

## OFFICE MEMORANDUM

TO : Dan Wilson, H-12 Group Leader  
Merlin Wheeler, H-12

DATE: August 4, 1978

FROM : Willy Abeele, H-12

SUBJECT : MONTHLY REPORT

SYMBOL : H12-78-198

MAIL STOP: 490

6285 Report  
A preliminary survey of Area C for radioactivity showed several hot spots that had been overlooked in a former survey.

Plans are now being drawn for a study of radioactive elements present at depths underlying the spots for which a complete surface study of radioactive elements has been achieved by Linda Trocki.

As far as the in-depth soil analysis is concerned, samples will be taken with a 3" x 24" splitspoon and analysed down to 20" with 4" increments, disregarding the upper 4" or surface samples.

Five spots showing high gross  $\alpha$  activity were selected. This will consequently amount to 20 samples analysed for gross  $\alpha$ .

Four spots were selected because of high gross  $\beta$  activity. This means 12 samples to be analysed for gross  $\beta$ .

Two spots with high activity due to the presence of  $^{137}\text{Cs}$  were selected, meaning 8 analyses for that particular element.

Three spots were selected for their high activity due to the presence of  $^{238}\text{Pu}$ , which calls for 12 analyses. The same three spots show high concentration of  $^{239}\text{Pu}$ , which consequently calls for 12 more analyses.

For all the above described analyses, seven different sites have been chosen. Since tritium was not measured at any of the hot spots determined by means of the phoswich and in order to save labor, I propose to determine the tritium distribution from the 28 core samples taken from these sites. We consequently end up with a total of 104 analyses to be performed which would enable us to determine whether the presence of a specific radionuclide at the surface is due to a spill or from an upwelling caused by hydrology, flora or fauna. This could be deducted from the study of the soil contamination profile.



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The moisture measurements taken on a routine basis on the 19th of June are somewhat lower than the last measurement I took for the tritium aeration analysis on the 12th of June at the PI-I site in Area G. This would indicate a further drying out of the soil, a process which was witnessed during the entirety of the tritium aeration testing period.

In all the monitoring holes, furthermore, there is an indication that the location of the maximum moisture ratio by volume as moved upwards in comparison with the previous month (May). This is an indication that drying out due to evapotranspiration is taking place in the upper layers during the May-June period.

WA:tj

cc: Tony Gallegos  
Margaret Anne Rogers  
Virginia Christie