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GO NO.	S/A NO.	PAGE 1 OF	TOTAL PAGES	REV LTR/CHG NO SEE SUMMARY OF CHG	NUMBER
07704	44627	7	7	NC	N704TI990039

PROGRAM TITLE

Decontamination and Disposition of Facilities

DOCUMENT TITLE

Radiological Survey Results - Release to Unrestricted Use, SRE, Building 163

DOCUMENT TYPE

Technical Information

KEY NOUNS

Decontamination

ORIGINAL ISSUE DATE

REL. DATE 4/8/82

PREPARED BY/DATE

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DEPT	MAIL ADDR
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IR&D PROGRAM? YES ☐ NO ☒
IF YES, ENTER TPA NO.

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ABSTRACT

The results of the radiological survey for Building 163 of the SRE facility are described. All survey results are below the applicable limits, indicating that this area may be released to unrestricted use.

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I. INTRODUCTION

This document covers Building 163, Component Equipment Repair Facility (CERF) located in the SRE complex approximately 50 ft northeast of the main building, T-143. The building is a Butler building structure, approximately 40 ft x 40 ft. A floor-to-ceiling Sheetrock wall separates the CERF from the remainder of Building 163 (box shop).

Decontamination and disposition of the CERF Building 163 began in October 1981 and the building was available for release for unrestricted use on March 2, 1982.

Major operations performed were the removal of the 5-ton overhead bridge crane, the radioactive exhaust system, all aluminum wainscot interior walls, and the scabbling of the floor area.

All radioactive-contaminated equipment was packaged for shipment to offsite land burial.

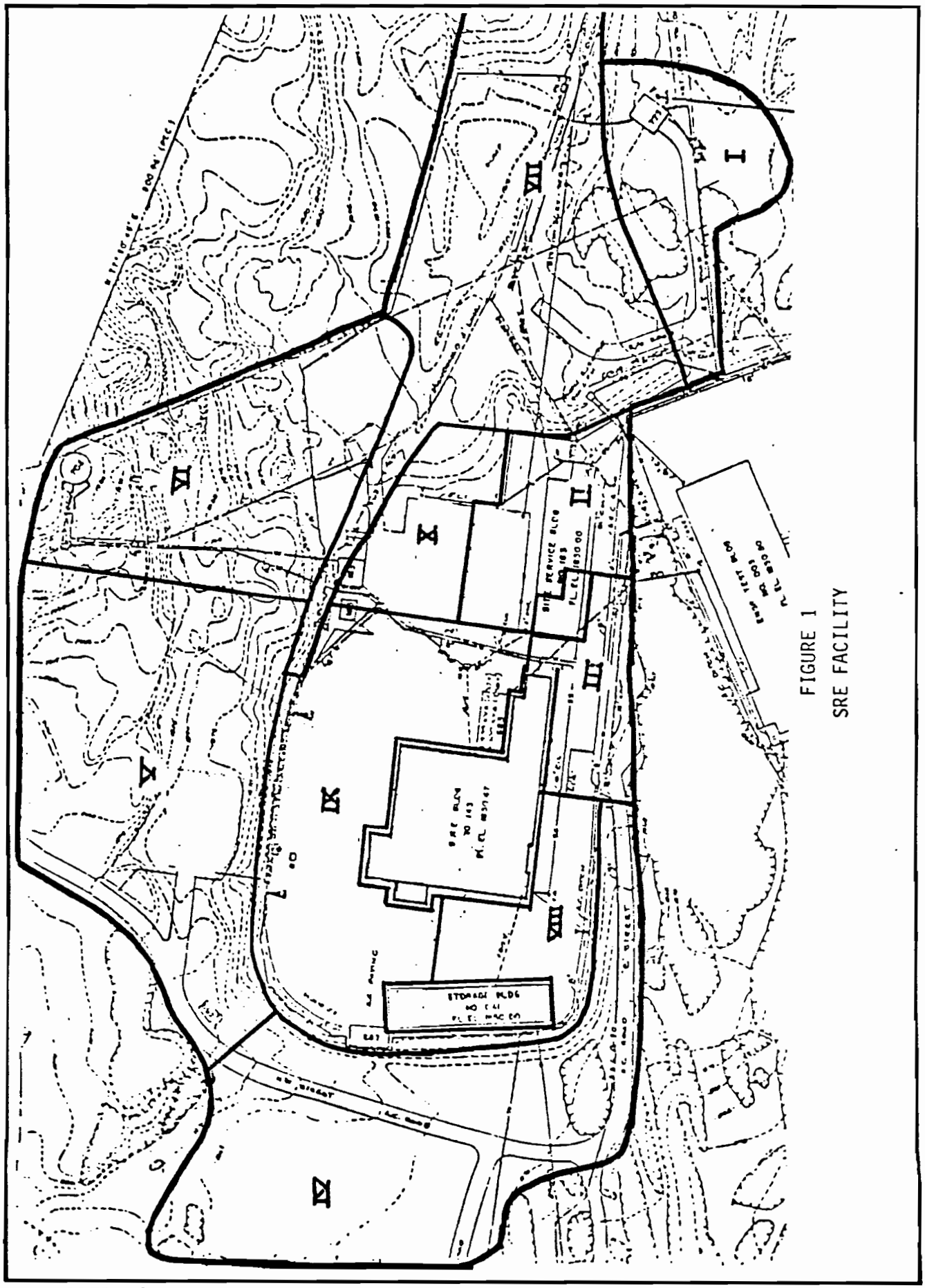

FIGURE 1
SRE FACILITY

TABLE 1

CONTAMINATION/RADIATION LIMITS

Removable Contamintion
20 dpm/100 cm^2 alpha
100 dpm/100 cm^2 beta
Total Contamination (Removable Plus Fixed)
100 dpm/100 cm^2 alpha
0.1 mrad/h at 1 cm through a
7 mg/cm^2 absorber.

II. SURVEYS AND RESULTS

A. REMOVABLE CONTAMINATION

Five hundred smears were taken on gridded surfaces throughout the interior of the building, and 60 smears were taken from exterior front and roof areas. Results of smear surveys were documented at less than 20 dpm alpha and less than 75 dpm beta-gamma.

All smears were counted for alpha and beta on a Nuclear Measurements Corporation automatic counting system. This system is checked daily with calibrated sources for efficiency. The background for alpha is 0-1 cpm with an average efficiency factor of 3.8; background for beta is 25-28 cpm with an average efficiency factor of 3.6. Alpha contamination was not suspected for this area. However, had any occurred, it would have been detected with this counting system.

B. SURFACE RADIATION

At the conclusion of the D&D effort, a survey was conducted using two survey instruments: a Technical Associates Model CP-7 ion chamber detector and a Technical Associates PUG-1 with a thin window pancake GM detector. The PUG-1 was used for its faster response and audible output. Both instruments were used for all accessible areas. An average background reading of 0.04 mrad/hr was recorded inside the middle of Building 163 with the T/A CP-7.* All readings with the CP-7 were below the Table 1 limit of 0.1 mrad/hr.

C. SOIL SAMPLES

The area outside Building 163 is covered with asphalt paving; therefore, soil samples were not taken. However, an SRE operations mockup pit was discovered in the east end of the box shop, which is in Building 163. It was uncertain if this pit was ever used for R/A work related to the CERF portion of the building.

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*This is a typical reading with this instrument in all uncontaminated areas at Santa Susana.

A total of 22 soil samples were collected from the 5-1/2-ft-deep pit. All soil samples were less than 30 pCi/gram.

The samples were counted in a Nuclear Measurements Corporation automatic counting system with a KCl standard, with an average background of 25-28 cpm.

D. CONCRETE SAMPLES

After the concrete floor had been completely scabbled and surveyed with the T/A CP-7 and PUG-1, it was decided concrete samples were not required.

A total of 13 concrete wall and core samples were collected from the box shop mockup pit. All concrete samples were less than 25 pCi/gram.

The samples were counted with the same technique and counting system as soil samples.

E. WATER SAMPLES

There are no natural or man-made catch basins for water in this region. Water samples are not required for this region.

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III. 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.

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