

ENVIRONMENTAL MONITORING REPORT
July 1, 1961 to September 30, 1961

Atomics International
Canoga Park, California

Summary

The environs of Atomics International's World Headquarters and Nuclear Development Field Laboratory near Los Angeles, California are periodically surveyed to determine the radioactivity of typical surface soil, vegetation and water samples. In addition, continuous air samples taken at the above sites provide information concerning airborne particulate radioactivity. This report summarizes the environmental monitoring results for the third quarter of 1961.

Soil and vegetation are sampled monthly at forty-eight locations. Ten of these are within the boundaries of Atomics International sites; the remaining thirty-eight are within a ten mile radius of the states.

The average soil and vegetation activities are shown in Tables I and II.

Table I - Soil

Location	Activity	1960		Third Quarter 1961	
		No. Samples	Average uuc/gram	No. Samples	Average uuc/gram
On Site	α	115	0.34 to 0.41	30	0.40 to 0.41
	B- δ	114	23.0	30	35.0
Off Site	α	362	0.27 to 0.37	114	0.32 to 0.38
	B- δ	360	19.0	114	22.0

Table II - Vegetation

Location	Activity	1960		Third Quarter 1961	
		No. Samples	Average uuc/gram ash	No. Samples	Average uuc/gram ash
On Site	α	115	0.31 to 0.35	30	0.36 to 0.37
	B- δ	113	137.0	30	120.0
Off Site	α	362	0.21 to 0.25	114	0.24 to 0.27
	B- δ	358	136.0	114	109.0

Two water wells at the N.D.F.L. are sampled monthly. The average water activity is shown in Table III.

Table III - Well Water

Location	Activity	1960		Second Quarter 1961	
		No. Samples	Average uuc/liter	No. Samples	Average uuc/liter
N.D.F.L.	α	22	0.062 to 0.094	6	0.125 to 0.142
	$\beta-\gamma$	22	1.0 to 2.7	6	0.68 to 2.8

The Chatsworth Reservoir, which is operated by the Los Angeles City Department of Water and Power, is sampled monthly for soil, vegetation and water. The average water activity is shown in Table IV.

Table IV - Reservoir Water

Location	Activity	Third Quarter 1961	
		No. Samples	Average uuc/liter
Chatsworth Reservoir	α	15	0.47
	$\beta-\gamma$	15	5.9 to 6.1

Environmental air sampling is performed continuously at the Headquarters and N.D.F.L. sites. The average concentration of long lived airborne beta emitters is shown in Table V.

Table V - Air

Location	Activity	1960		Third Quarter 1961	
		No. Samples	Average uuc/M ³	No. Samples	Average uuc/M ³
Headquarters	$\beta-\gamma$	182	0.24	79	0.89
N.D.F.L.	$\beta-\gamma$	44	0.44	79	0.89

Conclusions

Table I shows a nominal increase in the third quarter 1961 soil alpha and beta-gamma radioactivity levels. Table II shows a slight increase in both on-site and off-site vegetation alpha activity, and general decrease in both on-site and off-site vegetation beta-gamma activity.

Table III shows that N.D.F.L. well water alpha radioactivity has increased slightly during the third quarter of 1961, while beta-gamma radioactivity has remained essentially constant.

Table IV shows Chatsworth Reservoir water to be small compared with the applicable M.P.C. of 1×10^{-8} uc/cc. Sampling in the reservoir grounds was initiated during the first quarter of 1961, therefore, no comparative data was available for inclusion in the table.

Table V indicates that airborne long lived radioactivity has increased markedly during the third quarter of 1961.

Some of the data in Tables I, II, III, and IV is given as a range within which lies the true average. This occurs when one or more of the samples contains an undetectable amount of radioactivity. In these instances, two averages are determined. The lowest value assumes that the "undetectable" samples contain no radioactivity. The highest value assumes that these samples contain radioactivity equal to the appropriate minimum detection limit.