

M-663

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Formerly Utilized Sites Remedial Action Program (FUSRAP)

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# ADMINISTRATIVE RECORD

for the Maywood Site, New Jersey

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**US Army Corps  
of Engineers®**

M-663

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**HEALTH AND SAFETY RESEARCH DIVISION**

Nuclear and Chemical Waste Programs  
(Activity No. AH 10 05 00 0; ONLWCO1)

**RESULTS OF THE RADIOLOGICAL SURVEY  
AT 275 ECCLESTON PLACE, MAYWOOD,  
NEW JERSEY (MJ045)**

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## CONTENTS

LIST OF FIGURES . . . . .	v
LIST OF TABLES . . . . .	vii
ACKNOWLEDGMENTS . . . . .	ix
ABSTRACT . . . . .	xi
INTRODUCTION . . . . .	1
SURVEY METHODS . . . . .	2
SURVEY RESULTS . . . . .	2
Gamma Radiation Levels . . . . .	2
Systematic Soil Samples . . . . .	2
SIGNIFICANCE OF FINDINGS . . . . .	3
REFERENCES . . . . .	4

## LIST OF FIGURES

- 1 Gamma radiation levels ( $\mu\text{R}/\text{h}$ ) measured on the surface at 275 Eccleston Place, Maywood, New Jersey (MJ045) . . . . . 5
- 2 Diagram showing locations of soil samples taken at 275 Eccleston Place, Maywood, New Jersey (MJ045) . . . . . 6

## LIST OF TABLES

1	Applicable guidelines for protection against radiation . . . . .	7
2	Background radiation levels for the northern New Jersey area . . . . .	7
3	Concentrations of radionuclides in soil at 275 Eccleston Place, Maywood, New Jersey (MJ045) . . . . .	8

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## ABSTRACT

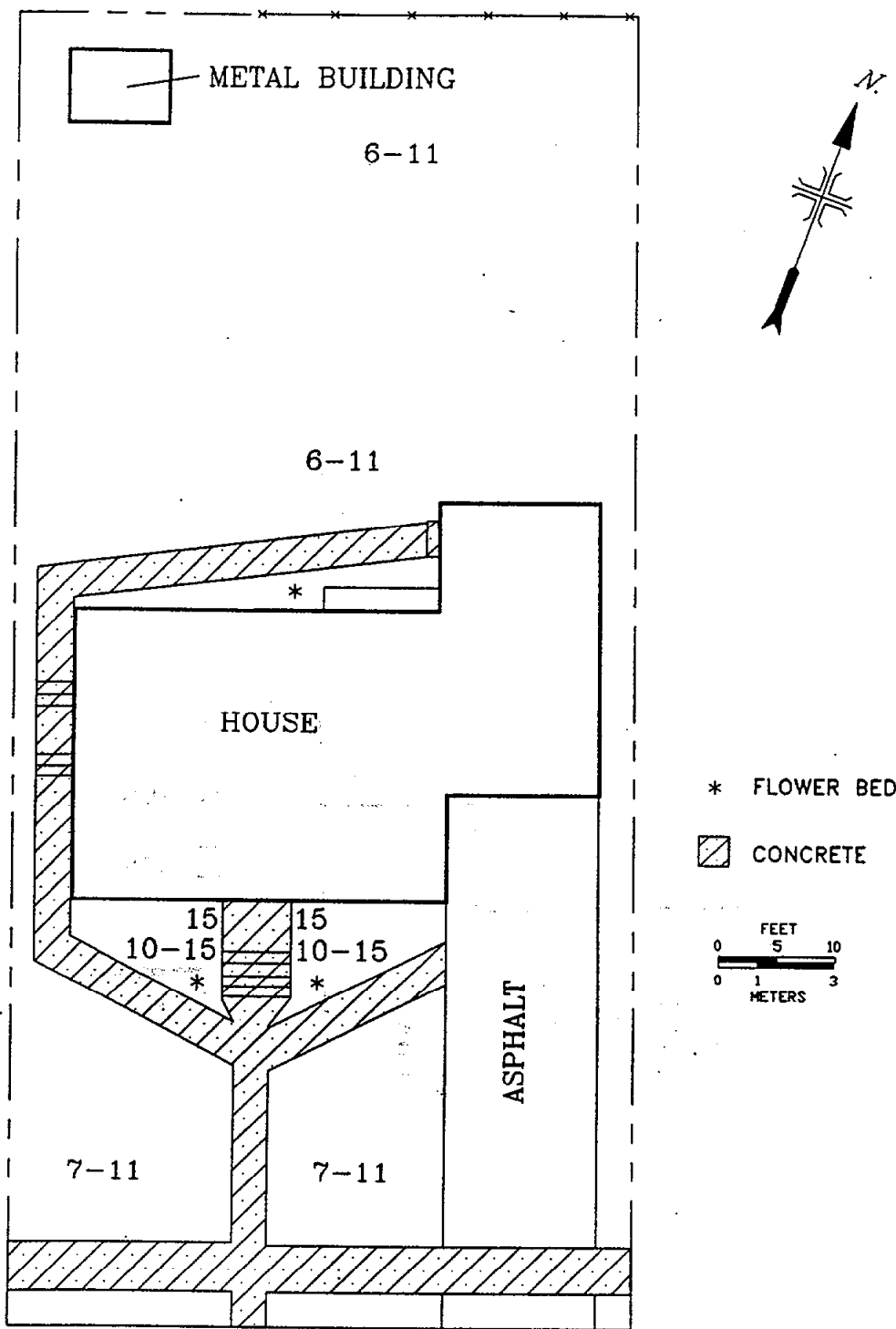
Maywood Chemical Works (MCW) of Maywood, New Jersey, generated process wastes and residues associated with the production and refining of thorium and thorium compounds from monazite ores from 1916 to 1956. MCW supplied rare earth metals and thorium compounds to the Atomic Energy Commission and various other government agencies from the late 1940s to the mid-1950s. Area residents used the sandlike waste from this thorium extraction process mixed with tea and cocoa leaves as mulch in their yards. Some of these contaminated wastes were also eroded from the site into Lodi Brook. At the request of the U.S. Department of Energy (DOE), a group from Oak Ridge National Laboratory conducts investigative radiological surveys of properties in the vicinity of MCW to determine whether a property is contaminated with radioactive residues, principally  $^{232}\text{Th}$ , derived from the MCW site. The survey typically includes direct measurement of gamma radiation levels and soil sampling for radionuclide analyses. The survey of this site, 275 Eccleston Place, Maywood, New Jersey (MJ045), was conducted during 1988.

Results of the survey indicated radioactivity in the range of normal background for the northern New Jersey area. Radiological assessments of soil samples from the site demonstrate no radionuclide concentrations in excess of DOE Formerly Utilized Sites Remedial Action Program criteria.

### SIGNIFICANCE OF FINDINGS

Measurements taken at 275 Eccleston Place indicate radioactivity in the range of normal background for the northern New Jersey area. Radiological assessments of soil samples from the site demonstrate no radionuclide concentrations in excess of applicable DOE guidelines.





275 ECCLESTON PLACE

Fig. 1. Gamma radiation levels ( $\mu\text{R/h}$ ) measured on the surface at 275 Eccleston Place, Maywood, New Jersey (MJ045).

Table 1. Applicable guidelines for protection against radiation<sup>a</sup>

Mode of exposure	Exposure conditions	Guideline value
Radionuclide concentrations in soil	Maximum permissible concentration of the following radionuclides in soil above background levels averaged over 100 m <sup>2</sup> area <sup>232</sup> Th <sup>230</sup> Th <sup>228</sup> Ra <sup>226</sup> Ra	5 pCi/g averaged over the first 15 cm of soil below the surface; 15 pCi/g when averaged over 15-cm thick soil layers more than 15 cm below the surface

<sup>a</sup>Reference 3.

Table 2. Background radiation levels for the northern New Jersey area

Type of radiation measurement or sample	Radiation level or radionuclide concentration
Concentration of radionuclides in soil (pCi/g)	
<sup>232</sup> Th	0.9 <sup>a</sup>
<sup>238</sup> U	0.9 <sup>a</sup>
<sup>226</sup> Ra	0.9 <sup>a</sup>

<sup>a</sup>Reference 4.

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