

(Canyon survey)

MONITORING 263

MONTHLY REPORT - October 21 to November 20, 1947

JOB AND PERSONNEL

• Schnap, Cox

1016 ~~1016~~ Report

PROGRESS

The analysis of samples collected in Los Alamos and Pueblo Canyons as well as the analysis of water samples from DP East, DP West, ^{and} Tech Area ^{acid} ~~and~~ sewers was continued.

Difficulties were encountered in the analysis of soil samples when a direct Cupferron chloroform extraction was made: Fe, present in large amounts, was the main factor of interference. Various methods to overcome these difficulties were considered. Among them was a method using ether extraction to eliminate the iron. Since this method was not advisable because of fire hazard another method was considered. This method, an ammonia hydroxide precipitation, followed by a cupferron chloroform extraction was not satisfactory.

The method finally adopted consisted of an calcium oxalate precipitation followed by a cupferron



chloroform extraction. 1 dirt sample was leached with concentrated HCl and spiked with about 350 c/m. The recovery was close to 100%. The calcium oxalate seems to carry the reduced Pu very satisfactorily. The method is rather time consuming but in view of the excellent recovery of the Pu will have to be applied to the analysis of dirt samples.

The following results were obtained so far:
 (See next page).

Way sample handled go to next memo

Routine Inspection of Los Alamos and Pueblo Canyons

Sample number and location according to map.	Plutonium run		Polonium run	
	Water samples C/M/liter	Dirt samples C/M/----- (not completed at this time)	Water samples C/M/1 liter	Dirt Samples C/M/100 grams
1.	12		1.6	0
2.	6		2.6	0
3.	—		—	0
4.	—		—	2
5.	48		2.6	0
6.	—		—	0
7.	—		—	0
8.	—		—	0
9.	—		—	1
10.	6		6.3	0
11.	—		—	0
12.	—		—	0
13.	—		—	0
14.	12		0	—
15.	—		—	0
16.	8		8	0
17. i.	16		0	5.6
18.	20		8	—
19.	112		4	—
20. — Area V	160		0	—
21.	64		4	—
22. — Area U	60		11.4	—
23.	80		10.4	—

Special Sewers

A. — Area V	140		21.6	—
B. — Area T	29,836		5.8	—
C. — Area U	886		64,120	—
D. — DPEast, precipitation	16		3.6	—
E. — Acid	4,802		12.4	—

Note: — indicates that there wasn't any sample of the particular type taken at that ~~indicated~~ point.
 0 indicates sample was taken, but ~~indicated~~ results were 0 c/m.

see notes to 23-10, lobby to table

JOB AND PERSONNEL

Special Problems, Chemistry
Schnap, Cox

PROGRESS

The radioassays of water and soil samples collected from Los Alamos and Pueblo Canyon are being continued.

Following results were obtained in the analysis for polonium: (the numbers indicate locations as marked on map)

<u>No. of water sample</u> (= <u>No. of location</u>)	<u>c/m/500 cc.</u>
#1	.8
2	1.3
5	1.2
10	3.5
14	0
16	4
17	0
18	4
19	2
20	0
21	2

In addition to the samples collected at the canyons, water samples were taken from the following locations:

Area V
Area T
Area U

- a. DP West Laundry seepage pit
- b. DP West seepage, main drain
- c. DP East seepage, main drain
- d. DP East drain from precipitron, actually carrying water from sprinkler system.
- e. Tech Area acid sewer #3.

These water samples (a to e), in addition to being radioassayed, were submitted to the analytical group for a fluorine analysis. (Samples from the same sewer were taken at 3 different times of the day)

Below are the results of the fluorine analyses for samples a to e, taken in the early afternoon.

<u>Sample</u>	<u>mg. of fluorine per 100 mc.</u>
a	2.4
b	4.2
c	.1
d	.1
e	10

As soon as repair work on the hood is finished, all water samples will be prepared for a spectrographic analysis and radioassay will be continued.