

6/4/73

To: Joe Hervey, H-8

From: John Ender, H-8

Subject: Report of errors in 1st Quarterly Report for 1973

I have re-checked the data in above subject report & found the following errors:

- 1338
Report
1. On page 5, item I-D-Disposal shaft volume, the total for February should read 44 instead of 63. This changes February total from 3,550 to 3,531, and the qtr total (disposal shafts) from 232 to 213. The qtr overall total to 28,779 ft.³
 2. On page 6, Under total waste volume (TRU, U & FP/IA) The February total should be 23,492.2 and the qtr total should read 77,153.6 ft.³
 3. Page 6, item IV-B, U mass total should read 45,619.001 gm and U total Ci should read 28.1×10^{-3} Ci.

Page 6, item IV-C total curies should read 243.72 Ci



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OFFICE MEMORANDUM

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TO : Lamar Johnson, H-8 Group leader

DATE: 4/10/73

FROM : John Enders, H-8

SUBJECT : Solid Radioactive Waste Disposal Report for the First Quarter of 1973

SYMBOL :

This report summarizes waste disposal activities for the first quarter of 1973. As some of the data presented is based on estimates, this fact should be kept in mind if any conclusions are to be drawn from the report.

Information on data presented was furnished by The Zia Company, LASL Accounting Dept., LASL Supply and Property Dept., LA Notebooks #12442, 17845, 17336, 14909, 17338, 17337, and 17339. Sludge and cement paste data was supplied by H-7 Group.

Procedures:

1. A rough draft of the revised SOP for use of skip type Dempster Dumpster containers is being reviewed.
2. An SOP for removal of leaking drums in pit #8 was prepared in March.
3. An SOP for retrieval of drums from pit #1 was prepared in March.

Purchase Requests:

1. A PR for 1,000 6" X 6" metal ID tags was sent out on 2/6. The estimated cost is \$410.00.
2. 900 metal ID tags for use on 55 gal. metal drums were received on 2/8.
3. A PR has been submitted for purchase of a fork lift to be used at Area G.

Work Orders:

1. 12 leaking drums were removed from pit #8 in March and hauled to TA-50. The Zia charges for this work should be charged to H-7 Group.
2. 4 drums filled with ²⁴¹Am cement paste from H-7's operations at DP West that were buried in pit #1 since April, 1961, were retrieved and taken to TA-50, in March. The charges for this work should be to H-7 Group.
3. Zia Laborers covered stacked drums in pit #8 with plastic sheeting in March.
4. New disposal shafts were drilled in Area G. The job was completed in February.
5. A number of 55 gal. drums were lowered into disposal shafts by Zia Riggers in February.
6. Sludge drums from TA-50 were stacked in pit #8 in February.

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Other Activities:

1. A-DO has requested disposal of several Kg of ^{235}U residues. Disposal into pit #5, Area G, has been suggested and approval from Dave Smith, for criticality safety, is pending.
2. Discovery of leaking sludge drums in pit #8 has posed a serious problem. Considerable time has been spent on possible solutions. One, repackaging, appears possible, but expensive. Two, burial of the drums in pit #8 is also feasible, but would require adjustment of data reported to the AEC since the drums have been classified as TRU retrievable material.
3. It has been decided to place material from the demolition of Bldg. 12, DP West, along the east side of pit #17. Also, some filter tower sections from the CMR Bldg. have been placed here, too. The material can be relocated into a burial pit at a later date when additional pit space is available. As of the end of March, about 6,900 ft.³ had been placed along the east side of pit #17.
4. An audit of waste disposal activities was carried out by AEC personnel (Robert Lowery and Eli Maestas) of the Alb. AEC office, in January.
5. Air sampling around pit #8 was carried out after discovery of the leaking drums in the pit. To date, all sample results were negative.
6. A much larger than normal amount of material (loose and PN items) was delivered to Area G in March due to the cleaning out operations at TA-46, TA-33 and other Lab Sites.

Cost data explanation:

1. Small plastic bags cost 6 cents ea. (GS-2308). The number of bags used is based on reports to this office by Zia Janitors.
2. Large plastic bags (GS-2306) cost 18 cents ea. and the number used is also based on reports by Zia janitors. The bags, when full, hold an estimated 4 ft.³.
3. Cardboard boxes cost 20 cents each and have a volume of 2.2 ft.³. The numbers of boxes used are based on reports made to this office when Dempster Dumpsters are filled and ready to be emptied.
4. 30 gal. drums cost \$6.17 and have an estimated volume of 3 ft.³.

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5. 55 gal. drums cost \$11.00 each and have a volume of 8 ft.³. LG-1103 is the stock number of the type of drum now being used.
6. The latest price quoted for a 4' X 4' X 8' plywood crate, supplied by the Zia Co. was \$250.00.
7. Masking tape(2") costs \$1.00 per roll. The number of rolls used is based on an estimate.
8. The Zia Janitor charge is based on a time study which showed that about one manhour per day is used to package waste. A total of 43 janitors are involved with this job.
9. Health Physics costs are reported by the Accounting Dept. and include salary, overhead, material and services charged to account code 8501,A-411.
10. Zia Labor and heavy equipment charges are reported by the Accounting Dept. from Work Orders #6850103 and 6570173.
11. The protective clothing charge is based on an estimate.
12. Road and Ruin excavation charges are based on a cost write-off over a 20 year period. The balance remaining as of March 31 amounts to \$2,718.00.
13. Dempster Dumpster transportation costs are reported by the LM&R section of the Zia Co. and are based on a cost per mile and total miles.
14. Excavation costs for digging the five new disposal pits has been written off at the rate of \$3,000 per quarter. The balance as of March 31 amounts to \$6,000.00.
15. Fencing charges are being written off at the rate of \$1218 per quarter. The balance remaining as of March 31, is \$9,642.00.
16. The H-1 vehicle charge is for two pickups and a one ton stake body truck, and is based on information supplied by Supply and Property Dept.
17. The H-1 radio charge is for three mobile units, one console and one pager unit and is based on information supplied by E-1 Group.
18. Drill disposal shafts--the cost is based on an estimate of \$100 per shaft and 8 shafts drilled. The actual cost should appear on the April report from the Accounting Dept.
19. Lower drums into disposal shafts--this job is based on an estimate. The Zia Riggers currently do this work.

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<u>Packaging materials:</u>	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Qtr. total</u>
1. Small plastic bags	987	1,380	894	3,261
2. Large plastic bags	344	541	409	1,294
3. Cardboard boxes	1,746	2,226	2,872	6,844
4. Drums(55 gal.)	378	147	32	557
5. Drums(30 gal.)	16	17	0	33
6. Crates	0	14	1	15
7. Masking tape(rolls)	500	500	500	1,500

Disposal Costs:

1. Sm. plastic bags	\$ 59	\$ 83	\$ 54	\$ 196
2. Lg. plastic bags	62	97	74	233
3. Boxes	349	445	574	1,368
4. Drums(30 gal.)	99	104	0	203
5. Drums(55 gal.)	4,158	1,617	352	6,127
6. Crates	0	3,500	250	3,750
7. Tape	500	500	500	1,500
8. Zia Janitor	4,660	4,660	4,660	13,980
9. Health Physics	3,947	3,542	3,800*	11,289
10. Zia Labor	1,568	3,067	1,589*	6,224
11. Pro. clothing	100	100	100	300
12. Rd.& Ruin excav.	45	45	45	135
13. Transport D. D.	868	1,188	1,386	3,442
14. Excav. 5 pits	1,000	1,000	1,000	3,000
15. Fencing	406	406	406	1,218
16. Vehicles	80	80	80	240
17. Radios	55	55	55	165
18. Drill shafts		800*		800
19. Lower drums		500*		500
Totals:	\$ 18,046	21,879	15,015	54,940
Cost/Ft. ³	\$1.76	\$0.92	\$0.35	\$0.72

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Waste Volume: (Ft. ³)	Jan.	Feb.	Mar.	Qtr. total (Ft. ³)	
I. U Waste					
A. Pit #5					
1. TU chips	48	48	0	96	"
2. Graphite	216	91	216	523	"
3. Box(²³⁸ U)	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>	"
Pit total:	266	139	216	621	"
B. Pit #16					
	0	150	1,872	2,022	"
C. Pit #21					
1. Boxes	1,560	2,092	2,477	6,129	"
2. Loose material	<u>0</u>	<u>1,106</u>	<u>18,688</u>	<u>19,794</u>	"
	1,560	3,198	21,165	25,923	"
D. Disposal shafts	<u>11</u>	63 ²²⁴	<u>158</u>	232 ²¹³	"
Totals:	1,837	3,550 ^{3,531}	23,411	28,798 ^{28,779}	"
II. TRU Waste					
A. Pit #5					
1. ²³⁸ Pu, drums	0	3	0	3	"
2. ²³⁸ Pu, crates	<u>0</u>	<u>608</u>	<u>0</u>	<u>608</u>	"
Pit total:	0	611	0	611	"
B. Pit #8 (>10nCi/gm)					
1. Drums	3,024	1,152	0	4,176	"
C. Pit #12 (>10nCi/gm)					
1. Drums	0	24	112	136	"
2. Crates	0	1,184	960	2,144	"
3. Fltr. Twr. sections	<u>0</u>	<u>0</u>	<u>5,536</u>	<u>5,536</u>	"
Pit total:	0	1,208	6,608	7,816	"
D. Pit #17 (<10nCi/gm)					
1. Bags	1,376	2,164	1,636	5,176	"
2. Boxes	2,281	2,805	3,841	8,927	"
3. Drums (55 gal.)	0	0	144	144	"
4. Loose material	<u>66</u>	<u>10,354</u>	<u>5,618</u>	<u>16,038</u>	"
Pit total:	3,723	15,323	11,239	30,285	"

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	Jan.	Feb.	Mar.	Qtr. total (Ft. ³)	
E. Area A (DPW)	0	0	0	0	"
F. Area T (DPW) ($> 10 \frac{c}{ft}$)	1,596	1,644	2,163	5,403	"
G. Disp. shafts	<u>28</u>	<u>15</u>	<u>18</u>	<u>61</u>	"
TRU total:	8,371	19,953	20,028	48,352	"

III. FP/IA Waste:

A. Disp. shafts	3	8.2	11.4	22.6	"
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Total Waste Volume:

(TRU, U, FP/IA)	10,211	23,511.2	43,450.4	77,172.6	"
		23,502.2		77,153.6	

IV. Mass/Activity:

A. TRU	12.3 gm.	10.7 gm.	22.0 gm.	45.0 gm.
	0.65 Ci	0.656 Ci	1.35 Ci	2.656 Ci
B. U	17,530.901 gm	27,976.7 gm	111.4 gm	45,619.001 gm
	7.6×10^{-3} Ci	12.46×10^{-3} Ci	0.008 Ci	15.8×10^{-3} Ci
C. FP/IA	49.1 Ci	70.95 Ci	123.67 Ci	243.299 Ci
				243.72

V. H-7 Sludge & cement paste:

A. TA-50 Sludge	gm	Ci	gm	Ci	gm	Ci	gm	Ci
1. ²³⁹ Pu	0.682	0.04	1.382	0.084	2.29	0.14	4.354	0.264
2. ²³⁸ Pu	6.138	106.8	12.438	216.42	20.6	358.9	39.176	682.12
B. Bld. 257 Paste								
1. ²³⁹ Pu	26.19	1.6	173.84	10.67	60.63	3.72	260.66	15.99
2. ²³⁸ Pu	0.007	0.126	0.052	0.909	0.134	0.082	0.193	1.117
3. $\beta + \gamma$		0.034		0.93		0.079		1.043

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