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HW--23989

DE93 006343

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SPECIAL RE-REVIEW
FINAL DETERMINATION

DECLASSIFICATION CONFIRMED

BY Jul Jordan DATE 5-15-81
BY J.P. Devlin DATE 5-26-81

Classification Cancelled (Change to)
DECLASSIFIED

By Authority of DOC

May 1973

by PM Eick 10-27-92
J.W. Wells - 10-27-92

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PRODUCTION TEST NO. 105-511-A
IRRADIATION OF STAINLESS STEEL SAMPLES

Cost Code: xxx-521-140 (xxx-840)

Originator: M. D. Fitzsimmons, Pile Technology Unit.

Purpose of Irradiation: To determine the β -ray activity of two samples of stainless steel prepared from tubing used in the ANL-140, in-pile experiment (P-13). This information is necessary in order to predict the activity of the P-13 rig at the time of removal.

Reactions Involved: Interest here is in the various γ -ray intensities resulting from radioactive nuclei. The primary contribution to the over-all activity will be from Ta^{181} and Co^{59} impurities.

Material: Stainless Steel - C Cr Ni Cb Fe Ta Co

Approximate Amount by % 0.1 19 12 0.8 60 0.1 0.1

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DECLASSIFICATION AUTHORITY: 25 CFR 17.104
DATE: 10/27/92 BY: J.W. Wells

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SECURITY INFORMATION

Amount per sample:	C	Cr	Ni	Cb	Fe	Ta	Co
Pressure tube sample (27.5 gm total)	.028	5.2	3.3	0.2	19	.028	.028
Water tube sample (14.6 gm total)	.015	2.8	1.8	.12	10	.015	.015

Number of Slugs: 2

Slug Identification: H - 1 Pressure tube sample
H - 2 Water Channel sample

Requested Exposure: 3 months.

Type of Slug: Test hole

Type of Loading: Test hole - cooled or uncooled.

Inhours absorbed: Negligible

Cooling time: One hour

Special Hazards: None

Dimensions: Casing length 8 3/8"

Sample dimensions: H - 1 4.0" x .39" x .14"
H - 2 4.1" x .40" x .65"

Shielding estimate: 2" Pb

Special Equipment: Cask to be supplied by Technical.

Probable Area: B, H or F

Responsibility: H. L. Henry and C. W. Gillard for technical aspects.

C. W. Gillard
PILE TECHNOLOGY UNIT
ENGINEERING DEPARTMENT

WJ:smb

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Approvals:

<u>G. E. McCullough</u>	G. E. McCullough, Manager Pile Technology Unit, Engineering Department
<u>R. O. Mehann</u>	R. O. Mehann, Process Superintendent Reactor Section
<u>J. H. Warren</u>	J. H. Warren, Operations Superintendent Reactor Section
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Date of Issue: 4-17-52

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