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Decontamination and Disposition of Facilities

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Radiological Survey Results - Release to Unrestricted Use, SRE Region IX

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ABSTRACT

The results of the radiological survey for Region IX of the SRE facility are described. All survey results are below the applicable limits, indicating that this area may be released for unrestricted use.

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1.0 INTRODUCTION

This document covers Region IX of the SRE facility (Figure 1). The area consists of the paved area surrounding the northern portion of Building 143 and includes the drainage path along the north side of the fence.

Radiological surveys were performed in conformance with N704TP990008, "Radiological Survey Plan Support of D/D Operations at T-143 (SRE)", R. K. Owens.

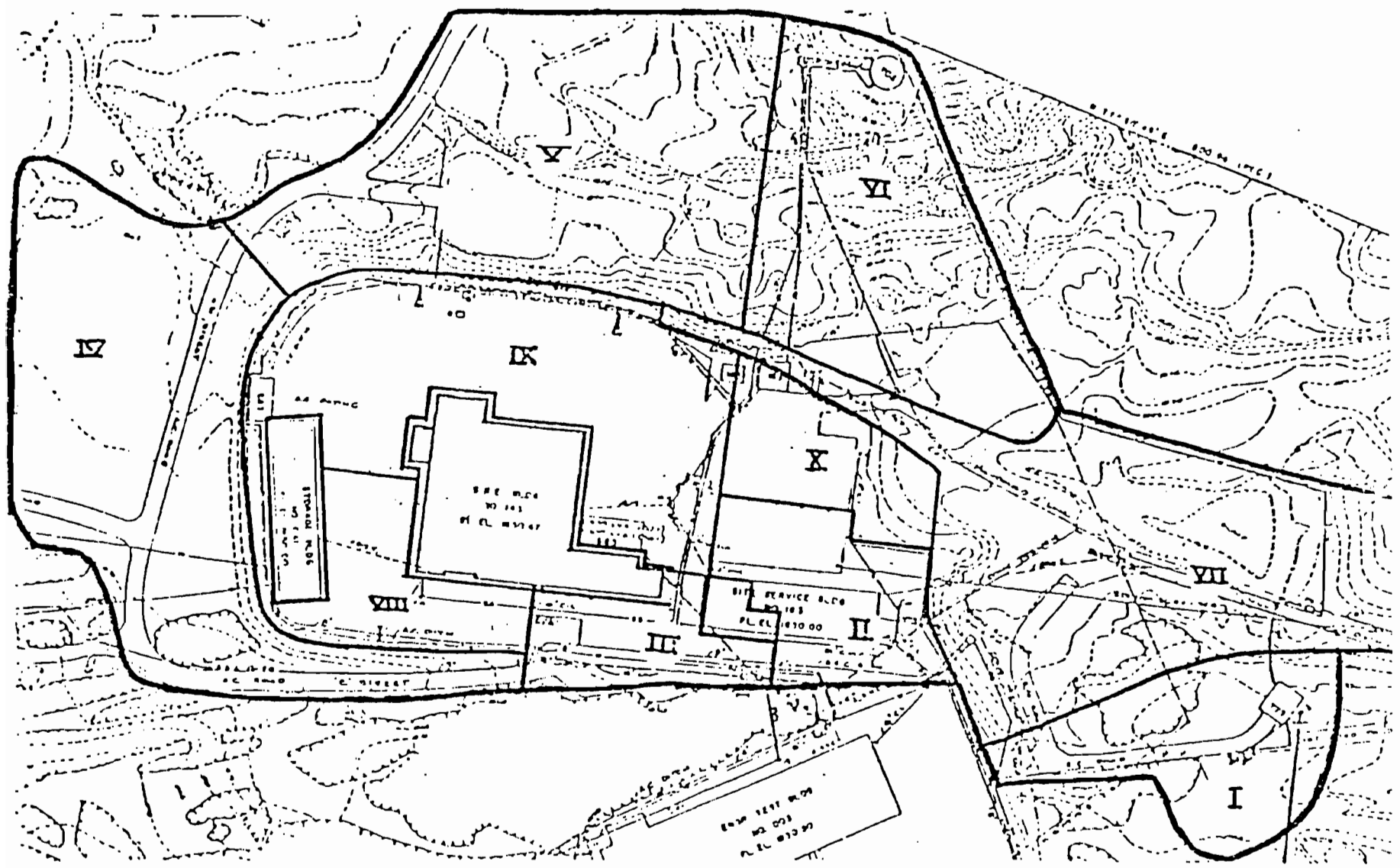


FIGURE 1
SRE FACILITY



The contamination/radiation limits for unrestricted use that were applied in decontaminating this area are shown in Table 1 and the requirements for survey measurements in each region are shown in Table 2.

TABLE 1
RESIDUAL RADIOACTIVITY LIMITS
FOR RELEASE FOR UNRESTRICTED USE

	Total	Removal
<u>Surfaces</u>		
Alpha	100 dpm/100 cm ²	20 dpm/100 cm ²
Beta	0.1 mrad/hr at 1 cm through 7 mg/cm ² absorber	100 dpm/100 cm ²
<u>Soil</u>	100 pCi/g gross detectable beta	



TABLE 2
SURVEY MEASUREMENT REQUIREMENTS

Region	Removable Contamination	Surface Radiation	Soil Samples	Concrete Samples	Water Samples
I	X	X	X	X	X
II	X	X	X		
III		X			
IV	X	X	X		
V		X	X	X	
VI		X	X		
VII		X	X		X
VIII		X			
IX	X	X	X		
X	X	X	X		
041	X	X			
163	X	X			
143 Offices	X	X			
143 High Bay	X	X	X	X	X

Measurements of removable contamination are omitted from those areas that consist solely of soil or asphalt-paved surfaces.

2.0 SURVEYS AND RESULTS

A. REMOVABLE CONTAMINATION

At the conclusion of the D&D effort and after this region was surveyed for surface radiation plus soil sampling, it was decided that smear surveys were not applicable, because of the absence of suitable surfaces to smear.

B. SURFACE RADIATION

For this part of the survey three instruments were used, a Technical Associates Model CP-7 ion chamber, a Ludlum Model 12 with a thin-window pancake GM detector, and an Eberline Model PRM-5-3 low-energy gamma detector. The Ludlum GM detector and Eberline low-energy detector were used for their faster response and audible output. The CP-7 showed an average reading of 0.04 mrad/h for Region IX, which is a typical reading in all uncontaminated areas at Santa Susana. All readings with the CP-7 were below the Table 1 limit of 0.1 mrad/h.

C. SOIL SAMPLES

One hundred and eight soil samples were processed during the D&D effort for this region, including the drainage path. All soil samples were counted on a Nuclear Measurements Corporation automatic counting system with a KCl standard, with an average efficiency factor of 3.3 and an average background of 25-29 cpm.

The maximum soil activity remaining was 98 pCi/g, with an average of 33 pCi/g. The natural soil activity is approximately 28 pCi/g.



3.0 CONCLUSIONS

In each type of test performed, all samples indicated levels less than those limits prescribed by the Decontamination and Disposition of Facilities Program for release for unrestricted use.

All appropriate surveys indicate that current existing radioactivity in the area is below the applicable limits for release for unrestricted use.