

CA.10-1

Aerospace

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

CA.10

OFFICE OF ENVIRONMENTAL HEALTH

BERKELEY, CALIFORNIA 94720

B3220

March 4, 1981

Mr. Calvin A. Jackson, Director
Environment, Safety and Program Support Division
Department of Energy
1333 Broadway
Oakland, California 94612

Dear Cal:

Enclosed is my report to our Radiation Safety
Committee on the Burris Park situation.

Please call if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Andris Peterson".

Andris Peterson
Radiation Safety Officer

AP:fo
enc.

March 2, 1981

TO: Radiation Safety Committee

FROM: A. Peterson, Radiation Safety Officer *AP*

SUBJECT: Survey of Burriss Park Site

INTRODUCTION:

The Department of Plant and Soil Biology under the auspices of Atomic Energy Contract AT(11-1)-34 carried out studies on decontamination of soil containing ⁹⁰Sr at Burriss Park located near Kingsburg, California. This work was performed during 1956-1963.

Procedures involved spreading ⁹⁰Sr at the rate of 1 μ Ci/in² over 14 plots measuring 6 ft. x 6 ft., adding various electrolytes to the soil, irrigating and taking soil cores to determine distribution of the ⁹⁰Sr after treatment.

The project was terminated in 1963. Termination procedures involved the capping of the entire experimental area measuring 42 ft. x 42 ft. with reinforced concrete, affixing a bronze plaque and enclosing the area with a chain link fence.

QUESTIONS RAISED:

Mr. Dan Setentich, a fireman at the station located in Burriss Park, telephone the Nuclear Regulatory Commission in Walnut Creek requesting information on the nature of work carried out at the site, whether any residual activity remained and the nature of hazards involved with the site.

The NRC in a letter dated December 29, 1980 requested the U.S. Department of Energy (U.S.D.O.E.) to look into the matter. Since the project appeared to involve U.C. Berkeley, Mr. Calvin D. Jackson of U.S.D.O.E. requested the campus Radiation Safety Officer to investigate the matter.

ACTION TAKEN:

The Burriss Park project was discussed with Dr. Robert K. Schulz, Department of Plant and Soil Biology, one of the principal investigators involved in this work.

Dr. Schulz verified that the radioactive material had been placed on the soil during 1956-1957. He described the experimental plots and stated that each plot was surrounded by concrete curbing 6 inches above ground level and extending 30 inches into the soil. At termination

reinforced concrete had been put on the entire plot to cover the curbing and extended several feet on each side. A bronze plaque describing the project had also been placed on the concrete slab and attached to the reinforcement bars. Dr. Schulz also stated that the results of the work had been published in the May, 1959 issue of Hilgardia. A copy of the publication was sent to Mr. Jackson and the campus Office of Environmental Health and Safety.

It was decided that Dr. Schulz and Mr. A. Peterson would make a site visit to investigate the present status of the area. Calculations were made and it was determined that radioactive decay had reduced the amount of ^{90}Sr to less than 41 mCi.

The site visit was made on February 10, 1981. Mr. D. Setentich and Mr. Paul Douglass, the park caretaker, were present during the visit.

The concrete slab was in excellent condition and the chain link fence was in place. The following information was present on the bronze plaque:

"A total of 72 mCi of ^{90}Sr was placed on this area during 1956-1957.

This work was done under contract AT(11-1) - 34 Project 23 between the University of California and the U.S. Atomic Energy Commission.

Roy Overstreet R. K. Schulz
University of California, Berkeley "

The concrete slab was being used as a display area for old farm equipment.

A radiation survey using Ludlum Model 2 portable survey meters equipped with Model 44-9 pancake probes was made. No readings above normal background (0.02 - 0.05 mr/hr) were obtained.

The nature of the project, the residual activity, the significance of the G-M readings and the use of the area were discussed with Mr. Setentich and Mr. Douglass. A copy of the Hilgardia article was left with Mr. Setentich. It was learned that members of the King County Office of Emergency Services had also surveyed the slab and had found no significant readings.

Mr. Setentich and Mr. Douglass expressed their appreciation of the concern on the part of the campus, the ability to discuss the situation with someone who had been directly involved in the project and stated that they had no further questions or concerns.

CONCLUSIONS AND RECOMMENDATIONS:

It is felt that proper care was taken to terminate the project via the reinforced concrete capping procedure. As there were no readings above background, the use of the slab for a display area in the park

is entirely acceptable.

Since Mr. Setentich was satisfied with the information provided to him during the site visit there is no need for further action. The campus will continue to maintain the Burriss Park file for future reference purposes.

AP:fo

cc: C. A. Jackson
R. F. Kerley