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Subject Summary of Liquid Wastes, Location and Areas of Investigation

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David R Hamrin 4/24/95
Technical Information Officer Date
ORNL Site

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WH - 2/3/49

SUMMARY ON LIQUID WASTES, LOCATION AND AREAS OF INVESTIGATION

Types of Waste [redacted]	Location of Wastes	Investigative Techniques Underway by Areas (Refer to worksheet for interpretation of code)
. General Laboratory Wastes		
A. Isotope separation	L.A., O.R.	(G-3,6,9) (J-1,3,6,8,9)
B. Tracer investigations and application	All areas	———
C. Routine chemical analysis and research	All areas	———
D. Analysis of solutions to check production control and operation	H.O., L.A., O.R.	(E-7,8,9) (G-3,7,8) (J-1,3,6,9)
E. Organic solvents used in extraction processes	H.O., L.A., O.R., ANL	(J-1,9) (E-9)
. Chemical Process Wastes		
A. Bi PO_4 Process		
1. Stored wastes		
a) Aluminum jacket removal	H.O., O.R.	
b) Extraction effluent containing high content and 90% F.P.	H.O., O.R.	
c) First cycle decontamination containing 85% F.P.	H.O., O.R.	
d) Effluent from product precipitation during first decontamination cycle	H.O.	
e) By product cake and effluent from product precipitation during second decontamination cycle	H.O.	
2. Cribbed Wastes 1/		(E-7,8)
a) Acidic drainage from cells	H.O.	
b) Solute from dissolver off-gas scrubbers	H.O.	
c) By product cake & effluent from product precipitation during second decontamination cycle	H.O.	
d) Bi PO_4 by product cake waste	H.O.	
e) Lanthanum fluoride carrier & effluent from product precipitation	H.O.	
f) Potassium fluoride effluent	H.O.	
g) Cell Washings and cell floor drainage	H.O.	
B. Redox Process 2/		(F-1,3,6) (J-1,3,8,9)
1. Stored Wastes		
a) Aluminum jacket solution	H.O., O.R. ANL 3/	
b) Effluent, initial decontamination step	H.O., O.R.	
c) Second cycle decontamination of product	H.O.	
d) Third cycle decontamination of product	H.O.	
e) Second cycle decontamination of uranium	H.O., O.R.	
f) Third cycle of Uranium	H.O., O.R.	
2. Cribbed wastes		
a) Aluminum jacket solution	H.O., O.R.	
b) Effluent-initial decontamination step	H.O., O.R.	
c) Second cycle decontamination of Uranium	H.O., O.R.	
d) Third cycle decontamination of Uranium	H.O., O.R.	
e) Distillate from IU, IIU, IIIU concentrators	H.O., O.R.	
f) Aqueous caustic from solvent treatment	H.O., O.R.	
g) Flush		
(i) Organic tank	H.O., O.R.	
(ii) Process equipment	H.O., O.R.	
(iii) Acid-caustic	H.O., O.R.	
(iv) Cell-equipment	H.O., O.R.	
. Metal Recovery Wastes 4/		

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2. Uranium wastes

a)	Aluminum jacket solution	H.O., O.R.
b)	Effluent-initial decontamination step	H.O., O.R.
c)	Second cycle decontamination of Uranium	H.O., O.R.
d)	Third cycle decontamination of Uranium	H.O., O.R.
e)	Distillate from IU, IIU, IIIU concentrators	H.O., O.R.
f)	Aqueous caustic from solvent treatment	H.O., O.R.
g)	Flush	
	(i) Organic tank	H.O., O.R.
	(ii) Process equipment	H.O., O.R.
	(iii) Acid-caustic	H.O., O.R.
	(iv) Cell-equipment	H.O., O.R.

I. Metal Recovery Wastes 4/

A. Solvent extraction	H.O., O.R.	(J-1,3,6,8,9,12,13)
B. Precipitation	O.R.	
C. Fluorination	O.R.	
D. Electrolytic	O.R.	

J. "25" Recovery Wastes

A. Stored Wastes (Tank Farm)

1. Aluminum jacket removal	O.R.
2. Dissolver flush	O.R.
3. Aqueous raffinate (first cycle extraction)	O.R.

B. Discharged to retention basin & subsequently to creek

1. Distillate from first cycle stripping	O.R.
2. Aqueous raffinate (second cycle extraction)	O.R.
3. Jacket cooling water	O.R.
4. Flush	
a) Organic tank	O.R.
b) Process equipment	O.R.
c) Cell equipment	O.R.

C. Discharged to storage for recycling

1. Organic raffinate from first cycle stripping	O.R.
Organic raffinate from second cycle stripping	O.R.

• Protective Equipment Laundry Wastes	All areas	(E-7,8)
• Metal Storage Basin Wastes	H.O., O.R.	(E7,8)
• Polonium Separation Wastes	L.A., M.L.	(G-3,4) (H-5,7)
• Product Separation Wastes	L.A.	(G-3,4)
• Ba - La Separation Wastes	L.A., O.R.	
• Reactor Wastes		
A. Jacket cooling water	H.O., O.R.	(E-7,8)
1. Retention pond		
2. Discharged to open ditch		

/ Large volume, low activity wastes
/ These wastes result from laboratory research or pilot plant operations
/ Present Redox wastes are being transported to Oak Ridge
/ Specific types of solutions resulting from research on these metal recovery programs are not known at present

L.A. - Los Alamos
H.O. - Hanford Operations
O.R. - Oak Ridge Operations
ANL - Argonne National Laboratory
M.L. - Mound Laboratory

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