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S. R. Gustavson, Chief, Accountability Branch, Production Division

May 13, 1954

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TRANSFER OF MIDDLESEX INVENTORY OF SF MATERIALS

SYMBOL: P:JTC

As you know, Middlesex close-out plans call for the transfer out of all sf and other materials which have been held in storage. The major portion of these materials are to be transferred to Fernald for storage and ultimate disposition therefrom.

Our plans for sf accountability control over this transfer are to have United Lead Company make a complete physical count of containers and check weigh only 10% of these upon shipment. For the thorium nitrate inventory only, however, 20% instead of 10% of containers will be check weighed. A similar check will be made at FMPC upon receipt. SF contents will be transferred at book values.

It is felt that this amount of control is adequate for the following reasons:

1. Sampling expenses would be unjustified compared to the material values and conditions involved.

2. SF values, on most of the more valuable materials, have been recently established as indicated on the enclosed tabulation.

3. The materials involved have been fairly static, i.e., no large transfers in or out, thereby experiencing a minimum of inventory change.

4. Routine SF accountability control procedures have been continuously in effect. The inventories, therefore, are considered to be within allowable accuracies.

Enclosed is a tabulation giving the most recent sampling data for all the items in the inventory in question.

Enclosure:
Tabulation

cc: United Lead Company

MIDDLESEX SAMPLING PLANT

SAMPLING DATA FOR INVENTORY TO BE TRANSFERRED TO FMPC

(FOR EXPLANATION OF CODE LETTERS SEE END OF LIST)

Material & Lot No.	No. of Drums	Net Weight	Date Last Sampled	Sampling Method
Thorium Nitrate				
FNB-Lot 15A	142	26,988 #	10-5-51	H
Lot 17-28	6100 per lot	19,002 per lot	10/51	H
Lot 30	133	25,209 #	1-8-52	H
Lot 33	213	28,154 #	7-8-52	H
Lot 36	1550	292,389 #	8-5-53	I
Lot 37	96	18,588 #	Not Available	A
Lot 39	154	30,805 #	12-17-53	J
Lot 41	148 ?	29,625 #	2-15-54	J
Lot 42	154	30,814 #	3-31-54	J
Norium Nitrate				
Lot 144	50 bottles	1,751 #	1-13-48	B
Lot 103	1	29 #	10/49	B
Thorium Oxalate Sludge				
WA-1 to WA-22	598	257,424 #	4/53 - 6/53	C
OM-1	5	2,142 #	11-18-49	C
LB-1 to LB-13	115	43,995 #	4/48 -12/53	D
Thorium Fluoride				
RE-1	81	23,065 #	12-18-50	K
RE-2	50	12,670 #	5-14-51	K
RE-3	54	12,901 #	1-18-52	K
Brasilian Thorium Sludge(Hydroxide)				
Lots 1R-82R	3770	2,720,100 #	9/53 - 3/54	F
Lot 199	8	4,341 #	3-31-54	F
Oxalate { Lots 3-Ex,3-1 to 3-13	270	126,866 #	7/53 - 8/53	G
Oxalate { Lots 7A, 7B	135	56,322 #	4-13-54	G
Captured Thorium Compounds(V-10)				
Lot 16A(Hydroxide)	1	209 #	12-8-48	L
Lot 21A "	51	29,433 #	3/53	M
Lot 21(Among Sand)	152	164,073 #	3/53	M
Lot 22(Monazite)	1038	1,232,198 #	4/53	M
Lot 22A "	20	1,730 #	12-7-48	L
Lot 14(Nitrate)	34	3,560 #	12-8-48	N
Lot 14A "	3	498 #	12-6-48	L
Lot 2A Misc.	1	20 #	12-10-48	N
Lot 15 "	4	326 #	1-20-49	N
Lot 17 "	16	2,281 #	11-30-49	L
Lot 19 "	2	303 #	12-9-48	L
Lot 21B "	12	1,779 #	12-8-48	L
Misc. Thorium Materials	68 various sizes	6,723 #	--	E
Vitro Sludge(Low Grade U-C-6, Lot F Bearing)	99	55,217 #	8-16-49	O

EXPLANATION OF CODE LETTERS

A - Returned from ISC at termination of their production. Composed of several portions of lots previously shipped from MMW to ISC. ISC values accepted upon receipt.

B - Material packed in sealed glass bottles. Only weighed (100%) upon receipt. Never sampled at MMW.

C - Originally weighed (100%) and sampled by piping upon receipt. One pipe taken from each drum in lot. Later rebarreled during 1953, as shown, and was reweighed and resampled in same manner.

D - Upon receipt, 100% weighed and sampled by taking one pipe out of each drum in lot, after rebarreling into tared drums.

E - These consist of miscellaneous small amounts of SF materials, generally in small sample bottles or containers. Shipper's weights and assays have been used for establishment of SF content. Not weighed or sampled at MMW.

F - 100% weighed and 20% sampled by pipe method upon receipt in accordance with a procedure whose precision and accuracy was determined by actual test. This material will have to be rebarreled before transfer out. SF content remeasurement for this operation to be determined later.

G - Weighed and sampled shortly after receipt in 1953 and 1954. 100% weighed and sampled by pipe. Two pipe fulls taken from each drum. Pipe location determined by template with random selection of hole position. Sampling procedure tested for accuracy prior to use.

H - Originally 100% weighed upon receipt. Later 100% weighed and 100% pipe sampled during date shown. SF values of latest sampling used on books.

I - Originally 100% weighed upon receipt. Later, on date shown, 100% weighed and only 10% sampled. Sampling was by pipe on random drums in accordance with a statistically designed plan (ref. memo, Sandomire to Consiglio, dated June 23, 1953).

J - 100% weighed and 10% random selection sampled by piping upon receipt.

K - Upon receipt, 100% weighed and sampled by taking one pipe out of each drum in lot. Tare weights taken by using average of 5 drums per lot which were emptied.

L - Weighed and sampled upon receipt by pipe method.

M - Originally weighed and sampled upon receipt. Later rebarreled in 1953. 100% weighed and 100% pipe sampled at this time. SF values revised to latest results.

THORIUM INVENTORY
OXALATE

Lot No.	No. of Drums	Net Weight	SF Net	SF Kgs.
CM-1	5	2,442	694	315
LB-1	10	3,860	250	113
LB-2	7	2,885	178	81
LB-3	9	3,557	281	127
LB-4	6	2,538	209	95
LB-5	16	5,187	394	179
LB-6	9	3,532	254	115
LB-7	13	5,075	264	120
LB-8	5	1,931	133	60
LB-9	9	3,441	248	112
LB-10	5	1,774	124	56
LB-11	10	3,695	261	118
LB-12	9	3,693	219	99
LB-13	7	2,827	191	87
WA-1	22	9,502	1,215	551
WA-2	25	10,000	1,801	817
WA-3	33	12,365	2,876	1,305
WA-4	32	12,679	3,382	1,534
WA-5	33	12,401	3,327	1,509
WA-6	37	15,321	3,822	1,733
WA-7	39	16,484	2,384	1,082
WA-8	30	12,973	1,772	804
WA-9	22	9,490	1,547	702
WA-10	23	10,418	911	413
WA-11	23	10,641	1,857	842
WA-12	21	9,880	1,861	844
WA-13	25	10,767	1,688	766
WA-14	21	9,335	1,713	777
WA-15	22	9,839	1,441	654
WA-16	21	10,245	1,743	791
WA-17	24	10,770	1,849	839
WA-18	27	11,665	1,859	843
WA-19	27	11,780	1,749	793
WA-20	30	12,975	1,871	849
WA-21	31	14,122	2,108	956
WA-22	29	13,259	2,291	1,039
TOTAL -	717	303,348	48,767	22,120

JUNE, 1954

THORIUM INVENTORY

	Lot No.		No. of Drums	Net Weight	SF Net	SF Kgs.
FLUORIDE						
	RE-1		81	23,065	9,847	4,467
	RE-2		50	12,670	5,314	2,410
	RE-3		54	12,886	6,640	3,011
		TOTAL	185	48,621	21,801	9,888
CAPTURED						
	V-10-16A	Hydroxide	1	209	70	32
	21A	"	51	29,433	1,631	740
	14	Nitrate	34	3,560	1,566	710
	14A	"	3	498	93	42
	2A	Misc. Oxide	1	20	9	4
	15	" "	4	326	149	68
	17	" Oxalate	16	2,281	308	140
	19	" Phosphate	2	303	91	41
	21B	" Residues	12	1,779	158	72
	21	Amang. Sand	152	164,073	1,621	735
	22	Monazite Sand	1038	1,232,198	39,487	17,911
	22A	" "	20	~~1,738~~ 4951	219	99
	TOTAL	-	1334	~~1,436,420~~ 1,439,631	45,402	20,594

JUNE, 1954

THORIUM
MISCELLANEOUS INVENTORY

Lot No.	Type	No. of Drums	Net Weight	SF Net	SF Kgs.
SMX 410	Scrap	-	-	4	2
78	Misc. Scrap	1 Fibre Drum	10	9	4
79	Nitrate	1 "	5	1	-
80	Scrap	2	199	40	18
95 & 96	Nitrate & Oxide	2 Bottles	2	1	-
103	Nitrate	1	39	17	8
106	Scrap	6 Cans	113	90	41
111	Oxide	1 Bottle	8	7	3
125	Residue	3 Fibre Drums	205	15	7
126	Monazite Sand	2	1,993	61	28
130	Scrap	2	632	410	186
142	Residue	2 Fibre Drums	84	56	25
145	Monazite Sand	1-5 gallon	60	2	1
146	Oxide	1-5 gallon	37	33	15
151	Waste	5	1,360	278	126
153	Fluoride	3 Fibre Drums	105	71	32
154	Monazite Sand	1	65	-	-
155	Scrap	16 Misc.	518	417	189
157	Nitrate & Acid	2 Misc.	39	29	13
174	Scrap Compounds	1	90	36	16
179	Misc.	2 Boxes	270	174	79
180	Scrap	2 Fibre Drums	158	91	41
181	Misc. Recovery	1	272	52	24
182	Misc. Recovery	2	775	79	35
185	Monazite Sand	2-5 gallon	138	4	2
202	Oxide	1 Fibre Drum	12	10	4
203	Oxide	1 Box	90	44	20
	TOTAL		6,849	2,031	919

JUNE, 1954

BRAZILIAN THORIUM SLUDGE
HYDROXIDE

Lot No.	No. of Drums	Net Weight	SF Net	SF Kgs.
1-R	20	15,398	3,191	1,447
2-R	30	22,978	4,855	2,202
3-R	50	37,658	7,564	3,431
4-R	50	37,893	8,255	3,744
5-R	50	37,929	7,978	3,619
6-R	50	38,421	7,804	3,540
7-R	50	37,960	7,572	3,435
8-R	50	37,736	7,302	3,312
9-R	50	37,506	7,275	3,300
10-R	50	37,057	7,039	3,193
11-R	50	35,898	6,752	3,063
12-R	50	35,609	6,871	3,117
13-R	50	35,844	6,830	3,098
14-R	50	35,976	6,960	3,157
15-R	50	35,712	8,143	3,694
16-R	50	36,087	7,744	3,513
17-R	50	35,994	7,929	3,597
18-R	50	35,575	7,459	3,383
19-R	50	34,926	7,467	3,387
20-R	50	36,834	7,103	3,222
21-R	50	36,919	7,358	3,338
22-R	50	36,397	7,430	3,370
23-R	50	36,549	7,395	3,354
24-R	50	37,468	7,551	3,425
25-R	50	37,210	7,597	3,446
26-R	50	36,881	8,003	3,630
27-R	50	37,262	7,735	3,509
28-R	50	36,932	7,328	3,324
29-R	50	36,626	7,125	3,232
30-R	50	35,074	6,587	2,987
31-R	51	28,451	6,856	3,110
32-R	50	37,461	7,467	3,387
33-R	50	36,679	7,104	3,222
34-R	50	36,136	6,962	3,158
35-R	50	35,787	6,686	3,033
36-R	50	35,617	6,663	3,022
37-R	39	28,583	5,626	2,552
38-R	11	5, 881	1,792	813
39-R	50	35,159	7,957	3,609
40-R	50	35,593	8,428	3,823
41-R	50	35,781	8,511	3,861
42-R	50	35,716	8,551	3,879
43-R	50	35,336	8,400	3,810
44-R	50	35,715	8,367	3,795
45-R	50	35,362	8,495	3,853
46-R	50	35,525	8,409	3,814
47-R	50	35,880	8,605	3,903
48-R	50	35,767	8,349	3,787
49-R	50	35,497	8,460	3,837
50-R	50	35,508	8,378	3,800

Lot No.	No. of Drums	Net Weight	SF Net	SF Kgs.
51-R	50	36,087	8,520	3,865
52-R	50	35,874	8,410	3,815
53-R	51	36,901	8,708	3,950
54-R	35	24,931	6,001	2,722
55-R	64	45,862	10,607	4,811
56-R	50	35,623	8,511	3,861
57-R	50	35,882	8,785	3,985
58-R (Shipped)				
59-R	50	35,818	8,690	3,942
60-R	50	35,888	8,483	3,848
61-R	24	17,145	3,887	1,763
62-R	26	18,775	4,244	1,925
63-R	37	26,521	5,992	2,718
64-R	50	35.880	8,167	3,704
65-R	50	35,830	8,190	3,715
66-R	50	35,742	7,879	3,574
67-R	23	16,312	3,828	1,736
68-R	26	18,461	4,172	1,893
69-R	50	36,357	8,416	3,817
70-R	50	37,111	8,454	3,835
71-R	50	36.074	8,344	3,785
72-R	50	35,673	8,308	3,768
73-R	50	36,134	8,517	3,863
74-R	14	10,113	2,277	1,033
75-R	36	25,867	6,378	2,893
76-R	50	35,762	9,480	4,300
77-R	48	33,802	7,830	3,554
78-R	45	31,525	7,284	3,304
79-R	49	35,142	8,310	3,769
80-R	50	35,816	8,719	3,955
81-R	50	35,914	8,387	3,804
82-R	29	20,979	5,057	2,294
Lot 199	8	4,341	989	449
Lot 204	5	2,001	992	450
TOTALS -	3771	2,717,928	597,090	270,837

JUNE, 1954

BRAZILIAN THORIUM SLUDGE

OXALATE

Lot No.	No. of Drums	Net Weight	SF Net	SF Kgs.
3-1	6	3,085	719	326
3-2	8	4,430	997	452
3-3	10	5,123	1,106	502
3-4	12	5,786	1,318	598
3-5	11	5,635	1,275	578
3-6	24	12,115	2,636	1,196
3-7	25	12,330	2,599	1,179
3-8	27	12,702	2,725	1,236
3-9	12	5,751	1,302	591
3-10	29	13,292	2,800	1,270
3-11	15	6,426	1,382	627
3-12	27	10,629	2,454	1,113
3-13	51	22,521	5,040	2,286
3-XX	12	5,881	1,360	617
7-A	68	29,066	8,607	3,904
7-B	67	27,256	7,379	3,347
TOTALS -	404	184,028	43,699	19,822