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RECOR

HW--27392

DE93 002151

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- # 2. JJ Cadwell
- # 3. LJ Chockie
- # 4-6. GE McCullough
- # 7. LD Turner
- # 8. 300 Files
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- # 10. Yellow Copy

March 12, 1953

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By Authority of RLO CG 4
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TO: LD Turner
FROM: LJ Chockie

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PHOTOGRAPHS OF FAILURE 250, THE FIRST C-PILE RUPTURE

Four photographs of Failure 250, from Tube No. 2179-C, are presented to show the type of failure as viewed in the 111-B cave. The first three photographs are successive rotations of the slug, illustrating the split-out portion at the base end of the piece. The fourth photo was focused on the split to show the bulging of the slug and the width of the opening.

The bulge in the slug at the split caused the piece to stick in the tube and then gall along the ribs and top of the process tubing when pressure was applied during the removal attempt. This sticking necessitated removal of the tube with the rupture contained and a downtime of over 19 hours. Minor amounts of damage to the slug occurred during its removal from the process tubing in the 105-C basin.

This split type failure is the first Group IX material to fail in this manner; the other five Group IX failures have all been side blowouts. As illustrated in Figure Three, the one straight side of this split indicates that it has followed a seam or crack that was present in the uranium. The other side of the split is a rough, diagonal crack which resulted from fracturing of uranium by the pressures exerted as the seam opened up. No further appraisals were made of this slug as the time allotted for examination was rather short due to the high radioactivity from the slug. Further information will be obtained as facilities become available.

For purposes of information, the following data is presented:

Tube No. 2179-C
Date Failed - 2/19/53
Date Charged - 11/18/52
Date Canned - 8/22/52
Canning Data - A H-1027 &
Tube Exposure - 322 MWD/T

Tube Orifice: .316
Position - 8th from front.
Failure Type - Five, split
Date Photographed - 2/5/53
Radiation, transfer cask
(6" Pb, 1" Fe) - 1.2 R/hr

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JUN 25 1956

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FIGURE 1

All magnifications are
approximately one-half.

FIGURE 2

FIGURE 3

FIGURE 4

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