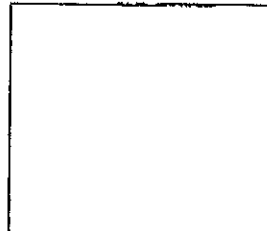


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Science and Weapons Daily Review

17 November 1981

APPROVED FOR RELEASE
DATE: JAN 2006

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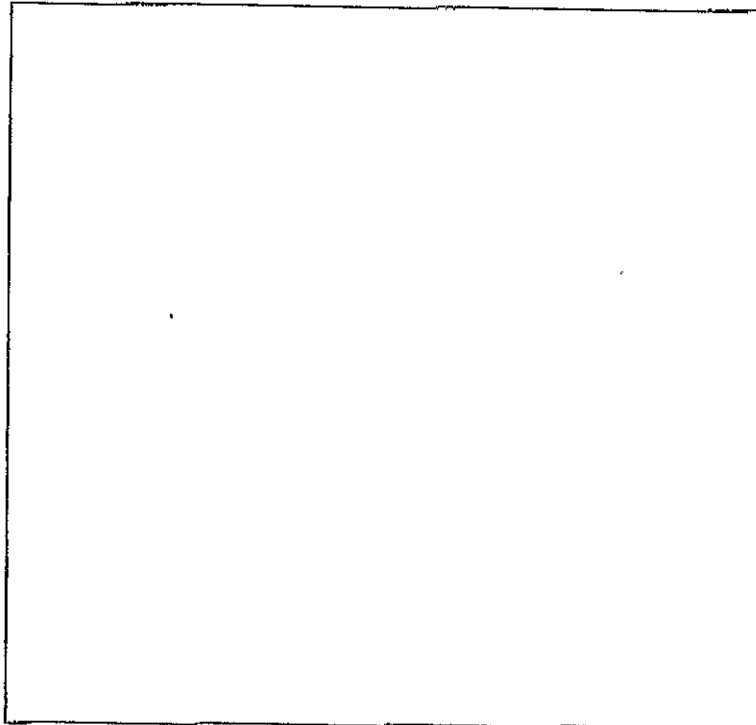
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INDIA: NUCLEAR DEVICE CALCULATIONS (U) . . . 5

The calculations were presented in a recent theoretical paper and described the behavior of aluminum and molybdenum under high pressure-- pressure high enough to be of interest to nuclear weapon designers.

[Redacted]

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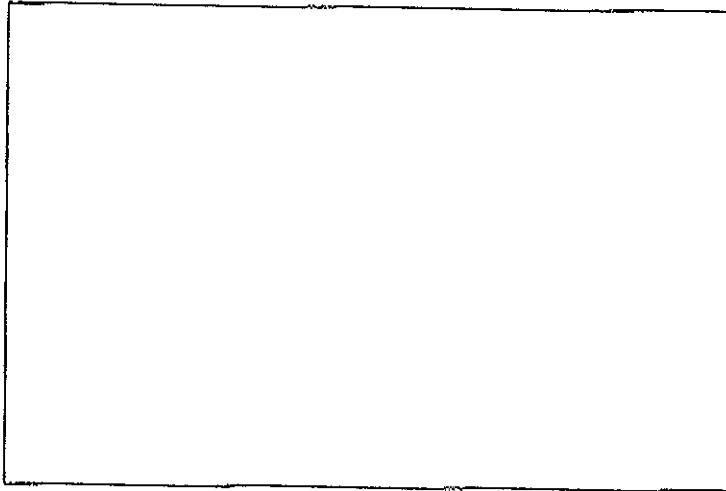
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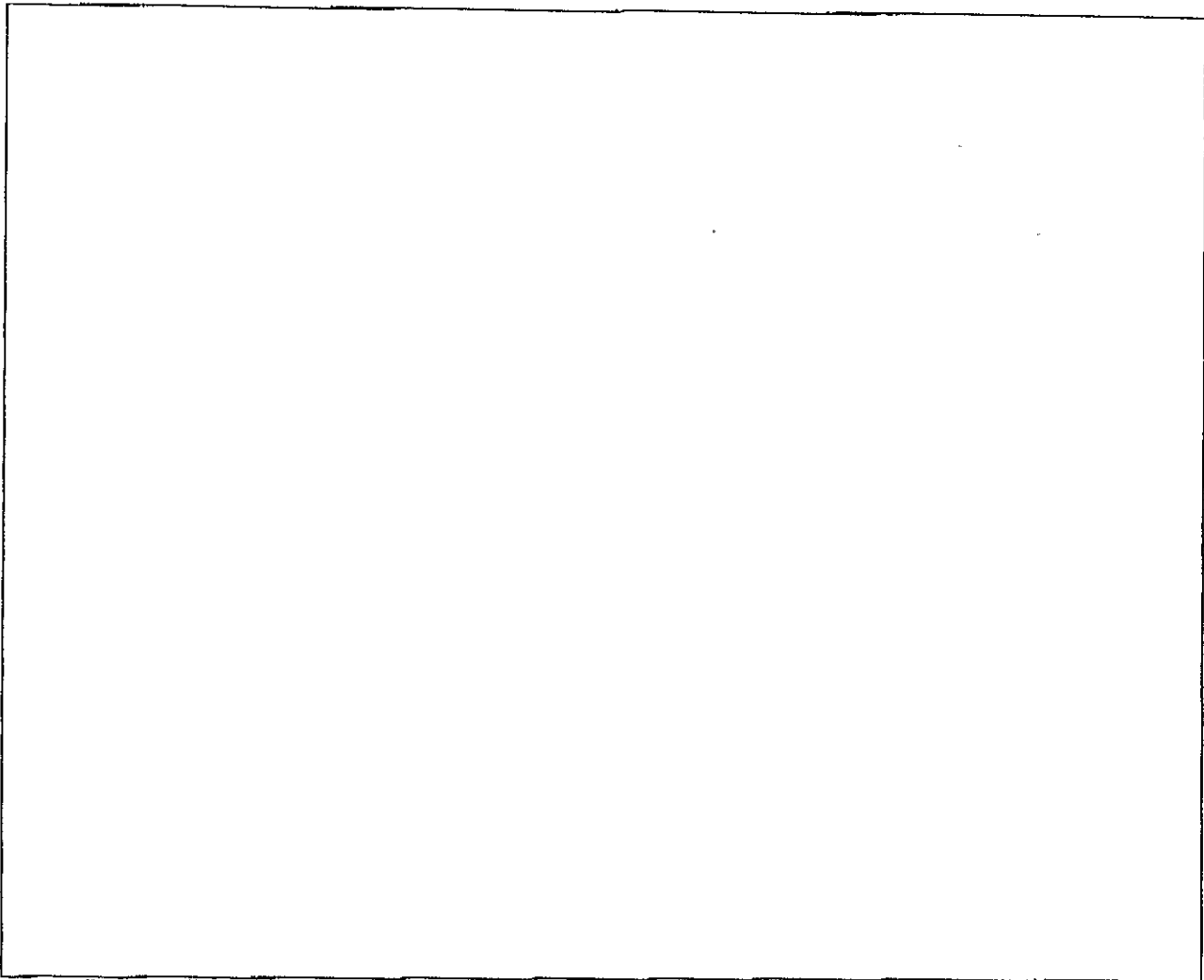
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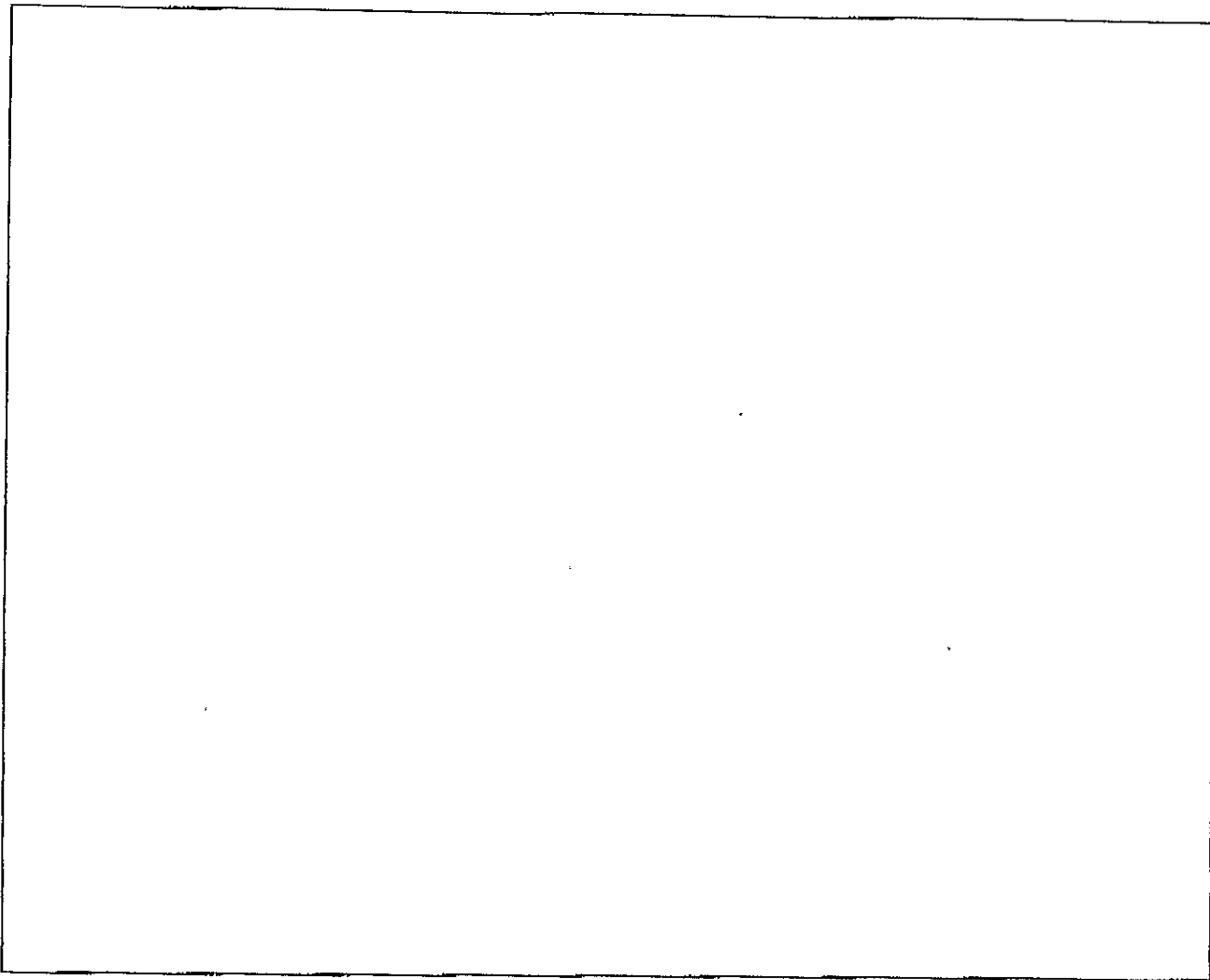


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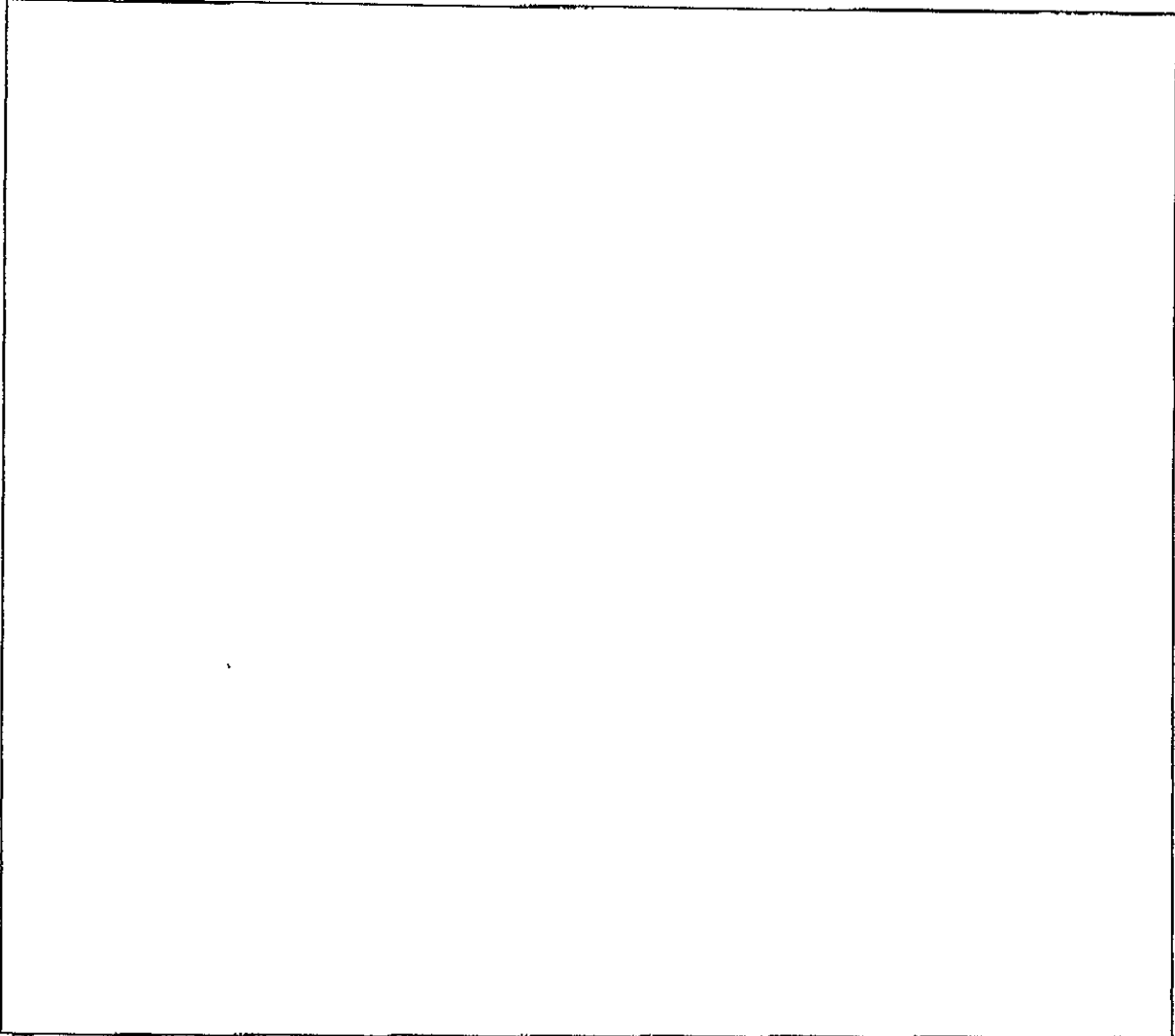
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INDIA: NUCLEAR DEVICE CALCULATIONS (U)

A recently published paper by three Indian scientists describes the behavior of certain materials at sufficiently high pressures to interest nuclear weapons designers. This work is likely part of the Indian nuclear explosives program. Although 1980 references were included, they were added during a revision of the paper. We cannot determine how much earlier the reported work was done. [Redacted]

In June 1980, B.K. Godwal, S.K. Sikka and R. Chidambaram of the Neutron Physics Division of the Bhabha Atomic Research Center in Trombay submitted a paper entitled "Model for the Equation of State of Condensed Matter in the 'Intermediate' pressure (about 0.5-10 TPa)* Region". In this paper, the authors presented their development of an equation-of-state model which approaches the "intermediate" region from the experimental (known, low pressure) side. Calculations were done for aluminum and molybdenum. (U)

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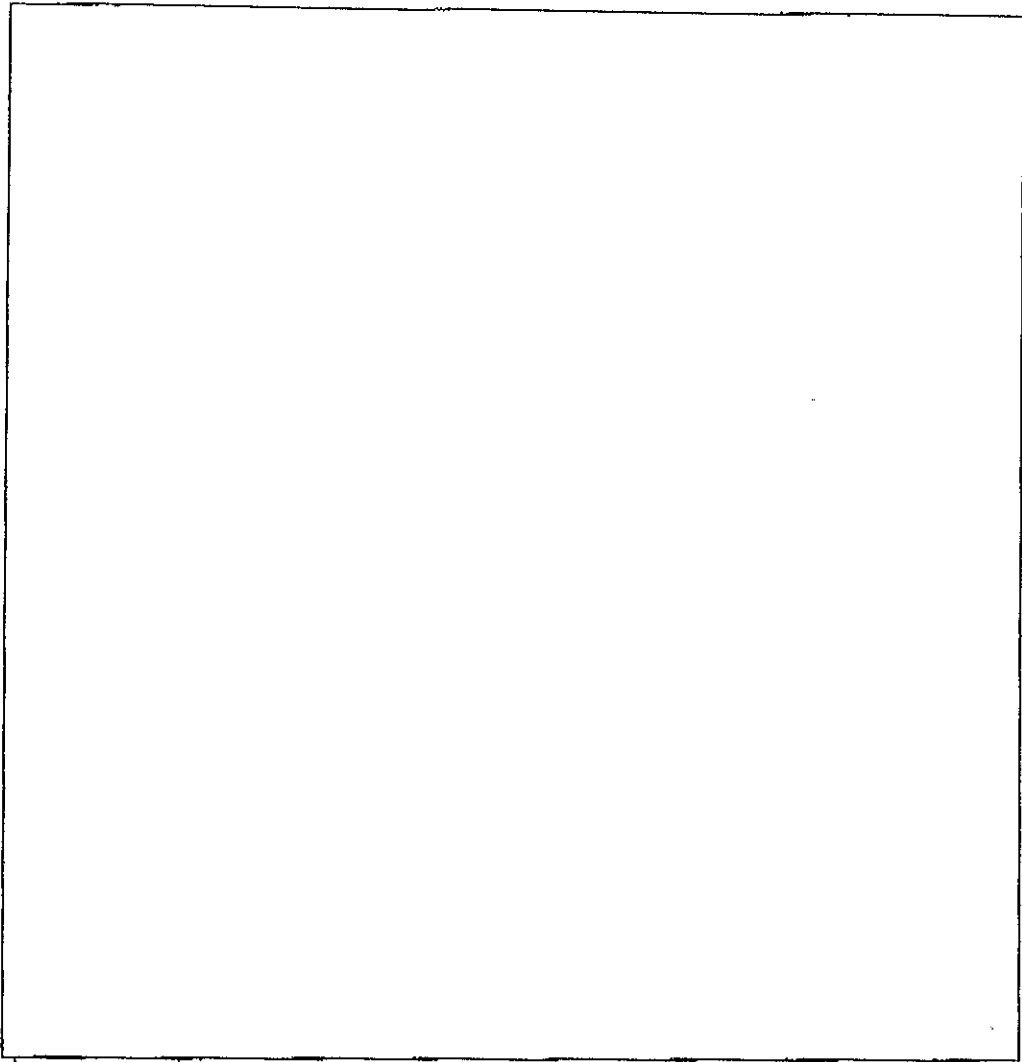
*TPa = terapascal, units of pressure.

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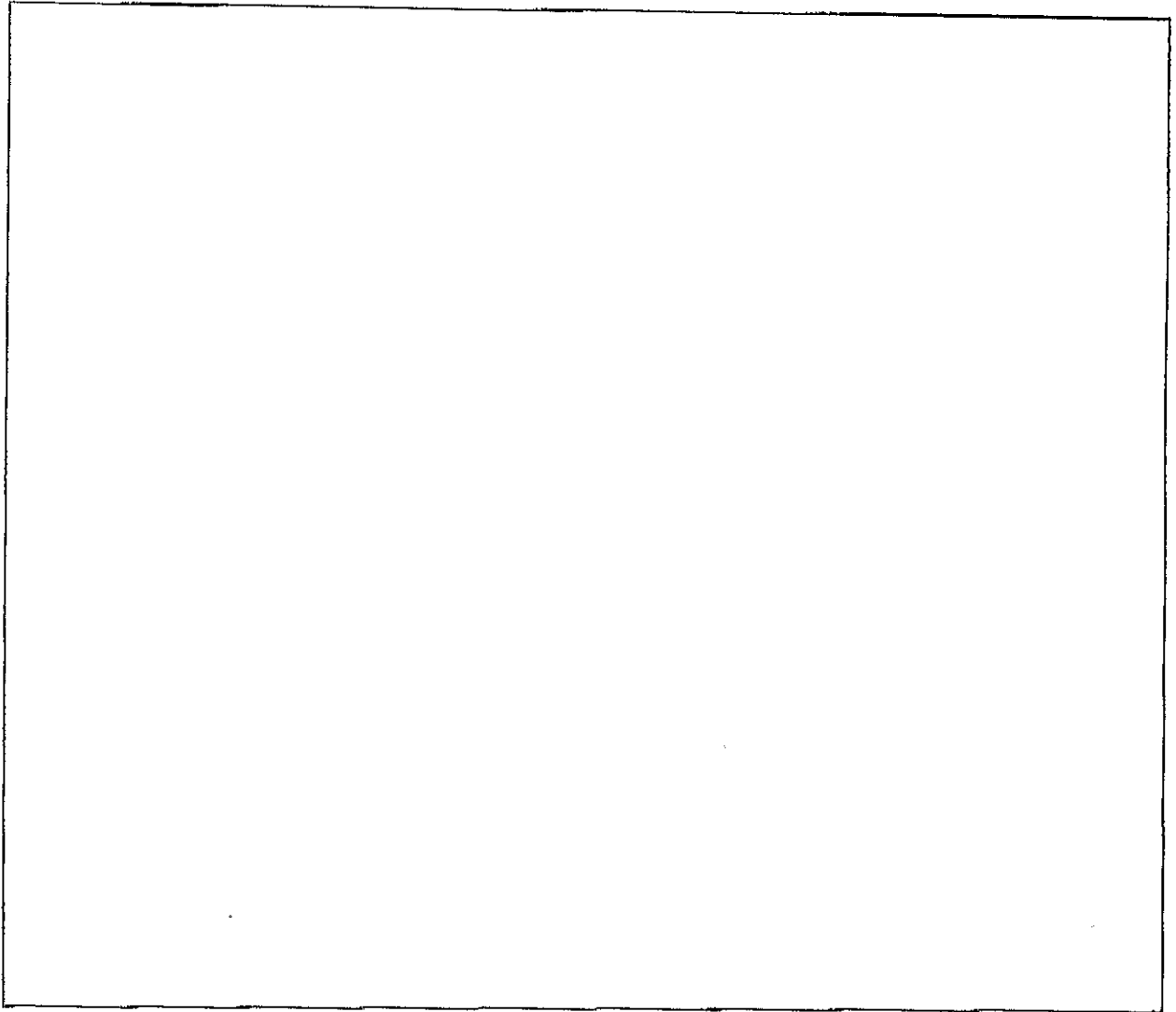
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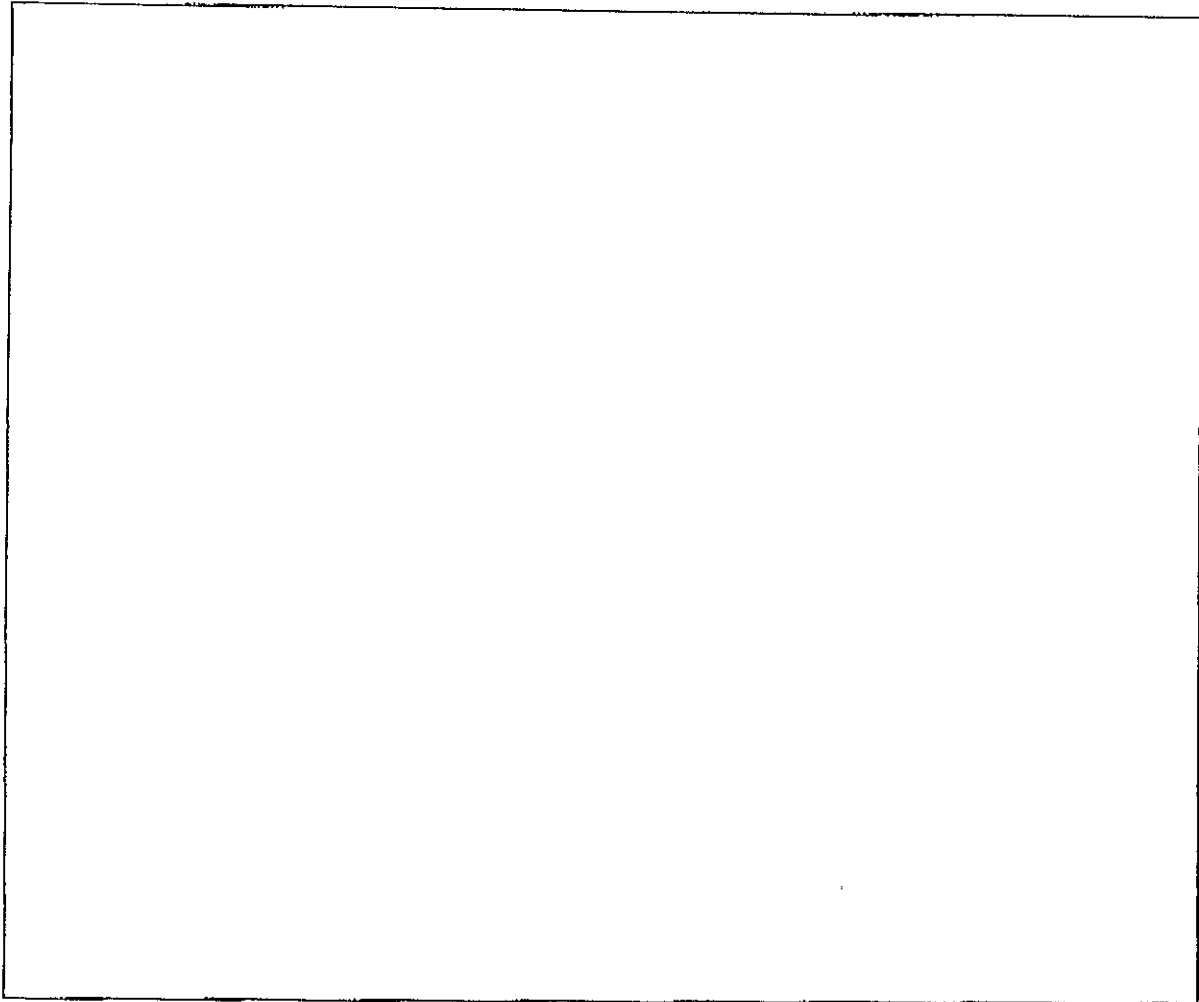
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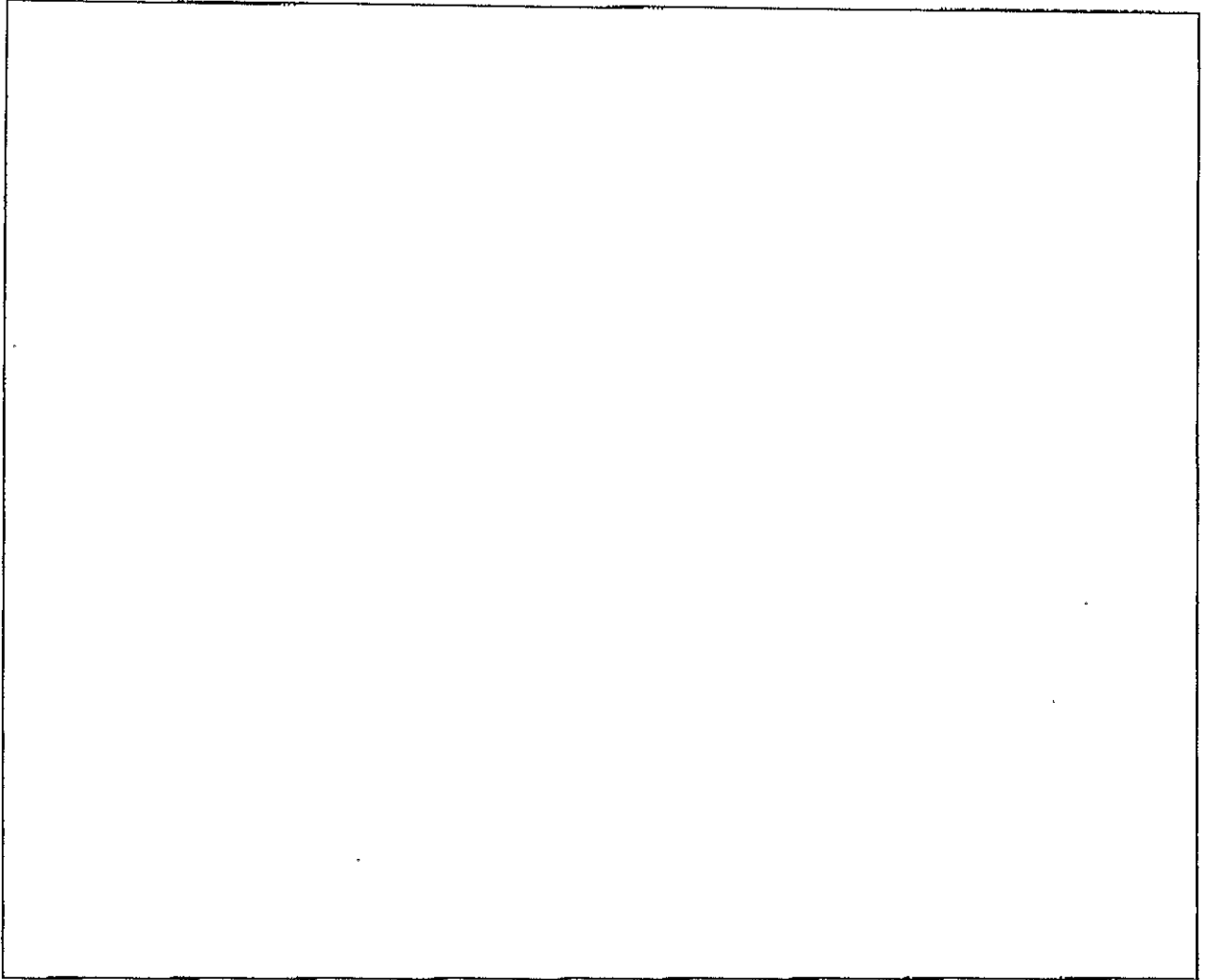
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