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HW-89095

Tritium Extraction Throughput  
At Hanford  
1949-1954

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## FORWARD

Two tritium extraction campaigns were conducted at the 108 B facility. Both glass and metal extraction lines were utilized during the first campaign which began in February 1949 and was completed in March 1952. Five glass lines were constructed and made available for use as needed. Operation of the metal extraction line was begun on May 3, 1951. It continued in production until completion of the first campaign in March 1952. The second campaign used only the metal line. It was initiated in December 1953 and fulfilled in August 1954.<sup>(10)</sup>

Tritium production and extraction throughput information from Hanford operations was recently declassified.<sup>(a)</sup> This document presents tritium extraction throughput information excerpted from monthly production reports which remain classified SECRET-RESTRICTED DATA because they contain information on weapon part fabrication, shipments, tritium technology and unit costs. Individuals with the appropriate level of clearance and need-to-know may request access to these reports through the DOE or appropriate Hanford contractor, following established written procedures.

It should be noted that two nicknames were often used interchangeably for tritium, P-10 and MINT.

This data was collected for use by the Source Term Task Leader of the Hanford Environmental Dose Reconstruction Project, to develop a source term for tritium to meet a 1994 milestone. The extraction quantities for the two campaigns are presented in Table 1. During the first campaign the quantities extracted were expressed in liters as compared to grams in the second campaign.

(a) U.S. Department of Energy (DOE) News Release, R-92-042, "DOE Announces Declassification of Additional Hanford Data," May 12, 1992.

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TABLE 1

## Tritium Extraction Throughput At Hanford

FIRST CAMPAIGN  
(Glass and Metal Lines)SECOND CAMPAIGN  
(Metal Line)

	1949 (1)	1950 (2.3)	1951 (4.5)	1952 (6)	1953 (7)	1954 (8.9)
	Liters	Liters	Liters	Liters	Grams	Grams
JAN	0	8.831	5.8423	300.504		59.28
FEB	.025	8.927	2.058	437.099		32.21
MAR	.1661	10.657	5.843	226.133		119.2
APR	.4881	11.263	7.444			212
MAY	.2805	6.575	73.653			0
JUNE	0	9.995	41.1522			0
JULY	0	16.504	79.702			280.74
AUG	.5559	18.734	77.759			19.05
SEPT	1.23465	7.2711	23.855			
OCT	2.76852	4.331	105.3032			
NOV	4.161	5.585	54.078			
DEC	6.881	40.0842	121.946		24.62	
TOTAL	16.56077	148.7573	598.6353	963.736	24.62	722.49

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## REFERENCES (a)

1. Monthly Production Reports, January - December 1949. FTS-634 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
2. Monthly Production Reports, January - June 1950. FTS-635 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
3. Monthly Production Reports, July - December 1950. FTS-644 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
4. Monthly Production Reports, January - June 1951. FTS-745 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
5. Monthly Production Reports, July - December 1951. FTS-871 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
6. Monthly Production Reports, January - June 1952. FTS-952 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
7. Monthly Production Reports, July - December 1953. FTS-1202 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
8. Monthly Production Reports, January - June 1954. FTS-1315 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
9. Monthly Production Reports, July - December 1954. FTS-1385 (SECRET-RESTRICTED DATA), U.S. Atomic Energy Commission, Hanford Operations Office, Richland, Washington.
10. Fletcher, J.F., D.L. Condotta and G.G. Reed Jr. P-10 Project Technical Manual. HW-23772 (SECRET-RESTRICTED DATA). January 9, 1953. General Electric Company, Hanford Atomic Products Operation, Richland, Washington.

(a) All 10 of the above references remain classified in their entirety as they present weapon information, shipment data, unit costs and tritium technology. Selected declassified information useful to Source term development has been excerpted and included in this document. These reports can be made available to individuals having the appropriate security clearance and need-to-know by contacting the DOE or appropriate Hanford contractor, following established written procedures.

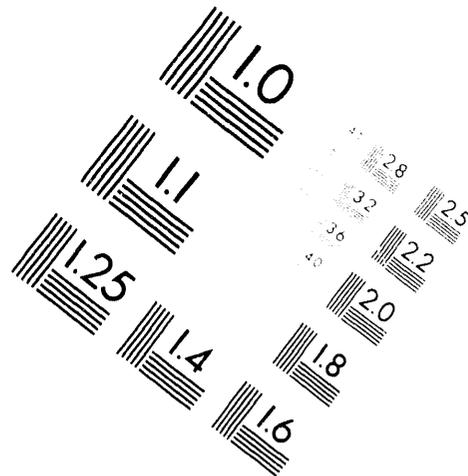
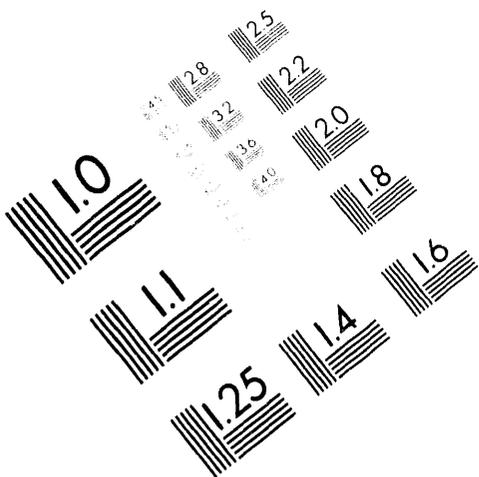
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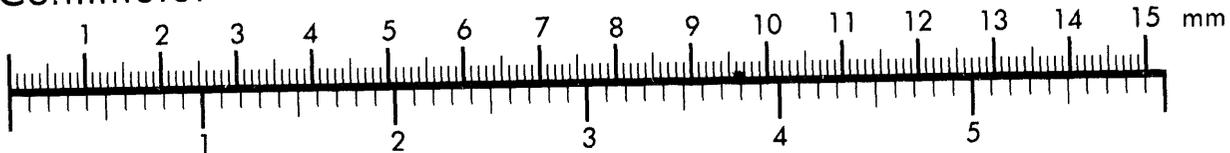
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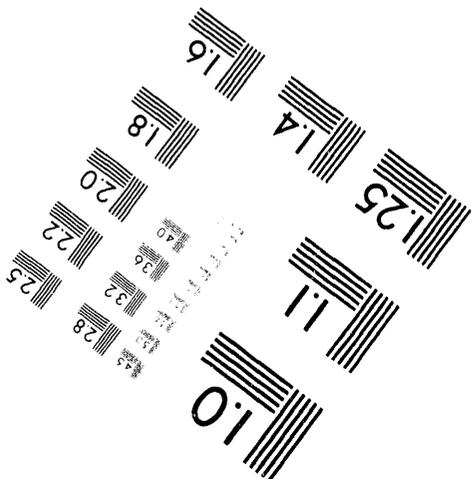
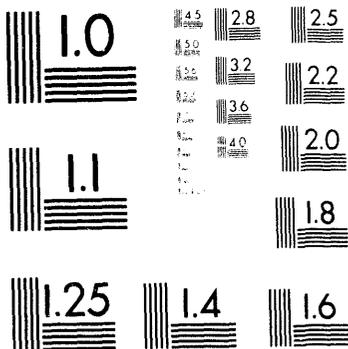
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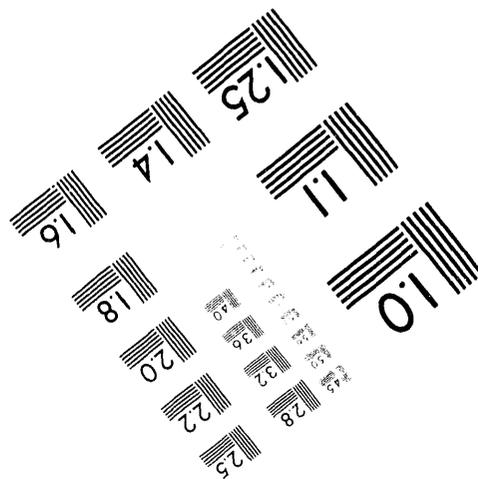
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