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1. INTRODUCTION

In 1996, the Department of Energy (DOE) completed a performance assessment (PA) calculation for the Waste Isolation Pilot Plant (WIPP). The PA was part of the Compliance Certification Application (CCA) submitted to the Environmental Protection Agency (EPA) to demonstrate compliance with the radiation protection regulations of Title 40 of the Code of Federal Regulations (CFR) Parts 191 and 194. As required by the WIPP Land Withdrawal Act (Public Law 102-579), DOE is required to submit documentation to EPA for the recertification of the WIPP every five years to continue operating the facility. This will require that a Compliance Recertification Application (CRA) be prepared and submitted to EPA by November 2003.

This analysis report discusses the computational method to determine the WIPP repository radionuclide inventory information for use in the PA calculation for the CRA, and provides the results from the implementation of that method. The analysis is governed by AP-097 Revision 0, *Analysis Plan for Deriving Radionuclide Inventory Information for Performance Assessment Calculations: Compliance Recertification Application* (SNL, 2003).

The analysis presented herein was performed in accordance with the Sandia National Laboratories (SNL) Quality Assurance Program as prescribed by the SNL Nuclear Waste Management Program (NWMP) Procedure, NP 9-1, *Analyses* (SNL, 2001).

1.1 ACRONYMS

AP	Analysis Plan
CCA	Compliance Certification Application
CFR	Code of Federal Regulations
CH	Contact handled
Ci	Curies
CRA	Compliance Recertification Application
DOE	Department of Energy
EPA	Environmental Protection Agency
INEEL	Idaho National Environmental and Engineering Laboratory
LANL	Los Alamos National Laboratory
LLNL	Lawrence Livermore National Laboratory
NP	NWMP Procedure
NWMP	Nuclear Waste Management Program
ORNL	Oak Ridge National Laboratory
PA	Performance Assessment
RFETS	Rocky Flats Environmental Technology Site
SNL	Sandia National Laboratory
SRS	Savannah River Site
TRU	Transuranic
WIPP	Waste Isolation Pilot Plant

2. PROBLEM DESCRIPTION

Environmental radiation protection standards for management and disposal of spent nuclear fuel, high-level and transuranic radioactive wastes as defined in 40 CFR 191 require human intrusion scenarios to be included in the PA calculations for repositories. Five distinct human intrusion scenarios that impact release from the repository are defined for the WIPP PA. Four of these involve a single drilling intrusion that occurs at various times after repository closure. Two types of drilling intrusions are considered: 1) a borehole is drilled through a single waste panel and intersects a pressurized brine pocket located approximately 250 meters below the repository, and 2) a borehole is drilled into the repository, but does not intersect a brine pocket. One multiple intrusion scenario is considered.

For scenarios that involve a drilling intrusion into the repository, release mechanisms include cuttings, cavings and spallings. To calculate the extent of release from these mechanisms, an estimate of the radionuclide content, expressed as the EPA Unit, of the waste encountered via drilling is required.

Determination of the radionuclide content of the waste encountered via drilling is problematic because it is uncertain. The radionuclide content of waste streams disposed in the WIPP repository is uncertain, as is the loading of those waste streams. The EPA has offered guidance about how to handle this uncertainty, stating that in the absence of a waste loading plan for the repository, random waste emplacement should be assumed (see 40 CFR 194.24). Therefore, following EPA guidance, it is assumed that waste is emplaced randomly in the repository and the probability of encountering any given waste stream in a drilling intrusion is directly proportional to the volume of that waste stream in the repository.

3. COMPUTATIONAL METHOD

For the WIPP PA, information about the radionuclides that would be encountered during drilling is quantified using the metric of EPA Units. The EPA Unit for a radionuclide is the quotient of the initial source term activity (in Curies (Ci)) of that radionuclide divided by a quantity called the release limit (in Ci) for the same radionuclide (Sanchez, 1996).

In 40 CFR 191 EPA specifies release limits for transuranic (TRU) waste, where a unit of waste is 10^6 Ci. For example, the release limit for ^{239}Pu is 100 Ci per unit of waste (10^6 Ci of isotopes in the repository with half-lives greater than 20 years). Therefore, if there are 2.96×10^6 total Ci disposed in the repository, 296 Ci of the ^{239}Pu isotope can be released over the 10,000 year regulatory time period. The quantity that could be released according to the regulation is referred to as the EPA Unit. For the plutonium example above, one EPA Unit is 296 Ci of the isotope.

The activity of the isotope is calculated in EPA Units using the following equation:

$$E_i = \frac{w_i}{f_w \bullet r_i} \qquad \text{Equation 1}$$

where:

E_i is the radionuclide activity expressed in EPA Units for radionuclide i,
r_i is the release limit from 40 CFR 191 for radionuclide i,
f_w is the Waste Unit Factor[1], and
w_i is the waste-stream-scale activity in curies (Ci), for radionuclide i

For the WIPP PA, the activity in EPA Units at each time interval of interest of each of the major radionuclides in each waste stream is calculated. Then, the activity of the entire waste stream (at the time interval) in EPA Units is calculated as:

$$E_{ws} = \sum E_i \qquad \text{Equation 2}$$

where:

E_{ws} is the radionuclide activity of a waste stream expressed in EPA Units,
E_i is the radionuclide activity expressed in EPA Units for radionuclide i.

Once the activity of each waste stream in the metric of EPA Units is determined at each time interval, the probability of encountering each stream during a drilling intrusion is calculated as:

$$p_{ws} = \frac{v_{ws}}{V} \qquad \text{Equation 3}$$

where:

p_{ws} is the probability of encountering a waste stream during a drilling intrusion,
v_{ws} is the volume of an individual waste stream, and
V is the total volume of waste in the repository.

EPA Units for direct release due to cuttings are calculated for radionuclides that are responsible for about 99 percent of the activity in contact handled TRU (CH-TRU) waste. These include ^{241}Am, ^{239}Pu, ^{240}Pu, and ^{234}U. Three radionuclides (^{244}Cm, ^{241}Pu and ^{238}Pu) that decay to ^{241}Am, ^{240}Pu and ^{234}U also are accounted for in the CH-TRU waste calculations.

[1] The waste unit factor is defined as the number of millions of curies of alpha-emitting TRU radionuclides with half-lives longer than 20 years.

EPAUNI, Version 1.15A, is the computational code that generates the data described above for use in calculating potential releases from the repository.

Command language scripts, referred to here as EVAL run scripts, are used to implement and document the running of all software codes. These scripts, which are the basis for the WIPP PA run control system, are stored in the CRA1_EVAL CMS library. All inputs are fetched at run time by the scripts, and outputs and run logs are automatically stored by the scripts in class CRA1 of the CMS libraries (WIPP PA, 2003).

4. RESULTS

The following sections discuss the output of EPAUNI in terms of total volume, EPA curies, EPA Units per volume, total EPA Units, and the seven key radionuclides. Information is provided for each of the dominant waste streams, for each of ten separate time intervals ranging from time of closure (year 0) to 10,000 years after closure (year 12033).

4.1 TOTAL VOLUME

Table 4.1-1 indicates that 35 separate CH-TRU waste streams contribute more than 75% of the total volume of CH-TRU waste to be disposed in the WIPP. Of these 35 waste streams, five contribute almost 37% of the volume. These five waste streams originate from only two sites, Hanford and the Idaho National Engineering and Environmental Laboratory (INEEL).

Hanford Site waste stream RL-W439, which comprises an estimated 7.43% by volume, consists of soil contaminated with liquid solutions, previously buried solid waste, and sludges from formerly used tanks or tank-like units. RL-W513, an uncategorized metal waste from the Plutonium Fabrication Facility, provides about 5.22% of the disposal volume. Hanford Site waste stream RL-T107 provides about 3.65% of the disposal volume and comprises combustible items such as wood, plastics, paper, absorbents, rubber and rags from the Plutonium Finishing Plant.

From INEEL, waste stream IN-BN-510 provides about 11.80% of the total volume of CH-TRU waste to be disposed at WIPP. This is supercompacted debris. IN-W216.98, which comprises about 7.56% of the disposed waste volume, includes wet sludge from treating aqueous process waters, such as ion exchange column effluents, distillates, and caustic scrub solutions generated from plutonium recovery operations.

Information regarding total volume for all 693 waste streams can be found in the file EPU_CRA1_CH_UNITS.DIA in CRA library CRA1_EPU.

Table 4.1-1. WIPP CH-TRU Waste Streams by Total Volume

Rank Order	Waste Stream ID	Total Volume			
		[m^3]	Drum Equivalent	% of Total	Cumulative %
1	IN-BN-510	1.99E+04	9.55E+04	11.80%	11.80%
2	IN-W216.98	1.27E+04	6.12E+04	7.56%	19.36%
3	RL-W439	1.25E+04	6.01E+04	7.43%	26.79%
4	RL-W513	8.79E+03	4.22E+04	5.22%	32.01%
5	IN-W228.101	8.06E+03	3.87E+04	4.79%	36.80%
6	IN-W309.609	7.73E+03	3.71E+04	4.59%	41.38%
7	RL-T107	6.16E+03	2.96E+04	3.65%	45.04%
8	T001-221H-HET	4.07E+03	1.95E+04	2.42%	47.45%
9	LA-TA-55-30	3.31E+03	1.59E+04	1.97%	49.42%
10	LA-TA-55-19	3.24E+03	1.56E+04	1.92%	51.34%
11	W027-221F-HET	3.05E+03	1.47E+04	1.81%	53.16%
12	LA-TA-21-43	2.53E+03	1.22E+04	1.50%	54.66%
13	RP-W755	2.45E+03	1.18E+04	1.45%	56.11%
14	T001-221F-HET	2.25E+03	1.08E+04	1.34%	57.45%
15	RF-TT3011	2.18E+03	1.05E+04	1.29%	58.74%
16	IN-W218.909	2.08E+03	1.00E+04	1.24%	59.98%
17	LL-T002	2.08E+03	9.99E+03	1.23%	61.22%
18	T001-772F-HET	2.02E+03	9.69E+03	1.20%	62.41%
19	IN-W179.158	2.00E+03	9.59E+03	1.18%	63.60%
20	IN-W220.114	1.89E+03	9.09E+03	1.12%	64.72%
21	RL-W437	1.60E+03	7.69E+03	0.95%	65.67%
22	RP-W754	1.48E+03	7.13E+03	0.88%	66.55%
23	RL-W443	1.41E+03	6.77E+03	0.84%	67.39%
24	W027-221H-HET	1.34E+03	6.41E+03	0.79%	68.18%
25	WP-RF009.01	1.30E+03	6.24E+03	0.77%	68.95%
26	WP-RF118.01	1.27E+03	6.12E+03	0.76%	69.71%
27	W027-999-HET	1.24E+03	5.98E+03	0.74%	70.45%
28	RF-TT0824	1.24E+03	5.94E+03	0.73%	71.18%
29	LA-TA-50-19	1.18E+03	5.67E+03	0.70%	71.88%
30	LL-T005	1.13E+03	5.41E+03	0.67%	72.55%
31	W027-773A-HET	1.09E+03	5.23E+03	0.65%	73.20%
32	LL-T003	1.06E+03	5.10E+03	0.63%	73.83%
33	RL-W444	1.05E+03	5.02E+03	0.62%	74.45%
34	RL-T115	1.03E+03	4.93E+03	0.61%	75.06%
35	LA-TA-21-40	1.02E+03	4.91E+03	0.61%	75.66%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-RF002.01-B	2.10E-01	1.01E+00	0.00%	100.00%
	Sum =	1.68E+05	8.09E+05	100.00%	N/A

4.2 EPA UNITS PER VOLUME

The EPA Units per volume values in Table 4.2-1 through Table 4.2-10 were calculated to illustrate which waste streams have the highest concentration of activity over the entire population of waste. Each table identifies 35 waste streams that offer the greatest concentration (by volume) of EPA units during each of the ten time intervals output by EPAUNI. All 693 waste streams and their EPA Units per volume can be found in the file EPU_CRA1_CH_UNITS.DIA in the CRA library CRA1_EPU.

Tables 4.2-1 through 4.2-10 also illustrate that as the radionuclides decay, based on the volume of each waste stream (see Section 4.1) and individual radioisotopic concentrations, their respective contributions over time change relative to the contribution of other waste streams. The tables are ranked by the concentration (EPA/m^3) while the % of Total reflects their contribution to total EPA Units. At the time of closure (time interval 0, year 2033), of the five highest contributing waste streams only two contribute significantly to the total EPA Units of the repository - LANL waste streams LA-OS-00-01 and LA-TA-55-48.

Waste Stream LA-OS-00-01 (solid actinides encapsulated in metal jackets) contributes 6.25% of the total volumetric activity at closure, but over time contributes less activity per unit volume due to its higher concentration of relatively short-lived ^{238}Pu (see Section 4.7). By time interval 1,000 years (year 3033), this waste stream still contributes to EPA Units but its concentration decreases causing its presence to no longer be seen in the top 35 waste streams (see Table 4.2-6).

Waste stream LA-TA-55-48 (oil/vermiculate waste from ^{238}Pu heat source fabrication) contributes 1.35% of the total activity at closure, placing it fourth in the ranking of waste streams with higher activities (see Table 4.2-1) and nineteenth in terms of total EPA Units (see Table 4.3-1) and EPA curies (see Table 4.4-1). However, unlike the other LANL waste stream discussed above, this waste stream continues to contribute significantly over time because it also contains higher quantities of longer-lived radioisotopes, principally ^{239}Pu and ^{240}Pu.

Table 4.2-1. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 0
(Calendar Year 2033)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	LA-OS-00-01	8.91E+00	1.85E+00	6.25%	6.25%
2	IN-W358.948	6.62E+00	1.38E+00	0.01%	6.27%
3	RL-W751	5.74E+00	1.20E+00	0.01%	6.28%
4	LA-TA-55-48	4.31E+00	8.98E-01	1.35%	7.63%
5	W006-773A-VIT	3.49E+00	7.26E-01	0.02%	7.65%
6	RL-W750	3.18E+00	6.61E-01	0.01%	7.66%
7	W053-773A-VIT	2.59E+00	5.40E-01	0.02%	7.68%
8	IN-W358.855	2.00E+00	4.17E-01	0.07%	7.75%
9	RF-TT-0334	1.21E+00	2.51E-01	0.06%	7.80%
10	RF-MT-0299	1.13E+00	2.35E-01	0.35%	8.16%
11	RL-W656	1.13E+00	2.34E-01	0.04%	8.19%
12	RF-TT0299	1.12E+00	2.34E-01	0.00%	8.20%
13	BCLCH-MT01	1.10E+00	2.30E-01	0.06%	8.25%
14	RF-MT0001	1.05E+00	2.18E-01	0.09%	8.34%
15	RF-MT0002	1.04E+00	2.17E-01	0.01%	8.35%
16	IN-W249.527	7.39E-01	1.54E-01	0.05%	8.40%
17	RL-W665	6.95E-01	1.45E-01	0.06%	8.46%
18	RL-W660	6.77E-01	1.41E-01	0.01%	8.47%
19	IN-W358.854	6.61E-01	1.38E-01	0.01%	8.48%
20	RL-W655	6.54E-01	1.36E-01	0.01%	8.49%
21	LA-TA-55-49	5.84E-01	1.22E-01	0.11%	8.60%
22	RL-W753	5.80E-01	1.21E-01	0.07%	8.67%
23	RL-W659	5.67E-01	1.18E-01	0.00%	8.67%
24	RF-TT0802	5.52E-01	1.15E-01	0.32%	8.99%
25	RF-TT0809	5.51E-01	1.15E-01	0.03%	9.02%
26	RF-TT433X	5.44E-01	1.13E-01	0.00%	9.02%
27	RF-TT429R	5.41E-01	1.13E-01	0.01%	9.03%
28	RL-T132	5.36E-01	1.12E-01	0.16%	9.19%
29	WP-RF005.02	4.93E-01	1.03E-01	0.39%	9.58%
30	RF-TT436R	4.41E-01	9.18E-02	0.03%	9.61%
31	RF-TT454X	4.37E-01	9.11E-02	0.00%	9.61%
32	OR-W201	4.28E-01	8.92E-02	0.52%	10.13%
33	RL-W709	4.20E-01	8.74E-02	0.00%	10.13%
34	WP-RF009.01	3.87E-01	8.06E-02	5.07%	15.21%
35	WP-RF005.01	3.68E-01	7.66E-02	0.45%	15.65%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00%	N/A

Table 4.2-2. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 100
(Calendar Year 2133)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	RL-W751	5.47E+00	1.14E+00	0.02%	0.02%
2	LA-OS-00-01	4.20E+00	8.74E-01	4.21%	4.22%
3	LA-TA-55-48	4.05E+00	8.42E-01	1.81%	6.03%
4	W006-773A-VIT	3.48E+00	7.24E-01	0.03%	6.06%
5	IN-W358.948	3.07E+00	6.39E-01	0.01%	6.07%
6	RL-W750	3.03E+00	6.31E-01	0.02%	6.09%
7	W053-773A-VIT	2.59E+00	5.38E-01	0.02%	6.11%
8	RF-TT-0334	1.18E+00	2.46E-01	0.08%	6.19%
9	RL-W656	1.13E+00	2.36E-01	0.05%	6.24%
10	RF-MT-0299	1.06E+00	2.21E-01	0.48%	6.72%
11	RF-TT0299	1.05E+00	2.20E-01	0.00%	6.72%
12	IN-W358.855	9.28E-01	1.93E-01	0.04%	6.77%
13	RF-MT0001	9.10E-01	1.89E-01	0.11%	6.87%
14	RF-MT0002	9.05E-01	1.88E-01	0.01%	6.88%
15	RL-W665	6.32E-01	1.32E-01	0.08%	6.96%
16	RL-W660	6.18E-01	1.29E-01	0.02%	6.98%
17	RL-W655	6.09E-01	1.27E-01	0.01%	6.99%
18	RL-W753	5.53E-01	1.15E-01	0.10%	7.09%
19	RL-W659	5.35E-01	1.11E-01	0.00%	7.09%
20	RL-T132	5.34E-01	1.11E-01	0.22%	7.31%
21	RF-TT0802	5.28E-01	1.10E-01	0.43%	7.74%
22	RF-TT0809	5.27E-01	1.10E-01	0.04%	7.78%
23	BCLCH-MT01	5.23E-01	1.09E-01	0.04%	7.82%
24	RF-TT433X	4.87E-01	1.01E-01	0.00%	7.82%
25	RF-TT429R	4.86E-01	1.01E-01	0.01%	7.84%
26	WP-RF005.02	4.46E-01	9.28E-02	0.50%	8.34%
27	RL-W709	4.14E-01	8.61E-02	0.00%	8.34%
28	RF-TT436R	4.03E-01	8.40E-02	0.04%	8.38%
29	RF-TT454X	4.00E-01	8.34E-02	0.00%	8.38%
30	OR-W201	3.74E-01	7.79E-02	0.65%	9.04%
31	WP-RF009.01	3.58E-01	7.46E-02	6.70%	15.73%
32	WP-RF005.01	3.41E-01	7.10E-02	0.59%	16.33%
33	IN-W249.527	3.40E-01	7.07E-02	0.03%	16.36%
34	RF-MT0371	3.28E-01	6.82E-02	0.10%	16.45%
35	RF-TT0371	3.25E-01	6.76E-02	0.00%	16.46%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00%	N/A

Table 4.2-3. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 125
(Calendar Year 2158)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	RL-W751	5.25E+00	1.09E+00	0.02%	0.02%
2	LA-TA-55-48	3.99E+00	8.30E-01	1.91%	1.93%
3	LA-OS-00-01	3.49E+00	7.27E-01	3.76%	5.68%
4	W006-773A-VIT	3.48E+00	7.24E-01	0.03%	5.72%
5	RL-W750	2.90E+00	6.05E-01	0.02%	5.74%
6	W053-773A-VIT	2.58E+00	5.38E-01	0.02%	5.76%
7	IN-W358.948	2.54E+00	5.29E-01	0.01%	5.77%
8	RF-TT-0334	1.17E+00	2.44E-01	0.09%	5.85%
9	RL-W656	1.09E+00	2.27E-01	0.05%	5.91%
10	RF-MT-0299	1.04E+00	2.18E-01	0.50%	6.41%
11	RF-TT0299	1.04E+00	2.16E-01	0.00%	6.41%
12	RF-MT0001	8.78E-01	1.83E-01	0.11%	6.52%
13	RF-MT0002	8.74E-01	1.82E-01	0.01%	6.53%
14	IN-W358.855	7.68E-01	1.60E-01	0.04%	6.57%
15	RL-W665	6.00E-01	1.25E-01	0.08%	6.65%
16	RL-W660	5.89E-01	1.23E-01	0.02%	6.67%
17	RL-W655	5.81E-01	1.21E-01	0.01%	6.68%
18	RL-T132	5.31E-01	1.11E-01	0.24%	6.92%
19	RL-W753	5.30E-01	1.10E-01	0.10%	7.02%
20	RF-TT0802	5.21E-01	1.08E-01	0.46%	7.48%
21	RF-TT0809	5.20E-01	1.08E-01	0.04%	7.51%
22	RL-W659	5.12E-01	1.07E-01	0.00%	7.52%
23	RF-TT433X	4.73E-01	9.86E-02	0.00%	7.52%
24	RF-TT429R	4.73E-01	9.85E-02	0.02%	7.54%
25	BCLCH-MT01	4.36E-01	9.07E-02	0.04%	7.57%
26	WP-RF005.02	4.35E-01	9.05E-02	0.53%	8.10%
27	RL-W709	4.11E-01	8.56E-02	0.00%	8.10%
28	RF-TT436R	3.95E-01	8.22E-02	0.04%	8.14%
29	RF-TT454X	3.92E-01	8.16E-02	0.00%	8.15%
30	OR-W201	3.60E-01	7.50E-02	0.67%	8.82%
31	WP-RF009.01	3.51E-01	7.31E-02	7.05%	15.87%
32	WP-RF005.01	3.35E-01	6.97E-02	0.62%	16.49%
33	RF-MT0371	3.24E-01	6.75E-02	0.10%	16.59%
34	RF-TT0371	3.21E-01	6.69E-02	0.00%	16.60%
35	RF-TT398R	3.13E-01	6.52E-02	0.34%	16.93%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

Table 4.2-4. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 175
(Calendar Year 2208)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	RL-W751	4.82E+00	1.00E+00	0.02%	0.02%
2	LA-TA-55-48	3.88E+00	8.07E-01	2.10%	2.11%
3	W006-773A-VIT	3.47E+00	7.23E-01	0.04%	2.15%
4	RL-W750	2.67E+00	5.55E-01	0.02%	2.17%
5	W053-773A-VIT	2.58E+00	5.37E-01	0.03%	2.20%
6	LA-OS-00-01	2.44E+00	5.07E-01	2.96%	5.16%
7	IN-W358.948	1.75E+00	3.64E-01	0.01%	5.16%
8	RF-TT-0334	1.16E+00	2.41E-01	0.09%	5.26%
9	RF-MT-0299	1.01E+00	2.11E-01	0.55%	5.81%
10	RF-TT0299	1.00E+00	2.09E-01	0.00%	5.81%
11	RL-W656	1.00E+00	2.09E-01	0.05%	5.86%
12	RF-MT0001	8.19E-01	1.71E-01	0.12%	5.98%
13	RF-MT0002	8.15E-01	1.70E-01	0.01%	5.99%
14	RL-W665	5.41E-01	1.13E-01	0.08%	6.07%
15	RL-W660	5.36E-01	1.11E-01	0.02%	6.09%
16	RL-W655	5.30E-01	1.10E-01	0.01%	6.10%
17	IN-W358.855	5.29E-01	1.10E-01	0.03%	6.13%
18	RL-T132	5.25E-01	1.09E-01	0.26%	6.40%
19	RF-TT0802	5.09E-01	1.06E-01	0.51%	6.90%
20	RF-TT0809	5.08E-01	1.06E-01	0.04%	6.94%
21	RL-W753	4.87E-01	1.01E-01	0.10%	7.05%
22	RL-W659	4.69E-01	9.77E-02	0.00%	7.05%
23	RF-TT429R	4.49E-01	9.35E-02	0.02%	7.07%
24	RF-TT433X	4.49E-01	9.34E-02	0.00%	7.07%
25	WP-RF005.02	4.14E-01	8.62E-02	0.57%	7.64%
26	RL-W709	4.06E-01	8.45E-02	0.00%	7.64%
27	RF-TT436R	3.78E-01	7.88E-02	0.05%	7.68%
28	RF-TT454X	3.76E-01	7.82E-02	0.00%	7.69%
29	WP-RF009.01	3.38E-01	7.04E-02	7.66%	15.35%
30	OR-W201	3.36E-01	7.00E-02	0.71%	16.06%
31	WP-RF005.01	3.23E-01	6.72E-02	0.68%	16.73%
32	RF-MT0371	3.18E-01	6.62E-02	0.11%	16.85%
33	RF-TT0371	3.15E-01	6.56E-02	0.00%	16.85%
34	BCLCH-MT01	3.05E-01	6.36E-02	0.03%	16.88%
35	RF-TT398R	3.03E-01	6.31E-02	0.37%	17.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

Table 4.2-5. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 350
(Calendar Year 2383)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	RL-W751	3.61E+00	7.52E-01	0.02%	0.02%
2	LA-TA-55-48	3.60E+00	7.50E-01	2.53%	2.54%
3	W006-773A-VIT	3.45E+00	7.19E-01	0.05%	2.59%
4	W053-773A-VIT	2.57E+00	5.34E-01	0.04%	2.63%
5	RL-W750	2.00E+00	4.16E-01	0.02%	2.65%
6	RF-TT-0334	1.11E+00	2.31E-01	0.12%	2.76%
7	RF-MT-0299	9.18E-01	1.91E-01	0.64%	3.41%
8	RF-TT0299	9.11E-01	1.90E-01	0.00%	3.41%
9	LA-OS-00-01	7.77E-01	1.62E-01	1.22%	4.63%
10	RL-W656	7.57E-01	1.58E-01	0.05%	4.69%
11	RF-MT0001	6.46E-01	1.35E-01	0.12%	4.81%
12	RF-MT0002	6.43E-01	1.34E-01	0.01%	4.82%
13	IN-W358.948	5.26E-01	1.10E-01	0.00%	4.82%
14	RL-T132	5.09E-01	1.06E-01	0.33%	5.15%
15	RF-TT0802	4.74E-01	9.87E-02	0.61%	5.76%
16	RF-TT0809	4.73E-01	9.85E-02	0.05%	5.81%
17	RL-W660	3.94E-01	8.20E-02	0.02%	5.83%
18	RL-W665	3.93E-01	8.17E-02	0.08%	5.90%
19	RL-W709	3.92E-01	8.16E-02	0.00%	5.91%
20	RL-W655	3.92E-01	8.16E-02	0.01%	5.92%
21	RF-TT429R	3.80E-01	7.90E-02	0.02%	5.94%
22	RF-TT433X	3.77E-01	7.84E-02	0.01%	5.94%
23	RL-W753	3.65E-01	7.60E-02	0.10%	6.04%
24	WP-RF005.02	3.54E-01	7.36E-02	0.63%	6.67%
25	RL-W659	3.50E-01	7.28E-02	0.00%	6.67%
26	RF-TT436R	3.30E-01	6.88E-02	0.05%	6.72%
27	RF-TT454X	3.28E-01	6.83E-02	0.00%	6.73%
28	WP-RF009.01	3.01E-01	6.26E-02	8.82%	15.55%
29	RF-MT0371	3.00E-01	6.25E-02	0.14%	15.69%
30	RF-TT0371	2.98E-01	6.20E-02	0.00%	15.69%
31	WP-RF005.01	2.88E-01	6.00E-02	0.79%	16.48%
32	RF-TT394P	2.88E-01	5.99E-02	0.00%	16.48%
33	RF-TT395P	2.87E-01	5.98E-02	0.01%	16.49%
34	RF-TT396P	2.84E-01	5.91E-02	0.00%	16.49%
35	OR-W201	2.78E-01	5.78E-02	0.76%	17.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

Table 4.2-6. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 1000
(Calendar Year 3033)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	W006-773A-VIT	3.39E+00	7.06E-01	0.06%	0.06%
2	LA-TA-55-48	3.09E+00	6.44E-01	2.86%	2.93%
3	W053-773A-VIT	2.52E+00	5.24E-01	0.05%	2.97%
4	RL-W751	1.28E+00	2.67E-01	0.01%	2.98%
5	RF-TT-0334	1.02E+00	2.12E-01	0.14%	3.12%
6	RF-MT-0299	7.27E-01	1.51E-01	0.67%	3.80%
7	RF-TT0299	7.23E-01	1.50E-01	0.00%	3.80%
8	RL-W750	7.09E-01	1.48E-01	0.01%	3.81%
9	RL-T132	4.74E-01	9.87E-02	0.41%	4.22%
10	RF-TT0802	4.03E-01	8.39E-02	0.69%	4.90%
11	RF-TT0809	4.02E-01	8.38E-02	0.06%	4.96%
12	RL-W709	3.62E-01	7.53E-02	0.00%	4.96%
13	RF-MT0001	3.01E-01	6.26E-02	0.07%	5.04%
14	RF-MT0002	2.99E-01	6.23E-02	0.01%	5.04%
15	RL-W656	2.67E-01	5.57E-02	0.02%	5.07%
16	RF-MT0371	2.64E-01	5.49E-02	0.16%	5.23%
17	RF-TT0371	2.62E-01	5.45E-02	0.00%	5.23%
18	RF-TT394P	2.58E-01	5.38E-02	0.00%	5.23%
19	RF-TT395P	2.58E-01	5.37E-02	0.01%	5.24%
20	RF-TT396P	2.55E-01	5.31E-02	0.00%	5.24%
21	RF-TT429R	2.39E-01	4.98E-02	0.01%	5.26%
22	RF-TT390P	2.37E-01	4.93E-02	0.00%	5.26%
23	RF-TT436R	2.33E-01	4.86E-02	0.05%	5.31%
24	WP-RF005.02	2.32E-01	4.83E-02	0.54%	5.85%
25	RF-TT454X	2.32E-01	4.83E-02	0.00%	5.86%
26	RF-TT433X	2.31E-01	4.82E-02	0.00%	5.86%
27	WP-RF009.01	2.24E-01	4.66E-02	8.69%	14.55%
28	RF-TT310P	2.20E-01	4.58E-02	0.02%	14.56%
29	WP-RF005.01	2.19E-01	4.55E-02	0.79%	15.35%
30	RF-TT398R	2.16E-01	4.50E-02	0.45%	15.80%
31	RF-TT392P	2.07E-01	4.30E-02	0.40%	16.20%
32	RF-TT0392	2.05E-01	4.28E-02	0.00%	16.21%
33	RF-TT0414	2.03E-01	4.22E-02	0.04%	16.24%
34	RF-TT411R	2.03E-01	4.22E-02	0.05%	16.29%
35	RF-TT0409	2.01E-01	4.19E-02	0.00%	16.29%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

Table 4.2-7. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 3000
(Calendar Year 5033)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	W006-773A-VIT	3.20E+00	6.66E-01	0.07%	0.07%
2	LA-TA-55-48	2.62E+00	5.45E-01	2.93%	3.00%
3	W053-773A-VIT	2.38E+00	4.95E-01	0.05%	3.06%
4	RF-TT-0334	9.07E-01	1.89E-01	0.15%	3.21%
5	RF-MT-0299	5.87E-01	1.22E-01	0.66%	3.87%
6	RF-TT0299	5.83E-01	1.21E-01	0.00%	3.87%
7	RL-T132	4.26E-01	8.88E-02	0.44%	4.32%
8	RF-TT0802	3.42E-01	7.13E-02	0.71%	5.02%
9	RF-TT0809	3.42E-01	7.12E-02	0.06%	5.08%
10	RL-W709	3.24E-01	6.74E-02	0.00%	5.08%
11	RF-MT0371	2.29E-01	4.77E-02	0.17%	5.25%
12	RF-TT394P	2.27E-01	4.73E-02	0.01%	5.26%
13	RF-TT395P	2.27E-01	4.73E-02	0.01%	5.26%
14	RF-TT0371	2.27E-01	4.73E-02	0.00%	5.26%
15	RF-TT396P	2.24E-01	4.67E-02	0.00%	5.27%
16	RF-TT390P	2.11E-01	4.39E-02	0.00%	5.27%
17	RF-TT310P	1.95E-01	4.07E-02	0.02%	5.29%
18	RF-TT392P	1.85E-01	3.85E-02	0.44%	5.72%
19	RF-TT0392	1.84E-01	3.82E-02	0.00%	5.73%
20	RF-TT0414	1.78E-01	3.71E-02	0.04%	5.77%
21	RF-TT411R	1.78E-01	3.71E-02	0.05%	5.82%
22	RF-TT0409	1.77E-01	3.69E-02	0.00%	5.82%
23	RF-TT0412	1.77E-01	3.69E-02	0.00%	5.82%
24	RF-TT391P	1.77E-01	3.68E-02	0.14%	5.96%
25	WP-RF118.01	1.76E-01	3.66E-02	8.09%	14.05%
26	RF-TT0391	1.76E-01	3.66E-02	0.00%	14.05%
27	RF-MT0423	1.74E-01	3.62E-02	0.01%	14.06%
28	RF-MT0091	1.74E-01	3.62E-02	0.93%	14.99%
29	RF-TT398R	1.73E-01	3.61E-02	0.44%	15.43%
30	RF-MT0092	1.73E-01	3.60E-02	0.13%	15.56%
31	RF-TT398P	1.73E-01	3.60E-02	0.27%	15.83%
32	RF-MT420P	1.72E-01	3.59E-02	1.00%	16.84%
33	RF-MT0093	1.72E-01	3.58E-02	0.15%	16.98%
34	WP-RF009.01	1.72E-01	3.58E-02	8.07%	25.05%
35	RF-TT0398	1.71E-01	3.57E-02	0.00%	25.05%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

Table 4.2-8. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 5000
(Calendar Year 7033)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	W006-773A-VIT	3.02E+00	6.29E-01	0.07%	0.07%
2	LA-TA-55-48	2.38E+00	4.96E-01	2.89%	2.96%
3	W053-773A-VIT	2.24E+00	4.67E-01	0.05%	3.02%
4	RF-TT-0334	8.37E-01	1.74E-01	0.15%	3.17%
5	RF-MT-0299	5.39E-01	1.12E-01	0.65%	3.82%
6	RF-TT0299	5.35E-01	1.11E-01	0.00%	3.83%
7	RL-T132	3.93E-01	8.19E-02	0.44%	4.27%
8	RF-TT0802	3.15E-01	6.56E-02	0.70%	4.97%
9	RF-TT0809	3.15E-01	6.55E-02	0.06%	5.03%
10	RL-W709	2.98E-01	6.21E-02	0.00%	5.03%
11	RF-MT0371	2.11E-01	4.39E-02	0.17%	5.20%
12	RF-TT394P	2.10E-01	4.37E-02	0.01%	5.21%
13	RF-TT395P	2.10E-01	4.36E-02	0.01%	5.21%
14	RF-TT0371	2.09E-01	4.35E-02	0.00%	5.21%
15	RF-TT396P	2.07E-01	4.31E-02	0.00%	5.22%
16	RF-TT390P	1.95E-01	4.05E-02	0.00%	5.22%
17	RF-TT310P	1.80E-01	3.75E-02	0.02%	5.24%
18	RF-TT392P	1.70E-01	3.55E-02	0.43%	5.67%
19	RF-TT0392	1.69E-01	3.53E-02	0.00%	5.67%
20	RF-TT0414	1.64E-01	3.42E-02	0.04%	5.72%
21	RF-TT411R	1.64E-01	3.42E-02	0.05%	5.77%
22	RF-TT0409	1.63E-01	3.40E-02	0.00%	5.77%
23	RF-TT0412	1.63E-01	3.40E-02	0.00%	5.77%
24	RF-TT391P	1.63E-01	3.39E-02	0.14%	5.91%
25	WP-RF118.01	1.62E-01	3.38E-02	8.07%	13.98%
26	RF-TT0391	1.62E-01	3.37E-02	0.00%	13.98%
27	RF-MT0423	1.61E-01	3.34E-02	0.01%	13.99%
28	RF-MT0091	1.60E-01	3.34E-02	0.93%	14.92%
29	RF-MT0092	1.59E-01	3.32E-02	0.13%	15.06%
30	RF-TT398P	1.59E-01	3.32E-02	0.27%	15.32%
31	RF-TT398R	1.59E-01	3.31E-02	0.43%	15.76%
32	RF-MT420P	1.59E-01	3.31E-02	1.00%	16.76%
33	RF-MT0093	1.59E-01	3.30E-02	0.14%	16.90%
34	RF-TT0398	1.58E-01	3.29E-02	0.00%	16.91%
35	WP-RF009.01	1.57E-01	3.28E-02	7.99%	24.90%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

Table 4.2-9. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 7500 (Calendar Year 9533).

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	W006-773A-VIT	2.81E+00	5.85E-01	0.07%	0.07%
2	LA-TA-55-48	2.14E+00	4.45E-01	2.84%	2.91%
3	W053-773A-VIT	2.09E+00	4.35E-01	0.06%	2.97%
4	RF-TT-0334	7.60E-01	1.58E-01	0.15%	3.12%
5	RF-MT-0299	4.89E-01	1.02E-01	0.65%	3.77%
6	RF-TT0299	4.86E-01	1.01E-01	0.00%	3.77%
7	RL-T132	3.58E-01	7.45E-02	0.44%	4.21%
8	RF-TT0802	2.86E-01	5.96E-02	0.70%	4.91%
9	RF-TT0809	2.86E-01	5.95E-02	0.06%	4.97%
10	RL-W709	2.71E-01	5.65E-02	0.00%	4.97%
11	RF-MT0371	1.92E-01	3.99E-02	0.17%	5.14%
12	RF-TT394P	1.91E-01	3.97E-02	0.01%	5.14%
13	RF-TT395P	1.91E-01	3.97E-02	0.01%	5.15%
14	RF-TT0371	1.90E-01	3.96E-02	0.00%	5.15%
15	RF-TT396P	1.88E-01	3.92E-02	0.00%	5.15%
16	RF-TT390P	1.77E-01	3.69E-02	0.00%	5.15%
17	RF-TT310P	1.64E-01	3.41E-02	0.02%	5.17%
18	RF-TT392P	1.55E-01	3.22E-02	0.43%	5.61%
19	RF-TT0392	1.54E-01	3.20E-02	0.00%	5.61%
20	RF-TT0414	1.49E-01	3.11E-02	0.04%	5.65%
21	RF-TT411R	1.49E-01	3.11E-02	0.05%	5.70%
22	RF-TT0409	1.48E-01	3.09E-02	0.00%	5.70%
23	RF-TT0412	1.48E-01	3.09E-02	0.00%	5.70%
24	RF-TT391P	1.48E-01	3.08E-02	0.14%	5.84%
25	WP-RF118.01	1.47E-01	3.07E-02	8.02%	13.87%
26	RF-TT0391	1.47E-01	3.06E-02	0.00%	13.87%
27	RF-MT0423	1.46E-01	3.04E-02	0.01%	13.87%
28	RF-MT0091	1.46E-01	3.03E-02	0.93%	14.80%
29	RF-TT398P	1.45E-01	3.02E-02	0.27%	15.07%
30	RF-MT0092	1.45E-01	3.02E-02	0.13%	15.20%
31	RF-TT398R	1.45E-01	3.01E-02	0.43%	15.63%
32	RF-MT420P	1.44E-01	3.01E-02	0.99%	16.63%
33	RF-MT0093	1.44E-01	3.00E-02	0.14%	16.77%
34	RF-TT0398	1.44E-01	2.99E-02	0.00%	16.77%
35	WP-RF009.01	1.43E-01	2.98E-02	7.94%	24.72%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

Table 4.2-10. WIPP CH-TRU Waste Streams by EPA Units per Volume; Time 10000 (Calendar Year 12033)

Rank Order	Waste Stream ID	Waste Stream Average EPA Units per Volume			
		[EPA/m3]	per drum	% of Total	Cum. %
1	W006-773A-VIT	2.62E+00	5.45E-01	0.08%	0.08%
2	W053-773A-VIT	1.94E+00	4.05E-01	0.06%	0.13%
3	LA-TA-55-48	1.93E+00	4.02E-01	2.79%	2.92%
4	RF-TT-0334	6.93E-01	1.44E-01	0.15%	3.07%
5	RF-MT-0299	4.46E-01	9.29E-02	0.65%	3.72%
6	RF-TT0299	4.44E-01	9.24E-02	0.00%	3.72%
7	RL-T132	3.26E-01	6.79E-02	0.44%	4.16%
8	RF-TT0802	2.61E-01	5.43E-02	0.69%	4.85%
9	RF-TT0809	2.61E-01	5.43E-02	0.06%	4.91%
10	RL-W709	2.48E-01	5.15E-02	0.00%	4.91%
11	RF-MT0371	1.75E-01	3.64E-02	0.17%	5.08%
12	RF-TT394P	1.74E-01	3.63E-02	0.01%	5.09%
13	RF-TT395P	1.74E-01	3.63E-02	0.01%	5.09%
14	RF-TT0371	1.73E-01	3.61E-02	0.00%	5.09%
15	RF-TT396P	1.72E-01	3.58E-02	0.00%	5.10%
16	RF-TT390P	1.62E-01	3.37E-02	0.00%	5.10%
17	RF-TT310P	1.50E-01	3.11E-02	0.02%	5.12%
18	RF-TT392P	1.41E-01	2.94E-02	0.43%	5.55%
19	RF-TT0392	1.40E-01	2.92E-02	0.00%	5.55%
20	RF-TT0414	1.36E-01	2.84E-02	0.04%	5.59%
21	RF-TT411R	1.36E-01	2.84E-02	0.05%	5.64%
22	RF-TT0409	1.35E-01	2.82E-02	0.00%	5.64%
23	RF-TT0412	1.35E-01	2.82E-02	0.00%	5.64%
24	RF-TT391P	1.35E-01	2.81E-02	0.14%	5.78%
25	WP-RF118.01	1.34E-01	2.80E-02	7.98%	13.77%
26	RF-TT0391	1.34E-01	2.79E-02	0.00%	13.77%
27	RF-MT0423	1.33E-01	2.77E-02	0.01%	13.77%
28	RF-MT0091	1.33E-01	2.76E-02	0.92%	14.70%
29	RF-TT398P	1.32E-01	2.75E-02	0.27%	14.96%
30	RF-MT0092	1.32E-01	2.75E-02	0.13%	15.09%
31	RF-TT398R	1.32E-01	2.75E-02	0.43%	15.52%
32	RF-MT420P	1.32E-01	2.74E-02	0.99%	16.51%
33	RF-MT0093	1.31E-01	2.73E-02	0.14%	16.65%
34	RF-TT0398	1.31E-01	2.73E-02	0.00%	16.66%
35	WP-RF009.01	1.31E-01	2.72E-02	7.90%	24.56%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	N/A	N/A	100.00 %	N/A

4.3 TOTAL EPA UNITS

The EPA Unit for a radionuclide is the quotient of the initial source term activity (in Ci) of that radionuclide divided by a quantity called the release limit (in Ci) for the same radionuclide. The principal contributing isotopes[a] are: ^{241}Am, ^{238}Pu[b], ^{239}Pu, ^{240}Pu and ^{234}U (see Sections 4.5, 4.7, 4.8, 4.9 and 4.11, respectively).

The total EPA Unit values in Table 4.3-1 through Table 4.3-10 were estimated to illustrate which waste streams are the primary contributors to EPA Units over the entire population of waste. Each table identifies 35 waste streams that offer the greatest contribution during each of ten time intervals output by the code EPAUNI. All 693 waste streams and their total EPA Units can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

Tables 4.3-1 through 4.3-10 also show that as the nuclides decay, based on the radioisotopic activities of each waste stream, their respective contributions over time change in relation to the contribution of other waste streams. Since the waste stream unit values reflect the contributing isotopic activities, their relative contributions to EPA Units are identical to the relative contributions to total EPA curies (see Section 4.4).

Four of the top six contributing waste streams at closure are Savannah River Site (SRS) waste streams T001-221H-HET, W027-221F-HET, T001-221F-HET (heterogeneous debris including sludges, resins and large metal equipment) and T001-772F-HET (debris including booties, lab coasts, and floor sweepings contaminated with solvents) (see Table 4.3-1). Over time, the relative contributions of three of these waste streams decrease, but remain among the 35 foremost waste stream contributors, primarily due to their relatively even distribution of both longer-lived and short-lived radionuclides.

In contrast, waste stream T001-221H-HET remains a dominant contributor over time, because of its higher quantities of longer-lived radionuclides ^{239}Pu and ^{234}U (see Sections 4.8 and 4.11). By time interval 10,000 years (calendar year 12033), 12 SRS waste streams are among the 35 waste streams that most contribute to total EPA Units (see Table 4.3-10).

[a] Two of the parent nuclides (^{244}Cm and ^{241}Pu) contribute indirectly only. These contributions are not meaningful at closure, but only in later time frames after these short-lived parents have decayed to more dominant isotopes (see Sections 4.6 and 4.10).
[b] ^{238}Pu contributes both directly and indirectly by decaying to a contributing daughter isotope ^{234}U (see Section 4.7).

Table 4.3-1. WIPP CH-TRU Waste Streams by Total EPA Units; Time 0
(Calendar Year 2033)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	T001-221H-HET	1.12E+03	5.72E-02	11.28%	11.28%
2	W027-221F-HET	7.52E+02	5.13E-02	7.59%	18.87%
3	LA-OS-00-01	6.20E+02	1.85E+00	6.25%	25.12%
4	T001-221F-HET	6.20E+02	5.73E-02	6.25%	31.37%
5	IN-W216.98	5.87E+02	9.58E-03	5.92%	37.29%
6	T001-772F-HET	5.57E+02	5.74E-02	5.62%	42.90%
7	WP-RF009.01	5.03E+02	8.06E-02	5.07%	47.98%
8	RL-T107	3.93E+02	1.33E-02	3.96%	51.94%
9	IN-BN-510	3.60E+02	3.77E-03	3.63%	55.57%
10	RL-W513	3.33E+02	7.89E-03	3.36%	58.93%
11	W027-221H-HET	3.29E+02	5.13E-02	3.32%	62.25%
12	WP-RF118.01	3.12E+02	5.11E-02	3.15%	65.39%
13	W027-999-HET	3.06E+02	5.12E-02	3.09%	68.48%
14	RL-W439	2.99E+02	4.98E-03	3.02%	71.50%
15	W027-773A-HET	2.68E+02	5.12E-02	2.70%	74.20%
16	W026-221F-HET	2.16E+02	5.73E-02	2.18%	76.39%
17	W027-772F-HET	1.80E+02	5.13E-02	1.81%	78.20%
18	W026-221H-HET	1.62E+02	5.73E-02	1.63%	79.83%
19	LA-TA-55-48	1.34E+02	8.98E-01	1.35%	81.18%
20	WP-INW216.001-	1.04E+02	2.44E-02	1.05%	82.23%
21	W027-235F-HET	9.88E+01	5.12E-02	1.00%	83.22%
22	T001-773A-HET	7.18E+01	5.72E-02	0.72%	83.95%
23	T001-235F-HET	6.44E+01	5.73E-02	0.65%	84.60%
24	RL-W575	6.12E+01	4.49E-02	0.62%	85.21%
25	WP-RF003.01	5.27E+01	4.72E-02	0.53%	85.75%
26	LL-T002	5.25E+01	5.26E-03	0.53%	86.28%
27	OR-W201	5.18E+01	8.92E-02	0.52%	86.80%
28	WP-RF006.01	4.79E+01	4.51E-02	0.48%	87.28%
29	WP-RF005.01	4.43E+01	7.66E-02	0.45%	87.73%
30	RF-MT532C	3.89E+01	2.33E-02	0.39%	88.12%
31	WP-RF005.02	3.86E+01	1.03E-01	0.39%	88.51%
32	RF-MT420P	3.74E+01	4.84E-02	0.38%	88.89%
33	RF-MT-0299	3.51E+01	2.35E-01	0.35%	89.24%
34	OR-W202	3.44E+01	1.22E-02	0.35%	89.59%
35	RF-MT0091	3.38E+01	4.72E-02	0.34%	89.93%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum ≈	9.92E+03	N/A	100.00 %	N/A

Table 4.3-2. WIPP CH-TRU Waste Streams by Total EPA Units; Time 100
(Calendar Year 2133)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	T001-221H-HET	6.30E+02	3.22E-02	9.07%	9.07%
2	IN-W216.98	5.05E+02	8.24E-03	7.26%	16.33%
3	WP-RF009.01	4.65E+02	7.46E-02	6.70%	23.03%
4	W027-221F-HET	4.33E+02	2.95E-02	6.23%	29.26%
5	T001-221F-HET	3.49E+02	3.22E-02	5.03%	34.28%
6	T001-772F-HET	3.13E+02	3.23E-02	4.51%	38.79%
7	WP-RF118.01	3.04E+02	4.96E-02	4.37%	43.16%
8	LA-OS-00-01	2.92E+02	8.74E-01	4.21%	47.37%
9	RL-W439	2.91E+02	4.84E-03	4.19%	51.56%
10	RL-W513	2.90E+02	6.87E-03	4.17%	55.73%
11	IN-BN-510	2.69E+02	2.82E-03	3.87%	59.60%
12	RL-T107	2.27E+02	7.67E-03	3.27%	62.87%
13	W027-221H-HET	1.89E+02	2.95E-02	2.72%	65.59%
14	W027-999-HET	1.76E+02	2.95E-02	2.54%	68.13%
15	W027-773A-HET	1.54E+02	2.95E-02	2.22%	70.35%
16	LA-TA-55-48	1.26E+02	8.42E-01	1.81%	72.15%
17	W026-221F-HET	1.22E+02	3.23E-02	1.76%	73.91%
18	W027-772F-HET	1.03E+02	2.95E-02	1.49%	75.40%
19	W026-221H-HET	9.11E+01	3.23E-02	1.31%	76.71%
20	WP-INW216.001-	8.97E+01	2.10E-02	1.29%	78.00%
21	RL-W575	6.01E+01	4.41E-02	0.87%	78.87%
22	W027-235F-HET	5.69E+01	2.95E-02	0.82%	79.68%
23	WP-RF003.01	5.14E+01	4.61E-02	0.74%	80.42%
24	LL-T002	4.98E+01	4.98E-03	0.72%	81.14%
25	WP-RF006.01	4.64E+01	4.37E-02	0.67%	81.81%
26	OR-W201	4.53E+01	7.79E-02	0.65%	82.46%
27	WP-RF005.01	4.11E+01	7.10E-02	0.59%	83.05%
28	T001-773A-HET	4.05E+01	3.22E-02	0.58%	83.63%
29	RF-MT532C	3.69E+01	2.21E-02	0.53%	84.16%
30	RF-MT420P	3.64E+01	4.70E-02	0.52%	84.69%
31	T001-235F-HET	3.62E+01	3.22E-02	0.52%	85.21%
32	WP-RF005.02	3.49E+01	9.28E-02	0.50%	85.71%
33	RF-MT-0299	3.30E+01	2.21E-01	0.48%	86.19%
34	RF-MT0091	3.29E+01	4.61E-02	0.47%	86.66%
35	RF-TT0802	3.01E+01	1.10E-01	0.43%	87.10%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.95E+03	N/A	100.00 %	N/A

Table 4.3-3. WIPP CH-TRU Waste Streams by Total EPA Units; Time 125
(Calendar Year 2158)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	T001-221H-HET	5.57E+02	2.85E-02	8.60%	8.60%
2	IN-W216.98	4.86E+02	7.94E-03	7.51%	16.11%
3	WP-RF009.01	4.56E+02	7.31E-02	7.05%	23.16%
4	W027-221F-HET	3.85E+02	2.63E-02	5.95%	29.11%
5	T001-221F-HET	3.09E+02	2.85E-02	4.77%	33.87%
6	WP-RF118.01	3.01E+02	4.92E-02	4.65%	38.52%
7	RL-W439	2.88E+02	4.79E-03	4.45%	42.97%
8	RL-W513	2.80E+02	6.63E-03	4.32%	47.30%
9	T001-772F-HET	2.77E+02	2.86E-02	4.28%	51.57%
10	IN-BN-510	2.55E+02	2.67E-03	3.94%	55.51%
11	LA-OS-00-01	2.43E+02	7.27E-01	3.76%	59.27%
12	RL-T107	2.02E+02	6.82E-03	3.12%	62.38%
13	W027-221H-HET	1.68E+02	2.63E-02	2.60%	64.99%
14	W027-999-HET	1.57E+02	2.62E-02	2.42%	67.41%
15	W027-773A-HET	1.37E+02	2.62E-02	2.12%	69.53%
16	LA-TA-55-48	1.24E+02	8.30E-01	1.91%	71.44%
17	W026-221F-HET	1.08E+02	2.86E-02	1.67%	73.10%
18	W027-772F-HET	9.20E+01	2.62E-02	1.42%	74.52%
19	WP-INW216.001-	8.64E+01	2.03E-02	1.34%	75.86%
20	W026-221H-HET	8.05E+01	2.85E-02	1.24%	77.10%
21	RL-W575	5.77E+01	4.23E-02	0.89%	77.99%
22	WP-RF003.01	5.10E+01	4.57E-02	0.79%	78.78%
23	W027-235F-HET	5.06E+01	2.62E-02	0.78%	79.56%
24	LL-T002	4.88E+01	4.89E-03	0.75%	80.32%
25	WP-RF006.01	4.60E+01	4.34E-02	0.71%	81.03%
26	OR-W201	4.36E+01	7.50E-02	0.67%	81.70%
27	WP-RF005.01	4.04E+01	6.97E-02	0.62%	82.33%
28	RF-MT532C	3.63E+01	2.18E-02	0.56%	82.89%
29	RF-MT420P	3.61E+01	4.67E-02	0.56%	83.44%
30	T001-773A-HET	3.58E+01	2.85E-02	0.55%	84.00%
31	WP-RF005.02	3.41E+01	9.05E-02	0.53%	84.52%
32	RF-MT0091	3.27E+01	4.58E-02	0.51%	85.03%
33	RF-MT-0299	3.25E+01	2.18E-01	0.50%	85.53%
34	T001-235F-HET	3.20E+01	2.85E-02	0.49%	86.02%
35	RF-TT0802	2.97E+01	1.08E-01	0.46%	86.48%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.47E+03	N/A	100.00 %	N/A

Table 4.3-4. WIPP CH-TRU Waste Streams by Total EPA Units; Time 175
(Calendar Year 2208)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	IN-W216.98	4.51E+02	7.36E-03	7.86%	7.86%
2	T001-221H-HET	4.47E+02	2.29E-02	7.80%	15.65%
3	WP-RF009.01	4.39E+02	7.04E-02	7.66%	23.31%
4	W027-221F-HET	3.13E+02	2.14E-02	5.46%	28.78%
5	WP-RF118.01	2.96E+02	4.84E-02	5.16%	33.93%
6	RL-W439	2.82E+02	4.70E-03	4.92%	38.85%
7	RL-W513	2.62E+02	6.21E-03	4.57%	43.43%
8	T001-221F-HET	2.48E+02	2.29E-02	4.32%	47.75%
9	IN-BN-510	2.34E+02	2.45E-03	4.07%	51.82%
10	T001-772F-HET	2.22E+02	2.29E-02	3.88%	55.69%
11	LA-OS-00-01	1.70E+02	5.07E-01	2.96%	58.65%
12	RL-T107	1.64E+02	5.54E-03	2.85%	61.50%
13	W027-221H-HET	1.37E+02	2.14E-02	2.39%	63.89%
14	W027-999-HET	1.28E+02	2.14E-02	2.23%	66.12%
15	LA-TA-55-48	1.20E+02	8.07E-01	2.10%	68.22%
16	W027-773A-HET	1.12E+02	2.13E-02	1.95%	70.16%
17	W026-221F-HET	8.66E+01	2.30E-02	1.51%	71.67%
18	WP-INW216.001-	8.03E+01	1.88E-02	1.40%	73.07%
19	W027-772F-HET	7.49E+01	2.14E-02	1.31%	74.38%
20	W026-221H-HET	6.47E+01	2.29E-02	1.13%	75.51%
21	RL-W575	5.30E+01	3.88E-02	0.92%	76.43%
22	WP-RF003.01	5.02E+01	4.50E-02	0.88%	77.30%
23	LL-T002	4.70E+01	4.71E-03	0.82%	78.12%
24	WP-RF006.01	4.53E+01	4.27E-02	0.79%	78.91%
25	W027-235F-HET	4.12E+01	2.14E-02	0.72%	79.63%
26	OR-W201	4.07E+01	7.00E-02	0.71%	80.34%
27	WP-RF005.01	3.89E+01	6.72E-02	0.68%	81.02%
28	RF-MT420P	3.56E+01	4.61E-02	0.62%	81.64%
29	RF-MT532C	3.54E+01	2.12E-02	0.62%	82.26%
30	WP-RF005.02	3.24E+01	8.62E-02	0.57%	82.82%
31	RF-MT0091	3.23E+01	4.52E-02	0.56%	83.39%
32	RF-MT-0299	3.14E+01	2.11E-01	0.55%	83.93%
33	RF-TT0802	2.90E+01	1.06E-01	0.51%	84.44%
34	T001-773A-HET	2.87E+01	2.29E-02	0.50%	84.94%
35	RL-T140	2.60E+01	3.92E-02	0.45%	85.39%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.74E+03	N/A	100.00 %	N/A

Table 4.3-5. WIPP CH-TRU Waste Streams by Total EPA Units; Time 350
(Calendar Year 2383)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	WP-RF009.01	3.91E+02	6.26E-02	8.82%	8.82%
2	IN-W216.98	3.48E+02	5.69E-03	7.86%	16.69%
3	WP-RF118.01	2.82E+02	4.61E-02	6.38%	23.06%
4	T001-221H-HET	2.76E+02	1.41E-02	6.24%	29.30%
5	RL-W439	2.67E+02	4.45E-03	6.04%	35.34%
6	RL-W513	2.19E+02	5.18E-03	4.94%	40.28%
7	W027-221F-HET	2.01E+02	1.37E-02	4.55%	44.84%
8	IN-BN-510	1.98E+02	2.07E-03	4.47%	49.30%
9	T001-221F-HET	1.53E+02	1.41E-02	3.46%	52.76%
10	T001-772F-HET	1.37E+02	1.41E-02	3.10%	55.86%
11	LA-TA-55-48	1.12E+02	7.50E-01	2.53%	58.38%
12	RL-T107	1.04E+02	3.52E-03	2.35%	60.73%
13	W027-221H-HET	8.82E+01	1.38E-02	1.99%	62.72%
14	W027-999-HET	8.21E+01	1.37E-02	1.85%	64.58%
15	W027-773A-HET	7.18E+01	1.37E-02	1.62%	66.20%
16	WP-INW216.001-	6.23E+01	1.46E-02	1.41%	67.61%
17	LA-OS-00-01	5.41E+01	1.62E-01	1.22%	68.83%
18	W026-221F-HET	5.36E+01	1.42E-02	1.21%	70.04%
19	W027-772F-HET	4.82E+01	1.37E-02	1.09%	71.13%
20	WP-RF003.01	4.81E+01	4.31E-02	1.09%	72.22%
21	WP-RF006.01	4.34E+01	4.09E-02	0.98%	73.20%
22	LL-T002	4.22E+01	4.22E-03	0.95%	74.15%
23	W026-221H-HET	3.99E+01	1.41E-02	0.90%	75.05%
24	RL-W575	3.98E+01	2.92E-02	0.90%	75.95%
25	WP-RF005.01	3.48E+01	6.00E-02	0.79%	76.74%
26	RF-MT420P	3.42E+01	4.43E-02	0.77%	77.51%
27	OR-W201	3.36E+01	5.78E-02	0.76%	78.27%
28	RF-MT532C	3.25E+01	1.95E-02	0.74%	79.00%
29	RF-MT0091	3.12E+01	4.37E-02	0.71%	79.71%
30	RF-MT-0299	2.85E+01	1.91E-01	0.64%	80.35%
31	WP-RF005.02	2.77E+01	7.36E-02	0.63%	80.98%
32	RF-TT0802	2.70E+01	9.87E-02	0.61%	81.59%
33	W027-235F-HET	2.65E+01	1.37E-02	0.60%	82.19%
34	RL-T140	2.45E+01	3.69E-02	0.55%	82.74%
35	RL-T137	2.41E+01	3.31E-02	0.54%	83.29%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.43E+03	N/A	100.00 %	N/A

Table 4.3-6. WIPP CH-TRU Waste Streams by Total EPA Units; Time 1000
(Calendar Year 3033)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	WP-RF009.01	2.91E+02	4.66E-02	8.69%	8.69%
2	WP-RF118.01	2.54E+02	4.15E-02	7.59%	16.27%
3	RL-W439	2.38E+02	3.97E-03	7.12%	23.40%
4	T001-221H-HET	2.11E+02	1.08E-02	6.31%	29.71%
5	IN-BN-510	1.73E+02	1.82E-03	5.18%	34.89%
6	W027-221F-HET	1.59E+02	1.08E-02	4.73%	39.62%
7	RL-W513	1.45E+02	3.44E-03	4.34%	43.97%
8	IN-W216.98	1.42E+02	2.33E-03	4.25%	48.22%
9	T001-221F-HET	1.17E+02	1.08E-02	3.50%	51.71%
10	T001-772F-HET	1.05E+02	1.08E-02	3.13%	54.85%
11	LA-TA-55-48	9.59E+01	6.44E-01	2.86%	57.71%
12	RL-T107	7.92E+01	2.68E-03	2.36%	60.07%
13	W027-221H-HET	6.95E+01	1.08E-02	2.08%	62.15%
14	W027-999-HET	6.46E+01	1.08E-02	1.93%	64.08%
15	W027-773A-HET	5.65E+01	1.08E-02	1.69%	65.77%
16	WP-RF003.01	4.36E+01	3.91E-02	1.30%	67.07%
17	W026-221F-HET	4.11E+01	1.09E-02	1.23%	68.29%
18	WP-RF006.01	3.93E+01	3.70E-02	1.17%	69.47%
19	W027-772F-HET	3.79E+01	1.08E-02	1.13%	70.60%
20	LL-T002	3.26E+01	3.27E-03	0.97%	71.57%
21	RF-MT420P	3.12E+01	4.04E-02	0.93%	72.51%
22	W026-221H-HET	3.06E+01	1.08E-02	0.91%	73.42%
23	RF-MT0091	2.89E+01	4.04E-02	0.86%	74.28%
24	RF-MT532C	2.68E+01	1.61E-02	0.80%	75.08%
25	WP-INW216.001-	2.64E+01	6.20E-03	0.79%	75.87%
26	WP-RF005.01	2.63E+01	4.55E-02	0.79%	76.66%
27	RF-TT0802	2.30E+01	8.39E-02	0.69%	77.35%
28	RF-MT-0299	2.26E+01	1.51E-01	0.67%	78.02%
29	OR-W201	2.20E+01	3.78E-02	0.66%	78.68%
30	RL-T137	2.14E+01	2.94E-02	0.64%	79.32%
31	RL-T140	2.14E+01	3.23E-02	0.64%	79.96%
32	W027-235F-HET	2.09E+01	1.08E-02	0.62%	80.58%
33	RF-TT0338	1.84E+01	2.50E-02	0.55%	81.13%
34	WP-RF005.02	1.82E+01	4.83E-02	0.54%	81.67%
35	RF-TT3011	1.68E+01	1.60E-03	0.50%	82.18%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.35E+03	N/A	100.00 %	N/A

Table 4.3-7. WIPP CH-TRU Waste Streams by Total EPA Units; Time 3000
(Calendar Year 5033)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	WP-RF118.01	2.24E+02	3.66E-02	8.09%	8.09%
2	WP-RF009.01	2.23E+02	3.58E-02	8.07%	16.15%
3	RL-W439	2.09E+02	3.48E-03	7.55%	23.70%
4	T001-221H-HET	1.96E+02	1.01E-02	7.09%	30.79%
5	IN-BN-510	1.57E+02	1.64E-03	5.66%	36.46%
6	W027-221F-HET	1.47E+02	1.01E-02	5.32%	41.77%
7	T001-221F-HET	1.09E+02	1.01E-02	3.93%	45.70%
8	RL-W513	9.99E+01	2.37E-03	3.61%	49.31%
9	T001-772F-HET	9.75E+01	1.01E-02	3.52%	52.83%
10	LA-TA-55-48	8.13E+01	5.45E-01	2.93%	55.76%
11	RL-T107	7.11E+01	2.40E-03	2.57%	58.33%
12	W027-221H-HET	6.46E+01	1.01E-02	2.33%	60.66%
13	W027-999-HET	6.01E+01	1.01E-02	2.17%	62.83%
14	W027-773A-HET	5.25E+01	1.00E-02	1.90%	64.72%
15	WP-RF003.01	3.86E+01	3.46E-02	1.39%	66.12%
16	W026-221F-HET	3.82E+01	1.01E-02	1.38%	67.49%
17	W027-772F-HET	3.52E+01	1.01E-02	1.27%	68.77%
18	WP-RF006.01	3.47E+01	3.27E-02	1.25%	70.02%
19	IN-W216.98	3.29E+01	5.37E-04	1.19%	71.20%
20	W026-221H-HET	2.84E+01	1.01E-02	1.03%	72.23%
21	RF-MT420P	2.77E+01	3.59E-02	1.00%	73.23%
22	RF-MT0091	2.59E+01	3.62E-02	0.93%	74.17%
23	LL-T002	2.56E+01	2.56E-03	0.92%	75.09%
24	RF-MT532C	2.23E+01	1.34E-02	0.81%	75.89%
25	WP-RF005.01	2.05E+01	3.55E-02	0.74%	76.64%
26	RF-TT0802	1.95E+01	7.13E-02	0.71%	77.34%
27	W027-235F-HET	1.94E+01	1.01E-02	0.70%	78.04%
28	RL-T137	1.88E+01	2.58E-02	0.68%	78.72%
29	RL-T140	1.86E+01	2.80E-02	0.67%	79.39%
30	RF-MT-0299	1.82E+01	1.22E-01	0.66%	80.05%
31	RF-TT0338	1.61E+01	2.19E-02	0.58%	80.63%
32	OR-W201	1.46E+01	2.52E-02	0.53%	81.16%
33	RF-TT3011	1.46E+01	1.40E-03	0.53%	81.69%
34	RF-TT0824	1.27E+01	2.14E-03	0.46%	82.15%
35	T001-773A-HET	1.26E+01	1.01E-02	0.46%	82.60%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.77E+03	N/A	100.00 %	N/A

Table 4.3-8. WIPP CH-TRU Waste Streams by Total EPA Units; 5000
(Calendar Year 7033)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	WP-RF118.01	2.07E+02	3.38E-02	8.07%	8.07%
2	WP-RF009.01	2.05E+02	3.28E-02	7.99%	16.06%
3	RL-W439	1.93E+02	3.21E-03	7.53%	23.59%
4	T001-221H-HET	1.85E+02	9.46E-03	7.22%	30.82%
5	IN-BN-510	1.47E+02	1.54E-03	5.73%	36.54%
6	W027-221F-HET	1.39E+02	9.46E-03	5.42%	41.96%
7	T001-221F-HET	1.02E+02	9.46E-03	4.00%	45.96%
8	T001-772F-HET	9.17E+01	9.46E-03	3.58%	49.55%
9	RL-W513	8.92E+01	2.11E-03	3.49%	53.03%
10	LA-TA-55-48	7.40E+01	4.96E-01	2.89%	55.92%
11	RL-T107	6.56E+01	2.22E-03	2.56%	58.49%
12	W027-221H-HET	6.08E+01	9.48E-03	2.38%	60.86%
13	W027-999-HET	5.65E+01	9.46E-03	2.21%	63.07%
14	W027-773A-HET	4.94E+01	9.45E-03	1.93%	65.00%
15	W026-221F-HET	3.59E+01	9.51E-03	1.40%	66.40%
16	WP-RF003.01	3.56E+01	3.19E-02	1.39%	67.79%
17	W027-772F-HET	3.32E+01	9.46E-03	1.30%	69.09%
18	WP-RF006.01	3.20E+01	3.02E-02	1.25%	70.34%
19	W026-221H-HET	2.67E+01	9.47E-03	1.04%	71.38%
20	IN-W216.98	2.64E+01	4.31E-04	1.03%	72.41%
21	RF-MT420P	2.56E+01	3.31E-02	1.00%	73.41%
22	RF-MT0091	2.38E+01	3.34E-02	0.93%	74.35%
23	LL-T002	2.31E+01	2.32E-03	0.90%	75.25%
24	RF-MT532C	2.05E+01	1.23E-02	0.80%	76.05%
25	WP-RF005.01	1.88E+01	3.25E-02	0.73%	76.79%
26	W027-235F-HET	1.83E+01	9.47E-03	0.71%	77.50%
27	RF-TT0802	1.80E+01	6.56E-02	0.70%	78.20%
28	RL-T137	1.73E+01	2.38E-02	0.68%	78.88%
29	RL-T140	1.71E+01	2.58E-02	0.67%	79.55%
30	RF-MT-0299	1.67E+01	1.12E-01	0.65%	80.20%
31	RF-TT0338	1.49E+01	2.02E-02	0.58%	80.78%
32	RF-TT3011	1.35E+01	1.29E-03	0.53%	81.31%
33	OR-W201	1.28E+01	2.20E-02	0.50%	81.81%
34	T001-773A-HET	1.19E+01	9.46E-03	0.46%	82.27%
35	RF-TT0824	1.17E+01	1.97E-03	0.46%	82.73%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.56E+03	N/A	100.00 %	N/A

Table 4.3-9. WIPP CH-TRU Waste Streams by Total EPA Units; 7500
(Calendar Year 9533)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	WP-RF118.01	1.88E+02	3.07E-02	8.02%	8.02%
2	WP-RF009.01	1.86E+02	2.98E-02	7.94%	15.97%
3	RL-W439	1.75E+02	2.92E-03	7.49%	23.46%
4	T001-221H-HET	1.72E+02	8.78E-03	7.33%	30.79%
5	IN-BN-510	1.35E+02	1.41E-03	5.77%	36.56%
6	W027-221F-HET	1.29E+02	8.78E-03	5.50%	42.06%
7	T001-221F-HET	9.50E+01	8.78E-03	4.06%	46.12%
8	T001-772F-HET	8.51E+01	8.78E-03	3.64%	49.76%
9	RL-W513	7.93E+01	1.88E-03	3.39%	53.15%
10	LA-TA-55-48	6.64E+01	4.45E-01	2.84%	55.98%
11	RL-T107	5.97E+01	2.02E-03	2.55%	58.53%
12	W027-221H-HET	5.64E+01	8.80E-03	2.41%	60.94%
13	W027-999-HET	5.25E+01	8.78E-03	2.24%	63.19%
14	W027-773A-HET	4.59E+01	8.77E-03	1.96%	65.15%
15	W026-221F-HET	3.33E+01	8.83E-03	1.42%	66.57%
16	WP-RF003.01	3.23E+01	2.90E-02	1.38%	67.95%
17	W027-772F-HET	3.08E+01	8.78E-03	1.32%	69.27%
18	WP-RF006.01	2.91E+01	2.74E-02	1.24%	70.51%
19	W026-221H-HET	2.48E+01	8.79E-03	1.06%	71.57%
20	IN-W216.98	2.38E+01	3.89E-04	1.02%	72.59%
21	RF-MT420P	2.32E+01	3.01E-02	0.99%	73.58%
22	RF-MT0091	2.17E+01	3.03E-02	0.93%	74.50%
23	LL-T002	2.07E+01	2.07E-03	0.88%	75.39%
24	RF-MT532C	1.86E+01	1.12E-02	0.80%	76.19%
25	WP-RF005.01	1.71E+01	2.95E-02	0.73%	76.92%
26	W027-235F-HET	1.70E+01	8.79E-03	0.72%	77.64%
27	RF-TT0802	1.63E+01	5.96E-02	0.70%	78.34%
28	RL-T137	1.57E+01	2.16E-02	0.67%	79.01%
29	RL-T140	1.55E+01	2.34E-02	0.66%	79.67%
30	RF-MT-0299	1.52E+01	1.02E-01	0.65%	80.32%
31	RF-TT0338	1.35E+01	1.84E-02	0.58%	80.90%
32	RF-TT3011	1.22E+01	1.17E-03	0.52%	81.42%
33	OR-W201	1.11E+01	1.90E-02	0.47%	81.90%
34	T001-773A-HET	1.10E+01	8.78E-03	0.47%	82.37%
35	RF-TT0824	1.07E+01	1.79E-03	0.46%	82.82%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.34E+03	N/A	100.00 %	N/A

Table 4.3-10. WIPP CH-TRU Waste Streams by Total EPA Units; Time 10000
(Calendar Year 12033)

Rank Order	Waste Stream ID	Waste Stream Total EPA Units			
		[EPA]	per drum	% of Total	Cum. %
1	WP-RF118.01	1.71E+02	2.80E-02	7.98%	7.98%
2	WP-RF009.01	1.70E+02	2.72E-02	7.90%	15.89%
3	RL-W439	1.60E+02	2.66E-03	7.45%	23.34%
4	T001-221H-HET	1.59E+02	8.15E-03	7.42%	30.76%
5	IN-BN-510	1.25E+02	1.31E-03	5.81%	36.57%
6	W027-221F-HET	1.19E+02	8.15E-03	5.57%	42.14%
7	T001-221F-HET	8.82E+01	8.15E-03	4.11%	46.25%
8	T001-772F-HET	7.90E+01	8.15E-03	3.68%	49.93%
9	RL-W513	7.10E+01	1.68E-03	3.31%	53.24%
10	LA-TA-55-48	5.99E+01	4.02E-01	2.79%	56.03%
11	RL-T107	5.44E+01	1.84E-03	2.54%	58.57%
12	W027-221H-HET	5.24E+01	8.17E-03	2.44%	61.01%
13	W027-999-HET	4.87E+01	8.15E-03	2.27%	63.28%
14	W027-773A-HET	4.26E+01	8.14E-03	1.98%	65.26%
15	W026-221F-HET	3.09E+01	8.20E-03	1.44%	66.70%
16	WP-RF003.01	2.95E+01	2.64E-02	1.37%	68.08%
17	W027-772F-HET	2.86E+01	8.15E-03	1.33%	69.41%
18	WP-RF006.01	2.65E+01	2.50E-02	1.24%	70.65%
19	W026-221H-HET	2.30E+01	8.16E-03	1.07%	71.72%
20	IN-W216.98	2.17E+01	3.54E-04	1.01%	72.73%
21	RF-MT420P	2.12E+01	2.74E-02	0.99%	73.72%
22	RF-MT0091	1.98E+01	2.76E-02	0.92%	74.64%
23	LL-T002	1.86E+01	1.86E-03	0.87%	75.51%
24	RF-MT532C	1.70E+01	1.02E-02	0.79%	76.30%
25	W027-235F-HET	1.57E+01	8.16E-03	0.73%	77.03%
26	WP-RF005.01	1.56E+01	2.69E-02	0.73%	77.76%
27	RF-TT0802	1.49E+01	5.43E-02	0.69%	78.45%
28	RL-T137	1.44E+01	1.97E-02	0.67%	79.12%
29	RL-T140	1.41E+01	2.13E-02	0.66%	79.78%
30	RF-MT-0299	1.39E+01	9.29E-02	0.65%	80.43%
31	RF-TT0338	1.23E+01	1.68E-02	0.57%	81.00%
32	RF-TT3011	1.12E+01	1.07E-03	0.52%	81.52%
33	T001-773A-HET	1.02E+01	8.15E-03	0.48%	82.00%
34	RF-TT0824	9.72E+00	1.64E-03	0.45%	82.45%
35	OR-W201	9.68E+00	1.67E-02	0.45%	82.90%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.15E+03	N/A	100.00 %	N/A

4.4 EPA CURIES

For the purposes of this analysis, the EPA curie value for each waste stream is a value calculated as the sum of the curies of the isotopes that contribute to the EPA unit. Those contributing isotopes are: ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu and ^{234}U (see Sections 4.5, 4.7, 4.8, 4.9 and 4.11 respectively). These are the only isotopes that are regulated as TRU waste by 40CFR191 and therefore their sum is called EPA curies.

The total EPA curie values in Table 4.4-1 through Table 4.4-10 were estimated to illustrate which waste streams are the primary contributors over the entire population of waste. Each table identifies 35 waste streams that offer the greatest contribution to EPA curies during each of the ten time intervals output by EPAUNI. All 693 waste streams and their total EPA curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

Tables 4.4-1 through 4.4-10 also illustrate that as the nuclides decay, based on the radioisotopic activities of each waste stream, the respective contributions of each waste stream over time changes relative to the contribution of other waste streams. For example, the LANL waste stream LA-OS-00-01 is the third highest contributor (at 6.25%, see Table 4.4-1) to total EPA curies at closure (time interval 0, year 2033), yet by time interval 350 years (year 2383) the waste stream only contributes 1.22% to total EPA curies (see Table 4.4-5) and by time interval 1,000 years (year 3033) contributes less than 0.53% (see Table 4.4-6).

Conversely, the Hanford Site waste stream RL-W439 contributes 4.15% (see Table 4.4-1) to the total EPA curies and ranks fourteenth at the time of closure (time interval 0 years, year 2033). Yet, by time interval 10,000 years (year 12033), the waste stream is the third largest contributor to total EPA curies at 7.45% (see Table 4.4-10), due to its relatively high quantities of longer-lived ^{239}Pu and ^{240}Pu (see Sections 4.8 and 4.9).

Table 4.4-1. WIPP CH-TRU Waste Streams by EPA Curies; Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	2.77E+05	1.42E+01	11.28%	11.28%
2	W027-221F-HET	1.87E+05	1.27E+01	7.59%	18.87%
3	LA-OS-00-01	1.54E+05	4.60E+02	6.25%	25.12%
4	T001-221F-HET	1.54E+05	1.42E+01	6.25%	31.38%
5	IN-W216.98	1.46E+05	2.38E+00	5.92%	37.30%
6	T001-772F-HET	1.38E+05	1.42E+01	5.62%	42.91%
7	WP-RF009.01	1.25E+05	2.00E+01	5.07%	47.98%
8	RL-T107	9.75E+04	3.30E+00	3.97%	51.95%
9	IN-BN-510	8.92E+04	9.35E-01	3.63%	55.58%
10	RL-W513	8.26E+04	1.96E+00	3.36%	58.94%
11	W027-221H-HET	8.15E+04	1.27E+01	3.32%	62.25%
12	WP-RF118.01	7.74E+04	1.27E+01	3.15%	65.40%
13	W027-999-HET	7.60E+04	1.27E+01	3.09%	68.49%
14	RL-W439	7.43E+04	1.24E+00	3.02%	71.51%
15	W027-773A-HET	6.64E+04	1.27E+01	2.70%	74.21%
16	W026-221F-HET	5.37E+04	1.42E+01	2.18%	76.39%
17	W027-772F-HET	4.46E+04	1.27E+01	1.81%	78.21%
18	W026-221H-HET	4.01E+04	1.42E+01	1.63%	79.84%
19	LA-TA-55-48	3.32E+04	2.23E+02	1.35%	81.19%
20	WP-INW216.001-	2.58E+04	6.04E+00	1.05%	82.24%
21	W027-235F-HET	2.45E+04	1.27E+01	1.00%	83.23%
22	T001-773A-HET	1.78E+04	1.42E+01	0.72%	83.96%
23	T001-235F-HET	1.60E+04	1.42E+01	0.65%	84.60%
24	RL-W575	1.52E+04	1.11E+01	0.62%	85.22%
25	WP-RF003.01	1.31E+04	1.17E+01	0.53%	85.75%
26	LL-T002	1.30E+04	1.30E+00	0.53%	86.28%
27	OR-W201	1.29E+04	2.21E+01	0.52%	86.81%
28	WP-RF006.01	1.19E+04	1.12E+01	0.48%	87.29%
29	WP-RF005.01	1.10E+04	1.90E+01	0.45%	87.74%
30	RF-MT532C	9.64E+03	5.78E+00	0.39%	88.13%
31	WP-RF005.02	9.58E+03	2.55E+01	0.39%	88.52%
32	RF-MT420P	9.27E+03	1.20E+01	0.38%	88.89%
33	RF-MT-0299	8.71E+03	5.84E+01	0.35%	89.25%
34	OR-W202	8.52E+03	3.03E+00	0.35%	89.60%
35	RF-MT0091	8.37E+03	1.17E+01	0.34%	89.94%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.01%
	Sum =	2.46E+06	N/A	100.00%	N/A

Table 4.4-2. WIPP CH-TRU Waste Streams by EPA Curies; Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.56E+05	7.99E+00	9.07%	9.07%
2	IN-W216.98	1.25E+05	2.04E+00	7.26%	16.33%
3	WP-RF009.01	1.15E+05	1.85E+01	6.70%	23.02%
4	W027-221F-HET	1.07E+05	7.32E+00	6.23%	29.25%
5	T001-221F-HET	8.66E+04	8.00E+00	5.02%	34.28%
6	T001-772F-HET	7.77E+04	8.02E+00	4.51%	38.79%
7	WP-RF118.01	7.53E+04	1.23E+01	4.37%	43.16%
8	LA-OS-00-01	7.25E+04	2.17E+02	4.21%	47.36%
9	RL-W439	7.22E+04	1.20E+00	4.19%	51.55%
10	RL-W513	7.19E+04	1.70E+00	4.17%	55.73%
11	IN-BN-510	6.67E+04	6.98E-01	3.87%	59.60%
12	RL-T107	5.63E+04	1.90E+00	3.27%	62.86%
13	W027-221H-HET	4.69E+04	7.32E+00	2.72%	65.59%
14	W027-999-HET	4.37E+04	7.31E+00	2.54%	68.12%
15	W027-773A-HET	3.82E+04	7.31E+00	2.22%	70.34%
16	LA-TA-55-48	3.11E+04	2.09E+02	1.81%	72.15%
17	W026-221F-HET	3.03E+04	8.01E+00	1.76%	73.90%
18	W027-772F-HET	2.56E+04	7.32E+00	1.49%	75.39%
19	W026-221H-HET	2.26E+04	8.00E+00	1.31%	76.70%
20	WP-INW216.001-	2.22E+04	5.21E+00	1.29%	77.99%
21	RL-W575	1.49E+04	1.09E+01	0.87%	78.86%
22	W027-235F-HET	1.41E+04	7.31E+00	0.82%	79.68%
23	WP-RF003.01	1.27E+04	1.14E+01	0.74%	80.42%
24	LL-T002	1.23E+04	1.24E+00	0.72%	81.13%
25	WP-RF006.01	1.15E+04	1.08E+01	0.67%	81.80%
26	OR-W201	1.12E+04	1.93E+01	0.65%	82.45%
27	WP-RF005.01	1.02E+04	1.76E+01	0.59%	83.04%
28	T001-773A-HET	1.00E+04	7.99E+00	0.58%	83.63%
29	RF-MT532C	9.14E+03	5.48E+00	0.53%	84.16%
30	RF-MT420P	9.02E+03	1.17E+01	0.52%	84.68%
31	T001-235F-HET	8.99E+03	7.99E+00	0.52%	85.20%
32	WP-RF005.02	8.66E+03	2.30E+01	0.50%	85.70%
33	RF-MT-0299	8.19E+03	5.49E+01	0.48%	86.18%
34	RF-MT0091	8.17E+03	1.14E+01	0.47%	86.65%
35	RF-TT0802	7.47E+03	2.72E+01	0.43%	87.09%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.72E+06	N/A	100.00%	N/A

Table 4.4-3. WIPP CH-TRU Waste Streams by EPA Curies; Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.38E+05	7.07E+00	8.60%	8.60%
2	IN-W216.98	1.21E+05	1.97E+00	7.51%	16.11%
3	WP-RF009.01	1.13E+05	1.81E+01	7.05%	23.17%
4	W027-221F-HET	9.55E+04	6.51E+00	5.95%	29.11%
5	T001-221F-HET	7.65E+04	7.07E+00	4.77%	33.88%
6	WP-RF118.01	7.46E+04	1.22E+01	4.65%	38.53%
7	RL-W439	7.14E+04	1.19E+00	4.45%	42.98%
8	RL-W513	6.94E+04	1.64E+00	4.32%	47.30%
9	T001-772F-HET	6.87E+04	7.08E+00	4.28%	51.58%
10	IN-BN-510	6.32E+04	6.62E-01	3.94%	55.52%
11	LA-OS-00-01	6.03E+04	1.80E+02	3.76%	59.28%
12	RL-T107	5.00E+04	1.69E+00	3.12%	62.40%
13	W027-221H-HET	4.18E+04	6.51E+00	2.60%	65.00%
14	W027-999-HET	3.89E+04	6.51E+00	2.42%	67.42%
15	W027-773A-HET	3.40E+04	6.50E+00	2.12%	69.54%
16	LA-TA-55-48	3.07E+04	2.06E+02	1.91%	71.45%
17	W026-221F-HET	2.67E+04	7.08E+00	1.67%	73.12%
18	W027-772F-HET	2.28E+04	6.51E+00	1.42%	74.54%
19	WP-INW216.001-	2.14E+04	5.02E+00	1.34%	75.87%
20	W026-221H-HET	2.00E+04	7.07E+00	1.24%	77.12%
21	RL-W575	1.43E+04	1.05E+01	0.89%	78.01%
22	WP-RF003.01	1.26E+04	1.13E+01	0.79%	78.79%
23	W027-235F-HET	1.26E+04	6.50E+00	0.78%	79.58%
24	LL-T002	1.21E+04	1.21E+00	0.75%	80.33%
25	WP-RF006.01	1.14E+04	1.08E+01	0.71%	81.04%
26	OR-W201	1.08E+04	1.86E+01	0.67%	81.72%
27	WP-RF005.01	1.00E+04	1.73E+01	0.62%	82.34%
28	RF-MT532C	9.01E+03	5.40E+00	0.56%	82.90%
29	RF-MT420P	8.95E+03	1.16E+01	0.56%	83.46%
30	T001-773A-HET	8.87E+03	7.06E+00	0.55%	84.01%
31	WP-RF005.02	8.45E+03	2.24E+01	0.53%	84.54%
32	RF-MT0091	8.12E+03	1.14E+01	0.51%	85.04%
33	RF-MT-0299	8.05E+03	5.40E+01	0.50%	85.54%
34	T001-235F-HET	7.94E+03	7.07E+00	0.49%	86.04%
35	RF-TT0802	7.37E+03	2.69E+01	0.46%	86.50%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.61E+06	N/A	100.00%	N/A

Table 4.4-4. WIPP CH-TRU Waste Streams by EPA Curies; Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	IN-W216.98	1.12E+05	1.83E+00	7.86%	7.86%
2	T001-221H-HET	1.11E+05	5.68E+00	7.79%	15.65%
3	WP-RF009.01	1.09E+05	1.75E+01	7.66%	23.31%
4	W027-221F-HET	7.77E+04	5.30E+00	5.46%	28.77%
5	WP-RF118.01	7.34E+04	1.20E+01	5.16%	33.93%
6	RL-W439	7.00E+04	1.16E+00	4.92%	38.85%
7	RL-W513	6.51E+04	1.54E+00	4.57%	43.42%
8	T001-221F-HET	6.15E+04	5.68E+00	4.32%	47.74%
9	IN-BN-510	5.79E+04	6.07E-01	4.07%	51.81%
10	T001-772F-HET	5.51E+04	5.69E+00	3.87%	55.69%
11	LA-OS-00-01	4.21E+04	1.26E+02	2.96%	58.64%
12	RL-T107	4.06E+04	1.37E+00	2.85%	61.50%
13	W027-221H-HET	3.40E+04	5.30E+00	2.39%	63.89%
14	W027-999-HET	3.17E+04	5.30E+00	2.22%	66.11%
15	LA-TA-55-48	2.98E+04	2.00E+02	2.10%	68.21%
16	W027-773A-HET	2.77E+04	5.29E+00	1.95%	70.15%
17	W026-221F-HET	2.15E+04	5.69E+00	1.51%	71.66%
18	WP-INW216.001-	1.99E+04	4.67E+00	1.40%	73.06%
19	W027-772F-HET	1.86E+04	5.30E+00	1.31%	74.37%
20	W026-221H-HET	1.60E+04	5.68E+00	1.13%	75.49%
21	RL-W575	1.32E+04	9.64E+00	0.92%	76.42%
22	WP-RF003.01	1.25E+04	1.12E+01	0.87%	77.29%
23	LL-T002	1.17E+04	1.17E+00	0.82%	78.11%
24	WP-RF006.01	1.12E+04	1.06E+01	0.79%	78.90%
25	W027-235F-HET	1.02E+04	5.30E+00	0.72%	79.62%
26	OR-W201	1.01E+04	1.73E+01	0.71%	80.33%
27	WP-RF005.01	9.65E+03	1.67E+01	0.68%	81.01%
28	RF-MT420P	8.83E+03	1.14E+01	0.62%	81.63%
29	RF-MT532C	8.77E+03	5.26E+00	0.62%	82.24%
30	WP-RF005.02	8.04E+03	2.14E+01	0.57%	82.81%
31	RF-MT0091	8.02E+03	1.12E+01	0.56%	83.37%
32	RF-MT-0299	7.80E+03	5.23E+01	0.55%	83.92%
33	RF-TT0802	7.20E+03	2.63E+01	0.51%	84.43%
34	T001-773A-HET	7.12E+03	5.67E+00	0.50%	84.93%
35	RL-T140	6.45E+03	9.72E+00	0.45%	85.38%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.42E+06	N/A	100.00%	N/A

Table 4.4-5. WIPP CH-TRU Waste Streams by EPA Curies; Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	WP-RF009.01	9.69E+04	1.55E+01	8.82%	8.82%
2	IN-W216.98	8.63E+04	1.41E+00	7.86%	16.68%
3	WP-RF118.01	7.00E+04	1.14E+01	6.37%	23.05%
4	T001-221H-HET	6.85E+04	3.50E+00	6.24%	29.29%
5	RL-W439	6.63E+04	1.10E+00	6.04%	35.33%
6	RL-W513	5.43E+04	1.28E+00	4.94%	40.27%
7	W027-221F-HET	5.00E+04	3.41E+00	4.55%	44.82%
8	IN-BN-510	4.90E+04	5.14E-01	4.46%	49.28%
9	T001-221F-HET	3.79E+04	3.50E+00	3.45%	52.74%
10	T001-772F-HET	3.40E+04	3.51E+00	3.10%	55.83%
11	LA-TA-55-48	2.77E+04	1.86E+02	2.52%	58.36%
12	RL-T107	2.58E+04	8.72E-01	2.35%	60.71%
13	W027-221H-HET	2.19E+04	3.41E+00	1.99%	62.70%
14	W027-999-HET	2.04E+04	3.41E+00	1.85%	64.55%
15	W027-773A-HET	1.78E+04	3.40E+00	1.62%	66.17%
16	WP-INW216.001-	1.55E+04	3.62E+00	1.41%	67.58%
17	LA-OS-00-01	1.34E+04	4.01E+01	1.22%	68.80%
18	W026-221F-HET	1.33E+04	3.52E+00	1.21%	70.01%
19	W027-772F-HET	1.20E+04	3.41E+00	1.09%	71.10%
20	WP-RF003.01	1.19E+04	1.07E+01	1.09%	72.19%
21	WP-RF006.01	1.08E+04	1.01E+01	0.98%	73.17%
22	LL-T002	1.05E+04	1.05E+00	0.95%	74.12%
23	W026-221H-HET	9.90E+03	3.51E+00	0.90%	75.02%
24	RL-W575	9.87E+03	7.23E+00	0.90%	75.92%
25	WP-RF005.01	8.62E+03	1.49E+01	0.79%	76.71%
26	RF-MT420P	8.49E+03	1.10E+01	0.77%	77.48%
27	OR-W201	8.33E+03	1.43E+01	0.76%	78.24%
28	RF-MT532C	8.07E+03	4.84E+00	0.74%	78.97%
29	RF-MT0091	7.74E+03	1.08E+01	0.71%	79.68%
30	RF-MT-0299	7.07E+03	4.74E+01	0.64%	80.32%
31	WP-RF005.02	6.87E+03	1.83E+01	0.63%	80.95%
32	RF-TT0802	6.71E+03	2.45E+01	0.61%	81.56%
33	W027-235F-HET	6.58E+03	3.41E+00	0.60%	82.16%
34	RL-T140	6.06E+03	9.14E+00	0.55%	82.71%
35	RL-T137	5.98E+03	8.21E+00	0.54%	83.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.10E+06	N/A	100.00%	N/A

Table 4.4-6. WIPP CH-TRU Waste Streams by EPA Curies; Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	WP-RF009.01	7.21E+04	1.16E+01	8.69%	8.69%
2	WP-RF118.01	6.30E+04	1.03E+01	7.59%	16.27%
3	RL-W439	5.91E+04	9.84E-01	7.12%	23.40%
4	T001-221H-HET	5.24E+04	2.68E+00	6.31%	29.71%
5	IN-BN-510	4.30E+04	4.51E-01	5.18%	34.89%
6	W027-221F-HET	3.93E+04	2.68E+00	4.73%	39.62%
7	RL-W513	3.61E+04	8.54E-01	4.34%	43.96%
8	IN-W216.98	3.53E+04	5.77E-01	4.25%	48.21%
9	T001-221F-HET	2.91E+04	2.68E+00	3.50%	51.71%
10	T001-772F-HET	2.60E+04	2.68E+00	3.13%	54.84%
11	LA-TA-55-48	2.38E+04	1.60E+02	2.86%	57.71%
12	RL-T107	1.96E+04	6.64E-01	2.36%	60.07%
13	W027-221H-HET	1.72E+04	2.69E+00	2.07%	62.15%
14	W027-999-HET	1.60E+04	2.68E+00	1.93%	64.08%
15	W027-773A-HET	1.40E+04	2.68E+00	1.69%	65.76%
16	WP-RF003.01	1.08E+04	9.70E+00	1.30%	67.07%
17	W026-221F-HET	1.02E+04	2.70E+00	1.23%	68.29%
18	WP-RF006.01	9.74E+03	9.18E+00	1.17%	69.46%
19	W027-772F-HET	9.40E+03	2.68E+00	1.13%	70.60%
20	LL-T002	8.09E+03	8.10E-01	0.97%	71.57%
21	RF-MT420P	7.75E+03	1.00E+01	0.93%	72.50%
22	W026-221H-HET	7.58E+03	2.69E+00	0.91%	73.42%
23	RF-MT0091	7.16E+03	1.00E+01	0.86%	74.28%
24	RF-MT532C	6.66E+03	3.99E+00	0.80%	75.08%
25	WP-INW216.001-	6.56E+03	1.54E+00	0.79%	75.87%
26	WP-RF005.01	6.53E+03	1.13E+01	0.79%	76.66%
27	RF-TT0802	5.71E+03	2.08E+01	0.69%	77.34%
28	RF-MT-0299	5.60E+03	3.75E+01	0.67%	78.02%
29	OR-W201	5.46E+03	9.39E+00	0.66%	78.67%
30	RL-T137	5.32E+03	7.30E+00	0.64%	79.32%
31	RL-T140	5.32E+03	8.02E+00	0.64%	79.96%
32	W027-235F-HET	5.18E+03	2.69E+00	0.62%	80.58%
33	RF-TT0338	4.56E+03	6.19E+00	0.55%	81.13%
34	WP-RF005.02	4.51E+03	1.20E+01	0.54%	81.67%
35	RF-TT3011	4.16E+03	3.98E-01	0.50%	82.17%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	8.31E+05	N/A	100.00%	N/A

Table 4.4-7. WIPP CH-TRU Waste Streams by EPA Curies; Time 3000
(Calendar Year = 5033)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	5.56E+04	9.08E+00	8.09%	8.09%
2	WP-RF009.01	5.54E+04	8.88E+00	8.07%	16.15%
3	RL-W439	5.19E+04	8.63E-01	7.55%	23.70%
4	T001-221H-HET	4.87E+04	2.49E+00	7.09%	30.79%
5	IN-BN-510	3.89E+04	4.08E-01	5.66%	36.46%
6	W027-221F-HET	3.65E+04	2.49E+00	5.32%	41.78%
7	T001-221F-HET	2.70E+04	2.49E+00	3.93%	45.70%
8	RL-W513	2.48E+04	5.87E-01	3.61%	49.31%
9	T001-772F-HET	2.42E+04	2.49E+00	3.52%	52.83%
10	LA-TA-55-48	2.02E+04	1.35E+02	2.93%	55.76%
11	RL-T107	1.76E+04	5.96E-01	2.57%	58.33%
12	W027-221H-HET	1.60E+04	2.50E+00	2.33%	60.66%
13	W027-999-HET	1.49E+04	2.49E+00	2.17%	62.83%
14	W027-773A-HET	1.30E+04	2.49E+00	1.90%	64.72%
15	WP-RF003.01	9.57E+03	8.58E+00	1.39%	66.12%
16	W026-221F-HET	9.46E+03	2.51E+00	1.38%	67.49%
17	W027-772F-HET	8.74E+03	2.49E+00	1.27%	68.77%
18	WP-RF006.01	8.61E+03	8.12E+00	1.25%	70.02%
19	IN-W216.98	8.15E+03	1.33E-01	1.19%	71.21%
20	W026-221H-HET	7.05E+03	2.50E+00	1.03%	72.23%
21	RF-MT420P	6.88E+03	8.90E+00	1.00%	73.23%
22	RF-MT0091	6.41E+03	8.97E+00	0.93%	74.17%
23	LL-T002	6.35E+03	6.35E-01	0.92%	75.09%
24	RF-MT532C	5.53E+03	3.32E+00	0.81%	75.89%
25	WP-RF005.01	5.09E+03	8.79E+00	0.74%	76.64%
26	RF-TT0802	4.85E+03	1.77E+01	0.71%	77.34%
27	W027-235F-HET	4.82E+03	2.50E+00	0.70%	78.04%
28	RL-T137	4.66E+03	6.39E+00	0.68%	78.72%
29	RL-T140	4.61E+03	6.95E+00	0.67%	79.39%
30	RF-MT-0299	4.52E+03	3.03E+01	0.66%	80.05%
31	RF-TT0338	4.00E+03	5.44E+00	0.58%	80.63%
32	OR-W201	3.63E+03	6.25E+00	0.53%	81.16%
33	RF-TT3011	3.63E+03	3.47E-01	0.53%	81.69%
34	RF-TT0824	3.16E+03	5.32E-01	0.46%	82.15%
35	T001-773A-HET	3.13E+03	2.49E+00	0.46%	82.60%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.87E+05	N/A	100.00%	N/A

Table 4.4-8. WIPP CH-TRU Waste Streams by EPA Curies; Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	5.12E+04	8.37E+00	8.07%	8.07%
2	WP-RF009.01	5.07E+04	8.13E+00	7.99%	16.06%
3	RL-W439	4.78E+04	7.96E-01	7.53%	23.60%
4	T001-221H-HET	4.59E+04	2.35E+00	7.22%	30.82%
5	IN-BN-510	3.63E+04	3.81E-01	5.73%	36.55%
6	W027-221F-HET	3.44E+04	2.35E+00	5.42%	41.96%
7	T001-221F-HET	2.54E+04	2.35E+00	4.00%	45.97%
8	T001-772F-HET	2.28E+04	2.35E+00	3.58%	49.55%
9	RL-W513	2.21E+04	5.24E-01	3.49%	53.04%
10	LA-TA-55-48	1.83E+04	1.23E+02	2.89%	55.93%
11	RL-T107	1.63E+04	5.50E-01	2.56%	58.49%
12	W027-221H-HET	1.51E+04	2.35E+00	2.38%	60.86%
13	W027-999-HET	1.40E+04	2.35E+00	2.21%	63.07%
14	W027-773A-HET	1.23E+04	2.34E+00	1.93%	65.01%
15	W026-221F-HET	8.91E+03	2.36E+00	1.40%	66.41%
16	WP-RF003.01	8.82E+03	7.91E+00	1.39%	67.80%
17	W027-772F-HET	8.23E+03	2.35E+00	1.30%	69.10%
18	WP-RF006.01	7.94E+03	7.48E+00	1.25%	70.35%
19	W026-221H-HET	6.63E+03	2.35E+00	1.04%	71.39%
20	IN-W216.98	6.54E+03	1.07E-01	1.03%	72.42%
21	RF-MT420P	6.34E+03	8.21E+00	1.00%	73.42%
22	RF-MT0091	5.91E+03	8.27E+00	0.93%	74.35%
23	LL-T002	5.74E+03	5.74E-01	0.90%	75.26%
24	RF-MT532C	5.09E+03	3.05E+00	0.80%	76.06%
25	WP-RF005.01	4.66E+03	8.05E+00	0.73%	76.79%
26	W027-235F-HET	4.53E+03	2.35E+00	0.71%	77.51%
27	RF-TT0802	4.46E+03	1.63E+01	0.70%	78.21%
28	RL-T137	4.29E+03	5.89E+00	0.68%	78.88%
29	RL-T140	4.24E+03	6.39E+00	0.67%	79.55%
30	RF-MT-0299	4.15E+03	2.78E+01	0.65%	80.20%
31	RF-TT0338	3.69E+03	5.01E+00	0.58%	80.79%
32	RF-TT3011	3.34E+03	3.19E-01	0.53%	81.31%
33	OR-W201	3.17E+03	5.45E+00	0.50%	81.81%
34	T001-773A-HET	2.95E+03	2.35E+00	0.46%	82.28%
35	RF-TT0824	2.91E+03	4.90E-01	0.46%	82.73%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.35E+05	N/A	100.00%	N/A

Table 4.4-9. WIPP CH-TRU Waste Streams by EPA Curies; Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	4.66E+04	7.61E+00	8.02%	8.02%
2	WP-RF009.01	4.61E+04	7.39E+00	7.94%	15.97%
3	RL-W439	4.35E+04	7.23E-01	7.49%	23.45%
4	T001-221H-HET	4.26E+04	2.18E+00	7.33%	30.79%
5	IN-BN-510	3.35E+04	3.51E-01	5.77%	36.56%
6	W027-221F-HET	3.19E+04	2.18E+00	5.50%	42.06%
7	T001-221F-HET	2.36E+04	2.18E+00	4.06%	46.12%
8	T001-772F-HET	2.11E+04	2.18E+00	3.64%	49.76%
9	RL-W513	1.97E+04	4.66E-01	3.39%	53.14%
10	LA-TA-55-48	1.65E+04	1.10E+02	2.84%	55.98%
11	RL-T107	1.48E+04	5.00E-01	2.55%	58.53%
12	W027-221H-HET	1.40E+04	2.18E+00	2.41%	60.94%
13	W027-999-HET	1.30E+04	2.18E+00	2.24%	63.18%
14	W027-773A-HET	1.14E+04	2.17E+00	1.96%	65.14%
15	W026-221F-HET	8.26E+03	2.19E+00	1.42%	66.56%
16	WP-RF003.01	8.02E+03	7.19E+00	1.38%	67.95%
17	W027-772F-HET	7.63E+03	2.18E+00	1.32%	69.26%
18	WP-RF006.01	7.21E+03	6.80E+00	1.24%	70.50%
19	W026-221H-HET	6.15E+03	2.18E+00	1.06%	71.56%
20	IN-W216.98	5.90E+03	9.64E-02	1.02%	72.58%
21	RF-MT420P	5.76E+03	7.46E+00	0.99%	73.57%
22	RF-MT0091	5.37E+03	7.52E+00	0.93%	74.50%
23	LL-T002	5.13E+03	5.14E-01	0.88%	75.38%
24	RF-MT532C	4.62E+03	2.77E+00	0.80%	76.18%
25	WP-RF005.01	4.24E+03	7.32E+00	0.73%	76.91%
26	W027-235F-HET	4.21E+03	2.18E+00	0.72%	77.64%
27	RF-TT0802	4.05E+03	1.48E+01	0.70%	78.33%
28	RL-T137	3.90E+03	5.36E+00	0.67%	79.01%
29	RL-T140	3.85E+03	5.80E+00	0.66%	79.67%
30	RF-MT-0299	3.77E+03	2.53E+01	0.65%	80.32%
31	RF-TT0338	3.35E+03	4.56E+00	0.58%	80.90%
32	RF-TT3011	3.03E+03	2.90E-01	0.52%	81.42%
33	OR-W201	2.75E+03	4.72E+00	0.47%	81.89%
34	T001-773A-HET	2.73E+03	2.18E+00	0.47%	82.36%
35	RF-TT0824	2.64E+03	4.45E-01	0.46%	82.82%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.80E+05	N/A	100.00%	N/A

Table 4.4-10. WIPP CH-TRU Waste Streams by EPA Curies; Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	EPA Curies			
		[Total Ci]	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	4.25E+04	6.94E+00	7.98%	7.98%
2	WP-RF009.01	4.21E+04	6.74E+00	7.90%	15.89%
3	RL-W439	3.97E+04	6.60E-01	7.45%	23.34%
4	T001-221H-HET	3.95E+04	2.02E+00	7.42%	30.76%
5	IN-BN-510	3.09E+04	3.24E-01	5.81%	36.57%
6	W027-221F-HET	2.96E+04	2.02E+00	5.57%	42.14%
7	T001-221F-HET	2.19E+04	2.02E+00	4.11%	46.25%
8	T001-772F-HET	1.96E+04	2.02E+00	3.68%	49.94%
9	RL-W513	1.76E+04	4.17E-01	3.31%	53.24%
10	LA-TA-55-48	1.49E+04	9.97E+01	2.79%	56.03%
11	RL-T107	1.35E+04	4.57E-01	2.54%	58.57%
12	W027-221H-HET	1.30E+04	2.03E+00	2.44%	61.01%
13	W027-999-HET	1.21E+04	2.02E+00	2.27%	63.28%
14	W027-773A-HET	1.06E+04	2.02E+00	1.98%	65.27%
15	W026-221F-HET	7.67E+03	2.03E+00	1.44%	66.71%
16	WP-RF003.01	7.31E+03	6.55E+00	1.37%	68.08%
17	W027-772F-HET	7.09E+03	2.02E+00	1.33%	69.42%
18	WP-RF006.01	6.58E+03	6.20E+00	1.24%	70.65%
19	W026-221H-HET	5.71E+03	2.02E+00	1.07%	71.73%
20	IN-W216.98	5.38E+03	8.79E-02	1.01%	72.74%
21	RF-MT420P	5.26E+03	6.80E+00	0.99%	73.72%
22	RF-MT0091	4.90E+03	6.85E+00	0.92%	74.65%
23	LL-T002	4.62E+03	4.62E-01	0.87%	75.51%
24	RF-MT532C	4.21E+03	2.53E+00	0.79%	76.31%
25	W027-235F-HET	3.91E+03	2.02E+00	0.73%	77.04%
26	WP-RF005.01	3.86E+03	6.67E+00	0.73%	77.77%
27	RF-TT0802	3.69E+03	1.35E+01	0.69%	78.46%
28	RL-T137	3.56E+03	4.89E+00	0.67%	79.13%
29	RL-T140	3.51E+03	5.28E+00	0.66%	79.79%
30	RF-MT-0299	3.44E+03	2.30E+01	0.65%	80.43%
31	RF-TT0338	3.06E+03	4.16E+00	0.57%	81.01%
32	RF-TT3011	2.77E+03	2.64E-01	0.52%	81.53%
33	T001-773A-HET	2.54E+03	2.02E+00	0.48%	82.00%
34	RF-TT0824	2.41E+03	4.06E-01	0.45%	82.46%
35	OR-W201	2.40E+03	4.13E+00	0.45%	82.91%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W714	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.32E+05	N/A	100.00%	N/A

4.5 CURIES ^{241}AM

^{241}Am, a radioactive isotope of americium with a half-life of 432.2 years, is one of the four key radionuclides that together contribute more than 99% of all radioactivity in the repository (with regards to the waste unit factor). ^{241}Am, which is found in waste streams both directly and as a result of the decay of ^{241}Pu (see Section 4.10), diminishes over time but remains relatively dominant 10,000 years (calendar year 12033) after closure (see Table 4.5-10).

The ^{241}Am curie values in Table 4.5-1 through Table 4.5-10 were sorted to illustrate the primary waste stream contributors to ^{241}Am activity over the entire population of waste. Each table identifies the 35 waste streams that offer the greatest contribution during each of the ten time intervals output by the code EPAUNI. All 693 waste streams and their total ^{241}Am curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

Over 63% of the total ^{241}Am curie activity at closure (year 2033) is in five waste streams, with over half of that (31.05%) residing in INEEL waste stream IN-W216.98 (see Table 4.5-1). This waste stream comprises solidified inorganics, primarily wet sludges produced by treating aqueous process wastes. Over time, IN-W216.98 continues to be the dominant contributor of ^{241}Am due to both its initial higher activities and to the decay of ^{241}Pu (see Section 4.10).

Table 4.5-1. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	1.37E+05	2.24E+00	31.05%	31.05%
2	WP-RF009.01	6.15E+04	9.86E+00	13.91%	44.96%
3	RL-W513	4.19E+04	9.93E-01	9.48%	54.45%
4	WP-INW216.001-	2.40E+04	5.61E+00	5.42%	59.86%
5	RL-W575	1.43E+04	1.05E+01	3.24%	63.10%
6	WP-RF118.01	1.27E+04	2.08E+00	2.88%	65.98%
7	RL-W439	1.27E+04	2.12E-01	2.88%	68.86%
8	LA-TA-55-48	7.99E+03	5.36E+01	1.81%	70.66%
9	IN-BN-510	7.07E+03	7.41E-02	1.60%	72.26%
10	WP-INW216.001-	6.58E+03	4.44E+00	1.49%	73.75%
11	OR-W201	6.29E+03	1.08E+01	1.42%	75.17%
12	WP-RF005.02	6.11E+03	1.62E+01	1.38%	76.55%
13	LL-T002	5.20E+03	5.21E-01	1.18%	77.73%
14	WP-RF005.01	5.15E+03	8.90E+00	1.16%	78.90%
15	LA-OS-00-01	4.97E+03	1.49E+01	1.12%	80.02%
16	IN-W220.114	4.90E+03	5.39E-01	1.11%	81.13%
17	RF-MT-0299	3.48E+03	2.33E+01	0.79%	81.91%
18	RF-MT532C	3.23E+03	1.94E+00	0.73%	82.64%
19	T001-221H-HET	2.80E+03	1.43E-01	0.63%	83.28%
20	RF-TT398R	2.45E+03	7.29E+00	0.55%	83.83%
21	RF-TT0802	2.19E+03	7.97E+00	0.49%	84.32%
22	RL-W574	2.18E+03	5.55E+00	0.49%	84.82%
23	W027-221F-HET	2.15E+03	1.47E-01	0.49%	85.31%
24	WP-RF003.01	2.00E+03	1.79E+00	0.45%	85.76%
25	WP-RF006.01	1.91E+03	1.80E+00	0.43%	86.19%
26	RF-MT0001	1.87E+03	4.77E+01	0.42%	86.61%
27	RL-T107	1.86E+03	6.30E-02	0.42%	87.03%
28	RL-W753	1.66E+03	2.84E+01	0.37%	87.41%
29	RF-MT532B	1.61E+03	1.94E+00	0.36%	87.77%
30	T001-221F-HET	1.56E+03	1.44E-01	0.35%	88.12%
31	RL-T140	1.45E+03	2.18E+00	0.33%	88.45%
32	T001-772F-HET	1.39E+03	1.43E-01	0.31%	88.76%
33	RF-MT420P	1.35E+03	1.75E+00	0.31%	89.07%
34	IN-W228.101	1.29E+03	3.33E-02	0.29%	89.36%
35	RL-T137	1.19E+03	1.63E+00	0.27%	89.63%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.42E+05	N/A	100.00%	N/A

Table 4.5-2. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	1.17E+05	1.91E+00	29.90%	29.90%
2	WP-RF009.01	5.30E+04	8.49E+00	13.53%	43.43%
3	RL-W513	3.80E+04	9.00E-01	9.70%	53.14%
4	WP-INW216.001-	2.04E+04	4.79E+00	5.22%	58.35%
5	RL-W575	1.45E+04	1.06E+01	3.69%	62.05%
6	RL-W439	1.25E+04	2.08E-01	3.19%	65.23%
7	WP-RF118.01	1.19E+04	1.95E+00	3.04%	68.27%
8	LA-TA-55-48	7.14E+03	4.79E+01	1.82%	70.10%
9	IN-BN-510	6.02E+03	6.31E-02	1.54%	71.64%
10	OR-W201	5.90E+03	1.02E+01	1.51%	73.14%
11	WP-INW216.001-	5.62E+03	3.79E+00	1.43%	74.58%
12	WP-RF005.02	5.23E+03	1.39E+01	1.34%	75.91%
13	LL-T002	4.84E+03	4.84E-01	1.24%	77.15%
14	WP-RF005.01	4.45E+03	7.68E+00	1.14%	78.28%
15	LA-OS-00-01	4.23E+03	1.27E+01	1.08%	79.36%
16	IN-W220.114	4.18E+03	4.60E-01	1.07%	80.43%
17	RF-MT-0299	3.05E+03	2.05E+01	0.78%	81.21%
18	RF-MT532C	2.85E+03	1.71E+00	0.73%	81.94%
19	T001-221H-HET	2.61E+03	1.33E-01	0.67%	82.61%
20	RL-W574	2.22E+03	5.64E+00	0.57%	83.17%
21	RF-TT398R	2.12E+03	6.31E+00	0.54%	83.71%
22	RL-T107	2.04E+03	6.91E-02	0.52%	84.23%
23	RF-TT0802	1.95E+03	7.12E+00	0.50%	84.73%
24	W027-221F-HET	1.90E+03	1.30E-01	0.49%	85.22%
25	WP-RF003.01	1.85E+03	1.65E+00	0.47%	85.69%
26	WP-RF006.01	1.70E+03	1.60E+00	0.43%	86.12%
27	RL-W753	1.62E+03	2.78E+01	0.41%	86.54%
28	RF-MT0001	1.60E+03	4.08E+01	0.41%	86.95%
29	T001-221F-HET	1.45E+03	1.34E-01	0.37%	87.32%
30	RF-MT532B	1.42E+03	1.71E+00	0.36%	87.68%
31	RL-T140	1.36E+03	2.04E+00	0.35%	88.02%
32	T001-772F-HET	1.29E+03	1.33E-01	0.33%	88.35%
33	RL-W665	1.21E+03	2.95E+01	0.31%	88.66%
34	RF-MT420P	1.20E+03	1.55E+00	0.31%	88.97%
35	RL-T137	1.16E+03	1.59E+00	0.30%	89.27%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.92E+05	N/A	100.00%	N/A

Table 4.5-3. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	1.13E+05	1.84E+00	29.89%	29.89%
2	WP-RF009.01	5.09E+04	8.16E+00	13.53%	43.41%
3	RL-W513	3.65E+04	8.65E-01	9.70%	53.12%
4	WP-INW216.001-	1.96E+04	4.60E+00	5.21%	58.33%
5	RL-W575	1.39E+04	1.02E+01	3.69%	62.02%
6	RL-W439	1.20E+04	2.00E-01	3.19%	65.21%
7	WP-RF118.01	1.14E+04	1.87E+00	3.04%	68.25%
8	LA-TA-55-48	6.87E+03	4.61E+01	1.82%	70.08%
9	IN-BN-510	5.79E+03	6.06E-02	1.54%	71.61%
10	OR-W201	5.67E+03	9.76E+00	1.51%	73.12%
11	WP-INW216.001-	5.39E+03	3.64E+00	1.43%	74.55%
12	WP-RF005.02	5.03E+03	1.34E+01	1.34%	75.89%
13	LL-T002	4.65E+03	4.66E-01	1.24%	77.12%
14	WP-RF005.01	4.27E+03	7.38E+00	1.13%	78.26%
15	LA-OS-00-01	4.07E+03	1.22E+01	1.08%	79.34%
16	IN-W220.114	4.02E+03	4.42E-01	1.07%	80.41%
17	RF-MT-0299	2.93E+03	1.97E+01	0.78%	81.19%
18	RF-MT532C	2.74E+03	1.64E+00	0.73%	81.91%
19	T001-221H-HET	2.51E+03	1.28E-01	0.67%	82.58%
20	RL-W574	2.14E+03	5.43E+00	0.57%	83.15%
21	RF-TT398R	2.03E+03	6.06E+00	0.54%	83.69%
22	RL-T107	1.97E+03	6.65E-02	0.52%	84.21%
23	RF-TT0802	1.88E+03	6.85E+00	0.50%	84.71%
24	W027-221F-HET	1.83E+03	1.25E-01	0.49%	85.19%
25	WP-RF003.01	1.78E+03	1.59E+00	0.47%	85.66%
26	WP-RF006.01	1.63E+03	1.54E+00	0.43%	86.10%
27	RL-W753	1.56E+03	2.67E+01	0.41%	86.51%
28	RF-MT0001	1.53E+03	3.92E+01	0.41%	86.92%
29	T001-221F-HET	1.39E+03	1.29E-01	0.37%	87.29%
30	RF-MT532B	1.37E+03	1.64E+00	0.36%	87.65%
31	RL-T140	1.30E+03	1.96E+00	0.35%	88.00%
32	T001-772F-HET	1.24E+03	1.28E-01	0.33%	88.33%
33	RL-W665	1.16E+03	2.83E+01	0.31%	88.64%
34	RF-MT420P	1.16E+03	1.49E+00	0.31%	88.95%
35	RL-T137	1.11E+03	1.53E+00	0.30%	89.24%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.76E+05	N/A	100.00%	N/A

Table 4.5-4. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	1.04E+05	1.70E+00	29.88%	29.88%
2	WP-RF009.01	4.70E+04	7.53E+00	13.53%	43.41%
3	RL-W513	3.37E+04	7.98E-01	9.70%	53.11%
4	WP-INW216.001-	1.81E+04	4.24E+00	5.21%	58.32%
5	RL-W575	1.28E+04	9.41E+00	3.70%	62.02%
6	RL-W439	1.11E+04	1.85E-01	3.19%	65.21%
7	WP-RF118.01	1.06E+04	1.73E+00	3.04%	68.25%
8	LA-TA-55-48	6.34E+03	4.25E+01	1.82%	70.07%
9	IN-BN-510	5.34E+03	5.59E-02	1.54%	71.61%
10	OR-W201	5.24E+03	9.01E+00	1.51%	73.12%
11	WP-INW216.001-	4.98E+03	3.36E+00	1.43%	74.55%
12	WP-RF005.02	4.64E+03	1.23E+01	1.34%	75.89%
13	LL-T002	4.29E+03	4.30E-01	1.24%	77.12%
14	WP-RF005.01	3.94E+03	6.81E+00	1.13%	78.26%
15	LA-OS-00-01	3.75E+03	1.12E+01	1.08%	79.34%
16	IN-W220.114	3.71E+03	4.08E-01	1.07%	80.41%
17	RF-MT-0299	2.71E+03	1.81E+01	0.78%	81.18%
18	RF-MT532C	2.53E+03	1.52E+00	0.73%	81.91%
19	T001-221H-HET	2.31E+03	1.18E-01	0.67%	82.58%
20	RL-W574	1.97E+03	5.01E+00	0.57%	83.15%
21	RF-TT398R	1.88E+03	5.59E+00	0.54%	83.69%
22	RL-T107	1.82E+03	6.14E-02	0.52%	84.21%
23	RF-TT0802	1.73E+03	6.32E+00	0.50%	84.71%
24	W027-221F-HET	1.69E+03	1.15E-01	0.49%	85.19%
25	WP-RF003.01	1.64E+03	1.47E+00	0.47%	85.66%
26	WP-RF006.01	1.51E+03	1.42E+00	0.43%	86.10%
27	RL-W753	1.44E+03	2.47E+01	0.41%	86.51%
28	RF-MT0001	1.42E+03	3.61E+01	0.41%	86.92%
29	T001-221F-HET	1.29E+03	1.19E-01	0.37%	87.29%
30	RF-MT532B	1.26E+03	1.52E+00	0.36%	87.65%
31	RL-T140	1.20E+03	1.81E+00	0.35%	88.00%
32	T001-772F-HET	1.15E+03	1.18E-01	0.33%	88.33%
33	RL-W665	1.07E+03	2.62E+01	0.31%	88.64%
34	RF-MT420P	1.07E+03	1.38E+00	0.31%	88.95%
35	RL-T137	1.03E+03	1.41E+00	0.30%	89.24%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.47E+05	N/A	100.00%	N/A

Table 4.5-5. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	7.84E+04	1.28E+00	29.89%	29.89%
2	WP-RF009.01	3.55E+04	5.69E+00	13.53%	43.41%
3	RL-W513	2.55E+04	6.03E-01	9.70%	53.12%
4	WP-INW216.001-	1.37E+04	3.21E+00	5.21%	58.33%
5	RL-W575	9.70E+03	7.11E+00	3.70%	62.03%
6	RL-W439	8.37E+03	1.39E-01	3.19%	65.22%
7	WP-RF118.01	7.98E+03	1.30E+00	3.04%	68.26%
8	LA-TA-55-48	4.79E+03	3.21E+01	1.82%	70.08%
9	IN-BN-510	4.03E+03	4.23E-02	1.54%	71.62%
10	OR-W201	3.96E+03	6.81E+00	1.51%	73.13%
11	WP-INW216.001-	3.76E+03	2.54E+00	1.43%	74.56%
12	WP-RF005.02	3.50E+03	9.31E+00	1.34%	75.89%
13	LL-T002	3.24E+03	3.25E-01	1.24%	77.13%
14	WP-RF005.01	2.98E+03	5.14E+00	1.13%	78.26%
15	LA-OS-00-01	2.83E+03	8.48E+00	1.08%	79.34%
16	IN-W220.114	2.80E+03	3.08E-01	1.07%	80.41%
17	RF-MT-0299	2.04E+03	1.37E+01	0.78%	81.19%
18	RF-MT532C	1.91E+03	1.15E+00	0.73%	81.92%
19	T001-221H-HET	1.75E+03	8.94E-02	0.67%	82.59%
20	RL-W574	1.49E+03	3.79E+00	0.57%	83.15%
21	RF-TT398R	1.42E+03	4.22E+00	0.54%	83.69%
22	RL-T107	1.37E+03	4.64E-02	0.52%	84.22%
23	RF-TT0802	1.31E+03	4.77E+00	0.50%	84.71%
24	W027-221F-HET	1.28E+03	8.70E-02	0.49%	85.20%
25	WP-RF003.01	1.24E+03	1.11E+00	0.47%	85.67%
26	WP-RF006.01	1.14E+03	1.07E+00	0.43%	86.10%
27	RL-W753	1.09E+03	1.86E+01	0.41%	86.52%
28	RF-MT0001	1.07E+03	2.73E+01	0.41%	86.93%
29	T001-221F-HET	9.71E+02	8.97E-02	0.37%	87.30%
30	RF-MT532B	9.53E+02	1.15E+00	0.36%	87.66%
31	RL-T140	9.08E+02	1.37E+00	0.35%	88.01%
32	T001-772F-HET	8.66E+02	8.94E-02	0.33%	88.34%
33	RL-W665	8.10E+02	1.98E+01	0.31%	88.65%
34	RF-MT420P	8.05E+02	1.04E+00	0.31%	88.95%
35	RL-T137	7.77E+02	1.07E+00	0.30%	89.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.62E+05	N/A	100.00%	N/A

Table 4.5-6. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	2.77E+04	4.52E-01	29.90%	29.90%
2	WP-RF009.01	1.25E+04	2.00E+00	13.52%	43.42%
3	RL-W513	8.98E+03	2.13E-01	9.70%	53.12%
4	WP-INW216.001-	4.82E+03	1.13E+00	5.21%	58.34%
5	RL-W575	3.42E+03	2.51E+00	3.70%	62.03%
6	RL-W439	2.95E+03	4.91E-02	3.19%	65.22%
7	WP-RF118.01	2.81E+03	4.60E-01	3.04%	68.26%
8	LA-TA-55-48	1.69E+03	1.13E+01	1.82%	70.09%
9	IN-BN-510	1.42E+03	1.49E-02	1.54%	71.62%
10	OR-W201	1.40E+03	2.40E+00	1.51%	73.13%
11	WP-INW216.001-	1.33E+03	8.94E-01	1.43%	74.57%
12	WP-RF005.02	1.24E+03	3.29E+00	1.34%	75.90%
13	LL-T002	1.14E+03	1.15E-01	1.24%	77.14%
14	WP-RF005.01	1.05E+03	1.81E+00	1.13%	78.27%
15	LA-OS-00-01	1.00E+03	2.99E+00	1.08%	79.35%
16	IN-W220.114	9.87E+02	1.09E-01	1.07%	80.42%
17	RF-MT-0299	7.21E+02	4.83E+00	0.78%	81.20%
18	RF-MT532C	6.74E+02	4.04E-01	0.73%	81.93%
19	T001-221H-HET	6.16E+02	3.15E-02	0.67%	82.59%
20	RL-W574	5.25E+02	1.33E+00	0.57%	83.16%
21	RF-TT398R	5.00E+02	1.49E+00	0.54%	83.70%
22	RL-T107	4.84E+02	1.64E-02	0.52%	84.22%
23	RF-TT0802	4.61E+02	1.68E+00	0.50%	84.72%
24	W027-221F-HET	4.50E+02	3.07E-02	0.49%	85.21%
25	WP-RF003.01	4.36E+02	3.91E-01	0.47%	85.68%
26	WP-RF006.01	4.01E+02	3.78E-01	0.43%	86.11%
27	RL-W753	3.84E+02	6.57E+00	0.41%	86.53%
28	RF-MT0001	3.77E+02	9.63E+00	0.41%	86.94%
29	T001-221F-HET	3.43E+02	3.16E-02	0.37%	87.31%
30	RF-MT532B	3.36E+02	4.04E-01	0.36%	87.67%
31	RL-T140	3.20E+02	4.83E-01	0.35%	88.02%
32	T001-772F-HET	3.06E+02	3.15E-02	0.33%	88.35%
33	RL-W665	2.86E+02	6.97E+00	0.31%	88.65%
34	RF-MT420P	2.84E+02	3.67E-01	0.31%	88.96%
35	RL-T137	2.74E+02	3.76E-01	0.30%	89.26%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	9.25E+04	N/A	100.00%	N/A

Table 4.5-7. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 3000
(Calendar Year = 5033)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	1.12E+03	1.83E-02	29.89%	29.89%
2	WP-RF009.01	5.06E+02	8.12E-02	13.53%	43.41%
3	RL-W513	3.63E+02	8.60E-03	9.70%	53.12%
4	WP-INW216.001-	1.95E+02	4.58E-02	5.21%	58.33%
5	RL-W575	1.38E+02	1.01E-01	3.70%	62.03%
6	RL-W439	1.20E+02	1.99E-03	3.19%	65.22%
7	WP-RF118.01	1.14E+02	1.86E-02	3.04%	68.26%
8	LA-TA-55-48	6.83E+01	4.58E-01	1.82%	70.08%
9	IN-BN-510	5.76E+01	6.03E-04	1.54%	71.62%
10	OR-W201	5.65E+01	9.71E-02	1.51%	73.13%
11	WP-INW216.001-	5.37E+01	3.62E-02	1.43%	74.56%
12	WP-RF005.02	5.00E+01	1.33E-01	1.34%	75.90%
13	LL-T002	4.63E+01	4.63E-03	1.24%	77.13%
14	WP-RF005.01	4.25E+01	7.34E-02	1.13%	78.27%
15	LA-OS-00-01	4.05E+01	1.21E-01	1.08%	79.35%
16	IN-W220.114	4.00E+01	4.40E-03	1.07%	80.42%
17	RF-MT-0299	2.92E+01	1.96E-01	0.78%	81.19%
18	RF-MT532C	2.73E+01	1.64E-02	0.73%	81.92%
19	T001-221H-HET	2.49E+01	1.28E-03	0.67%	82.59%
20	RL-W574	2.12E+01	5.40E-02	0.57%	83.16%
21	RF-TT398R	2.02E+01	6.03E-02	0.54%	83.70%
22	RL-T107	1.96E+01	6.62E-04	0.52%	84.22%
23	RF-TT0802	1.87E+01	6.81E-02	0.50%	84.72%
24	W027-221F-HET	1.82E+01	1.24E-03	0.49%	85.20%
25	WP-RF003.01	1.77E+01	1.58E-02	0.47%	85.68%
26	WP-RF006.01	1.62E+01	1.53E-02	0.43%	86.11%
27	RL-W753	1.55E+01	2.66E-01	0.41%	86.52%
28	RF-MT0001	1.53E+01	3.90E-01	0.41%	86.93%
29	T001-221F-HET	1.39E+01	1.28E-03	0.37%	87.30%
30	RF-MT532B	1.36E+01	1.63E-02	0.36%	87.66%
31	RL-T140	1.30E+01	1.95E-02	0.35%	88.01%
32	T001-772F-HET	1.24E+01	1.27E-03	0.33%	88.34%
33	RL-W665	1.16E+01	2.82E-01	0.31%	88.65%
34	RF-MT420P	1.15E+01	1.49E-02	0.31%	88.96%
35	RL-T137	1.11E+01	1.52E-02	0.30%	89.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.74E+03	N/A	100.00%	N/A

Table 4.5-8. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	4.53E+01	7.40E-04	29.89%	29.89%
2	WP-RF009.01	2.05E+01	3.28E-03	13.52%	43.42%
3	RL-W513	1.47E+01	3.48E-04	9.70%	53.12%
4	WP-INW216.001-	7.90E+00	1.85E-03	5.21%	58.34%
5	RL-W575	5.60E+00	4.10E-03	3.70%	62.03%
6	RL-W439	4.84E+00	8.05E-05	3.19%	65.22%
7	WP-RF118.01	4.61E+00	7.53E-04	3.04%	68.26%
8	LA-TA-55-48	2.76E+00	1.86E-02	1.82%	70.09%
9	IN-BN-510	2.33E+00	2.44E-05	1.54%	71.63%
10	OR-W201	2.28E+00	3.93E-03	1.51%	73.13%
11	WP-INW216.001-	2.17E+00	1.46E-03	1.43%	74.57%
12	WP-RF005.02	2.02E+00	5.38E-03	1.34%	75.90%
13	LL-T002	1.87E+00	1.88E-04	1.24%	77.14%
14	WP-RF005.01	1.72E+00	2.97E-03	1.13%	78.27%
15	LA-OS-00-01	1.64E+00	4.90E-03	1.08%	79.35%
16	IN-W220.114	1.62E+00	1.78E-04	1.07%	80.42%
17	RF-MT-0299	1.18E+00	7.92E-03	0.78%	81.20%
18	RF-MT532C	1.10E+00	6.62E-04	0.73%	81.93%
19	T001-221H-HET	1.01E+00	5.16E-05	0.67%	82.60%
20	RL-W574	8.60E-01	2.19E-03	0.57%	83.16%
21	RF-TT398R	8.18E-01	2.44E-03	0.54%	83.70%
22	RL-T107	7.92E-01	2.68E-05	0.52%	84.23%
23	RF-TT0802	7.55E-01	2.76E-03	0.50%	84.72%
24	W027-221F-HET	7.36E-01	5.02E-05	0.49%	85.21%
25	WP-RF003.01	7.15E-01	6.41E-04	0.47%	85.68%
26	WP-RF006.01	6.57E-01	6.19E-04	0.43%	86.12%
27	RL-W753	6.28E-01	1.08E-02	0.41%	86.53%
28	RF-MT0001	6.17E-01	1.58E-02	0.41%	86.94%
29	T001-221F-HET	5.61E-01	5.18E-05	0.37%	87.31%
30	RF-MT532B	5.51E-01	6.62E-04	0.36%	87.67%
31	RL-T140	5.24E-01	7.90E-04	0.35%	88.02%
32	T001-772F-HET	5.00E-01	5.16E-05	0.33%	88.35%
33	RL-W665	4.68E-01	1.14E-02	0.31%	88.66%
34	RF-MT420P	4.65E-01	6.02E-04	0.31%	88.96%
35	RL-T137	4.49E-01	6.16E-04	0.30%	89.26%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.52E+02	N/A	100.00%	N/A

Table 4.5-9. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	8.22E-01	1.34E-05	29.89%	29.89%
2	WP-RF009.01	3.72E-01	5.96E-05	13.53%	43.42%
3	RL-W513	2.67E-01	6.32E-06	9.71%	53.13%
4	WP-INW216.001-	1.43E-01	3.36E-05	5.21%	58.34%
5	RL-W575	1.02E-01	7.45E-05	3.69%	62.04%
6	RL-W439	8.78E-02	1.46E-06	3.19%	65.23%
7	WP-RF118.01	8.36E-02	1.37E-05	3.04%	68.27%
8	LA-TA-55-48	5.02E-02	3.37E-04	1.82%	70.09%
9	IN-BN-510	4.23E-02	4.43E-07	1.54%	71.63%
10	OR-W201	4.15E-02	7.13E-05	1.51%	73.14%
11	WP-INW216.001-	3.94E-02	2.66E-05	1.43%	74.57%
12	WP-RF005.02	3.67E-02	9.76E-05	1.34%	75.91%
13	LL-T002	3.40E-02	3.40E-06	1.24%	77.14%
14	WP-RF005.01	3.12E-02	5.39E-05	1.13%	78.28%
15	LA-OS-00-01	2.97E-02	8.89E-05	1.08%	79.36%
16	IN-W220.114	2.94E-02	3.23E-06	1.07%	80.42%
17	RF-MT-0299	2.14E-02	1.44E-04	0.78%	81.20%
18	RF-MT532C	2.00E-02	1.20E-05	0.73%	81.93%
19	T001-221H-HET	1.83E-02	9.37E-07	0.67%	82.60%
20	RL-W574	1.56E-02	3.97E-05	0.57%	83.17%
21	RF-TT398R	1.49E-02	4.43E-05	0.54%	83.71%
22	RL-T107	1.44E-02	4.86E-07	0.52%	84.23%
23	RF-TT0802	1.37E-02	5.00E-05	0.50%	84.73%
24	W027-221F-HET	1.34E-02	9.12E-07	0.49%	85.21%
25	WP-RF003.01	1.30E-02	1.16E-05	0.47%	85.68%
26	WP-RF006.01	1.19E-02	1.12E-05	0.43%	86.12%
27	RL-W753	1.14E-02	1.95E-04	0.41%	86.53%
28	RF-MT0001	1.12E-02	2.86E-04	0.41%	86.94%
29	T001-221F-HET	1.02E-02	9.40E-07	0.37%	87.31%
30	RF-MT532B	9.99E-03	1.20E-05	0.36%	87.67%
31	RL-T140	9.52E-03	1.43E-05	0.35%	88.02%
32	T001-772F-HET	9.08E-03	9.37E-07	0.33%	88.35%
33	RL-W665	8.49E-03	2.07E-04	0.31%	88.66%
34	RF-MT420P	8.44E-03	1.09E-05	0.31%	88.97%
35	RL-T137	8.14E-03	1.12E-05	0.30%	89.26%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.75E+00	N/A	100.00%	N/A

Table 4.5-10. WIPP CH-TRU Waste Streams by Curies (^{241}Am); Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	Curies (^{241}Am)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	IN-W216.98	1.49E-02	2.44E-07	29.89%	29.89%
2	WP-RF009.01	6.75E-03	1.08E-06	13.53%	43.41%
3	RL-W513	4.84E-03	1.15E-07	9.70%	53.11%
4	WP-INW216.001-	2.60E-03	6.10E-07	5.21%	58.33%
5	RL-W575	1.85E-03	1.35E-06	3.70%	62.02%
6	RL-W439	1.59E-03	2.65E-08	3.19%	65.21%
7	WP-RF118.01	1.52E-03	2.48E-07	3.04%	68.25%
8	LA-TA-55-48	9.11E-04	6.11E-06	1.82%	70.08%
9	IN-BN-510	7.67E-04	8.04E-09	1.54%	71.61%
10	OR-W201	7.53E-04	1.29E-06	1.51%	73.12%
11	WP-INW216.001-	7.15E-04	4.82E-07	1.43%	74.55%
12	WP-RF005.02	6.67E-04	1.77E-06	1.34%	75.89%
13	LL-T002	6.17E-04	6.18E-08	1.24%	77.13%
14	WP-RF005.01	5.66E-04	9.78E-07	1.13%	78.26%
15	LA-OS-00-01	5.39E-04	1.61E-06	1.08%	79.34%
16	IN-W220.114	5.33E-04	5.86E-08	1.07%	80.41%
17	RF-MT-0299	3.89E-04	2.61E-06	0.78%	81.19%
18	RF-MT532C	3.64E-04	2.18E-07	0.73%	81.92%
19	T001-221H-HET	3.32E-04	1.70E-08	0.67%	82.58%
20	RL-W574	2.83E-04	7.20E-07	0.57%	83.15%
21	RF-TT398R	2.70E-04	8.04E-07	0.54%	83.69%
22	RL-T107	2.61E-04	8.82E-09	0.52%	84.21%
23	RF-TT0802	2.49E-04	9.08E-07	0.50%	84.71%
24	W027-221F-HET	2.43E-04	1.65E-08	0.49%	85.19%
25	WP-RF003.01	2.35E-04	2.11E-07	0.47%	85.67%
26	WP-RF006.01	2.17E-04	2.04E-07	0.43%	86.10%
27	RL-W753	2.07E-04	3.55E-06	0.41%	86.51%
28	RF-MT0001	2.03E-04	5.19E-06	0.41%	86.92%
29	T001-221F-HET	1.85E-04	1.71E-08	0.37%	87.29%
30	RF-MT532B	1.81E-04	2.18E-07	0.36%	87.66%
31	RL-T140	1.73E-04	2.60E-07	0.35%	88.00%
32	T001-772F-HET	1.65E-04	1.70E-08	0.33%	88.33%
33	RL-W665	1.54E-04	3.76E-06	0.31%	88.64%
34	RF-MT420P	1.53E-04	1.98E-07	0.31%	88.95%
35	RL-T137	1.48E-04	2.03E-07	0.30%	89.24%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.99E-02	N/A	100.00%	N/A

4.6 CURIES ^{244}CM

^{244}Cm, a radioactive isotope of curium with a half-life of 18.1 years, is not one of the four key radionuclides due to its half-life being less than 20 years. However, the ^{244}Cm contributes indirectly by alpha decaying to ^{240}Pu (see Section 4.9) and diminishes over time until it contributes no activity at time interval 7,500 years (year 9533) (Table 4.6-9).

The ^{244}Cm curie values in Table 4.6-1 through Table 4.6-10 were sorted to illustrate the primary waste stream contributors to ^{244}Cm activity over the entire population of waste. Each table identifies the 35 waste streams that offer the greatest contribution during each of the ten time intervals output by the code EPAUNI. All 693 waste streams and their total ^{244}Cm curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

Only seventeen waste streams (of the entire 693) contribute ^{244}Cm activity to the repository, with almost 95% of the total ^{244}CM activity occurring in three waste streams (see Table 4.6-1). These three waste streams include:

- A Lawrence Livermore National Laboratory (LLNL) waste stream, LL-T005, which consists of filters and contributes more than 48% of the total ^{244}Cm activity
- An Oak Ridge National Laboratory (ORNL) waste stream, OR-W202, which consists of heterogeneous debris and contributes more than 36% of the total ^{244}Cm activity, and
- A LANL waste stream, LA-TA-49-01, which consists of uncategorized metal scrap and contributes over 10% of the total ^{244}Cm activity.

Table 4.6-1. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	1.32E+03	2.44E-01	48.56%	48.56%
2	OR-W202	9.78E+02	3.47E-01	36.02%	84.59%
3	LA-TA-49-01	2.80E+02	6.06E-01	10.31%	94.90%
4	OR-W201	4.70E+01	8.09E-02	1.73%	96.63%
5	OR-W203	3.41E+01	3.54E-02	1.25%	97.88%
6	LL-M001	3.03E+01	1.85E-01	1.11%	99.00%
7	LL-W034	2.23E+01	2.21E-01	0.82%	99.82%
8	LA-TA-48-01	2.26E+00	7.58E-01	0.08%	99.90%
9	SA-T001	1.40E+00	5.40E-02	0.05%	99.95%
10	NT-W001	6.82E-01	2.25E-04	0.03%	99.98%
11	LA-IT-00-01	4.79E-01	1.02E-02	0.02%	100.00%
12	BT-T002	7.43E-04	8.32E-06	0.00%	100.00%
13	LA-TA-55-21	6.67E-04	1.40E-06	0.00%	100.00%
14	SA-W134	5.44E-04	7.06E-06	0.00%	100.00%
15	OR-W204	1.41E-04	7.63E-07	0.00%	100.00%
16	SA-W134M	7.05E-05	7.06E-06	0.00%	100.00%
17	LA-TA-55-30	6.32E-06	3.97E-10	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.72E+03	N/A	100.00%	N/A

Table 4.6-2. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	2.87E+01	5.30E-03	48.57%	48.57%
2	OR-W202	2.13E+01	7.56E-03	36.03%	84.60%
3	LA-TA-49-01	6.10E+00	1.32E-02	10.31%	94.91%
4	OR-W201	1.02E+00	1.76E-03	1.73%	96.64%
5	OR-W203	7.42E-01	7.71E-04	1.25%	97.89%
6	LL-M001	6.59E-01	4.03E-03	1.11%	99.00%
7	LL-W034	4.85E-01	4.82E-03	0.82%	99.82%
8	LA-TA-48-01	4.91E-02	1.65E-02	0.08%	99.90%
9	SA-T001	3.06E-02	1.18E-03	0.05%	99.95%
10	NT-W001	1.48E-02	4.89E-06	0.03%	99.98%
11	LA-IT-00-01	1.04E-02	2.22E-04	0.02%	100.00%
12	BT-T002	1.62E-05	1.81E-07	0.00%	100.00%
13	LA-TA-55-21	1.45E-05	3.05E-08	0.00%	100.00%
14	SA-W134	1.18E-05	1.54E-07	0.00%	100.00%
15	OR-W204	3.08E-06	1.66E-08	0.00%	100.00%
16	SA-W134M	1.54E-06	1.54E-07	0.00%	100.00%
17	LA-TA-55-30	1.38E-07	8.64E-12	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.91E+01	N/A	100.00%	N/A

Table 4.6-3. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	1.10E+01	2.04E-03	48.57%	48.57%
2	OR-W202	8.18E+00	2.91E-03	36.02%	84.59%
3	LA-TA-49-01	2.34E+00	5.07E-03	10.31%	94.90%
4	OR-W201	3.93E-01	6.76E-04	1.73%	96.63%
5	OR-W203	2.85E-01	2.96E-04	1.25%	97.88%
6	LL-M001	2.53E-01	1.55E-03	1.11%	99.00%
7	LL-W034	1.87E-01	1.85E-03	0.82%	99.82%
8	LA-TA-48-01	1.89E-02	6.34E-03	0.08%	99.90%
9	SA-T001	1.17E-02	4.52E-04	0.05%	99.95%
10	NT-W001	5.70E-03	1.88E-06	0.03%	99.98%
11	LA-IT-00-01	4.00E-03	8.52E-05	0.02%	100.00%
12	BT-T002	6.22E-06	6.96E-08	0.00%	100.00%
13	LA-TA-55-21	5.58E-06	1.17E-08	0.00%	100.00%
14	SA-W134	4.55E-06	5.91E-08	0.00%	100.00%
15	OR-W204	1.18E-06	6.38E-09	0.00%	100.00%
16	SA-W134M	5.90E-07	5.90E-08	0.00%	100.00%
17	LA-TA-55-30	5.28E-08	3.32E-12	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.27E+01	N/A	100.00%	N/A

Table 4.6-4. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	1.63E+00	3.01E-04	48.57%	48.57%
2	OR-W202	1.21E+00	4.29E-04	36.03%	84.60%
3	LA-TA-49-01	3.45E-01	7.47E-04	10.31%	94.91%
4	OR-W201	5.80E-02	9.98E-05	1.73%	96.64%
5	OR-W203	4.20E-02	4.37E-05	1.25%	97.89%
6	LL-M001	3.73E-02	2.29E-04	1.11%	99.00%
7	LL-W034	2.75E-02	2.73E-04	0.82%	99.82%
8	LA-TA-48-01	2.78E-03	9.35E-04	0.08%	99.90%
9	SA-T001	1.73E-03	6.67E-05	0.05%	99.95%
10	NT-W001	8.41E-04	2.77E-07	0.03%	99.98%
11	LA-IT-00-01	5.91E-04	1.26E-05	0.02%	100.00%
12	BT-T002	9.17E-07	1.03E-08	0.00%	100.00%
13	LA-TA-55-21	8.23E-07	1.73E-09	0.00%	100.00%
14	SA-W134	6.71E-07	8.71E-09	0.00%	100.00%
15	OR-W204	1.74E-07	9.41E-10	0.00%	100.00%
16	SA-W134M	8.70E-08	8.71E-09	0.00%	100.00%
17	LA-TA-55-30	7.79E-09	4.90E-13	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.35E+00	N/A	100.00%	N/A

Table 4.6-5. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	2.01E-03	3.71E-07	48.56%	48.56%
2	OR-W202	1.49E-03	5.29E-07	36.03%	84.59%
3	LA-TA-49-01	4.26E-04	9.22E-07	10.31%	94.90%
4	OR-W201	7.15E-05	1.23E-07	1.73%	96.63%
5	OR-W203	5.19E-05	5.39E-08	1.25%	97.88%
6	LL-M001	4.61E-05	2.82E-07	1.11%	98.99%
7	LL-W034	3.39E-05	3.37E-07	0.82%	99.82%
8	LA-TA-48-01	3.43E-06	1.15E-06	0.08%	99.90%
9	SA-T001	2.14E-06	8.22E-08	0.05%	99.95%
10	NT-W001	1.04E-06	3.42E-10	0.03%	99.98%
11	LA-IT-00-01	7.29E-07	1.55E-08	0.02%	100.00%
12	BT-T002	1.13E-09	1.27E-11	0.00%	100.00%
13	LA-TA-55-21	1.02E-09	2.13E-12	0.00%	100.00%
14	SA-W134	8.27E-10	1.07E-11	0.00%	100.00%
15	OR-W204	2.15E-10	1.16E-12	0.00%	100.00%
16	SA-W134M	1.07E-10	1.07E-11	0.00%	100.00%
17	LA-TA-55-30	9.61E-12	6.04E-16	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.13E-03	N/A	100.00%	N/A

Table 4.6-6. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	3.15E-14	5.82E-18	48.57%	48.57%
2	OR-W202	2.34E-14	8.30E-18	36.02%	84.60%
3	LA-TA-49-01	6.69E-15	1.45E-17	10.31%	94.90%
4	OR-W201	1.12E-15	1.93E-18	1.73%	96.63%
5	OR-W203	8.14E-16	8.45E-19	1.25%	97.89%
6	LL-M001	7.23E-16	4.42E-18	1.11%	99.00%
7	LL-W034	5.32E-16	5.28E-18	0.82%	99.82%
8	LA-TA-48-01	5.39E-17	1.81E-17	0.08%	99.91%
9	SA-T001	3.35E-17	1.29E-18	0.05%	99.96%
10	NT-W001	1.63E-17	5.36E-21	0.03%	99.98%
11	LA-IT-00-01	1.14E-17	2.43E-19	0.02%	100.00%
12	BT-T002	1.78E-20	1.99E-22	0.00%	100.00%
13	LA-TA-55-21	1.59E-20	3.35E-23	0.00%	100.00%
14	SA-W134	1.30E-20	1.69E-22	0.00%	100.00%
15	OR-W204	3.37E-21	1.82E-23	0.00%	100.00%
16	SA-W134M	1.68E-21	1.69E-22	0.00%	100.00%
17	LA-TA-55-30	1.51E-22	9.48E-27	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.49E-14	N/A	100.00%	N/A

Table 4.6-7. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 3000
(Calendar Year = 5033)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	1.80E-47	3.32E-51	48.57%	48.57%
2	OR-W202	1.33E-47	4.73E-51	36.01%	84.58%
3	LA-TA-49-01	3.81E-48	8.24E-51	10.31%	94.89%
4	OR-W201	6.40E-49	1.10E-51	1.73%	96.62%
5	OR-W203	4.64E-49	4.82E-52	1.25%	97.87%
6	LL-M001	4.12E-49	2.52E-51	1.11%	98.99%
7	LL-W034	3.03E-49	3.01E-51	0.82%	99.81%
8	LA-TA-48-01	3.07E-50	1.03E-50	0.08%	99.89%
9	SA-T001	1.91E-50	7.35E-52	0.05%	99.94%
10	NT-W001	9.28E-51	3.05E-54	0.03%	99.97%
11	LA-IT-00-01	6.52E-51	1.39E-52	0.02%	99.99%
12	BT-T002	1.01E-53	1.13E-55	0.00%	99.99%
13	LA-TA-55-21	9.08E-54	1.91E-56	0.00%	99.99%
14	SA-W134	7.40E-54	9.61E-56	0.00%	99.99%
15	OR-W204	1.92E-54	1.04E-56	0.00%	99.99%
16	SA-W134M	9.60E-55	9.60E-56	0.00%	100.00%
17	LA-TA-55-30	8.60E-56	5.40E-60	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.70E-47	N/A	100.00%	N/A

Table 4.6-8. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	1.02E-80	1.89E-84	48.58%	48.58%
2	OR-W202	7.59E-81	2.69E-84	36.03%	84.60%
3	LA-TA-49-01	2.17E-81	4.70E-84	10.31%	94.91%
4	OR-W201	3.65E-82	6.27E-85	1.73%	96.64%
5	OR-W203	2.64E-82	2.75E-85	1.25%	97.89%
6	LL-M001	2.35E-82	1.44E-84	1.11%	99.00%
7	LL-W034	1.73E-82	1.72E-84	0.82%	99.82%
8	LA-TA-48-01	1.75E-83	5.88E-84	0.08%	99.90%
9	SA-T001	1.09E-83	4.19E-85	0.05%	99.95%
10	NT-W001	5.29E-84	1.74E-87	0.03%	99.98%
11	LA-IT-00-01	3.71E-84	7.91E-86	0.02%	100.00%
12	BT-T002	5.77E-87	6.45E-89	0.00%	100.00%
13	LA-TA-55-21	5.17E-87	1.09E-89	0.00%	100.00%
14	SA-W134	4.22E-87	5.48E-89	0.00%	100.00%
15	OR-W204	1.10E-87	5.91E-90	0.00%	100.00%
16	SA-W134M	5.47E-88	5.47E-89	0.00%	100.00%
17	LA-TA-55-30	4.90E-89	3.08E-93	0.00%	100.00%
18	AE-T001	0.00E+00	0.00E+00	0.00%	100.00%
19	AE-T003	0.00E+00	0.00E+00	0.00%	100.00%
20	AW-N026.82	0.00E+00	0.00E+00	0.00%	100.00%
21	AW-N027.531	0.00E+00	0.00E+00	0.00%	100.00%
22	AW-T033.1325	0.00E+00	0.00E+00	0.00%	100.00%
23	AW-W049	0.00E+00	0.00E+00	0.00%	100.00%
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00%	100.00%
25	ET-C1-B55	0.00E+00	0.00E+00	0.00%	100.00%
26	ET-C1-D139	0.00E+00	0.00E+00	0.00%	100.00%
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00%	100.00%
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00%	100.00%
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00%	100.00%
30	IN-BN-510	0.00E+00	0.00E+00	0.00%	100.00%
31	IN-GEM-01	0.00E+00	0.00E+00	0.00%	100.00%
32	IN-GEM-02	0.00E+00	0.00E+00	0.00%	100.00%
33	IN-W157.144	0.00E+00	0.00E+00	0.00%	100.00%
34	IN-W163.1007	0.00E+00	0.00E+00	0.00%	100.00%
35	IN-W164.153	0.00E+00	0.00E+00	0.00%	100.00%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.11E-80	N/A	100.00%	N/A

Table 4.6-9. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	0.00E+00	0.00E+00	0.00	0.00
2	OR-W202	0.00E+00	0.00E+00	0.00	0.00
3	LA-TA-49-01	0.00E+00	0.00E+00	0.00	0.00
4	OR-W201	0.00E+00	0.00E+00	0.00	0.00
5	OR-W203	0.00E+00	0.00E+00	0.00	0.00
6	LL-M001	0.00E+00	0.00E+00	0.00	0.00
7	LL-W034	0.00E+00	0.00E+00	0.00	0.00
8	LA-TA-48-01	0.00E+00	0.00E+00	0.00	0.00
9	SA-T001	0.00E+00	0.00E+00	0.00	0.00
10	NT-W001	0.00E+00	0.00E+00	0.00	0.00
11	LA-IT-00-01	0.00E+00	0.00E+00	0.00	0.00
12	BT-T002	0.00E+00	0.00E+00	0.00	0.00
13	LA-TA-55-21	0.00E+00	0.00E+00	0.00	0.00
14	SA-W134	0.00E+00	0.00E+00	0.00	0.00
15	OR-W204	0.00E+00	0.00E+00	0.00	0.00
16	SA-W134M	0.00E+00	0.00E+00	0.00	0.00
17	LA-TA-55-30	0.00E+00	0.00E+00	0.00	0.00
18	AE-T001	0.00E+00	0.00E+00	0.00	0.00
19	AE-T003	0.00E+00	0.00E+00	0.00	0.00
20	AW-N026.82	0.00E+00	0.00E+00	0.00	0.00
21	AW-N027.531	0.00E+00	0.00E+00	0.00	0.00
22	AW-T033.1325	0.00E+00	0.00E+00	0.00	0.00
23	AW-W049	0.00E+00	0.00E+00	0.00	0.00
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00	0.00
25	ET-C1-B55	0.00E+00	0.00E+00	0.00	0.00
26	ET-C1-D139	0.00E+00	0.00E+00	0.00	0.00
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00	0.00
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00	0.00
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00	0.00
30	IN-BN-510	0.00E+00	0.00E+00	0.00	0.00
31	IN-GEM-01	0.00E+00	0.00E+00	0.00	0.00
32	IN-GEM-02	0.00E+00	0.00E+00	0.00	0.00
33	IN-W157.144	0.00E+00	0.00E+00	0.00	0.00
34	IN-W163.1007	0.00E+00	0.00E+00	0.00	0.00
35	IN-W164.153	0.00E+00	0.00E+00	0.00	0.00
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	0.00%
	Sum =	0.00E+00	N/A	0.00 %	N/A

Table 4.6-10. WIPP CH-TRU Waste Streams by Curies (^{244}Cm); Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	Curies (^{244}Cm)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	LL-T005	0.00E+00	0.00E+00	0.00	0.00
2	OR-W202	0.00E+00	0.00E+00	0.00	0.00
3	LA-TA-49-01	0.00E+00	0.00E+00	0.00	0.00
4	OR-W201	0.00E+00	0.00E+00	0.00	0.00
5	OR-W203	0.00E+00	0.00E+00	0.00	0.00
6	LL-M001	0.00E+00	0.00E+00	0.00	0.00
7	LL-W034	0.00E+00	0.00E+00	0.00	0.00
8	LA-TA-48-01	0.00E+00	0.00E+00	0.00	0.00
9	SA-T001	0.00E+00	0.00E+00	0.00	0.00
10	NT-W001	0.00E+00	0.00E+00	0.00	0.00
11	LA-IT-00-01	0.00E+00	0.00E+00	0.00	0.00
12	BT-T002	0.00E+00	0.00E+00	0.00	0.00
13	LA-TA-55-21	0.00E+00	0.00E+00	0.00	0.00
14	SA-W134	0.00E+00	0.00E+00	0.00	0.00
15	OR-W204	0.00E+00	0.00E+00	0.00	0.00
16	SA-W134M	0.00E+00	0.00E+00	0.00	0.00
17	LA-TA-55-30	0.00E+00	0.00E+00	0.00	0.00
18	AE-T001	0.00E+00	0.00E+00	0.00	0.00
19	AE-T003	0.00E+00	0.00E+00	0.00	0.00
20	AW-N026.82	0.00E+00	0.00E+00	0.00	0.00
21	AW-N027.531	0.00E+00	0.00E+00	0.00	0.00
22	AW-T033.1325	0.00E+00	0.00E+00	0.00	0.00
23	AW-W049	0.00E+00	0.00E+00	0.00	0.00
24	BCLCH-MT01	0.00E+00	0.00E+00	0.00	0.00
25	ET-C1-B55	0.00E+00	0.00E+00	0.00	0.00
26	ET-C1-D139	0.00E+00	0.00E+00	0.00	0.00
27	ET-C2-SEFOR	0.00E+00	0.00E+00	0.00	0.00
28	FM-MOX-MT02	0.00E+00	0.00E+00	0.00	0.00
29	FM-MOX-T01	0.00E+00	0.00E+00	0.00	0.00
30	IN-BN-510	0.00E+00	0.00E+00	0.00	0.00
31	IN-GEM-01	0.00E+00	0.00E+00	0.00	0.00
32	IN-GEM-02	0.00E+00	0.00E+00	0.00	0.00
33	IN-W157.144	0.00E+00	0.00E+00	0.00	0.00
34	IN-W163.1007	0.00E+00	0.00E+00	0.00	0.00
35	IN-W164.153	0.00E+00	0.00E+00	0.00	0.00
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	WP-SR-W027-221	0.00E+00	0.00E+00	0.00%	0.00%
	Sum =	0.00E+00	N/A	0.00 %	N/A

4.7 CURIES ^{238}PU

^{238}Pu, a radioactive isotope of plutonium with a half-life of 87.1 years, is one of the four key radionuclides that together contribute more than 99% of all radioactivity in the repository (with regards to the waste unit factor). ^{238}Pu is the major contributing isotope of the four key radionuclides. ^{238}Pu contributes both directly and indirectly through alpha decay by creating ^{234}U (see Section 4.11). The isotope is abundant in the repository at closure (year 2033) as shown in Table 4.7-1 and although it diminishes over time, it remains relatively dominant 10,000 years (calendar year 12033) after closure (see Table 4.7-10).

The ^{238}Pu curie values in Table 4.7-1 through Table 4.7-10 were sorted to illustrate the primary waste stream contributors to ^{238}Pu activity over the entire population of waste. Each table identifies the 35 waste streams that offer the greatest contribution during each of the ten time intervals output by the code EPAUNI. All 693 waste streams and their total ^{238}Pu curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

Four of the top five contributing waste streams at closure are SRS waste streams T001-221H-HET, W027-221F-HET, T001-221F-HET T001-772F-HET and (see Table 4.7-1). Over time, these waste streams continue to dominate the ^{238}Pu contribution to radioactivity in the repository through time interval 10,000 years (year 12033) as shown in Table 4.7-10.

Table 4.7-1. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	2.21E+05	1.13E+01	17.70%	17.70%
2	LA-OS-00-01	1.48E+05	4.42E+02	11.81%	29.51%
3	W027-221F-HET	1.45E+05	9.86E+00	11.56%	41.07%
4	T001-221F-HET	1.23E+05	1.13E+01	9.82%	50.89%
5	T001-772F-HET	1.10E+05	1.14E+01	8.82%	59.71%
6	RL-T107	7.57E+04	2.56E+00	6.06%	65.77%
7	W027-221H-HET	6.31E+04	9.83E+00	5.04%	70.81%
8	W027-999-HET	5.88E+04	9.84E+00	4.70%	75.52%
9	W027-773A-HET	5.14E+04	9.83E+00	4.11%	79.63%
10	W026-221F-HET	4.28E+04	1.13E+01	3.42%	83.05%
11	IN-BN-510	3.91E+04	4.10E-01	3.13%	86.18%
12	W027-772F-HET	3.45E+04	9.84E+00	2.76%	88.94%
13	W026-221H-HET	3.20E+04	1.13E+01	2.56%	91.50%
14	W027-235F-HET	1.90E+04	9.82E+00	1.52%	93.02%
15	T001-773A-HET	1.42E+04	1.13E+01	1.14%	94.16%
16	T001-235F-HET	1.27E+04	1.13E+01	1.02%	95.18%
17	RL-W513	1.21E+04	2.87E-01	0.97%	96.14%
18	OR-W202	6.45E+03	2.29E+00	0.52%	96.66%
19	IN-W177.156	4.33E+03	1.12E+00	0.35%	97.01%
20	IN-W179.158	4.31E+03	4.50E-01	0.34%	97.35%
21	RL-W439	2.91E+03	4.83E-02	0.23%	97.58%
22	LA-TA-55-49	2.59E+03	2.95E+01	0.21%	97.79%
23	OR-W201	2.24E+03	3.85E+00	0.18%	97.97%
24	W026-773A-HET	2.21E+03	1.13E+01	0.18%	98.15%
25	IN-W174.154	2.04E+03	9.83E-01	0.16%	98.31%
26	LA-TA-55-48	1.97E+03	1.32E+01	0.16%	98.47%
27	WP-RF118.01	1.90E+03	3.11E-01	0.15%	98.62%
28	IN-W358.855	1.62E+03	1.01E+02	0.13%	98.75%
29	BCLCH-MT01	1.38E+03	5.49E+01	0.11%	98.86%
30	T001-773A-CLAS	1.24E+03	1.14E+01	0.10%	98.96%
31	IN-W249.527	1.21E+03	3.78E+01	0.10%	99.06%
32	WP-RF009.01	1.00E+03	1.61E-01	0.08%	99.14%
33	RL-W575	7.22E+02	5.29E-01	0.06%	99.19%
34	LL-T002	5.17E+02	5.18E-02	0.04%	99.24%
35	LA-TA-55-44	4.99E+02	4.51E-01	0.04%	99.28%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.25E+06	N/A	100.00%	N/A

Table 4.7-2. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.01E+05	5.14E+00	17.71%	17.71%
2	LA-OS-00-01	6.70E+04	2.00E+02	11.80%	29.51%
3	W027-221F-HET	6.56E+04	4.47E+00	11.55%	41.06%
4	T001-221F-HET	5.57E+04	5.14E+00	9.81%	50.88%
5	T001-772F-HET	5.01E+04	5.16E+00	8.82%	59.70%
6	RL-T107	3.44E+04	1.16E+00	6.06%	65.75%
7	W027-221H-HET	2.86E+04	4.46E+00	5.04%	70.79%
8	W027-999-HET	2.67E+04	4.46E+00	4.70%	75.50%
9	W027-773A-HET	2.33E+04	4.46E+00	4.11%	79.61%
10	W026-221F-HET	1.94E+04	5.14E+00	3.42%	83.03%
11	IN-BN-510	1.78E+04	1.86E-01	3.13%	86.16%
12	W027-772F-HET	1.57E+04	4.47E+00	2.76%	88.92%
13	W026-221H-HET	1.45E+04	5.14E+00	2.56%	91.48%
14	W027-235F-HET	8.60E+03	4.46E+00	1.52%	92.99%
15	T001-773A-HET	6.45E+03	5.14E+00	1.14%	94.13%
16	T001-235F-HET	5.78E+03	5.14E+00	1.02%	95.15%
17	RL-W513	5.50E+03	1.30E-01	0.97%	96.12%
18	OR-W202	2.93E+03	1.04E+00	0.52%	96.63%
19	IN-W177.156	1.96E+03	5.09E-01	0.35%	96.98%
20	IN-W179.158	1.96E+03	2.04E-01	0.34%	97.33%
21	RL-W439	1.32E+03	2.19E-02	0.23%	97.56%
22	LA-TA-55-49	1.18E+03	1.34E+01	0.21%	97.76%
23	OR-W201	1.02E+03	1.75E+00	0.18%	97.94%
24	W026-773A-HET	1.01E+03	5.15E+00	0.18%	98.12%
25	IN-W174.154	9.24E+02	4.46E-01	0.16%	98.28%
26	LA-TA-55-48	8.95E+02	6.01E+00	0.16%	98.44%
27	WP-RF118.01	8.64E+02	1.41E-01	0.15%	98.59%
28	IN-W358.855	7.37E+02	4.61E+01	0.13%	98.72%
29	BCLCH-MT01	6.27E+02	2.49E+01	0.11%	98.83%
30	T001-773A-CLAS	5.61E+02	5.15E+00	0.10%	98.93%
31	IN-W249.527	5.50E+02	1.71E+01	0.10%	99.03%
32	WP-RF009.01	4.55E+02	7.29E-02	0.08%	99.11%
33	RL-W575	3.28E+02	2.40E-01	0.06%	99.17%
34	LL-T002	2.35E+02	2.35E-02	0.04%	99.21%
35	LA-TA-55-44	2.27E+02	2.05E-01	0.04%	99.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.68E+05	N/A	100.00%	N/A

Table 4.7-3. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	8.25E+04	4.22E+00	17.70%	17.70%
2	LA-OS-00-01	5.50E+04	1.64E+02	11.80%	29.50%
3	W027-221F-HET	5.38E+04	3.67E+00	11.55%	41.06%
4	T001-221F-HET	4.57E+04	4.22E+00	9.81%	50.87%
5	T001-772F-HET	4.11E+04	4.24E+00	8.82%	59.69%
6	RL-T107	2.82E+04	9.54E-01	6.06%	65.74%
7	W027-221H-HET	2.35E+04	3.66E+00	5.04%	70.79%
8	W027-999-HET	2.19E+04	3.66E+00	4.70%	75.49%
9	W027-773A-HET	1.92E+04	3.66E+00	4.11%	79.60%
10	W026-221F-HET	1.59E+04	4.22E+00	3.42%	83.02%
11	IN-BN-510	1.46E+04	1.53E-01	3.13%	86.15%
12	W027-772F-HET	1.29E+04	3.67E+00	2.76%	88.91%
13	W026-221H-HET	1.19E+04	4.22E+00	2.56%	91.47%
14	W027-235F-HET	7.06E+03	3.66E+00	1.52%	92.99%
15	T001-773A-HET	5.30E+03	4.22E+00	1.14%	94.12%
16	T001-235F-HET	4.75E+03	4.22E+00	1.02%	95.14%
17	RL-W513	4.51E+03	1.07E-01	0.97%	96.11%
18	OR-W202	2.40E+03	8.54E-01	0.52%	96.63%
19	IN-W177.156	1.61E+03	4.18E-01	0.35%	96.97%
20	IN-W179.158	1.61E+03	1.68E-01	0.34%	97.32%
21	RL-W439	1.08E+03	1.80E-02	0.23%	97.55%
22	LA-TA-55-49	9.66E+02	1.10E+01	0.21%	97.76%
23	OR-W201	8.33E+02	1.43E+00	0.18%	97.94%
24	W026-773A-HET	8.25E+02	4.22E+00	0.18%	98.11%
25	IN-W174.154	7.58E+02	3.66E-01	0.16%	98.28%
26	LA-TA-55-48	7.35E+02	4.93E+00	0.16%	98.43%
27	WP-RF118.01	7.09E+02	1.16E-01	0.15%	98.59%
28	IN-W358.855	6.05E+02	3.78E+01	0.13%	98.72%
29	BCLCH-MT01	5.15E+02	2.05E+01	0.11%	98.83%
30	T001-773A-CLAS	4.60E+02	4.23E+00	0.10%	98.92%
31	IN-W249.527	4.51E+02	1.41E+01	0.10%	99.02%
32	WP-RF009.01	3.73E+02	5.98E-02	0.08%	99.10%
33	RL-W575	2.69E+02	1.97E-01	0.06%	99.16%
34	LL-T002	1.93E+02	1.93E-02	0.04%	99.20%
35	LA-TA-55-44	1.86E+02	1.68E-01	0.04%	99.24%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.66E+05	N/A	100.00%	N/A

Table 4.7-4. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	5.56E+04	2.84E+00	17.70%	17.70%
2	LA-OS-00-01	3.70E+04	1.11E+02	11.80%	29.50%
3	W027-221F-HET	3.63E+04	2.47E+00	11.55%	41.05%
4	T001-221F-HET	3.08E+04	2.84E+00	9.82%	50.87%
5	T001-772F-HET	2.77E+04	2.86E+00	8.82%	59.69%
6	RL-T107	1.90E+04	6.43E-01	6.05%	65.75%
7	W027-221H-HET	1.58E+04	2.47E+00	5.04%	70.79%
8	W027-999-HET	1.48E+04	2.47E+00	4.70%	75.49%
9	W027-773A-HET	1.29E+04	2.47E+00	4.11%	79.60%
10	W026-221F-HET	1.07E+04	2.85E+00	3.42%	83.03%
11	IN-BN-510	9.82E+03	1.03E-01	3.13%	86.16%
12	W027-772F-HET	8.65E+03	2.47E+00	2.76%	88.92%
13	W026-221H-HET	8.03E+03	2.85E+00	2.56%	91.48%
14	W027-235F-HET	4.76E+03	2.46E+00	1.52%	92.99%
15	T001-773A-HET	3.57E+03	2.84E+00	1.14%	94.13%
16	T001-235F-HET	3.20E+03	2.84E+00	1.02%	95.15%
17	RL-W513	3.04E+03	7.20E-02	0.97%	96.12%
18	OR-W202	1.62E+03	5.75E-01	0.52%	96.63%
19	IN-W177.156	1.09E+03	2.82E-01	0.35%	96.98%
20	IN-W179.158	1.08E+03	1.13E-01	0.34%	97.32%
21	RL-W439	7.29E+02	1.21E-02	0.23%	97.55%
22	LA-TA-55-49	6.51E+02	7.41E+00	0.21%	97.76%
23	OR-W201	5.61E+02	9.66E-01	0.18%	97.94%
24	W026-773A-HET	5.56E+02	2.84E+00	0.18%	98.12%
25	IN-W174.154	5.11E+02	2.47E-01	0.16%	98.28%
26	LA-TA-55-48	4.95E+02	3.32E+00	0.16%	98.44%
27	WP-RF118.01	4.78E+02	7.81E-02	0.15%	98.59%
28	IN-W358.855	4.07E+02	2.55E+01	0.13%	98.72%
29	BCLCH-MT01	3.47E+02	1.38E+01	0.11%	98.83%
30	T001-773A-CLAS	3.10E+02	2.85E+00	0.10%	98.93%
31	IN-W249.527	3.04E+02	9.48E+00	0.10%	99.03%
32	WP-RF009.01	2.51E+02	4.03E-02	0.08%	99.11%
33	RL-W575	1.81E+02	1.33E-01	0.06%	99.16%
34	LL-T002	1.30E+02	1.30E-02	0.04%	99.21%
35	LA-TA-55-44	1.25E+02	1.13E-01	0.04%	99.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.14E+05	N/A	100.00%	N/A

Table 4.7-5. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.39E+04	7.13E-01	17.70%	17.70%
2	LA-OS-00-01	9.30E+03	2.78E+01	11.80%	29.50%
3	W027-221F-HET	9.10E+03	6.21E-01	11.55%	41.05%
4	T001-221F-HET	7.73E+03	7.14E-01	9.81%	50.86%
5	T001-772F-HET	6.95E+03	7.17E-01	8.82%	59.68%
6	RL-T107	4.77E+03	1.61E-01	6.06%	65.74%
7	W027-221H-HET	3.97E+03	6.19E-01	5.04%	70.78%
8	W027-999-HET	3.70E+03	6.20E-01	4.70%	75.48%
9	W027-773A-HET	3.24E+03	6.19E-01	4.11%	79.59%
10	W026-221F-HET	2.70E+03	7.14E-01	3.42%	83.01%
11	IN-BN-510	2.47E+03	2.58E-02	3.13%	86.14%
12	W027-772F-HET	2.17E+03	6.20E-01	2.76%	88.90%
13	W026-221H-HET	2.02E+03	7.14E-01	2.56%	91.46%
14	W027-235F-HET	1.19E+03	6.19E-01	1.52%	92.97%
15	T001-773A-HET	8.95E+02	7.13E-01	1.14%	94.11%
16	T001-235F-HET	8.02E+02	7.14E-01	1.02%	95.13%
17	RL-W513	7.63E+02	1.81E-02	0.97%	96.10%
18	OR-W202	4.07E+02	1.44E-01	0.52%	96.61%
19	IN-W177.156	2.73E+02	7.07E-02	0.35%	96.96%
20	IN-W179.158	2.72E+02	2.83E-02	0.34%	97.30%
21	RL-W439	1.83E+02	3.05E-03	0.23%	97.54%
22	LA-TA-55-49	1.63E+02	1.86E+00	0.21%	97.74%
23	OR-W201	1.41E+02	2.42E-01	0.18%	97.92%
24	W026-773A-HET	1.39E+02	7.14E-01	0.18%	98.10%
25	IN-W174.154	1.28E+02	6.19E-02	0.16%	98.26%
26	LA-TA-55-48	1.24E+02	8.34E-01	0.16%	98.42%
27	WP-RF118.01	1.20E+02	1.96E-02	0.15%	98.57%
28	IN-W358.855	1.02E+02	6.39E+00	0.13%	98.70%
29	BCLCH-MT01	8.71E+01	3.46E+00	0.11%	98.81%
30	T001-773A-CLAS	7.78E+01	7.15E-01	0.10%	98.91%
31	IN-W249.527	7.63E+01	2.38E+00	0.10%	99.01%
32	WP-RF009.01	6.31E+01	1.01E-02	0.08%	99.09%
33	RL-W575	4.55E+01	3.33E-02	0.06%	99.15%
34	LL-T002	3.26E+01	3.26E-03	0.04%	99.19%
35	LA-TA-55-44	3.15E+01	2.84E-02	0.04%	99.23%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.88E+04	N/A	100.00%	N/A

Table 4.7-6. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	8.21E+01	4.20E-03	17.70%	17.70%
2	LA-OS-00-01	5.47E+01	1.64E-01	11.80%	29.50%
3	W027-221F-HET	5.36E+01	3.66E-03	11.55%	41.05%
4	T001-221F-HET	4.55E+01	4.20E-03	9.81%	50.86%
5	T001-772F-HET	4.09E+01	4.22E-03	8.82%	59.68%
6	RL-T107	2.81E+01	9.50E-04	6.06%	65.74%
7	W027-221H-HET	2.34E+01	3.65E-03	5.04%	70.78%
8	W027-999-HET	2.18E+01	3.65E-03	4.70%	75.48%
9	W027-773A-HET	1.91E+01	3.65E-03	4.11%	79.59%
10	W026-221F-HET	1.59E+01	4.20E-03	3.42%	83.01%
11	IN-BN-510	1.45E+01	1.52E-04	3.13%	86.14%
12	W027-772F-HET	1.28E+01	3.65E-03	2.76%	88.90%
13	W026-221H-HET	1.19E+01	4.21E-03	2.56%	91.46%
14	W027-235F-HET	7.03E+00	3.64E-03	1.52%	92.97%
15	T001-773A-HET	5.27E+00	4.20E-03	1.14%	94.11%
16	T001-235F-HET	4.73E+00	4.20E-03	1.02%	95.13%
17	RL-W513	4.49E+00	1.06E-04	0.97%	96.10%
18	OR-W202	2.39E+00	8.50E-04	0.52%	96.61%
19	IN-W177.156	1.61E+00	4.16E-04	0.35%	96.96%
20	IN-W179.158	1.60E+00	1.67E-04	0.34%	97.31%
21	RL-W439	1.08E+00	1.79E-05	0.23%	97.54%
22	LA-TA-55-49	9.62E-01	1.09E-02	0.21%	97.75%
23	OR-W201	8.30E-01	1.43E-03	0.18%	97.92%
24	W026-773A-HET	8.21E-01	4.20E-03	0.18%	98.10%
25	IN-W174.154	7.55E-01	3.65E-04	0.16%	98.26%
26	LA-TA-55-48	7.32E-01	4.91E-03	0.16%	98.42%
27	WP-RF118.01	7.06E-01	1.15E-04	0.15%	98.57%
28	IN-W358.855	6.02E-01	3.76E-02	0.13%	98.70%
29	BCLCH-MT01	5.13E-01	2.04E-02	0.11%	98.81%
30	T001-773A-CLAS	4.58E-01	4.21E-03	0.10%	98.91%
31	IN-W249.527	4.49E-01	1.40E-02	0.10%	99.01%
32	WP-RF009.01	3.72E-01	5.96E-05	0.08%	99.09%
33	RL-W575	2.68E-01	1.96E-04	0.06%	99.15%
34	LL-T002	1.92E-01	1.92E-05	0.04%	99.19%
35	LA-TA-55-44	1.85E-01	1.67E-04	0.04%	99.23%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.64E+02	N/A	100.00%	N/A

Table 4.7-7. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 3000
(Calendar Year = 5033)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.13E-05	5.78E-10	17.70%	17.70%
2	LA-OS-00-01	7.53E-06	2.25E-08	11.80%	29.50%
3	W027-221F-HET	7.37E-06	5.03E-10	11.55%	41.05%
4	T001-221F-HET	6.26E-06	5.79E-10	9.81%	50.86%
5	T001-772F-HET	5.63E-06	5.81E-10	8.82%	59.68%
6	RL-T107	3.87E-06	1.31E-10	6.06%	65.74%
7	W027-221H-HET	3.22E-06	5.02E-10	5.04%	70.78%
8	W027-999-HET	3.00E-06	5.02E-10	4.70%	75.48%
9	W027-773A-HET	2.63E-06	5.02E-10	4.11%	79.59%
10	W026-221F-HET	2.19E-06	5.79E-10	3.42%	83.02%
11	IN-BN-510	2.00E-06	2.09E-11	3.13%	86.15%
12	W027-772F-HET	1.76E-06	5.02E-10	2.76%	88.90%
13	W026-221H-HET	1.63E-06	5.79E-10	2.56%	91.46%
14	W027-235F-HET	9.67E-07	5.01E-10	1.52%	92.98%
15	T001-773A-HET	7.26E-07	5.78E-10	1.14%	94.11%
16	T001-235F-HET	6.50E-07	5.78E-10	1.02%	95.13%
17	RL-W513	6.19E-07	1.46E-11	0.97%	96.10%
18	OR-W202	3.30E-07	1.17E-10	0.52%	96.62%
19	IN-W177.156	2.21E-07	5.73E-11	0.35%	96.96%
20	IN-W179.158	2.20E-07	2.30E-11	0.34%	97.31%
21	RL-W439	1.48E-07	2.47E-12	0.23%	97.54%
22	LA-TA-55-49	1.32E-07	1.51E-09	0.21%	97.75%
23	OR-W201	1.14E-07	1.96E-10	0.18%	97.92%
24	W026-773A-HET	1.13E-07	5.79E-10	0.18%	98.10%
25	IN-W174.154	1.04E-07	5.02E-11	0.16%	98.26%
26	LA-TA-55-48	1.01E-07	6.76E-10	0.16%	98.42%
27	WP-RF118.01	9.71E-08	1.59E-11	0.15%	98.57%
28	IN-W358.855	8.29E-08	5.18E-09	0.13%	98.70%
29	BCLCH-MT01	7.06E-08	2.80E-09	0.11%	98.81%
30	T001-773A-CLAS	6.30E-08	5.80E-10	0.10%	98.91%
31	IN-W249.527	6.19E-08	1.93E-09	0.10%	99.01%
32	WP-RF009.01	5.11E-08	8.20E-12	0.08%	99.09%
33	RL-W575	3.68E-08	2.70E-11	0.06%	99.15%
34	LL-T002	2.64E-08	2.64E-12	0.04%	99.19%
35	LA-TA-55-44	2.55E-08	2.30E-11	0.04%	99.23%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.38E-05	N/A	100.00%	N/A

Table 4.7-8. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.56E-12	7.96E-17	17.70%	17.70%
2	LA-OS-00-01	1.04E-12	3.10E-15	11.80%	29.50%
3	W027-221F-HET	1.02E-12	6.93E-17	11.55%	41.06%
4	T001-221F-HET	8.62E-13	7.96E-17	9.81%	50.87%
5	T001-772F-HET	7.75E-13	7.99E-17	8.82%	59.69%
6	RL-T107	5.32E-13	1.80E-17	6.06%	65.75%
7	W027-221H-HET	4.43E-13	6.91E-17	5.04%	70.79%
8	W027-999-HET	4.13E-13	6.91E-17	4.70%	75.49%
9	W027-773A-HET	3.61E-13	6.91E-17	4.11%	79.60%
10	W026-221F-HET	3.01E-13	7.96E-17	3.42%	83.02%
11	IN-BN-510	2.75E-13	2.88E-18	3.13%	86.15%
12	W027-772F-HET	2.42E-13	6.91E-17	2.76%	88.91%
13	W026-221H-HET	2.25E-13	7.96E-17	2.56%	91.47%
14	W027-235F-HET	1.33E-13	6.90E-17	1.52%	92.98%
15	T001-773A-HET	9.98E-14	7.95E-17	1.14%	94.12%
16	T001-235F-HET	8.95E-14	7.96E-17	1.02%	95.14%
17	RL-W513	8.51E-14	2.02E-18	0.97%	96.11%
18	OR-W202	4.53E-14	1.61E-17	0.52%	96.62%
19	IN-W177.156	3.04E-14	7.88E-18	0.35%	96.97%
20	IN-W179.158	3.03E-14	3.16E-18	0.34%	97.31%
21	RL-W439	2.04E-14	3.40E-19	0.23%	97.55%
22	LA-TA-55-49	1.82E-14	2.07E-16	0.21%	97.75%
23	OR-W201	1.57E-14	2.70E-17	0.18%	97.93%
24	W026-773A-HET	1.56E-14	7.96E-17	0.18%	98.11%
25	IN-W174.154	1.43E-14	6.90E-18	0.16%	98.27%
26	LA-TA-55-48	1.39E-14	9.30E-17	0.16%	98.43%
27	WP-RF118.01	1.34E-14	2.19E-18	0.15%	98.58%
28	IN-W358.855	1.14E-14	7.13E-16	0.13%	98.71%
29	BCLCH-MT01	9.71E-15	3.86E-16	0.11%	98.82%
30	T001-773A-CLAS	8.68E-15	7.98E-17	0.10%	98.92%
31	IN-W249.527	8.51E-15	2.65E-16	0.10%	99.02%
32	WP-RF009.01	7.04E-15	1.13E-18	0.08%	99.10%
33	RL-W575	5.07E-15	3.71E-18	0.06%	99.16%
34	LL-T002	3.63E-15	3.64E-19	0.04%	99.20%
35	LA-TA-55-44	3.51E-15	3.17E-18	0.04%	99.24%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	8.79E-12	N/A	100.00%	N/A

Table 4.7-9. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	4.12E-21	2.11E-25	17.70%	17.70%
2	LA-OS-00-01	2.75E-21	8.22E-24	11.80%	29.51%
3	W027-221F-HET	2.69E-21	1.84E-25	11.55%	41.06%
4	T001-221F-HET	2.29E-21	2.11E-25	9.82%	50.88%
5	T001-772F-HET	2.05E-21	2.12E-25	8.82%	59.70%
6	RL-T107	1.41E-21	4.77E-26	6.06%	65.75%
7	W027-221H-HET	1.17E-21	1.83E-25	5.04%	70.79%
8	W027-999-HET	1.10E-21	1.83E-25	4.70%	75.50%
9	W027-773A-HET	9.57E-22	1.83E-25	4.11%	79.61%
10	W026-221F-HET	7.97E-22	2.11E-25	3.42%	83.03%
11	IN-BN-510	7.29E-22	7.63E-27	3.13%	86.16%
12	W027-772F-HET	6.42E-22	1.83E-25	2.76%	88.92%
13	W026-221H-HET	5.96E-22	2.11E-25	2.56%	91.48%
14	W027-235F-HET	3.53E-22	1.83E-25	1.52%	93.00%
15	T001-773A-HET	2.65E-22	2.11E-25	1.14%	94.13%
16	T001-235F-HET	2.37E-22	2.11E-25	1.02%	95.15%
17	RL-W513	2.26E-22	5.34E-27	0.97%	96.12%
18	OR-W202	1.20E-22	4.27E-26	0.52%	96.64%
19	IN-W177.156	8.06E-23	2.09E-26	0.35%	96.98%
20	IN-W179.158	8.03E-23	8.37E-27	0.34%	97.33%
21	RL-W439	5.41E-23	9.00E-28	0.23%	97.56%
22	LA-TA-55-49	4.83E-23	5.50E-25	0.21%	97.77%
23	OR-W201	4.17E-23	7.17E-26	0.18%	97.95%
24	W026-773A-HET	4.12E-23	2.11E-25	0.18%	98.12%
25	IN-W174.154	3.79E-23	1.83E-26	0.16%	98.29%
26	LA-TA-55-48	3.67E-23	2.47E-25	0.16%	98.44%
27	WP-RF118.01	3.54E-23	5.79E-27	0.15%	98.60%
28	IN-W358.855	3.02E-23	1.89E-24	0.13%	98.73%
29	BCLCH-MT01	2.57E-23	1.02E-24	0.11%	98.84%
30	T001-773A-CLAS	2.30E-23	2.11E-25	0.10%	98.94%
31	IN-W249.527	2.26E-23	7.03E-25	0.10%	99.03%
32	WP-RF009.01	1.87E-23	2.99E-27	0.08%	99.11%
33	RL-W575	1.34E-23	9.84E-27	0.06%	99.17%
34	LL-T002	9.63E-24	9.64E-28	0.04%	99.21%
35	LA-TA-55-44	9.30E-24	8.39E-27	0.04%	99.25%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.33E-20	N/A	100.00%	N/A

Table 4.7-10. WIPP CH-TRU Waste Streams by Curies (^{238}Pu); Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	Curies (^{238}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.09E-29	5.59E-34	17.70%	17.70%
2	LA-OS-00-01	7.28E-30	2.18E-32	11.80%	29.50%
3	W027-221F-HET	7.13E-30	4.86E-34	11.55%	41.05%
4	T001-221F-HET	6.06E-30	5.59E-34	9.81%	50.86%
5	T001-772F-HET	5.44E-30	5.61E-34	8.82%	59.68%
6	RL-T107	3.74E-30	1.26E-34	6.06%	65.74%
7	W027-221H-HET	3.11E-30	4.85E-34	5.04%	70.78%
8	W027-999-HET	2.90E-30	4.85E-34	4.70%	75.48%
9	W027-773A-HET	2.54E-30	4.85E-34	4.11%	79.59%
10	W026-221F-HET	2.11E-30	5.59E-34	3.42%	83.02%
11	IN-BN-510	1.93E-30	2.02E-35	3.13%	86.15%
12	W027-772F-HET	1.70E-30	4.86E-34	2.76%	88.90%
13	W026-221H-HET	1.58E-30	5.59E-34	2.56%	91.46%
14	W027-235F-HET	9.35E-31	4.85E-34	1.52%	92.98%
15	T001-773A-HET	7.01E-31	5.59E-34	1.14%	94.12%
16	T001-235F-HET	6.29E-31	5.59E-34	1.02%	95.13%
17	RL-W513	5.98E-31	1.42E-35	0.97%	96.10%
18	OR-W202	3.19E-31	1.13E-34	0.52%	96.62%
19	IN-W177.156	2.14E-31	5.54E-35	0.35%	96.96%
20	IN-W179.158	2.13E-31	2.22E-35	0.34%	97.31%
21	RL-W439	1.43E-31	2.38E-36	0.23%	97.54%
22	LA-TA-55-49	1.28E-31	1.46E-33	0.21%	97.75%
23	OR-W201	1.10E-31	1.90E-34	0.18%	97.93%
24	W026-773A-HET	1.09E-31	5.59E-34	0.18%	98.11%
25	IN-W174.154	1.00E-31	4.85E-35	0.16%	98.27%
26	LA-TA-55-48	9.74E-32	6.53E-34	0.16%	98.43%
27	WP-RF118.01	9.39E-32	1.54E-35	0.15%	98.58%
28	IN-W358.855	8.01E-32	5.01E-33	0.13%	98.71%
29	BCLCH-MT01	6.82E-32	2.71E-33	0.11%	98.82%
30	T001-773A-CLAS	6.09E-32	5.60E-34	0.10%	98.92%
31	IN-W249.527	5.98E-32	1.86E-33	0.10%	99.01%
32	WP-RF009.01	4.94E-32	7.92E-36	0.08%	99.09%
33	RL-W575	3.56E-32	2.61E-35	0.06%	99.15%
34	LL-T002	2.55E-32	2.56E-36	0.04%	99.19%
35	LA-TA-55-44	2.47E-32	2.22E-35	0.04%	99.23%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.17E-29	N/A	100.00%	N/A

4.8 CURIES ^{239}PU

^{239}Pu, a radioactive isotope of plutonium with a half-life of 24,110 years, is one of the four key radionuclides that together contribute more than 99% of all radioactivity in the repository (with regards to the waste unit factor). ^{239}Pu is abundant in the repository at closure (year 2033) as shown in Table 4.8-1 and does not diminish much over time as it remains dominant 10,000 years (calendar year 12033) after closure (see Table 4.8-10).

The ^{239}Pu curie values in Table 4.8-1 through Table 4.8-10 were sorted to illustrate the primary waste stream contributors to ^{239}Pu activity over the entire population of waste. Each table identifies the 35 waste streams that offer the greatest contribution during each of the ten time intervals output by the code EPAUNI. All 693 waste streams and their total ^{239}Pu curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

At closure, 35 of 693 waste streams contribute over 83% of all ^{239}Pu activity (see Table 4.8-1). Since the isotope has no significant parent nuclide(s) that produce it in the repository, its waste stream contributions remain relatively constant through time interval 10,000 years (see Table 4.8-10).

Table 4.8-1. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	5.20E+04	2.66E+00	7.88%	7.88%
2	WP-RF118.01	5.14E+04	8.40E+00	7.79%	15.66%
3	WP-RF009.01	5.09E+04	8.15E+00	7.71%	23.37%
4	RL-W439	4.80E+04	7.98E-01	7.27%	30.65%
5	IN-BN-510	3.97E+04	4.15E-01	6.01%	36.66%
6	W027-221F-HET	3.90E+04	2.66E+00	5.91%	42.57%
7	T001-221F-HET	2.88E+04	2.66E+00	4.36%	46.93%
8	T001-772F-HET	2.58E+04	2.66E+00	3.91%	50.84%
9	RL-W513	1.91E+04	4.52E-01	2.89%	53.73%
10	W027-221H-HET	1.71E+04	2.66E+00	2.59%	56.32%
11	LA-TA-55-48	1.69E+04	1.13E+02	2.56%	58.88%
12	RL-T107	1.63E+04	5.51E-01	2.47%	61.35%
13	W027-999-HET	1.59E+04	2.66E+00	2.41%	63.76%
14	W027-773A-HET	1.39E+04	2.66E+00	2.11%	65.87%
15	W026-221F-HET	1.01E+04	2.67E+00	1.53%	67.39%
16	W027-772F-HET	9.32E+03	2.66E+00	1.41%	68.81%
17	WP-RF003.01	8.82E+03	7.91E+00	1.34%	70.15%
18	WP-RF006.01	7.93E+03	7.48E+00	1.20%	71.35%
19	W026-221H-HET	7.51E+03	2.66E+00	1.14%	72.49%
20	IN-W216.98	6.49E+03	1.06E-01	0.98%	73.47%
21	RF-MT420P	6.34E+03	8.21E+00	0.96%	74.43%
22	RF-MT0091	5.92E+03	8.27E+00	0.90%	75.33%
23	LL-T002	5.18E+03	5.18E-01	0.78%	76.12%
24	W027-235F-HET	5.14E+03	2.66E+00	0.78%	76.89%
25	RF-MT532C	5.09E+03	3.05E+00	0.77%	77.67%
26	WP-RF005.01	4.67E+03	8.06E+00	0.71%	78.37%
27	RF-TT0802	4.46E+03	1.63E+01	0.68%	79.05%
28	RL-T137	4.31E+03	5.91E+00	0.65%	79.70%
29	RL-T140	4.17E+03	6.28E+00	0.63%	80.33%
30	RF-MT-0299	4.15E+03	2.78E+01	0.63%	80.96%
31	RF-TT0338	3.70E+03	5.03E+00	0.56%	81.52%
32	RF-TT3011	3.34E+03	3.19E-01	0.51%	82.03%
33	T001-773A-HET	3.34E+03	2.66E+00	0.51%	82.53%
34	T001-235F-HET	2.99E+03	2.66E+00	0.45%	82.99%
35	RF-TT0824	2.91E+03	4.90E-01	0.44%	83.43%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.60E+05	N/A	100.00%	N/A

Table 4.8-2. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	5.18E+04	2.65E+00	7.88%	7.88%
2	WP-RF118.01	5.12E+04	8.37E+00	7.79%	15.66%
3	WP-RF009.01	5.07E+04	8.13E+00	7.71%	23.37%
4	RL-W439	4.78E+04	7.96E-01	7.27%	30.65%
5	IN-BN-510	3.96E+04	4.14E-01	6.01%	36.66%
6	W027-221F-HET	3.89E+04	2.65E+00	5.91%	42.57%
7	T001-221F-HET	2.87E+04	2.65E+00	4.36%	46.93%
8	T001-772F-HET	2.57E+04	2.65E+00	3.91%	50.84%
9	RL-W513	1.90E+04	4.51E-01	2.89%	53.73%
10	W027-221H-HET	1.70E+04	2.66E+00	2.59%	56.32%
11	LA-TA-55-48	1.68E+04	1.13E+02	2.56%	58.89%
12	RL-T107	1.62E+04	5.49E-01	2.47%	61.35%
13	W027-999-HET	1.58E+04	2.65E+00	2.41%	63.76%
14	W027-773A-HET	1.39E+04	2.65E+00	2.11%	65.87%
15	W026-221F-HET	1.01E+04	2.66E+00	1.53%	67.40%
16	W027-772F-HET	9.30E+03	2.65E+00	1.41%	68.81%
17	WP-RF003.01	8.80E+03	7.88E+00	1.34%	70.15%
18	WP-RF006.01	7.91E+03	7.45E+00	1.20%	71.35%
19	W026-221H-HET	7.49E+03	2.65E+00	1.14%	72.49%
20	IN-W216.98	6.48E+03	1.06E-01	0.98%	73.48%
21	RF-MT420P	6.33E+03	8.18E+00	0.96%	74.44%
22	RF-MT0091	5.90E+03	8.25E+00	0.90%	75.34%
23	LL-T002	5.16E+03	5.17E-01	0.78%	76.12%
24	W027-235F-HET	5.12E+03	2.65E+00	0.78%	76.90%
25	RF-MT532C	5.07E+03	3.04E+00	0.77%	77.67%
26	WP-RF005.01	4.65E+03	8.04E+00	0.71%	78.38%
27	RF-TT0802	4.44E+03	1.62E+01	0.68%	79.05%
28	RL-T137	4.29E+03	5.90E+00	0.65%	79.71%
29	RL-T140	4.15E+03	6.26E+00	0.63%	80.34%
30	RF-MT-0299	4.13E+03	2.77E+01	0.63%	80.97%
31	RF-TT0338	3.69E+03	5.01E+00	0.56%	81.53%
32	RF-TT3011	3.33E+03	3.18E-01	0.51%	82.03%
33	T001-773A-HET	3.33E+03	2.65E+00	0.51%	82.54%
34	T001-235F-HET	2.98E+03	2.65E+00	0.45%	82.99%
35	RF-TT0824	2.90E+03	4.88E-01	0.44%	83.43%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.58E+05	N/A	100.00%	N/A

Table 4.8-3. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	5.18E+04	2.65E+00	7.88%	7.88%
2	WP-RF118.01	5.12E+04	8.37E+00	7.79%	15.66%
3	WP-RF009.01	5.07E+04	8.12E+00	7.71%	23.37%
4	RL-W439	4.78E+04	7.95E-01	7.27%	30.64%
5	IN-BN-510	3.95E+04	4.14E-01	6.01%	36.66%
6	W027-221F-HET	3.88E+04	2.65E+00	5.91%	42.56%
7	T001-221F-HET	2.87E+04	2.65E+00	4.36%	46.93%
8	T001-772F-HET	2.57E+04	2.65E+00	3.91%	50.83%
9	RL-W513	1.90E+04	4.50E-01	2.89%	53.73%
10	W027-221H-HET	1.70E+04	2.65E+00	2.59%	56.32%
11	LA-TA-55-48	1.68E+04	1.13E+02	2.56%	58.88%
12	RL-T107	1.62E+04	5.49E-01	2.47%	61.35%
13	W027-999-HET	1.58E+04	2.65E+00	2.41%	63.75%
14	W027-773A-HET	1.38E+04	2.65E+00	2.11%	65.86%
15	W026-221F-HET	1.01E+04	2.66E+00	1.53%	67.39%
16	W027-772F-HET	9.29E+03	2.65E+00	1.41%	68.80%
17	WP-RF003.01	8.79E+03	7.88E+00	1.34%	70.14%
18	WP-RF006.01	7.90E+03	7.45E+00	1.20%	71.34%
19	W026-221H-HET	7.49E+03	2.65E+00	1.14%	72.48%
20	IN-W216.98	6.47E+03	1.06E-01	0.98%	73.47%
21	RF-MT420P	6.32E+03	8.18E+00	0.96%	74.43%
22	RF-MT0091	5.89E+03	8.24E+00	0.90%	75.32%
23	LL-T002	5.16E+03	5.16E-01	0.78%	76.11%
24	W027-235F-HET	5.12E+03	2.65E+00	0.78%	76.89%
25	RF-MT532C	5.07E+03	3.04E+00	0.77%	77.66%
26	WP-RF005.01	4.65E+03	8.03E+00	0.71%	78.37%
27	RF-TT0802	4.44E+03	1.62E+01	0.68%	79.04%
28	RL-T137	4.29E+03	5.89E+00	0.65%	79.69%
29	RL-T140	4.15E+03	6.26E+00	0.63%	80.33%
30	RF-MT-0299	4.13E+03	2.77E+01	0.63%	80.95%
31	RF-TT0338	3.68E+03	5.01E+00	0.56%	81.52%
32	RF-TT3011	3.33E+03	3.18E-01	0.51%	82.02%
33	T001-773A-HET	3.33E+03	2.65E+00	0.51%	82.53%
34	T001-235F-HET	2.98E+03	2.65E+00	0.45%	82.98%
35	RF-TT0824	2.90E+03	4.88E-01	0.44%	83.42%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.57E+05	N/A	100.00%	N/A

Table 4.8-4. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	5.17E+04	2.65E+00	7.88%	7.88%
2	WP-RF118.01	5.11E+04	8.35E+00	7.79%	15.66%
3	WP-RF009.01	5.06E+04	8.11E+00	7.71%	23.37%
4	RL-W439	4.77E+04	7.94E-01	7.27%	30.64%
5	IN-BN-510	3.95E+04	4.13E-01	6.01%	36.66%
6	W027-221F-HET	3.88E+04	2.65E+00	5.91%	42.57%
7	T001-221F-HET	2.86E+04	2.64E+00	4.36%	46.93%
8	T001-772F-HET	2.57E+04	2.65E+00	3.91%	50.84%
9	RL-W513	1.90E+04	4.50E-01	2.89%	53.73%
10	W027-221H-HET	1.70E+04	2.65E+00	2.59%	56.32%
11	LA-TA-55-48	1.68E+04	1.13E+02	2.56%	58.88%
12	RL-T107	1.62E+04	5.48E-01	2.47%	61.35%
13	W027-999-HET	1.58E+04	2.65E+00	2.41%	63.76%
14	W027-773A-HET	1.38E+04	2.64E+00	2.11%	65.87%
15	W026-221F-HET	1.00E+04	2.66E+00	1.53%	67.40%
16	W027-772F-HET	9.28E+03	2.65E+00	1.41%	68.81%
17	WP-RF003.01	8.78E+03	7.87E+00	1.34%	70.15%
18	WP-RF006.01	7.89E+03	7.44E+00	1.20%	71.35%
19	W026-221H-HET	7.48E+03	2.65E+00	1.14%	72.49%
20	IN-W216.98	6.46E+03	1.06E-01	0.98%	73.47%
21	RF-MT420P	6.31E+03	8.17E+00	0.96%	74.44%
22	RF-MT0091	5.89E+03	8.23E+00	0.90%	75.33%
23	LL-T002	5.15E+03	5.15E-01	0.78%	76.12%
24	W027-235F-HET	5.11E+03	2.65E+00	0.78%	76.90%
25	RF-MT532C	5.06E+03	3.03E+00	0.77%	77.67%
26	WP-RF005.01	4.64E+03	8.02E+00	0.71%	78.38%
27	RF-TT0802	4.43E+03	1.62E+01	0.68%	79.05%
28	RL-T137	4.28E+03	5.88E+00	0.65%	79.70%
29	RL-T140	4.15E+03	6.25E+00	0.63%	80.34%
30	RF-MT-0299	4.13E+03	2.77E+01	0.63%	80.96%
31	RF-TT0338	3.68E+03	5.00E+00	0.56%	81.52%
32	RF-TT3011	3.32E+03	3.17E-01	0.51%	82.03%
33	T001-773A-HET	3.32E+03	2.64E+00	0.51%	82.54%
34	T001-235F-HET	2.97E+03	2.64E+00	0.45%	82.99%
35	RF-TT0824	2.89E+03	4.87E-01	0.44%	83.43%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.56E+05	N/A	100.00%	N/A

Table 4.8-5. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	5.14E+04	2.63E+00	7.88%	7.88%
2	WP-RF118.01	5.08E+04	8.31E+00	7.79%	15.66%
3	WP-RF009.01	5.03E+04	8.07E+00	7.71%	23.37%
4	RL-W439	4.75E+04	7.90E-01	7.27%	30.64%
5	IN-BN-510	3.93E+04	4.11E-01	6.01%	36.66%
6	W027-221F-HET	3.86E+04	2.63E+00	5.91%	42.57%
7	T001-221F-HET	2.85E+04	2.63E+00	4.36%	46.93%
8	T001-772F-HET	2.55E+04	2.63E+00	3.91%	50.84%
9	RL-W513	1.89E+04	4.47E-01	2.89%	53.73%
10	W027-221H-HET	1.69E+04	2.64E+00	2.59%	56.32%
11	LA-TA-55-48	1.67E+04	1.12E+02	2.56%	58.88%
12	RL-T107	1.61E+04	5.45E-01	2.47%	61.35%
13	W027-999-HET	1.57E+04	2.63E+00	2.41%	63.76%
14	W027-773A-HET	1.38E+04	2.63E+00	2.11%	65.87%
15	W026-221F-HET	9.99E+03	2.65E+00	1.53%	67.40%
16	W027-772F-HET	9.23E+03	2.63E+00	1.41%	68.81%
17	WP-RF003.01	8.73E+03	7.83E+00	1.34%	70.15%
18	WP-RF006.01	7.85E+03	7.40E+00	1.20%	71.35%
19	W026-221H-HET	7.44E+03	2.64E+00	1.14%	72.49%
20	IN-W216.98	6.43E+03	1.05E-01	0.98%	73.47%
21	RF-MT420P	6.28E+03	8.13E+00	0.96%	74.44%
22	RF-MT0091	5.86E+03	8.19E+00	0.90%	75.33%
23	LL-T002	5.12E+03	5.13E-01	0.78%	76.12%
24	W027-235F-HET	5.08E+03	2.63E+00	0.78%	76.90%
25	RF-MT532C	5.03E+03	3.02E+00	0.77%	77.67%
26	WP-RF005.01	4.62E+03	7.98E+00	0.71%	78.37%
27	RF-TT0802	4.41E+03	1.61E+01	0.68%	79.05%
28	RL-T137	4.26E+03	5.85E+00	0.65%	79.70%
29	RL-T140	4.12E+03	6.22E+00	0.63%	80.33%
30	RF-MT-0299	4.11E+03	2.75E+01	0.63%	80.96%
31	RF-TT0338	3.66E+03	4.98E+00	0.56%	81.52%
32	RF-TT3011	3.30E+03	3.16E-01	0.51%	82.03%
33	T001-773A-HET	3.30E+03	2.63E+00	0.51%	82.54%
34	T001-235F-HET	2.96E+03	2.63E+00	0.45%	82.99%
35	RF-TT0824	2.88E+03	4.85E-01	0.44%	83.43%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.53E+05	N/A	100.00%	N/A

Table 4.8-6. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	5.05E+04	2.58E+00	7.88%	7.88%
2	WP-RF118.01	4.99E+04	8.16E+00	7.79%	15.66%
3	WP-RF009.01	4.94E+04	7.92E+00	7.71%	23.37%
4	RL-W439	4.66E+04	7.75E-01	7.27%	30.64%
5	IN-BN-510	3.85E+04	4.04E-01	6.01%	36.66%
6	W027-221F-HET	3.79E+04	2.58E+00	5.91%	42.57%
7	T001-221F-HET	2.80E+04	2.58E+00	4.36%	46.93%
8	T001-772F-HET	2.50E+04	2.58E+00	3.91%	50.84%
9	RL-W513	1.85E+04	4.39E-01	2.89%	53.73%
10	W027-221H-HET	1.66E+04	2.59E+00	2.59%	56.32%
11	LA-TA-55-48	1.64E+04	1.10E+02	2.56%	58.88%
12	RL-T107	1.58E+04	5.35E-01	2.47%	61.35%
13	W027-999-HET	1.54E+04	2.58E+00	2.41%	63.76%
14	W027-773A-HET	1.35E+04	2.58E+00	2.11%	65.86%
15	W026-221F-HET	9.80E+03	2.60E+00	1.53%	67.39%
16	W027-772F-HET	9.06E+03	2.58E+00	1.41%	68.81%
17	WP-RF003.01	8.57E+03	7.68E+00	1.34%	70.15%
18	WP-RF006.01	7.71E+03	7.26E+00	1.20%	71.35%
19	W026-221H-HET	7.30E+03	2.59E+00	1.14%	72.49%
20	IN-W216.98	6.31E+03	1.03E-01	0.98%	73.47%
21	RF-MT420P	6.16E+03	7.97E+00	0.96%	74.43%
22	RF-MT0091	5.75E+03	8.04E+00	0.90%	75.33%
23	LL-T002	5.03E+03	5.03E-01	0.78%	76.12%
24	W027-235F-HET	4.99E+03	2.59E+00	0.78%	76.89%
25	RF-MT532C	4.94E+03	2.96E+00	0.77%	77.67%
26	WP-RF005.01	4.53E+03	7.83E+00	0.71%	78.37%
27	RF-TT0802	4.33E+03	1.58E+01	0.68%	79.05%
28	RL-T137	4.18E+03	5.74E+00	0.65%	79.70%
29	RL-T140	4.05E+03	6.10E+00	0.63%	80.33%
30	RF-MT-0299	4.03E+03	2.70E+01	0.63%	80.96%
31	RF-TT0338	3.59E+03	4.88E+00	0.56%	81.52%
32	RF-TT3011	3.24E+03	3.10E-01	0.51%	82.03%
33	T001-773A-HET	3.24E+03	2.58E+00	0.51%	82.53%
34	T001-235F-HET	2.90E+03	2.58E+00	0.45%	82.99%
35	RF-TT0824	2.83E+03	4.76E-01	0.44%	83.43%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.41E+05	N/A	100.00%	N/A

Table 4.8-7. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 3000
(Calendar Year = 5033)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	4.77E+04	2.44E+00	7.88%	7.88%
2	WP-RF118.01	4.71E+04	7.70E+00	7.79%	15.66%
3	WP-RF009.01	4.66E+04	7.47E+00	7.71%	23.37%
4	RL-W439	4.40E+04	7.32E-01	7.27%	30.65%
5	IN-BN-510	3.64E+04	3.81E-01	6.01%	36.66%
6	W027-221F-HET	3.57E+04	2.44E+00	5.91%	42.57%
7	T001-221F-HET	2.64E+04	2.44E+00	4.36%	46.93%
8	T001-772F-HET	2.36E+04	2.44E+00	3.91%	50.84%
9	RL-W513	1.75E+04	4.14E-01	2.89%	53.73%
10	W027-221H-HET	1.57E+04	2.44E+00	2.59%	56.32%
11	LA-TA-55-48	1.55E+04	1.04E+02	2.56%	58.88%
12	RL-T107	1.49E+04	5.05E-01	2.47%	61.35%
13	W027-999-HET	1.46E+04	2.44E+00	2.41%	63.76%
14	W027-773A-HET	1.27E+04	2.44E+00	2.11%	65.87%
15	W026-221F-HET	9.26E+03	2.45E+00	1.53%	67.40%
16	W027-772F-HET	8.55E+03	2.44E+00	1.41%	68.81%
17	WP-RF003.01	8.09E+03	7.25E+00	1.34%	70.15%
18	WP-RF006.01	7.28E+03	6.86E+00	1.20%	71.35%
19	W026-221H-HET	6.89E+03	2.44E+00	1.14%	72.49%
20	IN-W216.98	5.96E+03	9.73E-02	0.98%	73.48%
21	RF-MT420P	5.82E+03	7.53E+00	0.96%	74.44%
22	RF-MT0091	5.43E+03	7.59E+00	0.90%	75.34%
23	LL-T002	4.75E+03	4.75E-01	0.78%	76.12%
24	W027-235F-HET	4.71E+03	2.44E+00	0.78%	76.90%
25	RF-MT532C	4.66E+03	2.80E+00	0.77%	77.67%
26	WP-RF005.01	4.28E+03	7.39E+00	0.71%	78.38%
27	RF-TT0802	4.09E+03	1.49E+01	0.68%	79.05%
28	RL-T137	3.95E+03	5.42E+00	0.65%	79.71%
29	RL-T140	3.82E+03	5.76E+00	0.63%	80.34%
30	RF-MT-0299	3.80E+03	2.55E+01	0.63%	80.97%
31	RF-TT0338	3.39E+03	4.61E+00	0.56%	81.53%
32	RF-TT3011	3.06E+03	2.93E-01	0.51%	82.03%
33	T001-773A-HET	3.06E+03	2.44E+00	0.51%	82.54%
34	T001-235F-HET	2.74E+03	2.44E+00	0.45%	82.99%
35	RF-TT0824	2.67E+03	4.49E-01	0.44%	83.43%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.05E+05	N/A	100.00%	N/A

Table 4.8-8. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	4.50E+04	2.30E+00	7.88%	7.88%
2	WP-RF118.01	4.45E+04	7.27E+00	7.78%	15.66%
3	WP-RF009.01	4.40E+04	7.06E+00	7.71%	23.37%
4	RL-W439	4.15E+04	6.91E-01	7.27%	30.64%
5	IN-BN-510	3.43E+04	3.60E-01	6.01%	36.65%
6	W027-221F-HET	3.37E+04	2.30E+00	5.91%	42.56%
7	T001-221F-HET	2.49E+04	2.30E+00	4.36%	46.92%
8	T001-772F-HET	2.23E+04	2.30E+00	3.91%	50.83%
9	RL-W513	1.65E+04	3.91E-01	2.89%	53.72%
10	W027-221H-HET	1.48E+04	2.31E+00	2.59%	56.31%
11	LA-TA-55-48	1.46E+04	9.81E+01	2.56%	58.87%
12	RL-T107	1.41E+04	4.77E-01	2.47%	61.34%
13	W027-999-HET	1.38E+04	2.30E+00	2.41%	63.75%
14	W027-773A-HET	1.20E+04	2.30E+00	2.10%	65.86%
15	W026-221F-HET	8.74E+03	2.31E+00	1.53%	67.39%
16	W027-772F-HET	8.07E+03	2.30E+00	1.41%	68.80%
17	WP-RF003.01	7.64E+03	6.85E+00	1.34%	70.14%
18	WP-RF006.01	6.87E+03	6.47E+00	1.20%	71.34%
19	W026-221H-HET	6.51E+03	2.30E+00	1.14%	72.48%
20	IN-W216.98	5.62E+03	9.19E-02	0.98%	73.46%
21	RF-MT420P	5.49E+03	7.11E+00	0.96%	74.42%
22	RF-MT0091	5.12E+03	7.16E+00	0.90%	75.32%
23	LL-T002	4.48E+03	4.49E-01	0.78%	76.11%
24	W027-235F-HET	4.45E+03	2.30E+00	0.78%	76.88%
25	RF-MT532C	4.40E+03	2.64E+00	0.77%	77.66%
26	WP-RF005.01	4.04E+03	6.98E+00	0.71%	78.36%
27	RF-TT0802	3.86E+03	1.41E+01	0.68%	79.04%
28	RL-T137	3.73E+03	5.12E+00	0.65%	79.69%
29	RL-T140	3.61E+03	5.44E+00	0.63%	80.32%
30	RF-MT-0299	3.59E+03	2.41E+01	0.63%	80.95%
31	RF-TT0338	3.20E+03	4.35E+00	0.56%	81.51%
32	RF-TT3011	2.89E+03	2.76E-01	0.51%	82.02%
33	T001-773A-HET	2.89E+03	2.30E+00	0.51%	82.52%
34	T001-235F-HET	2.59E+03	2.30E+00	0.45%	82.98%
35	RF-TT0824	2.52E+03	4.24E-01	0.44%	83.42%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.71E+05	N/A	100.00%	N/A

Table 4.8-9. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	4.19E+04	2.14E+00	7.88%	7.88%
2	WP-RF118.01	4.14E+04	6.77E+00	7.79%	15.66%
3	WP-RF009.01	4.10E+04	6.57E+00	7.71%	23.37%
4	RL-W439	3.86E+04	6.43E-01	7.27%	30.65%
5	IN-BN-510	3.20E+04	3.35E-01	6.01%	36.66%
6	W027-221F-HET	3.14E+04	2.14E+00	5.91%	42.57%
7	T001-221F-HET	2.32E+04	2.14E+00	4.36%	46.93%
8	T001-772F-HET	2.08E+04	2.14E+00	3.91%	50.84%
9	RL-W513	1.54E+04	3.64E-01	2.89%	53.73%
10	W027-221H-HET	1.38E+04	2.15E+00	2.59%	56.32%
11	LA-TA-55-48	1.36E+04	9.13E+01	2.56%	58.88%
12	RL-T107	1.31E+04	4.44E-01	2.47%	61.35%
13	W027-999-HET	1.28E+04	2.14E+00	2.41%	63.76%
14	W027-773A-HET	1.12E+04	2.14E+00	2.11%	65.86%
15	W026-221F-HET	8.13E+03	2.15E+00	1.53%	67.39%
16	W027-772F-HET	7.51E+03	2.14E+00	1.41%	68.81%
17	WP-RF003.01	7.11E+03	6.37E+00	1.34%	70.14%
18	WP-RF006.01	6.39E+03	6.02E+00	1.20%	71.35%
19	W026-221H-HET	6.05E+03	2.14E+00	1.14%	72.49%
20	IN-W216.98	5.23E+03	8.55E-02	0.98%	73.47%
21	RF-MT420P	5.11E+03	6.61E+00	0.96%	74.43%
22	RF-MT0091	4.77E+03	6.67E+00	0.90%	75.33%
23	LL-T002	4.17E+03	4.17E-01	0.78%	76.11%
24	W027-235F-HET	4.14E+03	2.14E+00	0.78%	76.89%
25	RF-MT532C	4.10E+03	2.46E+00	0.77%	77.66%
26	WP-RF005.01	3.76E+03	6.49E+00	0.71%	78.37%
27	RF-TT0802	3.59E+03	1.31E+01	0.68%	79.05%
28	RL-T137	3.47E+03	4.76E+00	0.65%	79.70%
29	RL-T140	3.36E+03	5.06E+00	0.63%	80.33%
30	RF-MT-0299	3.34E+03	2.24E+01	0.63%	80.96%
31	RF-TT0338	2.98E+03	4.05E+00	0.56%	81.52%
32	RF-TT3011	2.69E+03	2.57E-01	0.51%	82.03%
33	T001-773A-HET	2.69E+03	2.14E+00	0.51%	82.53%
34	T001-235F-HET	2.41E+03	2.14E+00	0.45%	82.99%
35	RF-TT0824	2.34E+03	3.94E-01	0.44%	83.43%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.31E+05	N/A	100.00%	N/A

Table 4.8-10. WIPP CH-TRU Waste Streams by Curies (^{239}Pu); Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	Curies (^{239}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	3.90E+04	1.99E+00	7.88%	7.88%
2	WP-RF118.01	3.85E+04	6.29E+00	7.79%	15.66%
3	WP-RF009.01	3.81E+04	6.11E+00	7.71%	23.37%
4	RL-W439	3.60E+04	5.98E-01	7.27%	30.64%
5	IN-BN-510	2.97E+04	3.12E-01	6.01%	36.66%
6	W027-221F-HET	2.92E+04	1.99E+00	5.91%	42.56%
7	T001-221F-HET	2.16E+04	1.99E+00	4.36%	46.93%
8	T001-772F-HET	1.93E+04	1.99E+00	3.91%	50.84%
9	RL-W513	1.43E+04	3.39E-01	2.89%	53.73%
10	W027-221H-HET	1.28E+04	2.00E+00	2.59%	56.32%
11	LA-TA-55-48	1.27E+04	8.50E+01	2.56%	58.88%
12	RL-T107	1.22E+04	4.13E-01	2.47%	61.35%
13	W027-999-HET	1.19E+04	1.99E+00	2.41%	63.76%
14	W027-773A-HET	1.04E+04	1.99E+00	2.11%	65.86%
15	W026-221F-HET	7.57E+03	2.00E+00	1.53%	67.39%
16	W027-772F-HET	6.99E+03	1.99E+00	1.41%	68.81%
17	WP-RF003.01	6.61E+03	5.93E+00	1.34%	70.14%
18	WP-RF006.01	5.95E+03	5.60E+00	1.20%	71.35%
19	W026-221H-HET	5.63E+03	2.00E+00	1.14%	72.48%
20	IN-W216.98	4.87E+03	7.96E-02	0.98%	73.47%
21	RF-MT420P	4.76E+03	6.15E+00	0.96%	74.43%
22	RF-MT0091	4.43E+03	6.20E+00	0.90%	75.33%
23	LL-T002	3.88E+03	3.88E-01	0.78%	76.11%
24	W027-235F-HET	3.85E+03	2.00E+00	0.78%	76.89%
25	RF-MT532C	3.81E+03	2.29E+00	0.77%	77.66%
26	WP-RF005.01	3.50E+03	6.04E+00	0.71%	78.37%
27	RF-TT0802	3.34E+03	1.22E+01	0.68%	79.05%
28	RL-T137	3.23E+03	4.43E+00	0.65%	79.70%
29	RL-T140	3.12E+03	4.71E+00	0.63%	80.33%
30	RF-MT-0299	3.11E+03	2.08E+01	0.63%	80.96%
31	RF-TT0338	2.77E+03	3.77E+00	0.56%	81.52%
32	RF-TT3011	2.50E+03	2.39E-01	0.51%	82.02%
33	T001-773A-HET	2.50E+03	1.99E+00	0.51%	82.53%
34	T001-235F-HET	2.24E+03	1.99E+00	0.45%	82.98%
35	RF-TT0824	2.18E+03	3.67E-01	0.44%	83.42%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	RL-W730	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.95E+05	N/A	100.00%	N/A

4.9 CURIES ^{240}PU

^{240}Pu, a radioactive isotope of plutonium with a half-life of 6,564 years, is one of the four key radionuclides that together contribute more than 99% of all radioactivity in the repository (with regards to the waste unit factor). ^{240}Pu, which is found in waste streams both directly and as a result of the decay of ^{244}Cm (see Section 4.6), diminishes little over 10,000 years (calendar year 12033) after closure (see Table 4.9-10).

The ^{240}Pu curie values in Table 4.9-1 through Table 4.9-10 were sorted to illustrate the primary waste stream contributors to ^{240}Pu activity over the entire population of waste. Each table identifies the 35 waste streams that offer the greatest contribution during each of the ten time intervals output by the code EPAUNI. All 693 waste streams and their total ^{240}Pu curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

About 80% of all ^{240}Pu activity is derived from 35 (of 693) waste streams at the time of closure (see Table 4.9-1). Although the parent nuclide ^{244}Cm decays to ^{240}Pu, waste stream contributions to ^{240}Pu curies remain relatively constant through time interval 10,000 years (see Table 4.9-10). This is largely due to ^{244}Cm being a minor contributor to the amount of ^{240}Pu (see Section 4.6).

Table 4.9-1. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	1.15E+04	1.87E+00	10.74%	10.74%
2	WP-RF009.01	1.14E+04	1.82E+00	10.65%	21.39%
3	RL-W439	1.07E+04	1.77E-01	9.99%	31.38%
4	RL-W513	9.49E+03	2.25E-01	8.89%	40.27%
5	LA-TA-55-48	6.32E+03	4.24E+01	5.92%	46.19%
6	RL-T107	3.63E+03	1.23E-01	3.40%	49.59%
7	IN-BN-510	3.36E+03	3.52E-02	3.15%	52.74%
8	LL-T002	2.13E+03	2.14E-01	2.00%	54.74%
9	OR-W201	2.13E+03	3.67E+00	2.00%	56.74%
10	WP-RF003.01	2.01E+03	1.80E+00	1.89%	58.63%
11	WP-RF006.01	1.81E+03	1.71E+00	1.70%	60.33%
12	IN-W216.98	1.48E+03	2.41E-02	1.38%	61.71%
13	RF-MT420P	1.45E+03	1.87E+00	1.35%	63.06%
14	RF-MT0091	1.35E+03	1.88E+00	1.26%	64.32%
15	T001-221H-HET	1.29E+03	6.58E-02	1.21%	65.53%
16	RF-MT532C	1.16E+03	6.93E-01	1.08%	66.61%
17	WP-RF005.01	1.06E+03	1.82E+00	0.99%	67.60%
18	RL-T140	1.03E+03	1.55E+00	0.96%	68.56%
19	RF-TT0802	1.02E+03	3.71E+00	0.95%	69.52%
20	W027-221F-HET	9.61E+02	6.55E-02	0.90%	70.42%
21	RL-T137	9.57E+02	1.31E+00	0.90%	71.31%
22	RF-MT-0299	9.47E+02	6.35E+00	0.89%	72.20%
23	RF-TT0338	8.29E+02	1.13E+00	0.78%	72.98%
24	RF-TT3011	7.62E+02	7.29E-02	0.71%	73.69%
25	T001-221F-HET	7.12E+02	6.57E-02	0.67%	74.36%
26	RF-TT0824	6.63E+02	1.12E-01	0.62%	74.98%
27	IN-W309.609	6.42E+02	1.73E-02	0.60%	75.58%
28	T001-772F-HET	6.37E+02	6.57E-02	0.60%	76.18%
29	RF-TT392P	6.27E+02	2.00E+00	0.59%	76.77%
30	RL-T132	6.27E+02	4.55E+00	0.59%	77.35%
31	WP-RF005.02	6.27E+02	1.67E+00	0.59%	77.94%
32	RF-TT398R	6.24E+02	1.86E+00	0.58%	78.53%
33	RF-MT532B	5.78E+02	6.95E-01	0.54%	79.07%
34	WP-INW211.001	5.66E+02	4.12E-01	0.53%	79.60%
35	OR-W202	5.42E+02	1.92E-01	0.51%	80.11%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.07E+05	N/A	100.00%	N/A

Table 4.9-2. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	1.13E+04	1.85E+00	10.74%	10.74%
2	WP-RF009.01	1.12E+04	1.80E+00	10.64%	21.38%
3	RL-W439	1.06E+04	1.76E-01	9.99%	31.37%
4	RL-W513	9.39E+03	2.22E-01	8.89%	40.26%
5	LA-TA-55-48	6.25E+03	4.20E+01	5.92%	46.18%
6	RL-T107	3.59E+03	1.21E-01	3.40%	49.58%
7	IN-BN-510	3.32E+03	3.48E-02	3.15%	52.73%
8	OR-W201	2.11E+03	3.63E+00	2.00%	54.73%
9	LL-T002	2.11E+03	2.11E-01	2.00%	56.73%
10	WP-RF003.01	1.99E+03	1.79E+00	1.89%	58.61%
11	WP-RF006.01	1.80E+03	1.69E+00	1.70%	60.31%
12	IN-W216.98	1.46E+03	2.38E-02	1.38%	61.69%
13	RF-MT420P	1.43E+03	1.85E+00	1.35%	63.05%
14	RF-MT0091	1.33E+03	1.86E+00	1.26%	64.31%
15	T001-221H-HET	1.27E+03	6.51E-02	1.20%	65.51%
16	RF-MT532C	1.14E+03	6.86E-01	1.08%	66.60%
17	WP-RF005.01	1.05E+03	1.80E+00	0.99%	67.59%
18	RL-T140	1.02E+03	1.53E+00	0.96%	68.55%
19	RF-TT0802	1.01E+03	3.67E+00	0.95%	69.50%
20	W027-221F-HET	9.51E+02	6.49E-02	0.90%	70.40%
21	RL-T137	9.47E+02	1.30E+00	0.90%	71.30%
22	RF-MT-0299	9.37E+02	6.28E+00	0.89%	72.18%
23	RF-TT0338	8.20E+02	1.12E+00	0.78%	72.96%
24	RF-TT3011	7.54E+02	7.21E-02	0.71%	73.68%
25	T001-221F-HET	7.04E+02	6.50E-02	0.67%	74.34%
26	RF-TT0824	6.56E+02	1.10E-01	0.62%	74.96%
27	IN-W309.609	6.35E+02	1.71E-02	0.60%	75.57%
28	T001-772F-HET	6.30E+02	6.50E-02	0.60%	76.16%
29	RF-TT392P	6.20E+02	1.98E+00	0.59%	76.75%
30	RL-T132	6.20E+02	4.50E+00	0.59%	77.34%
31	WP-RF005.02	6.20E+02	1.65E+00	0.59%	77.92%
32	RF-TT398R	6.17E+02	1.84E+00	0.58%	78.51%
33	RF-MT532B	5.72E+02	6.88E-01	0.54%	79.05%
34	WP-INW211.001	5.60E+02	4.07E-01	0.53%	79.58%
35	OR-W202	5.39E+02	1.91E-01	0.51%	80.09%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.06E+05	N/A	100.00%	N/A

Table 4.9-3. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	1.13E+04	1.85E+00	10.74%	10.74%
2	WP-RF009.01	1.12E+04	1.80E+00	10.65%	21.39%
3	RL-W439	1.05E+04	1.75E-01	9.99%	31.38%
4	RL-W513	9.36E+03	2.22E-01	8.89%	40.27%
5	LA-TA-55-48	6.24E+03	4.18E+01	5.92%	46.19%
6	RL-T107	3.58E+03	1.21E-01	3.40%	49.59%
7	IN-BN-510	3.31E+03	3.47E-02	3.15%	52.74%
8	LL-T002	2.11E+03	2.11E-01	2.00%	54.74%
9	OR-W201	2.11E+03	3.62E+00	2.00%	56.74%
10	WP-RF003.01	1.99E+03	1.78E+00	1.89%	58.62%
11	WP-RF006.01	1.79E+03	1.69E+00	1.70%	60.32%
12	IN-W216.98	1.46E+03	2.38E-02	1.38%	61.70%
13	RF-MT420P	1.43E+03	1.84E+00	1.35%	63.06%
14	RF-MT0091	1.33E+03	1.86E+00	1.26%	64.32%
15	T001-221H-HET	1.27E+03	6.49E-02	1.21%	65.53%
16	RF-MT532C	1.14E+03	6.84E-01	1.08%	66.61%
17	WP-RF005.01	1.04E+03	1.80E+00	0.99%	67.60%
18	RL-T140	1.01E+03	1.53E+00	0.96%	68.56%
19	RF-TT0802	1.00E+03	3.66E+00	0.95%	69.51%
20	W027-221F-HET	9.48E+02	6.47E-02	0.90%	70.41%
21	RL-T137	9.44E+02	1.30E+00	0.90%	71.31%
22	RF-MT-0299	9.34E+02	6.26E+00	0.89%	72.20%
23	RF-TT0338	8.18E+02	1.11E+00	0.78%	72.98%
24	RF-TT3011	7.52E+02	7.19E-02	0.71%	73.69%
25	T001-221F-HET	7.02E+02	6.49E-02	0.67%	74.36%
26	RF-TT0824	6.54E+02	1.10E-01	0.62%	74.98%
27	IN-W309.609	6.33E+02	1.71E-02	0.60%	75.58%
28	T001-772F-HET	6.29E+02	6.48E-02	0.60%	76.18%
29	RF-TT392P	6.19E+02	1.97E+00	0.59%	76.76%
30	RL-T132	6.19E+02	4.49E+00	0.59%	77.35%
31	WP-RF005.02	6.19E+02	1.64E+00	0.59%	77.94%
32	RF-TT398R	6.16E+02	1.84E+00	0.58%	78.52%
33	RF-MT532B	5.70E+02	6.86E-01	0.54%	79.06%
34	WP-INW211.001	5.59E+02	4.06E-01	0.53%	79.60%
35	OR-W202	5.37E+02	1.91E-01	0.51%	80.11%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.05E+05	N/A	100.00%	N/A

Table 4.9-4. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	1.13E+04	1.84E+00	10.74%	10.74%
2	WP-RF009.01	1.12E+04	1.79E+00	10.65%	21.39%
3	RL-W439	1.05E+04	1.74E-01	10.00%	31.39%
4	RL-W513	9.31E+03	2.21E-01	8.89%	40.29%
5	LA-TA-55-48	6.20E+03	4.16E+01	5.92%	46.21%
6	RL-T107	3.56E+03	1.20E-01	3.40%	49.61%
7	IN-BN-510	3.30E+03	3.45E-02	3.15%	52.76%
8	LL-T002	2.09E+03	2.10E-01	2.00%	54.76%
9	OR-W201	2.09E+03	3.60E+00	2.00%	56.76%
10	WP-RF003.01	1.98E+03	1.77E+00	1.89%	58.65%
11	WP-RF006.01	1.78E+03	1.68E+00	1.70%	60.35%
12	IN-W216.98	1.45E+03	2.37E-02	1.38%	61.73%
13	RF-MT420P	1.42E+03	1.84E+00	1.36%	63.09%
14	RF-MT0091	1.32E+03	1.85E+00	1.26%	64.35%
15	T001-221H-HET	1.26E+03	6.46E-02	1.21%	65.56%
16	RF-MT532C	1.14E+03	6.81E-01	1.08%	66.64%
17	WP-RF005.01	1.04E+03	1.79E+00	0.99%	67.63%
18	RL-T140	1.01E+03	1.52E+00	0.96%	68.59%
19	RF-TT0802	9.98E+02	3.64E+00	0.95%	69.55%
20	W027-221F-HET	9.43E+02	6.43E-02	0.90%	70.45%
21	RL-T137	9.39E+02	1.29E+00	0.90%	71.34%
22	RF-MT-0299	9.29E+02	6.23E+00	0.89%	72.23%
23	RF-TT0338	8.14E+02	1.11E+00	0.78%	73.01%
24	RF-TT3011	7.48E+02	7.16E-02	0.71%	73.72%
25	T001-221F-HET	6.99E+02	6.45E-02	0.67%	74.39%
26	RF-TT0824	6.51E+02	1.10E-01	0.62%	75.01%
27	IN-W309.609	6.30E+02	1.70E-02	0.60%	75.61%
28	T001-772F-HET	6.25E+02	6.45E-02	0.60%	76.21%
29	RF-TT392P	6.15E+02	1.96E+00	0.59%	76.80%
30	RL-T132	6.15E+02	4.46E+00	0.59%	77.39%
31	WP-RF005.02	6.15E+02	1.64E+00	0.59%	77.97%
32	RF-TT398R	6.12E+02	1.83E+00	0.58%	78.56%
33	RF-MT532B	5.67E+02	6.82E-01	0.54%	79.10%
34	WP-INW211.001	5.56E+02	4.04E-01	0.53%	79.63%
35	OR-W202	5.34E+02	1.90E-01	0.51%	80.14%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.05E+05	N/A	100.00%	N/A

Table 4.9-5. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	1.10E+04	1.80E+00	10.74%	10.74%
2	WP-RF009.01	1.10E+04	1.75E+00	10.65%	21.39%
3	RL-W439	1.03E+04	1.71E-01	10.00%	31.39%
4	RL-W513	9.14E+03	2.16E-01	8.89%	40.28%
5	LA-TA-55-48	6.09E+03	4.09E+01	5.92%	46.21%
6	RL-T107	3.50E+03	1.18E-01	3.40%	49.61%
7	IN-BN-510	3.24E+03	3.39E-02	3.15%	52.75%
8	LL-T002	2.06E+03	2.06E-01	2.00%	54.75%
9	OR-W201	2.06E+03	3.54E+00	2.00%	56.75%
10	WP-RF003.01	1.94E+03	1.74E+00	1.89%	58.64%
11	WP-RF006.01	1.75E+03	1.65E+00	1.70%	60.34%
12	IN-W216.98	1.42E+03	2.32E-02	1.38%	61.72%
13	RF-MT420P	1.39E+03	1.80E+00	1.35%	63.08%
14	RF-MT0091	1.30E+03	1.81E+00	1.26%	64.34%
15	T001-221H-HET	1.24E+03	6.34E-02	1.21%	65.54%
16	RF-MT532C	1.11E+03	6.68E-01	1.08%	66.63%
17	WP-RF005.01	1.02E+03	1.76E+00	0.99%	67.62%
18	RL-T140	9.89E+02	1.49E+00	0.96%	68.58%
19	RF-TT0802	9.80E+02	3.57E+00	0.95%	69.53%
20	W027-221F-HET	9.26E+02	6.32E-02	0.90%	70.43%
21	RL-T137	9.22E+02	1.27E+00	0.90%	71.33%
22	RF-MT-0299	9.12E+02	6.12E+00	0.89%	72.22%
23	RF-TT0338	7.99E+02	1.09E+00	0.78%	72.99%
24	RF-TT3011	7.35E+02	7.02E-02	0.71%	73.71%
25	T001-221F-HET	6.86E+02	6.33E-02	0.67%	74.38%
26	RF-TT0824	6.39E+02	1.08E-01	0.62%	75.00%
27	IN-W309.609	6.18E+02	1.67E-02	0.60%	75.60%
28	T001-772F-HET	6.14E+02	6.33E-02	0.60%	76.19%
29	RF-TT392P	6.04E+02	1.93E+00	0.59%	76.78%
30	RL-T132	6.04E+02	4.38E+00	0.59%	77.37%
31	WP-RF005.02	6.04E+02	1.61E+00	0.59%	77.96%
32	RF-TT398R	6.01E+02	1.79E+00	0.58%	78.54%
33	RF-MT532B	5.57E+02	6.70E-01	0.54%	79.08%
34	WP-INW211.001	5.46E+02	3.97E-01	0.53%	79.61%
35	OR-W202	5.25E+02	1.86E-01	0.51%	80.13%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.03E+05	N/A	100.00%	N/A

Table 4.9-6. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	1.03E+04	1.69E+00	10.75%	10.75%
2	WP-RF009.01	1.02E+04	1.64E+00	10.65%	21.40%
3	RL-W439	9.59E+03	1.60E-01	10.00%	31.39%
4	RL-W513	8.53E+03	2.02E-01	8.89%	40.29%
5	LA-TA-55-48	5.68E+03	3.81E+01	5.92%	46.21%
6	RL-T107	3.26E+03	1.10E-01	3.40%	49.61%
7	IN-BN-510	3.02E+03	3.16E-02	3.15%	52.76%
8	OR-W201	1.92E+03	3.30E+00	2.00%	54.76%
9	LL-T002	1.92E+03	1.92E-01	2.00%	56.76%
10	WP-RF003.01	1.81E+03	1.62E+00	1.89%	58.64%
11	WP-RF006.01	1.63E+03	1.54E+00	1.70%	60.34%
12	IN-W216.98	1.33E+03	2.17E-02	1.38%	61.73%
13	RF-MT420P	1.30E+03	1.68E+00	1.35%	63.08%
14	RF-MT0091	1.21E+03	1.69E+00	1.26%	64.34%
15	T001-221H-HET	1.16E+03	5.92E-02	1.20%	65.55%
16	RF-MT532C	1.04E+03	6.24E-01	1.08%	66.63%
17	WP-RF005.01	9.50E+02	1.64E+00	0.99%	67.62%
18	RL-T140	9.23E+02	1.39E+00	0.96%	68.58%
19	RF-TT0802	9.14E+02	3.34E+00	0.95%	69.54%
20	W027-221F-HET	8.64E+02	5.90E-02	0.90%	70.44%
21	RL-T137	8.61E+02	1.18E+00	0.90%	71.33%
22	RF-MT-0299	8.52E+02	5.71E+00	0.89%	72.22%
23	RF-TT0338	7.46E+02	1.01E+00	0.78%	73.00%
24	RF-TT3011	6.86E+02	6.56E-02	0.71%	73.71%
25	T001-221F-HET	6.40E+02	5.91E-02	0.67%	74.38%
26	RF-TT0824	5.96E+02	1.00E-01	0.62%	75.00%
27	IN-W309.609	5.77E+02	1.55E-02	0.60%	75.60%
28	T001-772F-HET	5.73E+02	5.91E-02	0.60%	76.20%
29	RF-TT392P	5.64E+02	1.80E+00	0.59%	76.79%
30	RL-T132	5.64E+02	4.09E+00	0.59%	77.38%
31	WP-RF005.02	5.64E+02	1.50E+00	0.59%	77.96%
32	RF-TT398R	5.61E+02	1.67E+00	0.58%	78.55%
33	RF-MT532B	5.20E+02	6.25E-01	0.54%	79.09%
34	WP-INW211.001	5.09E+02	3.70E-01	0.53%	79.62%
35	OR-W202	4.90E+02	1.74E-01	0.51%	80.13%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	9.60E+04	N/A	100.00%	N/A

Table 4.9-7. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); *Time 3000*
(Calendar Year = 5033)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	8.34E+03	1.36E+00	10.74%	10.74%
2	WP-RF009.01	8.27E+03	1.32E+00	10.65%	21.39%
3	RL-W439	7.76E+03	1.29E-01	9.99%	31.39%
4	RL-W513	6.90E+03	1.63E-01	8.89%	40.28%
5	LA-TA-55-48	4.60E+03	3.09E+01	5.92%	46.20%
6	RL-T107	2.64E+03	8.93E-02	3.40%	49.60%
7	IN-BN-510	2.44E+03	2.56E-02	3.15%	52.75%
8	LL-T002	1.55E+03	1.55E-01	2.00%	54.75%
9	OR-W201	1.55E+03	2.67E+00	2.00%	56.75%
10	WP-RF003.01	1.47E+03	1.31E+00	1.89%	58.64%
11	WP-RF006.01	1.32E+03	1.24E+00	1.70%	60.34%
12	IN-W216.98	1.07E+03	1.75E-02	1.38%	61.72%
13	RF-MT420P	1.05E+03	1.36E+00	1.35%	63.07%
14	RF-MT0091	9.79E+02	1.37E+00	1.26%	64.34%
15	T001-221H-HET	9.35E+02	4.79E-02	1.21%	65.54%
16	RF-MT532C	8.41E+02	5.04E-01	1.08%	66.62%
17	WP-RF005.01	7.69E+02	1.33E+00	0.99%	67.61%
18	RL-T140	7.47E+02	1.13E+00	0.96%	68.58%
19	RF-TT0802	7.40E+02	2.70E+00	0.95%	69.53%
20	W027-221F-HET	6.99E+02	4.77E-02	0.90%	70.43%
21	RL-T137	6.96E+02	9.56E-01	0.90%	71.33%
22	RF-MT-0299	6.89E+02	4.62E+00	0.89%	72.21%
23	RF-TT0338	6.03E+02	8.20E-01	0.78%	72.99%
24	RF-TT3011	5.55E+02	5.30E-02	0.71%	73.71%
25	T001-221F-HET	5.18E+02	4.78E-02	0.67%	74.37%
26	RF-TT0824	4.82E+02	8.12E-02	0.62%	74.99%
27	IN-W309.609	4.67E+02	1.26E-02	0.60%	75.60%
28	T001-772F-HET	4.63E+02	4.78E-02	0.60%	76.19%
29	RF-TT392P	4.56E+02	1.46E+00	0.59%	76.78%
30	RL-T132	4.56E+02	3.31E+00	0.59%	77.37%
31	WP-RF005.02	4.56E+02	1.21E+00	0.59%	77.96%
32	RF-TT398R	4.54E+02	1.35E+00	0.58%	78.54%
33	RF-MT532B	4.21E+02	5.06E-01	0.54%	79.08%
34	WP-INW211.001	4.12E+02	3.00E-01	0.53%	79.61%
35	OR-W202	3.96E+02	1.41E-01	0.51%	80.12%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.76E+04	N/A	100.00%	N/A

Table 4.9-8. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	6.75E+03	1.10E+00	10.74%	10.74%
2	WP-RF009.01	6.69E+03	1.07E+00	10.65%	21.39%
3	RL-W439	6.28E+03	1.04E-01	10.00%	31.39%
4	RL-W513	5.58E+03	1.32E-01	8.89%	40.28%
5	LA-TA-55-48	3.72E+03	2.50E+01	5.92%	46.20%
6	RL-T107	2.14E+03	7.22E-02	3.40%	49.60%
7	IN-BN-510	1.98E+03	2.07E-02	3.15%	52.75%
8	LL-T002	1.26E+03	1.26E-01	2.00%	54.75%
9	OR-W201	1.26E+03	2.16E+00	2.00%	56.75%
10	WP-RF003.01	1.19E+03	1.06E+00	1.89%	58.64%
11	WP-RF006.01	1.07E+03	1.01E+00	1.70%	60.33%
12	IN-W216.98	8.68E+02	1.42E-02	1.38%	61.72%
13	RF-MT420P	8.51E+02	1.10E+00	1.35%	63.07%
14	RF-MT0091	7.92E+02	1.11E+00	1.26%	64.33%
15	T001-221H-HET	7.57E+02	3.87E-02	1.20%	65.54%
16	RF-MT532C	6.80E+02	4.08E-01	1.08%	66.62%
17	WP-RF005.01	6.22E+02	1.07E+00	0.99%	67.61%
18	RL-T140	6.04E+02	9.11E-01	0.96%	68.57%
19	RF-TT0802	5.98E+02	2.18E+00	0.95%	69.53%
20	W027-221F-HET	5.65E+02	3.86E-02	0.90%	70.43%
21	RL-T137	5.63E+02	7.73E-01	0.90%	71.32%
22	RF-MT-0299	5.57E+02	3.73E+00	0.89%	72.21%
23	RF-TT0338	4.88E+02	6.63E-01	0.78%	72.99%
24	RF-TT3011	4.49E+02	4.29E-02	0.71%	73.70%
25	T001-221F-HET	4.19E+02	3.87E-02	0.67%	74.37%
26	RF-TT0824	3.90E+02	6.57E-02	0.62%	74.99%
27	IN-W309.609	3.78E+02	1.02E-02	0.60%	75.59%
28	T001-772F-HET	3.75E+02	3.87E-02	0.60%	76.19%
29	RF-TT392P	3.69E+02	1.18E+00	0.59%	76.78%
30	RL-T132	3.69E+02	2.68E+00	0.59%	77.36%
31	WP-RF005.02	3.69E+02	9.81E-01	0.59%	77.95%
32	RF-TT398R	3.67E+02	1.09E+00	0.58%	78.54%
33	RF-MT532B	3.40E+02	4.09E-01	0.54%	79.08%
34	WP-INW211.001	3.33E+02	2.42E-01	0.53%	79.61%
35	OR-W202	3.20E+02	1.14E-01	0.51%	80.12%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.28E+04	N/A	100.00%	N/A

Table 4.9-9. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	5.18E+03	8.46E-01	10.74%	10.74%
2	WP-RF009.01	5.13E+03	8.22E-01	10.65%	21.39%
3	RL-W439	4.82E+03	8.01E-02	10.00%	31.39%
4	RL-W513	4.28E+03	1.01E-01	8.89%	40.28%
5	LA-TA-55-48	2.85E+03	1.91E+01	5.92%	46.21%
6	RL-T107	1.64E+03	5.54E-02	3.40%	49.61%
7	IN-BN-510	1.52E+03	1.59E-02	3.15%	52.75%
8	OR-W201	9.63E+02	1.66E+00	2.00%	54.75%
9	LL-T002	9.63E+02	9.64E-02	2.00%	56.75%
10	WP-RF003.01	9.09E+02	8.15E-01	1.89%	58.64%
11	WP-RF006.01	8.19E+02	7.72E-01	1.70%	60.34%
12	IN-W216.98	6.66E+02	1.09E-02	1.38%	61.72%
13	RF-MT420P	6.52E+02	8.44E-01	1.35%	63.07%
14	RF-MT0091	6.07E+02	8.50E-01	1.26%	64.34%
15	T001-221H-HET	5.80E+02	2.97E-02	1.20%	65.54%
16	RF-MT532C	5.22E+02	3.13E-01	1.08%	66.62%
17	WP-RF005.01	4.77E+02	8.24E-01	0.99%	67.61%
18	RL-T140	4.64E+02	6.99E-01	0.96%	68.58%
19	RF-TT0802	4.59E+02	1.67E+00	0.95%	69.53%
20	W027-221F-HET	4.34E+02	2.96E-02	0.90%	70.43%
21	RL-T137	4.32E+02	5.93E-01	0.90%	71.33%
22	RF-MT-0299	4.28E+02	2.87E+00	0.89%	72.21%
23	RF-TT0338	3.74E+02	5.09E-01	0.78%	72.99%
24	RF-TT3011	3.44E+02	3.29E-02	0.71%	73.71%
25	T001-221F-HET	3.21E+02	2.97E-02	0.67%	74.37%
26	RF-TT0824	2.99E+02	5.04E-02	0.62%	74.99%
27	IN-W309.609	2.90E+02	7.80E-03	0.60%	75.60%
28	T001-772F-HET	2.88E+02	2.97E-02	0.60%	76.19%
29	RF-TT392P	2.83E+02	9.03E-01	0.59%	76.78%
30	RL-T132	2.83E+02	2.05E+00	0.59%	77.37%
31	WP-RF005.02	2.83E+02	7.52E-01	0.59%	77.96%
32	RF-TT398R	2.82E+02	8.40E-01	0.58%	78.54%
33	RF-MT532B	2.61E+02	3.14E-01	0.54%	79.08%
34	WP-INW211.001	2.56E+02	1.86E-01	0.53%	79.61%
35	OR-W202	2.46E+02	8.73E-02	0.51%	80.12%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.82E+04	N/A	100.00%	N/A

Table 4.9-10. WIPP CH-TRU Waste Streams by Curies (^{240}Pu); Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	Curies (^{240}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	WP-RF118.01	3.97E+03	6.49E-01	10.74%	10.74%
2	WP-RF009.01	3.94E+03	6.31E-01	10.65%	21.39%
3	RL-W439	3.69E+03	6.15E-02	10.00%	31.39%
4	RL-W513	3.29E+03	7.78E-02	8.89%	40.28%
5	LA-TA-55-48	2.19E+03	1.47E+01	5.92%	46.21%
6	RL-T107	1.26E+03	4.25E-02	3.40%	49.60%
7	IN-BN-510	1.16E+03	1.22E-02	3.15%	52.75%
8	OR-W201	7.39E+02	1.27E+00	2.00%	54.75%
9	LL-T002	7.39E+02	7.40E-02	2.00%	56.75%
10	WP-RF003.01	6.97E+02	6.25E-01	1.89%	58.64%
11	WP-RF006.01	6.28E+02	5.92E-01	1.70%	60.34%
12	IN-W216.98	5.11E+02	8.35E-03	1.38%	61.72%
13	RF-MT420P	5.01E+02	6.47E-01	1.35%	63.08%
14	RF-MT0091	4.66E+02	6.52E-01	1.26%	64.34%
15	T001-221H-HET	4.45E+02	2.28E-02	1.21%	65.54%
16	RF-MT532C	4.00E+02	2.40E-01	1.08%	66.63%
17	WP-RF005.01	3.66E+02	6.32E-01	0.99%	67.62%
18	RL-T140	3.56E+02	5.36E-01	0.96%	68.58%
19	RF-TT0802	3.52E+02	1.28E+00	0.95%	69.53%
20	W027-221F-HET	3.33E+02	2.27E-02	0.90%	70.43%
21	RL-T137	3.31E+02	4.55E-01	0.90%	71.33%
22	RF-MT-0299	3.28E+02	2.20E+00	0.89%	72.22%
23	RF-TT0338	2.87E+02	3.90E-01	0.78%	72.99%
24	RF-TT3011	2.64E+02	2.53E-02	0.71%	73.71%
25	T001-221F-HET	2.47E+02	2.28E-02	0.67%	74.38%
26	RF-TT0824	2.30E+02	3.87E-02	0.62%	75.00%
27	IN-W309.609	2.22E+02	5.99E-03	0.60%	75.60%
28	T001-772F-HET	2.21E+02	2.28E-02	0.60%	76.19%
29	RF-TT392P	2.17E+02	6.93E-01	0.59%	76.78%
30	RL-T132	2.17E+02	1.57E+00	0.59%	77.37%
31	WP-RF005.02	2.17E+02	5.77E-01	0.59%	77.96%
32	RF-TT398R	2.16E+02	6.44E-01	0.58%	78.54%
33	RF-MT532B	2.00E+02	2.41E-01	0.54%	79.08%
34	WP-INW211.001	1.96E+02	1.43E-01	0.53%	79.61%
35	OR-W202	1.89E+02	6.70E-02	0.51%	80.13%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	3.70E+04	N/A	100.00%	N/A

4.10 CURIES ^{241}PU

^{241}Pu, a radioactive isotope of plutonium with a half-life of 14.35 years, is not a key radionuclide. The non-transuranic ^{241}Pu contributes indirectly by beta decaying to ^{241}Am (see Section 4.5). The isotope diminishes over time as it decays until time interval 5,000 years (year 7033), at which time it contributes little activity (Table 4.10-8).

The ^{241}Pu curie values in Table 4.10-1 through Table 4.10-10 were sorted to illustrate the primary waste stream contributors to ^{241}Pu activity over the entire population of waste. Each table identifies the 35 waste streams that offer the greatest contribution during each of the ten time intervals output by the code EPAUNI. All 693 waste streams and their total ^{241}Pu curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

Thirty five waste streams contribute more than 84% of all ^{241}Pu curies in the repository at closure (see Table 4.10-1). Because of the short half-life of ^{241}Pu, the relative contribution of each of the 35 waste streams changes little until time interval 5,000 years, at which time it is no longer present (see Table 4.10-8).

Table 4.10-1. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	7.82E+04	1.85E+00	15.20%	15.20%
2	RL-W575	7.74E+04	5.67E+01	15.03%	30.23%
3	RL-W439	5.68E+04	9.45E-01	11.04%	41.27%
4	WP-RF118.01	3.64E+04	5.96E+00	7.08%	48.35%
5	WP-RF009.01	1.98E+04	3.18E+00	3.85%	52.20%
6	OR-W201	1.88E+04	3.24E+01	3.66%	55.86%
7	RL-T107	1.57E+04	5.31E-01	3.05%	58.91%
8	LL-T002	1.41E+04	1.41E+00	2.74%	61.65%
9	RL-W574	1.23E+04	3.14E+01	2.40%	64.05%
10	LA-TA-55-48	1.16E+04	7.81E+01	2.26%	66.31%
11	T001-221H-HET	7.54E+03	3.86E-01	1.47%	67.78%
12	RL-W753	7.24E+03	1.24E+02	1.41%	69.18%
13	RL-W665	6.77E+03	1.65E+02	1.32%	70.50%
14	RL-W576	5.81E+03	2.94E+01	1.13%	71.63%
15	WP-RF003.01	5.06E+03	4.53E+00	0.98%	72.61%
16	RL-T137	4.99E+03	6.86E+00	0.97%	73.58%
17	RL-W656	4.80E+03	3.20E+02	0.93%	74.51%
18	IN-W216.98	4.52E+03	7.39E-02	0.88%	75.39%
19	RL-T140	4.24E+03	6.40E+00	0.82%	76.22%
20	T001-221F-HET	4.18E+03	3.86E-01	0.81%	77.03%
21	T001-772F-HET	3.73E+03	3.85E-01	0.72%	77.75%
22	RF-MT532C	3.47E+03	2.08E+00	0.67%	78.43%
23	RF-TT0802	3.13E+03	1.14E+01	0.61%	79.04%
24	RF-MT-0299	2.94E+03	1.97E+01	0.57%	79.61%
25	RL-W573	2.83E+03	3.93E+01	0.55%	80.16%
26	RL-T132	2.72E+03	1.97E+01	0.53%	80.69%
27	WP-RF006.01	2.61E+03	2.46E+00	0.51%	81.19%
28	RL-T125	2.42E+03	3.32E+01	0.47%	81.66%
29	W027-221F-HET	2.38E+03	1.62E-01	0.46%	82.13%
30	RF-TT3011	2.36E+03	2.25E-01	0.46%	82.58%
31	RL-W657	2.12E+03	2.98E+01	0.41%	83.00%
32	WP-RF005.01	2.01E+03	3.48E+00	0.39%	83.39%
33	RF-MT0091	2.00E+03	2.80E+00	0.39%	83.78%
34	IN-W309.609	1.97E+03	5.30E-02	0.38%	84.16%
35	RF-TT0824	1.93E+03	3.25E-01	0.37%	84.53%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.15E+05	N/A	100.00%	N/A

Table 4.10-2. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	6.35E+02	1.50E-02	15.20%	15.20%
2	RL-W575	6.28E+02	4.60E-01	15.03%	30.24%
3	RL-W439	4.61E+02	7.67E-03	11.04%	41.27%
4	WP-RF118.01	2.96E+02	4.83E-02	7.08%	48.35%
5	WP-RF009.01	1.61E+02	2.58E-02	3.85%	52.20%
6	OR-W201	1.53E+02	2.63E-01	3.66%	55.87%
7	RL-T107	1.28E+02	4.31E-03	3.05%	58.92%
8	LL-T002	1.14E+02	1.14E-02	2.74%	61.65%
9	RL-W574	1.00E+02	2.55E-01	2.40%	64.05%
10	LA-TA-55-48	9.45E+01	6.34E-01	2.26%	66.31%
11	T001-221H-HET	6.12E+01	3.13E-03	1.47%	67.78%
12	RL-W753	5.88E+01	1.01E+00	1.41%	69.19%
13	RL-W665	5.50E+01	1.34E+00	1.32%	70.50%
14	RL-W576	4.71E+01	2.39E-01	1.13%	71.63%
15	WP-RF003.01	4.11E+01	3.68E-02	0.98%	72.62%
16	RL-T137	4.05E+01	5.57E-02	0.97%	73.59%
17	RL-W656	3.90E+01	2.60E+00	0.93%	74.52%
18	IN-W216.98	3.67E+01	6.00E-04	0.88%	75.40%
19	RL-T140	3.44E+01	5.19E-02	0.82%	76.22%
20	T001-221F-HET	3.39E+01	3.13E-03	0.81%	77.03%
21	T001-772F-HET	3.03E+01	3.12E-03	0.72%	77.76%
22	RF-MT532C	2.82E+01	1.69E-02	0.67%	78.43%
23	RF-TT0802	2.54E+01	9.27E-02	0.61%	79.04%
24	RF-MT-0299	2.38E+01	1.60E-01	0.57%	79.61%
25	RL-W573	2.30E+01	3.19E-01	0.55%	80.16%
26	RL-T132	2.21E+01	1.60E-01	0.53%	80.69%
27	WP-RF006.01	2.12E+01	2.00E-02	0.51%	81.20%
28	RL-T125	1.97E+01	2.70E-01	0.47%	81.67%
29	W027-221F-HET	1.93E+01	1.32E-03	0.46%	82.13%
30	RF-TT3011	1.91E+01	1.83E-03	0.46%	82.59%
31	RL-W657	1.72E+01	2.42E-01	0.41%	83.00%
32	WP-RF005.01	1.64E+01	2.82E-02	0.39%	83.39%
33	RF-MT0091	1.62E+01	2.27E-02	0.39%	83.78%
34	IN-W309.609	1.60E+01	4.30E-04	0.38%	84.17%
35	RF-TT0824	1.56E+01	2.63E-03	0.37%	84.54%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	4.18E+03	N/A	100.00%	N/A

Table 4.10-3. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	1.91E+02	4.51E-03	15.20%	15.20%
2	RL-W575	1.89E+02	1.38E-01	15.03%	30.23%
3	RL-W439	1.38E+02	2.30E-03	11.04%	41.27%
4	WP-RF118.01	8.88E+01	1.45E-02	7.08%	48.35%
5	WP-RF009.01	4.83E+01	7.74E-03	3.85%	52.20%
6	OR-W201	4.59E+01	7.90E-02	3.66%	55.86%
7	RL-T107	3.83E+01	1.29E-03	3.05%	58.91%
8	LL-T002	3.43E+01	3.43E-03	2.74%	61.65%
9	RL-W574	3.01E+01	7.65E-02	2.40%	64.05%
10	LA-TA-55-48	2.84E+01	1.90E-01	2.26%	66.31%
11	T001-221H-HET	1.84E+01	9.41E-04	1.47%	67.77%
12	RL-W753	1.77E+01	3.02E-01	1.41%	69.18%
13	RL-W665	1.65E+01	4.03E-01	1.32%	70.50%
14	RL-W576	1.42E+01	7.17E-02	1.13%	71.62%
15	WP-RF003.01	1.23E+01	1.10E-02	0.98%	72.61%
16	RL-T137	1.22E+01	1.67E-02	0.97%	73.58%
17	RL-W656	1.17E+01	7.81E-01	0.93%	74.51%
18	IN-W216.98	1.10E+01	1.80E-04	0.88%	75.39%
19	RL-T140	1.03E+01	1.56E-02	0.82%	76.21%
20	T001-221F-HET	1.02E+01	9.40E-04	0.81%	77.03%
21	T001-772F-HET	9.09E+00	9.37E-04	0.72%	77.75%
22	RF-MT532C	8.46E+00	5.07E-03	0.67%	78.42%
23	RF-TT0802	7.62E+00	2.78E-02	0.61%	79.03%
24	RF-MT-0299	7.15E+00	4.80E-02	0.57%	79.60%
25	RL-W573	6.89E+00	9.58E-02	0.55%	80.15%
26	RL-T132	6.63E+00	4.81E-02	0.53%	80.68%
27	WP-RF006.01	6.37E+00	6.00E-03	0.51%	81.19%
28	RL-T125	5.90E+00	8.09E-02	0.47%	81.66%
29	W027-221F-HET	5.80E+00	3.95E-04	0.46%	82.12%
30	RF-TT3011	5.74E+00	5.49E-04	0.46%	82.58%
31	RL-W657	5.18E+00	7.25E-02	0.41%	82.99%
32	WP-RF005.01	4.91E+00	8.48E-03	0.39%	83.38%
33	RF-MT0091	4.87E+00	6.82E-03	0.39%	83.77%
34	IN-W309.609	4.79E+00	1.29E-04	0.38%	84.16%
35	RF-TT0824	4.69E+00	7.91E-04	0.37%	84.53%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.25E+03	N/A	100.00%	N/A

Table 4.10-4. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	1.72E+01	4.07E-04	15.19%	15.19%
2	RL-W575	1.70E+01	1.24E-02	15.03%	30.22%
3	RL-W439	1.25E+01	2.07E-04	11.04%	41.26%
4	WP-RF118.01	8.00E+00	1.31E-03	7.08%	48.33%
5	WP-RF009.01	4.35E+00	6.97E-04	3.85%	52.19%
6	OR-W201	4.14E+00	7.11E-03	3.66%	55.85%
7	RL-T107	3.45E+00	1.17E-04	3.05%	58.90%
8	LL-T002	3.09E+00	3.09E-04	2.74%	61.63%
9	RL-W574	2.71E+00	6.89E-03	2.40%	64.03%
10	LA-TA-55-48	2.56E+00	1.71E-02	2.26%	66.29%
11	T001-221H-HET	1.66E+00	8.47E-05	1.47%	67.76%
12	RL-W753	1.59E+00	2.72E-02	1.41%	69.16%
13	RL-W665	1.49E+00	3.63E-02	1.32%	70.48%
14	RL-W576	1.28E+00	6.46E-03	1.13%	71.61%
15	WP-RF003.01	1.11E+00	9.95E-04	0.98%	72.59%
16	RL-T137	1.10E+00	1.50E-03	0.97%	73.56%
17	RL-W656	1.05E+00	7.03E-02	0.93%	74.49%
18	IN-W216.98	9.93E-01	1.62E-05	0.88%	75.37%
19	RL-T140	9.32E-01	1.40E-03	0.82%	76.20%
20	T001-221F-HET	9.17E-01	8.47E-05	0.81%	77.01%
21	T001-772F-HET	8.19E-01	8.44E-05	0.72%	77.73%
22	RF-MT532C	7.62E-01	4.57E-04	0.67%	78.41%
23	RF-TT0802	6.87E-01	2.51E-03	0.61%	79.02%
24	RF-MT-0299	6.45E-01	4.32E-03	0.57%	79.59%
25	RL-W573	6.21E-01	8.63E-03	0.55%	80.14%
26	RL-T132	5.98E-01	4.33E-03	0.53%	80.66%
27	WP-RF006.01	5.74E-01	5.41E-04	0.51%	81.17%
28	RL-T125	5.32E-01	7.29E-03	0.47%	81.64%
29	W027-221F-HET	5.22E-01	3.56E-05	0.46%	82.10%
30	RF-TT3011	5.18E-01	4.95E-05	0.46%	82.56%
31	RL-W657	4.66E-01	6.53E-03	0.41%	82.98%
32	WP-RF005.01	4.42E-01	7.64E-04	0.39%	83.37%
33	RF-MT0091	4.39E-01	6.14E-04	0.39%	83.75%
34	IN-W309.609	4.32E-01	1.16E-05	0.38%	84.14%
35	RF-TT0824	4.23E-01	7.12E-05	0.37%	84.51%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	1.13E+02	N/A	100.00%	N/A

Table 4.10-5. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	3.77E-03	8.93E-08	15.20%	15.20%
2	RL-W575	3.73E-03	2.73E-06	15.04%	30.24%
3	RL-W439	2.74E-03	4.55E-08	11.04%	41.27%
4	WP-RF118.01	1.76E-03	2.87E-07	7.08%	48.35%
5	WP-RF009.01	9.55E-04	1.53E-07	3.85%	52.21%
6	OR-W201	9.08E-04	1.56E-06	3.66%	55.87%
7	RL-T107	7.57E-04	2.56E-08	3.05%	58.92%
8	LL-T002	6.79E-04	6.79E-08	2.74%	61.66%
9	RL-W574	5.95E-04	1.51E-06	2.40%	64.06%
10	LA-TA-55-48	5.61E-04	3.76E-06	2.26%	66.32%
11	T001-221H-HET	3.64E-04	1.86E-08	1.47%	67.78%
12	RL-W753	3.49E-04	5.98E-06	1.41%	69.19%
13	RL-W665	3.26E-04	7.97E-06	1.32%	70.51%
14	RL-W576	2.80E-04	1.42E-06	1.13%	71.64%
15	WP-RF003.01	2.44E-04	2.19E-07	0.98%	72.62%
16	RL-T137	2.41E-04	3.31E-07	0.97%	73.59%
17	RL-W656	2.31E-04	1.54E-05	0.93%	74.52%
18	IN-W216.98	2.18E-04	3.56E-09	0.88%	75.40%
19	RL-T140	2.05E-04	3.08E-07	0.82%	76.23%
20	T001-221F-HET	2.01E-04	1.86E-08	0.81%	77.04%
21	T001-772F-HET	1.80E-04	1.85E-08	0.72%	77.76%
22	RF-MT532C	1.67E-04	1.00E-07	0.67%	78.44%
23	RF-TT0802	1.51E-04	5.50E-07	0.61%	79.05%
24	RF-MT-0299	1.42E-04	9.48E-07	0.57%	79.62%
25	RL-W573	1.36E-04	1.89E-06	0.55%	80.17%
26	RL-T132	1.31E-04	9.52E-07	0.53%	80.69%
27	WP-RF006.01	1.26E-04	1.19E-07	0.51%	81.20%
28	RL-T125	1.17E-04	1.60E-06	0.47%	81.67%
29	W027-221F-HET	1.15E-04	7.82E-09	0.46%	82.14%
30	RF-TT3011	1.14E-04	1.09E-08	0.46%	82.59%
31	RL-W657	1.02E-04	1.43E-06	0.41%	83.01%
32	WP-RF005.01	9.71E-05	1.68E-07	0.39%	83.40%
33	RF-MT0091	9.64E-05	1.35E-07	0.39%	83.79%
34	IN-W309.609	9.48E-05	2.55E-09	0.38%	84.17%
35	RF-TT0824	9.29E-05	1.56E-08	0.37%	84.54%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.48E-02	N/A	100.00%	N/A

Table 4.10-6. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	9.72E-17	2.30E-21	15.20%	15.20%
2	RL-W575	9.61E-17	7.05E-20	15.03%	30.23%
3	RL-W439	7.06E-17	1.17E-21	11.04%	41.27%
4	WP-RF118.01	4.53E-17	7.40E-21	7.08%	48.35%
5	WP-RF009.01	2.46E-17	3.95E-21	3.85%	52.20%
6	OR-W201	2.34E-17	4.03E-20	3.66%	55.86%
7	RL-T107	1.95E-17	6.60E-22	3.05%	58.91%
8	LL-T002	1.75E-17	1.75E-21	2.74%	61.65%
9	RL-W574	1.53E-17	3.90E-20	2.40%	64.05%
10	LA-TA-55-48	1.45E-17	9.71E-20	2.26%	66.31%
11	T001-221H-HET	9.37E-18	4.80E-22	1.47%	67.77%
12	RL-W753	9.00E-18	1.54E-19	1.41%	69.18%
13	RL-W665	8.42E-18	2.05E-19	1.32%	70.50%
14	RL-W576	7.22E-18	3.66E-20	1.13%	71.63%
15	WP-RF003.01	6.29E-18	5.63E-21	0.98%	72.61%
16	RL-T137	6.21E-18	8.52E-21	0.97%	73.58%
17	RL-W656	5.97E-18	3.98E-19	0.93%	74.51%
18	IN-W216.98	5.62E-18	9.18E-23	0.88%	75.39%
19	RL-T140	5.27E-18	7.95E-21	0.82%	76.21%
20	T001-221F-HET	5.19E-18	4.80E-22	0.81%	77.03%
21	T001-772F-HET	4.63E-18	4.78E-22	0.72%	77.75%
22	RF-MT532C	4.31E-18	2.59E-21	0.67%	78.43%
23	RF-TT0802	3.89E-18	1.42E-20	0.61%	79.03%
24	RF-MT-0299	3.65E-18	2.45E-20	0.57%	79.60%
25	RL-W573	3.52E-18	4.89E-20	0.55%	80.15%
26	RL-T132	3.38E-18	2.45E-20	0.53%	80.68%
27	WP-RF006.01	3.25E-18	3.06E-21	0.51%	81.19%
28	RL-T125	3.01E-18	4.13E-20	0.47%	81.66%
29	W027-221F-HET	2.96E-18	2.02E-22	0.46%	82.12%
30	RF-TT3011	2.93E-18	2.80E-22	0.46%	82.58%
31	RL-W657	2.64E-18	3.70E-20	0.41%	82.99%
32	WP-RF005.01	2.50E-18	4.32E-21	0.39%	83.39%
33	RF-MT0091	2.49E-18	3.48E-21	0.39%	83.77%
34	IN-W309.609	2.45E-18	6.58E-23	0.38%	84.16%
35	RF-TT0824	2.39E-18	4.03E-22	0.37%	84.53%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.40E-16	N/A	100.00%	N/A

Table 4.10-7. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 3000
(Calendar Year = 5033)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	1.50E-58	3.55E-63	15.20%	15.20%
2	RL-W575	1.49E-58	1.09E-61	15.04%	30.24%
3	RL-W439	1.09E-58	1.81E-63	11.04%	41.28%
4	WP-RF118.01	6.99E-59	1.14E-62	7.08%	48.36%
5	WP-RF009.01	3.80E-59	6.10E-63	3.85%	52.21%
6	OR-W201	3.62E-59	6.22E-62	3.66%	55.87%
7	RL-T107	3.01E-59	1.02E-63	3.05%	58.92%
8	LL-T002	2.70E-59	2.70E-63	2.74%	61.66%
9	RL-W574	2.37E-59	6.02E-62	2.40%	64.06%
10	LA-TA-55-48	2.23E-59	1.50E-61	2.26%	66.32%
11	T001-221H-HET	1.45E-59	7.41E-64	1.47%	67.78%
12	RL-W753	1.39E-59	2.38E-61	1.41%	69.19%
13	RL-W665	1.30E-59	3.17E-61	1.32%	70.51%
14	RL-W576	1.11E-59	5.65E-62	1.13%	71.64%
15	WP-RF003.01	9.71E-60	8.70E-63	0.98%	72.62%
16	RL-T137	9.58E-60	1.32E-62	0.97%	73.59%
17	RL-W656	9.21E-60	6.15E-61	0.93%	74.52%
18	IN-W216.98	8.68E-60	1.42E-64	0.88%	75.40%
19	RL-T140	8.14E-60	1.23E-62	0.82%	76.22%
20	T001-221F-HET	8.02E-60	7.41E-64	0.81%	77.04%
21	T001-772F-HET	7.16E-60	7.38E-64	0.72%	77.76%
22	RF-MT532C	6.66E-60	3.99E-63	0.67%	78.44%
23	RF-TT0802	6.00E-60	2.19E-62	0.61%	79.04%
24	RF-MT-0299	5.63E-60	3.78E-62	0.57%	79.61%
25	RL-W573	5.43E-60	7.54E-62	0.55%	80.16%
26	RL-T132	5.22E-60	3.79E-62	0.53%	80.69%
27	WP-RF006.01	5.02E-60	4.73E-63	0.51%	81.20%
28	RL-T125	4.65E-60	6.37E-62	0.47%	81.67%
29	W027-221F-HET	4.57E-60	3.11E-64	0.46%	82.13%
30	RF-TT3011	4.52E-60	4.33E-64	0.46%	82.59%
31	RL-W657	4.08E-60	5.71E-62	0.41%	83.00%
32	WP-RF005.01	3.87E-60	6.68E-63	0.39%	83.40%
33	RF-MT0091	3.84E-60	5.37E-63	0.39%	83.78%
34	IN-W309.609	3.78E-60	1.02E-64	0.38%	84.17%
35	RF-TT0824	3.70E-60	6.23E-64	0.37%	84.54%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	9.88E-58	N/A	100.00%	N/A

Table 4.10-8. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	0.00E+00	0.00E+00	0.00	0.00
2	RL-W575	0.00E+00	0.00E+00	0.00	0.00
3	RL-W439	0.00E+00	0.00E+00	0.00	0.00
4	WP-RF118.01	0.00E+00	0.00E+00	0.00	0.00
5	WP-RF009.01	0.00E+00	0.00E+00	0.00	0.00
6	OR-W201	0.00E+00	0.00E+00	0.00	0.00
7	RL-T107	0.00E+00	0.00E+00	0.00	0.00
8	LL-T002	0.00E+00	0.00E+00	0.00	0.00
9	RL-W574	0.00E+00	0.00E+00	0.00	0.00
10	LA-TA-55-48	0.00E+00	0.00E+00	0.00	0.00
11	T001-221H-HET	0.00E+00	0.00E+00	0.00	0.00
12	RL-W753	0.00E+00	0.00E+00	0.00	0.00
13	RL-W665	0.00E+00	0.00E+00	0.00	0.00
14	RL-W576	0.00E+00	0.00E+00	0.00	0.00
15	WP-RF003.01	0.00E+00	0.00E+00	0.00	0.00
16	RL-T137	0.00E+00	0.00E+00	0.00	0.00
17	RL-W656	0.00E+00	0.00E+00	0.00	0.00
18	IN-W216.98	0.00E+00	0.00E+00	0.00	0.00
19	RL-T140	0.00E+00	0.00E+00	0.00	0.00
20	T001-221F-HET	0.00E+00	0.00E+00	0.00	0.00
21	T001-772F-HET	0.00E+00	0.00E+00	0.00	0.00
22	RF-MT532C	0.00E+00	0.00E+00	0.00	0.00
23	RF-TT0802	0.00E+00	0.00E+00	0.00	0.00
24	RF-MT-0299	0.00E+00	0.00E+00	0.00	0.00
25	RL-W573	0.00E+00	0.00E+00	0.00	0.00
26	RL-T132	0.00E+00	0.00E+00	0.00	0.00
27	WP-RF006.01	0.00E+00	0.00E+00	0.00	0.00
28	RL-T125	0.00E+00	0.00E+00	0.00	0.00
29	W027-221F-HET	0.00E+00	0.00E+00	0.00	0.00
30	RF-TT3011	0.00E+00	0.00E+00	0.00	0.00
31	RL-W657	0.00E+00	0.00E+00	0.00	0.00
32	WP-RF005.01	0.00E+00	0.00E+00	0.00	0.00
33	RF-MT0091	0.00E+00	0.00E+00	0.00	0.00
34	IN-W309.609	0.00E+00	0.00E+00	0.00	0.00
35	RF-TT0824	0.00E+00	0.00E+00	0.00	0.00
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	0.00%
	Sum =	0.00E+00	N/A	0.00 %	N/A

Table 4.10-9. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	0.00E+00	0.00E+00	0.00	0.00
2	RL-W575	0.00E+00	0.00E+00	0.00	0.00
3	RL-W439	0.00E+00	0.00E+00	0.00	0.00
4	WP-RF118.01	0.00E+00	0.00E+00	0.00	0.00
5	WP-RF009.01	0.00E+00	0.00E+00	0.00	0.00
6	OR-W201	0.00E+00	0.00E+00	0.00	0.00
7	RL-T107	0.00E+00	0.00E+00	0.00	0.00
8	LL-T002	0.00E+00	0.00E+00	0.00	0.00
9	RL-W574	0.00E+00	0.00E+00	0.00	0.00
10	LA-TA-55-48	0.00E+00	0.00E+00	0.00	0.00
11	T001-221H-HET	0.00E+00	0.00E+00	0.00	0.00
12	RL-W753	0.00E+00	0.00E+00	0.00	0.00
13	RL-W665	0.00E+00	0.00E+00	0.00	0.00
14	RL-W576	0.00E+00	0.00E+00	0.00	0.00
15	WP-RF003.01	0.00E+00	0.00E+00	0.00	0.00
16	RL-T137	0.00E+00	0.00E+00	0.00	0.00
17	RL-W656	0.00E+00	0.00E+00	0.00	0.00
18	IN-W216.98	0.00E+00	0.00E+00	0.00	0.00
19	RL-T140	0.00E+00	0.00E+00	0.00	0.00
20	T001-221F-HET	0.00E+00	0.00E+00	0.00	0.00
21	T001-772F-HET	0.00E+00	0.00E+00	0.00	0.00
22	RF-MT532C	0.00E+00	0.00E+00	0.00	0.00
23	RF-TT0802	0.00E+00	0.00E+00	0.00	0.00
24	RF-MT-0299	0.00E+00	0.00E+00	0.00	0.00
25	RL-W573	0.00E+00	0.00E+00	0.00	0.00
26	RL-T132	0.00E+00	0.00E+00	0.00	0.00
27	WP-RF006.01	0.00E+00	0.00E+00	0.00	0.00
28	RL-T125	0.00E+00	0.00E+00	0.00	0.00
29	W027-221F-HET	0.00E+00	0.00E+00	0.00	0.00
30	RF-TT3011	0.00E+00	0.00E+00	0.00	0.00
31	RL-W657	0.00E+00	0.00E+00	0.00	0.00
32	WP-RF005.01	0.00E+00	0.00E+00	0.00	0.00
33	RF-MT0091	0.00E+00	0.00E+00	0.00	0.00
34	IN-W309.609	0.00E+00	0.00E+00	0.00	0.00
35	RF-TT0824	0.00E+00	0.00E+00	0.00	0.00
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	0.00%
	Sum =	0.00E+00	N/A	0.00 %	N/A

Table 4.10-10. WIPP CH-TRU Waste Streams by Curies (^{241}Pu); Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	Curies (^{241}Pu)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	RL-W513	0.00E+00	0.00E+00	0.00	0.00
2	RL-W575	0.00E+00	0.00E+00	0.00	0.00
3	RL-W439	0.00E+00	0.00E+00	0.00	0.00
4	WP-RF118.01	0.00E+00	0.00E+00	0.00	0.00
5	WP-RF009.01	0.00E+00	0.00E+00	0.00	0.00
6	OR-W201	0.00E+00	0.00E+00	0.00	0.00
7	RL-T107	0.00E+00	0.00E+00	0.00	0.00
8	LL-T002	0.00E+00	0.00E+00	0.00	0.00
9	RL-W574	0.00E+00	0.00E+00	0.00	0.00
10	LA-TA-55-48	0.00E+00	0.00E+00	0.00	0.00
11	T001-221H-HET	0.00E+00	0.00E+00	0.00	0.00
12	RL-W753	0.00E+00	0.00E+00	0.00	0.00
13	RL-W665	0.00E+00	0.00E+00	0.00	0.00
14	RL-W576	0.00E+00	0.00E+00	0.00	0.00
15	WP-RF003.01	0.00E+00	0.00E+00	0.00	0.00
16	RL-T137	0.00E+00	0.00E+00	0.00	0.00
17	RL-W656	0.00E+00	0.00E+00	0.00	0.00
18	IN-W216.98	0.00E+00	0.00E+00	0.00	0.00
19	RL-T140	0.00E+00	0.00E+00	0.00	0.00
20	T001-221F-HET	0.00E+00	0.00E+00	0.00	0.00
21	T001-772F-HET	0.00E+00	0.00E+00	0.00	0.00
22	RF-MT532C	0.00E+00	0.00E+00	0.00	0.00
23	RF-TT0802	0.00E+00	0.00E+00	0.00	0.00
24	RF-MT-0299	0.00E+00	0.00E+00	0.00	0.00
25	RL-W573	0.00E+00	0.00E+00	0.00	0.00
26	RL-T132	0.00E+00	0.00E+00	0.00	0.00
27	WP-RF006.01	0.00E+00	0.00E+00	0.00	0.00
28	RL-T125	0.00E+00	0.00E+00	0.00	0.00
29	W027-221F-HET	0.00E+00	0.00E+00	0.00	0.00
30	RF-TT3011	0.00E+00	0.00E+00	0.00	0.00
31	RL-W657	0.00E+00	0.00E+00	0.00	0.00
32	WP-RF005.01	0.00E+00	0.00E+00	0.00	0.00
33	RF-MT0091	0.00E+00	0.00E+00	0.00	0.00
34	IN-W309.609	0.00E+00	0.00E+00	0.00	0.00
35	RF-TT0824	0.00E+00	0.00E+00	0.00	0.00
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	0.00%
	Sum =	0.00E+00	N/A	0.00 %	N/A

4.11 CURIES ^{234}U

^{234}U, a radioactive isotope of uranium with a half-life of 245,500 years, is one of the four key radionuclides that together contribute more than 99% of all radioactivity in the repository (with regards to the waste unit factor). ^{234}U, which is found in waste streams both directly and as a result of the decay of ^{238}Pu (see Section 4.7), does not diminish over time, remaining dominant 10,000 years (calendar year 12033) after closure (see Table 4.11-10).

The ^{234}U curie values in Table 4.11-1 through Table 4.11-10 were sorted to illustrate the primary waste stream contributors to ^{234}U activity over the entire population of waste. Each table identifies the 35 waste streams that offer the greatest contribution during each of the ten time intervals output by the code EPAUNI. All 693 waste streams and their total ^{234}U curies can be found in the file EPU_CRA1_CH_ACTIVITY.DIA in the CRA library CRA1_EPU.

More than 98% of all ^{234}U curies at the time of closure is from 35 waste streams (see Table 4.11-1). Of the top 10 waste streams that contribute more than 76% of ^{234}U activity at the time of closure, seven (T001-221H-HET, W027-221F-HET, LA-OS-00-01, T001-221F-HET, T001-772F-HET, OR-W201, and W027-221H-HET) continue to contribute more than 62% to ^{234}U curies at time interval 10,000 years (Table 4.11-10).

The generation of ^{234}U from the decay of ^{238}Pu can be observed, for example, from a SRS waste stream, T001-221H-HET, (heterogeneous debris from job control waste, sludges, resins, filters and metal equipment) and a LANL waste stream, LA-OS-00-01 (sealed sources). At the time of closure, these two waste streams contribute 11.14% and 5.32% to ^{234}U activity (Table 4.11-1). After 100 years (year 2133), their contribution to ^{234}U activity increases to 14.11% for waste stream T001-221H-HET and 8.25% for waste stream LA-OS-00-01 (see Table 4.11-2).

Table 4.11-1. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 0
(Calendar Year = 2033)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	OR-W201	4.38E+01	7.54E-02	14.78%	14.78%
2	T001-221H-HET	3.30E+01	1.69E-03	11.14%	25.92%
3	W027-221F-HET	3.27E+01	2.23E-03	11.03%	36.95%
4	RL-T140	2.62E+01	3.95E-02	8.84%	45.79%
5	T001-221F-HET	1.83E+01	1.69E-03	6.17%	51.96%
6	T001-772F-HET	1.64E+01	1.70E-03	5.54%	57.50%
7	LA-OS-00-01	1.58E+01	4.72E-02	5.32%	62.82%
8	W027-221H-HET	1.43E+01	2.23E-03	4.82%	67.64%
9	W027-999-HET	1.33E+01	2.23E-03	4.50%	72.14%
10	RP-W755	1.26E+01	1.07E-03	4.25%	76.39%
11	W027-773A-HET	1.17E+01	2.23E-03	3.93%	80.32%
12	RL-T107	8.66E+00	2.93E-04	2.92%	83.24%
13	W027-772F-HET	7.82E+00	2.23E-03	2.64%	85.88%
14	W026-221F-HET	6.39E+00	1.69E-03	2.15%	88.03%
15	IN-BN-510	6.00E+00	6.29E-05	2.02%	90.05%
16	W026-221H-HET	4.77E+00	1.69E-03	1.61%	91.66%
17	W027-235F-HET	4.31E+00	2.23E-03	1.45%	93.12%
18	T001-773A-HET	2.12E+00	1.69E-03	0.72%	93.83%
19	T001-235F-HET	1.90E+00	1.69E-03	0.64%	94.47%
20	RL-T122	1.46E+00	1.04E-02	0.49%	94.96%
21	RL-T110	1.37E+00	5.75E-04	0.46%	95.42%
22	RL-W513	1.25E+00	2.96E-05	0.42%	95.85%
23	OR-W202	1.12E+00	3.97E-04	0.38%	96.22%
24	RL-T118	8.36E-01	6.64E-04	0.28%	96.50%
25	RL-T112	7.38E-01	1.12E-03	0.25%	96.75%
26	IN-W177.156	6.62E-01	1.72E-04	0.22%	96.98%
27	IN-W179.158	6.60E-01	6.88E-05	0.22%	97.20%
28	LA-TA-55-49	5.07E-01	5.76E-03	0.17%	97.37%
29	RL-T115	4.20E-01	8.52E-05	0.14%	97.51%
30	WP-RF118.01	4.11E-01	6.73E-05	0.14%	97.65%
31	WP-INW218.001-	3.87E-01	1.06E-04	0.13%	97.78%
32	LA-TA-55-48	3.69E-01	2.47E-03	0.12%	97.90%
33	RP-W754	3.54E-01	4.97E-05	0.12%	98.02%
34	W026-773A-HET	3.30E-01	1.69E-03	0.11%	98.13%
35	IN-W174.154	3.12E-01	1.51E-04	0.11%	98.24%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	2.97E+02	N/A	100.00%	N/A

Table 4.11-2. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 100
(Calendar Year = 2133)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	7.64E+01	3.91E-03	14.11%	14.11%
2	W027-221F-HET	6.10E+01	4.16E-03	11.26%	25.37%
3	LA-OS-00-01	4.47E+01	1.34E-01	8.25%	33.62%
4	OR-W201	4.43E+01	7.61E-02	8.17%	41.79%
5	T001-221F-HET	4.24E+01	3.91E-03	7.82%	49.61%
6	T001-772F-HET	3.81E+01	3.92E-03	7.03%	56.64%
7	W027-221H-HET	2.67E+01	4.16E-03	4.92%	61.56%
8	RL-T140	2.63E+01	3.96E-02	4.85%	66.41%
9	W027-999-HET	2.49E+01	4.16E-03	4.59%	71.00%
10	RL-T107	2.35E+01	7.94E-04	4.34%	75.33%
11	W027-773A-HET	2.17E+01	4.16E-03	4.01%	79.35%
12	W026-221F-HET	1.48E+01	3.91E-03	2.73%	82.08%
13	W027-772F-HET	1.46E+01	4.16E-03	2.69%	84.77%
14	IN-BN-510	1.37E+01	1.43E-04	2.52%	87.29%
15	RP-W755	1.26E+01	1.07E-03	2.33%	89.62%
16	W026-221H-HET	1.10E+01	3.91E-03	2.04%	91.65%
17	W027-235F-HET	8.02E+00	4.16E-03	1.48%	93.13%
18	T001-773A-HET	4.91E+00	3.91E-03	0.91%	94.04%
19	T001-235F-HET	4.40E+00	3.91E-03	0.81%	94.85%
20	RL-W513	3.62E+00	8.58E-05	0.67%	95.52%
21	OR-W202	2.38E+00	8.46E-04	0.44%	95.96%
22	IN-W177.156	1.51E+00	3.92E-04	0.28%	96.24%
23	IN-W179.158	1.50E+00	1.57E-04	0.28%	96.52%
24	RL-T122	1.46E+00	1.04E-02	0.27%	96.79%
25	RL-T110	1.38E+00	5.79E-04	0.25%	97.04%
26	LA-TA-55-49	1.02E+00	1.15E-02	0.19%	97.23%
27	RL-W439	8.69E-01	1.45E-05	0.16%	97.39%
28	RL-T118	8.41E-01	6.68E-04	0.16%	97.54%
29	WP-RF118.01	7.84E-01	1.28E-04	0.14%	97.69%
30	W026-773A-HET	7.64E-01	3.91E-03	0.14%	97.83%
31	LA-TA-55-48	7.55E-01	5.07E-03	0.14%	97.97%
32	RL-T112	7.42E-01	1.12E-03	0.14%	98.11%
33	IN-W174.154	7.11E-01	3.43E-04	0.13%	98.24%
34	IN-W358.855	5.28E-01	3.30E-02	0.10%	98.33%
35	RL-T115	4.33E-01	8.78E-05	0.08%	98.41%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.42E+02	N/A	100.00%	N/A

Table 4.11-3. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 125
(Calendar Year = 2158)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	8.29E+01	4.24E-03	14.34%	14.34%
2	W027-221F-HET	6.52E+01	4.45E-03	11.28%	25.62%
3	LA-OS-00-01	4.90E+01	1.47E-01	8.47%	34.09%
4	T001-221F-HET	4.59E+01	4.24E-03	7.95%	42.04%
5	OR-W201	4.43E+01	7.62E-02	7.67%	49.71%
6	T001-772F-HET	4.13E+01	4.26E-03	7.14%	56.84%
7	W027-221H-HET	2.85E+01	4.44E-03	4.93%	61.78%
8	W027-999-HET	2.66E+01	4.45E-03	4.60%	66.37%
9	RL-T140	2.63E+01	3.96E-02	4.54%	70.92%
10	RL-T107	2.57E+01	8.69E-04	4.45%	75.36%
11	W027-773A-HET	2.32E+01	4.44E-03	4.02%	79.38%
12	W026-221F-HET	1.60E+01	4.24E-03	2.77%	82.16%
13	W027-772F-HET	1.56E+01	4.45E-03	2.70%	84.85%
14	IN-BN-510	1.48E+01	1.55E-04	2.56%	87.41%
15	RP-W755	1.26E+01	1.07E-03	2.18%	89.59%
16	W026-221H-HET	1.20E+01	4.24E-03	2.07%	91.66%
17	W027-235F-HET	8.57E+00	4.44E-03	1.48%	93.15%
18	T001-773A-HET	5.32E+00	4.24E-03	0.92%	94.07%
19	T001-235F-HET	4.77E+00	4.24E-03	0.82%	94.89%
20	RL-W513	3.98E+00	9.42E-05	0.69%	95.58%
21	OR-W202	2.57E+00	9.13E-04	0.44%	96.03%
22	IN-W177.156	1.64E+00	4.24E-04	0.28%	96.31%
23	IN-W179.158	1.63E+00	1.70E-04	0.28%	96.59%
24	RL-T122	1.46E+00	1.04E-02	0.25%	96.84%
25	RL-T110	1.38E+00	5.80E-04	0.24%	97.08%
26	LA-TA-55-49	1.09E+00	1.24E-02	0.19%	97.27%
27	RL-W439	9.54E-01	1.59E-05	0.16%	97.43%
28	RL-T118	8.41E-01	6.69E-04	0.15%	97.58%
29	WP-RF118.01	8.40E-01	1.37E-04	0.15%	97.73%
30	W026-773A-HET	8.29E-01	4.24E-03	0.14%	97.87%
31	LA-TA-55-48	8.13E-01	5.45E-03	0.14%	98.01%
32	IN-W174.154	7.70E-01	3.72E-04	0.13%	98.14%
33	RL-T112	7.43E-01	1.12E-03	0.13%	98.27%
34	IN-W358.855	5.76E-01	3.60E-02	0.10%	98.37%
35	T001-773A-CLAS	4.62E-01	4.25E-03	0.08%	98.45%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	5.78E+02	N/A	100.00%	N/A

Table 4.11-4. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 175
(Calendar Year = 2208)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	9.25E+01	4.73E-03	14.62%	14.62%
2	W027-221F-HET	7.15E+01	4.88E-03	11.31%	25.93%
3	LA-OS-00-01	5.54E+01	1.66E-01	8.76%	34.69%
4	T001-221F-HET	5.13E+01	4.74E-03	8.11%	42.80%
5	T001-772F-HET	4.61E+01	4.75E-03	7.28%	50.08%
6	OR-W201	4.44E+01	7.64E-02	7.02%	57.10%
7	W027-221H-HET	3.13E+01	4.87E-03	4.94%	62.04%
8	W027-999-HET	2.91E+01	4.87E-03	4.61%	66.65%
9	RL-T107	2.90E+01	9.81E-04	4.58%	71.23%
10	RL-T140	2.63E+01	3.96E-02	4.15%	75.39%
11	W027-773A-HET	2.55E+01	4.87E-03	4.03%	79.42%
12	W026-221F-HET	1.79E+01	4.74E-03	2.83%	82.25%
13	W027-772F-HET	1.71E+01	4.87E-03	2.70%	84.95%
14	IN-BN-510	1.65E+01	1.73E-04	2.61%	87.56%
15	W026-221H-HET	1.34E+01	4.74E-03	2.11%	89.67%
16	RP-W755	1.26E+01	1.07E-03	1.99%	91.66%
17	W027-235F-HET	9.40E+00	4.87E-03	1.49%	93.15%
18	T001-773A-HET	5.94E+00	4.73E-03	0.94%	94.08%
19	T001-235F-HET	5.32E+00	4.73E-03	0.84%	94.93%
20	RL-W513	4.51E+00	1.07E-04	0.71%	95.64%
21	OR-W202	2.85E+00	1.01E-03	0.45%	96.09%
22	IN-W177.156	1.83E+00	4.73E-04	0.29%	96.38%
23	IN-W179.158	1.82E+00	1.90E-04	0.29%	96.67%
24	RL-T122	1.46E+00	1.04E-02	0.23%	96.90%
25	RL-T110	1.38E+00	5.81E-04	0.22%	97.11%
26	LA-TA-55-49	1.20E+00	1.37E-02	0.19%	97.30%
27	RL-W439	1.08E+00	1.80E-05	0.17%	97.47%
28	W026-773A-HET	9.25E-01	4.74E-03	0.15%	97.62%
29	WP-RF118.01	9.23E-01	1.51E-04	0.15%	97.77%
30	LA-TA-55-48	8.99E-01	6.03E-03	0.14%	97.91%
31	IN-W174.154	8.59E-01	4.15E-04	0.14%	98.04%
32	RL-T118	8.43E-01	6.70E-04	0.13%	98.18%
33	RL-T112	7.44E-01	1.12E-03	0.12%	98.30%
34	IN-W358.855	6.46E-01	4.04E-02	0.10%	98.40%
35	T001-773A-CLAS	5.16E-01	4.74E-03	0.08%	98.48%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	6.33E+02	N/A	100.00%	N/A

Table 4.11-5. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 350
(Calendar Year = 2383)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.07E+02	5.50E-03	14.99%	14.99%
2	W027-221F-HET	8.12E+01	5.54E-03	11.33%	26.32%
3	LA-OS-00-01	6.53E+01	1.95E-01	9.12%	35.44%
4	T001-221F-HET	5.95E+01	5.50E-03	8.31%	43.75%
5	T001-772F-HET	5.35E+01	5.52E-03	7.46%	51.22%
6	OR-W201	4.45E+01	7.66E-02	6.22%	57.43%
7	W027-221H-HET	3.55E+01	5.53E-03	4.95%	62.38%
8	RL-T107	3.41E+01	1.15E-03	4.76%	67.14%
9	W027-999-HET	3.31E+01	5.53E-03	4.62%	71.76%
10	W027-773A-HET	2.89E+01	5.53E-03	4.04%	75.80%
11	RL-T140	2.63E+01	3.96E-02	3.67%	79.46%
12	W026-221F-HET	2.08E+01	5.50E-03	2.90%	82.36%
13	W027-772F-HET	1.94E+01	5.53E-03	2.71%	85.07%
14	IN-BN-510	1.92E+01	2.01E-04	2.67%	87.74%
15	W026-221H-HET	1.55E+01	5.50E-03	2.17%	89.91%
16	RP-W755	1.26E+01	1.07E-03	1.76%	91.67%
17	W027-235F-HET	1.07E+01	5.53E-03	1.49%	93.15%
18	T001-773A-HET	6.90E+00	5.49E-03	0.96%	94.12%
19	T001-235F-HET	6.18E+00	5.50E-03	0.86%	94.98%
20	RL-W513	5.32E+00	1.26E-04	0.74%	95.72%
21	OR-W202	3.29E+00	1.17E-03	0.46%	96.18%
22	IN-W177.156	2.12E+00	5.48E-04	0.30%	96.47%
23	IN-W179.158	2.11E+00	2.20E-04	0.29%	96.77%
24	RL-T122	1.46E+00	1.04E-02	0.20%	96.97%
25	RL-T110	1.38E+00	5.82E-04	0.19%	97.17%
26	LA-TA-55-49	1.38E+00	1.57E-02	0.19%	97.36%
27	RL-W439	1.28E+00	2.12E-05	0.18%	97.54%
28	W026-773A-HET	1.07E+00	5.50E-03	0.15%	97.69%
29	WP-RF118.01	1.05E+00	1.72E-04	0.15%	97.83%
30	LA-TA-55-48	1.03E+00	6.92E-03	0.14%	97.98%
31	IN-W174.154	9.95E-01	4.81E-04	0.14%	98.12%
32	RL-T118	8.44E-01	6.71E-04	0.12%	98.23%
33	IN-W358.855	7.55E-01	4.72E-02	0.11%	98.34%
34	RL-T112	7.45E-01	1.13E-03	0.10%	98.44%
35	BCLCH-MT01	6.07E-01	2.41E-02	0.08%	98.53%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.17E+02	N/A	100.00%	N/A

Table 4.11-6. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 1000
(Calendar Year = 3033)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.12E+02	5.74E-03	15.09%	15.09%
2	W027-221F-HET	8.43E+01	5.75E-03	11.34%	26.44%
3	LA-OS-00-01	6.85E+01	2.05E-01	9.22%	35.66%
4	T001-221F-HET	6.22E+01	5.74E-03	8.36%	44.02%
5	T001-772F-HET	5.59E+01	5.76E-03	7.52%	51.54%
6	OR-W201	4.45E+01	7.66E-02	5.99%	57.52%
7	W027-221H-HET	3.68E+01	5.74E-03	4.95%	62.48%
8	RL-T107	3.57E+01	1.21E-03	4.81%	67.29%
9	W027-999-HET	3.43E+01	5.75E-03	4.62%	71.91%
10	W027-773A-HET	3.00E+01	5.74E-03	4.04%	75.95%
11	RL-T140	2.62E+01	3.96E-02	3.53%	79.48%
12	W026-221F-HET	2.17E+01	5.74E-03	2.92%	82.39%
13	W027-772F-HET	2.01E+01	5.75E-03	2.71%	85.10%
14	IN-BN-510	2.00E+01	2.09E-04	2.69%	87.79%
15	W026-221H-HET	1.62E+01	5.74E-03	2.18%	89.97%
16	RP-W755	1.26E+01	1.07E-03	1.69%	91.66%
17	W027-235F-HET	1.11E+01	5.74E-03	1.49%	93.15%
18	T001-773A-HET	7.20E+00	5.74E-03	0.97%	94.12%
19	T001-235F-HET	6.45E+00	5.74E-03	0.87%	94.99%
20	RL-W513	5.58E+00	1.32E-04	0.75%	95.74%
21	OR-W202	3.42E+00	1.22E-03	0.46%	96.20%
22	IN-W177.156	2.21E+00	5.73E-04	0.30%	96.50%
23	IN-W179.158	2.20E+00	2.30E-04	0.30%	96.79%
24	RL-T122	1.46E+00	1.03E-02	0.20%	96.99%
25	LA-TA-55-49	1.43E+00	1.63E-02	0.19%	97.18%
26	RL-T110	1.38E+00	5.82E-04	0.19%	97.37%
27	RL-W439	1.34E+00	2.23E-05	0.18%	97.55%
28	W026-773A-HET	1.12E+00	5.75E-03	0.15%	97.70%
29	WP-RF118.01	1.09E+00	1.78E-04	0.15%	97.85%
30	LA-TA-55-48	1.07E+00	7.20E-03	0.14%	97.99%
31	IN-W174.154	1.04E+00	5.02E-04	0.14%	98.13%
32	RL-T118	8.43E-01	6.70E-04	0.11%	98.24%
33	IN-W358.855	7.91E-01	4.94E-02	0.11%	98.35%
34	RL-T112	7.44E-01	1.12E-03	0.10%	98.45%
35	BCLCH-MT01	6.37E-01	2.53E-02	0.09%	98.54%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.43E+02	N/A	100.00%	N/A

Table 4.11-7. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 3000
(Calendar Year = 5033)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.12E+02	5.71E-03	15.10%	15.10%
2	W027-221F-HET	8.39E+01	5.72E-03	11.34%	26.44%
3	LA-OS-00-01	6.82E+01	2.04E-01	9.22%	35.66%
4	T001-221F-HET	6.18E+01	5.71E-03	8.37%	44.03%
5	T001-772F-HET	5.56E+01	5.73E-03	7.52%	51.54%
6	OR-W201	4.43E+01	7.61E-02	5.99%	57.53%
7	W027-221H-HET	3.66E+01	5.71E-03	4.96%	62.49%
8	RL-T107	3.55E+01	1.20E-03	4.81%	67.29%
9	W027-999-HET	3.42E+01	5.71E-03	4.62%	71.91%
10	W027-773A-HET	2.99E+01	5.71E-03	4.04%	75.95%
11	RL-T140	2.61E+01	3.93E-02	3.53%	79.48%
12	W026-221F-HET	2.16E+01	5.71E-03	2.92%	82.40%
13	W027-772F-HET	2.00E+01	5.71E-03	2.71%	85.11%
14	IN-BN-510	1.99E+01	2.08E-04	2.69%	87.80%
15	W026-221H-HET	1.61E+01	5.71E-03	2.18%	89.98%
16	RP-W755	1.25E+01	1.06E-03	1.69%	91.67%
17	W027-235F-HET	1.10E+01	5.71E-03	1.49%	93.16%
18	T001-773A-HET	7.16E+00	5.71E-03	0.97%	94.13%
19	T001-235F-HET	6.42E+00	5.71E-03	0.87%	95.00%
20	RL-W513	5.55E+00	1.31E-04	0.75%	95.75%
21	OR-W202	3.41E+00	1.21E-03	0.46%	96.21%
22	IN-W177.156	2.20E+00	5.70E-04	0.30%	96.51%
23	IN-W179.158	2.19E+00	2.28E-04	0.30%	96.80%
24	RL-T122	1.45E+00	1.03E-02	0.20%	97.00%
25	LA-TA-55-49	1.43E+00	1.62E-02	0.19%	97.19%
26	RL-T110	1.37E+00	5.78E-04	0.19%	97.38%
27	RL-W439	1.33E+00	2.21E-05	0.18%	97.56%
28	W026-773A-HET	1.12E+00	5.71E-03	0.15%	97.71%
29	WP-RF118.01	1.09E+00	1.77E-04	0.15%	97.85%
30	LA-TA-55-48	1.07E+00	7.17E-03	0.14%	98.00%
31	IN-W174.154	1.03E+00	4.99E-04	0.14%	98.14%
32	RL-T118	8.38E-01	6.66E-04	0.11%	98.25%
33	IN-W358.855	7.86E-01	4.92E-02	0.11%	98.36%
34	RL-T112	7.40E-01	1.12E-03	0.10%	98.46%
35	BCLCH-MT01	6.34E-01	2.52E-02	0.09%	98.54%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.39E+02	N/A	100.00%	N/A

Table 4.11-8. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 5000
(Calendar Year = 7033)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.11E+02	5.68E-03	15.09%	15.09%
2	W027-221F-HET	8.34E+01	5.69E-03	11.34%	26.43%
3	LA-OS-00-01	6.78E+01	2.03E-01	9.22%	35.65%
4	T001-221F-HET	6.15E+01	5.68E-03	8.36%	44.01%
5	T001-772F-HET	5.52E+01	5.70E-03	7.51%	51.53%
6	OR-W201	4.40E+01	7.57E-02	5.99%	57.51%
7	W027-221H-HET	3.64E+01	5.68E-03	4.96%	62.47%
8	RL-T107	3.53E+01	1.20E-03	4.81%	67.28%
9	W027-999-HET	3.40E+01	5.68E-03	4.62%	71.90%
10	W027-773A-HET	2.97E+01	5.68E-03	4.04%	75.94%
11	RL-T140	2.60E+01	3.91E-02	3.53%	79.47%
12	W026-221F-HET	2.14E+01	5.68E-03	2.92%	82.38%
13	W027-772F-HET	1.99E+01	5.68E-03	2.71%	85.09%
14	IN-BN-510	1.98E+01	2.07E-04	2.69%	87.78%
15	W026-221H-HET	1.60E+01	5.68E-03	2.18%	89.96%
16	RP-W755	1.24E+01	1.06E-03	1.69%	91.65%
17	W027-235F-HET	1.10E+01	5.67E-03	1.49%	93.14%
18	T001-773A-HET	7.12E+00	5.67E-03	0.97%	94.11%
19	T001-235F-HET	6.38E+00	5.68E-03	0.87%	94.98%
20	RL-W513	5.52E+00	1.31E-04	0.75%	95.73%
21	OR-W202	3.39E+00	1.20E-03	0.46%	96.19%
22	IN-W177.156	2.18E+00	5.66E-04	0.30%	96.49%
23	IN-W179.158	2.18E+00	2.27E-04	0.30%	96.78%
24	RL-T122	1.44E+00	1.02E-02	0.20%	96.98%
25	LA-TA-55-49	1.42E+00	1.61E-02	0.19%	97.17%
26	RL-T110	1.36E+00	5.75E-04	0.19%	97.36%
27	RL-W439	1.32E+00	2.20E-05	0.18%	97.54%
28	W026-773A-HET	1.11E+00	5.68E-03	0.15%	97.69%
29	WP-RF118.01	1.08E+00	1.76E-04	0.15%	97.83%
30	LA-TA-55-48	1.06E+00	7.13E-03	0.14%	97.98%
31	IN-W174.154	1.03E+00	4.97E-04	0.14%	98.12%
32	RL-T118	8.33E-01	6.62E-04	0.11%	98.23%
33	IN-W358.855	7.82E-01	4.89E-02	0.11%	98.34%
34	RL-T112	7.35E-01	1.11E-03	0.10%	98.44%
35	BCLCH-MT01	6.30E-01	2.50E-02	0.09%	98.52%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.35E+02	N/A	100.00%	N/A

Table 4.11-9. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 7500
(Calendar Year = 9533)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.10E+02	5.63E-03	15.08%	15.08%
2	W027-221F-HET	8.28E+01	5.65E-03	11.34%	26.43%
3	LA-OS-00-01	6.73E+01	2.01E-01	9.22%	35.65%
4	T001-221F-HET	6.11E+01	5.64E-03	8.36%	44.01%
5	T001-772F-HET	5.49E+01	5.66E-03	7.51%	51.53%
6	OR-W201	4.37E+01	7.52E-02	5.99%	57.51%
7	W027-221H-HET	3.62E+01	5.64E-03	4.96%	62.47%
8	RL-T107	3.51E+01	1.19E-03	4.81%	67.27%
9	W027-999-HET	3.37E+01	5.64E-03	4.62%	71.89%
10	W027-773A-HET	2.95E+01	5.64E-03	4.04%	75.94%
11	RL-T140	2.58E+01	3.88E-02	3.53%	79.46%
12	W026-221F-HET	2.13E+01	5.64E-03	2.92%	82.38%
13	W027-772F-HET	1.98E+01	5.64E-03	2.71%	85.09%
14	IN-BN-510	1.96E+01	2.06E-04	2.69%	87.78%
15	W026-221H-HET	1.59E+01	5.64E-03	2.18%	89.96%
16	RP-W755	1.23E+01	1.05E-03	1.69%	91.65%
17	W027-235F-HET	1.09E+01	5.63E-03	1.49%	93.14%
18	T001-773A-HET	7.07E+00	5.63E-03	0.97%	94.11%
19	T001-235F-HET	6.34E+00	5.64E-03	0.87%	94.98%
20	RL-W513	5.48E+00	1.30E-04	0.75%	95.73%
21	OR-W202	3.36E+00	1.19E-03	0.46%	96.19%
22	IN-W177.156	2.17E+00	5.62E-04	0.30%	96.49%
23	IN-W179.158	2.16E+00	2.25E-04	0.30%	96.78%
24	RL-T122	1.43E+00	1.02E-02	0.20%	96.98%
25	LA-TA-55-49	1.41E+00	1.60E-02	0.19%	97.17%
26	RL-T110	1.35E+00	5.71E-04	0.19%	97.36%
27	RL-W439	1.31E+00	2.19E-05	0.18%	97.54%
28	W026-773A-HET	1.10E+00	5.64E-03	0.15%	97.69%
29	WP-RF118.01	1.07E+00	1.75E-04	0.15%	97.83%
30	LA-TA-55-48	1.05E+00	7.07E-03	0.14%	97.98%
31	IN-W174.154	1.02E+00	4.93E-04	0.14%	98.12%
32	RL-T118	8.28E-01	6.58E-04	0.11%	98.23%
33	IN-W358.855	7.76E-01	4.85E-02	0.11%	98.34%
34	RL-T112	7.30E-01	1.10E-03	0.10%	98.44%
35	BCLCH-MT01	6.26E-01	2.49E-02	0.09%	98.52%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.30E+02	N/A	100.00%	N/A

Table 4.11-10. WIPP CH-TRU Waste Streams by Curies (^{234}U); Time 10000
(Calendar Year = 12033)

Rank Order	Waste Stream ID	Curies (^{234}U)			
		Total Ci	Ci/drum	% of Total	Cum. %
1	T001-221H-HET	1.09E+02	5.60E-03	15.10%	15.10%
2	W027-221F-HET	8.22E+01	5.61E-03	11.34%	26.44%
3	LA-OS-00-01	6.68E+01	2.00E-01	9.22%	35.66%
4	T001-221F-HET	6.06E+01	5.60E-03	8.36%	44.02%
5	T001-772F-HET	5.45E+01	5.62E-03	7.52%	51.54%
6	OR-W201	4.34E+01	7.46E-02	5.99%	57.53%
7	W027-221H-HET	3.59E+01	5.60E-03	4.96%	62.48%
8	RL-T107	3.48E+01	1.18E-03	4.81%	67.29%
9	W027-999-HET	3.35E+01	5.60E-03	4.62%	71.91%
10	W027-773A-HET	2.93E+01	5.60E-03	4.04%	75.95%
11	RL-T140	2.56E+01	3.86E-02	3.53%	79.48%
12	W026-221F-HET	2.11E+01	5.60E-03	2.92%	82.40%
13	W027-772F-HET	1.96E+01	5.60E-03	2.71%	85.10%
14	IN-BN-510	1.95E+01	2.04E-04	2.69%	87.79%
15	W026-221H-HET	1.58E+01	5.60E-03	2.18%	89.97%
16	RP-W755	1.23E+01	1.04E-03	1.69%	91.66%
17	W027-235F-HET	1.08E+01	5.60E-03	1.49%	93.15%
18	T001-773A-HET	7.02E+00	5.59E-03	0.97%	94.12%
19	T001-235F-HET	6.29E+00	5.60E-03	0.87%	94.99%
20	RL-W513	5.44E+00	1.29E-04	0.75%	95.74%
21	OR-W202	3.34E+00	1.19E-03	0.46%	96.20%
22	IN-W177.156	2.15E+00	5.58E-04	0.30%	96.50%
23	IN-W179.158	2.15E+00	2.24E-04	0.30%	96.80%
24	RL-T122	1.42E+00	1.01E-02	0.20%	96.99%
25	LA-TA-55-49	1.40E+00	1.59E-02	0.19%	97.19%
26	RL-T110	1.35E+00	5.67E-04	0.19%	97.37%
27	RL-W439	1.31E+00	2.17E-05	0.18%	97.55%
28	W026-773A-HET	1.09E+00	5.60E-03	0.15%	97.70%
29	WP-RF118.01	1.06E+00	1.74E-04	0.15%	97.85%
30	LA-TA-55-48	1.05E+00	7.03E-03	0.14%	97.99%
31	IN-W174.154	1.01E+00	4.89E-04	0.14%	98.13%
32	RL-T118	8.22E-01	6.53E-04	0.11%	98.25%
33	IN-W358.855	7.71E-01	4.82E-02	0.11%	98.35%
34	RL-T112	7.25E-01	1.10E-03	0.10%	98.45%
35	BCLCH-MT01	6.21E-01	2.47E-02	0.09%	98.54%
*	*	*	*	*	*
*	*	*	*	*	*
*	*	*	*	*	*
693	W053-773A-VIT	0.00E+00	0.00E+00	0.00%	100.00%
	Sum =	7.25E+02	N/A	100.00%	N/A

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