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HW-33591

Copy 1. RS Bell
2. RE Brown
3. RE Burns
4. HV Clukey
5. AR Keene
6. WA McAdams
7. ML Mickelson
8. HM Parker
9. DW Pearce
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11. JM Smith
12. 700 File
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To: File

By: H. G. Ruppert
K. R. Heid

This document consists of 28 pages, n[redacted].

October 1, 1954

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By Authority of J. P. Derouin
Rec. 9-15-71
By Leone Pope 9-11-72
PM Eick 3-20-98

SUMMARY OF LIQUID RADIOACTIVE WASTES DISCHARGED TO THE GROUND - 200 AREAS JULY 1952 THROUGH JUNE 1954

INTRODUCTION

This report is intended to summarize the data for the 200 Areas liquid process wastes discharged to the ground for the period July 1952, through June 1954, inclusive.

DISCUSSION

All data were received from the Separations Section unless indicated otherwise.

ACKNOWLEDGMENTS

A portion of the summarized data was furnished by J. R. Raymond of Earth Sciences.

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18 - 361-WR Cribs.

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TABLE 1

MAJOR GROUND DISPOSAL SITES, 200-EAST AREA
UP TO JULY 1, 1954

Disposal Site	Source of Wastes	Settling	Est. Volume - liters	Est. Pu - grams	Est. F.P. - curies	Est. Uranium - kilograms
241-B-361 * Reverse Well	5-6 4/1/45 9/2/47 224 4/1/45 9/24/46	361-B Tank 361-B Tank	30.6×10^6	4275**	3800**	-------
5-6 Crib and* Tile field	5-6 8/12/48 7/4/51	none	36×10^6	174	7800	-------
241-B #1 and #2 cribs	224 10/2/46 10/48 10/48-3/53	201 tank 204-203-202 cascade	42.9×10^6	4280**	5400**	-------
241-B #3 Crib and tile field	2nd cycle 3/48 7/53 5-6 7/4/51 7/53	110-111-112 cascade	27.2×10^6	29	710	-------
242-B #1 and #2 cribs	waste evaporator condensate 12/51 - date	none	26.1×10^6	3.5	35	-------
216 ER #1, #2, and #3 cribs	TBP waste 9/52 - date	none	172.3×10^6	144	92	10,309
Trench BXR-3	First cycle evaporator bottoms(107-B, 108-B, and 109-B tanks		4.3×10^6	0.9	3195	4.0

*HW-28121, J.W. Healy "Release of Radioactive Wastes to Ground" 5/20/53.

**Indicates amount to settling tank.

TABLE 2

MAJOR GROUND DISPOSAL SITES, 200-WEST AREA
UP TO JULY 1, 1954

Disposal Site	Source of Wastes	Settling	Est. Volume - liters	Est. Pu - grams	Est. F.P. - curies	Est. Uranium - kilograms
231-W-150* Reverse Well	231 Process 2/1/45-6/1/45	sump tank	1.0×10^6	50	----	-------
231 #1 and 2* cribs	231 Process 6/1/45-2/11/47	sump tank	30.8×10^6	340	----	-------
231 trenches	231 process 2/11/47-date	sump	41×10^6	383	----	-------
234-5 #1, #2, #3 and #4 cribs	234-5 process 6/49-date	sump tank	59.7×10^6	374	----	-------
241-T-361 A* Reverse well	5-6 startup-8/15/46 224 startup-8/15/46	361 tank 361 tank	11.3×10^6	3350**	2800**	-------
241-T #1 & #2* cribs	224 11/4/46-5/52	201 tank or 204-203-202 cascade	29×10^6	3720**	1500**	
361-T #1 and* #2 cribs	224-8/15/46-10/11/46 5-6 8/15/46-10/24/47	361 tank and reverse well 361 tank to 10/17/46; none 10/24/47-6/51	45×10^6	117** 275	2800** 15000	-------
241-T #3 crib and tile field	2nd cycle 4/48-date 5-6,6/51-date 224,6/52-date	110-111-112-T cascade	60.4×10^6	108	2855	-------
153 TX crib	Waste evaporator condensate 9/51-date	none	28.3×10^6	2.8	3.5	-------

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TABLE 2 (cont.)

MAJOR GROUND DISPOSAL SITES, 200-WEST AREA
UP TO JULY 1, 1954

Disposal Site	Source of Wastes	Settling	Est. Volume - liters	Est. Pu - grams	Est. F.P. - curies	Est. uranium - kilograms
216-S cribs	Redox D-1 1/52-Date	none	1.0×10^6	112	18,490	-------
	Redox D-2 1/52-Date	none	78.8×10^6	111	147,240	-------
216-SL cribs	340 bldg. 7/53-date	none	1.04×10^6	1.0	10.9	-------
	222-S process	none	132×10^6	27	15	-------
216 WR #1, #2 and #3 cribs	TBP process 7/52-date	none	154.4×10^6	185	77	14,544
361-WR cribs	TBP-UO_3 process 11/51 - date	none	8.2×10^6	33	620	2,849
Trenches T-1,2, 3,4 TX-1,2,3,4	First cycle supernate Trenching (104-T,105-T 106-T,109-TX, 110-TX,111-TX Tanks)	----	8.89×10^6	9.2	22,590	517.4
Trench TX-5	First cycle evaporator bottoms (101-TY and 102-TY tanks)	----	2.98×10^6	0.8	14,240	1.2

*HW-28121, J. W. Healy "Release of Radioactive Wastes to Ground" 5/20/53.

**Indicates amount to settling tank.

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TABLE 3

Source: TBP Waste *

Location: 216 ER - #1, #2, and #3 Cribs

Period	Volume (liter) ($N \times 10^5$)		Uranium (kilograms)		Plutonium (grams)		Beta particle Emitters (curies)	
	Per month	To date	Per month	To date	Per month	To date	Per month	To date
Sep., 52	8.60	8.60	193	193	---		---	
Oct.	----	8.60	---	193	---		---	
Nov.	46.39	54.99	657	850	5.91	5.91	10.26	10.26
Dec.	83.25	138.24	593	1443	6.48	12.39	2.13	12.39
Jan., 53	50.20	188.44	1310	2753	16.91	29.30	1.34	13.73
Feb.	64.26	252.70	540	3293	7.10	36.40	1.39	15.12
Mar.	56.70	309.40	818	4111	12.51	48.91	1.66	16.78
Apr.	60.48	369.88	1229	5340	16.77	65.68	2.36	19.14
May	41.58	411.46	829	6169	11.23	76.91	0.95	20.09
June	90.72	502.18	1647	7816	24.49	101.40	3.59	23.68
July	123.23	625.41	213	8029	4.52	105.92	3.42	27.10
Aug.	107.73	733.14	159	8188	3.50	109.42	4.49	31.59
Sept.	77.49	810.63	113	8301	1.75	111.17	2.19	33.78
Oct.	72.20	882.83	136	8437	2.19	113.36	1.85	35.63
Nov.	92.61	975.44	240	8677	3.65	117.01	2.19	37.82
Dec.	109.24	1084.68	246	8923	3.94	120.95	11.00	48.82
Jan.	105.84	1190.52	299	9222	5.39	126.34	8.25	57.07
Feb.	82.03	1272.55	356	9578	3.65	129.99	7.35	64.42
Mar.	131.54	1404.09	278	9856	3.94	133.93	12.01	76.43
Apr.	111.88	1515.97	42	9898	1.90	135.83	5.05	81.48
May	113.40	1629.37	292	10190	4.96	140.79	7.18	88.66
June	93.37	1722.74	119	10309	3.35	144.14	3.37	92.03

*The tabulated values are based on the following data submitted monthly by the Separations Section:

(a) volumes
(b) pounds of uranium
(c) total alpha (c/m)
(d) total beta (c/m)

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TABLE 4

224-B Wastes Discharged to 241-B, #1 and #2 Cribs
(204-B → 203-B → 202-B → Crib)

Date	Liters ($N \times 10^5$) Per Period	Liters ($N \times 10^5$) To Date	Plutonium-grams	Beta particle emitters-curies
July, 1952	0.92	421.90*	0.4**	350**
Aug.	1.09	422.99	0.5	425
Sept.	1.60	424.59	0.8	615
Oct.	0.93	425.52	0.5	365
Nov.	0.90	426.42	0.4	350
Dec.***	0.49	426.91	0.2	190
Jan., 1953	0.34	427.25	0.2	130
Feb.	0.53	427.78	0.3	205
Mar.	0.79	428.57	0.4	305

* 42.19×10^6 liters discharged to ground. In addition a total of 0.82×10^6 liters are stored in the 201-B, 202-B, 203-B, and 204-B settling tanks. The 201-B tank, first used on 10/2/46, is filled with sludge.

** All values for plutonium and also the beta particle emitters are based on the analyses of three 202-B tank samples during this nine month period.

*** Final run of standard 224-B wastes was during December, 1952. Data for January, February, and March includes the wastes resulting from cleanout of equipment.

TABLE 5-A

Source: "5-6" Wastes Discharged to the 110-B Tank
(The "5-6" wastes over flow to the 241-B #3 crib and tile field after passing through the 110-111-112-B tank cascade)

Period	Volume-Liters ($N \times 10^5$)		Plutonium-Grams		Beta Particle Emitters-curies		No. Samples
	Per Month	To Date	Per Month	To Date	Per Month	To Date	
July, 1952	2.64	*83.48	1.1	48.1	55	4720	29
Aug.	3.28	86.76	1.0	49.1	26	4746	33
Sept.	2.30	89.06	1.1	50.2	13	4759	25
Oct.	2.12	91.18	7.1	57.3	344	5103	24
Nov.	5.15	96.33	38.4	95.7	1295	6398	56
Dec.**	4.21	100.54	35.4	131.1	1825	8223	43
Jan. 1953	3.65	104.19	9.1	140.2	880	9103	49
Feb.	2.82	107.01	3.2	143.4	88	9191	45
Mar.	1.77	108.78	5.0	148.4	76	9267	34
Apr.	1.64	110.42	1.7	150.1	15	9282	15
May	1.49	111.91	6.4	156.5	39	9321	15
June	1.90	113.81	2.0	158.5	18	9339	18
July	1.65	115.46	5.5	164.	5	9344	14

* The "5-6" wastes were first routed to the 110-B tank during July, 1951.

** Second cycle, first cycle, stack drainage, and "5-6" wastes resulting from cleanouts are included from December 1952 to July 1953 when decontamination work was completed.

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TABLE 5-B

COMBINED "5-6" AND SECOND CYCLE WASTES
DISCHARGED TO THE 241-B #3 CRIB AND TILE FIELD
AFTER PASSING THROUGH THE 110-111-112-B TANK CASCADE

Date	Liters N x 10^5		Plutonium-grams		Beta Particle Emitters-curies	
	Per Period	To Date	Per Period	To Date	Per Period	To Date
July, 1952	3.51	*233.51	**0.3	24.3	7	637
Aug.	4.07	237.58	0.4	24.7	9	646
Sept.	3.37	240.95	0.3	25.0	7	653
Oct.	3.11	244.06	0.3	25.3	6	659
Nov.***	6.46	250.52	0.2	25.5	6	665
Dec.	5.18	255.70	0.4	25.9	13	678
Jan., 1953	4.17	259.87	0.9	26.8	7	685
Feb.	3.20	263.07	0.7	27.5	6	691
Mar.	1.99	265.06	0.4	27.9	4	695
Apr.	1.64	266.70	0.3	28.2	3	698
May	1.49	268.19	0.3	28.5	3	701
June	1.90	270.09	0.4	28.9	3	704
July	1.65	271.74	0.4	29.3	3	707

* The "5-6" wastes were first routed to the 110-B tank cascade during July 1951. The second cycle wastes were routed since startup to tank storage in 241-B with the supernate overflowing to the crib and tile field.

** The radioactivity discharged to ground during the following 13 months is based on the analyses of 6, 112-B tank samples.

*** Second cycle, first cycle, metal waste, stack drainage and "5-6" wastes resulting from cleanouts are included from November 1952 to July 1953 when the decontamination work was completed.

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TABLE 6

Source: 242-B Waste Evaporator Condensate
Location: 242-B, #1 and #2 Cribs

Period	Volume-Liters ($N \times 10^5$)		Plutonium (grams)		Beta Particle Emitters (curies)		No. Samples
	Per Month	To Date	Per Month	To Date	Per Month	To Date	
July, 1952	17.1	87.8	0.15	1.29	0.06	1.19	50
Aug.	17.3	105.1	0.13	1.42	0.05	1.24	48
Sept.	14.0	119.1	0.08	1.50	0.06	1.30	38
Oct.	5.6	124.7	0.03	1.53	0.01	1.31	15
Nov.	1.9	126.6	0.02	1.55	0.01	1.32	1
Dec.	16.6	143.2	0.36	1.91	1.29	2.61	5
Jan., 1953	17.4	160.6	0.39	2.30	0.07	2.68	5
Feb.	6.6	167.2	0.03	2.33	0.07	2.75	3
Mar.	3.2	170.4	0.11	2.44	0.02	2.77	48
Apr.	4.5	174.9	0.05	2.49	1.56	4.33	53
May	6.1	181.0	0.13	2.62	6.82	11.15	5
June	8.1	189.1	0.03	2.65	4.35	15.50	4
July	2.8	191.9	0.10	2.75	0.03	15.53	1
Aug.	---	191.9	----	2.75	----	15.53	--
Sept.	5.7	197.6	.13	2.88	1.59	17.12	24
Oct.	9.7	207.3	.15	3.03	7.77	24.89	50
Nov.	7.0	214.3	.03	3.06	1.11	26.00	42
Dec.	9.0	223.3	.05	3.11	2.58	28.56	6
Jan., 1954	2.3	225.6	.02	3.13	.80	29.36	3
Feb.	8.2	233.8	.07	3.20	.38	29.74	4
Mar.	7.9	241.7	.08	3.28	3.77	33.51	4
Apr.	4.4	246.1	.03	3.31	.20	33.71	2
May	7.9	254.0	.10	3.41	.01	33.72	4
June	7.3	261.3	.05	3.46	1.14	34.86	4

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TABLE 7-A

FIRST CYCLE SUPERNATANT TRENCHING*

Tank	Filled	Emptied	Trench	Gallons	Total µc/cc	Pu µc/cc	U µc/cc	Cs µc/cc	Sr µc/cc	Other Analyses	pH	Remarks
200-E												
110-BX	1-26-50	2-18-54	BX-1 (south)	254,380	.52	2.8×10^{-5}	9.2×10^{-7}	.58	1.9×10^{-3}	110-BX Sb-.027 µc/cc	7.6	
111-BX	5-31-50	4-27-54	BX-2	467,500	.58	1.1×10^{-5}	4.8×10^{-7}	.57	3.5×10^{-3}	Ru-not detect. Ce-not detect.	9.9	
112-BX	12-6-51	12-1-53	BX-5	206,250	1.16	1.1×10^{-4}	1.9×10^{-6}	.55	1.5×10^{-2}		8.7	~100,000 gal. left to be pumped
106-BY	8-29-51									112-BX Sb-.027 µc/cc		
110-BY	7-52	7-17-54	BX-4	397,375	2.0			4.2×10^{-3}	1.23	Ru-.27 µc/cc	7.2	
		8-54	BX-6	298,375	0.92			2.1×10^{-3}	0.25	Ce-.12 µc/cc	7.4	

* Letter, H. V. Clukey to J. M. Smith, "First Cycle Supernatant Trenching," May 4, 1954

TABLE 7-B

TRENCH DISPOSAL OF FIRST CYCLE EVAPORATOR BOTTOMS

Tank	Emptied	Trench	Gallons	Total µc/cc	Pu µc/cc	U µc/cc	Cs µc/cc	Sr µc/cc	pH
107-B	8-31-54	BXR-3	320,375	0.82	2.38×10^{-6}	9.8×10^{-7}	0.82	7.4×10^{-3}	8.0
108-B	9-54	BXR-3	449,625	0.59	1.19×10^{-5}	2.7×10^{-7}	0.56	1.0×10^{-3}	8.1
109-B	8-8-54	BXR-3	364,375	0.87	2.38×10^{-5}	6.2×10^{-7}	0.82	3.7×10^{-3}	7.9

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TABLE 8-A

200-W

FIRST CYCLE SUPERNATANT TRENCHING*

Tank	Filled	Emptied	Trench	Gallons	Total /uc/cc	Pu /uc/cc	U /uc/cc	Cs /uc/cc	Sr /uc/cc	pH
104-T	~8-51	1-15-54	T-1 (east)	121,687	1.19	4.8×10^{-5}	2.1×10^{-5}	.50	2.2×10^{-3}	9.6
105-T	10-26-51	1-22-54	T-1	144,375	.80	4.7×10^{-5}	1.8×10^{-5}	.42	8.7×10^{-3}	10.0
"	"	1-29-54	T-2	242,000	.75	5.0×10^{-5}	1.7×10^{-5}	.44	2.2×10^{-2}	9.8
106-T	12-22-51	2-4-54	T-2	33,687	.85	3.6×10^{-5}	1.5×10^{-5}	.48	7.9×10^{-3}	9.8
"	"	2-10-54	T-3	270,187	.86	3.5×10^{-5}	1.4×10^{-5}	.50	8.5×10^{-3}	9.8
"	"	2-13-54	T-4	92,125	.80	3.6×10^{-5}	1.8×10^{-5}	.45	1.2×10^{-3}	9.6
"	"	6-10-54	T-4	115,500	---	--------	--------	---	--------	----
109-TX	7-25-52	6-24-54	TX-1	122,375	17.1	1.66×10^{-4}	7.5×10^{-7}	0.84	1.7×10^{-2}	9.65
110-TX	6-14-53	7-23-54	TX-2	408,375	2.46	7.6×10^{-5}	9.4×10^{-7}	1.2	3.2×10^{-2}	10.0
"	"	7-30-54	TX-3	198,000	1.25	1.7×10^{-5}	7.5×10^{-7}	0.79	2.2×10^{-2}	9.8
111-TX	2-23-54	8-6-54	TX-3	195,250	3.3	5.5×10^{-5}	2.2×10^{-7}	1.0	3.2×10^{-2}	10.1
"	"	8-13-54	TX-4	408,375	2.72	9.9×10^{-5}	3.6×10^{-6}	0.92	2.5×10^{-2}	10.1

*Letter, H. V. Clukey to J. M. Smith, "First Cycle Supernatant Trenching," May 4, 1954.

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TABLE 8-B

TRENCH DISPOSAL OF FIRST CYCLE EVAPORATOR BOTTOMS

Tank	Emptied	Trench	Gallons	Total /uc/cc	Pu /uc/cc	U /uc/cc	Cs /uc/cc	Sr /uc/cc	pH
101-TY	9-19-54	TX-5	655,187	4.44	1.45×10^{-5}	2.3×10^{-7}	2.9	1.6×10^{-3}	8.6
102-TY	9-22-54	TX-5	134,062	6.39	2.4×10^{-6}	3.4×10^{-7}	3.36	2.7×10^{-4}	8.5

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TABLE 9

Source: 242-T WASTE EVAPORATOR CONDENSATE

Location: 153-TX CRIB

Period	Volume (Liters) ($N \times 10^5$)		Plutonium (grams)*		Beta Particle Emitters (curies)*	
	Per Month	To Date	Per Month	To Date	Per Month	To Date
July, '52	14.8	181.0	0.06	0.76	0.02	0.54
Aug.	3.0	184.0	0.02	0.78	0.01	0.55
Sept.	1.1	185.1	0.02	0.80	0.00	0.55
Oct.	----	185.1	----	0.80	----	0.55
Nov.	----	185.1	----	0.80	----	0.55
Dec.	----	185.1	----	0.80	----	0.55
Jan., '53	----	185.1	----	0.80	----	0.55
Feb.	2.2	187.3	0.02	0.82	0.01	0.56
Mar.	7.5	194.8	0.07	0.89	0.03	0.59
Apr.	6.8	201.6	0.84	1.73	0.02	0.61
May	4.2	205.8	0.52	2.25	0.01	0.62
June	6.1	211.9	0.03	2.28	1.81	2.43
July	5.1	217.0	0.03	2.31	0.08	2.51
Aug.	10.5	227.5	0.07	2.38	0.17	2.68
Sept.	9.4	236.9	0.07	2.45	0.15	2.83
Oct.	6.1	243.0	0.05	2.50	0.10	2.93
Nov.	5.3	248.3	0.05	2.55	0.01	2.94
Dec.	6.1	254.4	0.05	2.60	0.04	2.98
Jan., '54	5.4	259.8	0.05	2.65	0.09	3.07
Feb.	1.8	261.6	0.02	2.67	0.03	3.10
Mar.	5.7	267.3	0.05	2.72	0.09	3.19
Apr.	4.1	271.4	0.03	2.75	0.02	3.21
May	5.9	277.3	0.05	2.80	0.07	3.28
June	6.0	283.3	0.02	2.82	0.18	3.46

* The tabulated values are based on the laboratory analyses of from three to nineteen samples per month.

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TABLE 10-A

Source: REDOX, D-1 WASTE (CELL DRAINAGE)

Location: 216-S CRIBS

Period	Volume (Liters) ($N \times 10^5$)		Plutonium** (grams)		Beta Particle Emitters (curies)		No. Samples
	Per Month	To Date	Per Month	To Date	Per Month	To Date	
July, 1952	----	*.85	----	0.4	----	14	--
Aug.	----	.85	----	0.4	----	14	--
Sept.	----	.85	----	0.4	----	14	--
Oct.	----	.85	----	0.4	----	14	--
Nov.	.02	.87	4.1	4.5	266	280	1
Dec.	----	.87	----	4.5	----	280	--
Jan., 1953	----	.87	----	4.5	----	280	--
Feb.	----	.87	----	4.5	----	280	--
March	----	.87	----	4.5	----	280	--
Apr.	.02	.89	0.8	5.3	130	410	1
May	.03	.92	2.1	7.4	3680	4,090	1
June	.20	1.12	8.6	16.0	835	4,925	3
July	.14	1.26	4.4	20.4	6760	11,685	2
Aug.	.69	1.95	5.5	25.9	1075	12,760	11
Sept.	.94	2.89	7.5	33.4	1075	13,835	21
Oct.	1.01	3.90	6.5	39.9	585	14,420	17
Nov.	1.15	5.05	4.0	43.9	205	14,625	16
Dec.	1.56	6.61	3.2	47.1	635	15,260	22
Jan., 1954	1.72	8.33	30.0	77.1	430	15,690	24
Feb.	.62	8.95	24.7	101.8	1235	16,925	11
Mar.	.14	9.09	5.2	107.0	185	17,110	4
Apr.	.32	9.41	3.7	110.7	1205	18,315	6
May	.24	9.65	0.3	111.0	110	18,425	5
June	.28	9.93	0.9	111.9	65	18,490	8

* D-1 waste was first sent to the 216-S Cribs during January 1952.

** Values for plutonium cribbed were obtained from the SF Accountability Section.

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TABLE 10-B

Source: REDOX, D-2 WASTE (REDISTILLED CONDENSATE)

Location: 216-S CRIBS

Period	Volume (Liters) ($N \times 10^5$)		Plutonium** (grams)		Beta particle Emitters (curies)		No. Samples
	Per Month	To Date	Per Month	To Date	Per Month	To Date	
July, '52	14.1	* 70.2	0.1	2.4	0.3	15.6	72
Aug.	11.3	81.5	0.2	2.6	1.0	16.6	74
Sept.	12.9	94.4	0.1	2.7	0.8	17.4	67
Oct.	11.3	105.7	0.2	2.9	0.1	17.5	58
Nov.	15.7	121.4	0.2	3.1	260.	277.5	78
Dec.	14.0	135.4	0.2	3.3	0.5	278	70
Jan., '53	40.0	175.4	0.4	3.7	5	283	111
Feb.	16.2	191.6	0.4	4.1	37	320	54
Mar.	28.2	219.8	0.4	4.5	2,400	2,720	90
Apr.	26.4	246.2	0.3	4.8	680	3,400	89
May	33.4	279.6	0.4	5.2	2,660	6,060	98
June	22.0	301.6	0.3	5.5	1,340	7,400	75
July	34.7	336.3	0.4	5.9	1,610	9,010	92
Aug.	39.0	375.3	0.5	6.4	3,540	12,550	78
Sept.	38.7	414.0	0.5	6.9	1,660	14,210	73
Oct.	50.0	464.0	1.4	8.3	2,360	16,570	57
Nov.	58.3	522.3	0.1	8.4	3,580	20,150	9
Dec.	54.3	576.6	0.7	9.1	10,700	30,850	31
Jan., '54	30.8	607.4	65.9	75.0	12,100	42,950	26
Feb.	28.0	635.4	5.5	80.5	11,000	53,950	20
Mar.	47.9	683.3	9.3	89.8	62,800	116,750	27
Apr.	38.4	721.7	7.6	97.4	14,800	131,550	24
May	49.0	770.7	9.6	107.0	8,600	140,150	30
June	17.1	787.8	4.3	111.3	7,090	147,240	11
						30,950	
						116,790	

* D-2 waste was first sent to the 216-S Cribs in January 1952.

** Values for plutonium cribbed were obtained from the SF Accountability Section.

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TABLE 11-A

Source: 340 WASTE TANKS*

Location: 216 SL CRIBS

Date	Gallons	Alpha Particle Emitters (micro curies)	Beta Particle Emitters (micro curies)
July, 1953	12,650	43	575
Aug.	11,740	20	1,020
Sept.	10,840	18	<33
Oct.	23,200	40	564
Nov.	11,350	23	1,200
Dec.	26,950	213	3,850
Jan., 1954	------	------	---------
Feb.	25,760	540	1,695
Mar.	33,130	495	7,790
Apr.	25,600	34,600	3,284,000
May	53,395	20,040	5,020,000
June	40,000	10,000	2,600,000

1953

1954

* Letter, "Works Laboratory Waste Discharged to Ground," H. V. Clukey to J. M. Smith, August 6, 1954.

TABLE 11-B

Source: 222-S CRIB WASTES*

Location: 216-SL CRIBS

Period	Volumes (liters) ($N \times 10^5$)		Plutonium (grams)		Beta Particle Emitters (curies)	
	Per Month	To Date	Per Month	To Date	Per Month	To Date
Jan., 1952	.207	.207	----	-----	---	----
Feb.	.273	.480	.37	.37	.20	.20
Mar.	.737	1.217	.14	.51	.44	.64
Apr.	.404	1.621	.58	1.09	.48	1.12
May	.322	1.943	.46	1.55	.40	1.52
June	.547	2.490	.84	2.39	.33	1.85
July	.514	3.004	.61	3.00	.32	2.17
Aug.	.274	3.278	.26	3.26	.16	2.33
Sept.	.286	3.564	.56	3.82	.34	2.67
Oct.	.304	3.868	.08	3.90	.19	2.86
Nov.	.319	4.187	.15	4.05	.21	3.07
Dec.	.314	4.501	.09	4.14	.24	3.31
Jan., 1953	.377	4.878	.58	4.72	.22	3.53
Feb.	.189	5.067	.22	4.94	.10	3.63
Mar.	.542	5.609	.84	5.78	.18	3.81
Apr.	.521	6.130	.70	6.48	.26	4.07
May	.395	6.525	.20	6.68	.18	4.25
June	.372	6.897	.29	6.97	.19	4.44
July	.504	7.401	.54	7.51	.37	4.81
Aug.	.398	7.799	.15	7.66	.18	4.99
Sept.	.418	8.217	2.41	10.07	.19	5.18
Oct.	.524	8.741	.57	10.64	.31	5.49
Nov.	.505	9.246	.29	10.93	.22	5.71
Dec.	.424	9.670	.42	11.35	.30	6.01
Jan., 1954	.290	9.960	.19	11.54	.13	6.14
Feb.	.347	10.307	.27	11.81	.17	6.31
Mar.	.262	10.569	.18	11.99	.16	6.47
Apr.	.253	10.822	.49	12.48	.17	6.64
May	.361	11.183	.51	12.99	.20	6.84
June	.140	11.323	.16	13.15	.06	6.90

* Data for 222-S wastes were obtained from R. P. Knight, Analytical Control Sub-section, Separations Section.

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TABLE 11-C

Source: 222-S RETENTION WASTES*

Location: 216-SL CRIBS

Period	Volumes (Liters) ($N \times 10^5$)		Plutonium (grams)		Beta Particle Emitters (curies)	
	Per Month	To Date	Per Month	To Date	Per Month	To Date
Jan., 1952	------	-----	----	----	-----	-----
Feb.	11.73	11.73	.27	.27	.07	.07
Mar.	21.12	32.85	.81	1.08	.19	.26
Apr.	25.81	58.66	.50	1.58	.79	1.05
May	18.77	77.43	.29	1.87	.17	1.22
June	20.74	98.17	.24	2.11	.19	1.41
July	30.51	128.68	.35	2.46	.32	1.73
Aug.	46.93	175.61	.54	3.00	.28	2.01
Sept.	30.51	206.12	.24	3.24	.27	2.28
Oct.	35.20	241.32	.27	3.51	.26	2.54
Nov.	39.89	281.21	.61	4.12	.30	2.84
Dec.	32.85	314.06	.25	4.37	.29	3.13
Jan., 1953	23.47	337.53	.18	4.55	.14	3.27
Feb.	46.93	384.46	.36	4.91	.49	3.76
Mar.	61.01	445.47	.47	5.38	.36	4.12
Apr.	46.93	492.40	.54	5.92	.35	4.47
May	48.52	540.92	.37	6.29	.22	4.69
June	44.51	585.43	.52	6.81	.13	4.82
July	53.97	639.40	.62	7.43	.24	5.06
Aug.	58.67	698.07	.68	8.11	.35	5.41
Sept.	46.93	745.00	.72	8.83	.28	5.69
Oct.	56.32	801.32	.43	9.26	.25	5.94
Nov.	63.36	864.68	.49	9.75	.38	6.32
Dec.	51.63	916.31	.40	10.15	.23	6.55
Jan., 1954	44.59	960.90	.69	10.84	.20	6.75
Feb.	63.44	1024.34	.49	11.33	.28	7.03
Mar.	70.40	1094.74	.81	12.14	.21	7.24
Apr.	70.40	1165.14	.54	12.68	.21	7.45
May	72.75	1237.89	.56	13.24	.32	7.77
June	70.40	1308.29	.54	13.78	.31	8.08

* Data for 222-S wastes were obtained from R. P. Knight, Analytical Control Sub-section, Separations Section.

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TABLE 11-D

Source: 340 WASTE TANKS, 222-S CRIB WASTES, and 222-S RETENTION WASTES
Location: 216-SL CRIBS

Period	Volumes (Liters) N x 10^5		Plutonium (grams)		Beta Particle Emitters -(curies)	
	Per Month	To Date	Per Month	To Date	Per Month	To Date
Jan., 1952	.21	.21	0	0	0	0
Feb.	12.00	12.21	.64	.64	.27	.27
Mar.	21.86	34.07	.96	1.60	.63	.90
Apr.	26.20	60.27	1.07	2.67	1.27	2.17
May	19.09	79.36	.75	3.42	.57	2.74
June	21.29	100.65	1.08	4.50	.51	3.25
July	31.02	131.67	.97	5.47	.64	3.89
Aug.	47.20	178.87	.81	6.28	.44	4.33
Sept.	30.80	209.67	.80	7.08	.61	4.94
Oct.	35.50	245.17	.35	7.43	.45	5.39
Nov.	40.21	285.38	.76	8.19	.51	5.90
Dec.	33.16	318.54	.34	8.53	.53	6.43
Jan., 1953	23.85	342.39	.76	9.26	.36	6.79
Feb.	47.12	389.51	.58	9.84	.59	7.38
Mar.	61.55	451.06	1.31	11.15	.54	7.92
Apr.	47.45	498.51	1.24	12.39	.61	8.53
May	48.92	547.43	.57	12.96	.39	8.92
June	44.88	592.31	.80	13.76	.33	9.25
July	54.95	647.26	1.17	14.93	.62	9.87
Aug.	59.51	706.77	.83	15.76	.53	10.40
Sept.	47.76	754.53	3.14	18.90	.47	10.87
Oct.	57.72	812.25	1.00	19.90	.56	11.43
Nov.	64.29	876.54	.78	20.68	.60	12.03
Dec.	53.07	929.61	.82	21.50	.53	12.56
Jan., 1954	44.88	974.49	.88	22.38	.33	12.89
Feb.	64.76	1039.25	.77	23.15	.45	13.34
Mar.	71.91	1111.16	1.00	24.15	.38	13.72
Apr.	71.62	1182.78	1.59	25.74	3.66	17.38
May	75.13	1257.91	1.40	27.14	5.54	22.92
June	72.05	1329.96	.87	28.01	2.97	25.89

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TABLE 12

Source: TBP WASTE*
Location: 216 WR, #1, #2, and #3 CRIBS

Period	Volume (Liters) ($N \times 10^5$)		Uranium (Kilograms)		Plutonium (Grams)		Beta Particle Emitters (curies)	
	Per Month	To Date	Per Month	To Date	Per Month	To Date	Per Month	To Date
July, '52	22.8	56.1	9	74	-----		-----	
Aug.	16.8	72.9	2	76	-----		-----	
Sept.	21.1	94.0	168	244	-----		-----	
Oct.	29.8	123.8	632	876	-----		-----	
Nov.	51.8	175.6	1050	1926	6.30	6.30	14.83	14.83
Dec.	62.8	238.4	797	2723	8.83	15.13	3.88	18.71
Jan., '53	83.5	321.9	2146	4869	30.05	45.18	2.19	20.90
Feb.	49.2	371.1	758	5627	10.14	55.32	2.45	23.35
Mar.	64.3	435.4	1373	7000	18.55	73.87	1.33	24.68
Apr.	90.8	526.2	2016	9016	24.06	97.93	4.10	28.78
May	117.0	643.2	2010	11026	29.01	126.94	3.37	32.15
June	102.0	745.2	1846	12872	29.74	156.68	3.42	35.57
July	30.6	775.8	63	12935	0.73	157.41	0.50	36.07
Aug.	54.0	829.8	71	13006	1.90	159.31	1.96	38.03
Sept.	77.8	907.6	114	13120	1.75	161.06	1.85	39.88
Oct.	100.2	1007.8	173	13293	2.62	163.68	2.41	42.29
Nov.	37.0	1044.8	142	13435	2.04	165.72	.95	43.24
Dec.	32.5	1077.3	84	13519	1.60	167.32	4.15	47.39
Jan., '54	66.2	1143.5	255	13774	4.23	171.55	6.33	53.72
Feb.	64.6	1208.1	254	14028	2.62	174.17	5.16	58.88
Mar.	46.5	1254.6	99	14127	1.31	175.48	4.54	63.42
Apr.	99.4	1354.0	37	14164	1.90	177.38	4.15	67.57
May	103.6	1457.6	263	14427	4.37	181.75	6.73	74.30
June	86.9	1544.5	117	14544	3.21	184.96	2.91	77.21

* The tabulated values are based on the following data submitted monthly by the Separations Section:

(a) Volumes
(b) Pounds of uranium
(c) Total alpha (c/m)
(d) Total beta (c/m)

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TABLE 13

Source: 231 BUILDING

Location: 231-W TRENCH

Period	Volume (Liters) ($N \times 10^5$)		Plutonium (Grams)		No. Samples
	Per Month	To Date	Per Month	To Date	
July, 1952	0.99	401.07	0.53	*300.53	8
Aug.	0.81	401.88	0.90	301.43	9
Sept.	0.51	402.39	6.60	308.03	7
Oct.	0.45	402.84	1.10	309.13	9
Nov.	0.53	403.37	0.88	310.01	8
Dec.	0.67	404.04	1.01	311.02	8
Jan., 1953	0.25	404.29	3.0	314.02	9
Feb.	0.92	405.21	4.8	318.82	8
Mar.	0.91	406.12	1.1	319.92	8
Apr.	0.73	406.85	0.19	320.11	7
May	0.84	406.69	0.23	320.34	6
June	0.48	407.17	0.91	321.25	5
July	0.55	407.72	49.8	371.05	6
Aug.	0.56	408.28	3.74	374.79	8
Sept.	0.23	408.51	5.46	380.25	4
Oct.	0.26	408.77	0.69	380.94	7
Nov.	0.23	409.00	0.49	381.43	5
Dec.	0.19	409.19	0.14	381.57	6
Jan., 1954	0.14	409.33	0.14	381.71	5
Feb.	0.28	409.61	0.41	382.12	5
Mar.	0.16	409.77	0.11	382.23	5
Apr.	0.24	410.01	0.23	382.46	4
May	0.10	410.11	0.16	382.62	4
June	0.12	410.23	0.22	382.84	4

* 300 grams of plutonium cribbed up to July 1, 1952. HW-28121, "Release of Radioactive Wastes to Ground," J. W. Healy, May 20, 1953.

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TABLE 14*

Source: 234-5 BUILDING

Location: 234-5, #1, #2, #3, and #4 CRIBS AND TILE FIELD

Period	Volume (Liters) ($N \times 10^5$)		Plutonium (Grams)	
	Per Month	To Date	Per Month	To Date
July, 1952	16.35	355.23	8.2	199.0
Aug.	16.81	372.04	6.9	205.9
Sept.	19.84	391.88	5.0	210.9
Oct.	12.87	404.75	5.8	216.7
Nov.	12.99	417.74	12.9	229.6
Dec.	13.27	431.01	5.9	235.5
Jan., 1953	10.2	441.21	6.3	241.8
Feb.	7.5	448.71	5.8	247.6
Mar.	8.6	457.31	4.2	251.8
Apr.	9.1	466.41	7.5	259.3
May	8.7	475.11	9.5	268.8
June	9.7	484.81	10.0	278.8
July	10.4	495.21	10.7	289.5
Aug.	6.5	501.71	5.4	294.9
Sept.	8.2	509.91	14.9	309.8
Oct.	13.78	523.69	8.3	318.1
Nov.	6.7	530.39	4.4	322.5
Dec.	12.7	543.09	8.1	330.6
Jan., 1954	8.9	551.99	4.3	334.9
Feb.	9.2	561.19	4.1	339.0
Mar.	15.7	576.89	10.0	349.0
Apr.	2.2	579.09	6.5	355.5
May	14.8	593.89	17.3	372.8
June	3.0	596.89	1.4	374.2

*Data for this table was furnished by J. R. Raymond, Soil Sciences, Radiological Sciences Department.

TABLE 15

Source: REDOX TANK FARM CONDENSATE

Location: 216-S-3 AND 216-U-3 CRIBS

Period	Volume - Gallons: 216-S-3 Crib, 104-S Tank	216-S-3 Crib, 101-S Tank	216-U-3 Crib, 110-U Tank	Total Per Period	Total To Date	Crib
Aug. '53	53,000	------	------	53,000	53,000	216-S-3
Sept.	76,000	------	------	76,000	129,000	216-S-3
Oct.	19,000	6,000	------	25,000	154,000	216-S-3
Nov.	38,000	30,000	------	68,000	222,000	216-S-3
Dec.	72,000	37,000	------	109,000	331,000	216-S-3
Jan. '54	66,000	81,000	------	147,000	478,000	216-S-3
Feb.	20,000	30,000	------	50,000	528,000	216-S-3
Mar.	13,000	47,000	------	60,000	588,000	216-S-3
April	5,000	7,000	------	12,000	600,000	216-S-3
May	31,000	18,000	33,000	82,000	682,000	216-S-3 216-U-3
June	31,000	38,000	34,000	103,000	785,000	216-S-3 216-U-3
July	37,000	32,000	27,000	96,000	881,000	216-S-3 216-U-3

A study of the 104-S condensate in October 1953(1) showed an average activity density of total beta emitters of 0.0054 /uc/cc for 39 samples over a 17-day period. The "hottest" sample, following addition of fresh waste to the tank, was analyzed for the predominant beta emitters with the following results:

104-S Condensate	/uc/cc	%
Total beta emitters	.029	
Rare Earths plus Y	.012	41
Zr^{95}	.0078	27
Nb^{95}	.0078	27
Ru^{103} plus Ru^{106}	.00087	3
Sr	.00058	2
Cs	.00058	2

Radioactivity Density /uc/cc: Total	Pu	U	Cs	Sr	pH
0.14	1.9×10^{-6}	7.6×10^{-8}	2.8×10^{-2}	7.9×10^{-2}	----
5.4×10^{-5}	2.4×10^{-6}	1.5×10^{-7}	5.9×10^{-6}	8.9×10^{-6}	----
0.24	9.5×10^{-6}	1.7×10^{-7}	4.6×10^{-2}	3.1×10^{-2}	----
8.9×10^{-5}	2.8×10^{-6}	1.1×10^{-7}	1.5×10^{-5}	3.7×10^{-5}	----
1.49	4.8×10^{-6}	7.6×10^{-8}	--------	5.7×10^{-2}	7.2
1.5×10^{-5}	3.6×10^{-6}	7.6×10^{-8}	--------	4.5×10^{-4}	10.2

1. HW-29720, "104-S Condensate Analysis," J. F. Honstead, October 22, 1953.
2. HW-31794, "Sampling SX-Tank Farm Condensate," H. V. Clukey, May 7, 1954.
3. HW-31424, "Redox Waste Storage," D. McDonald, April 9, 1954.
4. HW-31811, "Separations Section Waste Status Summary for Month of April, 1954," G. K. Carpenter.
5. HW-32110, "Separations Section Waste Status Summary for Month of May, 1954," G. K. Carpenter.
6. HW-32389, "Separations Section Waste Status Summary for Month of June, 1954," D. E. Peterson.
7. HW-32697, "Separations Section Waste Status Summary for Month of July, 1954," D. E. Peterson.

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TABLE 16-A

*WASTES DISCHARGED TO THE 110-T TANK (200-WEST)
(Second cycle, 224-T, and "5-6" Wastes)

*The wastes are discharged to the 241-T-3 Crib after passing through the 110-111-112-T Tank cascade.

Date	Liters (N x 10²)							
	224 Wastes		Second cycle		"5-6" Waste		Total	
	Per Period	To Date	Per Period	To Date	Per Period	To Date	Per Period	To Date
July, '52	4.4	** 4.4	3.5	251.1	6.0	*** 78.4	13.9	333.9
Aug.	5.9	10.3	3.8	254.9	6.7	85.1	16.4	350.3
Sept.	2.3	12.6	0.6	255.5	2.6	87.7	5.5	355.8
Oct.	3.7	16.3	1.8	257.3	4.3	92.0	9.8	365.6
Nov.	3.0	19.3	1.8	259.1	4.9	97.0	9.7	375.4
Dec.	5.0	24.3	2.9	262.0	5.4	102.0	13.3	388.3
Jan., '53	3.7	28.0	1.1	263.1	4.9	107.2	9.7	398.3
Feb.	4.3	32.3	2.1	265.2	5.3	112.5	11.7	410.0
Mar.	6.4	38.7	3.9	269.1	6.6	119.1	16.9	426.9
Apr.	4.7	43.4	1.0	270.1	3.9	123.0	9.6	436.5
May	4.6	48.0	1.3	271.4	4.9	128.0	10.8	447.4
June	5.6	53.6	2.9	274.3	6.6	134.5	15.1	462.4
July	5.2	58.8	1.5	275.8	2.8	137.3	9.5	471.9
Aug.	4.3	63.1	1.6	277.4	4.9	142.2	10.8	482.7
Sept.	4.4	67.5	2.1	279.5	5.6	147.8	12.1	494.8
Oct.	6.0	73.5	1.6	281.1	5.6	153.4	13.2	508.0
Nov.	5.4	78.9	2.7	283.8	7.1	160.5	15.2	523.2
Dec.	6.8	85.7	3.3	287.1	7.4	167.9	17.5	540.7
Jan., '54	7.6	93.3	5.1	292.2	8.3	176.2	21.0	561.7
Feb.	7.0	100.3	4.5	296.7	8.2	184.4	19.7	581.4
Mar.	8.2	108.5	4.5	301.2	8.6	193.0	21.3	602.7
Apr.	3.5	112.0	1.1	302.3	5.4	198.4	10.0	612.7
May	6.1	118.1	5.1	307.4	7.9	206.3	19.1	631.8
June	6.7	124.8	5.3	312.7	8.1	214.4	20.1	651.9

** Prior to this time the 224 wastes were discharged to the 204-203-202-T cascade.

*** In June 1951 the 221-T "5-6" cell wastes were rerouted to this unit.

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TABLE 16-B

200-WEST (5-6) WASTE
(Discharged to the 110-T Tank)

Date	Volume - Liters N x 10^5		Plutonium - grams		Beta particle emitters-curies		No. Samples
	Per Period	To Date	Per Period	To Date	Per Period	To Date	
July, '52	6.0	* 78.4	4.1	83.9	160	7,780	79
Aug.	6.7	85.1	6.5	90.4	265	8,045	97
Sept.	2.6	87.7	1.9	92.3	675	8,720	47
Oct.	4.3	92.0	3.0	95.3	310	9,030	58
Nov.	4.9	97.0	2.7	98.0	95	9,125	67
Dec.	5.4	102.0	3.3	101.3	240	9,365	75
Jan., '53	4.9	107.2	2.4	103.7	130	9,495	60
Feb.	5.3	112.5	3.9	107.6	480	9,975	65
Mar.	6.6	119.1	5.0	112.6	245	10,220	79
Apr.	3.9	123.0	2.0	114.6	180	10,400	52
May	4.9	128.0	1.8	116.4	220	10,620	57
June	6.6	134.5	3.5	119.9	590	11,210	74
July	2.8	137.3	0.9	120.8	65	11,275	45
Aug.	4.9	142.2	2.4	123.2	100	11,375	55
Sept.	5.6	147.8	7.8	131.0	195	11,570	57
Oct.	5.6	153.4	6.8	137.8	1,840	13,410	59
Nov.	7.1	160.5	8.7	146.5	1,085	14,495	68
Dec.	7.4	167.9	8.8	155.3	885	15,380	67
Jan., '54	8.3	176.2	10.4	165.7	1,680	17,060	86
Feb.	8.2	184.4	14.2	179.9	16,420	33,480	92
Mar.	8.6	193.0	18.6	198.5	5,305	38,785	86
Apr.	5.4	198.4	8.4	206.9	2,175	40,960	49
May	7.9	206.3	10.6	217.5	1,760	42,720	81
June	8.1	214.4	9.5	227.0	2,390	45,110	73

* 221-T "5-6" cell wastes were first routed to this unit during June 1951.

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TABLE 16-C

WASTES DISCHARGED TO 241-T #3 CRIB
(Includes second cycle, 224-T and "5-6" wastes. Prior to discharge to the crib, the wastes flow through the 110-111-112-T tank cascade.)

Date	Liters ($N \times 10^5$)		Plutonium - grams		Beta particle emitters - curies		No. Samples
	Per Period	To Date	Per Period	To Date	Per Period	To Date	
July, '52	13.9	*286.3	4.0	46	49	749	1
Aug.	16.4	302.7	0.9	46.9	156	905	1
Sept.	5.5	308.2	1.6	48.5	40	945	1
Oct.	9.8	318.0	0.6	49.1	24	969	1
Nov.	9.7	327.7	0.5	49.6	11	980	0
Dec.	13.3	341.0	0.5	50.1	15	995	0
Jan., '53	9.7	350.7	0.8	50.9	12	1007	2
Feb.	11.7	362.4	0.2	51.1	13	1020	1
Mar.	16.9	379.3	0.3	51.4	16	1036	4
Apr.	9.6	388.9	0.2	51.6	8	1044	2
May	10.8	399.7	15.8	67.4	11	1055	3
June	15.1	414.8	1.2	68.6	31	1086	3
July	9.5	424.3	0.6	69.2	9	1095	3
Aug.	10.8	435.1	0.2	69.4	10	1105	3
Sept.	12.1	447.2	3.2	72.6	12	1117	4
Oct.	13.2	460.4	3.2	75.8	97	1214	3
Nov.	15.2	475.6	0.2	76.0	55	1269	3
Dec.	17.5	493.1	0.3	76.3	50	1319	2
Jan., '54	21.0	514.1	0.2	76.5	54	1373	2
Feb.	19.7	533.8	26.8	103.3	740	2113	9
Mar.	21.3	555.1	3.2	106.5	640	2753	17
Apr.	10.0	565.1	0.3	106.8	100	2853	18
May	19.1	584.2	0.6	107.4	** 1.4	2854	19
June	20.1	604.3	0.5	107.9	** 0.2	2854	19

* 286.3×10^5 liters discharged to the #3 crib. In addition 61.5×10^5 liters are stored in the 110-T, 111-T, and 112-T settling tanks.

** No known explanation for significant decrease in curies of beta particle emitters discharged to ground during May and June 1954.

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TABLE 17

SCAVENGED TBP TEST CRIBBING DATA*

Location: 241-T-17 Crib

Supernate from the production test of TBP scavenging was pumped from the 101-T tank to a 10' x 10' x 10' hole in the ground, 10 feet north of monitoring well 241-T-17 (crib center coordinates N 42647, W 75274). During the period December 8-21, 1953, about 256,000 gallons of supernate were discharged to this hole, which was then backfilled with soil, level with the ground.

The average analysis on 1-14-54 of this supernate, based on seven samples taken from the discharge line during pumping, and analyzed by Biophysics Section, was as follows:

	μc/cc	Curies
Pu	9.2×10^{-5}	.089
U	5.6×10^{-5}	.054
Cs	.27	290.
Sr	.05	49.
Ru	.19	180.
Sb	.14	130.
R. E. & Y	.20	190.
Total beta (sum of above)	.85	840.
pH	9.7	

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*Letter, H. V. Clukey to H. G. Ruppert dated 7/13/54.

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TABLE 18

Source: TBP-UO_3 WASTE*

Location: 361-WR CRIBS

Period	Volume (liters) ($N \times 10^5$)		Uranium (Kilograms)		Plutonium (grams)		Beta Particle Emitters - curies	
	Per Month	To Date	Per Month	To Date	Per Month	To Date	Per Month	To Date
July, '52	1.66	5.86	35	525	----	-----	-----	-----
Aug.	4.37	10.23	159	684	----	-----	-----	-----
Sept.	2.08	12.31	77	761	----	-----	-----	-----
Oct.	2.51	14.82	132	893	----	-----	-----	-----
Nov.	2.22	17.04	23	916	1.51	1.51	1.5	1.5
Dec.	1.70	18.74	87	1003	1.05	2.56	11.2	12.7
Jan., '53	2.70	21.44	148	1151	1.56	4.12	30.8	43.5
Feb.	3.78	25.22	148	1299	2.33	6.45	81.8	125.3
Mar.	1.51	26.73	4	1303	0.49	6.94	11.8	137.1
Apr.	2.52	29.25	348	1651	1.46	8.40	48.1	185.2
May	2.65	31.90	85	1736	1.02	9.42	13.4	198.6
June	3.40	35.30	143	1879	0.73	10.15	39.1	237.7
July	4.91	40.21	275	2154	8.76	18.91	136.0	373.7
Aug.	5.29	45.50	399	2553	5.69	24.60	138.3	512.0
Sept.	3.02	48.52	7	2560	3.21	27.81	1.1	513.1
Oct.	3.02	51.54	4	2564	1.02	28.83	19.0	532.1
Nov.	2.27	53.81	5	2569	0.44	29.27	14.1	546.2
Dec.	2.65	56.46	5	2574	0.15	29.42	17.5	563.7
Jan., '54	3.02	59.48	5	2579	0.29	29.71	8.9	572.6
Feb.	2.65	62.13	117	2696	1.17	30.88	19.2	591.8
Mar.	1.13	63.26	115	2811	0.44	31.32	14.4	606.2
Apr.	7.56	70.82	31	2842	1.02	32.34	0.02	606.2
May	3.78	74.60	2	2844	0.29	32.63	0.5	606.7
June	7.56	82.16	5	2849	0.15	32.78	14.8	621.5

* The tabulated values are based on the following data submitted monthly by the Separations Section:

(a) volumes
(b) pounds of uranium
(c) total alpha (c/m)
(d) total beta (c/m)

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