For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-239	Solid.	UALX.	T .16000000000000	CI	1962	1962	N	-50%	+50%	See continuation page.
Pu-240	Solid.	UALX.	T .10000000000000	CI	1962	1962	N	-50%	+50%	See continuation page.
Pu-241	Solid.	UALX.	T 65.880000000000	CI	1962	1962	N	-50%	+50%	See continuation page.
Am-241	Solid.	UALX.	T .11000000000000	CI	1962	1962	N	-50%	+50%	See continuation page.
Pu-242	Solid.	UALX.	T .00100870000000	CI	1962	1962	N	-50%	+50%	See continuation page.
Am-243	Solid.	UALX.	T .01000000000000	CI	1962	1962	N	-50%	+50%	See continuation page.
Cm-242	Solid.	UALX.	T .64000000000000	CI	1962	1962	N	-50%	+50%	See continuation page.
Cm-244	Solid.	UALX.	T 1..8000000000000	CI	1962	1962	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00001283900000	CI	1962	1962	N	-20%	+20%	See comment (b) below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

a. H-3, tritium, is bound to the metal and not likely to migrate to its surrounding environment.

b. The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error).

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
H-3	Solid.	UALX.	T 67.340000000000	CI	1963	1963	N	-50%	+50%	See comment (a) below.
Sr-90	Solid.	UALX.	T 15110.200000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Tc-99	Solid.	UALX.	T 1.9300000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Sb-125	Solid.	UALX.	T 885.13000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
I-129	Solid.	UALX.	T .00349700000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Cs-137	Solid.	UALX.	T 15845.430000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Eu-152	Solid.	UALX.	T .05000000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Eu-154	Solid.	UALX.	T 1187.7700000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Eu-155	Solid.	UALX.	T 750.76000000000	CI	1963	1963	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
U-234	Solid.	UALX.	T .16000000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00356200000000	CI	1963	1963	N	-50%	+50%	See continuation page.
U-236	Solid.	UALX.	T .06000000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Np-237	Solid.	UALX.	T .10000000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Pu-238	Solid.	UALX.	T 410.08000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Pu-239	Solid.	UALX.	T 1.7500000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Pu-240	Solid.	UALX.	T 1.0700000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Pu-241	Solid.	UALX.	T 709.88000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Am-241	Solid.	UALX.	T 1.2100000000000	CI	1963	1963	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-242	Solid.	UALX.	T .01000000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Am-243	Solid.	UALX.	T .14000000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Cm-242	Solid.	UALX.	T 6.9300000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
Cm-244	Solid.	UALX.	T 19.360000000000	CI	1963	1963	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00029103000000	CI	1963	1963	N	-20%	+20%	See comment (b) below.
U-238	Solid.	UALX.	T .00003495900000	CI	1963	1963	N	-20%	+20%	See comment (b) below.
H-3	Solid.	UALX.	T .21000000000000	CI	1964	1964	N	-50%	+50%	See comment (a) below.
Sr-90	Solid.	UALX.	T 47.490000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Tc-99	Solid.	UALX.	T .01000000000000	CI	1964	1964	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Sb-125	Solid.	UALX.	T 2.7800000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
I-129	Solid.	UALX.	T .00001099100000	CI	1964	1964	N	-50%	+50%	See continuation page.
Cs-137	Solid.	UALX.	T 49.800000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Eu-152	Solid.	UALX.	T .00017076000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Eu-154	Solid.	UALX.	T 3.7300000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Eu-155	Solid.	UALX.	T 2.3600000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
U-234	Solid.	UALX.	T .00050100000000	CI	1964	1964	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00001119500000	CI	1964	1964	N	-50%	+50%	See continuation page.
U-236	Solid.	UALX.	T .00019990000000	CI	1964	1964	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Np-237	Solid.	UALX.	T .00030747000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Pu-238	Solid.	UALX.	T 1.2900000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Pu-239	Solid.	UALX.	T .01000000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Pu-240	Solid.	UALX.	T .00336650000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Pu-241	Solid.	UALX.	T 2.2300000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Am-241	Solid.	UALX.	T .00378980000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Pu-242	Solid.	UALX.	T .00003416300000	CI	1964	1964	N	-50%	+50%	See continuation page.
Am-243	Solid.	UALX.	T .00043546000000	CI	1964	1964	N	-50%	+50%	See continuation page.
Cm-242	Solid.	UALX.	T .02000000000000	CI	1964	1964	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cm-244	Solid.	UALX.	T .06000000000000	CI	1964	1964	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00000605880000	CI	1964	1964	N	-20%	+20%	See comment (b) below.
H-3	Solid.	UALX.	T 6.6100000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Sr-90	Solid.	UALX.	T 1482.9100000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Tc-99	Solid.	UALX.	T .19000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Sb-125	Solid.	UALX.	T 86.870000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
I-129	Solid.	UALX.	T .00034320000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Cs-137	Solid.	UALX.	T 1555.0700000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Eu-152	Solid.	UALX.	T .01000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Eu-154	Solid.	UALX.	T 116.57000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Eu-155	Solid.	UALX.	T 73.680000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
U-234	Solid.	UALX.	T .02000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00034957000000	CI	1966	1966	N	-50%	+50%	See continuation page.
U-236	Solid.	UALX.	T .01000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Np-237	Solid.	UALX.	T .01000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Pu-238	Solid.	UALX.	T 40.250000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Pu-239	Solid.	UALX.	T .17000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Pu-240	Solid.	UALX.	T .11000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-241	Solid.	UALX.	T 69.670000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Am-241	Solid.	UALX.	T .12000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Pu-242	Solid.	UALX.	T .00106670000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Am-243	Solid.	UALX.	T .01000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Cm-242	Solid.	UALX.	T .68000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
Cm-244	Solid.	UALX.	T 1.9000000000000	CI	1966	1966	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00001728000000	CI	1966	1966	N	-20%	+20%	See comment (b) below.
Th-232	Solid.	UALX.	T .02000000000000	CI	1966	1966	N	-20%	+20%	See comment (b) below.
H-3	Solid.	UALX.	T .25000000000000	CI	1967	1967	N	-50%	+50%	See comment (a) below.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Sr-90	Solid.	UALX.	T 56.950000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Tc-99	Solid.	UALX.	T .01000000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Sb-125	Solid.	UALX.	T 3.3400000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
I-129	Solid.	UALX.	T .00001317900000	CI	1967	1967	N	-50%	+50%	See continuation page.
Cs-137	Solid.	UALX.	T 59.720000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Eu-152	Solid.	UALX.	T .00020476000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Eu-154	Solid.	UALX.	T 4.4800000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Eu-155	Solid.	UALX.	T 2.8300000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
U-234	Solid.	UALX.	T .00060074000000	CI	1967	1967	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
U-235	Solid.	UALX.	T .00001342400000	CI	1967	1967	N	-50%	+50%	See continuation page.
U-236	Solid.	UALX.	T .00023970000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Np-237	Solid.	UALX.	T .00036868000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Pu-238	Solid.	UALX.	T 1.5500000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Pu-239	Solid.	UALX.	T .01000000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Pu-240	Solid.	UALX.	T .00403680000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Pu-241	Solid.	UALX.	T 2.6800000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Am-241	Solid.	UALX.	T .00454440000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Pu-242	Solid.	UALX.	T .00004096500000	CI	1967	1967	N	-50%	+50%	See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Am-243	Solid.	UALX.	T .00052215000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Cm-242	Solid.	UALX.	T .03000000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
Cm-244	Solid.	UALX.	T .07000000000000	CI	1967	1967	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00025500000000	CI	1967	1967	N	-20%	+20%	See comment (b) below.
U-238	Solid.	UALX.	T .00000199790000	CI	1967	1967	N	-20%	+20%	See comment (b) below.
H-3	Solid.	UALX.	T .01000000000000	CI	1970	1970	N	-50%	+50%	See comment (a) below.
Sr-90	Solid.	UALX.	T 1.2100000000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Tc-99	Solid.	UALX.	T .00015452000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Sb-125	Solid.	UALX.	T .07000000000000	CI	1970	1970	N	-50%	+50%	See continuation page.

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For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
I-129	Solid.	UALX.	T .00000027980000	CI	1970	1970	N	-50%	+50%	See continuation page.
Cs-137	Solid.	UALX.	T 1.2700000000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Eu-152	Solid.	UALX.	T .00000434680000	CI	1970	1970	N	-50%	+50%	See continuation page.
Eu-154	Solid.	UALX.	T .10000000000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Eu-155	Solid.	UALX.	T .06000000000000	CI	1970	1970	N	-50%	+50%	See continuation page.
U-234	Solid.	UALX.	T .00001275200000	CI	1970	1970	N	-50%	+50%	See continuation page.
U-235	Solid.	UALX.	T .00000028500000	CI	1970	1970	N	-50%	+50%	See continuation page.
U-236	Solid.	UALX.	T .00000508840000	CI	1970	1970	N	-50%	+50%	See continuation page.
Np-237	Solid.	UALX.	T .00000782650000	CI	1970	1970	N	-50%	+50%	See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
a. H-3, tritium, is bound to the metal and not likely to migrate to its surrounding environment.
b. The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMI$ radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error).

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-238	Solid.	UALX.	T .03000000000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Pu-239	Solid.	UALX.	T .00013995000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Pu-240	Solid.	UALX.	T .00008569400000	CI	1970	1970	N	-50%	+50%	See continuation page.
Pu-241	Solid.	UALX.	T .06000000000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Am-241	Solid.	UALX.	T .00009646900000	CI	1970	1970	N	-50%	+50%	See continuation page.
Pu-242	Solid.	UALX.	T .00000086960000	CI	1970	1970	N	-50%	+50%	See continuation page.
Am-243	Solid.	UALX.	T .00001108400000	CI	1970	1970	N	-50%	+50%	See continuation page.
Cm-242	Solid.	UALX.	T .00055473000000	CI	1970	1970	N	-50%	+50%	See continuation page.
Cm-244	Solid.	UALX.	T .00154900000000	CI	1970	1970	N	-50%	+50%	See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
a. H-3, tritium, is bound to the metal and not likely to migrate to its surrounding environment.
b. The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error).

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Th-232	Solid.	UALX.	T .00011099000000	CI	1970	1970	N	-20%	+20%	See comment (b) below.
U-235	Solid.	UALX.	T .00000094160000	CI	1973	1973	N	-20%	+20%	See comment (b) below.
U-238	Solid.	UALX.	T .00066599000000	CI	1973	1973	N	-20%	+20%	See comment (b) below.
U-235	Solid.	UALX.	T .00025039000000	CI	1977	1977	N	-20%	+20%	See comment (b) below.
U-238	Solid.	UALX.	T .08000000000000	CI	1977	1977	N	-20%	+20%	See comment (b) below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

a. H-3, tritium, is bound to the metal and not likely to migrate to its surrounding environment.

b. The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error).

PART E - SOURCES OF INFORMATION AND UNCERTAINTIES - TRA-603-9H

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
Interviewees wish to remain anonymous.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
MAP and MFP were not known.

8. Key assumptions used to deal with the unknowns:
MAP radionuclides were chosen based on their cross sections and half lives. MFP radionuclides were chosen based on the fission products and their half lives. On part D, no G-M counter correction is needed to entries for which upper and lower bounds are given. The presence of such bounds indicates that the estimate was based on weight, laboratory analysis, spectrometry, and/or mathematical calculations. The G-M counter correction is needed for entries for which no bounds are given, because such estimates were originally made using the G-M counter method.

Continuation of Part D Column or Question Number or Title Uncertainty basis.

Radionuclides are indicated as qualified on this page because burnup on fuel is well known. The preparer believes the total activity of the fuel is well known however, since MAP and MFP were sometimes lumped together, a 50% error was assigned. Also, some of the fuel may have been counted by a sodium detector used by the Radiation Measurements Laboratory at TRA.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 192

1. Preparer: Amaro, C.

2. Date prepared: 09/04/93

3. Generator: TRA
(area or contractor - use code from attached list)

4. Particular facility: 603
(building number - use code from attached list)

5. Number of waste stream from this facility:
10H

6. Waste stream:
Asbestos.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[ ] LLW
[X] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1960 Ending year 1960

9. Waste stream volume:
Amount 1000.0000 Units Cubic feet.
Check box: [ ] annual or [X] total over all years
Check box: [ ] container volume or [X] waste volume

10. Comments (specify number of pertinent question):
9. Waste volume is an estimate because of a letter P.D. Randolph wrote to Bob Nitshke on December 17, 1992. In this letter, an interview with Bob O'Connor was conducted. Bob estimated that 3000 linear feet was sent to the RWMC. RWMIS did not have this amount. The preparer added this sum to the sum in RWMIS.

1. General physical form (see attached list)

[X] other (specify)
Asbestos.

2. Details on physical form(particularly confinement related)

3. Chemical form:
Unknown.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Metal barrel.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. Asbestos was also dumped in a trench without any outer containment.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
1332-21-4 Asbestos	Asbestos.	Unknown.	A 1100000.0000000	GM	1960	1960	N			See comment below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

PART E - SOURCES OF INFORMATION AND UNCERTAINTIES - TRA-603-10H

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[X] other
Letter.

2. Details concerning source (names, report no., dates, etc.)
Letter from P.D. Randolph to Bob Nitshke dated December 17, 1992.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[ ] no
[X] yes

6. If yes, explain why:
The volume is larger.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:
The volume of the asbestos waste stream is estimated to be 1000 cubic feet. Based on information (Marks Mechanical Engineering Handbook, 1951 and vendor piping catalogs) about the typical composition of the material at that time period, the composition was assumed to be 85% magnesia and hydrated magnesium carbonate, and 15% asbestos. The density is 15-17 lb/cubic foot. Thus, 1000 cubic feet x 16 lb/cubic foot x 0.15 x 454g/lb = 1.1E+06 g.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 148

1. Preparer: Amaro, C.

2. Date prepared: 08/28/93

3. Generator: TRA
(area or contractor - use code from attached list)

4. Particular facility: 603
(building number - use code from attached list)

5. Number of waste stream from this facility:
11H

6. Waste stream:
Meat contaminated with botulinus.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[ ] LLW
[X] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1961 Ending year 1961

9. Waste stream volume:
Amount 0.0566 Units Cubic feet.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):

1. General physical form (see attached list)
Biological waste.
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Meat contaminated with botulinus.

3. Chemical form:

4. Inner packaging: [X] plastic bag [ ] plastic liner
[ ] metal liner [ ] none [ ] other (specify)

5. Waste container type (see attached list)
Other.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. "Other", which cannot be defined.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

PART E - SOURCES OF INFORMATION AND UNCERTAINTIES - TRA-603-11H

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
None identified.

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 145

1. Preparer: Amaro, C.

2. Date prepared: 08/27/93

3. Generator: TRA
(area or contractor - use code from attached list)

4. Particular facility: 603
(building number - use code from attached list)

5. Number of waste stream from this facility:
12H

6. Waste stream:
Vermiculite.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1962 Ending year 1973

9. Waste stream volume:
Amount 11.9040 Units Cubic feet.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
4. Also 642.

1. General physical form (see attached list)
Vermiculite and other sorbents.
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Vermiculite.

3. Chemical form:
SiO2.

4. Inner packaging: [ ] plastic bag [X] plastic liner
[ ] metal liner [ ] none [ ] other (specify)

5. Waste container type (see attached list)
Metal barrel*.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. BXC.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
H-3	Vermiculite.	Unknown.	T .00006232000000	CI	1962	1962	N			See continuation page.
C-14	Vermiculite.	Unknown.	T .00000836000000	CI	1962	1962	N			See continuation page.
Fe-55	Vermiculite.	Unknown.	T .00144400000000	CI	1962	1962	N			See continuation page.
Ni-59	Vermiculite.	Unknown.	T .00000043300000	CI	1962	1962	N			See continuation page.
Ni-63	Vermiculite.	Unknown.	T .00024320000000	CI	1962	1962	N			See continuation page.
Co-60	Vermiculite.	Unknown.	T .00050900000000	CI	1962	1962	N			See continuation page.
Sr-90	Vermiculite.	Unknown.	T .00000069920000	CI	1962	1962	N			See continuation page.
Tc-99	Vermiculite.	Unknown.	T .00000013680000	CI	1962	1962	N			See continuation page.
I-129	Vermiculite.	Unknown.	T .00000000004000	CI	1962	1962	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cs-137	Vermiculite.	Unknown.	T .00015200000000	CI	1962	1962	N			See continuation page.
Ce-144	Vermiculite.	Unknown.	T .00000357200000	CI	1962	1962	N			See continuation page.
Eu-154	Vermiculite.	Unknown.	T .00000000220000	CI	1962	1962	N			See continuation page.
Eu-155	Vermiculite.	Unknown.	T .00000714400000	CI	1962	1962	N			See continuation page.
U-234	Vermiculite.	Unknown.	T .00000000160000	CI	1962	1962	N			See continuation page.
U-235	Vermiculite.	Unknown.	T .00000000010000	CI	1962	1962	N			See continuation page.
U-236	Vermiculite.	Unknown.	T .00000000060000	CI	1962	1962	N			See continuation page.
Np-237	Vermiculite.	Unknown.	T .00000000100000	CI	1962	1962	N			See continuation page.
Pu-238	Vermiculite.	Unknown.	T .00000004100000	CI	1962	1962	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-239	Vermiculite.	Unknown.	T .00000004100000	CI	1962	1962	N			See continuation page.
Pu-240	Vermiculite.	Unknown.	T .00000000430000	CI	1962	1962	N			See continuation page.
Pu-241	Vermiculite.	Unknown.	T .00000448400000	CI	1962	1962	N			See continuation page.
Am-241	Vermiculite.	Unknown.	T .00000002100000	CI	1962	1962	N			See continuation page.
Cm-242	Vermiculite.	Unknown.	T .00000002100000	CI	1962	1962	N			See continuation page.
Cm-244	Vermiculite.	Unknown.	T .00000001900000	CI	1962	1962	N			See continuation page.
H-3	Vermiculite.	Unknown.	T .00001093000000	CI	1973	1973	N			See continuation page.
C-14	Vermiculite.	Unknown.	T .00000146600000	CI	1973	1973	N			See continuation page.
Fe-55	Vermiculite.	Unknown.	T .00025320000000	CI	1973	1973	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Ni-59	Vermiculite.	Unknown.	T .00000007600000	CI	1973	1973	N			See continuation page.
Ni-63	Vermiculite.	Unknown.	T .00004264000000	CI	1973	1973	N			See continuation page.
Co-60	Vermiculite.	Unknown.	T .00008927000000	CI	1973	1973	N			See continuation page.
Sr-90	Vermiculite.	Unknown.	T .00000012260000	CI	1973	1973	N			See continuation page.
Tc-99	Vermiculite.	Unknown.	T .00000002400000	CI	1973	1973	N			See continuation page.
I-129	Vermiculite.	Unknown.	T .00000000001000	CI	1973	1973	N			See continuation page.
Cs-137	Vermiculite.	Unknown.	T .00002665000000	CI	1973	1973	N			See continuation page.
Ce-144	Vermiculite.	Unknown.	T .00000062620000	CI	1973	1973	N			See continuation page.
Eu-154	Vermiculite.	Unknown.	T .00000000040000	CI	1973	1973	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Eu-155	Vermiculite.	Unknown.	T .00000125200000	CI	1973	1973	N			See continuation page.
U-234	Vermiculite.	Unknown.	T .00000000030000	CI	1973	1973	N			See continuation page.
U-236	Vermiculite.	Unknown.	T .00000000010000	CI	1973	1973	N			See continuation page.
Np-237	Vermiculite.	Unknown.	T .00000000020000	CI	1973	1973	N			See continuation page.
Pu-238	Vermiculite.	Unknown.	T .00000000720000	CI	1973	1973	N			See continuation page.
Pu-239	Vermiculite.	Unknown.	T .00000000720000	CI	1973	1973	N			See continuation page.
Pu-240	Vermiculite.	Unknown.	T .00000000080000	CI	1973	1973	N			See continuation page.
Pu-241	Vermiculite.	Unknown.	T .00000078610000	CI	1973	1973	N			See continuation page.
Am-241	Vermiculite.	Unknown.	T .00000000360000	CI	1973	1973	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cm-242	Vermiculite.	Unknown.	T .00000000360000	CI	1973	1973	N			See continuation page.
Cm-244	Vermiculite.	Unknown.	T .00000000330000	CI	1973	1973	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

PART E - SOURCES OF INFORMATION AND UNCERTAINTIES - TRA-603-12H

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[ ] no
[X] yes

6. If yes, explain why:
A portion of, or all of the measurements, were assumed to be taken using a G-M detector which only measures gamma emitters; beta emitters have been added to the RWMIS activity based on scaling factors. Therefore, the total activity will be greater than that in RWMIS.

7. Major unknowns in inventories of contaminants:
MAP and MFP were unknown.

8. Key assumptions used to deal with the unknowns:
MAP radionuclides were chosen based on their cross sections and half lives. MFP radionuclides were chosen based on the fissionable products and their half lives. On part D, no G-M counter correction is needed to entries for which upper and lower bounds are given. The presence of such bounds indicates that the estimate was based on weight, laboratory analysis, spectrometry, and/or mathematical calculations. The G-M counter correction is needed for entries for which no bounds are given, because such estimates were originally made using the G-M counter method.

Continuation of Part D Column or Question Number or Title Uncertainty basis.

A Geiger-Mueller counter was probably used to measure this item. Therefore, the true uncertainty is not known.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 147

1. Preparer: Amaro, C.

2. Date prepared: 08/26/93

3. Generator: TRA
(area or contractor - use code from attached list)

4. Particular facility: 603
(building number - use code from attached list)

5. Number of waste stream from this facility:
13H

6. Waste stream:
Filters.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1960 Ending year 1973

9. Waste stream volume:
Amount 6.8090 Units Cubic feet.
Check box: [ ] annual or [X] total over all years
Check box: [ ] container volume or [X] waste volume

10. Comments (specify number of pertinent question):

1. General physical form (see attached list)
Other filters.
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Filter from various operations. No specific type.

3. Chemical form:
Because the filter typed used is unknown, the chemical form is unknown.

4. Inner packaging: [ ] plastic bag [X] plastic liner
[ ] metal liner [ ] none [ ] other (specify)

5. Waste container type (see attached list)
Metal barrel*.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. BXC, O, and BXW. "Other" cannot be defined by the preparer of this report.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
H-3	Paper.	Unknown.	T .90280000000000	CI	1960	1960	N			See continuation page.
C-14	Paper.	Unknown.	T .12110000000000	CI	1960	1960	N			See continuation page.
Fe-55	Paper.	Unknown.	T 20.920000000000	CI	1960	1960	N			See continuation page.
Ni-59	Paper.	Unknown.	T .00627600000000	CI	1960	1960	N			See continuation page.
Ni-63	Paper.	Unknown.	T 3.5230000000000	CI	1960	1960	N			See continuation page.
Co-60	Paper.	Unknown.	T 7.3760000000000	CI	1960	1960	N			See continuation page.
Sr-90	Paper.	Unknown.	T .01013000000000	CI	1960	1960	N			See continuation page.
Tc-99	Paper.	Unknown.	T .00198200000000	CI	1960	1960	N			See continuation page.
I-129	Paper.	Unknown.	T .00000051525000	CI	1960	1960	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error). Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cs-137	Paper.	Unknown.	T 2.2020000000000	CI	1960	1960	N			See continuation page.
Ce-144	Paper.	Unknown.	T .05175000000000	CI	1960	1960	N			See continuation page.
Eu-154	Paper.	Unknown.	T .00003193000000	CI	1960	1960	N			See continuation page.
Eu-155	Paper.	Unknown.	T .10350000000000	CI	1960	1960	N			See continuation page.
U-234	Paper.	Unknown.	T .00002312000000	CI	1960	1960	N			See continuation page.
U-235	Paper.	Unknown.	T .00000049540000	CI	1960	1960	N			See continuation page.
U-236	Paper.	Unknown.	T .00000880800000	CI	1960	1960	N			See continuation page.
Np-237	Paper.	Unknown.	T .00001431000000	CI	1960	1960	N			See continuation page.
Pu-238	Paper.	Unknown.	T .00059450000000	CI	1960	1960	N			See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-239	Paper.	Unknown.	T .00059450000000	CI	1960	1960	N			See continuation page.
Pu-240	Paper.	Unknown.	T .00006276000000	CI	1960	1960	N			See continuation page.
Pu-241	Paper.	Unknown.	T .06496000000000	CI	1960	1960	N			See continuation page.
Am-241	Paper.	Unknown.	T .00029730000000	CI	1960	1960	N			See continuation page.
Cm-242	Paper.	Unknown.	T .00029730000000	CI	1960	1960	N			See continuation page.
Cm-244	Paper.	Unknown.	T .00027520000000	CI	1960	1960	N			See continuation page.
H-3	Paper.	Unknown.	T 16.400000000000	CI	1961	1961	N			See continuation page.
C-14	Paper.	Unknown.	T 2.2000000000000	CI	1961	1961	N			See continuation page.
Fe-55	Paper.	Unknown.	T 380.00000000000	CI	1961	1961	N			See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Ni-59	Paper.	Unknown.	T .11400000000000	CI	1961	1961	N			See continuation page.
Ni-63	Paper.	Unknown.	T 64.000000000000	CI	1961	1961	N			See continuation page.
Co-60	Paper.	Unknown.	T 134.00000000000	CI	1961	1961	N			See continuation page.
Sr-90	Paper.	Unknown.	T .18400000000000	CI	1961	1961	N			See continuation page.
Tc-99	Paper.	Unknown.	T .03600000000000	CI	1961	1961	N			See continuation page.
I-129	Paper.	Unknown.	T .00000936000000	CI	1961	1961	N			See continuation page.
Cs-137	Paper.	Unknown.	T 40.000000000000	CI	1961	1961	N			See continuation page.
Ce-144	Paper.	Unknown.	T .94000000000000	CI	1961	1961	N			See continuation page.
Eu-154	Paper.	Unknown.	T .00058000000000	CI	1961	1961	N			See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Eu-155	Paper.	Unknown.	T 1.8800000000000	CI	1961	1961	N			See continuation page.
U-234	Paper.	Unknown.	T .00042000000000	CI	1961	1961	N			See continuation page.
U-235	Paper.	Unknown.	T .00000900000000	CI	1961	1961	N			See continuation page.
U-236	Paper.	Unknown.	T .00016000000000	CI	1961	1961	N			See continuation page.
Np-237	Paper.	Unknown.	T .00026000000000	CI	1961	1961	N			See continuation page.
Pu-238	Paper.	Unknown.	T .01080000000000	CI	1961	1961	N			See continuation page.
Pu-239	Paper.	Unknown.	T .01080000000000	CI	1961	1961	N			See continuation page.
Pu-240	Paper.	Unknown.	T .00114000000000	CI	1961	1961	N			See continuation page.
Pu-241	Paper.	Unknown.	T 1.1800000000000	CI	1961	1961	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Am-241	Paper.	Unknown.	T .00540000000000	CI	1961	1961	N			See continuation page.
Cm-242	Paper.	Unknown.	T .00540000000000	CI	1961	1961	N			See continuation page.
Cm-244	Paper.	Unknown.	T .00500000000000	CI	1961	1961	N			See continuation page.
H-3	Paper.	Unknown.	T .27630000000000	CI	1962	1962	N			See continuation page.
C-14	Paper.	Unknown.	T .03707000000000	CI	1962	1962	N			See continuation page.
Fe-55	Paper.	Unknown.	T 6.4030000000000	CI	1962	1962	N			See continuation page.
Ni-59	Paper.	Unknown.	T .00192100000000	CI	1962	1962	N			See continuation page.
Ni-63	Paper.	Unknown.	T 1.0780000000000	CI	1962	1962	N			See continuation page.
Co-60	Paper.	Unknown.	T 2.2580000000000	CI	1962	1962	N			See continuation page.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Sr-90	Paper.	Unknown.	T .00310000000000	CI	1962	1962	N			See continuation page.
Tc-99	Paper.	Unknown.	T .00060660000000	CI	1962	1962	N			See continuation page.
I-129	Paper.	Unknown.	T .00000015768000	CI	1962	1962	N			See continuation page.
Cs-137	Paper.	Unknown.	T .67400000000000	CI	1962	1962	N			See continuation page.
Ce-144	Paper.	Unknown.	T .01584000000000	CI	1962	1962	N			See continuation page.
Eu-154	Paper.	Unknown.	T .00000977300000	CI	1962	1962	N			See continuation page.
Eu-155	Paper.	Unknown.	T .03168000000000	CI	1962	1962	N			See continuation page.
U-234	Paper.	Unknown.	T .00000707700000	CI	1962	1962	N			See continuation page.
U-235	Paper.	Unknown.	T .00000015170000	CI	1962	1962	N			See continuation page.

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U-236	Paper.	Unknown.	T .00000269600000	CI	1962	1962	N			See continuation page.
Np-237	Paper.	Unknown.	T .00000438100000	CI	1962	1962	N			See continuation page.
Pu-238	Paper.	Unknown.	T .00018200000000	CI	1962	1962	N			See continuation page.
Pu-239	Paper.	Unknown.	T .00018200000000	CI	1962	1962	N			See continuation page.
Pu-240	Paper.	Unknown.	T .00001921000000	CI	1962	1962	N			See continuation page.
Pu-241	Paper.	Unknown.	T .01988000000000	CI	1962	1962	N			See continuation page.
Am-241	Paper.	Unknown.	T .00009099000000	CI	1962	1962	N			See continuation page.
Cm-242	Paper.	Unknown.	T .00009099000000	CI	1962	1962	N			See continuation page.
Cm-244	Paper.	Unknown.	T .00008425000000	CI	1962	1962	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
H-3	Paper.	Unknown.	T .00246000000000	CI	1971	1971	N			See continuation page.
C-14	Paper.	Unknown.	T .00033000000000	CI	1971	1971	N			See continuation page.
Fe-55	Paper.	Unknown.	T .05700000000000	CI	1971	1971	N			See continuation page.
Ni-59	Paper.	Unknown.	T .00001710000000	CI	1971	1971	N			See continuation page.
Ni-63	Paper.	Unknown.	T .00960000000000	CI	1971	1971	N			See continuation page.
Co-60	Paper.	Unknown.	T .02010000000000	CI	1971	1971	N			See continuation page.
Sr-90	Paper.	Unknown.	T .00002760000000	CI	1971	1971	N			See continuation page.
Tc-99	Paper.	Unknown.	T .00000540000000	CI	1971	1971	N			See continuation page.
I-129	Paper.	Unknown.	T .00000000140000	CI	1971	1971	N			See continuation page.

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Radionuclide	Physical Form	Chemical form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cs-137	Paper.	Unknown.	T .00600000000000	CI	1971	1971	N			See continuation page.
Ce-144	Paper.	Unknown.	T .00014100000000	CI	1971	1971	N			See continuation page.
Eu-154	Paper.	Unknown.	T .00000008700000	CI	1971	1971	N			See continuation page.
Eu-155	Paper.	Unknown.	T .00028200000000	CI	1971	1971	N			See continuation page.
U-234	Paper.	Unknown.	T .00000006300000	CI	1971	1971	N			See continuation page.
U-235	Paper.	Unknown.	T .00000000135000	CI	1971	1971	N			See continuation page.
U-236	Paper.	Unknown.	T .00000002400000	CI	1971	1971	N			See continuation page.
Np-237	Paper.	Unknown.	T .00000003900000	CI	1971	1971	N			See continuation page.
Pu-238	Paper.	Unknown.	T .00000162000000	CI	1971	1971	N			See continuation page.

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Pu-239	Paper.	Unknown.	T .00000162000000	CI	1971	1971	N			See continuation page.
Pu-240	Paper.	Unknown.	T .00000017100000	CI	1971	1971	N			See continuation page.
Pu-241	Paper.	Unknown.	T .00017700000000	CI	1971	1971	N			See continuation page.
Am-241	Paper.	Unknown.	T .00000081000000	CI	1971	1971	N			See continuation page.
Cm-242	Paper.	Unknown.	T .00000081000000	CI	1971	1971	N			See continuation page.
Cm-244	Paper.	Unknown.	T .00000075000000	CI	1971	1971	N			See continuation page.
U-235	Paper.	Unknown.	T .00004921900000	CI	1971	1971	N	-20%	+20%	See comment below.
U-238	Paper.	Unknown.	T 1.1600000000000	CI	1971	1971	N	-20%	+20%	See comment below.
Cr-51	Paper.	Unknown.	T .04000000000000	CI	1971	1971	N	-20%	+20%	See comment below.

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H-3	Paper.	Unknown.	T .04000000000000	CI	1971	1971	N	-20%	+20%	See comment below.
Mn-54	Paper.	Unknown.	T .01000000000000	CI	1971	1971	N	-20%	+20%	See comment below.
Zn-65	Paper.	Unknown.	T .12000000000000	CI	1971	1971	N	-20%	+20%	See comment below.
Co-60	Paper.	Unknown.	T .12000000000000	CI	1971	1971	N	-20%	+20%	See comment below.
H-3	Paper.	Unknown.	T .00017210000000	CI	1972	1972	N			See continuation page.
C-14	Paper.	Unknown.	T .00002309000000	CI	1972	1972	N			See continuation page.
Fe-55	Paper.	Unknown.	T .00398800000000	CI	1972	1972	N			See continuation page.
Ni-59	Paper.	Unknown.	T .00000119600000	CI	1972	1972	N			See continuation page.
Ni-63	Paper.	Unknown.	T .00067170000000	CI	1972	1972	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error). Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Paper.	Unknown.	T .00140600000000	CI	1972	1972	N			See continuation page.
Sr-90	Paper.	Unknown.	T .00000193100000	CI	1972	1972	N			See continuation page.
Tc-99	Paper.	Unknown.	T .00000037780000	CI	1972	1972	N			See continuation page.
I-129	Paper.	Unknown.	T .00000000010000	CI	1972	1972	N			See continuation page.
Cs-137	Paper.	Unknown.	T .00041980000000	CI	1972	1972	N			See continuation page.
Ce-144	Paper.	Unknown.	T .00000986500000	CI	1972	1972	N			See continuation page.
Eu-154	Paper.	Unknown.	T .00000000610000	CI	1972	1972	N			See continuation page.
Eu-155	Paper.	Unknown.	T .00001973000000	CI	1972	1972	N			See continuation page.
U-234	Paper.	Unknown.	T .00000000440000	CI	1972	1972	N			See continuation page.

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Additional information or explanations (indicate pertinent contaminant)

The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error). Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

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Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
U-235	Paper.	Unknown.	T .00000000010000	CI	1972	1972	N			See continuation page.
U-236	Paper.	Unknown.	T .00000000170000	CI	1972	1972	N			See continuation page.
Np-237	Paper.	Unknown.	T .00000000270000	CI	1972	1972	N			See continuation page.
Pu-238	Paper.	Unknown.	T .00000011330000	CI	1972	1972	N			See continuation page.
Pu-239	Paper.	Unknown.	T .00000011330000	CI	1972	1972	N			See continuation page.
Pu-240	Paper.	Unknown.	T .00000001200000	CI	1972	1972	N			See continuation page.
Pu-241	Paper.	Unknown.	T .00001238000000	CI	1972	1972	N			See continuation page.
Am-241	Paper.	Unknown.	T .00000005670000	CI	1972	1972	N			See continuation page.
Cm-242	Paper.	Unknown.	T .00000005670000	CI	1972	1972	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

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For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cm-244	Paper.	Unknown.	T .00000005250000	CI	1972	1972	N			See continuation page.
H-3	Paper.	Unknown.	T .00007420000000	CI	1973	1973	N			See continuation page.
C-14	Paper.	Unknown.	T .01793000000000	CI	1973	1973	N			See continuation page.
Fe-55	Paper.	Unknown.	T .98800000000000	CI	1973	1973	N			See continuation page.
Ni-59	Paper.	Unknown.	T .00000036100000	CI	1973	1973	N			See continuation page.
Ni-63	Paper.	Unknown.	T .00021200000000	CI	1973	1973	N			See continuation page.
Co-60	Paper.	Unknown.	T .06700000000000	CI	1973	1973	N			See continuation page.
Sr-90	Paper.	Unknown.	T .00000029770000	CI	1973	1973	N			See continuation page.
Tc-99	Paper.	Unknown.	T .00000012640000	CI	1973	1973	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

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For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
I-129	Paper.	Unknown.	T .00000000001000	CI	1973	1973	N			See continuation page.
Cs-137	Paper.	Unknown.	T .00000111700000	CI	1973	1973	N			See continuation page.
Ce-144	Paper.	Unknown.	T .00000009160000	CI	1973	1973	N			See continuation page.
Eu-154	Paper.	Unknown.	T .00000023200000	CI	1973	1973	N			See continuation page.
Eu-155	Paper.	Unknown.	T .00000013080000	CI	1973	1973	N			See continuation page.
U-234	Paper.	Unknown.	T .00000000800000	CI	1973	1973	N			See continuation page.
U-236	Paper.	Unknown.	T .00000000010000	CI	1973	1973	N			See continuation page.
Np-237	Paper.	Unknown.	T .00000011700000*	CI	1973	1973	N			See continuation page.
Pu-238	Paper.	Unknown.	T .00000000090000	CI	1973	1973	N			See continuation page.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error). Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-239	Paper.	Unknown.	T .00054700000000	CI	1973	1973	N			See continuation page.
Pu-240	Paper.	Unknown.	T .00001015000000	CI	1973	1973	N			See continuation page.
Pu-241	Paper.	Unknown.	T .48530000000000	CI	1973	1973	N			See continuation page.
Am-241	Paper.	Unknown.	T .00165300000000	CI	1973	1973	N			See continuation page.
Cm-242	Paper.	Unknown.	T .00001323000000	CI	1973	1973	N			See continuation page.
Cm-244	Paper.	Unknown.	T .00000100000000	CI	1973	1973	N			See continuation page.
Ce-141	Paper.	Unknown.	T 2.9500000000000	CI	1973	1973	N	-20%	+20%	See comment below.
Ru-103	Paper.	Unknown.	T 1.0100000000000	CI	1973	1973	N	-20%	+20%	See comment below.
Zr-95	Paper.	Unknown.	T 14.550000000000	CI	1973	1973	N	-20%	+20%	See comment below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error). Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Paper.	Unknown.	T .26000000000000	CI	1973	1973	N	-20%	+20%	See comment below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

The sample column is marked "N" because the preparer cannot prove a sample was counted by the Radiation Measurements Laboratory (RML) at TRA, but based on the RWMIS radionuclide identification, the preparer believes a sample was counted. A 5-10% error is normal for a sample analyzed by the RML, however, being conservative, the preparer assigned a 20% error (doubling the 10% error). Additional radionuclides (e.g. U-235) were identified and calibrated, but are not shown here as their activity was less than 1E-11 curies.

PART E - SOURCES OF INFORMATION AND UNCERTAINTIES - TRA-603-13H

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
Interviewees wish to remain anonymous.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[ ] no
[X] yes

6. If yes, explain why:
A portion of, or all of the measurements, were assumed to be taken using a G-M detector which only measures gamma emitters; beta emitters have been added to the RWMIS activity based on scaling factors. Therefore, the total activity will be greater than that in RWMIS.

7. Major unknowns in inventories of contaminants:
MAP and MFP were unidentified.

8. Key assumptions used to deal with the unknowns:
MAP radionuclides were chosen based on their cross sections and half lives. MFP radionuclides were chosen based on their fissionable products and their half lives. On part D, no G-M counter correction is needed to entries for which upper and lower bounds are given. The presence of such bounds indicates that the estimate was based on weight, laboratory analysis, spectrometry, and/or mathematical calculations. The G-M counter correction is needed for entries for which no bounds are given, because such estimates were originally made using the G-M counter method.

Continuation of Part D Column or Question Number or Title Uncertainty basis.

A Geiger-Mueller counter was probably used to measure this item. Therefore, the true uncertainty is not known.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 155

1. Preparer: Amaro, C.

2. Date prepared: 08/27/93

3. Generator: TRA
(area or contractor - use code from attached list)

4. Particular facility: 603
(building number - use code from attached list)

5. Number of waste stream from this facility:
14H

6. Waste stream:
Continuous air monitors (CAMs).

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1977 Ending year 1977

9. Waste stream volume:
Amount 4.5310 Units Cubic feet.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):

1. General physical form (see attached list)

[X] other (specify)
CAMs.

2. Details on physical form(particularly confinement related)
Continuous air monitors are used to monitor different radiation areas to detect contamination.

3. Chemical form:
Particulates on surface of equipment.

4. Inner packaging: [ ] plastic bag [ ] plastic liner [ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Other.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. This equipment was probably shipped with a plastic bag cover.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
H-3	Particulate.	Particulate.	T .00008200000000	CI	1977	1977	N			See comment below.
C-14	Particulate.	Particulate.	T .00001100000000	CI	1977	1977	N			See comment below.
Fe-55	Particulate.	Particulate.	T .00190000000000	CI	1977	1977	N			See comment below.
Ni-59	Particulate.	Particulate.	T .00000057000000	CI	1977	1977	N			See comment below.
Ni-63	Particulate.	Particulate.	T .00032000000000	CI	1977	1977	N			See comment below.
Co-60	Particulate.	Particulate.	T .00067000000000	CI	1977	1977	N			See comment below.
Sr-90	Particulate.	Particulate.	T .00000092000000	CI	1977	1977	N			See comment below.
Tc-99	Particulate.	Particulate.	T .00000018000000	CI	1977	1977	N			See comment below.
I-129	Particulate.	Particulate.	T .00000000005000	CI	1977	1977	N			See comment below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

A smear of the equipment was probably analyzed by the Radiation Measurements Laboratory. From the smear, an activity was assigned to the CAMs. A computer code was probably used to determine this activity. Because a CAM cannot be analyzed, the activity is questionable.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cs-137	Particulate.	Particulate.	T .00020000000000	CI	1977	1977	N			See comment below.
Ce-144	Particulate.	Particulate.	T .00000470000000	CI	1977	1977	N			See comment below.
Eu-154	Particulate.	Particulate.	T .00000000290000	CI	1977	1977	N			See comment below.
Eu-155	Particulate.	Particulate.	T .00000940000000	CI	1977	1977	N			See comment below.
U-234	Particulate.	Particulate.	T .00000000210000	CI	1977	1977	N			See comment below.
U-235	Particulate.	Particulate.	T .00000000010000	CI	1977	1977	N			See comment below.
U-236	Particulate.	Particulate.	T .00000000080000	CI	1977	1977	N			See comment below.
Np-237	Particulate.	Particulate.	T .00000000130000	CI	1977	1977	N			See comment below.
Pu-238	Particulate.	Particulate.	T .00000005400000	CI	1977	1977	N			See comment below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

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Pu-239	Particulate.	Particulate.	T .00000005400000	CI	1977	1977	N			See comment below.
Pu-240	Particulate.	Particulate.	T .00000000570000	CI	1977	1977	N			See comment below.
Pu-241	Particulate.	Particulate.	T .00000590000000	CI	1977	1977	N			See comment below.
Am-241	Particulate.	Particulate.	T .00000002700000	CI	1977	1977	N			See comment below.
Cm-242	Particulate.	Particulate.	T .00000002700000	CI	1977	1977	N			See comment below.
Cm-244	Particulate.	Particulate.	T .00000002500000	CI	1977	1977	N			See comment below.

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

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1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
Interviewees wish to remain anonymous.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[ ] no
[X] yes

6. If yes, explain why:
A portion of, or all of the measurements, were assumed to be taken using a G-M detector which only measures gamma emitters; beta emitters have been added to the RWMIS activity based on scaling factors. Therefore, the total activity will be greater than that in RWMIS.

7. Major unknowns in inventories of contaminants:
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