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A Review of the Development of Los Alamos Gnats and Tsetses before the 1958 Test Moratorium (U)

Lawrence S. Germain
January 2, 1991

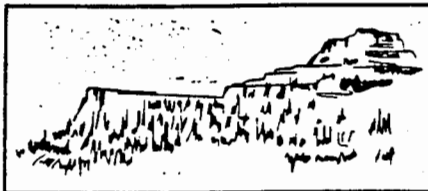
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January 2, 1991

*A Review of the Development of
Los Alamos Gnats and Tsetses
before the 1958 Test Moratorium (U)*

Lawrence S. Germain

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Lawrence S. Germain retired from the Los Alamos National Laboratory in 1985 after thirty years of experience in weapons design and testing in the national laboratories—twenty years at Lawrence Livermore National Laboratory and ten years at Los Alamos. He received a Ph.D. in physics from the University of California, Berkeley, in 1949 and taught physics for four years at Reed College, Portland, Oregon, before joining Livermore. Much of this report is drawn from the author's memory, and many of the opinions expressed reflect his personal recollections.

The first draft of this report was written in 1988, and the information in the report does not reflect events or research since 1988.



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PREFACE

This report is one in a CNSS series that surveys the development of nuclear weapons over the past forty-five years. The unifying themes throughout the series are the technical advances and failures associated with new weapon systems, and the creation of the stockpile.

Authors, titles, and report numbers are listed below.

William G. Davey, *Free-Fall Nuclear Bombs in the U.S. Stockpile (U)*, LA-11397

William G. Davey, *Nuclear Tests Related to Stockpiled Weapons Development (U)*, LA-11402

Lawrence S. Germain, *A Brief History of the First Efforts of the Livermore Small-Weapons Program (U)*, LA-11404

Lawrence S. Germain, *The Evolution of U.S. Nuclear Weapons Design: Trinity to King (U)*, LA-11403

Lawrence S. Germain, *A Review of the Development of Los Alamos Gnats and Tsetses before the 1958 Test Moratorium(U)*, LA-11749

Raymond Pollock, *The Evolution of the Early Thermonuclear Stockpile (U)*, LA-11748

Raymond Pollock, *A Short History of the U.S. Nuclear Stockpile 1945-1985 (U)*, LA-11401

(All reports are classified Secret Restricted Data)

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January 2, 1991

A REVIEW OF THE DEVELOPMENT OF LOS ALAMOS GNATS AND TSETSES BEFORE THE 1958 TEST MORATORIUM (U)

Lawrence S. Germain

ABSTRACT (U)

This report, one in a series concerned with the history of nuclear-weapons research and development, outlines the evolution of the Los Alamos Gnat and Tsetse systems before the 1958 test moratorium.

INTRODUCTION

The evolution of nuclear fission explosives at Lawrence Livermore National Laboratory (then the University of California Radiation Laboratory) from its inception in 1952 until the onset of the nuclear test moratorium in 1958 has been treated in Lawrence S. Germain, "A Brief History of the First Efforts of the Livermore Small-Weapons Program (U)," Los Alamos National Laboratory Report LA-11404, May 1990 (SRD)

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Gnat

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SUMMARY OF FAMILIES

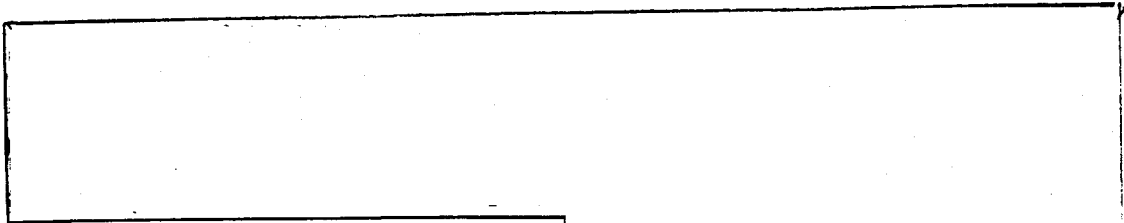
The premeratorium family histories of the two systems discussed in this report are shown in Figs. 1 and 2.

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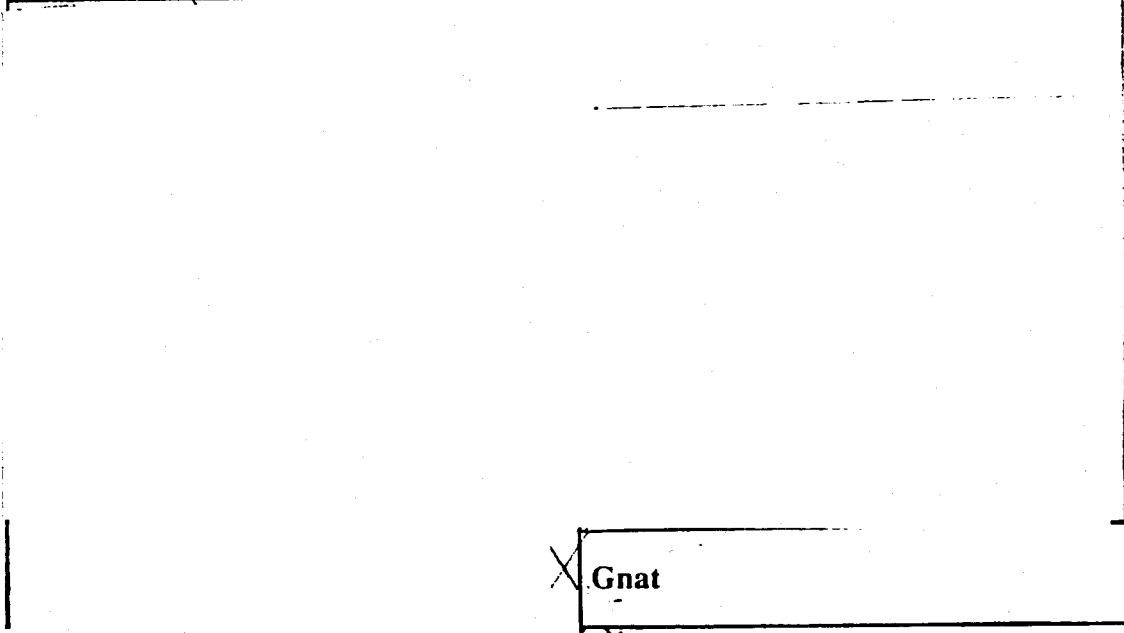


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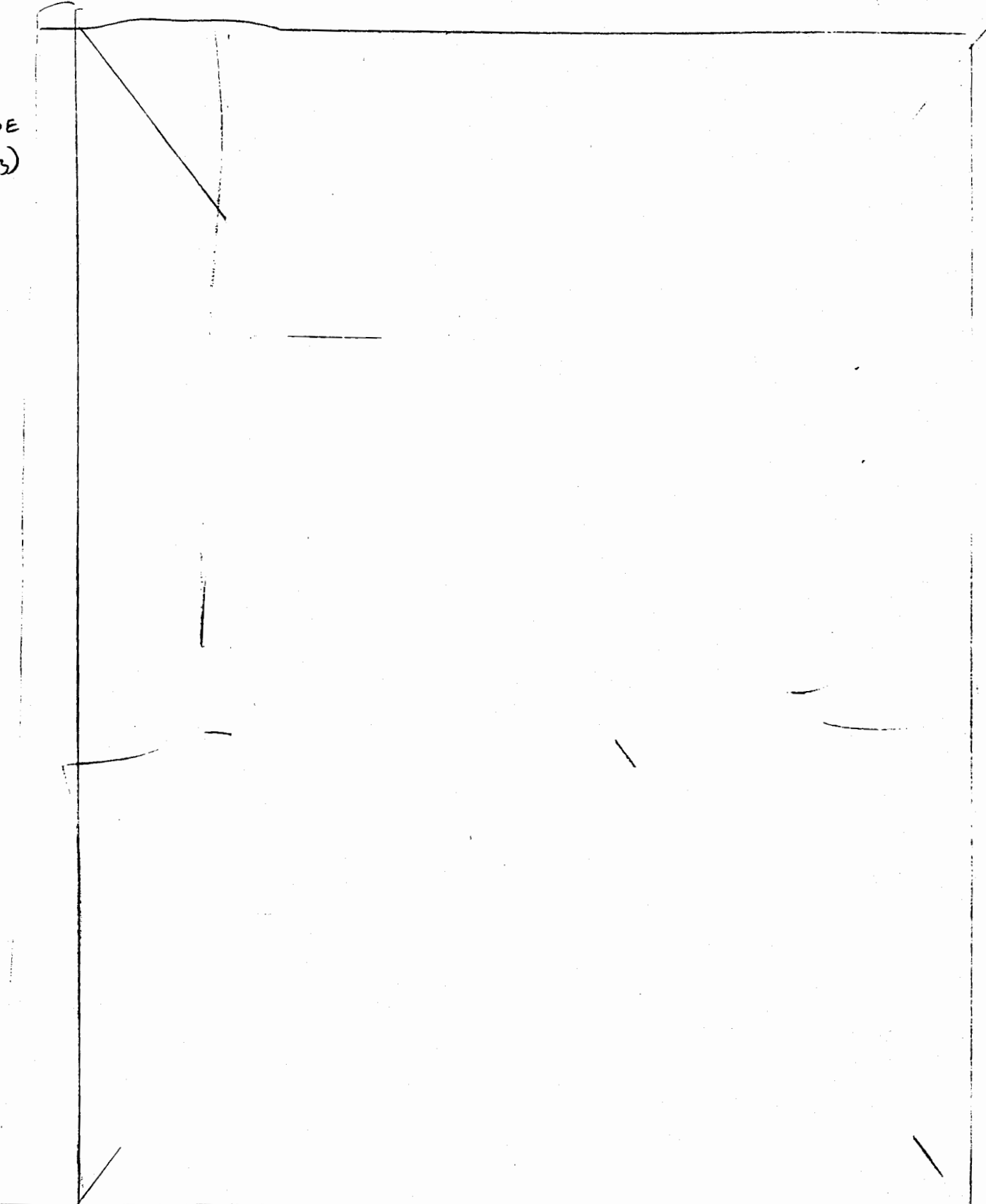
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