

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, SYDNEY

LAT. 33 52S LONG. 151 12E ALT. 138 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958 PRECIP. (INCHES)	--	--	--	--	--	8.71	1.13	3.71	1.19	2.19	0.67	5.84	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.34	0.26	0.44	0.25	0.24	0.21	0.57	E
SR-90 CONC. (PC/L)	--	--	--	--	--	0.61	3.50	1.82	3.19	1.67	4.71	1.52	
SR-89/SR-90	--	--	--	--	--	0.9	23.	43.	*	25.	15.	8.2	
1959 PRECIP. (INCHES)	6.44	7.96	5.63	1.61	2.28	4.32	7.72	3.36	3.40	11.13	3.89	1.93	59.67
SR-90 (MC/SQ.MI.)	0.64	0.45	0.21	0.05	0.21	0.36	0.26	0.13	0.30	0.68	0.33	0.21	3.83
SR-90 CONC. (PC/L)	1.52	0.91	0.61	0.46	1.37	1.22	0.46	0.61	1.37	0.91	1.22	1.67	
SR-89/SR-90	9.4	5.6	--	--	2.4	*	2.3	*	*	*	*	*	
1960 PRECIP. (INCHES)	2.27	3.68	2.08	1.16	4.28	3.56	5.58	1.77	2.68	11.03	2.81	9.65	50.55
SR-90 (MC/SQ.MI.)	0.14	0.21	0.12	0.17	0.12C	0.11C	0.12C	0.02C	0.13C	0.52C	0.20C	0.70C	2.56
SR-90 CONC. (PC/L)	0.91	0.91	0.91	2.28	0.46	0.46	0.30	0.15	0.76	0.76	1.06	1.06	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.46	3.37	1.19	3.52	1.23	2.22	1.55	9.43	2.06	2.92	21.44	5.98	57.37
SR-90 (MC/SQ.MI.)	0.23C	0.31C	0.08C	0.22C	0.15C	0.26C	0.06C	0.38C	0.15	0.48	1.18	0.47	3.97
SR-90 CONC. (PC/L)	1.37	1.37	1.06	0.91	1.82	1.82	0.61	0.61	1.06	2.43	0.91	1.22	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	5.22	5.97	2.50	3.95	10.63	0.16	2.74	4.32	3.46	0.86	0.41	6.78	47.00
SR-90 (MC/SQ.MI.)	0.60	0.23	0.29	0.14	0.15	0.01	0.15	0.10	0.14	0.23	0.34	0.32	2.70
SR-90 CONC. (PC/L)	1.67	0.61	1.82	0.61	0.15	0.91	0.76	0.30	0.61	4.10	12.62	0.76	
SR-89/SR-90	*	*	*	*	6.	*	28.	19.	7.	14.	11.	50.	
1963 PRECIP. (INCHES)	5.55	1.89	15.28	9.39	8.30	10.41	2.64	10.60	0.97	2.45	1.27	10.98	79.73
SR-90 (MC/SQ.MI.)	0.60	0.16	1.20	0.61	0.25	0.58	0.28	0.73	0.35	0.34	0.30	0.26	5.66
SR-90 CONC. (PC/L)	1.67	1.22	1.22	0.91	0.46	0.91	1.67	1.06	5.47	2.13	3.65	0.30	
SR-89/SR-90	5.0	5.1	8.5	2.4	*	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.71	1.98	6.75	5.49	3.07	16.04	0.37	1.01	0.60	2.34	3.99	1.49	43.84
SR-90 (MC/SQ.MI.)	0.20	0.35	0.66	0.40	0.38	0.83	0.16	0.30	0.30	0.64	1.60	0.71	6.53
SR-90 CONC. (PC/L)	4.26	2.74	1.52	1.06	1.82	0.76	6.54	4.56	7.60	4.10	6.08	7.30	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	1.43	0.89	0.37										E
SR-90 (MC/SQ.MI.)	0.71	0.51	0.37										E
SR-90 CONC. (PC/L)	7.60	8.66	15.20										
SR-89/SR-90	--	--	--										

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRALIA, TOWNSVILLE

LAT. 19 18S LONG. 146 48E ALT. 13 FT. (COLUMN)

SOURCE: ATOMIC WEAPONS TESTS SAFETY COMMITTEE
(POT USED THROUGH DECEMBER, 1963)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958 PRECIP. (INCHES)	--	--	--	--	--	0.97	*	0.07	0.23	0.11	1.00	3.49	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.25	0.10	0.07	0.02	0.06	0.07	0.23	E
SR-90 CONC. (PC/L)	--	--	--	--	--	3.95	--	15.20	1.37	8.36	1.06	1.06	
SR-89/SR-90	--	--	--	--	--	16.	4.0	13.	--	18.	86.	12.	
1959 PRECIP. (INCHES)	14.83	2.76	6.11	4.53	2.25	0.20	0.07	*	*	0.01	2.06	16.07	48.89
SR-90 (MC/SQ.MI.)	0.46	0.03	0.36	0.06	0.06	0.03	0.01	*	0.01	*	0.12	0.16	1.30
SR-90 CONC. (PC/L)	0.46	0.15	0.91	0.15	0.46	2.28	2.13	--	--	0.00	0.91	0.15	
SR-89/SR-90	8.3	--	5.0	*	*	*	--	*	*	*	*	*	
1960 PRECIP. (INCHES)	5.48	22.03	14.39	0.34	1.78	0.29	0.05	0.04	0.14	0.45	5.32	3.53	53.84
SR-90 (MC/SQ.MI.)	0.25	0.18	0.05	0.03	0.04C	0.01C	0.01C	0.01C	0.02C	0.08C	0.20C	0.14C	1.02
SR-90 CONC. (PC/L)	0.76	0.15	0.00	1.37	0.30	0.46	3.04	3.80	2.13	2.74	0.61	0.61	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.34	8.69	1.19	0.35	0.30	*	0.10	0.34	*	0.16	5.11	2.54	20.12
SR-90 (MC/SQ.MI.)	0.01C	0.10C	0.12C	0.04C	*	*	0.00C	0.00C	0.08	*	0.21	0.18	0.74
SR-90 CONC. (PC/L)	0.15	0.15	1.52	1.67	0.00	--	0.00	0.00	--	0.00	0.61	1.06	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	7.75	15.57	3.59	1.25	0.17	0.63	0.53	0.27	0.45	0.03	1.06	3.97	35.27
SR-90 (MC/SQ.MI.)	0.22	0.25	0.11	0.01	0.07	0.08	0.04	0.01	0.11	0.03	0.07	0.31	1.31
SR-90 CONC. (PC/L)	0.46	0.30	0.46	0.15	6.23	1.98	1.22	0.61	3.65	15.20	1.06	1.22	
SR-89/SR-90	*	*	*	*	10.	35.	*	*	14.	*	--	10.	
1963 PRECIP. (INCHES)	16.16	5.65	14.21	2.36	0.20	0.10	*	1.26	*	0.06	0.47	1.55	42.02
SR-90 (MC/SQ.MI.)	0.48	0.14	0.20	0.05	0.07	0.01	0.04	0.12	0.04	0.08	0.22	0.23	1.68
SR-90 CONC. (PC/L)	0.46	0.30	0.15	0.30	5.32	1.52	--	1.52	--	20.22	7.14	2.28	
SR-89/SR-90	5.0	3.0	6.	3.6	*	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	6.75	20.25	5.44	1.51	1.49	2.12	1.01	0.13	0.01	2.01	1.88	7.01	49.61
SR-90 (MC/SQ.MI.)	0.24	0.30	0.05	0.02	0.11	0.19	0.05	0.02	0.05	0.25	0.32	0.66	2.26
SR-90 CONC. (PC/L)	0.61	0.15	0.15	0.15	1.06	1.37	0.76	2.28	76.00	1.82	2.58	1.37	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	10.88	1.40	12.04										E
SR-90 (MC/SQ.MI.)	0.29	0.25	0.15										E
SR-90 CONC. (PC/L)	0.46	2.74	0.15										
SR-89/SR-90	--	--	--										

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRIA, KLAGENFURT

LAT. 46 39N LONG. 14 20E ALT. 1470 FT. (COLUMN)

SOURCE: ZENTRALANSTALT FUR METEOROLOGIE UND GEODYNAMIK

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	--	--	--	--	3.51	3.90	1.17	0.78	0.78	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	1.17	0.47	0.08	0.08	0.09	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	5.02	1.82	1.06	1.52	1.82	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	27.	
1958 PRECIP. (INCHES)	2.73	2.34	1.56	3.94	1.56	8.19	5.07	6.63	2.73	3.12	3.90	3.51	45.28
SR-90 (MC/SQ.MI.)	0.13	0.17	1.15	1.26	0.49	--	3.51	2.28	0.80	0.66	0.46	1.03	E
SR-90 CONC. (PC/L)	0.76	1.06	11.25	4.86	4.71	--	10.49	5.17	4.41	3.19	1.82	4.41	
SR-89/SR-90	25.	10.	29.	18.	18.	--	6.	27.	26.	22.	52.	45.	
1959 PRECIP. (INCHES)	0.39	*	2.40	5.91	2.36	6.31	2.98	4.94	0.98	2.22	3.10	3.78	35.37
SR-90 (MC/SQ.MI.)	0.32	--	0.75	3.78	1.16	3.60	1.18	1.10	0.14	0.19	0.04	0.19	E
SR-90 CONC. (PC/L)	12.46	--	4.71	9.73	7.45	8.66	6.08	3.34	2.13	1.37	0.15	0.76	
SR-89/SR-90	28.	--	18.	9.8	7.9	5.10	2.7	2.1	0.98	1.8	*	7.8	
1960 PRECIP. (INCHES)	0.86	1.76	3.05	1.80	1.28	4.18	6.18	4.06	5.22	4.30	3.94	4.44	41.07
SR-90 (MC/SQ.MI.)	0.39	0.16	0.29	0.30	0.62	0.52	0.37C	0.24C	0.16C	0.12C	0.18C	0.21C	3.56
SR-90 CONC. (PC/L)	6.84	1.37	1.52	2.58	7.30	1.82	0.91	0.91	0.46	0.46	0.76	0.76	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.04	0.43	1.20	1.05	2.96	2.60	5.06	1.11	1.70	4.10	4.48	3.00	29.73
SR-90 (MC/SQ.MI.)	0.17C	0.03C	0.22C	0.22C	0.70C	0.60C	0.61C	0.13C	0.09	0.38	0.68	0.50	4.33
SR-90 CONC. (PC/L)	1.22	1.06	2.74	3.19	3.65	3.50	1.82	1.82	0.76	1.37	2.28	2.58	
SR-89/SR-90	--	--	--	--	--	--	--	--	3.9	56.	93.	62.	
1962 PRECIP. (INCHES)	2.03	0.75	2.14	2.09	8.45	4.48	5.27	0.92	4.19	4.13	4.32	1.35	40.12
SR-90 (MC/SQ.MI.)	0.48	0.32	0.75	1.47	5.70	4.76	5.82	0.94	1.70	0.46	0.98	0.48	23.86
SR-90 CONC. (PC/L)	3.65	6.54	5.32	10.64	10.18	16.11	16.72	15.50	6.23	1.67	3.50	5.47	
SR-89/SR-90	41.	26.	19.	3.	9.	11.	6.	13.	18.	41.	36.	33.	
1963 PRECIP. (INCHES)	1.78	2.02	2.58	1.76	6.00	2.63	2.46	5.92	3.63	0.94	5.54	2.13	37.39
SR-90 (MC/SQ.MI.)	0.59	0.66	1.78	5.67	14.18	3.90	9.80	10.64	2.95	4.38	1.57	1.73	57.85
SR-90 CONC. (PC/L)	5.02	5.02	10.49	48.94	35.87	22.50	60.50	27.36	12.31	70.83	4.26	12.31	
SR-89/SR-90	43.	25.	17.	14.	5.4	*	1.	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.01	0.39	1.83	3.16	2.88	4.79	3.98	*	2.30	10.60	3.09	2.60	35.63
SR-90 (MC/SQ.MI.)	0.31	0.36	1.46	3.81	4.60	3.75	5.78	2.90	0.84	1.17	0.09	0.36	25.43
SR-90 CONC. (PC/L)	471.20	13.98	12.16	18.39	24.32	11.86	22.04	--	5.62	1.67	0.46	2.13	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	8.90	--	--	
1965 PRECIP. (INCHES)	2.71	0.02	1.91	5.84									E
SR-90 (MC/SQ.MI.)	0.73	0.06	0.05	1.53									E
SR-90 CONC. (PC/L)	4.10	45.60	0.46	3.95									
SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AUSTRIA, VIENNA

LAT. 48 15N LONG. 16 22E ALT. 664 FT. (COLUMN)

SOURCE: ZENTRALANSTALT FUR METEOROLOGIE UND GEODYNAMIK

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	--	--	0.78	5.07	2.73	2.34	*	1.95	1.56	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.45	1.58	0.79	0.59	0.03	0.22	0.11	E
SR-90 CONC. (PC/L)	--	--	--	--	--	8.82	4.71	4.41	3.80	--	1.67	1.06	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	27.	
1958 PRECIP. (INCHES)	1.17	2.34	2.73	0.78	0.78	5.85	1.95	3.90	0.78	2.73	1.17	2.73	26.91
SR-90 (MC/SQ.MI.)	0.16	0.27	0.35	0.71	0.69	3.13	1.07	1.84	0.02	0.76	0.48	1.23	10.71
SR-90 CONC. (PC/L)	2.13	1.82	1.98	13.83	13.38	8.21	8.36	7.14	0.46	4.26	5.23	5.34	
SR-89/SR-90	25.	14.	15.	18.	17.	1.	12.	20.	--	34.	42.	46.	
1959 PRECIP. (INCHES)	1.0	0.79	1.39	3.55	1.97	5.91	5.94	4.48	0.02	--	2.33	--	E
SR-90 (MC/SQ.MI.)	0.43	--	1.15	3.87	2.59	4.15	2.32	0.94	0.51	--	0.08	--	E
SR-90 CONC. (PC/L)	6.54	--	12.62	16.57	19.91	10.64	5.93	3.19	387.60	--	0.46	--	
SR-89/SR-90	33.	--	15.5	11.7	8.00	5.0	2.9	1.4	*	--	*	--	
1960 PRECIP. (INCHES)	1.85	0.33	1.60	0.97	2.13	3.11	3.43	2.79	1.97	2.51	0.71	1.07	22.47
SR-90 (MC/SQ.MI.)	0.02	0.12	0.37	0.22	--	--	0.10C	0.08C	0.10C	0.13C	--	--	E
SR-90 CONC. (PC/L)	0.15	5.47	3.50	3.50	--	--	0.46	0.46	0.76	0.76	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.35	2.68	1.40	2.55	3.31	1.89	3.26	1.11	0.88	2.31	--	2.05	E
SR-90 (MC/SQ.MI.)	0.05C	0.37C	*	*	0.32C	0.18C	0.13C	0.05C	0.07	0.47	--	0.18	E
SR-90 CONC. (PC/L)	2.13	2.13	0.00	0.00	1.52	1.52	0.61	0.76	1.22	3.04	--	1.37	
SR-89/SR-90	--	--	--	--	--	--	--	--	37.	62.	--	3.	
1962 PRECIP. (INCHES)	--	1.57	2.11	2.53	2.04	0.98	2.04	1.00	0.99	1.94	3.94	1.68	E
SR-90 (MC/SQ.MI.)	--	--	1.15	1.78	4.45	1.19	2.62	1.18	0.62	0.90	1.21	0.71	E
SR-90 CONC. (PC/L)	--	--	8.36	10.64	33.14	18.39	19.46	17.94	9.58	6.99	4.71	6.38	
SR-89/SR-90	--	--	18.	12.	8.	1.5	8.	5.	19.	32.	42.	46.	
1963 PRECIP. (INCHES)	1.56	0.87	1.87	1.12	2.75	2.08	0.42	3.35	1.91	0.96	1.19	0.23	18.31
SR-90 (MC/SQ.MI.)	8.44	0.27	2.09	3.32	6.80	6.73	2.22	4.97	1.57	0.63	0.90	0.79	38.73
SR-90 CONC. (PC/L)	82.23	4.71	17.02	44.99	37.54	49.25	80.41	22.50	12.46	10.03	11.55	52.14	
SR-89/SR-90	34.	24.	16.	14.	6.3	*	0.4	1.	0.7	1.2	*	*	
1964 PRECIP. (INCHES)	0.29	1.15	2.84	2.40	2.68	0.01	1.47	2.06	0.82	5.19	1.03	1.91	21.85
SR-90 (MC/SQ.MI.)	0.30	1.49	2.72	1.78	7.34	0.21	2.43	2.67	0.62	0.45	0.46	0.40	20.87
SR-90 CONC. (PC/L)	15.66	19.76	14.59	11.25	41.65	319.20	25.08	19.76	11.55	1.37	6.84	3.19	
SR-89/SR-90	0.7	*	*	3.00	--	--	--	--	--	1.80	--	--	
1965 PRECIP. (INCHES)	1.67	1.87	1.73	5.18									E
SR-90 (MC/SQ.MI.)	1.94	0.19	0.06	1.82									E
SR-90 CONC. (PC/L)	17.63	1.52	0.46	5.32									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: AZORES, LAJES FIELD

LAT. 38 44N LONG. 27 04W ALT. 366 FT. (COLUMN)

SOURCE: U.S. AIR WEATHER SERVICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	4.85	4.36	2.54	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.10	0.06	0.14	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	0.30	0.15	0.91	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	*	*	
1960	PRECIP. (INCHES)	8.42	10.75	3.23	--	--	1.48	0.42	3.03	1.79	2.30	7.15	1.78	E
	SR-90 (MC/SQ.MI.)	0.62	0.27	0.51	--	0.21C	0.21C	*	*	0.09C	0.12C	0.14C	0.03C	E
	SR-90 CONC. (PC/L)	1.06	0.46	2.43	--	--	2.13	0.00	0.00	0.76	0.76	0.30	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	4.78	5.86	6.16	3.62	1.41	1.79	0.06	2.25	2.54	4.00	5.14	13.60	51.21
	SR-90 (MC/SQ.MI.)	0.25C	0.31C	0.58C	0.34C	0.20C	0.26C	0.00C	0.16	0.09	0.32	1.19	2.20	5.90
	SR-90 CONC. (PC/L)	0.76	0.76	1.37	1.37	2.13	2.28	0.00	1.06	0.61	1.22	3.50	2.43	
	SR-89/SR-90	--	--	--	--	--	--	--	--	32.	70.	78.	64.	
1962	PRECIP. (INCHES)	2.66	0.92	10.45	2.99	4.74	1.53	1.90	1.79	2.76	5.74	1.58	5.34	42.40
	SR-90 (MC/SQ.MI.)	0.78	0.84	3.24	3.03	1.60	0.06	0.87	0.54	0.24	1.26	1.33	1.61	15.40
	SR-90 CONC. (PC/L)	4.41	13.83	4.71	15.35	5.17	0.61	6.99	4.56	1.37	3.34	12.77	4.56	
	SR-89/SR-90	41.	27.	19.	13.	9.	11.	7.	9.	10.	33.	44.	60.	
1963	PRECIP. (INCHES)	7.26	3.39	5.24	5.59	0.41	3.87	2.08	0.20	1.79	9.11	4.02	5.26	48.22
	SR-90 (MC/SQ.MI.)	4.51	1.84	5.08	0.05	3.28	3.52	2.38	1.11	2.14	1.92	2.59	0.06	23.48
	SR-90 CONC. (PC/L)	9.42	8.21	14.74	0.15	121.60	13.83	17.33	84.36	18.24	3.19	9.73	0.15	
	SR-89/SR-90	33.	24.	22.	13.	8.0	2.3	2.	*	0.6	4.6	*	1.9	
1964	PRECIP. (INCHES)	11.25	14.23	7.82	0.92	2.48	2.11	2.56	1.95	3.01	4.47	8.28	4.34	63.42
	SR-90 (MC/SQ.MI.)	4.58	6.37	3.49	1.44	2.66	3.55	2.17	1.35	0.53	0.95	1.78	0.99	29.86
	SR-90 CONC. (PC/L)	6.23	6.84	6.84	23.86	16.26	25.54	12.92	10.49	2.74	3.19	3.19	3.50	
	SR-89/SR-90	*	0.3	*	*	*	--	--	--	--	1.90	*	--	
1965	PRECIP. (INCHES)	6.28	8.50	5.07	0.87									E
	SR-90 (MC/SQ.MI.)	1.10	1.02	1.08	0.78									E
	SR-90 CONC. (PC/L)	2.74	1.82	3.19	13.68									
	SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BERMUDA, KINDLEY AFB

LAT. 32 22N LONG. 64 31W ALT. 25 FT. (COLUMN)

SOURCE: U.S. AIR WEATHER SERVICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	5.37	5.59	4.51	5.31	2.06	5.08	1.62	6.45	5.81	6.46	5.52	6.31	60.09
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.16	0.12	0.34	0.41	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.46	0.30	0.91	0.91	
	SR-89/SR-90	--	--	--	--	--	--	--	--	1.3	1.0	0.5	*	
1960	PRECIP. (INCHES)	3.99	--	4.06	1.19	7.22	4.17	4.46	3.87	9.98	8.04	2.00	11.73	E
	SR-90 (MC/SQ.MI.)	0.14	0.31	0.57	0.25	--	--	*	*	0.13C	0.11C	0.06C	0.32C	E
	SR-90 CONC. (PC/L)	0.61	--	2.13	3.19	--	--	0.00	0.00	0.15	0.15	0.46	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	4.30	2.71	1.71	6.64	8.73	6.00	3.34	4.20	2.65	5.31	6.79	3.32	55.70
	SR-90 (MC/SQ.MI.)	0.25C	0.15C	0.59C	0.15C	0.05C	0.04C	*	*	0.10	0.12	0.03	0.67	2.15
	SR-90 CONC. (PC/L)	0.91	0.91	5.32	0.30	0.15	0.15	0.00	0.00	0.61	0.30	0.00	3.04	
	SR-89/SR-90	--	--	--	--	--	--	--	--	47.	60.	43.	60.	
1962	PRECIP. (INCHES)	4.09	2.33	9.03	5.13	3.32	14.28	4.12	5.60	10.45	2.40	10.54	4.64	75.93
	SR-90 (MC/SQ.MI.)	1.03	1.08	7.01	2.77	2.18	1.12	0.28	0.90	1.24	1.26	2.09	2.77	23.73
	SR-90 CONC. (PC/L)	3.80	6.99	11.86	8.21	10.03	1.22	1.06	2.43	1.82	8.06	3.04	9.12	
	SR-89/SR-90	44.	34.	12.	13.	8.	13.	22.	9.	15.	35.	60.	49.	
1963	PRECIP. (INCHES)	5.35	8.57	3.38	2.12	5.09	2.95	4.72	10.54	4.13	11.36	6.24	4.54	68.99
	SR-90 (MC/SQ.MI.)	0.47	0.34	2.02	0.86	0.23	0.69	2.52	2.74	1.26	2.02	1.12	3.63	17.99
	SR-90 CONC. (PC/L)	1.37	0.61	9.12	6.23	0.76	3.50	8.06	3.95	4.71	2.74	2.74	12.16	
	SR-89/SR-90	30.	20.	23.	11.	7.2	*	5.	*	1.4	0.8	*	*	
1964	PRECIP. (INCHES)	6.57	5.58	1.91	0.79	3.33	4.31	1.68	8.05	10.82	5.18	5.35	3.39	56.96
	SR-90 (MC/SQ.MI.)	2.93	3.72	1.72	1.10	2.05	3.00	1.21	1.31	0.12	0.75	0.83	0.97	19.71
	SR-90 CONC. (PC/L)	6.84	10.18	13.68	21.13	9.42	10.64	10.94	2.43	0.15	2.13	2.43	4.41	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	6.90	*	--	
1965	PRECIP. (INCHES)	3.10	2.49	5.07	3.14									E
	SR-90 (MC/SQ.MI.)	1.29	1.05	1.08	1.79									E
	SR-90 CONC. (PC/L)	6.38	6.38	3.19	8.66									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: BOLIVIA, CHACALTAYA LAT. 16 21S LONG. 68 08W ALT. 17122 FT. (COLUMN)

SOURCE: UNIVERSIDAD MAYOR DE SAN ANDRES, LABORATORIO DE FISICA COSMICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	--	--	--	--	1.55	3.55C	3.55C	0.57A	2.23	1.00	2.02	3.54	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	0.08	0.32C	0.32C	0.14A	0.22	0.12	0.15	0.19	E
	SR-90 CONC. (PC/L)	--	--	--	--	0.76	1.37	1.37	3.80	1.52	1.82	1.06	0.76	
	SR-89/SR-90	--	--	--	--	0.4	--	--	--	*	*	*	--	
1964	PRECIP. (INCHES)	3.77	2.62	5.33	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.12	0.08	0.08	0.04	0.06	0.11	0.04	0.03	0.19	0.08	0.36	0.13	1.32
	SR-90 CONC. (PC/L)	0.46	0.46	0.30	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	*	*	*	1.20	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	--	--	2.45	--									E
	SR-90 (MC/SQ.MI.)	0.21	0.15	0.04	0.06									E
	SR-90 CONC. (PC/L)	--	--	0.30	--									
	SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BOLIVIA, LA PAZ (OVEJUYO) LAT. 16 32S LONG. 68 04W ALT. 11218 FT. (COLUMN)

SOURCE: UNIVERSIDAD MAYOR DE SAN ANDRES, LABORATORIO DE FISICA COSMICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1960	PRECIP. (INCHES)	--	--	--	1.31	0.32	*	*	0.39	0.29	1.12	4.33	2.36	E
	SR-90 (MC/SQ.MI.)	--	--	--	0.17	0.12	*	*	*	*	*	0.10C	0.05C	E
	SR-90 CONC. (PC/L)	--	--	--	1.98	5.78	--	--	0.00	0.00	0.00	0.30	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	3.54	--	1.57	1.18	0.79	*	*	0.39	1.18	0.39	--	--	E
	SR-90 (MC/SQ.MI.)	*	*	0.06C	0.05C	0.11C	0.00C	*	*	*	0.08	0.08	0.04	0.42
	SR-90 CONC. (PC/L)	0.00	--	0.61	0.61	2.13	--	--	0.00	0.00	3.19	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	6.	6.0	*	
1962	PRECIP. (INCHES)	3.54	2.76	3.94	0.79	--	--	--	--	0.79	1.18	1.18	--	E
	SR-90 (MC/SQ.MI.)	0.87	0.04	0.03	0.06	0.16	--	--	--	0.56	0.13	0.09	0.19	E
	SR-90 CONC. (PC/L)	3.80	0.15	0.15	1.22	--	--	--	--	10.79	1.67	1.22	--	
	SR-89/SR-90	*	7.	14.	*	45.	--	--	--	--	21.	20.	19.	
1963	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	2.69	--	--	E
	SR-90 (MC/SQ.MI.)	0.22	0.02	0.07	0.03	0.05	0.07	0.02	0.17	0.30	0.12	0.13	0.13	1.33
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	0.61	--	--	
	SR-89/SR-90	9.0	*	9.0	*	*	*	*	1.	*	*	1.0	*	
1964	PRECIP. (INCHES)	11.58	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.09	0.07	0.08	0.08	0.07	0.03	0.17	0.08	0.17	0.27	0.37	0.26	1.74
	SR-90 CONC. (PC/L)	0.15	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	--	--	2.77	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.30	0.05	0.14	0.06	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	0.76	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BOLIVIA, LA PAZ (CITY) LAT. 16 30S LONG. 68 07W ALT. 11502 FT. (COLUMN)

SOURCE: UNIVERSIDAD MAYOR DE SAN ANDRES, LABORATORIO DE FISICA COSMICA

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1964 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	0.06	0.06	0.02	0.08	0.08	0.17	0.36	0.22	0.22	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	0.04	2.40	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	--	--	4.52	--									E
SR-90 (MC/SQ.MI.)	0.20	0.09	0.19	0.05									E
SR-90 CONC. (PC/L)	--	--	0.61	--									
SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, BELEM

LAT. 01 27S LONG. 48 29W ALT. 25 FT. (COLUMN)

SOURCE: UNITED STATES CONSULATE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	6.89A	11.37A	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	0.04A	0.07A	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	0.15	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	*	*	
1960	PRECIP. (INCHES)	7.64A	10.39A	14.17A	9.72A	5.90A	8.12A	2.76A	0.79A	2.36A	3.88A	4.12A	17.22A	87.07
	SR-90 (MC/SQ.MI.)	0.04A	0.39A	0.26A	0.03A	*	*	*	*	0.05A	0.05A	0.01A	0.01A	0.84
	SR-90 CONC. (PC/L)	0.15	0.61	0.30	0.00	0.00	0.00	0.00	0.00	0.30	0.15	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	14.17A	15.20A	34.55A	1.40A	8.09A	4.99A	5.83A	7.68A	4.70A	3.15A	7.10A	7.91A	114.77
	SR-90 (MC/SQ.MI.)	--	--	0.33A	0.01A	0.01A	0.01A	*	*	0.07A	0.03A	0.14A	0.23A	E
	SR-90 CONC. (PC/L)	--	--	0.15	0.15	0.00	0.00	0.00	0.00	0.15	0.15	0.30	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	1.50A	11.00A	63.00A	46.00A	
1962	PRECIP. (INCHES)	12.50A	15.00A	15.30A	17.30A	11.40A	4.50A	4.90A	2.50A	3.10A	5.10	5.50	5.00	102.10
	SR-90 (MC/SQ.MI.)	8.00A	--	0.23A	5.64A	0.12A	0.12A	0.07A	0.07A	0.10A	--	0.13	0.27	E
	SR-90 CONC. (PC/L)	9.73	--	0.30	5.02	0.15	0.46	0.15	0.46	0.46	--	0.30	0.76	
	SR-89/SR-90	3.90A	--	13.00A	3.00A	--	--	--	--	15.00A	--	33.00	45.00	
1963	PRECIP. (INCHES)	9.36A	9.36A	22.57	20.80	8.30	10.1	2.7	4.10	1.70	7.2	4.51	15.63	116.33
	SR-90 (MC/SQ.MI.)	0.12A	0.12A	0.45	0.07	0.13	0.32	0.14	0.22	0.21	0.23	0.03	0.24	2.28
	SR-90 CONC. (PC/L)	0.15	0.15	0.30	0.00	0.30	0.46	0.76	0.76	1.82	0.46	0.15	0.30	
	SR-89/SR-90	--	--	13.	11.	7.1	1.6	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	19.15	20.45	23.75	9.35	20.20	3.80	2.44	3.78	6.33	3.19	2.31	6.32	121.07
	SR-90 (MC/SQ.MI.)	0.47	2.43	0.17	0.46	0.92	0.23	0.25	0.15	0.21	0.19	0.06	0.03	5.57
	SR-90 CONC. (PC/L)	0.30	1.82	0.15	0.76	0.76	0.91	1.52	0.61	0.46	0.91	0.46	0.00	
	SR-89/SR-90	*	*	*	0.58	*	--	--	--	--	--	*	--	
1965	PRECIP. (INCHES)	11.95	10.80	18.23	17.49									E
	SR-90 (MC/SQ.MI.)	0.33	0.37	0.22	0.45									E
	SR-90 CONC. (PC/L)	0.46	0.46	0.15	0.46									
	SR-89/SR-90	--	--	--	--									

NOTES

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C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, BRASILIA

LAT. 15 52S LONG. 47 56W ALT. 3450 FT. (POT)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	1.18	3.55	4.73	1.58	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	*	0.08	0.01	0.02	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.00	0.30	0.00	0.15	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1960 PRECIP. (INCHES)	--	--	--	--	--	--	--	0.04	*	0.87	2.09	2.52	E
SR-90 (MC/SQ.MI.)	0.01	0.03	0.02	--	--	--	--	--	0.00C	0.08C	0.03C	0.03C	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	1.37	0.15	0.15	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	12.92	6.78	2.44	1.54	3.94	*	*	0.04	*	1.89	5.28	13.75	48.58
SR-90 (MC/SQ.MI.)	0.01C	0.01C	0.03	--	*	0.00C	0.00C	0.00C	0.00C	0.04C	0.07	0.10	E
SR-90 CONC. (PC/L)	0.00	0.00	0.15	--	0.00	--	--	0.00	--	0.30	0.15	0.15	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	*	*	
1962 PRECIP. (INCHES)	9.46	6.62	11.78	3.70	0.08	*	*	0.04	3.35	8.35	11.82	8.98	64.18
SR-90 (MC/SQ.MI.)	0.03	0.06	0.05	0.07C	0.00C	0.00C	0.00C	0.05	0.09	0.10	0.04	0.04	0.53
SR-90 CONC. (PC/L)	0.00	0.15	0.00	0.30	0.00	--	--	19.00	0.46	0.15	0.00	0.00	
SR-89/SR-90	*	*	*	--	--	--	--	34.	10.	9.	15.	11.	
1963 PRECIP. (INCHES)	4.22	9.85	0.55	5.20	0.04	*	*	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.08	0.10	0.10	0.67	0.04	0.04	0.03	0.02	--	0.05	0.04	0.04	E
SR-90 CONC. (PC/L)	0.30	0.15	2.74	1.98	15.20	--	--	--	--	--	--	--	
SR-89/SR-90	11.	17.	--	22.	*	*	--	*	--	*	*	2.2	
1964 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.06	*	*	*	*	*	*	*	*	*	*	*	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	*	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, ITAICI SAO PAULO

LAT. 23 06S LONG. 47 11W ALT. 2190 FT. (POT)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1958	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.26	--	0.50	0.36	0.25	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	62.	--	33.	71.	13.	
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.11	--	0.13	0.04	--	*	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	--	*	*	--	*	--	--	--	--	--	--	
1960	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.01C	0.01C	0.10C	0.10C	0.18C	0.18C	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.09C	0.09C	0.12C	0.12C	0.02C	0.02C	0.04	--	0.07	0.14	0.19	0.28	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.08	0.07	0.10	0.03	0.06	0.02	0.14	0.16	0.21	0.23	0.07	0.16	1.33
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	*	*	*	88.	*	47.	22.	29.	15.	21.	17.	
1963	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.15	0.03	0.09	0.12	0.06	0.05	0.04	0.09	0.09	0.44	0.35	0.20C	1.71
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	5.7	*	6.	*	7.2	2.1	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.20C	0.29	0.06C	0.06C	0.06C	0.13	0.30	0.60	0.68	0.32	0.07	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	*	*	*	*	--	*	--	--	--	--	--	

NOTES

--: DATA NOT AVAILABLE

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B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, MANAUS

LAT. 03 02S LONG. 60 01W ALT. 95 FT. (POT)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	85.14	8.70	10.16	7.40	4.79	4.28	1.29	2.26	1.60	0.40	8.40	5.94	140.36
	SR-90 (MC/SQ.MI.)	0.31	0.68	0.61	0.06	0.13	0.03	0.08	0.04	*	0.08	--	--	E
	SR-90 CONC. (PC/L)	0.15	1.22	0.91	0.15	0.46	0.15	0.91	0.30	0.00	3.04	--	--	
	SR-89/SR-90	1.7	41.	--	--	--	--	--	--	--	--	--	--	
1960	PRECIP. (INCHES)	*	7.52	9.02	16.15	4.67	6.87	2.68	2.33	3.17	8.90	9.45	11.80	82.56
	SR-90 (MC/SQ.MI.)	--	--	--	0.51	--	--	0.02	--	--	--	0.04C	0.05C	E
	SR-90 CONC. (PC/L)	--	--	--	0.46	--	--	0.15	--	--	--	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	11.52	13.09	9.44	13.90	12.90	4.02	1.31	0.27	2.04	4.85	5.78	13.79	92.91
	SR-90 (MC/SQ.MI.)	0.07C	0.09C	0.22	0.08C	0.08C	--	*	--	0.03C	0.08C	1.31	0.33	E
	SR-90 CONC. (PC/L)	0.15	0.15	0.30	0.15	0.15	--	0.00	--	0.15	0.30	3.50	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	0.00C	0.00C	49.	50.	
1962	PRECIP. (INCHES)	16.02	15.78	11.88	11.78	10.26	4.08A	3.40A	1.62A	0.51A	4.92A	7.38A	3.86A	91.49
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.08A	0.18A	0.12A	0.03A	0.02A	0.08A	0.16A	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	0.30	0.76	1.06	0.91	0.00	0.15	0.61	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1963	PRECIP. (INCHES)	9.00A	6.88A	8.22A	11.10A	11.82A	8.08A	4.57A	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.66A	0.70A	0.51A	0.31A	0.52A	0.18A	0.15A	0.14A	--	--	--	--	E
	SR-90 CONC. (PC/L)	1.06	1.52	0.91	0.46	0.61	0.30	0.46	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1964	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	0.13A	0.58A	0.15	0.24	0.11	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	*	--	--	--	*	--	--	--	--	

NOTES

- : DATA NOT AVAILABLE
- *: ZERO OR TRACE
- A: APPROXIMATE
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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, NOVA FRIBURGO

LAT. 22 17S LONG. 42 32W ALT. 2800 FT. (POT)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1958	PRECIP. (INCHES)	4.32	4.96	4.86	4.81	2.73	0.83	2.36	0.11	7.17	4.36	15.05	7.92	59.50
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.14	0.48	0.83	--	0.37	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	19.30	1.06	2.89	--	0.76	
	SR-89/SR-90	--	--	--	--	--	--	--	21.	65.	16.	--	18.	
1959	PRECIP. (INCHES)	8.54	3.91	2.97	0.39	0.76	*	0.52	4.52	0.12	2.53	14.53	--	E
	SR-90 (MC/SQ.MI.)	0.20	0.21	0.17	0.01	--	0.04	0.03	0.15	*	0.11	0.29	--	E
	SR-90 CONC. (PC/L)	0.30	0.76	0.91	0.46	--	--	0.91	0.46	0.00	0.61	0.30	--	
	SR-89/SR-90	13.	9.8	3.8	*	--	1.7	*	2.1	*	*	*	--	
1960	PRECIP. (INCHES)	11.49	15.71	26.05	7.65	0.47	5.91	0.35	1.05	0.36	--	14.19	11.87	E
	SR-90 (MC/SQ.MI.)	0.010	0.020	0.13	*	0.000	0.040	0.070	0.190	0.120	0.120	0.37	--	E
	SR-90 CONC. (PC/L)	0.00	0.00	0.00	0.00	0.00	0.15	3.04	2.74	5.07	--	0.46	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	15.46	9.61	8.59	3.12	2.57	1.60	0.32	0.04	0.27	1.37	7.41	5.10	55.46
	SR-90 (MC/SQ.MI.)	0.170	0.090	0.120	0.040	0.050	0.040	0.120	0.010	*	*	0.46	0.28	1.35
	SR-90 CONC. (PC/L)	0.15	0.15	0.15	0.15	0.30	0.46	5.78	3.30	0.00	0.00	0.91	0.76	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	10.7	8.9	2.77	3.96	1.9	0.1	1.1	0.51	2.03	7.0	9.47	6.26	55.70
	SR-90 (MC/SQ.MI.)	0.26	0.16	0.11	0.10	0.20	0.04	0.16	0.12	0.20	0.25	0.03	0.03	1.60
	SR-90 CONC. (PC/L)	0.30	0.30	0.61	0.46	1.67	6.08	2.28	3.65	1.52	0.46	0.00	0.00	
	SR-89/SR-90	*	3.	12.	*	79.	57.	41.	17.	23.	18.	14.	*	
1963	PRECIP. (INCHES)	--	4.38	4.47	1.08	0.52	0.11	--	0.24	--	2.41	5.98	--	E
	SR-90 (MC/SQ.MI.)	--	0.25	3.81	0.06	0.04	0.06	0.04	0.13	0.05	0.27	0.16	--	E
	SR-90 CONC. (PC/L)	--	0.91	12.92	0.91	1.22	8.36	--	8.21	--	1.67	0.46	--	
	SR-89/SR-90	--	8.	--	3.	*	*	*	*	*	*	*	--	
1964	PRECIP. (INCHES)	--	--	7.01	9.37	4.92	0.90	4.73	2.59	3.85	21.26	18.54	43.18	E
	SR-90 (MC/SQ.MI.)	--	--	0.19	0.16	0.12	2.45	0.34	0.16	0.37	0.60	0.61	0.35	E
	SR-90 CONC. (PC/L)	--	--	0.46	0.30	0.30	41.34	1.06	0.91	1.52	7.30 ^{3.46}	1.06 ^{0.46}	0.15	
	SR-89/SR-90	--	--	*	*	*	--	--	--	--	*	*	--	

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, RECIFE

LAT. 08 02S LONG. 34 58W ALT. 10 FT. (COLUMN)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	1.02	5.36	1.69	8.20	11.94	20.49	10.20	3.27	3.55	0.28	1.26	0.32	67.58
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.13	0.04	0.07	0.03	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.61	2.13	0.91	1.37	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1960	PRECIP. (INCHES)	2.56	0.51	19.31	9.22	10.84	11.50	9.22	6.38	2.32	1.58	0.39	2.24	76.07
	SR-90 (MC/SQ.MI.)	0.06	0.04	0.55	0.12	0.56	--	0.22	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	0.30	1.22	0.46	0.15	0.76	--	0.30	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	11.94	2.48	13.95	14.46	10.87	8.63	8.16	1.10	3.98	1.81	0.08	0.47	77.93
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1962	PRECIP. (INCHES)	0.35	3.41	5.16	5.59	5.28	18.24	6.78	2.96	4.14	0.83	0.20	2.40	55.34
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.49	0.33	0.27	0.21	0.11	0.05	0.18	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	0.46	0.76	1.37	0.76	1.98	3.80	1.22	
	SR-89/SR-90	--	--	--	--	--	40.	31.	38.	18.	23.	46.	22.	
1963	PRECIP. (INCHES)	0.75	6.82	13.67	9.50	4.73	4.88	--	--	--	--	--	3.14	E
	SR-90 (MC/SQ.MI.)	0.16	0.13	0.31	0.08	0.13	0.18	--	--	--	--	--	0.18	E
	SR-90 CONC. (PC/L)	3.19	0.30	0.30	0.15	0.46	0.61	--	--	--	--	--	0.91	
	SR-89/SR-90	11.	8.	10.	*	*	1.	--	--	--	--	--	*	

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, RIO DE JANEIRO

LAT. 22 54S LONG. 43 13W ALT. 30 FT. (COLUMN)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960 PRECIP. (INCHES)	--	--	--	2.94	8.96	5.95	2.71	4.95	3.35	1.05	5.06	6.76	E
SR-90 (MC/SQ.MI.)	--	--	--	0.01	0.11C	0.07C	0.01C	0.02C	0.03C	0.01C	--	--	E
SR-90 CONC. (PC/L)	--	--	--	0.00	0.15	0.15	0.00	0.00	0.15	0.15	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	6.88	3.70	5.01	6.80	5.73	8.01	3.15	0.39	1.32	0.22	4.61	6.81	52.63
SR-90 (MC/SQ.MI.)	0.16C	0.08C	0.22C	0.30C	0.07C	0.10C	0.27C	0.03C	0.16	0.06	0.16	0.36	1.97
SR-90 CONC. (PC/L)	0.30	0.30	0.61	0.61	0.15	0.15	1.37	1.22	1.82	4.10	0.46	0.76	
SR-89/SR-90	--	--	--	--	--	--	--	--	3.3	21.	*	*	
1962 PRECIP. (INCHES)	18.50	12.78	0.72	1.52	5.68	3.42	3.70	2.40	6.26	9.73	7.25	4.92	76.88
SR-90 (MC/SQ.MI.)	0.48	0.28	0.05	0.11	0.50	0.24	0.50	0.22	0.58	1.10	0.88	0.74	5.68
SR-90 CONC. (PC/L)	0.46	0.30	1.06	1.06	1.37	1.06	2.13	1.37	1.37	1.67	1.82	2.28	
SR-89/SR-90	1.04	4.0	7.	*	42.	30.	21.	18.	13.	11.	10.	5.8	
1963 PRECIP. (INCHES)	0.60	6.21	3.78	2.57	3.25	1.61	1.69	1.57	0.43	5.28	3.89	2.63	33.51
SR-90 (MC/SQ.MI.)	0.24	0.40	0.12	0.14	0.33	0.33	0.12	0.23	0.08	0.72	0.35	0.16	3.22
SR-90 CONC. (PC/L)	6.08	0.91	0.46	0.76	1.52	3.04	1.06	2.28	2.89	2.13	1.37	0.91	
SR-89/SR-90	10.	6.	6.	3.	--	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.92	10.22	6.50	3.56	3.65	5.57	4.41	3.28	4.34	9.69	7.30	10.85	70.29
SR-90 (MC/SQ.MI.)	0.22	0.29	0.52	0.25	0.40	0.94	0.90	0.98	1.12	0.35	0.76	1.46	8.19
SR-90 CONC. (PC/L)	3.65	0.46	1.22	1.06	1.67	2.58	3.04	4.56	3.95	0.61	1.52	1.98	
SR-89/SR-90	*	*	*	2.4	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	6.73	12.42											E
SR-90 (MC/SQ.MI.)	0.79	0.62											E
SR-90 CONC. (PC/L)	1.82	0.76											
SR-89/SR-90	--	--											

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, S.JOSE DOS CAMPOS LAT. 23 14S LONG. 45 51W ALT. 2109 FT. (POT)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958	PRECIP. (INCHES)	9.34	6.76	4.46	3.65	5.12	2.14	0.76	0.47	3.64	4.07	4.31	8.30	53.02
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.12	--	--	0.62	0.48	0.32	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	2.43	--	--	2.28	1.67	0.61	
	SR-89/SR-90	--	--	--	--	--	--	78.	--	--	42.	20.	15.	
1959	PRECIP. (INCHES)	7.74	3.98	5.03	2.00	0.52	*	*	2.07	1.32	1.53	5.00	7.27	36.46
	SR-90 (MC/SQ.MI.)	0.18	0.21	0.20	0.05	0.06	0.03	*	--	0.07	0.12	0.21	0.21	E
	SR-90 CONC. (PC/L)	0.30	0.76	0.61	0.46	1.82	--	--	0.76	1.22	0.61	0.61	0.46	
	SR-89/SR-90	14.	5.0	*	5.9	3.2	*	*	--	*	*	*	*	
1960	PRECIP. (INCHES)	6.27	13.04	5.39	1.17	3.61	2.38	0.09	0.98	1.17	4.62	4.70	14.14	57.56
	SR-90 (MC/SQ.MI.)	--	0.04	0.08	0.04	0.12	--	--	0.03	0.07C	0.26C	--	--	E
	SR-90 CONC. (PC/L)	--	0.00	0.15	0.46	0.46	--	--	0.46	0.91	0.91	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	6.21	7.87	5.37	1.95	0.89	0.96	0.08	0.58	0.18	3.22	4.13	4.46	35.90
	SR-90 (MC/SQ.MI.)	0.12C	0.16C	0.12C	0.04C	0.02C	0.02C	0.01	0.06C	0.08	0.16	0.20	0.35	1.34
	SR-90 CONC. (PC/L)	0.30	0.30	0.30	0.30	0.30	0.30	1.98	1.52	6.69	0.76	0.76	1.22	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	6.69	7.86	8.28	0.74	0.80	0.33	1.11	1.69	3.99	6.05	1.02	6.01	44.57
	SR-90 (MC/SQ.MI.)	0.12	0.03	0.04	0.05	0.03	0.02	0.20	0.12	--	0.18	0.14	0.06	E
	SR-90 CONC. (PC/L)	0.30	0.00	0.00	1.06	0.61	0.91	2.74	1.06	--	0.46	2.13	0.15	
	SR-89/SR-90	*	*	*	13.	56.	108	50.	39.	--	14.	19.	5.4	
1963	PRECIP. (INCHES)	3.48	7.90	5.61	0.26	0.28	0.29	*	0.12	0.39	5.70	4.16	2.79	30.98
	SR-90 (MC/SQ.MI.)	0.16	0.05	0.05	0.63	0.04	0.23	1.94	0.12	0.21	0.12	0.65	0.33	4.53
	SR-90 CONC. (PC/L)	0.76	0.15	0.15	36.78	2.13	12.01	--	15.20	8.21	0.30	2.43	1.82	
	SR-89/SR-90	7.9	10.	*	*	8.7	*	*	*	--	8.50	5.50	3.00	
1964	PRECIP. (INCHES)	4.94	8.38	2.55	1.84	2.64	1.67	1.88	1.13	1.18	3.74	2.71	7.79	40.45
	SR-90 (MC/SQ.MI.)	0.19	0.06	0.18	0.16	0.11	0.12	0.25	0.87	0.14	0.19	0.10	--	E
	SR-90 CONC. (PC/L)	0.61	0.15	1.06	1.37	0.61	1.06	1.98	11.70	1.82	0.76	0.61	--	
	SR-89/SR-90	1.40	2.00	*	*	*	--	--	--	--	--	--	--	

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, SAO LEOPOLDO

LAT. 29 45S LONG. 51 11W ALT. 115 FT. (POT)

SOURCE: INSTITUTO DE FISICA, PONTIFICIA UNIVERSIDADE CATOLICA

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.25	0.30	0.08	0.05	0.20	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	*	*	2.4	*	2.2	
1960 PRECIP. (INCHES)	--	--	--	0.87	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.12	0.12	0.24	0.15	0.40C	0.40C	0.39C	0.39C	0.20C	0.20C	0.21C	0.21C	3.03
SR-90 CONC. (PC/L)	--	--	--	2.58	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.14C	0.14C	0.11C	0.11C	0.15C	0.15C	--	0.12	*	0.54	0.50	0.29	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.21	0.16	0.14	0.05	0.15	0.20	0.13	0.41	0.45	0.23	0.33	0.18	2.64
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	*	*	*	*	106.	38.	50.	19.	16.	11.	105.	14.	
1963 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	1.46	E
SR-90 (MC/SQ.MI.)	0.18	--	--	0.33	0.04	0.11	0.33	1.46	0.79	0.50	0.64	0.21	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	2.13	
SR-89/SR-90	6.0	--	--	*	8.4	*	1.0	*	*	*	*	*	
1964 PRECIP. (INCHES)	1.22	5.70	4.23	2.52	2.36	2.52	5.04	5.94	4.06	--	--	5.77	E
SR-90 (MC/SQ.MI.)	--	0.26	0.19	0.23	0.12	0.31	0.63	1.15	0.23	--	--	0.36	E
SR-90 CONC. (PC/L)	--	0.76	0.61	1.37	0.76	1.82	1.98	2.89	0.91	--	--	0.91	
SR-89/SR-90	--	*	*	*	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	2.15	3.05											E
SR-90 (MC/SQ.MI.)	0.64	0.24											E
SR-90 CONC. (PC/L)	4.56	1.22											
SR-89/SR-90	--	--											

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: BRAZIL, TRINIDADE ISL.

LAT. 20 31S LONG. 29 20W ALT. 300 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY, RIO DE JANEIRO

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1962 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	0.23	0.05	0.14	0.26	0.28	0.27	0.18	0.25	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	3.	112.	15.	11.	13.	6.	10.	7.	
1963 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.14	0.26	0.29	0.14	0.27	0.42	0.22	1.15	0.14	0.84C	0.84C	0.07	4.78
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	5.	6.3	10.	--	*	*	*	*	*	--	--	*	
1964 PRECIP. (INCHES)	--	--	--	1.25	0.39	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.32	0.19	0.22	0.03	0.21	1.53	0.42	0.50	0.74	0.60	0.68	--	E
SR-90 CONC. (PC/L)	--	--	--	0.30	8.21	--	--	--	--	--	--	--	
SR-89/SR-90	*	*	*	12.80	*	--	--	--	--	*	*	--	

NOTES

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C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: CANADA, ONTARIO, MOOSONEE LAT. 51 16N LONG. 80 89W ALT. 33 FT. (COLUMN)

SOURCE: METEOROLOGICAL BRANCH, DEPARTMENT OF TRANSPORT, TORONTO, ONTARIO

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	--	--	0.93	1.44	3.42	2.18	2.01	1.68	2.26	1.11	3.29	0.68	E
	SR-90 (MC/SQ.MI.)	--	--	0.75	3.78	8.02	9.19	5.67	4.66	1.82	1.34	0.37	0.17	E
	SR-90 CONC. (PC/L)	--	--	12.31	39.98	35.72	64.14	42.86	42.10	12.31	18.39	1.67	3.80	
	SR-89/SR-90	--	--	19.	12.	6.5	3.1	3.	*	*	0.8	*	*	
1964	PRECIP. (INCHES)	2.5	1.44	1.30	1.55	3.73	4.36	1.72	6.83	3.41	2.23	3.16	1.52	33.75
	SR-90 (MC/SQ.MI.)	1.12	0.35	0.26	2.75	6.58	8.10	3.01	3.54	1.19	0.67	0.40	0.16	28.13
	SR-90 CONC. (PC/L)	6.84	3.65	3.04	26.90	26.75	28.27	26.60	7.90	5.32	4.56	1.98	1.67	
	SR-89/SR-90	*	0.3	*	*	*	--	--	--	--	2.40	*	--	
1965	PRECIP. (INCHES)	1.80	1.39	0.26	--									E
	SR-90 (MC/SQ.MI.)	0.06	0.08	0.02	0.41									E
	SR-90 CONC. (PC/L)	0.46	0.91	1.22	--									
	SR-89/SR-90	--	--	--	*									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CANADA, NEWFOUNDLAND

LAT. 48 32N LONG. 58 34W ALT. 86 FT. (COLUMN)

SOURCE: ERNST HARMON AIR BASE, U. S. AIR WEATHER SERVICE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	9.30	5.58	6.42	0.62	1.79	1.82	2.83	3.66	3.23	4.05	--	2.40	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.39	0.19	--	0.33	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	1.67	0.91	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	0.16	--	--	--	--	
1960 PRECIP. (INCHES)	7.15	1.02	2.01	2.33	1.52	2.78	3.02	1.30	3.10	4.76	4.21	4.54	37.74
SR-90 (MC/SQ.MI.)	0.09	0.40	0.17	0.54	0.28C	0.51C	0.25C	0.11C	0.06C	0.09C	*	*	2.50
SR-90 CONC. (PC/L)	0.15	5.93	1.22	3.50	2.74	2.74	1.22	1.22	0.30	0.30	0.00	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	8.54	2.99	4.10	0.46	1.17	3.10	5.17	3.08	2.14	6.44	3.37	4.53	45.09
SR-90 (MC/SQ.MI.)	0.29C	0.10C	0.88C	0.10C	0.37C	0.96C	--	--	--	0.51	0.54	0.36	E
SR-90 CONC. (PC/L)	0.46	0.46	3.19	3.34	4.86	4.71	--	--	--	1.22	2.43	1.22	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	80.	100.	66.	
1962 PRECIP. (INCHES)	9.67	13.36	1.97	4.37	3.59	4.11	3.24	4.37	2.78	3.24	3.76	4.74	59.20
SR-90 (MC/SQ.MI.)	0.86	0.59	0.45	2.15	2.43	3.86	2.20	3.47	1.05	0.11	1.86	0.69	19.72
SR-90 CONC. (PC/L)	1.37	0.61	3.50	7.45	10.34	14.29	10.34	12.01	5.78	0.46	7.45	2.28	
SR-89/SR-90	44.	35.	18.	6.	9.	9.	6.	4.	30.	15.	42.	50.	
1963 PRECIP. (INCHES)	3.55	3.02	1.17	1.07	3.12	2.96	3.15	5.54	4.13	1.98	6.35	5.54	41.58
SR-90 (MC/SQ.MI.)	0.86	0.22	0.73	1.66	10.27	7.25	6.42	5.98	3.49	2.04	0.21	0.24	39.37
SR-90 CONC. (PC/L)	3.65	1.06	9.42	23.56	50.01	37.24	31.01	16.42	12.92	15.66	0.46	0.61	
SR-89/SR-90	28.	24.	18.	6.	6.1	*	2.	1.	0.8	0.5	*	*	
1964 PRECIP. (INCHES)	3.83	3.98	2.92	5.12	1.25	4.67	4.77	2.93	3.38	3.73	2.48	3.61	42.67
SR-90 (MC/SQ.MI.)	0.12	0.97	0.89	3.28	4.32	5.74	4.44	1.73	0.97	0.86	0.44	0.37	24.13
SR-90 CONC. (PC/L)	0.46	3.65	4.56	9.73	52.59	18.70	14.14	8.97	4.41	3.50	2.74	1.52	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	8.10	*	--	
1965 PRECIP. (INCHES)	4.71	0.70	3.07	1.76									E
SR-90 (MC/SQ.MI.)	0.30	0.11	0.11	0.22									E
SR-90 CONC. (PC/L)	0.91	2.43	0.61	1.98									
SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CANADA, NEWFOUNDLAND

LAT. 53 19N LONG. 60 25W ALT. 176 FT. (COLUMN)

SOURCE: GOOSE AIR BASE, U. S. AIR WEATHER SERVICE
COLLECTIONS TERMINATED IN MARCH 1964

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	2.29	1.46	3.11	1.23	2.47	2.26	2.90	2.41	2.11	2.76	3.55	2.36	28.91
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.13	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	0.91	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1960	PRECIP. (INCHES)	4.33	1.40	2.00	4.83	1.71	3.55	5.27	3.26	4.35	2.82	2.19	1.90	37.61
	SR-90 (MC/SQ.MI.)	0.03	0.17	0.29	0.19	0.12C	0.26C	*	*	0.10C	0.06C	0.04C	0.03C	1.29
	SR-90 CONC. (PC/L)	0.15	1.82	2.28	0.61	1.06	1.06	0.00	0.00	0.30	0.30	0.30	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.88	0.51	1.47	0.79	5.12	3.15	6.37	2.68	3.15	4.98	2.09	1.89	35.08
	SR-90 (MC/SQ.MI.)	0.07C	0.01C	0.07	--	--	--	--	--	0.50	0.25	--	--	E
	SR-90 CONC. (PC/L)	0.30	0.30	0.76	--	--	--	--	--	2.43	0.76	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	70.	--	--	
1962	PRECIP. (INCHES)	1.94	1.98	2.91	2.43	2.51	2.67	3.66	2.09	2.60	2.97	4.55	2.82C	33.13
	SR-90 (MC/SQ.MI.)	0.13	0.36	0.76	0.05	2.49	2.82	2.79	1.40	--	--	0.54	0.48C	E
	SR-90 CONC. (PC/L)	1.06	2.74	3.95	0.30	15.05	16.11	11.55	10.18	--	--	1.82	2.58	
	SR-89/SR-90	40.	27.	21.	16.	9.	11.	6.	12.	--	--	37.	--	
1963	PRECIP. (INCHES)	2.82C	3.16	2.73	1.22	1.95	6.37	8.12	2.99	4.33	2.45	3.07	3.96	43.17
	SR-90 (MC/SQ.MI.)	0.48C	0.31	0.70	1.27	3.91	16.3	9.66	3.42	2.93	0.97	0.75	0.54	41.24
	SR-90 CONC. (PC/L)	2.58	1.52	3.95	15.81	30.55	38.91	18.09	17.33	10.34	6.08	3.65	2.13	
	SR-89/SR-90	--	22.	14.	12.	13.1	*	2.	1.	1.4	0.9	*	*	
1964	PRECIP. (INCHES)	1.54	3.47											E
	SR-90 (MC/SQ.MI.)	0.13	0.36											E
	SR-90 CONC. (PC/L)	1.22	1.52											
	SR-89/SR-90	*	0.3											

NOTES

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CANTON ISLAND

LAT. 02 46S LONG. 171 43W ALT. 8 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	10.08	8.01	3.00	3.45	1.15	0.43	1.01	0.89	--	0.20	0.86	0.13	E
	SR-90 (MC/SQ.MI.)	--	0.41	--	0.05	*	0.02	0.02	0.01	*	--	0.01	0.10	E
	SR-90 CONC. (PC/L)	--	0.76	--	0.15	0.00	0.76	0.30	0.15	--	--	0.15	11.70	
	SR-89/SR-90	--	11.	--	4.2	*	*	*	*	*	--	*	--	
1960	PRECIP. (INCHES)	0.42	4.47	0.74	--	--	3.49	2.22	1.36	0.53	0.61	1.12	0.66	E
	SR-90 (MC/SQ.MI.)	0.18	0.14	0.16	--	--	0.27	0.00C	0.00C	0.02C	0.02C	0.02C	0.01C	E
	SR-90 CONC. (PC/L)	6.54	0.46	3.34	--	--	1.22	0.00	0.00	0.61	0.46	0.30	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	1.34	0.30	0.69	0.92	2.80	5.41	3.80	1.55	1.77	0.97	0.08	0.37	20.00
	SR-90 (MC/SQ.MI.)	0.15C	0.13C	0.15C	0.11C	*	*	*	*	*	0.05	*	*	0.59
	SR-90 CONC. (PC/L)	1.67	6.54	3.34	1.82	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	2.	--	--	
1962	PRECIP. (INCHES)	0.11	0.16	0.79	5.62	2.44	0.50	2.72	0.46	2.51	0.24	0.15	0.11	15.81
	SR-90 (MC/SQ.MI.)	0.03	0.04	*	0.04	0.31	0.07	0.22	1.13	0.11	0.03	0.02	0.01	2.01
	SR-90 CONC. (PC/L)	4.10	3.80	0.00	0.15	1.98	2.13	1.22	37.39	0.61	1.98	1.98	1.37	
	SR-89/SR-90	*	16.	--	27.	46.	79.	57.	8.	17.	17.	*	*	
1963	PRECIP. (INCHES)	0.22	0.41	0.88	1.71	0.98	1.74	1.88	4.46	3.67	1.93	0.57	9.60	28.05
	SR-90 (MC/SQ.MI.)	0.04	0.04	0.02	0.04	0.02	0.05	0.07	0.15	0.21	0.15	0.03	0.06	0.88
	SR-90 CONC. (PC/L)	2.74	1.52	0.30	0.30	0.30	0.46	0.61	0.46	0.91	1.22	0.76	0.15	
	SR-89/SR-90	7.	*	9.0	*	--	1.0	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	15.08	1.04	0.64	0.80	0.75	0.02	0.23	0.69	0.31	0.60	0.03	0.04	20.23
	SR-90 (MC/SQ.MI.)	0.54	0.13	0.02	0.19	0.06	0.02	0.07	0.11	0.03	0.04	*	*	1.21
	SR-90 CONC. (PC/L)	0.61	1.98	0.46	3.65	1.22	15.20	4.56	2.43	1.52	1.06	0.00	0.00	
	SR-89/SR-90	*	0.9	3.0	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	0.94	2.73	2.77	1.82									E
	SR-90 (MC/SQ.MI.)	0.02	0.06	0.07	0.03									E
	SR-90 CONC. (PC/L)	0.30	0.30	0.46	0.30									
	SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CEYLON, COLOMBO

LAT. 06 55N LONG. 79 52E ALT. 50 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	1.75	2.68	0.51	18.37	12.05	12.31	7.34	7.08	9.12	9.88	10.58	6.61	98.28
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.14	--	0.02	0.05	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.30	--	0.00	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	--	*	*	
1960	PRECIP. (INCHES)	1.84	6.82	2.73	7.81	14.05	4.96	18.38	1.65	4.55	13.89	16.75	2.10	95.53
	SR-90 (MC/SQ.MI.)	0.39	0.01	0.16	0.14	0.02C	0.01C	*	*	0.02C	0.06C	*	*	0.81
	SR-90 CONC. (PC/L)	3.19	0.00	0.91	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	1.19	1.92	10.58	18.42	20.10	8.77	8.84	9.06	16.79	19.07	19.84	10.25	144.83
	SR-90 (MC/SQ.MI.)	*	*	0.08C	0.13C	0.15C	0.06C	--	0.30	0.06	0.08	0.08	0.05	E
	SR-90 CONC. (PC/L)	0.00	0.00	0.15	0.15	0.15	0.15	--	0.46	0.00	0.00	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	12.	39.	67.	68.	
1962	PRECIP. (INCHES)	3.11	1.52	3.86	11.00	19.44	5.15	4.31	17.13	7.87	16.41	8.67	3.34	101.81
	SR-90 (MC/SQ.MI.)	0.01	*	0.63	0.11	0.33	0.62	0.70	0.45	0.21	0.79	0.17	0.08	4.10
	SR-90 CONC. (PC/L)	0.00	0.00	2.43	0.15	0.30	1.82	2.43	0.46	0.46	0.76	0.30	0.30	
	SR-89/SR-90	*	--	18.	9.	11.	17.	8.	9.	9.	23.	33.	32.	
1963	PRECIP. (INCHES)	2.95	8.73	4.75	12.94	21.52	7.23	15.49	3.51	20.98	27.84	17.15	12.08	155.17
	SR-90 (MC/SQ.MI.)	--	0.67	0.28	1.15	0.66	2.66	1.50	0.20	1.13	0.72	0.31	4.22	E
	SR-90 CONC. (PC/L)	--	1.22	0.91	1.37	0.46	5.62	1.52	0.91	0.76	0.46	0.30	5.32	
	SR-89/SR-90	--	22.	14.	11.	12.9	--	*	--	*	0.90	*	*	
1964	PRECIP. (INCHES)	1.68	6.82	4.80	6.16	19.96	5.38	6.76	2.57	5.09	18.25	7.83	2.86	78.16
	SR-90 (MC/SQ.MI.)	0.27	0.36	0.06	0.09	0.16	0.82	0.11	0.57	0.13C	0.46C	0.20C	0.46	3.69
	SR-90 CONC. (PC/L)	2.43	0.76	0.15	0.15	0.15	2.28	0.30	3.34	0.46	0.9146	0.46	2.43	
	SR-89/SR-90	*	*	1.20	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	1.67	4.15	1.92	13.97	24.00								E
	SR-90 (MC/SQ.MI.)	--	0.07	0.15	--	--								E
	SR-90 CONC. (PC/L)	--	0.30	1.22	--	--								
	SR-89/SR-90	--	--	--	--	--								

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: CHILE, ANTOFAGASTA

LAT. 23 27S LONG. 70 16W ALT. 1700 FT. (COLUMN)

SOURCE: DEPARTAMENTO DE INVESTIGACIONES DE LA UNIVERSIDAD DEL NORTE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1963	PRECIP. (INCHES)	*	*	*	*	*	*	*	*	0.02	*	*	*	0.02
	SR-90 (MC/SQ.MI.)	--	--	0.01	0.03	0.02	0.06	--	--	0.02	0.44	0.04	0.04	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	15.20	--	--	--	
	SR-89/SR-90	--	--	10.	*	*	*	--	--	*	*	*	*	
1964	PRECIP. (INCHES)	*	*	*	*	*	*	*	*	*	*	*	*	0.00
	SR-90 (MC/SQ.MI.)	0.08	0.04	0.03	0.04	0.06	0.04	0.06	0.05	0.03	0.03	0.06	*	0.52
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	1.00	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	--	--	--	--									E
	SR-90 (MC/SQ.MI.)	*	*	0.01	*									E
	SR-90 CONC. (PC/L)	--	--	--	--									
	SR-89/SR-90	--	--	--	--									

NOTES

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CHILE, I. ALEJANDRO SELKIRK

LAT. 34 00S LONG. 78 00W ALT. FT. (COLUMN)

SOURCE: OFICINA METEOROLOGICA DE CHILE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1964	PRECIP. (INCHES)	1.73	0.53	3.21	3.29	4.71	3.78	4.96	4.14	2.51	--	1.26	2.21	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	0.54	0.94	0.96	0.49	0.07	*	0.35	0.94	E
	SR-90 CONC. (PC/L)	--	--	--	--	1.67	3.80	2.89	1.82	0.46	--	4.26	6.54	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	0.64	0.55	1.49										E
	SR-90 (MC/SQ.MI.)	0.34	0.14	0.45										E
	SR-90 CONC. (PC/L)	8.06	3.80	4.56										
	SR-89/SR-90	--	--	--										

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CHILE, EASTER ISLAND

LAT. 27 10S LONG. 109 26W ALT. FT. (COLUMN)

SOURCE: OFICINA METEOROLOGICA DE CHILE

		<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEP.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANN. TOTAL</u>
1963	PRECIP. (INCHES)	3.06	2.58	1.02	4.09	12.83	5.54	2.23	1.02	3.22	1.65	1.57	2.40	41.21
	SR-90 (MC/SQ.MI.)	--	--	0.19	0.20	0.39	0.23	0.15	0.16	0.27	0.16	0.17	0.43	E
	SR-90 CONC. (PC/L)	--	--	2.89	0.76	0.46	0.61	1.06	2.43	1.22	1.52	1.67	2.74	
	SR-89/SR-90	--	--	*	22.	*	5.	*	*	*	*	*	--	
1964	PRECIP. (INCHES)	2.52	3.82	4.49	--	--	3.56	7.01	1.35	1.79	3.76	8.42	2.53	E
	SR-90 (MC/SQ.MI.)	0.03	0.28	0.36	0.35	--	0.39	0.43	0.48	0.28	0.47	0.94	0.55	E
	SR-90 CONC. (PC/L)	0.15	1.06	1.22	--	--	1.67	0.91	5.47	2.43	1.98	1.67	3.34	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1965	PRECIP. (INCHES)	4.66	3.12											E
	SR-90 (MC/SQ.MI.)	0.50	0.34											E
	SR-90 CONC. (PC/L)	1.67	1.67											
	SR-89/SR-90	--	--											

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: CHILE, PUERTO MONTT

LAT. 41 27S LONG. 72 57W ALT. 16 FT. (COLUMN)

SOURCE: OFICINA METEOROLOGICA DE CHILE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	3.79	1.92	6.65	10.4	7.37	2.40	10.21	7.11	4.70	2.64	6.86	3.28	67.33
	SR-90 (MC/SQ.MI.)	--	--	--	0.96	0.77	0.95	0.56	0.60	0.03	0.13	--	0.47	E
	SR-90 CONC. (PC/L)	--	--	--	1.37	1.52	6.08	0.76	1.22	0.15	0.76	--	2.13	
	SR-89/SR-90	--	--	--	3.	*	*	*	*	*	*	--	*	
1964	PRECIP. (INCHES)	3.22	4.38	7.50	4.91	14.59	9.91	8.78	10.54	--	3.04	6.66	5.66	E
	SR-90 (MC/SQ.MI.)	0.06	0.36	0.42	0.27	0.94	0.71	0.82	0.61	--	0.42	0.86	1.34	E
	SR-90 CONC. (PC/L)	0.30	1.22	0.91	0.76	0.91	1.06	1.37	0.91	--	2.13	1.98	3.65	
	SR-89/SR-90	6.1	*	*	1.80	--	--	--	--	--	--	*	--	
1965	PRECIP. (INCHES)	4.01	7.79	2.87										E
	SR-90 (MC/SQ.MI.)	0.74	0.84	0.24										E
	SR-90 CONC. (PC/L)	2.74	1.67	1.22										
	SR-89/SR-90	--	--	--										

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: CHILE, PUNTA ARENAS

LAT. 53 08S LONG. 70 53W ALT. 10 FT. (COLUMN)

SOURCE: OFICINA METEOROLOGICA DE CHILE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1963	PRECIP. (INCHES)	0.57	0.85	0.18	3.19	1.34	2.33	1.88	2.75A	0.44	0.45	0.50	1.44	15.92
	SR-90 (MC/SQ.MI.)	--	0.19B	0.14	0.24	0.20	0.20	--	0.16A	0.12	--	0.10	0.39	E
	SR-90 CONC. (PC/L)	--	3.34	11.86	1.22	2.28	1.37	--	0.91	4.10	--	3.04	4.10	
	SR-89/SR-90	--	--	3.4	2.	*	*	--	--	*	--	--	*	
1964	PRECIP. (INCHES)	1.65	0.78	1.18	0.78	1.43	1.06	--	0.26	0.96	0.23	--	1.72	E
	SR-90 (MC/SQ.MI.)	0.14	0.23	0.34	0.07	0.26	0.04	--	*	0.32	0.02	--	0.65	E
	SR-90 CONC. (PC/L)	1.22	4.41	4.41	1.37	2.74	0.61	--	0.00	5.02	1.37	--	5.78	
	SR-89/SR-90	*	*	*	--	--	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	0.84	1.62											E
	SR-90 (MC/SQ.MI.)	0.23	0.64											E
	SR-90 CONC. (PC/L)	4.10	6.08											
	SR-89/SR-90	--	--											

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CHILE, SANTIAGO

LAT. 33 29S LONG. 70 40W ALT. 1710 FT. (POT)

SOURCE: FACULTY OF CHEMISTRY, UNIVERSITY OF CHILE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958	PRECIP. (INCHES)	--	--	--	--	--	4.33	0.79	3.54	0.39	*	0.39	*	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.13	0.58	0.09	0.27	0.18	0.05	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	2.43	2.43	3.50	--	6.99	--	
	SR-89/SR-90	--	--	--	--	--	--	53.	62.	34.	33.	20.	45.	
1959	PRECIP. (INCHES)	*	*	0.79	2.36	2.36	3.15	1.97	1.58	0.39	0.39	*	*	12.99
	SR-90 (MC/SQ.MI.)	0.02	0.03	0.10	0.21	0.15	0.29	0.19	0.23	0.06	0.06	0.02	0.02	1.38
	SR-90 CONC. (PC/L)	--	--	1.98	1.37	0.91	1.37	1.52	2.28	2.28	2.28	--	--	
	SR-89/SR-90	20.	*	*	2.7	*	*	*	1.6	*	*	*	*	
1960	PRECIP. (INCHES)	*	*	2.36	*	0.79	0.35	1.97	0.79	0.39	*	*	*	6.65
	SR-90 (MC/SQ.MI.)	0.01	0.01	0.02	0.03	0.06C	0.03C	0.09C	0.03C	0.10C	0.00C	0.01C	0.01C	0.40
	SR-90 CONC. (PC/L)	--	--	0.15	--	1.22	1.37	0.76	0.61	3.95	--	--	--	
	SR-89/SR-90	*	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	*	*	0.39	*	0.79	3.15	0.79	2.76	1.18	1.18	*	0.28	10.52
	SR-90 (MC/SQ.MI.)	0.02C	0.02C	0.08C	0.00C	0.09C	0.36C	0.06C	0.21C	0.04	0.23	*	0.03	1.14
	SR-90 CONC. (PC/L)	--	--	3.19	--	1.67	1.67	1.22	1.22	0.46	2.89	--	1.67	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	--	*	
1962	PRECIP. (INCHES)	*	*	*	0.02	*	5.90	0.56	1.26	0.24	0.44	--	*	E
	SR-90 (MC/SQ.MI.)	0.05	*	0.03	0.01	*	0.22	0.10	0.34	0.05	0.01	--	0.14	E
	SR-90 CONC. (PC/L)	--	--	--	7.60	--	0.61	2.74	4.10	3.19	0.30	--	--	
	SR-89/SR-90	*	*	*	*	*	29.	46.	28.	8.	*	--	31.	
1963	PRECIP. (INCHES)	0.01	*	--	0.02	0.17	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.01	0.04	0.05	0.13	0.16	0.19	2.77	0.17	0.20	0.10	0.10	0.10	4.02
	SR-90 CONC. (PC/L)	15.20	--	--	98.80	14.29	--	--	--	--	--	--	--	
	SR-89/SR-90	7.	*	11.	10.	3.7	1.7	2.	*	1.6	*	*	*	
1964	PRECIP. (INCHES)	*	*	*	*	0.86	1.62	1.58	2.36	*	*	*	*	6.42
	SR-90 (MC/SQ.MI.)	0.03	2.84	0.08	0.05	0.07	0.14	0.54	0.38	0.07	*	*	0.13	4.33
	SR-90 CONC. (PC/L)	--	--	--	--	1.22	1.37	5.17	2.43	--	--	--	--	
	SR-89/SR-90	--	*	*	--	--	--	--	*	*	*	--	--	
1965	PRECIP. (INCHES)	--	--	*	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.01	*	2.60	0.33	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: CHILE, SANTIAGO

LAT. 33 27S LONG. 70 42W ALT. 1706 FT. (COLUMN)

SOURCE: OFICINA METEOROLOGICA DE CHILE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1963	PRECIP. (INCHES)	0.08	*	0.17	0.01	1.07	1.34	3.77	4.09	4.25	1.13	0.23	*	16.14
	SR-90 (MC/SQ.MI.)	--	--	0.08	0.03	0.14	0.26	0.43	0.61C	0.61C	0.08	0.09	0.30	E
	SR-90 CONC. (PC/L)	--	--	7.14	45.60	1.98	2.89	1.67	2.28	2.13	1.06	5.93	--	
	SR-89/SR-90	--	--	4.	6.	3.2	*	*	--	--	*	*	*	
1964	PRECIP. (INCHES)	*	*	*	0.02	0.08	3.34	4.75	2.41	*	*	--	0.08	E
	SR-90 (MC/SQ.MI.)	0.12	0.09	0.10	0.08	--	1.14	0.33	1.09	0.07	0.05	0.16	0.05	E
	SR-90 CONC. (PC/L)	--	--	--	60.80	--	5.17	1.06	6.84	--	--	--	9.58	
	SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965	PRECIP. (INCHES)	0.08	*	*	1.43									E
	SR-90 (MC/SQ.MI.)	0.06	0.08	0.04	0.54									E
	SR-90 CONC. (PC/L)	11.40	--	--	5.78									
	SR-89/SR-90	--	--	--	--									

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: COLOMBIA, BOGOTA

LAT. 04 38N LONG. 74 05W ALT. 8630 FT. (POT)

SOURCE: THE ROCKEFELLER FOUNDATION, BOGOTA

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	0.96	0.44	1.22	4.24	4.39	1.39	1.11	1.02	1.58	4.76	1.75	0.43	23.29
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.02	0.02	*	--	*	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.30	0.15	0.00	--	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	0.35	0.96	1.64	2.71	0.98	0.53	0.22	2.23	0.74	2.77	4.03	1.84	19.00
SR-90 (MC/SQ.MI.)	0.04	0.04	0.12	0.02	0.12	0.02	0.10	0.20	0.06	0.09	0.10	0.12	1.03
SR-90 CONC. (PC/L)	1.67	0.61	1.06	0.15	1.82	0.61	6.84	1.37	1.22	0.46	0.30	1.06	
SR-89/SR-90	12.	15.	4.	33.	13.	133.	43.	92.	72.	42.	44.	45.	
1959 PRECIP. (INCHES)	0.26	0.41	2.37	2.94	2.25	4.72	2.69	1.61	0.94	3.64	1.78	0.73	24.34
SR-90 (MC/SQ.MI.)	--	0.06	0.07	0.25	0.02	--	--	0.04	0.02	--	0.33	--	E
SR-90 CONC. (PC/L)	--	2.28	0.46	1.37	0.15	--	--	0.30	0.30	--	2.89	--	
SR-89/SR-90	--	25.	19.	12.	10.	--	--	*	*	--	*	--	
1960 PRECIP. (INCHES)	0.79	2.00	1.12	2.24	2.55	0.80	2.95	1.58	2.59	4.48	1.20	3.18	25.48
SR-90 (MC/SQ.MI.)	--	--	0.29	0.04	0.03C	0.01C	*	*	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	3.95	0.30	0.15	0.15	0.00	0.00	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.91	0.25	2.22	3.97	1.31	2.58	1.72	0.98	0.69	5.76	4.72	1.21	26.32
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.10	*	0.26	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	2.13	0.00	0.91	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	65.	--	
1962 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	0.10	*	0.10	--	--	0.16	0.06	0.66	0.29	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	19.	*	57.	--	--	26.	23.	22.	9.	
1963 PRECIP. (INCHES)	--	--	20.7	2.88	4.48	2.82	0.97	1.47	0.88	3.49	3.40	0.54	E
SR-90 (MC/SQ.MI.)	0.21	0.42	0.14	0.35	0.12	0.06	0.11	0.08	0.05	0.07	0.13	0.06	1.80
SR-90 CONC. (PC/L)	--	--	0.15	1.82	0.46	0.30	1.67	0.76	0.91	0.30	0.61	1.67	
SR-89/SR-90	41.	24.	17.	13.	--	*	*	*	*	*	*	1.0	
1964 PRECIP. (INCHES)	0.25	0.88	3.33C	3.33C	2.86	4.11	2.57	1.61	2.65	2.93	2.15	0.47	27.14
SR-90 (MC/SQ.MI.)	0.08	0.17	0.26C	0.26C	0.09	0.18	0.07	0.12	*	0.06	0.10	0.03	1.42
SR-90 CONC. (PC/L)	4.86	2.89	1.22	1.22	0.46	0.61	0.46	1.06	0.00	0.30	0.76	0.91	
SR-89/SR-90	*	*	--	--	--	--	--	--	--	*	--	--	
1965 PRECIP. (INCHES)	0.91												E
SR-90 (MC/SQ.MI.)	0.03												E
SR-90 CONC. (PC/L)	0.46												
SR-89/SR-90	--												

NOTES

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- n: RATIO EXCEEDS 999.99

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CONGO REP.,LEOPOLD SITE 1

LAT. 04 18S LONG. 15 18E ALT. 1045 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	2.36	6.70	3.15	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.13	0.05	0.06	0.04	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.91	0.15	0.30	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	0.8	*	*	*	
1960	PRECIP. (INCHES)	3.94	4.73	5.91	11.03	0.24	8.62	0.02	*	2.55	4.43	6.90	3.77	52.14
	SR-90 (MC/SQ.MI.)	0.01	0.22	0.13	0.00	0.01C	0.20C	--	--	0.13C	0.22C	0.17C	0.09C	E
	SR-90 CONC. (PC/L)	0.00	0.76	0.30	0.00	0.61	0.30	--	--	0.76	0.76	0.30	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	4.56	6.92	3.82	13.97	7.08	--	0.09	*	2.66	--	--	--	E
	SR-90 (MC/SQ.MI.)	*	*	--	--	0.34C	0.00C	*	*	0.05	*	0.08	0.37	E
	SR-90 CONC. (PC/L)	0.00	0.00	--	--	0.76	--	0.00	--	0.30	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	2.4	*	80.	50.	
1962	PRECIP. (INCHES)	5.23	6.33	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.53	0.59	0.25	0.18	0.32	0.05A	0.05A	0.01	0.20	0.15	0.06	--	E
	SR-90 CONC. (PC/L)	1.52	1.37	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	46.	27.	19.	10.	74.	--	--	*	16.	18.	17.	--	
1963	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.18	0.51	1.34	0.33	--	0.17	0.10	0.02	0.07	0.17	0.36	0.68	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	27.	29.	17.	8.	--	*	*	--	*	*	*	*	
1964	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	1.11	0.41	0.52	--	0.18	0.10	0.02	0.07	0.02	0.14	0.08	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	*	*	--	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.08	0.15	0.34	0.12	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: CONGO REP., LEOPOLD SITE 2

LAT. 04 20S LONG. 15 18E ALT. 1000 FT. (COLUMN)

SOURCE: SERVICE METEOROLOGIQUE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960 PRECIP. (INCHES)	--	--	--	--	0.24	8.62	0.02	*	2.55	4.43	6.90	3.77	E
SR-90 (MC/SQ.MI.)	--	--	--	--	0.01C	0.15C	0.40C	0.00C	0.20C	0.35C	0.37C	0.20C	E
SR-90 CONC. (PC/L)	--	--	--	--	0.61	0.30	304.00	--	1.22	1.22	0.76	0.76	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	5.12	6.92	3.82	13.97	7.08	*	0.09	*	2.66	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	0.03C	0.13C	*	*	0.09C	0.00C	0.07	0.01	0.11	0.27	E
SR-90 CONC. (PC/L)	--	--	0.15	0.15	0.00	--	15.20	--	0.46	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	64.	36.	
1962 PRECIP. (INCHES)	5.23	6.33	9.70	2.33	6.62	--	--	--	1.94	3.79	12.30	9.25	E
SR-90 (MC/SQ.MI.)	0.51	0.48	0.32	0.19	0.42	--	0.19	0.03	0.12	0.14	0.13	0.48	E
SR-90 CONC. (PC/L)	1.52	1.22	0.46	1.22	0.91	--	--	--	0.91	0.61	0.15	0.76	
SR-89/SR-90	45.	30.	18.	12.	135.	--	3.	*	23.	18.	14.	29.	
1963 PRECIP. (INCHES)	4.39	11.44	8.91	8.12	4.68	0.04	0.48	--	0.55	2.63	11.89	11.25	E
SR-90 (MC/SQ.MI.)	0.49	1.15	1.44	0.14	0.10	0.17	0.03	0.07	0.11	0.16	0.37	1.51	5.74
SR-90 CONC. (PC/L)	1.67	1.52	2.43	0.30	0.30	64.60	0.91	--	3.04	0.91	0.46	1.98	
SR-89/SR-90	27.	22.	18.	18.	3.5	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	6.11	3.85	5.71	22.00	7.52	*	*	0.46	0.23	2.92	11.71	5.02	55.53
SR-90 (MC/SQ.MI.)	0.48	0.39	0.83	0.36	0.25	0.34	0.08	0.03	0.06	0.10	0.27	0.19	3.38
SR-90 CONC. (PC/L)	1.22	1.52	2.28	0.30	0.46	--	--	1.06	3.95	0.46	2.43 0.30	0.61	
SR-89/SR-90	0.5	*	*	0.38	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	4.81	2.71	13.35	3.87									E
SR-90 (MC/SQ.MI.)	0.18	0.04	0.30	0.10									E
SR-90 CONC. (PC/L)	0.61	0.15	0.30	0.46									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: COSTA RICA, TURRIALBA

LAT. 09 53N LONG. 83 39W ALT. 1988 FT. (COLUMN)

SOURCE: INSTITUTO INTERAMERICANA DE CIENCIAS AGRICOLAS

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	9.69	6.46	6.05	9.72	8.72	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.16	0.02	--	--	0.18	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.30	0.00	--	--	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	1.20	*	--	--	--	
1960 PRECIP. (INCHES)	6.92	3.70	4.49	1.95	5.88	10.04	8.55	8.98	4.50	10.46	8.31	11.37	85.15
SR-90 (MC/SQ.MI.)	0.29	0.09	0.32	0.36	0.05C	0.09C	*	*	0.02C	0.04C	*	*	1.26
SR-90 CONC. (PC/L)	0.61	0.30	1.06	2.74	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00	
SR-89/SR-90	--	7.0	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	3.35	0.20	1.67	2.24	5.71	14.23	11.57	6.55	10.32	10.12	15.17	9.75	90.88
SR-90 (MC/SQ.MI.)	0.02C	0.00C	0.02C	0.02C	*	0.02C	*	--	*	0.08	0.49	0.30	E
SR-90 CONC. (PC/L)	0.15	0.00	0.15	0.15	0.00	0.00	0.00	--	0.00	0.15	0.46	0.46	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	13.	93.	64.	
1962 PRECIP. (INCHES)	4.70	1.20	1.50	4.94	7.56	8.54	12.68	12.81	9.73	11.57	21.00	12.91	109.14
SR-90 (MC/SQ.MI.)	0.83	0.40C	0.40C	1.21	1.14	0.37	0.13	0.61	0.12C	0.13C	0.26	0.45	6.05
SR-90 CONC. (PC/L)	2.74	5.02	4.10	3.65	2.28	0.61	0.15	0.76	0.15	0.15	0.15	0.46	
SR-89/SR-90	48.	--	--	12.	54.	71.	14.	34.	--	--	25.	45.	
1963 PRECIP. (INCHES)	4.35	3.71	4.6	1.96	6.26	10.98	7.87	6.90	10.98	10.76	8.08	12.60	89.05
SR-90 (MC/SQ.MI.)	0.01	0.61	1.43	2.41	1.25	0.06	0.90	0.45	0.36	0.74	0.34	0.67	9.23
SR-90 CONC. (PC/L)	0.00	2.43	4.71	18.70	3.04	0.15	1.67	1.06	0.46	1.06	0.61	0.76	
SR-89/SR-90	*	26.	17.	3.	4.3	--	1.	*	*	*	*	*	
1964 PRECIP. (INCHES)	2.81	0.12	0.87	1.97	5.67	9.68	14.82	8.18	11.63	11.19	5.35	3.24	65.53
SR-90 (MC/SQ.MI.)	0.44	0.44	0.29	0.28	0.97	0.64	0.81	0.42	0.14	0.40	0.10	0.28	5.21
SR-90 CONC. (PC/L)	2.43	55.78	5.02	2.13	2.58	1.06	0.76	0.76	0.15	5.17 0.30	0.30	1.37	
SR-89/SR-90	*	*	2.1	0.14	1.60	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	14.10	5.74	5.89	0.98									E
SR-90 (MC/SQ.MI.)	0.70	0.20	0.03	0.30									E
SR-90 CONC. (PC/L)	0.76	0.46	0.15	4.71									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: ECUADOR, GUAYAQUIL

LAT. 02 10S LONG. 79 52W ALT. 23 FT. (COLUMN)

SOURCE: ESTACION METEOROLOGICA, SUBDIRECCION DE AVIACION CIVIL

		<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEP.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANN. TOTAL</u>
1963	PRECIP. (INCHES)	2.01	13.92	7.32	1.86	0.32	*	*	*	*	*	*	0.79	26.22
	SR-90 (MC/SQ.MI.)	---	---	---	0.10	0.03	0.07	0.05	0.02	0.02	0.12	0.05	0.56	E
	SR-90 CONC. (PC/L)	---	---	---	0.76	1.37	---	---	---	---	---	---	10.79	
	SR-89/SR-90	---	---	---	6.	*	*	*	3.00	*	*	*	*	
1964	PRECIP. (INCHES)	8.53	6.44	16.64	7.12	0.15	0.16	*	*	*	*	0.02	*	39.06
	SR-90 (MC/SQ.MI.)	0.21	0.21	2.04	0.15	0.20	0.03	0.02	0.03	0.04	0.03	*	0.09	3.05
	SR-90 CONC. (PC/L)	0.30	0.46	1.82	0.30	20.22	2.89	---	---	---	---	0.00	---	
	SR-89/SR-90	*	0.9	*	*	*	---	---	---	---	*	*	---	
1965	PRECIP. (INCHES)	5.06	---	7.99C	7.99C									E
	SR-90 (MC/SQ.MI.)	0.18	---	0.26C	0.26C									E
	SR-90 CONC. (PC/L)	0.61	---	0.46	0.46									
	SR-89/SR-90	---	---	---	---									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ECUADOR, QUITO

LAT. 00 14S LONG. 78 30W ALT. 9300 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	2.38	3.03	2.50	6.41	6.43	2.22	0.08	1.67	1.55	4.04	7.26	5.45	43.02
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.01	--	--	0.01	0.03	0.04	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	1.98	--	--	0.00	0.00	0.15	
SR-89/SR-90	--	--	--	--	--	--	*	--	--	*	*	*	
1960 PRECIP. (INCHES)	2.69	4.29	6.18	3.88	2.49	0.98	1.56	1.78	1.90	4.75	0.87	3.67	35.04
SR-90 (MC/SQ.MI.)	0.14	0.13	0.12	0.12	0.11	--	0.20	0.06	--	--	--	--	E
SR-90 CONC. (PC/L)	0.76	0.46	0.30	0.46	0.61	--	1.98	0.46	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	4.26	1.37	6.50	7.25	2.02	3.19	0.91	0.22	2.25	4.21C	4.21C	3.20	39.59
SR-90 (MC/SQ.MI.)	--	--	--	0.04C	0.04C	0.18	*	*	--	0.01C	0.01C	0.03	E
SR-90 CONC. (PC/L)	--	--	--	0.15	0.30	0.91	0.00	0.00	--	0.00	0.00	0.15	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	84.00	
1962 PRECIP. (INCHES)	5.51	3.90	6.85	7.16	4.20	2.04	0.02	0.09	1.48	2.57	5.88	2.60	42.30
SR-90 (MC/SQ.MI.)	--	--	0.05	0.09	0.25	0.06	0.01	0.02	0.10	0.16	0.06	0.05	E
SR-90 CONC. (PC/L)	--	--	0.15	0.15	0.91	0.46	7.60	3.34	1.06	0.91	0.15	0.30	
SR-89/SR-90	--	--	25.	38.	11.	58.	*	14.	21.	17.00	34.	46.	
1963 PRECIP. (INCHES)	5.87	4.73	8.66	6.73	4.20	1.75	1.88	0.09	1.56	3.83	5.71	4.80	49.81
SR-90 (MC/SQ.MI.)	0.12	0.15	0.15	0.09	0.04	--	0.08	0.03	0.04	0.09	--	0.08	E
SR-90 CONC. (PC/L)	0.30	0.46	0.30	0.15	0.15	--	0.61	5.02	0.46	0.30	--	0.30	
SR-89/SR-90	37.	11.	15.	11.	12.60	--	4.	10.00	*	*	--	*	
1964 PRECIP. (INCHES)	0.75	2.36	1.72	7.62	3.28	3.66	1.95	2.96	1.93	4.29	6.02	3.59	40.13
SR-90 (MC/SQ.MI.)	--	0.12	0.03	0.04	0.08	0.05	0.07	0.04	--	--	0.14	0.07	E
SR-90 CONC. (PC/L)	--	0.76	0.30	0.15	0.30	0.15	0.61	0.15	--	--	0.30	0.30	
SR-89/SR-90	--	*	4.90	--	*	--	--	--	--	--	*	--	
1965 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.02	0.01	0.11	0.03	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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D: RATIO EXCEEDS 999.99

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ENIWETOK ATOLL

LAT. 11 21N LONG. 162 21E ALT. 13 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1962 PRECIP. (INCHES)	—	—	—	0.56	6.16	4.16	7.17	6.43	12.24	11.32	5.10A	7.79A	E
SR-90 (MC/SQ.MI.)	—	—	—	0.28	0.88	0.44	0.18	0.32	0.24	0.28	0.54A	0.31A	E
SR-90 CONC. (PC/L)	—	—	—	7.60	2.13	1.67	0.46	0.76	0.30	0.30	1.67	0.61	
SR-89/SR-90	—	—	—	18.	12.	33.	12.	18.	—	57.	—	—	
1963 PRECIP. (INCHES)	0.77C	0.77C	0.77C	0.77C	13.51	9.10	8.47	8.89	7.68	11.81	4.19	6.45	73.18
SR-90 (MC/SQ.MI.)	0.69C	0.69C	0.69C	0.69C	0.75	2.12	1.34	0.65	0.49	0.46	0.38	0.86	9.81
SR-90 CONC. (PC/L)	13.68	13.68	13.68	13.68	0.91	3.50	2.43	1.06	0.91	0.61	1.37	1.98	
SR-89/SR-90	24.00	19.00	—	—	6.9	1.6	1.	*	1.6	*	*	*	
1964 PRECIP. (INCHES)	2.02	1.09	0.13	10.17	2.73	4.78	6.32	5.05	11.86	10.40	7.34	1.53	53.42
SR-90 (MC/SQ.MI.)	0.83	0.66	0.44	1.03	0.36	1.24	0.34	0.47	0.16	0.18	0.18	0.26	6.15
SR-90 CONC. (PC/L)	6.23	9.27	51.38	1.52	1.98	3.95	0.76	1.37	0.15	6.84 ^{0.30}	0.30	2.58	
SR-89/SR-90	*	*	*	*	*	—	—	—	—	*	*	—	
1965 PRECIP. (INCHES)	1.53	0.59	0.60	0.36									E
SR-90 (MC/SQ.MI.)	0.42	0.04	0.01	0.21									E
SR-90 CONC. (PC/L)	4.10	1.06	0.30	8.82									
SR-89/SR-90	—	—	—	—									

NOTES

- : DATA NOT AVAILABLE
- *: ZERO OR TRACE
- A: APPROXIMATE
- B: LOWER LIMIT OF REPORTED DATA
- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ETHIOPIA, ADDIS ABABA

LAT. 09 03N LONG. 38 42E ALT. 9850 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL	
1960	PRECIP. (INCHES)	0.17	0.91	3.40	1.57	2.65	3.56	7.56	11.11	7.18	0.09	0.48	0.24	38.92
	SR-90 (MC/SQ.MI.)	0.01	0.23	0.17	--	--	--	*	*	0.02C	0.02C	0.05	0.10	E
	SR-90 CONC. (PC/L)	0.91	3.80	0.76	--	--	--	0.00	0.00	0.00	3.34	1.52	6.38	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	*	0.14	3.14	4.33	2.01	6.06	15.00	10.32	8.48	3.18	2.32	*	54.98
	SR-90 (MC/SQ.MI.)	0.11C	0.11C	0.12C	0.12C	0.34C	0.34C	0.25C	0.25C	0.07C	0.07C	0.07C	1.12	2.97
	SR-90 CONC. (PC/L)	--	12.01	0.61	0.46	2.58	0.91	0.30	0.30	0.15	0.30	0.46	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	54.00	
1962	PRECIP. (INCHES)	*	*	5.47	1.27	0.47	2.00	8.93	8.85	8.52	0.49	0.56	0.37	36.93
	SR-90 (MC/SQ.MI.)	*	--	--	0.33	1.73	--	2.56	1.73	0.49	0.02	0.28	0.65	E
	SR-90 CONC. (PC/L)	--	--	--	3.95	55.94	--	4.41	3.04	0.91	0.61	7.60	26.75	
	SR-89/SR-90	*	--	--	19.00	13.00	--	10.00	12.00	16.00	*	32.00	28.00	
1963	PRECIP. (INCHES)	0.04	1.79	1.92	5.56	4.61	4.37	6.38	9.49	4.22	*	0.71	0.71	39.80
	SR-90 (MC/SQ.MI.)	0.89	--	2.38	2.12	4.47	7.17	9.29	8.13	0.14	--	0.81	0.15	F
	SR-90 CONC. (PC/L)	338.20	--	18.85	5.78	14.74	24.93	22.19	13.07	0.46	--	17.33	3.19	
	SR-89/SR-90	36.	--	15.00	8.00	8.60	3.00	*	0.80	*	--	*	*	
1964	PRECIP. (INCHES)	*	*	4.79	2.68	4.67	7.81	10.64	4.87	7.87	2.12	0.06	1.98	47.49
	SR-90 (MC/SQ.MI.)	0.10	0.25	0.18	0.25	0.20	0.11	0.16	0.14	0.17	0.06	0.16	0.08	1.86
	SR-90 CONC. (PC/L)	--	--	0.61	1.37	0.61	0.15	0.30	0.46	0.30	0.46	40.58	0.61	
	SR-89/SR-90	*	*	*	0.25	*	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	0.38	0.25	--	2.10									E
	SR-90 (MC/SQ.MI.)	0.18	*	0.34	0.06									F
	SR-90 CONC. (PC/L)	7.14	0.00	--	0.46									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

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B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: FIJI ISLANDS, SUVA

LAT. 18 09S LONG. 178 25E ALT. 37 FT. (COLUMN)

SOURCE: UNITED STATES CONSULATE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	13.33	8.30	17.43	17.48	9.37	11.32	1.32	19.19	1.53	9.03	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.30	0.01	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.30	0.15	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	0.38	*	--	--	--	
1960	PRECIP. (INCHES)	15.46	9.49	10.60	4.87	6.45	10.79	11.42	4.37	4.72	5.32	17.94	9.34	110.77
	SR-90 (MC/SQ.MI.)	0.23	0.20	0.12C	0.05C	0.13C	0.23C	0.26C	0.10C	0.08C	0.10C	0.28C	0.14C	1.92
	SR-90 CONC. (PC/L)	0.15	0.30	0.15	0.15	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.15	
	SR-89/SR-90	--	*	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	12.82	10.54	4.20	13.6	7.09	6.97	6.18	5.09	14.03	4.20	24.99	19.25	128.96
	SR-90 (MC/SQ.MI.)	0.06C	0.05C	0.09C	0.30C	0.02C	0.02C	0.17C	0.13C	0.20	0.68	0.82	0.03	2.57
	SR-90 CONC. (PC/L)	0.00	0.00	0.30	0.30	0.00	0.00	0.46	0.46	0.15	2.43	0.46	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	3.0	95.	0.5	32.	
1962	PRECIP. (INCHES)	20.91	21.64	28.29	5.94	6.67	12.84	4.96	3.22	4.98	4.72	10.67	9.39	134.23
	SR-90 (MC/SQ.MI.)	0.19	0.30	0.08	0.04	0.08	0.72	0.44	--	0.30	0.41	0.65	0.56	E
	SR-90 CONC. (PC/L)	0.15	0.15	0.00	0.15	0.15	0.91	1.37	--	0.91	1.37	0.91	0.91	
	SR-89/SR-90	2.2	3.	4.	4.	24.	83.	55.	--	12.	*	8.	9.	
1963	PRECIP. (INCHES)	15.51	6.64	11.87	22.43	13.67	4.46	2.26	19.91	10.89	4.06	9.18	20.31	141.19
	SR-90 (MC/SQ.MI.)	0.39	0.36	0.18	0.11	--	0.25	0.27	0.92	0.66	0.32	1.24	0.47	E
	SR-90 CONC. (PC/L)	0.46	0.76	0.30	0.00	--	0.91	1.82	0.76	0.91	1.22	2.13	0.30	
	SR-89/SR-90	8.	7.	4.0	13.	--	0.4	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	8.81	17.99	17.21	13.40	9.69	12.36	1.37	6.28	--	15.30	15.12	8.33	E
	SR-90 (MC/SQ.MI.)	0.54	0.28	0.24	0.24	0.50	0.46	0.52	1.10	--	0.42	0.54	0.35	E
	SR-90 CONC. (PC/L)	0.91	0.30	0.15	0.30	0.76	0.61	5.78	2.74	--	1.22 1.22	1.67 1.67	0.61	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	8.36	21.06	19.98	9.38									E
	SR-90 (MC/SQ.MI.)	0.17	0.20	0.54	0.97									E
	SR-90 CONC. (PC/L)	0.30	0.15	0.46	1.52									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

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B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: GERMANY, RHEIN MAIN AFB

LAT. 50 02N LONG. 8 34E ALT. 368 FT. (COLUMN)

SOURCE: U. S. AIR WEATHER SERVICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	1.34	1.34	2.09	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.10	0.15	0.21	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	1.06	1.67	1.52	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	0.72	0.77	*	
1960	PRECIP. (INCHES)	1.97	1.64	0.91	1.06	2.76	0.75	3.74	4.94	1.34	5.12	0.30	2.71	27.24
	SR-90 (MC/SQ.MI.)	0.31	0.40	--	0.27	0.19C	0.05C	0.10	0.13	0.03C	0.09C	0.01C	0.12C	E
	SR-90 CONC. (PC/L)	2.43	3.65	--	3.80	1.06	1.06	0.46	0.46	0.30	0.30	0.46	0.61	
	SR-89/SR-90	--	11.	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.44	1.27	0.06	2.40	2.48	7.14	4.84	2.14	1.54	2.64	3.35	1.89	32.19
	SR-90 (MC/SQ.MI.)	0.14C	0.07C	0.70	0.33	0.29C	0.80C	0.51C	0.23C	0.07	0.23	0.39	0.25	4.01
	SR-90 CONC. (PC/L)	0.91	0.91	177.38	2.13	1.82	1.67	1.67	1.67	0.76	1.37	1.82	1.98	
	SR-89/SR-90	--	--	--	--	--	--	--	--	15.	55.	81.	60.	
1962	PRECIP. (INCHES)	1.93	2.29	2.52	2.01	2.48	0.36	1.14	2.21	1.38	0.59	1.62	2.84	21.37
	SR-90 (MC/SQ.MI.)	0.56	0.64	1.58	2.02	--	3.21	0.06	1.13	--	--	0.69	0.86	E
	SR-90 CONC. (PC/L)	4.41	4.26	9.58	15.20	--	135.58	0.76	7.75	--	--	6.54	4.56	
	SR-89/SR-90	53.	30.	18.	13.	--	9.	7.	7.	--	--	40.	45.	
1963	PRECIP. (INCHES)	0.71	0.91	3.15	1.18	1.62	1.77	1.24	5.74	1.70	1.53	3.80	0.15	23.50
	SR-90 (MC/SQ.MI.)	0.06	0.71	3.52	2.22	2.67	2.20	2.59	9.03	1.54	7.16	1.53	0.13	33.36
	SR-90 CONC. (PC/L)	1.22	11.86	17.02	28.58	25.08	18.85	31.77	23.86	13.83	71.14	6.08	13.22	
	SR-89/SR-90	22.	22.	20.	12.1	5.9	0.2	2.00	*	1.60	*	*	*	
1964	PRECIP. (INCHES)	0.62	1.16	1.94	1.57	1.52	0.79	0.40	1.32	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.06	0.78	0.66	1.09	3.50	2.64	2.53	0.15	0.61	0.42	0.42	0.32	13.18
	SR-90 CONC. (PC/L)	1.52	10.18	5.17	10.49	34.96	50.77	96.22	1.67	--	--	--	--	
	SR-89/SR-90	1.20	*	*	*	*	--	--	--	--	*	2.70	--	
1965	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.33	0.13	0.85	1.81	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: GREENLAND, THULE

LAT. 76 35N LONG. 68 38W ALT. 950 FT. (COLUMN)

SOURCE: AIR FORCE CAMBRIDGE RESEARCH LABORATORY, GEOPOLE STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	1.08	0.22	0.25	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.04	0.04	0.02	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	0.61	2.74	1.22	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	*	*	
1960	PRECIP. (INCHES)	0.23	0.24	0.57	0.07	0.23	0.15	0.67	0.12	0.68	0.37	0.92	0.15	4.40
	SR-90 (MC/SQ.MI.)	0.18	0.05	0.15	0.22	0.15C	0.09C	0.21C	0.04C	0.03C	0.02C	0.12C	0.02C	1.28
	SR-90 CONC. (PC/L)	11.86	3.19	3.95	47.73	9.88	9.12	4.71	5.02	0.61	0.76	1.98	1.98	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.16	*	0.08	0.16	0.39	0.60	0.62	0.79	0.33	0.22	0.16	0.23	3.74
	SR-90 (MC/SQ.MI.)	0.02C	0.00C	*	*	0.07C	0.12C	0.07C	0.07C	0.03	0.06	1.06	0.04	1.54
	SR-90 CONC. (PC/L)	1.98	--	0.00	0.00	2.74	3.04	1.67	1.37	1.37	4.10	100.78	2.58	
	SR-89/SR-90	--	--	--	--	--	--	--	--	22.	40.	89.	47.	
1962	PRECIP. (INCHES)	0.20	*	0.4)	0.66	0.52	*	0.20	1.03	0.54	0.48	0.33	0.21	4.58
	SR-90 (MC/SQ.MI.)	*	*	*	0.11	0.14	*	0.31	0.64	0.07	0.23	0.09	0.06	1.65
	SR-90 CONC. (PC/L)	0.00	--	0.00	2.58	4.10	--	23.56	9.42	1.98	7.30	4.10	4.41	
	SR-89/SR-90	--	*	--	9.	6.	*	11.00	7.	21.	18.	26.	49.	
1963	PRECIP. (INCHES)	1.07	0.75	0.11	0.15	0.32	0.10	1.19	1.39	0.65	0.38	0.48	0.26	4.85
	SR-90 (MC/SQ.MI.)	0.09	0.15	0.01	0.05	0.18	0.51	2.15	5.23	0.40	2.27	0.09	0.10	11.23
	SR-90 CONC. (PC/L)	1.22	3.04	1.37	5.02	8.51	77.52	27.51	57.15	9.42	90.74	2.89	5.78	
	SR-89/SR-90	22.	27.	10.	7.7	7.1	1.4	--	*	*	*	*	*	
1964	PRECIP. (INCHES)	1.18	1.18	0.19	0.20	0.27	0.02	0.45	0.46	0.65	0.90	0.90	0.45	6.85
	SR-90 (MC/SQ.MI.)	0.26	0.14	0.06	0.34	0.18	0.49	1.62	0.34	--	0.15	0.10	0.10	E
	SR-90 CONC. (PC/L)	3.34	1.82	4.86	25.84	10.18	372.40	54.72	11.25	--	2.58	1.67	3.34	
	SR-89/SR-90	*	0.50	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	0.45	1.33	0.54	0.31									E
	SR-90 (MC/SQ.MI.)	0.02	0.07	0.04	0.04									E
	SR-90 CONC. (PC/L)	0.61	0.76	1.06	1.98									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

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B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: GUAM, ANDERSON AFB

LAT. 13 35N LONG. 144 55E ALT. 605 FT. (COLUMN)

SOURCE: U. S. AIR WEATHER SERVICE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL	
	----	----	----	----	----	----	----	----	----	----	----	----	-----	
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	15.00	10.76	6.78	6.30	E	
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.06	0.04	0.10	0.11	E	
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.00	0.00	0.15	0.30		
	SR-89/SR-90	--	--	--	--	--	--	--	*	*	*	2.4		
1960	PRECIP. (INCHES)	3.23	0.66	1.59	0.38	5.98	5.92	8.61	16.51	8.94	11.77	11.30	6.22	81.11
	SR-90 (MC/SQ.MI.)	0.25	0.14	0.20	0.27	0.10C	0.10C	0.05C	0.09C	0.12C	0.15C	0.06	0.27	1.80
	SR-90 CONC. (PC/L)	1.22	3.19	1.98	10.79	0.30	0.30	0.15	0.15	0.15	0.15	0.15	0.61	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	4.79	3.74	5.03	3.20	4.31	4.09	6.46	14.97	14.51	17.88	5.96	0.23	85.17
	SR-90 (MC/SQ.MI.)	0.07C	0.05C	0.01C	0.01C	0.09C	0.08C	0.04	0.08	0.05	0.14	0.35	0.35	1.32
	SR-90 CONC. (PC/L)	0.15	0.15	0.00	0.00	0.30	0.30	0.15	0.15	0.00	0.15	0.91	23.10	
	SR-89/SR-90	--	--	--	--	--	--	--	71.	50.	90.	17.		
1962	PRECIP. (INCHES)	1.70	8.80	1.42	8.44	5.39	8.14	12.82	11.55	13.92	20.64	11.27	13.28	117.37
	SR-90 (MC/SQ.MI.)	1.48	0.87	0.61	1.97	1.24	1.50	0.79	--	0.26	0.54	--	0.64	E
	SR-90 CONC. (PC/L)	13.22	1.52	6.54	3.50	3.50	2.74	0.91	--	0.30	0.46	--	0.76	
	SR-89/SR-90	47.	30.	23.	12.	12.	16.	17.	--	22.	25.	--	35.	
1963	PRECIP. (INCHES)	10.92	11.06	3.36	24.00	13.97	8.93	13.25	10.77	12.00	20.24	6.68	17.00	152.18
	SR-90 (MC/SQ.MI.)	1.69	2.38	1.03	5.25	11.68	0.96	0.97	0.60	0.63	0.72	0.66	0.78	27.35
	SR-90 CONC. (PC/L)	2.28	3.34	4.71	3.34	12.77	1.67	1.06	0.91	0.76	0.61	1.52	0.76	
	SR-89/SR-90	32.	37.	16.	10.	6.8	--	--	*	0.6	*	*	*	
1964	PRECIP. (INCHES)	2.47	3.89	3.37	8.56	26.57	5.93	6.33	13.01	11.14	13.27	6.07	6.93	97.54
	SR-90 (MC/SQ.MI.)	0.86	1.89	0.49	1.43	2.22	1.48	1.04	0.34	0.24	0.26	0.22	0.36	10.83
	SR-90 CONC. (PC/L)	5.32	7.45	2.28	2.58	1.22	3.80	2.43	0.46	0.30	1.22 ^{0.30}	0.61	0.76	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	10.28	0.98	0.30										E
	SR-90 (MC/SQ.MI.)	0.34	0.14	0.12										E
	SR-90 CONC. (PC/L)	0.46	2.13	6.08										
	SR-89/SR-90	--	--	--										

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: HONG KONG

LAT. 22 18N LONG. 114 12E ALT. 25 FT. (COLUMN)

SOURCE: UNITED STATES CONSULATE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960	PRECIP. (INCHES)	0.39	*	9.84	1.57	9.84	27.56	6.30	21.26	12.24	10.23	5.43	0.05	104.71
	SR-90 (MC/SQ.MI.)	0.12	--	0.17	--	0.24	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	4.71	--	0.30	--	0.30	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.15	1.82	2.02	6.78	8.42	4.76	19.37	18.19	21.06	1.23	3.60	0.48	87.88
	SR-90 (MC/SQ.MI.)	--	--	0.20C	0.28C	0.07C	0.12C	--	0.14	*	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	1.52	0.61	0.15	0.46	--	0.15	0.00	--	--	--	
	SR-89/SR-90	--	--	0.61	0.61	0.15	0.15	--	--	*	--	--	--	
1962	PRECIP. (INCHES)	0.28	3.25	0.41	1.99	7.27	19.88	6.21	3.34	17.95	6.63	1.33	*	68.54
	SR-90 (MC/SQ.MI.)	--	--	1.40	0.69	0.99	1.04	0.40	0.09	--	0.98	0.12C	0.12C	E
	SR-90 CONC. (PC/L)	--	--	51.83	5.32	2.13	0.76	0.91	0.46	--	2.28	1.37	--	
	SR-89/SR-90	--	--	18.00	13.00	--	21.00	10.00	12.00	--	--	--	--	
1963	PRECIP. (INCHES)	0.39	0.06	0.36	0.54	0.24	8.06	12.74	7.17	3.27	1.38	1.24	0.04	35.49
	SR-90 (MC/SQ.MI.)	0.28	0.90C	0.90C	0.90C	0.90C	0.90C	0.27C	0.27C	2.31	1.38	--	0.05	E
	SR-90 CONC. (PC/L)	10.94	228.00	38.00	25.38	57.00	1.67	0.30	0.61	10.79	15.20	--	19.00	
	SR-89/SR-90	40.00	--	--	--	--	--	--	--	*	*	--	2.50	
1964	PRECIP. (INCHES)	3.96	0.44	1.46	0.68	16.26	10.39	4.08	17.52	20.41	20.27	0.16	0.12	95.75
	SR-90 (MC/SQ.MI.)	2.69	--	0.32	0.65	0.62	1.40	0.46	0.04	--	--	--	--	E
	SR-90 CONC. (PC/L)	10.34	--	3.34	14.59	0.61	1.98	1.67	0.00	--	--	--	--	
	SR-89/SR-90	*	--	*	1.80	*	--	--	--	--	--	--	--	
1965	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	0.06C	0.07C	0.01	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ICELAND, KEFLAVIK

LAT. 63 58N LONG. 22 36W ALT. 184 FT. (COLUMN)

SOURCE: U. S. FLEET WEATHER FACILITY

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	2.46	10.94	9.54	2.85	2.44	3.07	2.31	5.54	8.95	7.61	2.15	3.94	61.80
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.11	F
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	*	
1960	PRECIP. (INCHES)	3.45	1.58	4.72	2.78	2.36	5.51	5.09	0.69	5.20	2.32	0.23	4.08	38.01
	SR-90 (MC/SQ.MI.)	0.28	0.24	0.35	0.35	--	--	*	*	0.10C	0.04C	0.01C	0.23C	E
	SR-90 CONC. (PC/L)	1.22	2.28	1.06	1.98	--	--	0.00	0.00	0.30	0.30	0.61	0.91	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	4.13	5.44	7.07	3.29	2.53	1.74	2.22	4.06	6.31	5.10	4.88	2.28	49.05
	SR-90 (MC/SQ.MI.)	0.12C	0.16C	0.42C	0.20C	0.43C	0.30C	0.13C	0.23C	0.34	0.53	0.60	0.70	4.16
	SR-90 CONC. (PC/L)	0.46	0.46	0.91	0.91	2.58	2.58	0.91	0.91	0.76	1.52	1.82	4.71	
	SR-89/SR-90	--	--	--	--	--	--	--	--	67.	38.	76.	61.	
1962	PRECIP. (INCHES)	4.67	7.52	0.40	0.61	1.33	4.62	2.37	1.67	4.74	6.00	5.69	6.27	45.89
	SR-90 (MC/SQ.MI.)	1.55	0.53	0.69	2.35	1.42	1.74	0.58	--	1.01	1.52	1.40	1.86	E
	SR-90 CONC. (PC/L)	5.02	1.06	26.30	58.52	16.26	5.78	3.65	--	3.19	3.80	3.80	4.56	
	SR-89/SR-90	43.	32.	114.	12.	9.	9.	9.	--	26.	29.	53.	48.	
1963	PRECIP. (INCHES)	3.45	3.54	4.33	6.00	4.06	1.41	2.02	1.09	5.72	7.21	3.65	--	E
	SR-90 (MC/SQ.MI.)	1.89	2.07	2.98	4.43	2.41	4.58	2.54	1.19	2.90	3.08	0.74	--	E
	SR-90 CONC. (PC/L)	8.36	8.82	10.49	11.25	8.97	49.40	19.15	16.57	7.75	6.54	3.04	--	
	SR-89/SR-90	26.	20.	12.	12.	7.6	*	4.	*	0.4	*	*	--	
1964	PRECIP. (INCHES)	5.42B	4.25	4.26	1.56	2.25	4.29	3.23	2.34	1.93	6.61	--	5.04	E
	SR-90 (MC/SQ.MI.)	0.98B	2.69	1.94	1.09	1.51	6.18	3.40	0.81	0.55	1.16	--	0.54	E
	SR-90 CONC. (PC/L)	2.74	9.58	6.99	10.64	10.18	21.89	15.96	5.32	4.26	2.74	--	1.67	
	SR-89/SR-90	--	*	*	0.22	*	--	--	--	--	7.60	--	--	
1965	PRECIP. (INCHES)	5.15	2.88	2.38	4.10									E
	SR-90 (MC/SQ.MI.)	0.10	0.10	0.60	0.54									E
	SR-90 CONC. (PC/L)	0.30	0.46	3.80	1.98									
	SR-89/SR-90	--	--	--	--									

NOTES

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: IRAN, TEHRAN

LAT. 35 44N LONG. 51 23E ALT. 4464 FT. (POT)

SOURCE: TEHRAN UNIVERSITY NUCLEAR CENTER

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1962 PRECIP. (INCHES)	--	--	--	--	--	0.15	*	--	0.09	0.61	0.21	0.51	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.66	0.08	0.19	0.20	1.10	0.41	0.76	E
SR-90 CONC. (PC/L)	--	--	--	--	--	66.88	--	--	33.74	27.36	29.64	22.65	
SR-89/SR-90	--	--	--	--	--	8.	13.	13.	16.	11.	29.	47.	
1963 PRECIP. (INCHES)	0.43	4.8	0.36	1.56	1.59	0.03	--	0.6	--	0.13	0.81	2.46	E
SR-90 (MC/SQ.MI.)	1.64	1.77	3.26	8.23	7.44	1.06	0.26	0.24	0.12	0.67	0.78	2.32	27.79
SR-90 CONC. (PC/L)	57.91	5.62	137.71	80.26	71.14	537.02	--	6.08	--	78.28	14.59	14.29	
SR-89/SR-90	47.	24.	15.0	5.2	9.5	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.13	1.31	0.37	0.66	*	*	*	*	*	*	0.43	1.00	3.90
SR-90 (MC/SQ.MI.)	0.37	0.76	1.72	5.83	0.57	0.61	0.14	0.08	*	0.03	0.31	0.09	10.51
SR-90 CONC. (PC/L)	43.32	8.82	70.68	134.22	--	--	--	--	--	--	10.94	1.37	
SR-89/SR-90	*	*	6.50	*	*	--	--	--	--	*	--	--	
1965 PRECIP. (INCHES)	4.53	0.36	1.21	0.63									E
SR-90 (MC/SQ.MI.)	0.19	0.85	2.00	0.60									E
SR-90 CONC. (PC/L)	0.61	35.87	25.08	14.44									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ITALY, FLORENCE

LAT. 43 47N LONG. 11 15E ALT. 165 FT. (COLUMN)

SOURCE: UNITED STATES CONSULATE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	0.99	--	4.91	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.12	0.33	0.43	F
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	1.82	--	1.37	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	1.5	*	0.8	
1960 PRECIP. (INCHES)	6.61	2.64	4.87	1.93	0.07	1.76	4.31	0.34	4.41	8.85	4.57	6.81	47.17
SR-90 (MC/SQ.MI.)	0.27	0.64	0.63	0.36	0.03C	0.81C	1.05C	0.08C	0.16	0.32C	0.19C	0.38C	4.92
SR-90 CONC. (PC/L)	0.61	3.65	1.98	2.89	6.54	6.99	3.65	3.65	0.61	0.61	0.61	0.91	
SR-89/SR-90	--	0.3	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	4.51	1.09	*	4.16	1.40	3.33	0.30	0.40	2.39	4.20	4.34	3.31	29.43
SR-90 (MC/SQ.MI.)	0.31C	0.08C	0.00C	0.97C	0.17C	0.41C	0.08C	0.11C	0.26	0.68	0.64	1.92	5.63
SR-90 CONC. (PC/L)	1.06	1.06	--	3.50	1.82	1.82	4.10	4.26	1.67	2.43	2.28	8.82	
SR-89/SR-90	--	--	--	--	--	--	--	--	1.80	95.	101.	70.	
1962 PRECIP. (INCHES)	5.55	3.07	3.40	1.99	2.09	2.03	0.03	--	1.21	3.33	6.30	2.30	E
SR-90 (MC/SQ.MI.)	1.35	1.35	3.02	4.34	3.03	3.37	0.12	0.70	0.50	1.09	2.54	1.81	23.22
SR-90 CONC. (PC/L)	3.65	6.69	13.53	33.14	22.04	25.23	60.80	--	6.23	5.02	6.08	12.01	
SR-89/SR-90	48.	29.	22.	12.	7.	8.	8.	28.	28.	52.	43.	44.	
1963 PRECIP. (INCHES)	1.80	0.48	2.80	3.14	3.30	2.23	2.94	2.90	2.68	1.04	3.21	2.98	29.50
SR-90 (MC/SQ.MI.)	3.11	1.84	0.72	7.89	13.46	9.27	6.08	8.10	0.18	1.44	2.88	0.84	55.81
SR-90 CONC. (PC/L)	26.30	58.22	3.95	38.15	62.02	63.23	31.46	42.41	1.06	20.98	13.68	4.26	
SR-89/SR-90	36.	25.	12.	12.	7.1	1.1	3.	*	*	*	*	*	
1964 PRECIP. (INCHES)	1.04	3.28	6.12	1.78	4.70	2.12	3.62	1.37	1.36	8.45	2.73	3.51	40.08
SR-90 (MC/SQ.MI.)	0.38	2.18	5.38	3.05	6.65	5.20	11.39	2.72	--	3.55	0.28	0.88	E
SR-90 CONC. (PC/L)	5.62	10.03	13.38	25.99	21.43	37.24	47.88	30.25	--	6.38	1.52	3.80	
SR-89/SR-90	*	0.2	*	*	*	--	--	--	--	3.10	*	--	
1965 PRECIP. (INCHES)	3.06	0.02	2.46	2.90									E
SR-90 (MC/SQ.MI.)	0.33	--	0.31	3.00									E
SR-90 CONC. (PC/L)	1.67	--	1.98	15.66									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: ITALY, MILAN

LAT. 45 28N LONG. 9 12E ALT. 400 FT. (COLUMN)

SOURCE: UNITED STATES CONSULATE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959													
PRECIP. (INCHES)	--	--	--	--	--	--	--	--	3.58	0.92	6.81	9.30	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.02	0.02	0.10	0.02	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.15	0.30	0.15	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1960													
PRECIP. (INCHES)	3.43	3.55	3.94	1.69	0.96	6.80	0.79	4.33	7.02	9.78	5.00	2.50	49.79
SR-90 (MC/SQ.MI.)	0.20	0.39	0.17	0.34	0.14C	1.02C	0.05C	0.26C	0.33C	0.46C	0.44C	0.22C	4.02
SR-90 CONC. (PC/L)	0.91	1.67	0.61	3.04	2.28	2.28	0.91	0.91	0.76	0.76	1.37	1.37	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961													
PRECIP. (INCHES)	1.22	1.45	*	5.34	2.3	3.95	3.60	0.67	0.5	2.98	6.96	2.24	31.21
SR-90 (MC/SQ.MI.)	0.06C	0.07C	0.00C	0.84C	0.41C	0.70C	0.42C	0.08C	*	0.26	1.36	0.41	4.61
SR-90 CONC. (PC/L)	0.76	0.76	--	2.43	2.74	2.74	1.82	1.82	0.00	1.37	3.04	2.74	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	84.	82.	68.	
1962													
PRECIP. (INCHES)	0.75	2.26	2.71	3.99	3.59	2.87	0.72	1.76	2.91	3.43	5.96	16.4	47.87
SR-90 (MC/SQ.MI.)	1.24	1.76	0.34	2.92	2.28	2.33	0.87	--	0.89	1.07	1.89	0.34	E
SR-90 CONC. (PC/L)	25.08	11.86	1.98	11.10	9.73	12.31	18.39	--	4.71	4.71	4.88	0.30	
SR-89/SR-90	46.	25.	18.	11.	9.	6.	18.	--	22.	34.	18.	38.	
1963													
PRECIP. (INCHES)	4.03	2.88	3.40	3.40	3.54	2.47	2.06	5.50	4.76	1.54	3.77	2.21	44.51
SR-90 (MC/SQ.MI.)	1.36	0.76	2.82	3.94	3.42	0.60	6.57	9.66	1.87	0.93	4.12	0.69	36.74
SR-90 CONC. (PC/L)	5.17	3.95	12.62	17.63	14.74	3.65	48.49	26.75	5.93	9.12	7.14	4.71	
SR-89/SR-90	28.	34.	12.	13.	6.7	2.0	2.	*	0.9	*	*	*	
1964													
PRECIP. (INCHES)	0.55	3.35	7.24	3.07	3.34	0.87	2.44	1.26	0.51	4.53	1.73	3.31	32.20
SR-90 (MC/SQ.MI.)	4.01	1.70	5.30	1.55	5.33	7.16	5.72	2.93	0.50	1.97	0.80	1.08	38.05
SR-90 CONC. (PC/L)	110.81	7.75	11.10	7.60	24.32	125.10	35.57	35.42	14.90	6.54	6.99	5.02	
SR-89/SR-90	*	*	*	1.80	*	--	--	--	--	4.50	*	--	
1965													
PRECIP. (INCHES)	2.44	*	1.69	0.47									E
SR-90 (MC/SQ.MI.)	1.55	0.08	1.04	0.32									E
SR-90 CONC. (PC/L)	9.73	--	9.42	10.34									
SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: IWO JIMA

LAT. 24 47N LONG. 141 19E ALT. 370 FT. (COLUMN)

SOURCE: U.S. AIR WEATHER SERVICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	2.83	0.93	1.14	5.69	5.33	1.60	2.10	5.28	5.48	6.75	2.88	3.47	43.48
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.11	0.13	0.07	0.06	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.30	0.30	0.15	0.30	--	
	SR-89/SR-90	--	--	--	--	--	--	--	2.1	*	*	*	--	
1960	PRECIP. (INCHES)	7.01	7.09	1.50	11.70	1.31	2.63	5.16	11.77	*	11.81	*	2.99	62.97
	SR-90 (MC/SQ.MI.)	0.48	0.24	0.34	0.36	0.12C	0.23C	0.08C	0.18C	0.00C	0.06C	0.00C	0.11C	2.20
	SR-90 CONC. (PC/L)	1.06	0.46	3.50	0.46	1.37	1.37	0.30	0.30	--	0.15	--	0.61	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.71	3.65	6.88	2.85	2.87	3.12	13.53	6.47	8.06	7.66	5.60	2.72	66.12
	SR-90 (MC/SQ.MI.)	0.18C	0.25C	0.66C	0.27C	0.21C	0.22C	0.05C	0.02C	0.15	0.10	0.30	1.97	4.38
	SR-90 CONC. (PC/L)	1.06	1.06	1.52	1.37	1.06	1.06	0.00	0.00	0.30	0.15	0.76	10.94	
	SR-89/SR-90	--	--	--	--	--	--	--	--	14.	90.	72.	69.	
1962	PRECIP. (INCHES)	7.38	0.33	2.03	2.70	7.65	8.76	1.80	11.20	2.17	13.27	3.32	5.67	66.28
	SR-90 (MC/SQ.MI.)	1.66	0.66	0.84	1.09	0.45	1.41	0.38	0.77	0.29	0.80	0.33	2.26	10.94
	SR-90 CONC. (PC/L)	3.34	30.40	6.23	6.08	0.91	2.43	3.19	1.06	1.98	0.91	1.52	6.08	
	SR-89/SR-90	47.	29.	22.	14.	8.	7.	9.	12.	16.	30.	49.	50.	
1963	PRECIP. (INCHES)	1.44	0.31	0.58	1.21	4.41	2.03	4.06	5.37	6.93	7.73	6.06	9.17	49.30
	SR-90 (MC/SQ.MI.)	1.44	0.73	0.06	0.64	1.51	2.75	1.49	1.40	0.83	0.62	1.18	1.25	13.90
	SR-90 CONC. (PC/L)	15.20	35.72	1.52	8.06	5.17	20.52	5.62	3.95	1.82	1.22	2.89	2.13	
	SR-89/SR-90	45.	35.	20.	12.	12.2	*	0.2	*	1.0	*	*	*	
1964	PRECIP. (INCHES)	1.24	0.72	0.53	0.23	4.68	1.17	8.83	9.81	--	7.98	3.94	7.87	E
	SR-90 (MC/SQ.MI.)	1.26	0.58	0.27	0.61	1.06	0.58	1.86	0.43	0.06	0.64	1.56	1.34	10.25
	SR-90 CONC. (PC/L)	15.50	12.31	7.75	40.28	3.50	7.60	3.19	0.61	--	1.22	6.08	2.58	
	SR-89/SR-90	*	*	*	--	*	--	--	--	--	6.80	*	--	
1965	PRECIP. (INCHES)	3.50	4.14											E
	SR-90 (MC/SQ.MI.)	0.45	2.98											E
	SR-90 CONC. (PC/L)	1.98	10.94											
	SR-89/SR-90	--	--											

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: JAPAN, HIROSHIMA

LAT. 34 23N LONG. 132 27E ALT. 75 FT. (POT)

SOURCE: ATOMIC BOMB CASUALTY COMMISSION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL	
	----	----	----	----	----	----	----	----	----	----	----	----	-----	
1956	PRECIP. (INCHES)	--	--	--	--	--	--	11.93	9.83	3.51	1.64	0.23	E	
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.50	--	0.27	0.11	0.06	E	
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	0.61	--	1.22	1.06	3.95		
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--		
1957	PRECIP. (INCHES)	2.15	2.26	1.29	11.00	6.44	10.22	21.10	4.48	10.92	2.07	2.46	1.91	76.30
	SR-90 (MC/SQ.MI.)	0.29	0.53	0.23	1.12	0.57	0.49	0.82	0.05	0.28	--	0.14	0.36	E
	SR-90 CONC. (PC/L)	1.98	3.50	2.74	1.52	1.37	0.76	0.61	0.15	0.46	--	0.91	2.89	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958	PRECIP. (INCHES)	2.65	2.93	4.88	10.49	3.74	3.98	6.90	9.87	3.59	4.88	2.38	1.95	58.24
	SR-90 (MC/SQ.MI.)	0.24	0.25	0.92	3.37	1.06	0.64	0.43	2.66	0.42	0.79	0.71	0.57	12.06
	SR-90 CONC. (PC/L)	1.37	1.37	2.89	4.86	4.26	2.43	0.91	4.10	1.82	2.43	4.56	4.41	
	SR-89/SR-90	13.	12.	11.	10.	14.	11.	3.2	17.	52.	48.	8.	62.	
1959	PRECIP. (INCHES)	2.64	5.24	2.37	8.12	6.03	2.60	13.08	4.77	4.93	4.33	2.24	3.70	60.05
	SR-90 (MC/SQ.MI.)	1.81	2.45	5.55	6.52	0.40	1.09	1.37	--	0.04	0.27	0.13	0.16	E
	SR-90 CONC. (PC/L)	10.49	7.14	35.57	12.16	1.06	6.38	1.52	--	0.15	0.91	0.91	0.61	
	SR-89/SR-90	31.	28.	10.	7.	--	5.6	3.2	--	*	0.5	*	*	
1960	PRECIP. (INCHES)	1.58	0.39	2.10	5.12	8.59	9.49	7.12	4.09	10.83	2.80	2.95	0.79	55.85
	SR-90 (MC/SQ.MI.)	0.24	0.09	0.84	0.56	0.62C	0.69C	0.30C	0.18C	0.21C	0.07C	0.06C	0.02C	3.88
	SR-90 CONC. (PC/L)	2.28	3.50	6.08	1.67	1.06	1.06	0.61	0.61	0.30	0.46	0.30	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.16	1.57	3.31	6.69	5.35	5.00	6.81	4.61	3.11	7.12	4.61	1.85	52.14
	SR-90 (MC/SQ.MI.)	0.14C	0.10C	0.35C	0.71C	0.40C	0.37C	0.06C	0.05C	--	0.28	0.58	--	E
	SR-90 CONC. (PC/L)	0.91	0.91	1.67	1.67	1.06	1.06	0.15	0.15	--	0.61	1.98	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	6.7	74.	--	
1962	PRECIP. (INCHES)	1.58	1.18	0.94	5.98	7.32	9.61	18.58	4.53	4.80	8.70	3.70	2.24	69.15
	SR-90 (MC/SQ.MI.)	1.11	1.66	3.50	3.44	3.56	1.72	0.13	0.28	1.16	0.97	0.93	1.69	20.15
	SR-90 CONC. (PC/L)	10.64	21.43	56.54	8.82	7.45	2.74	0.15	0.91	3.65	1.67	3.80	11.40	
	SR-89/SR-90	38.	23.	17.	14.	8.	7.	10.	22.	16.	25.	37.	36.	
1963	PRECIP. (INCHES)	1.38	1.10	2.44	5.87	15.74	10.00	6.34	11.81	10.39	3.81	2.00	0.51	71.14
	SR-90 (MC/SQ.MI.)	1.15	1.31	3.56	8.76	9.18	12.09	0.06	2.34	--	3.10	0.73	0.56	E
	SR-90 CONC. (PC/L)	12.62	18.09	22.19	22.65	8.82	18.39	0.15	3.04	--	12.31	5.62	17.33	
	SR-89/SR-90	32.	30.	16.	11.	11.0	*	1.	*	--	0.20	*	*	
1964	PRECIP. (INCHES)	3.58	2.09	3.78	6.90	2.09	14.62	3.43	3.98	3.66	3.55	2.21	1.58	51.47
	SR-90 (MC/SQ.MI.)	1.18	1.97	2.57	2.93	2.03	5.27	1.35	0.23	0.48	0.47	0.29	0.09	16.35
	SR-90 CONC. (PC/L)	5.02	14.29	10.34	6.38	14.74	5.47	5.93	0.91	1.98	1.98	0.91	--	
	SR-89/SR-90	*	*	1.10	0.06	*	--	--	--	--	2.00	*	--	
1965	PRECIP. (INCHES)	2.46	1.20	1.36	5.66	10.22								E
	SR-90 (MC/SQ.MI.)	1.00	0.60	--	1.03	--								E
	SR-90 CONC. (PC/L)	6.23	7.60	--	2.74	--								
	SR-89/SR-90	--	--	--	--	--								

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: JAPAN, MISAWA

LAT. 40 42N LONG. 141 22E ALT. 119 FT. (COLUMN)

SOURCE: U.S. AIR WEATHER SERVICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	3.78	1.92	4.43	1.92	2.83	5.34	4.48	4.13	7.14	3.44	2.92	2.11	44.44
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.41	0.24	0.16	0.26	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.91	1.06	0.76	1.82	
	SR-89/SR-90	--	--	--	--	--	--	--	--	0.46	1.0	*	*	
1960	PRECIP. (INCHES)	9.25	3.91	2.66	3.95	4.11	1.84	2.11	4.73	3.29	6.56	3.80	4.58	50.79
	SR-90 (MC/SQ.MI.)	0.14	0.52	--	0.29	*	*	*	*	0.07	0.14C	0.01C	0.02C	E
	SR-90 CONC. (PC/L)	0.30	1.98	--	1.06	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.38	3.34	0.79	2.75	0.91	3.72	4.55	3.22	5.78	4.89	1.91	3.06	37.30
	SR-90 (MC/SQ.MI.)	0.17C	0.23C	0.20C	0.68C	0.11C	0.43C	0.12C	0.08C	*	0.51	0.49	1.08	4.10
	SR-90 CONC. (PC/L)	1.06	1.06	3.80	3.80	1.82	1.82	0.46	0.30	0.00	1.52	3.95	5.32	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	52.	94.	62.	
1962	PRECIP. (INCHES)	3.34	2.93	2.21C	2.21C	2.23	2.30	1.45	5.01	7.74	4.04	2.36	1.20	37.02
	SR-90 (MC/SQ.MI.)	0.86	*	1.80C	1.80C	3.10	1.86	0.05	0.87	2.84	3.16	1.01	0.74	18.09
	SR-90 CONC. (PC/L)	3.95	0.00	12.31	12.31	21.13	12.31	0.46	2.58	5.62	11.86	6.54	9.42	
	SR-89/SR-90	19.	*	--	--	12.	10.	12.	33.	17.	43.	51.	39.	
1963	PRECIP. (INCHES)	6.10	2.11	2.76	2.07	3.21	3.87	7.09	6.19	1.97	3.66	1.75	1.99	42.77
	SR-90 (MC/SQ.MI.)	1.00	2.62	2.10	4.25	1.53	4.42	7.24	4.45	2.05	2.17	0.90	0.78	33.51
	SR-90 CONC. (PC/L)	2.43	18.85	11.55	31.16	7.30	17.33	15.50	10.94	15.81	8.97	7.75	5.93	
	SR-89/SR-90	55.	26.	30.	10.	8.6	1.1	2.	3.	0.6	*	*	*	
1964	PRECIP. (INCHES)	3.60	5.55	1.72	7.15	3.26	2.37	5.93	7.69	7.16	1.81	6.03	1.04	53.31
	SR-90 (MC/SQ.MI.)	1.42	1.97	1.66	4.99	4.42	4.94	0.63	0.47	1.66	0.51	2.20	0.49	25.36
	SR-90 CONC. (PC/L)	5.93	5.32	14.74	10.64	20.67	31.62	1.67	0.91	3.50	4.26	5.47	7.14	
	SR-89/SR-90	*	*	1.6	*	*	--	--	--	--	3.50	1.80	--	
1965	PRECIP. (INCHES)	4.61	2.52	2.99	1.92									E
	SR-90 (MC/SQ.MI.)	0.63	0.83	0.77	0.84									E
	SR-90 CONC. (PC/L)	2.13	5.02	3.95	6.69									
	SR-89/SR-90	--	--	--	--									

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: JAPAN, NAGASAKI

LAT. 32 45N LONG. 129 52E ALT. 200 FT. (POT)

SOURCE: ATOMIC BOMB CASUALTY COMMISSION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1956 PRECIP. (INCHES)	--	--	--	--	--	--	--	17.43	16.07	3.55	1.44	1.37	B
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.34	0.17	0.20	0.08	0.22	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.30	0.15	0.91	0.91	2.43	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1957 PRECIP. (INCHES)	3.94	3.28	1.40	11.27	6.44	10.18	28.67	11.35	14.74	2.11	2.42	5.38	101.18
SR-90 (MC/SQ.MI.)	1.01	0.17	0.38	1.98	0.72	0.27	1.07	0.46	0.26	0.21	0.19	0.17	6.89
SR-90 CONC. (PC/L)	3.95	0.76	4.10	2.74	1.67	0.46	0.61	0.61	0.30	1.52	1.22	0.46	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	2.50	2.77	5.38	14.94	7.29	5.93	1.33	14.27	2.77	6.67	2.11	3.86	69.82
SR-90 (MC/SQ.MI.)	0.60	0.55	1.13	2.52	1.75	0.88	2.10	0.50	0.26	0.55	0.61	2.16	13.61
SR-90 CONC. (PC/L)	3.65	3.04	3.19	2.58	3.65	2.28	24.02	0.61	1.37	1.22	4.41	8.51	
SR-89/SR-90	16.	11.	14.	15.	4.	35.	86.	60.	52.	44.	48.	37.	
1959 PRECIP. (INCHES)	3.35	5.83	3.55	8.59	7.84	4.18	11.11	3.15	8.67	0.56	3.90	4.77	65.50
SR-90 (MC/SQ.MI.)	3.00	2.14	3.74	7.60	3.02	0.74	1.73	0.19	0.13	0.06	0.09	0.36	22.80
SR-90 CONC. (PC/L)	13.68	5.62	15.96	13.38	5.93	2.74	2.43	0.91	0.15	1.67	0.30	1.22	
SR-89/SR-90	31.	26.	15.	9.3	7.3	3.9	2.3	*	*	*	*	*	
1960 PRECIP. (INCHES)	2.36	0.79	4.33	5.63	9.84	12.16	1.50	3.15	16.14	3.66	3.23	1.69	64.48
SR-90 (MC/SQ.MI.)	0.13	0.20	0.65	0.58	0.050	0.060	--	--	0.110	0.030	0.180	0.090	E
SR-90 CONC. (PC/L)	0.91	3.80	3.04	1.52	0.15	0.00	--	--	0.15	0.15	0.91	0.76	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	3.46	1.85	4.17	4.21	6.78	4.28	5.35	7.16	4.16	6.14	4.92	2.56	47.04
SR-90 (MC/SQ.MI.)	0.280	0.150	0.030	0.030	0.480	0.230	0.060	0.080	0.02	0.13	1.07	2.03	4.89
SR-90 CONC. (PC/L)	1.22	1.22	0.15	0.15	0.76	0.76	0.15	0.15	0.00	0.30	3.34	12.01	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	44.	86.	60.	
1962 PRECIP. (INCHES)	5.51	2.24	2.44	7.95	7.56	12.36	19.22	12.87	7.48	4.72	4.92	3.11	90.26
SR-90 (MC/SQ.MI.)	3.13	3.32	4.23	2.14	1.53	0.65	0.44	0.26	0.49	0.27	0.89	2.54	19.89
SR-90 CONC. (PC/L)	8.66	22.50	26.30	4.10	3.04	0.76	0.30	0.30	1.06	0.91	2.74	12.46	
SR-89/SR-90	40.	29.	23.	14.	7.	9.	14.	15.	15.	16.	36.	54.	
1963 PRECIP. (INCHES)	4.33	1.22	4.29	7.95	13.58	8.82	15.91	17.21	8.60	2.36	2.22	3.17	89.66
SR-90 (MC/SQ.MI.)	3.44	2.02	6.29	0.91	0.68	1.24	0.50	0.21	0.53	0.87	1.16	2.62	20.47
SR-90 CONC. (PC/L)	12.01	25.23	22.34	1.67	0.76	2.13	0.46	0.15	0.91	5.62	7.90	12.62	
SR-89/SR-90	29.	35.	15.	16.	8.9	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	4.66	2.24	2.93	10.68	4.49	13.24	2.52	5.71	4.22	3.90	3.94	1.42	59.95
SR-90 (MC/SQ.MI.)	1.98	1.84	2.31	0.75	0.54	0.29	0.62	0.04	0.25	0.12	0.65	0.07	9.46
SR-90 CONC. (PC/L)	6.38	12.46	12.01	1.06	1.82	0.30	3.80	0.15	0.91	0.46	2.43	0.76	
SR-89/SR-90	*	*	1.30	*	5.20	--	--	--	--	6.40	*	--	
1965 PRECIP. (INCHES)	2.79	2.47	2.07	6.77	8.33								E
SR-90 (MC/SQ.MI.)	0.83	0.76	0.20	0.26	--								E
SR-90 CONC. (PC/L)	4.56	4.71	1.52	0.61	--								
SR-89/SR-90	--	--	--	--	--								

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: JAPAN, TACHIKAWA

LAT. 35 42N LONG. 139 24E ALT. 320 FT. (COLUMN)

SOURCE: U.S. AIR WEATHER SERVICE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	2.77	3.75	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.33	--	0.14	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	0.61	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	--	*	
1960 PRECIP. (INCHES)	1.80	0.11	2.10	6.42	5.23	3.35	1.43	16.02	6.46	5.07	2.74	2.79	53.52
SR-90 (MC/SQ.MI.)	0.22	0.13	0.38	0.96	0.74C	0.47C	*	*	0.12C	0.10C	0.28C	0.28C	3.68
SR-90 CONC. (PC/L)	1.82	17.94	2.74	2.28	2.13	2.13	0.00	0.00	0.30	0.30	1.52	1.52	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.68	1.34	3.46	5.91	1.91	13.23	1.25	3.89	2.87	11.66	1.90	1.45	49.55
SR-90 (MC/SQ.MI.)	0.45C	0.44C	0.34C	0.59C	0.10C	0.73C	0.05C	0.16C	*	0.09	0.19	0.46	3.60
SR-90 CONC. (PC/L)	10.03	5.02	1.52	1.52	0.76	0.91	0.61	0.61	0.00	0.15	1.52	4.86	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	80.	78.	66.	
1962 PRECIP. (INCHES)	0.85	0.77	2.04	3.87	5.60	7.57	10.73	8.77	0.69	4.09	5.46	2.49	52.93
SR-90 (MC/SQ.MI.)	0.36	0.49	*	1.76	1.99	4.23	2.26	0.38	0.16	1.18	1.49	0.50	14.80
SR-90 CONC. (PC/L)	6.38	9.73	0.00	6.84	5.47	8.51	3.19	0.61	3.50	4.41	4.10	3.04	
SR-89/SR-90	44.	27.	--	12.	10.	7.	7.	13.	15.	37.	46.	51.	
1963 PRECIP. (INCHES)	0.05	0.33	2.41	2.59	3.73	8.29	3.15	11.01	2.82	9.85	2.79	1.02	48.04
SR-90 (MC/SQ.MI.)	0.26	0.36	3.08	3.59	6.16	7.37	3.45	1.91	2.80	2.00	1.45	0.40	32.83
SR-90 CONC. (PC/L)	79.04	16.57	19.46	21.13	25.08	13.53	16.72	2.58	15.05	3.04	7.90	5.93	
SR-89/SR-90	17.	28.	12.	9.	4.7	2.4	2.	*	*	1.0	*	*	
1964 PRECIP. (INCHES)	4.30	2.53	3.25	3.44	3.09	3.56	1.59	14.07	4.87	3.56	1.64	1.70	47.60
SR-90 (MC/SQ.MI.)	0.07	0.62	0.72	1.60	1.68	2.80	2.70	0.45	0.26	*	*	0.21	11.11
SR-90 CONC. (PC/L)	0.30	3.80	3.34	7.14	8.21	12.01	25.84	0.46	0.76	0.00	0.00	1.82	
SR-89/SR-90	*	0.5	4.2	*	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.63	0.37	1.40	5.64									E
SR-90 (MC/SQ.MI.)	0.10	0.11	0.29	1.17									E
SR-90 CONC. (PC/L)	2.43	4.56	3.19	3.19									
SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: JOHNSTON ISLAND

LAT. 16 45N LONG. 169 32W ALT. FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960	PRECIP. (INCHES)	--	0.39	5.28	0.87	1.03	0.79	0.83	1.65	3.82	6.97	3.12	3.12	E
	SR-90 (MC/SQ.MI.)	--	0.32	0.14	0.17	0.27C	0.21C	0.00C	0.01C	0.03C	0.06C	0.05C	0.05C	E
	SR-90 CONC. (PC/L)	--	12.46	0.46	3.04	3.95	4.10	0.00	0.15	0.15	0.15	0.30	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.64	1.10	0.78	3.17	0.39	0.83	1.70	3.78	1.13	12.72	3.03	1.74	31.01
	SR-90 (MC/SQ.MI.)	0.04C	0.08C	--	0.22	0.00C	0.02C	0.02	0.05C	0.06	0.07	0.71	0.29	E
	SR-90 CONC. (PC/L)	0.91	1.06	--	1.06	0.00	0.30	0.15	0.15	0.76	0.15	3.50	2.58	
	SR-89/SR-90	--	--	--	--	--	--	--	--	19.	111.	86.	58.	
1962	PRECIP. (INCHES)	1.95	3.91	--	3.83	1.81	1.15	0.51	14.8	2.08	0.86	1.76	0.62	E
	SR-90 (MC/SQ.MI.)	0.47	1.20	2.79	0.08	0.13	0.71	1.32	0.04	0.36	0.06	0.06	0.03	7.25
	SR-90 CONC. (PC/L)	3.65	4.71	--	0.30	1.06	9.42	39.37	0.00	2.58	1.06	0.46	0.76	
	SR-89/SR-90	38.	28.	19.	17.	12.	8.	3.	8.	11.	16.	31.	50.	
1963	PRECIP. (INCHES)	0.29	0.41	2.32	7.62	12.04	2.10	1.20	3.30	2.08	1.10	1.68	0.98	35.12
	SR-90 (MC/SQ.MI.)	0.06	0.08	0.24	0.37	0.58	0.33	0.32	0.04	0.06	0.13	0.03	0.08	2.32
	SR-90 CONC. (PC/L)	3.19	3.04	1.52	0.76	0.76	2.43	4.10	0.15	0.46	1.82	0.30	1.22	
	SR-89/SR-90	26.	25.	13.	11.	7.6	4.0	3.	*	*	*	*	*	
1964	PRECIP. (INCHES)	1.03	1.16	0.76	8.29	3.57	1.42	0.82	0.96	1.06	2.33	1.63	13.04	36.07
	SR-90 (MC/SQ.MI.)	0.19	0.49	0.20	0.20	0.05	0.09	0.28	0.22	0.12	0.14	0.19	1.66	3.83
	SR-90 CONC. (PC/L)	2.74	6.38	3.95	0.30	0.15	0.91	5.17	3.50	1.67	0.91	1.82	1.98	
	SR-89/SR-90	*	0.9	*	0.38	2.60	--	--	--	--	18.00	*	--	
1965	PRECIP. (INCHES)	1.56	0.97	1.05	0.54									E
	SR-90 (MC/SQ.MI.)	0.30	1.37	0.79	0.25									E
	SR-90 CONC. (PC/L)	2.89	21.43	11.40	6.99									
	SR-89/SR-90	--	--	--	--									

NOTES

- : DATA NOT AVAILABLE
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- A: APPROXIMATE
- B: LOWER LIMIT OF REPORTED DATA
- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: KENYA, KIKUYU

LAT. 01 13S LONG. 36 36E ALT. 5800 FT. (POT)

SOURCE: EAST AFRICAN AGRICULTURAL AND FORESTRY RESEARCH ORGANIZATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	5.11	2.00	0.69	10.28	11.39	5.69	0.77	0.39	1.26	2.33	4.88	3.28	47.77
SR-90 (MC/SQ.MI.)	0.14	0.26	0.03	0.03	0.14	0.19	0.15	0.02	0.04	0.09	0.06	0.16	1.31
SR-90 CONC. (PC/L)	0.46	1.98	0.61	0.00	0.15	0.46	2.89	3.34	0.46	0.61	0.15	0.76	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	0.90	5.46	3.41	4.79	11.82	2.89	2.41	0.28	0.08	2.33	2.39	2.54	39.30
SR-90 (MC/SQ.MI.)	0.03	0.14	0.22	0.13	0.90	0.22	0.26	0.13	0.07	0.25	0.15	0.12	2.62
SR-90 CONC. (PC/L)	0.46	0.46	0.91	0.46	1.22	1.22	1.67	6.99	13.38	1.67	0.91	0.76	
SR-89/SR-90	24.	12.	5.	6.	5.	30.	48.	24.	50.	25.	37.	52.	
1959 PRECIP. (INCHES)	0.65	1.71	2.46	4.05	6.23	0.06	0.52	1.29	0.62	0.80	0.63	0.20	30.33
SR-90 (MC/SQ.MI.)	0.24	0.22	0.27	0.35	0.22	0.03	0.01	0.04	0.09	0.03	0.11	0.04	1.47
SR-90 CONC. (PC/L)	5.62	1.98	1.67	1.37	0.61	7.60	0.30	0.46	1.67	0.61	0.15	0.30	
SR-89/SR-90	32.	28.	19.	12.	6.6	7.0	*		1.7	*	*	*	
1960 PRECIP. (INCHES)	1.81	0.27	5.88	5.37	3.24	1.29	0.17	0.60	0.80	1.30	2.63	0.89	25.25
SR-90 (MC/SQ.MI.)	0.10	0.01	0.13	0.07	0.22	--	0.010	0.030	0.040	0.130	0.070	0.020	E
SR-90 CONC. (PC/L)	0.91	0.61	0.30	0.15	1.06	--	0.91	0.76	0.76	0.91	0.46	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.26	0.28	2.74	6.62	3.85	0.62	1.05	1.00	1.29	0.46	21.43	16.27	49.67
SR-90 (MC/SQ.MI.)	0.020	0.020	0.030	0.070	0.720	0.120	0.060	0.050	0.39	0.32	0.15	0.44	3.12
SR-90 CONC. (PC/L)	1.22	1.06	0.15	0.15	2.89	2.89	0.91	0.76	4.56	0.61	0.15	0.44	
SR-89/SR-90	--	--	--	--	--	--	--	--	25.	*	*	55.	
1962 PRECIP. (INCHES)	6.35	0.68	1.29	5.67	14.80	1.30	0.05	1.29	0.32	2.76	4.44	3.53	43.43
SR-90 (MC/SQ.MI.)	0.55	0.14	0.13	1.67	0.77	5.19	0.04	0.11	0.02	0.16	0.15	0.29	4.74
SR-90 CONC. (PC/L)	1.37	3.19	1.52	4.41	0.76	60.65	12.16	1.37	0.91	1.06	0.46	1.22	
SR-89/SR-90	40.	33.	20.	9.	4.	7.	34.	31.	7.	16.	15.	54.	
1963 PRECIP. (INCHES)	3.47	2.12	1.83	15.39	9.15	1.42	0.18	2.00	0.09	0.55	0.66	4.61	53.47
SR-90 (MC/SQ.MI.)	0.38	0.45	0.33	0.10	1.29	0.24	0.11	0.15	0.07	0.05	0.20	0.43	1.44
SR-90 CONC. (PC/L)	1.67	3.19	2.74	0.15	2.13	2.58	9.27	1.22	11.86	1.37	0.46	0.76	
SR-89/SR-90	37.	34.	24.	3.	7.1	*	2.	*	*	*	*	*	
1964 PRECIP. (INCHES)	1.44	3.42	4.08	13.93	3.01	0.53	2.41	2.41	0.69	1.07	1.23	1.77	36.34
SR-90 (MC/SQ.MI.)	0.06	1.05	--	5.83	0.32	0.36	0.56	0.56	0.14	0.08	--	*	E
SR-90 CONC. (PC/L)	0.61	4.71	--	6.38	1.67	10.34	3.50	3.50	3.04	1.06	--	0.00	
SR-89/SR-90	1.	*	--	0.36	*	--	--	--	--	*	--	--	
1965 PRECIP. (INCHES)	4.69	0.52	2.25	8.76									E
SR-90 (MC/SQ.MI.)	0.30	0.12	*	0.20									E
SR-90 CONC. (PC/L)	0.91	3.50	0.00	0.30									
SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: KENYA, NAIROBI

LAT. 01 17S LONG. 36 49E ALT. 5453 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

		<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEP.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANN. TOTAL</u>
1959	PRECIP. (INCHES)	0.43	3.54	7.45	4.03	3.34	0.08	0.05	1.23	2.44	1.20	9.11	1.37	34.27
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.16	0.08	0.14	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	1.06	1.06	0.30	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	--	
1960	PRECIP. (INCHES)	1.72	0.47	11.50	6.15	5.18	1.47	0.25	0.21	0.95	2.78	2.90	2.09	35.67
	SR-90 (MC/SQ.MI.)	0.12	0.17	0.25	0.20	0.04C	0.01C	*	*	0.02C	0.06C	0.01C	0.01C	0.89
	SR-90 CONC. (PC/L)	1.06	5.47	0.30	0.46	0.15	0.15	0.00	0.00	0.30	0.30	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.33	0.62	2.98	6.18	4.53	0.98	0.27	1.06	1.40	6.46	29.51	14.94	69.26
	SR-90 (MC/SQ.MI.)	*	*	0.12C	0.25C	0.19C	0.04C	0.01C	0.06C	*	0.04	0.20	0.64	1.55
	SR-90 CONC. (PC/L)	0.00	0.00	0.61	0.61	0.61	0.61	0.61	0.91	0.00	0.15	0.15	0.61	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	6.7	49.	69.	
1962	PRECIP. (INCHES)	7.84	1.75	0.92	5.75	10.07	--	0.07	1.67	0.62	3.28	4.11	3.75	E
	SR-90 (MC/SQ.MI.)	1.26	0.29	0.20	0.24	0.80	0.67	0.19	0.12	0.30	0.40	0.27	0.30	5.04
	SR-90 CONC. (PC/L)	2.43	2.58	3.34	0.61	1.22	--	41.19	1.06	7.30	1.82	1.06	1.22	
	SR-89/SR-90	38.	28.	17.	17.	2.	25.	20.	18.	11.	8.	28.	47.	
1963	PRECIP. (INCHES)	7.60	2.30	4.49	4.86	9.99	1.41	0.13A	2.02	0.07	0.54	7.96	12.17	53.54
	SR-90 (MC/SQ.MI.)	1.52	0.66	0.63	0.20	0.06	5.92	0.05A	0.06	0.08	0.05	0.10	0.46	9.79
	SR-90 CONC. (PC/L)	3.04	4.41	2.13	0.61	0.15	63.84	5.78	0.46	17.33	1.37	0.15	0.61	
	SR-89/SR-90	39.	21.	15.	8.	13.3	6.4	--	2.	*	*	*	*	
1964	PRECIP. (INCHES)	1.86B	3.36	4.08	16.80	4.41	0.53	1.30	2.65	1.02	1.56	3.48	2.39	43.44
	SR-90 (MC/SQ.MI.)	0.18B	0.29	0.93	0.48	0.34	0.51	0.39	0.38	0.70	0.25	0.36	0.40	5.21
	SR-90 CONC. (PC/L)	1.52	1.37	3.50	0.46	1.22	14.59	4.56	2.13	10.49	2.43	1.52	2.58	
	SR-89/SR-90	--	0.2	--	0.48	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	3.56	0.06	2.21	12.05									E
	SR-90 (MC/SQ.MI.)	0.57	0.03	0.17	0.34									E
	SR-90 CONC. (PC/L)	2.43	7.60	1.22	0.46									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: KOROR ISLAND

LAT. 07 21N LONG. 134 31E ALT. 102 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU OFFICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1960	PRECIP. (INCHES)	15.16	10.20	3.74	11.66	11.46	14.17	13.43	11.37	20.79	15.03	11.00	14.00	152.01
	SR-90 (MC/SQ.MI.)	0.15	--	0.06	0.16	0.12C	0.14C	*	*	0.09C	0.06C	0.01C	0.02C	E
	SR-90 CONC. (PC/L)	0.15	--	0.30	0.15	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	16.	9.5	6.21	6.71	20.14	23.93	13.69	17.37	11.61	18.55	7.81	13.8	165.32
	SR-90 (MC/SQ.MI.)	0.13C	0.08C	0.08C	0.09C	0.03C	0.04C	0.15C	0.18C	0.22	0.20	0.11	0.43	1.74
	SR-90 CONC. (PC/L)	0.15	0.15	0.15	0.15	0.00	0.00	0.15	0.15	0.30	0.15	0.15	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	15.	96.	63.	
1962	PRECIP. (INCHES)	16.70	8.65	7.46	6.10	18.34	8.37	35.	22.57	17.68	9.61	4.93	14.10	169.51
	SR-90 (MC/SQ.MI.)	0.99	0.44	0.68	0.99	*	0.38	0.54	0.38	0.24	0.13	0.16	0.34	5.27
	SR-90 CONC. (PC/L)	0.91	0.76	1.37	2.43	0.00	0.76	0.30	0.30	0.15	0.15	0.46	0.30	
	SR-89/SR-90	58.	33.	18.	14.	*	12.	19.	13.	15.	29.	40.	46.	
1963	PRECIP. (INCHES)	18.63	8.79	8.41	3.39	12.01	14.00	11.17	14.31	13.40	10.23	6.73	13.38	134.45
	SR-90 (MC/SQ.MI.)	0.68	0.60	1.11	1.27	0.69	2.90	0.30	0.35	0.44	0.68	0.26	0.68	9.96
	SR-90 CONC. (PC/L)	0.61	1.06	1.98	5.62	0.91	3.19	0.46	0.30	0.46	1.06	0.61	0.76	
	SR-89/SR-90	41.	26.	18.	9.	7.8	*	0.8	2.	*	0.6	*	*	
1964	PRECIP. (INCHES)	7.07	16.45	6.98	7.45	18.33	12.12	4.13	15.73	7.06	10.19	13.75	11.45	130.71
	SR-90 (MC/SQ.MI.)	1.49	1.08	0.08	0.96	0.75	0.71	0.21	0.50	0.08	*	0.20	0.93	5.99
	SR-90 CONC. (PC/L)	3.19	1.06	0.15	1.98	0.61	0.91	0.76	0.46	0.15	0.00	0.15	1.22	
	SR-89/SR-90	*	*	*	0.16	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	6.40	13.04	14.60	7.11									E
	SR-90 (MC/SQ.MI.)	0.09	0.22	0.10	0.16									E
	SR-90 CONC. (PC/L)	0.15	0.30	0.15	0.30									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: LEBANON, BEIRUT

LAT. 33 54N LONG. 35 28E ALT. 125 FT. (COLUMN)

SOURCE: OBSERVATORY AND METEOROLOGICAL STATION, AMERICAN UNIVERSITY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	5.52	4.55	2.36	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.28	--	0.63	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	0.76	--	4.10	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	--	*	
1960 PRECIP. (INCHES)	5.62	--	4.72	1.17	0.02	*	--	--	0.71	0.47	0.39	1.18	E
SR-90 (MC/SQ.MI.)	0.09	0.30	--	--	--	--	*	*	0.05C	0.04C	0.14C	0.43C	E
SR-90 CONC. (PC/L)	0.30	--	--	--	--	--	--	--	1.06	1.37	5.47	5.47	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	6.43	10.56	3.66	0.11	6.16	*	*	*	13.20	5.83	3.02	5.51	54.48
SR-90 (MC/SQ.MI.)	0.53C	0.86C	0.53C	0.02C	0.20	0.00C	0.05C	0.05C	0.19	0.12	0.76	4.87	8.18
SR-90 CONC. (PC/L)	1.22	1.22	2.13	2.74	0.46	--	--	--	0.15	0.30	3.80	13.38	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	62.	51.	53.	
1962 PRECIP. (INCHES)	7.00	7.56	0.53	2.28	0.29	*	--	--	12.24	5.43	0.18	11.25	E
SR-90 (MC/SQ.MI.)	5.02	8.49	1.36	2.66	1.09	0.02	0.05	0.09	0.02	0.16	0.34	3.70	23.00
SR-90 CONC. (PC/L)	10.94	17.02	39.06	17.78	57.15	--	--	--	0.00	0.46	28.73	5.02	
SR-89/SR-90	43.	31.	30.	17.	8.	*	8.	7.	17.	19.	14.	43.	
1963 PRECIP. (INCHES)	10.1	6.20	2.80	3.70	3.02	*	--	--	0.87	3.72	5.38	5.39	E
SR-90 (MC/SQ.MI.)	10.48	2.49	1.81	1.74	4.53	0.80	0.11	0.13	1.15	2.82	2.54	5.88	34.48
SR-90 CONC. (PC/L)	15.81	6.08	9.88	7.14	22.80	--	--	--	20.06	11.55	7.14	16.57	
SR-89/SR-90	50.	37.	16.6	11.4	6.8	*	1.	*	*	1.7	*	*	
1964 PRECIP. (INCHES)	19.16	12.58	3.59	0.83	--	*	*	*	0.08	*	9.14	3.76	E
SR-90 (MC/SQ.MI.)	3.76	10.51	7.22	0.98	--	1.63	0.05	0.04	0.54	0.15	1.42	0.12	E
SR-90 CONC. (PC/L)	3.04	12.77	30.55	17.94	--	--	--	--	102.60	--	2.43	0.46	
SR-89/SR-90	*	*	*	*	--	*	*	*	--	*	1.10	--	
1965 PRECIP. (INCHES)	6.19	--	4.18	3.58									E
SR-90 (MC/SQ.MI.)	2.69	3.05	2.17	2.74									E
SR-90 CONC. (PC/L)	6.54	--	7.90	11.70									
SR-89/SR-90	--	--	--	--									

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: LIBERIA, MONROVIA

LAT. 06 20N LONG. 10 46W ALT. FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	3.00B	--	5.01	1.01	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.32	--	0.16	0.04	0.10	0.01	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	1.67	--	0.46	0.61	--	--	
SR-89/SR-90	--	--	--	--	--	--	*	--	*	--	*	--	
1960 PRECIP. (INCHES)	1.18	1.01	5.01	1.45	11.07	57.18	19.30	23.41	25.75	--	--	--	E
SR-90 (MC/SQ.MI.)	0.01	--	--	0.17	0.14	0.21	0.03C	0.04C	0.07C	0.07C	0.07C	0.07C	E
SR-90 CONC. (PC/L)	0.15	--	--	1.82	0.15	0.00	0.00	0.00	0.00	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	--	0.90	4.90	3.73	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.03	0.36	0.44C	0.34C	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	6.08	1.37	1.37	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1962 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1963 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	0.45A	0.45A	0.45A	0.45A	3.05A	2.90A	1.46A	--	2.40	0.22	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	2.90A	2.00A	*	--	*	*	--	
1964 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.06	0.08	0.18	1.19	1.63	0.55	0.34	1.01	0.49	1.47	0.96	0.33	3.29
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	*	--	--	*	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.08	--	0.22	0.49	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: LIBYA, SHARAH SHAHAT

LAT. 32 53N LONG. 13 12E ALT. 30 FT. (COLUMN)

SOURCE: LIBYAN MINISTRY OF COMMUNICATIONS, METEOROLOGICAL DEPARTMENT

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1963 PRECIP. (INCHES)	4.49	2.73	--	0.65	0.9	--	0.13	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.19	1.18	--	0.73	2.05	1.12	0.15	--	--	--	--	--	E
SR-90 CONC. (PC/L)	0.61	6.54	--	17.02	34.66	--	17.48	--	--	--	--	--	
SR-89/SR-90	25.	32.	--	*	*	*	1.	--	--	--	--	--	
1964 PRECIP. (INCHES)	3.99	3.19											E
SR-90 (MC/SQ.MI.)	1.36	1.12											E
SR-90 CONC. (PC/L)	5.17	5.32											
SR-89/SR-90	0.2	*											

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: LIBYA, BEN GASHIR

LAT. 32 54N LONG. 13 11E ALT. 30 FT. (COLUMN)

SOURCE: LIBYAN MINISTRY OF COMMUNICATIONS, METEOROLOGICAL DEPARTMENT

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1963 PRECIP. (INCHES)	1.97	0.31	0.29	0.64	0.02	*	*	--	1.61	3.90	1.43	0.23	E
SR-90 (MC/SQ.MI.)	0.26A	0.12A	0.30A	0.89A	2.70A	--	1.43A	--	1.94	2.22	0.51	2.20	E
SR-90 CONC. (PC/L)	1.98	5.93	15.66	21.13	D	--	--	--	18.24	8.66	5.47	145.46	
SR-89/SR-90	24.00A	20.00	11.00A	10.00	--	--	*	--	1.6	1.2	*	*	
1964 PRECIP. (INCHES)	0.23	1.10	--	0.33	*	0.02	*	*	*	4.30	1.94	7.40	E
SR-90 (MC/SQ.MI.)	2.64	0.54	0.79	0.94	0.56	0.88	0.72	0.33	*	0.09	1.16	0.03	8.68
SR-90 CONC. (PC/L)	174.50	7.45	--	43.32	--	668.80	--	--	--	0.30	9.12	0.00	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	2.32	1.02	14.80	11.90									E
SR-90 (MC/SQ.MI.)	0.18	0.07	0.79	0.61									E
SR-90 CONC. (PC/L)	1.22	1.06	0.76	0.76									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: LIBYA, CYRENE LAT. 32 53N LONG. 13 12E ALT. 30 FT. (COLUMN)

SOURCE: LIBYAN MINISTRY OF COMMUNICATIONS, METEOROLOGICAL DEPARTMENT
COLLECTIONS DISCONTINUED IN 1963

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1963 PRECIP. (INCHES)	--	--	2.15	--	--	--	*	--	*	4.54	2.36	--	E
SR-90 (MC/SQ.MI.)	--	--	0.04	--	--	1.12	0.50	0.05	0.05	0.76	0.54	--	E
SR-90 CONC. (PC/L)	--	--	0.30	--	--	--	--	--	--	2.58	3.50	--	
SR-89/SR-90	--	--	10.	--	--	*	0.4	*	*	*	*	--	

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: LIBYA, WHEELUS AB

LAT. 32 54N LONG. 13 17E ALT. 46 FT. (COLUMN)

SOURCE: U. S. AIR WEATHER SERVICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	1.07	1.76	0.12	*	0.03	0.02	*	*	*	0.77	1.57	2.81	8.15
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.15	0.13	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	2.89	1.22	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	0.66	0.51	--	
1960	PRECIP. (INCHES)	0.69	0.26	0.09	2.25	0.02	0.01	*	*	1.82	0.02	1.07	8.22	14.45
	SR-90 (MC/SQ.MI.)	0.16	0.09	--	--	0.30C	0.14C	*	*	0.24C	0.00C	0.03C	0.23C	E
	SR-90 CONC. (PC/L)	3.50	5.32	--	--	228.00	212.80	--	--	1.98	0.00	0.46	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	2.04	0.46	1.11	1.50	0.33	*	*	0.04	0.02	0.93	0.01	0.72	7.16
	SR-90 (MC/SQ.MI.)	0.43C	0.10C	0.30C	0.40C	*	*	0.00C	0.22C	*	0.12	0.08	1.26	2.91
	SR-90 CONC. (PC/L)	3.19	3.34	4.10	4.10	0.00	--	--	83.60	0.00	1.98	121.60	26.60	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	53.	54.	63.	
1962	PRECIP. (INCHES)	3.04	3.24	0.79	0.22	0.09	*	*	*	*	1.65	1.36	2.43	12.82
	SR-90 (MC/SQ.MI.)	2.80	2.10	0.12	0.28	0.38	0.34	0.10	0.05	0.11	0.73	2.42	2.75	12.18
	SR-90 CONC. (PC/L)	13.98	9.88	2.28	19.30	64.14	--	--	--	--	6.69	27.06	17.18	
	SR-89/SR-90	44.	27.	16.	12.	13.	18.	31.	15.	8.	29.	48.	51.	
1963	PRECIP. (INCHES)	1.99	0.31	0.62	0.54	0.03	0.03	0.06	*	1.61	4.89	0.37	0.34	10.79
	SR-90 (MC/SQ.MI.)	0.50	0.86	1.92	1.19	0.65	0.23	0.59	0.02	1.56	8.88	0.67	0.24	17.31
	SR-90 CONC. (PC/L)	3.80	42.10	47.12	33.44	329.38	116.58	149.42	--	14.74	27.66	27.51	10.79	
	SR-89/SR-90	27.	27.	13.	12.	7.8	1.4	2.	*	*	0.3	*	*	
1964	PRECIP. (INCHES)	5.12	1.38	*	0.11	*	0.28	0.02	*	0.14	0.41	3.33	2.57	13.36
	SR-90 (MC/SQ.MI.)	3.10	0.62	0.22	0.60	0.27	0.70	0.30	0.06	0.22	0.06	0.93	1.01	8.09
	SR-90 CONC. (PC/L)	9.27	6.84	--	82.84	--	38.00	228.00	--	23.86	2.28	4.26	5.93	
	SR-89/SR-90	*	0.2	*	*	*	--	--	--	--	--	1.20	--	
1965	PRECIP. (INCHES)	1.43	1.66	0.63	0.24									E
	SR-90 (MC/SQ.MI.)	0.60	0.44	0.83	0.64									E
	SR-90 CONC. (PC/L)	6.38	4.10	20.06	40.58									
	SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MAJURO ISLAND

LAT. 07 05N LONG. 171 23E ALT. 10 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960	PRECIP. (INCHES)	9.17	3.60	11.17	23.41	14.27	13.22	14.10	14.59	16.93	9.71	16.32	6.54	153.03
	SR-90 (MC/SQ.MI.)	--	0.17	0.20	0.43	0.19C	0.17C	0.12C	0.13C	0.06C	0.03C	0.16C	0.07C	E
	SR-90 CONC. (PC/L)	--	0.76	0.30	0.30	0.15	0.15	0.15	0.15	0.00	0.00	0.15	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	21.97	6.50	4.24	8.50	8.34	13.90	5.34	11.31	11.14	11.50	12.04	16.92	131.70
	SR-90 (MC/SQ.MI.)	0.18C	0.06C	0.10C	0.20C	*	*	*	*	*	0.06	0.09	0.52	1.21
	SR-90 CONC. (PC/L)	0.15	0.15	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	12.	72.	70.	
1962	PRECIP. (INCHES)	17.55	5.15	11.48	5.95	12.01	7.54	11.02	8.91	21.03	16.36	22.69	11.71	151.40
	SR-90 (MC/SQ.MI.)	0.55	0.36	2.18	0.85	0.37	0.65	0.37	0.30	0.12	0.22	0.30	0.31	6.58
	SR-90 CONC. (PC/L)	0.46	1.06	2.89	2.13	0.46	1.37	0.46	0.46	0.15	0.15	0.15	0.46	
	SR-89/SR-90	40.	34.	20.	13.	36.	54.	30.	22.	19.	30.	99.	55.	
1963	PRECIP. (INCHES)	17.46	9.57	12.43	6.19	11.31	11.96	11.69	10.77	6.83	13.13	11.60	8.57	131.51
	SR-90 (MC/SQ.MI.)	0.35	0.99	1.38	1.29	0.22	0.77	0.48	0.39	0.16	0.23	0.30	--	E
	SR-90 CONC. (PC/L)	0.30	1.52	1.67	3.19	0.30	0.91	0.61	0.61	0.30	0.30	0.46	--	
	SR-89/SR-90	29.	24.	18.	3.	9.2	3.0	5.	*	*	*	*	*	
1964	PRECIP. (INCHES)	1.40	6.99	7.23	11.41	22.02	11.16	18.69	15.58	21.11	22.79	16.85	7.42	162.65
	SR-90 (MC/SQ.MI.)	0.63	1.02	0.61	0.53	0.27	0.38	0.58	0.34	0.26	0.25	0.25	0.26	5.38
	SR-90 CONC. (PC/L)	6.84	2.28	1.22	0.76	0.15	0.46	0.46	0.30	0.15	0.15	0.15	0.61	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	9.85	5.32	1.98	4.69									E
	SR-90 (MC/SQ.MI.)	0.08	0.24	0.18	0.14									E
	SR-90 CONC. (PC/L)	0.15	0.76	1.37	0.46									
	SR-89/SR-90	--	--	--	--									

NOTES

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- A: APPROXIMATE
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- C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA
- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

SITE: Singapore

MONTHLY FALLOUT DEPOSITION COLLECTIONS

LAT. 01 20N LONG. 103 50E ALT. 25 FT. (COLUMN)

SOURCE: UNITED STATES CONSULATE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	6.37	8.74	20.35	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.05	*	0.02	*	E
SR-89/SR-90	--	--	--	--	--	--	--	--	--	0.00	0.00	0.00	
1960 PRECIP. (INCHES)	5.24	8.35	4.73	4.33	5.52	7.09	4.31	1.97	5.80	2.48	4.13	7.04	60.99
SR-90 (MC/SQ.MI.)	*	--	0.10	0.02	0.95	--	0.67C	0.29C	0.05C	0.03C	0.04C	0.06C	E
SR-90 CONC. (PC/L)	0.00	--	0.30	0.00	2.58	--	2.43	2.28	0.15	0.15	0.15	0.15	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	6.05	5.25	12.	5.44	5.39	4.71	4.72	2.60	5.71	2.07	3.68	11.23	73.92
SR-90 (MC/SQ.MI.)	*	*	0.17C	0.07C	0.03	1.29	0.07C	0.04C	0.09	0.06	0.09	0.11	2.02
SR-90 CONC. (PC/L)	0.00	0.00	0.15	0.15	0.15	4.10	0.15	0.30	0.30	0.46	0.15	0.15	
SR-89/SR-90	--	--	--	--	--	--	--	--	3.1	16.	55.	53.	
1962 PRECIP. (INCHES)	15.37	3.94	9.45	5.12	4.33	3.54	4.28	6.89	7.09	6.10	8.04	15.70	39.35
SR-90 (MC/SQ.MI.)	0.13	0.19	0.14	0.27	0.05	0.22	0.13	0.50	0.23	0.04	0.13	0.22	2.25
SR-90 CONC. (PC/L)	0.15	0.76	0.15	0.76	0.15	0.91	0.46	1.06	0.46	0.15	0.30	0.15	
SR-89/SR-90	43.	22.	18.	14.	12.	56.	32.	12.	10.	28.	25.	41.	
1963 PRECIP. (INCHES)	8.91	5.96	1.79	1.88	6.25	6.7	6.55	3.03	6.86	2.89	5.98	18.44	75.24
SR-90 (MC/SQ.MI.)	0.26	0.31	0.31	0.46	0.22	0.20	0.25	0.16	0.07	0.17	0.11	0.16	3.6
SR-90 CONC. (PC/L)	0.46	0.76	2.58	3.65	0.61	0.46	0.61	0.76	0.15	0.91	0.30	0.15	
SR-89/SR-90	46.	28.	18.	8.	4.0	3.	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	6.06	17.1	9.32	13.62	4.92	4.31	10.01	5.32	5.79	12.96	4.02	17.36	110.71
SR-90 (MC/SQ.MI.)	0.26	0.05	0.49	0.58	0.23	0.22	0.10	0.03	0.18	0.05	0.05	0.16	2.47
SR-90 CONC. (PC/L)	0.61	0.00	0.76	0.61	0.76	0.76	0.15	0.15	0.46	0.00	0.15	0.15	
SR-89/SR-90	*	*	4.7	*	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.87	--	--	--	--	--	--	--	--	--	--	--	
SR-90 (MC/SQ.MI.)	0.02	0.04	0.09	0.09	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	0.30	--	--	--	--	--	--	--	--	--	--	--	E
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

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NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MEXICO, MEXICO CITY

LAT. 19 26N LONG. 99 03W ALT. 7340 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	0.08	0.02	0.45	1.60	1.27	4.97	9.00	6.50	5.	5.91	0.08	0.04	34.92
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	0.22	0.04	0.08	--	0.15	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.46	0.15	0.15	--	57.00	
	SR-89/SR-90	--	--	--	--	--	--	--	2.1	*	1.5	--	*	
1960	PRECIP. (INCHES)	0.20	*	0.50	0.08	1.75	2.76	7.09	5.91	4.96	1.78	0.83	0.69	26.55
	SR-90 (MC/SQ.MI.)	0.13	0.12	0.02	0.25	--	--	--	--	0.04C	0.02C	0.02C	0.01C	E
	SR-90 CONC. (PC/L)	9.88	--	0.61	47.58	--	--	--	--	0.15	0.15	0.30	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.29	*	3.0	6.2	0.56	8.76	4.59	5.87	5.03	1.06	0.14	0.13	35.63
	SR-90 (MC/SQ.MI.)	0.15C	0.00C	0.13C	0.28C	0.03C	0.46C	0.10C	0.13C	0.04	*	0.02	0.04	1.38
	SR-90 CONC. (PC/L)	7.90	--	0.61	0.76	0.76	0.76	0.30	0.30	0.15	0.00	2.13	4.71	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	--	8.6	56.	
1962	PRECIP. (INCHES)	*	*	0.16	3.92	1.46	5.54	5.74	5.08	4.94	3.56	5.2	0.12	35.72
	SR-90 (MC/SQ.MI.)	*	0.03	*	2.72	0.60	0.81	--	0.87	0.16	0.20	0.09	0.09	E
	SR-90 CONC. (PC/L)	--	--	0.00	10.49	6.23	2.28	--	2.58	0.46	0.91	0.30	11.40	
	SR-89/SR-90	--	17.00	--	13.	19.	13.	--	17.	15.	13.	31.	19.	
1963	PRECIP. (INCHES)	*	*	0.59	0.07	1.67	4.05	9.75	7.64	6.32	3.38	0.07	0.22	33.76
	SR-90 (MC/SQ.MI.)	0.03	0.04	0.07	2.36	0.41	4.03	2.60	2.67	0.76	0.60	0.11	--	E
	SR-90 CONC. (PC/L)	--	--	1.82	512.39	3.80	15.20	4.10	5.32	1.82	2.74	23.86	--	
	SR-89/SR-90	*	6.00	13.	12.	7.3	2.1	1.	*	1.2	*	*	*	
1964	PRECIP. (INCHES)	0.61C	0.61C	0.80	2.30	2.54	10.84	5.00	4.33	--	*	--	--	E
	SR-90 (MC/SQ.MI.)	0.09C	0.09C	--	--	--	--	--	--	--	0.18	0.04	0.03	E
	SR-90 CONC. (PC/L)	2.28	2.28	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	*	--	1.00	0.41									E
	SR-90 (MC/SQ.MI.)	0.19	--	0.06	0.17									E
	SR-90 CONC. (PC/L)	--	--	0.91	6.23									
	SR-89/SR-90	--	--	--	--									

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MOROCCO, RABAT

LAT. 34 02N LONG. 6 51W ALT. FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	7.70	5.70	3.00	0.80	1.60	0.40	*	*	0.10	0.10	2.	7.	28.40
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.04	0.31	0.17	0.33	1.08	6.88	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	25.84	50.16	8.21	14.90	
	SR-89/SR-90	--	--	--	--	--	--	1.00	*	*	*	*	*	
1964	PRECIP. (INCHES)	0.20	2.00	4.	0.39	2.00	*	*	*	0.10	0.50 *	0.50	3.00	12.19
	SR-90 (MC/SQ.MI.)	2.79	2.79	2.92	5.50	0.68	0.66	0.78	0.16	0.49	0.39	0.52	1.66	19.34
	SR-90 CONC. (PC/L)	212.04	21.28	11.10	214.32	5.17	--	--	--	74.48	0 --	15.81	8.36	
	SR-89/SR-90	*	*	1.0	*	--	--	--	--	--	2.10	1.60	--	
1965	PRECIP. (INCHES)	4.00	4.00	1.00	1.00									E
	SR-90 (MC/SQ.MI.)	1.11	0.90	0.95	1.21									E
	SR-90 CONC. (PC/L)	4.26	3.50	14.44	18.39									
	SR-89/SR-90	--	--	--	--									

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: MOROCCO, SIDI SLI AFB LAT. 32 51N LONG. 8 32W ALT. FT. (COLUMN)

SOURCE: U. S. AIR WEATHER SERVICE
COLLECTIONS TERMINATED JULY 1963

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	0.22	2.44	2.80	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.10	0.05	0.31	0.28	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	3.50	1.98	1.52	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	0.82	1.2	
1960 PRECIP. (INCHES)	--	--	4.08	--	0.67	1.02	*	*	--	--	--	3.39	E
SR-90 (MC/SQ.MI.)	0.31	0.37	1.24	--	0.09C	0.16C	*	*	*	*	0.11C	0.11C	E
SR-90 CONC. (PC/L)	--	--	4.56	--	1.98	2.43	--	--	--	--	--	0.46	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.23	0.06	--	--	0.42	0.37	*	*	0.12	--	--	1.19	E
SR-90 (MC/SQ.MI.)	0.24C	0.01C	--	0.35	0.10C	0.08C	0.04C	0.04C	0.20	0.10	1.16	0.73	E
SR-90 CONC. (PC/L)	1.67	2.58	--	--	3.65	3.34	--	--	25.38	--	--	9.27	
SR-89/SR-90	--	--	--	--	--	--	--	--	5.1	56.	77.	68.	
1962 PRECIP. (INCHES)	0.42	--	--	0.43	0.22	0.37	*	*	0.14	1.36	8.27	3.09	E
SR-90 (MC/SQ.MI.)	1.19	1.26	4.76	0.61	1.44	0.98	0.20	0.12	0.32	0.43	4.20	2.22	17.73
SR-90 CONC. (PC/L)	43.02	--	--	21.58	99.56	40.28	--	--	34.81	4.86	7.75	10.94	
SR-89/SR-90	44.	27.	23.	13.	10.	8.	5.	9.	10.	33.	43.	49.	
1963 PRECIP. (INCHES)	5.16	7.55	0.35	1.81	1.19	--	--	--	--	--	--	--	
SR-90 (MC/SQ.MI.)	3.18	1.65	0.34	5.98	0.68	0.03	--	--	--	--	--	--	
SR-90 CONC. (PC/L)	9.42	3.34	14.74	50.16	8.66	--	--	--	--	--	--	--	
SR-89/SR-90	31.	29.	23.	10.	8.8	--	--	--	--	--	--	--	

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: NEW ZEALAND, WELLINGTON

LAT. 41 17S LONG. 174 46E ALT. 112 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	1.15	4.33	1.97	1.97	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.18	0.16	0.09	0.11	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	2.43	0.61	0.76	0.91	
SR-89/SR-90	--	--	--	--	--	--	--	--	0.67	*	*	*	
1960 PRECIP. (INCHES)	1.58	4.33	3.55	1.63	3.54	7.16	7.60	4.93	6.16	3.67	1.57	1.54	47.26
SR-90 (MC/SQ.MI.)	0.25	0.36	0.30	0.28	--	0.18	0.31C	0.21C	0.35C	0.21C	0.29C	0.28C	E
SR-90 CONC. (PC/L)	2.43	1.22	1.22	2.58	--	0.46	0.61	0.61	0.91	0.91	2.74	2.74	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	3.9	2.67	5.12	2.01	7.50	7.50	2.33	3.05	6.66	0.77	2.10	1.24	44.85
SR-90 (MC/SQ.MI.)	0.16C	0.11C	0.30C	0.12C	0.30C	0.30C	0.01C	0.01C	0.05	0.08	0.10	0.15	1.69
SR-90 CONC. (PC/L)	0.61	0.61	0.91	0.91	0.61	0.61	0.00	0.00	0.15	1.52	0.76	1.82	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	5.	*	1.0	
1962 PRECIP. (INCHES)	9.86	2.04	4.14	8.35	5.03	6.35	5.37	6.06	2.28	6.91	2.86	3.31	62.56
SR-90 (MC/SQ.MI.)	1.58	0.08	0.29	0.15	0.20	0.26	0.20	0.22	0.14	0.58	0.27	0.20	4.17
SR-90 CONC. (PC/L)	2.43	0.61	1.06	0.30	0.61	0.61	0.61	0.61	0.91	1.22	1.37	0.91	
SR-89/SR-90	1.4	*	*	*	20.	11.	19.	12.	10.	8.	20.	15.	
1963 PRECIP. (INCHES)	2.43	3.46	2.65	2.35	3.51	5.45	3.19	9.43	2.91	0.30	3.35	1.34	40.37
SR-90 (MC/SQ.MI.)	0.27	0.25	0.33	0.33	0.21	0.35	0.24	0.58	0.02	0.17	0.30	1.12	4.17
SR-90 CONC. (PC/L)	1.67	1.06	1.82	2.13	0.91	0.91	1.22	0.91	0.15	3.66	1.37	12.77	
SR-89/SR-90	8.	4.	2.8	2.	2.0	--	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	2.96	0.98	3.61	1.62	4.00	6.19	3.97	2.15	3.80	1.34	2.50	3.50	41.00
SR-90 (MC/SQ.MI.)	0.50	0.22	0.21	0.16	0.34	0.67	1.62	0.42	1.04	0.29	0.54	0.88	5.89
SR-90 CONC. (PC/L)	2.58	3.34	0.91	1.52	1.37	1.67	2.74	3.04	4.10	3.34	3.34	3.80	
SR-89/SR-90	*	0.8	*	*	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	2.30	2.60	8.99	2.40									E
SR-90 (MC/SQ.MI.)	0.75	0.63	1.74	0.36									E
SR-90 CONC. (PC/L)	5.02	3.65	2.89	2.28									
SR-89/SR-90	--	--	--	--									

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: NIGERIA, LAGOS

LAT. 06 26N LONG. 3 24E ALT. 2 FT. (COLUMN)

SOURCE: UNITED STATES CONSULATE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	3.15	4.33	0.79	5.52	1.18	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.09	0.09	*	*	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.30	1.67	0.00	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	1.2	*	*	
1960 PRECIP. (INCHES)	0.79	2.36	1.58	8.66	9.06	13.38	3.94	4.33	9.06	6.30	2.76	3.94	66.16
SR-90 (MC/SQ.MI.)	0.12	0.15	0.22	--	0.06C	0.10C	0.11C	0.12C	0.03	0.02	0.06C	0.07C	E
SR-90 CONC. (PC/L)	2.28	0.91	2.13	--	0.15	0.15	0.46	0.46	0.00	0.00	0.30	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.18	0.12	5.90	11.42	--	19.29	12.60	0.12	3.94	10.24	3.94	0.39	E
SR-90 (MC/SQ.MI.)	0.10C	0.01C	0.22C	0.42C	0.23C	0.23C	0.16C	0.00C	*	0.08	0.03	0.14	1.52
SR-90 CONC. (PC/L)	1.22	1.22	0.61	0.61	--	0.15	0.15	0.00	0.00	0.15	0.15	5.47	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	57.	60.	58.	
1962 PRECIP. (INCHES)	0.12	3.00	*	--	--	1.50	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.14	8.04C	0.00C	0.47	0.66	1.78	0.68	0.25	0.22	0.32A	0.17A	0.14A	12.87
SR-90 CONC. (PC/L)	17.78	40.74	--	--	--	18.09	--	--	--	--	--	--	
SR-89/SR-90	46.	--	--	12.	22.	30.	30.	16.	13.	27.00A	25.00A	20.00A	
1963 PRECIP. (INCHES)	0.07A	0.71A	1.83A	4.63A	11.86	11.96A	11.96	19.41	14.58	--	--	--	E
SR-90 (MC/SQ.MI.)	0.19A	0.30A	1.02A	1.04A	4.06	0.04A	0.77C	1.25C	0.03	0.11	0.33	0.09	4.23
SR-90 CONC. (PC/L)	41.19	6.38	8.51	3.34	5.17	0.00	0.91	0.91	0.00	--	--	--	
SR-89/SR-90	18.00A	26.00A	14.00A	28.00A	9.10A	--	--	--	*	*	*	1.0	
1964 PRECIP. (INCHES)	0.04	3.94	--	5.91	17.73	--	--	--	--	4.49	1.77	0.32	E
SR-90 (MC/SQ.MI.)	0.17	0.75	0.56	1.29	1.91	5.15	--	--	--	0.28C	0.11C	0.02C	E
SR-90 CONC. (PC/L)	64.60	2.89	--	3.34	1.67	--	--	--	--	0.91	0.91	0.91	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.77	0.49	--	--	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: NORWAY, OSLO

LAT. 59 56N LONG. 10 45E ALT. 40 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	2.60	1.73	--	5.16	5.24	5.67	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	1.76	0.49	--	0.34	0.39	0.40	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	10.34	4.26	--	1.06	1.06	1.06	
SR-89/SR-90	--	--	--	--	--	--	3.1	2.	--	*	0.3	*	
1960 PRECIP. (INCHES)	2.60	1.18	1.17	0.87	0.70	4.21	7.12	5.31	1.74	3.07	5.24	2.55	35.76
SR-90 (MC/SQ.MI.)	0.31	0.17	2.40	0.15	0.12C	0.68C	0.60	--	0.05C	0.08C	0.12C	0.06C	E
SR-90 CONC. (PC/L)	1.82	2.13	31.16	2.58	2.58	2.43	1.22	--	0.46	0.46	0.30	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	2.01	1.73	1.34	7.01	1.57	2.59	2.50	2.64	4.57	6.42	3.56	1.42	37.36
SR-90 (MC/SQ.MI.)	0.23C	0.20C	0.07C	0.37C	0.07C	0.11C	0.17C	0.18C	0.24	0.55	0.42	0.34	2.95
SR-90 CONC. (PC/L)	1.67	1.82	0.76	0.76	0.61	0.61	1.06	1.06	0.76	1.37	1.82	3.65	
SR-89/SR-90	--	--	--	--	--	--	--	--	47.	87.	67.	49.	
1962 PRECIP. (INCHES)	2.76	1.93	0.90	1.70	3.46	1.69	3.70	5.83	2.91	1.62	2.52	2.24	31.26
SR-90 (MC/SQ.MI.)	0.99	0.42	0.24	1.12	2.80	1.26	2.09	1.91	1.24	0.49	1.11	0.84	14.51
SR-90 CONC. (PC/L)	5.47	3.34	4.10	10.03	12.31	11.40	8.51	5.02	6.54	4.56	6.69	5.78	
SR-89/SR-90	38.	42.	26.	9.	6.	9.	8.	9.	21.	36.	41.	32.	
1963 PRECIP. (INCHES)	0.16	0.20	0.83	2.99	4.59	1.89	2.13	5.59	3.99	2.84	3.92	1.34	30.47
SR-90 (MC/SQ.MI.)	0.11	0.19	0.79	4.84	9.40	5.30	0.87	0.07	1.92	1.51	2.62	0.18	27.79
SR-90 CONC. (PC/L)	10.49	13.68	14.44	24.62	31.16	42.56	6.23	0.15	7.30	8.06	10.18	1.98	
SR-89/SR-90	22.	50.	24.6	10.	6.3	1.2	1.	*	1.5	*	*	*	
1964 PRECIP. (INCHES)	0.57	0.79	0.40	1.34	1.27	4.30	3.00	3.04	3.81	6.22	1.61	--	E
SR-90 (MC/SQ.MI.)	1.66	0.56	0.30	2.02	3.31	7.87	3.47	1.82	1.09	1.22	0.58	--	E
SR-90 CONC. (PC/L)	44.23	10.79	11.40	22.95	39.67	27.82	17.63	9.12	4.41	3.04	5.47	--	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	1.90	--	
1965 PRECIP. (INCHES)	--	8.80	0.83	2.12									E
SR-90 (MC/SQ.MI.)	--	0.14	0.33	0.90									E
SR-90 CONC. (PC/L)	--	0.30	6.08	6.38									
SR-89/SR-90	--	--	--	--									

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PAKISTAN, KARACHI

LAT. 24 51N LONG. 67 02E ALT. 50 FT. (COLUMN)

SOURCE: PAKISTAN ATOMIC ENERGY COMMISSION
COLLECTIONS AT THIS SITE TERMINATED

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1958	PRECIP. (INCHES)	--	0.39	*	*	*	*	3.15	--	--	--	*	0.04	E
	SR-90 (MC/SQ.MI.)	--	0.02	0.07	0.13	0.39	0.07	0.29	0.15	0.56	0.06	0.04	0.65	E
	SR-90 CONC. (PC/L)	--	0.76	--	--	--	--	1.37	--	--	--	--	247.00	
	SR-89/SR-90	--	45.	40.	4.	3.	13.	53.	31.	61.	16.	9.	49.	
1959	PRECIP. (INCHES)	*	*	*	*	*	*	6.30	0.08	9.85	*	1.58	*	17.81
	SR-90 (MC/SQ.MI.)	0.29	--	0.15	0.47	--	--	0.47	0.06	0.11	--	0.12	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	1.06	11.40	0.15	--	1.22	--	
	SR-89/SR-90	37.	--	18.	5.3	--	--	2.4	--	4.5	--	*	--	
1960	PRECIP. (INCHES)	0.16	*	1.18	*	*	*	1.18	0.20	*	*	*	*	2.72
	SR-90 (MC/SQ.MI.)	0.38	0.02	0.13	0.02	--	--	0.02C	0.00C	0.04C	0.04C	0.04C	0.04C	E
	SR-90 CONC. (PC/L)	36.18	--	1.67	--	--	--	0.30	0.00	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.04	*	*	0.24	*	0.20	3.55	1.97	3.94	0.96	0.02	0.26	11.18
	SR-90 (MC/SQ.MI.)	0.11C	0.00C	0.10	0.05	*	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	41.80	--	--	3.19	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1962	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1963	PRECIP. (INCHES)	*	--	*	1.	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.11	--	0.16	0.39	0.18	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	5.93	--	--	--	--	--	--	--	--	
	SR-89/SR-90	18.	--	11.	11.	*	--	--	--	--	--	--	--	

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E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PAKISTAN, LAHORE

LAT. 31 39N LONG. 74 22E ALT. 700 FT. (COLUMN)

SOURCE: ATOMIC ENERGY CENTRE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1961	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1962	PRECIP. (INCHES)	1.26	1.59	1.72	*	0.59	*	6.46	4.60	5.64	*	0.54	0.29	22.69
	SR-90 (MC/SQ.MI.)	2.22	2.15	5.33	2.48	1.67	1.69	--	--	1.05	0.31	0.10	0.23	E
	SR-90 CONC. (PC/L)	26.75	20.52	47.12	--	43.02	--	--	--	2.89	--	2.89	12.01	
	SR-89/SR-90	47.	27.	10.	13.	13.	8.	--	--	19.	62.	47.	39.	
1963	PRECIP. (INCHES)	*	0.30	0.50	0.89	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.40	1.52	8.15	0.13	--	--	--	2.46	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	77.06	247.76	2.28	--	--	--	--	--	--	--	--	
	SR-89/SR-90	41.	30.	18.	5.	--	--	--	1.00	--	--	--	--	
1964	PRECIP. (INCHES)	1.42	0.28	0.33A	0.67	0.79	1.69	9.73	13.80	*	*	--	*	E
	SR-90 (MC/SQ.MI.)	0.45C	0.09C	0.10C	0.21C	0.25C	0.53C	4.10	0.84	0.48	*	0.17	0.26	7.48
	SR-90 CONC. (PC/L)	4.86	4.86	4.56	4.71	4.86	4.71	6.38	0.91	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	*	*	--	*									E
	SR-90 (MC/SQ.MI.)	0.64	0.47	1.23	1.09									E
	SR-90 CONC. (PC/L)	--	--	--	--									
	SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PAKISTAN, RAWALPINDI

LAT. 33 40N LONG. 73 08E ALT. FT. (COLUMN)

SOURCE: ATOMIC ENERGY CENTRE (PINSTECH SITE)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1964 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	0.36	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.27	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	11.40	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1965 PRECIP. (INCHES)	1.70	4.43	4.90	7.57									E
SR-90 (MC/SQ.MI.)	0.23	3.50	4.16	3.11									E
SR-90 CONC. (PC/L)	2.13	12.01	12.92	6.23									
SR-89/SR-90	--	--	--	--									

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NOTES

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SURFACE AIR SAMPLING STATION

SITE: PANAMA CANAL ZONE LAT. 08 55N LONG. 79 36W ALT. 33 FT. (COLUMN)

SOURCE: HOWARD AFB, U. S. AIR WEATHER SERVICE
 SURFACE AIR SAMPLING SITE AT MIRAFLORES THRU CANAL ZONE CORROSION LAB, USNRL

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	4.35	18.90	9.25	8.17	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.09	0.05	0.08	0.18	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.30	0.00	0.15	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	0.9	1.2	
1960 PRECIP. (INCHES)	3.33	1.14	0.79	8.27	8.91	7.01	6.43	6.85	7.27	7.51	15.19	10.20	82.90
SR-90 (MC/SQ.MI.)	0.13	0.22	0.18	0.49	0.10C	0.08C	0.02	0.02	0.07C	0.07C	0.04C	0.02C	1.44
SR-90 CONC. (PC/L)	0.61	2.89	3.50	0.91	0.15	0.15	0.00	0.00	0.15	0.15	0.00	0.00	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.19	0.86	*	1.79	4.19	10.31	9.93	5.91	7.13	10.93	11.92	4.16	67.32
SR-90 (MC/SQ.MI.)	0.02C	0.07C	--	0.16	0.09C	0.18C	0.02C	0.01C	0.01	0.01	0.25	0.29	E
SR-90 CONC. (PC/L)	1.67	1.22	--	1.37	0.30	0.30	0.00	0.00	0.00	0.00	0.30	1.06	
SR-89/SR-90	--	--	--	--	--	--	--	--	14.	46.	102.	56.	
1962 PRECIP. (INCHES)	1.03	*	0.03	3.51	7.89	8.87	7.91	8.09	7.05	15.23	9.18	6.8	75.59
SR-90 (MC/SQ.MI.)	0.41	*	0.11	--	--	1.89	--	1.54	0.30	0.28	0.47	0.58	E
SR-90 CONC. (PC/L)	6.08	--	55.78	--	--	3.19	--	2.89	0.61	0.30	0.76	1.37	
SR-89/SR-90	41.	--	22.	--	--	34.	--	29.	22.	18.	46.	39.	
1963 PRECIP. (INCHES)	2.31	2.47	*	4.84	16.27	7.77	7.91	1.09	5.52	8.52	10.56	1.10	68.36
SR-90 (MC/SQ.MI.)	0.35	0.35	0.08	2.22	4.11	1.49	0.97	0.84	0.29	0.29	1.48	0.26	12.73
SR-90 CONC. (PC/L)	2.28	2.13	--	6.99	3.80	2.89	1.82	11.70	0.76	0.46	2.13	3.65	
SR-89/SR-90	50.	20.	15.	9.	10.0	*	1.	1.	*	2.3	*	*	
1964 PRECIP. (INCHES)	0.33	1.34	0.20	5.76	7.03	6.85	5.93	8.79	8.37	*	11.60	3.03	59.23
SR-90 (MC/SQ.MI.)	0.21	0.43	0.08	0.62	0.87	0.10	0.45	0.39	0.34	0.13	0.24	0.23	4.09
SR-90 CONC. (PC/L)	9.73	4.86	6.08	1.67	1.82	0.15	1.22	0.61	0.61	--	0.30	1.22	
SR-89/SR-90	*	*	*	2.10	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.62	0.38	*										E
SR-90 (MC/SQ.MI.)	*	0.10	0.01										E
SR-90 CONC. (PC/L)	0.00	3.95	--										
SR-89/SR-90	--	--	--										

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PERU, LIMA

LAT. 12 06S LONG. 77 03W ALT. 501 FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	0.16	0.79	0.06	0.08	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.03	--	0.14	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	0.61	--	26.60	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	--	*	
1960 PRECIP. (INCHES)	*	*	*	*	0.1	0.20	0.20	0.39	2.36	0.24	0.08	*	3.57
SR-90 (MC/SQ.MI.)	0.03	--	--	0.08	0.09C	0.16C	--	--	0.12	--	0.07C	0.00C	E
SR-90 CONC. (PC/L)	--	--	--	--	13.68	12.16	--	--	0.76	--	13.38	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	*	*	*	*	*	*	0.39	0.39	0.39	0.12	*	*	1.29
SR-90 (MC/SQ.MI.)	0.03C	0.03C	0.10C	0.10C	0.07C	0.07C	*	*	*	0.06	0.06	*	0.52
SR-90 CONC. (PC/L)	--	--	--	--	--	--	0.00	0.00	0.00	7.60	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	*	*	*	*	*	*	0.2	0.02	0.1	--	--	0.1	E
SR-90 (MC/SQ.MI.)	*	*	*	*	0.03	0.07	0.09	0.25	0.37	0.10	0.08	0.04	1.03
SR-90 CONC. (PC/L)	--	--	--	--	--	--	6.84	190.00	56.24	--	--	6.08	
SR-89/SR-90	*	*	1.7	*	40.	45.	9.	10.	27.	9.	14.	2.	
1963 PRECIP. (INCHES)	*	*	*	*	*	0.01	*	0.04	0.03	0.02	*	*	0.10
SR-90 (MC/SQ.MI.)	--	0.02	0.01	0.02	0.01	0.06	0.02	0.15	0.11	0.17A	0.16A	0.10A	E
SR-90 CONC. (PC/L)	--	--	--	--	--	91.20	--	57.00	55.78	129.20	--	--	
SR-89/SR-90	--	*	--	3.00	*	4.6	--	*	*	--	--	--	
1964 PRECIP. (INCHES)	0.01	0.01	*	*	0.02	0.04	0.32	0.38	*	*	*	*	0.78
SR-90 (MC/SQ.MI.)	0.11A	0.06A	--	0.04	0.04	0.08	0.13	--	--	0.20	0.12	0.10	E
SR-90 CONC. (PC/L)	167.20	91.20	--	--	30.40	30.40	6.23	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.11	*	0.04	--	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

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B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 100:1

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: PERU, LIMA

LAT. 12 01S LONG. 77 07W ALT. 98 FT. (COLUMN)

SOURCE: CORPORACION PERUANA DE AEROPUERTOS Y AVIACION COMERCIAL

	JAN.	FEB.	MAR.	APR.	MAY	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL		
	----	----	----	----	----	-----	----	----	----	----	----	-----		
1963	PRECIP. (INCHES)	--	--	--	0.01	0.01	--	--	0.03	0.02	0.01	*	E	
	SR-90 (MC/SQ.MI.)	--	--	--	0.02	0.02	0.03	0.05	--	0.09	0.09	0.06	0.08	E
	SR-90 CONC. (PC/L)	--	--	--	30.40	30.40	--	--	45.60	68.40	91.20	--		
	SR-89/SR-90	--	--	--	*	3.7	2.	*	--	*	*	8.		
1964	PRECIP. (INCHES)	0.01	0.01	*	0.01	0.01	0.03	0.32	0.38	*	*	*	0.01	0.78
	SR-90 (MC/SQ.MI.)	0.48	0.03	0.06	0.03	0.08	0.05	0.14	0.15	0.05	0.08	0.06	0.04	1.25
	SR-90 CONC. (PC/L)	729.60	45.60	--	45.60	121.60	25.38	6.69	5.93	--	--	--	60.80	
	SR-89/SR-90	1.5	9.2	*	0.88	1.90	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	*	0.10	0.01	*									E
	SR-90 (MC/SQ.MI.)	*	0.03	0.02	0.05									E
	SR-90 CONC. (PC/L)	--	4.56	30.40	--									
	SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PHILIPPINE I., CEBU CITY LAT. 10 20N LONG. 123 54E ALT. 111 FT. (COLUMN)

SOURCE: PHILIPPINES ATOMIC ENERGY COMMISSION, NATIONAL SCIENCE DEVELOPMENT BOARD

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1961 PRECIP. (INCHES)	--	--	--	2.76	5.03	6.47	9.98	2.96	--	10.28	4.46	4.03	E
SR-90 (MC/SQ.MI.)	--	--	--	0.36	*	*	*	*	--	0.02	*	0.15	E
SR-90 CONC. (PC/L)	--	--	--	1.98	0.00	0.00	0.00	0.00	--	0.00	0.00	0.61	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	38.	--	--	
1962 PRECIP. (INCHES)	2.08	7.12	3.26	1.26	3.27	6.96	8.30	13.03	5.50	4.41	5.46	2.64	63.29
SR-90 (MC/SQ.MI.)	*	1.51	0.07	0.15	0.28	0.29	0.47	--	0.01	0.09	0.13	0.17	E
SR-90 CONC. (PC/L)	0.00	3.19	0.30	1.82	1.37	0.61	0.91	--	0.00	0.30	0.30	0.91	
SR-89/SR-90	--	30.	25.	15.	4.	15.	37.	--	*	22.	46.	40.	
1963 PRECIP. (INCHES)	2.72	1.02	3.09	3.49	3.20	5.07	9.97	8.66	9.39	8.29	3.99	--	E
SR-90 (MC/SQ.MI.)	0.10	0.26	0.29	0.63	0.95	0.74	0.78	0.30	0.06	0.49	0.29	--	E
SR-90 CONC. (PC/L)	0.61	3.80	1.37	2.74	4.56	2.28	1.22	0.46	0.15	0.91	1.06	--	
SR-89/SR-90	22.	15.	15.	15.	1.5	*	1.	*	*	14.	*	--	

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PHILIPPINE I., CLARK AB

LAT. 15 11N LONG. 120 33E ALT. 33 FT. (COLUMN)

SOURCE: U. S. AIR WEATHER SERVICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959	PRECIP. (INCHES)	0.91	0.14	1.35	0.10	3.06	2.80	16.17	16.83	8.74	2.00	9.46	3.15	64.71
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	0.11	0.11	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	0.15	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	*	2.4	
1960	PRECIP. (INCHES)	0.79	1.18	0.14	4.69	4.42	14.78	6.56	31.50	11.28	0.44	3.54	0.39	79.71
	SR-90 (MC/SQ.MI.)	--	0.24	0.08	0.18	0.00C	0.02C	0.02C	0.07C	0.12C	0.00C	*	*	E
	SR-90 CONC. (PC/L)	--	3.04	8.66	0.61	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.01	0.13	0.39	1.44	5.22	26.48	16.46	13.20	10.20	6.32	1.04	0.01	80.90
	SR-90 (MC/SQ.MI.)	0.01C	0.12C	0.02C	0.06C	0.04C	0.21C	0.12C	0.10C	*	0.10	*	0.02	0.80
	SR-90 CONC. (PC/L)	15.20	13.98	0.76	0.61	0.15	0.15	0.15	0.15	0.00	0.30	0.00	30.40	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	61.	--	23.	
1962	PRECIP. (INCHES)	2.87	0.21	0.07	3.87	2.48	6.91	24.46	12.80	19.06	1.57	3.34	*	77.64
	SR-90 (MC/SQ.MI.)	*	0.09	0.10	--	0.31	0.42	0.55	--	0.28	0.26	0.13C	0.00C	E
	SR-90 CONC. (PC/L)	0.00	6.54	21.74	--	1.98	0.91	0.30	--	0.15	2.58	0.61	--	
	SR-89/SR-90	--	13.	11.	--	21.	8.	6.	--	10.	32.	11.	--	
1963	PRECIP. (INCHES)	0.05	0.04	1.67	1.80	5.11	22.22	15.96	11.29	20.15	1.44	0.13	6.90	86.76
	SR-90 (MC/SQ.MI.)	--	--	0.24	0.16	--	--	--	1.63	0.32	0.30	0.06	0.10	E
	SR-90 CONC. (PC/L)	--	--	2.13	1.37	--	--	--	2.13	0.30	3.19	6.99	0.15	
	SR-89/SR-90	--	--	18.	8.	--	--	--	*	*	1.0	*	*	
1964	PRECIP. (INCHES)	0.04	0.08	0.20	0.09	7.81	12.42	0.41	16.05	11.07	8.32	7.96	5.36	69.81
	SR-90 (MC/SQ.MI.)	0.59	0.11	0.01	0.08	1.38	0.39	3.29	0.65	0.17	0.12	0.05	0.03	6.87
	SR-90 CONC. (PC/L)	224.20	20.98	0.76	13.53	2.74	0.46	121.90	0.61	0.30	0.15	0.15	0.15	
	SR-89/SR-90	*	*	--	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	0.06	0.03	0.93	3.99									E
	SR-90 (MC/SQ.MI.)	*	*	0.11	*									E
	SR-90 CONC. (PC/L)	0.00	0.00	1.82	0.00									
	SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PHILIPPINE I., QUEZON CITY LAT. 14 40N LONG. 121 05E ALT. 231 FT. (COLUMN)

SOURCE: PHILIPPINES ATOMIC ENERGY COMMISSION, NATIONAL SCIENCE DEVELOPMENT BOARD

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1961 PRECIP. (INCHES)	--	--	2.50	1.53	4.92	22.86	16.47	23.37	--	10.83	4.31	0.46	E
SR-90 (MC/SQ.MI.)	--	--	0.45C	0.28C	0.04C	0.16C	*	0.01	*	0.07	0.04	0.02	E
SR-90 CONC. (PC/L)	--	--	2.74	2.74	0.15	0.15	0.00	0.00	--	0.15	0.15	0.61	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	79.	43.	27.	
1962 PRECIP. (INCHES)	1.25	0.02	0.27	3.28	--	7.36	37.84	13.04	14.04	1.98	3.63	0.41	E
SR-90 (MC/SQ.MI.)	*	*	*	0.25	--	0.61	0.99	0.28	0.20	0.13	0.08	0.05	E
SR-90 CONC. (PC/L)	0.00	0.00	0.00	1.22	--	1.22	0.46	0.30	0.15	1.06	0.30	1.82	
SR-89/SR-90	--	--	--	16.	--	--	16.	*	14.	13.	35.	19.	
1963 PRECIP. (INCHES)	0.12	*	0.26	9.02	3.38	22.70	13.07	--	19.32	6.03	1.91	3.75	E
SR-90 (MC/SQ.MI.)	0.04	0.05	0.12	0.04	0.81	4.61	0.74	0.80	0.42	0.38	0.10	0.06	8.17
SR-90 CONC. (PC/L)	5.02	--	6.99	0.01	3.65	3.04	0.91	--	0.30	0.91	0.76	0.30	
SR-89/SR-90	29.	15.	11.	*	11.2	0.7	1.	*	*	1.2	*	*	
1964 PRECIP. (INCHES)	1.27	0.08	0.63	0.79	7.07	20.10	12.00	17.68	9.94	7.92	--	4.61	E
SR-90 (MC/SQ.MI.)	0.06	0.04	0.04	0.14	0.31	0.20	0.36	0.22	0.12	0.05	0.06	0.06	1.66
SR-90 CONC. (PC/L)	0.76	7.60	0.91	2.74	0.61	0.15	0.46	0.15	0.15	0.15	--	0.15	
SR-89/SR-90	*	0.8	*	0.19	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.18	0.47	*										E
SR-90 (MC/SQ.MI.)	0.06	0.02	0.02										E
SR-90 CONC. (PC/L)	5.02	0.61	--										
SR-89/SR-90	--	--	--										

NOTES

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- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: PONAPE ISLAND

LAT. 06 58N LONG. 158 13E ALT. 126 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU OFFICE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960 PRECIP. (INCHES)	--	12.45	15.81	25.72	20.08	18.36	12.01	16.02	13.11	16.18	18.9	20.8	E
SR-90 (MC/SQ.MI.)	--	0.32	0.28	0.29	0.14	0.36	0.06C	0.08C	0.12C	0.15C	0.10C	0.11C	E
SR-90 CONC. (PC/L)	--	0.46	0.30	0.15	0.15	0.30	0.00	0.00	0.15	0.15	0.15	0.15	
SR-89/SR-90	--	3.3	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	17.	18.	17.	12.	22.	18.	15.51	17.52	20.71	14.07	18.29	16.47	206.57
SR-90 (MC/SQ.MI.)	0.24C	0.25C	0.23C	0.16C	0.21C	0.17C	0.01C	0.02C	*	--	0.37	0.23	E
SR-90 CONC. (PC/L)	0.15	0.15	0.15	0.15	0.15	0.15	0.00	0.00	0.00	--	0.30	0.15	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	105.	53.	
1962 PRECIP. (INCHES)	26.67	16.04	11.04	11.94	22.41	12.27	13.60	18.54	22.91	18.57	5.90	17.44	197.33
SR-90 (MC/SQ.MI.)	0.32	1.01	1.44	1.31	1.26	0.51	0.42	0.22	0.21	0.19	0.88	0.51	8.28
SR-90 CONC. (PC/L)	0.15	0.91	1.98	1.67	0.91	0.61	0.46	0.15	0.15	0.15	2.28	0.46	
SR-89/SR-90	56.	29.	23.	13.	20.	50.	35.	29.	15.	22.	30.	55.	
1963 PRECIP. (INCHES)	20.99	16.37	17.06	12.53	19.12	9.52	13.73	18.23	13.12	20.68	4.55	9.08	174.98
SR-90 (MC/SQ.MI.)	0.49	0.53	0.97	0.80	0.62	0.57	1.00	0.63	0.40	0.24	0.41	0.55	7.21
SR-90 CONC. (PC/L)	0.30	0.46	0.91	0.91	0.46	0.91	1.06	0.46	0.46	0.15	1.37	0.91	
SR-89/SR-90	34.	16.	21.	14.	8.9	--	2.	*	*	*	*	*	
1964 PRECIP. (INCHES)	3.59	19.76	14.03	16.02	12.69	13.16	14.43	16.47	15.44	11.02	12.66	18.22	167.49
SR-90 (MC/SQ.MI.)	0.71	1.05	1.41	1.07	0.50	1.01	0.73	0.37	0.34	0.07	0.11	0.34	7.71
SR-90 CONC. (PC/L)	3.04	0.76	1.52	1.06	0.61	1.22	0.76	0.30	0.30	0.15	0.15	0.30	
SR-89/SR-90	*	*	*	0.21	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	11.74	11.12	6.34	14.28									E
SR-90 (MC/SQ.MI.)	0.47	0.50	0.34	0.89									E
SR-90 CONC. (PC/L)	0.61	0.61	0.76	0.91									
SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SURFACE AIR SAMPLING STATION

SITE: PUERTO RICO, SAN JUAN LAT. 18 26N LONG. 66 00W ALT. 32 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL	
1960	PRECIP. (INCHES)	--	3.13	2.40	5.76	22.09	18.35	5.08	8.49	12.97	16.18	18.90	20.87	E
	SR-90 (MC/SQ.MI.)	--	0.18	0.31	0.55	--	--	0.22C	0.38C	0.27	--	--	0.23C	E
	SR-90 CONC. (PC/L)	--	0.91	1.98	1.52	--	--	0.61	0.61	0.30	--	--	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	3.51	1.48C	1.48C	2.82	1.77	5.28	9.33	5.20	2.62	8.47	9.26	10.00	61.22
	SR-90 (MC/SQ.MI.)	0.04C	0.15C	0.15C	0.30C	0.28	0.19C	0.34C	--	0.30	0.22C	0.25C	0.86	E
	SR-90 CONC. (PC/L)	0.15	1.52	1.52	1.67	2.43	0.61	0.61	--	1.67	0.46	0.46	1.37	
	SR-89/SR-90	--	--	--	--	--	--	--	--	0.8	63.	63.	64.	
1962	PRECIP. (INCHES)	4.24	2.67	--	3.70	7.53	7.31	6.12C	6.12C	4.85	5.49	3.84	4.11	E
	SR-90 (MC/SQ.MI.)	1.53	1.01	--	3.46	2.62	1.57	1.00C	1.00C	0.54	0.31	0.37	0.94	E
	SR-90 CONC. (PC/L)	5.47	5.78	--	14.29	5.32	3.19	2.43	2.43	1.67	0.91	1.52	3.50	
	SR-89/SR-90	42.	34.	--	12.	20.	11.	--	--	9.	63.	62.	46.	
1963	PRECIP. (INCHES)	3.13	1.39	4.68	5.21	4.63C	4.63C	4.63C	4.63C	10.98	1.63	3.00	0.68	49.22
	SR-90 (MC/SQ.MI.)	0.88	0.63	4.64	2.40	2.17C	2.17C	2.17C	2.17C	1.87	0.33	1.00	0.51	20.94
	SR-90 CONC. (PC/L)	4.26	6.84	15.05	6.99	7.14	7.14	7.14	7.14	2.58	3.04	5.02	11.40	
	SR-89/SR-90	37.	33.	13.	8.1	--	--	--	--	0.5	0.9	*	*	
1964	PRECIP. (INCHES)	2.02	1.75	1.27	6.40	3.96	4.51	7.05	6.70	5.09	3.13	3.39	2.35	47.62
	SR-90 (MC/SQ.MI.)	0.67	0.76	1.06	3.19	1.96	2.25	1.72C	1.64C	0.55	0.40	0.39	0.83	15.42
	SR-90 CONC. (PC/L)	5.02	6.54	12.62	7.60	7.45	7.60	3.65	3.65	1.67	1.98	1.82	5.32	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	2.62	0.79	0.86	2.19									E
	SR-90 (MC/SQ.MI.)	*	0.06	0.29	0.67									E
	SR-90 CONC. (PC/L)	0.00	1.22	5.17	4.71									
	SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: SAUDI ARABIA, DHAHRAN

LAT. 26 18N LONG. 50 05E ALT. FT. (COLUMN)

SOURCE: UNITED STATES EMBASSY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.03	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	*	
1960 PRECIP. (INCHES)	--	--	--	0.05	*	--	*	*	*	*	--	0.04	E
SR-90 (MC/SQ.MI.)	0.13	0.04	0.47	0.23	0.26	--	0.11C	0.11C	0.28C	0.28C	0.04C	0.04C	E
SR-90 CONC. (PC/L)	--	--	--	69.92	--	--	--	--	--	--	--	15.20	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	0.50	0.65	0.50	0.78	*	*	*	*	*	*	1.02	0.19	3.64
SR-90 (MC/SQ.MI.)	0.14C	0.17C	0.17C	0.27C	*	*	*	*	*	0.03	0.12	0.46	1.36
SR-90 CONC. (PC/L)	4.26	3.95	5.17	5.32	--	--	--	--	--	--	1.82	36.78	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	22.	11.	60.	
1962 PRECIP. (INCHES)	*	*	*	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.11	0.13	0.39	--	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	50.	24.	19.	--	--	--	--	--	--	--	--	--	
1963 PRECIP. (INCHES)	*	0.01	*	0.57	0.96	*	*	*	*	*	0.48	0.08	2.10
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	0.58	0.92	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	18.39	174.80	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	*	*	
1964 PRECIP. (INCHES)	1.30	2.00	*	*	*	*	*	*	*	*	0.50C	0.50C	4.30
SR-90 (MC/SQ.MI.)	1.68	3.50	0.16	0.13C	0.13C	0.13C	0.26	0.19	0.07	0.04	0.28C	0.28C	6.85
SR-90 CONC. (PC/L)	19.61	26.60	--	--	--	--	--	--	--	--	8.51	8.51	
SR-89/SR-90	*	0.7	3.50	--	--	--	--	--	--	*	--	--	
1965 PRECIP. (INCHES)	0.50C	*	0.15	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.28C	0.03	0.48	0.03	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	8.51	--	48.64	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: SCOTLAND, PRESTWICK

LAT. 55 30N LONG. 4 37W ALT. 30 FT. (COLUMN)

SOURCE: PRESTWICK AFB, U. S. AIR WEATHER SERVICE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	1.43	5.61	3.93	4.25	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	0.13	--	0.25	0.25	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	1.37	--	0.91	0.91	
SR-89/SR-90	--	--	--	--	--	--	--	--	4.3	--	0.7	*	
1960 PRECIP. (INCHES)	4.16	2.84	2.84	2.20	1.34	2.58	2.15	3.47	2.82	1.80	4.06	3.60	33.86
SR-90 (MC/SQ.MI.)	0.03	0.27	0.44	0.60	0.51	0.67	--	--	0.31C	0.20C	0.21C	0.18C	E
SR-90 CONC. (PC/L)	0.15	1.52	2.28	4.10	5.78	3.95	--	--	1.67	1.67	0.76	0.76	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	1.73	2.9	2.02	2.98	0.90	1.57	2.81	0.20	5.58	5.28	2.23	3.11	31.41
SR-90 (MC/SQ.MI.)	0.19C	0.33C	0.07C	0.10C	0.23C	0.39C	0.44C	0.03C	0.48	0.40	--	1.82	E
SR-90 CONC. (PC/L)	1.67	1.67	0.46	0.46	3.95	3.80	2.43	2.28	1.22	1.22	--	8.97	
SR-89/SR-90	--	--	--	--	--	--	--	--	53.	84.	--	62.	
1962 PRECIP. (INCHES)	5.03	2.19	1.07	1.89	1.88	1.72	2.26	5.49	6.50	1.86	1.85	3.85	35.59
SR-90 (MC/SQ.MI.)	1.76	2.15	1.38	--	2.84	1.81	1.60	2.88	1.60	0.78	1.26	1.55	E
SR-90 CONC. (PC/L)	5.32	14.90	19.61	--	22.95	15.96	10.79	7.90	3.80	6.38	10.34	6.08	
SR-89/SR-90	46.	30.	20.	--	8.	10.	7.	8.	17.	29.	9.	45.	
1963 PRECIP. (INCHES)	0.45	0.27	3.42	1.66	3.20	2.06	2.10	3.52	2.74	4.66	--	--	E
SR-90 (MC/SQ.MI.)	0.37	2.59	2.51	18.91	5.17	5.30	4.71	4.16	2.28	2.25	--	--	E
SR-90 CONC. (PC/L)	12.46	145.77	11.10	173.13	24.62	39.06	34.05	17.94	12.62	7.30	--	--	
SR-89/SR-90	28.	21.	23.	14.	8.7	0.2	1.	*	0.8	*	--	--	
1964 PRECIP. (INCHES)	2.48	0.54	0.92	1.70	2.63	2.46	2.15	4.98	5.99	1.84	3.54	4.03	33.26
SR-90 (MC/SQ.MI.)	3.94	1.49	1.99	2.44	5.67	5.59	3.35	2.48	1.77	0.74	0.99	0.98	31.43
SR-90 CONC. (PC/L)	24.17	41.95	32.83	21.89	32.83	34.50	23.71	7.60	4.56	6.08	4.26	3.65	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	5.00	*	--	
1965 PRECIP. (INCHES)	4.63	0.70	1.54	2.47									E
SR-90 (MC/SQ.MI.)	1.96	0.34	0.60	1.38									E
SR-90 CONC. (PC/L)	6.38	7.45	5.93	8.51									
SR-89/SR-90	--	--	--	--									

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: SO. RHODESIA, SALISBURY

LAT. 17 48S LONG. 31 03E ALT. 4900 FT. (POT)

SOURCE: FEDERAL MINISTRY OF AGRICULTURE, CHEMISTRY BRANCH

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1956	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	6.85	6.34	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	0.18	0.12	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	0.46	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1957	PRECIP. (INCHES)	7.07	3.76	4.59	0.85	*	*	*	0.22	0.12	0.70	1.32	9.21	27.84
	SR-90 (MC/SQ.MI.)	0.11	0.08	0.05	0.04	--	--	--	--	--	--	0.11	0.10	E
	SR-90 CONC. (PC/L)	0.30	0.30	0.15	0.76	--	--	--	--	--	--	1.22	0.15	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958	PRECIP. (INCHES)	5.87	8.98	0.57	1.87	*	0.02	0.02	*	0.49	2.35	2.34	8.74	31.25
	SR-90 (MC/SQ.MI.)	0.10	0.04	0.02	0.16	0.55	0.02	0.02	0.05	0.17	0.43	0.35	0.41	2.32
	SR-90 CONC. (PC/L)	0.30	0.00	0.61	1.37	--	15.20	15.20	--	5.32	2.74	2.28	0.76	
	SR-89/SR-90	4.	5.	7.	18.	--	9.	14.	*	71.	32.	12.	9.	
1959	PRECIP. (INCHES)	5.29	8.91	2.51	*	0.58	0.61	0.04	*	0.19	1.62C	1.62C	6.67	28.04
	SR-90 (MC/SQ.MI.)	0.13	0.20	0.13	*	0.02	0.05	0.09	0.02	--	0.04C	0.04C	0.12	E
	SR-90 CONC. (PC/L)	0.30	0.30	0.76	--	0.46	1.22	34.20	--	--	0.30	0.30	0.30	
	SR-89/SR-90	4.3	13.	4.4	*	3.0	5.8	*	*	--	--	--	--	
1960	PRECIP. (INCHES)	2.61	4.21	1.43	3.53	1.19	1.04	*	*	0.15	0.94	3.11	11.98	30.19
	SR-90 (MC/SQ.MI.)	0.07	0.08	0.07	0.04	0.03C	0.03C	0.13C	0.13C	0.04C	0.28C	0.08C	0.29C	1.27
	SR-90 CONC. (PC/L)	0.46	0.30	0.76	0.15	0.46	0.46	--	--	4.10	4.56	0.46	0.30	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	6.25	5.44	4.04	4.56	0.34	0.60	*	0.23	1.06	1.58	8.31	4.18	36.59
	SR-90 (MC/SQ.MI.)	0.21C	0.25C	0.03C	0.04C	0.02C	0.03C	0.00C	0.22C	0.04	0.16	0.21	0.17	1.38
	SR-90 CONC. (PC/L)	0.46	0.76	0.15	0.15	0.91	0.76	--	14.59	0.61	1.52	0.46	0.61	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962	PRECIP. (INCHES)	8.22	4.83	3.60	0.89	0.07	*	*	0.01	0.11	0.01	4.54	16.22	38.50
	SR-90 (MC/SQ.MI.)	0.10	0.15	0.08	0.05	0.02	0.01	0.02	0.02	0.14	0.03	0.42	0.46	1.50
	SR-90 CONC. (PC/L)	0.15	0.46	0.30	0.91	4.41	--	--	30.40	19.30	45.60	1.37	0.46	
	SR-89/SR-90	7.4	7.	*	*	*	12.	9.	*	6.	*	18.	22.	
1963	PRECIP. (INCHES)	4.52	11.24	1.45	2.45	*	*	*	*	*	3.89	0.83	2.89	27.27
	SR-90 (MC/SQ.MI.)	0.20	0.27	0.07	0.01	0.01	0.01	0.03	0.03	0.26	0.38	0.20	0.31	1.78
	SR-90 CONC. (PC/L)	0.61	0.30	0.76	0.00	--	--	--	--	--	1.52	3.65	1.67	
	SR-89/SR-90	8.	9.	4.5	15.	*	--	*	*	*	*	*	*	
1964	PRECIP. (INCHES)	6.54	7.54	0.68	0.09	*	0.08	*	0.17	*	1.81	1.91	13.50	32.32
	SR-90 (MC/SQ.MI.)	0.18	0.21	0.07	0.15	0.13	0.08	0.03	0.18	0.02	*	0.03	1.37	2.45
	SR-90 CONC. (PC/L)	0.46	0.46	1.52	25.38	--	15.20	--	16.11	--	0.00	0.30	1.52	
	SR-89/SR-90	*	*	1.0	0.45	*	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	13.77	2.97	1.91	*									E
	SR-90 (MC/SQ.MI.)	*	0.27	0.11	0.03									E
	SR-90 CONC. (PC/L)	0.00	1.37	0.91	--									
	SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: SYRIA, DAMASCUS

LAT. 33 29N LONG. 36 14E ALT. 2405 FT. (COLUMN)

SOURCE: SYRIAN MINISTRY OF DEFENSE, METEOROLOGICAL DEPARTMENT

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960 PRECIP. (INCHES)	--	*	5.19	0.39	*	*	*	*	*	*	2.36	1.18	E
SR-90 (MC/SQ.MI.)	--	0.00C	0.15C	0.52	--	--	--	--	--	--	0.05C	0.02C	E
SR-90 CONC. (PC/L)	--	--	0.46	20.22	--	--	--	--	--	--	0.30	0.30	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.50	0.02	--	0.04	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1962 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1963 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1964 PRECIP. (INCHES)	--	4.04	0.43	0.37	*	--	*	*	*	--	2.41	1.43	E
SR-90 (MC/SQ.MI.)	--	3.11	1.40	1.96	0.80	0.05	0.09	0.06	*	--	0.60	0.74	E
SR-90 CONC. (PC/L)	--	11.70	49.55	80.56	--	--	--	--	--	--	3.80	7.90	
SR-89/SR-90	--	*	*	0.06	*	--	--	--	--	--	*	--	
1965 PRECIP. (INCHES)	5.37	0.47	0.32										E
SR-90 (MC/SQ.MI.)	2.43	--	0.54										E
SR-90 CONC. (PC/L)	6.84	--	25.69										
SR-89/SR-90	--	--	--										

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NOTES

- : DATA NOT AVAILABLE
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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: SYRIA, KAMISHLY

LAT. 37 03N LONG. 41 13E ALT. 1483 FT. (COLUMN)

SOURCE: SYRIAN MINISTRY OF DEFENSE, METEOROLOGICAL DEPARTMENT

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960	PRECIP. (INCHES)	--	*	2.76	2.36	--	--	*	--	0.22	2.45	--	*	E
	SR-90 (MC/SQ.MI.)	--	0.71	--	--	--	--	--	--	0.00C	0.01C	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	0.00	0.00	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	1.18	0.94	3.15	2.36	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	0.25	--	0.63	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	4.10	--	4.10	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1962	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1963	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1964	PRECIP. (INCHES)	--	5.75	3.72	1.87	*	*	*	*	*	*	1.27	1.62	E
	SR-90 (MC/SQ.MI.)	--	3.18	7.45	5.33	0.65	0.71	0.23	0.12	0.05	0.06	0.94	0.82	E
	SR-90 CONC. (PC/L)	--	8.36	30.40	43.32	--	--	--	--	--	--	11.25	7.75	
	SR-89/SR-90	--	*	*	*	*	--	--	--	--	--	*	--	
1965	PRECIP. (INCHES)	3.48	4.20	2.50										E
	SR-90 (MC/SQ.MI.)	1.42	2.33	2.10										E
	SR-90 CONC. (PC/L)	6.23	8.36	12.77										
	SR-89/SR-90	--	--	--										

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NOTES

- : DATA NOT AVAILABLE
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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TAIWAN, TAINAN

LAT. 23 01N LONG. 120 14E ALT. FT. (POT)

SOURCE: THRU THE NATIONALIST CHINESE MISSION TO THE UNITED NATIONS

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958	PRECIP. (INCHES)	0.86	0.77	3.49	0.15	4.92	3.74	28.21	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.03	0.07	0.19	0.05	0.41	0.22	1.01	0.30	0.37	0.01	0.01	0.28	2.95
	SR-90 CONC. (PC/L)	0.46	1.37	0.76	5.02	1.22	0.91	0.61	--	--	--	--	--	
	SR-89/SR-90	25.	12.	10.	12.	58.	47.	65.	10.	50.	158.	110.	47.	
1959	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.22	0.77	0.14	1.23	0.22	0.68	0.27	0.17	*	0.02	0.05	0.04	3.81
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	35.	29.	9.6	15.	8.3	1.2	3.7	0.9	--	3.6	*	*	
1960	PRECIP. (INCHES)	--	0.79	5.52	9.06	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.03	0.04	0.17	0.14	0.15C	0.15C	0.15C	0.15C	0.02C	0.02C	0.02C	0.02C	1.06
	SR-90 CONC. (PC/L)	--	0.76	0.46	0.30	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.04C	0.04C	0.02C	0.02C	0.76C	0.76C	0.07C	0.07C	*	0.02	0.06	0.14	2.00
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	79.	69.	
1962	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.26	0.28	0.56	0.52	0.09	0.06	0.46	0.17	0.30	0.08	0.06	0.05	2.89
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	38.	34.	22.	11.	8.	40.	35.	21.	25.	12.	20.	51.	
1963	PRECIP. (INCHES)	--	3.	10.5	0.01	0.01	7.9	21.2	1.08	9.1	0.02	0.02	0.2	E
	SR-90 (MC/SQ.MI.)	0.32	0.19	0.76	0.18	0.10	0.64	1.72	0.28	0.46	0.08	0.10	0.15	4.98
	SR-90 CONC. (PC/L)	--	0.91	1.06	273.60	152.00	1.22	1.22	3.95	0.76	60.80	76.00	11.40	
	SR-89/SR-90	10.	8.2	46.	14.	7.6	4.6	0.4	*	*	*	*	*	
1964	PRECIP. (INCHES)	1.93	0.03	3.1	--	3.90	11.96	6.16	4.15	6.60	0.18	0.02	*	E
	SR-90 (MC/SQ.MI.)	0.61	0.05	0.21	0.14	0.47	1.24	0.62	0.31	0.13	*	0.03	0.02	3.83
	SR-90 CONC. (PC/L)	4.86	25.38	1.06	--	1.82	1.52	1.52	1.06	0.30	0.00	22.80	--	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	0.15	0.03	0.08	0.50									E
	SR-90 (MC/SQ.MI.)	0.06	0.05	0.74	0.01									E
	SR-90 CONC. (PC/L)	6.08	25.38	140.60	0.30									
	SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TAIWAN, TAIPEI

LAT. 25 05N LONG. 121 32E ALT. FT. (POT)

SOURCE: THRU THE NATIONALIST CHINESE MISSION TO THE UNITED NATIONS

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1958	PRECIP. (INCHES)	--	9.57	5.40	2.24	4.13	8.49	20.43	4.68	7.02	3.51	1.95	5.85	E
	SR-90 (MC/SQ.MI.)	--	0.15	0.10	0.57	0.31	1.01	0.07	0.57	0.23	0.80	1.13	2.01	E
	SR-90 CONC. (PC/L)	--	0.30	0.30	3.80	1.22	1.82	0.00	1.82	0.46	3.50	8.82	5.17	
	SR-89/SR-90	--	9.	14.	11.	37.	34.	327.	51.	47.	54.	44.	32.	
1959	PRECIP. (INCHES)	3.15	2.44	3.94	12.61	7.49	13.00	16.55	9.06	8.67	4.73	5.12	14.97	101.73
	SR-90 (MC/SQ.MI.)	1.86	--	2.84	3.97	1.16	0.14	0.27	0.20	0.08	0.42	0.21	0.11	E
	SR-90 CONC. (PC/L)	8.97	--	10.94	4.71	2.28	0.15	0.30	0.30	0.15	1.37	0.61	0.15	
	SR-89/SR-90	38.	--	17.	12.	7.6	3.9	1.9	1.7	*	*	1.2	*	
1960	PRECIP. (INCHES)	4.33	0.79	5.52	9.06	7.88	9.46	9.46	55.16	7.49	2.76	2.76	2.76	117.43
	SR-90 (MC/SQ.MI.)	--	0.32	0.48	0.70	0.40	0.69	0.05C	0.24C	0.23C	0.08C	0.13C	0.13C	
	SR-90 CONC. (PC/L)	--	6.23	1.37	1.22	0.76	1.06	0.15	0.00	0.46	0.46	0.76	0.76	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	1.97	6.30	9.85	4.33	7.49	2.76	15.76	3.94	14.18	3.15	1.97	4.73	76.43
	SR-90 (MC/SQ.MI.)	0.12C	0.37C	0.04C	0.02C	0.11C	0.03C	0.09C	0.03C	0.14	0.51	0.31	1.00	2.77
	SR-90 CONC. (PC/L)	0.91	0.91	0.00	0.00	0.15	0.15	0.15	0.15	0.15	2.43	2.43	3.19	
	SR-89/SR-90	--	--	--	--	--	--	--	--	121.	79.	85.	59.	
1962	PRECIP. (INCHES)	4.33	3.15	11.42	4.72	7.09	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	2.28	1.89	5.25	2.46	1.92	0.40	0.35	0.24	0.65	0.10	0.60	0.80	16.94
	SR-90 CONC. (PC/L)	8.06	9.12	6.99	7.90	4.10	--	--	--	--	--	--	--	
	SR-89/SR-90	44.	24.	17.	12.	10.	9.	16.	28.	22.	17.	42.	47.	
1963	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.44	2.73	3.29	1.77	6.93	2.32	2.26	1.75	1.36	1.34	1.24	1.98	27.43
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	8.	22.	21.	12.	10.	1.3	1.	*	*	*	*	*	
1964	PRECIP. (INCHES)	--	--	--	--	--	--	--	12.17	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	5.15	2.18	3.27	0.13	0.60	1.32	1.49	0.51	0.20	0.22	0.10	0.12	15.29
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	0.61	--	--	--	--	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	8.30	*	--	
1965	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.17	0.46	0.32	0.11	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TAIWAN, TAITUNG

LAT. 22 45N LONG. 121 10E ALT. FT. (POT)

SOURCE: THRU THE NATIONALIST CHINESE MISSION TO THE UNITED NATIONS

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
	----	----	----	----	----	----	----	----	----	----	----	----	-----
1958 PRECIP. (INCHES)	--	--	--	1.17	6.86	4.30	15.73	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	--	--	--	0.22	0.18	0.57	0.45	0.07	0.02	--	0.08	0.50	E
SR-90 CONC. (PC/L)	--	--	--	2.89	0.46	1.98	0.46	--	--	--	--	--	
SR-89/SR-90	--	--	--	10.	25.	56.	51.	1.	40.	--	50.	41.	
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.37	0.52	--	0.92	0.37	0.21	0.08	0.04	--	0.03	0.05	0.08	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	41.	22.	--	9.4	8.9	*	*	*	--	*	*	4.7	
1960 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.04	0.11	0.04	0.25	0.14C	0.14C	0.04C	0.04C	0.03C	0.03C	0.02C	0.02C	0.90
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.10C	0.10C	0.25C	0.25C	0.05C	0.05C	0.02C	0.02C	0.02	*	0.17	0.35	1.38
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	31.	49.	
1962 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.45	2.31	1.66	3.11	0.84	0.03	0.12	--	0.15	2.08	0.20	0.32	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	35.	33.	17.	14.	--	*	16.	--	24.	22.	33.	48.	
1963 PRECIP. (INCHES)	--	0.42	1.17	1.17	0.36	16.98	10.11	0.13	6.29	0.58	1.64	1.4	E
SR-90 (MC/SQ.MI.)	1.41	0.66	2.31	2.11	0.42	0.43	0.48	0.06	4.17	0.28	0.25	0.18	12.76
SR-90 CONC. (PC/L)	--	23.86	29.94	27.36	17.78	0.46	0.76	6.99	10.03	7.30	2.28	1.98	
SR-89/SR-90	26.	18.	17.	19.	7.7	*	*	*	*	*	1.10	*	
1964 PRECIP. (INCHES)	1.50	1.68	2.32	1.84	4.82	6.15	2.98	15.20	19.50	20.03	0.54	0.89	77.45
SR-90 (MC/SQ.MI.)	0.53	0.61	1.58	1.19	1.14	0.46	0.27	0.37	0.15	0.59	0.02	*	6.91
SR-90 CONC. (PC/L)	5.32	5.47	10.34	9.88	3.65	1.06	1.37	0.30	0.15	0.46	0.61	0.00	
SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	0.73	0.40	0.51	2.50									E
SR-90 (MC/SQ.MI.)	0.04	0.13	0.06	0.28									E
SR-90 CONC. (PC/L)	0.76	5.02	1.82	1.67									
SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: THAILAND, BANGKOK

LAT. 13 44N LONG. 100 30E ALT. 75 FT. (POT)

SOURCE: THAI ATOMIC ENERGY COMMITTEE FOR PEACE

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	1.95	5.85	1.56	9.36	6.63	11.70	17.55	16.38	2.73	*	E
SR-90 (MC/SQ.MI.)	--	--	0.05	0.13	0.04	0.02	0.02	0.04	0.07	0.02	0.01	--	E
SR-90 CONC. (PC/L)	--	--	0.46	0.30	0.46	0.00	0.00	0.00	0.00	0.00	0.00	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	1.56	1.56	0.12	0.12	1.56	7.03	6.63	12.48	12.48	8.97	0.48	*	52.99
SR-90 (MC/SQ.MI.)	0.12	--	0.04	0.04	0.05	0.17	0.40	0.23	0.04	0.12	0.02	0.03	F
SR-90 CONC. (PC/L)	1.22	--	5.02	5.02	0.46	0.30	0.91	0.30	0.00	0.15	0.61	--	
SR-89/SR-90	8.	--	5.	44.	17.	79.	96.	44.	46.	48.	57.	21.	
1959 PRECIP. (INCHES)	*	1.51	0.69	2.36	8.57	5.30	9.46	3.94	8.27	9.06	0.83	*	49.99
SR-90 (MC/SQ.MI.)	0.02	0.05	0.54	0.04	0.14	0.25	0.48	0.11	0.06	0.03	*	0.16	1.88
SR-90 CONC. (PC/L)	--	0.46	11.86	0.30	0.30	0.76	0.76	0.46	0.15	0.00	0.00	--	
SR-89/SR-90	--	12.	18.	2.1	2.9	7.9	3.4	*	*	*	*	*	
1960 PRECIP. (INCHES)	*	*	1.35	4.24	4.11	3.12	5.02	9.60	2.33	17.5	0.27	0.40	47.94
SR-90 (MC/SQ.MI.)	0.29	*	0.08	0.04	0.10	0.08	0.02	0.05	0.02	0.12	0.01	0.01	0.82
SR-90 CONC. (PC/L)	--	--	0.91	0.15	0.30	0.46	0.00	0.15	0.15	0.15	0.61	0.46	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	*	3.47	2.36	3.54	7.48	8.32	4.69	7.09	8.64	8.99	1.24	0.06	55.99
SR-90 (MC/SQ.MI.)	0.00	0.11	0.05	0.08	0.07	0.09	0.07	0.10	*	0.20	*	--	
SR-90 CONC. (PC/L)	--	0.46	0.30	0.30	0.15	0.15	0.15	0.15	0.00	0.30	0.00	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	59.	*	--	
1962 PRECIP. (INCHES)	*	0.79	1.71	1.47	7.06	4.64	4.94	--	18.25	6.48	0.06	--	E
SR-90 (MC/SQ.MI.)	*	0.14	0.60	0.20	0.03	0.02	0.30	0.15	0.26	0.09	0.02	0.03	1.84
SR-90 CONC. (PC/L)	--	2.74	5.32	2.13	0.00	0.00	0.91	--	0.15	0.15	5.02	--	
SR-89/SR-90	*	6.	17.	16.	*	64.	13.	35.	30.	*	*	*	
1963 PRECIP. (INCHES)	*	0.39	1.59	2.18	3.30	4.61	5.22	12.11	13.12	13.18	2.21	0.25	58.30
SR-90 (MC/SQ.MI.)	0.10	0.17	0.33	1.20	0.85	0.41	0.73	0.45	0.56	0.38	0.10	0.08	5.36
SR-90 CONC. (PC/L)	--	6.69	3.19	8.36	3.95	1.37	2.13	0.61	0.61	0.46	0.76	4.85	
SR-89/SR-90	*	5.1	*	2.5	*	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.44	4.23	0.59	1.78	21.83	3.94	11.02	9.51	15.88	3.95	0.39	0.11	73.67
SR-90 (MC/SQ.MI.)	0.18	0.08	0.08	0.05	1.81	0.46	0.07	0.26	0.01	0.04	0.04	*	3.08
SR-90 CONC. (PC/L)	6.23	0.30	2.13	0.46	1.22	1.82	0.15	0.46	0.00	0.15	1.52	0.00	
SR-89/SR-90	*	4.00	7.40	*	*	--	--	--	--	*	--	--	
1965 PRECIP. (INCHES)	0.02	4.39	0.10	2.22	8.92	--	3.27						E
SR-90 (MC/SQ.MI.)	0.01	0.21	0.41	0.08	--	--	--						E
SR-90 CONC. (PC/L)	7.60	0.76	62.32	0.61	--	--	--						
SR-89/SR-90	--	--	--	--	--	--	--						

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: THAILAND, BANGKOK

LAT. 13 44N LONG. 100 30E ALT. 75 FT. (COLUMN)

SOURCE: THAI ATOMIC ENERGY COMMITTEE FOR PEACE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1963	PRECIP. (INCHES)	--	--	--	2.18	3.30	4.81	5.22	12.11	13.12	13.18	2.21	0.25	E
	SR-90 (MC/SQ.MI.)	--	--	--	0.63	1.86	1.03	0.01	0.25	0.58	0.24	0.11	0.29	E
	SR-90 CONC. (PC/L)	--	--	--	4.41	8.51	3.19	0.00	0.30	0.61	0.30	0.76	17.63	
	SR-89/SR-90	--	--	--	--	*	*	1.00	*	*	1.00	*	*	
1964	PRECIP. (INCHES)	0.44	4.23	0.59	2.66	9.20	3.94	11.02	6.16	8.22	3.95	0.39	1.04	51.84
	SR-90 (MC/SQ.MI.)	0.06	0.11	0.52	0.23	0.71	0.37	0.43	0.28	0.13	0.13	0.04	0.04	3.05
	SR-90 CONC. (PC/L)	2.13	0.46	13.38	1.37	1.22	1.37	0.61	0.76	0.30	0.46	1.52	0.61	
	SR-89/SR-90	1.50	--	*	3.50	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	--	5.16	1.23	--									E
	SR-90 (MC/SQ.MI.)	0.05	7.66	0.17	0.08									E
	SR-90 CONC. (PC/L)	--	22.50	2.13	--									
	SR-89/SR-90	--	--	--	--									

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: TRUK ISLAND

LAT. 07 28N LONG. 151 51E ALT. 5 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU OFFICE

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
		----	----	----	----	----	----	----	----	----	----	----	----	-----
1959	PRECIP. (INCHES)	0.96	8.23	9.11	16.12	20.08	7.97	13.48	11.47	14.49	11.36	11.30	34.89	159.46
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	*	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	*	
1960	PRECIP. (INCHES)	12.61	6.30	7.43	10.86	14.23	11.09	9.45	13.19	6.49	11.14	16.	18.	136.79
	SR-90 (MC/SQ.MI.)	--	0.24	0.09	0.16	0.12C	0.10C	0.02C	0.03C	0.02	0.04C	0.01C	0.01C	E
	SR-90 CONC. (PC/L)	--	0.61	0.15	0.30	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	9.12	7.62	6.13	11.3	22.36	12.71	19.24	17.86	17.12	17.88	7.87	15.24	164.45
	SR-90 (MC/SQ.MI.)	0.15C	0.13C	0.58C	0.69C	0.25C	0.15C	0.05C	0.04C	0.06	0.07	0.33	0.45	2.95
	SR-90 CONC. (PC/L)	0.30	0.30	1.37	0.91	0.15	0.15	0.00	0.00	0.00	0.00	0.61	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	11.	94.	74.	
1962	PRECIP. (INCHES)	7.97	7.75	12.77	6.98	18.33	12.27	32.99	16.51	14.64	9.77	26.26	11.04	177.28
	SR-90 (MC/SQ.MI.)	0.21	0.52	0.06	0.63	0.63	0.48	0.52	--	0.09	0.09	0.10	0.28	E
	SR-90 CONC. (PC/L)	0.46	1.06	0.00	1.37	0.46	0.61	0.30	--	0.15	0.15	0.00	0.46	
	SR-89/SR-90	51.	26.	*	9.	17.	44.	40.	--	24.	21.	17.	46.	
1963	PRECIP. (INCHES)	11.27	7.35	5.44	7.41	8.54	7.64	14.01	18.35	16.88	16.61	7.07	9.48	130.05
	SR-90 (MC/SQ.MI.)	0.49	0.36	0.59	0.42	0.28	0.85	0.56	0.58	0.31	0.29	0.24	0.62	5.59
	SR-90 CONC. (PC/L)	0.61	0.76	1.67	0.91	0.46	1.67	0.61	0.46	0.30	0.30	0.46	1.06	
	SR-89/SR-90	24.	23.	22.	9.	5.3	--	1.	*	1.2	2.0	*	*	
1964	PRECIP. (INCHES)	2.00	10.80	2.44	12.29	18.45	9.99	13.55	12.47	16.87	15.80	7.85	17.74	140.25
	SR-90 (MC/SQ.MI.)	0.68	0.99	0.53	0.74	0.22	0.66	0.30	0.23	0.20	0.30	0.14	0.08	5.07
	SR-90 CONC. (PC/L)	5.17	1.37	3.34	0.91	0.15	1.06	0.30	0.30	0.15	0.30	0.30	0.00	
	SR-89/SR-90	*	0.6	*	*	2.20	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	13.86	6.70	15.30	8.17									E
	SR-90 (MC/SQ.MI.)	0.31	0.19	0.22	0.48									E
	SR-90 CONC. (PC/L)	0.30	0.46	0.15	0.91									
	SR-89/SR-90	--	--	--	--									

NOTES

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- D: RATIO EXCEEDS 999.99
- E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: UAR, ALEXANDRIA

LAT. 31 13N LONG. 29 55E ALT. 25 FT. (COLUMN)

SOURCE: UAR ATOMIC ENERGY ESTABLISHMENT, HEALTH AND SAFETY DIVISION

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1959 PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	*	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	--	--	0.25	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	*	
1960 PRECIP. (INCHES)	2.76	0.39	1.18	*	*	*	*	*	*	*	2.36	1.97	8.66
SR-90 (MC/SQ.MI.)	0.03	0.18	0.18	0.26	*	--	--	--	--	--	--	--	E
SR-90 CONC. (PC/L)	0.15	6.99	2.28	--	--	--	--	--	--	--	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1963 PRECIP. (INCHES)	--	--	--	--	0.02	--	*	*	--	--	*	0.11	E
SR-90 (MC/SQ.MI.)	--	--	--	--	1.97	0.14	0.13	0.17	0.08	0.09	2.31	0.36	E
SR-90 CONC. (PC/L)	--	--	--	--	-D	--	--	--	--	--	--	49.70	
SR-89/SR-90	--	--	--	--	6.	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	1.80	2.30	0.47	*	0.10								E
SR-90 (MC/SQ.MI.)	1.19	2.07	1.84	0.18	0.25								E
SR-90 CONC. (PC/L)	10.03	13.68	59.43	--	38.00								
SR-89/SR-90	0.33	*	--	--	--								

NOTES

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D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: UAR, CAIRO (INSHAS)

LAT. 30 23N LONG. 31 23E ALT. FT. (COLUMN)

SOURCE: UAR ATOMIC ENERGY ESTABLISHMENT, HEALTH AND SAFETY DIVISION

	<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEP.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANN. TOTAL</u>
1963 PRECIP. (INCHES)	--	--	--	--	0.02	--	*	*	--	--	*	0.11	E
SR-90 (MC/SQ.MI.)	--	--	--	--	1.97	0.14	0.13	0.17	0.08	0.09	2.31	0.36	E
SR-90 CONC. (PC/L)	--	--	--	--	0	--	--	--	--	--	--	49.70	
SR-89/SR-90	--	--	--	--	6.00	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	0.52	--	0.04	0.08	*								E
SR-90 (MC/SQ.MI.)	0.44	0.38	0.47	0.19	0.51								E
SR-90 CONC. (PC/L)	12.92	--	178.60	36.18	--								
SR-89/SR-90	*	*	--	--	--								

NOTES

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D: RATIO EXCEEDS 999.99

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: U. OF S. AFRICA, DURBAN

LAT. 29 52S LONG. 30 59E ALT. 511 FT. (POT)

SOURCE: UNIVERSITY OF NATAL

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	--	--	0.39	0.39	0.78	4.64	3.51	3.12	5.85	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	0.08	*	0.10	0.23	0.24	0.32	0.22	E
SR-90 CONC. (PC/L)	--	--	--	--	--	3.19	0.00	1.98	0.76	1.06	1.52	0.61	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	9.75	10.53	4.68	11.70	0.39	0.78	0.78	0.25	3.12	1.17	4.29	3.55	50.99
SR-90 (MC/SQ.MI.)	0.02	0.18	0.09	0.46	0.91	0.04	0.44	0.02	0.40	0.38	0.60	0.60	4.14
SR-90 CONC. (PC/L)	0.00	0.30	0.30	0.61	35.42	0.76	8.51	1.22	1.98	4.86	2.13	2.58	
SR-89/SR-90	*	16.	2.	*	--	34.	4.	15.	32.	16.	14.	11.	
1959 PRECIP. (INCHES)	5.12	2.76	0.79	1.18	5.91	*	4.33	3.15	1.58	3.15	2.76	2.76	33.49
SR-90 (MC/SQ.MI.)	0.56	0.14	--	0.17	0.24	0.05	0.08	0.17	--	0.24	0.43	0.27	E
SR-90 CONC. (PC/L)	1.67	0.76	--	2.13	0.61	--	0.30	0.76	--	1.22	2.43	1.52	
SR-89/SR-90	3.	5.	--	3.0	2.3	*	4.7	*	--	*	*	2.9	
1960 PRECIP. (INCHES)	2.76	3.55	2.36	3.15	0.39	0.08	0.39	0.04	1.97	3.54	6.30	6.69	31.22
SR-90 (MC/SQ.MI.)	0.29	0.20	0.07	--	0.03C	0.00C	0.61C	0.07C	0.14C	0.25C	--	--	E
SR-90 CONC. (PC/L)	1.67	0.91	0.46	--	1.22	0.00	23.71	26.60	1.06	1.06	--	--	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	4.72	2.76	5.12	10.63	2.76	5.51	1.97	1.58	2.76	3.54	3.14	3.14	47.53
SR-90 (MC/SQ.MI.)	0.38C	0.22C	0.20C	0.41C	0.09C	0.16C	0.21C	0.17C	0.28	0.55	0.64	0.54	3.85
SR-90 CONC. (PC/L)	1.22	1.22	0.61	0.61	0.46	0.46	1.67	1.67	1.52	2.43	3.04	2.58	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	3.55	3.54	4.72	1.57	1.97	0.04	--	--	--	--	--	--	E
SR-90 (MC/SQ.MI.)	0.50	0.54	0.38	0.13	*	0.18	*	0.24	0.26	0.47	0.75	0.45	3.90
SR-90 CONC. (PC/L)	2.13	2.28	1.22	1.22	0.00	68.40	--	--	--	--	--	--	
SR-89/SR-90	*	*	*	*		7.	*	25.	17.	12.	11.	8.	
1963 PRECIP. (INCHES)	--	--	--	--	0.75	1.22	5.7	0.6	1.77	3.14	1.70	7.2	E
SR-90 (MC/SQ.MI.)	--	0.52	0.68	0.10	0.08	0.13	0.53	0.10	0.06	0.64	0.38	0.37	E
SR-90 CONC. (PC/L)	--	--	--	--	1.67	1.67	1.37	2.58	0.46	3.04	3.34	0.76	
SR-89/SR-90	--	3.	24.	15.	2.2	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	7.8	2.92	3.7	2.20	1.35	2.17	1.36	0.20	1.75	9.72	3.40	3.20	39.77
SR-90 (MC/SQ.MI.)	0.80	1.05	0.16	0.31	0.13	0.45	0.25	0.18	0.56	0.59	0.66	0.32	5.46
SR-90 CONC. (PC/L)	1.52	5.47	0.61	2.13	1.52	3.19	2.74	13.68	4.86	0.91	2.89	1.52	
SR-89/SR-90	*	*	*	*	--	--	--	--	--	*	*	--	
1965 PRECIP. (INCHES)	3.80	5.25	0.50	0.75									E
SR-90 (MC/SQ.MI.)	1.15	0.32	0.32	0.04									E
SR-90 CONC. (PC/L)	4.56	0.91	9.73	0.76									
SR-89/SR-90	--	--	--	--									

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D: RATIO EXCEEDS 999.99

SITE: U. OF S. AFRICA, PRETORIA LAT. 25 45S LONG. 26 14E ALT. 4490 FT. (PDT)

SOURCE: NATIONAL PHYSICAL RESEARCH LABORATORY

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1957 PRECIP. (INCHES)	--	--	--	--	--	--	4.29	1.56	4.66	3.12	--	0.63	E
SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	0.06	0.07	0.45	0.19	0.10	0.12	E
SR-90 CONC. (PC/L)	--	--	--	--	--	--	0.15	0.61	1.52	0.91	--	2.89	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1958 PRECIP. (INCHES)	4.91	1.13	3.32	3.39	0.92	0.04	*	*	1.56	2.34	4.29	7.49	29.39
SR-90 (MC/SQ.MI.)	0.10	0.06	0.11	0.17	0.49	0.02	0.05	0.01	0.59	0.86	0.36	0.76	3.58
SR-90 CONC. (PC/L)	0.30	0.76	0.46	0.76	8.06	7.60	--	--	5.78	5.62	1.22	1.52	
SR-89/SR-90	29.	3.	3.	3.	--	38.	39.	--	60.	33.	17.	19.	
1959 PRECIP. (INCHES)	7.49	4.02	0.18	1.58	0.79	*	0.39	*	0.39	0.79	3.94	5.91	25.46
SR-90 (MC/SQ.MI.)	0.48	0.52	0.13	0.16	0.06	0.03	0.05	*	0.12	0.07	0.17	0.24	2.05
SR-90 CONC. (PC/L)	0.91	1.98	10.94	1.52	1.52	--	1.98	--	4.71	1.37	0.61	0.61	
SR-89/SR-90	7.	3.	4.8	0.58	*	*	*	--	*	97.	*	*	
1960 PRECIP. (INCHES)	3.00	2.36	2.76	2.76	2.76	0.08	0.04	0.39	0.78	2.36	6.30	4.33	27.92
SR-90 (MC/SQ.MI.)	0.06	0.09	0.09	0.09	0.22	0.01	0.00	0.01	0.06	0.19	0.25	0.17	1.24
SR-90 CONC. (PC/L)	0.30	0.61	0.46	0.46	1.22	1.98	0.00	0.46	1.22	1.22	0.61	0.61	
SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961 PRECIP. (INCHES)	4.33	1.97	3.15	4.33	1.37	0.39	*	*	1.57	3.94	4.33	2.93	28.31
SR-90 (MC/SQ.MI.)	0.25	0.12	0.09	0.13	0.11	0.03	*	*	0.46	0.26	6.48	0.53	8.44
SR-90 CONC. (PC/L)	0.91	0.91	0.46	0.46	1.22	1.22	--	--	4.41	1.06	22.80	2.74	
SR-89/SR-90	--	--	--	--	--	--	--	--	*	*	*	*	
1962 PRECIP. (INCHES)	5.94	4.97	2.60	1.34	*	*	*	0.05	0.01	1.17	6.93	3.94	24.95
SR-90 (MC/SQ.MI.)	0.23	0.23	0.33	0.10	0.02	0.03	--	0.12	0.06	0.67	0.48	--	E
SR-90 CONC. (PC/L)	0.91	0.76	1.98	1.06	--	--	--	36.48	91.20	8.66	1.06	--	
SR-89/SR-90	*	*	*	*	*	85.	--	19.	14.	25.	12.	--	
1963 PRECIP. (INCHES)	5.13	0.51	0.43	5.09	0.29	2.17	0.42	*	0.01	0.99	3.56	3.61	22.21
SR-90 (MC/SQ.MI.)	0.57	0.09	0.04	0.12	0.08	0.28	0.05	0.12	0.07	0.27	0.32	0.88	2.89
SR-90 CONC. (PC/L)	1.67	2.74	1.37	0.30	4.26	1.98	1.62	--	106.40	4.10	1.37	3.65	
SR-89/SR-90	8.	6.5	23.	4.5	2.40	*	*	*	*	*	*	*	
1964 PRECIP. (INCHES)	6.95	0.24	1.99	1.07	0.16	0.18	*	*	0.45	5.70	0.50	4.10	21.34
SR-90 (MC/SQ.MI.)	0.68	0.18	0.09	0.50	0.08	0.41	0.04	0.03	0.57	1.15	0.05	0.20	3.98
SR-90 CONC. (PC/L)	1.52	11.40	0.76	7.14	7.60	34.66	--	--	19.30	3.04	1.52	0.76	
SR-89/SR-90	*	0.6	*	*	*	--	--	--	--	1.90	*	--	
1965 PRECIP. (INCHES)	2.60	1.40	0.92	3.12									E
SR-90 (MC/SQ.MI.)	0.75	0.21	0.16	0.16									E
SR-90 CONC. (PC/L)	4.41	2.28	2.58	0.76									
SR-89/SR-90	--	--	--	--									

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: VENEZUELA, CARACAS SITE 1

LAT. 10 24N LONG. 66 59W ALT. 5740 FT. (COLUMN)

SOURCE: INSTITUTO VENEZOLANO DE INVESTIGACIONES CIENTIFICAS

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1960	PRECIP. (INCHES)	0.79	1.46	0.05	3.18	3.14	6.45	6.02	4.87	3.42	1.90	1.63	3.49	36.40
	SR-90 (MC/SQ.MI.)	0.11	0.07	0.02	0.24	0.25C	0.51C	0.15C	0.12C	0.08C	0.05C	0.08C	0.16C	1.84
	SR-90 CONC. (PC/L)	2.13	0.76	6.08	1.22	1.22	1.22	0.30	0.30	0.30	0.46	0.76	0.76	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	0.37	0.17	0.13	4.17	0.12	3.33	8.20	4.20	5.04	3.72	3.64	1.48	34.57
	SR-90 (MC/SQ.MI.)	0.12C	0.05C	*	*	0.01C	0.30C	0.05C	0.03C	*	0.09C	0.09C	0.11	0.85
	SR-90 CONC. (PC/L)	4.86	4.41	0.00	0.00	1.22	1.37	0.15	0.15	0.00	0.30	0.30	1.06	
	SR-89/SR-90	--	--	--	--	--	--	--	--	*	71. C	71. C	63.	
1962	PRECIP. (INCHES)	0.70	1.00	1.05C	1.05C	4.58	8.42A	6.06A	3.82	3.41	4.40	1.99	1.96	38.44
	SR-90 (MC/SQ.MI.)	0.55	0.28	0.23C	0.23C	0.56	1.00A	0.92A	0.33	0.61	0.18	0.26	0.25	5.40
	SR-90 CONC. (PC/L)	12.01	4.26	3.34	3.34	1.82	1.82	2.28	1.37	2.74	0.61	1.98	1.98	
	SR-89/SR-90	46.	27.	--	--	28.	14.00A	--	23.	19.	26.	58.	37.	
1963	PRECIP. (INCHES)	0.87	0.65	1.51	1.28	13.86	8.95	3.14	2.45	5.80	5.38	5.89	1.37	51.15
	SR-90 (MC/SQ.MI.)	0.30	0.24	1.10	0.58	1.99	0.20	1.69	0.87	0.57	0.64	0.57	0.23	8.98
	SR-90 CONC. (PC/L)	5.17	5.62	11.10	6.84	2.13	0.30	8.21	5.47	1.52	1.82	1.52	2.58	
	SR-89/SR-90	22.	23.	16.	9.	8.0	--	1.	*	*	*	*	*	
1964	PRECIP. (INCHES)	0.47	0.06	0.15	0.48	2.14	7.18	10.45	5.75	3.64	5.07	1.53	1.48	38.40
	SR-90 (MC/SQ.MI.)	0.15	0.05	0.24	0.45	0.43	0.76	1.32	0.40	0.26	0.26	0.07	0.17	4.56
	SR-90 CONC. (PC/L)	4.86	12.62	24.32	14.29	3.04	1.67	1.98	1.06	1.06	0.76	0.76	1.67	
	SR-89/SR-90	*	1.6	*	0.04	*	--	--	--	--	*	--	--	
1965	PRECIP. (INCHES)	2.76	2.08	0.09	1.15									E
	SR-90 (MC/SQ.MI.)	0.12	0.04	0.08	0.17									E
	SR-90 CONC. (PC/L)	0.61	0.30	13.53	2.28									
	SR-89/SR-90	--	--	--	--									

NOTES

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MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: VENEZUELA, CARACAS SITE 2

LAT. 10 03N LONG. 66 48W ALT. 3035 FT. (COLUMN)

SOURCE: INSTITUTO VENEZOLANO DE INVESTIGACIONES CIENTIFICAS

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	ANN. TOTAL
1962	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	--	--	--	--	--	--	--	--	--	0.17	0.44	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	23.	30.	--	
1963	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.26C	0.26C	0.26C	0.26C	1.30	0.54	1.30	0.31	0.18C	0.18C	0.28C	0.28C	5.41
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	9.4	*	*	*	--	--	--	--	
1964	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	1.20	0.05	0.04	0.65	0.41C	0.41C	0.41C	0.27	0.46	0.11C	0.11C	0.16	4.28
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	*	1.0	*	*	--	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	--	--	--	--	--	--	--	--	--	--	--	--	E
	SR-90 (MC/SQ.MI.)	0.12	*	0.13	--	--	--	--	--	--	--	--	--	E
	SR-90 CONC. (PC/L)	--	--	--	--	--	--	--	--	--	--	--	--	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	

NOTES

--: DATA NOT AVAILABLE

*: ZERO OR TRACE

A: APPROXIMATE

B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

MONTHLY FALLOUT DEPOSITION COLLECTIONS

SITE: WAKE ISLAND

LAT. 19 17N LONG. 166 39E ALT. 11 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU AIRPORT STATION

		<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEP.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANN. TOTAL</u>
1959	PRECIP. (INCHES)	1.02	0.57	0.55	2.22	2.04	2.13	2.36	3.15	3.26	2.43	2.14	3.10	24.97
	SR-90 (MC/SQ.MI.)	---	---	---	1.95	1.04	0.07	0.24	0.18	0.10	0.04	0.27	0.21	E
	SR-90 CONC. (PC/L)	---	---	---	13.38	7.75	0.46	1.52	0.91	0.46	0.30	1.98	1.06	
	SR-89/SR-90	---	---	---	12.	8.4	5.7	2.6	1.2	*	*	*	2.9	
1960	PRECIP. (INCHES)	0.39	0.73	0.52	2.00	0.95	5.47	3.15	3.19	4.87	6.41	4.46	0.65	32.79
	SR-90 (MC/SQ.MI.)	0.15	*	0.24	0.24	0.22	0.15	0.09C	0.09C	0.11C	0.14C	0.10C	0.01C	1.54
	SR-90 CONC. (PC/L)	5.78	0.00	6.99	1.82	3.50	0.46	0.46	0.46	0.30	0.30	0.30	0.30	
	SR-89/SR-90	---	---	---	---	---	---	---	---	---	---	---	---	
1961	PRECIP. (INCHES)	0.83	0.56	3.47	1.09	0.50	1.09	4.29	8.03	10.81	5.31	3.32	0.76	40.06
	SR-90 (MC/SQ.MI.)	0.29C	0.19C	0.15C	0.47C	0.07C	0.16C	0.16C	0.30C	0.29	0.14	*	0.18	2.40
	SR-90 CONC. (PC/L)	5.32	5.17	0.61	6.54	2.13	2.28	0.61	0.61	0.46	0.46	0.00	3.65	
	SR-89/SR-90	---	---	---	---	---	---	---	---	3.8	53.	---	54.	
1962	PRECIP. (INCHES)	0.49	0.63	1.00	0.58	1.00	5.16	8.26	8.48	6.27	11.70	1.03	2.44	47.04
	SR-90 (MC/SQ.MI.)	0.16	0.42	0.10	0.62	0.50	1.76	1.39	1.14	0.22	0.16	0.18	0.58	7.23
	SR-90 CONC. (PC/L)	5.02	10.18	1.52	16.26	7.60	5.17	2.58	1.98	0.61	0.15	2.58	3.65	
	SR-89/SR-90	51.	32.	34.	12.	13.	11.	13.	10.	23.	22.	48.	47.	
1963	PRECIP. (INCHES)	0.55	0.32	1.09	2.86	3.66	3.37	1.38	4.37	2.09	5.54	3.12	1.72	30.07
	SR-90 (MC/SQ.MI.)	1.60	0.58	0.40	1.21	4.89	3.23	1.28	0.85	0.53	1.15	0.39	0.29	16.40
	SR-90 CONC. (PC/L)	44.23	27.51	5.62	6.38	20.37	14.59	14.14	2.89	3.80	3.19	1.98	2.58	
	SR-89/SR-90	28.	22.	23.	16.	9.7	*	3.	*	0.4	*	*	*	
1964	PRECIP. (INCHES)	0.92	0.61	1.08	3.68	0.42	5.05	4.46	5.85	6.78	2.78	2.36	1.67	35.66
	SR-90 (MC/SQ.MI.)	1.14	0.61	1.49	3.37	0.70	2.74	0.23	1.67	0.07	*	0.22	0.63	12.87
	SR-90 CONC. (PC/L)	18.85	15.20	20.98	13.98	25.38	8.21	0.76	4.41	0.15	0.00	1.37	5.78	
	SR-89/SR-90	*	1.0	*	*	*	---	---	---	---	*	8.30	---	
1965	PRECIP. (INCHES)	0.06	1.08	1.38	3.29									E
	SR-90 (MC/SQ.MI.)	0.20	0.09	0.31	0.48									E
	SR-90 CONC. (PC/L)	50.62	1.22	3.34	2.28									
	SR-89/SR-90	---	---	---	---									

NOTES

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*: ZERO OR TRACE

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B: LOWER LIMIT OF REPORTED DATA

C: PROPORTIONED FROM ORIGINALLY CONSOLIDATED DATA

D: RATIO EXCEEDS 999.99

E: FULL YEAR'S DATA NOT AVAILABLE

SITE: YAP ISLAND

LAT. 09 31N LONG. 138 08E ALT. 58 FT. (COLUMN)

SOURCE: U. S. WEATHER BUREAU OFFICE

		<u>JAN.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEP.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANN. TOTAL</u>
1960	PRECIP. (INCHES)	1.72	6.23	4.22	6.30	13.52	9.56	11.46	11.97	10.67	18.07	20.75	8.15	122.62
	SR-90 (MC/SQ.MI.)	0.44	0.13	0.24	0.24	0.25C	0.17C	0.04	0.04	0.07C	0.13C	--	0.02	E
	SR-90 CONC. (PC/L)	3.95	0.30	0.91	0.61	0.30	0.30	0.00	0.00	0.15	0.15	--	0.00	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	--	--	--	
1961	PRECIP. (INCHES)	11.65	5.67	11.14	4.76	18.07	12.32	12.72	17.24	10.81	21.00	4.93	11.38	141.69
	SR-90 (MC/SQ.MI.)	0.21C	0.10C	0.28	--	--	--	*	*	*	0.13	--	0.36	E
	SR-90 CONC. (PC/L)	0.30	0.30	0.46	--	--	--	0.00	0.00	0.00	0.15	--	0.46	
	SR-89/SR-90	--	--	--	--	--	--	--	--	--	31.	--	62.	
1962	PRECIP. (INCHES)	8.53	13.36	7.50	15.95	14.43	7.77	19.44	17.52	12.23	9.38	7.41	15.01	148.53
	SR-90 (MC/SQ.MI.)	0.25	0.84	0.84	0.85	0.82	0.40	0.77	--	0.24	0.15	0.25	0.65	E
	SR-90 CONC. (PC/L)	0.46	0.91	1.67	0.76	0.91	0.76	0.61	--	0.30	0.30	0.46	0.61	
	SR-89/SR-90	54.	29.	22.	13.	9.	18.	20.	--	15.	17.	32.	39.	
1963	PRECIP. (INCHES)	11.26	12.20	11.13	4.20	7.14	8.77	13.49	28.10	10.25	16.60	7.46	10.06	140.66
	SR-90 (MC/SQ.MI.)	0.36	0.63	0.93	2.49	0.94	1.66	0.46	0.85	0.49	0.86	0.49	0.51	10.67
	SR-90 CONC. (PC/L)	0.46	0.76	1.22	8.97	1.98	2.89	0.46	0.46	0.76	0.76	1.06	0.76	
	SR-89/SR-90	44.	29.	17.	10.	5.9	4.5	2.	*	*	1.8	*	1.	
1964	PRECIP. (INCHES)	2.37	6.91	4.01	7.64	17.77	6.54	9.44	16.72	12.45	11.69	6.19	11.61	113.34
	SR-90 (MC/SQ.MI.)	0.76	1.35	1.57	0.83	0.77	0.59	0.56	0.39	0.31	0.20	0.14	0.20	7.67
	SR-90 CONC. (PC/L)	4.86	3.04	5.93	1.67	0.61	1.37	0.91	0.30	0.30	0.30	0.30	0.30	
	SR-89/SR-90	*	*	*	*	*	--	--	--	--	*	*	--	
1965	PRECIP. (INCHES)	3.30	6.01	7.63	4.25									E
	SR-90 (MC/SQ.MI.)	0.16	0.14	0.17	0.26									E
	SR-90 CONC. (PC/L)	0.76	0.30	0.30	0.91									
	SR-89/SR-90	--	--	--	--									

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NOTES

- : DATA NOT AVAILABLE
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- D: RATIO EXCEEDS 999.99
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1.12 Fission Product and Activation Product Radionuclides in Monthly Precipitation at Selected U. S. Sites.

Other radionuclides in addition to strontium-90 and strontium-89 have been analyzed in monthly precipitation at selected sites in the United States. These sites and the associated analytical laboratory are given below:

<u>Site</u>	<u>Laboratory</u>
Westwood, N. J.	Isotopes, Inc. (Westwood, N. J.)
Appleton, Wisc.	" " " "
Chattanooga, Tenn.	" " " "
Pittsburgh, Pa.	Nuclear Science & Engineering Corp. (Pittsburgh, Pa.)
Louisville, Ky.	Radiochemistry, Inc. (Louisville, Ky.)
Houston, Tex.	Tracerlab, A Div. of LFE (Richmond, Calif.)
Richmond, Calif.	" " " " " "
Midwest City, Okla.	Hazleton-Nuclear Science Corp. (Palo Alto, Calif.)
Palo Alto, Calif.	" " " "
Seattle, Wash.	Food, Chemical & Research Labs., Inc. (Seattle, Wash.)
New York City	Health and Safety Laboratory, USAEC, NYO

The radionuclide measurements in monthly precipitation expressed as millicuries per square mile are given in the tables on pages 172 through 203. A separate listing has been made for each nuclide and the available data are given under the appropriate site heading. The first table consists of monthly precipitation measurements made at each site. Data for the following radionuclides are covered in the tables.

<u>Radionuclide</u>	<u>Type</u>
Mn-54	neutron activation product
Fe-55	" " "
Sr-89	fission product
Sr-90	" "
Zr-95	" "
Rh-102	neutron activation product
Ru-103	fission product
Ru-106	" "
Sb-124	neutron activation product
Cs-137	fission product
Ba-140	" "
Ce-141	" "
Ce-144	" "

Data for other radionuclides not reported, were presented in the July 1, 1964 Quarterly, HASL-146. The identification and data page for each of these radionuclides are as follows:

<u>Radionuclide</u>	<u>Type</u>	<u>Site</u>	<u>Sampling Period</u>	<u>(HASL-146) Page</u>
Cs-136	fission product	Richmond, Calif.	9/61-6/62	17
PM-147	" "	Richmond, Calif.	7/61-8/61	17
		Westwood, N. J.	7/61-8/61	34
		Pittsburgh, Pa.	7/61-8/61	45
W-185	neutron activation product	Richmond, Calif.	6/58-6/60	16
Tl-204	" "	Westwood, N. J.	7/62-6/63	168
Pu-238		Richmond, Calif.	7/61-6/63	17 & 18
Pu-239		" "	" "	" "
		Louisville, Ky.	2/60-6/63	28
		Westwood, N. J.	2/60-6/63	34 & 35
		Pittsburgh, Pa.	2/60-5/63	44 & 46
		Houston, Tex.	1/60-6/63	55 & 56

TABLE 1c

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

<u>Year</u>	<u>Month</u>	<u>Precipitation in Inches</u>									
		<u>New-York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	Seattle
1957	Jan.	1.57									
	Feb.	2.50									
	Mar.	2.05									
	Apr.	4.51									
	May	3.67									
	June	1.66									
	July	1.66		4.51							
	Aug.	2.87		0.49							
	Sept.	3.01		4.62							
	Oct.	3.27		1.94							
	Nov.	4.46		2.17							
	Dec.	5.26		4.93							
1958	Jan.	3.79	6.42	3.40							
	Feb.	2.98		1.00							
	Mar.	3.19	4.92	3.36			6.64				
	Apr.	6.14	6.38	3.87			wet				
	May	3.25	3.98	3.87		1.55	*				
	June	2.55	1.90	3.00		2.10	wet				
	July	3.68	2.78	8.47		1.94	*				
	Aug.	2.36	4.31	5.33		6.44	*				
	Sept.	4.44	2.66	4.34	2.83	8.90	0.05				
	Oct.	5.46	4.72	0.84	1.65	5.90	0.21				
	Nov.	1.85	3.46	3.13	2.77	1.65	*				
	Dec.	1.25	1.08	1.18	1.19	0.54	1.77				
1959	Jan.	2.34	2.66	2.80	5.51	5.58	4.42				
	Feb.	1.69	2.19	4.01	2.76	6.11	6.12				
	Mar.	3.77	3.76	2.50	2.13	0.84	0.81				
	Apr.	1.91	3.23	3.65	1.68	6.92	0.44				
	May	1.33	1.08	2.92	4.42	7.5	*				
	June	4.20	5.46	3.60	1.11	6.52	*				
	July	4.28	6.21	3.32	2.61	8.17	*				
	Aug.	4.45	5.80	3.52	5.20	6.99	*				
	Sept.	1.11	2.42	1.41	0.48	4.24	2.91				
	Oct.	4.83	6.36	4.59	3.26	4.89	*				
	Nov.	4.22	4.25	3.10	4.15	1.45	*				
	Dec.	4.64	4.63	2.87	3.77	5.69	1.62				

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Precipitation in Inches

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1960	Jan.	2.40	3.13	2.89	2.55	1.95	5.50					
	Feb.	4.43	4.89	2.07	4.31	3.99	4.63					
	Mar.	2.96	2.14	1.61	2.42	--	2.45					
	Apr.	3.05	3.99	1.59	1.17	0.85	1.05					
	May	2.97	2.70	4.71	3.52	0.88	0.33					
	June	1.74	1.50	3.51	10.11	14.38	*					
	July	8.29	8.33	2.89	1.99	5.48	*					
	Aug.	6.26	6.73	2.50	1.79	7.42	*					
	Sept.	5.38	6.95	3.08	3.00	1.86	*					
	Oct.	2.82	2.59	1.93	1.58	10.85	0.28					
	Nov.	3.05	2.96	1.38	3.35	4.73	5.06					
	Dec.	3.04	2.06	2.76	2.04	6.72	0.77					
1961	Jan.	1.88	2.96	0.90	2.41	4.44	2.98					
	Feb.	3.96	3.53	3.01	5.24	6.46	1.18					
	Mar.	4.23	4.86	3.68	7.63	1.84	2.79					
	Apr.	5.08	6.17	3.44	4.83	2.42	0.99					
	May	3.60	2.79	3.39	9.00	3.59	0.39					
	June	2.86	1.95	4.23	3.59	8.57	*					
	July	4.92	6.83	4.08	5.80	8.61	*					
	Aug.	3.13	5.47	3.28	0.92	3.23	0.08					
	Sept.	1.70	3.68	1.68	1.48	7.89	0.30					
	Oct.	2.21	2.06	3.09	2.00	0.21	0.09					
	Nov.	2.71	2.95	3.22	4.23	5.70	4.98					
	Dec.	3.04	3.46	2.04	3.76	0.88	1.20					
1962	Jan.	2.62	2.95	2.03	4.03	1.25	1.19					
	Feb.	3.74	4.44	3.56	6.58	0.60	8.88					
	Mar.	2.97	4.57	3.02	3.58	0.60	0.85					
	Apr.	3.00	3.37	4.56	1.44	4.81	0.31					
	May	1.26	1.26	2.60	2.90	1.15	*					
	June	3.73	6.29	1.61	5.94	7.40	*					
	July	1.67	1.29	3.17	0.65	2.77	*					
	Aug.	5.71	7.47	2.58	2.08	2.77	0.10					
	Sept.	3.10	3.45	6.86	3.68	3.97	0.10					
	Oct.	3.15	4.70	2.15	4.70	3.12	6.53					
	Nov.	3.94	4.61	1.39	1.60	5.68	0.90					
	Dec.	2.26	2.85	2.34	2.72	4.73	3.30				2.38	

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Precipitation in Inches

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1963	Jan.	1.93	2.09	1.97	1.18	3.09	4.45				3.34	
	Feb.	2.55	1.20	2.55	1.27	1.75	2.12				1.89	
	Mar.	3.61	4.02	6.85	9.04	0.55	3.97				4.47	
	Apr.	1.27	0.95	3.04	1.87	0.92	4.30				4.02	
	May	2.16	2.91	1.66	4.56	0.62	0.45				5.84	
	June	2.72	3.55		4.18	--	*				0.01	
	July	2.19	4.76							5.94	*	1.81
	Aug.	3.21	1.80					1.98	0.83	2.45	*	1.57
	Sept.	3.95	4.69					3.82	0.94	1.81	0.18	0.94
	Oct.	0.14	0.92					0.62	*	0.20	0.99	4.19
	Nov.	8.24	4.48					1.69	6.82	1.99	2.74	7.92
	Dec.	2.31	1.51					0.57	4.70	0.67	*	4.75
1964	Jan.	4.62	3.48					1.04	5.63	0.67	3.41	7.39
	Feb.	2.93	1.89					0.16	5.50	1.98	0.25	1.25
	Mar.	2.57	2.24					1.66	11.4	1.34+	1.39	2.97
	Apr.	5.09	6.14					2.60	9.83	2.10	0.04	1.33
	May	0.57	1.05					5.32	4.94	3.74	0.52	1.39
	June	2.67	2.46					1.51	3.32	0.68	0.54	3.07
	July	4.17	5.09					5.53	5.58	0.96	*	
	Aug.	0.24	1.00					2.43	6.19	3.74	0.18	0.98
	Sept.	1.69	1.28					3.93	2.98	3.50	*	1.86
	Oct.	1.73	1.36					0.31	3.83	1.14	0.87	0.65
	Nov.	2.55	2.40					2.13	3.41	6.17	3.21	4.48
	Dec.	4.16	4.32					0.55	2.98	0.67	5.16	4.48
1965	Jan.	3.09	2.52					0.68	3.26	1.99	2.92	5.83
	Feb.	3.66	3.04					0.76	4.70	1.13	0.76	4.35
	Mar.	2.49	1.56					3.15	10.0	1.22	1.53	0.77
	Apr.	2.90								2.61	1.10	3.56
	May	1.58								3.39	*	
	June	1.27										
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

-- no data.

* zero or trace amounts reported.

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Manganese-54 (mCi/mi²) - decay corrected to 10-15-61

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1962	Jan.											
	Feb.											
	Mar.											
	Apr.				8.90							
	May				12.2							
	June				7.38							
	July		3.09		15.1							
	Aug.		8.25		2.20							
	Sept.		1.71		4.92							
	Oct.		9.86		4.16							
	Nov.		5.16		6.00							
	Dec.		6.11		8.08							
1963	Jan.		14.6		8.52							
	Feb.		14.6		15.0							
	Mar.		19.4		56.2							
	Apr.		21.1		72.7							
	May		27.5		63.5							
	June		27.7									
	July		99.5							30.8	<0.25	10.9
	Aug.		73.1					22.6	7.35	20.2	5.20	32.2
	Sept.		56.0					35.6	9.61	8.80	<3.92	16.8
	Oct.		15.3					19.5	<3.69	5.12	3.08	30.0
	Nov.		lost					13.6	7.21	13.7	9.51	28.8
	Dec.		20.2					<7.35	10.3	3.70	1.58	17.8
1964	Jan.		33.7					13.8	22.5	2.32	14.6	27.9
	Feb.		8.53					3.07	41.9	18.8	2.13	12.6
	Mar.		27.5					17.0	36.4	20.4	6.01	25.9
	Apr.		50.5					24.0	80.0	21.4	1.53	29.7
	May		21.0					60.1	44.6	54.8	3.25	35.2
	June		41.6					15.9	27.6	12.9	1.61	23.7
	July		19.9					21.5	18.7	8.77	0.94	16.3
	Aug.		3.84					8.69	5.05	8.08	0.51	7.68
	Sept.		3.89					<4.32	<2.05	9.94	<0.54	6.49
	Oct.		1.50					2.08	1.96	7.28	1.85	4.62
	Nov.		7.27					9.33	4.61	10.5	7.27	11.5
	Dec.		<2.78					3.18	2.12	1.59	10.2	11.4

See Available 1962 and 1963 data on p. 167, HASL-146

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Manganese-54 (mCi/mi²) - decay corrected to 10-15-61

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1965	Jan.		10.5					4.68	9.92	4.68	12.6	12.5
	Feb.		17.3					1.97	8.78	13.5	5.44	21.8
	Mar.		10.2					8.94	12.0	--	4.58	9.05
	Apr.									8.36	13.0	15.9
	May									27.8	1.39	
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

-- No data

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Iron-55 (mCi/mi²) - decay corrected to 10-15-61

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>	
1962	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July				<7.21								
	Aug.				13.0								
	Sept.				5.64								
	Oct.				31.5								
	Nov.				9.76								
	Dec.				7.22								
1963	Jan.				17.0								
	Feb.				18.4								
	Mar.				67.8								
	Apr.				55.7								
	May				116								
	June				135								
	July				112								
	Aug.				46.1					27.5	0.67	12.1	
	Sept.				34.8				60.2	22.9	23.0	2.44	23.5
	Oct.				18.0				26.0	5.24	4.72	0.88	15.2
	Nov.				9.01				11.2	<0.65	2.50	1.80	34.2
	Dec.				14.8				6.63	6.96	22.1	5.92	18.0
1964	Jan.				27.1								
	Feb.				5.44								
	Mar.				3.58								
	Apr.				64.0								
	May				25.0								
	June				53.4								
	July				73.9								
	Aug.				6.94								
	Sept.				6.11								
	Oct.				6.22								
	Nov.				6.28								
	Dec.				<0.76								
								3.26	16.7	3.94	1.97	lost	
								5.30	16.9	4.60	11.0	36.7	
								1.27	28.7	31.8	3.40	10.9	
								2.21	5.01	3.04	5.03	42.5	
								34.3	148	5.91	1.12	29.2	
								64.2	58.0	73.5	6.05	20.1	
								21.7	35.5	20.3	5.28	9.76	
								125.	87.9	12.7	1.74	8.95	
								8.04	13.2	17.3	2.81	6.30	
								18.8	6.34	15.8	1.31	6.09	
								4.49	7.31	9.98	2.67	4.26	
								9.39	6.52	16.4	6.98	11.8	
								5.43	2.57	2.45	11.3	9.77	

See Available Data for 1962 and 1963 on p. 167, HASL-146.

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Iron-55 (mCi/mi²) - decay corrected to 10-15-61

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1965	Jan.		12.6					4.96	16.0	6.32	13.1	9.22
	Feb.		18.4					4.19	12.4	6.14	4.78	26.7
	Mar.		12.8					11.7	24.6	6.50	9.26	11.9
	Apr.									13.3	11.1	19.6
	May									26.5	2.91	
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Strontium-89 (mCi/mi²) - Decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1957	Jan.	62.4										
	Feb.	11.1										
	Mar.	--										
	Apr.	--										
	May	11.3										
	June	23.0										
	July	15.1										
	Aug.	29.5										
	Sept.	19.3			5.8							
	Oct.	23.2			8.1							
	Nov.	8.82			3.9							
	Dec.	12.0			8.1							
1958	Jan.	27.1		4.3								
	Feb.	19.7		3.8								
	Mar.	15.1		5.2				81.7				
	Apr.	18.2	38.8	13.6				6.78				
	May	28.9	32.1	9.0		3.5		10.6				
	June	21.1	12.9	35		17.1		2.15				
	July	17.4	44.1	93		36.2		1.41				
	Aug.	12.0	25.2	41		34		0.84				
	Sept.	18.2	18.9	17.1	3.81	14.1		1.31				
	Oct.	56.2	78.6	15.4	10.7	21.5		2.31				
	Nov.	28.4	53.3	24.7	11.5	7.8		0.19				
	Dec.	81.4	25.2	19.2	24.0	19.3		14.1				
1959	Jan.	38.1	40.5	34.2	96.7	41.1	56.3					
	Feb.	40.0	36.1	40.6	50.3	40.7	72.6					
	Mar.	66.2	61.4	60.8	71.4	23.6	11.1					
	Apr.	75.4	63.1	57.3	43.4	42.4	4.90					
	May	6.76	15.7	18.8	35.8	34.2	1.44					
	June	22.4	14.8	9.3	6.02	4.98	0.12					
	July	1.63	2.12	2.09	2.62	2.99	0.27					
	Aug.	0.68	0.80	0.77	0.21	0.60	0.04					
	Sept.	0.13	<0.07	0.03	0.16	0.40	0.10					
	Oct.	0.12	0.39	0.08	0.39	0.05	0.02					
	Nov.	0.10	0.30	0.17	0.30	0.25	0.01					
	Dec.	<0.05	0.60	0.12	1.04	0.18	0.06					

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

		Strontium-89 (mCi/mi ²) - decay corrected to midpoint of sampling month										
<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1960	Jan.	0.14	<0.04	0.06	1.00	0.07	0.34					
	Feb.	1.21	1.17	0.55	1.65	2.13	0.33					
	Mar.	0.32	0.26	0.59	1.54	lost	2.44					
	Apr.	0.38	<0.01	0.22	0.21	0.57	0.05					
	May	0.15	<0.04	0.22	0.20	0.02	0.02					
	June	0.17	<0.03	0.11	0.18	<0.03	0.01					
	July	--	--	--	0.10	--	--					
	Aug.	--	--	--	--	--	--					
	Sept.	--	--	--	--	--	--					
	Oct.	--	--	--	--	--	--					
	Nov.	--	--	--	--	--	--					
	Dec.	--	--	--	--	--	--					
1961	Jan.	--	--	--	--	--	--					
	Feb.	--	--	--	--	--	--					
	Mar.	--	--	--	--	--	--					
	Apr.	--	--	--	--	--	--					
	May	--	--	--	--	--	--					
	June	--	--	--	--	--	--					
	July	--	--	--	--	--	--					
	Aug.	--	--	--	--	--	--					
	Sept.	4.32	4.44	1.35	2.97	0.62	0.37					
	Oct.	26.1	21.3	27.5	18.3	1.65	5.97					
	Nov.	79.7	98.0	53.6	62.5	23.1	97.6					
	Dec.	67.7	72.2	61.6	55.6	16.5	28.6					
1962	Jan.	63.0	67.8	63.8	94.3	47.1	31.2					
	Feb.	75.9	92.5	58.5	65.4	17.7	111					
	Mar.	19.4	39.1	45.8	74.1	18.4	14.4					
	Apr.	50.8	62.9	57.0	19.4	62.4	8.3					
	May	28.0	25.9	33.5	63.7	8.71	0.29					
	June	21.2	25.7	9.87	38.5	35.8	0.51					
	July	16.1	16.8	22.8	14.1	13.9	0.27					
	Aug.	16.9	17.7	16.0	12.6		0.22					
	Sept.	20.9	18.3	28.5	18.7	4.23	1.25					
	Oct.	60.9	79.1	33.5	29.7	26.0	17.8					
	Nov.	43.2	83.0	68.5	61.8	190	15.7					
	Dec.	89.4	84.5	59.0	32.4	56.9	37.2					

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Strontium-89 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New-York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1963	Jan.	71.7	73.7	58.1	43.5	75	72.7				76.8	
	Feb.	101	50.6	53.6	44.0	60	55.7				73.9	
	Mar.	95.3	72.5	102	90.3	8.7	91.0				51.6	
	Apr.	--	60.4	70.4	56.2	11.8	60.7				46.8	
	May	43.5	51.8	39.2	106	16.3	6.59				12.9	
	June	21.9	22.8		56.4	1.2	0.52				1.23	
	July	19.8	32.2							19.9	1.80	3.55
	Aug.	14.7	10.4					7.27	2.60	4.32	2.38	3.87
	Sept.	5.46	6.69					5.39	0.96	1.55	0.38	0.55
	Oct.	0.21	1.56					1.73	<0.14	0.46	0.37	2.57
	Nov.	2.78	1.52					1.39	1.17	3.14	0.78	0.55
	Dec.	1.08	0.48					0.25	0.99	0.18	0.06	1.06
1964	Jan.	0.81	0.68					0.34	0.90	<0.09	<0.43	0.64
	Feb.	--	0.19					<0.11	0.85	<0.46	0.08	0.23
	Mar.	--	<0.22					0.34	<0.20	<0.37	<0.14	<0.11
	Apr.	--	--					--	--	<1.73	<0.02	<0.09
	May	--	--					--	--	<0.25	<0.13	0.10
	June	--	--					--	--	<0.12	<0.04	<0.10
	July	--	--					--	--	--	--	<0.02
	Aug.	--	--					--	--	--	--	<0.12
	Sept.	--	--					--	--	--	--	<0.05
	Oct.	0.96	<0.40					0.27	3.20	1.78	0.52	0.38
	Nov.	--	0.66					<2.58	<0.84	4.11	1.68	3.71
	Dec.	--	<0.01					<0.09	0.15	0.03	0.20	<0.04
1965	Jan.		--					--	--	<0.01	0.06	--
	Feb.		--					--	--	0.08	0.03	--
	Mar.		--					--	--	--	--	--
	Apr.									--	--	--
	May									--	--	--
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

-- no data.

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Strontium-90 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1957	Jan.	0.26										
	Feb.	0.53										
	Mar.	1.03										
	Apr.	4.80										
	May	0.94										
	June	0.82										
	July	0.84			0.86							
	Aug.	0.50	1.10		0.16							
	Sept.	0.41	1.18		0.15							
	Oct.	0.38	0.80		0.31							
	Nov.	0.42	0.55		0.28							
	Dec.	0.60	1.14		0.62							
1958	Jan.	1.29	1.53	0.66								
	Feb.	1.23	0.73	0.35								
	Mar.	0.89	1.00	0.47				3.73				
	Apr.	1.52	1.73	1.00				0.57				
	May	2.63	2.80	0.85		0.37		0.58				
	June	1.76	1.04	2.54		0.70		0.26				
	July	1.58	1.10	2.31		0.55		0.08				
	Aug.	0.60	1.11	1.67		0.61		0.03				
	Sept.	0.65	0.70	0.68	0.25	0.50		0.07				
	Oct.	1.06	1.64	0.55	0.46	0.64		0.08				
	Nov.	0.98	1.38	0.73	0.66	0.24		0.01				
	Dec.	1.77	0.79	0.76	0.59	0.47		0.39				
1959	Jan.	1.19	1.39	1.44	2.19	1.21	1.87					
	Feb.	1.73	1.44	2.00	1.58	1.84	2.66					
	Mar.	5.09	4.69	3.45	3.16	1.42	0.77					
	Apr.	6.28	6.35	5.39	3.35	4.08	0.48					
	May	1.30	2.63	2.90	2.97	6.01	0.22					
	June	4.44	3.78	2.06	0.93	0.96	0.02					
	July	0.49	1.76	0.67	0.67	0.87	0.01					
	Aug.	0.08	1.00	0.44	0.29	0.34	0.01					
	Sept.	0.12	0.08	0.06	0.08	0.40	0.09					
	Oct.	0.36	0.42	0.35	0.35	0.06	0.02					
	Nov.	0.31	0.27	0.35	0.23	0.04	0.01					
	Dec.	0.51	0.33	0.34	0.44	0.21	0.12					

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Strontium -90 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1960	Jan.	0.45	0.25	0.25	0.91	0.16	0.36					
	Feb.	0.81	0.67	0.38	1.22	0.62	0.36					
	Mar.	0.32	0.37	0.33	0.37	lost	0.43					
	Apr.	0.42	0.79	0.51	0.58	0.25	0.08					
	May	0.73	0.80	0.81	1.19	0.08	0.07					
	June	0.43	0.48	0.80	1.29	0.58	0.01					
	July	0.27	0.58	0.47	0.19	0.10	0.02					
	Aug.	0.22	0.33	0.24	0.14	0.32	0.02					
	Sept.	0.15	0.28	0.17	0.09	0.08	0.01					
	Oct.	0.11	0.12	0.14	0.17	0.24	0.02					
	Nov.	0.12	0.13	0.12	0.13	0.11	0.12					
	Dec.	0.11	0.08	0.19	0.07	0.17	0.09					
1961	Jan.	0.11	0.19	0.12	0.14	0.25	0.12					
	Feb.	0.17	0.25	0.58	0.34	0.47	0.06					
	Mar.	0.68	0.81	0.77	0.52	0.24	0.19					
	Apr.	0.97	1.57	1.12	1.05	0.67	0.14					
	May	0.83	0.67	0.94	1.22	0.15	0.27					
	June	0.43	0.47	0.84	0.43	0.41	0.02					
	July	0.20	0.39	0.42	0.43	0.26	0.03					
	Aug.	0.12	0.20	0.20	0.17	0.21	0.04					
	Sept.	0.06	0.16	0.07	0.10	0.08	0.03					
	Oct.	0.30	0.30	0.40	0.26	0.03	0.07					
	Nov.	0.96	1.17	0.69	0.76	0.39	1.31					
	Dec.	1.44	1.44	0.97	0.88	0.35	0.65					
1962	Jan.	1.26	1.48	1.31	2.05	0.80	0.82					
	Feb.	2.53	3.05	2.06	2.38	0.66	4.25					
	Mar.	1.29	2.10	2.26	3.01	1.02	0.68					
	Apr.	4.62	5.52	3.86	1.33	4.81	0.76					
	May	2.80	2.63	3.51	3.93	0.44	0.04					
	June	3.03	4.78	1.55	4.01	4.13	0.11					
	July	3.22	2.61	3.78	1.03	1.37	0.08					
	Aug.	2.41	3.45	3.21	0.85		0.06					
	Sept.	1.16	1.23	1.52	0.54	0.53	0.09					
	Oct.	2.03	3.10	1.38	1.72	1.17	1.06					
	Nov.	1.60	2.49	1.59	2.77	2.47	0.32					
	Dec.	2.71	2.95	1.89	1.18	1.86	1.01					

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Strontium-90 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1963	Jan.	2.39	2.66	2.05	1.70	2.45	2.54				2.26	
	Feb.	5.32	2.69	2.34	2.19	2.87	2.52				3.36	
	Mar.	4.54	6.29	7.34	6.99	0.97	5.67				3.58	
	Apr.	10.17	7.77	7.89	3.96	2.16	6.75				4.79	
	May	8.36	9.83	5.71	15.03	2.50	1.05				2.15	
	June	4.22	6.30		10.42	5.61	0.249				0.28	
	July	5.84	13.4							4.33	0.08	1.27
	Aug.	9.79	5.72					3.88	1.50	2.09	0.23	1.79
	Sept.	4.20	5.34					3.98	0.96	1.37	0.36	2.41
	Oct.	0.23	1.56					1.73	0.12	0.44	0.62	2.70
	Nov.	4.64	2.55					2.44	2.02	1.17	1.24	3.85
	Dec.	2.16	1.43					0.53	1.59	0.42	0.17	2.77
1964	Jan.	2.70	2.69				1.54	3.35	0.46	1.91	3.91	
	Feb.	5.44	1.10				0.30	4.80	2.66	0.25	1.48	
	Mar.	4.75	3.51				2.13	4.88	3.66	1.49	3.65	
	Apr.	12.27	6.68				3.50	11.4	3.45	0.14	4.00	
	May	1.36	2.23				6.38	5.47	6.57	0.56	4.84	
	June	6.60	6.20				2.00	3.70	1.90	0.31	2.98	
	July	3.32	2.78				3.08	2.22	1.19	0.07	1.76	
	Aug.	1.01	1.12				1.85	1.88	1.40	0.20	0.85	
	Sept.	0.60	0.29				1.69	0.50	1.08	0.30	0.78	
	Oct.	0.75	0.81				0.98	1.11	0.94	0.26	0.46	
	Nov.	0.84	0.89				1.16	0.55	1.20	0.86	2.08	
	Dec.	1.46	0.21				0.42	0.14	0.11	1.26	1.62	
1965	Jan.	0.99	1.10				0.42	0.98	0.36	0.96	1.30	
	Feb.	1.96	1.70				0.36	1.40	1.39	0.33	3.18	
	Mar.	2.13	1.40				1.40	2.13	0.38	0.87	0.83	
	Apr.	2.62							1.43	1.13	1.83	
	May	1.11							3.15	0.05		
	June	1.64										
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Zirconium-95 (mCi/mi²) - delay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>	
1961	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July												
	Aug.												
	Sept.		53.0	1.35			3.76	35.4					
	Oct.		55.4	52.4			9.0	6.7					
	Nov.		159	76.2			62	75.7					
	Dec.		135	87.9			lost	lost					
1962	Jan.		108	57.7		21	lost						
	Feb.		131	52.4		17	52.5						
	Mar.		48.7	57.9		84	27.9						
	Apr.		83.5	83.2		132	lost						
	May		40.4	69.7		27.8	0.04						
	June		57.5	9.86		202	2.40						
	July		37.1	43.7		19.7	1.36						
	Aug.		66.3	56.6			1.04						
	Sept.		29.3	56.8		57.7	3.17						
	Oct.		118	90.5		75.7	33.7						
	Nov.		95.9	90.8		109	40.3						
	Dec.		205	79.7		134	72.9						
1963	Jan.		125	71.3		73.9	108						
	Feb.		72.4	58.1		83.1	70.7						
	Mar.		124	112		25	134						
	Apr.		100	96.0		50	136						
	May		129	52.9		40.0	27.2						
	June		59.3			44.5	4.09						
	July		86.0							17.7	0.28	6.25	
	Aug.		lost					lost	11.8	8.58	1.30	12.35	
	Sept.		20.9					19.4	7.01	5.11	1.76	9.32	
	Oct.		5.29					5.71	< 4.09	2.93	1.59	7.76	
	Nov.		lost					5.58	3.44	2.75	2.67	5.75	
	Dec.		4.51					1.31	4.32	0.10	0.70	4.23	

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Zirconium-95 (mCi/mi²) - delay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1964	Jan.		4.14					2.41	5.49	0.58	6.91	2.98
	Feb.		1.09					0.40	4.35	2.51	1.44	2.22
	Mar.		2.67					1.59	lost	0.33	0.47	1.71
	Apr.		4.85					2.55	8.65	0.54	0.13	2.00
	May		0.89					2.52	2.70	1.56	0.24	1.33
	June		1.34					0.67	1.26	0.26	0.22	0.83
	July		0.60					0.76	0.60	0.20	0.11	0.38
	Aug.		0.33					0.39	0.40	0.22	0.05	0.09
	Sept.		<0.07					0.29	0.08	0.18	0.04	0.12
	Oct.		0.12					1.11	1.91	0.94	0.28	0.32
	Nov.		1.69					0.76	<0.01	0.84	0.53	0.88
	Dec.		<0.26					0.10	<0.08	0.08	0.13	0.24
1965	Jan.		0.42					<0.31	<0.37	<0.01	<0.01	0.03
	Feb.		<0.11					<0.48	<0.12	<0.01	<0.01	0.05
	Mar.		<0.07					<0.06	<0.16	<0.05	<0.09	0.04
	Apr.									<0.02	<0.09	<0.03
	May									2.74	0.23	
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Rhodium-102 (mCi/mi²)

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1960	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July		0.00052									
	Aug.		0.00042									
	Sept.		0.00032									
	Oct.		0.00233									
	Nov.		0.00331									
	Dec.		0.00087									
1961	Jan.		0.00208									
	Feb.		0.00047									
	Mar.		0.01390									
	Apr.		0.01360									
	May		0.02450									
	June		0.01320									
	July		0.00475	0.01								
	Aug.		0.00259	0.01			<0.04					
	Sept.		0.00206	<0.03			<0.02					
	Oct.		0.00097	0.07			<0.06					
	Nov.		0.00135	0.02			<0.05					
	Dec.		0.00143	<0.09			<0.12					
1962	Jan.		0.00226	<0.03			1.2					
	Feb.		0.00467	<0.01			<0.6					
	Mar.		lost	<0.05			lost					
	Apr.		0.00332	0.15			lost					
	May		0.00109	<0.4			lost					
	June		0.00412	0.06			0.18					
	July		0.00245									
	Aug.		0.00248									
	Sept.		0.00083									
	Oct.		0.00418									
	Nov.		≤0.00093									
	Dec.		≤0.00058									

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

<u>Year</u>	<u>Month</u>	<u>Rhodium-102 (mCi/mi²)</u>										
		<u>New-York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1963	Jan.		0.00062									
	Feb.		≤0.00072									
	Mar.		0.00098									
	Apr.		0.00132									
	May		lost									
	June		0.00114									
	July		0.00085									
	Aug.		<0.00027									
	Sept.		<0.00025									
	Oct.		<0.00019									
	Nov.		0.00012									
	Dec.		<0.00012									
1964	Jan.		<0.00018									
	Feb.		0.00015									
	Mar.		0.00022									
	Apr.		0.00022									
	May		0.00019									
	June		0.00008									
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Ruthenium-103 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1961	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.							< 0.26				
	Sept.							3.06				
	Oct.							17.6				
	Nov.							62.3				
	Dec.							27.5				
1962	Jan.						24					
	Feb.						< 200					
	Mar.						--					
	Apr.						--					
	May						--					
	June						--					
	July						--					
	Aug.						--					
	Sept.							2.3				
	Oct.							29.5				
	Nov.							26.0				
	Dec.							46.4				
1963	Jan.						159					
	Feb.						92					
	Mar.						90.5					
	Apr.						N.D.					
	May						N.D.					
	June						< 7.17					
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

-- no data.

N.D. - no data reported.

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Ruthenium-106 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>	
1960	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July				1.94								
	Aug.				6.48								
	Sept.				0.80								
	Oct.				2.89								
	Nov.				0.65								
	Dec.				0.73								
1961	Jan.			0.28									
	Feb.			0.99									
	Mar.			1.50									
	Apr.			1.33									
	May			2.09									
	June			1.77									
	July		2.80	0.94									
	Aug.		0.83	0.60			< 0.01						
	Sept.		0.89	0.46			0.08						
	Oct.		2.38	5.59			0.95						
	Nov.		8.01	8.4			9.3						
	Dec.		13.8	12.9			6.23						
1962	Jan.		13.6	19.5			12						
	Feb.		39.2	32.5			45						
	Mar.		7.64	31.9			8.79						
	Apr.		49.6	69.3			11.7						
	May		17.5	43.1			0.65						
	June		52.8	12.3			1.65						
	July						1.06						
	Aug.						0.39						
	Sept.						1.03						
	Oct.						9.4						
	Nov.						3.77						
	Dec.						11.91						

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Ruthenium-106 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1963	Jan.						35.6					
	Feb.						27.2					
	Mar.						78.7					
	Apr.						88.1					
	May						54.1					
	June						9.50					
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Cadmium-109 (mCi/mi²) - decay corrected to 7-9-62 (2)

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1964	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
1965	Jan.		--				--	--	--	--	--	<0.02
	Feb.		<0.009				<0.007	<0.006	--	--	--	0.023
	Mar.		<0.008				<0.010	<0.020				0.10 ⁽²⁾
	Apr.											<0.02 ⁽²⁾
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Antimony-124 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1962	Jan.											
	Feb.											
	Mar.											
	Apr.			<2.8								
	May			<1.8								
	June			lost								
	July		0.44	0.57								
	Aug.		0.27	<0.3								
	Sept.		0.35	0.17								
	Oct.		0.16	0.23								
	Nov.		0.09	0.23								
	Dec.		0.11	0.15								
1963	Jan.		<0.40	0.30								
	Feb.		0.44	<0.3								
	Mar.		0.16	0.78								
	Apr.		0.15	0.30								
	May		<0.09	0.12								
	June		0.05									
	July		0.83							undetectable	undetectable	≤2.55
	Aug.		≤1.26					≤0.28	0.21	"	"	≤0.84
	Sept.		≤0.27					≤1.71	≤0.14	"	"	0.59
	Oct.		≤0.26					≤0.67	≤0.83	"	"	0.60
	Nov.		≤1.48					≤1.53	≤3.49	"	"	0.97
	Dec.		lost					lost	≤0.46	"	"	≤1.78
1964	Jan.		≤0.45					lost	lost	"	"	
	Feb.		≤0.58					≤1.08	≤0.60	"	"	
	Mar.		≤0.40					≤0.75	≤1.18	"	"	
	Apr.		--					--	--			
	May		--					--	--			
	June		--					--	--			
	July		--					--	--			
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

See available data for 1962 and 1963 on p. 167, HASL-146.

-- no data.

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Antimony-125 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>	
1963	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July									3.27		0.05	
	Aug.									2.00		0.16	
	Sept.									1.78		0.45	
	Oct.									0.55		0.66	
	Nov.									2.23		0.86	
	Dec.									0.66		0.38	
1964	Jan.									0.35		1.50	
	Feb.									1.91		0.29	
	Mar.									2.68		0.82	
	Apr.									3.82		0.17	
	May									6.91		0.47	
	June									1.76		0.22	
	July									0.40		0.15	
	Aug.									1.38		0.21	
	Sept.									0.88		--	
	Oct.									0.73		0.21	
	Nov.									0.95		0.43	
	Dec.									0.13		0.78	
	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July												
	Aug.												
	Sept.												
	Oct.												
	Nov.												
	Dec.												

-- no data.

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Cesium-137 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>	
1961	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July		0.62	0.74				0.06					
	Aug.		0.51	0.40				0.06					
	Sept.		0.42	0.15				0.06					
	Oct.		0.66	0.69				0.10					
	Nov.		1.96	1.18				1.82					
	Dec.		2.53	1.69				0.73					
1962	Jan.		2.72	lost			1.19						
	Feb.		4.72	lost			5.7						
	Mar.		3.09	4.87			1.29						
	Apr.		8.18	9.72			1.29						
	May		3.78	6.94			0.11						
	June		8.41	2.77			0.22						
	July		3.10	5.99			0.19						
	Aug.		4.87	--			0.14						
	Sept.		1.76	2.49			0.21						
	Oct.		4.75	2.15			1.6						
	Nov.		2.93	2.46			4.47	0.56					
	Dec.		lost	2.86			3.28	1.82					
1963	Jan.		3.84	3.18		lost	4.19						
	Feb.		3.44	3.90		5.39	4.15						
	Mar.		9.16	13.0		2.00	10.5						
	Apr.		10.9	14.2		20.5	10.9						
	May		14.7	9.98		49.9	1.60						
	June		9.18			13.4	0.430						
	July		17.3						7.37	0.12	1.35		
	Aug.		12.2					5.60	2.63	4.44	0.52	2.31	
	Sept.		8.73					6.44	1.66	1.97	0.65	3.18	
	Oct.		2.57					3.53	0.32	0.90	0.87	2.09	
	Nov.		4.86					4.39	4.19	2.52	1.92	4.10	
	Dec.		1.64					0.45	3.00	0.78	0.38	4.78	

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Cesium-137 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1964	Jan.		5.19					2.72	5.23	0.67	2.32	5.48
	Feb.	8.10	2.47					0.66	10.4	4.45	0.63	2.43
	Mar.	7.06	6.48					3.88	12.4	4.87	1.80	4.85
	Apr.	18.3	11.6					6.13	25.0	5.54	0.40	4.91
	May	1.77	3.53					10.8	8.45	10.8	1.12	6.21
	June	9.59	10.7					3.40	6.53	2.62	0.35	4.49
	July	4.28	4.83					5.92	3.3	1.76	0.18	2.63
	Aug.	1.47	1.64					3.10	2.07	2.04	0.30	1.38
	Sept.	0.48	0.75					2.94	0.87	1.50	0.10	1.47
	Oct.	0.78	1.18					0.79	1.17	1.32	0.35	0.76
	Nov.	0.96	1.16					1.81	0.41	1.66	1.16	2.27
	Dec.	1.42	0.04					0.68	0.33	0.28	1.73	2.35
1965	Jan.	1.16	1.83					0.57	1.69	0.53	1.16	2.03
	Feb.	2.61	2.88					0.56	2.31	1.77	0.48	4.02
	Mar.	1.98	1.67					1.56	2.38	0.62	1.20	1.33
	Apr.	3.60								1.69	1.40	2.44
	May	--								4.04	0.16	
	June	1.43										
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Barium-140 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1958	Jan.											
	Feb.											
	Mar.						348					
	Apr.						19.6					
	May						13.0					
	June						0.93					
	July						4.95					
	Aug.						1.33					
	Sept.											
	Oct.											
	Nov.							0.48				
	Dec.											
1959	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
1960	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Barium-140 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>	
1961	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July												
	Aug.												
	Sept.		88.0	6.59			24.3		21.3				
	Oct.		75.2		60.6		< 3760		< 202				
	Nov.		180		59.2		< 1010		< 275				
	Dec.		65.7		23.9		58		< 21				
1962	Jan.		10.1	9.81		21.2		7.33					
	Feb.		6.19	3.54		2.9		< ?					
	Mar.					2.9							
	Apr.												
	May												
	June												
	July												
	Aug.												
	Sept.						31.8						
	Oct.						4.25						
	Nov.						88.9						
	Dec.						713						
1963	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July												
	Aug.												
	Sept.												
	Oct.												
	Nov.												
	Dec.												

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Barium-140 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New-York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1964	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											
												4.30
	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Cerium-141 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1961	Jan.											
	Feb.											
	Mar.											
	Apr.											
	May											
	June											
	July											
	Aug.								3.84			
	Sept.		51.0	3.65			5.15	34.8				
	Oct.		31.4	54			nd	62				
	Nov.		155	93			nd	113				
	Dec.		54.6	103			lost	34.8				
1962	Jan.		38.9	64		lost	nd					
	Feb.		61.3	81		<2.0	<95					
	Mar.		16.7	93		nd	nd					
	Apr.		3.45	62		nd	nd					
	May		3.50	52		nd	nd					
	June		≤11.0	8.2		nd	nd					
	July		≤ 7.7	<62		} <6	nd					
	Aug.		≤12	74			nd					
	Sept.		25.2	79.7		<10	<0.3					
	Oct.		96.5	108		68	<21.4					
	Nov.		93.9	214		372	46.1					
	Dec.		67.7	114		128	70.9					
1963	Jan.		≤14.3	68.5		76.3	88					
	Feb.		≤10.6	35.6		67.3	42					
	Mar.		43.8	0		≤30	<61					
	Apr.		≤17	0		≤22.5	nd					
	May		≤46.4	0		nd	<6.65					
	June		≤ 11.4			≤31	<6.65					
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Cerium-141 (mCi/mi²) - decay corrected to midpoint of **sampling** month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>	
1964	Jan.												
	Feb.												
	Mar.												
	Apr.												
	May												
	June												
	July												
	Aug.												
	Sept.												
	Oct.												
	Nov.											2.15	
	Dec.											3.18	
		Jan.											
		Feb.											
		Mar.											
		Apr.											
		May											
		June											
		July											
		Aug.											
		Sept.											
		Oct.											
		Nov.											
		Dec.											
		Jan.											
		Feb.											
		Mar.											
		Apr.											
		May											
		June											
		July											
		Aug.											
		Sept.											
		Oct.											
		Nov.											
		Dec.											

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Cerium-144 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1960	Jan.		2.08	-		2.51			6.16			
	Feb.		1.32	2.71	0.23	5.48			2.95			
	Mar.		1.11	2.24	0.67	lost			3.50			
	Apr.		2.91	2.81	2.16	2.85			0.61			
	May		3.54	3.69	0.24	1.24			0.48			
	June		1.96	3.64	0.58	3.13			0.12			
	July		lost	1.61	2.84	1.43			0.15			
	Aug.		1.28	1.03	1.78	2.66			0.16			
	Sept.		1.15	0.72	0.66	0.89			0.10			
	Oct.		0.52	0.56	0.55	0.34			0.37			
	Nov.		0.37	0.43	0.72	0.60			0.52			
	Dec.		0.37	0.59	0.33	0.56			0.30			
1961	Jan.		0.63	0.35	0.62	0.79			0.53			
	Feb.		0.71	1.65	1.05	1.19			0.24			
	Mar.		2.77	2.39	1.76	0.90			0.78			
	Apr.		3.12	3.42	3.65	1.87			0.46			
	May		2.15	2.20	3.96	0.85			1.25			
	June		1.76	2.07	1.41	1.72			0.21			
	July		2.22	0.95		0.72			0.44			
	Aug.		1.59	0.59		1.00			0.11			
	Sept.		3.25	0.49		1.42			3.06			
	Oct.		8.33	8.32		1.81			3.3			
	Nov.		40.4	21.1		20.3			54			
	Dec.		53.8	27.9		lost			28.1			
1962	Jan.		49.7	48.4		lost			24			
	Feb.		81.6	63.8		23.3			36.4			
	Mar.		48.2	77.4		77.3			26.0			
	Apr.		109	128		181			19.0			
	May		49.5	95.4		20.5			1.73			
	June		123	27.2		137			2.25			
	July		49.5	80.5		22.0			1.71			
	Aug.		66.0	50.0					9.15			
	Sept.		22.9	35.2		41.9			2.94			
	Oct.		72.4	33.6		40.1			25.5			
	Nov.		43.4	60.4		97.4			14.1			
	Dec.		74.0	55.0		65.3			39.6			

RADIONUCLIDES IN MONTHLY PRECIPITATION COLLECTIONS

Cerium-144 (mCi/mi²) - decay corrected to midpoint of sampling month

<u>Year</u>	<u>Month</u>	<u>New York</u>	<u>Westwood</u>	<u>Pittsburgh</u>	<u>Louisville</u>	<u>Houston</u>	<u>Richmond</u>	<u>Appleton</u>	<u>Chattanooga</u>	<u>Oklahoma City</u>	<u>Palo Alto</u>	<u>Seattle</u>
1963	Jan.		60.1	58.6		72.3	88.3					
	Feb.		72.3	64.0		92.1	71.3					
	Mar.		148	199		38	156					
	Apr.		193	173		71	191					
	May		204	126		68.7	32.2					
	June		116			83	7.23					
	July		186							60.5	0.93	14.0
	Aug.		124					74.5	29.5	41.1	4.26	30.5
	Sept.		94.3					70.4	18.3	23.2	7.03	32.5
	Oct.		29.2					33.2	4.93	6.80	5.93	36.3
	Nov.		53.9					44.6	38.8	13.0	12.2	42.3
	Dec.		30.0					12.9	39.5	6.74	5.26	44.4
1964	Jan.		57.8				25.7	51.3	6.16	16.9	49.4	
	Feb.		18.5				5.42	72.5	37.7	8.58	19.5	
	Mar.		49.2				25.0	94.8	32.0	17.3	33.3	
	Apr.		75.8				43.5	168	39.2	5.69	38.1	
	May		22.1				75.1	68.3	80.6	10.9	31.8	
	June		62.2				19.1	33.6	25.0	5.28	22.2	
	July		26.7				35.2	25.2	11.0	1.19	15.6	
	Aug.		7.77				19.2	28.5	12.0	1.39	7.76	
	Sept.		4.80				16.5	lost	8.44	0.38	6.99	
	Oct.		2.46				4.45	9.4	5.94	1.66	4.32	
	Nov.		4.88				8.22	4.78	8.90	5.16	9.90	
	Dec.		0.16				2.74	1.29	1.14	6.91	8.91	
1965	Jan.		6.41				3.32	6.18	1.74	4.43	7.80	
	Feb.		7.02				2.06	7.61	5.00	1.52	14.3	
	Mar.		5.75				6.44	9.34	2.17	3.40	4.68	
	Apr.								4.65	3.95	6.72	
	May								9.98	0.44		
	June											
	July											
	Aug.											
	Sept.											
	Oct.											
	Nov.											
	Dec.											

2. Radiostrontium in Milk and Tap Water

In 1954 the Health and Safety Laboratory began monitoring liquid whole milk in New York City for strontium-90 in order to estimate the dietary contribution from the ingestion of this radionuclide in milk. During the same year, tap water sampling was begun on a routine basis at the laboratory which receives its supply from one of the main reservoirs servicing New York City.

Powdered milk monitoring was initiated at a main processing plant in Perry, New York, in 1954 and in 1955, sampling of powdered buttermilk from the Mandan, North Dakota area was begun. The powdered buttermilk is used as cattle feed and it was of interest to have a continuous record of the strontium-90 levels in this animal dietary supplement. Liquid milk from two large dairies serving Honolulu has been monitored since the summer of 1959. On the island of Oahu the dairy cows are on pasture throughout the year and it is of interest to know how well the strontium-90 levels in milk in this area reflect changes in deposition rates.

Milk sampling at Mandan, North Dakota and Oahu, Hawaii was terminated at the end of June 1965. The USPHS maintains pasteurized milk sampling stations at Minot, N. D. and Honolulu and it was felt that since the HASL and PHS data parallel one another at these sites, continuance of the HASL stations was no longer necessary.

Although a more complete study of the strontium-90 content of the diets in three major U. S. cities has been in progress since March 1960, milk and tap water analyses at the above-mentioned sites have been continued in order to provide a detailed and continuous history of the contamination levels of these staples.

2.1 Milk

The New York City sample is a monthly composite of pasteurized milk purchased daily at retail stores. Five main dairies are represented in the sample. The Mandan and Perry samples are monthly composites of powdered milk collected in weekly five-pound lots. The Honolulu samples are monthly composites of quart samples collected weekly. During appropriate periods strontium-89, as well as strontium-90, has been analyzed in these milk samples. These data have been given in the quarterly reports but the monthly results for 1965 only are presented on pages 205 and 206 of this report. The strontium-90 data since the inception of the sampling programs are graphed in Figures 3, 4, 5, 6, on pages 208 through 211.

2.2 Strontium-90 in New York City Tap Water

Samples of New York City tap water are taken daily at HASL so that by the end of the month, approximately 100 liters have been collected. Strontium-90 and cesium-137 data for monthly samples collected in 1965 are shown on page 207. Tap water sampling and analyses were carried out at Richmond, California from 1959 through the first half of 1963. These data have been reported in previous quarterlies. A graphical presentation of the New York City strontium-90 data is shown in Figure 7, p.212.

Table 2a

Strontium-90 and Calcium in Milk

<u>Year</u>	<u>Sampling Month</u>	<u>g Ca</u> <u>liter</u>		<u>pc Sr⁹⁰ per</u> <u>liter</u>		<u>g Ca</u>	
<u>New York City - liquid</u>							
1959	Average						11
1960	Average						8.0
1961	Average						6.7
1962	Average						12
1963	Average						26
1964	Average						23
1965	January	1.03		21.4			20.8
	February	1.02		18.4			18.0
	March	1.01		21.4			21.1
	April	1.04		19.8			19.0
	May	1.02		23.3			22.9
	June						
	July						
	August						
	September						
	October						
	November						
	December						
<u>Year</u>	<u>Sampling Month</u>	<u>g Ca/liter dairy</u>		<u>pc Sr⁹⁰/liter dairy</u>		<u>pc Sr⁹⁰/g Ca dairy</u>	
		<u>#1</u>	<u>#2</u>	<u>#1</u>	<u>#2</u>	<u>#1</u>	<u>#2</u>
<u>Honolulu, Hawaii - liquid</u>							
8/59-12/59	Average						5.0
1960	Average						3.2
1961	Average						2.4
1962	Average					3.5	5.0
1963	Average					6.9	9.1
1964	Average					8.0	9.3
1965	January	1.04	1.03	7.3	9.0	7.0	8.8
	February	1.05	0.99	7.2	8.3	6.8	8.3
	March	1.00	0.99	7.7	10.0	7.7	10.2
	April	1.05	1.01	7.6	7.9	7.3	7.8
	May	1.07	1.07	7.1	7.3	6.7	6.8
	June						
	July						
	August						
	September						
	October						
	November						
	December						

Table 2a - cont'd.

Strontium-90 and Calcium in Milk

<u>Year</u>	<u>Sampling Month</u>	<u>g Ca kg powder</u>	<u>pc Sr⁹⁰ per kg powder</u>	<u>g Ca</u>
<u>Perry, New York - powdered whole milk</u>				
1959	Average			8.0
1960	Average			6.5
1961	Average			6.2
1962	Average			11.1
1963	Average			21.6
1964	Average			20.4
1965	January	9.33	166	17.7
	February	8.51	121	14.2
	March	8.73	166	19.0
	April	8.58	157	18.3
	May	8.72	148	16.9
	June			
	July			
	August			
	September			
	October			
	November			
	December			
<u>Mandan, North Dakota - powdered buttermilk</u>				
1959	Average			26
1960	Average			15
1961	Average			9.4
1962	Average			25
1963	Average			58
1964	Average			62.7
1965	January	10.8	594	54.6
	February	10.4	522	50.0
	March	10.8	669	61.8
	April	11.2	680	60.7
	May	8.86	588	66.3
	June			
	July			
	August			
	September			
	October			
	November			
	December			

TABLE 2b

STRONTIUM-90 AND CESIUM-137 IN NEW YORK CITY TAP WATER

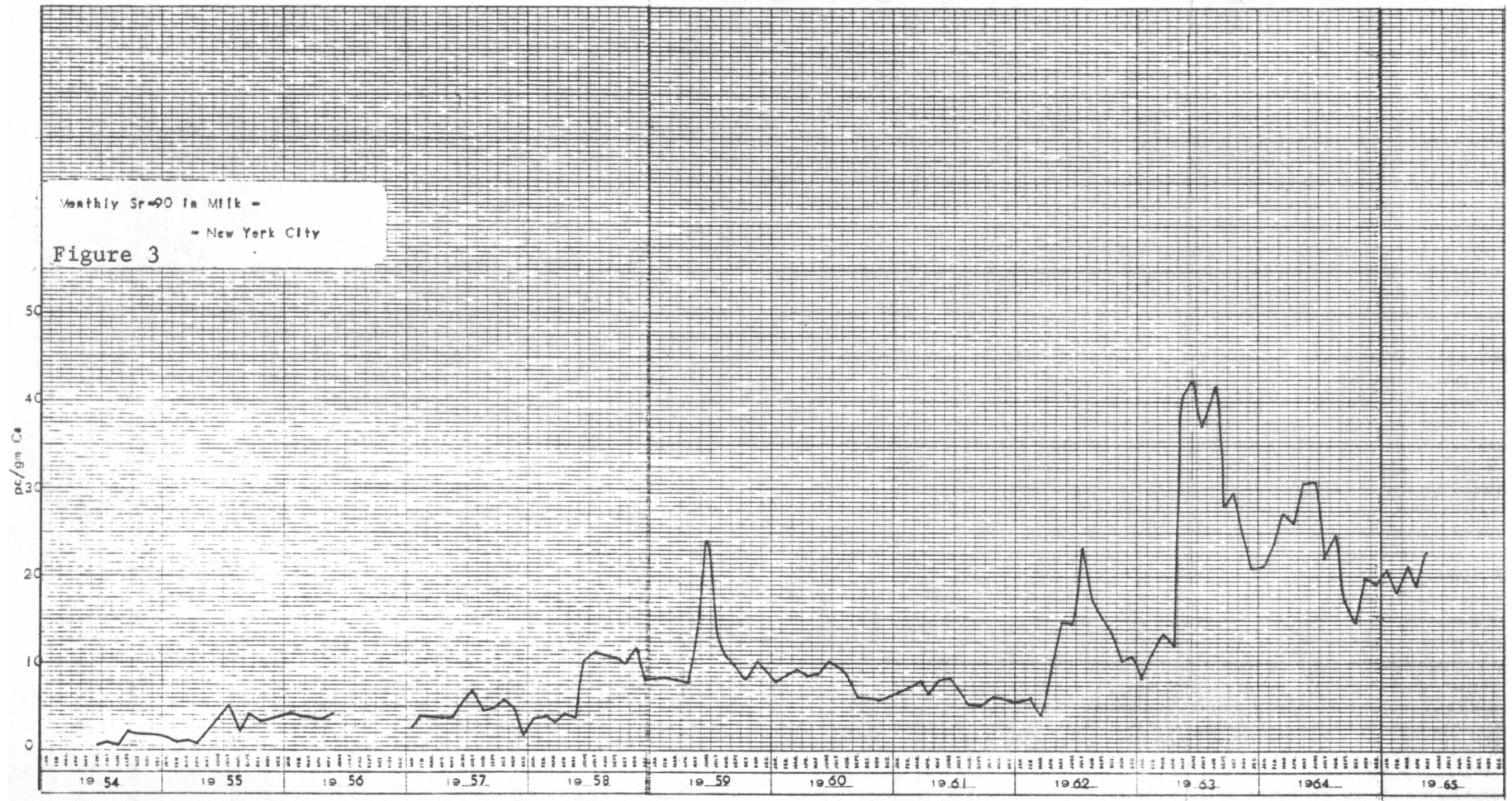
<u>YEAR</u>	<u>SAMPLING MONTH</u>	<u>pCi Sr⁹⁰ per liter⁽¹⁾</u>	<u>Cs¹³⁷ / Sr⁹⁰</u>
1959	Average	0.40	
1960	Average	0.47	
1961	Average	0.32	
1962	Average	0.72	
1963	Average	1.45	
1964	Average	1.79	0.22
1965	January	1.62	0.08
	February	1.58	0.10
	March	1.32	0.09
	April	1.64	0.13
	May	1.34	note (2)
	June	1.73	0.12

(1) From 100-200 liters per sample - sampling began August 1954

(2) Cs¹³⁷ analysis in process

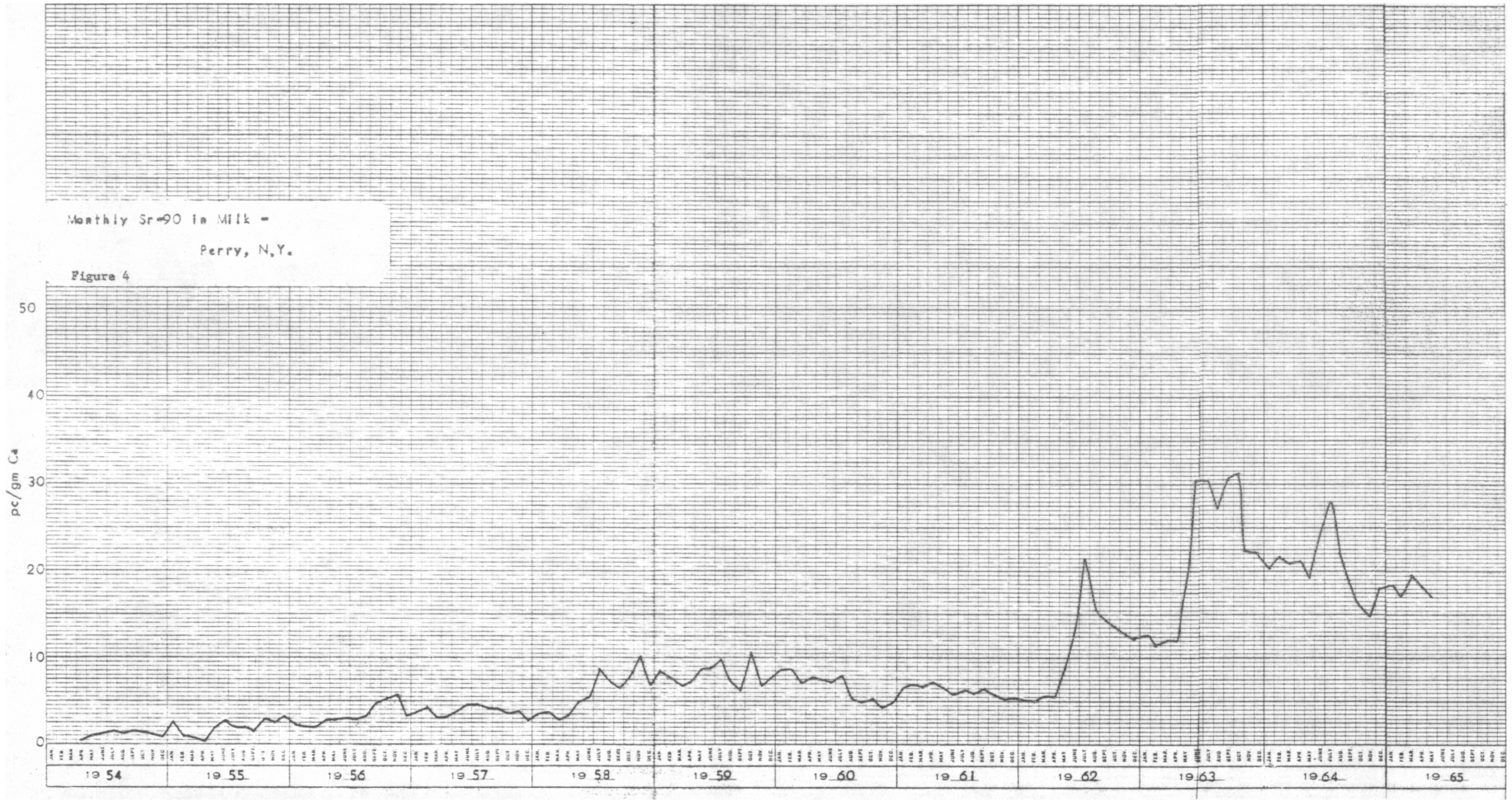
Monthly Sr-90 in Milk -
- New York City

Figure 3



Monthly Sr-90 in Milk -
Perry, N.Y.

Figure 4



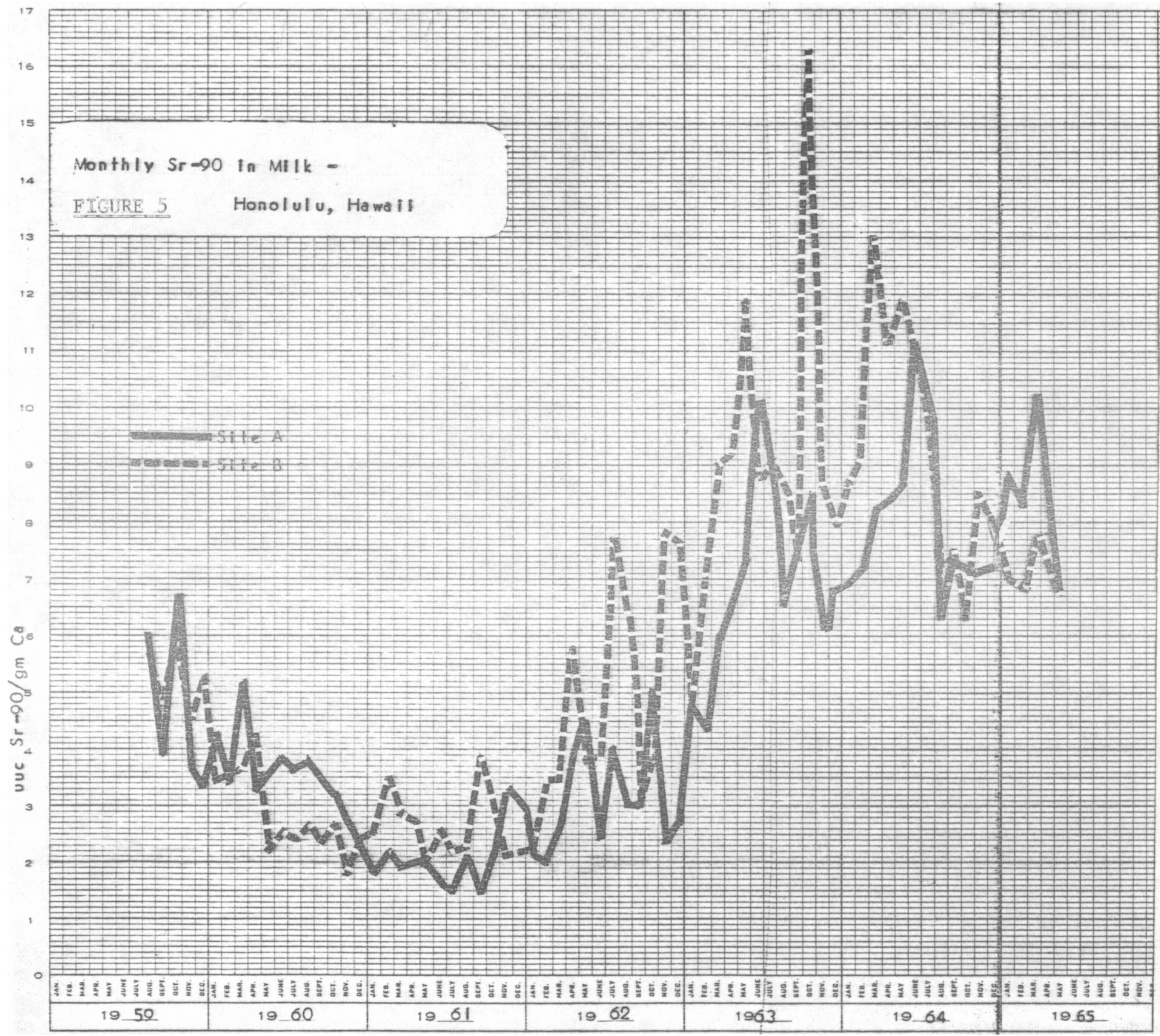
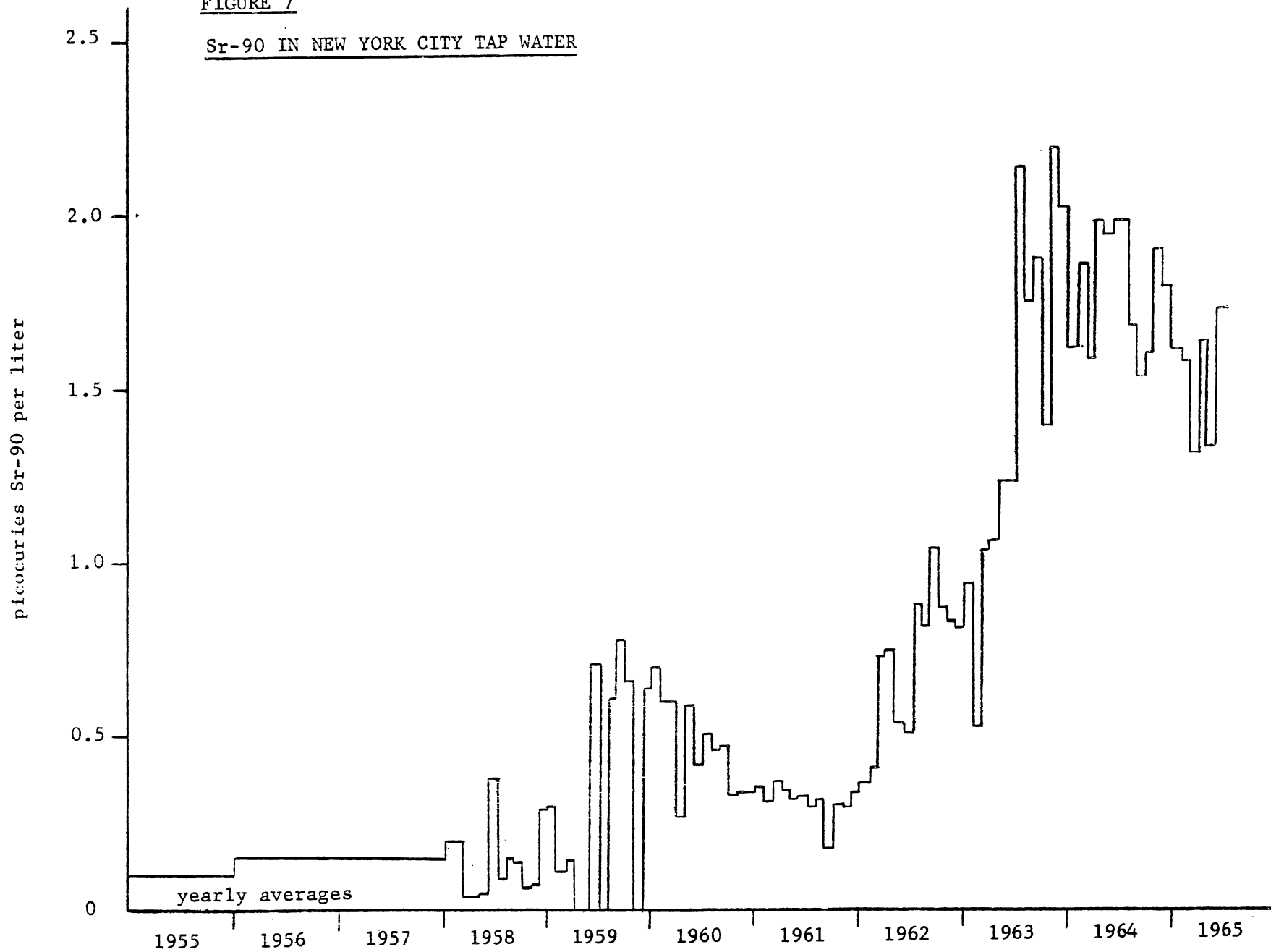


FIGURE 7

Sr-90 IN NEW YORK CITY TAP WATER



3. Tri-City Diet Studies - Twentieth Sampling

Quarterly estimates of the annual dietary intake of Sr-90 of New York City, Chicago, and San Francisco residents, have been made based on the analyses of foods purchased at these cities every three months since March 1960. The foods purchased were grouped in nineteen categories prior to ashing for analysis. Starting in 1965, to reduce the number of analyses required for this program, only 14 of the diet categories will be analyzed on a quarterly basis. The ash obtained from eggs, poultry, fresh fish, shellfish, and meat purchased quarterly will be combined and yearly composites of each category will be analyzed for Sr-90. The reason why these particular diet categories were chosen for yearly rather than quarterly analyses is that they generally have a much lower Sr-90 concentration than the other categories. From data obtained over the last four years, the contribution of these five diet categories to the total annual intake of Sr-90 has been about 5%, therefore this amount will be added to the computed intake of Sr-90 from the 14 categories analyzed to obtain quarterly estimates of annual Sr-90 intake at the three cities.

The results of the analyses of foods and estimates of the intake of Sr-90 at each of the cities made this way are shown in Table 3 . The estimated average daily intakes of Sr-90 at each of the cities since the tri-city diet studies began are shown in Figure 8.

Details of the sampling methods and a description of the results of these studies obtained thru 1963 may be found in HASL-147 (HASL Contributions to the Study of Fallout in Food Chains, Joseph Rivera and John H. Harley, July 1, 1964).

Table 3

STRONTIUM-90, TRI-CITY DIET STUDIES

(TWENTIETH SAMPLING)

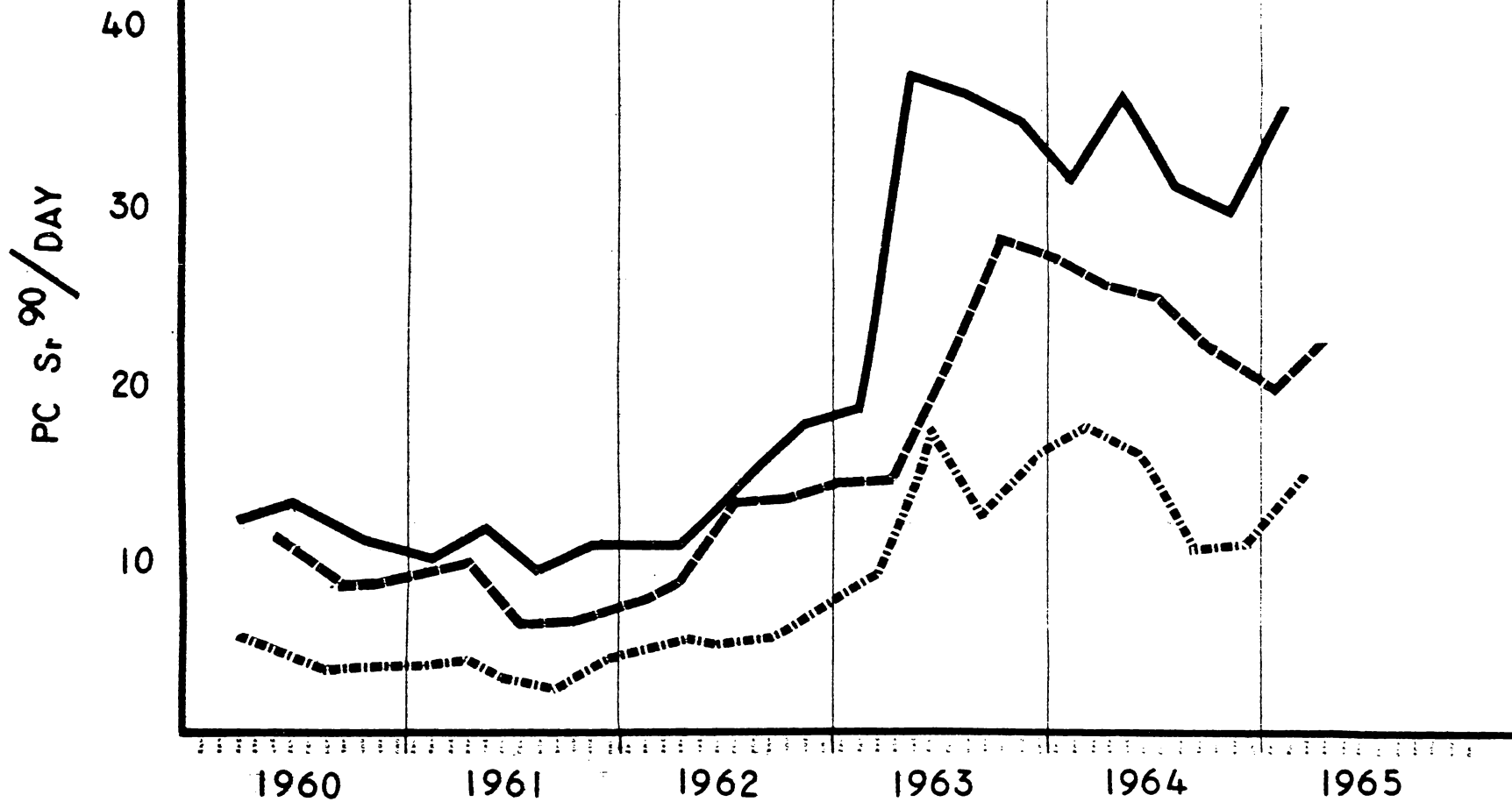
Food Category	kg/yr	g Ca/yr	NEW YORK CITY - 2/65		CHICAGO - 4/65		SAN FRANCISCO - 3/65	
			pCi/kg	pCi/yr	pCi/kg	pCi/yr	pCi/kg	pCi/yr
Bakery Products	37	37.0	23.2 ± 0.6	858	23.1 ± 1.2	855	10.2 ± 0.8	377
Whole Grain Products	11	10.0	39.5 ± 0.7	434	46.6 ± 1.4	513	23.2 ± 1.2	255
Fresh Vegetables	43	15.0	12.7 ± 0.4	546	9.9 ± 0.4	426	3.6 ± 0.3	155
Root Vegetables	17	6.1	13.0 ± 0.3	221	9.9 ± 0.4	168	8.7 ± 0.4	148
Milk	221	234.4	18.3 ± 0.4	4044	15.6 ± 0.5	3447	15.5 ± 0.5	3426
Flour	43	8.6	28.3 ± 0.3	1217	23.2 ± 0.5	998	6.1 ± 0.3	262
Macaroni	3	0.7	14.9 ± 0.4	45	18.0 ± 0.6	54	8.9 ± 0.4	27
Rice	3	1.1	4.1 ± 0.3	12	5.3 ± 0.3	16	3.3 ± 0.2	10
Dried Beans	3	2.9	20.2 ± 0.8	61	34.9 ± 1.9	105	16.7 ± 1.4	50
Fresh Fruit	68	12.6	5.3 ± 0.2	360	4.1 ± 0.3	279	3.2 ± 0.3	218
Potatoes	45	5.8	12.0 ± 0.5	540	7.9 ± 0.8	356	3.9 ± 0.3	176
Canned Fruit	26	1.3	3.3 ± 0.1	86	4.0 ± 0.2	104	2.3 ± 0.2	60
Fruit Juices	19	1.7	4.8 ± 0.2	91	6.8 ± 0.3	129	5.2 ± 0.3	99
Canned Vegetables	20	4.2	13.1 ± 0.4	262	11.8 ± 0.5	236	2.6 ± 0.3	52
Meat, Fish, Poultry, Shellfish and Eggs	99	42		462*		405*		280*
ANNUAL INTAKE		383		9239		8092		5595
pCi Sr-90/g Ca				24.1		21.1		14.6

* Estimated as 5% of total intake.

DAILY INTAKE OF STRONTIUM-90

IN

- NEW YORK CITY
- - - CHICAGO
- · · · · SAN FRANCISCO



4. High Altitude Balloon Sampling Program

The U. S. Atomic Energy Commission's program for measuring stratospheric nuclear debris collected by balloon-borne filtering devices has been in continuous operation since 1956. During 1965 monthly collections have been made as follows:

<u>Location</u>	<u>Latitude</u>	<u>Frequency</u>	<u>Altitudes (KFT)</u>	<u>Flight Organization</u>
Eilson Air Force Base, Alaska	65°N	May-Aug	80,90,105	Detachment 31, 4th Weather Group, Air Weather Service (MATS)
Minneapolis, Minnesota	45°N	April	80,90,105	Applied Science Div., Litton Systems Inc. under contract to Sandia Corporation
San Angelo, Texas	31°N	Monthly	80,90,105, 120	Detachment 31, 4th Weather Group, Air Weather Service (MATS)
Canal Zone	9°N	Jan-April	80,90,105	Detachment 31, 4th Weather Group, Air Weather Service (MATS)
Mildura, Australia	34°S	Monthly	80,90,105	Department of Supply Commonwealth of Australia

Filters are shipped to HASL where total gamma measurements and gamma spectra have been obtained for all samples collected since February 1962. Selected filters are then analyzed at contractor laboratories and HASL for fission products, plutonium isotopes, and other radionuclides of current interest.

Results of total gamma activity measurements for samples collected from June through August 1965 are presented in Table 4. Radionuclide assay data through November 1964 and gamma activity data through May 1965 have been given previously in the following reports:

HASL-161, p. 216 (July 1965)
HASL-158, p. 214 (April 1965)
HASL-149, p. 54 (October 1964)
HASL-140, p. 185 (October 1963)
HASL-127, p. 151 (July 1962)
HASL-115, p. 70 (October 1961)

Sample Collection Data

Information pertaining to sample collection is provided by the Atmospheric Radioactivity Research Branch of the U. S. Weather Bureau where flight data prepared by the balloon operations organizations are summarized.

Altitude

Altitude data are obtained from barometric readings and refer to pressure altitude in the ICAO Standard Atmosphere. The predominant sampling altitude is given in units of 1000 feet (KFT). The entire sample was collected within a range of ± 2 KFT of the predominant altitude except as indicated otherwise in NOTES on the bottom of the page.

Date and Sampler

The day of flight is given with the number of the sample when duplicate collections are made on the same flight.

Most collections have been made with the "Direct Flow Sampler" which utilizes one square foot of I.P.C. No. 1478 filter paper. This system is routinely used with a Westinghouse motor and Torrington 704 blower. A discussion of this unit was presented by Rex Wood in HASL-115, p. 155 (October 1961).

Several samples have been collected with a unit which utilizes an Air Ejector pump. Two square feet of I.P.C. No. 1478 filter paper are used with this device. The sampler was developed by Applied Science Division, Litton Systems, Inc. (formerly General Mills Electronic Division) under Contract No. AT(11-1)-401 to the U. S. Atomic Energy Commission and is described in their Report No. 2277 (May 15, 1962). These samples are appropriately denoted in the Tables.

Volume

The volume of air sampled is reported in thousands of standard cubic feet (KSCF) of air, computed at 1013 mb and 59^oF (1 KSCF = 34.6 Kg of air). The method of determining the volume is indicated according to the following code listed next to the reported volume:

F: Flowmeter
T: Radiotelemetry of blower speed
E: Estimated

The method currently preferred is that based on flowmeter measurements. In the absence of these data or when such data are suspect, a volume has been calculated on the basis of radiotelemetry of the instantaneous blower speed. Whenever the volume listed is estimated or doubtful, appropriate NOTES are given on the bottom of the page and the data are given in parentheses.

An evaluation of the volume data has been presented by K. Telegadas in HASL-144, p. 258 (April 1964).

Gamma Activity Measurements

The total gamma activity concentration (TOTAL γ) in counts per minute per 10^3 SCF (CPM/KSCF) are reported as of the counting date, one to two weeks after collection. The standard deviation due to counting is less than 5% except for those concentration values annotated as follows:

- A: Standard deviation due to counting 5-10%
- B: Standard deviation due to counting 10-20%
- C: Standard deviation due to counting 20-50%

The gamma activity concentrations are given in parentheses when the volume data are uncertain, and when the standard deviation due to counting is greater than 20 percent. Because of the decrease in the concentrations of artificially produced radioactivity in stratosphere air, the contribution to the total gamma activity by naturally occurring Be^7 is becoming more important. Those samples in Table 4 in which the Be^7 may be greater than 50 percent of the total gamma activity are identified by an asterisk.

Counting Procedure

The filter samples are received in the plastic bags from the collection site and counted without prior treatment. The samples are folded into a plastic box 80 mm x 65 mm x 31 mm deep which is placed in the center of a heavily shielded 8" diameter x 4" NaI (Tl) crystal. The pulses from three phototubes, matched for pulse height response, are summed, amplified, and fed to a multichannel analyzer to obtain a gamma spectrum. The total gamma activity is obtained between 0.1 and 3.0 MeV.

Standardization

Because of the complexity involved in estimating the disintegration rate from the observed gamma counts per minute in a mixture of nuclides such as those present in composited weapons debris, such a conversion has not been attempted. The CPM results reported herein, therefore, are of significance on a relative basis only. The efficiency of the counting system has been compared, however, to a standard Cs-137 source counted under the same geometry. This source yields about 0.3 counts per emitted photon which is equivalent to about 0.25 counts per disintegration of Cs-137.

Precision

The degree of reproducibility for these gross gamma measurements has been measured and a value of about 0.013 found for the coefficient of variation (ratio of standard deviation to mean, or percent standard deviation \div 100). This precision value includes the error from all sources of variation, exclusive of counting statistics, such as day to day fluctuations in counting response and factors relating to sample handling. The precision data are discussed in more detail in HASL-131, p. 153 (October 1962).

Table 4

Total Gamma Activity Concentrations in High Altitude Balloon Samples

<u>65°N</u>		<u>JUNE 1965</u>	<u>65°N</u>		<u>JULY 1965</u>	<u>65°N</u>		<u>AUG 1965</u>
<u>ALT (KFT)</u>	<u>DAY #</u>	<u>TOTAL γ</u>	<u>ALT (KFT)</u>	<u>DAY #</u>	<u>TOTAL γ</u>	<u>ALT (KFT)</u>	<u>DAY #</u>	<u>TOTAL γ</u>
<u>VOL (KSCF)</u>		<u>(CPM / KSCF)</u>	<u>VOL (KSCF)</u>		<u>(CPM / KSCF)</u>	<u>VOL (KSCF)</u>		<u>(CPM / KSCF)</u>
77	5 #1	132	78	7 #1	124	78	12 #1	115*
1.77			1.90F			1.71F		
77	5 #2	133	78	7 #2	124	78	12 #2	114*
1.82F			1.94T			1.69F		
90	6 #1	96	89	17 #1	100*	89	18 #1	109*
1.62T			1.32F			1.36F		
90	6 #2	105	89	17 #2	120*	89	18 #2	92*
1.51F			1.25F			1.58F		
102	4 #1	(102A)*	106	21 #1	74B*	103	17 #1	74*
(0.50E) ^{a/}			0.59F			0.70F		
102	4 #2	(64A)*	106	21 #2	93A*	103	17 #2	85*
(0.59E) ^{a/}			0.55F			0.62F		
			119	22 #1	102*	119	16 #1	92*
			0.63F			0.64F		
			119	22 #2	92*	119	16 #2	92*
			0.62F			0.62F		

a. Estimated from doubtful flow meter data.

* Be-7 may account for 50% or more of total γ activity.

Table 4 (Cont'd)
Total Gamma Activity Concentrations in High Altitude Balloon Samples

<u>31°N June 1965</u>		<u>31°N July 1965</u>		<u>31°N August 1965</u>	
<u>ALT (KFT)</u>	<u>TOTAL γ</u>	<u>ALT (KFT)</u>	<u>TOTAL γ</u>	<u>ALT (KFT)</u>	<u>TOTAL γ</u>
<u>DAY #</u>	<u>(CPM)</u>	<u>DAY #</u>	<u>(CPM)</u>	<u>DAY #</u>	<u>(CPM)</u>
<u>VOL (KSCF)</u>	<u>(KSCF)</u>	<u>VOL (KSCF)</u>	<u>(KSCF)</u>	<u>VOL (KSCF)</u>	<u>(KSCF)</u>
81		80		80	
17 #1	164	9 #1	196A	3 #1	163
1.69F		0.48F ^{b/}		1.69F	
81		80		80	
17 #2	151	9 #2	214A	3 #2	168
1.72F		0.44F ^{b/}		1.58F	
		80			
		12 #1	174		
		1.53F			
		80			
		12 #2	167		
		1.51F			
89		89		90	
7 #1	92	7 #1	(182c)	5 #1	131
1.65F		0.11F ^{b/}		1.34F	
89		89		90	
7 #2	94	7 #2	(117c)	5 #2	124
1.62F		0.12F ^{b/}		1.44F	
105		106		101	
13 #1	86A	22 #1	(55B)	19 #1	93
0.58F		(0.60E) ^{c/}		0.56F	
105		106		101	
13 #2	91B	22 #2	(70B)	19 #2	67A
0.54F		(0.60E) ^{c/}		0.57F	
118		120		121	
27 #1 ^{a/}	59A*	24 #1 ^{a/}	50A	24 #1 ^{a/}	56B
0.54F		0.50F		0.32F	
118		120		121	
27 #2 ^{a/}	50B*	24 #2 ^{a/}	43B	24 #2 ^{a/}	86B
0.48F		0.53F		0.22F	

a. Air Ejector sample.

b. Blowers shut off prematurely; incomplete sampling period.

c. Flowmeter and telemetry data lost; volume estimated from past performance of sampler.

* Be-7 may account for 50% or more of total γ activity.

Table 4 (Cont'd)

Total Gamma Activity Concentrations in High Altitude Balloon Samples

<u>34°S</u>	<u>JUN 1965</u>	<u>34°S</u>	<u>JULY 1965</u>
<u>ALT (KFT)</u>	<u>TOTAL γ</u>	<u>ALT (KFT)</u>	<u>TOTAL γ</u>
<u>DAY #</u>	<u>(CPM</u>	<u>DAY #</u>	<u>(CPM</u>
<u>VOL (KSCF)</u>	<u>)(KSCF)</u>	<u>VOL (KSCF)</u>	<u>)(KSCF)</u>
		80	
		6 #1	116
		1.74F	
		80	
		6 #2	114
		1.80F	
90		89	
16 #1	92A	9 #1	119
1.60F		1.27	
90		89	
16 #2	101A	9 #2	123
1.43F		1.14F	
106		105	
23 #1	95A	26 #1	43B
0.57F		0.88F	
106		105	
23 #2	87A	26 #2	50A
0.55F		0.86F	

Part II - Data From Sources Other Than HASL

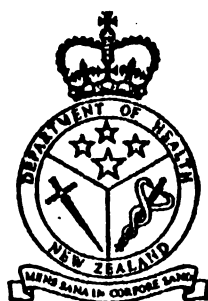
Numerous fallout studies are conducted by other organizations in the United States and abroad. Some of these data are sent to the editors for dissemination in these HASL quarterly reports. Submitted data are reproduced essentially as received and no interpretation by HASL is attempted.

1. National Radiation Laboratory, Christchurch, New Zealand.

The Quarterly Report of Fallout in New Zealand covering the period from January through March 1965, No. N.R.L.-16 is reprinted on pages 223 to 243.

2. Division of Biological and Medical Research, Argonne National Laboratory

The cesium-137 content of foods purchased in Chicago, as determined by gamma spectrometric measurements have been reported by Brar and Gustafson in previous quarterlies. The authors' estimates of the average adult and infant dietary intake of cesium-137 based on these measurements are included, along with the results of their most recent determinations in the report entitled, "Cs-137 in Various Chicago Foods (Collection Month: July 1965)" which appears on page 244. The references at the end of the report, submitted by the authors, contain detailed information on sampling and analytical methodology.



QUARTERLY REPORT

JANUARY - MARCH 1965

FALLOUT IN NEW ZEALAND

NATIONAL RADIATION LABORATORY
(FORMERLY DOMINION X-RAY & RADIUM LABORATORY)

DEPARTMENT OF HEALTH

P.O. BOX 1456 CHRISTCHURCH NEW ZEALAND

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ABBREVIATIONS AND DEFINITIONS

Centimetre	cm ₂	Gram	g
Square kilometre	km ₃	Millicurie	mc
Cubic metre	...	...	...	...	m	Picocurie	...	...	...	pc

1. 1 curie = 3.7×10^{10} nuclear transformations per second
 1 mc = 10^{-3} curies
 1 pc = 10^{-12} curies = 2.22 nuclear transformations per minute
2. Specific activity (pc per litre) = $\frac{\text{deposition (mc/km}^2\text{)}}{\text{rainfall (cm)}} \times 100$
3. The level of strontium-90 contamination in food and bone is expressed as a ratio of strontium-90 to calcium. Results are given as "Strontium Units" i.e. picocuries of strontium-90 per gram of calcium pc Sr⁹⁰/g Ca

 In a similar way caesium-137 results are given as picocuries of caesium-137 per gram of potassium
 pc Cs¹³⁷/g K
4. 1 litre of whole milk contains approximately 1.2 g of calcium
 1 litre of whole milk contains approximately 1.4 g of potassium

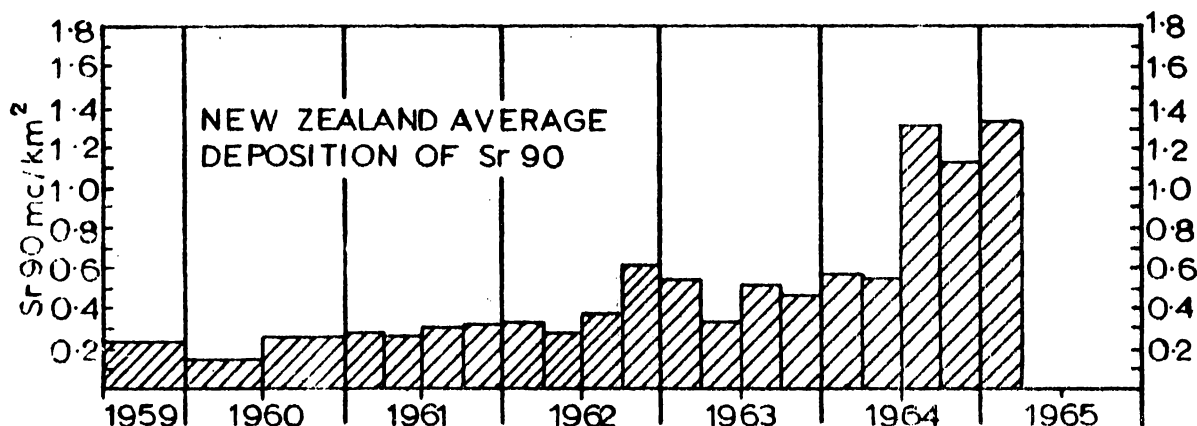
SUMMARY

TOTAL BETA AND TOTAL GAMMA ACTIVITIES

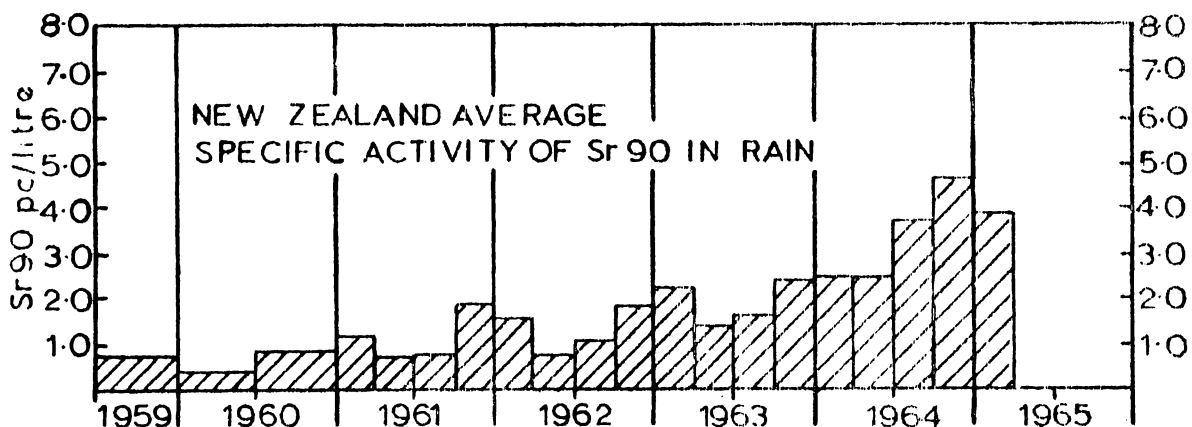
The results of total gamma activity measurements on air filter samples from Auckland and Christchurch for the first quarter 1965 are similar to those for the fourth quarter 1964. The total beta activity of Christchurch rain increased from 4.5 mc/km² (millicuries per square kilometre) for the fourth quarter 1964 to 7.6 mc/km² for the first quarter 1965. This increase, however, is due solely to the higher rainfall for this quarter, 24.2 cm, compared to 10.3 cm for the previous quarter.

STRONTIUM-90 DEPOSITION

The average deposition of strontium-90 for this Laboratory's network of nine New Zealand collecting stations has increased from 1.16 mc/km² for the fourth quarter 1964 to 1.33 mc/km² for the first quarter 1965. Average quarterly depositions since measurements commenced at this Laboratory are shown in the following graph:



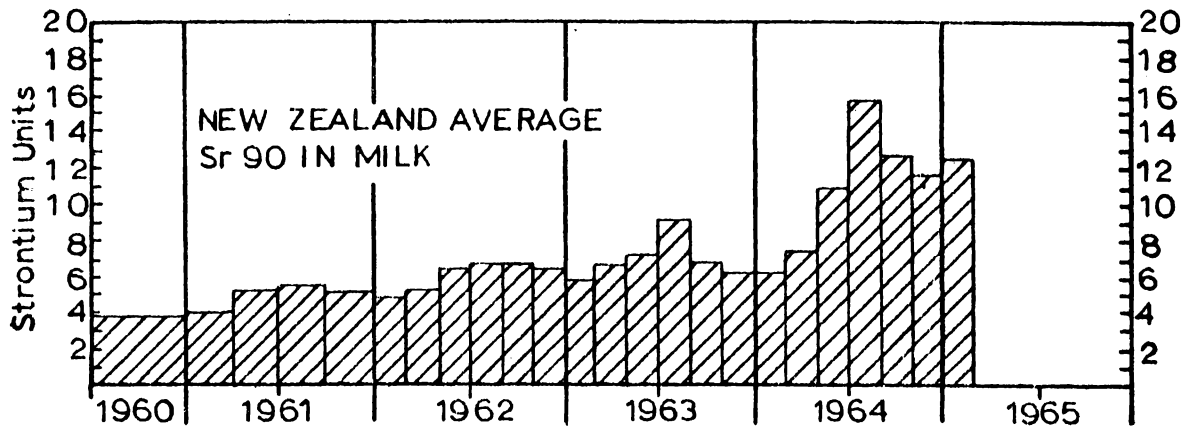
The average of the monthly specific activities of strontium-90 in rain from the same collecting stations has decreased from 4.7 pc/litre (picocuries per litre) for the fourth quarter 1964 to 3.9 pc/litre for the first quarter 1965. Specific activity averages since measurements commenced at this Laboratory are shown in the following graph:



SUMMARY-continued

3. STRONTIUM-90 IN MILK

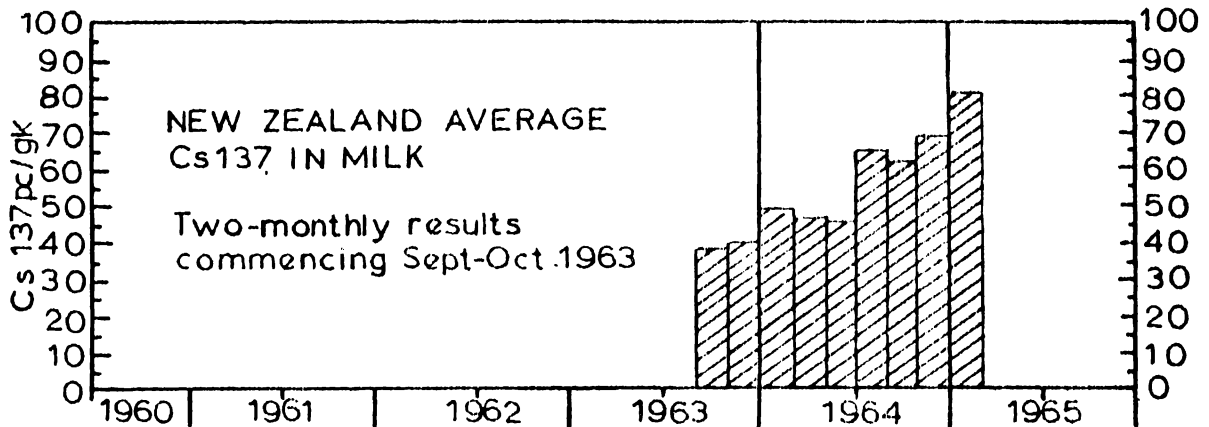
The average level of strontium-90 in milk from our network of nine collecting stations has increased from 11.5 Strontium Units for November - December 1964 to 12.4 Strontium Units for January - February 1965. The following graph shows the average level in milk since measurements commenced at this Laboratory:



4. CAESIUM-137 IN MILK

The New Zealand average for caesium-137 in milk has increased from 66 pc/gK for the fourth quarter 1964 to 81 pc/gK for the first quarter 1965.

The routine measurement of caesium-137 in monthly milk samples commenced during the second half of 1963. Country wide results have been averaged for each two months and are shown in the following graph:



SUMMARY-continued

5. HAZARD ASSESSMENT

The derivation of potential health hazard from fallout results is a complex problem. However, the significance of observed levels of strontium-90 can be readily understood by comparing these levels with the recommendations made by the British Medical Research Council on the "permissible levels" for the concentration of strontium-90 in human bone. A "cautionary level" was set at one half of the "permissible level" and the Council stated that this "cautionary level" would not be exceeded if the following levels were maintained indefinitely in the diet:

400 Strontium Units for individuals in the general population,

or 130 Strontium Units as average for the population as a whole.

Because the strontium-90 level in the total diet (expressed in Strontium Units) differs relatively little from that in milk, some guidance on the general situation in New Zealand may be provided by comparing the levels in New Zealand milk with the "cautionary level" set by the Council. In doing this, however, it must be emphasized that the "cautionary level" refers to continuous lifetime exposure. Average levels over an extended period, such as one year, are therefore more meaningful than individual results. The all station average for New Zealand milk for the 12 months ending February 1965 (11.9 Strontium Units) is thus:

9.1% of the "cautionary level" for the whole population,

or about

4.6% of the "permissible level" for the whole population.

GENERAL

In September 1957 the Department of Health was charged, under a Cabinet directive, with the responsibility for the monitoring of environmental radioactive contamination in New Zealand and its dependent Island Territories. Subsequently the network of collecting stations shown in Fig. 1 has been established to provide the necessary samples of air, water, soil and milk. The collections and measurements are being made on a routine basis and the results are published in the present series of Quarterly Reports, i.e. "Fallout in New Zealand", DXRL-F1 to F9 and NRL-F10 onwards.

The selection of rainwater collecting stations was based on the requirement that an adequate geographical coverage of the country must be made, taking account of natural features, such as mountain ranges which, particularly in the South Island, account for the extremes in rainfall. Furthermore, proximity of rainwater collecting sites to milk producing areas is desirable, so that comparisons between levels of contamination in rain and milk can be made.

The selection of milk producing areas was based not only on geographical coverage and routine availability of samples but also on population distribution, so that the average result of all stations would be representative of the contamination in the average New Zealand diet.

SAMPLE COLLECTION

AIR

Air filter samples are collected continually at Auckland and Christchurch. Sampling involves the collection of particulates in ground level air by drawing the air through 10 cm diameter filters using positive displacement pumps. The filters are changed three times weekly.

RAIN

Rainwater is collected by exposing a stainless steel pot of 30 cm diameter and 30 cm height, at ground level, for 1 month at each of the following collecting sites:

Site	1964 Rainfall (cm)	Site	1964 Rainfall (cm)
Kaitaia	146	Greymouth	274
Auckland	135	Christchurch	43
New Plymouth	166	Dunedin	49
Havelock North	53	Invercargill	107
Wellington	111	Suva, Fiji*	291

*18.1°S. 178.5°E. (normally a 3-monthly collection).

SOIL

Soil is sampled annually in the Northland, Wellington, Greymouth and South Canterbury districts, and also at Campbell Island (52.5°S. 169.0°E.).

MILK

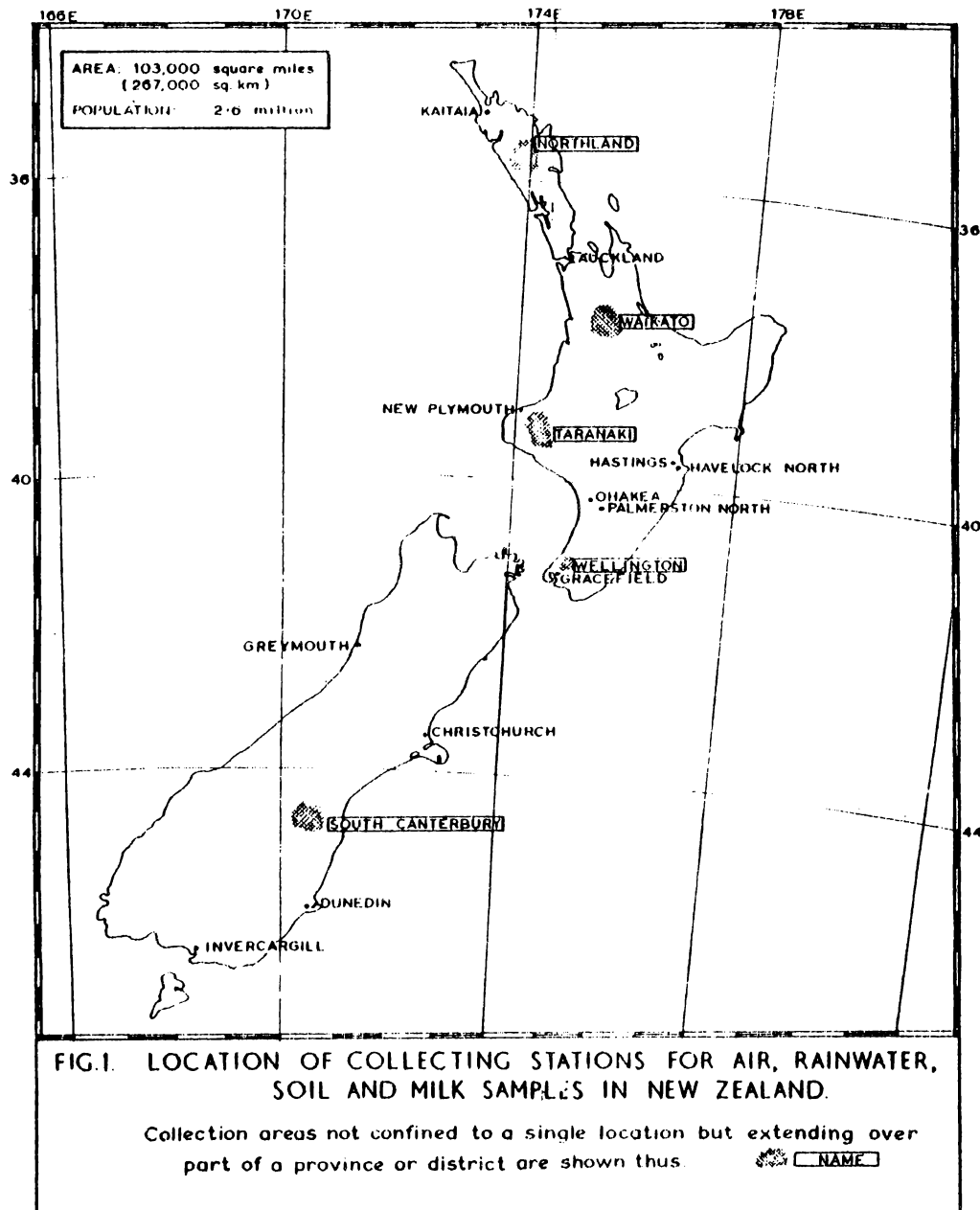
Milk samples are obtained each month from the following urban centres or provinces:

- | | |
|-----------|------------------|
| Northland | Palmerston North |
| Auckland | * Wellington |
| Waikato | Greymouth |
| Taranaki | Christchurch |
| | Dunedin |

* New milk collecting station (since January, 1965).

HUMAN BONE

Post mortem samples of human bone are obtained whenever possible.



SECTION A

MEASUREMENT OF TOTAL BETA AND TOTAL GAMMA ACTIVITY

1. TOTAL GAMMA ACTIVITY OF AIR FILTER SAMPLES COLLECTED NEAR GROUND LEVEL

The total gamma activities of air filter samples from Auckland and Christchurch are listed in Table 2. As in past reports, the values are tabulated in multiples of 0.1 pc/m³ for simplicity of recording. At the present low levels of air activity, however, the statistical error in the measurement is of the order of 0.05 pc/m³.

2. TOTAL BETA ACTIVITY OF FALLOUT DEPOSITED ON THE GROUND

Christchurch - Stainless Steel Pot Collection

The results for the individual weekly collections together with the monthly totals are given in Table 1 below in millicuries per square kilometre. The average monthly specific activities as calculated from the formula on page 1 are as follows:

January 1965 38 picocuries per litre
 February 1965 48 picocuries per litre
 March 1965 25 picocuries per litre

TABLE 1 TOTAL BETA ACTIVITY OF FALLOUT DEPOSITED ON THE GROUND			
In Millicuries per Square Kilometre			
COLLECTING STATION : CHRISTCHURCH			
Date of Collection		Rainfall	Total Beta Activity
From	To	cm	mc/km ²
1.1.65	8.1.65	Trace*	0.3
8.1.65	15.1.65	0.97	0.4
15.1.65	22.1.65	2.03	1.0
22.1.65	1.2.65	3.91	1.0
1.1.65	1.2.65	6.91	2.7
1.2.65	8.2.65	1.17	< 0.1
8.2.65	15.2.65	1.04	0.6
15.2.65	22.2.65	0.33	0.3
22.2.65	1.3.65	0.10	0.3
1.2.65	1.3.65	2.64	1.2
1.3.65	8.3.65	8.89	1.6
8.3.65	16.3.65	0.15	0.2
16.3.65	24.3.65	2.79	1.2
24.3.65	1.4.65	2.87	0.7
1.3.65	1.4.65	14.70	3.7

* Trace < 0.013

TABLE 2

TOTAL GAMMA ACTIVITY OF AIR SAMPLES

In Piccuries per Cubic Metre Eight Days after Collection

AUCKLAND			CHRISTCHURCH		
Date of Collection		Total Gamma Activity pc/m ³	Date of Collection		Total Gamma Activity pc/m ³
From	To		From	To	
2.1.65	4.1.65	0.2	2.1.65	4.1.65	<0.1
4.1.65	6.1.65	0.1	4.1.65	6.1.65	<0.1
6.1.65	8.1.65	0.1	6.1.65	8.1.65	<0.1
8.1.65	11.1.65	0.1	8.1.65	11.1.65	<0.1
11.1.65	13.1.65	<0.1	11.1.65	13.1.65	<0.1
13.1.65	15.1.65	0.2	13.1.65	15.1.65	<0.1
15.1.65	18.1.65	<0.1	15.1.65	18.1.65	<0.1
18.1.65	20.1.65	<0.1	18.1.65	20.1.65	<0.1
20.1.65	22.1.65	<0.1	20.1.65	22.1.65	<0.1
22.1.65	25.1.65	<0.1	22.1.65	25.1.65	<0.1
25.1.65	27.1.65	0.1	25.1.65	27.1.65	<0.1
27.1.65	29.1.65	0.2	27.1.65	29.1.65	<0.1
29.1.65	1.2.65	<0.1	29.1.65	1.2.65	<0.1
2.1.65	1.2.65	Average 0.1	2.1.65	1.2.65	Average <0.1
1.2.65	3.2.65	<0.1	1.2.65	3.2.65	<0.1
3.2.65	5.2.65	<0.1	3.2.65	5.2.65	<0.1
5.2.65	8.2.65	0.1	5.2.65	8.2.65	<0.1
8.2.65	10.2.65	<0.1	8.2.65	10.2.65	<0.1
10.2.65	12.2.65	<0.1	10.2.65	12.2.65	<0.1
12.2.65	15.2.65	<0.1	12.2.65	15.2.65	<0.1
15.2.65	17.2.65	0.2	15.2.65	17.2.65	<0.1
17.2.65	19.2.65	0.1	17.2.65	19.2.65	<0.1
19.2.65	22.2.65	0.1	19.2.65	22.2.65	<0.1
22.2.65	24.2.65	<0.1	22.2.65	24.2.65	<0.1
24.2.65	26.2.65	0.2	25.2.65	26.2.65	<0.1
26.2.65	1.3.65	0.1	26.2.65	1.3.65	<0.1
1.2.65	1.3.65	Average 0.1	1.2.65	1.3.65	Average <0.1
1.3.65	3.3.65	0.1	1.3.65	3.3.65	<0.1
3.3.65	5.3.65	0.1	3.3.65	5.3.65	<0.1
5.3.65	8.3.65	<0.1	5.3.65	8.3.65	<0.1
8.3.65	10.3.65	0.2	8.3.65	10.3.65	<0.1
10.3.65	12.3.65	0.3	10.3.65	12.3.65	0.1
12.3.65	15.3.65	<0.1	12.3.65	15.3.65	<0.1
15.3.65	17.3.65	0.1	15.3.65	17.3.65	0.1
17.3.65	19.3.65	0.3	17.3.65	19.3.65	<0.1
19.3.65	22.3.65	<0.1	19.3.65	22.3.65	<0.1
22.3.65	24.3.65	<0.1	22.3.65	24.3.65	<0.1
24.3.65	26.3.65	<0.1	24.3.65	26.3.65	<0.1
26.3.65	29.3.65	<0.1	26.3.65	29.3.65	<0.1
29.3.65	31.3.65	0.1	29.3.65	31.3.65	<0.1
1.3.65	31.3.65	Average 0.1	1.3.65	31.3.65	Average <0.1

SECTION B

MEASUREMENT OF SPECIFIC RADIOISOTOPES

1. STRONTIUM-90 IN RAIN

Method of Measurement *

Strontium carrier is added to the collecting pot before despatch to the collecting site. A supply of distilled water is maintained at the site and is added to the pot when necessary to prevent the contents from evaporating to dryness during dry periods. On arrival at the Laboratory the sample is passed slowly through a column of cation exchange resin. Strontium is then selectively eluted from the resin column, precipitated as the carbonate and weighed. The precipitate is redissolved. Yttrium carrier is added and the solution is held for 2 weeks to allow yttrium-90 to approach equilibrium. The strontium-90 activity is then determined by separating daughter yttrium-90 and measuring its activity in a low background beta counter. Three measurements of beta activity are made over a period of eight days to check the rate of decay and isotopic purity. The net count rate of the yttrium-90 source is extrapolated to the parent-daughter separation time, corrected for carrier recoveries, yttrium-90 ingrowth and counter efficiency. The beta counters are calibrated with yttrium-90 sources which have been separated from strontium-90 standards. Counter performance is evaluated by frequent background measurements and daily control runs using a $\text{Sr}^{90}/\text{Y}^{90}$ source.

Results

Table 3 gives the results of strontium-90 measurements on monthly rain collections from the nine New Zealand collecting stations during the first quarter of 1965. Results for the quarterly collection of rain from Fiji are also given for the first quarter of 1965. The results of measurements made by the Institute of Nuclear Sciences for rain collected at Gracefield, and the United Kingdom Atomic Energy Authority for rain collected at Ohakea are also included. Past and present results for strontium-90 and rainfall are given in graphical form in Fig. 2, a, b, c, d, e, f. The average deposition for this Laboratory's network of collecting sites within New Zealand (excluding results from Gracefield and Ohakea) has increased slightly from 1.16 mc/km^2 for the fourth quarter 1964 to 1.33 mc/km^2 for the first quarter 1965. Average quarterly depositions since measurements commenced at this Laboratory are given graphically in the summary (page 2).

Table 3 also gives the individual monthly specific activities for all stations. Results for rainfall and deposition listed in the Table are given to 1 and 2 decimal places respectively. Specific activity values, however, are calculated from the original data on rainfall and deposition and are given to 2 significant figures. The average of the monthly specific activities for all stations for this quarter is 3.9 pc/litre. The value for the previous quarter was 4.7 pc/litre. Specific activity averages, since measurements commenced at this Laboratory, are shown for each quarter in the summary (page 2)

* GREGORY, L.P. "Ion Exchange Methods for the Estimation of Sr^{90} in Rain, Milk and Bone" Health Physics 10, No. 7, pp.483-493, July 1964.

TABLE 3

STRONTIUM-90 IN RAIN 1965

Measured by: National Radiation Laboratory Department of Health									
N.Z. Collecting Station Network	Deposition mc/km ²			Rainfall cm			Specific Activity pc/litre		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Kaitaia	0.63	0.22	0.40	15.2	16.3	7.6	4.2	1.3	5.3
Auckland	0.53	0.25	0.28	15.0	11.2	13.7	3.6	2.2	2.1
New Plymouth	0.71*	0.43	0.52	16.1	11.5	13.0	4.4*	3.8	4.0
Havelock North	0.14	0.13	0.44	4.5	6.5	12.0	3.1	2.0	3.7
Wellington	0.37	0.34	1.18	5.2	9.6	26.1	7.3	3.6	4.5
Greymouth	1.06	0.61	0.59	27.7	16.4	14.9	3.8	3.7	3.9
Christchurch	0.28	0.14	0.47	6.9	2.6	14.7	4.1	5.2	3.2
Dunedin	0.47	0.28	0.25	7.8	6.2	5.7	6.0	4.5	4.3
Invercargill	0.37	0.64	0.19	10.9	13.7	5.8	3.4	4.7	3.3
Average	0.51	0.34	0.48	12.1	10.4	12.6	4.4	3.5	3.8
Quarterly Average	1.33			35.1			3.9		

Fiji		1965 1 January - 1 April	
Deposition (mc/km ²)		0.46	
Rainfall (cm)		116.5	
Specific Activity (pc/litre)		0.40	



Gracefield		Measured by : Institute of Nuclear Sciences Department of Scientific and Industrial Research	
		1964	1965
Deposition (mc/km ²)		Dec. 0.44	Jan. 0.41
Rainfall (cm)		6.5	4.8
Specific Activity (pc/litre)		6.7	8.4

Ohakea		Measured by: United Kingdom Atomic Energy Authority	
		1964	
Deposition (mc/km ²)		Apr., May, June 0.67	July, Aug., Sept., 1.10
Rainfall (cm)		25.6	32.4
Specific Activity (pc/litre)		2.6	3.4

* Sample lost - estimate based on rainfall at the collecting site and the country wide average specific activity for the month.

FIG 2a

STRONTIUM 90 IN RAIN

 Millicuries Sr⁹⁰ per square kilometre per month. Lefthand scale.
 Centimetres of rain per month. Righthand scale.

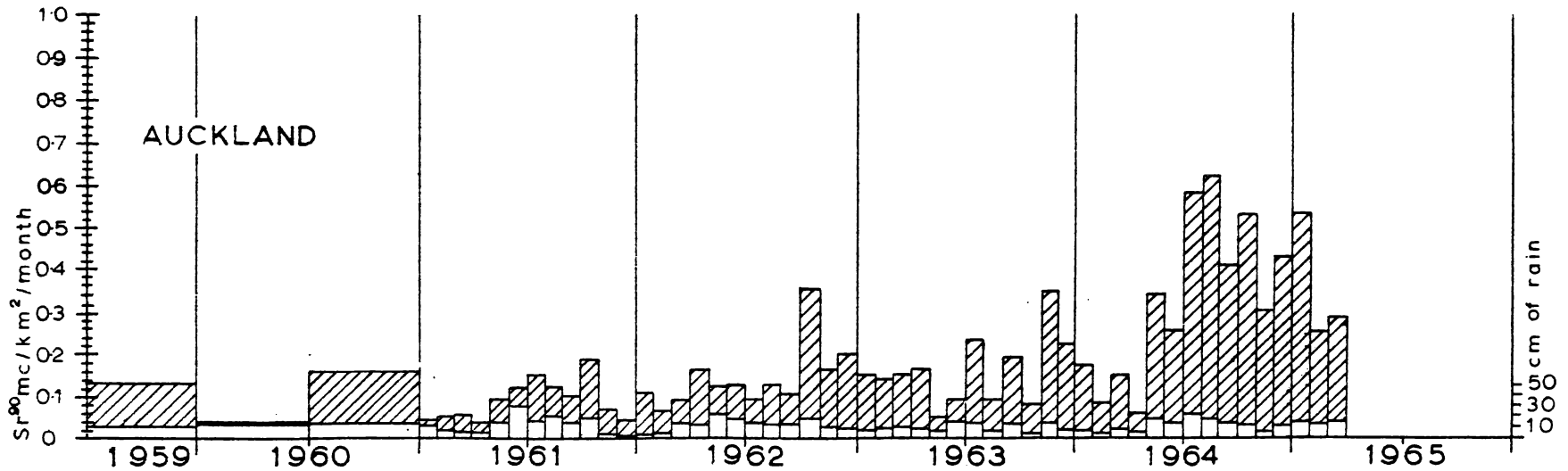
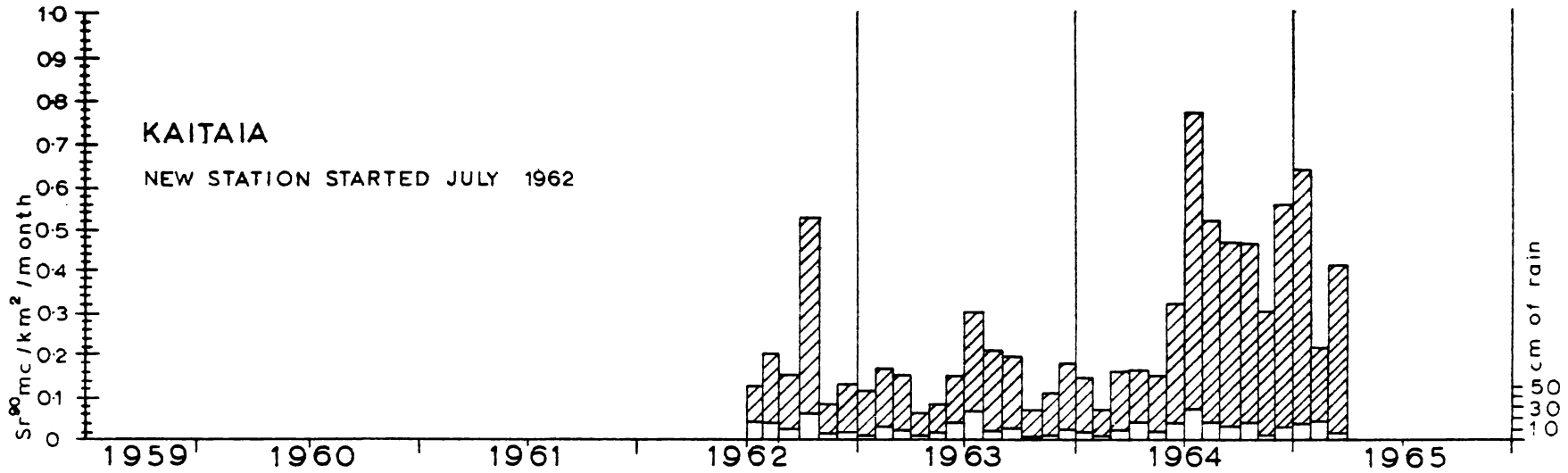




FIG. 2b

STRONTIUM 90 IN RAIN

 Millicuries Sr⁹⁰ per square kilometre per month. Left hand scale.
 Centimetres of rain per month. Right hand scale.

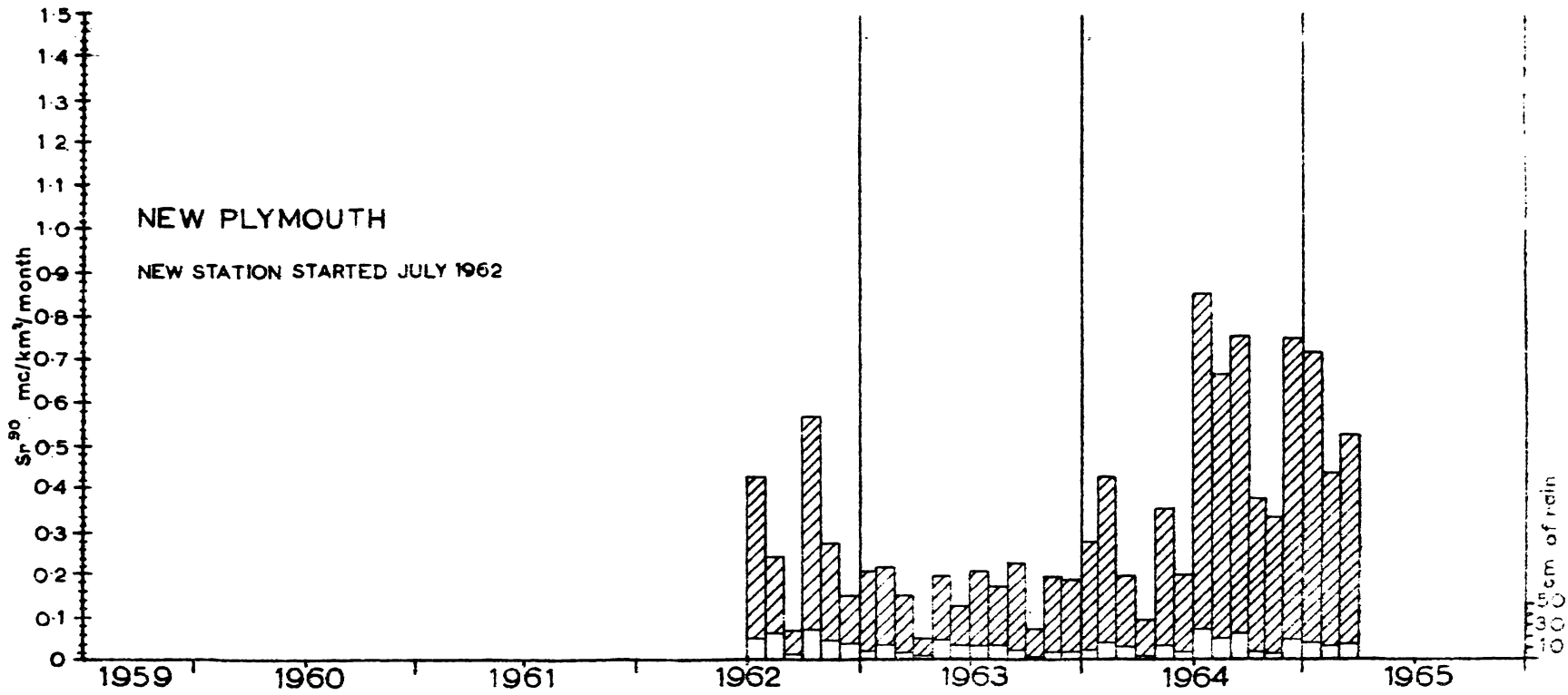




FIG. 2c

STRONTIUM 90 IN RAIN

 Millicuries Sr⁹⁰ per square kilometre per month. Lefthand scale.
 Centimetres of rain per month. Righthand scale.

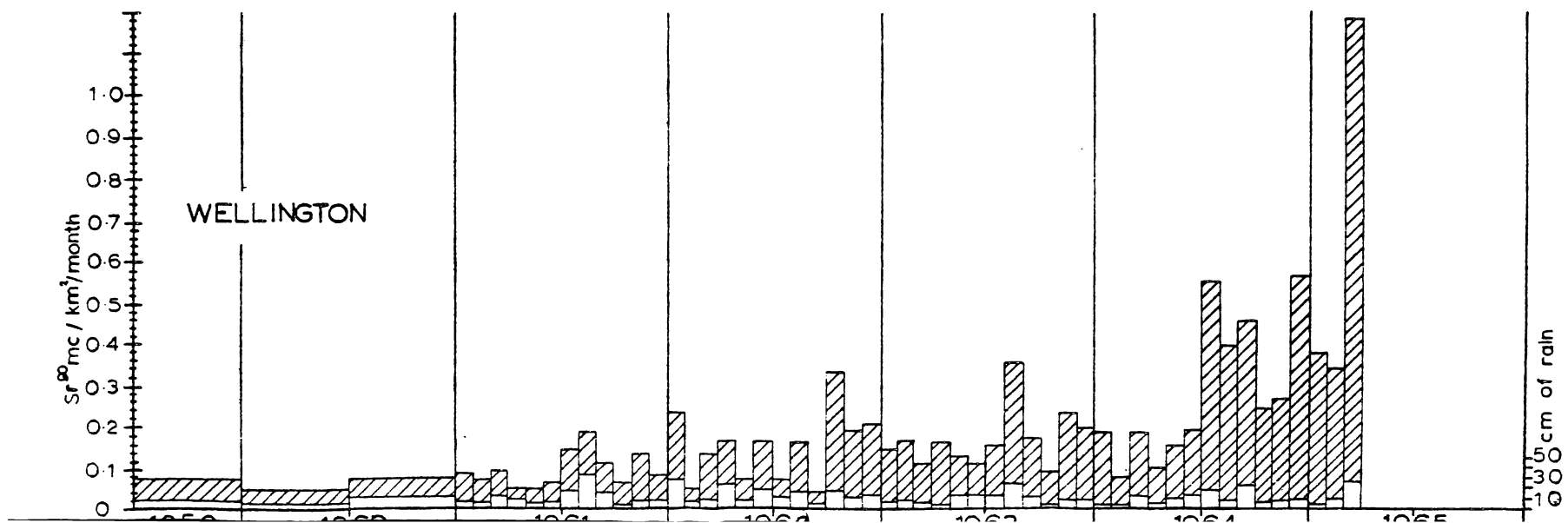
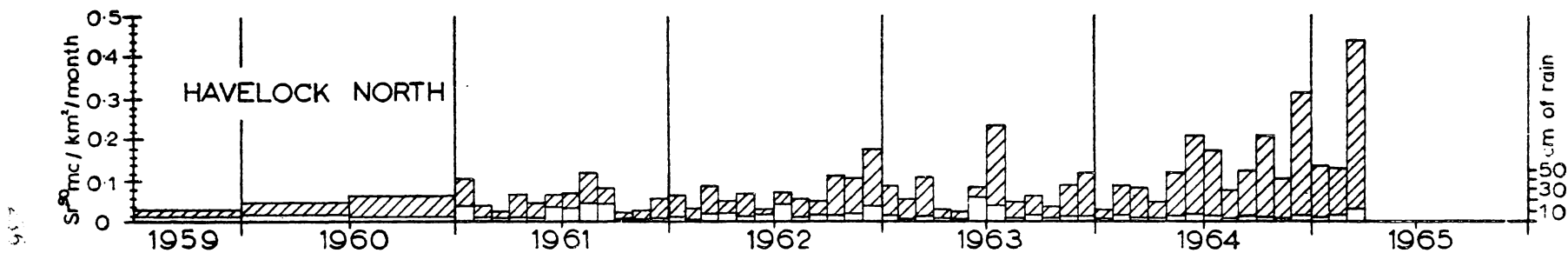




FIG. 2d

STRONTIUM 90 IN RAIN

 Millicuries Sr⁹⁰ per square kilometre per month. Lefthand scale.
 Centimetres of rain per month. Righthand scale.

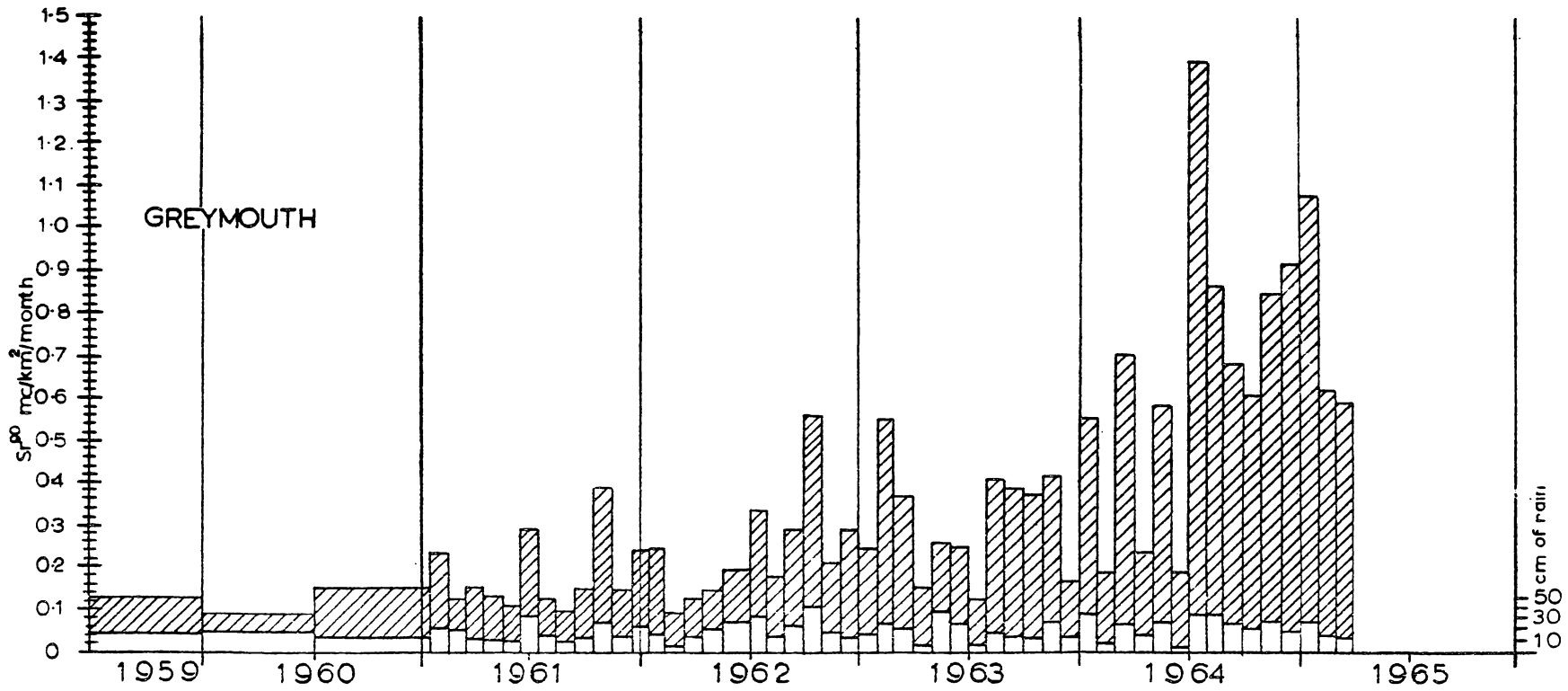




FIG 2e

STRONTIUM 90 IN RAIN

 Millicuries Sr⁹⁰ per square kilometre per month. Lefthand scale.
 Centimetres of rain per month. Righthand scale.

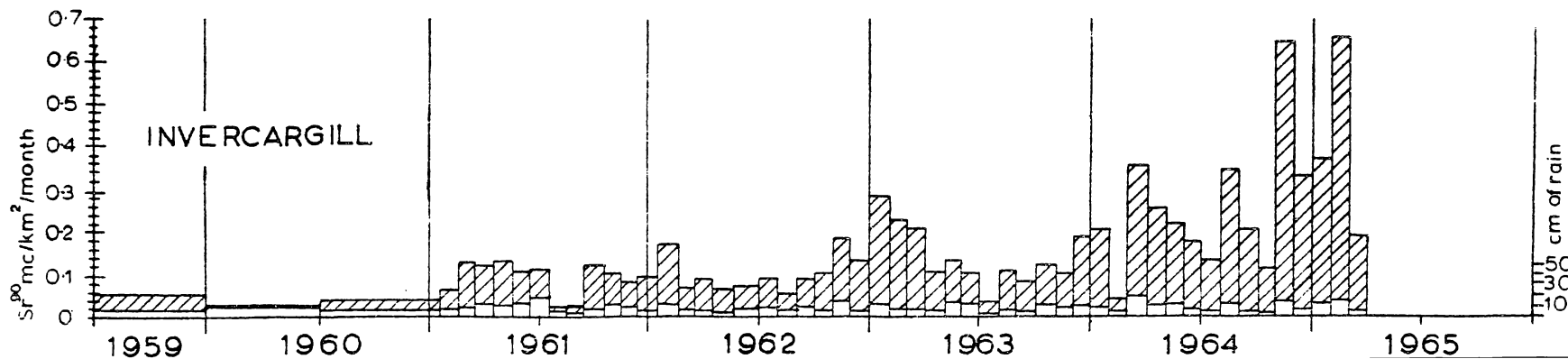
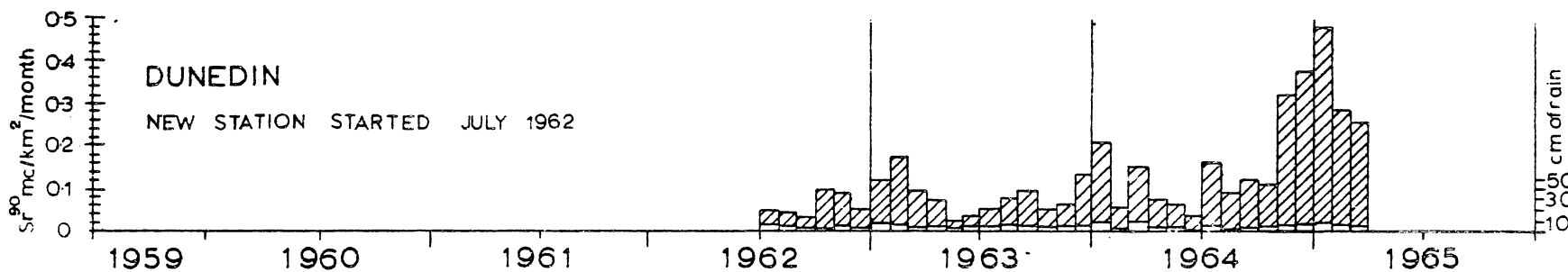
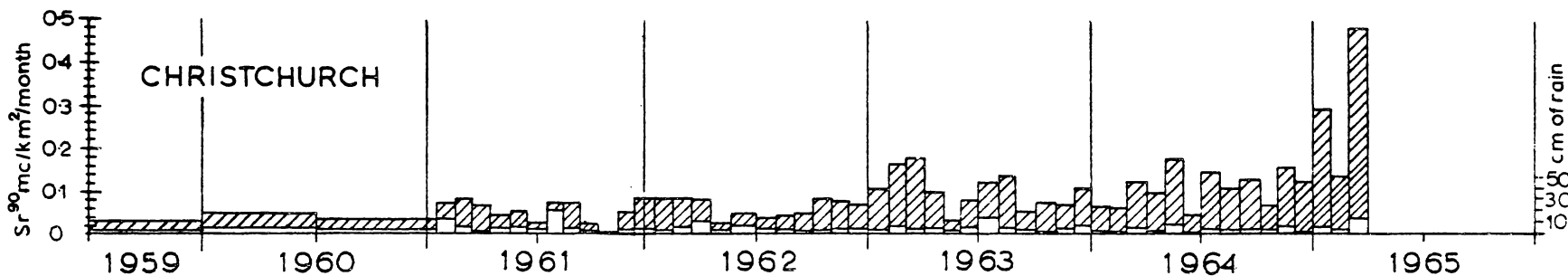


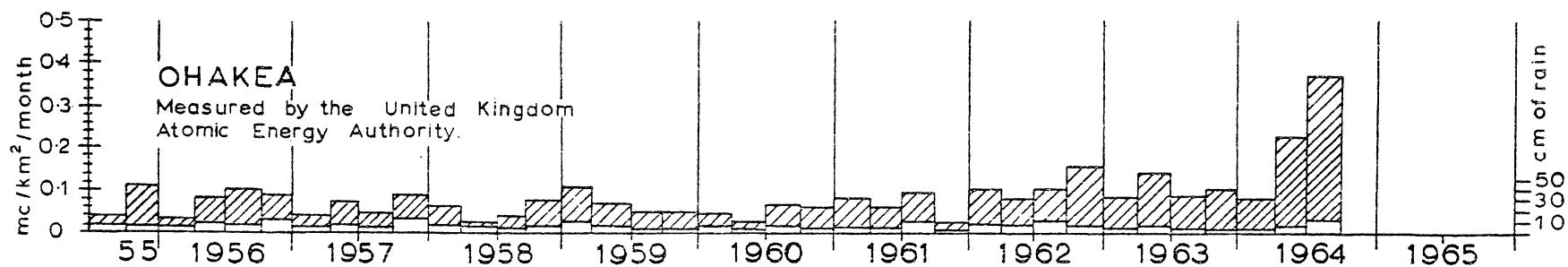
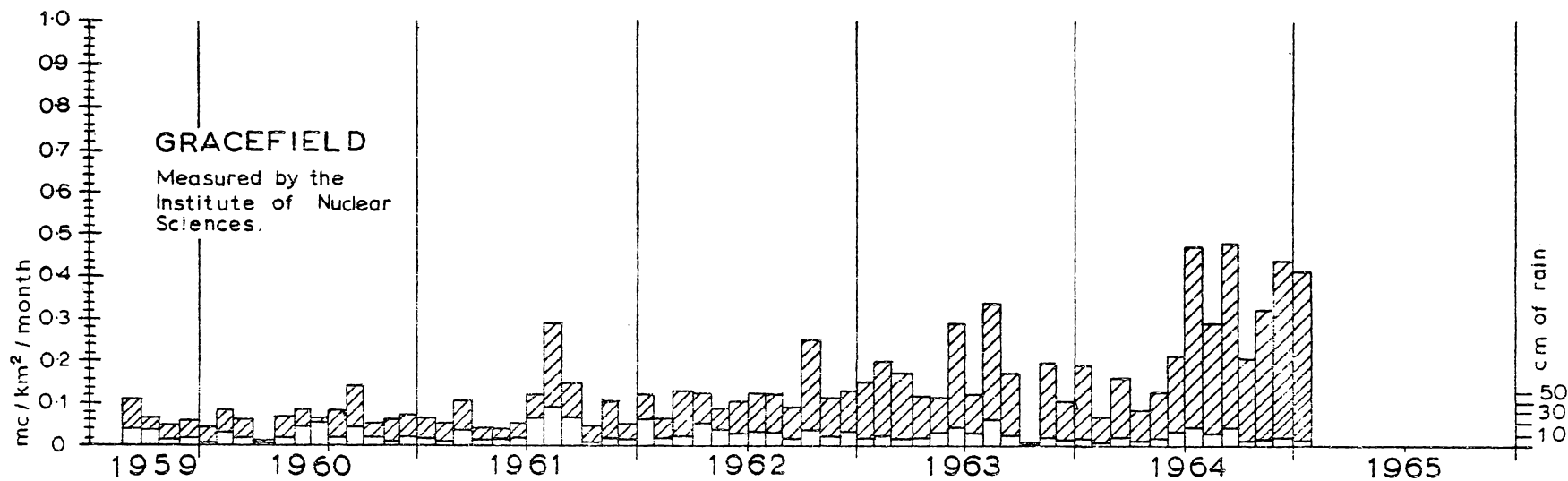
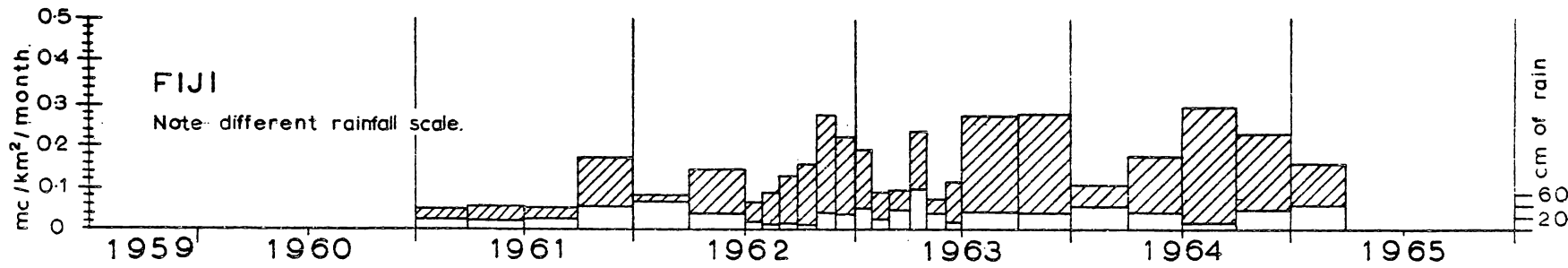


FIG 2f

STRONTIUM 90 IN RAIN

 Millicuries Sr⁹⁰ per square kilometre per month. Lefthand scale.
 Centimetres of rain per month. Righthand scale.



2. STRONTIUM-90 IN MILK

Method of Measurement

Dried milk samples are ashed at 600°C in a muffle furnace. Liquid milk samples are initially evaporated to dryness in a tray lined with polyethylene film before ashing. The milk ash is dissolved in dilute hydrochloric acid. Strontium carrier is added and the solution is passed through a large column of cation exchange resin. Magnesium and calcium are eluted from the column and discarded. Strontium is then eluted, evaporated to dryness and purified by a second ion exchange separation using a small column. The strontium is finally recovered as the carbonate and weighed. The remaining procedure, including the measurement of radioactivity is identical with that used for rainwater samples. A full description of the method is given in the paper "Ion Exchange Methods for the Estimation of Sr⁹⁰ in Rain, Milk and Bone" by L. P. Gregory, published in Health Physics, Vol. 10, No. 7, pp.483-493, July, 1964.

Results

Table 4 gives the recent results of the measurements of strontium-90 in milk from the nine New Zealand collecting stations. Past and present results for individual stations are given in graphical form in Fig. 3 a, b.

TABLE 4 STRONTIUM-90 IN MILK 1965	
N.Z. Collecting Station Network	Strontium Units (pc Sr ⁹⁰ /g Ca)
	January - February
Northland	10.5
Auckland	8.6
Waikato	8.5
Taranaki	18.4
Palmerston North	7.1
*Wellington	9.2
Greymouth	28.7
Christchurch	6.1
Dunedin	14.4
Average	12.4

The New Zealand Collecting Station Network Average, previously reported, was 11.5 Strontium Units for November-December 1964 (Report No. NRL-F15). The average levels in New Zealand milk since measurements began at this Laboratory are shown graphically in the Summary (page 3).

* New station (since January 1965).

3. CAESIUM-137 IN MILK

Method of Measurement

Monthly composite samples of milk powder from each of the sampling areas are measured for caesium-137 and potassium-40 by gamma spectrometry before they are ashed and further processed for measurement of the strontium-90 content.

For gamma ray evaluation the powder is evenly packed to occupy a fixed volume (530 millilitres) in a Marinelli-beaker which fits over a 2 x 2 inch crystal. A multi-channel analyser is used to count the pulses occurring in the photopeak areas of the two radionuclides. An analysis of the activities present is made using the results obtained from a range of standard powder samples. Counting times are arranged so that the total statistical counting errors amount to the following relative standard errors in the results.

Value pc/g K	5	10	20	50	100
Percentage error \pm	25	15	10	5	3

Results

The following values were obtained for the first quarter of 1965:

N.Z. Collecting Station Network	Cs ¹³⁷ (pc / g K)			
	Jan.	Feb.	Mar.	Average
Northland	69	61	70	67
Auckland	53	66	72	64
Waikato	79	92	112	94
Taranaki	265	290	270	275
Palmerston North	22	36	42	33
Wellington	36	34	50	40
Greymouth	114	126	95	112
Christchurch	9	15	20	15
Dunedin	30	37	31	33
Average	75	84	85	81

Country wide averages, since measurements commenced at this Laboratory are shown graphically for two-monthly periods in the summary (page 3).

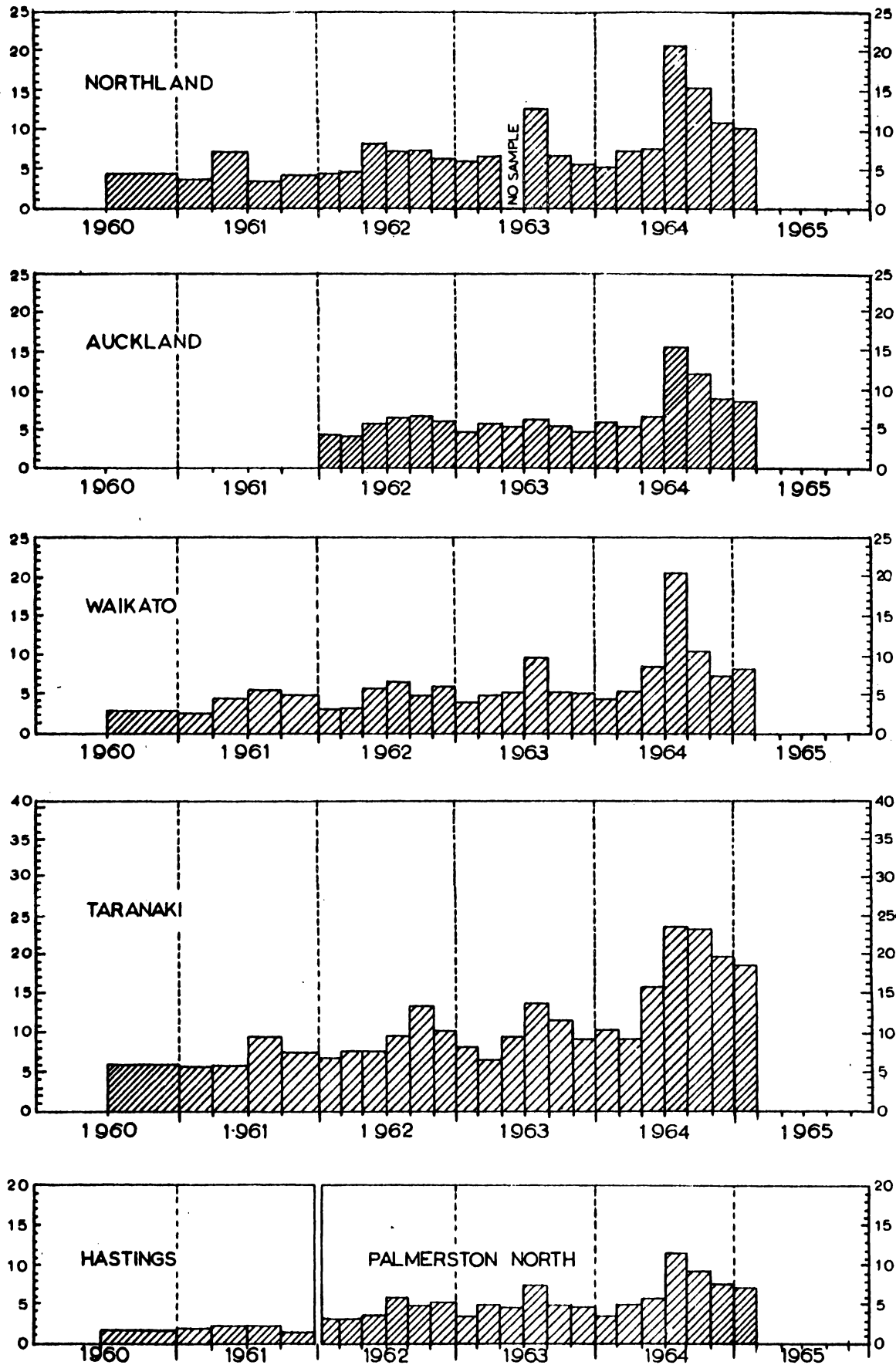


FIG. 3a Sr^{90} IN MILK (Strontium Units = pc Sr^{90} /g calcium)

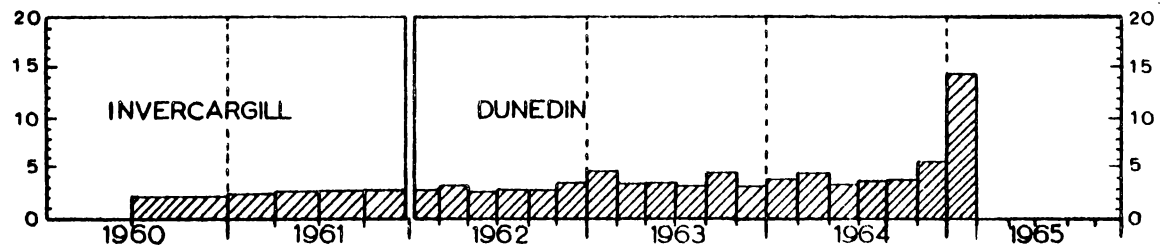
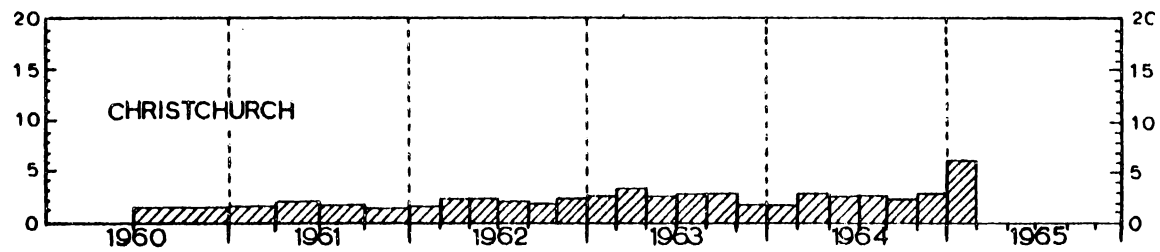
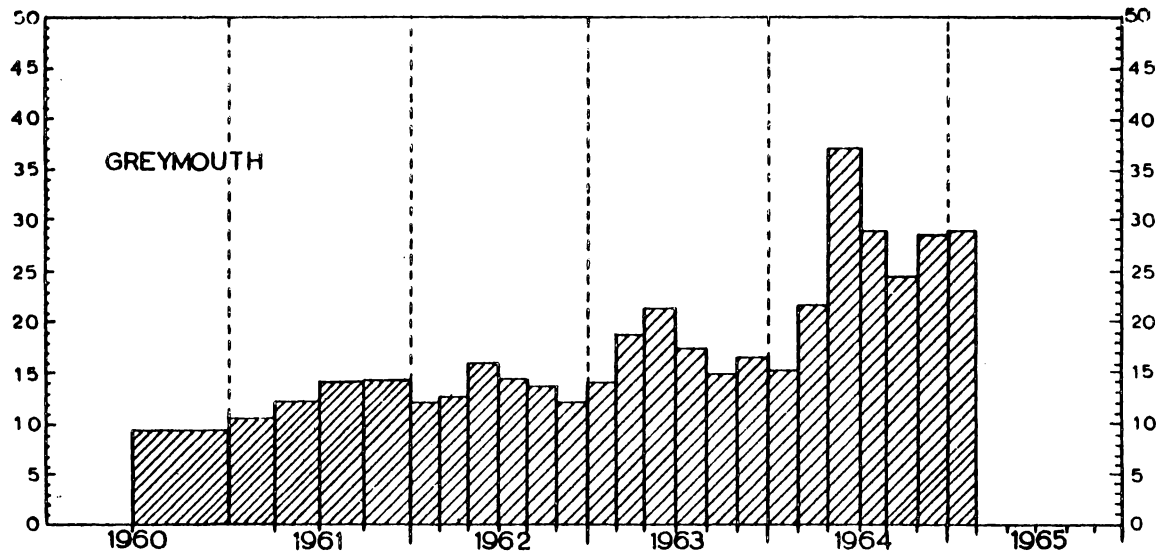
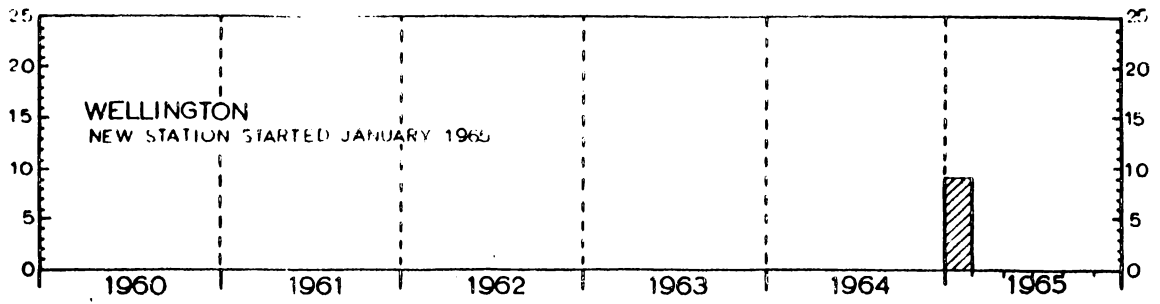


FIG. 3b Sr⁹⁰ IN MILK (Strontium Units = pc Sr⁹⁰/g calcium)

2.

Cs-137 in Various Chicago Foods

(Collection Month July, 1965)

S. S. Brar, P. F. Gustafson, D. M. Nelson

Division of Biological and Medical Research
Argonne National Laboratory
Argonne, Illinois

Table I

<u>Item</u>	<u>pc/kg</u>
White Bread (Dry)	161
Whole Grain Bread (Dry)	343
Eggs	30
Fresh Vegetables:	
Cabbage	10
Lettuce	10
Onions	7
Peas (Frozen)	46
Spinach	36
String Beans	26
Tomatoes	9
Root Vegetables:	
Carrots	8
Milk (Fresh)	41
Poultry Muscle	53
Fresh Fish (Frozen)	
Halibut	84
Ocean Fish (Mixed)	36
Lake Perch	735
Pike	3,247
White Fish	990
Flour (White)	98
Macaroni	225
Rice	95
Meat Muscle:	
Beef	168
Pork	120
Shell Fish:	
Oysters	72
Shrimps	18
Dried Beans	111

Cs-137 in Various Chicago Foods

Table I (Contd.)

<u>Item</u>	<u>pc/kg</u>
Fresh Fruits:	
Apples	33
Bananas	11
Berries	32
Melons	6
Oranges	25
Potatoes	T
Canned Fruits:	
Apple Sauce	41
Peaches	21
Pears	10
Pineapple	82
Canned Juices:	
Grapefruit	48
Orange	73
Pineapple	182
Tomato	19
Canned Vegetables:	
Peas	19
String Beans	9
Tomatoes	29
Baby Foods:	
Canned Milk	122
Formula Milk	145
Cereals	370
Fruits	35
Meats	107
Vegetables	27

T means trace (< 5 pc/kg)

Cs-137 in Chicago Diets

(July 1965)

Table II

	<u>kg/yr</u>	<u>pc/kg</u>	<u>pc/yr</u>
White Bread	37	129	4773
Whole Wheat Bread	11	274	3014
Eggs	16	30	480
Fresh Vegetables	43	21	903
Root Vegetables	17	8	136
Milk	221	41	9061
Poultry	17	53	901
Fresh Fish	8	592	4736
Flour	43	98	4214
Macaroni	3	225	675
Rice	3	95	285
Meat	73	144	10512
Shell Fish	1	45	45
Dried Beans	3	111	333
Fresh Fruit	68	22	1496
Potatoes	45	0	0
Canned Fruits	26	39	1014
Fruit Juices	19	80	1520
Canned Vegetables	20	119	380
			<hr/> 44478
	<u>pc/yr</u>		
	<u>pc/day</u>		122

**Annual Cs-137 Intake of Infants
During First Year of Life**

(July 1965)

Table III

	<u>kg/yr</u>	<u>pc/kg</u>	<u>pc/yr</u>
Baby Foods:			
Evaporated Milk	137	122	16714
Formula Milk	37	145	5365
Cereals	8	370	2960
Fruits	23	35	805
Meats	17	107	1819
Vegetables	23	27	621
			<hr/>
	pc/yr		28284
	pc/day		77

References:

- (1) S. S. Brar et al., USAEC Report No. HASL-146, Cs-137 in Various Chicago Diets, pp. 225-232, July 1, 1964.
- (2) J. Rivera and J. J. Kelly, USAEC Report No. HASL-144, Cs-137 In Tri-City Diets, p. 288, April 1, 1964.
- (3) S. S. Brar et al., USAEC Report No. HASL-149, Cs-137 in Various Chicago Diets, pp. 102-103, October 1, 1964.
- (4) J. Rivera and J. H. Harley, USAEC Report No. HASL-147, HASL Contributions to the Study of Fallout in Food Chains, pp. 31, 32, 33, 34, and 41, July, 1964.
- (5) S. S. Brar et al., USAEC Report No. HASL-155, Cs-137 in Various Chicago Foods, pp. 262-266, January 1, 1965.
- (6) S. S. Brar et al., USAEC Report No. HASL-158, Cs-137 in Various Chicago Foods, pp. 267-271, April 1, 1965.
- (7) S. S. Brar et al., USAEC Report No. HASL-161, Cs-137 in Various Chicago Foods, pp. 254-258, July 1, 1965.

Part III - Interpretive Reports and Notes

"Fission Yield and Fission Product Decay", by N. Harley, I. Fisenne, L.D.Y. Ong, and J. Harley, Health and Safety Laboratory, USAEC.

"Balancing of the Strontium-90 Budget", by H. L. Volchok, Health and Safety Laboratory, USAEC.

"Stratospheric Distribution of Pu²³⁸ from the SNAP-9A Abort of April, 1964", by L. P. Salter, Health and Safety Laboratory, USAEC.

"The Half-Time of Cs-137 in Man", by T.F. McCraw, Division of Operational Safety, HQ, USAEC.

"The Relation Between Cs-137 in Man and His Diet in The Chicago Area", by P. F. Gustafson, Division of Biological and Medical Research, Argonne National Laboratory.

"Strontium-90 in Infant Diets During 1964", by J. Rivera, Health and Safety Laboratory, USAEC.

Fission Yield and Fission Product Decay

by N. Harley
I. Fisenne
L.D.Y. Ong
J. Harley,
Health and Safety Laboratory, USAEC

Several compilations of data on the decay of mixed fission products and the percentages of individual nuclides in fission products exist. These are based on thermal, fission spectrum or 14 MeV neutron fission yields. The present data are based on measured fission product yields of individual nuclides obtained by analysis of debris from megaton weapons. The compilation originally appeared in HASL 117 (January 1962) and has been revised based on information available in July of 1965.

The analytical data obtained covered 22 chains. These were supplemented by 5 chains interpolated by comparable data published by Katcoff⁽¹⁾ and by the shape of the yield curves. These data are shown in Table 1. Since the interest of this laboratory is in the longer lived nuclides, only those with half lives of an appreciable fraction of a day were included. The fission yields were combined with current data on half lives and decay schemes (NRC Nuclear Data Sheets) to produce 3 tables, Activity Ratios at Formation (Table 2), Half-lives of the Ratios (Table 3) and the Total β dpm per 10^6 Fissions as a Function of Time (Table 4).

The total beta activities are plotted in Figure 1 as a function of time and the percentages for the important nuclides are plotted in Figure 2. Proper allowance was made for the appropriate parent-daughter relationship.

Although the fractional yields of various nuclides are different for weapons debris and thermal fission, Figure 1 indicates that the summed beta activities and rates of decay are almost identical.

The yield of strontium-90 from weapons is usually taken as 0.1 megacurie per megaton of fission. Another estimate for the strontium-90 yield from large weapons is obtained by combining the data from the 1962 "Effects of Nuclear Weapons" that 1 KT of fission produces 1.45×10^{23} fissions with the data given in this report. This gives a strontium-90 yield of 0.109 megacuries per megaton. This value, of course, may be different for different types of weapons but might be preferable to the previous value.

Table 1: Comparison of Megaton Weapon, Thermal Neutron, and U²³⁸ Fission Yields

Nuclide	Parent Atoms/10 ⁶ Fissions			t _{1/2} (days)**
	Y Weapon	Y Thermal ⁽²⁾	Y U ²³⁸ (14 Mev) ⁽³⁾	
38 Sr ⁸⁹	25,600	45,400	23,700	50.500
38 Sr ⁹⁰ → 39 Y ⁹⁰	35,000	59,000	36,000	10117. → 2.6800
39 Y ⁹¹	37,600	58,400	29,500	59.000
40 Zr ⁹⁵ → 41 Nb ⁹⁵	50,700	62,700	53,000	65.000 → 35.000
40 Zr ⁹⁷ → 41 Nb ^{97m} → 41 Nb ⁹⁷	51,700	60,900	55,000	0.70800 → 0.00069 → 0.05158
42 Mo ⁹⁹ → 43 Tc ^{99m} → 43 Tc ⁹⁹	56,800	61,400	56,800	2.7500 → 0.25000 → 7.8894 x 10 ⁷
44 Ru ¹⁰³ → 45 Rh ^{103m}	52,000	30,000	30,000	39.600 → 0.03958
44 Ru ¹⁰⁶ → 45 Rh ¹⁰⁶	24,400*	3,800	24,000	365.25 → 0.00035
47 Ag ¹¹¹	3,290	161	8,250	7.5200
47 Ag ¹¹²	2,400	107	6,900	0.13500
48 Cd ^{115m}	224	7.1	600	43.000
48 Cd ¹¹⁵ → 49 In ^{115m}	2,270	98	6,600	2.3000 → 0.18800
50 Sn ¹²⁵ → 51 Sb ¹²⁵ → 52 Te ^{125m}	2,900	210	4,500	9.4000 → 986.20 → 58.000
51 Sb ¹²⁷ → 52 Te ^{127m} → 52 Te ¹²⁷	5,400*	1,030	-	3.9000 → 105.00 → 0.39000
51 Sb ¹²⁹ → 52 Te ^{129m} → 52 Te ¹²⁹	12,600*	3,500	12,200	0.19167 → 33.000 → 0.04861
52 Te ¹³² → 53 I ¹³²	42,400*	42,900	44,000	3.2380 → 0.09583
53 I ¹³¹	29,000	28,600	28,000	8.0800

Table 1: Comparison of Megaton Weapon, Thermal Neutron, and U²³⁸ Fission Yields (Contd.)

Nuclide	Parent Atoms/10 ⁶ Fissions			$t_{1/2}$ (days)**
	Y Weapon	Y Thermal ⁽²⁾	Y U ²³⁸ (14 Mev) ⁽³⁾	
55 Cs ¹³⁵	54,100*	60,000	52,000	840.07 x 10 ⁶
55 Cs ¹³⁶	360	95	341	13.500
55 Cs ¹³⁷ → 56 Ba ^{137m}	55,700	59,400	66,000	11140. → 0.00180
56 Ba ¹⁴⁰ → 57 La ¹⁴⁰	51,800	65,600	45,000	12.800 → 1.6750
58 Ce ¹⁴¹	45,800	60,000	58,000	33.100
58 Ce ¹⁴⁴ → 59 Pr ¹⁴⁴	46,900	62,200	27,200	285.00 → 0.01210
59 Pr ¹⁴³	46,800	61,600	32,400	13.760
60 Nd ¹⁴⁷ → 61 Pm ¹⁴⁷	26,800	26,000	20,400	11.060 → 953.00
62 Sm ¹⁵³	3,100	1,300	4,000	1.9630
63 Eu ¹⁵⁶	628	140	1,130	15.000
65 Tb ¹⁶¹	29	0.8	17	6.9000

* Weapons yields interpolated from fast U²³⁸ fission yields.⁽¹⁾

** Values for parent → daughter half lives were carried to 5 figures for the computer.

(1) Katcoff - Nucleonics Vol. 18, No. 11, November 1960.

(2) U-235 Thermal Neutron Yields from I. J. Russell, R. V. Griffith, HASL-142.

(3) U-238 (14 Mev) Neutron Yields from W. H. Walker (AECL-1537) and E. K. Bonyushkin et al. (Soviet Progress in Neutron Physics 1961)

TABLE 2. NUCLIDE ACTIVITY RATIOS AT FORMATION (*indicates daughter)

Numerator ↓	Sr ⁸⁹	Sr ⁹⁰	Y ⁹¹	Zr ⁹⁵	Zr ⁹⁷	Mo ⁹⁹	Ru ¹⁰³	Ru ¹⁰⁶	Ag ¹¹¹	Ag ¹¹²	Cd ^{115m}	Cd ¹¹⁵	Sb ¹²⁵
Sr ⁸⁹	1	1.47 (2)	7.95(-1)	6.50(-1)	6.94 (-3)	2.45(-2)	3.87(-1)	7.58	1.16	2.85(-2)	9.73 (1)	4.92(-1)	1.72 (2)
Sr ⁹⁰	6.82(-3)	1	5.42(-3)	4.43(-3)	4.74 (-5)	1.67(-4)	2.64(-3)	5.17(-2)	7.91(-3)	1.94(-4)	6.64(-1)	3.36(-3)	1.18
Y ⁹¹	1.26	1.84 (2)	1	8.17(-1)	8.73 (-3)	3.08(-2)	4.86(-1)	9.53	1.46	3.58(-2)	1.22 (2)	6.18(-1)	2.17 (2)
Zr ⁹⁵	1.54	2.26 (2)	1.22	1	1.07 (-2)	3.77(-2)	5.95 (1)	1.17 (1)	1.78	4.38(-2)	1.50 (2)	7.57(-1)	2.65 (2)
Zr ⁹⁷	1.44 (2)	2.11 (4)	1.15 (2)	9.36 (1)	1	3.53	5.57 (1)	1.09 (3)	1.67 (2)	4.10	1.40 (4)	7.08 (1)	2.48 (4)
Mo ⁹⁹	4.08 (1)	5.99 (3)	3.25 (1)	2.65 (1)	2.84 (-1)	1	1.58 (1)	3.09 (2)	4.73 (1)	1.16	3.97 (3)	2.01 (1)	7.11 (3)
Ru ¹⁰³	2.58	3.79 (2)	2.06	1.68	1.79 (-2)	6.33(-2)	1	1.96 (1)	2.99	7.36(-2)	2.51 (2)	1.27	4.46 (2)
Ru ¹⁰⁶	1.32(-1)	1.93 (1)	1.05(-1)	8.62(-2)	9.19 (-4)	3.23(-3)	5.11(-2)	1	1.53(-1)	3.76(-3)	1.28 (1)	6.50(-2)	2.28 (1)
Ag ¹¹¹	8.62(-1)	1.26 (2)	6.85(-1)	5.62(-1)	5.99 (-3)	2.11(-2)	3.34(-1)	6.54	1	2.46(-2)	8.39 (1)	4.25(-1)	1.49 (2)
Ag ¹¹²	3.51 (1)	5.15 (3)	2.79 (1)	2.28 (1)	2.44 (-1)	8.62(-1)	1.36 (1)	2.66 (2)	4.07 (1)	1	3.42 (3)	1.73 (1)	6.05 (3)
Cd ^{115m}	1.03(-2)	1.51	8.17(-3)	6.68(-3)	7.14 (-5)	2.52(-4)	3.98(-3)	7.78(-2)	1.19(-2)	2.93(-4)	1	5.06(-3)	1.77
Cd ¹¹⁵	2.03	2.98 (2)	1.62	1.32	1.41 (-2)	4.98(-2)	7.87(-1)	1.54 (1)	2.36	5.79(-2)	1.98 (2)	1	3.51 (2)
Sb ¹²⁵	5.30(-3)	8.47(-1)	4.61(-3)	3.76(-3)	4.03 (-5)	1.41(-4)	2.24(-3)	4.39(-2)	6.72(-3)	1.65(-4)	5.64(-1)	2.85(-3)	1
*Te ^{127m}	1.03(-1)	1.52 (2)	8.22(-2)	6.72(-2)	7.19 (-4)	2.53(-3)	4.00(-2)	7.81(-1)	1.20(-1)	2.94(-3)	1.01 (1)	5.08(-2)	1.78 (1)
*Te ^{129m}	7.30(-1)	1.07 (2)	5.81(-1)	4.76(-1)	5.08 (-3)	1.79(-2)	2.83(-1)	5.52	8.47(-1)	2.08(-2)	7.11 (1)	3.60(-1)	1.26(-2)
Te ¹³²	2.58 (1)	3.79 (3)	2.06 (1)	1.68 (1)	1.80 (-1)	6.33(-1)	1.00 (1)	1.96 (2)	2.99 (1)	7.36(-1)	2.51 (3)	1.27 (1)	4.46 (3)
I ¹³¹	7.04	1.04 (3)	5.62	4.59	4.90 (-2)	1.73(-1)	2.73	5.35 (1)	8.20	2.01(-1)	6.87 (2)	3.47	1.22 (3)
Cs ¹³⁵	1.27(-7)	1.86(-5)	1.01(-7)	8.26(-8)	8.85(-10)	3.12(-9)	4.93(-8)	9.62(-7)	1.47(-7)	3.62(-9)	1.24(-5)	6.25(-8)	2.19(-5)
Cs ¹³⁶	5.27(-2)	7.69	4.18(-2)	3.42(-2)	3.66 (-4)	1.28(-3)	2.04(-2)	3.98(-1)	6.10(-2)	1.49(-3)	5.12	2.59(-2)	9.09
Cs ¹³⁷	9.86(-3)	1.45	7.84(-3)	6.41(-3)	6.85 (-5)	2.42(-4)	3.82(-3)	7.47(-2)	1.14(-2)	2.81(-4)	9.60(-1)	4.84(-3)	1.70
Ba ¹⁴⁰	8.00	1.17 (3)	6.33	5.18	5.55 (-2)	1.96(-1)	3.10	6.06 (1)	9.26	2.27(-1)	7.77 (2)	3.92	1.38 (3)
Ce ¹⁴¹	2.72	3.98 (2)	2.16	1.77	1.89 (-2)	6.67(-2)	1.05	2.06 (1)	3.15	7.75(-2)	2.65 (2)	1.34	4.70 (2)
Ce ¹⁴⁴	3.25(-1)	4.76 (1)	2.58(-1)	2.11(-1)	2.25 (-3)	7.94(-3)	1.26(-1)	2.46	3.76(-1)	9.25(-3)	3.16 (1)	1.60(-1)	5.59 (1)
Pr ¹⁴³	6.71	9.80 (2)	5.35	4.37	4.66 (-2)	1.64(-1)	2.60	5.08 (1)	7.75	1.91(-1)	6.52 (2)	3.30	1.16 (3)
*Pm ¹⁴⁷	5.54(-3)	8.13 (1)	4.40(-3)	3.60(-3)	3.85 (-5)	1.36(-4)	2.15(-3)	4.20(-2)	6.42(-3)	1.58(-4)	5.39(-1)	2.72(-3)	9.52(-1)
Sm ¹⁵³	3.12	4.57 (2)	2.48	2.02	2.16 (-2)	7.63(-2)	1.21	2.36 (1)	3.61	8.87(-2)	3.03 (2)	1.53	5.38 (2)
Eu ¹⁵⁶	8.42(-2)	1.23 (1)	6.70(-2)	5.47(-2)	5.85 (-4)	2.06(-3)	3.26(-2)	6.37(-1)	9.76(-2)	2.39(-3)	8.20	4.15(-2)	1.45 (1)
Tb ¹⁶¹	8.33(-3)	1.22	6.62(-3)	5.41(-3)	5.78 (-5)	2.04(-4)	3.23(-3)	6.31(-2)	9.64(-3)	2.37(-4)	8.10(-1)	4.09(-3)	1.43

Powers of 10 in parentheses

TABLE 2. NUCLIDE ACTIVITY RATIOS AT FORMATION (*indicator daughter)

Numerator ↓	*Te ^{127m}	*Te ^{129m}	Te ¹³²	I ¹³¹	Cs ¹³⁵	Cs ¹³⁶	Cs ¹³⁷	Ba ¹⁴⁰	Ce ¹⁴¹	Ce ¹⁴⁴	Pr ¹⁴³	*Pm ¹⁴⁷	Sm ¹⁵³	Eu ¹⁵⁶	Tb ¹⁶¹
Sr ⁸⁹	9.67	1.37	3.87(-2)	1.42(-1)	7.87 (6)	1.90 (1)	1.01 (2)	1.25(-1)	3.67(-1)	3.08	1.49(-1)	1.80 (2)	3.21(-1)	1.19 (1)	1.20 (2)
Sr ⁹⁰	6.60(-2)	9.34(-3)	2.64(-4)	9.66(-4)	5.34 (4)	1.30(-1)	6.92(-1)	8.54(-4)	2.51(-3)	2.10(-2)	1.02(-3)	1.23	2.19(-3)	8.10(-2)	8.20(-1)
Y ⁹¹	1.22 (1)	1.72	4.86(-2)	1.78(-1)	9.90 (3)	2.39 (1)	1.28 (2)	1.57(-1)	4.62(-1)	3.88	1.87(-1)	2.27 (2)	4.03(-1)	1.49 (1)	1.51 (2)
Zr ⁹⁵	1.49 (1)	2.10	5.95(-2)	2.18(-1)	1.21 (7)	2.92 (1)	1.56 (2)	1.93(-1)	5.65(-1)	4.74	2.29(-1)	2.78 (2)	4.94(-1)	1.83 (1)	1.85 (2)
Zr ⁹⁷	1.39 (3)	1.97 (2)	5.57	2.04 (1)	1.13 (9)	2.73 (3)	1.46 (4)	1.80 (1)	5.29 (1)	4.44 (2)	2.15 (1)	2.60 (4)	4.62 (1)	1.71 (3)	1.73 (4)
Mo ⁹⁹	3.95 (2)	5.59 (1)	1.58	5.78	3.21 (8)	7.75 (2)	4.14 (3)	5.11	1.50 (1)	1.26 (2)	6.09	7.37 (3)	1.31 (1)	4.85 (2)	4.90 (3)
Ru ¹⁰³	2.50 (1)	3.53	1.00(-1)	3.66 (1)	2.03 (7)	4.91 (2)	2.62 (2)	3.23(-1)	9.49(-1)	7.96	3.85(-1)	4.66 (2)	8.29(-1)	3.07 (1)	3.10 (2)
Ru ¹⁰⁶	1.28	1.81(-1)	5.11(-3)	1.37(-2)	1.04 (6)	2.51	1.34 (1)	1.65(-2)	4.85(-2)	4.06(-1)	1.97(-2)	2.38 (1)	4.23(-2)	1.57	1.59 (1)
Ag ¹¹¹	8.35	1.18	3.34(-2)	1.22 (1)	6.79 (6)	1.64 (1)	8.75 (1)	1.08(-1)	3.17(-1)	2.66	1.29(-1)	1.56 (2)	2.77(-1)	1.03 (1)	1.04 (2)
Ag ¹¹²	3.40 (2)	4.80 (1)	1.36	4.97	2.76 (8)	6.67 (2)	3.56 (3)	4.40	1.29 (1)	1.08 (2)	5.24	6.33 (3)	1.13 (1)	4.17 (2)	4.22 (3)
Cd ^{115m}	9.94(-2)	1.41(-2)	3.98(-4)	1.46(-3)	8.09 (4)	1.95(-1)	1.04	1.29(-3)	3.78(-3)	3.17(-2)	1.53(-3)	1.85	3.30(-3)	1.22(-1)	1.23
Cd ¹¹⁵	1.97 (1)	2.78	7.87(-2)	2.88(-1)	1.60 (7)	3.86	2.06 (2)	2.55(-1)	7.47(-1)	6.26	3.03(-1)	3.67 (2)	6.53(-1)	2.41 (1)	2.44 (2)
Sb ¹²⁵	5.61(-2)	7.93(-3)	2.24(-4)	8.21(-4)	4.57(-4)	1.10(-1)	5.88(-1)	7.26(-4)	2.13(-3)	1.79(-2)	8.65(-4)	1.05 (1)	1.86(-3)	6.89(-2)	6.97(-1)
*Te ^{127m}	1	1.41 (1)	4.00(-3)	1.46(-2)	8.14 (5)	1.96	1.05 (1)	1.29(-2)	3.80(-2)	3.18(-1)	1.54(-2)	1.87 (1)	3.32(-2)	1.23	1.24 (1)
*Te ^{129m}	7.09	1	2.33(-2)	1.04(-1)	5.75 (6)	1.39 (1)	7.41 (1)	9.15(-2)	2.69(-1)	2.25	1.09(-1)	1.32 (2)	2.35(-1)	8.68	8.78 (1)
Te ¹³²	2.50 (2)	3.53 (1)	1	3.66	2.03 (8)	4.91 (2)	2.62 (3)	3.23	9.49	7.96 (1)	3.85	4.66 (3)	8.29 (1)	3.07 (2)	3.10 (3)
I ¹³¹	6.85 (1)	9.66	2.73(-1)	1	5.56 (7)	1.34 (2)	7.16 (2)	8.83(-1)	2.59	2.17 (1)	1.05	1.27 (3)	2.27	8.38 (1)	8.48 (2)
Cs ¹³⁵	1.23(-6)	1.74(-7)	4.93(-9)	1.80(-8)	1	2.41(-6)	1.29(-5)	1.59(-8)	4.67(-8)	3.91(-7)	1.89(-8)	2.29(-5)	4.08(-8)	1.51(-6)	1.53(-5)
Cs ¹³⁶	5.10(-1)	7.20(-2)	2.03(-3)	7.45(-3)	4.15 (5)	1	5.34	6.59(-3)	1.93(-2)	1.62(-1)	7.85(-3)	9.50	1.69(-2)	6.25(-1)	6.33
Cs ¹³⁷	9.54(-2)	1.35(-2)	3.82(-4)	1.39(-3)	7.75 (4)	1.87(-1)	1	1.23(-3)	3.62(-3)	3.04(-2)	1.47(-3)	1.78	3.16(-3)	1.17(-1)	1.18
Ba ¹⁴⁰	7.75 (1)	1.09 (1)	3.10(-1)	1.13	6.29 (7)	1.52 (2)	8.10 (2)	1	2.93	2.46 (1)	1.19	1.44 (3)	2.56	9.48 (1)	9.60 (2)
Ce ¹⁴¹	2.63 (1)	3.72	1.05(-1)	3.86(-1)	2.14 (7)	5.18 (1)	2.76 (2)	3.41(-1)	1	8.38	4.06 (1)	4.91 (2)	8.73(-1)	3.23 (1)	3.27 (2)
Ce ¹⁴⁴	3.14	4.44(-1)	1.26(-2)	4.61(-2)	2.56 (6)	6.17	3.29 (1)	4.06(-2)	1.19(-1)	1	4.84(-2)	5.86 (1)	1.04(-1)	3.85	3.90 (1)
Pr ¹⁴³	6.49 (1)	9.17	2.60(-1)	9.52(-1)	5.29 (7)	1.27 (2)	6.80 (2)	8.40(-1)	2.46	2.07 (1)	1	1.21 (3)	2.15	7.96 (1)	8.06 (2)
*Pm ¹⁴⁷	5.36(-2)	7.62(-3)	2.15(-4)	7.87(-4)	4.37 (4)	1.05(-1)	5.62(-1)	6.94(-4)	2.03(-3)	1.71(-2)	8.26(-4)	1	1.77(-3)	6.58(-2)	6.66(-1)
Sm ¹⁵³	3.01 (1)	4.26	1.21(-1)	4.41(-1)	2.45 (7)	5.92 (1)	3.17 (2)	3.91(-1)	1.15	9.62	4.65(-1)	5.65 (2)	1	3.70 (1)	3.74 (2)
Eu ¹⁵⁶	8.13(-1)	1.15(-1)	3.25(-3)	1.19(-2)	6.62 (5)	1.60	8.55	1.05(-2)	3.10(-2)	2.60(-1)	1.26(-2)	1.52 (1)	2.70(-2)	1	1.01 (1)
Tb ¹⁶¹	8.05(-2)	1.14(-2)	3.23(-4)	1.18(-3)	6.54 (4)	1.58(-1)	8.47(-1)	1.04(-3)	3.06(-3)	2.56(-2)	1.24(-3)	1.50	2.67(-3)	9.88(-2)	1

Powers of 10 in parentheses

TABLE 3. EFFECTIVE HALF-LIVES OF NUCLIDE ACTIVITY RATIOS (In Days)

Numerator ↓	Sr ⁸⁹	Sr ⁹⁰	Y ⁹¹	Zr ⁹⁵	Zr ⁹⁷	Mo ⁹⁹	Ru ¹⁰³	Ru ¹⁰⁶	Ag ¹¹¹	Ag ¹¹²	Cd ^{115m}	Cd ¹¹⁵	Sb ¹²⁵
Sr ⁸⁹	-	5.08 (1)	3.51 (2)	2.26 (2)	-	-	-	5.86 (1)	-	-	-	-	5.32 (1)
Sr ⁹⁰	-	-	-	-	-	-	-	-	-	-	-	-	-
Y ⁹¹	-	5.93 (1)	-	6.39 (2)	-	-	-	7.04 (1)	-	-	-	-	6.28 (1)
Zr ⁹⁵	-	6.54 (1)	-	-	-	-	-	7.91 (1)	-	-	-	-	6.96 (1)
Zr ⁹⁷	7.18(-1)	7.08(-1)	7.17(-1)	7.16(-1)	-	9.53(-1)	7.21(-1)	7.09(-1)	7.82(-1)	-	7.20(-2)	1.04	7.09(-1)
Mo ⁹⁹	2.91	2.75	2.88	2.87	-	-	2.96	2.77	4.34	-	2.94	-	2.76
Ru ¹⁰³	1.33 (2)	3.98 (1)	1.20 (2)	1.01 (2)	-	-	-	4.44 (1)	-	-	5.01 (2)	-	4.13 (1)
Ru ¹⁰⁶	-	3.79 (2)	-	-	-	-	-	-	-	-	-	-	5.80 (2)
Ag ¹¹¹	8.84	7.53	8.62	8.50	-	-	9.28	7.68	-	-	9.11	-	7.58
Ag ¹¹²	1.38(-1)	1.35(-1)	1.35(-1)	1.35(-1)	1.67(-1)	1.42(-1)	1.35(-1)	1.35(-1)	1.59(-1)	-	1.35(-1)	1.44(-1)	1.35(-1)
Cd ^{115m}	2.90 (2)	4.32 (1)	1.59 (2)	1.27 (2)	-	-	-	4.87 (1)	-	-	-	-	4.30 (1)
Cd ¹¹⁵	2.30	2.20	2.29	2.28	-	1.10 (1)	2.33	2.21	3.11	-	2.32	-	2.21
Sb ¹²⁵	-	1.09 (3)	-	-	-	-	-	-	-	-	-	-	-
*Te ^{127m}	-	1.04 (2)	-	-	-	-	-	1.43 (2)	-	-	-	-	1.15 (2)
*Te ^{129m}	1.04 (2)	3.41 (1)	8.02 (1)	7.13 (1)	-	-	2.40 (2)	3.75 (1)	-	-	1.62 (2)	-	3.52 (1)
Te ¹³²	3.46	3.24	3.43	3.41	-	-	3.53	3.27	5.69	-	3.50	-	3.25
I ¹³¹	9.62	8.09	9.36	9.23	-	-	1.02 (1)	8.26	-	-	9.95	-	8.16
Cs ¹³⁵	-	-	-	-	-	-	-	-	-	-	-	-	-
Cs ¹³⁶	1.84 (1)	1.35 (1)	1.75 (1)	1.70 (1)	-	-	2.05 (1)	1.40 (1)	-	-	1.97 (1)	-	1.30 (1)
Cs ¹³⁷	-	-	-	-	-	-	-	-	-	-	-	-	-
Ba ¹⁴⁰	1.71 (1)	1.28 (1)	1.63 (1)	1.59 (1)	-	-	1.89 (1)	1.33 (1)	-	-	1.82 (1)	-	1.35 (1)
Ce ¹⁴¹	9.61 (1)	3.32 (1)	7.54 (1)	6.74 (1)	-	-	2.02 (2)	3.64 (1)	-	-	1.44 (2)	-	3.42 (1)
Ce ¹⁴⁴	-	2.93 (2)	-	-	-	-	-	1.30 (3)	-	-	-	-	4.01 (2)
Pr ¹⁴³	1.90 (1)	1.38 (1)	1.80 (1)	1.75 (1)	-	-	2.17 (1)	1.43 (1)	-	-	2.03 (1)	-	1.40 (1)
*Pm ¹⁴⁷	-	1.05 (3)	-	-	-	-	-	-	-	-	-	-	2.83 (4)
Sm ¹⁵³	2.04	1.96	2.03	2.02	-	6.82	2.10	1.97	2.65	-	2.05	1.80 (1)	1.96
Eu ¹⁵⁶	2.07 (1)	1.47 (1)	1.96 (1)	1.90 (1)	-	-	2.40 (1)	1.53 (1)	-	-	2.23 (1)	-	1.49 (1)
Tb ¹⁶¹	7.97	6.88	7.79	7.69	-	-	8.48	7.01	8.08 (1)	-	8.19	-	6.93

TABLE 3. EFFECTIVE HALF-LIVES OF NUCLIDE ACTIVITY RATIOS (In days)

Numerator ↓	*Te ^{127m}	*Te ^{129m}	Te ¹³²	I ¹³¹	Cs ¹³⁵	Cs ¹³⁶	Cs ¹³⁷	Ba ¹⁴⁰	Ce ¹⁴¹	Ce ¹⁴⁴	Pr ¹⁴³	*Pm ¹⁴⁷	Sm ¹⁵³	Eu ¹⁵⁶	Tb ¹⁶¹
Sr ⁸⁹	9.91 (1)	-	-	-	5.05 (1)	-	5.07 (1)	-	-	6.14 (1)	-	5.33 (1)	-	-	-
Sr ⁹⁰	-	-	-	-	1.01 (4)	-	1.10 (5)	-	-	-	-	-	-	-	-
Y ⁹¹	1.38 (2)	-	-	-	5.90 (1)	-	5.93 (1)	-	-	7.44 (1)	-	6.29 (1)	-	-	-
Zr ⁹⁵	1.76 (2)	-	-	-	6.50 (1)	-	6.54 (1)	-	-	8.42 (1)	-	6.98 (1)	-	-	-
Zr ⁹⁷	7.13(-1)	7.23(-1)	9.43(-1)	7.37(-1)	7.08(-1)	7.47(-1)	7.08(-1)	7.49(-1)	7.23(-1)	7.10(-1)	7.46(-1)	7.09(-1)	1.11	7.44(-1)	7.89(-1)
Mo ⁹⁹	2.83	2.99	1.82 (1)	4.17	2.75	3.45	2.75	3.50	3.00	2.78	3.43	2.76	-	3.38	4.58
Ru ¹⁰³	6.43 (1)	-	-	-	3.96 (1)	-	3.97 (1)	-	-	4.60 (1)	-	4.13 (1)	-	-	-
Ru ¹⁰⁶	-	-	-	-	3.65 (2)	-	3.78 (2)	-	-	-	-	5.92 (2)	-	-	-
Ag ¹¹¹	8.11	9.66 (1)	-	1.09 (2)	7.52	1.70 (1)	7.53	1.82 (1)	9.73	7.72	1.65 (1)	7.58	-	1.54 (1)	-
Ag ¹¹²	1.35(-1)	1.36(-1)	1.41(-1)	1.37(-1)	1.35(-1)	1.36(-1)	1.35(-1)	1.36(-1)	1.36(-1)	1.35(-1)	1.47(-1)	1.35(-1)	1.45(-1)	1.36(-1)	1.38(-1)
Cd ^{115m}	7.38 (1)	-	-	-	4.30 (1)	-	4.32 (1)	-	-	5.06 (1)	-	4.50 (1)	-	-	-
Cd ¹¹⁵	2.25	2.35	6.85	3.02	2.20	2.63	2.20	2.66	2.36	2.22	2.62	2.21	-	2.59	3.23
Sb ¹²⁵	-	-	-	-	9.86 (2)	-	9.94 (2)	-	-	-	-	-	-	-	-
*Te ^{127m}	-	-	-	-	1.03 (2)	-	1.04 (2)	-	-	1.61 (2)	-	1.51 (2)	-	-	-
*Te ^{129m}	5.08 (1)	-	-	-	3.40 (1)	-	3.41 (1)	-	-	3.86 (1)	-	3.53 (1)	-	-	-
Te ¹³²	3.35 (1)	3.58	-	5.41	3.24	4.26	3.24	4.34	3.59	3.28	4.23	3.25	-	4.16	6.12
I ¹³¹	8.77	1.06 (1)	-	-	8.08	2.01 (1)	8.09	2.19 (1)	1.07 (1)	8.32	1.95 (1)	8.15	-	1.79 (1)	-
Cs ¹³⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cs ¹³⁶	1.55 (1)	2.24 (1)	-	-	1.35 (1)	-	1.35 (1)	-	2.28 (1)	1.42 (1)	6.21 (2)	1.37 (1)	-	1.65 (2)	-
Cs ¹³⁷	-	-	-	-	1.12 (4)	-	-	-	-	-	-	-	-	-	-
Ba ¹⁴⁰	1.46 (1)	2.05 (1)	-	-	1.28 (1)	2.47 (2)	1.28 (1)	-	2.09 (1)	1.34 (1)	1.77 (2)	1.30 (1)	-	9.90 (1)	-
Ce ¹⁴¹	4.88 (1)	1.25 (3)	-	-	3.32 (1)	-	-	3.74 (1)	-	3.74 (1)	-	3.43 (1)	-	-	-
Ce ¹⁴⁴	-	-	-	-	2.85 (2)	-	2.92 (2)	-	-	-	-	4.07 (2)	-	-	-
Pr ¹⁴³	1.59 (1)	2.32 (1)	-	-	1.38 (1)	-	1.38 (1)	-	2.37 (1)	1.45 (1)	-	1.40 (1)	-	2.25 (2)	-
*Pm ¹⁴⁷	-	-	-	-	9.53 (2)	-	1.04 (3)	-	-	-	-	-	-	-	-
Sm ¹⁵³	2.00	2.08	4.96	2.59	1.96	2.29	1.96	2.31	2.08	2.05	2.28	1.96	-	2.26	2.74
Eu ¹⁵⁶	1.71 (1)	2.59 (1)	-	-	1.47 (1)	-	1.47 (1)	-	2.64 (1)	1.55 (1)	-	1.49 (1)	-	-	-
Tb ¹⁶¹	7.37	8.63	-	4.63 (1)	6.88	1.40 (1)	6.88	1.49 (1)	8.69	7.05	1.37 (1)	6.93	-	1.29 (1)	-

Table 4: Total Beta dpm per 10^6 Fissions as a Function of Time

<u>Days</u>	<u>β dpm/10^6 fissions</u>	<u>Days</u>	<u>β dpm/10^6 fissions</u>
10	11.4	900	0.0429
20	5.74	1000	0.0364
30	3.65	1100	0.0312
40	2.86	1200	0.0269
50	2.25	1300	0.0235
60	1.83	1400	0.0207
70	1.53	1500	0.0183
80	1.31	1600	0.0164
90	1.14	1700	0.0147
100	1.01	1800	0.0135
150	0.591	1900	0.0124
200	0.383	2000	0.0114
250	0.267	2500	0.00842
300	0.199	3000	0.00761
350	0.157	3500	0.00602
400	0.129	4000	0.00545
450	0.110	4500	0.00502
500	0.0954	5000	0.00470
600	0.0752		
700	0.0615		
800	0.0511		

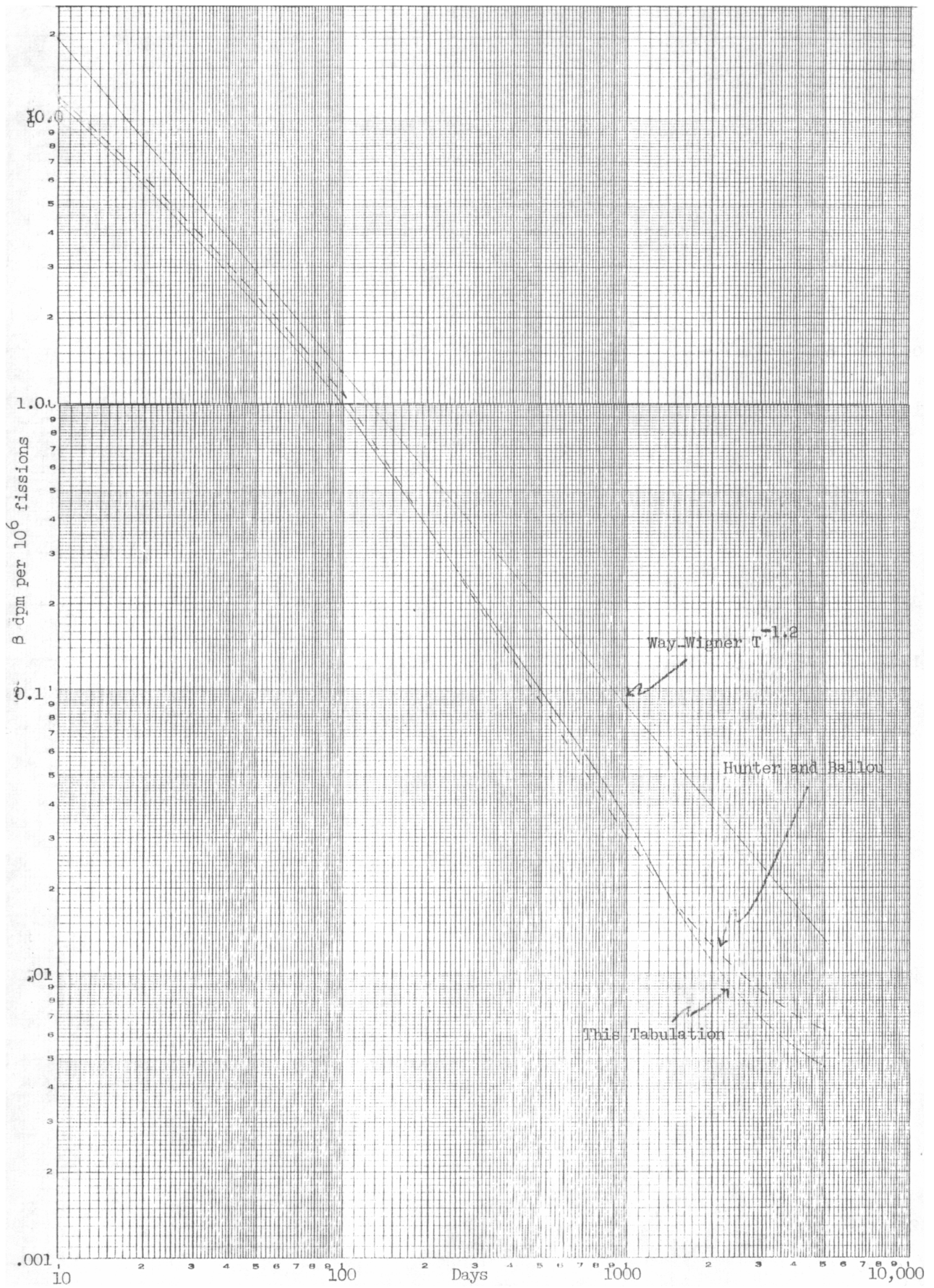


FIGURE 1

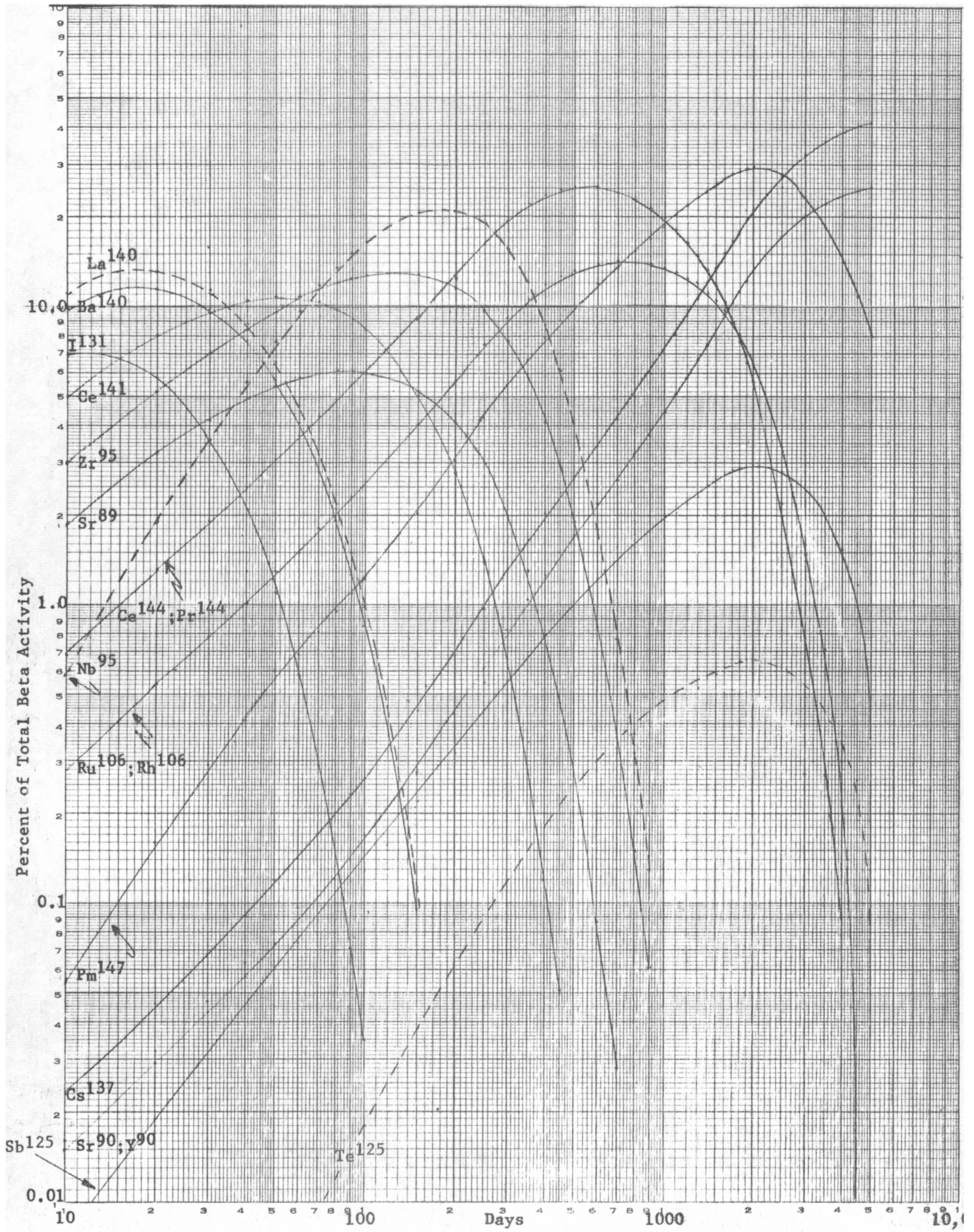


FIGURE 2

Balancing of the Sr-90 Budget

by Herbert L. Volchok - (HASE)

Inventories of Sr-90 introduced into the earth's environment by nuclear weapons tests have been made, (1, 2, 3, 4, 5). The method of making an inventory for Sr-90 consists in measuring the amount of this nuclide contained in each of several compartments making up the environment. These compartments are more or less defined by the experimental programs which have been developed to investigate them. Thus for Sr-90 the total environment has been divided into: stratosphere, troposphere, and surface of the earth. The stratosphere was further split into the regions above and below 70,000 feet, while the surface was differentiated by worldwide fallout and that material which was deposited locally.

The Sr-90 content of the stratospheric compartment is estimated from analyses of filter paper samples obtained by balloon flights in the region from about 70,000 feet to 105,000 feet, (6) and by aircraft flights below 70,000 feet, (7, 8). The observed Sr-90 concentrations are numerically integrated assuming that zonal mixing is complete and therefore that concentration is a function of only altitude and latitude. The region above 105,000 feet is neglected.

The inventory of the tropospheric compartment is made by use of the concentrations of Sr-90 in air filter samples collected at ground level (9, 10, 11, 12) and at other altitudes below the tropopause, (13). Zonal mixing is again assumed to be complete, and seasonal altitude fluctuations are assumed to be negligible.

Local fallout has been estimated (3) by indirect methods as a function of altitude and burst type.

The worldwide surface deposited component of the inventory is based upon numerical integration of the Sr-90 content of rainfall and soil samples (14). The sampling sites are entirely on land (including islands) thus any substantial biasing due to the effect of the large oceanic bodies is neglected.

The sum of values computed for these compartments, at any given time, is the total accountable Sr-90 and may be compared with a value computed from the announced nuclear tests, (15) with proper correction for radioactive decay. Such comparisons made at eleven dates starting in August, 1961 are shown in Table 1.

It can be seen that generally more than 80% of the total amount of Sr-90 which was released on or above the earth's surface may be accounted for by summing of the amounts calculated for the compartments.

While it may seem that an error of 20% is very satisfactory, the data suggest that the deviation between the amount which was expected and that which was found, has been increasing with time. This observation, if true, eliminates the possibility that a large portion of the missing Sr-90 is due to having over-estimated the amount produced, since this type of error would result in a constant deviation since December of 1962. The same reasoning eliminates local fallout as the major source of error, since it is generally held that little if any local deposition occurred subsequent to the cessation of testing in 1958. No evidence of tropospheric storage justifies considering this compartment as a possible repository for any substantial part of the unaccountable Sr-90.

Thus we must conclude that the steadily increasing amount of missing Sr-90 is to be found in one or a combination of the following:

- (a) Another compartment which has not been sampled,
- (b) Still in the stratosphere, below 105,000 feet, or
- (c) On the surface of the earth.

The only region which has ever been suggested as a possible additional storage place for weapons debris is in the atmosphere not covered by the sampling networks, (3, 16). While there is evidence that substantial amounts of debris from some of the high-yield high-altitude detonations in 1962 were injected well above 100,000 feet it hardly seems likely that since 1963 this reservoir has been added to from below. We cannot preclude the possibility that Sr-90 may be trapped in the upper stratosphere or above, slowly leaking into the lower regions and subsequently to the earth. The values of the material balance shown in Table 1, however, and the apparently increasing unaccountable fraction, suggest that this is not the major factor in the unbalanced inventory.

It therefore follows that we must look to the stratosphere and the earth's surface for the largest portion of Sr-90 which has been released into the environment, but is apparently not observable by the sampling and computational systems which have been employed.

In Table 1 it may be observed that an imbalance exists between the rate of stratospheric depletion of Sr-90 and its rate of accumulation on the ground, for each interval since initiation of the partial test ban treaty, in 1963. If the methods used for computing these inventories were correct, these rates would be the same. This is shown graphically in Figure 1, by comparing values of the stratospheric reservoir as a function of time, using data from the two sampling programs. The heavy black dots were taken directly from Project Stardust monthly reports, (17). The smooth solid curve was constructed by using the reservoir represented by the first Stardust point as a base, and then subtracting each month's Sr-90 deposition as reported in HASL-161, (14), after correction for decay and change in the tropospheric content. This representation makes it very clear that the system of computing worldwide fallout does not account for the depletion of debris from the stratosphere, computed in Stardust. However, the

relationship of the two sets of data suggested a systematic percentage variation. By trial and error it was found that by applying a correction of 33% the two were brought into good agreement. This is illustrated in Figure 1 by the dashed curve, constructed by increasing each month's Sr-90 fallout value by 33% before subtracting from the decay corrected prior month's stratospheric reservoir.

It is therefore concluded from Figure 1 that either; (a) the decrease in the stratospheric burden of Sr-90 computed in the Stardust Program has been overestimated by 33%, or (b) worldwide fallout estimates made by HASL have been low by the same percent.

Either alternative requires that within the compartment, there must be unsampled regions containing concentrations of Sr-90 substantially higher than the sampled ones, or that the methods which have been used to compute the inventories are proportionately in error.

The nature of the Stardust and High Altitude Balloon sampling programs makes it seem unlikely that for upwards of at least three years sizeable amounts of Sr-90 laden air have been overlooked. The rather straightforward method of calculating the inventories, would also indicate that the anomaly cannot be explained as being due to overestimating the rate of stratospheric depletion. Thus it would appear that the major source of error is to be found in the values of worldwide deposition.

The method of computing the global Sr-90 deposition which was described earlier, (14), is based upon averaging values from the sites in ten degree latitude bands, and then numerically integrating over the globe. No correction for precipitation is made. Note that had we weighted the data for mean rainfall, as other investigators have done, lower fallout would have been calculated, further increasing the deviation. Similarly, if instead of averaging the individual site results, medians had been used, again lower global integrations would have resulted. Thus we conclude that the computation method for estimating the deposition of worldwide Sr-90 fallout has tended to maximize the result, and is therefore unlikely as the prime factor in the unbalanced budget.

The most reasonable source of error appears to be in the assumption, made throughout the history of the fallout program, that the sampling stations, all land or island based, may be used to estimate the total fallout, correcting for variable annual rainfall, if desired. Inherent in this procedure is the assumption that the delivery rate of debris and fixation by the surface of the earth is approximately proportional to annual rainfall, within specified latitude bands. This assumption appears to be substantially valid for land masses, (18, 7). However no corroboration has been found for the vast area of the oceans. Bowen and Sugihara (19) suggested that much more fallout may occur per unit area on the sea, than on the land, perhaps because the sea surface collects and retains the material more efficiently. If we assume that some such mechanism exists which results in greater deposition per unit area over large water bodies, as compared to land masses in the same latitude region, then, taking into account the area of land and ocean we find that on the average the oceanic fallout need

only be about 1.5 times that per square mile of land to completely erase the anomaly. That is, if each square mile of ocean received 1.5 times the Sr-90 fallout which has been measured on the land in the same latitude band, then the total deposition would be increased by 33%, and the rate of stratospheric burden decrease would be equal to the surface inventory increase. This added efficiency for oceanic fallout does not seem to be unreasonable considering very qualitatively the differences in the properties of the two surfaces. Perhaps the seas are a sink for all particles which come into contact with the surface, thus the lower troposphere may be constantly cleansed over the oceans. This could be termed "dry fallout" since precipitation is not directly involved. The same effect would pertain if either the amount of rain or the concentration of Sr-90 in the rain, were proportionally higher than for the land areas. Cursory examination tends to eliminate both of these possibilities (20). In any case, it is suggested that a reasonable argument can be made for defining the oceans as a sub-compartment of worldwide deposition. The effect of this modification on the inventory budget, is to raise the Global Fallout inventory of Table 1 by 33% in each period. This is shown on Table 2.

From Table 2 it can be seen that the inventory now accounts for over 90% of the produced Sr-90 and in the most recent two years, over 95%. Further, the increasing trend of unaccounted for Sr-90 has largely disappeared. Prior to the end of 1962, the unaccounted portion seems to be randomly distributed with time, probably due to the errors inherent in the analyses, collection and computation of the inventories. The more consistent negative values subsequent to the test treaty suggest that perhaps the production figure was overestimated by 0.5 to 1 megacurie, or that this amount of Sr-90 reached such high altitudes that no measurable amounts have as yet fallen to below 100,000 feet.

In summary, this analysis has shown that the total budget of Sr-90 produced by nuclear weapons tests in the atmosphere can be essentially balanced by accounting for the deviation between the rate of stratospheric decrease and the rate of global fallout. The most likely explanation of the difference in these rates appears to be in the estimation of oceanic fallout. By assuming that the seas accumulate Sr-90 one and one-half times more efficiently than the land, per unit area, a satisfactory balance is made.

Presumably in the coming year, as data from air and rain samples collected at sea and the results of additional analyses of sea water now in process become available, the validity of this argument will be tested.

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TABLE 1

THE WORLDWIDE Sr-90 INVENTORY

(all values in MCi)

	Aug	Mar	Oct	Dec	Mar	Jul	Nov	Mar	Jul	Nov	Mar
	<u>1961</u>	<u>1962</u>	<u>1962</u>	<u>1962</u>	<u>1963</u>	<u>1963</u>	<u>1963</u>	<u>1964</u>	<u>1964</u>	<u>1964</u>	<u>1965</u>
Stratosphere	0.9	2.0	3.2	6.4	7.2	5.8	4.4	3.6	2.4	1.9	1.3
Troposphere	0.0	0.3	0.1	0.2	0.5	0.5	0.2	0.4	0.3	0.1	0.2
Local Fallout	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3
Global Fallout	4.1	4.8	5.7	5.9	6.2	7.4	8.2	8.6	9.5	9.8	10.1
TOTAL ACCOUNTABLE	7.5	9.6	11.4	14.9	16.3	16.1	15.2	14.9	14.5	14.1	13.9
AMOUNT PRODUCED	8.3	11.4	13.3	16.5	19.0	18.8	18.6	18.4	18.3	18.1	18.0
UNACCOUNTABLE	0.8	1.8	1.9	1.6	2.7	2.7	3.4	3.5	3.8	4.0	4.1

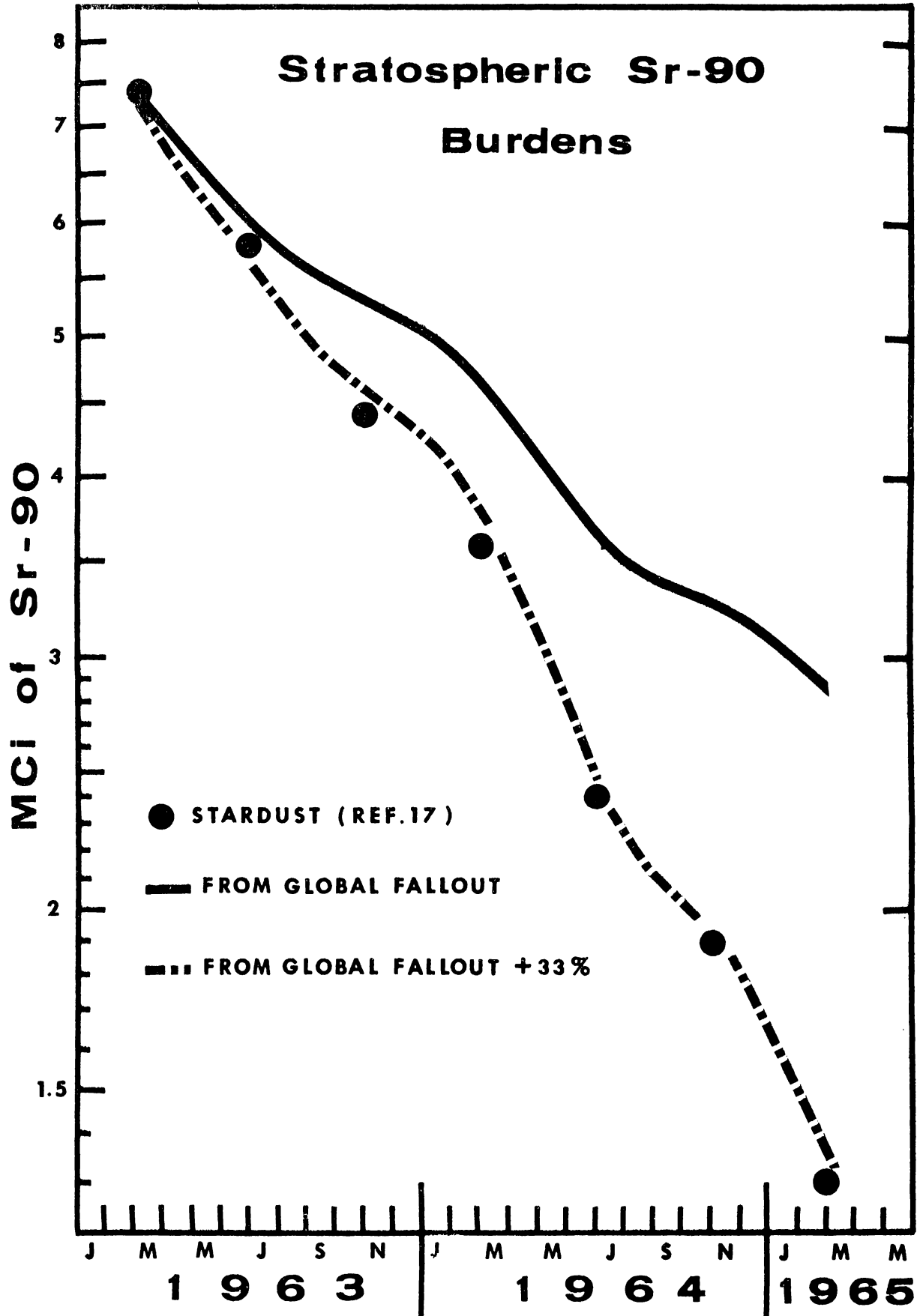
TABLE 2

THE WORLDWIDE Sr-90 INVENTORY

(all values in MCi)

	Aug	Mar	Oct	Dec	Mar	Jul	Nov	Mar	Jul	Nov	Mar
	<u>1961</u>	<u>1962</u>	<u>1962</u>	<u>1962</u>	<u>1963</u>	<u>1963</u>	<u>1963</u>	<u>1964</u>	<u>1964</u>	<u>1964</u>	<u>1965</u>
Stratosphere	0.9	2.0	3.2	6.4	7.2	5.8	4.4	3.6	2.4	1.9	1.3
Troposphere	0.0	0.3	0.1	0.2	0.5	0.5	0.2	0.4	0.3	0.1	0.2
Local Fallout	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3
Global Fallout	4.1	4.8	5.7	5.9	6.2	7.4	8.2	8.6	9.5	9.8	10.1
Additional Global Fallout	1.4	1.6	1.9	2.0	2.1	2.4	2.7	2.8	3.1	3.2	3.3
TOTAL ACCOUNTABLE	8.9	11.2	13.3	16.9	18.4	18.5	17.9	17.7	17.6	17.3	17.2
AMOUNT PRODUCED	8.3	11.4	13.3	16.5	19.0	18.8	18.6	18.4	18.3	18.1	18.0
UNACCOUNTABLE	0.6	0.2	0	0.4	0.6	0.3	0.7	0.7	0.7	0.8	0.8

FIGURE 1



Stratospheric Distribution of Pu-238 from the SNAP-9A Abort of April 1964

by Leonard P. Salter (HASL)

Plutonium-238 from the SNAP-9A abort of April 1964 was first detected in the stratosphere in high altitude balloon samples collected from 108,000 feet at 34°S in August 1964⁽¹⁾ and in the Northern Hemisphere in samples collected in January 1965. This report presents the latest data on plutonium isotopes and Sr-90 in balloon and aircraft stratospheric air samples analyzed under the supervision of the U. S. Atomic Energy Commission Health and Safety Laboratory (HASL), updating results reported previously⁽²⁾.

Results

Tables I to V present 1965 data for samples collected via balloon-borne filtering devices above 70,000 feet over Alaska (65°N), Minnesota (45°N), Texas (31°N), Panama (9°N), and Australia (34°S), and via aircraft below 70,000 feet. The data for 34°S also includes all results on samples obtained since the initial detection of SNAP-9A Pu-238 in August 1964.

The tables are arranged by latitude band, month of collection, and altitude. The total gamma activity, Pu-238, Pu-239 + Pu-240_a, and Sr-90 concentrations and the Pu-238/Pu-239+ ratios are given. The fraction of filter used when less than a whole sample was analyzed is given with the laboratory performing the analyses. These laboratories are identified as follows:

II	Isotopes, Inc.
TLW	Tracerlab, A Division of Laboratory for Electronics, Inc.
HASL	Health and Safety Laboratory

Standard deviations due to counting (S.D.) are less than 10% except for data appearing with the following notation:

B:	S.D. 10-20%
C:	S.D. 20-50%
D:	S.D. 50-100%

When the S.D. is greater than 100%, the data are reported as less than twice the S.D. ($< 2 \times \text{S.D.}$). Parentheses not otherwise explained by notes in the tables indicate data based on Pu-238 or Pu-239+ levels near the limit of detection. A "J" indicates assay has not been completed. Plutonium isotopes

a Pu-239 + Pu-240 is referred to as Pu-239+ throughout this report.

were assayed by alpha spectrometry and their recovery determined by the yield of a known amount of tracer Pu-236 added at the beginning of the chemical analysis. Many of the radiometric assays for plutonium in samples chemically analyzed at II were completed at HASL. Agreement on Pu-238 and Pu-239+ in plated plutonium samples counted at II and HASL indicates that the radiometric bias between laboratories is less than 5%.

For samples split prior to radiochemical analysis the radionuclide concentrations were calculated after correcting the total sample volume by the fraction of total gamma activity in the portion analyzed. This correction introduces an error of less than 5% in the concentrations.

Included in Tables I to V are several pairs of blind duplicate analyses which were performed on either two portions of the same sample or on two samples collected simultaneously. With the exception of the Pu-238 results on two samples in Table V, which will be discussed later, these data indicate that the reproducibility within laboratories and agreement between laboratories is generally adequate. A few of the Sr-90 results show a significant disagreement between TLW and II, although data for samples spiked with known amounts of mixed fission products and standardized Pu-239+ did not reveal a significant bias in the Sr-90 results from these laboratories. These standard samples results are given in Table VI. Several additional blank samples analyzed for Pu-238, Pu-239+ and Sr-90 by the three laboratories indicated a satisfactory level of sensitivity except for a few sporadically high Pu-239+ results reported by II.

Discussion

The presence of SNAP-9A debris in the stratosphere may be inferred from the Pu-238/Pu-239+ ratio given in the last column of Tables I to V. A value for the Pu-238/Pu-239+ ratio greater than 0.3 denotes Pu-238 probably attributable to SNAP-9A debris in the sample. A ratio below that observed in pre-August 1964 samples⁽²⁾ -- 0.1 for balloon samples, 0.05 for aircraft samples -- denotes the probable absence of SNAP-9A debris.

The results are summarized together with those reported earlier in Table VII. These data were obtained by applying to the observed Pu-238 concentration a small correction due to the Pu-238 background from nuclear weapons testing and normalizing to the total Pu-238 in the device. The correction for Pu-238 background was deduced from the pre-August 1964 data. A total Pu-238 yield of 17 kCi⁽³⁾ was used in converting to relative units. (The conversion factor is $1 \text{ dpm Pu-238}/10^3 \text{ SCF} = 2.7 \times 10^{-17}$ parts of the device per 10^3 SCF of air.)

As of mid-1965 the SNAP-9A Pu-238 appears to have spread throughout the stratosphere at 80,000 feet and above. Since the observed concentrations are comparable to those predicted by Harley⁽³⁾ and Machta⁽⁴⁾, it is apparent that burn-up into sub-micron particles did occur for a significant portion of the device.

Portions from each of three samples collected in the lower stratosphere of the Southern Hemisphere in January 1965 also indicated the possible presence of Pu-238 from SNAP-9A debris. For two of these samples, additional material was available and the high Pu-238 results were not verified by assay of a second and third fraction. This suggests that contamination may have occurred during analysis. A low concentration of larger particulates in the lower stratosphere could also account for the irregular presence of Pu-238 in these samples if only one or two particles were collected. The diameter of a single spherical PuO₂ particle which would contain all the Pu-238 observed in each of these samples (~8 dpm) is ~0.34 μ, or considerably larger than expected.

On the basis of the distribution of Pu-238 shown in Table VII and assuming that (1) the vertical transport of this material in the stratosphere is at the rate of 1.5 km per month⁽⁵⁾ and (2) stratospheric debris enters the troposphere predominantly during the hemispheric spring, SNAP-9A Pu-238 will first appear in fallout in the Southern Hemisphere in late 1965 or late 1966 and in the Northern Hemisphere in early 1966 or early 1967.

A consideration of the mixing of the SNAP-9A debris with the weapons debris now concentrated in the lower stratosphere suggests that Pu-238 may be the dominant plutonium isotope in surface air and deposition by the end of 1967, with Pu-238/Pu-239+ ratios of about 2 in the Northern Hemisphere and about 8 in the Southern Hemisphere. Since the Pu-239+ levels in fallout at that time should be lower than at present by a factor of 5, however, the SNAP-9A Pu-238 activity levels should not significantly exceed the current Pu-239+ levels.

References

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- (4) Machta, L., "Calculations of Pu-238 Concentrations from the SNAP-9A Burn-up," USAEC Report No. HASL-155, p.297, January 1, 1965.
- (5) List, R. J., Salter, L. P., and Telegadas, K., "Radioactive Debris as a Tracer for Investigating Stratospheric Motions," presented at the CACR Symposium on Atmospheric Chemistry - Circulation & Aerosols, in Visby, Sweden, August 18-24, 1965 (To be published).
- (6) Feeley, H., Insotopes, Inc., Private communication.
- (7) Volchok, H. L., Private communication.

TABLE I

ACTIVITY CONCENTRATIONS AT 65-70°N AND 45°N, JANUARY-JUNE 1965

<u>Latitude</u>	<u>Sampling Date 1965</u>	<u>Altitude (10³ ft)</u>	<u>Total γ Activity (cpm/10³SCF)</u>	<u>Lab</u>	<u>Activity Concentrations (dpm/10³SCF)</u>			<u>Pu-238</u>
					<u>Pu-238</u>	<u>Pu-239+</u>	<u>Sr-90</u>	<u>Pu-23</u>
70°N	Jan 11	60	372	½-II	0.16	4.6	J	0.04
65°N	Mar 31	58	380	½-II	0.14B	4.6	261	0.03B
65°N	Mar 31	66	331	½-II	0.13B	3.5	318	0.04B
70°N	May 3	62	282	½-II	(0.12C)	3.3	241	(0.04C)
65°N	May 10	78	154	II	0.46B	1.1	84	0.41B
65°N	May 13	91	117	II	2.9	0.7B	35	4.3
65°N	May 11	104	68	II	4.5	(0.4C)	lost	(12C)
65°N	May 15	105	70	HASL	5.8	(0.2B)	17	25B
65°N	Jun 5	77	132	II	0.51B	1.0	67	0.51B
65°N	Jun 6	90	96	II	2.5	0.7B	39	3.6B
65°N	Jun 4	102	(102) ^v	II	(8) ^{a/v}	(0.6C) ^{a/v}	J	(15C)
45°N	May 6	82	167	II	0.42B	1.6	77	0.27B
45°N	Apr 30	92	96	II	3.3	0.6B	27	5.1B
45°N	Apr 26	103	80	II	6.8	0.4B	35	17B

a/ dpm values based on assumed plutonium recovery of 80%.

v/ Concentration calculated from estimated volume data.

TABLE II

ACTIVITY CONCENTRATIONS AT 30-35°N, JANUARY-JUNE 1965

Sampling Date 1965	Altitude (10 ³ ft)	Total γ Activity (cpm/10 ³ SCF)	Lab	Activity Concentrations (dpm/10 ³ SCF)			Pu-238 / Pu-239+
				Pu-238	Pu-239+	Sr-90	
Jan 11	63	617	k-II	0.22	8.1	441	0.03
Jan 13	74	183	II	(0.15B)	2.0	131	(0.08B)
Jan 15	81	252	II	(0.15C)	2.3	127	(0.06C)
Jan 27	91	106	II	0.19B	0.8	32	0.22B
Jan 12	107	98B	II	3.3	(1.4) ^b	23	(2.3) ^b
Jan 10 ^c	109	105	II	4.8	0.6B	35	8B
Feb 14	79	188	II	(0.10C)	1.4	107	(0.07C)
Feb 22	89	98	II	0.81	0.7B	35	1.2B
Feb 15	(104) ^a	(65) ^y	II	(3.7) ^y	(0.4C) ^y	(18) ^y	(8C)
Mar 22	60	331	k-II	0.10B	4.6	235	0.02B
Mar 30	65	632	k-TLW	0.23B	8.3	484	0.03B
Mar 8	79	122	II	0.18B	0.8	57	0.15B
Mar 17	92	107	II	1.8	0.6B	35	3.5B
Mar 9	102	65	II	6.2	(0.3C)	22	(20C)
Mar 26	120	43B	II	8.9	0.6B	24	14B
Apr 21	80	193	II	0.13B	2.5	145	0.05B
Apr 15	92	94	II	7.8	1.2	29	6.7
		85	k-HABL	5.4	(0.3C)	J	(16C)
Apr 12	103	86	II	0.88B	0.5B	37	1.8B
Apr 22	119	(41C)	II	3.2	0.5B	J	6.5B
May 3	66	323	k-II	(0.16C)	4.0	278	(0.04C)
May 22	80	165	II	(0.2B) ^e	(4) ^e	J	0.04B
May 15	91	94	II	3.3	0.6B	38	5.3B
May 19	103	90	II	6.2	(0.3C)	28	(21C)
May 20	117	62	II	6.0	(0.7C)	J	(8C)
Jun 17	81	164	II	0.25B	1.6	J	0.16B
Jun 7	89	92	II	0.52	0.5	56	1.1
Jun 3	105	86	II	5.8	(0.4C)	26	(13C)
Jun 27	118	59	II	J	J	J	J

^a Sample may have been contaminated during descent by activity at lower altitudes.

^b High Pu-239+/Sr-90 ratio and high Pu-239+/Total γ ratio indicates possible Pu-239+ contamination of sample.

^c dpm values based upon an assumed plutonium recovery of 80%.

^y Concentration calculated from estimated volume data.

TABLE III

ACTIVITY CONCENTRATIONS AT 2-10⁰N, JANUARY-APRIL 1965

Sampling Date 1965	Altitude (10 ³ ft)	Total γ Activity (cpm/10 ³ SCF)	Lab	Activity Concentrations (dpm/10 ³ SCF)			Pu-238
				Pu-238	Pu-239+	Sr-90	Pu-239+
Jan 12	66	497	½-II	J	J	387	J
Jan 15	84	601	II	0.26B	6.4	379	0.04B
Jan 12	93	377	II	(0.11B)	3.4	277	(0.03F)
Jan 17	(105) ^a	(235) ^v	II	(0.61) ^v	(2.3) ^v	(138) ^v	0.27
Feb 23	79	573	II	0.22B	6.7	436	0.03B
Feb 21	88	250	II	(0.13C)	2.5	253	(0.05C)
Feb 15	103	110	II	0.76B	1.1	58	7B
Mar 16	58	76	¼-TLW	(0.03C)	1.0	61	(0.03C)
Mar 8	60	142	¼-II	J	J	123	J
Mar 14	90	342	II	J	J	274	J
Mar 13	104	119	II	0.53B	3.1	83	0.17B
Apr 19	66	309	1/8-II	(0.12C)	4.9	241	(0.02C)
Apr 12	79	461	II	0.25B	7.0	397	0.04B
Apr 10	89	324	II	(0.16C)	5.0	273	(0.03C)
Apr 9	103	136	½-TLW	(0.51C)	1.2B	94	(0.41C)
Apr 11	103	127	II	0.54B	1.8	96	0.30B

^a Sample may have been contaminated during descent by activity at lower altitudes.

^v Concentration calculated from estimated volume data.

TABLE IV

ACTIVITY CONCENTRATIONS AT 30-37°S, AUGUST 1964 - JUNE 1965

<u>Sampling Date</u>	<u>Altitude (10³ ft)</u>	<u>Total γ Activity (cpm/10³ SCF)</u>	<u>Lab</u>	<u>Activity Concentrations (dpm/10³ SCF)</u>			<u>Pu-238</u>
				<u>Pu-238</u>	<u>Pu-239+</u>	<u>Sr-90</u>	<u>Pu-2</u>
Aug 19, 1964	67	291	II	0.11B	1.8	124	0.06B
Aug 21	82	305	II	(0.12B)	2.0	lost	(0.06B)
Aug 11	92	183	II	(0.10C)	0.79	73	(0.13C)
Aug 26	108	132	II	1.1	0.58B	37	1.7B
Sep 30	68	270	II	(0.11C)	2.0	183	(0.06C)
Sep 29	82	160	II	(0.06D)	1.0B	88	(0.06D)
Sep 24	93	153	II	0.54	0.62	51	0.87
Sep 25	106	103B	II	11.2	0.37B	9	30
Oct 28	68	208	II	0.11B	1.7	124	0.06B
Oct 27	82	176	II	<0.11	1.7	98	0.07
Oct 19	92	137 144	II $\frac{1}{2}$ -II	5.8 7.3	0.8B (0.6C)	52 44	8B (13C)
Oct 22	106	133 83	II $\frac{1}{2}$ -HASL	24 18	0.8B (0.2D)	30 23	30B (100D)
Nov 20	62-69	199	II	(0.09C)	1.8	106	(0.05C)
Nov 17	84	128	II	(0.10B)	0.8	69	(0.13B)
Nov 10	94	121	II	4.3	0.5B	46	9B
Nov 12	106	110	II	23	0.4B	26	52B

TABLE IV (Contd.)

ACTIVITY CONCENTRATIONS AT 30-37°S, AUGUST 1964 - JUNE 1965

Sampling Date	Altitude (10 ³ ft)	Total γ Activity (cpm/10 ³ SCF)	Lab	Activity Concentrations (dpm/10 ³ SCF)			Pu-238
				Pu-238	Pu-239+	Sr-90	Pu-239+
Dec 16, 1964	67	209	II	(0.09B)	1.8	139	(0.05B)
Dec 10	79	149	II	0.14B	1.0	76	0.14B
Dec 9	87	119 116	II $\frac{1}{2}$ -HASL	16 15	0.7 (0.5D)	61 J	24 (30D)
Dec 5	101	89 92	II $\frac{1}{2}$ -HASL	7.1 5.4	(0.3C) (0.3C)	35 J	(24C) (18C)
Dec 15	102	78B	II	14	(0.8B) ^{a/}	19B	(19B) ^{a/}
Jan 22, 1965	74	133	II	(0.07B)	1.0	93	(0.07B)
Jan 26	81	132	II	0.28	1.0	77	0.28
Jan 19	88	126	II	4.3	1.0	59	4.3
Jan 27	89	109	$\frac{1}{2}$ -II $\frac{1}{2}$ -TLW	7.6 7.2	1.1B 0.7B	51 55	7B 11B
Jan 28	101	77B	II	20	(0.9) ^{a/}	28	(23) ^{a/}
Feb 2	55	97	$\frac{1}{4}$ -II $\frac{3}{4}$ -II	(0.04C) (0.04C)	1.2 1.5	78 88	(0.03C) (0.03C)
Feb 2	60	153	$\frac{1}{4}$ -II $\frac{3}{4}$ -II $\frac{1}{4}$ -II $\frac{3}{4}$ -TLW	(0.04C) (0.06C) 0.04B 0.05B	1.3 1.5 1.7 1.6	145 115 122 123	(0.03C) (0.04C) 0.02B 0.03B
Feb 2	65	207	$\frac{1}{4}$ -II $\frac{3}{4}$ -II	(0.07C) (0.08C)	2.2 2.3	172 196	(0.03C) (0.03C)
Feb 2	69	162	$\frac{1}{4}$ -II $\frac{3}{4}$ -II	(0.04C) (0.03C)	1.6 1.4	112 121	(0.03C) (0.03C)

^{a/} High Pu-239+/Sr-90 and Pu-239+/Total γ ratios indicate probable Pu-239+ contamination of sample.

TABLE IV (Contd.)

ACTIVITY CONCENTRATIONS AT 30-37°S, AUGUST 1964 - JUNE 1965

<u>Sampling Date</u>	<u>Altitude (10³ ft)</u>	<u>(cpm/10³SCF)</u>	<u>Lab</u>	<u>Activity Concentrations (dpm/10³ SCF)</u>			<u>Pu-238</u>
				<u>Pu-238</u>	<u>Pu-239+</u>	<u>Sr-90</u>	<u>Pu-239+</u>
Feb 16, 1965	81	166	½-II	(0.14C)	1.8B	134	(0.08C)
Feb 4	82	137	II	(0.08C)	1.3	92	(0.06C)
Feb 9	88	87	II	2.6	0.5B	41	5B
Feb 18	88	119	½-II ½-HASL	(0.25C) (0.15D)	1.1B 0.8B	94 87	(0.22C) (0.20D)
Feb 11	102	(65) ^{v/}	II	(9.3) ^{v/}	(0.9B) ^{a/v/}	(32) ^{v/}	(11B) ^{a/}
Feb 25	104	86	½-II	15.6	(3.8) ^{a/}	19	(4) ^{a/}
Mar 30	64	137	½-II	(0.03C)	1.1	73	(0.02C)
Mar 16	82	177	II	< 0.06	2.0	132	< 0.03
Mar 10	88	97	II	1.8	0.8B	48	2.3B
Mar 11	102	77	II	23	(0.4C)	27	(60C)
Apr 13	82	122	II	1.2	1.4	65	0.88
Apr 8	90	108 95	II ½-HASL	23 21	0.6B (0.4C)	70 J	37B (50C)
Apr 6	105	106	II	14	0.4B	24	36B
May 6	80	129	II	0.25	1.1	94	0.22
May 4	89	170 161	II ½-HASL	< 0.07 (0.32C)	1.9B 1.4	160 J	< 0.04 (0.22C)
Jun 16	90	92	II	3.1	0.8	J	3.8
Jun 23	106	93	II	0.64	0.5B	39	(1.2B)

^{a/} High Pu-239+/Sr-90 and Pu-239+/Total γ ratios indicate probable Pu-239+ contamination of sample.

^{v/} Concentration calculated from estimated volume data.

TABLE V

ACTIVITY CONCENTRATIONS AT 15-30°S AND 38-47°S FROM JANUARY 1965

Latitude	Sampling Date 1965	Altitude (10 ³ ft)	Total γ Activity cpm/10 ⁻³ SCF	Lab	Activity Concentrations (dpm/10 ⁻³ SCF)			Pu-238 / Pu-239+	
					Pu-238	Pu-239+	Sr-90	Pu-238	Pu-239+
15-23°S	Feb 2	55	29	$\frac{1}{2}$ -II (0.02C)	(1.2) ^{a/}	25	(0.01C) ^{a/}		
				$\frac{1}{2}$ -TLW (0.01C)	0.3	21	(0.04C)		
	Feb 2	60	132	$\frac{1}{2}$ -II (0.03C)	2.0	139	(0.02C)		
				$\frac{1}{2}$ -TLW 0.05B	1.6	105	(0.03B)		
	Feb 2	65	173	$\frac{1}{2}$ -II 1.8	2.2	161	0.83		
				$\frac{1}{2}$ -II (0.07C)	2.8	167	(0.02C)		
				$\frac{1}{2}$ -TLW 0.08B	1.9	136	0.04B		
	Feb 2	67	178	$\frac{1}{2}$ -II (0.06C)	2.4	190	(0.03C)		
				$\frac{1}{2}$ -HASL 1.4	2.5	178	0.56		
				$\frac{1}{2}$ -TLW (0.06C)	2.2	153	(0.03C)		
	23-30°S	Feb 2	55	85	$\frac{1}{2}$ -II (0.03C)	1.0	67	(0.03C)	
					$\frac{1}{2}$ -TLW 0.03B	0.8	65	0.04B	
Feb 2		60	157	$\frac{1}{2}$ -II 0.06B	1.9	142	0.03B		
				$\frac{1}{2}$ -TLW (0.06C)	2.1	172	(0.03C)		
Feb 2		65	171	$\frac{1}{2}$ -II 0.06B	1.8	133	0.03B		
				$\frac{1}{2}$ -TLW (0.08C)	2.9	223	0.04B		
38-41°S	Jan 28	55	145	$\frac{1}{2}$ -TLW 0.07B	1.4	116	0.05B		
				$\frac{1}{2}$ -TLW 0.06B	1.6	115	0.04B		
	Jan 28	60	193	$\frac{1}{2}$ -II (0.06C)	2.0	122	(0.03C)		
				$\frac{1}{2}$ -II (0.09C)	2.2	107	(0.04C)		
	Jan 28	67	181	$\frac{1}{2}$ -II (0.07C)	2.3	126	(0.03C)		
				$\frac{1}{2}$ -TLW (0.44) ^{b/}	(0.7) ^{b/}	(37) ^{b/}	0.64		
	41-44°S	Jan 28	55	166	$\frac{1}{2}$ -II (0.05C)	1.9	114	(0.03C)	
					$\frac{1}{2}$ -TLW (0.03C) ^{c/}	(1.8) ^{c/}	134	(0.02C)	
		Jan 28	60	190	$\frac{1}{2}$ -II (0.03C)	1.8	122	(0.02C)	
					$\frac{1}{2}$ -TLW (0.07C)	1.4	120	(0.05C)	
Jan 28		65	191	$\frac{1}{2}$ -TLW (0.08C)	1.4	112	(0.06C)		
				$\frac{1}{2}$ -II (0.05C)	2.0	110	(0.02C)		
44-47°S	Jan 28	55	166	$\frac{1}{2}$ -II (0.05C)	1.8	148	(0.03C)		
				$\frac{1}{2}$ -II (0.07C)	2.0	125	< 0.04		
	Jan 28	60	174	$\frac{1}{2}$ -II (0.05C)	2.0	129	(0.02C)		
				$\frac{1}{2}$ -II (0.08C)	1.4	115	(0.06C)		
	Jan 28	65	187	$\frac{1}{2}$ -II (0.06C)	1.8	113	(0.03C)		
				$\frac{1}{2}$ -II < 0.04	1.4B	82	< 0.04		
	Jan 28	70	173	$\frac{1}{2}$ -II (0.06C)	1.2	108	(0.05C)		
				$\frac{1}{2}$ -HASL (0.06C)	1.2	108	(0.05C)		
43°S	Mar 10	60	137	$\frac{1}{2}$ -TLW (0.04C)	1.5	104	(0.03C)		
40°S	May 4	60	116	$\frac{1}{2}$ -II (0.04C)	1.2	100	(0.03C)		

^a High Pu-239+/Sr-90 and Pu-239+/Total γ activity ratio indicates probable Pu-239+ contamination of sample.

^b Relatively low Total γ activity, Pu-239+ and Sr-90 concentration indicates volume data probably in error.

^c Calculated from estimated plutonium recovery of 80%.

TABLE VI

ANALYSIS OF SPIKED FILTER PAPER SAMPLES

<u>Lab</u>	<u>Pu-239+</u>			<u>Sr-90</u>		
	<u>Added</u> <u>(dpm)</u>	<u>Found</u> <u>(dpm)</u>	<u>Found</u> <u>Added</u>	<u>Added</u> <u>(dpm)</u>	<u>Found</u> <u>(dpm)</u>	<u>Found</u> <u>Added</u>
II	6.9	7.7	1.12	65	60	0.92
	21.0	22.6	1.08	288	283	0.98
	8.7	8.8	1.01	199	187	0.94
	7.3	8.9	1.22	200	229	1.15
	0	0.14C	-	145	166	1.14
TLW	5.0	6.0	1.20	73	70.9	0.97
	30.0	31.2	1.04	259	255	0.98
	7.6	8.1	1.07	200	186	0.93
	0	<0.10	-	138	124	0.90
HASL	9.8	10.4	1.06	206	205	0.99
	0	0.07D	-	141	141	1.00

TABLE VII

RELATIVE SNAP-9A Pu-238 CONCENTRATIONS
(10^{-18} parts of device per 10^3 SCF)

	ALT (10^3 ft)	1964		1965										ALT (km)	
		July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June		
65-70°N	110											45°N			35
	100	<3	<3									180	120,160	200	30
	90	<3	<3			<3						90	80	70	25
	80	<3	<3			<3						10	12	14	25
	70														20
	60										<3		<3		20
30-35°N	120									250		90		160	35
	110	<3	<3			<3, <10	<3	130							35
	100				<3	<3		90	90			30	170	160	30
	90	<3	<3	<3	<3		<3	4	20	50	180*	90	14		25
	80	<3	<3	<3	<3	<3	<3	<3	<3	3	<3	<6	5		25
	70														20
	60	<3	<3		<3	<3	<3				<3		<3		20
2-10°N	110							15	20	10	10,10				35
	100				<3			<3							30
	90				<3			<3	<3			<3			25
	80				<3			<3		<3		<3			25
	70														20
	60										<2				20
29-43°S	110		30												35
	100	<3		300	600*	600		200*, 400	500	400	250	600	400	17	30
	90	<3	<3	15	160*	120		400*	120, 200*	70, <10*	50	600*	<10*	100	25
	80	<3	<3	<3	<3	<4			5	<3*	<2	30	6		25
	70				<3				<3						20
	60	<3	<3		<3	<3				<3*	<2		<2	<2	20

* Average of two sample analyses.

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The Half-Time of ^{137}Cs in Man

by T. F. McCraw - (AEC, HQ)

Preface

As a part of participation in the Federal Radiation Council Working Group and the Ad Hoc Panel on Strontium and Cesium Radionuclides that developed Report No. 7, the available material and data on the half-time of ^{137}Cs in man were reviewed. The purpose of this effort was to collect data on measured values of ^{137}Cs half-time that could be employed, together with other material, to support the use of an assumed value of biological half-life in whole body and bone marrow dose calculations.

This report presents (1) the collected data on measured values of ^{137}Cs half-time in man, (2) a suggested model for expressing ^{137}Cs half-time as a function of age and (3) estimates of doses and body burdens for a given intake of ^{137}Cs and for intake of ^{137}Cs in milk using an assumed pattern of milk consumption by various ages.

Introduction

One important consideration in determining whole body and bone marrow radiation dose to an exposed population from internal ^{137}Cs is the effective half-time of this radionuclide in man. Should there be a different biological half-time for ^{137}Cs in various age groups within a population and an effective half-time* which varies as a function of age, it will be necessary to consider this factor in determining doses to the population and in determining which age group in the population will receive the highest exposure from a contaminating event. The purposes of this report are:

1. To present the available data on observations by various investigators of biological half-time of ^{137}Cs in man.
2. To develop a model relating half-time and age.
3. To apply the model with assumed values of intake of ^{137}Cs .

Available Data

The symbol T_b will be used to represent the biological half-time of ^{137}Cs in man. Where possible, the range of observed values for each group of individuals studied is included.

*For ^{137}Cs in man, the radiological half-time is so long, about 11,000 days, and the biological half-time is so short, of the order of 100 days or less, that for purposes of this report, the effective half-time can be considered equal to the biological half-time.

<u>Group</u>	<u>Age (years)</u>	<u>T_b (days)</u>	<u>Range (days)*</u>	<u>Reference</u>
1 girl	6	34	--	Rundo & Taylor (1)
1 girl	8	39	--	Rundo & Taylor (1)
children	<16	50	--	Rundo & Taylor (1)
limited data	all ages	105	std. deviation	Rundo & Taylor (1)
small group	adults	74	35%	Miettinen et al. (2)
9	18-22	68	--	Miettinen et al. (2)
50 men	16-75	64	±10	Miettinen et al. (2)
33 women	17-76	65.5	±10	Miettinen et al. (2)
17 boys	10-14	44	±10	Miettinen et al. (2)
Eskimos	adults	100	--	Hansen et al. (3)
20 males	30-40	81	48 in summer	Boni (4)
4 children	8-15	1/2 the value	119 in winter	Boni (4)
Marshallese people		70	--	(5)
10	normal subjects	1 ^{1/}	0.8-1.2	Rundo et al. (6)
		89 ^{2/}	58-129	Rundo et al. (6)
4	men	--	109-149	Rundo et al. (6)
1	adult	53 (in 1959)		Rundo et al. (6)
		55 (in 1961)		Rundo et al. (6)
1	adult	94	--	Rundo et al. (6)
1	adult	136	--	Rundo et al. (6)
average value		110	--	Rundo & Newton (7)
average value		140	--	Anderson et al. (8)
2	adults	110 ^{3/}	--	Rundo (9)
3	adults	115 ^{3/}	110-119	Rundo (9)
1	adult	74 ^{3/}	--	Rundo (9)
1	adult	144 ^{3/}	--	Rundo (9)
2	adults	60 ^{3/}	57-63	Rundo (9)
4	adults	135 ^{3/}	110-147	Rundo (9)
1	adult	150 ^{3/}	--	Rundo (9)
4	adults	122 ^{3/}	109-148	Rundo (9)
5	adults	75 ^{3/}	54-114	Rundo (9)
4	adults	109 ^{3/}	79-123	Rundo (9)
10	adults	89 ^{3/}	58-129	Rundo (9)
6	adults	145 ^{4/}	--	Rundo (9)
2	adults	125 ^{4/}	92-157	Rundo (9)
1	adult	188 ^{4/}	--	Rundo (9)
91	adults	110 ^{4/}	--	Rundo (9)
2	adults	56 ^{4/}	53-60	Rundo (9)
5	adults	98 ^{4/}	86-112	Rundo (9)
2	adults	170 ^{4/}	140-200	Rundo (9)
3	adults	97 ^{4/}	53-140	Rundo (9)

*The uncertainty in the measurement is given, when available, where data are presented for one subject.

- 1/ Small fraction eliminated.
- 2/ Major fraction eliminated.
- 3/ Body radioactivity measurement.
- 4/ Excretion or dietary analysis.

<u>Group</u>	<u>Age (years)</u>	<u>T_b (days)</u>	<u>Range (days)*</u>	<u>Reference</u>
1	adult	71 ^{4/}	--	Rundo (9)
10	adults	76 ^{4/}	--	Rundo (9)
3	adults	99	76-126	Jordon et al. (10)
1	adult	81	--	Miller (11)
1	adult	95	--	Miller (11)
1 woman-IS	22	69	+4	Bengtsson et al. (12)
		65	+5 ^{5/}	Bengtsson et al. (12)
1 woman	26	73	+10	Bengtsson et al. (12)
1 woman-EB	23	32	+2	Bengtsson et al. (12)
1 infant of IS	12 days	21	+5	Bengtsson et al. (12)
1 infant of EB	2 days	25	+3	Bengtsson et al. (12)
1 infant	early infancy	9.6	--	Rundo (13)
1 infant	early infancy	6.6	--	Rundo (13)
12	adults	91	+18	Leroy et al. (14)
1 infant	17 days	13	--	Pendleton et al. (15)
1 infant	24 days	33	--	Pendleton et al. (15)
1 infant	36 days	21	--	Pendleton et al. (15)
1 infant	86 days	18	--	Pendleton et al. (15)
1 infant	143 days	12	--	Pendleton et al. (15)
1 child	5	29	--	Pendleton et al. (15)
1 child	5	43	--	Pendleton et al. (15)
1 child	9	40	--	Pendleton et al. (15)
1 adult	21	108	--	Pendleton et al. (15)
1 adult	23	100	--	Pendleton et al. (15)
1 adult	24	77	--	Pendleton et al. (15)
1 adult	31	76	--	Pendleton et al. (15)
1 adult	33	101	--	Pendleton et al. (15)
1 adult	33	121	--	Pendleton et al. (15)
1 adult	35	131	--	Pendleton et al. (15)
1 adult	33	94	--	Pendleton et al. (15)
1 adult	35	108	--	Pendleton et al. (15)
1 adult	46	84	--	Pendleton et al. (15)
1 adult	49	136	--	Pendleton et al. (15)
1 adult	51	73	--	Pendleton et al. (15)
1 adult	52	101	--	Pendleton et al. (15)
3	elderly women	3.3 (fast component)	+2.0	Maletskos et al. (16)
		57 (slow component)	+17	Maletskos et al. (16)
2	elderly men	2.2 (fast component)	+1.4	Maletskos et al. (16)
		69 (slow component)	+16	Maletskos et al. (16)

*The uncertainty in the measurement is given, when available, where data are presented for one subject.

^{4/} Excretion or dietary analysis.

^{5/} Ten months later.

Discussion on Data

Rather than present individual measurements of T_b for each subject, many investigators have reported an average value with an indication of the range of observed values. Considering the lower limits of the range of values for "adults" (unweighted for number of subjects) for all investigators where a range was given, the average value for the lower limits is about 78 days. The average value for the upper limits is about 122 days, and the over-all average is about 98 days for these data.

The unweighted mean of the "Body Radioactivity Measurements and Excretion or Dietary Analysis" data from Rundo's summary is 110 days. The "Body Radioactivity Measurements" give an unweighted mean of 108 days. The "Excretion or Dietary Analysis" data give an unweighted mean of 114 days. Thus, the two techniques appear to give results which are in close agreement.

The data collected on T_b for groups of subjects are presented graphically in Figure 1. Also, plotted are individual values for six and eight year old girls and for two infants, by Rundo, and values for three young women and two infants, by Bengtsson, Naversten and Svensson. In order to display the data for "adults", it has been assumed that this age group consists of those about 20 to 25 years of age and older, and the elderly are assumed to be over 60 years of age.

From the data presentation and from Figure 1, it is seen that much of the data on T_b are for "adults", and that investigators have reported values, for adult groups, of about one day for a small fraction of the ^{137}Cs intake (about 10 per cent) and values between about 60 and 180 days for the major portion of the intake. While part of the difference in values from various investigators may lie in the realm of factors of instrumentation, calibration, laboratory technique, etc., the measured values generally appear to represent real differences among individuals. The range of values obtained by a single investigator for a group of subjects must involve many biological and environmental factors for which there is little information. No attempt will be made to identify these factors except for the possible influence of age on the biological half-time of ^{137}Cs in man. (Age may be an indirect factor.)

The data are meager, but Figure 1 suggests that the value of T_b for those groups under about 20 to 25 years of age decreases with age, and that T_b may be as low as six to seven days for infants a few days old. For the four infants in Figure 1, the average value is about 15 days which agrees with Pendleton's average of 19 days for five infants.

One additional feature in the data is possibly significant. For the age groups reported, no investigator (for the available reports) has reported a value of T_b greater than 70 days for groups under 25 years of age or a value for groups less than about 50 to 60 days for those over 25 years of age.

Guarded statements by some investigators indicate reservation in specifying trends in the data, such as relationships between T_b and age, sex, or species. Rundo has said, "If there is a change of half-life with age then it presumably starts at birth and increases steadily until adulthood is reached."¹ Other investigators indicate a stronger support for a

relationship between T_b and age. Bengtsson et al. state, "The results also confirm that biological half-time for cesium increases with age."¹² Onstead et al. report that in their studies involving more than 6,000 individuals, ". . . our findings suggest that, within a single species, biological half-life is dependent on age."¹⁷

In referencing the use of 100 days for the biological half-life of cesium in man, the December 1964 report to the Federal Radiation Council by the National Academy of Science Advisory Committee, entitled, "Implications to Man of Irradiation by Internal Deposited Strontium-89, Strontium-90, and Cesium-137",¹⁸ contains the following:

"This value is almost certainly too large for children, perhaps by a factor of three to five."

The Federal Radiation Council, in its Report No. 7,¹⁹ stated:

"The data for persons younger than 25 years suggest that the biological half-life before maturity may be a function of age. Biological half-lives of about 20 days or less have been reported for infants. For this report a value of 30 days is used as the biological half-life of cesium-137 in infants."

A value of 30 days for infants appears to be a conservative assumption since the available data for infants show values close to, but below, this value.

Boni's value of 81 days, which is applicable for adults 30 to 40 years of age, is in close agreement with the average value of the lower limit for adults for all investigators of 78 days. However, there is little data for ages within the category specified as "adults" to determine if there is a trend of change in T_b as a function of age above about 25 years. The average value for adults for all investigators, those that specified a range of values and those that did not, is 101 days. The most data for an early study for all ages in a population group are for the Marshallese people with a value of 70 days reported.⁵

The data of Miettinen suggest an average value of about 70 days for the ages 16 through 75 years. Lists of "age limits" indicate most of these individuals were less than 50 years of age. Whether the inclusion of individuals of ages down to 16 years has the effect of lowering the average value of T_b for these groups compared to data on groups of "adults" presented by Rundo and Hansen and others, is not known. Possibly other biological and environmental factors are more important.

Model Development

Considering the available values of T_b for the entire range of ages in the population, the trend that is suggested for T_b and age may be presented graphically. The solid line in Figure 2 is drawn to account for the apparent rapid change of T_b with age for those less than about 25 years of age, to provide an average value of about 80 days for younger adults as suggested by Boni's measurements, and to provide an average value for adults over 25 years of age of about 100 days. Considering all age groups, the solid line in Figure 2 develops an average T_b for all ages of about 75 days.

The three segments of Figure 2 may be approximated by:

$$T_b = 12.8 (X^{1/2} + e^{-X}) \quad (1)$$

where:

X = age in years.

The dashed curve in Figure 2 shows that the fit is good for all ages. While this expression does not provide for estimating effective half-times of ^{137}Cs for individuals, it does provide a close approximation to averages of measured values of ^{137}Cs retention for groups of subjects.

Equation (1) may be combined with the equation in FRC Report No. 7¹⁹ that relates dose to whole body and bone marrow in rads to intake of ^{137}Cs to form a generalized expression that includes the age of various groups within an exposed population:

$$D = \frac{I_t}{W} \times 0.03 \times 1.44 \sqrt{12.8 (X^{1/2} + e^{-X})}$$

$$D = 0.55 \frac{I_t (X^{1/2} + e^{-X})}{W} \quad (2)$$

where:

D = total dose in rads,
 I_t = total intake in microcuries of ^{137}Cs ,
 W = body weight in kilograms,
 and X = age of exposed group in years.

This equation applies where it can be assumed that body weight, W, does not change significantly during exposure.

If the intake of concern is through the dietary pathway of pasture-cow-milkman, the total intake of ^{137}Cs for an acute contaminating event can be expressed in terms of the maximum daily intake. (See "Estimates of the Concentration of Strontium-89, Strontium-90, and Cesium-137 in Milk as a Function of Time", Report of Special Ad Hoc Committee of Federal Radiation Council, Rad. Health Data, July 1965.)

$$I_t \approx 32 I_m \quad (3)$$

For the case of a single acute deposition of ^{137}Cs on pasturage, the total dose may be estimated from:

$$D = \frac{17.6 I_m (X^{1/2} + e^{-X})}{W} \quad (4)$$

Where I_m is the maximum daily intake of ^{137}Cs in milk in microcuries at the time of the maximum concentration, and D is the total dose in rads. For those less than about 10 years of age, most of this dose will have been received within about one year.

Model Application - Dose Estimates

Figure 3 gives an approximation of average body weights in kilograms from birth to 80 years. The average values of body weight for various ages are generally not the same for male and female, however, the differences in weight are not large. For these body weights and using the generalized expression for dose (2), Figure 4 presents the total whole body and bone marrow dose as a function of age for a total intake of 1.0 microcurie of ^{137}Cs . The doses in Figure 4 would also be obtained using equation (4) and a maximum daily intake of ^{137}Cs in milk of 1/32 microcurie or 31 nanocuries from an acute deposition of ^{137}Cs .

Figure 4 indicates that with the use of this model for biological half-time, the highest and lowest doses for all ages from a given intake of ^{137}Cs differ by a factor of about two. This occurs even though body weights vary by a factor of about 20, and biological half-times vary by a factor of about 10. For the younger ages, those less than one year of age receive the highest dose. Those 70 to 80 years of age may receive a comparable dose.

Again, if one assumes that the dietary item of interest is whole milk, the doses in Figure 4 can be modified by a pattern of intake for milk. Table 1 presents data on average at-home milk consumption as a function of age. Values of average consumption in Table 1 were developed from a percentage distribution of milk intake by age. (See Radiological Health Data, January 1963.) This study of at-home milk consumption was conducted throughout the United States in July 1962. Since the study did not include consumption of whole milk outside the home, consumption may be underestimated for those ages consuming whole milk away from home. Table 1 also presents the average consumption by each age group relative to consumption by males less than one year of age (the intake normalization factor). The average consumption for males less than one year of age is seen to be 17.8 ounces per day. This is approximately one-half liter per day (16.9 oz/day).

The doses in Figure 4, averaged for each age group, have been modified by the normalization factors in Table 1 to illustrate the effects that a pattern of milk consumption may have on dose. The results are shown in Figure 5.

The influence of the pattern of milk consumption in Table 1 is to reduce the average doses for most ages relative to the doses in Figure 4.

The sex related differences in milk consumption cause males to receive higher average doses than females for all ages. The difference in dose between ages receiving the highest and lowest values is a factor of about four for male and about five for female, and males less than one year of age receive the highest dose.

The yearly dose that would be received by various age groups from a continuing daily intake of ^{137}Cs may be estimated by determining the average ^{137}Cs body burden during the year and using the following:

$$D = \frac{B/W}{85.7} \quad (5)$$

where:

D = dose in rads per year,
B = average body burden in nanocuries,
and W = body weight in kilograms.

The determination of average body burden for a continuing intake of ^{137}Cs is described in the following section. (See equation (9) and Figure 7.)

Model Application - Body Burden Estimates

For acute ingestion of ^{137}Cs (ingestion over a period of a few days), estimated average body burdens can be determined as a function of time after ingestion for the exposed population from:

$$B_t = \frac{B_0}{1000} e^{-.693 t/T_b} \quad (6)$$

where:

B_t = body burden in nanocuries,
 B_0 = initial body burden,
= total intake in picocuries assuming 100%
absorption,
t = time after ingestion in days,
 T_b = biological half-time in days,
and $T_b = 12.8 (X^{1/2} + e^{-X})$ where X is age in years.

Conversely, for acute ingestion, the total intake can be estimated for various age groups if their average body burdens are known at some time after ingestion.

For ingestion of ^{137}Cs that decreases with time, average body burdens within the population may be estimated as a function of time from:

$$B_t = \frac{R_0}{1000 (\lambda_i - \lambda_b)} (e^{-\lambda_b t} - e^{-\lambda_i t}) \quad (7)$$

where:

B_t = body burden in nanocuries,
 R_0 = initial rate of intake in picocuries per day,
 λ_b = biological decay constant = $.693/12.8 (X^{1/2} + e^{-X})$,
 λ_i = intake decay constant = $.693/T_i$,
and t = time after initial intake in days.

FRC Report No. 7¹⁹ indicates that for an acute deposition on pasturage, the total ^{137}Cs intake from milk may be 32 times the maximum concentration. The portion of the total intake occurring prior to maximum concentration is about 16 per cent of the total intake. The intake occurring after maximum concentration is about 27 times the maximum. Therefore, 27 days may be considered the mean time of ^{137}Cs in milk following maximum concentration. The half-time for intake after maximum concentration is:

$$T_i = 27 \times 0.693 \approx 18 \text{ days}$$

For acute deposition of ^{137}Cs on pasturage utilized by dairy cows, it has been estimated that the maximum concentration in milk will occur about six days following deposition. The average body burden for various ages resulting from such changing levels in milk may be approximated by:

1. Assuming total milk intake prior to maximum concentration is an acute intake using equation (6).
2. Assuming an additional intake using the maximum daily intake as R_0 in equation (7).

The estimated body burden from milk consumption will be the burden from equation (6), plus the burden from equation (7). Contributions to total body burden from other contaminated foods will be additive. Figure 6 presents the body burden for males one year of age, for an acute deposition on pasturage, where the maximum concentration of ^{137}Cs in milk reached a level of 2,000 picocuries per liter. Figure 6 indicates that maximum burden will be reached in about 25 days for this age group.

Other assumptions regarding the pattern of milk consumption versus age may apply for various portions of the United States population. Body burdens for the milk consumption pattern in Table 1 may be underestimated for the ages consuming quantities of milk away from home.

For a continuing intake of ^{137}Cs (intake that occurs over a period of years), estimates of average body burdens within a population can be developed from the following:

$$B = R T_m A_f / 1000 \quad (8)$$

where:

B = body burden in nanocuries,
 R = intake of ^{137}Cs in picocuries per day,
 T_m = biological mean time in days,
and A_f = absorption factor, assumed to be 1.0.

With biological mean time expressed as a function of age, equation (8) becomes:

$$B = 0.018 R (X^{1/2} + e^{-X}) \quad (9)$$

where X is age in years.

Equation (9) may be used, for example, to estimate the average body burdens of ^{137}Cs in the United States population from milk consumption. Radiological Health Data, April 1964 and April 1965, contain average values of ^{137}Cs found in United States milk supplies by the U. S. Public Health Service pasteurized milk surveillance program for calendar years 1963 and 1964. The average network values are 114 and 109 picocuries per liter, respectively.

These data indicate that the average level of ^{137}Cs in United States milk supplies has decreased slowly over the past two years. Considering the small

change in these levels, it can be assumed that the various age groups in the population are in equilibrium with the ^{137}Cs levels in milk they consume for the portion of their body burden due to milk intake, and their average body burdens for 1964 may be determined from an average value of daily ^{137}Cs intake.

If it is assumed that milk ingestion for males less than one year of age resulted in an average intake of 55 picocuries per day during 1964, and using the normalization factors in Table 1 to estimate milk consumption by other age groups in the population, estimated body burdens may be determined from equation (9). The resulting values are shown in Figure 7.

The dose to males less than one year of age from at-home milk consumption, using equation (5), is about 0.002 rad or 2.0 millirads in 1964. The point should be stressed that these estimates apply only to that portion of the ^{137}Cs body burdens of the United States population due to milk consumption at home. The contribution to body burden and whole body dose from milk consumption outside the home and from other items of the diet are additive.

For ^{137}Cs in United States milk supplies, estimates of ^{137}Cs body burden in Figure 7 indicate that males 15 to 20 years of age had the highest levels; those less than one year of age, male and female, had the lowest levels; and females of all ages had a lower average level than males of the same age.

Summary

The observations of biological half-time for ^{137}Cs in man indicate that half-time is a function of age. The average biological half-times for ^{137}Cs from birth through adult life vary by a factor of about 10. A simple mathematical expression has been presented which relates half-time of retention of ^{137}Cs and age. Though the model is crude, it has utility in predictions of doses and body burdens from ^{137}Cs for various ages within an exposed population. Additional measurements of ^{137}Cs retention are needed, particularly for younger age groups, to further refine the model and to improve prediction capability. More data are also needed for the elderly.

The combination of changes in half-time and body weight results in a dose variation, for a given ^{137}Cs intake, from birth through adult life, of a factor of about two. The addition of assumptions regarding patterns of milk intake as a function of age and resultant ^{137}Cs intake leads to a different distribution of dose with age than is found for a fixed intake for all ages. For the assumed pattern of intake of ^{137}Cs in milk, the dose varies within the range of ages from birth through adult life by a factor of four to five, with males less than one year of age receiving the highest dose.

For an acute contaminating event, the time of maximum ^{137}Cs body burden is a function of age. Maximum body burdens from milk consumption may occur in about 20 days after an acute contaminating event for those expected to receive the highest dose; i.e., those less than one year of age.

It is estimated that for a long term slowly changing intake of ^{137}Cs , such as occurred from use of fresh whole milk supplies by the United States population in 1964, males 15 to 20 years of age had the highest body burdens; those less than one year of age, male and female, had the lowest body burdens; and females of all ages had lower body burdens than males of the same age.

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Biological Half-Time Versus Age

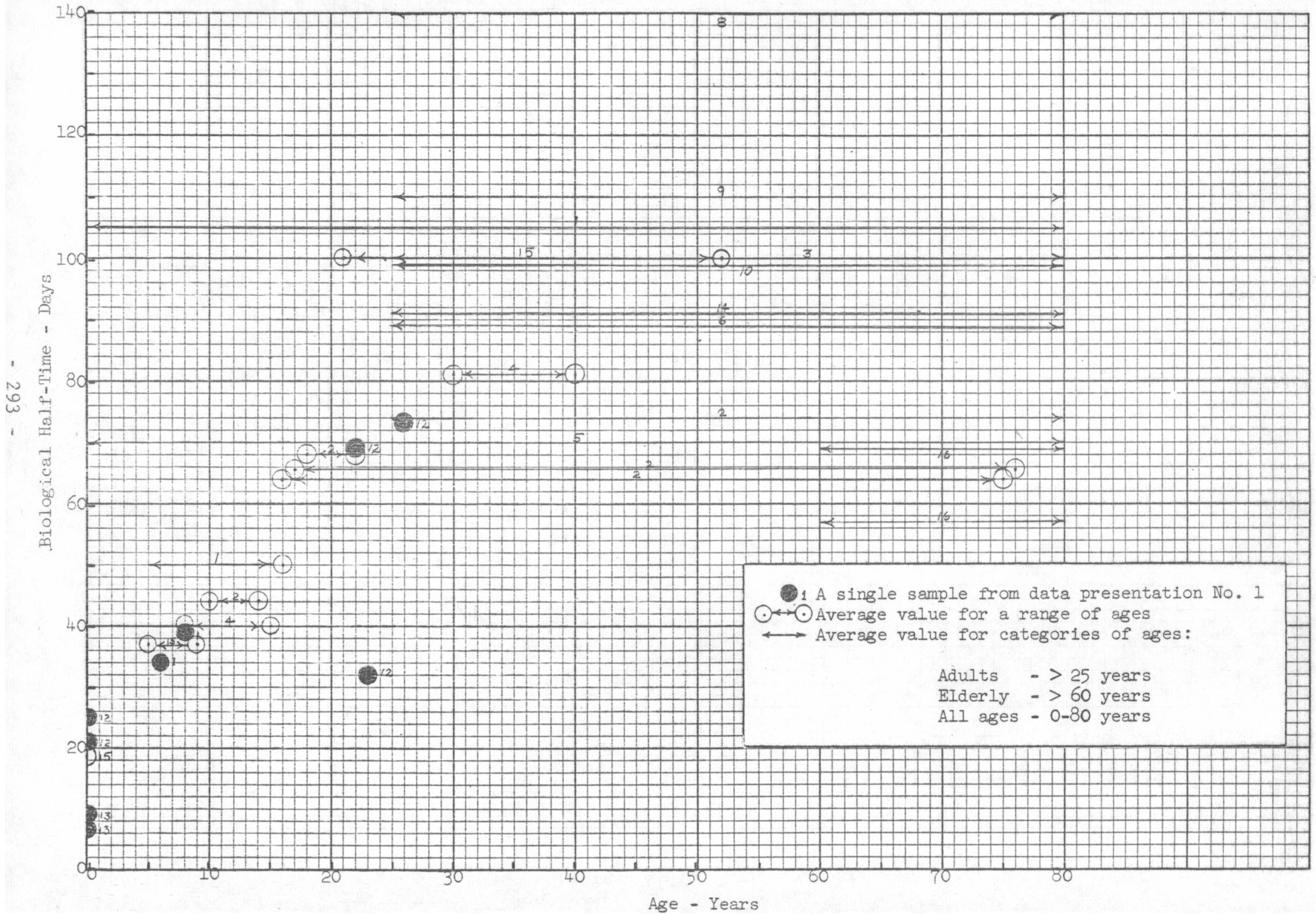


Figure 2

Biological Half-Time Versus Age

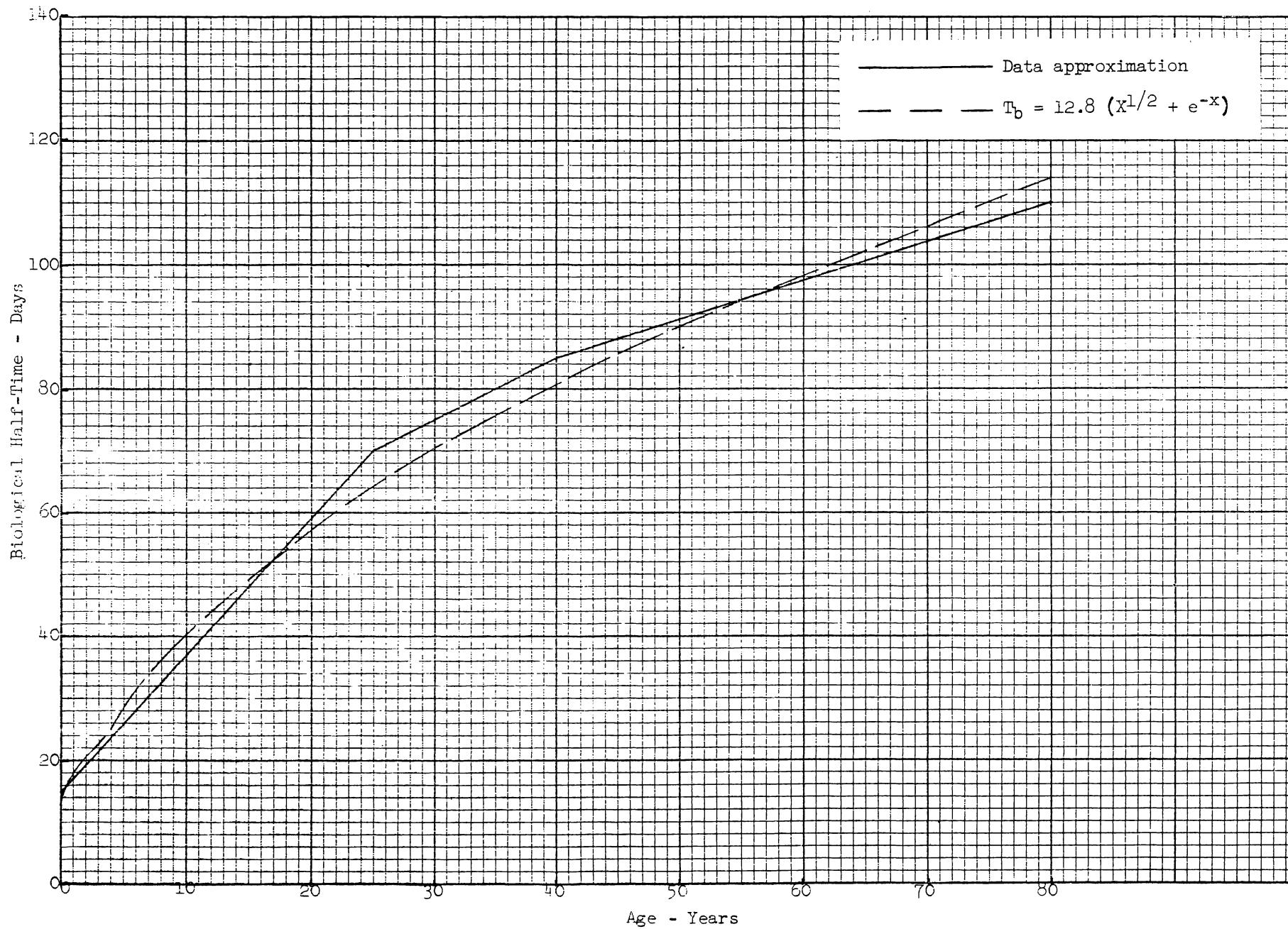


Figure 3

Body Weight Versus Age
(average for male and female)

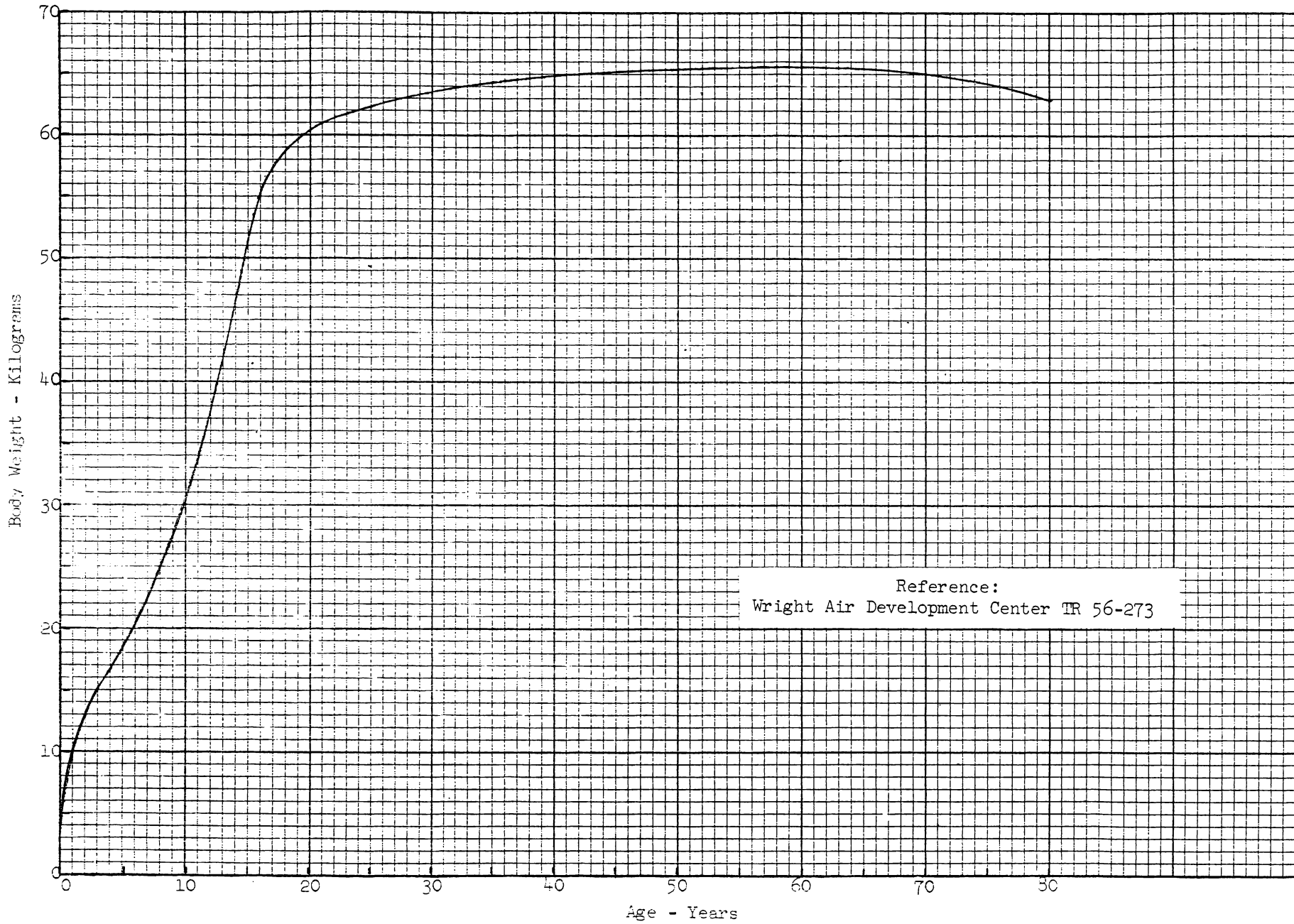


Figure 4

Total Whole Body and Bone Marrow Dose from Internal ^{137}Cs Versus Age
(an assumed total intake of $1\mu\text{Ci } ^{137}\text{Cs}$)

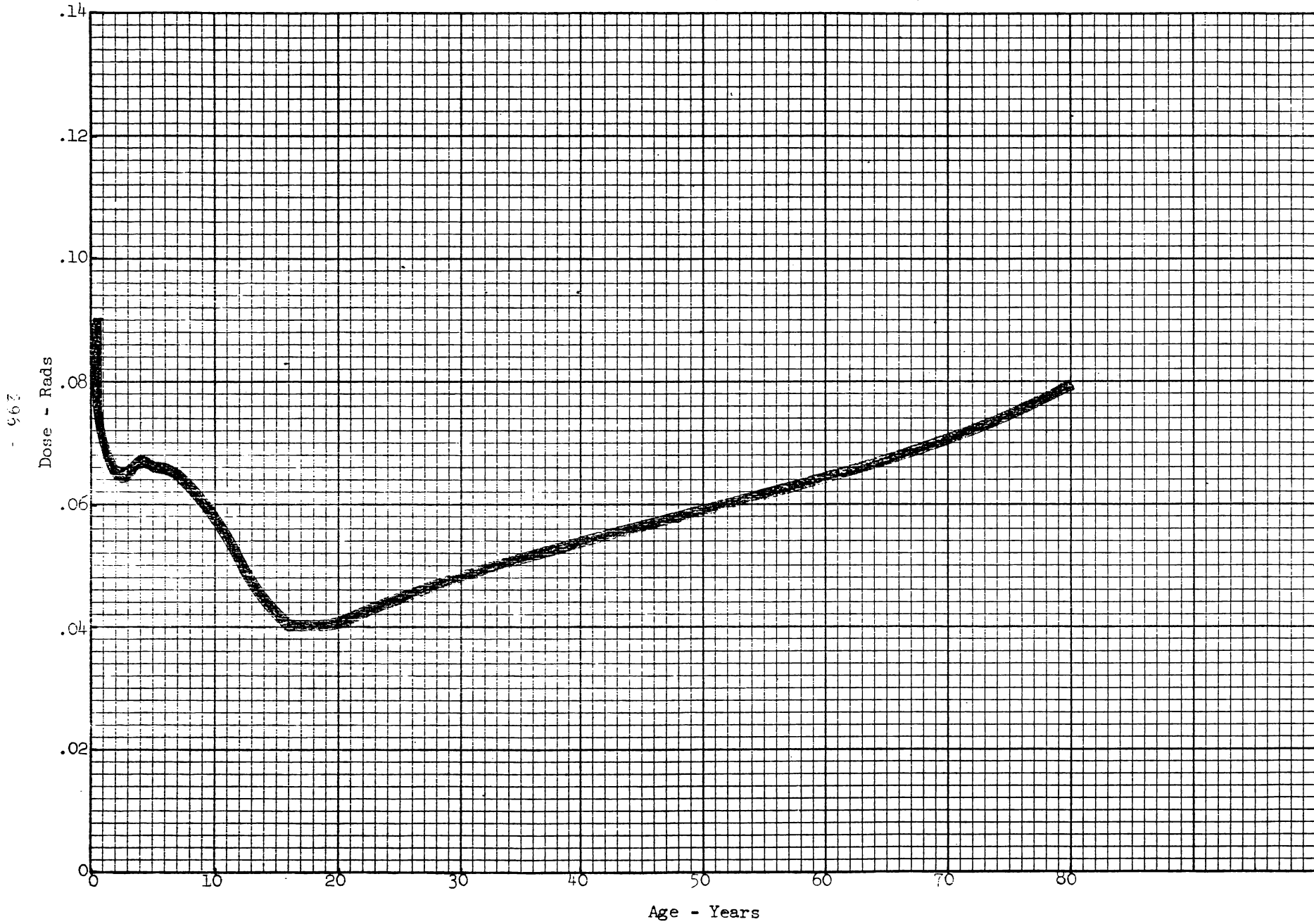


Table 1

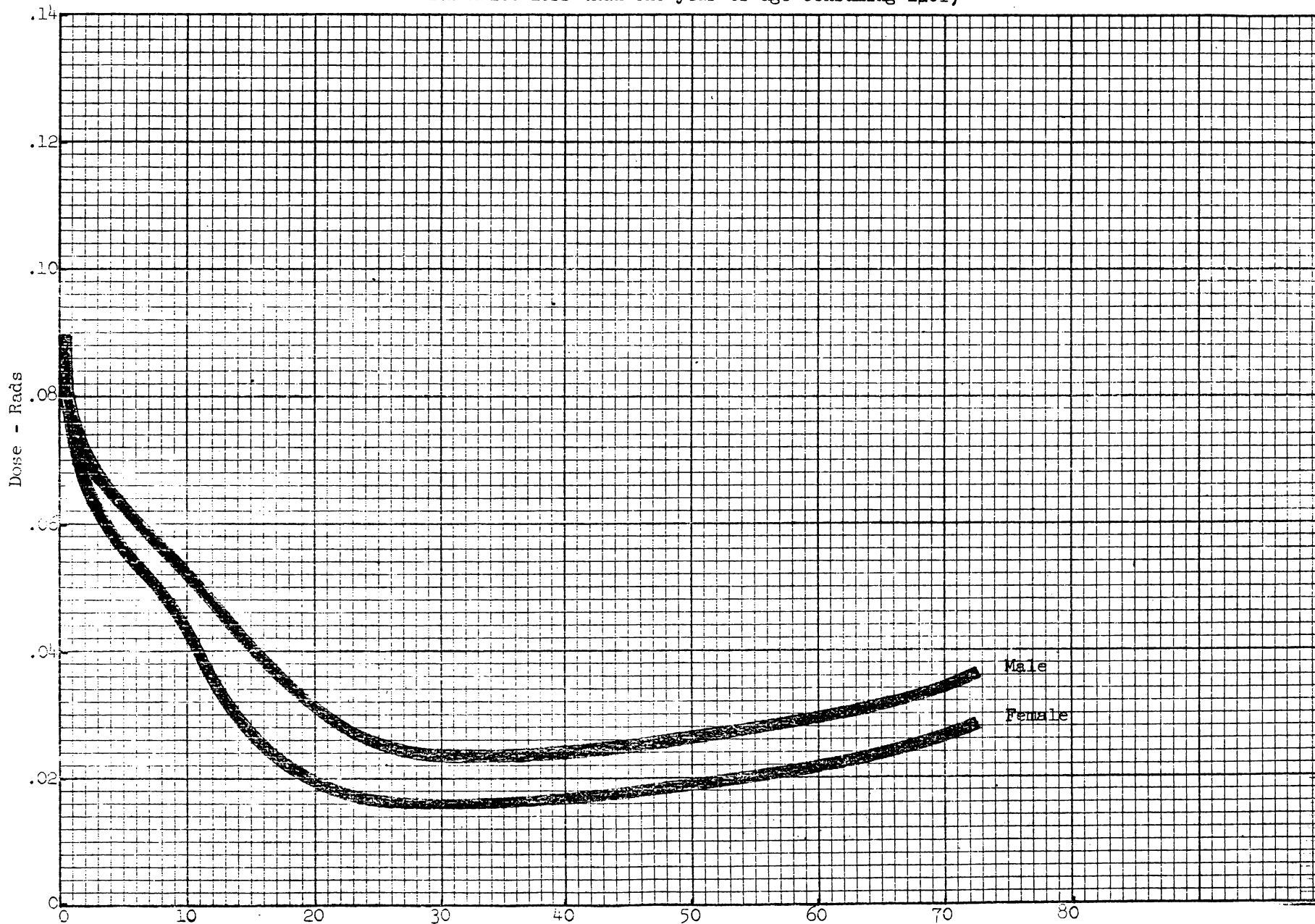
Average Daily Fresh Whole Milk Consumption at Home in U. S.*

Age (years)	Average Consumption (fluid ounces)		No Consumption (per cent)	Normalization Factor Consumption/< 1 Year Male Consumption	
	Male	Female		Male	Female
< 1	17.8	16.3	38.0	1.0	.92
1-4	17.8	16.9	15.0	1.0	.95
5-9	16.6	14.5	20.5	.93	.81
10-14	16.9	12.7	25.0	.95	.72
15-19	16.3	10.2	28.9	.92	.58
20-24	11.8	7.5	35.1	.66	.42
25-29	9.8	6.8	39.1	.55	.38
30-34	8.7	5.7	37.5	.49	.32
35-44	8.3	5.7	39.1	.47	.32
45-54	7.6	5.4	42.0	.43	.31
55-64	8.1	5.9	40.9	.45	.33
> 65	8.6	6.8	35.4	.48	.38

*Average consumption values and normalization factors developed from report on "National Food Consumption Survey" in Radiological Health Data, Vol. IV, No. 1, January 1963.

Figure 5

Total Whole Body and Bone Marrow Dose from Internal ^{137}Cs Versus Age
(an assumed pattern of dietary intake of ^{137}Cs in milk
with males less than one year of age consuming $1\mu\text{Ci}$)



^{137}Cs Body Burden for Males Less than One Year of Age Versus Time After Acute Deposition
(assuming maximum milk concentration reaches 2,000 pCi/l)

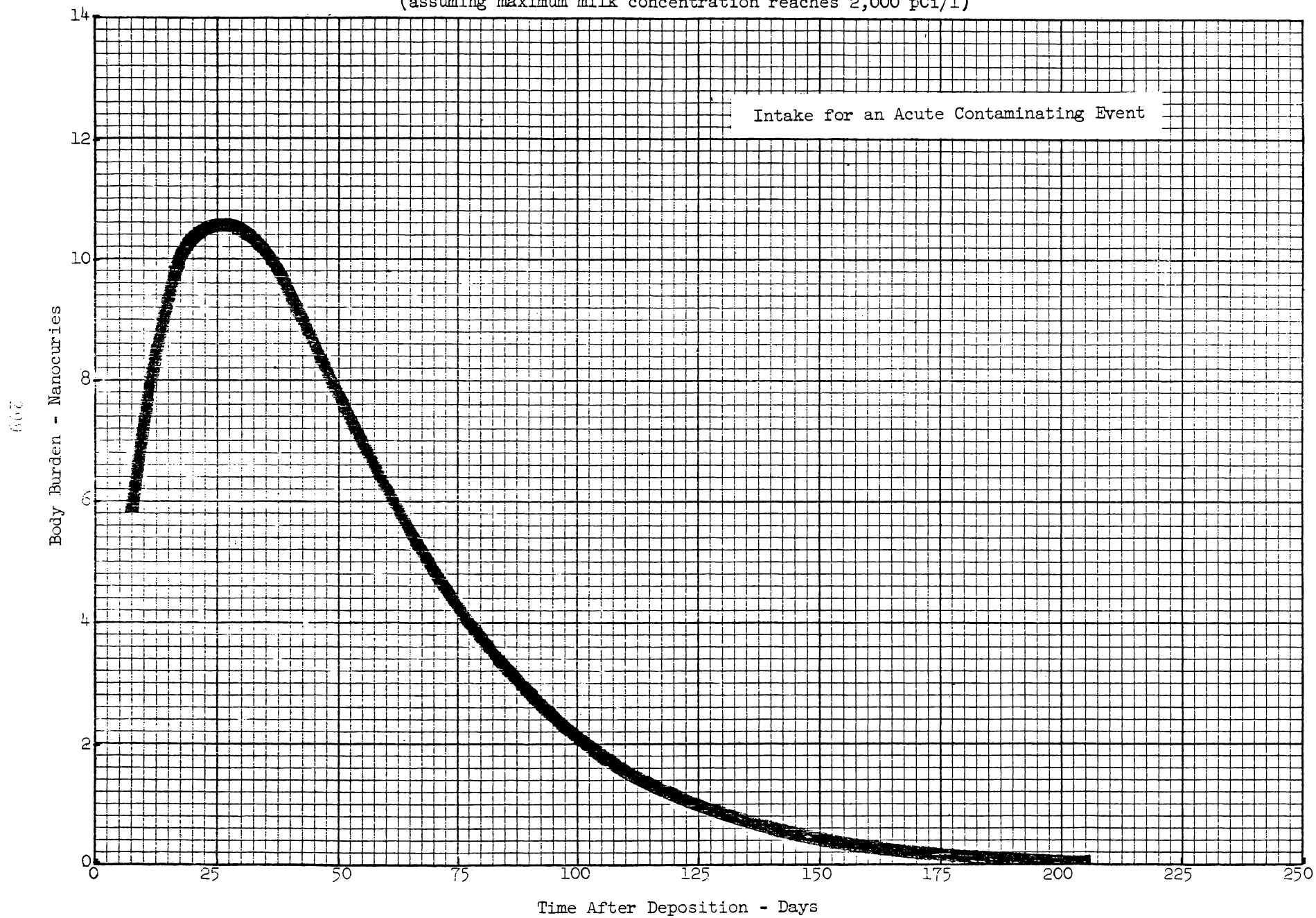
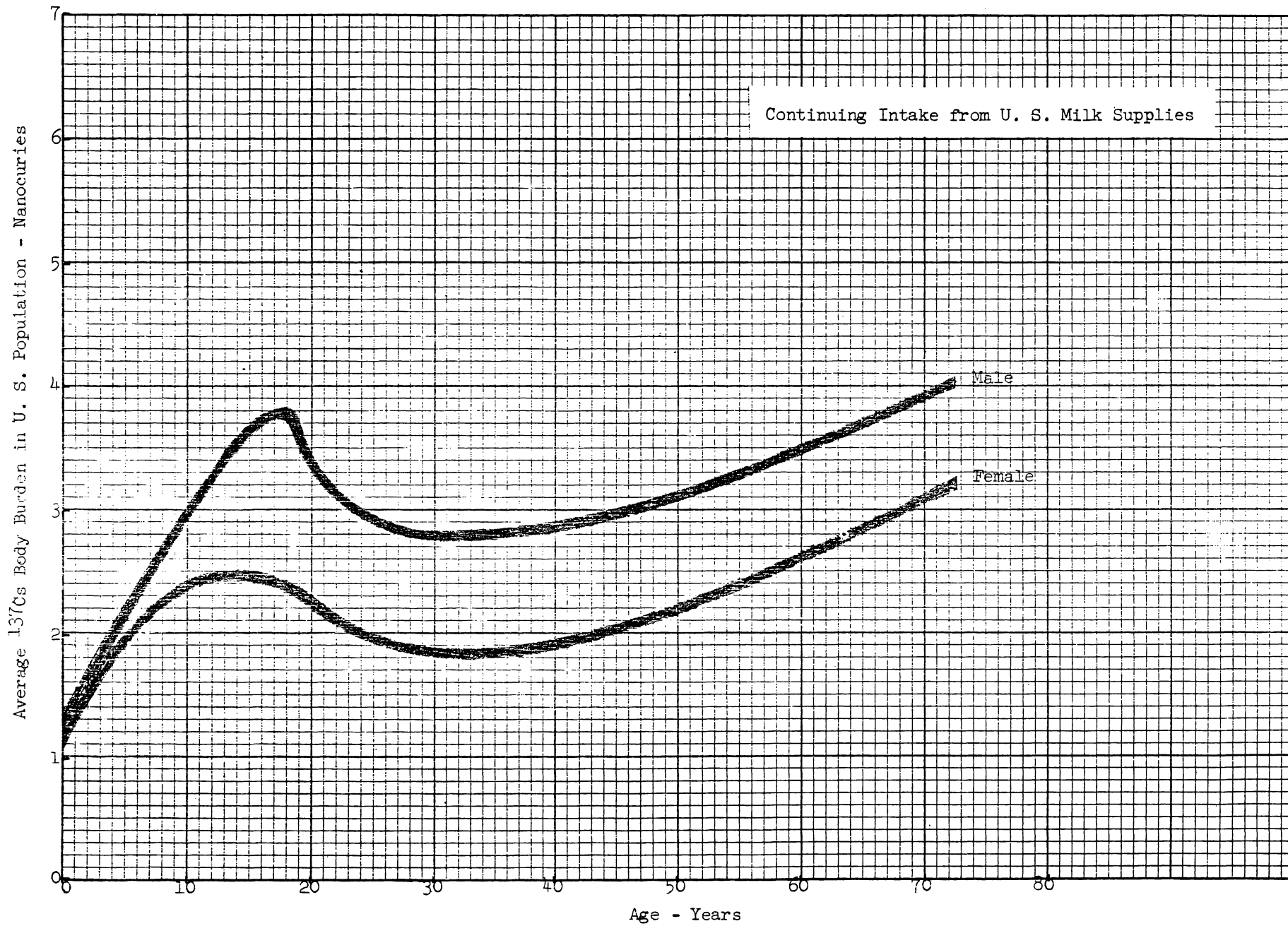


Figure 7

Estimated ^{137}Cs Body Burdens from Milk Consumption for U. S. Population in 1964



The Relation Between Cs¹³⁷ in Man and His Diet in the Chicago Area*

Philip F. Gustafson

Division of Biological and Medical Research
Argonne National Laboratory
Argonne, Illinois

Because of the relatively short biological half life of Cs¹³⁷ in man (~100 days for adults) changes in the Cs¹³⁷ content of the diet lead fairly rapidly to corresponding changes in the human body burden of Cs¹³⁷. As a consequence, equilibrium, or near-equilibrium, between diet and body burden (i.e., daily Cs¹³⁷ intake = daily Cs¹³⁷ elimination) can be attained within a few months. Variations in the rate and intensity of nuclear testing produce changes in the deposition of Cs¹³⁷ and its uptake by plants, which in turn cause the Cs¹³⁷ body burden of man to vary correspondingly. A period of maximal concentration of Cs¹³⁷ in foods should be followed relatively soon by maximal body burdens of this radionuclide. This is in contrast to Sr⁹⁰, the long biological half life of which does not permit maximum concentrations in the body to be reached for considerable time after maximum levels in the diet.

The relation between the Cs¹³⁷ content of the Chicago diet and the body burdens of Cs¹³⁷ in a number of Argonne employees has been examined in the hope of providing a reliable means of predicting future levels in man, as well as to gain insight into the more fundamental question of cesium metabolism itself. Analyses of the Cs¹³⁷ content of the various foods in the Chicago portion of the Tri-City Diet Study have been made by gamma-ray spectrometry since April, 1961.⁽¹⁾ For the present purposes, the entire diet has been divided into five major categories; milk, meat,

* This work was supported by the U. S. Atomic Energy Commission.

grain products, fruits, and vegetables. A few items, such as eggs and rice, have been omitted from the present consideration either because of the small amounts consumed or their low Cs¹³⁷ content. Fish has been excluded because of the relatively small amounts consumed and the extreme variability caused by the presence or absence of fresh water varieties which contain relatively high concentrations of Cs¹³⁷. (2)

The daily intake of Cs¹³⁷, in pCi/day, coming from each of the five diet categories during each quarter extending from April 1961 through July 1965 are shown in Fig. 1. In general, milk, meat, and grain products provide most of the Cs¹³⁷ intake. Maximum levels in the five categories, and hence in the total intake, were reached in late 1963 and early 1964, and have diminished rather consistently since that time. Also indicated in Fig. 1 is an attempt to extrapolate future levels on the basis of trends observed through July 1965. These extrapolated levels will be used subsequently to determine total daily intake and resultant body burdens.

The percentage of Cs¹³⁷ in the total diet derived from milk is illustrated in Fig. 2. The supposition is often made that milk contributes on the order of 60 percent of the daily Cs¹³⁷ intake. The data in Fig. 2 indicate 35-40 percent of the total daily intake in the Chicago area comes from milk, and further suggest that the current importance of milk relative to the total diet Cs¹³⁷ is decreasing. All five categories show a primary dependence upon the rate of Cs¹³⁷ deposition rather than upon total accumulation of the radionuclide on the ground. This is inferred from the observed decrease in Cs¹³⁷ concentration in foods from

1964 through the present even though present levels of Cs^{137} in soil are as high if not higher than those in 1963. Fresh milk, fruits, and vegetables show this most clearly even though the inclusion of canned and frozen items increases the time between production and consumption. The fact that the concentration of Cs^{137} in grain products appears to be decreasing more slowly may reflect the effect of storage of this commodity. Thus grain grown in 1963 may not reach the consumer until 1965. Considerable grain is used for animal feed, and as such constitutes an important source of Cs^{137} in beef and pork, the Cs^{137} contents of which may also diminish more slowly. The effect of grain storage for unknown periods of time creates an uncertainty in the prediction of future diet levels in man by extrapolation of current observations.

The daily intake of Cs^{137} , expressed in $\text{pCi Cs}^{137}/\text{g K}$, determined from April 1961 through July 1965 is shown in Fig. 3. Values extending beyond July 1965, also plotted in Fig. 3, were obtained from extrapolation of the pCi/day data in Fig. 1. The potassium value used in deriving these ratios was 4.5 g/day contained in 1.85 kg of food. The figure of 4.5 g potassium per day was the average found during 1962 through 1964. The average Cs^{137}/K ratios in man (in vivo ratios) observed during this time by C. E. Miller are also shown in Fig. 3. (3,4)

The Cs^{137}/K ratio has been used in preference to pCi/day or pCi/kg as it appears to yield more insight into cesium metabolism. In contrast to the behavior of Sr^{90} relative to calcium, there is a pronounced enrichment of Cs^{137} relative to potassium in going from one trophic level to a higher level (in this case from diet to man). This phenomenon

has been discussed by Pendleton and Mays,⁽⁵⁾ who postulate that the increase in Cs^{137}/K ratio is essentially the ratio of the biological half time of Cs^{137} to that of potassium in the animal in question. The diet ratio and in vivo ratio curves shown in Fig. 3 have similar shapes; however, the diet ratio reached a maximum approximately four months earlier than the in vivo ratio. The excursions in the values of the diet ratio seen during late 1961 and through most of 1962 are doubtless due to the presence of fresh Cs^{137} coming into the food supply. This contamination may vary not only in time but also in distribution throughout a given food item such as milk. In any event, the in vivo ratio does not clearly show these variations, but tends to smooth them out in the increasing trend of the Cs^{137}/K ratio in man during this time.

In Fig. 4 the diet ratio data have been transformed to coincide, in so far as possible, with the in vivo ratios. This transformation was accomplished by increasing the diet ratio by a factor of 3.0 and by moving the entire diet ratio curve forward in time by four months in order that the maximum would coincide with that of the in vivo ratio. This transformation results in a good fit between the diet and in vivo ratios from mid-1963 through mid-1965. The factor of 3.0 increase applied to the diet ratio is in accord with the hypothesis of Pendleton and Mays⁽⁵⁾ as regards the ratio of Cs^{137} to potassium biological half lives in man. The over-estimate of the in vivo ratio by this transformation during much of 1962 and early 1963 is probably due in part to the inhomogenous contamination of the diet discussed earlier. It is also true that the

transients in the diet ratio were of short duration, and equilibrium between diet and men was not possible under such circumstances.

Future values of the in vivo Cs¹³⁷/K ratio may be found either from extrapolation of the transformed diet ratio or the directly measured in vivo ratio curves in Fig. 4. According to this approach, the in vivo ratio in the Chicago population should vary from 70 pCi/g K in early 1966 to 50 pCi/g K by the end of the year. At present the effective half life of Cs¹³⁷ in human adults in this area--under conditions of continuous Cs¹³⁷ ingestion varying as indicated in Figs. 1 and 3--is 2-1/2 years. The essential agreement at this time between these two sets of independent data places the prediction of Cs¹³⁷ body burdens over the next year or two on a rather firm foundation.

The ability to make longer range predictions, however, must await more precise knowledge in at least three areas: 1, the temporal changes in the Cs¹³⁷ content of the diet caused by storage or other delay mechanisms in the flow of foodstuffs from production to consumption; 2, the relative importance of accumulated Cs¹³⁷ deposition and fresh deposition after many years time; 3, examination of the possibility that a portion of the total body Cs¹³⁷ burden is actually present in bone, and consequently may have a relatively long (>>100 days) biological half time. This would cause the body burden to decrease more slowly than anticipated on the basis of diet information alone. Preliminary work done at this laboratory in 1961 indicated that as much as 10 percent of the total body Cs¹³⁷ might have resided in bone during 1961 prior to the resumption of nuclear tests. (6)

Careful investigation of the dynamics of fallout Cs¹³⁷ uptake by crops and animals eating such crops, along with the long term metabolic behavior of Cs¹³⁷ under conditions of continuous ingestion in animals including man will be necessary before meaningful long range predictions can be made regarding the future behavior of Cs¹³⁷ in man.

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FIGURE 1

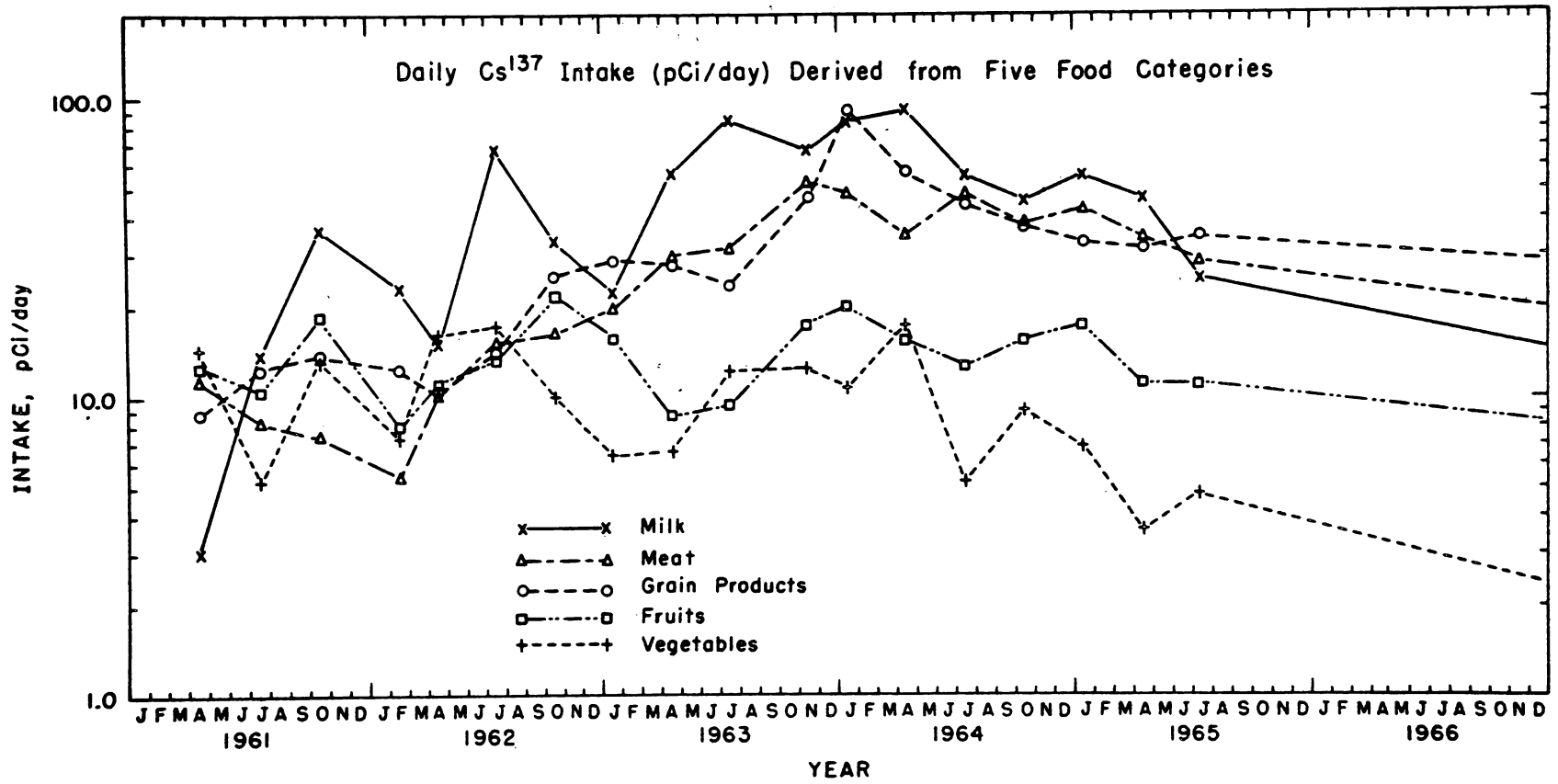


FIGURE 2

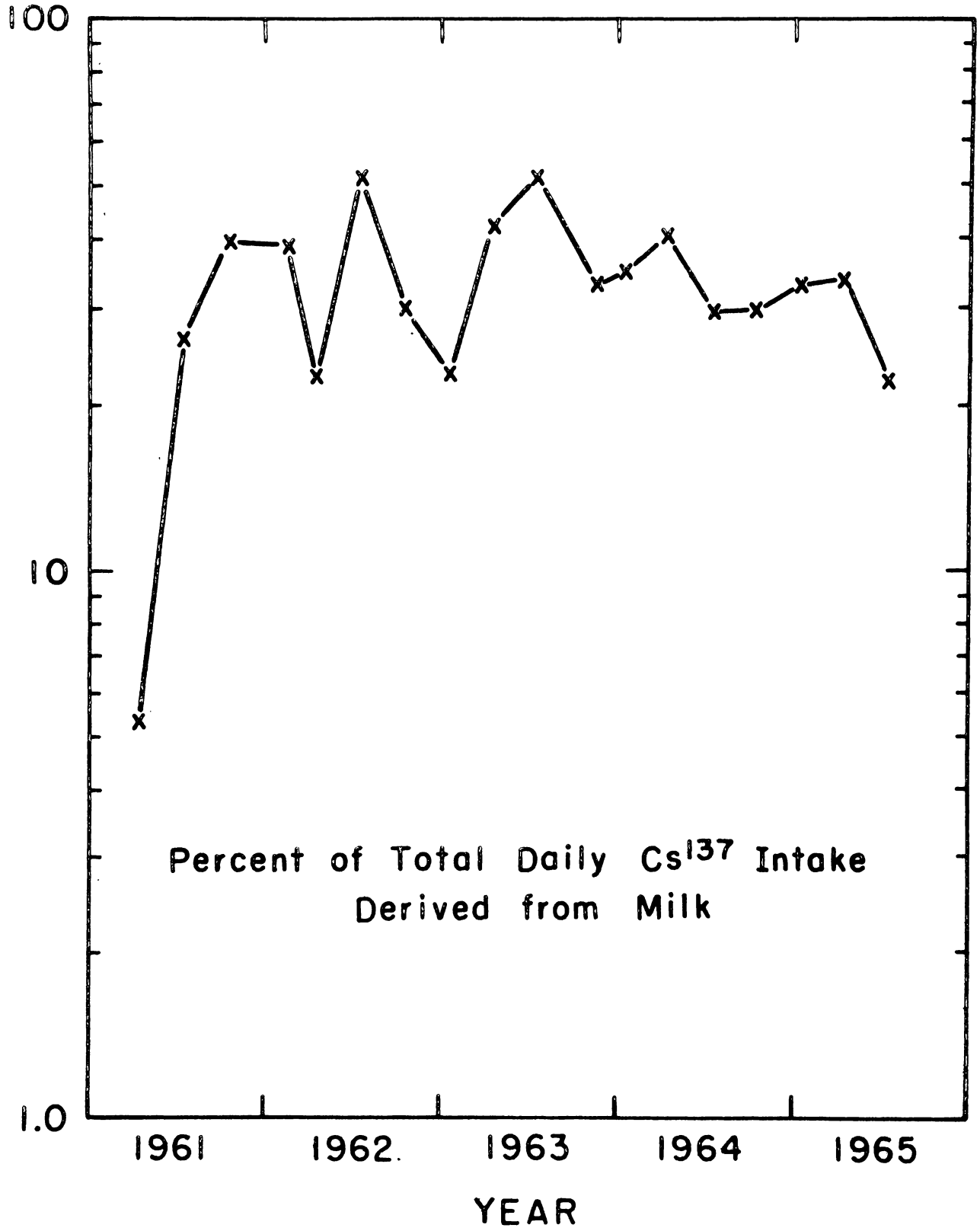


FIGURE 3

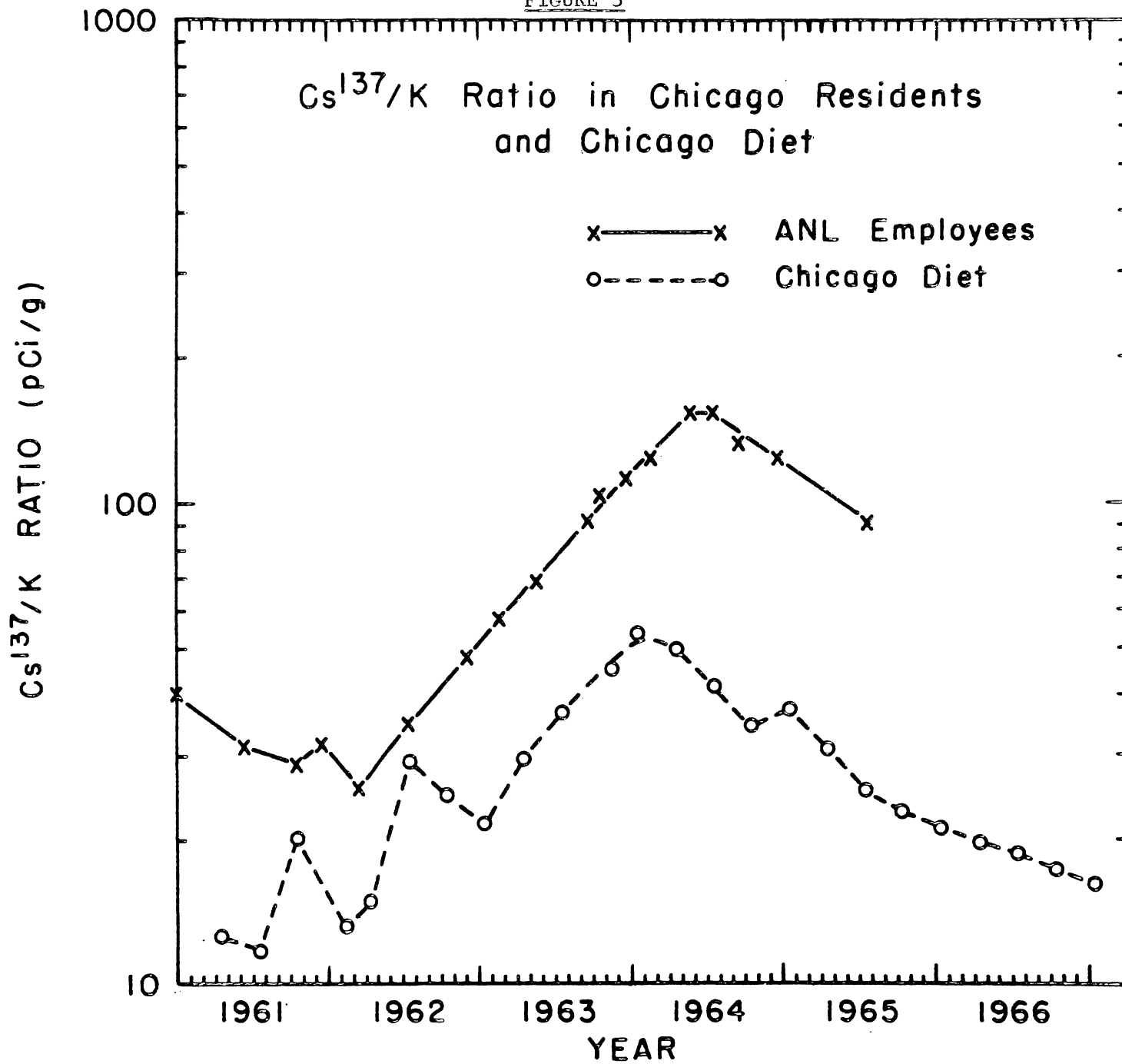
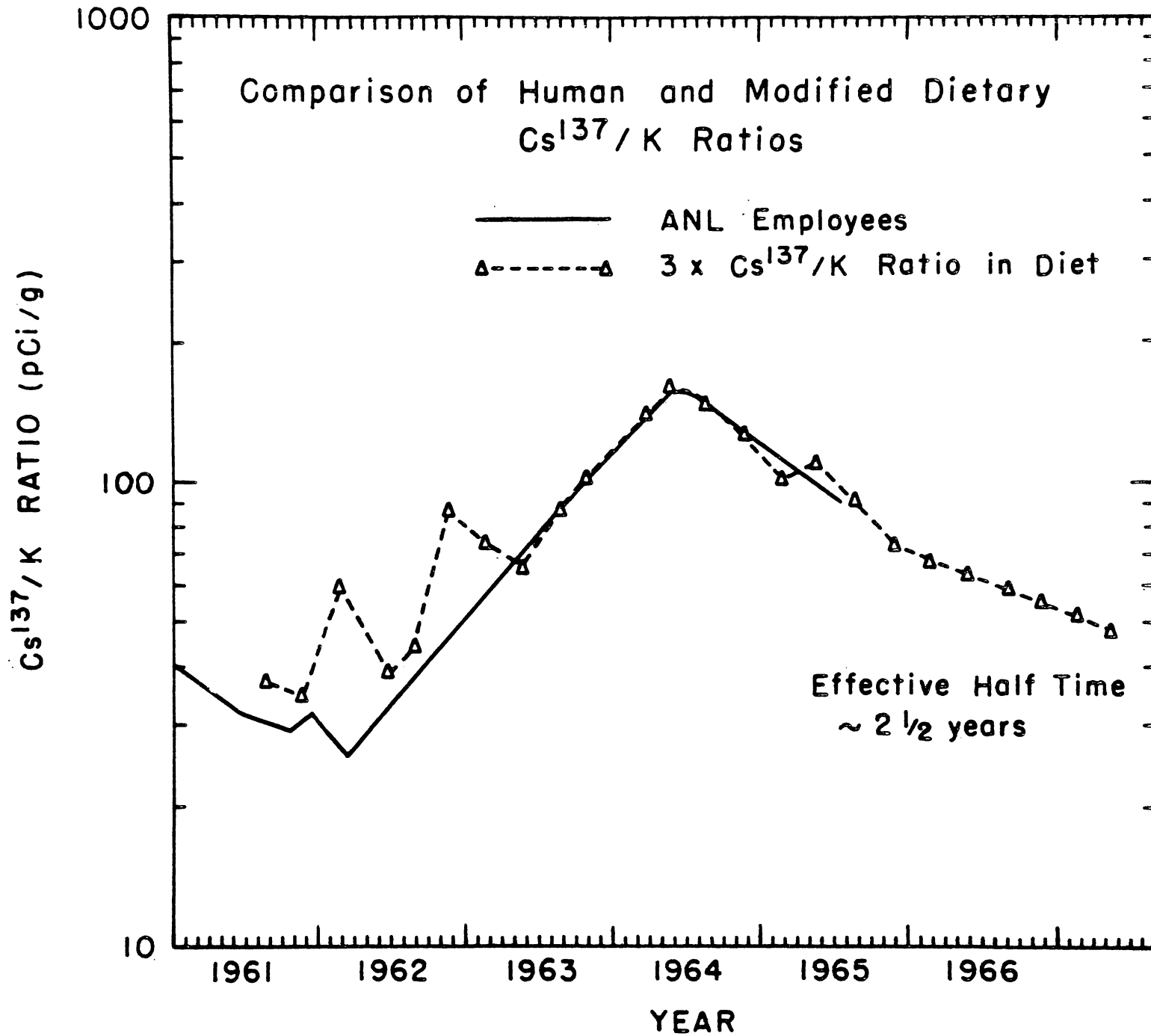


FIGURE 4



Strontium-90 in Infant Diets During 1964

by J. Rivera - HASL

Data on the strontium-90 and calcium content of infant diets obtained in 1963 indicated that the Sr-90/Ca ratio of the total diet during the first year of life was approximately the same as the Sr-90/Ca ratio of the diet calculated from the analyses of the formula and evaporated milk components of the diet⁽¹⁾.

During 1964 samples of evaporated and formula milks consumed by infants in New York City, Chicago, and San Francisco were purchased as part of the regular Tri-City diet samples and analyzed for strontium-90. The results are listed in Table 1. Based on estimates of the consumption of these specially processed milks⁽²⁾, the yearly intake of strontium-90 from milk products by infants was calculated. These estimates are also listed in Table 1.

The relations between estimated Sr-90/Ca ratios of infant diets and those of average diets of individuals residing in New York City, Chicago or San Francisco are shown in Figure 1. It can be seen that in Chicago and San Francisco the Sr-90/Ca ratio of infant diets have been approximately the same as those of the general population. In New York City, however, infant diet Sr-90/Ca ratios appear to be somewhat lower than the Sr-90/Ca ratio of the general population. These lower Sr-90/Ca ratios in infant diets may indicate that non-local sources of milk having a lower strontium-90 content may be used in the manufacture of infant formula milk preparations and evaporated milk sold in the New York area, whereas this is not the case in Chicago or San Francisco.

Although considerable uncertainties exist, such as the number of infants that are breast fed, or the equivalence of evaporated and fresh milk as far as Sr-90/Ca ratio is concerned, it appears that there is no radical difference between the Sr-90/Ca ratio of infant and adult diets. Other means for estimating the intake of strontium-90 and calcium by infants are currently under investigation in this laboratory. These studies should enable us to more accurately establish the differences between Sr-90/Ca ratios in infant and adult diets.

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TABLE 1

STRONTIUM-90 INTAKE OF INFANTS FROM PROCESSED MILKS DURING 1964

NEW YORK CITY

<u>Sampling Date</u>	<u>Formula Milk</u>		<u>Evaporated Milk</u>		<u>Total</u>	
	<u>pCi/kg</u>	<u>pCi/yr</u>	<u>pCi/kg</u>	<u>pCi/yr</u>	<u>pCi/yr</u>	<u>pCi/g Ca*</u>
2-64	45.5 ± 1.2	1684	28.2 ± 1.1	3863	5547	13
5-64	47.6 ± 0.8	1761	58.2 ± 1.5	7973	9734	23
8-64	48.0 ± 1.4	1776	52.8 ± 1.6	7234	9010	21
11-64	55.0 ± 0.8	2035	58.3 ± 1.3	7987	10022	24
				AVERAGE	8578	20

CHICAGO

<u>Sampling Date</u>	<u>Formula Milk</u>		<u>Evaporated Milk</u>		<u>Total</u>	
	<u>pCi/kg</u>	<u>pCi/yr</u>	<u>pCi/kg</u>	<u>pCi/yr</u>	<u>pCi/yr</u>	<u>pCi/g Ca*</u>
1-64	50.3 ± 1.1	1851	70.1 ± 1.6	9604	11465	27
4-64	41.6 ± 1.1	1539	47.3 ± 1.5	6480	8019	19
7-64	64.7 ± 1.3	2394	75.0 ± 1.7	10275	12669	30
10-64	52.3 ± 0.8	1935	41.5 ± 1.1	5686	7621	18
				AVERAGE	9936	24

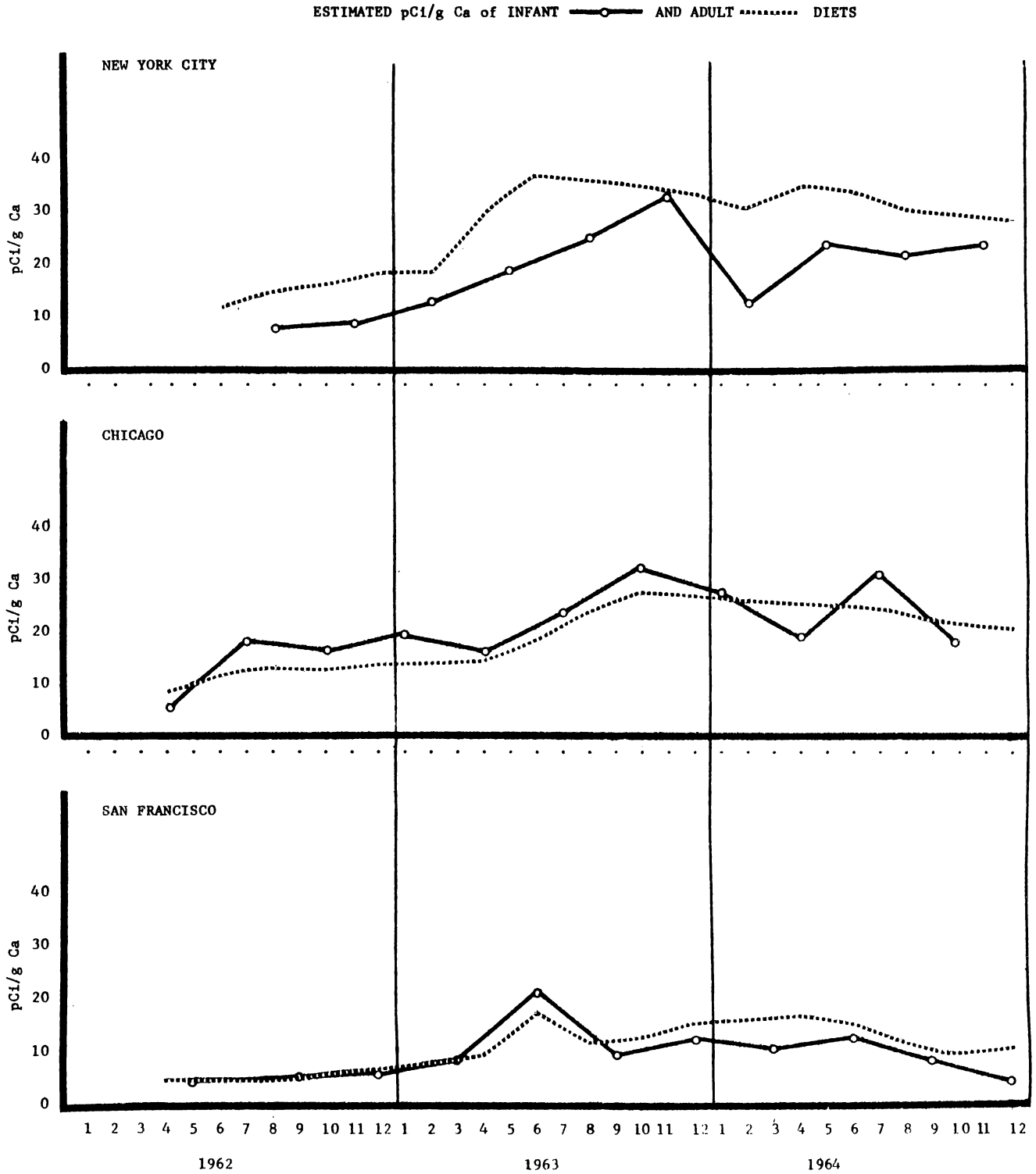
SAN FRANCISCO

<u>Sampling Date</u>	<u>Formula Milk</u>		<u>Evaporated Milk</u>		<u>Total</u>	
	<u>pCi/kg</u>	<u>pCi/yr</u>	<u>pCi/kg</u>	<u>pCi/yr</u>	<u>pCi/yr</u>	<u>pCi/g Ca*</u>
3-64	28.4 ± 0.8	1051	25.1 ± 0.9	3439	4490	11
6-64	46.8 ± 1.1	1732	26.2 ± 0.9	3589	5321	13
9-64	29.8 ± 1.0	1103	20.2 ± 0.9	2767	3870	9
12-64	27.8 ± 0.5	1029	7.8 ± 0.4	1069	2098	5
				AVERAGE	3944	10

*Assuming 60 + 360 = 420 g Ca/yr from milk sources.

FIGURE 1

STRONTIUM-90 - CALCIUM RATIOS IN INFANT AND ADULT DIETS



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TABLE OF CONVERSION FACTORS

The following abbreviation listing and conversion table involve units of measurement used in the HASL fallout and air sampling programs.

ABBREVIATIONS:

in. - inches	mm - millimeters	pCi - picocuries (micro-microcuries - μCi)
ft. - feet	cm - centimeters	nCi - nanocuries (milli-microcuries - $\text{m}\mu\text{Ci}$)
mi. - miles	m - meters	μCi - microcurie
lb. - pounds	km - kilometers	mCi - millicurie
liq.qt.-liquid quarts	kg - kilograms	d/m - disintegrations per minute
	l - liters	

SCF - standard cubic feet at 1 atmosphere (1013 mb) and 15°C (59°F)
 SCM - standard cubic meters at 1 atmosphere (1013 mb) and 15°C (59°F)
 kg air - kilograms air at 1 atmosphere (1013 mb) and 15°C (59°F)

CONVERSION TABLE

<u>Multiply</u>	<u>by</u>	<u>to obtain</u>	<u>Multiply</u>	<u>by</u>	<u>to obtain</u>
in.	25.4	mm	mm	0.0394	in.
in.	2.54	cm	cm	0.394	in.
ft.	0.305	m	m	3.28	ft.
mi.	1.61	km	km	0.621	mi.
lb.	0.4536	kg	kg	2.205	lb.
liq.qt.-U.S.	0.946	l	l	1.057	liq.qt.-U.S.
mi. ²	2.59	km ²	km ²	0.386	mi. ²
mCi/mi. ²	0.386	mCi/km ² (nCi/m ²)	mCi/km ²	2.59	mCi/mi. ²
mCi/mi. ² /in.	15.2	pCi/l	pCi/l	0.0657	mCi/mi. ² /in.
pCi/l	0.01	mCi/km ² /cm	mCi/km ² /cm	100	pCi/l
d/m	0.450	pCi	pCi	2.22	d/m
nCi	1 x 10 ³	μCi	pCi	1 x 10 ⁻³	nCi
d/m/l	0.45 x 10 ⁻⁹	$\mu\text{Ci}/\text{cc}$	$\mu\text{Ci}/\text{cc}$	2.22 x 10 ⁹	d/m/l
d/m/ft. ²	0.01256	mCi/mi. ²	mCi/mi. ²	79.6	d/m/ft. ²
10 ³ SCF	28.3	SCM	SCM	0.0353	10 ³ SCF
10 ³ SCF	34.7	kg air	kg air	0.0288	10 ³ SCF
SCM	1.226	kg air	kg air	0.816	SCM

AREA OF THE EARTH *

	<u>Area</u>		<u>latitude band</u>	<u>Area</u>	
	<u>mi²</u>	<u>km²</u>		<u>mi.</u>	<u>km²</u>
land	57.467 x 10 ⁶	148.892 x 10 ⁶	0-10	17.016	44.084 x 10 ⁶
			10-20	16.512	42.778 x 10 ⁶
			20-30	15.516	40.198 x 10 ⁶
			30-40	14.052	36.405 x 10 ⁶
oceans & seas	139.369 x 10 ⁶	361.059 x 10 ⁶	40-50	12.158	31.497 x 10 ⁶
			50-60	9.884	25.607 x 10 ⁶
			60-70	7.297	18.905 x 10 ⁶
			70-80	4.475	11.594 x 10 ⁶
total	196.836 x 10 ⁶	509.951 x 10 ⁶	80-90	1.508	3.908 x 10 ⁶

*from Table 3, Distribution of Water and Land Between Parallels (Kossinna, 1921) in "The Oceans", by Sverdrup, H.U., Johnson, M.W., and Fleming, R.H., N. Y. Prentice-Hall Co. 1954

TABLE OF RADIONUCLIDES

The following table is a listing of radionuclides of interest in the HASL fallout program. The half-life values are those currently in use at HASL and are subject to change as new data become available.

Nuclide	Radioactive Daughter	HALF-LIFE days	other units	Nuclide	Radioactive Daughter	days	HALF-LIFE other units
<u>Fission Products</u>				<u>Other Radionuclides</u>			
38 Sr-89		50.5		1 H-3		4480	12.3y
38 Sr-90	39 Y-90	10120.2675	27.7y 64.2h	4 Be-7		53.6	
39 Y-91		59		6 C-14		2.0 X 10 ⁶	5500y
40 Zr-95	41 Nb-95	65 35		25 Mn-54		310	
44 Ru-103	45 Rh-103m	39.8	57m	26 Fe-55		986	2.70y
44 Ru-106	45 Rh-106	365	1.00y 0.50m	30 Zn-65		245	
48 Cd-115m		43		39 Y-88		104	
51 Sb-125	52 Te-125m	985 58	2.7y	45 Rh-102		210	
53 I-131		8.08		45 Rh-102m		~900	~2½y
55 Cs-136		13.5		48 Cd-109	49 Ag-109m	470	1.65y 0.65m
55 Cs-137	56 Ba-137m	11150	30.5y 2.6m	48 Cd-113m		~5000	~14y
56 Ba-140	57 La-140	12.8 1.675	40.2h	51 Sb-124		60	
58 Ce-141		33.1		74 W-181		145	
59 Pr-143		13.8		74 W-185		74	
58 Ce-144	59 Pr-144	285	17.3m	81 Tl-204		1416	3.88y
60 Nd-147	61 Pm-147	11.1 964	2.64y	94 Pu-238	92 U-234		86y 2.5x10 ⁵ y
				94 Pu-239	92 U-235		2.4x10 ⁴ y 7.1x10 ⁸ y
				94 Pu-240	92 U-236		6.6x10 ³ y 2.4x10 ⁷ y
				94 Pu-241			13y
					95 Am-241		458y
					93 Np-237		2.2x10 ⁶ y

