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LOS ALAMOS SCIENTIFIC LABORATORY

OF THE UNIVERSITY OF CALIFORNIA ○ LOS ALAMOS NEW MEXICO

RADIOACTIVITY IN ENVIRONMENTAL AIR AT LOS ALAMOS, NEW MEXICO FOR THE PERIOD NOVEMBER 17, 1958 THROUGH DECEMBER 31, 1959

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LOS ALAMOS SCIENTIFIC LABORATORY
OF THE UNIVERSITY OF CALIFORNIA LOS ALAMOS NEW MEXICO

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ABSTRACT

The report is a continuation of work reported in the Los Alamos section of "Radioactive Fallout Data Collected from Eleven Atomic Energy Installations for 1958". The beta activities measured were not identified. However, since the measurements were made in the same manner, the values are relative to one another.

The monthly average "per day" figures show in general the same peaks reported by other stations, i.e., in the spring months.

Introduction

As a part of the environmental monitoring program at Los Alamos, the measurements of air particulate radioactivity, activity in precipitation and gamma background are made periodically. The sampling station is located on the roof of the Administration Building, SM-43. The samplers are on the highest part of the building -- a flat gravel covered surface, 65 feet above ground level.

Gamma Background

Gamma background surveys are made daily. The readings are made at approximately 0900 when the air sampler filter is changed. The measurements are made with a G-M survey meter with the probe held 3 feet above the surface of the roof.

Beta Activity of Particulate Matter in Air

Airborne radioactive particulate matter is collected on 4-inch diameter filters (MSA catalog number CR 17651). The sampling rate is 46 M^3/hr. Air samples are collected for 24 hour intervals during the work week and week-end samples are collected for a 72 hour period. Filters are changed at approximately 0900.

The filter papers are counted for beta activity 7 days after collection in a thin-window gas (methane) flow proportional counter, with an over-all efficiency for Sr^{90}- Y^{90} of 44 percent. Results are reported in terms of micromicrocuries per cubic meter of air.

The filters are also counted 10 minutes after removal from the sampler, but these results have not been included in this report.

Beta Activity of Particulate Matter in Rain

Collection is made in an oversized rain collector which delivers one liter of water for each 0.1 inch of precipitation. The collector has a cross section of approximately 0.4 meter. The area is such that the number of d/m collected is approximately equivalent to micromicrocuries per square meter.

Even during relatively dry periods it was found that this arrangement collected activity. So, by the simple expedient of washing down the sides of the collector each day with about 1 liter of distilled water, a suitable sample could be obtained. These "wash" samples as well as any precipitation samples are reduced in volume then dry plated on 1-inch stainless steel planchets. These are then counted in a counter employing an end window Geiger tube with a window thickness of 1.9 mg/cm^2. The counting efficiency was determined by comparison with a Tracerlab standard of radiolead, which emits 1.17 Mev beta particles. Results are reported in $\mu\mu c$ per square meter at time counted.

Samples are taken daily on work days. The activity collected is washed with 1 liter of water for collection of the sample, usually between 0800 and 0900 on the day of collection. When precipitation occurs, the wash is added to the collected precipitation and treated the same way.

The results reported herein supplement those given in "Radioactive Fallout Data Collected from Eleven Atomic Energy Commission Installations for 1958", published in March, 1959, edited by Gordon M. Dunning of the Division of Biology and Medicine, U. S. Atomic Energy Commission.

NOVEMBER 1958

Collection Date Start	Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Nov. 17	Nov. 18	0.02	7.8	0.27" + wash	Nov. 21	1011	1623
Nov. 18	Nov. 19	0.02	9.3				
Nov. 19	Nov. 20	0.02	8.8	wash only	Nov. 26	1025	196
Nov. 20	Nov. 21	0.02	6.6				
Nov. 21	Nov. 24	0.02	3.8	wash only	Nov. 26	1036	368
Nov. 24	Nov. 25	0.02	4.3	wash only	Dec. 3	1010	266
Nov. 25	Nov. 26	0.02	5.2				
Nov. 26	Nov. 28	0.02	6.8	0.06" + wash	Dec. 3	1022	1568
Nov. 28	Dec. 1	0.02	7.6	wash only	Dec. 3	1035	614
Average per day			6.8				309

DECEMBER 1958

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity, counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Dec. 1	Dec. 2	0.03	6.9	wash only	Dec. 5	1100	855
Dec. 2	Dec. 3	0.02	5.8				
Dec. 3	Dec. 4	0.02	4.5	wash only	Dec. 8	1030	444
Dec. 4	Dec. 5	0.02	3.9				
Dec. 5	Dec. 8	0.02	4.5	wash only	Dec. 10	1015	247
Dec. 8	Dec. 9	0.03	4.7				
Dec. 9	Dec. 10	0.03	5.3	wash only	Dec. 15	1430	150
Dec. 10	Dec. 11	0.02	7.8				
Dec. 11	Dec. 12	0.02	3.1				
Dec. 12	Dec. 15	0.02	8.3	wash only	Dec. 15	1445	4860
Dec. 15	Dec. 16	0.02	6.6	wash only	Dec. 19	1052	1355
Dec. 16	Dec. 17	0.02	6.2				
Dec. 17	Dec. 18	0.02	3.1	wash only	Dec. 19	1430	528
Dec. 18	Dec. 19	0.02	3.8				
Dec. 19	Dec. 22	0.02	3.7	wash only	Dec. 22	1435	276
Dec. 22	Dec. 23	0.02	5.4	wash only	Dec. 23	1300	360
Dec. 23	Dec. 24	0.02	6.1	wash only	Dec. 24	1215	142
Dec. 24	Dec. 29	0.02	7.3	0.27" + wash	Dec. 29	1731	2862
Dec. 29	Dec. 30	0.02	3.8	wash only	Dec. 30	1421	586
Dec. 30	Dec. 31	0.02	5.5	wash only	Dec. 31	1152	219
Dec. 31	Jan. 2, 1959	0.02	4.2	wash only	Jan. 2 '59	1218	470
Average per day			5.5				405

JANUARY 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity, counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Jan. 2	Jan. 5	0.02	9.5	wash only	Jan. 5	1420	386
Jan. 5	Jan. 6	0.02	7.6	wash only	Jan. 6	1504	323
Jan. 6	Jan. 7	0.02	4.8	0.02" + wash	Jan. 7	1156	524
Jan. 7	Jan. 8	0.02	3.9	wash only	Jan. 8	1525	460
Jan. 8	Jan. 9	0.02	8.0	wash only	Jan. 9	1120	299
Jan. 9	Jan. 12	0.02	9.8	wash only	Jan. 12	1130	257
Jan. 12	Jan. 13	0.02	6.5	wash only	Jan. 13	1140	182
Jan. 13	Jan. 14	0.02	4.8	wash only	Jan. 14	1148	119
Jan. 14	Jan. 15	0.02	9.1	trace + wash	Jan. 15	1430	223
Jan. 15	Jan. 16	0.02	14.6	trace + wash	Jan. 16	1125	244
Jan. 16	Jan. 19	0.02	7.3	wash only	Jan. 19	1117	252
Jan. 19	Jan. 20	0.02	8.2	0.06" + wash	Jan. 20	1130	1059
Jan. 20	Jan. 21	0.02	10.5	0.05" + wash	Jan. 21	1217	5389
Jan. 21	Jan. 22	0.02	8.2	wash only	Jan. 22	1155	395
Jan. 22	Jan. 23	0.02	8.2	wash only	Jan. 23	1150	307
Jan. 23	Jan. 26	0.02	5.6	wash only	Jan. 26	1203	226
Jan. 26	Jan. 27	0.02	10.8	wash only	Jan. 27	1207	180
Jan. 27	Jan. 28	0.02	9.6	wash only	Jan. 28	1135	201
Jan. 28	Jan. 29	0.03	8.1	trace + wash	Jan. 29	1105	228
Jan. 29	Jan. 30	0.02	6.6	wash only	Jan. 30	1203	155
Average per day			8.1				407

FEBRUARY 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Jan. 30	Feb. 2	0.02	6.5	0.07" + wash	Feb. 2	1143	3375
Feb. 2	Feb. 3	0.02	2.7	0.02" + wash	Feb. 3	1145	1197
Feb. 3	Feb. 4	0.03	5.6	trace + wash	Feb. 4	1140	1302
Feb. 4	Feb. 5	0.02	5.9	wash only	Feb. 5	1120	629
Feb. 5	Feb. 6	0.02	10.9	wash only	Feb. 6	1120	732
Feb. 6	Feb. 9	0.02	5.3	0.20" + wash	Feb. 9	1510	5348
Feb. 9	Feb. 10	0.02	5.6	0.13" + wash	Feb. 10	1125	3755
Feb. 10	Feb. 11	0.02	5.3	wash only	Feb. 11	1120	1396
Feb. 11	Feb. 12	0.02	6.1	trace + wash	Feb. 12	1030	69
Feb. 12	Feb. 13	0.02	6.0	0.03" + wash	Feb. 13	1130	3204
Feb. 13	Feb. 16	0.02	17.9	wash only	Feb. 16	1140	286
Feb. 16	Feb. 17	0.02	5.9	0.04" + wash	Feb. 17	1106	1432
Feb. 17	Feb. 18	0.02	6.3	0.14" + wash	Feb. 18	1400	3098
Feb. 18	Feb. 19	0.02	7.7	wash only	Feb. 19	1330	757
Feb. 19	Feb. 20	0.02	7.1	wash only	Feb. 20	1320	439
Feb. 20	Feb. 24	0.02	9.3	0.06" + wash	Feb. 24	1400	3114
Feb. 24	Feb. 25	0.02	9.9	trace + wash	Feb. 25	1201	650
Feb. 25	Feb. 26	0.02	6.8	wash only	Feb. 26	1145	457
Feb. 26	Feb. 27	0.02	6.7	wash only	Feb. 27	1121	226
Average per day			8.0				1124

MARCH 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Feb. 27	Mar. 2	0.03	6.4	wash only	Mar. 2	1050	314
Mar. 2	Mar. 3	0.02	4.7	wash only	Mar. 3	1145	356
Mar. 3	Mar. 4	0.02	5.5	wash only	Mar. 4	1212	310
Mar. 4	Mar. 5	0.02	3.6	trace + wash	Mar. 5	1058	412
Mar. 5	Mar. 6	0.02	7.7	wash only	Mar. 6	1055	280
Mar. 6	Mar. 9	0.02	11.2	wash only	Mar. 9	1106	698
Mar. 9	Mar. 10	0.02	5.4	wash only	Mar. 10	1106	209
Mar. 10	Mar. 11	0.02	9.6	wash only	Mar. 11	1105	296
Mar. 11	Mar. 12	0.02	7.1	wash only	Mar. 12	1100	235
Mar. 12	Mar. 13	0.02	4.8	wash only	Mar. 13	1535	130
Mar. 13	Mar. 16	0.02	12.5	wash only	Mar. 16	1106	550
Mar. 16	Mar. 17	0.02	6.7	wash only	Mar. 18	1305	168
Mar. 17	Mar. 18	0.02	5.2	wash only	Mar. 18	1316	169
Mar. 18	Mar. 19	0.02	5.2	wash only	Mar. 20	1120	166
Mar. 19	Mar. 20	0.02	7.0	trace + wash	Mar. 20	1130	756
Mar. 20	Mar. 23	0.02	5.2	wash only	Mar. 23	1105	445
Mar. 23	Mar. 24	0.02	7.8	wash only	Mar. 24	1125	211
Mar. 24	Mar. 25	0.02	5.4	0.18" + wash	Mar. 25	1400	11,856
Mar. 25	Mar. 26	0.02	1.5	0.35" + wash	Mar. 26	1217	7,375
Mar. 26	Mar. 27	0.02	2.1	wash only	Mar. 27	1120	270
Mar. 27	Mar. 30	0.02	6.6	trace + wash	Mar. 30	1115	1,029
Mar. 30	Mar. 31	0.02	7.3	wash only	Mar. 31	1206	861
Average per day			6.9				847

APRIL 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Mar. 30	Apr. 1	0.03	8.9	trace + wash	Apr. 1	1115	1,003
Apr. 1	Apr. 2	0.02	5.3	wash only	lost sample		- - -
Apr. 2	Apr. 3	0.02	2.0	wash only	Apr. 3	1113	280
Apr. 3	Apr. 6	0.02	3.1	wash only	Apr. 6	1110	493
Apr. 6	Apr. 7	0.02	2.4	trace + wash	Apr. 7	1037	2,506
Apr. 7	Apr. 8	0.02	out of order	0.73" + wash	Apr. 8	1600	17,043
Apr. 8	Apr. 9	0.03	2.0	0.07" + wash	Apr. 9	1145	1,597
Apr. 9	Apr. 10	0.02	1.5	trace + wash	Apr. 10	1118	316
Apr. 10	Apr. 13	0.02	6.4	wash only	lost sample		- - -
Apr. 13	Apr. 14	0.02	4.0	wash only	Apr. 14	1132	516
Apr. 14	Apr. 15	0.02	4.5	wash only	Apr. 15	1130	602
Apr. 15	Apr. 16	0.02	5.4	trace + wash	Apr. 16	1145	1,184
Apr. 16	Apr. 17	0.02	8.2	wash only	Apr. 17	1147	939
Apr. 17	Apr. 20	0.02	8.2	0.13" + wash	Apr. 20	1315	12,672
Apr. 20	Apr. 21	0.02	9.5	0.01" + wash	Apr. 21	1157	4,141
Apr. 21	Apr. 22	0.02	4.9	wash only	Apr. 22	1215	1,517
Apr. 22	Apr. 23	0.02	6.1	wash only	Apr. 23	1145	719
Apr. 23	Apr. 24	0.02	6.1	wash only	Apr. 24	1148	843
Apr. 24	Apr. 27	0.03	4.3	0.01" + wash	Apr. 27	1126	3,534
Apr. 27	Apr. 28	0.02	4.1	trace + wash	Apr. 28	1125	874
Apr. 28	Apr. 29	0.03	4.2	wash only	Apr. 29	1130	652
Apr. 29	Apr. 30	0.02	8.0	wash only	Apr. 30	1126	313
Average per day			5.1				1,990

MAY 1959

:/M^2	Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection μμc/M^3	Precipitation (if any)	Date of count	Time of count	μμc/M^2
)03	Apr. 30	May 1	0.02	5.1	wash only	May 1	1135	466
- -								
:80	May 1	May 4	0.03	4.2	wash only	May 4	1228	604
	May 4	May 5	0.04	6.6	0.03" + wash	May 5	1130	1,877
493	May 5	May 6	0.04	7.6	trace + wash	May 6	1120	574
506	May 6	May 7	0.03	9.3	trace + wash	May 7	1036	1,482
043	May 7	May 8	0.03	1.7	0.46" + wash	May 11	1110	10,068
597								
316	May 8	May 11	0.03	6.0	0.05" + wash	May 11	1120	5,745
	May 11	May 12	0.03	3.4	wash only	May 12	1106	887
- -	May 12	May 13	0.02	4.3	wash only	May 13	1140	904
516	May 13	May 14	0.02	3.8	0.02" + wash	May 14	1130	4,563
602	May 14	May 15	0.02	3.2	trace + wash	May 15	1240	3,001
184								
939	May 15	May 18	0.03	3.6	0.05" + wash	May 18	1420	3,910
	May 18	May 19	0.03	3.8	wash only	May 19	1140	1,371
,672	May 19	May 20	0.02	3.5	wash only	May 20	1615	475
,141	May 20	May 21	0.02	3.7	wash only	May 21	1340	517
,517	May 21	May 22	0.03	4.7	0.01" + wash	May 22	1310	3,673
719								
843	May 22	May 25	0.03	2.4	0.36" + wash	May 25	1430	7,012
	May 25	May 26	0.03	4.1	wash only	May 26	1138	2,998
,534	May 26	May 27	0.03	1.4	wash only	May 27	1140	622
874	May 27	May 28	0.03	4.2	wash only	May 28	1245	507
652								
313	May 28	June 1	0.03	2.8	wash only	June 1	1135	470
.,990	Average per day			4.1				1,617

JUNE 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
June 1	June 2	0.02	1.8	0.06" + wash	June 2	1208	1579
June 2	June 3	0.03	2.0	wash only	June 3	1144	502
June 3	June 4	0.03	1.8	trace + wash	June 4	1132	871
June 4	June 5	0.02	3.5	wash only	June 5	1215	1058
June 5	June 8	0.03	2.7	wash only	June 8	1220	2966
June 8	June 9	0.02	2.2	wash only	June 9	1200	487
June 9	June 10	0.02	6.4	wash only	June 10	1233	309
June 10	June 11	0.02	0.9	wash only	June 11	1312	149
June 11	June 12	0.03	1.3	wash only	June 12	1420	366
June 12	June 15	0.03	1.0	0.49" + wash	June 15	1506	3150
June 15	June 16	0.03	0.6	0.08" + wash	June 16	1146	1704
June 16	June 17	0.03	0.8	0.04" + wash	June 17	1330	999
June 17	June 18	0.02	0.7	trace + wash	June 18	1117	1124
June 18	June 19	0.03	1.0	0.02" + wash	June 19	1136	1250
June 19	June 22	0.02	0.6	0.47" + wash	June 22	1446	1539
June 22	June 23	0.02	0.7	0.07" + wash	June 23	1110	643
June 23	June 24	0.02	0.8	trace + wash	June 24	1138	906
June 24	June 25	0.03	0.8	trace + wash	June 25	1054	836
June 25	June 26	0.02	0.6	trace + wash	June 26	1000	942
June 26	June 29	0.02	0.9	0.35" + wash	June 29	1450	2641
June 29	June 30	0.02	0.6	wash only	June 30	1125	652
June 30	July 1	0.02	1.1	wash only	July 1	1120	370
Average per day			1.4				835

JULY 1959

μc/M²	Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection μμc/M³	Precipitation (if any)	Date of count	Time of count	μμc/M²
.579	July 1	July 2	0.02	0.8	wash only	July 2	1125	199
502								
871	July 2	July 6	0.02	0.4	0.07" + wash	July 6	1140	888
.058	July 6	July 7	0.02	0.1	0.03" + wash	July 7	1034	368
	July 7	July 8	0.02	0.1	trace + wash	July 8	1116	666
2966	July 8	July 9	0.03	0.6	trace + wash	July 9	1125	799
487	July 9	July 10	0.02	0.8	wash only	July 10	1225	365
309								
149	July 10	July 13	0.02	0.6	trace + wash	July 13	1133	1205
366	July 13	July 14	0.02	0.5	0.01" + wash	July 14	1111	815
	July 14	July 15	0.03	0.4	trace + wash	July 15	1212	403
3150	July 15	July 16	0.03	0.2	0.20" + wash	July 16	1337	790
1704	July 16	July 17	0.02	0.5	0.27" + wash	July 17	1414	1055
999								
1124	July 17	July 20	0.03	0.6	0.20" + wash	July 20	1425	1197
1250	July 20	July 21	0.02	0.4	0.01" + wash	July 21	1143	502
	July 21	July 22	0.02	0.2	0.07" + wash	July 22	1115	603
1539	July 22	July 23	0.02	0.2	0.15" + wash	July 23	1330	561
643	July 23	July 24	0.02	0.4	trace + wash	July 24	1152	686
906								
836	July 24	July 27	0.02	0.3	1.18" + wash	July 28	1251	3846
942	July 27	July 28	0.02	0.1	0.22" + wash	July 28	1517	1400
	July 28	July 29	0.02	0.3	wash only	July 29	1140	152
2641	July 29	July 30	0.02	0.2	0.09" + wash	July 30	1320	594
652	July 30	July 31	0.02	0.2	wash only	July 31	1145	172
370								
835	Average per day			0.40				576

AUGUST 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
July 31	Aug. 3	0.02	0.1	0.09" + wash	Aug. 3	1140	348
Aug. 3	Aug. 4	0.02	0.1	0.14" + wash	Aug. 4	1308	503
Aug. 4	Aug. 5	0.02	0.1	0.16" + wash	Aug. 5	1250	831
Aug. 5	Aug. 6	0.02	0.1	0.67" + wash	Aug. 6	1458	915
Aug. 6	Aug. 7	0.02	0.1	0.51" + wash	Aug. 7	1656	621
Aug. 7	Aug. 10	0.02	0.1	1.63" + wash	Aug. 10	1707	679
Aug. 10	Aug. 11	0.02	0.1	wash only	Aug. 11	1140	106
Aug. 11	Aug. 12	0.02	0.2	wash only	Aug. 12	1147	165
Aug. 12	Aug. 13	0.02	<0.05	wash only	Aug. 13	1140	75
Aug. 13	Aug. 14	0.02	0.1	0.33" + wash	Aug. 14	1242	828
Aug. 14	Aug. 17	0.02	0.1	1.31" + wash	Aug. 18	1515	454
Aug. 17	Aug. 18	0.02	0.6	trace + wash	Aug. 18	1452	118
Aug. 18	Aug. 19	0.02	0.1	trace + wash	Aug. 20	1331	79
Aug. 19	Aug. 20	0.02	<0.05	0.14" + wash	Aug. 20	1438	66
Aug. 20	Aug. 21	0.03	<0.05	0.69" + wash	Aug. 21	1510	408
Aug. 21	Aug. 24	0.02	0.7	0.33" + wash	Aug. 24	1553	423
Aug. 24	Aug. 25	0.02	<0.05	0.58" + wash	Aug. 26	1003	86
Aug. 25	Aug. 26	0.02	<0.05	0.32" + wash	Aug. 26	1547	264
Aug. 26	Aug. 27	0.02	<0.05	0.04" + wash	Aug. 27	1110	11
Aug. 27	Aug. 28	0.02	<0.05	trace + wash	Aug. 28	1240	51
Aug. 28	Aug. 31	0.02	<0.05	0.30" + wash	Aug. 31	1552	553
Average per day			0.16				243

SEPTEMBER 1959

μμc/M²	Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection μμc/M³	Precipitation (if any)	Date of count	Time of count	μμc/M²
348								
503	Aug. 31	Sept. 1	0.02	<0.05	wash only	Sept. 1	1220	84
831	Sept. 1	Sept. 2	0.02	0.3	wash only	Sept. 2	1123	50
915	Sept. 2	Sept. 3	0.02	0.2	wash only	Sept. 3	1141	72
621	Sept. 3	Sept. 4	0.03	0.1	wash only	Sept. 4	1226	35
679	Sept. 4	Sept. 8	0.02	0.1	wash only	Sept. 8	1200	88
106	Sept. 8	Sept. 9	0.02	out of order	wash only	Sept. 9	1243	58
165	Sept. 9	Sept. 10	0.02	0.2	wash only	Sept. 10	1137	100
75	Sept. 10	Sept. 11	0.02	<0.05	wash only	Sept. 11	1235	48
828								
	Sept. 11	Sept. 14	0.02	0.8	wash only	Sept. 14	1147	87
454	Sept. 14	Sept. 15			wash only	Sept. 15	1123	68
118	Sept. 15	Sept. 16	0.02	<0.05	trace + wash	Sept. 16	1130	94
79	Sept. 16	Sept. 17	0.02	<0.05	trace + wash	Sept. 17	1140	46
66	Sept. 17	Sept. 18	0.02	0.1	trace + wash	Sept. 18	1135	58
408								
	Sept. 18	Sept. 21	0.02	0.1	wash only	Sept. 21	1144	63
423	Sept. 21	Sept. 22	0.02	<0.05	wash only	Sept. 22	1145	51
86	Sept. 22	Sept. 23	0.02	<0.05	wash only	Sept. 23	1157	49
264	Sept. 23	Sept. 24	0.02	<0.05	wash only	Sept. 24	1140	66
11	Sept. 24	Sept. 25	0.02	0.1	trace + wash	Sept. 25	1200	45
51								
	Sept. 25	Sept. 28	0.02	out of order	wash only	Sept. 28	1323	55
553	Sept. 28	Sept. 29	0.02	out of order	trace + wash	Sept. 29	1125	154
	Sept. 29	Sept. 30	0.02	out of order	0.08" + wash	Sept. 30	1320	922
	Sept. 30	Oct. 1	0.02	out of order	0.23" + wash	Oct. 1	1436	1,141
243								
	Average per day			0.22				111

OCTOBER 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Oct. 1	Oct. 2	0.02	0.2*	0.93" + wash	Oct. 5	1139	815
Oct. 2	Oct. 5	0.02	0.4	0.79" + wash	Oct. 5	1600	613
Oct. 5	Oct. 6	0.02	0.2	wash only	Oct. 6	1250	69
Oct. 6	Oct. 7	0.02	0.3	wash only	Oct. 7	1148	48
Oct. 7	Oct. 8	0.02	0.3	wash only	Oct. 8	1125	29
Oct. 8	Oct. 9	0.02	0.4	wash only	Oct. 9	1127	46
Oct. 9	Oct. 12	0.02	0.1	wash only	Oct. 12	1305	43
Oct. 12	Oct. 13	0.02	0.1	wash only	Oct. 13	1126	50
Oct. 13	Oct. 14	0.02	0.1	0.04" + wash	Oct. 14	1347	105
Oct. 14	Oct. 15	0.02	0.1	wash only	Oct. 15	1530	18
Oct. 15	Oct. 16	0.03	0.1	wash only	Oct. 16	1640	0
Oct. 16	Oct. 19	0.02	0.1	wash only	Oct. 19	1136	69
Oct. 19	Oct. 20	0.02	0.1	wash only	Oct. 20	1127	27
Oct. 20	Oct. 21	0.02	0.2	wash only	Oct. 21	1123	56
Oct. 21	Oct. 22	0.02	0.1	wash only	Oct. 22	1117	45
Oct. 22	Oct. 23	0.02	0.2	wash only	Oct. 23	1122	28
Oct. 23	Oct. 26	0.03	<0.05	wash only	Oct. 26	1152	17
Oct. 26	Oct. 27	0.02	0.1	wash only	Oct. 27	1144	51
Oct. 27	Oct. 28	0.02	0.1	wash only	Oct. 28	1116	69
Oct. 28	Oct. 29	0.02	<0.05	0.08" + wash	Oct. 29	1052	56
Oct. 29	Oct. 30	0.02	<0.05	1.38" + wash	Nov. 2	1640	439
Average per day			0.16				93

*Hole in filter.

NOVEMBER 1959

μμc/M²	Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection μμc/M³	Precipitation (if any)	Date of count	Time of count	μμc/M²
815	Oct. 30	Nov. 2	0.02	0.1	1.17" + wash	Nov. 3	1313	365
613	Nov. 2	Nov. 3	0.02	0.1	0.44" + wash	Nov. 4	0952	474
69	Nov. 3	Nov. 4	0.02	0.2	trace + wash	Nov. 4	1126	40
48	Nov. 4	Nov. 5	0.02	0.3	trace + wash	Nov. 5	1138	72
29	Nov. 5	Nov. 6	0.02	0.2	wash only	Nov. 6	1150	41
46	Nov. 6	Nov. 9	0.02	0.1	wash only	Nov. 9	1115	46
43	Nov. 9	Nov. 10	0.02	0.1	wash only	Nov. 10	1134	35
50	Nov. 10	Nov. 12	0.02	0.1	wash only	Nov. 12	1150	38
105	Nov. 12	Nov. 13	0.03	<0.05	wash only	Nov. 13	1120	30
18	Nov. 13	Nov. 16	0.02	0.3	wash only	Nov. 16	1122	51
0	Nov. 16	Nov. 17	0.02	0.1	wash only	Nov. 17	1527	72
69	Nov. 17	Nov. 18	0.02	0.2	wash only	Nov. 18	1128	71
27	Nov. 18	Nov. 19	0.02	0.2	wash only	Nov. 19	1127	65
56	Nov. 19	Nov. 20	0.02	0.1	wash only	Nov. 20	1117	39
45	Nov. 20	Nov. 23	0.02	0.1	wash only	Nov. 23	1133	43
28	Nov. 23	Nov. 24	0.02	<0.05	wash only	Nov. 24	1125	41
17	Nov. 24	Nov. 25	0.02	0.1	wash only	Nov. 25	1128	34
51	Nov. 25	Nov. 27	0.02	0.1	0.21" + wash	Nov. 27	1430	475
69	Nov. 27	Nov. 30	0.02	0.1	wash only	Nov. 30	1128	34
56								
439								
	Average per day			0.14				67
93								

DECEMBER 1959

Collection Start	Date Stop	Gamma mr/hr 3 ft above roof	Airborne beta activity counted 7 days after collection $\mu\mu c/M^3$	Precipitation (if any)	Date of count	Time of count	$\mu\mu c/M^2$
Nov. 30	Dec. 1	0.02	0.2	wash only	Dec. 1	1142	27
Dec. 1	Dec. 2	0.02	0.1	wash only	Dec. 2	1132	32
Dec. 2	Dec. 3	0.02	0.1	wash only	Dec. 3	1145	0
Dec. 3	Dec. 4	0.02	0.1	wash only	Dec. 4	1126	49
Dec. 4	Dec. 7	0.02	0.1	wash only	Dec. 7	1115	28
Dec. 7	Dec. 8	0.03	<0.05	wash only	Dec. 8	1137	29
Dec. 8	Dec. 9	0.02	0.1	wash only	Dec. 9	1202	26
Dec. 9	Dec. 10	0.02	0.1	wash only	Dec. 10	1211	27
Dec. 10	Dec. 11	0.03	0.1	wash only	Dec. 11	1139	24
Dec. 11	Dec. 14	0.03	0.1	0.08" + wash	Dec. 14	1336	382
Dec. 14	Dec. 15	0.02	<0.05	0.18" + wash	Dec. 15	1040	70
Dec. 15	Dec. 16	0.02	out of order	trace + wash	Dec. 16	1132	84
Dec. 16	Dec. 17	0.02	0.1	wash only	Dec. 17	1136	36
Dec. 17	Dec. 18	0.03	<0.05	wash only	Dec. 18	1150	28
Dec. 18	Dec. 21	0.03	0.1	trace + wash	Dec. 21	1105	33
Dec. 21	Dec. 22	0.02	0.1	0.22" + wash	Dec. 22	1254	230
Dec. 22	Dec. 23	0.02	<0.05	wash only	Dec. 23	1123	32
Dec. 23	Dec. 24	0.02	<0.05	wash only	Dec. 24	1142	5
Dec. 24	Dec. 28	0.03	0.1	1.10" + wash	Dec. 28	1555	218
Dec. 28	Dec. 29	0.02	0.2	wash only	Dec. 29	1138	46
Dec. 29	Dec. 30	0.03	0.2	wash only	Dec. 30	1144	41
Dec. 30	Dec. 31	0.02	0.1	0.02" + wash	Dec. 31	1123	59
Average per day			0.10				49

Month

November (last hal

December

January 1

February

March

April

May

June

July

August

September

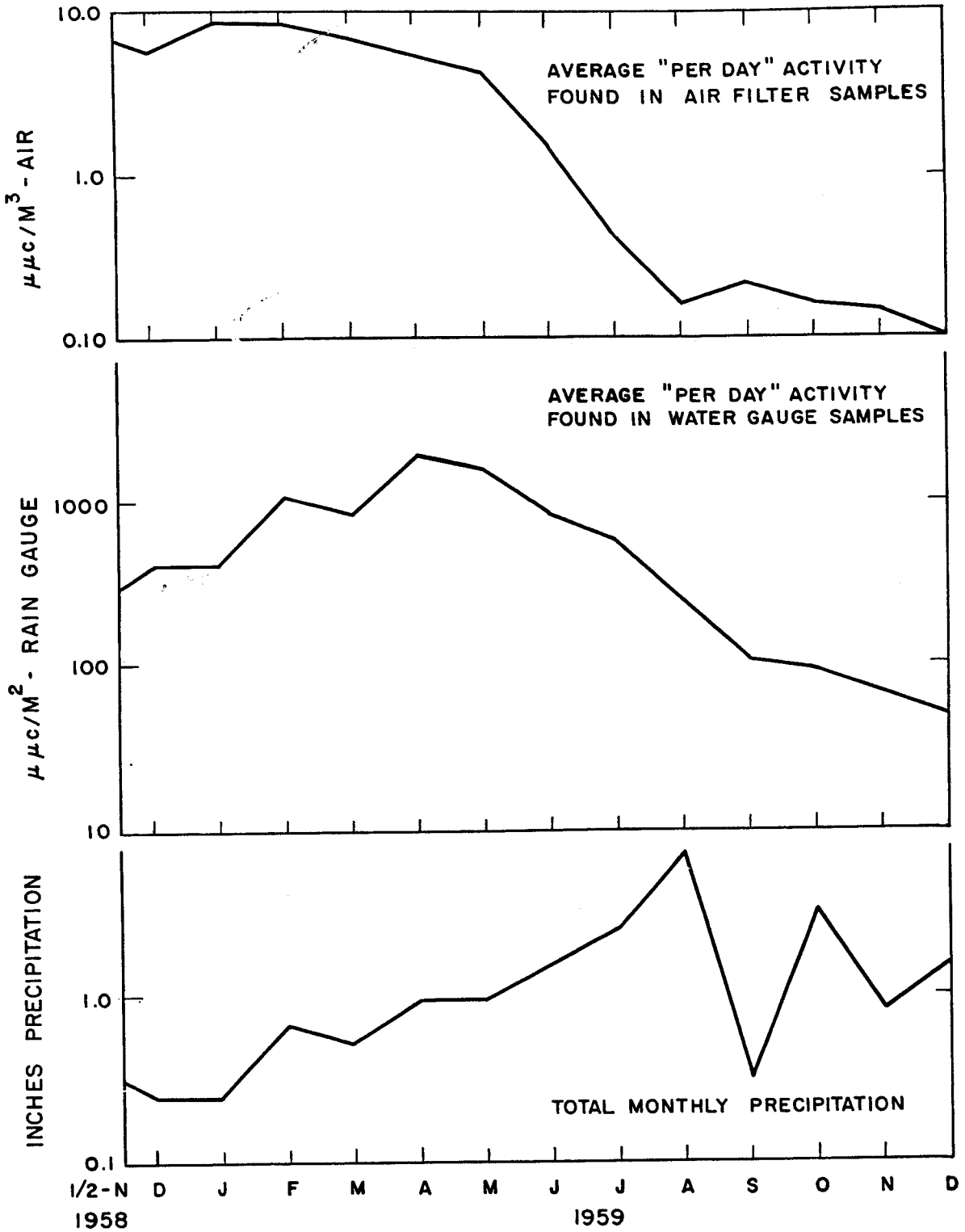
October

November

December

SUMMARY

Month	Average "Per Day" Activities		Total inches Precipitation
	$\mu\mu c/M^3$	$\mu\mu c/M^2$ rain gauge	
November 1958 (last half)	6.8	309	0.33
December	5.5	405	0.27
January 1959	8.1	407	0.27
February	8.0	1124	0.69
March	6.9	847	0.53
April	5.1	1990	0.95
May	4.1	1617	0.98
June	1.4	835	1.58
July	0.40	576	2.50
August	0.16	243	7.24
September	0.22	111	0.31
October	0.16	93	3.22
November	0.14	67	0.82
December	0.10	49	1.60


10.0
1.0
0.10
μμc/M³ - AIR
AVERAGE "PER DAY" ACTIVITY
FOUND IN AIR FILTER SAMPLES
1000
100
10
μμc/M² - RAIN GAUGE
AVERAGE "PER DAY" ACTIVITY
FOUND IN WATER GAUGE SAMPLES
1.0
0.1
INCHES PRECIPITATION
TOTAL MONTHLY PRECIPITATION
1/2-N D J F M A M J J A S O N D
1958
1959