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REPORT ON CONTAMINATION OF CREEK WATER - II

July, 1945?

Introduction:

Samples of creek water were taken out of Los Alamos Creek from beside the Technical Area to the Rio Grande and out of Pueblo Creek beside the Post. These were analyzed for Po and 49.

Conclusion:

Except for the region immediately adjacent to the Tech. Area the contamination was very small. The indication is that the material is very rapidly deposited from the water.

Experiment:

For sample 9 which was taken from the Rio Grande the liquid was decanted from the solid matter. The liquid was evaporated to dryness and counted. A total activity of 9 counts per minute per liter was found.

The rest of the samples (1 - 11) were evaporated and treated with HNO₃ and H₂O₂ to remove excess organic material. The samples were then made 2 N in HCl and the Po was plated on silver plates. The solutions were again evaporated and made 1 ON in NH₄NO₃ and 1N in HNO₃. This solution was extracted with methyl-iso-butyl-ketone. This was evaporated on to a glass plate and counted.

In view of the conditions under which the experiment was performed a count under 10 per liter probably has no significance for 49. The limit for detection on Po should be slightly less.

Results:

Sample	Po counts/liter/minute	49 counts/liter/minute
1	1,150	42
2	24,000	72,000
3	57,000	31,000
4	24	0
5	330	19,000
6	500	720
7	8	6
8	0	8
10	2	6
11	0	0

9 c/min (Total Po + 49)

Sample	Position
1	Los Alamos Creek SW of Tech Area.
2	" " Canyon Laundry Creek.
3	" " Creek below Laundry Creek.
4	" " " beside Omega site.
5	Pueblo Creek NW of Tech Area.
6	" " N of Tech Area.
7	Los Alamos Creek near Loudermilk.
8	" " " near Rio Grande.
9	Rio Grande 1/4 mile below Otowi crossing.
10	Los Alamos Creek below D. P. Site.
11	Los Alamos Creek beside D.P. Site.

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Classification changed to
by authority of the U.S. Atomic Energy Commission,
Per Robert K. Kurburk
By Anne H. [Signature]
(Signature of person making the change, and date)
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