DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 325

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 704
(building number - use code from attached list)

5. Number of waste stream from this facility:
1R

6. Waste stream:
Contact-handled nonprocessible fuel fabrication waste generated during the manufacturing of metallic fuels.

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 1846.0000 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. The ANL-W Fuel Manufacturing Facility (FMF) and Fuel Assembly and Storage Building (FASB) contribute to this waste stream.
9. Eighty-eight percent of the total volume of waste was generated at the FMF over the ten year period. The remaining 12 percent was generated at the FASB during the years 1984 to 1986.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
9, 16, 21, 42. See 7 below.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elemental metals, metal oxides, glass, yttrium and zirconium oxides.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. Also neoprene and latex gloves, yttrium oxide and zirconium oxide.
4. Waste is packaged in one quart cans or polyethylene sleeves or bags before being placed in the final outer container. The metal drums have either a 90 or 110 mil rigid polyliner. The wooden boxes have an 8 mil plastic liner.
5. Also BXW. Approximately 55 percent of the waste volume is packaged in 55-gallon metal drums and 45 percent in various sized wooden boxes.

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
1314-23-4 Zirconium Oxide	Solid.	Oxide.	T 10.000000000000	LB	1984	1993	N	-50%	+50%	Professional judgment.

* 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 zirconium oxide is used as a paint-type mixture to coat glass tubes for fuel pin casting. Typical annual usage of the zirconium oxide paint was 1 lb./year.

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
U-238	Contamination on waste solids.	Oxides.	T .25600000000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-235	Contamination on waste solids.	Oxides.	T .05120000000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-234	Contamination on waste solids.	Oxides.	T 1.2100000000000	CI	1984	1993	N	-25%	+25%	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)

Total curies = 1.52E+00. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-WCR-033-93 prepared by Tim Miller (Waste Characterization Report). Total volume, curies and container types were determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most current method and waste stream analysis. The RWMIS was used only for comparison.

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 RWMIS data curie content does not match ANL-W shipping database. The shipping database tracks containers by facility, but does not separate low-level and transuranic waste types as well as RWMIS. The error in curie content (+1.45Ci) is probably due to a transuranic container being misentered as a low-level waste container. The volume is correct to within 3%, so records were not retrieved from archive storage to determine the source of the discrepancy.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 326

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 752
(building number - use code from attached list)

5. Number of waste stream from this facility:
1R

6. Waste stream:
Contact-handled nonprocessible dry active waste generated by facility operations, monitoring, maintenance and modifications. This waste stream includes waste from the Lab and Office Building Analytical Laboratory Upgrades which began in 1992 and are expected to be completed in 1994.

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 4970.0000 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
6. The waste streams ANL-752-01 and ANL-752-02 that were reported in the 1952-1983 INEL RWMC SDA Inventory Reports have now been combined for the 1984 to 1993 time period and are reported here as ANL-752-01.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
21.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elemental metals, asbestos, glass, concrete, soil, plastic and cellulose.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
4. Waste is packaged in plastic bags before being placed in the final outer container. Metal drums have either a 90 or 110 mil rigid polyliner. The wooden boxes have an 8 mil plastic liner.
5. Also wooden boxes. Seventy percent of the waste volume was shipped in various sized wooden boxes, and 30 percent in 55-gallon metal drums.

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	Solid.	Fiber.	T 55680.000000000	GM	1984	1993	N	-50%	+50%	Professional judgment.

* 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)
It is assumed that the total volume of asbestos containing materials (ACM) disposed of over the ten year period is one percent of the total waste volume disposed of (50 ft3). Asbestos was present in the waste stream periodically in various forms such as embedded in lab counter tops, insulation, and pipe lagging. A conversion factor of 16 lb/ft3 ACM was used (Table D-1, Appendix D, EGG-10903, June 1994). Then 800 lb x 0.15 asbestos /lb ACM x 464 g/lb = 55, 680 g asbestos.

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
Ce-144	Contamination on waste solids.	Elemental.	T 2.5100000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Ru-106	Contamination on waste solids.	Elemental.	T 3.2900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .79500000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 33.400000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Sr-90	Contamination on waste solids.	Elemental.	T 85.200000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Y-90	Contamination on waste solids.	Elemental.	T 85.200000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Sb-125	Contamination on waste solids.	Elemental.	T .38700000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .70900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .02150000000000	CI	1984	1993	N	-25%	+25%	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)
Total curie = 2.15E+02. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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-154	Contamination on waste solids.	Elemental.	T .25800000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T .34400000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Pu-239	Contamination on waste solids.	Oxides.	T 1.5500000000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-234	Contamination on waste solids.	Oxides.	T 1.3300000000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-235	Contamination on waste solids.	Oxides.	T .05600000000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-238	Contamination on waste solids.	Oxides.	T .27200000000000	CI	1984	1993	N	-25%	+25%	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)
Total curie = 2.15E+02. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-WCR-040-93 prepared by Tim Miller (Waste Characterization Report). Total volume, curies and container types were determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most recent method and waste stream analysis. The RWMIS was used for comparison only.

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 curie content for ANL-725-1R was assumed to be correct, but the isotopic contributions were changed to account for curies listed as MFP/MAP. The ANL-752-1R volume estimate exceeds the RWMIS value by 20% (839 ft3). This difference is due to waste from other minor sources being included as Lab and office waste.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 327

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 765
(building number - use code from attached list)

5. Number of waste stream from this facility:
1R

6. Waste stream:
Contact-handled nonprocessible dry active waste generated in facility monitoring, operations, maintenance and modifications from Fuel Cycle Facility (ANL-765).

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 32177.0000 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)
Other scrap metals.
[X] other (specify)
15.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Elemental metals, metal alloys, glass, plastic, rubber, solidified oils, asbestos, and cellulose.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
4. Waste is packaged in cans or plastic bags before being placed in the final outer container. Metal drums have 90 or 110 mil rigid polyliners. Wooden boxes have an 8 mil plastic liner.
5. Also BXW. Ninety-five percent of the total volume is packaged in various sized wooden boxes, and five percent in 55-gallon metal drums.

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	Solid.	Fiber.	T 358231.00000000	GM	1984	1993	N	-50%	+50%	Professional judgment.

* 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)
It is assumed that the total volume of asbestos containing materials (ACM) disposed of over the ten year period is one percent of the total waste volume disposed of (321.7 ft3). Asbestos was present in the waste stream periodically in various forms such as insulation and pipe lagging. A conversion factor of 16 lb/ft3 ACM was used (Table D-1, Appendix D, EGG-10903, June 1994). Then 5147 x 0.15 asbestos/lb ACM x 464 g/lb = 358,231 g asbestos.

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
Sr-90	Contamination on waste solids.	Elemental.	T 53.900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Y-90	Contamination on waste solids.	Elemental.	T 53.900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
H-3	Contamination on waste solids.	Elemental.	T 2.5100000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .96000000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T .71700000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T 8.3700000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 10.800000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .77100000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Zr-95	Contamination on waste solids.	Elemental.	T .50000000000000	CI	1984	1993	N	-25%	+25%	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)
Total curies = 1.35E+02. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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
Nb-95	Contamination on waste solids.	Elemental.	T .14900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Ta-182	Contamination on waste solids.	Elemental.	T .62200000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .04060000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .14900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Ce-144	Contamination on waste solids.	Elemental.	T 1.7400000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Pu-239	Contamination on waste solids.	Oxides.	T .01350000000000	CI	1984	1993	N	-25%	+25%	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)
Total curies = 1.35E+02. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-WCR-038-93 prepared by Bruce A. Jensen (Waste Characterization Report). Total volume, curies and container types were determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most recent method and waste stream analysis. The RWMIS was used for comparison only.

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 ANL-W shipping database and RWMIS do not match. The ANL-W database assigns container numbers to facility contacts. The Fuel Cycle Facility (FCF) and Hot Fuel Examination Facility (HFEF) container numbers were issued through one person who could have interchanged the facility numbers. When both curie content and volume for HFEF and FCF are added, they match RWMIS values to within 3%. Curie isotopic contents were revised to account for MFP/MAP listings.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 328

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 765
(building number - use code from attached list)

5. Number of waste stream from this facility:
2R

6. Waste stream:
Remote-handled nonprocessible subassembly waste generated during nuclear fuel and material experiments.

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 308.0000 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)
Other scrap metals.
[X] other (specify)
42, 43, 7.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elemental metals, glass and lead.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[X] metal liner [ ] none [X] other (specify)
See 7 below.

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
4. Remote handled waste is packaged in 5 cubic foot steel welded cans with metal inserts for secondary containment. The waste cans contain a shield plug inserted on the top of the inner metal insert. Lead shield plugs were used until 1988 when they were replaced by steel shield plugs.

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
7439-92-1 Lead	Lead plug for shielding inside inserts.	Metal.	T 11524.000000000	LB	1984	1987	N	-10%	+10%	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)
Lead plug shields were used in the inserts until 1988, when steel shield plug use began. Each lead shield plug weighed 268 pounds, for a total of 11,524 pounds.

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
Mn-54	Incorporated in metal.	Elemental.	T 53600.000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-58	Incorporated in metal.	Elemental.	T 80400.000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-60	Incorporated in metal.	Elemental.	T 509000.00000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cr-51	Incorporated in metal.	Elemental.	T 20400.000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Fe-59	Incorporated in metal.	Elemental.	T 6700.0000000000	CI	1984	1993	N	-25%	+25%	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)
Total curies = 6.70E+05. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
Total volume, curies and container type was determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most recent method and waste stream analysis. The RWMIS was used for comparison only.

J.D. Wells letter to K.L. Falconer, "Hazardous Materials in the SDA", JDW-02-86, January 15, 1986.

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 ANL-W shipping database and RWMIS do not match. The ANL-W database assigns container numbers to facility contacts. The Fuel Cycle Facility (FCF) and Hot Fuel Examination Facility (HFEF) container numbers were issued through one person who could have interchanged the facility numbers. When both curie content and volume for HFEF and FCF are added, they match RWMIS values to within 3%. Curie isotopic contents were revised to account for MFP/MAP listings.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 329

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 785
(building number - use code from attached list)

5. Number of waste stream from this facility:
1R

6. Waste stream:
Remote-handled nonprocessible subassembly waste generated during nuclear fuel and material experiments.

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 436.0000 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):
6. In the 1952-1983 INEL RWMC SDA Inventory Report both the contact and remote-handled Hot Fuel Examination Facility (HFEF) wastes were included in waste stream number ANL-785-01. These have been split, for the 1984-1993 time period, into ANL-785-02 for contact-handled and ANL-785-01 for remote-handled.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
42, 43, 7.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elemental metals, glass and lead.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[X] metal liner [ ] none [X] other (specify)
See 7 below.

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
4. Remote-handled waste is packaged in 5 cubic foot steel welded cans with metal inserts for secondary containment. The waste cans contain a shield plug inserted on the top of the inner metal insert. Lead shield plugs were used unitl 1988 when they were replaced by steel shield plugs.

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
7439-92-1 Lead	Lead plug for shielding inside inserts.	Metal.	T 9380.0000000000	LB	1984	1987	N	-10%	+10%	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)
Lead shield plugs were used in the inserts until 1988, when steel shield plug use began. There were 35 inserts sent to the RWMC with lead shield plugs. Each lead shield plug weighed 268 pounds, for a total of 9380 pounds.

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-58	Incorporated in metal.	Elemental.	T 95500.000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-60	Incorporated in metal.	Elemental.	T 605000.00000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cr-51	Incorporated in metal.	Elemental.	T 23900.000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Fe-59	Incorporated in metal.	Elemental.	T 7960.0000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Mn-54	Incorporated in metal.	Elemental.	T 63700.000000000	CI	1984	1993	N	-25%	+25%	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)
Total curie = 7.96E+05. Isotope curie content is determined by hot-cell scanning. The +/- 25% uncertainty is due to measurement system error.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-WCR-001-92 prepared by Kenneth P. Guay (Waste Characterization Report). Total volume, curies and container type(s) were determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most recent method and waste stream analysis. The RWMIS was used for comparison only.

J.D. Wells letter to K.L. Falconer, "Hazardous Materials in the SDA", JDW-02-86, January 15, 1986.

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 ANL-W shipping database and RWMIS do not match. The ANL-W database assigns container numbers to facility contacts. The Fuel Cycle Facility (FCF) and Hot Fuel Examination Facility (HFEF) container numbers were issued through one person who could have interchanged the facility numbers. When both curie content and volume for HFEF and FCF are added, they match RWMIS values to within 3%. Curie isotopic contents were revised to account for MFP/MAP listings.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 330

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 785
(building number - use code from attached list)

5. Number of waste stream from this facility:
2R

6. Waste stream:
Contact-handled nonprocessible dry active waste generated in facility monitoring, operations, maintenance and modifications.

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 3194.0000 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):
6. In the 1952-1983 INEL RWMC SDA Inventory Report both the contact-handled and remote-handled Hot Fuel Examination Facility (HFEF) wastes were included in waste stream number ANL-785-01. They have been split up into ANL-785-01 for remote-handled and ANL-785-02 for contact-handled in this report.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
13, 15, 21, 23, 42, 44, 45. See 7 below.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Elemental metals, metal alloys, glass, solidified oils, absorbents and cellulose.

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

5. Waste container type (see attached list)
Wooden box.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. Also wood, paper and solidified oils (motor, mineral, vacuum pump and hydraulic).
4. Waste is packaged in cans or plastic bags before being placed in the final outer container. Metal drums have either a 90 or 110 mil rigid polyliner. Wooden boxes have an 8 mil plastic liner.
5. Also BLM and BIN. Eighty-six percent of the waste volume is packaged in various sized wooden boxes and twelve percent in 55-gallon metal drums. One 48 cubic foot BIN was shipped in 1992.

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
Ce-144	Contamination on waste solids.	Elemental.	T 11.000000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-57	Contamination on waste solids.	Elemental.	T 1.5300000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T 4.2200000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T 65.900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T 4.3900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 92.100000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T 2.6000000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T 1.9400000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Nb-95	Contamination on waste solids.	Elemental.	T .05530000000000	CI	1984	1993	N	-25%	+25%	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)

Total curies = 1.84E+02. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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
Sb-125	Contamination on waste solids.	Elemental.	T .55300000000000	CI	1984	1993	N	-25%	+25%	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)
Total curies = 1.84E+02. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-W-005-92 Prepared by Kenneth P. Guay (Waste Characterization Report). Total volume, curies, and container types were determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most recent method and waste stream analysis. The RWMIS was used for comparison only.

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 ANL-W shipping database and RWMIS do not match. The ANL-W database assigns container numbers to facility contacts. The Fuel Cycle Facility (FCF) and Hot Fuel Examination Facility (HFEF) container numbers were issued through one person who could have interchanged the facility numbers. When both curie content and volume for HFEF and FCF are added, they match RWMIS values to within 3%. Curie isotopic contents were revised to account for MFP/MAP listings.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 331

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 793
(building number - use code from attached list)

5. Number of waste stream from this facility:
1R

6. Waste stream:
Contact-handled nonprocessible dry active waste generated in facility operations, monitoring, maintenance and modifications.

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 3961.0000 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. The ANL-W Sodium Components Maintenance Shop (SCMS), EBR-II, TREAT, and ZPPR facilities contribute to this waste stream. This waste stream has replaced ANL-767-01 which was reported in the 1952-1983 INEL RWMC SDA Inventory Report.
9. SCMS generated 50% of the total waste volume and ZPPR and TREAT generated 44% of the volume. EBR-II generated waste only during the time period 1984-1987 and contributed six percent of the total waste volume.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
21.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Plastic, elemental metals, metal alloys, cellulose and asbestos.

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

5. Waste container type (see attached list)
Wooden box.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
4. Waste is packaged in cans or plastic bags before being placed in the final outer container. The metal drums have either a 90 or 110 mil rigid polyliner. Wooden boxes have an 8 mil plastic liner.
5. Also BLM. Eighty-seven percent of the waste volume is packaged in various sized wooden boxes, and thirteen percent in 55-gallon metal drums.

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
Au-198	Contamination on waste solids.	Elemental.	T .02390000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Ba-140	Contamination on waste solids.	Elemental.	T .00178000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Nb-95	Contamination on waste solids.	Elemental.	T .00178000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Ag-110m	Contamination on waste solids.	Elemental.	T .00178000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T .09750000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T 17.400000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T 1.3900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 7.4500000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .14900000000000	CI	1984	1993	N	-25%	+25%	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)
SCMS total curies = 1.14E+02. EBR-II total curies = 1.65E+00. TREAT total curies = 1.71E+01. ZPPR total curies = 1.73E-01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Contamination on waste solids.	Elemental.	T 8.4800000000000	CI	1984	1993	N	-25%	+25%	See comment below.
H-3	Contamination on waste solids.	Elemental.	T 79.400000000000	CI	1984	1993	N	-25%	+25%	See comment below.
I-131	Contamination on waste solids.	Elemental.	T .03750000000000	CI	1984	1993	N	-25%	+25%	See comment below.
La-140	Contamination on waste solids.	Elemental.	T .13900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .47400000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .47900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Sb-124	Contamination on waste solids.	Elemental.	T .00446000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Sb-125	Contamination on waste solids.	Elemental.	T .01140000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Sn-113	Contamination on waste solids.	Elemental.	T .09640000000000	CI	1984	1993	N	-25%	+25%	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)
SCMS total curies = 1.14E+02. EBR-II total curies = 1.65E+00. TREAT total curies = 1.71E+01. ZPPR total curies = 1.73E-01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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
Sr-89	Contamination on waste solids.	Elemental.	T .00099000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Sr-90	Contamination on waste solids.	Elemental.	T 17.100000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Te-132	Contamination on waste solids.	Elemental.	T .00528000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Zr-95	Contamination on waste solids.	Elemental.	T .01730000000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-238	Contamination on waste solids.	Oxides.	T .00346000000000	CI	1984	1993	N	-25%	+25%	See comment below.
In-113m	Contamination on waste solids.	Elemental.	T .08200000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Sn-117m	Contamination on waste solids.	Elemental.	T .05200000000000	CI	1984	1993	N	-25%	+25%	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)
SCMS total curies = 1.14E+02. EBR-II total curies = 1.65E+00. TREAT total curies = 1.71E+01. ZPPR total curies = 1.73E-01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-WCR-018-93, Contact: Everet A Clifton (Waste Characterization Report). Total volume, curies and container types were determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most recent method and waste stream analysis. The RWMIS was used only for comparison.

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:
This waste stream compiles waste volume and curie contents from several ANL-W facilities. ANL-W shipping database and RWMIS don't match for each facility, but waste generation volume and curie content totals for all the facilities match RWMIS values within 10% of the volume and 1% of the curie content. The individual facility differences can be attributed to facility waste container number assignments diverted to use at other facilities. The isotopic curie contents were revised to account for MFP/MAP entries.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION RDT - 336

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 798
(building number - use code from attached list)

5. Number of waste stream from this facility:
1R

6. Waste stream:
Contact-handled nonprocessible waste generated during the evaporation of low-level liquid waste in the Shielded Hot Air Drum Evaporators (SHADES). SHADE Units contain dried solid residue and are disposed of as containers. Small volumes of Dry Active Waste are also generated in the Radioactive Liquid Waste Treatment Facility from operation and maintenance.

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

8. Actual years disposed of at SDA:
Starting year 1984 Ending year 1993

9. Waste stream volume:
Amount 2031.0000 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. This waste stream has replaced ANL-752-03 which was reported in the 1952-1983 INEL RWMC SDA Inventory Report. The low-level liquid evaporation process was moved from the Lab and Office Building to the Radioactive Liquid Waste Treatment Facility in June of 1983.
6. Low-level liquid waste is generated at various ANL-W facilities. The Lab and Office Building, the Fuel Cycle Facility and the Hot Fuel Examination Facility pipe radioactive liquid waste directly to the Radioactive Liquid Waste Treatment Facility (RLWTF) for evaporation.

1. General physical form (see attached list)
Shade units.
[X] other (specify)
10.

2. Details on physical form(particularly confinement related)
SHADE units consist of evaporator structural components and radioactive solids. All waste is in solid form, encased in a steel and concrete structure.

3. Chemical form:
Elemental metals, metal alloys, glass, concrete, plastic and cellulose.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
4. Waste is packaged in cans or plastic bags before being placed in the final outer container. Metal drums have either a 90 or 110 mil rigid polyliner. Wooden boxes have an 8 mil plastic liner. SHADE units are disconnected from the evaporation system and capped with concrete before shipping to RWMC. The radioactive dry solid residue is contained within the steel structural unit and encased with concrete. (The waste is not mixed within the concrete.)
5. Also BLM and BXW. Ninety-five percent of the waste stream volume is from SHADE units and five percent from waste packaged in 55-gallon drums and wooden boxes.

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
7439-92-1 Lead	Solid.	Elemental.	T .90100000000000	GM	1984	1993	N	-50%	+50%	See comment below.
7440-47-3 Chromium	Solid.	Elemental.	T .08200000000000	GM	1984	1993	N	-50%	+50%	See comment below.
7440-43-9 Cadmium	Solid.	Elemental.	T 1.7380000000000	GM	1984	1993	N	-50%	+50%	See comment below.
7439-97-6 Mercury	Solid.	Elemental.	T .00900000000000	GM	1984	1993	N	-50%	+50%	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)

These metals have been detected during EP toxicity and TCLP testing, but have consistently been at levels below 40 CFR 261,24 limits for the total volume of waste disposed of. The total quantity was extrapolated directly from sample analysis results using the total number of SHADE units disposed of. Because sample analysis results are not available for every SHADE unit shipped, a representative sample analysis was used to determine approximate total quantities of metals.

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-58	Contamination on waste solids.	Elemental.	T .04960000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T .31900000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .06020000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 2.4200000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Ce-144	Contamination on waste solids.	Elemental.	T .51000000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .02120000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .05660000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .08850000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .01060000000000	CI	1984	1993	N	-25%	+25%	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)
Total Curie = 3.54E+00. Curie content is determined from laboratory analysis of dry solid samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Contamination on waste solids.	Oxides.	T .00550000000000	CI	1984	1993	N	-25%	+25%	See comment below.
Pu-240	Contamination on waste solids.	Oxides.	T .00006690000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-235	Contamination on waste solids.	Oxides.	T .00018000000000	CI	1984	1993	N	-25%	+25%	See comment below.
U-238	Contamination on waste solids.	Oxides.	T .00001400000000	CI	1984	1993	N	-25%	+25%	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)

Total Curie = 3.54E+00. Curie content is determined from laboratory analysis of dry solid samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-WCR-016-93, contact: Everet A. Clifton (Waste Characterization Report). Total volume, curies and container types were determined using the ANL-W shipping records and database system. Isotopic breakdown was determined using the most recent method and waste stream analysis. RWMIS was used only for comparison.

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:
RWMIS incorrectly lists 17.9 curies shipped in 1988, where the ANL-W shipping database lists none. The ANL-W database tracks container number and facility origin. It is not known why RWMIS lists more curies. If the 17.9 curie from 1988 is subtracted, the total for the years 1984-1993 is within 4%. Isotopic curie contents were revised to account for MFP/MAP entries.

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 332

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 704
(building number - use code from attached list)

5. Number of waste stream from this facility:
1P

6. Waste stream:
Contact-handled nonprocessible fuel fabrication waste generated during the manufacturing of metallic fuels.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 400.0000 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. The Fuel Manufacturing Facility (FMF) only contributes to this waste stream. The Fuel Assembly and Storage Building (FASB) is not expected to generate waste to be sent to RWMC in the future.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
16, 21.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elemental metals, metal oxides, glass, plastics and paper.

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

5. Waste container type (see attached list)
Round drum lined.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. Fifty-five gallon 17C drum with liner.

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.										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)
* Redirected ANL-W missions have resulted in no new fuel pin production, therefore, no ZrO_2 will be used.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
U-238	Contamination on waste solids.	Oxides.	T .00016896000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
U-235	Contamination on waste solids.	Oxides.	T .00088704000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 1.0560E-03. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Report, ANL-WCR-033-93, prepared by Tim Miller. ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93, "Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 333

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 752
(building number - use code from attached list)

5. Number of waste stream from this facility:
1P

6. Waste stream:
Contact-handled nonprocessible dry active waste generated by facility operations, monitoring, maintenance and modifications.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 2430.0000 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)
Other scrap metals.
[X] other (specify)
21.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elemental metals, asbestos, glass, concrete, soil, cellulose and plastics.

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

5. Waste container type (see attached list)
Wooden box.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. Also PB2 and RDL.

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	Solid.	Fiber.	T 26726.000000000	GM	1994	2003	N	-50%	+50%	Professional judgment.

* 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)
It is assumed that the total volume of asbestos containing materials is one percent of the total waste volume expected to be disposed of at RWMC SDA (24 ft3). A conversion factor of 16 lb/ft3 ACM was used (Table D-1, Appendix D, EGG-10903, June 1994). Then 24 ft3 x 16 lb/ft3 x 0.15 asbestos/lb ACM x 464 g/lb = 26,726 g asbestos.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Ce-144	Contamination on waste solids.	Elemental.	T .00291000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ru-106	Contamination on waste solids.	Elemental.	T .00380000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .00092000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T .03860000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Sr-90	Contamination on waste solids.	Elemental.	T .09860000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Y-90	Contamination on waste solids.	Elemental.	T .09860000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Sb-125	Contamination on waste solids.	Elemental.	T .00044700000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .00082000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .00002490000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 2.4856E-01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Eu-154	Contamination on waste solids.	Elemental.	T .00029800000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T .00039800000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Pu-239	Contamination on waste solids.	Oxides.	T .00179000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
U-235	Contamination on waste solids.	Oxides.	T .00162000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
U-238	Contamination on waste solids.	Oxides.	T .00029800000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 2.4856E-01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Report, ANL-WCR-040-93, prepared by Tim Miller. ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93, "Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 334

1. Preparer: Roy Grant

2. Date prepared: 09/02/94

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

4. Particular facility: 763
(building number - use code from attached list)

5. Number of waste stream from this facility:
1P

6. Waste stream:
Contact-handled sludge removed from the ANL-W EBR-II Leach Pit during an ANL-W Environmental Restoration Project in 1993. The waste was generated in 1993 and shipped in 1994.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 1994

9. Waste stream volume:
Amount 3217.0000 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. Leaching Pit (EBR-II).
6. This waste stream also includes 18 various sized concrete pieces of total approximate volume 529 cubic feet. The concrete pieces are contaminated on the surface only and have been painted and wrapped. All waste generated has been shipped, and there will be no future generation. The EBR-II Leach Pit was used between 1959 and 1973 for the disposal of ANL-W generated liquid industrial waste, and liquid sanitary and radioactive effluents.

1. General physical form (see attached list)
Concrete, brick, and asphalt.
[X] other (specify)
21.

2. Details on physical form(particularly confinement related)
All waste is in solid form. All sludge has been solidified with grout.

3. Chemical form:
Concrete, rocks, and soil etc.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. Also PB2 and PB3. Fourteen PB2's and 14 PB3's were disposed of at the RWMC SDA in 1994. Eighteen concrete pieces of various sizes were painted to fix contamination and wrapped in polyethylene or herculite and disposed of at the RWMC SDA in 1994.

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
7440-38-2 Arsenic	Solid.	Elemental.	T .21000000000000	GM	1994	1994	N	-50%	+50%	Professional judgment.
7440-39-3 Barium	Solid.	Elemental.	T 7.3200000000000	GM	1994	1994	N	-50%	+50%	Professional judgment.
7440-43-9 Cadmium	Solid.	Elemental.	T 4.8600000000000	GM	1994	1994	N	-50%	+50%	Professional judgment.
7440-47-3 Chromium	Solid.	Elemental.	T 18.900000000000	GM	1994	1994	N	-50%	+50%	Professional judgment.
7439-92-1 Lead	Solid.	Elemental.	T .63000000000000	GM	1994	1994	N	-50%	+50%	Professional judgment.
7439-97-6 Mercury	Solid.	Elemental.	T .00300000000000	GM	1994	1994	N	-50%	+50%	Professional judgment.

* 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)
These total quantities were determined using sample analysis from samples taken of the sludge before grout was added for solidification. The total volume of sludge was approximated assuming each box was 2/3 full and that one half the volume of each box was sludge and one half grout. There were a total of 14 - 64 cubic foot boxes containing the sludge/grout mix. Other waste from this waste stream contained no nonradiological contaminants.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Contained in solidified sludge &/or on waste solid	Elemental.	T .00391170000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
Sr-90	Contained in solidified sludge &/or on waste solid	Elemental.	T .03336000000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
Y-90	Contained in solidified sludge &/or on waste solid	Elemental.	T .03336000000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
I-129	Contained in solidified sludge &/or on waste solid	Elemental.	T .00149090000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
Cs-134	Contained in solidified sludge &/or on waste solid	Elemental.	T .00002878400000	CI	1994	1994	N	N	-25%	+25%	See comment below.
Cs-137	Contained in solidified sludge &/or on waste solid	Elemental.	T .65757000000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
U-234	Contained in solidified sludge &/or on waste solid	Oxides.	T .00094472000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
U-235	Contained in solidified sludge &/or on waste solid	Oxides.	T .00005092600000	CI	1994	1994	N	N	-25%	+25%	See comment below.
U-238	Contained in solidified sludge &/or on waste solid	Oxides.	T .00008856700000	CI	1994	1994	N	N	-25%	+25%	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)
Total Curies = 7.38E-01. Curie content is determined from laboratory analysis of smear and sludge samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Forecast	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Np-237	Contained in solidified sludge &/or on waste solid	Elemental.	T .00723300000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
Pu-238	Contained in solidified sludge &/or on waste solid	Oxides.	T .00000254630000	CI	1994	1994	N	N	-25%	+25%	See comment below.
Pu-239	Contained in solidified sludge &/or on waste solid	Oxides.	T .00003461000000	CI	1994	1994	N	N	-25%	+25%	See comment below.
Am-241	Contained in solidified sludge &/or on waste solid	Elemental.	T .00001092300000	CI	1994	1994	N	N	-25%	+25%	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)
Total Curies = 7.38E-01. Curie content is determined from laboratory analysis of smear and sludge samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

[ ] RWMIS [ ] other database
[X] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [X] reports
[ ] generator forecasts
[X] other
Shipping record.

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Report ANL-WCR-037-93, prepared by Nancy Stewart. Informal interview with Nancy Stewart who was the project manager/generator for the Leach Pit clean-up project.

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 335

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 765
(building number - use code from attached list)

5. Number of waste stream from this facility:
1P

6. Waste stream:
Contact-handled nonprocessible dry active waste generated by facility monitoring, operations, maintenance and modifications.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 21923.0000 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)
Other scrap metals.
[X] other (specify)
15.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Elemental metals, metal alloys, glass, plastics, solidified oils, rubber asbestos and cellulose.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. Also solidified oils (hydraulic fluid, vacuum pump oil, and lubricating oils).
5. Also RDL, PB2, and PB3. Metal box is 128 cubic feet capacity.

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	Solid.	Fiber.	T 24499.000000000	GM	1994	2003	N	-50%	+50%	Professional judgment.

* 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)
It is assumed that the total volume of asbestos containing materials (ACM) that will be disposed of over the 10 year period will be one-tenth of one percent of the total FCF-CH waste volume (to RWMC SDA) (22ft3). A conversion factor of 16 lb/ft3 ACM was used (Table D-1, Appendix D, EGG-10903, June 1994). Then 22 ft3 x 16 lb/ft3 X 0.15 asbestos/lb ACM x m464 g/lb = 24,449 g asbestos.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Sr-90	Contamination on waste solids.	Elemental.	T 10.278000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Y-90	Contamination on waste solids.	Elemental.	T 10.278000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
H-3	Contamination on waste solids.	Elemental.	T .47914000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .18290000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T .13653000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T 1.5945000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 2.0505000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .14683000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Zr-95	Contamination on waste solids.	Elemental.	T .09531200000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 2.5760E+01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Nb-95	Contamination on waste solids.	Elemental.	T .02833600000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ta-182	Contamination on waste solids.	Elemental.	T .11850000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .00772800000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .02833600000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ce-144	Contamination on waste solids.	Elemental.	T .33230000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Pu-239	Contamination on waste solids.	Oxides.	T .00257600000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 2.5760E+01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Reports ANL-WCR-036-93 and ANL-WCR-038-93 prepared by Bruce Jensen. ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93, "Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 337

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 765
(building number - use code from attached list)

5. Number of waste stream from this facility:
2P

6. Waste stream:
Remote-handled nonprocessible subassembly waste generated during nuclear fuel and material experiments.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 1271.0000 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)
Other scrap metals.
[X] other (specify)
23.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elemental metals and glass.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. Inserts are 3.5 ft3 stainless steel or carbon steel remote handled waste cans.

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	Forecast	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Sr-90	Incorporated in metal.	Elemental.	T 13.981000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Y-90	Incorporated in metal.	Elemental.	T 13.981000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
H-3	Incorporated in metal.	Elemental.	T .65174000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Mn-54	Incorporated in metal.	Elemental.	T .24878000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-58	Incorporated in metal.	Elemental.	T .18571000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-60	Incorporated in metal.	Elemental.	T 2.1690000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-137	Incorporated in metal.	Elemental.	T 2.7892000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-155	Incorporated in metal.	Elemental.	T .19973000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Zr-95	Incorporated in metal.	Elemental.	T .12965000000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 3.5040E+01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Nb-95	Incorporated in metal.	Elemental.	T .03854400000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ta-182	Incorporated in metal.	Elemental.	T .16118000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Na-22	Incorporated in metal.	Elemental.	T .01051200000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-154	Incorporated in metal.	Elemental.	T .03854400000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ce-144	Incorporated in metal.	Elemental.	T .45202000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Pu-239	Contamination on waste solids.	Oxides.	T .00350400000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 3.5040E+01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93,
"Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 338

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 785
(building number - use code from attached list)

5. Number of waste stream from this facility:
1P

6. Waste stream:
Remote-handled nonprocessible subassembly waste generated during nuclear fuel and materials experiments.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 636.0000 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)
Other scrap metals.
[X] other (specify)
23.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Various metal alloys, elementals and glass.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):

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	Forecast	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-58	Incorporated in metal.	Elemental.	T 388800.00000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-60	Incorporated in metal.	Elemental.	T 2462400.0000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cr-51	Incorporated in metal.	Elemental.	T 97200.000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Fe-59	Incorporated in metal.	Elemental.	T 32400.000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Mn-54	Incorporated in metal.	Elemental.	T 259200.00000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 3.2400E+06. Isotope curie content is determined by hot-cell scanning. The +/- 25% uncertainty is due to measurement system error.

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

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

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Report, ANL-WCR-001-92, prepared by Kennith P. Guay. ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93, "Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 339

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 785
(building number - use code from attached list)

5. Number of waste stream from this facility:
2P

6. Waste stream:
Contact-handled nonprocessible dry active waste generated in facility monitoring, operations, maintenance and modifications.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 3021.0000 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)
Other scrap metals.
[X] other (specify)
13, 15, 21, 23, 42, 44, 45. See 7 below.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Elemental metals, alloy metals, glass, absorbents, solidified oils and cellulose.

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

5. Waste container type (see attached list)
Wooden box.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. Also solidified oils (motor, mineral, vacuum pump, and hydraulic).
5. Also BLM.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Ce-144	Contamination on waste solids.	Elemental.	T 2.3737000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-57	Contamination on waste solids.	Elemental.	T .33001000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T .91050000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T 14.226000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .94629000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 19.864000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .56062000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .41748000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Nb-95	Contamination on waste solids.	Elemental.	T .01192800000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 3.9760E+01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Sb-125	Contamination on waste solids.	Elemental.	T .11928000000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 3.9760E+01. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Report, ANL-WCR-005-92, prepared by Kenneth P. Guay. ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93, "Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 340

1. Preparer: Roy Grant

2. Date prepared: 09/02/94

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

4. Particular facility: 793
(building number - use code from attached list)

5. Number of waste stream from this facility:
1P

6. Waste stream:
Contact-handled nonprocessible dry active waste generated in facility monitoring, maintenance and operation.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 4894.0000 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. This waste stream includes waste generated at the ANL-W Sodium Components Maintenance Shop (SCMS), EBR-II, TREAT, and ZPPR facilities.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
21.

2. Details on physical form(particularly confinement related)
All waste is in solid form.

3. Chemical form:
Elemental metals, plastic, metal alloys and cellulose.

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

5. Waste container type (see attached list)
Wooden box.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):

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	Solid.	Fiber.	T 54455.000000000	GM	1994	2003	N	-50%	+50%	Professional judgment.

* 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)
It is assumed that the total volume of asbestos containing materials (ACM) that will be disposed of is one percent of the total waste volume to be disposed of at the RWMC SDA (48.9 ft3). Asbestos will be present in this waste stream periodically in pipe lagging and insulation. The conversion factor of 16 lb/ft3 ACM was used (Table D-1, Appendix D, EGG-10903, June 1994). Then 48.9 ft3 x lb/ft3 x 0.15 asbestos/lb ACM x 464 g/lb = 54,455 g asbestos.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Au-198	Contamination on waste solids.	Elemental.	T .05220000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ba-140	Contamination on waste solids.	Elemental.	T .00387000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Nb-95	Contamination on waste solids.	Elemental.	T .00387000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ag-110m	Contamination on waste solids.	Elemental.	T .00387000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T .05436000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T .55232000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .05508000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T .28440000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .00552000000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 7.9100E+00. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Eu-155	Contamination on waste solids.	Elemental.	T .34164000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
H-3	Contamination on waste solids.	Elemental.	T 4.9309000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
I-131	Contamination on waste solids.	Elemental.	T .08172000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
In-113m	Contamination on waste solids.	Elemental.	T .17892000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
La-140	Contamination on waste solids.	Elemental.	T .00819000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .06756000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .30888000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Sb-124	Contamination on waste solids.	Elemental.	T .00972000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Sb-125	Contamination on waste solids.	Elemental.	T .02484000000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 7.9100E+00. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Forecast	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Sn-113	Contamination on waste solids.	Elemental.	T .21024000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Sn-117m	Contamination on waste solids.	Elemental.	T .11340000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Sr-89	Contamination on waste solids.	Elemental.	T .00216000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Sr-90	Contamination on waste solids.	Elemental.	T .54360000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Te-132	Contamination on waste solids.	Elemental.	T .01152000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Zr-95	Contamination on waste solids.	Elemental.	T .05100000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
U-238	Contamination on waste solids.	Oxides.	T .01020000000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 7.9100E+00. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Reports, ANL-WCR-017-93 and ANL-WCR-018-93, contact: Everet A. Clifton. ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93, "Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 341

1. Preparer: Roy Grant

2. Date prepared: 09/14/94

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

4. Particular facility: 798
(building number - use code from attached list)

5. Number of waste stream from this facility:
1P

6. Waste stream:
Contact-handled nonprocessible waste is generated during the evaporation of low-level liquid waste in the Shielded Hot Air Drum Evaporators (SHADES). SHADE units contain dry solid residue and are disposed of as containers. Small volumes of Dry Active Waste (DAW) are also generated in the Radioactive Liquid Waste Treatment Facility (RLWTF) during facility operations, maintenance and monitoring.

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

8. Actual years disposed of at SDA:
Starting year 1994 Ending year 2003

9. Waste stream volume:
Amount 2120.0000 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):
6. The low-level liquid is generated in various ANL-W facilities. The Lab and Office Building (L&O), Fuel Cycle Facility (FCF) and Hot Fuel Examination Facility (HFEF) pipe liquid waste directly to the Radioactive Liquid Waste Treatment Facility (RLWTF) for evaporation.

1. General physical form (see attached list)
Shade units.
[X] other (specify)
10.

2. Details on physical form(particularly confinement related)
SHADE units consist of evaporator structural components contaminated with radioactive waste solid residue.

3. Chemical form:
Elemental metals, metal alloys, glass, concrete, plastic and cellulose.

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

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

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. The majority of waste generated will be SHADE units.
4. SHADE units are disconnected from the evaporator system and capped with concrete before shipping to RWMC. Note - the solid residue waste is contained within the concrete shell but not blended with the concrete. The concrete is used only as a cap for containment purposes.
5. Also BLM and BXW.

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
7440-43-9 Cadmium	Solid.	Elemental.	T .99000000000000	GM	1994	2003	N	-50%	+50%	See comment below.
7440-47-3 Chromium	Solid.	Elemental.	T .09000000000000	GM	1994	2003	N	-50%	+50%	See comment below.
7439-97-6 Mercury	Solid.	Elemental.	T .01000000000000	GM	1994	2003	N	-50%	+50%	See comment below.
7439-92-1 Lead	Solid.	Elemental.	T .96000000000000	GM	1994	2003	N	-50%	+50%	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)
Because these metals have been present in the past in this waste stream, it is projected that they will be present in the future. The quantities have been at levels below the 40 CFR 261.24 limits. The future total quantity was estimated based on one SHADE set per year and using past sample analysis data.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-58	Contamination on waste solids.	Elemental.	T .03920000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Co-60	Contamination on waste solids.	Elemental.	T .25200000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .04760000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T 1.9180000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Ce-144	Contamination on waste solids.	Elemental.	T .40320000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .01680000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .04480000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .07000000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .00840000000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 2.8000E+00. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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	Forecast	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Pu-239	Contamination on waste solids.	Oxides.	T .00613000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
Pu-240	Contamination on waste solids.	Oxides.	T .00007430000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
U-235	Contamination on waste solids.	Oxides.	T .00020000000000	CI	1994	2003	Y	N	-25%	+25%	See comment below.
U-238	Contamination on waste solids.	Oxides.	T .00001560000000	CI	1994	2003	Y	N	-25%	+25%	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)
Total curies = 2.8000E+00. Curie content is determined from laboratory analysis of smear samples. The data is used to develop an mR/hr curie content conversion factor to account for all isotopes present in the waste. The +/- 25% uncertainty is due to measurements on the waste package with G-M instruments.

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

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

2. Details concerning source (names, report no., dates, etc.)
Waste Characterization Report, ANL-WCR-016-93. Contact: Everet Clifton. ANL-W Letter, R.P. Grant to V.C. Randall 12/20/93, "Radioactive Waste Forecasts for 1994".

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 343

1. Preparer: Roy Grant

2. Date prepared: 09/30/94

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

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

5. Number of waste stream from this facility:
1P

6. Waste stream:
Compactible low-level waste generated from the handling of radioactive materials in maintenance and facility operations.

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

8. Actual years disposed of at SDA:
Starting year 1995 Ending year 1995

9. Waste stream volume:
Amount 216.0000 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
9. This waste is currently stored at ANL-W in 7 cargo containers waiting for shipment to WERF. The waste was generated during 1991, 1992, 1993 and 1994.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
21.

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

3. Chemical form:
Metal (stainless steel, carbon steel, aluminum), halogen-containing plastics, and cellulose (wood).

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [ ] none [X] other (specify)
See 7 below.

5. Waste container type (see attached list)
Cardboard box.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. Also shoe covers, air hoods, filters, metal parts, rubber, plastic, paper and cloth.
4. Eight cubic foot boxes, 4 cubic foot or 2 cubic poly waste bags.
4, 5. Waste is packaged in yellow poly bags or poly-lined cardboard boxes, stored and shipped in cargo containers.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Contamination on waste solids.	Elemental.	T 2.4200000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T .19800000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .16100000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sr-90	Contamination on waste solids.	Elemental.	T 2.4800000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Y-90	Contamination on waste solids.	Elemental.	T 2.0000000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .01110000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
H-3	Contamination on waste solids.	Elemental.	T 2.3900000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ru-106	Contamination on waste solids.	Elemental.	T .00832000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .15400000000000	CI	1995	1995	N	N	-25%	+25%	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)
Curie content is determined from isotopic analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor. The +/- 25% uncertainty is due to measurements with G-M instruments. * These totals include 7 backlog cargo container waste only.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Cs-137	Contamination on waste solids.	Elemental.	T 3.0700000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .33500000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sb-125	Contamination on waste solids.	Elemental.	T .01660000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Au-198	Contamination on waste solids.	Elemental.	T .00277000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ba-140	Contamination on waste solids.	Elemental.	T .01390000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ce-141	Contamination on waste solids.	Elemental.	T .01250000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Co-57	Contamination on waste solids.	Elemental.	T .03880000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
I-131	Contamination on waste solids.	Elemental.	T .00416000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
In-113m	Contamination on waste solids.	Elemental.	T .00832000000000	CI	1995	1995	N	N	-25%	+25%	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)
Curie content is determined from isotopic analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor. The +/- 25% uncertainty is due to measurements with G-M instruments. * These totals include 7 backlog cargo container waste only.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
La-140	Contamination on waste solids.	Elemental.	T .01660000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .02360000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Nb-95	Contamination on waste solids.	Elemental.	T .00555000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Pu-239	Contamination on waste solids.	Oxides.	T .00416000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sn-113	Contamination on waste solids.	Elemental.	T .00970000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sn-117m	Contamination on waste solids.	Elemental.	T .00555000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ta-182	Contamination on waste solids.	Elemental.	T .02080000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Zr-95	Contamination on waste solids.	Elemental.	T .08180000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ce-144	Contamination on waste solids.	Elemental.	T .37300000000000	CI	1995	1995	N	N	-25%	+25%	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)
Curie content is determined from isotopic analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor. The +/- 25% uncertainty is due to measurements with G-M instruments. * These totals include 7 backlog cargo container waste only.

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

[ ] RWMIS [X] other database
[X] sample analysis data
[X] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] generator forecasts
[X] other
Cargo container log sheets.

2. Details concerning source (names, report no., dates, etc.)
Each compactible container stored in cargo containers is inventoried. Data for each container, weight, volume, origin and radiation reading is entered into a database maintained by ANL-W Waste Management (Roy Grant). The radiation readings are converted to curie contents by conversion factors for each source of waste.

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns:

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION PDT - 342

1. Preparer: Roy Grant

2. Date prepared: 09/30/94

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

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

5. Number of waste stream from this facility:
1P

6. Waste stream:
Incinerable low-level waste generated from the handling of radioactive materials in maintenance and facility operations.

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

8. Actual years disposed of at SDA:
Starting year 1995 Ending year 1995

9. Waste stream volume:
Amount 550.0000 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
9. ANL-W currently has 30 cargo containers waiting to be shipped to SEG for incineration. The waste was generated during 1992, 1993 and 1994. This 550 cubic meters of incinerable waste is stored at ANL-W.

1. General physical form (see attached list)
Combustibles (paper, cloth, wood, etc.)
[X] other (specify)
44.

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

3. Chemical form:
Cellulose and plastic.

4. Inner packaging: [ ] plastic bag [X] plastic liner
[ ] metal liner [ ] none [X] other (specify)
See 7 below.

5. Waste container type (see attached list)
Cardboard box.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. Also gloves, coveralls, blotting paper, rags, wood, terry towels, plastic and rubber gloves.
4. Eight cubic foot incinerable waste boxes.
4, 5. The poly-lined cardboard boxes are shipped and stored in cargo containers.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Contamination on waste solids.	Elemental.	T .13300000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Co-58	Contamination on waste solids.	Elemental.	T .01090000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Mn-54	Contamination on waste solids.	Elemental.	T .01360000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sr-90	Contamination on waste solids.	Elemental.	T .72400000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Y-90	Contamination on waste solids.	Elemental.	T .71900000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Eu-154	Contamination on waste solids.	Elemental.	T .00210000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ru-106	Contamination on waste solids.	Elemental.	T .00019100000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Cs-134	Contamination on waste solids.	Elemental.	T .00191000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Cs-137	Contamination on waste solids.	Elemental.	T .17800000000000	CI	1995	1995	N	N	-25%	+25%	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)
Curie content is determined from isotopic analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor. The +/- 25% uncertainty is due to measurements with G-M instruments. * These totals include the backlog 30 cargo container waste only.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Ce-144	Contamination on waste solids.	Elemental.	T .02750000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Eu-155	Contamination on waste solids.	Elemental.	T .01360000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sb-125	Contamination on waste solids.	Elemental.	T .00038200000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Au-198	Contamination on waste solids.	Elemental.	T .00019100000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ba-140	Contamination on waste solids.	Elemental.	T .00057300000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ce-141	Contamination on waste solids.	Elemental.	T .00057300000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Co-57	Contamination on waste solids.	Elemental.	T .00057300000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
I-131	Contamination on waste solids.	Elemental.	T .00038200000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
In-113m	Contamination on waste solids.	Elemental.	T .00076500000000	CI	1995	1995	N	N	-25%	+25%	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)
Curie content is determined from isotopic analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor. The +/- 25% uncertainty is due to measurements with G-M instruments. * These totals include the backlog 30 cargo container waste only.

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	Fore cast	Samp les?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
La-140	Contamination on waste solids.	Elemental.	T .00057300000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Na-22	Contamination on waste solids.	Elemental.	T .00191000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Nb-95	Contamination on waste solids.	Elemental.	T .00191000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Pu-239	Contamination on waste solids.	Oxides.	T .00019100000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sn-113	Contamination on waste solids.	Elemental.	T .00095600000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Sn-117m	Contamination on waste solids.	Elemental.	T .00057300000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Ta-182	Contamination on waste solids.	Elemental.	T .00822000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
Zr-95	Contamination on waste solids.	Elemental.	T .00669000000000	CI	1995	1995	N	N	-25%	+25%	See comment below.
H-3	Contamination on waste solids.	Elemental.	T .06380000000000	CI	1995	1995	N	N	-25%	+25%	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)
Curie content is determined from isotopic analysis of smear samples. The data is used to develop an mR/hr to curie content conversion factor. The +/- 25% uncertainty is due to measurements with G-M instruments. * These totals include the backlog 30 cargo container waste only.

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

[ ] RWMIS [X] other database
[X] sample analysis data
[X] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] generator forecasts
[X] other
Cargo container log sheets..

2. Details concerning source (names, report no., dates, etc.)
Each incinerable container is inventoried when placed in the cargo container for storage prior to shipment. Data for each container includes weight, volume, origin and radiation reading. The radiation reading is converted to curie content by conversion factors by the database maintained by ANL-W Waste Management (Roy Grant).

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
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:

8. Key assumptions used to deal with the unknowns: