HW--24192

DE92 006933

DECLASSIFIED

RESEARCH AND DEVELOPMENT REPORT

TECHNOLOGY HANFORD

GLOSSARY OF HANFORD TERMINOLOGY

COMPILED BY
M. A. BOYD
TECHNICAL SECTION
ENGINEERING DEPARTMENT

APRIL 22, 1952

Due to film deterioration,
portions of this document
may be illegible.

PWL-1-92

NUCLEONICS DIVISION
RICHLAND, WASHINGTON

RECEIVED GENERAL ELECTRIC

JUN 19 1956

300 AREA
DECLASSIFIED FILES

DECLASSIFIED

DISTRIBUTION REVENUE

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DECLASSIFIED

HW-24192

Technology - Hanford Processes

This document consists

of 15 pages. Copy N

COPY 1 OF 1, SERIES MA

GLOSSARY OF HANFORD TERMINOLOGY

Classification Cancelled (Change to

Declassified

By Authority of *Per Dec 1973*

DJ Gussner 11/3/92

By *PM Eick 1-13-92*

Compiled by

M. A. Boyd

Technical Information
Technical Services Unit

April 22, 1952

HANFORD WORKS
RICHLAND, WASHINGTON

Operated for the Atomic Energy Commission by the
General Electric Company under Contract # W-31-109-Eng-52

Route To	Read By	Date	Route To	Read By	Date
<i>Yellow Copy</i>					

SPECIAL RE-REVIEW

FINAL DETERMINATION

DECLASSIFICATION CONFIRMED

BY *JF Perrow* DATE *5/15/81*

BY *RE Barker* DATE *5/20/81*

COPY NUMBER

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43

INTERNAL DISTRIBUTION

W. E. Johnson
H. M. Parker
C. C. Gamertsfelder
H. J. Paas
Z. E. Carey
D. E. Jenne
J. W. Healy
L. C. Schwendiman
F. E. Adley
M. L. Barad
R. E. Brown
P. L. Eisenacher
W. C. Roesch
H. A. Kornberg - E. Pittman
A. C. Case
R. F. Foster
J. J. Davis
R. C. Thompson
J. Katz
A. B. Greninger
O. H. Greager - W. K. Woods
G. E. McCullough
P. H. Reinker
W. K. Alexander
W. L. Schalliol
J. J. Cadwell
J. F. Music
H. F. Zuhr
J. M. Atwood
M. Lewis
R. B. Richards
V. R. Cooper
O. F. Hill
F. W. Woodfield
J. T. Stringer
F. W. Albaugh
F. J. Leitz, Jr.
W. J. Ozeroff
R. Ward
A. H. Bushey
H. R. Schmidt
W. W. Marshall
J. W. Hall

DECLASSIFIED

DECLASSIFIED

-3-

HW-24182

Technology - Hanford Processes

COPY NUMBER

INTERNAL DISTRIBUTION

44	J. W. Underwood
45	R. H. Beaton
46	O. H. Pilkey
47	H. F. Peterson
48	E. S. Day, Jr.
49	C. N. Gross
50	J. E. Maider
51	T. W. Hauff
52	R. S. Bell
53	E. P. Lee
54	W. M. Mathis
55	W. J. Dowis
56	V. D. Nixon
57	J. R. Wolcott
58	V. W. Wood
59	J. S. McMahon
60	J. W. Brands
61	J. M. Heffner
62	J. G. Carriere
63	J. R. Kelly
64	G. C. Gabler
65	300 File
66	700 File
67	Pink Copy
68	Yellow Copy

EXTERNAL DISTRIBUTION

69 - 71	Atomic Energy Commission, Washington
72	Chicago Patent Group
73 - 77	duPont Company
78 - 81	Hanford Operations Office
82 - 85	Knolls Atomic Power Laboratory
86	Patent Branch, Washington
87	Savannah River Operations Office (Augusta)
88	Savannah River Operations Office (Wilmington)
89 - 103	Technical Information Service, Oak Ridge

GLOSSARY OF HANFORD TERMINOLOGY

INTRODUCTION

This document is a compilation of obsolete security codes, convenience codes and local jargon in use, or previously used, at Hanford Works. It is compiled to aid readers in understanding the Hanford report literature, particularly that originated in the early years of the Project.

The terms listed are to be considered as "convenience" codes, as terms to conveniently name a process, a program, or a material. When used in a report, they should be parenthetically defined at their first appearance. This procedure should be followed for each report. It must not be assumed that defining a code in the first of a series of reports eliminates the necessity for repeating the definitions in later reports of the same series. "Convenience" codes should not be used in formal reports.

Although these codes have no officially recognized security value, they may have some marginal application in this connection. When so used, the principles set forth for the use of official security codes should be used. This precaution is necessary in view of the fact that many of these codes began as security codes, became obsolete, and have continued to be useful as "convenience" terms. Furthermore, they are still present in reports which can not be declassified at this time, and their thoughtless use in the unclassified literature might be questioned.

The official security codes and the rules for using these are set forth in a companion document entitled "Hanford Works Official Security Codes" HW-24193.

M. A. Boyd

M. A. Boyd

DECLASSIFIED

DECLASSIFIED

-5-

HW-24192

GLOSSARY OF HANFORD TERMINOLOGY

A	Uranium source designation. Virgin metal from Iowa State College.
AISI	Slug reject designation. Spot of bonding medium appears on outside of canned piece.
AP	Slug reject designation. Air pocket.
A Slug	Standard uranium slug of 1.359 nominal diameter.
Ball 3-X	Third safety device consisting of neutron absorbing balls which would be released into the pile for additional control in case of catastrophe.
Bayonet	A sampling device approximately two feet in length and fitted with a disposal pipet for taking process samples from second cycle and subsequent operations in the separation process.
Beta Experiment	To test the stability of fuel elements in liquid metal upon pile exposure to neutrons, in particular, with respect to U-235 alloys in liquid sodium.
Big Sucker	Air filter type instrument used for counting alpha radiation by collecting dust in areas where there is some possibility of product being associated with the dust in the air or as an aerosol of the product compound itself.
BFC-6	Waste metal recovery designation. Uranium oxide recovered from bronze flux.
B Process	Process normally used to can B slugs, also special request material (unbonded).
B Slug	Unbonded, canned bismuth slug.
BT	(1) Uranium source designation. Solid scrap from Metal Hydride. (2) Waste metal recovery designations. Extrusion butts and very dirty rod ends.
BW	Slug reject designation. Bad weld.

DECLASSIFIED

-6-

HW-24192

C	Uranium source designation. Experimental metal from the University of California.
C Slug	Enriched uranium-aluminum alloy slug (approximately 4 per cent uranium by weight, of which 93.2 per cent is U-235).
C - 6	Waste metal recovery designation. Sodium diuranate salt from waste and neutralization cycle.
Calcined catalyst	ThO ₂ (Ref: W. L. Sapper to M. H. Smith, "Re: Reports on Myrnalloy Accountability", DuH-7782, 2-12-46).
Chang and Eng	Instrument which measures the intensity of fast neutrons.
Chemical 12 - 7	Calcium metal.
Chemical 14 - 92	Polonium.
Chemical 18 - 12	Thorium oxide.
Chemical 19 - 18	Magnesium oxide.
Chemical 19 - 29	Nickel carbonyl.
Chemical 37 - 77	Bismuth.
Chemical 40 - 8	Gallium.
Chemical 54 - 40	Lithium fluoride.
Combarate	Th(C ₂ O ₄) ₂ ·6H ₂ O (Ref: W. L. Sapper to M. H. Smith, "Re: Reports on Myrnalloy Accountability", DuH-7782, 2-12-46).
Combarcarbase	ThO·CO ₂ H ₂ O (See DuH-7782, 2-12-46).
Combarcle	ThCl ₄ ·8H ₂ O (See DuH-7782, 2-12-46).
Combarfly	ThO ₂ ·4H ₂ O (See DuH-7782, 2-12-46).
Combarnite	Th(NO ₃) ₄ ·4H ₂ O (See DuH-7782, 2-12-46).
Combarox	ThO ₂ (See DuH-7782, 2-12-46).

CRD-2 Waste metal recovery designation. Impure uranium oxide from chip recovery operation.

CRD-6 Waste metal recovery designation. Pure uranium oxide from chip recovery operation.

Cutle-ple Measuring instrument for beta and gamma radiation.

D Uranium source designation. Virgin metal from duPont.

D-2 Waste metal recovery designation. Uranium and uranium oxide fines grossly contaminated with foreign material.

D-6 Waste metal recovery designation. Pure uranium oxide from machining and extrusion press and quench tank.

DC Slug reject designation. Defective aluminum can.

Door stop A sample container designed to contain a 1 ml. sampling pipet and provide a minimum of 2 - 1/2 inch stainless steel shielding completely around the sample.

E Uranium source designation. Virgin metal from Electro-Met.

Eggs Cylinders of uranium cast on the end of a billet to be removed and used in testing the quality of the metal.

F Uranium source designation. Virgin metal from Mallinckrodt Chemical Works.

Fln (Flash) Thin sheet of metal that escapes between two tightly fitting members of an extrusion press during the act of extrusion.

Fish pole Measuring instrument for beta and gamma radiation.

Fish tail Slug reject designation. Describes discontinuities at the end of rolled rods as a result of treatment given in rolling.

FT Slug reject designation. Frost test (suffix 1, 2, 3, 4 denotes location of defect).

G (1) Uranium source designation. Eggs from Metal Hydride.
(2) Waste metal recovery designation. Sample eggs.

DECLASSIFIED

DECLASSIFIED

-8-

HW-24192

Goldberg
A shielded primary sampler used for taking aliquots of samples from the extraction and first cycle of the separation process.

Group I Metal
Eight-inch, gamma extruded, triple-dipped canned slugs.

Group II Metal
Four-inch, gamma extruded, triple-dipped canned slugs.

Group III Metal
Four-inch, alpha rolled, lead-dipped canned slugs.

Group IV Metal
Four-inch, alpha rolled, triple-dipped partially transformed slugs.

Group V Metal
Four-inch, completely transformed, alpha rolled, triple-dipped canned slugs produced subsequent to August 28, 1948.

Group VI Metal
Four-inch, completely transformed, alpha rolled, triple-dipped canned slugs produced subsequent to June 27, 1949.

Group VII Metal
Four-inch, completely transformed, alpha rolled, triple-dipped canned slugs produced subsequent to November 30, 1949.

Group VIII Metal
Four-inch, completely transformed alpha rolled, triple-dipped canned slugs produced subsequent to April 26, 1951.

Group IX Metal
Eight-inch, completely transformed, alpha rolled, triple-dipped canned slugs produced subsequent to January 16, 1952.

H
Slug reject designation. Perforation in jacket.

H-2
Slug for Beta Experiment. Titanium pin.

H-3
Slug for Beta Experiment. Zirconium pin.

H-10
P-10 program in which some of the plutonium production in the H Pile would be given up in order to load P-10 target slugs, supplemented by J slugs, into this pile in sufficient quantity to achieve the desired temporary production requirement.

Handee
Alpha hand counter.

Heavy Metal
Designation for uranium at Argonne National Laboratory.

[REDACTED]

H. M., or Health Monitoring Chamber Measuring instrument used with Beckman Micro-Micro ammeters or Micromax Recorders to give a continuous record of gamma radiation level at points throughout the Process Buildings. It may be used to measure beta particles when desirable.

Ink Facility A facility for circulating a neutron absorbing solution through ten carefully selected pile process tubes for pile control. The concentration of the solution is varied as more or less control is needed.

I Slug Standard uranium slug of 1.355 nominal diameter.

J-1 Slug for Beta Experiment. Uranium oxide in stainless steel pins.

J-4 Slug for Beta Experiment. Spun titanium pin.

J Process Canning procedure for J slugs.

J Slug Enriched uranium-aluminum alloy slug (7.5 per cent uranium by weight, of which 93.2 per cent is U-235) used originally as fuel slug in tritium production.

K Uranium source designation. Virgin metal from Mallinckrodt Chemical Works.

KC Uranium source designation. Scrapped metal from Mallinckrodt Chemical Works.

Kitten A recycle batch run which, under normal conditions, would be waste solution of an ordinary batch run in either "B" or "T" plant, but which contains a prohibitive per cent of product due to mechanical or operating failure during the original batch run.

L Uranium source designation. Virgin metal from Iowa State College.

Last ditch (50 rod idea) Arrangement whereby the ordinary water-cooled metal-filled tubes could be used as last resort safety rods. In case of emergency a valve is actuated which in one operation turns on a cadmium solution under pressure and turns off the cooling flow. (Ref: C. M. Cooper to S. K. Allison, "Last Ditch - 50 Rod Idea - Water-Cooled Metal-Filled Tubes", 10-8-43).

[REDACTED]

DECLASSIFIED

DECLASSIFIED

-10-

HW-24192

Little Sucker Air filter type instrument used for counting alpha radiation by collecting dust in areas where there is some possibility of product being associated with the dust in the air or as an aerosol of the product compound itself.

M-22 (Ionization Chamber, Type 22) Measuring instrument used for checking gamma radiation in stack gases on a shift basis.

Maple F Pile.

MC-6 Waste metal recovery designation. Melt plant furnace insulation and lining materials contaminated with uranium oxides.

MD-2 Waste metal recovery designation. Impure uranium oxide from melt plant operation.

MD-4 Waste metal recovery designation. Used graphite grossly contaminated with uranium oxide from melt plant and canning operations.

MD-6 Waste metal recovery designation. Pure uranium oxide from melt plant operation.

MJ-1 Redox Process.

MJ-2 234-5 Facility.

MJ-3 "Radio-lanthanum" Process.

MJ-4 Tributyl Phosphate Process.

MJ-5 Metal sweetening and conversion of UNH to UO_3 .

MS Slug reject designation. Marred surface.

M Slug Standard uranium slug of 1.350 nominal diameter.

Myrnalloy Thorium.

MZ Slug Standard uranium slug of 1.353 nominal diameter.

N Uranium source designation. Virgin metal from Electro Met.

NB Uranium source designation. Cast rods from National Bureau of Standards.

NC
NR
NS
NT catalyst
OC
Olive
Oralloy
P
P-13
PB
Paint pail
Papoose
Peanut
Penbarate
Penbarcarbaze
Penbarcle
Penbarfly
Penbarnite
Penbarox

Slug reject designation. Not canned.
Uranium source designation. Virgin metal from Electro Met.
Slug reject designation. Incompletely seated slugs.
Th(NO₃)₄·4H₂O (Ref: W. L. Sapper to M. H. Smith, "Re: Reports on Myrnalloy Accountability", DuH-7782, 2-12-46).
Slug reject designation. Deviation from standard process.
B Pile.
Uranium isotopic alloy (U-235, U-236, U-238).
Slug reject designation. Penetration (bonding alloy partially or completely dissolves can).
Navy Fuel Test Channel. (In-pile experiment, H-Pile, ANL-140).
Slug reject designation. Poor cap bond.
Measuring instrument for beta and gamma radiation.
Capsule carbon specimen holders used in testing radiation effects on graphite.
Sample container (0.3 ml. capacity) for Building 231 analytical samples.
Th(C₂O₄)₂·6H₂O. (Ref: W. L. Sapper to M. H. Smith, "Re: Reports on Myrnalloy Accountability", DuH-7782, 2-12-46).
ThO·CO₂·H₂O (See DuH-7782, 2-12-46).
ThCl₄·8H₂O (See DuH-7782, 2-12-46).
ThO₂·4H₂O (See DuH-7782, 2-12-46).
Th(NO₃)₄·4H₂O (See DuH-7782, 2-12-46).
ThO₂ (See DuH-7782, 2-12-46).

DECLASSIFIED

DECLASSIFIED

-12-

HW-24192

Pete
Radiation detection instrument used in determining the counting rate of P-10 contaminated samples. Primarily a qualitative rather than quantitative instrument, it is semi-quantitative only in that it gives a higher counting rate for more highly contaminated samples.

Pine
D Pile.

Pipe
Slug reject designation. Term used to describe a shrinkage cavity in a casting.

Pluto
See Sandy. ©

Plutonium cows
Plutonium nitrate solutions used in solvent extraction concentration of Am-241 which had grown from Pu-241.

Polymer
Heavy water.

©Poppy
Scanning instrument for alpha radiation.

Postum ©
Bismuth slug, also polonium slug.

P-R Can
Product receiver (50 liter capacity) used to carry the process solution from Building 224 to Building 231.

Precious Metal
Designation for uranium at Argonne National Laboratory.

Precipitron
Measuring instrument for alpha, beta, and gamma radiation. It is used to precipitate and deposit fine particles of dust, present in the air, on a suitable receiver.

Product 79
ThO₂ (Ref: W. L. Sapper to M. H. Smith, "Re: Reports on Myralloy Accountability", DuH-7782, 2-12-46).

R-1
Slug for Beta Experiment. Uranium dioxide in stainless steel pin.

R-2
Slug for Beta Experiment. U-238 foil.

R-3
Slug for Beta Experiment. Natural uranium wire and 347 stainless steel holder.

R-4
Slug for Beta Experiment. Depleted natural uranium foil.

R-5 Slug for Beta Experiment, U-235 and titanium pin in stainless steel jacket.

R-10 Program in which the DR Pile would be devoted entirely to P-10 production.

R-50 See MJ-3.

Rala See MJ-3.

R-C Can Recycle can (50 liter capacity) used in the 231 Building for accumulating plutonium solutions.

RMW Special hexone sample prepared at Hanford for analysis by Bureau of Mines. Contains 7.54 per cent methylisopropyl diketone, 9.45 per cent dinitroisobutane, 83.01 per cent hexone. (Ref: H. W. Alter, "Inflammability and Ignition Temperature of RMW", GEH-15, 237, 9-24-49).

RU Uranium source designation. Virgin metal from Electro Met.

S-22 (Ionization Chamber, Type 22) Measuring instrument used for checking gamma radiation in ponds and drainage canals on a bi-weekly basis.

Sandy (formerly Pluto) Portable ionization chamber used specifically to measure alpha surface contamination.

SS Slug reject designation. Stuck in sleeve.

SX Slug Uranium slug of dimensions to fit Clinton Pile (ORNL).

T Cp Slug reject designation. Thin cap.

Tea Kettle Reaction vessel used in the analytical laboratories for the chemical assay for plutonium.

T Metal Uranium.

Trombone A sampling device approximately two feet in length and having a sliding action for drawing a sample into a 1 ml. pipet threaded on the end, used for extraction and first cycle solutions in the separation process.

Tuballoy Uranium.

DECLASSIFIED

DECLASSIFIED

-14-

HW-24192

TX Waste metal recovery designation. Uranium turnings for machining.

TXB Waste metal recovery designation. Uranium briquettes made from TX metal.

TXBE Waste metal recovery designation. Pickled briquettes made from TX metal.

UM Waste metal recovery designation. Uranium rod ends from machining.

Vac - Sniff Qualitative measuring instrument used to detect active gases.

Vacuum can Measuring instrument for beta and gamma radiation.

VSR Vertical safety rod.

W Uranium source designation. Virgin metal from Westinghouse.

WC Slug reject designation. Wrinkled can.

Walkie-talkie Scanning instrument for beta and gamma radiations.

Water probe counter Portable Geiger-Mueller counter used to measure the activity of water in the retention ponds.

Whiz-bang Piece of equipment used until February, 1945 in canning slugs.

W Slug Uranium slug manufactured at Hanford Works.

X-22 (Ionization Chamber, Type 22) Measuring instrument used for checking gamma radiation in suspected locations for periods of thirty minutes to four hours.

XC Uranium source designation. Cast rods from Iowa State College.

XCR Uranium source designation. Special test material from Iowa State College made by melting and letting metal solidify in the same vessel.

XD Uranium source designation. Rolled metal from duPont.

DECLASSIFIED

-15-

HW-24192

XX	Uranium source designation. Rolled metal from Mallinckrodt Chemical Works.
X Metal	Uranium.
XRU	Uranium source designation. Rolled metal from Electro Met.
X Slug	Recovered uranium slug with lower weight than Z-Slug.
Zeus	Portable ionization chamber for measuring separately the intensity of alpha, beta, and gamma rays.
Zeuto	Measuring instrument for alpha radiation.
Z Metal	Lithium, also thorium in early reports.
Z Slug	Designation for a recovered uranium slug having a lower weight than a standard slug, also a four-inch slug of aluminum-lithium alloy (P-10 Process).
&	Indicates slug has gone through autoclave test.
1-1-1 pcs.	Indicates slugs have passed 300 Area Tests satisfactorily.

END

DATE
FILMED
312192

I