RADIOACTIVE FALLOUT IN ISRAEL

Part 1

MEASUREMENT OF THE TOTAL DEPOSITED ACTIVITY AND OF THE RADIOACTIVITY OF THE AIR.

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Measurement of the Total Deposited β Activity and of the Radioactivity of the Air

(Final Report for 1958 and 1959)

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ABSTRACT

The fallout of radioactive debris from nuclear bomb tests was collected at seven stations throughout Israel during 1958 and 1959, and its β activity and decay properties determined.

Fallout levels followed the same average trends at all stations. Activity peaks found throughout 1958 could be related to the nuclear tests conducted during that year. In addition to this effect, increased amounts of "old" fallout were noticed during the spring of 1958 and 1959. The activity collected during 1958 was generally of mixed origin. However, the activity peak of spring 1959 could be related almost entirely to the October 1958 Russian test series.

"Fresh" fallout was found to be predominantly in the form of a number of hot spots while older material was more homogeneously distributed.

Rain was found to be the main deposition agent, although in a manner complex to analyse. In the absence of rain, air turbulence , dust and sharav weather were associated with increased deposition rates.

The decay properties of the fallout were found to be reliable indicators for identifying "nuclear clouds" and tracing the movement of air masses.

INTRODUCTION

The day to day variations in fallout from nuclear bomb debris result from differences in the radioactive content of separate air masses reaching this country and from different deposition efficiencies under various meteorological conditions.

A program for measuring the deposition of fallout throughout Israel was initiated with four objectives in mind:

a. *To determine the depostion pattern in this country and to evaluate in what respects, if any, it differs from those reported from other countries.*

b. *To obtain a record of the deposition from a health physics viewpoint.*

c. *To determine the fluctuations and magnitude of fallout as a guide to the planning of a monitoring network in preparation for the operation of local reactors.*

d. *To apply radioactive indicators to local meteorological research.*

Under this program, the radioactive fallout deposited from day to day was collected on adhesive tape collectors at various sites throughout Israel and its activity measured. The nature and origin of the deposited activity, its deposition pattern and the dependance on meteorological parameters was derived from the variation of the measured activity as a function of time and locality.

In this part of the report sampling and measurement will be described and the results presented and discussed. The application to Health Physics problems will form part 3 of this report. The detailed meteorological aspects will be separately presented in the future.

2. THE SAMPLING NETWORK

The fallout was collected at a number of stations throughout Israel, placed by taking into account the presence of adequate meteorological information on the spot and of reliable and willing personnel.

The location of the sampling stations is shown on the map of Israel (Fig.1). Table No.1 summarizes the pertinent details, while Table No.2 shows the types of sampling and the period during which it was carried out at each station.

TABLE No. 1

DESCRIPTION OF THE FALLOUT STATIONS

Station	Code Name	Coordinates	Alt. (m)	Location of Sampler	Description
Rehoveth	R	34°48'E;31°55'N	55	At. En. Research Est.	undulating open field
Ashdod-Yam	AD	34°39'E;31°49'N	3	Coastal Res. Station	on seashore
Jerusalem	J	35°12'E;31°47'N	782	Hebrew Univ. Campus	roof of Chem.Dpt.
Beer-Sheva	BS	34°48'E;31°15'N	275	Desert Res. Inst.	level, built up area
Eilath	E	34°57'E;29°33'N	20	Regional Met. Station	
Ramat-David	D	35°11'E;32°41'N	70	Airport Met. Station	open ground
Tirat-Yael	T	35°26'E;32°67'N	800	Farm of Dr. Bender	S. slope of Mt. Hillel
K'far Blum	KB	35°36'E;33°12'N	80	Local Met. Station	open plot in kibbutz

Fig. 1. LOCATION OF SAMPLING STATIONS

TABLE No. 2

DURATION OF SAMPLING AT FALLOUT STATIONS

Station	1958 1959 D J F M A M J J A S O N D J F M A M J J A S O N D	Type of Measurement
Rehovoth	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Gummed Tape
	° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	Precipitation(tray)
	——— ———	Precipitation(w)
	------------------------	air sampling
Ashdod-Yam	XXXXXXXXXXXXXXXXXXXXXXXXXXX	Gummed Tape
Jerusalem	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Gummed Tape
	———	Precipitation (w)
Beer-Sheva	XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXX	Gummed Tape
	——— ———	Precipitation (w)
Eilath	XXXXXXXXXXXXXXXX X	Gummed Tape
Ramat-David	XXXXXXXXXXXXXXXX	Gummed Tape
Tirat-Yael	XXXXXXXXXXXXXXXXXXXXXXXXXXX	Gummed Tape
	———	Precipitation(w)
K'far-Blum	XXX	Gummed Tape

Remark: Precipitation (w). - weekly collection of precipitation by means of a funnel and narrow mouthed storage bottle.

3. SAMPLING METHODS

a. Gummed Tape Collection

I. General Considerations

The local climate, with its abundance of bright and rainless days, necessitates the sampling of dry fallout in addition to the collection of precipitation. Collection on a sticky surface is widely used for this purpose, (Gummed Paper Collector). This sampler falls short of an ideal collector, such as a high-walled pot, in that the collecting efficiency for dry fallout varies as a function of parameters such as air turbulence, temperature and humidity, and in that it is an inherently bad sampler of precipitation due to loss of water and deposited activity by runoff. These limitations, some of which have been evaluated by Rosinski[1], are balanced by the convenience of the tape sampler for network operation. The exposed tape can conveniently be dispatched by post to a central processing station, and no operation requiring any skill is involved.

II. Sampling Procedure

In the present study a rubber base adhesive on a transparent plastic film of local produce - Tiltape - was used for sampling the fallout. Two 20 cm wide strips, 50 cm long, were stretched side by side on a flat metal sheet support and fastened to it by clamps (Fig.2). (In the initial experiments at Rehovoth (mid 1958) and at the Jerusalem station a wooden frame was used instead. On these the tape sagged in the middle, causing irregularities in the sampling). The tapes were placed horizontally about 1.5 meters above ground and left in the open for 24, 48 or 72 hours. At the end of the exposure period, they were removed from their support, folded in such a manner so as not to disturb the material that had accumulated on them, and sent by mail to the laboratory. Quite often, depending on the climatic conditions to which the tapes were exposed, changes in their appearance were noted. Hot weather caused the stickiness to be reduced

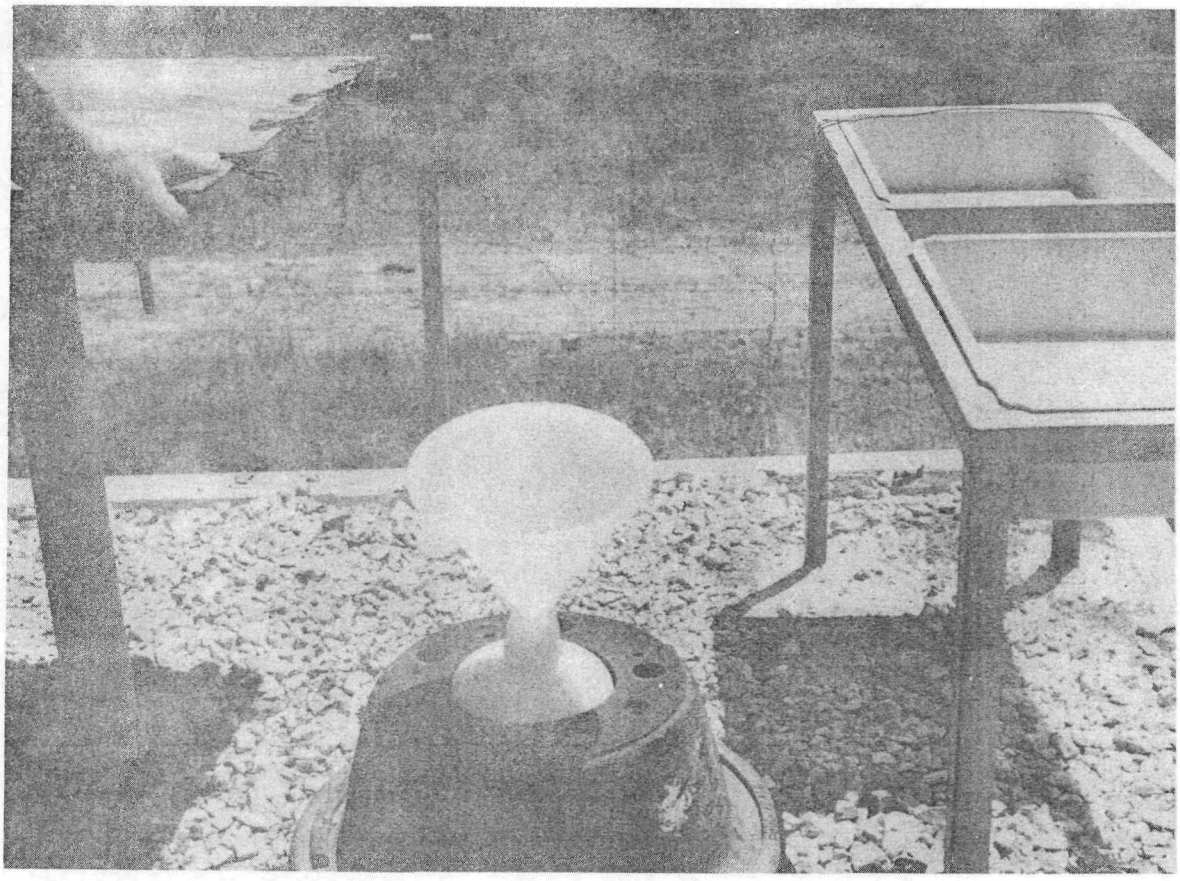

Fig. 2. METEREOLOGICAL STATION, REHOVOTH.

while wet conditions caused swelling of the adhesive layer.

III. Evaluation of the Sampling Efficiency

A number of tests were carried out at the Rehoveth station to assess the reliability and estimate the sampling errors of the method under various conditions. These tests consisted of exposing different samplers side by side for identical periods and comparing the activity accumulated on them. The deposition of fallout activity is not necessarily a homogenous process if related to small sampling areas. Even disregarding accidental losses of activity during processing and measurements, one finds that two identical samplers placed side by side for identical periods of time do not always collect the same amount of fallout. Comparison of different samplers cannot be made therefore, before the agreement between duplicate values is more fully discussed, which will be done in a later section of this report. Although, then, the magnitude of a single deviation cannot be utilised for evaluating the sampler, one can use a large number of measurements in order to detect systematic sampling errors, by counting the number of times each type of sampler accumulated more or less activity than the other.

The conclusion from such tests described below is that the average amount of radioactivity collected on a Tiltape sampler is not less than the activity collected on an ideal sampler on dry days. The collection efficiency, however, varies considerably with the exposure time of the sampler and with atmospheric conditions. Presumably the decreased stickiness during exposure on hot dry periods is offset by increased collection efficiency due to build up of static electricity on the sampler. The losses of activity due to rain are known and can be taken into account to some extent.

IV. Comparison of "Gummed Paper" and "Wet Tray" Collector

A shallow tray, at the bottom of which a layer of water is maintained, is an ideal sampler of fallout insofar as constancy of sampling efficiency during different conditions is concerned. The quantitative transfer of the accumulated activity to a counter is a difficult operation, with which we will not be concerned, however. During tests where a gummed tape and a wet tray were exposed for periods of one, two and seven days, both samplers gave comparable results on dry days. Out of 16 two-day periods (which included hot Sharav weather) we found 8 cases of equal (within 10%) activity on the tape and the tray, 7 cases with more activity on the tray and 2 cases where larger amounts of activity were found on the tape. For a week's exposure period we found 7 cases of equal activity, 8 of more activity on the tape and 4 of more activity on the tray. By this time the tape was completely dry to the touch. Although the number of cases studied is too small to draw general conclusions these results point to the retention of previously collected activity on a dry tape, and to a possible increase in collection efficiency on an older tape.

V. Comparison of Tiltape and HASL Gummed Tape

A shipment of gummed paper manufactured according to HASL specifications was received through the courtesy of Dr. Harley of the New York office of the USAEC. These tapes were compared with the local ones during three months, for exposure periods of one or two days, under a variety of meteorological conditions. Quite generally, the HASL tape was superior as far as aging is concerned. It retained its original appearance and stickiness during hot dry spells and wet days, while the locally manufactured tape lost some of its stickiness on prolonged exposure and swelled under the influence of humid conditions. The amount of sampled activity was however not very different. Although the agreement between duplicates was not as good as when tapes of the same origin are compared, there were no systematically high results on any one tape. Out of 70 measurements, of which 52 were taken during fair weather periods, 7 during very low humidity

(Sharav) periods and 5 during precipitations, results on both types of tape were not consistently different. Actually, under the more adverse conditions (prolonged exposure on dry hot days and during rain) the local tape was the more efficient collector.

VI. Effect of Duration of Exposure on Sampling Efficiency of Tiltape

The accumulated activity collected on a tape continually exposed for one week was compared with the sum total activity collected on tapes changed every day or two for the same period. In the 32 weeks during which the experiments were conducted there were ten cases of almost identical collection of fallout (within 10%), which included most periods of dry warm weather (Sharav). Generally, the activity of the single tape per week collection was 20% lower than the more frequently changed tapes (sum total activity). The largest loss of activity occurred during those periods where large deposition occurred at the end of the sampling period.

VII. Sampling During Precipitations

Comparison of the activity of collected rainwater with the deposited activity on the gummed tape collector on rainy days shows that only part of the activity is retained by the sampler. The loss of activity seems to depend on the intensity of the rainfall and varies from case to case. The fraction of activity incorporated into insoluble materials in the raindrop, as well as its surface properties may influence the result obtained[1].

Rainwater was collected in open trays for two seasons in addition to the sampling by gummed tape. The trays proved to be good samplers provided enough rain fell to wet the sampler completely. Rainfall of more than 40 mm/d exceeded the holding capacity of the tray with the result that some water spilled over. Altogether, 60 periods of rain were analysed. The results obtained showed that except for single drops (for which the tape is a perfect sampler) the activity on the tape was less than in the tray.

The average efficiency of the Tiltape for sampling rainfall of less than 0.5 mm/d was 90%. This dropped to 74% efficiency in case of rainfall of 0.5 - 5 mm/d and to 62% for rain up to 25 mm/d. However, large variations were found, probably due to the fact that the instantaneous rain intensity rather than the whole day average determines the result.

These results are better than those found by Resinski[1] on his tape, and may be due to the swelling of the local product, with the result that more of the precipitation is retained. Two experiments on rain activity showed that about half of the activity is associated with an insoluble residue which presumably is more completely retained than the soluble fraction.

b. Collection of Precipitation

Rainwater was collected at Rehoveth in two deep (5 cm) plastic trays of area 875 cm^2, which were exposed for 24 hours periods. This means of collection proved suitable for rainfall amounts of more than about 0.5 mm/d and of less than the amount that exceeded the trays capacity.

In addition, bi-weekly collections of rainwater were made at various stations by means of a plastic funnel (ϕ=15 cm) and a narrow mouthed plastic storage bottle.

c. Sampling of Particulate Matter in the Surface Air

Concurrently with the measurements of radioactive deposition, the radioactive content of the air was measured at Rehovoth from December 1958 to August 1959. Sampling was carried out for 24 hours daily at a height of two meters above ground by air filtration (Watman filter No.41) with the aid of two Staplex type (TFA 1) air pumps. About 20 cu/ft/min of air was drawn through the filter, so that on the average 800 m^3 air/day was sampled.

4. MEASUREMENT OF THE RADIATION

a. The β Activity of Fallout Samples: General Considerations

A large number of radionuclides of various energies and lifetimes contribute to the radioactivity of particulate matter in the atmosphere. In addition to the short lived progeny of radon and thoron (which contribute the largest instantaneous dose) and to traces of K^{40} and other long-lived natural isotopes found in dust, there are the isotopes produced by the interaction of cosmic rays on the components of the atmosphere, and the man-made fission and activation products from nuclear weapons tests. During the years with which this study is concerned, most of the β activity remaining after the fast initial decay of the radon daughter activity derives from man-made radioisotopes, with some contribution of K^{40}. The assembly of fission products collected will be of different composition depending on the relative ages, fractionation effects and origins. One may assume that, on a first approximation, the assembly has an average energy equal to that of a nuclide with 1.5 Mev. max. β energy, and that the decay rate will be dominated initially by the most recent explosion, following a $t^{-1.2}$ decay law for the first months of its decay. Long-lived nuclides from older explosions, and natural radioactivity will contribute to an ever greater extent as the shorter-lived nuclides decay.

The radiochemical assay of large number of fallout samples involves a prohibitive amount of work. However, total β assay and decay studies give some information on the nature and composition of the deposited activity.

b. Counting Procedures; Total β Assay

The tapes with the dust collected on them were slowly ashed at 550-600°C. The residue was transferred to a cardboard mount, spread out

on a disc of 1 in. diameter and covered by a 3.5 mg/cm^2 cellophane film. Depending on the amount of dust, residues of 25 - 100 mg remained, corresponding to less than 20 mg/cm^2. Only in exceptional cases of sandstorms or very strong showers were there larger amounts of deposit. The losses of activity due to the volatilisation of radioisotopes and to self absorption of radiation in the sample depend somewhat on the exact composition of the sample. For a normal assembly of fission products this loss is estimated to be less than 10% of the total activity.

The β activity was determined in a Sugarman type end window gas flow proportional counter (Type CE-2C Tracerlab). Methane was used as the counting gas and the units operated at 4250 V with a low discriminator setting. The accumulated count was printed out at regular time intervals on an Ametron Printing Counter, thereby enabling statistical control of the measurement. The counters were continuously operated, the night being used for background counting, and the sensitivity checked every day by the use of standards (UKI). Following accepted practice[2] the units were calibrated by pure KCl samples and the efficiency of 1.56 cpm/pC (KCl equivalent) determined. (1pC = $\mu\mu$C).

The samples were first counted on the third day after sampling (by which time the radon daughters activity had decayed to insignificance), and recounted at fixed time intervals during one year. Whenever possible 5000 counts were accumulated; the accuracy thus obtained was necessary in order to obtain a reasonably correct decay curve. Low activity samples were counted for a maximum of 3 hours and their decay data are poor on this account. Every count was corrected for the prevailing background and sensitivity of the counter. The activity of the samples is reported in units of pC/m^2/d (KCl equivalent). This is obtained from the count rate by multiplication with the factor 15600/area of sampler (cm^2).

Air filter samples were ashed and counted in the same fashion. Rain water samples, when collected, were counted in open steel dishes after evaporation.

5. PRESENTATION OF RESULTS.

The deposited activity, collected and counted as described, is characterised by the following set of parameters:

A_0 - Activity at sampling time ($pC/m^2/d$). A_0 is derived from a plot on semilogarithmic paper of the measured activity of the sample vs. the number of days after sampling, by linear extrapolation from the count after 3 days to the middle of the sampling period.

A_1, A_2 ... - Activity in units of $pC/m^2/d$ at one, two, etc months after sampling, as determined from the decay plot by direct measurement or by interpolation.

A_{12} - Residual Activity 12 months after sampling.

f - The duplicate coefficient - is the ratio of activities of duplicate samples (exposed at the same station during the same period) so that $f \geq 1$. Generally f stays constant during the decay of the samples. The average activity of the duplicates (which is the value appearing in the following tables) is derived from the activity A of the stronger sample according to the formula $A_{av} = A\,(1+f) / 2f$.

$T_{\frac{1}{2}}$ - The apparent half life for initial decay. It is based on the decay during the first month after sampling and derived as follows: $T_{\frac{1}{2}} = \log 2 / \log A_0/A_1$.

A_y - Activity of the sample remaining one year after the (extrapolated) explosion date which gave rise to the initial decay rate corresponding to a life $T_{\frac{1}{2}}$, assuming a $t^{-1.2}$ decay law. A_y gives the possibility of comparing fission debris on an absolute basis irrespective of age, e.g., on the basis of number of fissions.

A_y(calc.) is derived from A_0 and $T_{\frac{1}{2}}$ using the formula $A_y = A_0/[12. .(\exp. 0.577/T_{\frac{1}{2}} - 1)]^{1.2}$.

A_y (exp.) is the measured value of A at a time (12 - t') months after sampling, where t' is the number of months by which the explosion preceded the sampling date. Again assuming a $t^{-1.2}$ decay law, one finds that $t' = 1/[\exp. (0.577/T_{\frac{1}{2}}) - 1]$.

$D_r = A_y$ (exp.) / A_y (calc.) is a measure of the presence of activities from old nuclear tests or of longlived natural activities.

pC/l - The specific activity of the precipitation is given in units of pC/l or pC/m^2/mm rain.

The daily fallout measurements are given in Tables Nos. 3 - 103. Measurements from periods of exposure of more than one day are reported separately for each day but the results are joined by a bracket indicating that they are not independent measurements. The major types of meteorological conditions which presumably influence the deposition rate are indicated in the column "weather" by the following symbols:

P - precipitation; r - rain and showers; d - drops
s - snow; h - hail; o - sharav conditions; = - fog or haziness .
Exceptionally strong winds are indicated by / ..

The amount of precipitation, when known, is given in brackets as mm. rain for the whole collection period.

In the column of A_y(calc) the sign ^ indicates that the half-life as measured was used as a basis of calculation, while $\overset{o}{-}$ shows that an average $T_{\frac{1}{2}}$ rather than the measured one was considered.

The monthly deposition is summed up separately for rainy and dry deposition. The average activity refers to dry deposition only. The average specific activity of rainwater is obtained from the total rain activity by dividing by the total rainfall amount.

An asterisk sign following the sum or average value indicates that only part of the month's results were available.*

The activities of rainwater, collected on deep trays, are given in Table No. 104.

The result of the air measurements are given in Tables 105-114. The same symbols are used as before. However the activity values A_0', A_y' are given in units of pC/m^3 air. When A_0' is given in brackets it signifies that the value is doubtful due to uncertainty in the volume of air drawn through the filter.

Table No. 3

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, December 1957.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y calc.	A_y exp.	A_{12}
19.12.57	Pr (5 mm)	1300	260	2.6	345^		
20.12.57							
21.12.57							
22.12.57		105	138	2.6	29^		
)	Pr(1.5mm)	)			)		
23.12.57		105			29^		
24.12.57	Pr(2.2mm)	170	77	1.7	26^		
25.12.57		70			17°		
)		)		3.8	)		
26.12.57		70			17°		
27.12.57		38			2^		
)		)		0.8	)		
28.12.57		38			2^		
29.12.57		137			20^	22	
)		)		1.6	)	)	21)
30.12.57		137			20^	22	21
31.12.57		90		1.3	9^	20	15
Sum	(8.7mm)	2260*			430*		
Sum(no rain)		580*			61*		
Average		82*	192*	2.05*	10*	21*	19*

Table No. 4.

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, January 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y calc.	A_y exp.	A_{12}
1.1.58		90		1.3	9^	20	15
2.1.58	Pr (4.1 mm)	1120	273	2.6	300^	435	240
3.1.58	Pr (32 mm)	1510	94	2.4	370^	350	240
4.1.58		1510			370	350	240
5.1.58	Pr (36 mm)	1680	93	2.7	480^	350	225
6.1.58		1680			480	350	225
7.1.58		57		1.0	4^		
8.1.58		57			4		
9.1.58	Pr (34 mm)	20600	605	0.6	590^	960	940
10.1.58	Pr (0.5 mm)	1310	5200	0.6	37^	85	80
11.1.58		1310			37	85	80
12.1.58		62		0.9	4^		5
13.1.58		62			4		5
14.1.58		335		1.0	23^	70	60
15.1.58		335			23	70	60
16.1.58	Pr (0.6 mm)	1430	2380	1.9	250^	290	235
17.1.58		94		1.2	9^	25	25
18.1.58		94			9	25	25
19.1.58	Pr (13 mm)	2280	350	1.5	290^	450	360
20.1.58		2280			290	450	360
21.1.58	Pr (2 mm)	205	200	1.2	19^	50	45
22.1.58		205			19	50	45
23.1.58		49		-	7*		
24.1.58		49			7		
25.1.58	Pr (23 mm)	2970	77	1.7	465^	560	500
26.1.58	Pr (2.3 mm)	1170	1000	1.7	178^	275	225
27.1.58		1170			178	275	225
28.1.58	Pr (32 mm)	655	41	1.6	91^	155	125
29.1.58		655			91	155	125
30.1.58	Pr (18 mm)	4100	230	2.3	930^	1075	835
31.1.58		77		2.0	15^		
Sum	(197mm)	49200			5574	6960*	5735*
Sum (no rain)		1358			118		
Average		113	242	1.5	10	25*	

Table No. 5.

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, February 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y calc.	A_y exp.	A_{12}
1.2.58		77		2.0	17^		
2.2.58	Pd	280		2.2	62^	85	62
3.2.58		280			62	85	62
4.2.58	Pr (7 mm)	2120	307	3.5	850°	900	475
5.2.58	Pd	550		3.0	180^	175	125
6.2.58		550			180	175	125
7.2.58		100		1.1	22°	24	18
8.2.58		100			22	24	18
9.2.58		25		-	6°		15
10.2.58		25			6		15
11.2.58	Pr (?)	1140		2.0	250^	290	235
12.2.58		1140			250	290	235
13.2.58		55		-	12°		25
14.2.58		55			12		25
15.2.58		55			12		25 t
16.2.58		28		-	6°		
17.2.58		28			6		
18.2.58		95		1.5	21°		40
19.2.58		95			21		40
20.2.58	Pr (3 mm)	1150	1150	2.7	370^	350	225
21.2.58		1150			370	350	225
22.2.58		1150			370	350	225
23.2.58		35		1.4	7°		
24.2.58		35			7		
25.2.58		20		2.0	4^		
26.2.58		20			4		
27.2.58		20			4		
28.2.58		330		1.6	46^	75	70
Sum	(10 mm)	10718			3179	3325*	2400*
Sum (no rain)		1198			235		
Average		66	557	2.0	13		

Table No. 6.

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, March 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	calc. Ay	exp.	A_{12}
1.3.58		330		1.6	46^	75	70
2.3.58	o	35			4°		
3.3.58		35		-	4		
4.3.58	o =	35			3^	10	8
5.3.58		35		1.1	3	10	8
6.3.58		35			3	10	8
7.3.58	Pr (0.4 mm)	550	2750	2.0	100^	185	130
8.3.58		550			100	185	130
9.3.58		93		2.2	20^	35	27
10.3.58		93			20	35	27
11.3.58		48		1.0	10°		
12.3.58		48			10		
13.3.58		730			128^	175	135
14.3.58	Pd	730		1.9	128	175	135
15.3.58		730			128	175	135
16.3.58		30		2.2	7^		
17.3.58		30			7		
18.3.58		13			2^		
19.3.58		13		2.0	2		
20.3.58		13			2		
21.3.58		50			3^		
22.3.58		50			3		
23.3.58	Pr (mm)	3700			465^	400	230
24.3.58		3700			465	400	230
25.3.58		62			8^	17	13
26.3.58	o	62		1.5	8	17	13
27.3.58		62			8	17	13
28.3.58	o	240		0.6	10^		
29.3.58		240			10		
30.3.58	o	180		1.0	13^		
31.3.58		180			13		
Sum		12722			1733	2100*	1475*
Sum (no rain)		2012			219		
Average		83		1.5	9		

Table No. 7.

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, April 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	Ay calc.	Ay exp.	A_{12}	Remarks
1.4.58		46		1.6	7^	12		
2.4.58		46			7	12		
3.4.58		230			11	16	15	
4.4.58		230		0.8	11	16	15	
5.4.58		230			11	16	15	
6.4.58		325			19^	25		
7.4.58	o	325		0.9	19	25		
8.4.58		1320		1.1	110^	140	120	
9.4.58		1320			110	140	120	single hot spot
10.4.58		135			9^			
11.4.58		135		1.0	9			
12.4.58		135			9			
13.4.58		107			11^			
14.4.58	o	107		1.3	11			
15.4.58		483			60^	80		
16.4.58	o	483		1.5	60	80		
17.4.58		442			100^		120	
18.4.58	o	442		2.3	100		120	
19.4.58		442			100		120	
20.4.58		2120			195^	300		
21.4.58	Pr (3 mm)	2120	1400	1.3	195	300		
22.4.58		-						
23.4.58		90			13^	10		
24.4.58	o	90		1.6	13	10		
25.4.58		80			15°		10	
26.4.58	o	80		-	15		10	
27.4.58		93			23^		30	
28.4.58		93		2.4	23		30	
29.4.58		470			27^		27	
30.4.58		470		0.9	27		27	
Sum	(3 mm)	12690			1314			
Sum (no rain)		8450			928			
Average		312	1400	1.4	34	50*	50*	
Average (without HS)		242			28			

Table No. 8.

Deposition of Fallout Activity on a Gummed Paper Collector.

Rehovoth Station, May 1958.

Date.	Weather	A_o	$T_{\frac{1}{2}}$	A_y calc.	A_y exp.	A_{12}	Remarks.
1.5.58		470	0.9	23^		27	A_y refers to 18 months
2.5.58	Pr (mm)	2250	1.7	318°		280	"
3.5.58		2250		318		280	
4.5.58		110	1.3	14		20	"
5.5.58		110		14		20	
6.5.58		36	-	5°		10	"
7.5.58		36		5		10	
8.5.58		36		5		10	
9.5.58		350	2.2	45°		55	"
10.5.58	o	350		45		55	
11.5.58		240	1.7	30°		45	"
12.5.58	o	240		30		45	
13.5.58		670	1.8	85°		65	"
14.5.58	o	670		85		65	
15.5.58		670		85		65	
16.5.58		120	2.0	15°		21	"
17.5.58	o	120		15		21	
18.5.58		132	2.0	17	45	35	"
19.5.58		132		17	45	35	
20.5.58		54	(4.7)	7°		12	"
21.5.58		54		7		12	
22.5.58		54		7		12	
23.5.58		82	2.7	10°		15	"
24.5.58		82		10		15	"
25.5.58		82		10		15	
26.5.58		88	-	11°		22	
27.5.58		88		11		22	
28.5.58	Pd	143	1.6	18°		15	
29.5.58		143		18		15	
30.5.58		142	1.3	18°		25	
31.5.58		142		18		25	
Sum		10745		1313		1370	
Sum (no rain)		5646		641		780	
Average		194	1.5	24		29	

Table No. 9

Deposition of Radioactive Fallout on a Gummed Tape Collector.

Rehovoth Station, June 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	Ay calc.	Ay exp.	A_{12}	f
1.6.58		285	1.7	43	35	30	
2.6.58		285		43	35	30	-
3.6.58		110		17		20	
4.6.58		110	-	17		20	1.1
5.6.58		110		17		20	
6.6.58		280		42	55	45	
7.6.58	o	280	1.6	42	55	45	-
8.6.58		92		14	17	16	
9.6.58		92	1.6	14	17	16	1.1
10.6.58		50		8	14	12	
11.6.58		50	1.8	8	14	12	1.6
12.6.58		50		8	14	12	
13.6.58		135		20	22	19	
14.6.58	o	135	-	20	22	19	1.7
15.6.58		100		15		12	
16.6.58		100	2.4	15		12	1.5
17.6.58		45		6		10	
18.6.58		45	4	6		10	1.0
19.6.58		45		6		10	
20.6.58		37		6		12	
21.6.58		37	1.4	6		12	1.4
22.6.58		100		15	25	24	
23.6.58		100	1.5	15	25	24	1.0
24.6.58		72		11	25	19	
25.6.58		72	2.0	11	25	19	1.9
26.6.58		72		11	25	19	
27.6.58		64		10	25	23	
28.6.58		64	(5)	10	25	23	-
29.6.58		115		17	30	28	
30.6.58		115	1.8	17	30	28	3.8
Sum		3275		490		600	
Average		109	1.7	16	26*	20	1.6

Table No. 10

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, July 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	Ay calc.	Ay exp.	A_{12}	f
1.7.58		25		12^	15	11	
2.7.58		25	3.4	12	15	11	1.9
3.7.58		25		12	15	11	
4.7.58		40		12^	30	28	1.1
5.7.58		40	2.8	12	30	28	
6.7.58		53		8°		13	2.9
7.7.58		53	-	8		13	
8.7.58		46		6^	20	18	
9.7.58		46	1.6	6	20	18	1.2
10.7.58		46		6	20	18	
11.7.58		1900		12^	35	35	3.4
12.7.58		1900	0.3	12	35	35	
13.7.58		350		10^		30	3.5
14.7.58		350	0.6	10		30	
15.7.58		70		8^		20	
16.7.58		70	1.4	8		20	1.3
17.7.58		70		8		20	
18.7.58		100		12°		25	1.0
19.7.58		100	-	12		25	
20.7.58		120		13°		33	1.5
21.7.58		120	-	13		33	
22.7.58		110		13^		25	1.1
23.7.58		110	1.4	13		25	
24.7.58		110		13		25	
25.7.58		280		32^	56	45	1.6
26.7.58		280	1.4	32	56	45	
27.7.58		145		13^	22	15	1.0
28.7.58		145	1.2	13	22	15	
29.7.58		350		10^		22	1.3
30.7.58		350	0.6	10		22	
31.7.58		140	-	7°	14	15	1.1
Sum		7587		386		732	
Average		244	1.4	13		24	1.7

Table No. 11

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, August 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	Ay Calc.	Ay exp.	A_{12}	f
1.8.58		140	-	11°	15	14	1.1
2.8.58		140		11	15	14	
3.8.58		100		11°		25	1.1
4.8.58		100	-	11		25	
5.8.58		115		9°		33	
6.8.58		115	-	9		33	
7.8.58		135		9^	14	13	
8.8.58		135	1.0	9	14	13	1.5
9.8.58		135		9	14	13	
10.8.58		73		6°	23	18	1.5
11.8.58		73	3.2	6	23	18	
12.8.58		83		9^	22	21	1.0
13.8.58		83	1.4	9	22	21	
14.8.58		125		8^		16	1.3
15.8.58		125	0.9	8		16	
16.8.58		125		8		16	
17.8.58		110		4^	15	13	1.6
18.8.58		110	0.7	4	15	13	
19.8.58		95		10^		17	1.1
20.8.58		95	1.3	10		17	
21.8.58		150		7^	20	19	1.2
22.8.58	o	150	0.8	7	20	19	
23.8.58		150		7	20	19	
24.8.58		168		23^	32	20	1.0
25.8.58		168	1.6	23	32	20	
26.8.58		110		5^		15	1.0
27.8.58		110	0.8	5		15	
28.8.58		78		5^		13	1.0
29.8.58		78	1.0	5		13	
30.8.58		78		5		13	
31.8.58		80	1.4	9^	18	12	1.1
Sum		3532		272		540	
Average		113	1.1	9		18	1.3

Table No. 12

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, September 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	Ay calc.	Ay exp.	A_{12}	f
1.9.58		80	1.4	9^	17	12	1.1
2.9.58		77		15^	25	14	
3.9.58		77	2.0	15	25	14	1.4
4.9.58		210		29^	30	25	
5.9.58		210	1.6	29	30	25	1.2
6.9.58		210		29	30	25	
7.9.58		208		40 •	50	40	
8.9.59		208	3.0	40	50	40	1.0
9.9.58		208		40	50	40	
10.9.58		90	0.9	9•		21	1.2
11.9.58		137		21^	35	19	
12.9.58		137	1.7	21	35	19	2.1
13.9.58		137		21	35	19	
14.9.58		115		19^	25	20	
15.9.58		115	1.8	19	25	20	1.1
16.9.58		115		19	25	20	
17.9.58		115		19	25	20	
18.9.58		150		34^	29	20	
19.9.58		150	2.3	34	29	20	2.8
20.9.58		150		34	29	20	
21.9.58		80	1.8	13^		26	1.0
22.9.58		80		13		26	
23.9.58		50		10^		12	1.0
24.9.58		50		10		12	
25.9.58		45		9^	16	14	
26.9.58		45	2.0	9	16	14	1.0
27.9.58		45		9	16	14	
28.9.58		60	1.2	7^	22	18	-
29.9.58		60		7	22	18	
30.9.58		39	2.1	8	11	10	1.2
Sum		3473		591		617	
Average		115	1.8	20	28 *	20	1.3

Table No. 13

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, October 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y calc.	A_y exp.	A_{12}	f	Remarks
1.10.58		39	2.1	11°	11	10	1.2	
2.10.58		43		12°	15	13		
3.10.58		43	3.3	12	15	13	1.5	
4.10.58		43		12	15	13		
5.10.58		85		24°	30	20		
6.10.58		85	3.5	24	30	20	1.0	
7.10.58		80		23°	25	20		
8.10.58		80	2.5	23	25	20	1.1	
9.10.58		6000		36^	50	50		
10.10.58		6000	0.3	36	50	50	1.1	
11.10.58		6000		36	50	50		
12.10.58		2750		34^	39	39	1.4	
13.10.58		2750	0.4	34	39	39		
14.10.58		3300		29^	30	30	1.1	
15.10.58	Pr	3300	0.8_5	29	30	30		
16.10.58		530		15^	30	25		
17.10.58		530	0.6	15	30	25	1.3	
18.10.58		530		15	30	25		
19.10.58		345		10^	13	11		
20.10.58		345	0.6	10	13	11	1.2	
21.10.58		105		6^	16	15	1.3	
22.10.58		105	0.8_5	6	16	15		
23.10.58		(150)2900		(9)165^		100		High duplicate
24.10.58		2900	-	165		100	12	due to hot spot
25.10.58		2900		165		100		
26.10.58		45		3^	15	15		
27.10.58		45	1.0	3	15	15	1.2	
28.10.58		315		12^	30	27		
29.10.58	Pd	315	0.7	12	30	27	1.9	
30.10.58		2000		133^		250		
31.10.58	Pd	2000	1.0	133		250	1.4	
Sum		42180		760		1430		
Sum (no rain)		30850		412		814		
Average		1285	1.3	16	26*	32	2.2	

Table No. 14

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, November 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	Calc. $Ay_{exp.}$		A_{12}	f
1.11.58	Pd	2000		1.0	135^		250	1.4
2.11.58	Pr (0.4 mm)	4100		0.7	170^	190	160	
3.11.58		4100	20000		170	190	160	1.2
4.11.58		135			10^	16	13	
5.11.58	Pr (0.4 mm)	135	680	1.1	10	16	13	1.3
6.11.58		80			6^			
7.11.58		80		1.0	6			1.0
8.11.58		80			6			
9.11.58		160			12°	20	17	
10.11.58		160		0.8	12	20	17	2.7
11.11.58		120			9^	22	21	
12.11.58		120		1.0	9	22	21	1.1
13.11.58		165			12°	14	11	
14.11.58		165		1.2	12	14	11	1.2
15.11.58		165			12	14	11	
16.11.58		95		1.1	7^	25	21	1.1
17.11.58		75		1.6	10^	26	24	1.2
18.11.58		100		1.0	7^	10	5	
19.11.58		75		3	25^		25	1.1
20.11.58		105		3	30^		25	1.1
21.11.58		1120			55^	50	45	
22.11.58	= sand	1120		0.8	55	50	45	
23.11.58	= sand	1000		0.7	40^	50	45	3.0
24.11.58		420		1.0	31^	50	45	1.6
25.11.58		200		1.0	15^	11	9	1.2
26.11.58		225		-	17°			3
27.11.58		450		1.1	33^	60	55	1.4
28.11.58		1800			90^	105	105	
29.11.58	Pr (0.6 mm)	1800	6000	0.8	90	105	105	
30.11.58	Pr (2.7mm)	4050	1500	1.0	300^	280	240	2.1
Sum	4.1	24170			1396	1360*	1530*	
Sum (no rain)		6520			421	460	440	
Average		284	4280	1.0	19	28	22	1.6

Table No. 15

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, December 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y calc.	A_y exp.	A_{12}	f	Remarks.
1.12.58		75		1.3	9		12	1.4	
2.12.58	Pr (7.7 mm)	8800	1140	1.5	1000		600	1.1	
3.12.58	Pr (2.8 mm)	1740	620	1.0	200		175	2.0	
4.12.58		170			19			1.2	
5.12.58		130			15		20	1.2	
6.12.58		130		1.2	15		20		
7.12.58		2570		1.2	290		210	1.0	
8.12.58	Pr (14.0 mm)	7100	500	1.4	810		650	1.2	
9.12.58	Pr (0.3 mm)	1100	3650	1.0	125		100	1.1	
10.12.58		170		1.3	20		10	1.0	
11.12.58		320		1.15	36		32	2.5	
12.12.58		825	1380	1.1	94		70	1.2	
13.12.58	Pr/(1.2 mm)	825			94		70		
14.12.58	Pr (5.4 mm)	2500	475		285		220	1.3	
15.12.58		130		1.3	23		35	1.1	
16.12.58		160		1.25	28			1.7	
17.12.58		150		2.0	25		23	1.4	
18.12.58		150			25		35	1.0	
19.12.58		100		1.7	18		12.	2.2	
20.12.58		100			18		12.		
21.12.58		430		2.6	74		100	2.5	Rain reported in other parts of the country.
22.12.58		160		1.2	28		30	1.0	
23.12.58		170		1.7	29		50	1.0	
24.12.58		250		2.2	50		42	1.5	
25.12.58		90		2.3	16		20	1.1	
26.12.58		1550			270		180	1.3	
27.12.58	Pd	1550		1.9	270		180		
28.12.58		120			21		30	1.2	
29.12.58		85		2.1	15		23	1.1	
30.12.58		300		2.5	53		50	3.3	
31.12.58		175		1.9	31			2.5	
Sum	(31.4 mm)	32205			3975		3040		
Sum (no rain)		3645			537		587		
Average		173	720	1.7	26		31	1.4	

Table No. 16

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, January 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y calc. **	A_y exp.	f
1.1.59		135		1.35	22		2.7
2.1.59		360			60		
3.1.59		360		1.6	60		1.6
4.1.59		245		(3.5)	41		1.7
5.1.59	Pd	6500		1.8	1080		1.0
6.1.59	Pr (22 mm)	12800	660	1.65	1150		1.3
7.1.59	Pr (24 mm)	26700	1100	1.3	2670		1.1
8.1.59	Pr (1 mm)	8400	8400	2.0	1400		1.0
9.1.59		115		2.3	19		1.4
10.1.59		115			19		
11.1.59		195		1.75	33		3.2
12.1.59		280		1.8	47		1.7
13.1.59		135			22		1.0
14.1.59	Pr (0.4 mm)	1360	3400	1.9			1.0
15.1.59	Pr (0.3 mm)	6900	20000	1.75	1300		
16.1.59	Pr	3600			680		
17.1.59		3600		1.45	680		
18.1.59	Pr (0.5 mm)	2300	4600	1.9	435		1.5
19.1.59	Pr (70 mm)	32000	480	1.85	6000		
20.1.59							
21.1.59	Pr (16.5 mm)	2100		2.1	400		1.0
22.1.59		600		2.0	115		1.1
23.1.59		6800			1500		
24.1.59	Pr (3.2 mm)	6800	4200	2.5	1500		1.0
25.1.59		315		2.0	70		1.2
26.1.59		150		2.75	35		1.0
27.1.59		270		2.1	60		1.5
28.1.59		180		2.9	40		1.4
29.1.59		165		3.1	37		1.2
30.1.59		3850			850		
31.1.59	Pr (12.5 mm)	3850	630	2.3	850		1.1
Sum	(129 mm)	107150			21170		
Sum (no rain)		3620			680		
Average		241	890	2.0	50		1.3

** Average $T_{\frac{1}{2}}$ value used throughout.

Table No. 17

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, February 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	f
1.2.59	Pr (1.8 mm)				* *		
2.2.59		195		3	50	45	1.8
3.2.59		145		5	37	125	1.5
4.2.59	Pr (4.9 mm)	6700	1350	3.3	1720	2000	1.1
5.2.59	Pd	2500		2.3	640	600	1.2
6.2.59	Pr (0.9 mm)	1750	3900	2.6	450	350	1.0
7.2.59		1750			450	350	
8.2.59		480		2.7	125	125	1.9
9.2.59		185		2.9	47	55	2.5
10.2.59		120		-	31	85	1.4
11.2.59		95		2.5	24	26	1.4
12.2.59	Pr (10.8 mm)	7400	690	2.3	1900	1700	1.0
13.2.59	Pr (38 mm)	9000	465	2.4	2300	2250	1.1
14.2.59		9000			2300	2250	
15.2.59	Pr (10.3 mm)	7800	750	2.3	2000	1700	1.0
16.2.59	Pr (11.0 mm)	11400	1000	2.1	2920	2700	1.0
17.2.59	Pr (8.4 mm)	9100	1100	2.1	2330	2300	1.2
18.2.59	Pr (31.7 mm)	10500	330	2.0	2700	2500	1.0
19.2.59	Pr (5.5 mm)	12000	2200	3.1	3080	3100	1.0
20.2.59	Pr (3.5 mm)	6900	4000	3.3	1770	1750	1.0
21.2.59		6900			1770	1750	
22.2.59		170		(1.4)	43	37	1.9
23.2.59	Pr (7.3 mm)	12700	1750	2.85	3250	3000	1.0
24.2.59	Pr (10.0 mm)	18500	1850	(4.2)	4750	4300	1.2
25.2.59	Pr (1.1 mm)	8400	7500	2.9	2150	2000	1.0
26.2.59	Pr (4.5 mm)	11500	2600	2.7	2950	2700	1.0
27.2.59	Pr (9.2 mm)	6700	1450	2.8	1720	1700	-
28.2.59		6700			1720	1700	
Sum	Pr (157.1mm)	168590			43227	4720	
Sum (no rain)		1390			357	483	
Average		200	1049	2.8	51	69	1.3

* $T_{\frac{1}{2}}$ = 2.5 used for extrapolation.

Table No. 18

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, March 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	f
1.3.59	Pr (2.6 mm)				* *		
2.3.59							
3.3.59	Pr (0.8 mm)	10500	13000	2.2	2300		1.1
4.3.59	Pr (11.1mm)	4920	445	1.9	1100	1100	1.0
5.3.59	Pr (8.0 mm)	15500	1950	2.3	3500	3300	1.1
6.3.59		175		3.0	50	55	1.3
7.3.59		175			50	55	
8.3.59		260		2.7	74	95	1.1
9.3.59		180		2.4	50	50	1.0
10.3.59		325		1.8	93	115	1.7
11.3.59		170		3.1	50	70	1.2
12.3.59		250		4.2	70	110	1.0
13.3.59		345		2.5	100	110	1.0
14.3.59		345			100	110	
15.3.59		160			46	80	1.2
16.3.59		220		3.2	63	65	1.2
17.3.59	Pr (2.0 mm)	2600		-	745	650	1.2
18.3.59		175			50	50	1.2
19.3.59		140		-	40	40	1.4
20.3.59	Pr (9.2 mm)	4150	900	2.7	1190	1150	
21.3.59		4150			1190	1150	
22.3.59	Pr (1.5 mm)	6800	4500	3.3	1940	2000	1.2
23.3.59	Pr (0.5 mm)	5650	10000	2.5	1615	1600	1.1
24.3.59		400		3.7	115	150	1.0
25.3.59	Pr (1.5 mm)	7000	4600	2.9	2000	2000	1.1
26.3.59		415		1.9	120	130	1.0
27.3.59		195		2.5	56	45	1.9
28.3.59		195			56	45	
29.3.59		14000		2.3	4000	4300	1.2
30.3.59		850		2.9	240	250	1.0
31.3.59		550		2.0	160	160	1.2
Sum	(60.6mm)	81090			23186	19000	
Sum (no rain)		19540			5586	6122	
Average		977	1700	2.6	279	305	1.2

* * Average $T_{\frac{1}{2}}$ used for extrapolation.

Table No. 19

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, April 1959

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	f
1.4.59		330		3.3	103	110	1.0
2.4.59		270		3.7	84	87	1.2
3.4.59)	Pr (2.5 mm)	15000)	12000	3.1	4690)	4800)	1.0
4.4.59)		15000)			4690)	4800)	
5.4.59	Pr (1.8 mm)	2800	1550	3.1	875	830	1.2
6.4.59		260		3.7	80	80	1.1
7.4.59		165		(1.75)	52	50	1.3
8.4.59		225		3.1	70	90	1.1
9.4.59		200		3.8	62	85	1.2
10.4.59)		280)		3.2	88)	95)	1.2
11.4.59)		280)			88)	95)	
12.4.59		135		-	42	90	1.1
13.4.59	Pd	480		3.3	150	170	1.1
14.4.59		150			47	60	1.1
15.4.59		125		(1.9)	39	50	1.3
16.4.59		225		2.7	70	80	1.1
17.4.59)		120)		3.1	38)	45)	1.1
18.4.59)		120)			38)	45)	
19.4.59		180		2.4	56	45	1.3
20.4.59		375		3.3	117	145	1.5
21.4.59		335		3.3	105	100	1.3
22.4.59)		420)		3.7	130)	160)	
23.4.59)	o	420)			130)	160)	
24.4.59)		205)		3.0	64)	70)	1.4
25.4.59)		205)			64)	70)	
26.4.59	o	230			72	100	2.1
27.4.59		290		2.0	90	90	
28.4.59)		740)		2.4	230)	250)	1.2
29.4.59)		740)			230)	250)	
30.4.59		150		2	47	52	1.4
Sum	(4.3 mm)	40550			12640	13127	
Sum (no rain)		7270			2236	2527	
Average		279	7620	2.9	86	97	1.2

** $T_{\frac{1}{2}}$ = 2.9 used for extrapolation.

Table No. 20

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, May 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	f
1.5.59		100		3.7	35	39	1.5
2.5.59		100			35	39	
3.5.59		435		1.6	150		1.7
4.5.59		375		5	130	150	1.1
5.5.59		105		2.1	37	40	1.2
6.5.59		260		2.5	91	90	1.1
7.5.59		165		2.4	58	60	1.6
8.5.59		90		6	32	35	1.1
9.5.59		90			32	35	
10.5.59		175		2.1	60	72	1.5
11.5.59		135			47	45	1.3
12.5.59	o	570		3.4	200	235	1.9
13.5.59	o	850		4.6	300	330	1.1
14.5.59	Pd	500		3.5	175	160	1.3
15.5.59	Pd	1950			670	800	
16.5.59		1950		3.7	670	800	1.7
17.5.59	Pr (2.5 mm)	4150	1660	2.7	1460	1600	1.3
18.5.59	Pd	2950		3.7	1030	1150	1.3
19.5.59		380		3.0	133	150	1.7
20.5.59		105		5.5	37	65	1.0
21.5.59		260		4.6	90	110	1.3
22.5.59		165			58	75	
23.5.59		165		1.9	58	75	1.1
24.5.59		85		2.2	30	35	1.1
25.5.59		140		3.7	49	65	1.2
26.5.59		145		(1.5)	50	80	1.3
27.5.59		260		1.6	90	95	1.4
28.5.59		820		3.1	285	400	1.1
29.5.59		115			40	60	
30.5.59		115		5	40	60	1.1
31.5.59		245		6.5	85	110	1.1
Sum	(2.5 mm)	18760			6257	7060	
Sum (no rain)		7260			2252	2550	
Average		279	1660	3.4	86	102	1.3

** $T_{\frac{1}{2}}$ = 3.2 used for extrapolation throughout.

Table No. 21

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, June 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	f
1.6.59		200	2.5	95	110	2.1
2.6.59		115		55	32	1.7
3.6.59	Pr (0.1 mm)	740	2.4	350	370	1.2
4.6.59		70	3	33	45	1.0
5.6.59		50		24	15	
6.6.59		50	2.6	24	15	
7.6.59		70	2.0	33	25	1.5
8.6.59		160	3.7	76	115	1.6
9.6.59	o	280	3.7	130	175	1.6
10.6.59	o	510	3	270	300	2.2
11.6.59		150		70	65	1.2
12.6.59		150		70	65	1.2
13.6.59		150		70	65	1.2
14.6.59		40		19	30	1.7
15.6.59		150	3.7	70	75	1.0
16.6.59		190	1.9	90	90	1.1
17.6.59		50		24		
18.6.59		70		33	50	1.5
19.6.59		55		26	38	1.2
20.6.59		55	4.5	26	38	
21.6.59		290	5	140	165	1.1
22.6.59		85		40	55	2.5
23.6.59		55		26	43	1.8
24.6.59		100	5	48	65	3.0
25.6.59		50		24	30	1.1
26.6.59		30		14	30	1.7
27.6.59		30		14	30	
28.6.59		55		26	25	1.6
29.6.59		90		43	45	1.3
30.6.59		50		24	45	1.1
Sum		4200		1987	2250	
Sum (no rain)		3460		1637	1881	
Average		119	3.8	56	67	1.5

** $T_{\frac{1}{2}}$ = 4 used for extrapolation.

Tables No. 22, 23.

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, July/August 1959.

Date	Weather	A_o	f	Date	Weather	A_o	f
1.7.59		50	1.5	1.8.59		30	1.6
2.7.59		50	1.6	2.8.59		25	1.5
3.7.59		75	1.1	3.8.59		35	2
4.7.59		75		4.8.59		55	1.7
5.7.59		45	1.5	5.8.59		30	1.2
6.7.59		60	1.1	6.8.59		30	
7.7.59		30	6	7.8.59		60	2
8.7.59		30	2.9	8.8.59		60	
9.7.59		50	1.3	9.8.59		40	
10.7.59		40		10.8.59		40	1.2
11.7.59		40		11.8.59		35	1.2
12.7.59		35	1.2	12.8.59		25	2
13.7.59		30	2.6	13.8.59		30	1.8
14.7.59		50	1.1	14.8.59		35	
15.7.59		25	3.2	15.8.59		35	
16.7.59		45	1.1	16.8.59		40	1
17.7.59		80	1.2	17.8.59		30	1
18.7.59		80	2	18.8.59		20	6
19.7.59		40	2	19.8.59		60	1.8
20.7.59		35	-	20.8.59		35	1.8
21.7.59		75	1.0	21.8.59		18	1
22.7.59		35	1.7	22.8.59		18	
23.7.59		45	1.6	23.8.59		55	1
24.7.59		55	1.0	24.8.59		45	-
25.7.59		55		25.8.59		20	3
26.7.59		65	1.3	26.8.59		35	2
27.7.59		70	1.2	27.8.59		50	1
28.7.59		45	1.3	28.8.59		25	1
29.7.59		45	1.5	29.8.59		25	
30.7.59		55	1.5	30.8.59		30	2
31.7.59		30	1.6	31.8.59		30	1.5
Sum		1540		Sum		1091	
Average		50	1.7	Average		35	1.7

Tables No. 24, 25.

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, September/October 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	f	Date	Weather	A_o	pC/l	f
1.9.59		40			2	1.10.59	)	17)		1.5
2.9.59		35			2	2.10.59		17)		
3.9.59		30			1	3.10.59	)	25)		
4.9.59		20)			1	4.10.59		25)		
5.9.59		20)				5.10.59		30		1.5
6.9.59		40			1	6.10.59		25		1.5
7.9.59		25			1.5	7.10.59		25		1.5
8.9.59		75			2	8.10.59		35		
9.9.59		30			2	9.10.59	)	20)		1
10.9.59	Pd	60			1.2	10.10.59	)	20)		
11.9.59	Pr (2.2mm)	370)	340			11.10.59	)	20)		1
12.9.59		370)				12.10.59	)	20)		
13.9.59	Pr	295			1.0	13.10.59		30		
14.9.59	Pd	35			1.0	14.10.59		25		1.5
15.9.59		35			1.5	15.10.59	./	35		2
16.9.59		75			1.5	16.10.59	Pr (1.5mm)	95)	130	1
17.9.59		45			1.5	17.10.59		95)		
18.9.59		15)			1	18.10.59		35		
19.9.59		15)				19.10.59				
20.9.59	Pr (0.6mm)	145	230	8	1.5	20.10.59				
21.9.59	Pr (1.2mm)	210	175	3.7	1.3	21.10.59				
22.9.59		40			1	22.10.59				
23.9.59		35			2	23.10.59				
24.9.59		30			2	24.10.59				
25.9.59		20)			1	25.10.59				
26.9.59		20)				26.10.59				
27.9.59		20			1.5	27.10.59	Pr(0.9mm)	125	140	1.5
28.9.59		35			1.5	28.10.59		30		1
29.9.59		30			1.5	29.10.59		25		1.5
30.9.59		25			1	30.10.59		25)		1.2
						31.10.59	-	25)		
Sum	Pr(5.0mm)	1920				Sum	(2.5mm)	820*		
Sum (no rain)		730				Sum (no rain)		509*		
Average		33	219		1.4	Average		25*	131	

Tables No. 26, 27.

Deposition of Fallout Activity on a Gummed Tape Collector.

Rehovoth Station, November/December 1959.

Date	Weather	A_o	pC/l	f	Date	Weather	A_o	pC/l	f
1.11.59		30		1.5	1.12.59		27		
2.11.59		32			2.12.59		27		
3.11.59		32		1.2	3.12.59		35		
4.11.59	o	20		1.0	4.12.59		120		
5.11.59	Pr (4.6mm)	275	60	1.0	5.12.59	Pr (3.2mm)	120	75	1
6.11.59		17			6.12.59		22		1
7.11.59		17			7.12.59		27		1.5
8.11.59		15		4	8.12.59	Pr	50		1.5
9.11.59		35		2	9.12.59		22		1.2
10.11.59		25		2	10.12.59		18		1.5
11.11.59		35		2	11.12.59		15		
12.11.59	Pd	25		2	12.12.59		15		
13.11.59		35			13.12.59		22		1
14.11.59		35		1.5	14.12.59	o	30		1.5
15.11.59	Pr	45		1.2	15.12.59		30		1
16.11.59	Pd	42		1.0	16.12.59		15		1
17.11.59		80		1.5	17.12.59		40		1.5
18.11.59		35		1.5	18.12.59		55		
19.11.59		35		1.5	19.12.59		55		
20.11.59		17			20.12.59		30		1.5
21.11.59		17			21.12.59	Pr (0.5 mm)	65	130	1.5
22.11.59		17			22.12.59	Pr (4 mm)	150	35	
23.11.59		25		2	23.12.59		22		2
24.11.59		30		1.5	24.12.59		28		1
25.11.59		25		1.5	25.12.59		71		
26.11.59		25		1.5	26.12.59	Pr (0.6)	71	235	1.0
27.11.59		90			27.12.59		50		1.3
28.11.59	Pr (1.6mm)	90	110	1.0	28.12.59		33		1.1
29.11.59	Pr (3.8mm)	200	53	1.0	29.12.59		10		1.1
30.11.59		40			30.12.59	Pr (0.4)	125	310	
					31.12.59		30		1.2
Sum	(10.0mm)	1440			Sum	(8.7 mm)	1430		
Sum (no rain)		674			Sum (no rain)		658		
Average		29	65				28	83	

Table No. 28.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, August 1958.

Date	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	A_{12}	f
1.8.58						
2.8.58						
3.8.58						
4.8.58						
5.8.58						
6.8.58						
7.8.58	315		25^	40	34	
8.8.58	315	1.1	25	40	34	1.5
9.8.58	315		25	40	34	
10.8.58	95		7^		14	
11.8.58	95	1.0	7		14	1.1
12.8.58	170		11^	27	23	
13.8.58	170	0.95	11	27	23	1.9
14.8.58	220		14^	21	19	
15.8.58	220	0.95	14	21	19	1.7
16.8.58	220		14	21	19	
17.8.58	185		10^		18	
18.8.58	185	0.85	10		18	1.2
19.8.58	140		11^		16	
20.8.58	140	1.1	11		16	1.3
21.8.58						
22.8.58	445		25^	30	27	
23.8.58	445	0.9	25	30	27	1.8
24.8.58	255		41^		35	
25.8.58	255	1.8(1.0)	41		35	1.5
26.8.58	160		15^		20	
27.8.58	160	1.2	15		20	1.1
28.8.58	80		12^		21	
29.8.58	80	(1.65)	12		21	1.1
30.8.58	80		12		21	
31.8.58	135	(0.9)	8^		16	1.2
Sum	4880*		401*		668*	
Average	203*	1.1	17*	30*	28*	1.5

Table No. 29.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, September 1958.

Date	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	A_{12}	f
1.9.58	135	0.9	8^		17	1.2
2.9.58)	107)	2.0	20^)		15)	1.0
3.9.58	107		20		15	
4.9.58)	150)		21^)		18)	
5.9.58)	150)	1.6	21)		18)	1.2
6.9.58	150		21		18	
7.9.58)	235)	2.3	53^)		40)	1.0
8.9.58	235		53		40	
9.9.58)	75)	1.8	12^)	25)	20)	1.0
10.9.58	75		12	25	20	
11.9.58)	80)		11^)	15)	12)	
12.9.58)	80)	1.6	11)	15)	12)	1.1
13.9.58	80		11	15	12	
14.9.58)	65)	2.1	13^)		11)	1.1
15.9.58	65		13		11	
16.9.58)	260)	2.1	52^)		43)	
17.9.58	260		52		43	
18.9.58)	75)		30^)		15)	
19.9.58)	75)	3.5	30)		15)	
20.9.58	75		30		15	
21.9.58)	70)	1.8	11^)		12)	
22.9.58	70		11		12	
23.9.58)	50)	3.0	16^)		16)	1.1
24.9.58	50		16		16	
25.9.58)	45)		15^)		12)	
26.9.58)	45)	3.0	15)		12)	1.0
27.9.58	45		15		12	
28.9.58)	50)	1.0(2.0)	6°)		6)	1.0
29.9.58	50		6		6	
30.9.58	65	1.2(3.0)	10°		18	1.2
Sum	3074		673		532	
Average	102	1.9	22	20*	17	1.1

Table No. 30.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, October 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	A_{12}	f	Remarks
1.10.58		65	1.2	10		18	1.2	
2.10.58		50		12	19	15	2.2	
3.10.58		50	2.4	12	19	15		
4.10.58		50		12	19	15		
5.10.58		200	1.9	26		37	1.2	
6.10.58		200		26		37		
7.10.58		175	2.3	23	37	22	1.2	
8.10.58		175		23	37	22		
9.10.58		6900		86		60		
10.10.58		6900	0.4	86		60	1.4	
11.10.58		6900		86		60		
12.10.58	(34000)	7100	0.4 (425)	89		(250)	40	Hot spot.
13.10.58	(34000)	7100	(425)	89		(250)		
14.10.58		2300		55		55		
15.10.58		2300	0.55	55		55	1.1	
16.10.58		4150		118		125		
17.10.58		4150	0.6	118		125	1.6	
18.10.58		4150		118		125		
19.10.58		510	0.4	6		15	2.0	
20.10.58		510		6		15		
21.10.58		550	0.6	16		19	2.0	
22.10.58		550		16		19		
23.10.58		250		7		9		
24.10.58		250	0.6	7		9	1.1	
25.10.58		250		7		9		
26.10.58	190	(4000)	0.7 (150)	7		(140)	22	Hot spot.
27.10.58	190	(4000)	(150)	7		(140)		
28.10.58		275	0.55	7		29	1.3	
29.10.58		275		7		29		
30.10.58	Pd	800	1.1	64		63	1.35	
31.10.58		800		64		63		
Sum		84705		1249		1125*		
Average		2732	0.9	38	27*	39	3.1	

Table No. 31.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, November 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	A_{12}	f
				**			
1.11.58	Pd	800	1.1	60		63	1.3
2.11.58	Pr	7400	1.0	550		295	1.0
3.11.58		7400		550		295	
4.11.58		360	0.7	13		13	5.5
5.11.58		360		13		13	
6.11.58		205	1.2	15		10	1.4
7.11.58		205		15		10	
8.11.58		205		15		10	
9.11.58		130	1.4	10		20	1.0
10.11.58		130		10		20	
11.11.58		750	0.95	56		40	1.6
12.11.58		750		56		40	
13.11.58		2100	0.8	155		100	2.5
14.11.58	Pd	2100		155		100	
15.11.58		2100		155		100	
16.11.58		110	1.25	8		18	1.2
17.11.58		110		8		18	
18.11.58		125	1.3	9		9	
19.11.58		125		9		9	
20.11.58		525		39		45	
21.11.58	= sand	525		39		45	1.1
22.11.58		525		39		45	
23.11.58		400	1.5	28		40	1.7
24.11.58		400		28		40	
25.11.58		470	1.2	36		27	1.8
26.11.58		470		36		27	
27.11.58		720	0.9	53		60	1.2
28.11.58		720		53		60	
29.11.58		720		53		60	
30.11.58	Pr	3000	1.2	220		240	1.0
Sum		33940		2490		1872	
Sum (no rain)		9840		645		679	
Average		410	1.1	28		29	1.6

** $T_{\frac{1}{2}}$ = 1.05 used for extrapolation

Table No. 32.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, December 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	A_{12}	f
1.12.58	Pr	3000	1.2	340		240	1.0
2.12.58	Pr	3800	1.6	430		250	1.1
3.12.58		3800		430		250	
4.12.58		132		15		35	
5.12.58		132	1.7	15		35	1.0
6.12.58		132		15		35	
7.12.58	Pr	2300	1.5	260		200	1.3
8.12.58		2300		260		200	
9.12.58	Pr	2500	1.3	285		160	1.6
10.12.58		2500		285		160	
11.12.58		510		58		45	
12.12.58	Pr	510	1.3	58		45	1.7
13.12.58		510		58		45	
14.12.58	Pr	1350	1.4	155		120	1.0
15.12.58		1350		155		120	
16.12.58		160	1.8	22		25	1.5
17.12.58		160		22		25	
18.12.58		175		24	30	17	
19.12.58		175	1.5	24	30	17	2.1
20.12.58		175		24	30	17	
21.12.58	Pr	3100	1.6	430	500	300	1.2
22.12.58		3100		430	500	300	
23.12.58		280	1.2	39	60	35	1.4
24.12.58		280		39	60	35	
25.12.58		660		90	110	70	
26.12.58	Pr	660	2.1	90	110	70	1.1
27.12.58		660		90	110	70	
28.12.58		220		30	40	24	
29.12.58		220	1.7	30	40	24	1.1
30.12.58		210		29			
31.12.58		210	1.5	29			1.3
Sum		35271		4261		2970	
Sum (no rain)		7261		357		324	
Average		453	1.5	26		25	1.3

** $T_{\frac{1}{2}}$ = 1.4 and 1.6 were used respectively during first and second half of the month.

Table No. 33.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, January 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp. **	f
1.1.59		300		46		
2.1.59		300	1.9	46		1.8
3.1.59		300		46		
4.1.59		3900		600		
5.1.59	Pr(?)	3900	1.9	600		
6.1.59		5400		830		
7.1.59	Pr	5400	1.4	830		1.7
8.1.59		3000		460		
9.1.59	Pr	3000	1.75	460		1.1
10.1.59		3000		460		
11.1.59		165		34		
12.1.59		165	2.5	34		
13.1.59		130		27		
14.1.59		130	2.3	27		1.4
15.1.59		4000		835		
16.1.59		4000	2.0	835		1.0
17.1.59	Pr	4000		835		
18.1.59		4600		960		
19.1.59	Pr	4600	1.8	960		1.1
20.1.59		4900		1020		
21.1.59		4900	2.3	1020		1.1
22.1.59		2800		740		
23.1.59		2800	1.85	740		1.4
24.1.59		2800		740		
25.1.59		225		60		
26.1.59		225	2.7	60		1.1
27.1.59		230		60		
28.1.59		230	3.0	60		2.6
29.1.59		600		160		
30.1.59	Pd	600	2.7	160		1.2
31.1.59		600		160		
Sum		71200		13905		
Sum (no rain)		2400		500		
Average		218	2.1	45		1.4

** Average value of $T_{\frac{1}{2}}$ used for extrapolation.

Table No. 34.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, February 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp. ***	f
1.2.59	Pr	1530	3.0	390	300	1.0
2.2.59		1530		390	300	
3.2.59	Pd	3500	1.7	900	725	1.1
4.2.59	./	3500		900	725	
5.2.59		1500	2.9	385	370	1.1
6.2.59	Pd	1500		385	370	
7.2.59		1500		385	370	
8.2.59		630	3.0	160	175	1.0
9.2.59		630		160	175	
10.2.59		100	3.0	26	45	1.3
11.2.59	=	100		26	45	
12.2.59		5500	1.2	1410	1000	1.1
13.2.59	Pr	5500		1410	1000	
14.2.59		5500		1410	1000	
15.2.59		7500	2.0	1920	1750	1.0
16.2.59	Pr	7500		1920	1750	
17.2.59		6900	3.0	1770	1750	1.2
18.2.59	Pr	6900		1770	1750	
19.2.59		4850	3.0	1240	1250	1.1
20.2.59	Pd	4850		1240	1250	
21.2.59		4850		1240	1250	
22.2.59		3400	3.0	870	900	1.0
23.2.59	Pr	3400		870	900	
24.2.59		5600	3.0	1440	1400	1.0
25.2.59	Pr	5600		1440	1400	
26.2.59		4500	2.1	1150	1175	1.1
27.2.59	Pr	4500		1150	1175	
28.2.59		4500		1150	1175	
Sum		107370		27507	31430	
Sum (no rain)		1460		372	440	
Average		385	2.6	93	110	1.1

** $T_{\frac{1}{2}}$ = 2.5 used for extrapolation.

*** Interpolated values of A_y were used in this column.

Table No. 35.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, March 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	f
1.3.59	Pr	7500	3.0	2140	1600	1.0
2.3.59		7500		2140	1600	
3.3.59	Pr	11000	2.0	3140	2400	1.1
4.3.59		11000		3140	2400	
5.3.59	Pd	2600	2.7	745	600	
6.3.59		2600		745	600	
7.3.59		2600		745	600	
8.3.59		185	2.5	53	50	
9.3.59		185		53	50	
10.3.59		470	2.0	135	110	1.0
11.3.59		470		135	110	
12.3.59		185	2.9	53	50	
13.3.59		185		53	50	1.2
14.3.59		185		53	50	
15.3.59		200	3.0	57	60	
16.3.59		200		57	60	1.0
17.3.59	Pd	2600	2.6	745	650	
18.3.59		2600		745	650	1.3
19.3.59	Pd	2900	3.0	830	840	
20.3.59		2900		830	840	1.2
21.3.59		2900		830	840	
22.3.59	Pr	4600	3.4	1315	1350	
23.3.59		4600		1315	1350	1.1
24.3.59	Pr	1300	2.1	370	365	
25.3.59		1300		370	365	1.6
26.3.59		150	2.1	43	45	
27.3.59		150		43	45	1.0
28.3.59		150		43	45	
29.3.59		2700	2.5	770	820	
30.3.59		2700		770	820	1.2
31.3.59		185	3.1	53	65	1.0
Sum		86415		22516	19420	
Sum (no rain)		8300		2371	2430	
Average		553	2.6	158	161	1.1

Table No.36.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, April 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	f
1.4.59		185	3.1	58	65	1.0
2.4.59		7800		2420	2300	
3.4.59	Pr	7800	1.9	2420	2300	1.0
4.4.59		7800		2420	2300	
5.4.59		3300		1030	1000	
6.4.59	Pd	3300	2.7	1030	1000	1.4
7.4.59		75		23	31	
8.4.59		75		23	31	2.5
9.4.59		210		65	65	
10.4.59		210	3.3	65	65	1.0
11.4.59		210		65	65	
12.4.59		105		33	45	
13.4.59		105	3.3	33	45	1.2
14.4.59		100		31	40	
15.4.59	= sand	100		31	40	1.5
16.4.59		100		31	35	
17.4.59		100	2.4	31	35	1.0
18.4.59		100		31	35	
19.4.59		170		53	50	
20.4.59	./.	170	1.5	53	50	1.2
21.4.59		175		55	70	
22.4.59		175	3.0	55	70	
23.4.59		175		55	70	
24.4.59		190		60	85	
25.4.59		190	2	60	85	
26.4.59						
27.4.59						
28.4.59		325		100	130	
29.4.59		325	3.5	100	130	2.7
30.4.59		135	3.1	42	65	
Sum		33705		10473	10302	
Sum (no rain)		3705		1153	1402	
Average		161	2.7	50	60	1.4

** $T_{\frac{1}{2}}$ = 2.9 used for extrapolation.

Table No. 37.

Deposition of Fallout Activity on a Gummed Tape Collecter.

Ashdod Station, May 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	f
1.5.59		135		47	60	
2.5.59		135	3.1	47	60	
3.5.59		200		70	60	
4.5.59		200	1.7	70	60	
5.5.59		120		42	45	
6.5.59		120	2.6	42	45	
7.5.59						
8.5.59						
9.5.59						
10.5.59						
11.5.59						
12.5.59		700		245	280	
13.5.59		700	3.4	245	280	1.4
14.5.59		950		333	375	
15.5.59		950	3.1	333	375	1.2
16.5.59		950		333	375	
17.5.59		3000		1050	1200	
18.5.59	Pd	3000	3.3	1050	1200	1.1
19.5.59		165		59	60	
20.5.59		165	(1.6)	59	60	1.4
21.5.59		165		59	75	
22.5.59		165	3.1	59	75	
23.5.59		165		59	75	1.5
24.5.59		250		88	110	
25.5.59		250	2.5	88	110	1.0
26.5.59		100		35	55	
27.5.59	o	100		35	55	1.0
28.5.59		170		60	80	
29.5.59		170	2	60	80	1.1
30.5.59		170		60	80	
31.5.59	= sand	230	2.5	80	90	1.0
Sum		13425*		4708*	5420*	
Sum (no rain)		4575*		2608*	3020*	
Average		218*	2.6	109*	125*	1.2

** $T_{\frac{1}{2}}$ = 3.2 used for extrapolation

Table No. 38.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, June 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	f
1.6.59		230	2.5	110	95	1.0
2.6.59		300	4.3	140	155	1.2
3.6.59		300		140	155	
4.6.59		50		24	30	
5.6.59		50		24	30	1.0
6.6.59		50		24	30	
7.6.59		70		33	40	1.1
8.6.59		70		33	40	
9.6.59		280	2	140	125	1.5
10.6.59	o	280		140	125	
11.6.59		95		45	47	
12.6.59		95	3	45	47	1.3
13.6.59		95		45	47	
14.6.59		60	3.3	29	30	1.3
15.6.59	-	60		29	30	
16.6.59		85		40	47	1.3
17.6.59		85		40	47	
18.6.59		60		29	40	
19.6.59	o	60	6	29	40	1.2
20.6.59		60		29	40	
21.6.59		115		55	90	1.1
22.6.59	./.	115		55	90	
23.6.59		60	6	29	27	1.3
24.6.59		60		29	27	
25.6.59		40		19	23	1.5
26.6.59		40		19	23	
27.6.59		40		19	23	
28.6.59		60	3.8	29		1.5
29.6.59	./.	60		29		
30.6.59		60	3.5	29	33	1.5
Sum		3085		1480	1576	
Average		103	3.8	49	56	1.3

** $T_{\frac{1}{2}}$ = 4 used for extrapolation.

Tables No. 39, 40.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ashdod Station, July/August 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	f	Date	Weather	A_o	f
1.7.59		60	3.5	1.5	1.8.59		45	
2.7.59		55			2.8.59		30	
3.7.59	o	55			3.8.59		30	2.0
4.7.59	./.	55			4.8.59		32	
5.7.59		50			5.8.59	o	32	1.4
6.7.59		50			6.8.59		37	
7.7.59		55			7.8.59	o	37	1.1
8.7.59		55			8.8.59		37	
9.7.59		50			9.8.59		30	
10.7.59		50			10.8.59		30	1.0
11.7.59		50			11.8.59		30	
12.7.59		23			12.8.59		30	1.2
13.7.59		23		1.2	13.8.59		27	
14.7.59		27			14.8.59		27	1.2
15.7.59	o	27		1.5	15.8.59		27	
16.7.59		55						
17.7.59		55		1.0				
18.7.59		55						
19.7.59		30						
20.7.59	o	30		1.1				
21.7.59		35						
22.7.59		35		1.3				
23.7.59		35						
24.7.59		35		1.0				
25.7.59		35						
26.7.59		75						
27.7.59		75		1.2				
28.7.59		25						
29.7.59		25		1.8				
30.7.59		45						
31.7.59	o	45						
Sum		1375			Sum		481*	
Average		44		1.3	Average		32*	1.3

Table No. 41

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, June 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	A_{12}	f
15.6.58		420		140*		70	1.2
16.6.58		420		140		70	
17.6.58		190	5	61*	65	42	1.4
18.6.58		190		61	65	42	
19.6.58		77		25*	30	16	
20.6.58		77	2.6	25	30	16	2.7
21.6.58		77		25	30	16	
22.6.58		40	-	13*	15	9	1.2
23.6.58		40		13	15	9	
24.6.58		65		21*	31	21	
25.6.58		65	-	21	31	21	1.1
26.6.58		65		21	31	21	
27.6.58		100	2.4	32*		23	1.3
28.6.58		100		32		23	
29.6.58		55	3.0	18*	25	16	1.1
30.6.58		55		18	25	16	
Sum		1986*		640*	393*	431*	
Average		124*	3.2	40*	45*	26*	1.4

Table No. 42.

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, July 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	A_{12}	f
1.7.1958		75		13^	20	9	1.1
2.7.1958		75	1.9	13	20	9	
3.7.1958		75		13	20	9	
4.7.1958		57	2	11^	18	13	1.4
5.7.1958		57		11	18	13	
6.7.1958		65		10^		28	1.3
7.7.1958	o	65	-	10		28	
8.7.1958		105		10^	20	16	
9.7.1958	=	105	1.2	10	20	16	1.6
10.7.1958		105		10	20	16	
11.7.1958		870	0.6	25^	43	42	1.6
12.7.1958	o =	870		25	43	42	
13.7.1958							
14.7.1958							
15.7.1958		115		10^	18	15	
16.7.1958		115		10	18	15	
17.7.1958		115	1.2	10	18	15	1.2
18.7.1958		115		10	18	15	
19.7.1958		115		10	18	15	
20.7.1958		85	1.6	12^	18	15	1.3
21.7.1958	=	85		12	18	15	
22.7.1958		270		13^	18	17	
23.7.1958	=	270	0.8	13	18	17	1.2
24.7.1958		270		13	18	17	
25.7.1958		600		32^	27	24	
26.7.1958		600	0.85	32	27	24	1.1
27.7.1958		600		32	27	24	
28.7.1958		600	0.7	23^	21	18	2.0
29.7.1958		1100	0.7	42^	37	35	1.2
30.7.1958	=	1100		42	37	35	
31.7.1958	o	420	0.8	20^	26	23	2.0
Sum		9000		491	624	580	
Average		310	1.2	17	23	20	1.4

Table No. 43.

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, August 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	A_{12}	f
1.8.1958		410	0.8	20^	26	23	2
2.8.1958	●	410		20	26	23	
3.8.1958		280	0.6	8^	12	10	5
4.8.1958	☁	280		8	12	10	
5.8.1958		530	0.65	18^	35	32	1.4
6.8.1958	●	530		18	35	32	
7.8.1958		715		20^	23	19	
8.8.1958		715	0.6	20	23	19	2
9.8.1958	●	715		20	23	19	
10.8.1958		270	0.8	12^	21	18	1.2
11.8.1958		270		12	21	18	
12.8.1958		210	0.9	12^	23	19	1.9
13.8.1958		210		12	23	19	
14.8.1958		540		37^	50	43	
15.8.1958		540	1.0	37	50	43	2.4
16.8.1958		540		37	50	43	
17.8.1958		235	0.95	15^	20	16	3.3
18.8.1958		235	(1.4)	15	20	16	
19.8.1958		560	0.7	21^	30	22	2.1
20.8.1958		560		21	30	22	
21.8.1958		130	(1.0	12^		17	1.0
22.8.1958	●	130	(1.9)	12		17	
23.8.1958		130		12		17	
24.8.1958		125	(1.6	12^	12	9	1.3
25.8.1958	●	125	(1.0)	12	12	9	
26.8.1958		205	1.2	19^		15	1.2
27.8.1958	●	205		19		15	
28.8.1958		135		20^			
29.8.1958	●	135	1.7	20			1.2
30.8.1958		135		20			
31.8.1958		135	1.1	11^	10	5	1.6
Sum		10350		552	587*	570	
Average		334	1.0	18	26*	20	2.0

Table No. 44.

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, September 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y exp.	A_{12}	f
1.9.1958		135	1.1	11^	10	5	1.6
2.9.1958		160	1.1	13^	18	10	1.1
3.9.1958		160		13	18	10	
4.9.1958		240	1.8	39^	31	25	1.3
5.9.1958		240		39	31	25	
6.9.1958		240		39	31	25	
7.9.1958		110	2.0	21^	25	21	1.2
8.9.1958		110		21	25	21	
9.9.1958		140	2.6	35^	43	35	2.1
10.9.1958		140		35	43	35	
11.9.1958		65		13^	20	17	
12.9.1958		65	2.0	13	20	17	1.1
13.9.1958		65		13	20	17	
14.9.1958		145		20^	22	19	
15.9.1958		145	1.6	20	22	19	1.2
16.9.1958		145		20	22	19	
17.9.1958		350	2.0	66^	100	60	1.2
18.9.1958		65		15^	15	7	
19.9.1958	o	65	2.3	15	15	7	1.1
20.9.1958		65		15	15	7	
21.9.1958		65	1.3	7^	15	11	1.2
22.9.1958		65		7	15	11	
23.9.1958		140	>12	140^		100	5
24.9.1958		140		140		100	
25.9.1958		90		17^	20	15	
26.9.1958	-	90	2	17	20	15	1.1
27.9.1958		90		17	20	15	
28.9.1958		65	3	21^		24	1.1
29.9.1958		65		21		24	
30.9.1958		50	1.4	6^			1.2
Sum		3710		869		716	
Average		124	1.9	29	31	24	1.6

Table No. 45.

Deposition of Fallout Activity on a Gummed Tape Collector.

Jerusalem Station, October 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	A_{12}	f	Remarks
1.10.58		50	1.4	8			1.2	
2.10.58		55	1.5	9	15	13	1.0	
3.10.58		55		9	15	13		
4.10.58		55		9	15	13		
5.10.58		110	1.8	18		20	1.0	
6.10.58		110		18		20		
7.10.58		95	2.5	15		27	1.2	
8.10.58		95		15		27		
9.10.58		8700		107	75	65		
10.10.58	o	8700	0.4	107	75	65	3.0	
11.10.58		8700		107	75	65		
12.10.58		7400	0.45	117		85	2.5	
13.10.58	o	7400		117		85		
14.10.58	(330)	7600	0.5	(7)152		(30)110	20	Hot spot.
15.10.58	(330)	7600		(7)152		(30)110		
16.10.58		6500	0.6	185		280	1.5	
17.10.58	Pd	6500		185		280		
18.10.58		6500		185		280		
19.10.58		240	0.75	10		14	3	
20.10.58	o	240		10		14		
21.10.58		155	0.95	10	20	15	1.5	
22.10.58		155		10	20	15		
23.10.58	(107)	5300	0.95	(7)330		(20)190	45	Hot spot.
24.10.58	(107)	5300		(7)330		(20)190		
25.10.58	(107)	5300		(7)330		(20)190		
26.10.58		450	(0.75)	19		12	5	
27.10.58		450		19		12		
28.10.58		100	(1.8)	19		17		
29.10.58		100		19		17		
30.10.58	Pr	2900	1.0	200		285	1.1	
31.10.58		2900		200		285		
Sum		69666				2814		
Average		1706	1.0	52		54	3.5	

Table No. 46.

Deposition of Fallout Activity on a Gummed Tape Collector.

Jerusalem Station, November 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	A_{12}	f	Remarks
1.11.58	Pr	3000			220•			1.1	
2.11.58	Pr(7.9 mm)	3000	660	0.85	220		195	1.3	
3.11.58		3000			220		195		
4.11.58		650		0.9	48	50	35	3.5	
5.11.58		650			48	50	35		
6.11.58		100			7•		10		
7.11.58		100		0.7	7		10	1.5	
8.11.58		100			7		10		very dusty
9.11.58		380		1.1	28		65	1.3	
10.11.58		380			28		65		
11.11.58		230		1.9	17		26	1.3	
12.11.58		230			17		26		
13.11.58		2000			150•		180		
14.11.58	Pr(1.7 mm)	2000	3600	1.1	150		180	1.1	
15.11.58		2000			150		180		
16.11.58	(80)	780		1.5 (6)	58		60	9	Hot spot
17.11.58	(80)	780			58		60		
18.11.58		165		1.1	12			2.1	
19.11.58		165			12				
20.11.58		175			13•		50		
21.11.58	+ sand	175		1.6	13		50	1.1	
22.11.58		175			13		50		
23.11.58	(280)	1400		0.9 (21)	105•		(35)	4.3	Hot spot
24.11.58	(280)	1400			105		(35)		
25.11.58		100		1.7	7•		12	1.9	
26.11.58		100			7		12		
27.11.58		2500			185•		130		
28.11.58	Pr(5.6 mm)	2500	1340	1.5	185		130	2.2	
29.11.58		2500			185		130		
30.11.58		230		0.8	17•		13	1.3	
Sum	(15.2 mm)	28915			2292		-		
Sum (no rain)		6415			627		-		
Average		997	1280	1.2	355		88	2.4	

Table No. 47

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, December 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	A_{12}	f
1.12.58	Pd	230		0.8	21	15		1.3
2.12.58		1900		1.0	170	160		1.1
3.12.58	Pr (0.3 mm)	1900	13.400		170	160		
4.12.58		190			17	25		
5.12.58	Pd	190		1.2	17	25		1.1
6.12.58		190			17	25		
7.12.58		4150		1.5	380		215	1.3
8.12.58	Pr	4150			380		215	
9.12.58		500		1.1	45	40	32	1.4
10.12.58	/.	500			45	40	32	
11.12.58		515			47		40	
12.12.58		515		1.4	47		40	1.6
13.12.58		515			47		40	
14.12.58		2900		1.4	265	300	280	1.2
15.12.58	Pr (8 mm)	2900	725		265	300	280	
16.12.58		214		1.2	19	20	17	2.5
17.12.58		214			19	20	17	
18.12.58		95			14***	20	15	
19.12.58		95		1.5	14	20	15	1.6
20.12.58		95			14	20	15	
21.12.58		600		1.3	87	70	50	1.3
22.12.58		600			87	70	50	
23.12.58		72		1.5	10	17	15	1.2
24.12.58		72			10	17	15	
25.12.58		180			26	30	25	
26.12.58		180		1.7	26	30	25	1.8
27.12.58		180			26	30	25	
28.12.58		120			17	25	22	
29.12.58		120			17	25	22	2.1
30.12.58		140		2.2	20			1.7
31.12.58		140			20			
Sum	(8.3 mm)	24362			2359	-		
Sum (no rain)		5662			657	-		
Average		269	1150	1.4	31	30*		1.4

** $T_{\frac{1}{2}}$ = 1.2 used for extrapolation.

*** $T_{\frac{1}{2}}$ = 1.65 used for extrapolation.

Table No. 48.

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, February 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y exp.	f
1.2.59	Pr (20 mm)	4300	440	2.1	1100	875	1.1
2.2.59		4300			1100	875	
3.2.59	Pr (4 mm)	2700	1200	2.4	690	600	1.1
4.2.59		2700			690	600	
5.2.59		380		2.6	97	95	
6.2.59		380			97	95	
7.2.59		380			97	95	
Sum	(24 mm)	15140*			3871*	3235*	
Sum (no rain)		-					
Average		-	580	2.3			1.1

** $T_{\frac{1}{2}}$ = 2.5 used throughout for calculation.

Table No. 49.

Jerusalem Station, March 1959.

					**		
19.3.59	Pr (3.8mm)	2450	1900		700	700	
20.3.59		2450			700	700	
21.3.59		2450			700	700	
22.3.59	Pr (16 mm)	3100	750	2.5	890	875	1.0
23.3.59		3100			890	875	
24.3.59		3100			890	875	
25.3.59		3100			890	875	
26.3.59	o	425		3.4	120	125	1.4
27.3.59		425			120	125	
28.3.59		425			120	125	
29.3.59	o	3000		2.9	860	1000	3.0
30.3.59		3000			860	1000	
31.3.59	o	155		4	44	65	1.1
Sum	(20 mm)	27130*			7784*	7165*	
Sum (no rain)		7380*			2124*	2440*	
Average		1230*	973	3.1	354*	406*	1.2

** $T_{\frac{1}{2}}$ = 2.7 used for calculation.

Table No. 50.

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, April 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.4.59	o	155		4	48	65	1.2
2.4.59		8650			2700	3000	
3.4.59	Pr (2.3mm)	8650	11.500	3.5	2700	3000	1.1
4.4.59		8650			2700	3000	
5.4.59		2800	2.500	2.2	875	900	1.0
6.4.59	Pr (2.2mm)	2800			875	900	
7.4.59		85		3.3	27	32	1.0
8.4.59		85			27	32	
9.4.59		220			70	80	
10.4.59	o	220		3.5	70	80	1.1
11.4.59		220			70	80	
12.4.59		360			110	120	
13.4.59	Pr	360			110	120	1.4
14.4.59		360			110	120	
15.4.59		135		(6)	42	70	1.1
16.4.59		135			42	43	
17.4.59		135		2.5	42	43	1.1
18.4.59		135			42	43	
19.4.59		130			40	45	
20.4.59		130			40	45	
21.4.59		135			42	50	
22.4.59		135			42	50	
23.4.59		135		2.7	42	50	1.0
24.4.59	o	135			42	50	
25.4.59		135			42	50	
26.4.59		225		3.0	70	90	1.1
27.4.59	o	225			70	90	
28.4.59		735		3.0	230	280	1.2
29.4.59		735			230	280	
30.4.59	o	80		2.5	25	40	1.0
Sum	(4.5 mm)	28255			11575	12848	
Sum (no rain)		5355			1395	7688	
Average		223	5080	3.0	64	76	1.1

** $T_{\frac{1}{2}}$ = 2.9 used for calculation.

Table No. 51.

Deposition of Fallout Activity on a Gummed Tape Collector.

Jerusalem Station, May 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.5.59		80			28	40	
2.5.59	o	80			28	40	
3.5.59		300			105	140	
4.5.59	o	300		2.1	105	140	1.1
5.5.59		275		3.3	96	125	1.0
6.5.59		275			96	125	
7.5.59		155			54	70	
8.5.59	o	155		(5)	54	70	1.0
9.5.59		155			54	70	
10.5.59	o	175		4.3	60	75	
11.5.59		175			60	75	
12.5.59		590		3.0	207	250	1.0
13.5.59	o	590			207	250	
14.5.59		2400	12, 000		840	1050	
15.5.59	Pr (0.6 mm)	2400		4.3	840	1050	1.0
16.5.59		2400			840	1050	
17.5.59	Pr (14 mm)	4500	620	3.7	1580	1500	1.1
18.5.59		4500			1580	1500	
19.5.59		295		4.3	103	140	1.2
20.5.59		295			103	140	
21.5.59		82			29	38	
22.5.59	=	82		3.8	29	38	1.8
23.5.59		82			29	38	
24.5.59		185		2	65	90	1.3
25.5.59	o	185			65	90	
26.5.59	o	165			58	80	
27.5.59		165		2.7	58	80	1.1
28.5.59		120			42	70	
29.5.59	o	120		4.3	42	70	
30.5.59		120			42	70	
31.5.59	/.o	245		3.3	85	135	1.1
Sum	(15 mm)	21646			7584	8700	
Sum (no rain)		4266			1904	2549	
Average		177	920	3.5	73	98	1.1

** $T_{\frac{1}{2}}$ of 3.2 used for calculation.

Table No. 52.

Deposition of Fallout Activity on a Gummed Paper Collector.

Jerusalem Station, June 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.6.59	o /.	245	3.3	115	135	1.1
2.6.59	Pr	400		190	220	
3.6.59		400	4.1	190	220	1.9
4.6.59		150		70	75	
5.6.59		150	4.2	70	75	1.0
6.6.59		150		70	75	
7.6.59		60	(8)	29	34	1.5
8.6.59		60		29	34	
9.6.59		320	4	150	180	1.1
10.6.59	o	320		150	180	
11.6.59		135	3.3	65	70	1.2
12.6.59	o	135		65	70	
13.6.59		135		65	70	
14.6.59		90	2	43	42	1.5
15.6.59	o	90		43	42	
16.6.59	o	160	5.3	75	100	1.1
17.6.59		160		75	100	
18.6.59		60		29	37	
19.6.59		60	3.8	29	37	1.2
20.6.59		60		29	37	
21.6.59		87	6	41	55	1.3
22.6.59		87		41	55	
23.6.59		55	7	26	34	1.3
24.6.59		55		26	34	
25.6.59		70		33	42	
26.6.59	. /.	70	3	33	42	1.0
27.6.59		70		33	42	
28.6.59		125	2.3	60	66	1.2
29.6.59		125		60	66	
30.6.59		83	6	40	58	1.0
Sum		4167		1974	2327	
Sum (no rain)		3367		1594	1887	
Average		120	4.4	56	67	1.2

** $T_{\frac{1}{2}}$ of 4 used for calculation.

Tables No. 53,54

Deposition of Fallout Activity on a Gummed Tape Collector.

Jerusalem Station, July/August 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	f	Date	Weather	A_o	f
1.7.59					1.8.59		35	1.0
2.7.59		140			2.8.59		80	
3.7.59		140	4.3		3.8.59	o	80	1.0
4.7.59		140			4.8.59		75	
5.7.59		80			5.8.59		75	1.2
6.7.59	. /.	80	6	1.5	6.8.59		50	
7.7.59		80			7.8.59	o	50	1.3
8.7.59		80		1.0	8.8.59		50	
9.7.59		35			9.8.59		60	
10.7.59		35	4	1.1	10.8.59		60	1.4
11.7.59		35			11.8.59		30	
12.7.59		60			12.8.59		30	
13.7.59		60		1.0	13.8.59		30	
14.7.59		60			14.8.59		65	
15.7.59		60		1.0	15.8.59	•	65	1.1
16.7.59		60			16.8.59		65	
17.7.59		60		1.1	17.8.59		65	1.0
18.7.59		60			18.8.59		65	
19.7.59		75			19.8.59		65	1.0
20.7.59	. /.	75		2				
21.7.59		165						
22.7.59	. /.	165		1.1				
23.7.59		85						
24.7.59		85		1.0				
25.7.59		85						
26.7.59		65						
27.7.59		65		1.2				
28.7.59		50						
29.7.59		50		1.1				
30.7.59		35						
31.7.59		35		1.0				
Sum		2300			Sum		1095*	
Average		74		1.2	Average		57*	1.1

Table No. 55.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael Station, December 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	Calc.	Exp.	A_{12}	f
23.12.58		155		26*	30	25	
24.12.58		155	1.0	26	30	25	1.2
25.12.58		680		115*	120		
26.12.58	Pd	680	2.1	115	120		1.0
27.12.58		680		115	120		
28.12.58		270		45*	50		
29.12.58		270	-	45	50		1.0
30.12.58		220		40*	50		
31.12.58		220	1.6	40	50		1.1
Sum		3330*		567*	620*		
Sum (no rain)		1290*		222*	260*		
Average		215*	1.9	37*	43*		1.1

Table No. 56

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat-Yael, January 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	Calc. A_y Exp.	A_{12}	f
1.1.59		360			60		
2.1.59	Pd	360			60		1.5
3.1.59		360			60		
4.1.59		9900			1680		
5.1.59	Pr (1.2mm)	9900	16500	1.8	1680		
6.1.59		18000			3050		
7.1.59	Ph (41.5mm)	18000	830	1.6	3050		
8.1.59		7500			1270		
9.1.59	Ph (22.3mm)	7500	1000	2.1	1270		
10.1.59		7500			1270		
11.1.59		145			25		
12.1.59	=	145		2.1	25		1.1
13.1.59		250			42		
14.1.59	Pd	250		1.9	42		
15.1.59		12000			2030		
16.1.59	Pr (10.1mm)	12000	3500	1.5	2030		1.2
17.1.59		12000			2030		
18.1.59		7000			1190		
19.1.59	Pr (91mm)	7000	150	1.8	1190		1.1
20.1.59		3650			870		
21.1.59	Pr (8.5mm)	3650	860	2.6	870		1.0
22.1.59		6500			1550		
23.1.59	Pr (3.7mm)	6500	5250	2.2	1550		1.0
24.1.59		6500			1550		
25.1.59	Pd	255			60		
26.1.59		255		2.3	60		1.5
27.1.59	Pr (0.2mm)	890			210		
28.1.59		890	8900	2.2	210		1.3
29.1.59		6300			1500	900	
30.1.59	Ph (58.5mm)	6300	325	2.4	1500	900	1.1
31.1.59		6300			1500	900	
Sum	(237mm)	175850			33484		
Sum (no rain)		2080			434		
Average		231	733	2.1	48		1.2

Table No. 57.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael, February 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.**	A_y exp.	f
1.2.59	Pr (19.6mm)	6600	680	2.3	1690	1250	1.0
2.2.59		6600			1690	1250	
3.2.59	Pr (8.6mm)	3400	780	2.5	870	700	1.2
4.2.59		3400			870	700	
5.2.59		335		2.7	86	70	1.3
6.2.59		335			86	70	
7.2.59		335			86	70	
8.2.59		175		2.1	45	50	1.9
9.2.59		175			45	50	
10.2.59		145		2.9	37	40	1.6
11.2.59		145			37	40	
12.2.59		4800			1230	750	
13.2.59	Ps (31mm)	4800	470	1.6	1230	750	1.0
14.2.59		4800			1230	750	
15.2.59	Ps (11mm)	4900	895	(2.7) 3.7	1250	1250	1.0
16.2.59		4900			1250	1250	
17.2.59	Ph (37mm)	7150	385	2.4	1830	1600	1.1
18.2.59		7150			1830	1600	
19.2.59		2300			590	550	
20.2.59	Pr (2.2mm)	2300	3100	3.3	590	550	1.0
21.2.59		2300			590	550	
22.2.59	Ps (34mm)	10800	650	3.0	2770	2500	-
23.2.59		10800			2770	2500	
24.2.59							
Sum	(143.4mm)	88645*			22702*	18890*	
Sum (no rain)		1645*			422*	390*	
Average		235*	680	2.6	60*	55*	1.2

** $T_{\frac{1}{2}}$ = 2.5 used for extrapolation.

Table No. 58

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael, March 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	f
1.3.59							
2.3.59							
3.3.59							
4.3.59							
5.3.59							
6.3.59							
7.3.59							
8.3.59							
9.3.59							
10.3.59							
11.3.59							
12.3.59		5000	7500		1430*	1150	
13.3.59	Pr (0.2mm)	5000		2.4	1430	1150	1.0
14.3.59		5000			1430	1150	
15.3.59		5200			1490*	1350	
16.3.59	Pr (2.8mm)	5200	3700	2.3	1490	1350	1.0
17.3.59		3900			1115*	1100	
18.3.59	Pr (1.2mm)	3900	6600	2.7	1115	1100	1.1
19.3.59		3200			915*	800	
20.3.59	Pr (6.1mm)	3200	1520	3.0	915	800	1.5
21.3.59		3200			915	800	
22.3.59		6650			1900*	1870	
23.3.59	Pr (5.6mm)	6650	2400	2.5	1900	1870	1.1
24.3.59		1450			415*	450	
25.3.59	= Ph	1450		3.0	415	450	1.2
26.3.59		90			26*	30	
27.3.59	=	90		3.0	26	30	2.0
28.3.59		90			26	30	
29.3.59		3700			1060*	1000	
30.3.59	=	3700		2.7	1060	1000	1.1
31.3.59	=	265		3.0	75*	80	1.0
Sum	(15.9 mm)*	66935*			19250*	17560*	
Sum (no rain)		7935*			2273*	2170*	
Average		1322*	3530	2.7	379*	361*	1.2

Table No. 59.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael, April 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	f
1.4.59		265		3.0	83	85	1.0
2.4.59		6500			2030	2250	
3.4.59	Pr (8.0mm)	6500	2550	2.4	2030	2250	1.1
4.4.59		6500			2030	2250	
5.4.59		3300			1030	1200	
6.4.59	Pr (5.7mm)	3300	1150	2.7	1030	1200	1.2
7.4.59		100			31	45	
8.4.59	o	100			31	45	1.0
9.4.59		240			75	87	
10.4.59	=	240		5.5	75	87	1.1
11.4.59		240			75	87	
12.4.59		200			63	65	
13.4.59	Pd	200		4.3	63	65	1.0
14.4.59		3000			940	1000	
15.4.59	Pr (7.4mm)	3000	820	4.0	940	1000	1.1
16.4.59		100			31	35	
17.4.59		100			31	35	
18.4.59	o	100			31	35	
19.4.59		130			40	45	
20.4.59	=	130		2.7	40	45	2.0
21.4.59		150			47	70	
22.4.59	o	150		4.0	47	70	1.3
23.4.59		215			67	75	
24.4.59	=	215		3.0	67	75	1.6
25.4.59		215			67	75	
26.4.59		110			34	40	
27.4.59	=	110		3.1	34	40	1.3
28.4.59		470			150	185	
29.4.59	=	470		4.3	150	185	1.0
30.4.59		105		2.2	33	40	1.1
Sum	(21.1mm)	36455			11395	12760	
Sum (no rain)		3955			1239	1486	
Average		188	1540	3.4	59	70	1.2

Table No. 60.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael, May 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.5.59		105		37	40	
2.5.59		105	2.2	37	40	1.1
3.5.59		3350		1175	1250	
4.5.59	Pr	3350	3.5	1175	1250	1.1
5.5.59		150		53	65	
6.5.59		150	3	53	65	1.2
7.5.59		140		49	55	
8.5.59		140	2.6	49	55	1.1
9.5.59		140		49	55	
10.5.59						
11.5.59						
12.5.59		120		42	43	
13.5.59	Pd	120	2	42	43	
14.5.59						
15.5.59						
16.5.59						
17.5.59						
18.5.59						
19.5.59						
20.5.59						
21.5.59						
22.5.59						
23.5.59						
24.5.59		130		46	65	
25.5.59	"	130	4.0	46	65	1.0
26.5.59		100		35	55	
27.5.59		100		35	55	1.0
28.5.59		190		67	80	
29.5.59	Pd	190	1.7	67	80	1.1
30.5.59		190		67	80	
31.5.59		135		47	80	1.1
Sum		9035*		3171*	3520*	
Sum (no rain)		2335*		536*	695*	
Average		137*	2.7	44*	57*	1.1

** $T_{\frac{1}{2}}$ = 3.2 used for extrapolation.

Table No. 61.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael, June 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.6.59		135		.65	80	1.1
2.6.59	Pr	3700	5	1750	1700	1.1
3.6.59		3700		1750	1700	
4.6.59		160	4.0	76	90	1.4
5.6.59	Pd	160		76	90	
6.6.59		160		76	90	
7.6.59		85	4.5	40	45	1.0
8.6.59		85		40	45	
9.6.59	=o	150	(7)	70	90	1.1
10.6.59		150		70	90	
11.6.59		70		33	38	
12.6.59		70	3.1	33	38	1.0
13.6.59		70		33	38	
14.6.59		73		35		1.3
15.6.59		73		35		
16.6.59		100		48	56	1.2
17.6.59		100		48	56	
18.6.59		40		19	25	1.3
19.6.59		40		19	25	
20.6.59		40		19	25	
21.6.59		45		21	27	1.0
22.6.59		45		21	27	
23.6.59		57	2.6	27	35	1.2
24.6.59		57		27	35	
25.6.59		130	2.6	62	50	1.2
26.6.59		130		62	50	
27.6.59		130		62	50	
28.6.59		75		36	40	1.6
29.6.59		75		36	40	
30.6.59		65		31	40	1.0
Sum		9970		4720	4715	
Sum (no rain)		2570		1220	1045	
Average		91	4.1	43	45	1.2

**$T_{\frac{1}{2}}$ = 4 used for extrapolation.

Tables No. 62,63.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael, July/August 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	f	Date	Weather	A_o	f
1.7.59	=	65		1.0	1.8.59	=	42	1.2
2.7.59	=	160	3.3	2.0	2.8.59	=	50	1.2
3.7.59		160			3.8.59		50	
4.7.59		160			4.8.59		105	
5.7.59	Pd	105		1.0	5.8.59		105	1.0
6.7.59		105			6.8.59		55	
7.7.59	=	60	5.5	1.0	7.8.59	=	55	1.1
8.7.59		60			8.8.59		55	
9.7.59	=	30	3.8	1.5	9.8.59	=	60	1.8
10.7.59		30			10.8.59		60	
11.7.59		30			11.8.59	=	25	1.0
12.7.59	=	33		1.0	12.8.59		25	
13.7.59		33			13.8.59	=	65	1.1
14.7.59	=	120		2.1	14.8.59		65	
15.7.59		120			15.8.59		65	
16.7.59	=	100		1.0	16.8.59	=	75	1.2
17.7.59		100			17.8.59		75	
18.7.59		100			18.8.59	=	100	
19.7.59	=	50			19.8.59		100	
20.7.59		50			20.8.59		55	
21.7.59					21.8.59		55	1.0
22.7.59					22.8.59		55	
23.7.59	=	63		1.5	23.8.59	= sand	30	1.1
24.7.59		63			24.8.59		30	
25.7.59		63			25.8.59	=	33	1.1
26.7.59	=	40		1.4	26.8.59		33	
27.7.59		40			27.8.59		28	
28.7.59	=	55		1.2	28.8.59	=	28	1.0
29.7.59		55			29.8.59		28	
30.7.59	=	42		1.2	30.8.59	=	60	2.0
31.7.59		42			31.8.59		60	
Sum		2135			Sum		1727	
Sum		1924						
Average		71		1.3	Average		55	1.2

Tables No. 64,65.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael Station, Sept./October 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	f	Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	f
1.9.59	=	25				1.10.59		30			
2.9.59		25			1.5	2.10.59	=	30			1
3.9.59		25				3.10.59		30			
4.9.59		40				4.10.59		20			
5.9.59	=	40			1.3	5.10.59	=	20			1
6.9.59		25				6.10.59		17			
7.9.59	=	25			1.1	7.10.59	=	17			1.5
8.9.59		50				8.10.59	=	17			
9.9.59	=	50			1.1	9.10.59		17			1.5
10.9.59		415				10.10.59		17			
11.9.59	Pr (8.1mm)	415	155	4.5	1.1	11.10.59		28			
12.9.59		415				12.10.59		28			1
13.9.59		505				13.10.59		250			
14.9.59	Pr (8.8mm)	505	155	5.9	1.1	14.10.59	Pr(1.4mm)	250	355	4	1.0
15.9.59		25				15.10.59		25			
16.9.59		25			1.0	16.10.59	Pd	25			1.5
17.9.59		28				17.10.59		25			
18.9.59	=	28			1.3	18.10.59		20			
19.9.59		28				19.10.59	Pd	20			1
20.9.59		470				20.10.59		20			
21.9.59	Pr (9.3mm)	470	105	6	1.2	21.10.59	=	20			1.5
22.9.59		23				22.10.59		22			
23.9.59	=	23			1.0	23.10.59	=	22			1
24.9.59		25				24.10.59		22			
25.9.59	=	25			1.2	25.10.59		25			
26.9.59		25				26.10.59		25			1.5
27.9.59		21				27.10.59	Pr(3.6mm)	375	210	6	
28.9.59	=	21			1.5	28.10.59		375			1.8
29.9.59	=	25			1.2	29.10.59	=	17			
30.9.59		25				30.10.59		17			1.5
						31.10.59		17			
Sum	(26 mm)	3457					(5 mm)	1843			
Sum (no rain)		652						478			
Average		28	122		1.2	Average		23	250		

Tables No. 66,67.

Deposition of Fallout Activity on a Gummed Tape Collector.

Tirat Yael Station, November/December 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	f	Date	Weather	A_o	pC/l	f
1.11.59		30				1.12.59		20		
2.11.59	=	30			1.5	2.12.59	=	20		1
3.11.59		20				3.12.59		130		
4.11.59	=	20			1	4.12.59	Ph(2.5 mm)	130	160	1.1
5.11.59		355				5.12.59		130		
6.11.59	Pr(27.1 mm)	355	40	4.3	1	6.12.59	=	40		1.5
7.11.59		355				7.12.59		40		
8.11.59		25				8.12.59	Pd	35		1.5
9.11.59		25			1.5	9.12.59		35		
10.11.59		100				10.12.59		15		
11.11.59	Pr(0.3 mm)	100	300		1	11.12.59	=	15		2
12.11.59		25				12.12.59		15		
13.11.59	Pd	25				13.12.59		10		1.5
14.11.59		25			-	14.12.59		10		
15.11.59		220				15.12.59		18		
16.11.59	Pr(19 mm)	220	23		1	16.12.59		18		1
17.11.59		65				17.12.59		90		
18.11.59	=	65			2	18.12.59	Pr(37 mm)	90	7.2	1
19.11.59		13				19.12.59		90		
20.11.59	=	13			1	20.12.59	Pr(27 mm)	170	12	1.2
21.11.59		13				21.12.59		170		
22.11.59	=	27				22.12.59	Pr(5.3 mm)	135	51	
23.11.59		27			1	23.12.59		135		
24.11.59		15				24.12.59		65		
25.11.59		15			2	25.12.59	Pr(1.2 mm)	65	162	1.2
26.11.59		100				26.12.59		65		
27.11.59	Ph(7.6 mm)	100	40			27.12.59		40		
28.11.59		100				28.12.59		40		1.3
29.11.59	Ph (15 mm)	230				29.12.59	Pr(0.6 mm)	42	140	1.2
30.11.59		230	30			30.12.59		42		
						31.12.59	-	-	-	-
Sum	(69 mm)	2950				Sum	(73.6)	1920		
Sum (no rain)		403				Sum(no rain)		300		
Average		27	36			Average		22	21	

Table No. 68.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ramat David , May 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	f
1.5.59						
2.5.59						
3.5.59						
4.5.59						
5.5.59						
6.5.59						
7.5.59						
8.5.59						
9.5.59						
10.5.59		80		28°		
11.5.59		80	2.1	28		1.1
12.5.59		740		260°	300	
13.5.59		740	3.6	260	300	1.0
14.5.59		1050		368°	450	
15.5.59	Pd	1050	2.9	368	450	1.2
16.5.59		1050		368	450	
17.5.59		1050		368°	450	
18.5.59	Pr	1050	3.0	368	450	1.0
19.5.59		100		35°	42	
20.5.59		100	3.0	35	42	1.4
21.5.59		110		39°	50	
22.5.59	./.	110	5.5	39	50	1.0
23.5.59		110		39	50	
24.5.59		80		28°	37	
25.5.59	o	80	3.5	28	37	1.1
26.5.59		85		30°	40	
27.5.59		85		30	40	1.1
28.5.59		150		53°	75	
29.5.59	./.	150	3.3	53	75	1.3
30.5.59		150		53	75	
31.5.59		105		37°	45	
Sum		7255*		2547*	3508*	
Sum (no rain)		3055*		1075*	1258*	
Average		179*	3.3	63*	83*	1.1

Table No. 69

Deposition of Fallout Activity on a Gummed Tape Collector.

Ramat David, June 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.6.59		105		50	45	
2.6.59	Pr ./.	400	3.3	150	175	1.6
3.6.59		400		190	175	
4.6.59		145		70	75	
5.6.59	Pr ./.	145	6	70	75	1.1
6.6.59		145		70	75	
7.6.59	o	85	4.5	40	44	1.0
8.6.59		85		40	44	
9.6.59	=o	210	3.5	100	105	1.2
10.6.59		210		100	105	
11.6.59		70	3.5	33	35	
12.6.59		70		33	35	1.0
13.6.59		70		33	35	
14.6.59		50		24	35	1.0
15.6.59		50		24	35	
16.6.59		60	2.8	29	35	1.0
17.6.59		60		29	35	
18.6.59		45		21	25	
19.6.59	=	45		21	25	1.6
20.6.59		45		21	25	
21.6.59		50		24	30	
22.6.59		50		24	30	
23.6.59		45		21	30	
24.6.59		45		21	30	1.0
25.6.59		40		19	13	
26.6.59		40	1.3	19	13	1.3
27.6.59		40		19	13	
28.6.59		60		29	35	
29.6.59		60		29	35	
30.6.59						
Sum		2925		1393	1467	
Sum (no rain)		1690		803	892	
Average		70	3.9	32	37	1.2

** $T_{\frac{1}{2}}$ = 4 used for extrapolation.

Table No. 70.

Deposition of Fallout Activity on a Gummed Tape Collector.-

Ramat David, July 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	f
9.7.59		45		1.1
10.7.59		45		
11.7.59		45		
12.7.59		50		
13.7.59		50	2.5	1.2
14.7.59		20		
15.7.59		20		1.9
16.7.59		46		
17.7.59		46	4	1.2
18.7.59		46		
19.7.59		40		
20.7.59	=	40	2	1.1
21.7.59		50		
22.7.59	./.	50		1.0
23.7.59		28		
24.7.59		28		1.6
25.7.59	./.	28		
26.7.59		50		
27.7.59		50	2	1.0
28.7.59		22		
29.7.59		22		1.9
30.7.59		22		
31.7.59		22		1.3
Sum		730 *		
Average		36 *		1.3

Table No. 71.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ramat David, August 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	f
1.8.59		22		1.3
2.8.59		32		
3.8.59	=	32	4.5	1.5
4.8.59		30		
5.8.59	./.	30	2.3	1.5
6.8.59				
7.8.59				
8.8.59				
9.8.59		75		
10.8.59		75		1.0
11.8.59		17		
12.8.59		17		1.3
13.8.59		21		
14.8.59		21		1.5
15.8.59		21		
16.8.59		27		
17.8.59		27		1.0
18.8.59		20		
19.8.59		20		1.0
20.8.59		20		
21.8.59		20		1.2
22.8.59		20		
23.8.59		23		
24.8.59	=	23		1.2
25.8.59		20		
26.8.59		20		1.0
27.8.59				
28.8.59				
29.8.59				
30.8.59		40		
31.8.59		40		
Sum		713		
Average		28		1.2

Tables No. 72,73

Deposition of Fallout Activity on a Gummed Tape Collector.

Ramat. David, Sept./October 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	f	Date	Weather	A_o	pC/l	f
1.9.59		30			1.1	1.10.59		17		1
2.9.59		30				2.10.59		17		
3.9.59		15				3.10.59		17		
4.9.59	=	15				4.10.59		15		1
5.9.59		15				5.10.59		15		
6.9.59		22			1.2	6.10.59		20		1.5
7.9.59		22				7.10.59		20		
8.9.59		20			1.2	8.10.59		17		1
9.9.59	./.	20				9.10.59	./.	17		
10.9.59		110				10.10.59		17		
11.9.59	Pr(2.4 mm)	110	137	5.0	1.2	11.10.59				
12.9.59	./.	110				12.10.59				
13.9.59		82			1.0	13.10.59	Pd	27		1
14.9.59	Pr	82				14.10.59		27		
15.9.59		15				15.10.59		35		1.2
16.9.59		15				16.10.59	Pr	35		
17.9.59		12				17.10.59		35		
18.9.59		12			1.7	18.10.59		10		2
19.9.59		12				19.10.59		10		
20.9.59		160				20.10.59		15		1.5
21.9.59	Pr(16 mm)	160	20		1.1	21.10.59	=	15		
22.9.59		15			2	22.10.59		5		1
23.9.59		15				23.10.59		5		
24.9.59		12				24.10.59		5		
25.9.59		12			1.3	25.10.59		10		2
26.9.59		12				26.10.59		10		
27.9.59		15				27.10.59		60		
28.9.59		15			2.0	28.10.59	Pr(1.2 mm)	60	100	1.0
29.9.59		15			1.0	29.10.59		15		
30.9.59	./.	15				30.10.59		15		1.5
						31.10.59		15		
Sum		1195				Sum		581		
Sum (no rain)		381				Sum (no rain)		302		
Average		17	36		1.4	Average		13	100	

Tables No. 74,75.

Deposition of Fallout Activity on a Gummed Tape Collector.

Ramat. David, Nov./Dec. 1959.

Date	Weather	A_o	pC/l	f	Date	Weather	A_o	pC/l	f
1.11.59	o	30		1	1.12.59		11		1
2.11.59		30			2.12.59		11		
3.11.59	=	18		1.5	3.12.59		83		
4.11.59		18			4.12.59	Pr(1.2 mm)	83	210	1
5.11.59		70			5.12.59		83		
6.11.59	Pr(3.0 mm)	70	70	1.5	6.12.59		15		
7.11.59		70			7.12.59		15		
8.11.59		13		1	8.12.59		22		1.2
9.11.59		13			9.12.59		22		
10.11.59	Pr(0.3 mm)	25	82		10.12.59		8		2
11.11.59		25			11.12.59		8		
12.11.59		26			12.12.59		8		
13.11.59	Pd	26		1	13.12.59		22		1
14.11.59		26			14.12.59		22		
15.11.59	Pr(12.5mm)	80	6	1	15.12.59		15		1
16.11.59		80			16.12.59		15		
17.11.59		10		2	17.12.59	Pr (8 mm)	80	32	1
18.11.59		10			18.12.59		80		
19.11 59		13			19.12.59		80		
20.11.59		13		1	20.12.59	Pr (6 mm)	70	25	1.1
21.11.59		13			21.12.59		70		
22.11.59		15			22.12.59	Pr (1.1 mm)	40	75	1.2
23.11.59		15		1	23.12.59		40		
24.11.59	Pr	25		1.5	24.12.59		15		
25.11.59		25			25.12.59	=	15		1.5
26.11.59		32			26.12.59		15		
27.11.59	Pr(2.9 mm)	32	30	1	27.12.59		17		
28.11.59		32			28.12.59		17		1.5
29.11.59	Pr(5.6 mm)	75	27	1	29.12.59	Pd	27		
30.11.59		75			30.12.59		27		1.1
					31.12.59	Pr	115		1.0
Sum	(25.3 mm)	1080			Sum	(16.3)	1150		
Sum (no rain)		211			Sum (no rain)		273		
Average		16	30		Average		15	43	

Table No. 76

Deposition of Fallout Activity on a Gummed Tape Collector.

Kfar Blum Station, March 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	Calc. A_y	Exp.	f
1.3.59							
2.3.59							
3.3.59							
4.3.59							
5.3.59							
6.3.59							
7.3.59							
8.3.59							
9.3.59							
10.3.59							
11.3.59							
12.3.59		1600			350	375	
13.3.59	Pd	1600		1.9	350	375	1.3
14.3.59		1600			350	375	
15.3.59		5100	6800	2.3	1100	1380	1.0
16.3.59	Pr(1.5 mm)	5100			1100	1380	
17.3.59		4250			920	1050	
18.3.59	Pr(2.6 mm)	4250	3300	2.2	920	1050	1.1
19.3.59		3200			915	975	
20.3.59	Pr(7.0 mm)	3200	1400		915	975	1.0
21.3.59		3200			915	975	
22.3.59		3200			860	675	
23.3.59	Pr(0.9 mm)	3000	6700	3.0	860	675	1.1
24.3.59		3250			930	875	
25.3.59	Pr	3250		2.4	930	875	1.1
26.3.59		130		2.5	37	35	1.0
27.3.59		990			280	275	
28.3.59		990		2.7	280	275	1.0
29.3.59		8600			2450	2600	
30.3.59		8600		2.4	2450	2600	1.1
31.3.59		155		3.3	44	50	1.25
Sum	(12.0 mm)	65065*			18586*	17845*	
Sum (no rain)		19465*			5541*	5835*	
Average		3244*	3258	2.5	923*	972*	1.1

Table No. 77.

Deposition of Fallout Activity on a Gummed Tape Collector.

Kfar Blum, April 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	Exp.	f
1.4.59		155		3.3	48°	50	1.25
2.4.59		6100			1910°	1100	
3.4.59	Pr(6.0 mm)	6100	3050	2.4	1910	1100	1.1
4.4.59		6100			1910	1100	
5.4.59		4400			1380°	1100	
6.4.59	Pr(6.8 mm)	4400	1300	3.0	1380	1000	1.1
7.4.59		150			47°	60	
8.4.59	o	150			47	60	
9.4.59		290			90°	50	
10.4.59		290		2.2	90	50	1.4
11.4.59		290			90	50	
12.4.59		220			70°	95	
13.4.59		220		3.0	70	95	1.2
14.4.59		4300			1340°	1500	
15.4.59	Pd	4300		2.3	1340	1500	1.1
16.4.59		170			53°	55	
17.4.59		170		2.4	53	55	1.2
18.4.59		170			53	55	
19.4.59		90			28°	30	
20.4.59		90		4.2	28	30	1.2
21.4.59		150			47°	60	
22.4.59	o	150		5.5	47	60	1.1
22.4.59		135			42°	48	
23.4.59		135			42	48	1.3
24.4.59		135			42	48	
25.4.59							
26.4.59							
27.4.59							
28.4.59							
29.4.59							
30.4.59							
Sum	(12.8 mm)	38860*			12157*	9300*	
Sum (no rain)		3160*			987*	999*	
Average		175*	2110	3.1	55*	55*	1.2

Table No. 78

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer-Sheva Station, July 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	A_{12}	f
1.7.58							
2.7.58							
3.7.58							
4.7.58		65	5	40			
5.7.58		65		40			5
6.7.58		47	1.7	7		7	1.9
7.7.58		47		7		7	
8.7.58							
9.7.58		91		8		30	
10.7.58		91		8		30	1.3
11.7.58		160	0.9	9		12	
12.7.58		160		9		12	3.8
13.7.58		375	0.7	14	45	42	
14.7.58		375		14	45	42	1.5
15.7.58		115		10	22	20	
16.7.58	=	115	1.2	10	22	20	2.5
17.7.58		115		10	22	20	
18.7.58		145	1.9	25	23	18	
19.7.58	=	145		25	23	18	1.2
20.7.58		235	0.9	13		25	
21.7.58		235		13		25	1.5
22.7.58		160		16	25	22	
23.7.58		160	1.3	16	25	22	1.1
24.7.58		160		16	25	22	
25.7.58		610	1.2	55	40	30	
26.7.58		610		55	40	30	1.3
27.7.58		330	1.2	30	37	30	
28.7.58		330		30	37	30	1.1
29.7.58		1000	0.6	29	45	40	
30.7.58	=	1000		29	45	40	1.1
31.7.58		800	0.8	38	45	35	1.3
Sum		7741*		546*			
Average		286*	1.4	20*	33*	25*	1.6

Table No. 79.

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, August 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	A_{12}	f
1.8.58		800		38^	45	35	
2.8.58		800	0.8	38	45	35	1.3
3.8.58		190	1.6	26^	42	35	1.3
4.8.58		190		26	42	35	
5.8.58		410		23^	37	31	
6.8.58	"	410	0.9	23	37	31	1.8
7.8.58		290		14^	30	24	
8.8.58		290	0.8	14	30	24	1.2
9.8.58		290		14	30	24	
10.8.58		290		11^	30	25	
11.8.58		290	0.7	11	30	25	1.1
12.8.58		210		29^	34	23	
13.8.58		210	1.6	29	34	23	1.2
14.8.58		340		16^	30	21	
15.8.58	"	340	0.8	16	30	21	1.4
16.8.58		340		16	30	21	
17.8.58		300		21^	50	40	
18.8.58		300	1.0	21	50	40	1.0
19.8.58		290		23^	40	33	
20.8.58		290	1.1	23	40	33	1.6
21.8.58		280		23^	30	22	
22.8.58		280	1.15	23	30	22	1.7
23.8.58		280		23	30	22	
24.8.58		420		33^	52	45	
25.8.58		420	1.2	33	52	45	1.5
26.8.58		195		13^	32	27	
27.8.58		195	0.8	13	32	27	1.1
28.8.58		85		11^	22	20	
29.8.58		85	1.5	11	22	20	1.3
30.8.58		85		11	22	20	
31.8.58		100	1.2	9^		25	1.0
Sum		9435		615	1060	874	
Average		304	1.1	20	35	28	1.3

Table No. 80

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, September 1958.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	A_{12}	f
1.9.58		100	1.2	9^		25	1.0
2.9.58		125		24^	40	35	
3.9.58		125	2.0	24	40	35	1.4
4.9.58		160		32^	40	35	
5.9.58		160	1.6	32	40	35	1.1
6.9.58		160		32	40	35	
7.9.58		129		16^	40	32	
8.9.58		129	1.5	16	40	32	1.0
9.9.58		120		17^		45	
10.9.58	Pr	120	1.6	17		45	1.0
11.9.58		75		27^			
12.9.58		75	3.2	27			1.0
13.9.58		75		27			
14.9.58		100		19^	35	28	
15.9.58		100	2.0	19	35	28	1.0
16.9.58		100		21^	25	23	
17.9.58		100	2.0	21	25	23	1.1
18.9.58		115		20			
19.9.58		115	1.6	20			1.1
20.9.58		115		20			
21.9.58		75		13^		15	
22.9.58		75	1.5	13		15	1.1
23.9.58		75		13		15	
24.9.58		100	3			11	1.2
25.9.58		60		25^		18	
26.9.58		60	3	25		18	1.5
27.9.58		60		25		18	
28.9.58		70		28^		22	
29.9.58		70	3.5	28		22	1.4
30.9.59		60	2.7	17	25	15	1.1
Sum		3013		627			
Average		101	2.7	22		26 *	1.15

Table No. 81

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, October 1958.

Date	Weather	A_o pC/l		$T_{\frac{1}{2}}$	A_y Calc.	Exp.	A_{12}	f	Remarks
1.10.58		60		2.7	24	25	15	1.1	
2.10.58		42		3.5	17		10	1.1	
3.10.58		42			17		10		
4.10.58		42			17		10		
5.10.58		60		4.5	24		10	1.6	
6.10.58		60			24		10		
7.10.58									
8.10.58									
9.10.58		8400		0.4	105	100	85	2.4	
10.10.58	"	8400			105	100	85		
11.10.58		8400			105	100	85		
12.10.58		9200		0.3	56	80	65	1.6	
13.10.58		9200			56	80	65		
14.10.58		1550		0.5	31		33	1.6	
15.10.58		1550			31		33		
16.10.58		410		0.6	12		20	2.2	
17.10.58		410			12		20		
18.10.58		410			12		20		
19.10.58		195		0.8	11		23	1.6	
20.10.58		195			11		23		
21.10.58		(200)16000		0.8	760 (10)	(30)	(24)	75	Hot spot
22.10.58		(200)16000			760 (10)	(30)	(24)		
23.10.58		450		0.85	24	45	35	3.5	
24.10.58		450			24	45	35		
25.10.58		450			24	45	35		
26.10.58		1450		0.8	70		70	2.0	
27.10.58	Pr(1.0 mm)	1450	2900		70		70		
28.10.58		240		0.9	14		23	3.0	
29.10.58		240			14		23		
30.10.58		730		0.85	38		40	1.9	
31.10.58	Pd	730			38		40		
Sum		55216			906		1041		
Sum (no rain)		50850			690		821		
Average		1904	2900	1.3	27		32		

Table No. 82

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, November 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	A_{12}	f	Remarks
1.11.58	Pd	730		0.9	38°		40	1.9	
2.11.58		1120	3730	0.8	55°		65	1.3	
3.11.58	Pr(0.6 mm)	1120			55		65		
4.11.58		260		0.9	19°		30	1.1	
5.11.58		260			19		30		
6.11.58		120		0.9	9°		11	1.3	
7.11.58		120			9		11		
8.11.58		120			9		11		
9.11.58		300		0.7	15°		15	2.1	
10.11.58	= Sand	300			15		15		
11.11.58		700		1.0	50°		50	4.5	
12.11.58		700			50		50		
13.11.58		400		0.9	29°		34	1.3	
14.11.58		400			29		34		
15.11.58		400			29		34		
16.11.58									
17.11.58									
18.11.58		570		0.8	42°		43	3.0	
19.11.58	=	570			42		43		
20.11.58									
21.11.58									
22.11.58									
23.11.58		520		1.0	39°		45	3.0	
24.11.58		520			39		45		
25.11.58		250		1.25	19°		15	2.2	
26.11.58		250			19		15		
27.11.58		850		1.1	63°		60	1.6	rain in other parts of the country.
28.11.58		850			63		60		
29.11.58		850			63		60		
30.11.58	Pr(1.2 mm)	2700	4400	1.2	200°		220	1.3	
Sum	(1.8mm)	14980*			1093*		1100*		
Sum (no rain)		9310*			673*		531*		
Average		433*	2200	0.9	32*		29*	1.9	

Table No. 83.

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, December 1958.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	f
1.12.58	Pr(1.2 mm)	2700	4400	1.2	290°		1.3
2.12.58		1500			163°		1.1
3.12.58	Pr(0.5 mm)	1500	6000	1.15	163		
4.12.58		250			27°		
5.12.58	Pd	250		1.2	27		1.9
6.12.58		250			27		
7.12.58		6800			740°		
8.12.58	Pr(1.5 mm)	6800	9000	1.5	740		1.1
9.12.58		190			21°		
10.12.58		190		1.3	21		1.4
11.12.58							
12.12.58		425			46°		
13.12.58		425		1.75	46		1.4
14.12.58		1800			195°		
15.12.58	Pr(1.3 mm)	1800	2800	1.3	195		1.0
16.12.58		160			30°		
17.12.58		160		2.0	30		1.1
18.12.58		210			40°		
19.12.58		210		1.9	40		1.1
20.12.58		210			40		
21.12.58		190			36°		
22.12.58		190		1.6	36		1.3
23.12.58		190			36°		
24.12.58		190		1.5	36		1.1
25.12.58		220			42°		
26.12.58		220		2.7	42		1.1
27.12.58		220			42		
28.12.58		250			47°		
29.12.58		250			47		3.3
30.12.58		260			49°		
31.12.58		260		2.3	49		1.0
Sum	(4.5 mm)	28270			3343		
Sum (no rain)		4620			776		
Average		231	5080	1.7	38		1.4

Table No. 8C.

Deposition of Fallout Activity on a Gummed Paper Collector.

Beer Sheva Station, January 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y	f
1.1.59		260			44°	
2.1.59		260		2.1	44	1.1
3.1.59		260			44	
4.1.59						
5.1.59						
6.1.59						
7.1.59						
8.1.59		450			76°	
9.1.59	=	450		1.7	76	1.3
10.1.59		450			76	
11.1.59		550			93°	
12.1.59	=	550		1.8	93	1.8
13.1.59		240			62°	
14.1.59	=	240		2.5	62	1.0
15.1.59		3850			990°	
16.1.59	Pr(5.5 mm)	3850	2100	2.0	990	1.1
17.1.59		3850			990	
18.1.59						
19.1.59						
20.1.59		430			110°	
21.1.59	=	430		3.0	110	1.1
22.1.59		970			200°	
23.1.59	Pd	970		2.0	200	1.0
24.1.59		970			200	
25.1.59		240			50°	
26.1.59		240		2.4	50	1.0
27.1.59		175			36°	
28.1.59		175		2.2	36	1.1
29.1.59		195			41°	
30.1.59		195		2.1	41	1.2
31.1.59		195			41	
Sum		17537*			4755*	
Sum (no rain)		3075*			1185*	
Average		161*	2100	2.2	62*	1.2

Table No. 85.

Deposition of Fallout Activity on a Gummed Paper Collector.

Beer Sheva Station, February 1959.

Date	Weather	A_o pC/l		$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp. ***	f
1.2.59	Pr(1.0 mm)	1.400	2800	2.1	360	375	1.1
2.2.59		1.400			360	375	
3.2.59		730			190	175	
4.2.59	Pd	730		2.1	190	175	1.0
5.2.59		1000			255	240	
6.2.59	Pr(0.7 mm)	1000	4300	2.3	255	240	1.3
7.2.59		1000			255	240	
8.2.59		2000			510	400	
9.2.59	Pr(0.2 mm)	2000	20000	3.0	510	400	1.1
10.2.59		200			51	83	
11.2.59		200		2.0	51	83	1.5
12.2.59		2650			680	600	
13.2.59	Pr(11.2 mm)	2650	710	2.5	680	600	1.2
14.2.59		2650			680	600	
15.2.59							
16.2.59							
17.2.59		3600			925	900	
18.2.59	Pr(26.5 mm)	3600	410	3.0	925	900	1.1
19.2.59		3600			925	900	
20.2.59							
Sum	(39.6 mm)	30410*			7802*	7286*	
Sum (no rain)		400*			102*	166*	
Average		200*	760	2.4	51*	83*	1.2

** $T_{\frac{1}{2}}$ = 2.5 used for extrapolation
*** Interpolated values.

Table No. 8'6.

Deposition of Fallout Activity on a Gummed Paper Collector.

Beer Sheva Station, March 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
24.3.59	Pr(0.2 mm)	1150	11500	3.0	330	325	1.0
25.3.59		1150			330	325	
26.3.59		155			44	50	
27.3.59		155		2.9	44	50	1.1
28.3.59		155			44	50	
29.3.59		2050		3.4	585	650	1.2
30.3.59		2050			585	650	
31.3.59		240		3.0	70	85	1.3
Sum		7105*			2032*	2185*	
Sum (no rain)		4805*			1372*	1535*	
Average		800*	11500	3.1	229*	255*	1.1

** $T_{\frac{1}{2}}$ = 2.7 used for extrapolation.

Table No. 27

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, April 1959.

D e	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc.**	A_y Exp.	f
1.4.59		240		3	62	85	1.3
2.4.59		2600			810	850	
3.4.59	Pr(0.5 mm)	2600	15600	3.3	810	850	1.1
4.4.59		2600			810	850	
5.4.59		1750			550	525	
6.4.59	Pr(0.2 mm)	1750	17500	2.5	550	525	1.0
7.4.59		160			50	56	
8.4.59		160		2.7	50	56	1.5
9.4.59		195			60	60	
10.4.59		195		2.2	60	60	1.1
11.4.59		195			60	60	
12.4.59		180			56	70	
13.4.59		180		4.3	56	70	1.0
14.4.59		165			52	75	
15.4.59		165		2.5	52	75	1.0
16.4.59		130			41	50	
17.4.59		130		3.0	41	50	1.2
18.4.59		130			41	50	
19.4.59							
20.4.59							
21.4.59		170			53	70	
22.4.59		170		3.2	53	70	1.0
23.4.59		230			72	80	
24.4.59		230		3.0	72	80	1.1
25.4.59		230			72	80	
26.4.59		165			50	65	
27.4.59		165		3.7	50	65	1.2
28.4.59		550			170	225	
29.4.59		550		(4.7)	170	225	1.0
30.4.59		105		(4.8)	33	45	1.1
Sum	(0.7 mm)	16090			5006	5422	
Sum (no rain)		4790			1476	1822	
Average		208	16140	3.0	64	79	1.1

** $T_{\frac{1}{2}}$ = 2.9 used for extrapolation.

Table No. 88.

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, May 1959.

Date	Weather	A_o	pC/l	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.5.59		105			37	45	
2.5.59		105		1.8	37	45	1.1
3.5.59		210			74	75	
4.5.59		210		2.9	74	75	1.5
5.5.59		175			60	70	
6.5.59		175		4.0	60	70	1.1
7.5.59		110			39	40	
8.5.59		110		3.9	39	40	1.1
9.5.59		110			39	40	
10.5.59		100			35	45	
11.5.59		100		4.0	35	45	1.3
12.5.59		250			88	110	
13.5.59		250		3.1	88	110	1.1
14.5.59		1350			475	525	
15.5.59	Pr(0.2 mm)	1350	20250	4.2	475	525	1.1
16.5.59		1350			475	525	
17.5.59							
18.5.59							
19.5.59		2180			760	900	
20.5.59	Pd	2180		3.0	760	900	1.0
21.5.59		140			49	70	
22.5.59		140			49	70	1.1
23.5.59		140			49	70	1.1
24.5.59		140			49	75	
25.5.59		140		6	49	75	1.1
26.5.59		120			42	80	
27.5.59		120		6	42	80	1.2
28.5.59		240			84	100	
29.5.59		240		5	84	100	1.1
30.5.59		240			84	100	
31.5.59		100		3	35	50	1.0
Sum		12180			4266	5055	
Sum (no rain)		3770			1321	1680	
Average		157	20250	3.9	55	70	1.15

** $T_{\frac{1}{2}}$ = 3.2 used for extrapolation.

Table No. 89.

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, June 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f
1.6.59		100	3.0	48	55	1.0
2.6.59		160		75	90	
3.6.59		160	5.0	75	90	1.2
4.6.59		70		33	40	
5.6.59		70	6.0	33	40	1.0
6.6.59		70		33	40	
7.6.59		55		26	45	
8.6.59		55	6	26	45	1.1
9.6.59		70		33	40	
10.6.59		70	2.5	33	40	1.2
11.6.59		140		65	75	
12.6.59		140	4.5	65	75	1.0
13.6.59		140		65	75	
14.6.59		60		29	40	
15.6.59		60	4.0	29	40	1.9
16.6.59		110		52	65	
17.6.59		110	5	52	65	1.3
18.6.59		60		29	42	
19.6.59		60		29	42	1.1
20.6.59		60		29	42	
21.6.59		250		120	135	
22.6.59		250		120	135	1.2
23.6.59		67		32	40	
24.6.59		67	3	32	40	1.1
25.6.59		50		24	25	
26.6.59		50		24	25	1.2
27.6.59		50		24	25	
28.6.59		75		36	40	
29.6.59		75		36	40	1.2
30.6.59		75		36	40	1.2
Sum		2830		1343	1631	
Sum (no rain)		2830		1343	1631	
Average		95	4.3	44	54	1.2

** $T_{\frac{1}{2}}$ = 4 used for extrapolation.

Tables No. 90,91.

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, July/August 1959.

Date	Weather	A_o	f	Date	Weather	A_o	f
1.7.59		75	1.2	1.8.59	-	52	1.0
2.7.59		55	1.1	2.8.59		60	1.0
3.7.59		55		3.8.59		60	
4.7.59		55		4.8.59		30	1.0
5.7.59		45	1.0	5.8.59		30	
6.7.59		45		6.8.59		43	1.1
7.7.59		50	1.7	7.8.59	-	43	
8.7.59		50		8.8.59		43	
9.7.59		40		9.8.59		45	1.2
10.7.59	-	40	1.0	10.8.59	-	45	
11.7.59		40		11.8.59		30	1.1
12.7.59		60	1.0	12.8.59	-	30	
13.7.59	-	60		13.8.59		25	1.0
14.7.59		45	1.0	14.8.59	-	25	
15.7.59		45		15.8.59		25	
16.7.59		75		16.8.59			
17.7.59	-	75	1.2	17.8.59			
18.7.59		75		18.8.59		37	1.5
19.7.59		35	2.3	19.8.59		37	
20.7.59		35		20.8.59			
21.7.59		80	1.5	21.8.59			
22.7.59		80		22.8.59			
23.7.59		40	1.0	23.8.59			
24.7.59	-	40		24.8.59			
25.7.59		40		25.8.59			
26.7.59		60		26.8.59			
27.7.59		60		27.8.59			
28.7.59		55	1.1	28.8.59			
29.7.59		55		29.8.59			
30.7.59		52	1.0	30.8.59			
31.7.59	-	52		31.8.59			
Sum		1670		Sum		660*	
Average		53	1.3	Average		38*	1.1

Tables No. 92,93.

Deposition of Fallout Activity on a Gummed Tape Collector.

Beer Sheva Station, October/Nov. 1959.

Date	Weather	A_o	pC/l	f	Date	Weather	A_o	pC/l	f
1.10.59					1.11.59	=	45		1.5
2.10.59					2.11.59		45		
3.10.59					3.11.59	= sand	30		1
4.10.59		22		1	4.11.59		30		
5.10.59		22			5.11.59		25		1
6.10.59		22		1	6.11.59		25		
7.10.59		22			7.11.59		25		
8.10.59		25			8.11.59		25		1.5
9.10.59		25		1.5	9.11.59		25		
10.10.59		25			10.11.59		22		1
11.10.59	Pr	30		1.5	11.11.59		22		
12.10.59		30			12.11.59		18		1.5
13.10.59					13.11.59		18		
14.10.59					14.11.59		18		
15.10.59	= sand	35			15.11.59		30		1
16.10.59		35			16.11.59		30		
17.10.59		35			17.11.59		20		1
18.10.59	Pr(1.4 mm)	35	50	2	18.11.59		20		
19.10.59		35			19.11.59		25		1.5
20.10.59		22		1.5	20.11.59		25		
21.10.59		22			21.11.59		25		
22.10.59	=	16			22.11.59		17		1
23.10.59		16		1	23.11.59		17		
24.10.59		16			24.11.59		45		1
25.10.59		25		1	25.11.59		45		
26.10.59		25			26.11.59		90		
27.10.59		25		1	27.11.59		90		
28.10.59		25			28.11.59	Pr(2.5 mm)	90	140	1
29.10.59	=	15		1	29.11.59		90		
30.10.59		15			30.11.59		25		1
31.10.59		15							
Sum		635			Sum		1057		
Sum (no rain)		505			Sum (no rain)		697		
Average		23			Average		27	140	

Table No. 94

Deposition of Fallout Activity on a Gummed Tape Collector

Beer Sheva Station, December 1959.

Date	Weather	A_o	pC/l	f
1.12.59				
2.12.59				
3.12.59		65		
4.12.59	Pr(1.4 mm)	65	140	1
5.12.59		65		
6.12.59		25		
7.12.59		25		1
8.12.59		70		
9.12.59	Pr	70		
10.12.59		12		
11.12.59		12		1
12.12.59		12		
13.12.59		37		
14.12.59		37		1
15.12.59		48		
16.12.59		48		1
17.12.59		40		
18.12.59	Pr(5 mm)	40	25	1.1
19.12.59		40		
20.12.59		21		
21.12.59		21		
22.12.59		13		
23.12.59		13		1
24.12.59		45		
25.12.59	Pr(0.7 mm)	45	195	1.2
26.12.59		45		
27.12.59		55		
28.12.59	Pr(0.1 mm)	55	1100	1.2
29.12.59		29		-
30.12.59		29		
31.12.59		15		1.2
Sum	(7.2 mm)	1 100		
Sum (no rain)		400		
Average		25	80	

Table No. 95.

Deposition of Fallout Activity on a Gummed Tape Collector.

Eilath Station, March 1959.

Date	A_o	$T_{\frac{1}{2}}$	A_y Calc.	A_y Exp.	f
24.3.59	100	-	28	40	1.0
25.3.59	100		28	40	
26.3.59	75	2.5	22	32	1.0
27.3.59	75		22	32	
28.3.59	75		22	32	
29.3.59	200		55	85	
30.3.59	200	3.8	55	85	1.2
31.3.59	130	2.0	35	40	1.2
Sum	955*		267*	386*	
Sum (no rain)	955*				
Average	120*	2.8*	33*	48*	1.1*

Table No. 96.

Deposition of Fallout Activity on a Gummed Tape Collector.

Eilath Station, April 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	Exp.	f
1.4.59		130	2.0	41	40	
2.4.59		1600		500	500	
3.4.59	Pr	1600	3.3	500	500	1.0
4.4.59		1600		500	500	
5.4.59		6700		2100	2100	
6.4.59	Pd	6700	2.5	2100	2100	1.1
7.4.59		72		23	35	
8.4.59		72	2.0	23	35	
9.4.59		115		36	35	
10.4.59		115	3.0	36	35	1.0
11.4.59		115		36	35	
12.4.59		65		20	37	
13.4.59		65	5.0	20	37	2.0
14.4.59		60		19	20	
15.4.59		60	2.1	19	20	1.0
16.4.59		60		19	20	
17.4.59		60	(6.0)	19	20	1.2
18.4.59		60		19	20	
19.4.59		75		23	30	
20.4.59		75		23	30	
21.4.59		90		28	38	
22.4.59		90	2.5	28	38	1.0
23.4.59		90		28	38	
24.4.59		60		19	20	
25.4.59		60	(5.0)	19	20	1.0
26.4.59		125		40	60	
27.4.59		125	4.1	40	60	1.1
28.4.59		190		60	70	
29.4.59		190	2.5	60	70	1.1
30.4.59		85	3.3	27	35	1.1
Sum		20474		6425	6595	
Sum (no rain)		2274		725	895	
Average		91	3.4	29	36	1.1

** $T_{\frac{1}{2}}$ = 2.9 used for extrapolation.

Table No. 97.

Deposition of Fallout Activity on a Gummed Tape Collector.

Eilath Station, May 1959.

Date	Weather	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.	f	Remarks.
1.5.59		85	3.3	30	35	1.1	
2.5.59		85		30	35		
3.5.59		75	1.9	26		1.0	
4.5.59		75		26			
5.5.59		140	2	49	60	1.3	
6.5.59		140		49	60		
7.5.59		235	3.7	82	95	1.0	
8.5.59		235		82	95		
9.5.59		235		82	95		
10.5.59		55	3.0	19		1.1	
11.5.59		55		19			
12.5.59		190	4	67	85		
13.5.59		190		67	85		
14.5.59		290	2.5	102	120		
15.5.59	Pd	290		102	120		
16.5.59		290		102	120		
17.5.59		460	2.5	160	180		Rain reported from other parts of the country.
18.5.59		460		160	180		
19.5.59		80	1.9	28	40		
20.5.59		80		28	40		
21.5.59		50	(1.5)	18	18		
22.5.59		50		18	18		
23.5.59		50		18	18		
24.5.59		60	6	21	35		
25.5.59		60		21	35		
26.5.59		55	4.3	19	25		
27.5.59		55		19	25		
28.5.59		60	2.3	21	35		
29.5.59		60		21	35		
30.5.59		60		21	35		
Sum		4305		1507	1734*		
Average		127	2.9	44	59	1.1	

** $T_{\frac{1}{2}}$ = 3.2 used for extrapolation.

Table No. 98.

Deposition of Fallout Activity on a Gummed Tape Collector.

Eilath Station, June 1959.

Date	A_o	$T_{\frac{1}{2}}$	A_y Calc. **	A_y Exp.
1.6.59				
2.6.59	65	3.7	31	30
3.6.59	65		31	30
4.6.59	60		29	20
5.6.59	60		29	20
6.6.59	60		29	20
7.6.59	50	3	24	
8.6.59	50		24	
9.6.59	55		26	38
10.6.59	55		26	38
11.6.59	60		29	25
12.6.59	60	(1.6)	29	25
13.6.59	60		29	25
14.6.59	50		24	
15.6.59	50		24	
16.6.59	45	6	21	30
17.6.59	45		21	30
18.6.59	42	3.3	20	20
19.6.59	42		20	20
20.6.59	42		20	20
21.6.59				
22.6.59				
23.6.59				
24.6.59				
25.6.59				
26.6.59				
27.6.59				
28.6.59				
29.6.59				
30.6.59	30		14	
Sum	1046*		500*	
Average	52*	3.5	25*	26*

** $T_{\frac{1}{2}}$ = 4 used for extrapolation

Tables No. 99, 100.

Deposition of Fallout Activity on a Gummed Tape Collector.

Eilath Station, July/August 1959.

Date	A_o	Date	A_o
1.7.59	30	1.8.59	25
2.7.59	30	2.8.59	32
3.7.59	30	3.8.59	32
4.7.59	30	4.8.59	
5.7.59	30	5.8.59	
6.7.59	30	6.8.59	
7.7.59	30	7.8.59	
8.7.59		8.8.59	
9.7.59	30	9.8.59	28
10.7.59	30	10.8.59	28
11.7.59	30	11.8.59	28
12.7.59	30	12.8.59	28
13.7.59	30	13.8.59	20
14.7.59	45	14.8.59	20
15.7.59	30	15.8.59	20
16.7.59	30	16.8.59	16
17.7.59	35	17.8.59	16
18.7.59	35	18.8.59	
19.7.59	22	19.8.59	
20.7.59	22	20.8.59	50
21.7.59	35	21.8.59	50
22.7.59	35	22.8.59	
23.7.59	22	23.8.59	
24.7.59	22	24.8.59	
25.7.59	22	25.8.59	27
26.7.59		26.8.59	27
27.7.59		27.8.59	15
28.7.59	47	28.8.59	15
29.7.59	47	29.8.59	15
30.7.59	25	30.8.59	20
31.7.59	25	31.8.59	20
Sum	859*	Sum	532*
Average	31*	Average	25*

Tables No. 101, 102.

Deposition of Fallout Activity on a Gummed Tape Collector.

Eilath Station, Sept./October 1959.

Date	A_o	Date	A_o
1.9.59	25	1.10.59	15
2.9.59	25	2.10.59	15
3.9.59		3.10.59	15
4.9.59		4.10.59	30
5.9.59		5.10.59	30
6.9.59	35	6.10.59	
7.9.59	35	7.10.59	
8.9.59	22	8.10.59	25
9.9.59	22	9.10.59	25
10.9.59	10	10.10.59	25
11.9.59	10	11.10.59	20
12.9.59	10	12.10.59	20
13.9.59	10	13.10.59	20
14.9.59		14.10.59	20
15.9.59		15.10.59	17
16.9.59		16.10.59	17
17.9.59		17.10.59	17
18.9.59		18.10.59	15
19.9.59		19.10.59	15
20.9.59	20	20.10.59	17
21.9.59	20	21.10.59	17
22.9.59	30	22.10.59	7
23.9.59	30	23.10.59	7
24.9.59	12	24.10.59	7
25.9.59	12	25.10.59	
26.9.59		26.10.59	
27.9.59		27.10.59	25
28.9.59		28.10.59	25
29.9.59	20	29.10.59	15
30.9.59	20	30.10.59	15
		31.10.59	15
Sum	368*	Sum	491*
Average	20*	Average	18**

Table No. 103

Deposition of Fallout Activity on a Gummed Tape Collector.

Eilath Station, December 1959.

Date	Weather	A_o	pC/l
1.12.59			
2.12.59			
3.12.59		9	
4.12.59		9	
5.12.59		9	
6.12.59		12	
7.12.59		12	
8.12.59		22	
9.12.59		22	
10.12.59		15	
11.12.59		15	
12.12.59		15	
13.12.59		19	
14.12.59		19	
15.12.59		8	
16.12.59		8	
17.12.59		75	
18.12.59	Pr(0.3 mm)	75	750
19.12.59		75	
20.12.59		8	
21.12.59		8	
22.12.59		9	
23.12.59		9	
24.12.59		16	
25.12.59	Pr(0.1 mm)	16	480
26.12.59		16	
27.12.59			
28.12.59			
29.12.59			
30.12.59	Pr	125	
31.12.59		125	
Sum	(0.4 mm)	735**	
Average		13	710

Table No. 104

Specific Activity of Rainwater Collected on Tray at Rehovoth during 1958 - 1959.

Date	Amount of rain (mm)	Activity (pC/l)
2.12.58	7.7	2160
3.12.58	2.8	2230
8.12.58	14.0	2280
12-13.12.58	1.2	1900
14.12.58	5.4	630
6.1.59	22	700
7.1.59	24	1020
8.1.59	1	3900
20-21.1.59	16.5	650
1.2.59	1.8	2900
4.2.59	4.9	2500
6-7.2.59	0.9	6300
12.2.59	10.8	1100
13-14.2.59	38	470
15.2.59	10.3	1500
16.2.59	11.0	2000
17.2.59	8.4	2000
18.2.59	31.7	900
19.2.59	5.5	4000
20-21.2.59	3.5	4500
26.2.59	4.5	4500
27-28.2.59	9.2	1850
1.3.59	2.6	1700
4.3.59	11.1	370
5.3.59	8.0	3000
17.3.59	2.0	1850
20-21.3.59	9.2	1650
22.3.59	1.5	3250
25.3.59	1.5	6100
3-4.4.59	2.5	13000
5.4.59	1.8	4200
27.10.59	0.9	80
21.12.59	0.5	50
22.12.59	4	25

Table No. 105

Radioactivity of Surface Air

Rehovoth Station (AF) December 1958.

Date	Weather	A'_o	$T_{\frac{1}{2}}$	A'_y Calc.	A'_y Exp.
21.12.58		9.7	1.25	0.9^	1.0
22.12.58		11.0	1.25	1.0^	1.0
23.12.58		11.5	1.15	1.0^	1.0
24.12.58		12.0	1.3	1.2^	1.3
25.12.58		(28.0)	1.3	(2.8)	3.2
26.12.58	Pr				
27.12.58		9.4	1.4	1.0^	0.9
28.12.58		6.0	1.1	0.4^	0.6
29.12.58		5.2	1.25	0.5^	0.6
30.12.58		6.4	1.15	0.6^	0.7
31.12.58		5.4	1.3	0.5^	0.6
Average		8.5	1.25	0.8	0.9

Table No. 106.

Radioactivity of Surface Air.

Rehovoth Station (AF) January 1959.

Date	Weather	A'_0	$T_{\frac{1}{2}}$	A'_y Calc.	A'_y Exp.
1.1.59		5.8	1.35	0.6^	0.7
2.1.59		5.7	1.6	0.8^	0.8
3.1.59		9.5	1.6	1.3^	1.3
4.1.59		6.4	1.6	0.9^	0.9
5.1.59	Pd	6.8	1.35	0.7^	0.85
6.1.59	Pr	6.7	1.2	0.6^	0.85
7.1.59					
8.1.59					
9.1.59					
10.1.59		9.3	1.4	1.0^	1.3
11.1.59		7.7	1.45	0.85^	1.0
12.1.59		8.6	1.75	1.3^	1.3
13.1.59		7.6	1.6	1.1^	1.1
14.1.59	Pr	5.4	1.8	0.9^	0.8
15.1.59	Pr	6.8	1.5	0.85^	0.95
16.1.59	Pr	10.8	1.7	1.8^	1.6
17.1.59		8.8	2.0	1.6^	1.3
18.1.59	Pr				
19.1.59	Pr	1.95	1.65	0.3^	0.3
20.1.59	Pr	3.0	1.95	0.5^	0.45
21.1.59	Pr	4.9	1.9	0.8^	0.8
22.1.59	Pd	4.6	1.9	0.8^	0.75
23.1.59	Pr	(11.5)	1.65	1.7^	1.8
24.1.59					
25.1.59		4.6	1.75	0.6^	0.7
26.1.59		5.3	1.85	0.9^	0.8
27.1.59		8.5	1.75	1.3^	1.4
28.1.59		10.5	1.5	1.3^	1.6
29.1.59		6.6	1.7	1.0^	1.1
30.1.59	Pd	7.0	1.8	1.1^	1.2
31.1.59	Pr	8.1	1.6	1.2^	1.3
Average		7.0	1.6	1.0	1.0

Table No. 107.

Radioactivity of Surface Air.

Rehovoth Station (AF) February 1959.

Date	Weather	A'_0	$T_{\frac{1}{2}}$	A'_y Calc.	A'_y Exp.
1.2.59	Pr	4.5	1.75	0.7^	0.8
2.2.59		7.6	2.4	1.9^	1.4
3.2.59		8.2	2.1	1.6^	1.5
4.2.59	Pr	8.3	1.9	1.4^	1.9
5.2.59	Pd	7.2	2.7	2.0^	1.5
6.2.59		12.0	1.8	2.0^	2.0
7.2.59	Pr	(17.5)	1.4	1.9^	2.5
8.2.59		8.3	2.2	1.8^	1.6
9.2.59		6.7	1.5	0.8^	1.1
10.2.59		9.3	1.7	1.3^	1.7
11.2.59		10.8	3.3	4.0^	4.0
12.2.59	Pr	5.7	1.7	0.8^	1.0
13.2.59	Pr	4.2	2.1	0.8^	0.8
14.2.59	Pr	3.5	1.8	0.6^	0.6
15.2.59	Pr	5.7	1.9	0.9^	1.0
16.2.59	Pr	4.5	2.0	0.8^	0.8
17.2.59	Pr	5.7	2.0	1.0^	1.2
18.2.59	Pr	8.2	2.5	2.0^	1.7
19.2.59	Pr	7.3	2.4	1.8^	1.5
20.2.59) 21.2.59)	Pr	8.5	2.7	2.1^	2.0
22.2.59		5.5	1.8	0.9^	1.0
23.2.59	Pr	5.6	3.3	2.2^	1.4
24.2.59	Pr	4.3	2.3	1.1^	0.9
25.2.59	Pr	6.5	3	2.3^	1.8
26.2.59	Pr	5.4	2.3	1.0^	1.0
27.2.59) 28.2.59)	Pr	4.4	2.7	1.2^	1.05
Average		7.1	2.2	1.4	1.4

Table No. 109.

Radioactivity of Surface Air

Rehovoth Station (AF) March 1959.

Date	Weather	A'_o	$T_{\frac{1}{2}}$	A'_y Calc.	A'_y Exp.
1.3.59	Pr /.	5.1	3.0	1.4^	1.25
2.3.59	Pr	4.9	3.0	1.4^	1.2
3.3.59	Pr	5.8	2.1	1.6^	1.5
4.3.59	Pr	6.9	2.7	2.0^	1.75
5.3.59	Pr	5.5	2.3	1.5^	1.4
6.3.59		8.7	3.0	2.5^	2.3
7.3.59		9.5	2.7	2.7^	2.5
8.3.59		9.4	3.0	2.7^	2.6
9.3.59		7.7	3.0	2.2^	2.0
10.3.59		10.5	2.7	3.0^	2.8
11.3.59		9.4	2.5	2.7^	2.5
12.3.59		9.7	2.3	2.8^	2.5
13.3.59		6.4	2.6	1.8^	1.8
14.3.59		(19.0)	3.0	5.5^	5.3
15.3.59		(15.0)	2.5	4.3^	4.2
16.3.59		13.7	7.3	3.9^	3.7
17.3.59	Pr	3.6	3.0	1.0^	1.05
18.3.59		3.6	2.75	1.0^	1.0
19.3.59		7.7	2.7	2.2^	2.2
20.3.59		7.9	2.5	1.3^	2.2
21.3.59	Pr	6.8	3.0	1.8^	1.9
22.3.59	Pr	4.5	2.8	1.3^	1.35
23.3.59	Pr	10.0	2.3	2.9^	3.0
24.3.59		11.7	2.7	3.3^	3.5
25.3.59		8.1	3.0	2.3^	2.4
26.3.59	Pd	9.3	2.5	2.7^	2.7
27.3.59		10.9	2.9	3.1^	3.0
28.3.59		13.0	2.5	3.7^	3.6
29.3.59		12.0	3.1	3.4^	4.0
30.3.59		10.7	3.0	3.1^	3.4
31.3.59		10.0	3.3	2.9^	3.0
Average		8.9	2.7	2.5	2.4

Table No. 109.

Radioactivity of Surface Air

Rehovoth Station (AF) April 1959.

Date	Weather	A'_o	$T_{\frac{1}{2}}$	A'_y Calc.	A'_y Exp.
1.4.59		10.0	3.0	3.3^	2.8
2.4.59		12.0	2.9	3.9^	3.9
3.4.59	Pr	9.6	2.5	2.4^	
4.4.59	Pr	6.8	3.0	2.3^	2.0
5.4.59	Pr	6.1	2.1	1.2^	
6.4.59		7.1	2.5	1.8^	
7.4.59		9.6	2.7	2.7^	2.9
8.4.59		12.5	3.3	4.4^	4.6
9.4.59		10.9	3.0	3.6^	
10.4.59					
11.4.59					
12.4.59		8.3	3.4	3.3^	3.8
13.4.59		7.8	3.1	2.6^	2.2
14.4.59		4.8	3.7	2.2^	1.2
15.4.59		5.0	2.8	1.4^	1.5
16.4.59		6.0	2.9	2.0^	2.1
17.4.59		8.6	3.0	2.9^	2.8
18.4.59		8.3	2.7	2.4^	2.6
19.4.59					
20.4.59		8.0	3.0	2.7^	2.8
21.4.59	o	3.2	2.5	0.8^	0.8
22.4.59		5.7	2.3	1.2^	
23.4.59		5.5	2.7	1.6^	
24.4.59		7.9	2.5	1.9^	2.7
25.4.59		4.2	2.9	1.4^	1.4
26.4.59		4.6	3.2	1.7^	1.7
27.4.59		4.8	3.7	2.2^	1.9
28.4.59		5.5	3.0	1.8^	2.1
29.4.59		5.6	2.7	1.6^	
30.4.59		6.1	2.7	1.7^	1.8
Average		7.2	2.9	2.2	2.4

Table No. 110

Radioactivity of Surface Air

Rehovoth Station (AF) May 1959.

Date	Weather	A'_o	$T_{\frac{1}{2}}$	A'_y Calc.	Exp.
1.5.59		7.0	3.0	2.2°	
2.5.59		8.5	2.8	2.7°	
3.5.59		6.4	2.5	2.0°	
4.5.59		8.8	2.7	2.8°	
5.5.59		4.3	2.3	1.4°	
6.5.59		5.0	3.2	1.6°	
7.5.59		6.0	2.5	1.9°	
8.5.59		6.1	3.0	1.9°	
9.5.59		2.6	3.3	0.8°	
10.5.59		3.2	2.4	1.0°	
11.5.59		5.4	2.4	1.7°	
12.5.59	o	13.5	3.4	4.3°	
13.5.59		5.0	3.0	1.5°	
14.5.59		4.4	3.0	1.4°	
15.5.59	Pd	5.0	2.8	1.6°	
16.5.59	Pd	4.0	3.6	1.3°	
17.5.59	Pr	5.3	3.0	1.7°	
18.5.59	Pd	7.5	2.7	2.4°	
19.5.59		4.6	3.0	1.5°	
20.5.59		2.6	3.0	0.8°	
21.5.59		2.1	2.9	0.7°	
22.5.59		3.8	2.0	1.2°	
23.5.59		3.6	2.8	1.2°	
24.5.59		3.2	3.3	1.0°	
25.5.59		4.6	2.5	1.5°	
26.5.59		7.5	1.8	2.4°	
27.5.59		3.6	3.8	1.2°	
28.5.59		5.4	3.8	1.7°	
29.5.59		3.5	3.0	1.1°	
30.5.59		3.4	4.3	1.1°	
31.5.59		3.5	3.7	1.1°	
Average		6.2	2.95	2.0	

Table No. 111

Radioactivity of Surface Air.

Rehovoth Station (AF) June 1959.

Date	Weather	A'_o	$T_{\frac{1}{2}}$	A'_y Calc.	A'_y Exp.
1.6.59		4.2	3.7	1.7°	2.1
2.6.59		4.7	2.9	1.9°	2.2
3.6.59	Pr	4.5	3.5	1.8°	2.1
4.6.59		5.9	3.0	2.4°	2.8
5.6.59		3.4	3.6	1.3°	1.6
6.6.59		3.0	4.0	1.2°	1.4
7.6.59		3.1	2.7	1.2°	1.3
8.6.59		5.0	2.2	2.0°	2.1
9.6.59		4.2	2.7	1.7°	1.8
10.6.59	o	4.0	3.4	1.6°	2.0
11.6.59					
12.6.59					
13.6.59					
14.6.59		4.9	4.0	2.0°	2.4
15.6.59		3.2	4.1	1.3°	1.6
16.6.59		4.2	3.3	1.7°	2.0
17.6.59		2.8	4.4	1.1°	1.4
18.6.59		4.9	2.8	2.0°	2.2
19.6.59		3.7	3.7	1.5°	1.8
20.6.59		4.2	3.0	1.7°	2.1
21.6.59		4.3	3.8	1.7°	2.1
22.6.59		5.8	3.3	2.3°	3.0
23.6.59		3.3	3.3	1.3°	1.8
24.6.59		3.3	4.3	1.3°	1.7
25.6.59		3.3	3.5	1.3°	1.6
26.6.59		3.5	2.7	1.4°	1.8
27.6.59		2.7	4.8	1.1°	1.4
28.6.59		3.1	4.0	1.2°	1.8
29.6.59		2.4	4.0	1.0°	1.4
30.6.59		1.8	6.0	0.7°	1.1
Average		3.8	3.5	1.5	1.8

Table No. 112

Radioactivity of Surface Air.

Rehovoth Station (AF) July 1959.

Date	Weather	A'_o	$T_{\frac{1}{2}}$	A'_y Calc.	A'_y Exp.
1.7.59		3.2	4.0	1.4°	1.7
2.7.59		2.2	4.8	1.0°	
3.7.59		3.2	3.4	1.4°	1.7
4.7.59		1.8	3.3	0.8°	1.0
5.7.59		1.5	3.1	0.7°	0.8
6.7.59		3.1	3.7	1.4°	1.6
7.7.59		1.8	3.8	0.8°	0.9
8.7.59		1.4	3.0	0.6°	0.7
9.7.59		2.3	5.0	1.0°	1.2
10.7.59		2.1	6.0	0.9°	1.2
11.7.59		1.8	3.0	0.8°	1.0
12.7.59		2.1	3.3	0.9°	1.1
13.7.59		1.6	3.5	0.7°	0.8
14.7.59		2.6	2.8	1.1°	1.2
15.7.59		2.0	5.0	0.9°	1.1
16.7.59		2.2	4.8	1.0°	1.1
17.7.59		1.5	5.0	0.7°	0.8
18.7.59		2.7	6.0	1.2°	1.6
19.7.59		2.0	4.3	0.9°	1.2
20.7.59		2.8	2.5	1.2°	1.5
21.7.59		1.2	3.1	0.5°	0.75
22.7.59		1.3	3.9	0.6°	0.7
23.7.59		1.6	3.3	0.7°	0.9
24.7.59					
25.7.59					
26.7.59		1.5	3.8	0.7°	0.95
27.7.59		2.0	5.0	0.9°	1.25
28.7.59		1.6	3.2	0.7°	0.9
29.7.59		1.6	4.2	0.7°	0.95
30.7.59		1.0	2.6	0.4°	0.5
31.7.59		1.0	3.7	0.4°	0.65
Average		1.9	3.9	0.9	1.06

Table No. 11&

Radioactivity of Surface Air.

Rehovoth Station (AF) August 1959.

Date	Weather	A'_0	$T_{\frac{1}{2}}$
1.8.59		1.0	4.0
2.8.59		1.15	3.7
3.8.59		0.8	3.8
4.8.59		1.15	5.0
5.8.59		0.8	
6.8.59		0.9	
7.8.59			
8.8.59			
9.8.59			
10.8.59		1.0	1.4
11.8.59		0.3	
12.8.59		0.3	3.0
13.8.59		0.5	2.7
14.8.59		1.3	3.0
15.8.59		0.7	
16.8.59		0.8	3.7
17.8.59		0.5	
18.8.59		0.6	
19.8.59		0.7	2.9
20.8.59			
21.8.59		0.6	
22.8.59		0.6	
23.8.59		0.7	4.7
24.8.59		0.7	
25.8.59			
26.8.59		0.7	
27.8.59		0.6	
28.8.59		0.8	
29.8.59		0.6	
30.8.59		0.6	
31.8.59		0.8	
Average		0.7	

Table No. 114.

Radioactivity of Surface Air.

Rehovoth Station (AF) September 1959.

Date	Weather	A'_o
1.9.59		0.7
2.9.59		0.4
3.9.59		0.4
4.9.59		0.3
5.9.59		0.3
6.9.59		0.4
7.9.59		0.4
8.9.59		0.3
9.9.59		0.1
10.9.59	Pd	0.4
11.9.59	Pr	0.3
12.9.59	Pr	0.3
13.9.59	Pr	0.4
Average		0.38

6. THE FALLOUT DEPOSITION PATTERN, 1958-1959.

a. Deposition by Precipitation

The results presented show large day-to-day variations in the measured parameters of fallout during the period investigated. It is immediately apparent that the largest amount of fallout is associated here, as everywhere else, with atmospheric precipitations. The years under study were years of low rainfall. Nevertheless, the bulk of the yearly deposition was brought down by rain. Taking A_o values (uncorrected for sampling losses during rain) the following percentages for deposition on wet days (Table No. 115) are obtained:

TABLE No. 115.

THE DEPOSITION OF RADIOACTIVITY BY PRECIPITATION
(AT REHOVOTH)

Month	Rain days (percent)	Amount of Rainfall (mm)	Percent of the total monthly deposition occuring on ratny days
1	2	3	4
Dec. 57	31	9	74
Jan. 58	61	200	97
Feb. 58	36	10	89
Mar. 58	23	-	84
Apr. 58	6	3	33
May. 58	13	-	47
Oct. 58	19	-	27
Nov. 58	27	4	73
Dec. 58	32	32	89
All 58		260	55

1	2	3	4
Jan. 59	48	129	97
Feb. 59	75	157	99
Mar. 59	32	60	76
Apr. 59	13	4	82
May 59	16	2	61
June 59	3	0.1	17
Sep. 59	23	5	63
Oct. 59*	13	3	38
Nov. 59	23	10	53
Dec. 59	20	8	48
All 59		380	88

In general one finds a rise in the specific activity of rain-water during 1958, with peak values during the spring of 1959, followed by a decline in activity at the end of that year. The pattern is more clearly observed on subdividing the rain into groups of intensity, and comparing values of A_y rather than A_o (thus eliminating the large influence of accidental coincidence of rainfall with the influx of young high specific activity material). Fig. 3 gives the result for measurements at Rehovoth, using monthly averages. Table 116 gives the whole country averages. In this table, the activities found on the gummed tape are corrected for the average sampling efficiency for each group of intensities (page 15), taking rather arbitrarily 50% as the efficiency of the group of > 25 mm/d.

These results confirm the presence of a maximum in activity at the spring of 1959 at a level of 10 times the activity of the year before.

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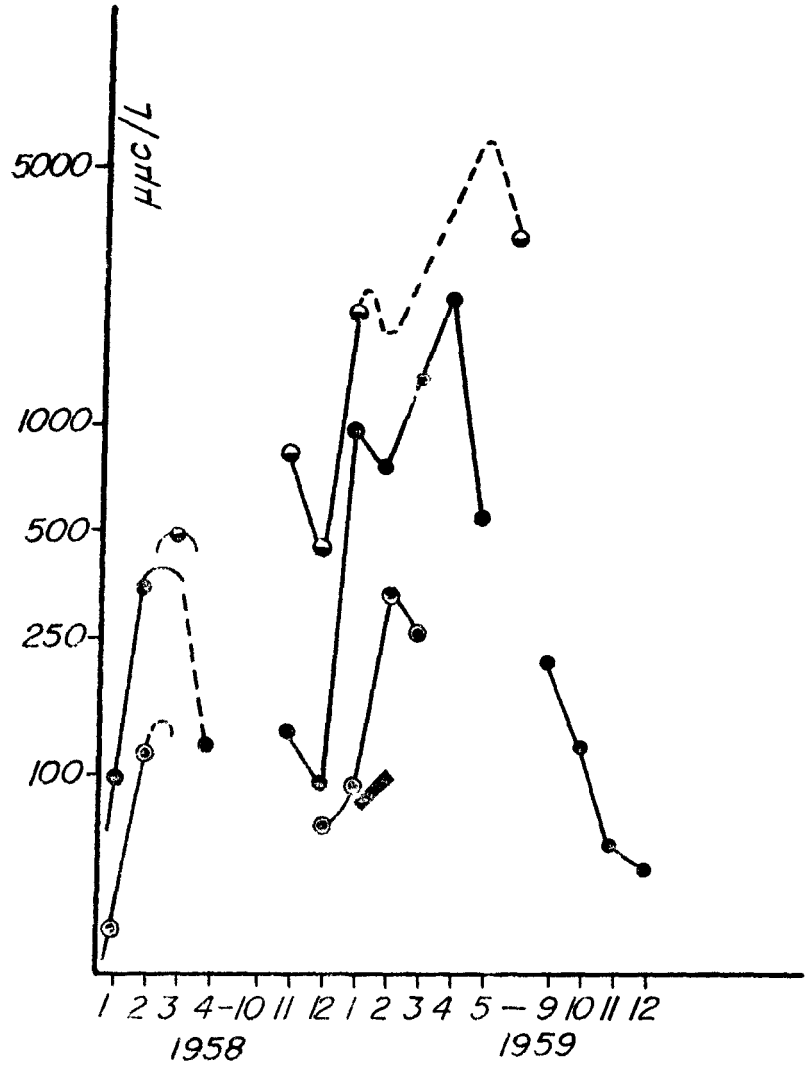
* Partial result only.



○ – <0.5mm

◉ – 5 – 25mm

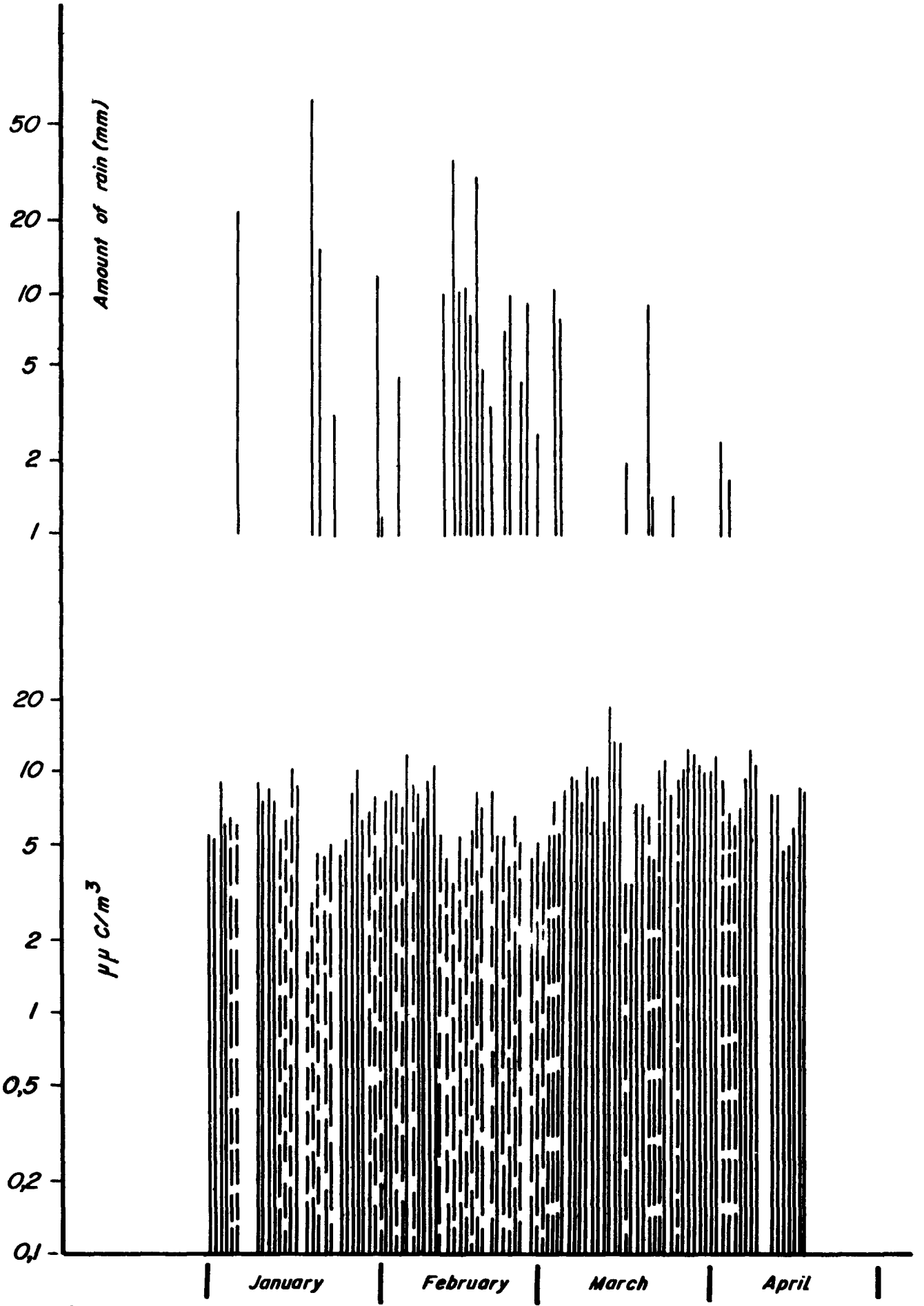
● – 0.5 – 5mm

▬ – >25mm

Fig.3. SPECIFIC ACTIVITY OF RAIN, REHOVOTH.
MONTHLY AVERAGE – EXTRAPOLATED

The overall annual fallout depends to a large extent on the rainfall on the site; it is not, however, a simple function of the total amount of precipitation. In addition to the seasonal effect it can be seen that the specific activity of the rainwater decreases with increasing amounts of rainfall/day. The results of deposition measurements (tables 3 - 103) 86) show that the activity of the first drops of precipitation is always exceptionally high. Evidently, the activity measured is due not only to the original activity of the water in the cloud but also to that accumulated on the way by washing out of the air through which the drop falls to the ground. The washout seems to be incomplete up to rather high rain densities, confirming the theoretical prediction to this effect by Greenfield and others[3]. The effect of the washout on the concentration of activity in the air is also noticed in the "air count" during and following strong showers. Fig.4, which is compiled from data given in tables 106-114, shows that the air count is maximally reduced to 20% of its normal value after showers, recovering in a day or two. No consistent correlation with rain amounts is seen however, presumably because the air count during showers depends not so much on the rain history of the sampling locality, but rather on the rain history of the air masses reaching this locality during showers. Also, results depend on the momentary rain intensity rather than on whole day average, and on the height and type of clouds from which the rain comes. Few data are available for these factors.

Analyses of results of single showers are difficult, therefore, because they depend on meteorological parameters of which we have no records. What is known about precipitation at any site can be used as a rough guide only to the fallout pattern. The largest deposition occurs in the north of the country simply because of the large rainfall there; conversely the high average specific activity at Beer-Sheva station may be due to the fact that rain there occurs primarily in weak isolated showers. If one takes factors such as these into account one finds no consistent differences in the pattern of deposition during rain at any single station. The amount of deposition by rain at any place in the country can therefore be estimated to a first approximation from the amount of rain and the rain distribution at that place.



Note. broken lines indicate measurements taken on rain days.

Fig. 4 RADIOACTIVITY OF SURFACE AIR, REHOVOTH STATION, 1959.

TABLE No. 116

MONTHLY WHOLE COUNTRY AVERAGE OF SPECIFIC ACTIVITY OF RAIN IN pC/l (EXTRAPOLATED TO AGE OF 1 YEAR*)

Period	Amount of rain (mm/d)			
	<-0.5	0.5-5.0	5.0-25	>25
Dec. 57		30	110	
Jan. 58		140	60	36
Feb. 58		500	195	
Mar. 58	550			
Apr. 58		175		
Oct. 58		190		
Nov. 58	950	260	115	
Dec. 58	850	410	125	
Jan. 59	2300	1450	420	190
Feb. 59	5700	880	260	220
Mar. 59	13200	1750	560	110
Apr. 59	6100	4200	900	
May 59	8000	680	340	
Sept. 59		300	195	
Oct. 59		230		
Nov. 59	335	135	48	80
Dec. 59	145	110		20

* The data from September 1959 onwards are given as determined.

b. *The Age of Collected Activity*

The monthly average half life of activities collected at different places shows good agreement between stations. Fig. 5, which summarises the average $T\frac{1}{2}$ values for all stations shows influx of young activity in January 1958, again in April-May, in August and in October of 1958. Fig. 6, which gives the day-to-day variation of $T\frac{1}{2}$ values at Rehovoth (similarities and differences observed at other stations will be discussed later) shows "young" fission debris reached the station on January 8, and fr[illegible] March 28 until the middle of April. On July 11 a very sudden influx of very young material started, this material dominating the scene all through August, causing large fluctuations in activities and $T\frac{1}{2}$ values as it moved around the area. On October 9, one-week old material reached the country causing a sudden drop in half-life and a large activity peak.

Table 117 gives the dates and location of reported nuclear test explosions during the period investigated.

Quite evidently the drops in half-life in January, April, August and October of 1958 are directly related to the Russian test series of Dec. 1957, and March and October 1958, and to the American summer test series. As a point of interest, it took 10 days for material from the Dec. 1957 explosion to reach the countr[illegible], almost one month for the Pacific material and less than a week for the material from the October test. During April-May 1958 the influx was not as sudden, nor is it possible to connect the activity to any definite date.

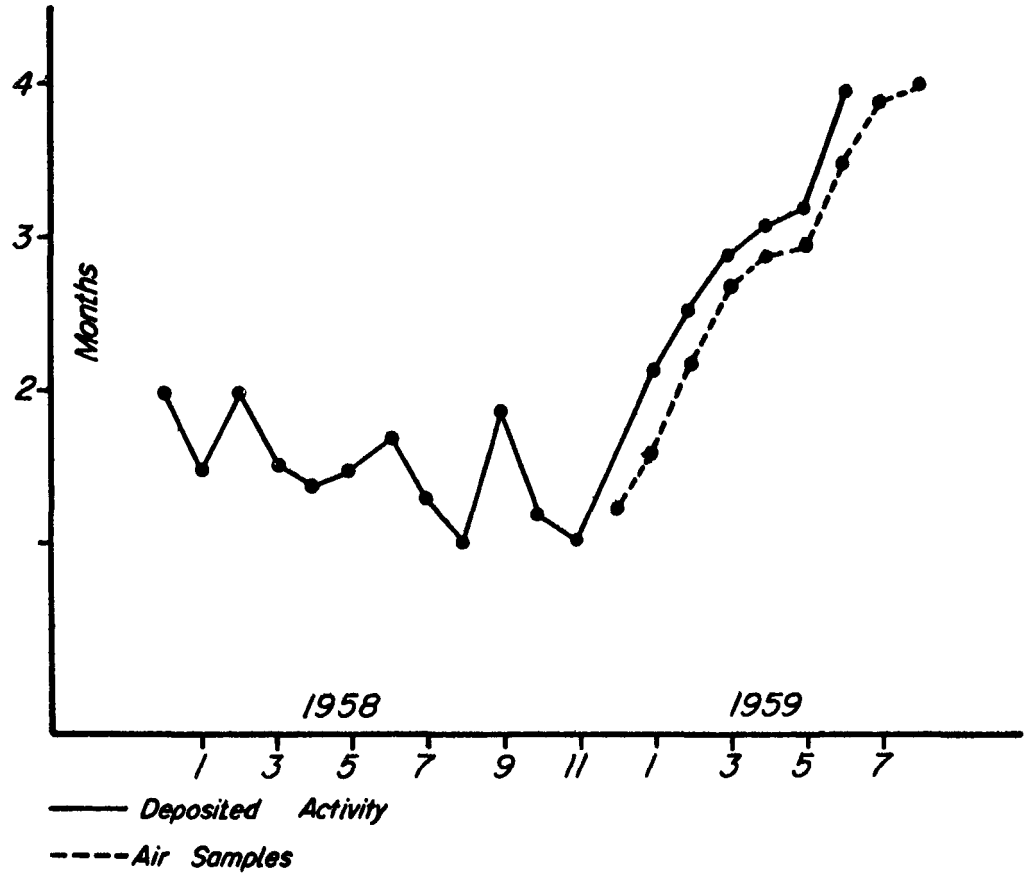


Fig. 5. HALF-LIFE BASED ON DECAY DURING FIRST MONTH

(monthly average)

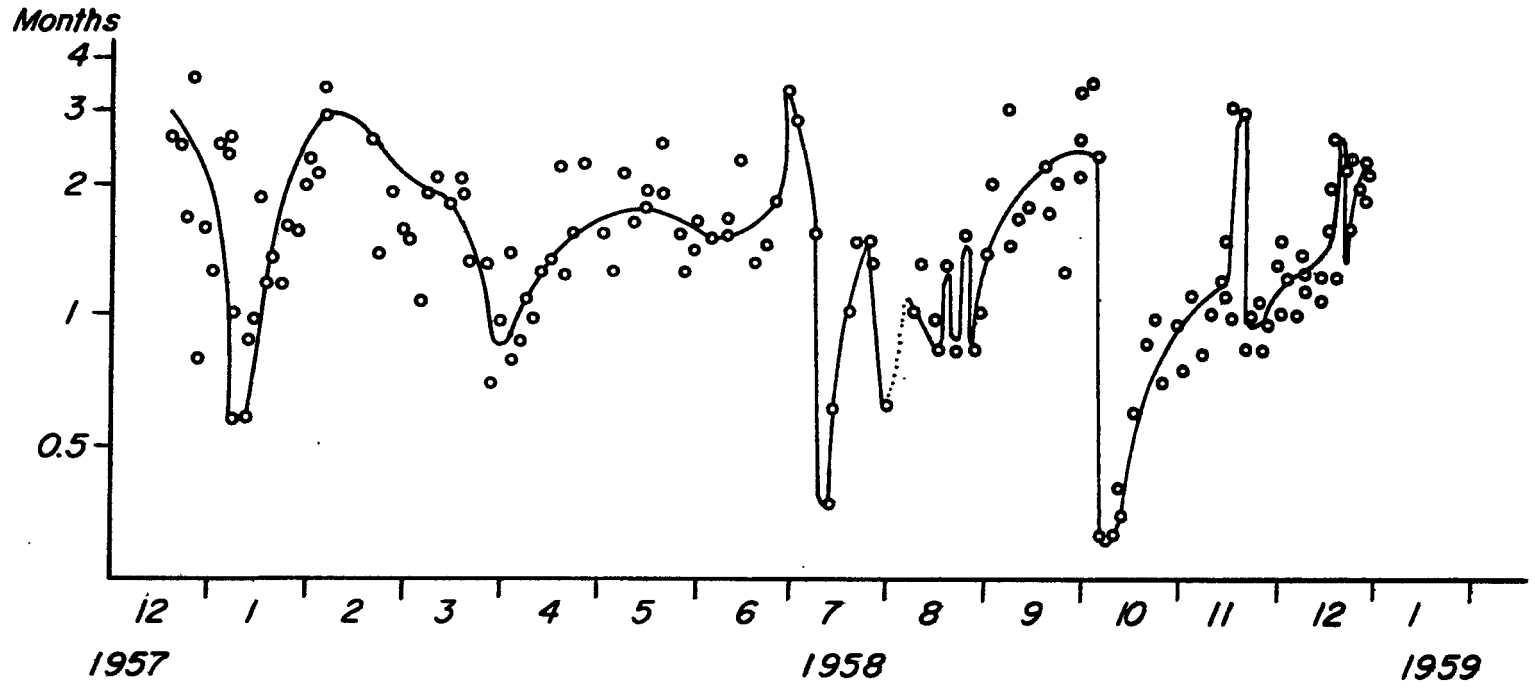


Fig. 6. HALF-LIFE OF DEPOSITED RADIOACTIVITY AT REHOVOTH

TABLE No. 117

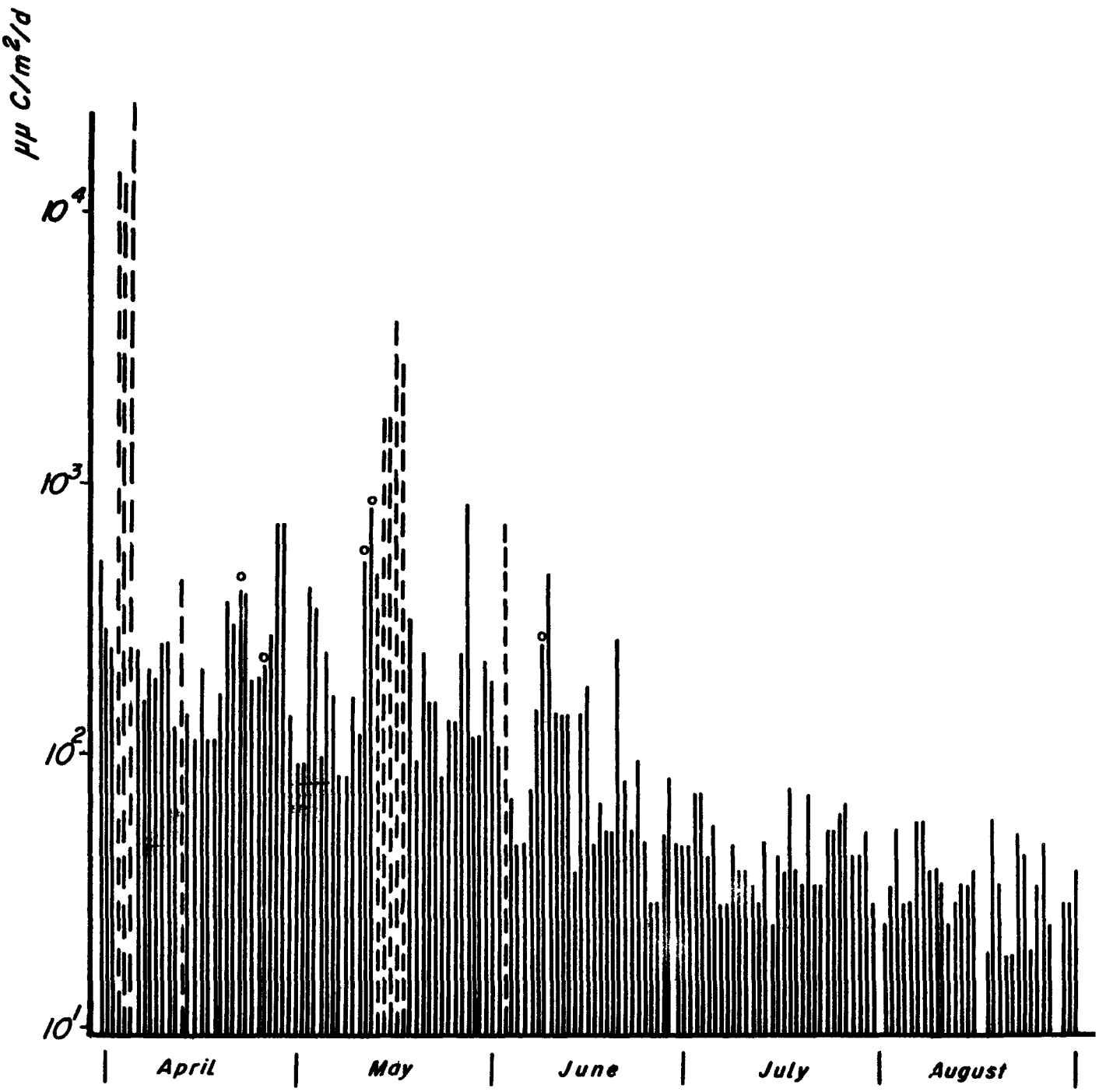
DATA ON REPORTED NUCLEAR TESTS DURING 1958*

Date	Location of Test	Description
Dec. 28, 1957	Siberia	Russian A bomb test
Feb. 22 - March 22, 1958	Siberia and Arctic	Russian test series, (A and H)
April 28, 1958	Christmas Island	UK H bomb test
May 12-July 27, 1958	Pacific Islands	US H bomb test series (Hardtack)
Aug. 22, Sept.2,11,23,1958	Christmas Island	UK test series (A & H)
Sept.-Oct. 1958	Nevada	US A bomb safety series
Oct. 1958	Arctic	Russian test series, (A & H)

c. Dry Deposition

Comparison of the day-to-day variations in deposited activity levels with variations in the radioactive content of the air (Fig.7) shows that these variations, (which rarely are larger than 100 - 200% for short periods of time) are more often the result of different deposition efficiencies rather than of different radioactive content of the air (see however last section of this report). None of the meteorological parameters which in principle can effect the deposition rate was found to be consistently related to the measured fallout. However the following meteorological conditions were found more often than not to be associated with enhanced fallout deposition: air turbulence, large dust loads, haziness and sharav conditions.

* data taken from " Hearings on Fallout from Nuclear Weapons Tests" before Joint Committee Atomic Energy, U.S. Congress, 1959.



Note. broken lines indicate measurements taken on rain days; circles indicate sharav conditions

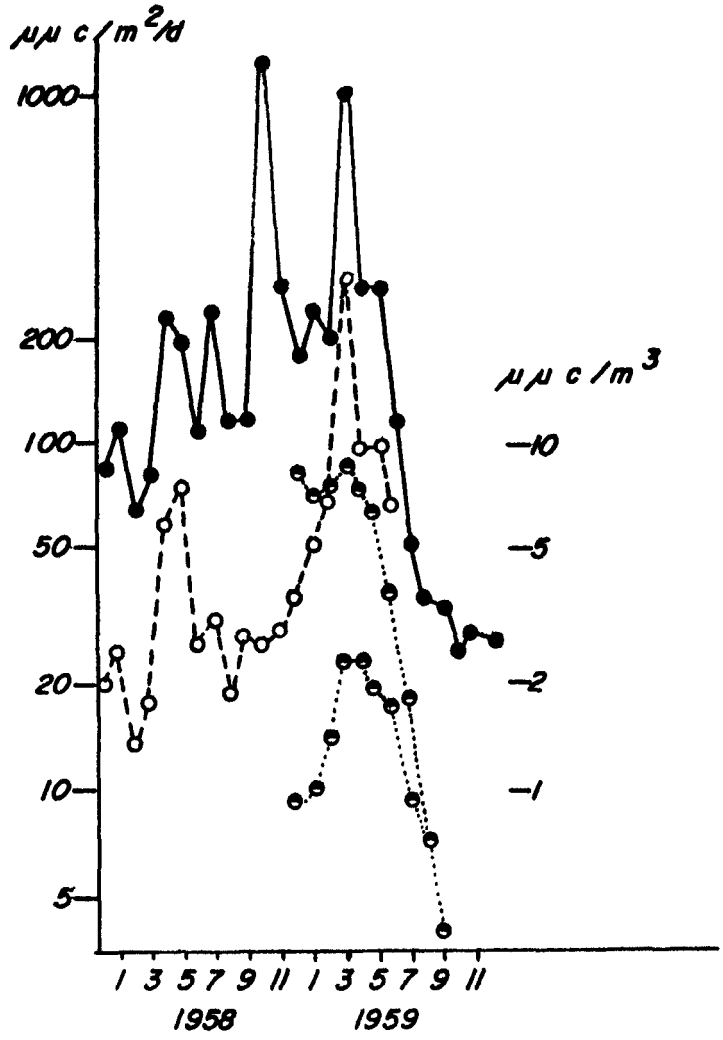
Fig 7 FALL OUT DEPOSITION AT REHOVOTH 1959

Day-to-day levels of activities are hard to analyse; average values over longer periods of time (monthly averages) show however a remarkably clear and consistent pattern. (Figs. 8 and 9).

It is seen from Fig. 8 that the same trends are followed by all stations throughout the country rather closely. Peaks of activity were observed in January of 1958, again during April-May, in July and October of 1958 and during March and April of 1959. Disregarding peak values, one observes a general rise in activity by a factor of 2 during 1958 and a sharp decline during the latter half of 1959.

From what has been said in the previous section, it is clear that some of the peaks in activity observed are due to shortlived high specific activity debris from recent tests. If correction is made for the effect of short-lived isotopes (by comparing A_y rather than A_o values) the true fallout rate can be observed. The lower curve in Fig. 8, and Fig. 10 show the variation of average values of A_y at all stations. The peaks of July and October, having been caused mainly by short-lived isotopes, are completely absent in these curves. However, in the spring of 1958 and to a greater degree again in March-April 1959, a large rise in fallout is observed which returns during May and June to normal values. It appears as if the occurrence of these peaks is related to atmospheric events as well as to explosion times; while it is difficult to determine the average age of the old material contributing to the 1958 spring peak due to the presence of the material from the March 1958 test series, it will be seen that the dominant part of the activity increase in 1959 is due to the October series of the year before. It can be assumed that large amounts of much older fission debris from previous years are also present, but the data reported, based on one year's decay only, cannot distinguish between them with any degree of confidence.

It has been stated that data from all stations show very similar deposition trends. It may be noted here that Ramat David and Eilat give the lowest average monthly values during 1959 while the highest average values



● ——— Deposited activity, undecayed, (Ao) μμ c/m²/d

○ ---- Deposited activity, 12 month decay, (Ay) μμ c/m²/d

⊙ ····· Air activity : upper curve - undecayed, μμ c/m³

lower curve - 12 month decay, μμ c/m³

Fig.8 MONTHLY AVERAGE OF DAILY DEPOSITION RATE (no rain) AND OF AIR ACTIVITY REHOVOTH.

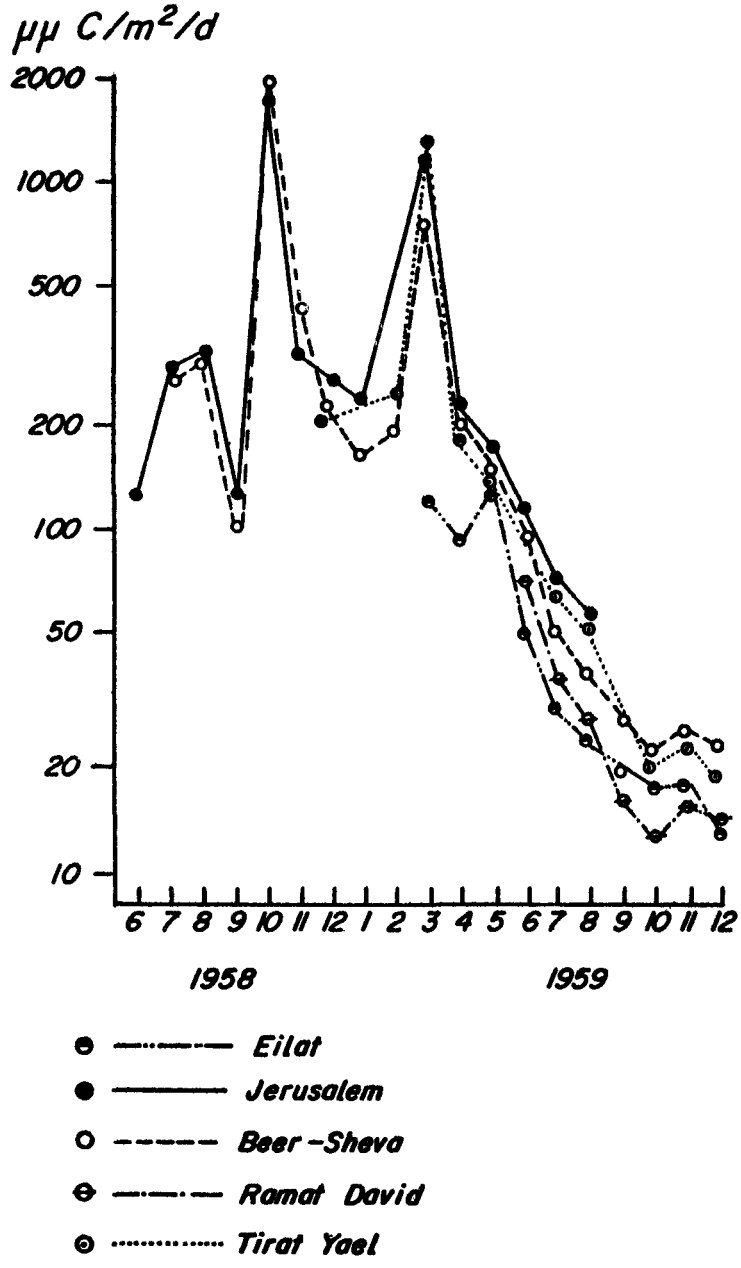


Fig.9 DAILY DEPOSITION RATE (no rain)
MONTHLY AVERAGE-UNDECAYED (Ao).

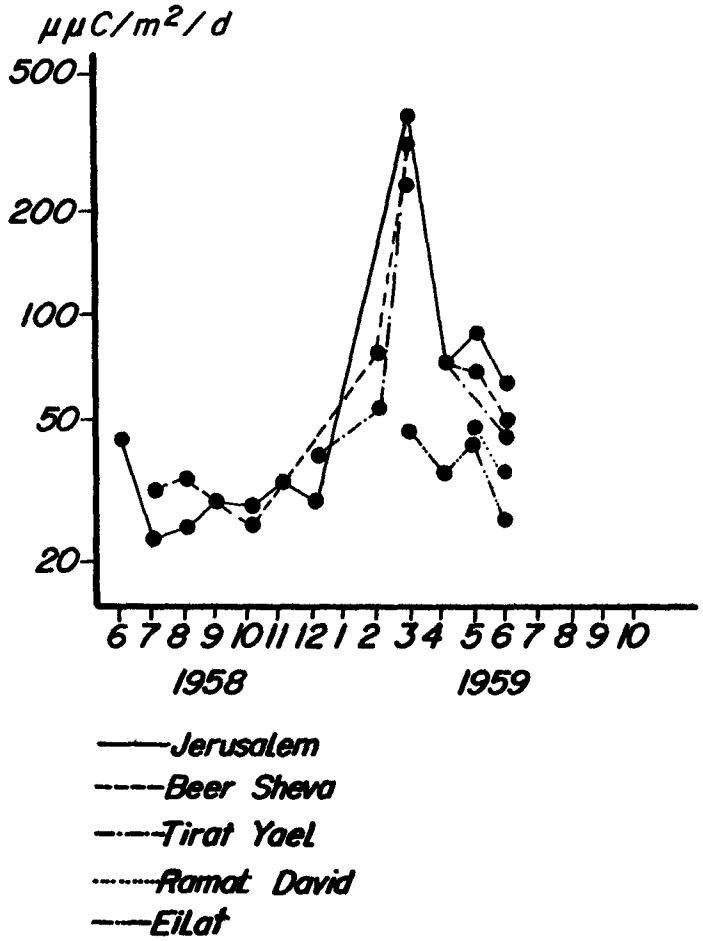


Fig. 10. DAILY DEPOSITION RATE (No Rain)

MONTHLY AVERAGE (Ay)

are found at Jerusalem and Rehovoth: Tirat Yael and Beer-Sheva follow closely next. As regards the year 1958, for which data from some stations only are available, the pattern is remarkably similar, though subject to larger variations.

d. *The "f" Value; Reproducibility of Results and Presence of "Hot Spots":-*

Errors affecting the "f" value:

The agreement between duplicate tapes - characterised by $f\ (\geq 1)$, *the ratio of activity of the two tapes defined previously, depends on some or all of the following factors:*

i. *Experimental errors during processing: In addition to the loss of activity by volatilisation, which presumably does not discriminate between different samples, accidental loss of material can occur during handling and ashing. This will be minimised as the operators acquire skill. Contamination during processing is unlikely. Many tests with unexposed tape processed along with the samples proved that no serious contamination problem exists.*

ii. *Counting errors: At low counting rates, apparent values of* $f > 1$ *become more probable due to statistical counting errors. Assuming a background counting rate of 15 cpm (known precisely), and a sample activity of 58 pC/m*^{2} *(4 cpm) 1 standard deviation is equivalent to f=1.1, while at an activity of 27 pC/m*^{2} *it is equivalent to f=2. Evidently the "f" factor loses its significance at these low activities.*

Random count rate fluctuations due to counter misbehaviour and geometric irreproducibility during counting are generally detected on recounting of the samples and can be taken into account.

iii. *Sampling errors: In addition to the systematic sampling errors discussed before, unequal handling of the duplicates when wet can cause large "f" values, especially at the Jerusalem station where the tapes can*

sag on the wooden frame support, thus forming stagnant pools of water. Under adverse wind conditions activity from one tape can be blown on to the neighbouring one.

These effects are considered of secondary importance.

iv. Unequal deposition rate: The concentration of fallout activity on discrete single "hot spots" has been noted(4). Depending on their frequency relative to the sampler area, the deposition rate as measured on the sampler will be more or less homogeneous. In extreme cases where only a few active particles are deposited on the sampler during the exposure period, large "f" values can result. Under these conditions the sampler can no longer be considered a representative area.

The average "f" value

Fig. 11 shows the monthly averages of "f" values for all stations. A minor peak during July-August 1958 and a larger one in October and November of that year coincide with the arrival of very recent fission debris in the country. Only during these peak months one finds cases of "f" larger than 5, mostly at the Jerusalem station, (Fig. 12). It is of interest to note that the spring peak in activity is not accompanied by such a rise in "f" values. A rise in "f" during the latter part of 1959 is explained by the low activity and poor counting statistics during this time, while the high "f" values recorded before are of course from periods of high count rate and result from hot spots. The highest values of "f" are encountered during dry periods; this is only partially due to the poorer counting statistics of some of these samples.

Autoradiograms of fallout samples

Autoradiograms were made of a number of the more radioactive samples and of all those with large "f" values, by placing the ashed sample in close contact with a dental X - ray film for a period of about one week.

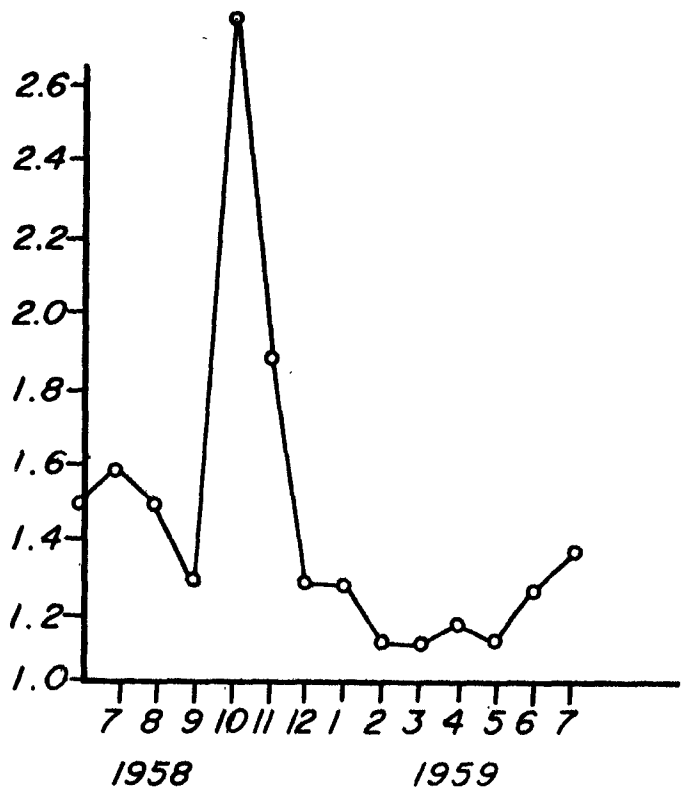


Fig.11. MONTHLY AVERAGE OF "f" VALUES

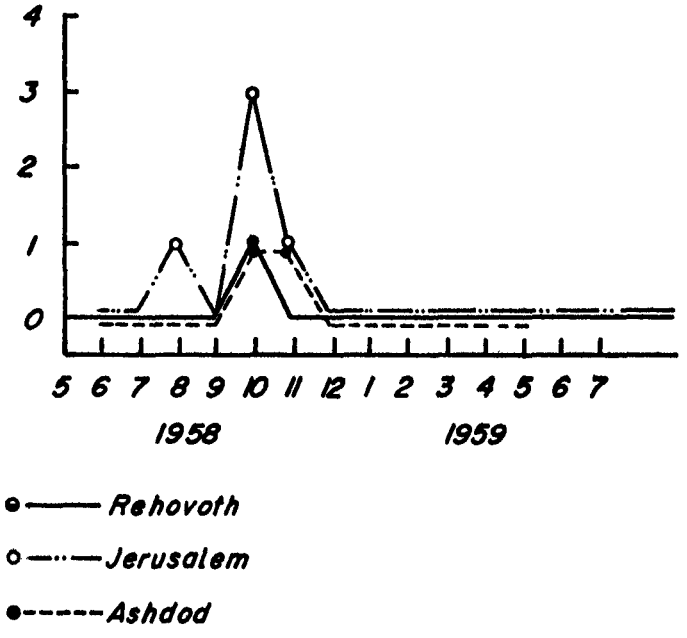


Fig. 12 NUMBER OF OCCURENCES/MONTH IN WHICH 'f' >5

Some of the pictures obtained are shown in figs. 13-15.

The first group is of samples from October 1958 with large "f" values. As expected, the activity in each case is associated with single hot spots, of which the hottest has an activity of 3.2 mμC. The secondary (satellite) spot appearing on two of the autoradiograms is presumably caused by fractionation of the large particle during processing rather than by a second hot spot (this would be highly improbable since the duplicate tape in this case shows no enhanced activity). The picture of the samples collected at Ashdod station on 12 - 14.10.58 shows the presence of larger numbers of hot spots of lesser activity.

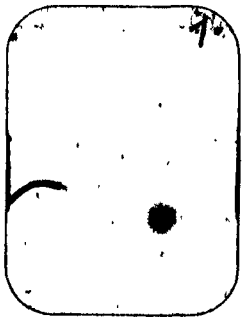
The essentially particulate nature of the fallout activity is maintained all through the winter of 1958-9 in both dry and wet deposition. (Fig. 14). During rain some of the activity is dissolved and more or less uniformly distributed on the sample (fog); the particulate nature is however still apparent although the activity per hot spot decreases gradually and the sampling statistics improve.

The third group of radiograms (Fig. 15) are of samples collected during the spring of 1959. They show that the activity is more uniformly deposited at that time during both dry and wet deposition. However the presence of large numbers of discrete spots is still very apparent.

One may conclude that the presence of some very hot spots was a feature of the debris from the October test series, although probably quite generally single hot spots are associated with fresh fission debris. Old stratospheric material is uniform enough in relation to a 1000 cm^2 sampler. This may be due to the break up and weathering of primary particles during their sojourn in the atmosphere, and to fast gravitational settling of larger particles. It should be noted however that no direct relationship between size and activity of particles has ever been found [4,5].

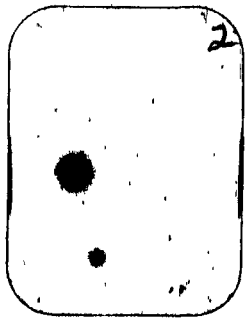
Fig. 13

Autoradiograms of Fallout Samples



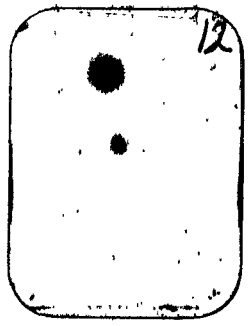
Rehovoth

23-25 Oct. 1958



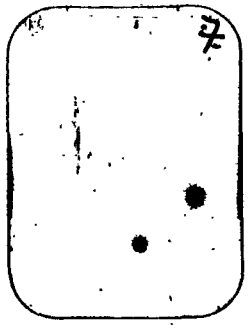
Beer-Sheva

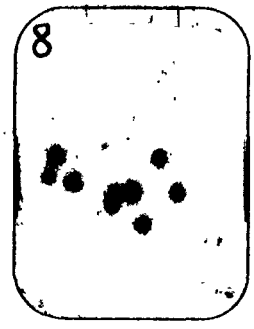
21-22 Oct. 1958



Jerusalem

23-25 Oct. 1958



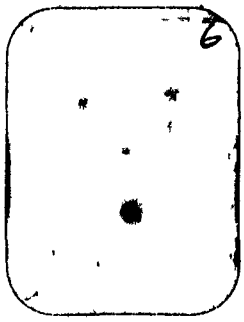


Ashdod (duplicates)

12-14 Oct. 1958

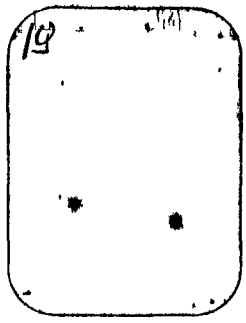
Fig. 14

Autoradiograms of Fallout Samples

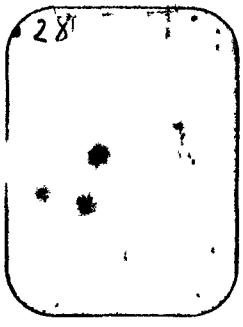


Ashdod
2-3 Nov. 1958
(rain)

Rehovoth
7-8 Dec. 1958
(rain)



Jerusalem
2-3 Nov. 1958
no rain

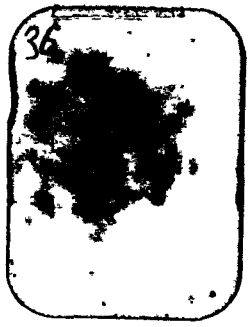


Jerusalem
7-8 Dec. 1958
rain

Ashdod (58)

Beer - Sheva
7-8 Dec. 1958
rain

Tirat - Yael
6-8 Jan. 1959
rain



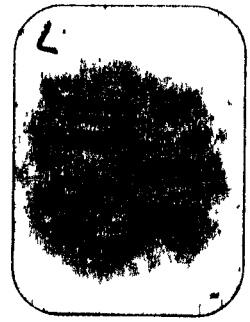
Rehovoth
13-15 Feb. 1959
rain

Fig. 15

Autoradiograms of Fallout Samples

Spring 1959

Rehovoth
29-30 March 1959



Rehovoth
3 April 1959
rain

Jerusalem
5-6 April 1959
rain

e. *The Decay of Fallout Activity; Applicability of t^{-1} Decay Law.*

It is generally assumed that a $t^{-1.2}$ decay law describes the decay of an assembly of fission products from a single source during the first year. Other decay laws are found to apply in fall-out measurement practice because of the presence of materials other than fission products and because of fractionation effects. During the years under investigation, fallout from a number of explosions was deposited simultaneously. One finds then that the initial decay of a sample (dominated by the most recent explosion) follows the law rather well but that for longer decay periods deviations are found which can be taken as a measure of the presence of old fission products or of long lived natural radioactivity. An analysis of such decay laws under various conditions has recently been published by Franke(6).

Based on the initial decay rate of the fallout samples, the time-origin of the decay curves was calculated, assuming a $t^{-1.2}$ decay law. The results of these extrapolations are shown in Fig. 16. One finds that the extrapolated dates of origin generally cluster around the dates of explosion. Whereas the fallout collected following the test of December 28,1957 and the March series is mixed with increasing amounts of fission products from previous explosions as the time between test and collection increases(causing a shift to the left of the extrapolated time of origin (Fig. 16)) we find that the US test series of June, 58 (Hardtack) dominates the initial decay of most samples collected during July-August and September right up to the time of influx of fresh material from the October series.

The dominant part of the post-October 1958 fallout up to the middle of 1959 (from which time on low activity precluded the exact determination of decay rates) derives from the October tests. This includes the large spring peaks of activity. The data point to two distinct sources of activity, one at the beginning and one in the latter part of October. Generally a $t^{-1.35}$ law seems to give a better fit to the known date of the test series than a $t^{-1.2}$ law.

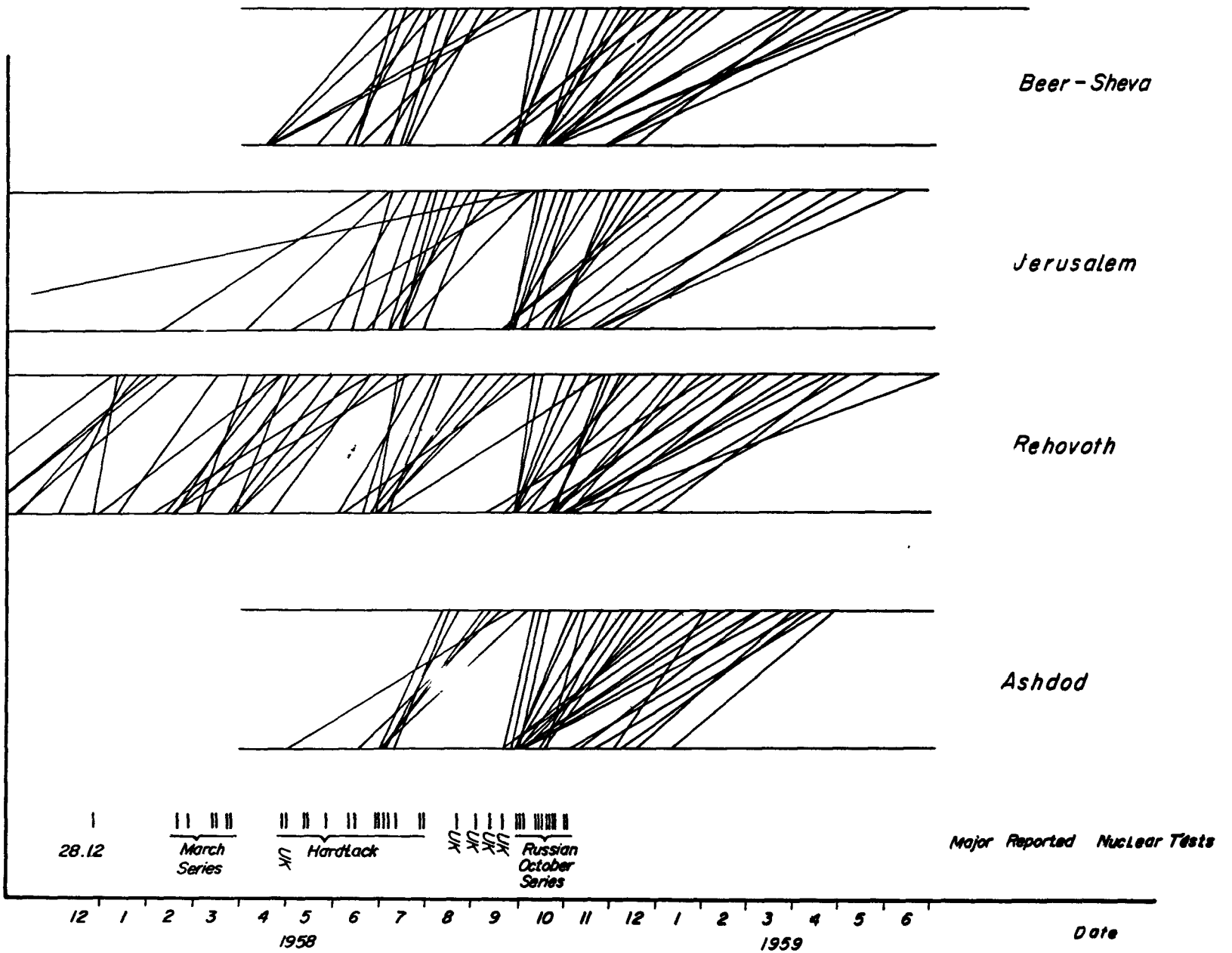


Fig. 16. ORIGIN OF DECAY CURVES, SHOWING TIME OF EXPLOSIONS, ASSUMING A $t^{-1.2}$ DECAY LAW. TIE LINES ARE DRAWN BETWEEN SAMPLING TIME (upper bracket) AND EXTRAPOLATED TIME OF ORIGIN (lower bracket).

Once the origin of decay curves is known (or estimated from the initial decay rate) one can draw decay curves on a log activity vs. log time scale and determine the decay law.

Some of the curves obtained for fallout samples are given in figs. 17-19. Fig. 17 refers to samples collected during January 1958 before, during and after the material from the explosion of December 28 reached the station. The change in the composition of the samples is apparent. Fig. 18 shows a decay curve of material from debris of the Hardtack series, showing the presence of long lived components. Fig. 19, which gives decay curves of fallout samples at various times following the October series, shows the relative homogeneity of this material during the first year of its decay. An exponent of 1.25 - 1.35 gives the best fit to the data.

Short of radiochemical determination of specific long lived isotopes in the fallout, the best estimate of the amount of debris from old explosions present in the samples is obtained from the ratio $D_r = \frac{A_y\ (exp)}{A_y\ (calc)}$ (p.17) *The values of* D_r *are plotted in fig. 20. A large day to day variation in this factor is found, which in part is a real effect due to the influx from time to time of larger amounts of old 'stratospheric' material in addition to the prevalent 'recent' fallout. Some of the variations are spurious, due to the choice of wrong decay law in the extrapolation of* A_y *(All cases where* $D_r < 1$ *are probably due to this effect). The general picture obtained from* D_r *values is that throughout 1958 the fallout activity is of mixed origin with only a little over half (on the average) of the activity remaining at the end of the year originating from the most recent explosion. Following the October series and especially during the first half of 1959,* $D_{r\ av} = 1.2$. *One concludes that not only the short lived activity but most of the activity collected during 1959 has its origin in the October test series. Of course, one year's decay is not enough for any inference to be drawn from decay data as to the relative abundance of longer lived products such as Sr-90 in the fallout.*

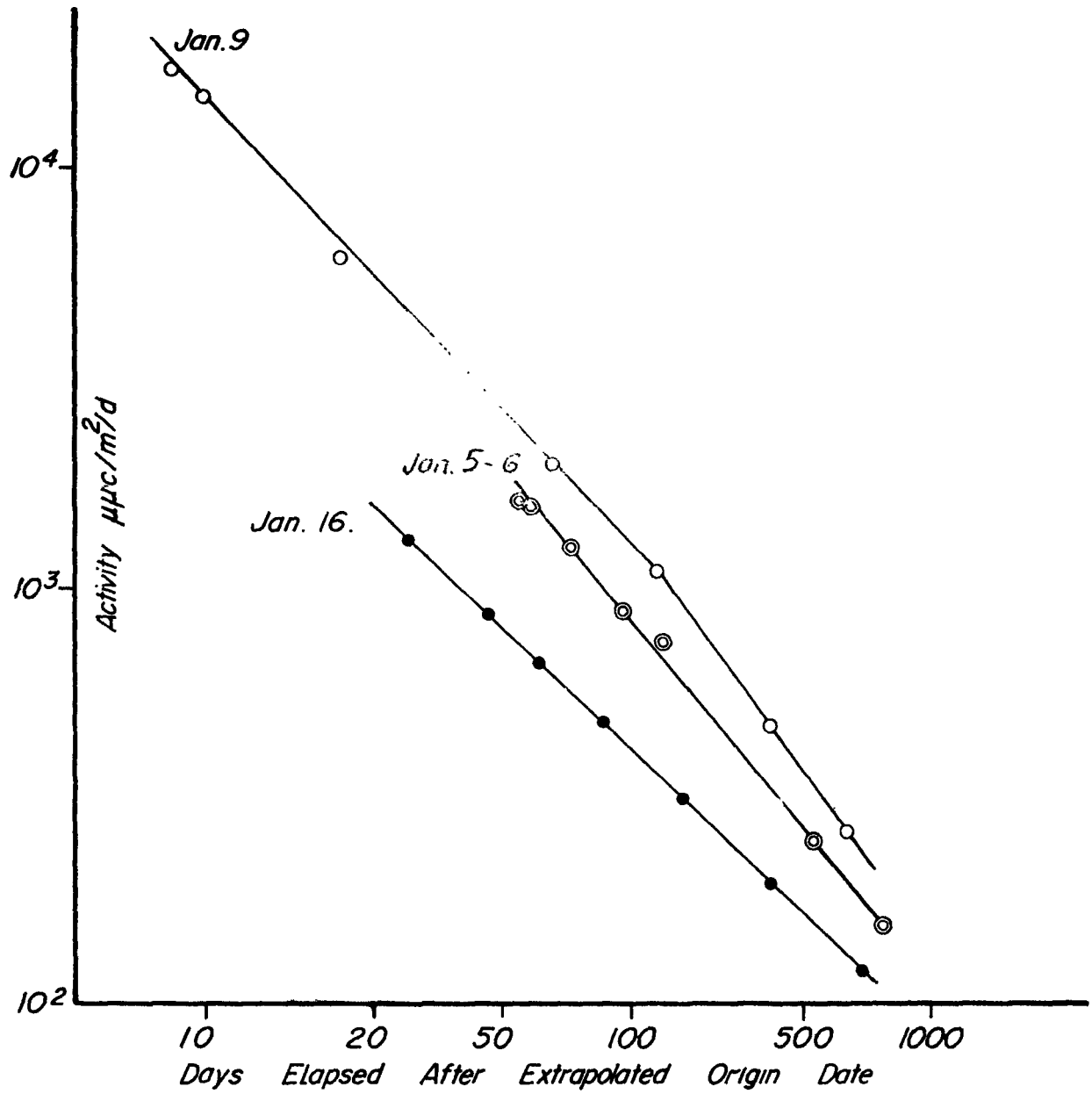


Fig. 17 THE DECAY OF FALLOUT SAMPLES COLLECTED IN JANUARY 1958.

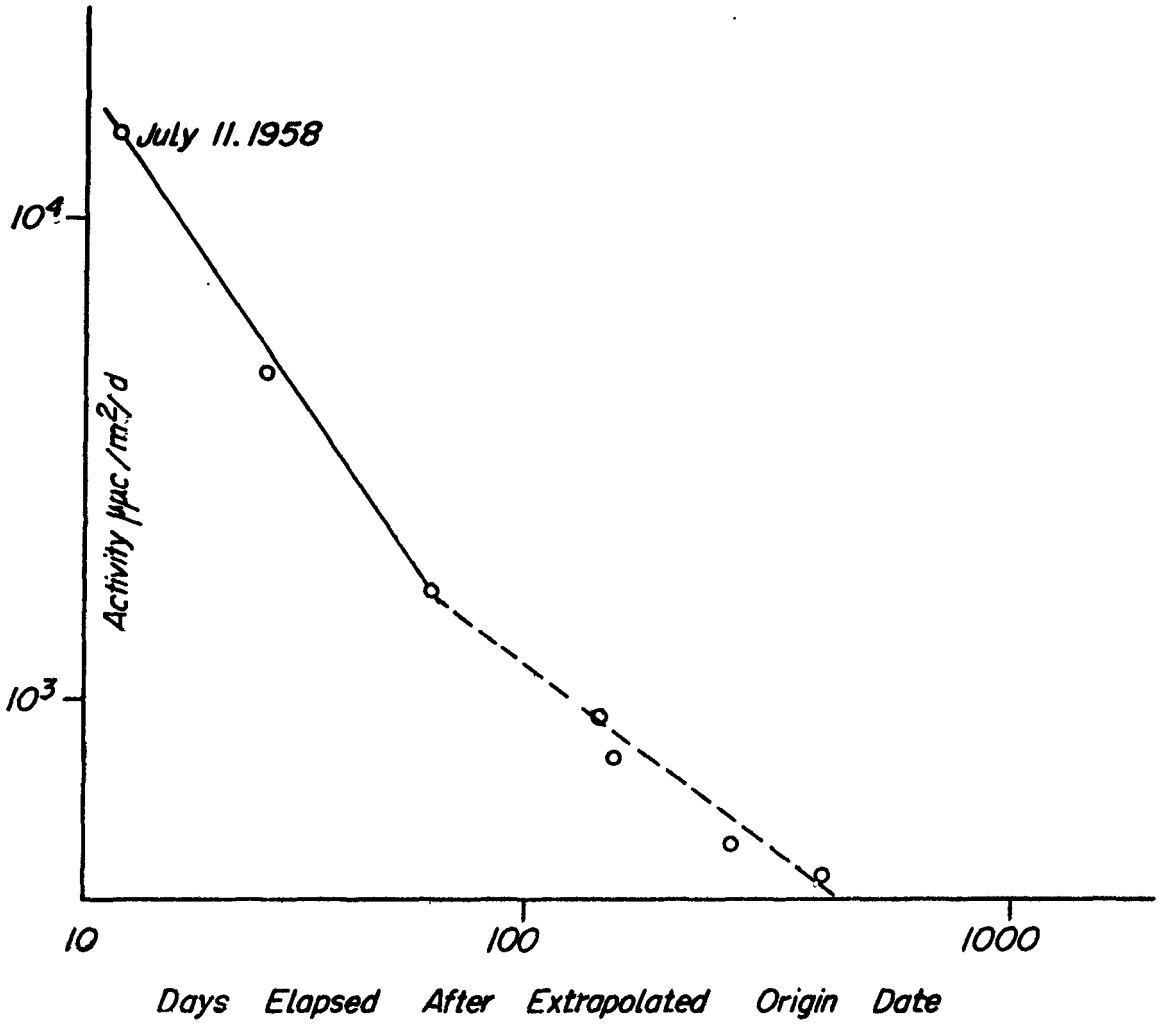


Fig. 18. DECAY OF FALLOUT SAMPLE COLLECTED FOLLOWING THE JUNE 1958 TEST SERIES

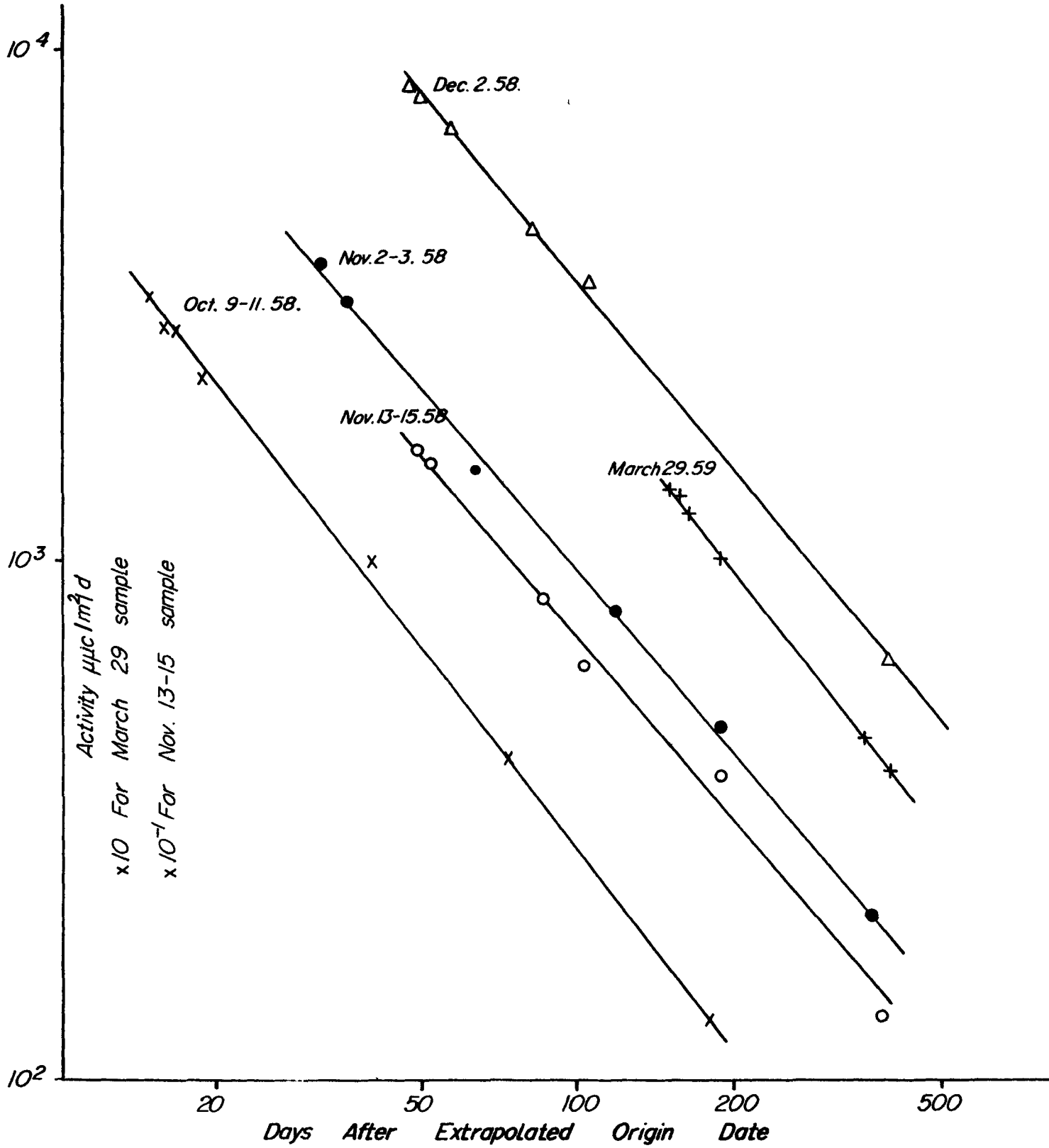


Fig. 19. THE DECAY OF FALLOUT SAMPLES COLLECTED AFTER THE OCTOBER 1958 TEST ' SERIES

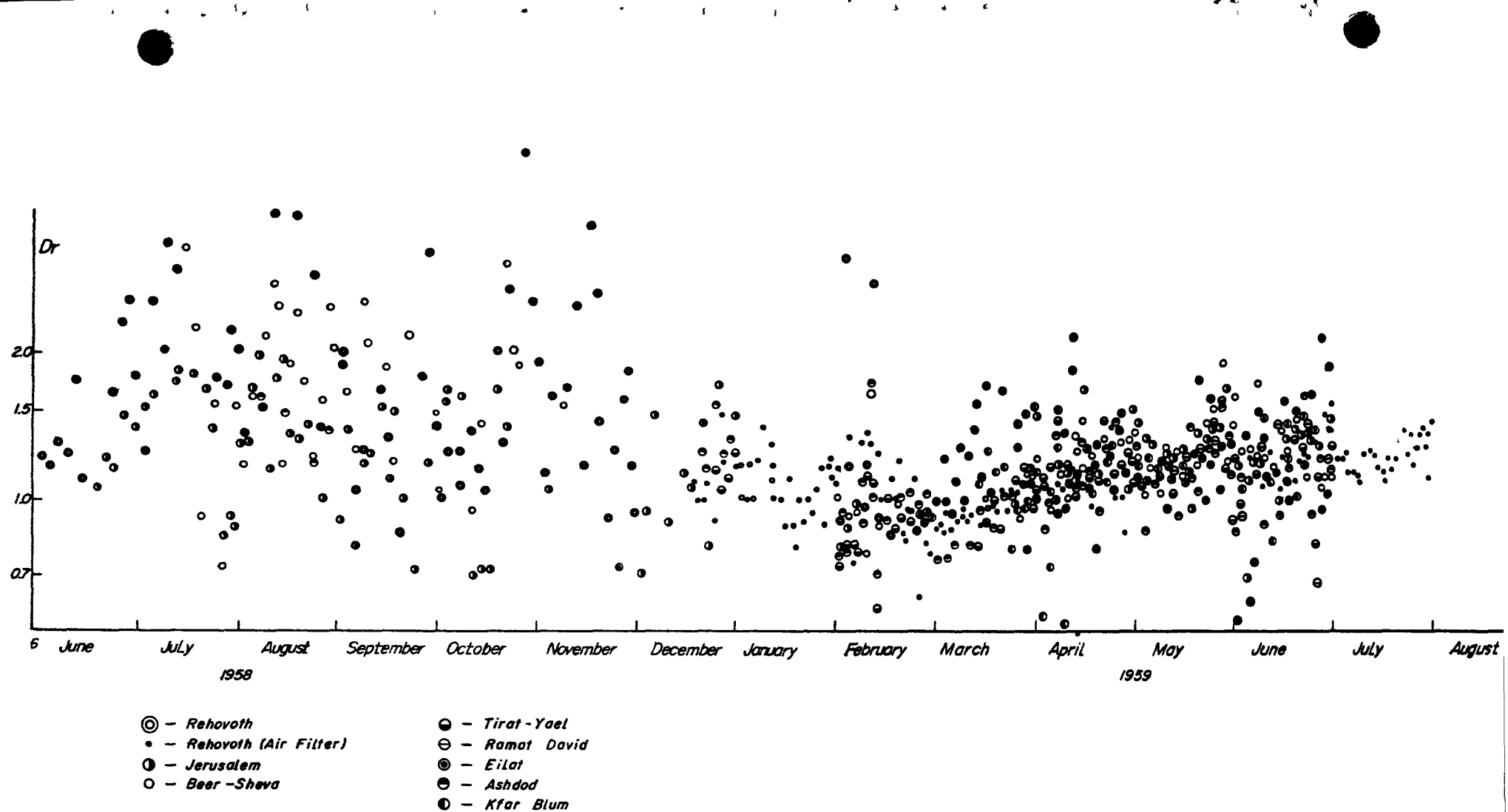


Fig. 20 VALUES OF $D_r = Ay(exp) / Ay(calc.)$

7. DETAILED FALLOUT ANALYSIS: GENERAL DISCUSSION

The general trends of fallout deposition have been discussed in the preceding sections where it has been shown that the overall changes in the activity levels and of the properties of the fallout are related to the nuclear test programs conducted during the period of investigation and to atmospheric phenomena, such as the leakage of stratospheric air into the trophosphere(7).

These phenomena in effect label different air masses reaching this country and one can detect their extent and trajectory by observation of the radioactivity associated with them. (In this connection it will be useful to think in terms of air masses as defined by Peters(9)). The amount of fallout deposited (as measured in this program) is in general a poor guide to such an analysis because the changes in deposition rates due to different deposition efficiencies at different places and during different meteorological conditions mask all but very marked changes in radioactive content of the air masses. The composition of atmospheric activity or the composite decay properties of the deposited activity is a better parameter. Quite evidently one can determine unambigously the arrival of fission product activity of recent origin and trace its movement around the country.

In tables 3-103 are found a large number of examples where air masses (labelled by the age of their radioactivity) are detected at one, but not at another, fallout station. For example, activity from the 1958 summer tests reached the northern part of the country a day before it was detected in the southern part. A detailed comparison of measured half lives at various stations during the summer of 1958 shows how the movement of these air masses caused significant changes in the fallout between Jerusalem and Rehovoth on certain days. Another striking example is connected with the sandstorm of Nov.21, 1958 (table 14 and fig. 16) which injected shortlived activity into a predominantly

old environment at a different pace throughout the country. One to two days is a long period compared to the travel time of airfronts in the country. Probably a shorter sampling time would have drawn a much more detailed picture.

The day to day fluctuation in the amount of deposited activity during 1958, when not accompanied by changes in half life, may be due to different deposition efficiencies. If one excludes rain days from this analysis, one finds that normally deposition does not vary from day to day by more than a factor of 3. During 1959, the daily fluctuations are even smaller. It seems as if the few cases where large depositions were recorded, (on March 29, April 28, May 28 and June 10 and 21), were due to the influx of air masses with high radioactive content. These air masses did not in all cases extend throughout the country and their arrival in this area in the form of rather discrete discontinuous waves of activity is noteworthy.

Due to the finite extent of the labelled air masses, as has been indicated, differences of deposition occur at times between various parts of the country, notably between the northern and southern areas and between hill and valley stations. These differences, however, are of a minor nature and the data available so far do not permit the designation of any single area as having a different fallout pattern from the rest of the country, except perhaps Eilat, for which not enough measurements are available.

A certain fraction of the radioactivity passing over the area will manifest itself as fallout, the deposition rate of which will depend on the effective vertical downward transport through the atmosphere and on the collection efficiency of the sampler during the prevailing meteorological conditions.

The deposition by rain has already been discussed (p.14). The differences in the amount, distribution and nature of precipitation cause large variations in the amount of deposited activity which, as stated, can be estimated to a first approximation from the meteorological data.

On rainless days the amount of fallout collected depends on the surface air concentration of activity, the rate at which this activity is carried towards the ground and the efficiency of collection (and retention) of the sampler for the deposited activity. The air concentration is the result of a balance between the rate at which activity is fed into the surface air by downward transport from higher layers and the rate at which the surface air loses its activity to the environment. The deposition on the gummed tape is supposed to be a measure of the latter rate only. All these transport factors depend on meteorological parameters, and the dependence is not necessarily single valued. If one takes into account in addition the extended sampling time, during which a variety of meteorological conditions apply, one cannot hope to analyse the dry fallout rate in detail as a function of time and station at the present state of knowledge, but can only point out dominant trends.

The day to day variations of the air count are generally much smaller than those of the amount of deposited activity. If one assumes that the air and deposition samplers respond equally to the activity it follows that the differences in deposition rates from day to day must be due to changes in deposition and collection efficiency, and not to different activity content of the air.

There is reason to believe, however, that the two sampling methods respond differently to different types of particles[10]*. If so, there may be quite appreciable changes in the air concentration of the type of particles sampled by the gummed tape, even though these are not strongly reflected in the measured air count. Differences in deposition rate can thus be expected to reflect in part the changes in air concentration of fallout activity at the various stations.*

The larger depositions measured at the hill stations, compared to their adjacent valley stations, and the low deposition rate at Eilat seem to be real effects, which can be explained in terms of the meteorological pattern at these stations. The seemingly lower fallout recorded in the north of the country

(Stations T and D as compared to J and R, AD and BS respectively) is puzzling and no explanation has yet come forth. It should be emphasized that the interstation differences are of a minor nature compared to the long term changes of the fallout during the period concerned. They cannot be predicted or analysed in detail until much more is known concerning the mechanism of dry fallout collection.

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LIST OF SYMBOLS

A_0 - Activity at sampling time ($pC/m^2/d$).

A_1, A_2... - Activity in units of $pC/m^2/d$ at one, two, etc. months after sampling.

A_{12} - Residual activity 12 months after sampling.

A_y - Activity of the sample remaining one year after the (extrapolated) explosion date which gave rise to the initial decay rate corresponding to a half life assuming a $t^{-1.2}$ decay law.

A_y (calc.) - derived from A_0 and $T_{\frac{1}{2}}$ using the formula $A_y = A_0 / \left[12. \left(\exp. 0.577/T_{\frac{1}{2}} - 1\right)\right]^{1.2}$.

A_y (exp.) - the measured value of A at a time (12 - t') months after sampling, where t' is the number of months by which the explosion preceded the sampling date.

d - Drops.

Dr = A_y (exp.)/ A_y (calc.) - A measure of the presence of activities from old nuclear tests or of longlived natural activities.

f - The duplicate coefficient - the ratio of activities of duplicates samples (exposed at the same station during the same period, so that $f \geqslant 1$.

h - Hail.

O - Sharav conditions = - fog or haziness.

p - Precipitation.

pC/l - Specific activity of the precipitation.

r - Rain and showers.

s - Snow.

$T_{\frac{1}{2}}$ - The apparent half life for initial decay.

Sign $\hat{}$ in the column of A_y (calc.) indicates that the half life as measured was used as a basis of calculation.

Sign $\underline{0}$ shows that an average $T_{\frac{1}{2}}$ rather than the measured was considered.

Sign * following the sum or avèrage value indicates that only part of the month's results were available.