



ANNUAL LAND USE CENSUS

IV. 2000 ANNUAL LAND USE CENSUS

Each year a land use census is conducted to ensure that changes in the use of areas at and beyond the site boundary are identified and that any necessary modifications to the REMP are made. The information gathered during the Land Use Census is used for Radioactive Effluent Technical Specifications (RETS) dose assessments and input into the REMP to ensure that these programs are as current as possible.

The Annual Land Use Census was conducted during the growing season satisfying the CPS Offsite Dose Calculation Manual requirements. The land use census is conducted to identify within a distance of 5 miles (8 km), the locations in each of the 16 meteorological sectors of the nearest milk animals, the nearest residence and the nearest garden of greater than 500 square feet (50 m²) producing broadleaf vegetation.

Also, the census shall identify within a distance of 3 miles (5 km), the location in each of the 16 meteorological sectors of all milk animals and all gardens of greater than 500 square feet producing broadleaf vegetation. A detailed description of the Land Use Census results is given in a separate document and permanently archived at CPS.

In order to gather as much information as possible, the locations of residences, critical age groups, milk animals, vegetable garden contents and livestock were recorded for each sector within 5 miles, as stated above.

These land use parameters are then used in the assessment of potential radiological doses to individuals for the stated regions. This information provides the most restrictive parameters used for dose assessments which will result in the highest calculated dose in each sector. More information for dose assessments to members of the public is provided in the 2000 CPS Annual Radioactive Effluent Release Report.

Approximately 200 residences were surveyed by either direct contact, mailed in questionnaire, telephone, or direct observation. The information provided in this section of the report is a summary of the results of the census. The nearest residence, garden and milk animal in each sector out to 8 km are given in Table 8.

Data for this census was obtained using the following means:

- o Performed door-to-door solicitation of residences/land owners identified in the previous year's Annual Land Use Census and the most current

DeWitt County plat book. If a resident was unavailable for questioning, a questionnaire was placed on their door to have them fill out and mail back.

- Performed telephone solicitation of persons who were unavailable during the door-to-door survey and did not mail back their questionnaire.
- By direct observation of land when the aforementioned methods were unsuccessful. If an individual was unable to be contacted, data from the previous year was used.
- Contacted several state and local agencies.

TABLE 8

ANNUAL LAND USE CENSUS SUMMARY RESULTS

Sector	Nearest Residence (km)	Nearest Garden (km)	Nearest Milk Animal (km)
N	1.50	1.50	1.50
NNE	1.59	4.61	2.05
NE	2.07	3.46	5.53
ENE	2.86	4.22	7.74
E	1.67	1.67	1.67
ESE	5.14	5.30	*
SE	4.44	*	*
SSE	2.90	4.45	*
S	4.78	4.84	*
SSW	4.68	*	5.47
SW	1.17	5.87	5.87
WSW	2.52	3.62	5.53
W	2.63	2.63	3.31
WNW	2.63	2.63	*
NW	2.65	4.70	3.85***
NNW	2.78	3.76**	2.05

2.□ None identified within 8 kilometers of CPS in this meteorological sector.

** Garden size <50 square meters

*** Calves only

The Annual Land Use Census results were examined to ensure that the REMP will provide representative measurements of radiation and radioactive materials in those exposure pathways and for those radionuclides that lead to the highest potential radiation exposures to the general public resulting from Clinton Power Station operations.

Using the Annual Land Use Census results and utilizing effluent data supplied by the CPS Chemistry Group, an evaluation is performed to ensure that the current ODCM sample location requirements are met. On the basis of this evaluation no changes to the REMP were made.

Summary of Changes Identified in 2000 Annual Land Use Census

Nearest Residence

No changes were identified for the nearest residence in the 16 sectors.

Garden Census

Gardens were identified in the 16 sectors within a 5-mile (8 km) radius of Clinton Power Station which produced broad leaf vegetation (e.g., lettuce and cabbage) and were greater than 50 square meters.

Changes in census locations for the nearest garden were identified in 8 of the 16 sectors and are shown below:

<u>1999 Census Location</u>	<u>2000 Census Location</u>
3.76 km NNE	4.61 km NNE
3.95 km E	1.67 km E
6.60 km S	4.84 km S
5.14 km SSW	>8 km SSW
5.61 km SW	5.87 km SW
2.64 km WNW	2.63 km WNW
3.11 km NW	4.70 km NW
4.17 km NNW	3.76 km NNW

No changes or additions to the REMP garden sampling locations were made as a result of the Garden Census.

Milk Animal Census

Milk animals within 5 miles (8 km) were located in the 16 sectors surrounding CPS. Fourteen locations were identified within the 5-mile radius. Only milk animals were specifically identified for this report. Of the livestock identified, the milk animals were raised mainly for nursing (nursing of calves) and were being used for meat production (both own use and to be sold). There were no residents that milked their animals for human consumption. Other livestock raised in the area were identified but will not be addressed in this report.

Changes in the census locations for the nearest livestock/dairy were identified in 4 of the 16 sectors and are shown below:

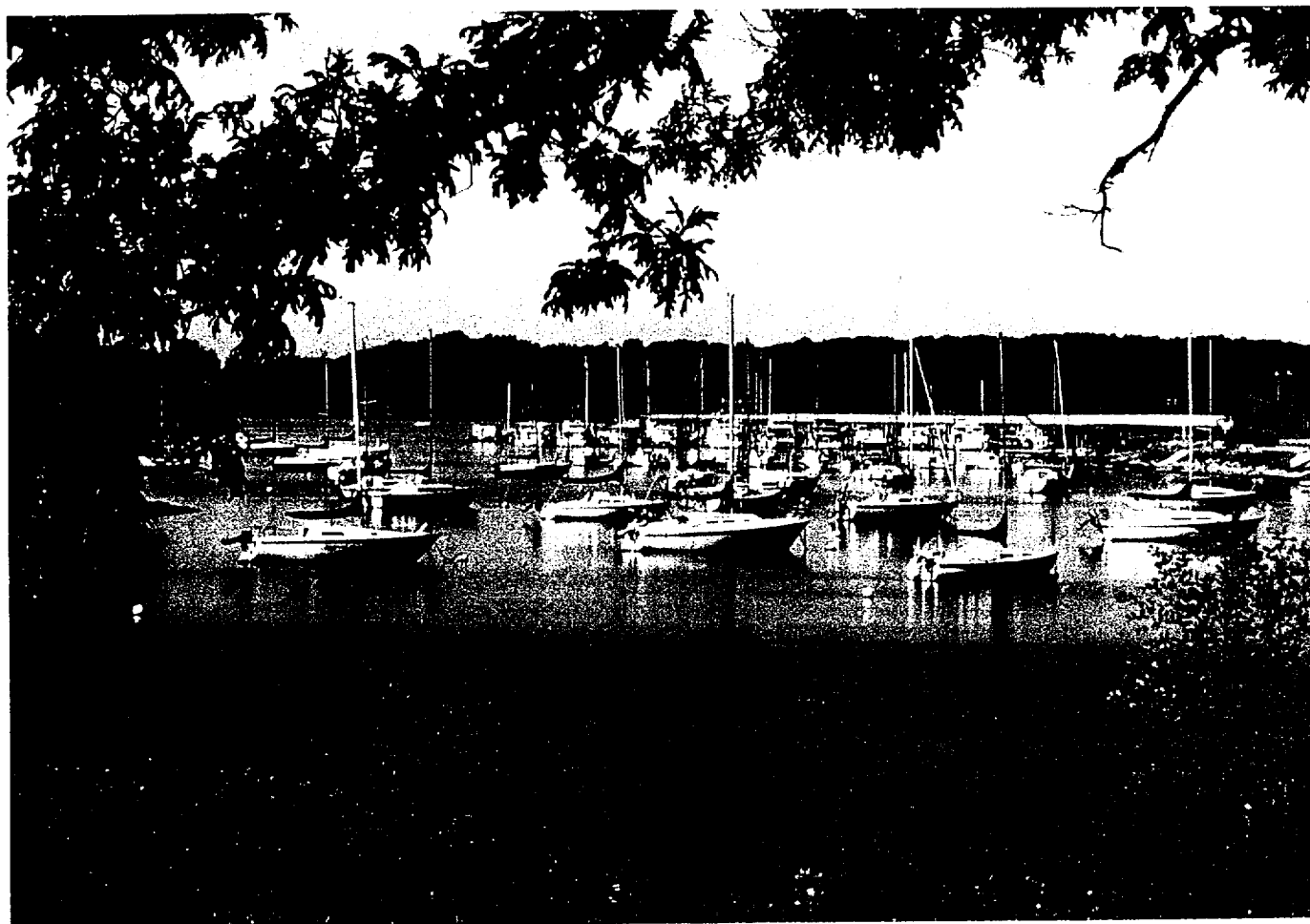
1999 Census Location

3.46 km NE
 >8 km E
5.28 km SSW
 >8 km W

2000 Census Location

5.53 km NE
1.67 km E
5.47 km SSW
3.31 km W

No changes or additions to REMP milk sampling locations were made as a result of the Milk Animal Census.



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V. LIST OF REFERENCES

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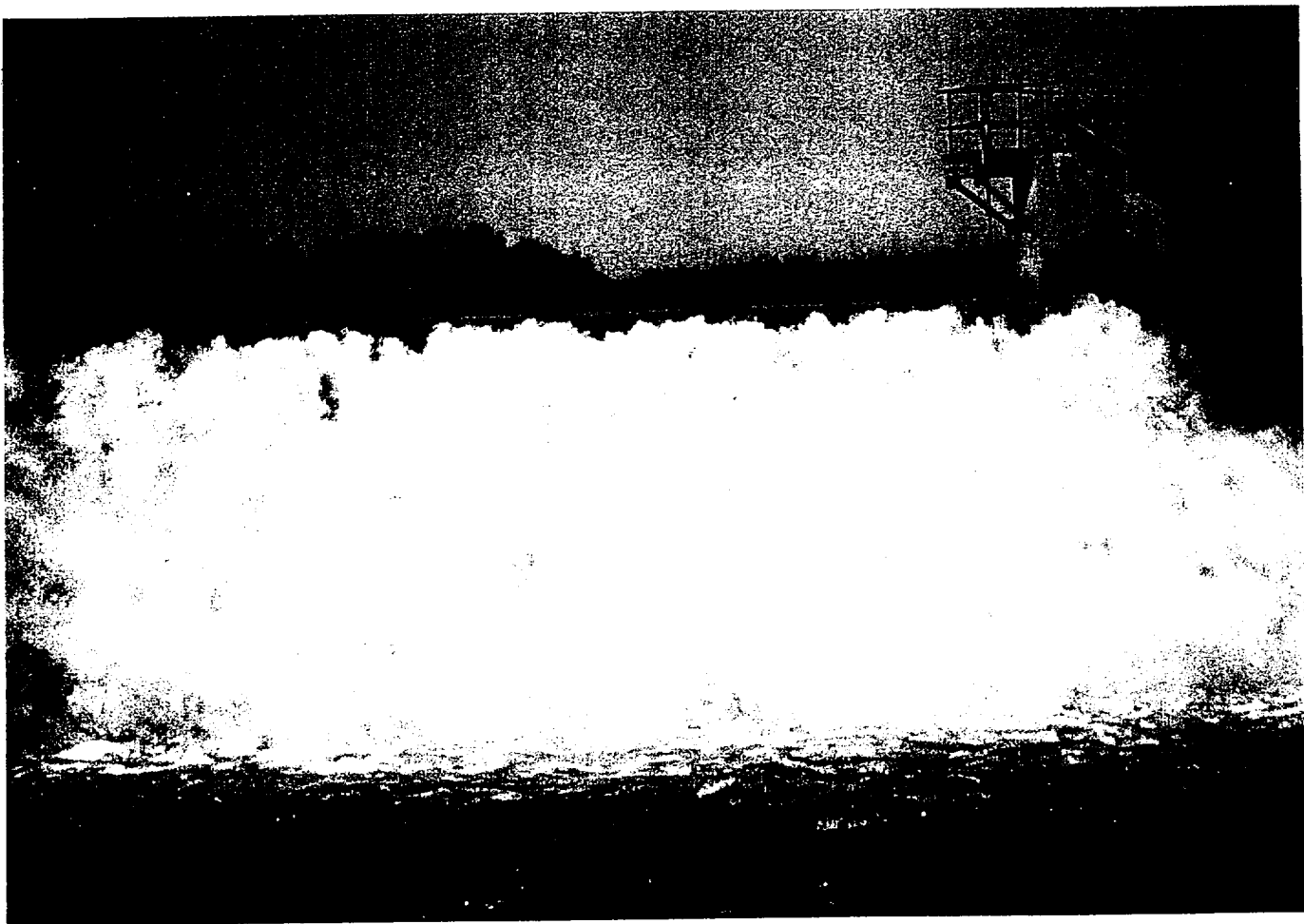
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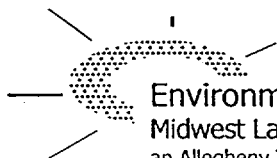
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APPENDICES



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APPENDIX A

INTERLABORATORY COMPARISON PROGRAM RESULTS

NOTE: Environmental, Inc., Midwest Laboratory participates in intercomparison studies administered by Environmental Resources Associates, and serves as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada. Results are reported in Appendix A. TLD Intercomparison results, in-house spikes, blanks, duplicates and mixed analyte performance evaluation program results are also reported. Appendix A is updated four times a year; the complete Appendix is included in March, June, September and December monthly progress reports only.

~~January, 2000 through December, 2000~~

Appendix A

Interlaboratory Comparison Program Results

Environmental, Inc., Midwest Laboratory, formerly Teledyne Brown Engineering Environmental Services Midwest Laboratory has participated in interlaboratory comparison (crosscheck) programs since the formulation of its quality control program in December 1971. These programs are operated by agencies which supply environmental type samples (e.g., milk or water) containing concentrations of radionuclides known to the issuing agency but not to participant laboratories. The purpose of such a program is to provide an independent check on a laboratory's analytical procedures and to alert it of any possible problems.

Participant laboratories measure the concentration of specified radionuclides and report them to the issuing agency. Several months later, the agency reports the known values to the participant laboratories and specifies control limits. Results consistently higher or lower than the known values or outside the control limits indicate a need to check the instruments or procedures used.

The results in Table A-1 were obtained through participation in the environmental sample crosscheck program for milk, water and air filters during the past twelve months. Data for previous years is available upon request.

This program was conducted by the U.S. Environmental Protection Agency Office of Research and Development National Exposure Research Laboratory Characterization Research Division-Las Vegas, Nevada.

The results in Table A-2 were obtained for Thermoluminescent Dosimeters (TLDs), via various International Intercomparisons of Environmental Dosimeters under the sponsorships listed in Table A-2. Results of crosscheck testing with Teledyne Brown Engineering are also listed.

Table A-3 lists results of the analyses on in-house "spiked" samples for the past twelve months. All samples are prepared using NIST traceable sources. Data for previous years available upon request.

Table A-4 lists results of the analyses on in-house "blank" samples for the past twelve months. Data for previous years available upon request.

Table A-5 list results of the in-house "duplicate" program for the past twelve months. Acceptance is based on the difference of the results being less than the sum of the errors. Data for previous years available upon request.

The results in Table A-6 were obtained through participation in the Mixed Analyte Performance Evaluation Program.

The results in Table A-7 were obtained through participation in the Environmental Measurement Laboratory Quality Assessment Program.

Attachment A lists acceptance criteria for "spiked" samples.

Out-of-limit results are explained directly below the result.

12-31-00

ATTACHMENT A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

LABORATORY PRECISION: ONE STANDARD DEVIATION VALUES FOR VARIOUS ANALYSES^a

Analysis	Level	One Standard Deviation for single determinations
Gamma Emitters	5 to 100 pCi/liter or kg >100 pCi/liter or kg	5.0 pCi/liter 5% of known value
Strontium-89 ^b	5 to 50 pCi/liter or kg >50 pCi/liter or kg	5.0 pCi/liter 10% of known value
Strontium-90 ^b	2 to 30 pCi/liter or kg >30 pCi/liter or kg	5.0 pCi/liter 10% of known value
Potassium-40	>0.1 g/liter or kg	5% of known value
Gross alpha	≤20 pCi/liter >20 pCi/liter	5.0 pCi/liter 25% of known value
Gross beta	≤100 pCi/liter >100 pCi/liter	5.0 pCi/liter 5% of known value
Tritium	≤4,000 pCi/liter >4,000 pCi/liter	1s = (pCi/liter) = 169.85 x (known) ^{0.0933} 10% of known value
Radium-226,-228	<0.1 pCi/liter	15% of known value
Plutonium	0.1 pCi/liter, gram, or sample	10% of known value
Iodine-131, Iodine-129 ^b	≤55 pCi/liter >55 pCi/liter	6.0 pCi/liter 10% of known value
Uranium-238, Nickel-63 ^b Technetium-99 ^b	≤35 pCi/liter >35 pCi/liter	6.0 pCi/liter 15% of known value
Iron-55 ^b	50 to 100 pCi/liter >100 pCi/liter	10 pCi/liter 10% of known value
Others ^b	—	20% of known value

^a From EPA publication, "Environmental Radioactivity Laboratory Intercomparison Studies Program, Fiscal Year, 1981-1982, EPA-600/4-81-004.

^b Laboratory limit.

Table A-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^b		
				Laboratory results ± 2 Sigma ^c	ERA Result ^d 1s, N=1	Control Limits
STW-863	WATER	Jan, 2000	Gr. Alpha	39.3 $\pm$ 5.2	25.4 $\pm$ 6.4	14.5 - 36.3
The analysis was repeated and recalculated with Am-241 efficiency; result of reanalysis 29.32 $\pm$ 5.79 pCi/L. Internal spike program results do not indicate a problem.						
STW-863	WATER	Jan, 2000	Gr. Beta	40.7 $\pm$ 1.2	42.1 $\pm$ 4.2	33.4 - 50.8
STW-866	WATER	Jan, 2000	Sr-89	17.1 $\pm$ 2.2	22.5 $\pm$ 5.0	13.8 - 31.2
STW-866	WATER	Jan, 2000	Sr-90	8.1 $\pm$ 0.6	9.6 $\pm$ 5.0	0.9 - 18.3
STW-868	WATER	Feb, 2000	Ra-226	7.6 $\pm$ 0.5	8.3 $\pm$ 1.2	6.1 - 10.4
STW-868	WATER	Feb, 2000	Ra-228	5.6 $\pm$ 1.0	2.3 $\pm$ 0.6	1.3 - 3.2
Result of reanalysis: 6.34 $\pm$ 0.94. Activity confirmed by gamma spectroscopy (6.00 $\pm$ 1.42 pCi/L).						
STW-868	WATER	Feb, 2000	Uranium	5.4 $\pm$ 0.2	6.1 $\pm$ 3.0	0.9 - 11.3
STW-869	WATER	Mar, 2000	H-3	23,500.0 $\pm$ 306.0	23,800.0 $\pm$ 2,380.0	19,800.0 - 27,800.0
STW-867	WATER	Mar, 2000	Gr. Alpha	83.6 $\pm$ 5.8	58.4 $\pm$ 5.8	33.3 - 83.5
Results were recalculated with Am-241 efficiency; 57.80 $\pm$ 5.73 pCi/L. Refer to STW-863.						
STW-867	WATER	Mar, 2000	Gr. Beta	15.4 $\pm$ 0.9	16.8 $\pm$ 1.7	8.1 - 25.5
STW-876	WATER	Mar, 2000	I-131	18.7 $\pm$ 0.6	19.9 $\pm$ 2.0	18.1 - 28.5
STW-877	WATER	Apr, 2000	Gr. Alpha	52.3 $\pm$ 2.3	54.0 $\pm$ 13.5	30.8 - 77.2
STW-877	WATER	Apr, 2000	Ra-226	17.5 $\pm$ 1.1	18.6 $\pm$ 2.8	13.8 - 23.4
STW-877	WATER	Apr, 2000	Ra-228	3.7 $\pm$ 0.4	3.6 $\pm$ 0.9	2.0 - 5.1
STW-878	WATER	Apr, 2000	Co-60	19.2 $\pm$ 0.6	16.9 $\pm$ 5.0	8.2 - 25.6
STW-878	WATER	Apr, 2000	Cs-134	81.0 $\pm$ 1.3	86.4 $\pm$ 5.0	77.7 - 95.1
STW-878	WATER	Apr, 2000	Cs-137	119.0 $\pm$ 2.6	123.0 $\pm$ 6.2	112.0 - 134.0
STW-878	WATER	Apr, 2000	Gr. Beta	276.0 $\pm$ 9.6	289.0 $\pm$ 43.4	214.0 - 364.0
STW-878	WATER	Apr, 2000	Sr-89	32.3 $\pm$ 3.3	50.7 $\pm$ 5.0	42.0 - 59.4
STW-878	WATER	Apr, 2000	Sr-90	11.3 $\pm$ 1.0	32.8 $\pm$ 5.0	24.1 - 41.5
An error was found in calculation. Result of recalculation: Sr-89, 55.5 $\pm$ 7.2 pCi/L / Sr-90, 30.7 $\pm$ 3.0 pCi/L. Results of reanalysis: Sr-89, 47.4 $\pm$ 14.5 pCi/L / Sr-90, 33.0 $\pm$ 1.35 pCi/L. Both results are within limits.						
STW-879	WATER	Jun, 2000	Ba-133	22.4 $\pm$ 2.1	25.5 $\pm$ 5.0	16.8 - 34.2
STW-879	WATER	Jun, 2000	Co-60	69.9 $\pm$ 3.7	65.6 $\pm$ 5.0	56.9 - 74.3
STW-879	WATER	Jun, 2000	Cs-134	13.5 $\pm$ 0.8	13.8 $\pm$ 5.0	5.1 - 22.5
STW-879	WATER	Jun, 2000	Cs-137	232.0 $\pm$ 7.8	238.0 $\pm$ 11.9	217.0 - 259.0
STW-879	WATER	Jun, 2000	Zn-65	50.9 $\pm$ 3.8	54.6 $\pm$ 5.5	45.3 - 63.9
STW-880	WATER	Jun, 2000	Ra-226	2.8 $\pm$ 0.2	3.0 $\pm$ 0.5	2.2 - 3.8
STW-880	WATER	Jun, 2000	Ra-228	10.0 $\pm$ 0.9	13.0 $\pm$ 3.3	7.4 - 18.6
STW-880	WATER	Jun, 2000	Uranium	57.0 $\pm$ 4.4	63.4 $\pm$ 6.3	52.6 - 74.2
STW-883	WATER	Jul, 2000	Gr. Alpha	6.9 $\pm$ 1.1	7.2 $\pm$ 5.0	0.0 - 15.9
STW-883	WATER	Jul, 2000	Gr. Beta	88.8 $\pm$ 9.8	87.5 $\pm$ 10.0	70.2 - 105.0
STW-884	WATER	Aug, 2000	H-3	8,740.0 $\pm$ 174.0	8,320.0 $\pm$ 832.0	6,910.0 - 9,730.0
STW-891	WATER	Sep, 2000	Ra-226	17.9 $\pm$ 1.3	18.9 $\pm$ 2.8	14.0 - 23.8
STW-891	WATER	Sep, 2000	Ra-228	5.7 $\pm$ 0.5	6.2 $\pm$ 1.6	3.5 - 8.8

Table A-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^b		
				Laboratory results ± 2 Sigma ^c	ERA Result ^d 1s, N=1	Control Limits
STW-891	WATER	Sep, 2000	Uranium	10.3 $\pm$ 0.1	11.9 $\pm$ 3.0	6.7 - 17.1
STW-892	WATER	Oct, 2000	I-131	16.9 $\pm$ 0.3	15.9 $\pm$ 1.6	10.7 - 21.1
STW-892	WATER	Oct, 2000	I-131(g)	17.1 $\pm$ 5.4	15.9 $\pm$ 1.6	10.7 - 21.1
STW-893	WATER	Oct, 2000	Gr. Alpha	66.3 $\pm$ 5.3	74.4 $\pm$ 18.6	42.2 - 107.0
STW-893	WATER	Oct, 2000	Ra-226	10.1 $\pm$ 1.0	10.5 $\pm$ 1.6	7.8 - 13.2
STW-893	WATER	Oct, 2000	Ra-228	21.2 $\pm$ 0.5	19.4 $\pm$ 4.9	11.0 - 27.8
STW-893	WATER	Oct, 2000	Uranium	41.4 $\pm$ 1.9	44.5 $\pm$ 4.5	36.8 - 52.2
STW-894	WATER	Oct, 2000	Co-60	93.4 $\pm$ 1.6	91.1 $\pm$ 5.0	82.4 - 99.8
STW-894	WATER	Oct, 2000	Cs-134	54.8 $\pm$ 0.3	59.8 $\pm$ 5.0	51.1 - 68.5
STW-894	WATER	Oct, 2000	Cs-137	45.5 $\pm$ 2.3	45.0 $\pm$ 5.0	36.3 - 53.7
STW-894	WATER	Oct, 2000	Cs-137	45.5 $\pm$ 2.3	45.0 $\pm$ 5.0	36.3 - 53.7
STW-894	WATER	Oct, 2000	Gr. Beta	209.0 $\pm$ 7.9	256.0 $\pm$ 38.4	189.0 - 323.0
STW-894	WATER	Oct, 2000	Sr-89	32.8 $\pm$ 3.0	41.3 $\pm$ 5.0	32.6 - 50.0
STW-894	WATER	Oct, 2000	Sr-90	16.0 $\pm$ 2.4	18.0 $\pm$ 5.0	9.3 - 26.7
STW-895	WATER	Nov, 2000	Gr. Alpha	50.3 $\pm$ 2.6	60.3 $\pm$ 15.1	34.4 - 86.2
STW-895	WATER	Nov, 2000	Gr. Beta	28.6 $\pm$ 1.3	25.5 $\pm$ 5.0	16.8 - 34.2
STW-896	WATER	Nov, 2000	Ba-133	78.0 $\pm$ 2.0	82.2 $\pm$ 8.2	68.0 - 96.4
STW-896	WATER	Nov, 2000	Co-60	30.8 $\pm$ 1.7	27.8 $\pm$ 5.0	19.1 - 36.5
STW-896	WATER	Nov, 2000	Cs-134	67.2 $\pm$ 3.3	76.0 $\pm$ 5.0	67.3 - 84.7
The mean value for Cs-134 of all participating laboratories was 70.7 pCi/L. Other gamma emitters are within limits, the counting efficiency is not suspect. Library values were reviewed and found to be correct.						
STW-896	WATER	Nov, 2000	Cs-137	109.0 $\pm$ 1.0	106.0 $\pm$ 5.3	96.8 - 115.0
STW-896	WATER	Nov, 2000	Zn-65	81.5 $\pm$ 7.4	79.0 $\pm$ 7.9	65.3 - 92.7

^a Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the environmental samples crosscheck program operated by Environmental Resources Associates (ERA).

^b All results are in pCi/L, except for elemental potassium (K) data in milk, which are in mg/L; air filter samples, which are in pCi/Filter.

^c Unless otherwise indicated, the laboratory results are given as the mean $\pm$ 2 standard deviations for three determinations.

^d Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

Table A-2. Crosscheck program results; Thermoluminescent Dosimeters. (TLDs).

Lab Code	TLD Type	Date	Measurement	mR		
				Laboratory results ± 2 Sigma	Known Value	Average ± 2 Sigma (All Participants)
<u>Environmental, Inc.</u>						
1999-1	LiF-100 Chips	Mar, 1999	Reader 1, #1	14.5 ± 0.5	15.4	-
1999-1	LiF-100 Chips	Mar, 1999	Reader 1, #2	29.3 ± 1.0	31.8	-
1999-1	LiF-100 Chips	Mar, 1999	Reader 1, #3	60.0 ± 0.2	59.1	-
<u>Environmental, Inc.</u>						
1999-2	CaSO ₄ : Dy Cards	Mar, 1999	Reader 1, #1	18.3 ± 0.5	15.4	-
1999-2	CaSO ₄ : Dy Cards	Mar, 1999	Reader 1, #2	35.9 ± 1.3	31.8	-
1999-2	CaSO ₄ : Dy Cards	Mar, 1999	Reader 1, #3	66.5 ± 4.4	59.1	-
Chips and Cards were irradiated by Teledyne Brown Engineering, Westwood, New Jersey, in March, 1999.						
<u>Environmental, Inc.</u>						
2000-1	LiF-100 Chips	Mar, 2000	Reader 1, #1	14.4 ± 0.2	17.8	-
2000-1	LiF-100 Chips	Mar, 2000	Reader 1, #2	32.4 ± 0.1	35.5	-
2000-1	LiF-100 Chips	Mar, 2000	Reader 1, #3	61.8 ± 0.9	62.2	-
<u>Environmental, Inc.</u>						
2000-2	CaSO ₄ : Dy Cards	Mar, 2000	Reader 1, #1	21.3 ± 0.3	17.8	-
2000-2	CaSO ₄ : Dy Cards	Mar, 2000	Reader 1, #2	40.1 ± 1.9	35.5	-
2000-2	CaSO ₄ : Dy Cards	Mar, 2000	Reader 1, #3	69.9 ± 3.5	62.2	-

Chips and Cards were irradiated by Teledyne Brown Engineering, Westwood, New Jersey, in March, 2000.

Table A-3. In-house "spike" samples.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^a		
				Laboratory results 2s, n=1 ^b	Known Activity	Control ^c Limits
SPW-271	WATER	Jan, 2000	Ra-226	14.81 ± 0.44	13.76	9.63 - 17.89
SPW-271	WATER	Jan, 2000	Ra-228	16.97 ± 2.12	14.68	10.28 - 19.08
SPW-272	WATER	Jan, 2000	Gr. Alpha	44.35 ± 1.95	41.14	20.57 - 61.71
SPW-272	WATER	Jan, 2000	Gr. Beta	31.19 ± 5.02	29.50	19.50 - 39.50
SPW-756	WATER	Jan, 2000	H-3	56339.00 ± 666.00	57667.00	46133.60 - 69200.40
SPW-480	WATER	Jan, 2000	Co-60	32.33 ± 2.87	28.36	18.36 - 38.36
SPW-480	WATER	Jan, 2000	Cs-137	35.58 ± 4.20	36.83	26.83 - 46.83
SPMI-482	MILK	Jan, 2000	Sr-90	16.93 ± 1.07	14.10	4.10 - 24.10
SPAP-484	AIR FILTER	Jan, 2000	Cs-137	1.84 ± 0.01	1.72	1.03 - 2.41
SPW-917	WATER	Feb, 2000	Gr. Alpha	16.59 ± 1.90	41.10	20.55 - 61.65
An insufficient amount of Am-241 spike was available for an accurate test.						
SPW-917	WATER	Feb, 2000	Gr. Beta	32.61 ± 2.06	29.43	19.43 - 39.43
SPW-918	WATER	Feb, 2000	Ra-226	21.15 ± 0.49	20.68	14.48 - 26.88
SPW-918	WATER	Feb, 2000	Ra-228	14.24 ± 1.64	14.51	10.16 - 18.86
SPVE-1262	VEGETATION	Mar, 2000	I-131(g)	1.17 ± 0.07	1.12	0.67 - 1.57
SPCH-1264	CHARCOAL CANISTER	Mar, 2000	I-131(g)	0.56 ± 0.02	0.53	0.32 - 0.74
SPMI-1274	MILK	Mar, 2000	I-131	47.02 ± 3.36	48.00	36.00 - 60.00
SPW-1301	WATER	Mar, 2000	I-131	66.03 ± 1.06	76.84	61.47 - 92.21
SPW-1301	WATER	Mar, 2000	I-131(g)	80.31 ± 6.28	76.84	66.84 - 86.84
SPW-1477	WATER	Mar, 2000	Gr. Alpha	32.09 ± 1.82	41.13	20.57 - 61.70
SPW-1477	WATER	Mar, 2000	Gr. Beta	29.20 ± 1.56	29.38	19.38 - 39.38
SPW-1478	WATER	Mar, 2000	Ra-226	21.78 ± 0.47	20.69	14.48 - 26.90
SPW-1478	WATER	Mar, 2000	Ra-228	14.41 ± 1.70	14.39	10.07 - 18.71
SPMI-2275	MILK	Apr, 2000	Cs-134	33.53 ± 2.82	32.12	22.12 - 42.12
SPMI-2275	MILK	Apr, 2000	Cs-137	36.38 ± 4.94	36.66	26.66 - 46.66
SPMI-2275	MILK	Apr, 2000	I-131	46.06 ± 0.82	55.50	44.40 - 66.60
SPW-2277	WATER	Apr, 2000	Ra-226	20.51 ± 0.44	20.68	14.48 - 26.88
SPW-2278	WATER	Apr, 2000	Gr. Alpha	40.22 ± 2.50	38.44	19.22 - 57.66
SPW-2278	WATER	Apr, 2000	Gr. Beta	32.63 ± 1.81	29.30	19.30 - 39.30
SPW-2278	WATER	Apr, 2000	Ra-228	14.91 ± 1.70	14.25	9.98 - 18.53
SPW-2279	WATER	Apr, 2000	Co-60	37.12 ± 3.86	34.54	24.54 - 44.54
SPW-2279	WATER	Apr, 2000	Cs-134	34.70 ± 3.32	32.12	22.12 - 42.12
SPW-2279	WATER	Apr, 2000	Cs-137	39.60 ± 5.12	36.66	26.66 - 46.66
SPW-2279	WATER	Apr, 2000	I-131	49.92 ± 0.67	55.50	44.40 - 66.60
SPW-2279	WATER	Apr, 2000	I-131(g)	60.63 ± 6.58	55.50	45.50 - 65.50
SPW-2281	WATER	Apr, 2000	H-3	58829.00 ± 682.00	56996.00	45596.80 - 68395.20
SPAP-3097	AIR FILTER	Apr, 2000	Cs-137	1.81 ± 0.02	1.71	1.03 - 2.39
SPW-3093	WATER	May, 2000	I-131	83.39 ± 1.06	85.38	68.30 - 102.46
SPW-3094	WATER	May, 2000	Ra-226	20.86 ± 0.42	20.68	14.48 - 26.88
SPW-3094	WATER	May, 2000	Ra-228	14.17 ± 1.59	14.12	9.88 - 18.36
SPW-3095	WATER	May, 2000	Gr. Alpha	38.99 ± 2.09	38.44	19.22 - 57.66

Table A-3. In-house "spike" samples.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^a		
				Laboratory results 2s, n=1 ^b	Known Activity	Control ^c Limits
SPW-3095	WATER	May, 2000	Gr. Beta	30.65 ± 1.53	29.30	19.30 - 39.30
SPAP-274	AIR FILTER	May, 2000	Gr. Beta	5.08 ± 0.03	5.97	-4.03 - 15.97
SPMI-3138	MILK	May, 2000	I-131	85.08 ± 1.05	85.38	68.30 - 102.46
SPF-3180	FISH	May, 2000	Cs-134	0.52 ± 0.02	0.50	0.30 - 0.70
SPF-3180	FISH	May, 2000	Cs-137	0.65 ± 0.04	0.59	0.35 - 0.82
SPAP-3902	AIR FILTER	Jun, 2000	Gr. Beta	5.81 ± 0.03	5.35	-4.65 - 15.35
SPF-5182	FISH	Jun, 2000	Cs-134	0.60 ± 0.04	0.59	0.35 - 0.83
SPF-5182	FISH	Jun, 2000	Cs-137	0.60 ± 0.05	0.58	0.35 - 0.81
SPW-3911	WATER	Jun, 2000	Ra-226	23.73 ± 0.85	20.68	14.48 - 26.88
SPW-3911	WATER	Jun, 2000	Ra-228	20.43 ± 1.77	20.75	14.53 - 26.98
SPW-3910	WATER	Jun, 2000	Gr. Alpha	38.28 ± 2.12	38.44	19.22 - 57.66
SPW-3910	WATER	Jun, 2000	Gr. Beta	35.14 ± 1.74	29.22	19.22 - 39.22
SPW-4342	WATER	Jun, 2000	Sr-89	73.70 ± 4.77	81.00	64.80 - 97.20
SPW-4342	WATER	Jun, 2000	Sr-90	58.13 ± 2.17	55.90	44.72 - 67.08
SPW-4687	WATER	Jul, 2000	Ra-226	21.07 ± 0.56	20.68	14.48 - 26.88
SPW-4687	WATER	Jul, 2000	Ra-228	16.35 ± 1.70	20.75	14.53 - 26.98
SPW-4688	WATER	Jul, 2000	H-3	56205.00 ± 663.00	56228.00	44982.40 - 67473.60
SPAP-4807	AIR FILTER	Jul, 2000	Gr. Beta	6.07 ± 0.02	5.96	-4.04 - 15.96
SPAP-4809	AIR FILTER	Jul, 2000	Cs-137	1.82 ± 0.02	1.71	1.03 - 2.39
SPMI-4856	MILK	Jul, 2000	Cs-134	33.24 ± 3.74	29.56	19.56 - 39.56
SPMI-4856	MILK	Jul, 2000	Cs-137	39.80 ± 6.77	36.45	26.45 - 46.45
SPMI-4856	MILK	Jul, 2000	Sr-89	46.35 ± 5.10	56.34	45.07 - 67.61
SPMI-4856	MILK	Jul, 2000	Sr-90	70.47 ± 2.06	69.73	55.78 - 83.68
SPW-5372	WATER	Jul, 2000	Co-60	33.31 ± 4.61	33.24	23.24 - 43.24
SPW-5372	WATER	Jul, 2000	Cs-134	59.70 ± 4.57	58.26	48.26 - 68.26
SPW-5372	WATER	Jul, 2000	Cs-137	40.00 ± 5.58	36.42	26.42 - 46.42
SPW-4686	WATER	Aug, 2000	Gr. Alpha	34.12 ± 1.71	38.43	19.22 - 57.65
SPW-4686	WATER	Aug, 2000	Gr. Beta	35.42 ± 1.51	29.21	19.21 - 39.21
SPW-5564	WATER	Aug, 2000	Sr-89	62.97 ± 4.73	67.61	54.09 - 81.13
SPW-5564	WATER	Aug, 2000	Sr-90	65.40 ± 2.47	55.70	44.56 - 66.84
SPW-5792	WATER	Aug, 2000	Ra-226	12.82 ± 0.30	13.79	9.65 - 17.93
SPW-5792	WATER	Aug, 2000	Ra-228	15.00 ± 1.21	13.69	9.58 - 17.80
SPW-6631	WATER	Sep, 2000	Ra-228	22.20 ± 2.20	20.32	14.22 - 26.42
SPW-6632	WATER	Sep, 2000	Ra-226	13.58 ± 0.29	13.79	9.65 - 17.93
SPW-6632	WATER	Sep, 2000	Ra-228	18.84 ± 2.59	20.32	14.22 - 26.42
SPW-6633	WATER	Sep, 2000	Fe-55	1757.00 ± 674.00	1852.00	1481.60 - 2222.40
SPW-5791	WATER	Sep, 2000	Gr. Alpha	52.28 ± 9.41	69.00	34.50 - 103.50
SPW-5791	WATER	Sep, 2000	Gr. Beta	34.60 ± 4.71	29.10	19.10 - 39.10
SPW-6630	WATER	Sep, 2000	Gr. Alpha	71.54 ± 7.15	69.14	34.57 - 103.71
SPW-6630	WATER	Sep, 2000	Gr. Beta	37.78 ± 1.62	29.04	19.04 - 39.04
SPW-7744	WATER	Oct, 2000	Ra-226	12.36 ± 0.25	13.79	9.65 - 17.93

Table A-3. In-house "spike" samples.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^a		
				Laboratory results 2s, n=1 ^b	Known Activity	Control ^c Limits
SPW-7744	WATER	Oct, 2000	Ra-228	10.37 ± 1.15	13.40	9.38 - 17.42
SPW-7745	WATER	Oct, 2000	H-3	54650.00 ± 643.00	55391.00	44312.80 - 66469.20
SPAP-7764	AIR FILTER	Oct, 2000	Gr. Beta	6.14 ± 0.03	5.91	-4.09 - 15.91
SPAP-7766	AIR FILTER	Oct, 2000	Cs-137	1.84 ± 0.01	1.69	1.01 - 2.37
SPMI-8347	MILK	Oct, 2000	Cs-134	29.18 ± 6.51	26.83	16.83 - 36.83
SPMI-8347	MILK	Oct, 2000	Cs-134	29.37 ± 3.63	26.83	16.83 - 36.83
SPMI-8347	MILK	Oct, 2000	Cs-137	39.04 ± 8.76	36.20	26.20 - 46.20
SPMI-8347	MILK	Oct, 2000	Cs-137	34.89 ± 5.71	36.20	26.20 - 46.20
SPF-8349	FISH	Oct, 2000	Cs-134	0.56 ± 0.02	0.54	0.32 - 0.75
SPF-8349	FISH	Oct, 2000	Cs-137	0.92 ± 0.04	0.87	0.52 - 1.22
SPW-8369	WATER	Oct, 2000	Co-60	32.49 ± 1.86	32.19	22.19 - 42.19
SPW-8369	WATER	Oct, 2000	Cs-134	55.87 ± 1.71	53.66	43.66 - 63.66
SPW-8369	WATER	Oct, 2000	Cs-137	36.46 ± 2.73	36.21	26.21 - 46.21
SPW-7743	WATER	Oct, 2000	Gr. Alpha	51.28 ± 2.28	69.10	34.55 - 103.65
SPW-7743	WATER	Oct, 2000	Gr. Beta	36.86 ± 1.66	29.00	19.00 - 39.00
SPW-9101	WATER	Nov, 2000	Ra-226	14.35 ± 0.24	13.79	9.65 - 17.93
SPW-9101	WATER	Nov, 2000	Ra-228	22.14 ± 1.56	20.09	14.06 - 26.12
SPW-9102	WATER	Dec, 2000	Gr. Alpha	77.76 ± 3.02	69.14	34.57 - 103.71
SPW-9102	WATER	Dec, 2000	Gr. Beta	36.71 ± 1.65	28.99	18.99 - 38.99
SPW-9726	WATER	Dec, 2000	Gr. Alpha	43.03 ± 2.18	69.14	34.57 - 103.71
SPW-9726	WATER	Dec, 2000	Gr. Beta	32.17 ± 1.55	28.89	18.89 - 38.89
SPW-9727	WATER	Dec, 2000	Ra-226	13.35 ± 0.29	13.79	9.65 - 17.93
SPW-9727	WATER	Dec, 2000	Ra-228	15.44 ± 1.23	19.75	13.83 - 25.68
SPCH-10228	CHARCOAL CANISTER	Dec, 2000	Ba-133	1.80 ± 0.05	2.11	1.26 - 2.95

^a All results are in pCi/L, except for elemental potassium (K) in milk, which are in mg/L.; air filter samples, which are in pCi/Filter; and food products, which are in mg/kg.

^b All samples are the results of single determinations.

^c Control limits are based on Attachment A, page A2 of this report.

NOTE: For fish, Jello is used for the spike matrix. For vegetation, Sawdust is used for the spike matrix.

Table A-4. In-house "blank" samples.

Lab Code	Sample Type	Sample Date	Analysis	Concentration pCi/L ^a		
				Laboratory results (4.66 Sigma)		Acceptance Criteria (4.66 Sigma)
				LLD	Activity ^b	
SPW-270	WATER	Jan 2000	Gr. Alpha	< 0.50	0.52 ± 0.41	< 1.0
SPW-270	WATER	Jan 2000	Gr. Beta	< 1.50	-0.34 ± 1.11	< 3.2
SPW-270	WATER	Jan 2000	Ra-226		0.06 ± 0.01	< 1.0
SPW-270	WATER	Jan 2000	Ra-228	< 0.94	0.14 ± 0.45	< 2.0
SPW-447	WATER	Jan 2000	H-3	< 184.00	-54.70 ± 88.60	< 200.0
SPW-481	WATER	Jan 2000	Co-60	< 2.42		< 10.0
SPW-481	WATER	Jan 2000	Cs-134	< 3.99		< 10.0
SPW-481	WATER	Jan 2000	Cs-137	< 2.90		< 10.0
SPMI-483	MILK	Jan 2000	Cs-137	< 2.73		< 10.0
SPMI-483	MILK	Jan 2000	Sr-90		1.03 ± 0.40	< 1.0
Low level of Sr-90 concentration in milk (1-5 pCi/L) is not unusual.						
SPAP-485	AIR FILTER	Jan 2000	Cs-137	< 1.64		< 100.0
SPW-919	WATER	Feb 2000	Gr. Alpha	< 0.80	0.56 ± 0.61	< 1.0
SPW-919	WATER	Feb 2000	Gr. Beta	< 1.65	0.11 ± 1.16	< 3.2
SPW-919	WATER	Feb 2000	Ra-226	< 0.02	0.02 ± 0.01	< 1.0
SPW-919	WATER	Feb 2000	Ra-228	< 0.60	0.02 ± 0.01	< 2.0
SPVE-1263	VEGETATION	Mar 2000	Cs-134	< 11.48		< 100.0
SPVE-1263	VEGETATION	Mar 2000	Cs-137	< 24.82		< 100.0
SPCH-1265	CHARCOAL CANISTER	Mar 2000	I-131(g)	< 7.00		< 9.6
SPMI-1292	MILK	Mar 2000	I-131	< 0.32	0.05 ± 0.18	< 0.5
SPMI-1292	MILK	Mar 2000	I-131(g)	< 4.60		< 20.0
SPW-1302	WATER	Mar 2000	I-131	< 0.30	0.01 ± 0.14	< 0.5
SPW-1479	WATER	Mar 2000	Gr. Alpha	< 0.84	-0.32 ± 0.53	< 1.0
SPW-1479	WATER	Mar 2000	Gr. Beta	< 1.86	-1.39 ± 1.19	< 3.2
SPW-1479	WATER	Mar 2000	Ra-226	< 0.01	0.06 ± 0.01	< 1.0
SPW-1479	WATER	Mar 2000	Ra-228	< 1.00	1.17 ± 0.60	< 2.0
SPMI-2276	MILK	Apr 2000	Cs-134	< 4.20		< 10.0
SPMI-2276	MILK	Apr 2000	Cs-137	< 3.33		< 10.0
SPMI-2276	MILK	Apr 2000	I-131	< 0.50	0.32 ± 0.30	< 0.5
SPW-2280	WATER	Apr 2000	Co-60	< 2.78		< 10.0
SPW-2280	WATER	Apr 2000	Cs-134	< 3.56		< 10.0

Table A-4. In-house "blank" samples.

Lab Code	Sample Type	Sample Date	Analysis	Concentration pCi/L ^a .		
				Laboratory results (4.66 Sigma)		Acceptance Criteria (4.66 Sigma)
				LLD	Activity ^b	
SPW-2280	WATER	Apr 2000	Cs-137	< 2.81		< 10.0
SPW-2280	WATER	Apr 2000	Gr. Alpha	< 0.60	0.55 ± 0.45	< 1.0
SPW-2280	WATER	Apr 2000	Gr. Beta	< 1.66	0.62 ± 1.11	< 3.2
SPW-2280	WATER	Apr 2000	I-131	< 0.29	-0.16 ± 0.19	< 0.5
SPW-2280	WATER	Apr 2000	I-131(g)	< 3.42		< 20.0
SPW-2280	WATER	Apr 2000	Ra-226		0.03 ± 0.01	< 1.0
SPW-2280	WATER	Apr 2000	Ra-228	< 0.87	0.65 ± 0.47	< 2.0
SPW-2282	WATER	Apr 2000	H-3	< 151.60	-5.40 ± 74.90	< 200.0
SPAP-3098	AIR FILTER	Apr 2000	Cs-137	< 1.37		< 100.0
SPW-3096	WATER	May 2000	Gr. Alpha	< 0.68		< 1.0
SPW-3096	WATER	May 2000	Gr. Beta	< 1.62		< 3.2
SPW-3096	WATER	May 2000	Ra-226		0.05 ± 0.01	< 1.0
SPW-3096	WATER	May 2000	Ra-228	< 0.90	0.05 ± 0.01	< 2.0
SPAP-273	AIR FILTER	May 2000	Gr. Beta	< 0.54	0.90 ± 0.32	< 3.2
SPMI-3139	MILK	May 2000	I-131	< 0.33		< 0.5
SPF-3181	FISH	May 2000	Cs-134	< 3.02		< 100.0
SPF-3181	FISH	May 2000	Cs-137	< 4.99		< 100.0
SPAP-3903	AIR FILTER	Jun 2000	Gr. Beta	< 0.48		< 3.2
SPW-3912	WATER	Jun 2000	Gr. Alpha	< 0.35	0.28 ± 0.28	< 1.0
SPW-3912	WATER	Jun 2000	Gr. Beta	< 1.22	0.54 ± 0.86	< 3.2
SPW-3912	WATER	Jun 2000	Ra-226		0.04 ± 0.02	< 1.0
SPW-3912	WATER	Jun 2000	Ra-228	< 0.65		< 2.0
SPMI-4343	MILK	Jun 2000	Sr-89	< 0.73		< 5.0
SPMI-4343	MILK	Jun 2000	Sr-90	< 0.56		< 1.0
SPW-4689	WATER	Jul 2000	Ra-226		0.03 ± 0.01	< 1.0
SPW-4689	WATER	Jul 2000	Ra-228	< 0.93	1.11 ± 0.55	< 2.0
SPW-4690	WATER	Jul 2000	H-3	< 178.00	18.57 ± 89.13	< 200.0
SPW-4808	WATER	Jul 2000	Gr. Alpha	< 0.45		< 1.0
SPAP-4810	AIR FILTER	Jul 2000	Cs-137	< 2.18		< 100.0
SPMI-4857	MILK	Jul 2000	Cs-137	< 6.13		< 10.0
SPMI-4857	MILK	Jul 2000	I-131(g)	< 7.19		< 20.0

Table A-4. In-house "blank" samples.

Lab Code	Sample Type	Sample Date	Analysis	Concentration pCi/L ^a .		
				Laboratory results (4.66 Sigma)		Acceptance Criteria (4.66 Sigma)
				LLD	Activity ^b	
SPMI-4857	MILK	Jul 2000	Sr-89	< 0.66		< 5.0
SPMI-4857	MILK	Jul 2000	Sr-90		1.15 ± 0.32	< 1.0
Low level of Sr-90 concentration in milk (1-5 pCi/L) is not unusual.						
SPF-5183	FISH	Jul 2000	Cs-134	< 17.71		< 100.0
SPF-5183	FISH	Jul 2000	Cs-137	< 12.81		< 100.0
SPW-4689	WATER	Jul 2000	Gr. Alpha	< 0.50		< 1.0
SPW-4689	WATER	Jul 2000	Gr. Beta	< 1.20		< 3.2
SPW-5373	WATER	Jul 2000	Co-60	< 5.20		< 10.0
SPW-5373	WATER	Jul 2000	Cs-134	< 4.80		< 10.0
SPW-5373	WATER	Jul 2000	Cs-137	< 4.00		< 10.0
SPW-5565	WATER	Aug 2000	Sr-89	< 1.56	-0.64 ± 1.11	< 5.0
SPW-5565	WATER	Aug 2000	Sr-90	< 0.59	0.17 ± 0.30	< 1.0
SPW-5793	WATER	Aug 2000	Gr. Alpha	< 0.51	0.02 ± 0.36	< 1.0
SPW-5793	WATER	Aug 2000	Ra-226		0.05 ± 0.02	< 1.0
SPW-5793	WATER	Aug 2000	Ra-228	< 0.95	0.26 ± 0.47	< 2.0
SPW-5793	WATER	Aug 2000	Gr. Beta	< 1.40	-0.13 ± 1.01	< 3.2
SPW-6634	WATER	Sep 2000	Fe-55	< 617.00	-105.90 ± 453.40	< 1000.0
SPW-6634	WATER	Sep 2000	Ra-226	< 0.01	0.03 ± 0.01	< 1.0
SPW-6634	WATER	Sep 2000	Ra-228	< 0.99	0.36 ± 0.51	< 2.0
SPW-6634	WATER	Sep 2000	Gr. Alpha	< 0.67	-0.22 ± 0.45	< 1.0
SPW-6634	WATER	Sep 2000	Gr. Beta	< 1.60	-0.20 ± 1.12	< 3.2
SPSO-10595	SOIL	Oct 2000	Cs-134	< 16.87		< 100.0
SPSO-10595	SOIL	Oct 2000	Cs-137	< 9.40		< 100.0
SPW-7746	WATER	Oct 2000	Ra-226	< 0.03	0.04 ± 0.02	< 1.0
SPW-7746	WATER	Oct 2000	Ra-228	< 1.08	0.00 ± 0.87	< 2.0
SPW-7747	WATER	Oct 2000	H-3	< 158.00	-38.00 ± 77.00	< 200.0
SPAP-7765	AIR FILTER	Oct 2000	Gr. Beta	< 0.64	0.00 ± 0.00	< 3.2
SPAP-7767	AIR FILTER	Oct 2000	Co-60	< 0.19		< 100.0
SPAP-7767	AIR FILTER	Oct 2000	Cs-134	< 0.32		< 100.0
SPAP-7767	AIR FILTER	Oct 2000	Cs-137	< 2.32		< 100.0
SPMI-8348	MILK	Oct 2000	Cs-134	< 3.35		< 10.0
SPMI-8348	MILK	Oct 2000	Cs-137	< 3.07		< 10.0

Table A-4. In-house "blank" samples.

Lab Code	Sample Type	Sample Date	Analysis	Concentration pCi/L ^a .		
				Laboratory results (4.66 Sigma)		Acceptance Criteria (4.66 Sigma)
				LLD	Activity ^b	
SPF-8350	FISH	Oct 2000	Cs-134	< 10.26		< 100.0
SPF-8350	FISH	Oct 2000	Cs-137	< 10.51		< 100.0
SPW-8370	WATER	Oct 2000	Co-60	< 4.67		< 10.0
SPW-8370	WATER	Oct 2000	Cs-134	< 5.28		< 10.0
SPW-8370	WATER	Oct 2000	Cs-137	< 4.93		< 10.0
SPW-7746	WATER	Oct 2000	Gr. Alpha	< 0.46	0.06 ± 0.33	< 1.0
SPW-7746	WATER	Oct 2000	Gr. Beta	< 1.24	0.00 ± 0.87	< 3.2
SPW-9103	WATER	Nov 2000	Ra-226	< 0.01	0.02 ± 0.01	< 1.0
SPW-9103	WATER	Nov 2000	Ra-228	< 1.00	0.14 ± 0.48	< 2.0
SPW-9729	WATER	Dec 2000	Gr. Alpha	< 0.46	0.23 ± 0.36	< 1.0
SPW-9729	WATER	Dec 2000	Gr. Beta	< 1.33	-0.46 ± 0.98	< 3.2
SPW-9729	WATER	Dec 2000	Ra-226	< 0.02	0.05 ± 0.01	< 1.0
SPW-9729	WATER	Dec 2000	Ra-228	< 0.70	0.22 ± 0.35	< 2.0
SPW-9103	WATER	Dec 2000	Gr. Alpha	< 0.51	-0.11 ± 0.37	< 1.0
SPW-9103	WATER	Dec 2000	Gr. Beta	< 1.21	0.55 ± 0.91	< 3.2
SPCH-10583	CHARCOAL CANISTER	Dec 2000	I-131(g)	< 1.49		< 9.6

^a Liquid sample results are reported in pCi/Liter, air filter sample results are in pCi/filter, charcoal sample results are in pCi/charcoal, and solid sample results are in pCi/kilogram.

^b The activity reported is the net activity result.

Table A-5. In-house "duplicate" samples.

Lab Codes	Sample Date	Analysis	Concentration in pCi/L ^a		
			First Result	Second Result	Averaged Result
CF-23, 24	Jan, 2000	Gr. Beta	13.05 ± 0.39	12.46 ± 0.36	12.75 ± 0.26
CF-23, 24	Jan, 2000	K-40	13.00 ± 0.90	11.73 ± 0.79	12.36 ± 0.60
CF-23, 24	Jan, 2000	Sr-90	0.01 ± 0.00	0.01 ± 0.00	0.01 ± 0.00
WW-65, 66	Jan, 2000	Co-60	-0.53 ± 1.62	0.44 ± 2.11	-0.04 ± 1.33
WW-65, 66	Jan, 2000	Cs-137	-2.13 ± 1.70	0.41 ± 2.35	-0.86 ± 1.45
WW-65, 66	Jan, 2000	H-3	131.62 ± 84.13	182.81 ± 86.33	157.22 ± 60.27
WW-686, 687	Jan, 2000	Gr. Beta	4.76 ± 1.22	4.59 ± 1.27	4.67 ± 0.88
AP-1204, 1205	Jan, 2000	Be-7	0.19 ± 0.09	0.10 ± 0.07	0.14 ± 0.06
SW-68, 69	Jan, 2000	K-40 (FP)	1.30 ± 0.13	1.30 ± 0.13	1.30 ± 0.09
MI-277, 278	Jan, 2000	I-131	-0.08 ± 0.27	-0.00 ± 0.26	-0.04 ± 0.19
MI-277, 278	Jan, 2000	K-40	1,664.70 ± 113.20	1,431.30 ± 90.30	1,548.00 ± 72.40
MI-277, 278	Jan, 2000	Sr-90	0.63 ± 0.42	0.51 ± 0.40	0.57 ± 0.29
SW-728, 729	Jan, 2000	Co-60	0.39 ± 1.79	1.04 ± 1.53	0.72 ± 1.18
SW-728, 729	Jan, 2000	Cs-137	-0.67 ± 1.86	1.22 ± 1.38	0.27 ± 1.16
SW-403, 404	Jan, 2000	H-3	795.21 ± 109.04	857.22 ± 111.09	826.22 ± 77.83
SWT-437, 438	Jan, 2000	Gr. Beta	1.73 ± 0.57	2.60 ± 0.58	2.16 ± 0.41
PW-637, 638	Jan, 2000	Co-60	4.90 ± 2.92	-2.56 ± 2.80	1.17 ± 2.02
PW-637, 638	Jan, 2000	Cs-137	2.73 ± 2.51	-1.68 ± 2.71	0.53 ± 1.85
PW-637, 638	Jan, 2000	Gr. Beta	1.67 ± 1.31	4.00 ± 1.59	2.83 ± 1.03
SW-587, 588	Jan, 2000	Co-60	-1.24 ± 1.86	-0.27 ± 1.79	-0.76 ± 1.29
SW-587, 588	Jan, 2000	Cs-137	1.35 ± 1.94	0.23 ± 1.80	0.79 ± 1.32
SW-587, 588	Jan, 2000	Gr. Beta	3.80 ± 1.56	6.76 ± 1.75	5.28 ± 1.17
SW-611, 612	Jan, 2000	H-3	2,229.26 ± 158.61	2,115.19 ± 155.80	2,172.23 ± 111.16
SW-459, 460	Feb, 2000	Gr. Beta	2.15 ± 0.94	2.79 ± 0.94	2.47 ± 0.66
WW-774, 775	Feb, 2000	Co-60	4.26 ± 3.48	1.61 ± 4.46	2.93 ± 2.83
WW-774, 775	Feb, 2000	Cs-137	-1.19 ± 3.78	2.37 ± 4.65	0.59 ± 2.99
WW-774, 775	Feb, 2000	H-3	2,841.35 ± 174.48	2,566.76 ± 168.19	2,704.05 ± 121.17
SW-707, 708	Feb, 2000	Gr. Alpha	2.20 ± 1.73	0.16 ± 1.29	1.18 ± 1.08
SW-707, 708	Feb, 2000	Gr. Beta	7.90 ± 1.70	7.70 ± 1.70	7.80 ± 1.20
SW-707, 708	Feb, 2000	H-3	117.00 ± 92.00	69.00 ± 90.00	93.00 ± 64.35
CW-854, 855	Feb, 2000	Gr. Beta	2.13 ± 1.36	1.34 ± 1.25	1.74 ± 0.93
SW-881, 882	Feb, 2000	H-3	1,794.91 ± 145.81	1,762.31 ± 144.95	1,778.61 ± 102.80
SW-959, 960	Feb, 2000	Gr. Alpha	1.04 ± 1.00	0.92 ± 0.67	0.98 ± 0.60
SW-959, 960	Feb, 2000	Gr. Beta	1.24 ± 0.89	1.79 ± 0.90	1.51 ± 0.63
PW-1055, 1056	Feb, 2000	Co-60	-0.72 ± 3.18	1.73 ± 1.89	0.51 ± 1.85
PW-1055, 1056	Feb, 2000	Cs-137	-0.55 ± 2.81	0.90 ± 1.86	0.72 ± 1.69
PW-1055, 1056	Feb, 2000	Gr. Beta	2.40 ± 1.52	2.20 ± 1.50	2.30 ± 1.07

Table A-5. In-house "duplicate" samples.

Lab Codes	Sample Date	Analysis	Concentration in pCi/L ^a		
			First Result	Second Result	Averaged Result
MI-1079, 1080	Mar, 2000	Calcium	0.79 ± 0.08	0.78 ± 0.08	0.79 ± 0.06
MI-1079, 1080	Mar, 2000	K-40	1,229.00 ± 138.00	1,387.00 ± 162.00	1,308.00 ± 106.40
MI-1079, 1080	Mar, 2000	Sr-90	0.90 ± 0.40	1.70 ± 0.50	1.30 ± 0.32
CW-1156, 1157	Mar, 2000	H-3	1,994.51 ± 143.09	2,012.54 ± 143.55	2,003.53 ± 101.34
SW-1967, 1968	Mar, 2000	Gr. Beta	11.96 ± 1.31	12.57 ± 1.31	12.27 ± 0.93
SW-2468, 2469	Mar, 2000	Sr-90	0.93 ± 0.45	0.50 ± 0.29	0.72 ± 0.27
WW-1402, 1403	Mar, 2000	H-3	93.34 ± 97.05	60.63 ± 95.75	76.98 ± 68.17
LW-1269, 1270	Mar, 2000	Gr. Beta	1.97 ± 0.57	3.22 ± 0.69	2.60 ± 0.45
AP-,	Mar, 2000	Be-7	0.06 ± 0.01	0.07 ± 0.01	0.07 ± 0.01
MI-1541, 1542	Mar, 2000	K-40	1,380.00 ± 122.00	1,476.00 ± 158.00	1,428.00 ± 99.81
CW-1571, 1572	Mar, 2000	Gr. Beta	2.29 ± 1.48	1.35 ± 1.27	1.82 ± 0.98
CW-1693, 1694	Mar, 2000	Gr. Beta	0.56 ± 1.18	1.91 ± 1.49	1.24 ± 0.95
SWT-,	Mar, 2000	Gr. Beta	2.36 ± 0.65	2.01 ± 0.57	2.19 ± 0.43
WW-1916, 1917	Mar, 2000	H-3	25.37 ± 90.21	3.90 ± 89.27	14.63 ± 63.46
AP-2155, 2156	Mar, 2000	Be-7	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01
SWU-2547, 2548	Mar, 2000	Sr-90	0.57 ± 0.24	0.55 ± 0.24	0.56 ± 0.17
CW-1798, 1799	Mar, 2000	Gr. Beta	2.73 ± 1.85	0.76 ± 1.71	1.75 ± 1.26
AP-2176, 2177	Mar, 2000	Be-7	0.06 ± 0.01	0.08 ± 0.02	0.07 ± 0.01
WW-2046, 2047	Mar, 2000	H-3	221.85 ± 101.64	185.19 ± 100.24	203.52 ± 71.38
SW-1967, 1968	Apr, 2000	K-40	9.20 ± 0.90	9.10 ± 0.90	9.15 ± 0.64
SW-2241, 2242	Apr, 2000	Gr. Alpha	2.49 ± 1.44	3.15 ± 1.53	2.82 ± 1.05
SW-2241, 2242	Apr, 2000	Gr. Beta	8.37 ± 1.36	7.20 ± 1.29	7.79 ± 0.94
WW-,	Apr, 2000	Gr. Beta	4.20 ± 0.64	4.68 ± 0.73	4.44 ± 0.49
WW-2711, 2712	Apr, 2000	Cs-137	-0.76 ± 2.19	1.43 ± 3.63	0.34 ± 2.12
WW-2711, 2712	Apr, 2000	H-3	3,877.05 ± 192.54	3,951.88 ± 193.99	3,914.46 ± 136.66
WW-2511, 2512	Apr, 2000	H-3	108.10 ± 79.80	127.80 ± 80.70	117.95 ± 56.75
SO-2435, 2436	Apr, 2000	K-40	4.73 ± 0.38	4.83 ± 0.53	4.78 ± 0.33
SS-2669, 2670	Apr, 2000	K-40	8.60 ± 0.55	9.18 ± 0.45	8.89 ± 0.36
SWU-2732, 2733	Apr, 2000	Gr. Beta	3.33 ± 0.68	3.19 ± 0.69	3.26 ± 0.48
PW-2605, 2606	Apr, 2000	Co-60	0.36 ± 1.10	1.05 ± 2.03	0.71 ± 1.16
PW-2605, 2606	Apr, 2000	Cs-137	-0.07 ± 0.93	-0.98 ± 2.37	-0.53 ± 1.27
PW-2605, 2606	Apr, 2000	Gr. Beta	1.51 ± 1.31	2.91 ± 1.39	2.21 ± 0.96
WW-2711, 2712	Apr, 2000	H-3	3,877.00 ± 192.50	3,951.90 ± 194.00	3,914.45 ± 136.65
WW-2711, 2712	Apr, 2000	Co-60	0.97 ± 1.93	0.82 ± 3.64	0.90 ± 2.06
BS-3212, 3213	Apr, 2000	Gr. Beta	7.90 ± 1.97	7.57 ± 1.88	7.74 ± 1.36
SW-,	May, 2000	K-40	1.30 ± 0.13	1.20 ± 0.12	1.25 ± 0.09
MI-2810, 2811	May, 2000	K-40	1,285.00 ± 111.00	1,338.00 ± 127.00	1,311.50 ± 84.34

Table A-5. In-house "duplicate" samples.

Lab Codes	Sample Date	Analysis	Concentration in pCi/L ^a		
			First Result	Second Result	Averaged Result
SW-3003, 3004	May, 2000	Gr. Beta	5.06 ± 0.73	5.27 ± 0.73	5.17 ± 0.52
F-2831, 2832	May, 2000	Co-60	0.01 ± 0.01	0.00 ± 0.01	0.01 ± 0.01
F-2831, 2832	May, 2000	Cs-137	-0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
WW-3128, 3129	May, 2000	Gr. Beta	5.41 ± 1.35	4.43 ± 1.22	4.92 ± 0.91
BS-3411, 3412	May, 2000	Co-60	-0.00 ± 0.01	0.01 ± 0.01	0.00 ± 0.01
BS-3411, 3412	May, 2000	Cs-137	0.01 ± 0.01	0.00 ± 0.01	0.00 ± 0.00
F-3436, 3437	May, 2000	Co-60	0.01 ± 0.01	0.00 ± 0.01	0.01 ± 0.00
F-3436, 3437	May, 2000	Cs-137	0.00 ± 0.01	-0.00 ± 0.00	-0.00 ± 0.00
F-2978, 2979	May, 2000	K-40	2.72 ± 0.26	2.14 ± 0.30	2.43 ± 0.20
SS-3482, 3483	May, 2000	Cs-137	0.11 ± 0.03	0.12 ± 0.03	0.12 ± 0.02
SS-3482, 3483	May, 2000	K-40	11.26 ± 0.57	11.37 ± 0.54	11.32 ± 0.39
BS-3458, 3459	May, 2000	Co-60	0.01 ± 0.01	0.02 ± 0.01	0.01 ± 0.01
BS-3458, 3459	May, 2000	Cs-137	0.04 ± 0.01	0.03 ± 0.02	0.03 ± 0.01
MI-3510, 3511	May, 2000	Co-60	0.48 ± 3.05	-0.80 ± 2.74	-0.16 ± 2.05
MI-3510, 3511	May, 2000	Cs-137	1.17 ± 2.96	0.38 ± 2.60	0.77 ± 1.97
MI-3510, 3511	May, 2000	I-131	-0.06 ± 0.25	-0.04 ± 0.24	-0.05 ± 0.17
SO-3629, 3630	May, 2000	Cs-137	0.23 ± 0.03	0.20 ± 0.03	0.22 ± 0.02
SO-3629, 3630	May, 2000	Gr. Beta	20.49 ± 2.82	19.14 ± 2.73	19.82 ± 1.96
SO-3629, 3630	May, 2000	K-40	13.03 ± 0.61	12.25 ± 0.57	12.64 ± 0.42
SW-3904, 3905	May, 2000	Gr. Beta	6.27 ± 1.83	7.02 ± 1.90	6.65 ± 1.32
SW-3904, 3905	May, 2000	Co-60	-0.65 ± 1.54	1.32 ± 1.77	0.33 ± 1.17
SW-3904, 3905	May, 2000	Cs-137	0.19 ± 1.22	-0.16 ± 1.15	0.01 ± 0.84
SW-3904, 3905	May, 2000	Gr. Beta	6.27 ± 1.83	7.02 ± 1.90	6.64 ± 1.32
SP-3833, 3834	May, 2000	Gr. Alpha	4.19 ± 1.34	3.22 ± 1.20	3.71 ± 0.90
MI-3105, 3106	May, 2000	K-40	1,460.00 ± 173.00	1,452.00 ± 110.00	1,456.00 ± 102.50
VE-3191, 3192	May, 2000	Be-7	0.42 ± 0.23	0.39 ± 0.16	0.40 ± 0.14
VE-3191, 3192	May, 2000	Gr. Alpha	0.15 ± 0.06	0.28 ± 0.07	0.22 ± 0.05
VE-3191, 3192	May, 2000	Gr. Beta	3.76 ± 0.13	3.88 ± 0.14	3.82 ± 0.10
VE-3191, 3192	May, 2000	K-40	3.58 ± 0.43	3.47 ± 0.72	3.53 ± 0.42
MI-3718, 3719	May, 2000	K-40	1,447.00 ± 165.00	1,444.00 ± 177.00	1,445.50 ± 120.99
DW-3770, 3771	May, 2000	Gr. Beta	5.92 ± 1.32	4.54 ± 1.10	5.23 ± 0.86
MI-3653, 3654	Jun, 2000	K-40	1,407.00 ± 170.00	1,388.00 ± 102.00	1,397.50 ± 99.13
SW-4614, 4615	Jun, 2000	Sr-90	0.50 ± 0.27	0.55 ± 0.27	0.53 ± 0.19
WW-3883, 3884	Jun, 2000	H-3	4,401.80 ± 204.60	4,298.00 ± 202.70	4,349.90 ± 144.00
WW-3883, 3884	Jun, 2000	Co-60	0.91 ± 3.01	-0.28 ± 1.52	0.32 ± 1.69
WW-3883, 3884	Jun, 2000	Cs-137	0.49 ± 2.16	-0.66 ± 1.82	0.57 ± 1.41
WW-3883, 3884	Jun, 2000	H-3	4,401.78 ± 204.63	4,297.96 ± 202.67	4,349.87 ± 144.00

Table A-5. In-house "duplicate" samples.

Lab Codes	Sample Date	Analysis	Concentration in pCi/L ^a		
			First Result	Second Result	Averaged Result
BS-3980, 3981	Jun, 2000	Cs-137	0.07 ± 0.02	0.08 ± 0.02	0.08 ± 0.01
BS-3980, 3981	Jun, 2000	Cs-137	0.06 ± 0.02	0.07 ± 0.02	0.07 ± 0.01
BS-3980, 3981	Jun, 2000	K-40	1,458.60 ± 69.40	1,421.90 ± 52.20	1,440.25 ± 43.42
VE-4065, 4066	Jun, 2000	K-40	6.37 ± 0.54	6.34 ± 0.51	6.36 ± 0.37
WW-4252, 4253	Jun, 2000	H-3	705.40 ± 114.10	718.90 ± 114.60	712.15 ± 80.86
TSWU-4283, 4284	Jun, 2000	Gr. Beta	3.24 ± 0.63	3.11 ± 0.62	3.18 ± 0.44
F-4438, 4439	Jun, 2000	Gr. Beta	2.25 ± 0.06	2.13 ± 0.06	2.19 ± 0.04
SW-4459, 4460	Jun, 2000	H-3	532.20 ± 108.10	670.50 ± 112.90	601.35 ± 78.15
WW-4480, 4481	Jun, 2000	H-3	601.50 ± 99.50	573.10 ± 108.50	587.30 ± 73.61
SW-4375, 4376	Jun, 2000	Gr. Beta	4.53 ± 1.59	4.43 ± 1.54	4.48 ± 1.11
SW-4375, 4376	Jun, 2000	Cs-137	-0.09 ± 1.61	-0.43 ± 1.39	-0.26 ± 1.06
AP-,	Jun, 2000	Be-7	0.06 ± 0.02	0.07 ± 0.01	0.07 ± 0.01
AP-4712, 4713	Jun, 2000	Be-7	0.07 ± 0.02	0.09 ± 0.02	0.08 ± 0.01
SW-4537, 4538	Jun, 2000	H-3	584.10 ± 108.80	599.20 ± 109.30	591.65 ± 77.11
SL-4636, 4637	Jul, 2000	Be-7	0.93 ± 0.18	0.56 ± 0.12	0.75 ± 0.11
SL-4636, 4637	Jul, 2000	Gr. Beta	2.41 ± 0.32	2.69 ± 0.32	2.55 ± 0.23
SL-4636, 4637	Jul, 2000	K-40	1.25 ± 0.24	1.13 ± 0.30	1.19 ± 0.19
SL-4636, 4637	Jul, 2000	Sr-90	0.04 ± 0.02	0.05 ± 0.03	0.05 ± 0.02
G-4667, 4668	Jul, 2000	Be-7	0.93 ± 0.20	0.98 ± 0.31	0.96 ± 0.18
G-4667, 4668	Jul, 2000	Gr. Beta	6.16 ± 0.13	6.68 ± 0.14	6.42 ± 0.10
G-4667, 4668	Jul, 2000	K-40	7.72 ± 0.51	8.43 ± 0.83	8.08 ± 0.49
WW-4818, 4819	Jul, 2000	H-3	13.30 ± 77.10	29.70 ± 77.90	21.50 ± 54.80
MI-4839, 4840	Jul, 2000	K-40	1,313.00 ± 173.00	1,398.00 ± 161.00	1,355.50 ± 118.16
MI-4949, 4950	Jul, 2000	K-40	1,307.00 ± 56.00	1,346.00 ± 58.00	1,326.50 ± 40.31
LW-4991, 4992	Jul, 2000	Gr. Beta	2.78 ± 0.66	2.22 ± 0.55	2.50 ± 0.43
MI-4903, 4904	Jul, 2000	K-40	1,383.10 ± 193.20	1,328.00 ± 153.10	1,355.55 ± 123.25
MI-4881, 4882	Jul, 2000	K-40	1,538.40 ± 103.00	1,438.00 ± 125.30	1,488.20 ± 81.10
MI-4881, 4882	Jul, 2000	Sr-90	1.01 ± 0.37	1.38 ± 0.42	1.19 ± 0.28
G-5388, 5389	Jul, 2000	Be-7	1.64 ± 0.16	1.52 ± 0.21	1.58 ± 0.13
G-5388, 5389	Jul, 2000	K-40	5.51 ± 0.33	5.86 ± 0.49	5.69 ± 0.30
G-5388, 5389	Jul, 2000	Gr. Beta	5.64 ± 0.15	5.81 ± 0.15	5.73 ± 0.11
SWU-5473, 5474	Jul, 2000	Gr. Beta	3.50 ± 0.67	3.17 ± 0.61	3.34 ± 0.45
SW-5410, 5411	Jul, 2000	Gr. Beta	1.95 ± 0.81	1.89 ± 1.04	1.92 ± 0.66
PW-5550, 5551	Jul, 2000	Gr. Beta	0.71 ± 1.15	2.50 ± 1.49	1.61 ± 0.94
WW-5623, 5624	Jul, 2000	H-3	22,713.90 ± 429.00	22,265.50 ± 424.90	22,489.70 ± 301.90
MI-5529, 5530	Aug, 2000	K-40	1,396.80 ± 103.80	1,278.20 ± 117.50	1,337.50 ± 78.39
VE-,	Aug, 2000	K-40	1.66 ± 0.32	1.93 ± 0.33	1.80 ± 0.23

Table A-5. In-house "duplicate" samples.

Lab Codes	Sample Date	Analysis	Concentration in pCi/L ^a		
			First Result	Second Result	Averaged Result
MI-5808, 5809	Aug, 2000	K-40	1,261.90 ± 124.40	1,234.40 ± 152.80	1,248.15 ± 98.52
CW-6514, 6515	Aug, 2000	Gr. Beta	1.42 ± 0.37	1.44 ± 0.41	1.43 ± 0.28
MI-5933, 5934	Aug, 2000	Calcium	0.88 ± 0.09	0.89 ± 0.09	0.89 ± 0.06
MI-5933, 5934	Aug, 2000	Sr-90	3.29 ± 0.51	1.72 ± 0.47	2.51 ± 0.35
VE-6002, 6003	Aug, 2000	Sr-90	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
VE-6002, 6003	Aug, 2000	K-40	1.44 ± 0.23	1.78 ± 0.18	1.61 ± 0.14
PW-6209, 6210	Aug, 2000	H-3	528.20 ± 112.70	578.50 ± 114.50	553.35 ± 80.33
SW-6291, 6292	Aug, 2000	Gr. Beta	4.14 ± 1.58	1.95 ± 1.32	3.05 ± 1.03
WW-6312, 6313	Aug, 2000	H-3	7,804.20 ± 262.70	7,221.70 ± 253.80	7,512.95 ± 182.64
WW-5981, 5982	Aug, 2000	Gr. Beta	4.85 ± 0.78	5.87 ± 0.79	5.36 ± 0.56
PW-6341, 6342	Aug, 2000	Gr. Beta	2.45 ± 1.42	2.63 ± 1.37	2.54 ± 0.99
CW-6514, 6515	Aug, 2000	H-3	5,600.10 ± 226.80	5,434.30 ± 223.90	5,517.20 ± 159.35
MI-6409, 6410	Sep, 2000	I-131	-0.04 ± 0.23	0.19 ± 0.24	0.08 ± 0.17
MI-6409, 6410	Sep, 2000	K-40	1,367.80 ± 111.40	1,368.60 ± 107.50	1,368.20 ± 77.41
MI-6409, 6410	Sep, 2000	Sr-90	1.19 ± 0.35	0.80 ± 0.30	1.00 ± 0.23
MI-6542, 6543	Sep, 2000	K-40	1,298.00 ± 140.10	1,470.60 ± 139.70	1,384.30 ± 98.92
MI-6450, 6451	Sep, 2000	K-40	1,237.20 ± 102.10	1,328.10 ± 108.30	1,282.65 ± 74.42
MI-7102, 7103	Sep, 2000	I-131	-0.11 ± 0.23	-0.02 ± 0.25	-0.07 ± 0.17
MI-7102, 7103	Sep, 2000	K-40	1,473.10 ± 101.40	1,400.70 ± 168.60	1,436.90 ± 98.37
SWT-7262, 7263	Sep, 2000	Gr. Beta	3.45 ± 0.66	2.32 ± 0.57	2.89 ± 0.44
SWU-7283, 7284	Sep, 2000	Gr. Beta	2.75 ± 0.55	2.87 ± 0.56	2.81 ± 0.39
SWU-7283, 7284	Sep, 2000	H-3	197.76 ± 94.07	172.31 ± 93.00	185.04 ± 66.14
SW-7081, 7082	Sep, 2000	H-3	89.32 ± 92.99	42.38 ± 90.37	65.85 ± 64.83
AP-7685, 7686	Sep, 2000	Be-7	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01
AP-7706, 7707	Sep, 2000	Be-7	0.06 ± 0.01	0.05 ± 0.01	0.05 ± 0.01
SW-7482, 7483	Sep, 2000	Gr. Beta	5.31 ± 1.75	6.70 ± 1.85	6.01 ± 1.27
SP-7347, 7348	Sep, 2000	Gr. Alpha	6.12 ± 1.54	5.68 ± 1.49	5.90 ± 1.07
SW-7436, 7437	Sep, 2000	H-3	40.60 ± 79.90	72.00 ± 81.40	56.30 ± 57.03
CW-7748, 7749	Sep, 2000	Gr. Alpha	0.47 ± 0.28	0.65 ± 0.36	0.56 ± 0.23
CW-7748, 7749	Sep, 2000	Gr. Beta	2.35 ± 0.39	2.02 ± 0.38	2.19 ± 0.27
SL-7304, 7305	Oct, 2000	Gr. Beta	2.94 ± 0.23	2.90 ± 0.23	2.92 ± 0.17
SL-7304, 7305	Oct, 2000	K-40	1.14 ± 0.36	1.73 ± 0.58	1.44 ± 0.34
BS-7369, 7370	Oct, 2000	Cs-137	10.79 ± 4.96	20.04 ± 9.40	15.41 ± 5.31
SO-7950, 7951	Oct, 2000	Ac-228	0.66 ± 0.10	0.77 ± 0.10	0.72 ± 0.07
SO-7950, 7951	Oct, 2000	Bi-214	0.42 ± 0.06	0.57 ± 0.07	0.49 ± 0.05
SO-7950, 7951	Oct, 2000	Cs-137	0.20 ± 0.31	0.21 ± 0.04	0.20 ± 0.16
SO-7950, 7951	Oct, 2000	Gr. Beta	29.22 ± 1.98	28.02 ± 1.98	28.62 ± 1.40

Table A-5. In-house "duplicate" samples.

Lab Codes	Sample Date	Analysis	Concentration in pCi/L ^a		
			First Result	Second Result	Averaged Result
SO-7950, 7951	Oct, 2000	K-40	21.36 ± 0.93	21.77 ± 0.89	21.56 ± 0.64
SO-7950, 7951	Oct, 2000	Pb-212	0.72 ± 0.12	0.92 ± 0.12	0.82 ± 0.09
SO-7950, 7951	Oct, 2000	Ra-226	1.21 ± 0.33	1.30 ± 0.31	1.26 ± 0.22
SO-7950, 7951	Oct, 2000	Tl-208	0.21 ± 0.04	0.25 ± 0.03	0.23 ± 0.02
VE-7554, 7555	Oct, 2000	Gr. Beta	0.73 ± 0.02	0.74 ± 0.02	0.74 ± 0.01
MI-7622, 7623	Oct, 2000	K-40	1,505.90 ± 142.70	1,453.60 ± 172.00	1,479.75 ± 111.74
F-8219, 8220	Oct, 2000	K-40	2.94 ± 0.22	3.39 ± 0.38	3.16 ± 0.22
WW-7844, 7845	Oct, 2000	H-3	-68.13 ± 74.09	84.23 ± 81.38	8.05 ± 55.03
WW-8240, 8241	Oct, 2000	Gr. Beta	0.35 ± 1.89	1.61 ± 2.28	0.98 ± 1.48
WW-8240, 8241	Oct, 2000	H-3	72.46 ± 92.95	38.87 ± 91.51	55.66 ± 65.22
BS-8170, 8171	Oct, 2000	Gr. Beta	11.96 ± 2.55	11.30 ± 2.39	11.63 ± 1.75
BS-8170, 8171	Oct, 2000	K-40	8.36 ± 0.46	8.76 ± 0.47	8.56 ± 0.33
MI-8085, 8086	Oct, 2000	Calcium	0.94	0.94	0.94
MI-8085, 8086	Oct, 2000	Sr-90	1.04 ± 0.35	0.75 ± 0.31	0.90 ± 0.24
MI-8149, 8150	Oct, 2000	K-40	1,358.10 ± 95.81	1,341.80 ± 178.00	1,349.95 ± 101.07
SO-8967, 8968	Oct, 2000	Be-7	1.25 ± 0.37	1.27 ± 0.35	1.26 ± 0.26
SO-8967, 8968	Oct, 2000	Cs-137	0.05 ± 0.02	0.05 ± 0.02	0.05 ± 0.02
SO-8967, 8968	Oct, 2000	K-40	4.53 ± 0.66	4.46 ± 0.58	4.50 ± 0.44
MI-8522, 8523	Oct, 2000	I-131	-0.05 ± 0.23	0.18 ± 0.25	0.07 ± 0.17
SWU-8894, 8895	Oct, 2000	Gr. Beta	3.63 ± 0.62	2.45 ± 0.61	3.04 ± 0.43
MI-8802, 8803	Nov, 2000	I-131	-0.22 ± 0.24	-0.25 ± 0.26	-0.24 ± 0.18
MI-8802, 8803	Nov, 2000	K-40	1,340.50 ± 113.80	1,453.50 ± 100.50	1,397.00 ± 75.91
MI-8802, 8803	Nov, 2000	Sr-89	0.19 ± 1.31	0.61 ± 1.34	0.40 ± 0.94
MI-8802, 8803	Nov, 2000	Sr-90	1.10 ± 0.39	0.90 ± 0.38	1.00 ± 0.27
LW-8823, 8824	Nov, 2000	Gr. Beta	2.13 ± 0.55	1.59 ± 0.52	1.86 ± 0.38
VE-9014, 9015	Nov, 2000	Gr. Alpha	0.10 ± 0.06	0.15 ± 0.07	0.12 ± 0.05
VE-9014, 9015	Nov, 2000	Gr. Beta	5.59 ± 0.17	5.90 ± 0.19	5.74 ± 0.13
PW-9991, 9992	Nov, 2000	Gr. Beta	2.50 ± 0.01	3.49 ± 1.18	3.00 ± 0.59
SW-9991, 9992	Nov, 2000	Co-60	1.16 ± 1.70	-2.94 ± 3.39	-0.89 ± 1.89
SW-9991, 9992	Nov, 2000	Cs-134	-0.07 ± 1.85	2.27 ± 3.73	1.10 ± 2.08
SW-9991, 9992	Nov, 2000	Cs-137	-0.88 ± 1.67	3.84 ± 3.45	1.48 ± 1.92
DW-9682, 9683	Dec, 2000	Gr. Beta	1.61 ± 1.02	2.10 ± 0.94	1.86 ± 0.69
MI-9749, 9750	Dec, 2000	K-40	1,562.40 ± 118.70	1,495.90 ± 168.30	1,529.15 ± 102.97
AP-10782, 10783	Dec, 2000	Be-7	0.21 ± 0.10	0.31 ± 0.14	0.26 ± 0.09
AP-10824, 10825	Dec, 2000	Be-7	0.06 ± 0.02	0.07 ± 0.01	0.06 ± 0.01
WW-10424, 10425	Dec, 2000	H-3	1,690.87 ± 137.81	1,551.48 ± 1,339.42	1,621.18 ± 673.25

Table A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration ^b		
				Laboratory result ^c	MAPEP Result ^d 1s, N=1	Control Limits
STSO-882	SOIL	Jan, 2000	Am-241	64.90 ± 6.49	61.10	42.77 - 79.43
STSO-882	SOIL	Jan, 2000	Co-57	721.10 ± 83.80	949.00	664.30 - 1,233.70
The MAPEP soil sample (STSO-882), as received, did not closely match a standard gamma geometry. The results for gamma-emitting isotopes are reanalyses, with a reduced sample size.						
STSO-882	SOIL	Jan, 2000	Co-60	1,264.40 ± 78.60	1,180.00	826.00 - 1,534.00
STSO-882	SOIL	Jan, 2000	Cs-134	969.30 ± 76.90	1,047.00	732.90 - 1,361.10
STSO-882	SOIL	Jan, 2000	Cs-137	944.00 ± 92.00	930.00	651.00 - 1,209.00
STSO-882	SOIL	Jan, 2000	K-40	811.70 ± 79.90	652.00	456.40 - 847.60
STSO-882	SOIL	Jan, 2000	Mn-54	1,103.30 ± 64.20	1,023.00	716.10 - 1,329.90
STSO-882	SOIL	Jan, 2000	Ni-63	711.00 ± 71.10	960.00	672.00 - 1,248.00
STSO-882	SOIL	Jan, 2000	Pu-239/40	67.90 ± 6.79	74.40	52.08 - 96.72
STSO-882	SOIL	Jan, 2000	Sr-90	345.00 ± 34.50	304.00	212.80 - 395.20
STSO-882	SOIL	Jan, 2000	U-233/4	62.90 ± 6.29	90.00	63.00 - 117.00
Incomplete dissolution of the sample is suspected.						
Results of reanalysis: U-233/234 67.3 ± 3.3 pCi/g, U-238 68.1 ± 8.9 pCi/g.						
STSO-882	SOIL	Jan, 2000	U-238	63.20 ± 6.32	93.00	65.10 - 120.90
STSO-882	SOIL	Jan, 2000	Zn-65	1,544.30 ± 61.50	1,540.00	1,078.00 - 2,002.00

^a Results obtained by Environmental Inc., Midwest Laboratory as a participant in the Department of Energy's Mixed Analyte Performance Evaluation Program, Idaho Operations office, Idaho Falls, Idaho.

^b All results are in Bq/kg or Bq/L as requested by the Department of Energy.

^c Unless otherwise indicated, laboratory results are given as the mean ± 1 standard deviations for three determinations.

^d Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination), and control limits as defined by the MAPEP.

Table A-7. Environmental Measurements Laboratory Quality Assessment Program (EML)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration ^b		
				Laboratory result ^c	EML Result ^d	Control Limits ^e
STSO-870	SOIL	Mar, 2000	Ac-228	98.300 ± 7.100	97.600	0.79 - 1.75
STSO-870	SOIL	Mar, 2000	Bi-212	98.500 ± 15.100	106.000	0.42 - 1.22
STSO-870	SOIL	Mar, 2000	Bi-214	88.000 ± 3.800	86.700	0.75 - 1.42
STSO-870	SOIL	Mar, 2000	Cs-137	324.000 ± 5.000	339.000	0.83 - 1.32
STSO-870	SOIL	Mar, 2000	K-40	872.000 ± 34.000	811.000	0.78 - 1.53
STSO-870	SOIL	Mar, 2000	Pb-212	93.700 ± 2.700	97.300	0.74 - 1.33
STSO-870	SOIL	Mar, 2000	Pb-214	100.100 ± 3.700	86.500	0.65 - 1.45
STSO-870	SOIL	Mar, 2000	Pu-238	19.800 ± 3.000	18.600	0.52 - 2.84
STSO-870	SOIL	Mar, 2000	Pu-239/40	8.100 ± 1.700	7.000	0.69 - 1.74
STSO-870	SOIL	Mar, 2000	Sr-90	13.600 ± 3.100	20.200	0.60 - 3.66
STVE-871	VEGETATION	Mar, 2000	Am-241	9.800 ± 0.900	10.400	0.68 - 2.70
STVE-871	VEGETATION	Mar, 2000	Co-60	46.500 ± 2.100	52.800	0.69 - 1.46
STVE-871	VEGETATION	Mar, 2000	Cs-137	1,872.000 ± 46.000	1,380.000	0.80 - 1.40
STVE-871	VEGETATION	Mar, 2000	K-40	506.400 ± 28.000	521.000	0.79 - 1.42
STVE-871	VEGETATION	Mar, 2000	Pu-239/40	14.300 ± 1.500	15.500	0.68 - 1.59
STVE-871	VEGETATION	Mar, 2000	Sr-90	1,198.000 ± 85.000	1,780.000	0.50 - 1.33
STAP-872	AIR FILTER	Mar, 2000	Co-57	5.900 ± 0.100	5.310	0.65 - 1.39
STAP-872	AIR FILTER	Mar, 2000	Co-60	5.900 ± 0.100	5.320	0.75 - 1.32
STAP-872	AIR FILTER	Mar, 2000	Cs-137	7.500 ± 0.100	6.100	0.73 - 1.37
STAP-872	AIR FILTER	Mar, 2000	Gr. Alpha	3.300 ± 0.100	3.020	0.50 - 1.55
STAP-872	AIR FILTER	Mar, 2000	Gr. Beta	2.700 ± 0.100	2.420	0.72 - 1.67
STAP-872	AIR FILTER	Mar, 2000	Mn-54	31.800 ± 0.300	27.200	0.76 - 1.33
STAP-872	AIR FILTER	Mar, 2000	Pu-238	0.060 ± 0.030	0.080	0.74 - 1.40
STAP-872	AIR FILTER	Mar, 2000	Pu-239/40	0.090 ± 0.010	0.089	0.76 - 1.44
STAP-872	AIR FILTER	Mar, 2000	Ru-106	3.500 ± 1.000	2.010	0.59 - 1.30
Result within activity ± error margin.						
STAP-872	AIR FILTER	Mar, 2000	Sr-90	0.310 ± 0.160	0.242	0.61 - 1.93
STAP-872	AIR FILTER	Mar, 2000	Uranium	0.120 ± 0.010	0.126	0.80 - 3.35
STW-874	WATER	Mar, 2000	Am-241	1.700 ± 0.220	1.950	0.75 - 1.49
STW-874	WATER	Mar, 2000	Co-60	51.000 ± 1.200	48.900	0.80 - 1.20

Table A-7. Environmental Measurements Laboratory Quality Assessment Program (EML)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration ^b		Control Limits ^e
				Laboratory result ^c	EML Result ^d	
STW-874	WATER	Mar, 2000	Cs-137	108.600 ± 1.800	103.000	0.80 - 1.26
STW-874	WATER	Mar, 2000	Fe-55	33.000 ± 1.200	33.100	0.44 - 1.53
STW-874	WATER	Mar, 2000	Gr. Alpha	1,217.000 ± 35.000	1,700.000	0.61 - 1.32
STW-874	WATER	Mar, 2000	Gr. Beta	792.000 ± 25.000	690.000	0.55 - 1.54
STW-874	WATER	Mar, 2000	H-3	147.000 ± 26.000	79.400	0.71 - 1.79
Analysis was repeated; result of reanalysis; 97.5 ± 11.6 Bq/L.						
STW-874	WATER	Mar, 2000	Ni-63	101.000 ± 6.000	112.000	0.25 - 1.75
STW-874	WATER	Mar, 2000	Pu-238	0.750 ± 0.170	0.944	0.78 - 1.25
STW-874	WATER	Mar, 2000	Pu-239/40	0.990 ± 0.090	0.918	0.80 - 1.39
STW-874	WATER	Mar, 2000	Sr-90	4.460 ± 0.990	3.390	0.75 - 1.50
STW-874	WATER	Mar, 2000	Uranium	0.270 ± 0.020	0.995	0.67 - 1.42
Result reported was for U-234. Result for U (total); 0.58 ± 0.02 pCi/L.						
STSO-885	SOIL	Sep, 2000	Ac-228	78.000 ± 1.500	80.200	0.80 - 1.50
STSO-885	SOIL	Sep, 2000	Bi-212	73.000 ± 3.300	80.500	0.45 - 1.23
STSO-885	SOIL	Sep, 2000	Bi-214	91.000 ± 4.000	83.300	0.78 - 1.50
STSO-885	SOIL	Sep, 2000	Cs-137	925.700 ± 14.200	1,020.000	0.80 - 1.29
STSO-885	SOIL	Sep, 2000	K-40	713.600 ± 7.100	713.000	0.80 - 1.37
STSO-885	SOIL	Sep, 2000	Pb-212	66.100 ± 4.300	79.300	0.74 - 1.36
STSO-885	SOIL	Sep, 2000	Pb-214	100.100 ± 3.700	86.300	0.76 - 1.53
STSO-885	SOIL	Sep, 2000	Pu-239/40	18.400 ± 0.400	16.800	0.71 - 1.33
STSO-885	SOIL	Sep, 2000	Sr-90	39.900 ± 5.300	50.400	0.61 - 3.91
STSO-885	SOIL	Sep, 2000	Th-234	154.700 ± 9.300	148.000	0.68 - 2.36
STSO-885	SOIL	Sep, 2000	Uranium	254.300 ± 13.000	327.000	0.62 - 1.35
STW-886	WATER	Sep, 2000	Am-241	1.300 ± 0.200	1.190	0.76 - 1.48
STW-886	WATER	Sep, 2000	Co-60	71.900 ± 7.200	73.700	0.80 - 1.20
STW-886	WATER	Sep, 2000	Cs-137	62.700 ± 6.300	67.000	0.80 - 1.24
STW-886	WATER	Sep, 2000	H-3	92.300 ± 8.900	91.300	0.74 - 2.29
STW-886	WATER	Sep, 2000	Pu-238	0.700 ± 0.100	0.786	0.74 - 1.22
STW-886	WATER	Sep, 2000	Pu-239/40	0.600 ± 0.100	0.591	0.75 - 1.26
STW-886	WATER	Sep, 2000	Sr-90	4.600 ± 0.400	4.530	0.64 - 1.50

Table A-7. Environmental Measurements Laboratory Quality Assessment Program (EML)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration ^b		Control Limits ^e
				Laboratory result ^c	EML Result ^d	
STW-886	WATER	Sep, 2000	Uranium	0.800 ± 0.100	0.916	0.73 - 1.37
STW-887	WATER	Sep, 2000	Gr. Alpha	1,113.700 ± 17.900	1,070.000	0.58 - 1.26
STW-887	WATER	Sep, 2000	Gr. Beta	1,129.400 ± 16.700	950.000	0.56 - 1.50
STAP-888	AIR FILTER	Sep, 2000	Am-241	0.060 ± 0.010	0.032	0.69 - 2.40
STAP-888	AIR FILTER	Sep, 2000	Co-57	16.500 ± 0.600	14.500	0.69 - 1.37
STAP-888	AIR FILTER	Sep, 2000	Co-60	9.200 ± 0.400	8.430	0.79 - 1.30
STAP-888	AIR FILTER	Sep, 2000	Cs-137	8.800 ± 0.500	7.410	0.78 - 1.35
STAP-888	AIR FILTER	Sep, 2000	Mn-54	50.200 ± 2.300	43.200	0.80 - 1.36
STAP-888	AIR FILTER	Sep, 2000	Pu-238	0.033 ± 0.010	0.045	0.66 - 1.35
STAP-888	AIR FILTER	Sep, 2000	Pu-239/40	0.080 ± 0.010	0.074	0.69 - 1.29
STAP-888	AIR FILTER	Sep, 2000	Sr-90	3.300 ± 0.100	1.640	0.55 - 2.05
STAP-888	AIR FILTER	Sep, 2000	U-233/4	0.034 ± 0.001	0.040	0.80 - 1.92
STAP-888	AIR FILTER	Sep, 2000	U-238	0.032 ± 0.010	0.041	0.80 - 1.59
Result within activity ± error margin.						
STAP-888	AIR FILTER	Sep, 2000	Uranium	0.070 ± 0.010	0.083	0.80 - 2.54
STAP-889	AIR FILTER	Sep, 2000	Gr. Alpha	2.840 ± 0.010	2.350	0.57 - 1.47
STAP-889	AIR FILTER	Sep, 2000	Gr. Beta	2.080 ± 0.020	1.520	0.76 - 1.52
STVE-890	VEGETATION	Sep, 2000	Am-241	5.900 ± 1.200	5.600	0.72 - 2.34
STVE-890	VEGETATION	Sep, 2000	Cm-244	3.200 ± 0.100	3.600	0.61 - 1.61
STVE-890	VEGETATION	Sep, 2000	Co-60	29.400 ± 0.400	32.800	0.75 - 1.51
STVE-890	VEGETATION	Sep, 2000	Cs-137	739.300 ± 23.000	867.000	0.80 - 1.37
STVE-890	VEGETATION	Sep, 2000	K-40	597.500 ± 49.300	639.000	0.78 - 1.43
STVE-890	VEGETATION	Sep, 2000	Pu-239/40	4.500 ± 0.200	9.600	0.67 - 1.49
No reason for deviation was found with original result. The result of reanalysis; 12.1 ± 1.1 Bq/kg.						
STVE-890	VEGETATION	Sep, 2000	Sr-90	1,201.500 ± 117.300	1,150.000	0.52 - 1.23

Table A-7. Environmental Measurements Laboratory Quality Assessment Program (EML)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration ^b		Control Limits ^e
				Laboratory result ^c	EML Result ^d	

^a The Environmental Measurements Laboratory provides the following nuclear species : Air Filters, Soil, Vegetation and Water.

^b Results are reported in Bq/L with the following exceptions: Air Filter results are reported in Bq/Filter, Soil results are reported in Bq/Kg, Vegetation results are reported in Bq/Kg.

^c Laboratory results are reported as the mean of three determinations $\pm$ standard deviation.

^d The EML result listed is the mean of replicate determinations for each nuclide $\pm$ the standard error of the mean.

^e The control limits are reported by EML as the ratio of Reported Value / EML value.

APPENDIX B

REMP ANNUAL SUMMARY

TABLE B-1

SAMPLING AND ANALYSIS FREQUENCY SUMMARY

Sample Type	Number of Sampling Locations	Collection Frequency	Number of Samples Collected	Type of Analysis	Analysis Frequency	Number of Samples Analyzed*
Air Particulate	10	Weekly	529	Gross Beta	Weekly	529
				Gamma Isotopic	Quarterly Composite	40
Air Iodine	10	Weekly	529	Iodine-131	Weekly	529
Direct Radiation (TLD)	54	Quarterly (continuous)	214	Gamma Exposure	Quarterly	214
Surface Water (Grab)	1	Monthly	12	Gamma Isotopic	Monthly	12
				Tritium	Quarterly Composite	4
				Gross Beta	Monthly	12
Surface Water (Effluent Composite)	1	Monthly	12	Gamma Isotopic	Monthly	12
				Gross Beta	Monthly	12
				Gross Alpha	Monthly	12
				Tritium	Quarterly Composite	4
				Iodine-131	Monthly	12
Surface Water (Upstream Composite)	2	Monthly	24	Gamma Isotopic	Monthly	24
				Gross Beta	Monthly	24
				Gross Alpha	Monthly	24
				Tritium	Quarterly Composite	8
Well Water	2 ^a	Quarterly	12	Iodine-131	Quarterly	12
				Gross Alpha	Quarterly	12
				Gross Beta	Quarterly	12
				Gamma Isotopic	Quarterly	12
				Tritium	Quarterly	12
Drinking Water	1	Monthly	12	Gross Alpha	Monthly	12
				Gross Beta	Monthly	12
				Gamma Isotopic	Monthly	12
				Tritium	Quarterly Composite	4
Bottom Sediments	7	Semiannually	14	Gross Alpha	Semiannually	14
				Gross Beta	Semiannually	14
				Gamma Isotopic	Semiannually	14
				Sr-90	Semiannually	14
Shoreline Sediment	7	Semiannually	14	Gross Alpha	Semiannually	14
				Gross Beta	Semiannually	14
				Gamma Isotopic	Semiannually	14
				Sr-90	Semiannually	14

TABLE B-1 (Cont'd)

Sample Type	Number of Sampling Locations	Collection Frequency	Number of Samples Collected	Type of Analysis	Analysis Frequency	Number of Samples Analyzed*
Aquatic Vegetation	6	Semiannually	11	Gamma Isotopic	Semiannually	11
Grass	4	Monthly/Semimonthly ^b	56	Gamma Isotopic (including I-131)	Monthly/Semimonthly	56
Vegetables	4	Monthly (during growing season)	30	Gross Beta	Monthly	30
				Gamma Isotopic (including I-131)	Monthly	30
Fish	2	Semiannually	15	Gamma Isotopic	Semiannually	15
Milk	1	Monthly/Semimonthly ^b	19	Gamma Isotopic	Monthly/Semimonthly	19
				Iodine-131	Monthly/Semimonthly	19
				Sr-90	Monthly/Semimonthly	19
Meat	1	Annually (when available)	3	Gamma Isotopic (including I-131)	Annually	3

* Number of samples analyzed does not include duplicate analysis, recounts or reanalysis.

a Samples collected at CL-12 are taken prior to water treatment and after water treatment.

b Samples are collected monthly from November through April (when requested for grass) and semimonthly May through October.

TABLE B-2

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY

Name of Facility: Clinton Power Station Docket No. 50-461Location of Facility: DeWitt, Illinois Reporting Period January 1 - December 31, 2000
(county, state)

Medium or Pathway Sampled	Type of Analysis	Lower Limit of Detection (LLD)	All Indicator Locations: Mean (f) (Range)	Location with Highest Annual Mean Name Distance and Direction	Mean(f) (Range)	Control Locations: Mean (f) (Range)	Number of Nonroutine Reported Measurements
(Unit of Measurement)	Total Number Performed						
Direct Radiation (mR/qtr)	Gamma dose 214	-	18.1 (198/198) (13.2 - 20.9)	CL-81 4.5 miles WNW	19.8 (4/4) ^a (17.8 - 20.9)	17.2 (16/16) (14.1 - 18.7)	0
<i>a Highest quarterly mean</i>							
Air Particulates (pCi/m³)	Gross Beta 529	-	0.027 (476/476) ^b (0.007 - 0.061)	CL-3 0.7 miles NE	0.028 (53/53) (0.013 - 0.061)	0.027 (53/53) (0.014 - 0.053)	0
	Gamma Spec 40						
	Cs-134	0.0011	LLD	-	LLD	LLD	0
	Cs-137	0.0012	LLD	-	LLD	LLD	0
<i>b Values excluded due to insufficient volume collected. Refer to Appendix D for exceptions.</i>							
Air Iodine (pCi/m³)	I-131 529	0.07	LLD	-	LLD	LLD	0
Surface Water Grab (pCi/l)	Gross Beta 12	-	2.5 (12/12) (1.9 - 3.2)	CL-13 3.6 miles SW	2.5 (12/12) (1.9 - 3.2)	NA	0
	Tritium 4	179	LLD	-	LLD	NA	0
	Gamma Spec 12						
	Mn-54	6.8	LLD	-	LLD	NA	0
	Fe-59	11.2	LLD	-	LLD	NA	0
	Co-58	4.6	LLD	-	LLD	NA	0
	Co-60	6.9	LLD	-	LLD	NA	0
	Zn-65	9.9	LLD	-	LLD	NA	0
	Nb-95	5.0	LLD	-	LLD	NA	0
	Zr-95	15.0	LLD	-	LLD	NA	0
	Cs-134	6.4	LLD	-	LLD	NA	0
	Cs-137	6.5	LLD	-	LLD	NA	0
	Ba-140	36.3	LLD	-	LLD	NA	0
	La-140	9.2	LLD	-	LLD	NA	0

Note: Column explanations at the end of Table B-2.

TABLE B-2 (Cont'd)

Medium or Pathway Sampled	Type of Analysis	Lower Limit of Detection	All Indicator Locations:	Location with Highest Annual Mean		Control Locations:	Number of Nonroutine Reported Measurements
(Unit of Measurement)	Total Number Performed	(LLD)	Mean (f) (Range)	Name Distance and Direction	Mean(f) (Range)	Mean (f) (Range)	
Surface Water Composite (pCi/l)	Gross Beta 36	-	2.6 (35/36) (1.1 - 4.8)	CL-99 3.5 miles NNE	3.1 (12/12) (1.5 - 4.8)	NA	0
	Tritium 12	179	LLD	-	LLD	NA	0
	I-131 12	0.4	LLD	-	LLD	NA	0
	Gamma Spec 36						
	Mn-54	6.8	LLD	-	LLD	NA	0
	Fe-59	11.2	LLD	-	LLD	NA	0
	Co-58	4.6	LLD	-	LLD	NA	0
	Co-60	6.9	LLD	-	LLD	NA	0
	Zn-65	9.9	LLD	-	LLD	NA	0
	Nb-95	5.0	LLD	-	LLD	NA	0
	Zr-95	15.0	LLD	-	LLD	NA	0
	Cs-134	6.4	LLD	-	LLD	NA	0
	Cs-137	6.5	LLD	-	LLD	NA	0
	Ba-140	36.3	LLD	-	LLD	NA	0
	La-140	9.2	LLD	-	LLD	NA	0
Drinking Water (pCi/l)	Gross Beta 12	0.8	1.2 (10/12) (0.9 - 1.8)	CL-14 0 miles	1.2 (10/12) (0.9 - 1.8)	NA	0
	Tritium 4	179	LLD	-	LLD	NA	0
	Gamma Spec 12						
	Mn-54	5.8	LLD	-	LLD	NA	0
	Fe-59	10.4	LLD	-	LLD	NA	0
	Co-58	4.3	LLD	-	LLD	NA	0
	Co-60	7.4	LLD	-	LLD	NA	0
	Zn-65	8.5	LLD	-	LLD	NA	0
	Nb-95	6.0	LLD	-	LLD	NA	0
	Zr-95	9.3	LLD	-	LLD	NA	0
	Cs-134	5.8	LLD	-	LLD	NA	0
	Cs-137	4.3	LLD	-	LLD	NA	0
	Ba-140	27.0	LLD	-	LLD	NA	0
	La-140	8.5	LLD	-	LLD	NA	0

TABLE B-2 (Cont'd)

Medium or Pathway Sampled	Type of Analysis	Lower Limit of	All Indicator Locations:	Location with Highest Annual Mean		Control Locations:	Number of Nonroutine
(Unit of Measurement)	Total Number Performed	Detection (LLD)	Mean (f) (Range)	Name Distance and Direction	Mean(f) (Range)	Mean (f) (Range)	Reported Measurements
Well Water (pCi/l)	Gross Beta 12	3.1	2.6 (5/12) (2.0 - 4.0)	CL-12T* 1.6 miles E	2.9 (3/4) (2.2 - 4.0)	NA	0
	I-131 12	0.4	LLD	-	LLD	NA	0
	Tritium 12	183	LLD	-	LLD	NA	0
	Gamma Spec 12						
	Mn-54	4.2	LLD	-	LLD	NA	0
	Fe-59	12.6	LLD	-	LLD	NA	0
	Co-58	6.4	LLD	-	LLD	NA	0
	Co-60	3.5	LLD	-	LLD	NA	0
	Zn-65	7.9	LLD	-	LLD	NA	0
	Nb-95	5.5	LLD	-	LLD	NA	0
	Zr-95	13.3	LLD	-	LLD	NA	0
	Cs-134	5.5	LLD	-	LLD	NA	0
	Cs-137	6.3	LLD	-	LLD	NA	0
	Ba-140	38.3	LLD	-	LLD	NA	0
	La-140	8.5	LLD	-	LLD	NA	0

* (T) treated well water sample

Milk (pCi/l)	I-131 19	0.5	NA	-	LLD	LLD	0
	Gamma Spec 19						
	Cs-134	6.0	NA	-	LLD	LLD	0
	Cs-137	5.7	NA	-	LLD	LLD	0
	Ba-140	27.2	NA	-	LLD	LLD	0
	La-140	5.5	NA	-	LLD	LLD	0

Fish (pCi/g wet)	Gamma Spec 15						
	Mn-54	0.015	LLD	-	LLD	LLD	0
	Fe-59	0.036	LLD	-	LLD	LLD	0
	Co-58	0.014	LLD	-	LLD	LLD	0
	Co-60	0.016	LLD	-	LLD	LLD	0
	Zn-65	0.044	LLD	-	LLD	LLD	0
	Cs-134	0.016	LLD	-	LLD	LLD	0
	Cs-137	0.013	LLD	-	LLD	LLD	0

TABLE B-2 (Cont'd)

Medium or Pathway Sampled (Unit of Measurement)	Type of Analysis Total Number Performed	Lower Limit of Detection (LLD)	All Indicator Locations: Mean (f) (Range)	Location with Highest Annual Mean Name Distance and Direction	Mean(f) (Range)	Control Locations: Mean (f) (Range)	Number of Nonroutine Reported Measurements
Bottom Sediments (pCi/g dry)	Gamma Spec 14						
	Cs-134	0.042	LLD	-	LLD	LLD	0
	Cs-137	0.036	0.15 (6/12) (0.064 - 0.27)	CL-105 50 miles S	0.31 (2/2) (0.29 - 0.32)	0.31 (2/2) (0.29 - 0.32)	0
Shoreline Sediments (pCi/g dry)	Gamma Spec 14						
	Cs-134	0.053	LLD	-	LLD	LLD	0
	Cs-137	0.034	0.054 (1/12) (0.054)	CL-89 3.6 miles NNE	0.054 (1/2) (0.054)	LLD	0
Aquatic Vegetation (pCi/g wet)	Gamma Spec 11						
	Mn-54	0.030	LLD	-	LLD	LLD	0
	Fe-59	0.059	LLD	-	LLD	LLD	0
	Co-58	0.025	LLD	-	LLD	LLD	0
	Co-60	0.032	LLD	-	LLD	LLD	0
	Zn-65	0.063	LLD	-	LLD	LLD	0
	Cs-134	0.033	LLD	-	LLD	LLD	0
	Cs-137	0.029	0.027 (3/11) (0.019 - 0.041)	CL-10 5.0 miles ENE	0.030 (2/2) (0.019 - 0.041)	LLD	0
Vegetables (pCi/g wet)	Gamma Spec 30						
	I-131	0.035	LLD	-	LLD	LLD	0
	Cs-134	0.024	LLD	-	LLD	LLD	0
	Cs-137	0.022	LLD	-	LLD	LLD	0
Grass (pCi/g wet)	Gamma Spec 56						
	I-131	0.039	LLD	-	LLD	LLD	0
	Cs-134	0.027	LLD	-	LLD	LLD	0
	Cs-137	0.028	LLD	-	LLD	LLD	0
Meat (pCi/g wet)	Gamma Spec 3						
	I-131	0.014	LLD	-	LLD	NA	0
	Cs-134	0.018	LLD	-	LLD	NA	0
	Cs-137	0.013	LLD	-	LLD	NA	0

TABLE B-2 (Cont'd)

Medium or Pathway Sampled	Type of Analysis	Lower Limit of	All Indicator Locations:	Location with Highest Annual Mean		Control Locations:	Number of Nonroutine
(Unit of Measurement)	Total Number Performed	Detection (LLD)	Mean (f) (Range)	Name Distance and Direction	Mean(f) (Range)	Mean (f) (Range)	Reported Measurements
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	

TABLE EXPLANATIONS:

- Column 1: The Unit of Measurement describes all the numerical values for LLD, Mean and Range reported for a particular sample medium. For example: the Gross Beta LLD in AIR PARTICULATES is 0.010 pCi/m³. Abbreviations used are: pCi/m³ = picocurie per cubic meter of sampled air; mR/quarter = exposure measured for calendar quarter period; pCi/l = picocurie per liter of sample; pCi/g = picocurie per gram of sample.
- Column 2: The Types of Analyses are described as follows: Gamma Spec = measurement of each radioisotope in a sample using Gamma Spectroscopy; Gross Betas and Gross Alphas = measurement of the radioactivity in a sample by measurement of emitted betas and alphas - no determination of individual radioisotopes is possible; Tritium = measurement of tritium (H-3) in sample by liquid scintillation counting method; TLD = direct measurement of gamma exposure using thermoluminescent dosimeters. Total number of analyses does not include duplicate analyses, recounts or reanalyses. Only ODCM required LLDs and detectable activity (excluding some naturally occurring activity i.e., Bi-212) results are reported in this table. All sample results can be found in Appendix E of this report.
- Column 3: The ODCM required LLD is given when applicable. LLD reported is the highest of those reported for each of the analyses during the year; if all analyses reported positive values, no LLD is reported. It should be noted that, in most cases, the CPS REMP uses lower detection limits than required.
- Column 4: Samples taken at Indicator Locations during an operational radiological environmental monitoring program (REMP) reliably measure the quantities of any radioisotopes cycling through the pathways to man from the nuclear station. The reported values are the mean or average for the year of all samples of that type which had values greater than the LLD. "f" is the fraction of all the samples taken at all indicator locations for the medium which reported values greater than the LLD. Example: 7 results greater than LLD out of 15 samples taken would be reported 7/15. The Range is the values of the lowest to highest sample results greater than LLD reported at all the indicator locations for that medium.
- Column 5: The Mean, f-fraction and Range along with the name of the location, distance from the CPS gaseous effluent stack in miles, and the letter(s) name of the compass sector in the direction of the sample location from the CPS gaseous effluent stack. The location with the highest annual mean is compared to both indicator and control locations of the medium samples.
- Column 6: Control locations are sited in areas with low relative deposition and/or dispersion factors. Sample results are used as reference for the control location.
- Column 7: NRC Regulations (Branch Technical Position, Rev. 1, November 1979) include a table of radioisotope concentrations that, if exceeded by confirmed sample measurements, indicate that a Nonroutine Reported Measurement exists. Such measurements require further investigation to validate the source.

APPENDIX C

Glossary

GLOSSARY

activation - the process in which stable atoms become radioactive atoms by absorbing neutrons.

ALARA - acronym for "As Low As Reasonably Achievable" which applies to many facets of nuclear power (i.e., radiation exposure for personnel kept low, minimizes number/activity of effluent discharges).

alpha particle - a charged particle emitted from the nucleus of an atom having a mass and charge equal in magnitude to a helium nucleus which has two protons and two neutrons.

atom - the smallest component of an element having all the properties of that element. Comprised of protons, neutrons and electrons such that the number of protons determines the element.

background radiation - source of radiation that mankind has no control over, such as cosmic (from the sun) and terrestrial (naturally occurring radioactive elements).

beta particle - a charged particle equivalent to an electron if negative or a positron if positive, originating near the nucleus of an atom during radioactive decay or fission.

control location - a sample collection location considered to be far enough away from Clinton Power Station so as not to be affected by station operations.

cosmic radiation - penetrating ionizing radiation originating from the sun and from outer space, varies from altitude and latitude.

curie (Ci) - the unit of radioactivity equal to 2.2 trillion disintegrations per minute.

dead water - water that contains no tritium.

dose - a quantity (total or accumulated) of ionizing radiation received.

dose equivalent - a quantity used in radiation protection which expresses all radiations on a common scale for calculating the effective absorbed dose (the unit of dose equivalent is the rem).

ecology - a branch of biology dealing with the relations between organisms and their environment.

electromagnetic radiation - a traveling wave motion resulting from changing electric or magnetic fields. Familiar sources of electromagnetic radiation range from x-rays (and gamma rays) of short wavelength, through the ultraviolet, visible and infrared regions, to radar and radiowaves of relatively long wavelength. All electromagnetic radiation travels in a vacuum at the speed of light.

element - one of 103 known chemical substances that cannot be broken down further without changing its chemical properties.

environment - the aggregate of surrounding things, conditions, or influences.

exposure - a measure of the ionization produced in air by x-ray or gamma radiation. Acute exposure is generally accepted to be large exposure received over a short period of time. Chronic exposure is exposure received over a long period of time.

fission - process by which an atomic nucleus splits into two smaller nuclei and releases neutrons and energy.

fission products - the nuclei formed as part of the fissioning of an atomic nucleus.

gamma rays - high energy, short wavelength electromagnetic radiation emitted from the nucleus.

half-life - the time required for half of a given amount of a radionuclide to decay.

indicator location - a sample collection strategically placed to monitor dose rate or radioactive material that may be the result of Clinton Power Station operations.

ionization - the process by which a neutral atom or molecule acquires a positive or negative charge.

irradiation - exposure to radiation.

Lower Limit of Detection (LLD) - the smallest amount of sample activity that will give a net count for which there is a confidence at a predetermined level that the activity is present.

microcurie - one millionth of a curie and represents 2.2 million decays per minute.

neutron - one of the three basic parts of an atom which has no charge and is normally found in the nucleus (center) of an atom.

nucleus - the center of an atom containing protons and neutrons; determines the atomic weight and contributes to the net positive charge of an atom. nuclei (plural)

nuclides - atoms which all have the same atomic number and mass number.

periphyton - water plant life (i.e., algae).

radiation - the process by which energy is emitted from a nucleus as particles (alpha, beta, neutron) or waves (gamma).

radionuclide - a radioactive species of an atom characterized by the constitution of its nucleus. The nuclear constitution is specified by the number of protons, number of neutrons, and energy content.

rem - the unit of dose of any ionizing radiation that produces the same biological effects as a unit of absorbed dose of ordinary x-rays. Acronym for Roentgen Equivalent Man.

roentgen - a measure of ionization produced in air by x-ray or gamma radiation.

site boundary - the site boundary is the line beyond which the land is neither owned, nor leased, nor otherwise controlled by the licensee.

statistics - the science that deals with the collection, classification, analysis and interpretation of numerical data by use of mathematical theories of probabilities.

target tissue - any tissue or organ of the body in which radiation is absorbed.

terrestrial radiation - source of radiation pertaining to the ground (Earth's crust).

x-rays - high energy, short wavelength electromagnetic radiation, emitted from the electron shells of an atom.

APPENDIX D

Exceptions to the REMP During 2000

Exceptions to the REMP During 2000

Data from the radiological analysis of environmental samples are routinely reviewed and evaluated by the Clinton Power Station (CPS) Radiological Programs Group. This data is checked for LLD compliance, anomalous values, quality control sample agreement, and any positive results which are inconsistent with expected results or which exceed any Offsite Dose Calculation Manual (ODCM) reporting levels. Reporting levels for radioactivity concentrations in environmental samples required by the CPS-ODCM are listed in Table 3-A of this report.

If an inconsistent result occurs, an investigation is initiated which may consist of some of the following actions:

- Examine the collection data sheets for any indication of collection or delivery errors, tampering, vandalism and equipment calibration or malfunctions due to electrical power failure, weather conditions, etc.
- Perform statistical tests
- Examine previous data for trends
- Review other results from same sample media and different sample media
- Review control station data
- Review quality control or duplicate sample data
- Review CPS effluent reports
- Recount and/or reanalyze the sample
- Collect additional samples as necessary

During 2000, no investigations were performed as a result of reaching any ODCM reporting levels. All sample analysis required by the ODCM achieved the LLDs specified by the CPS-ODCM (refer to Table 3-B of this report). Sampling and analysis exceptions are listed in this appendix.

SAMPLING AND ANALYSIS EXCEPTIONS FOR 2000

The exceptions described in this section are those which are considered deviations from the radiological environmental monitoring program as required by the ODCM. This section addresses the reporting requirements of Section 7.1 of the ODCM.

1. March 28

First quarter TLD at CL-74 was missing/stolen. TLD was replaced for second quarter.

2. August 2

Air sampler elapsed timer at CL-15 was off by 1.2 hours due to a power outage during the sample period. The exact cause is unknown but suspected to be related to thunderstorms in the area.

3. August 1

Composite water sampler at CL-90 was found de-energized. Loss of power was due to the 120V power line being cut during excavations in the immediate area. Power was restored to the unit three days later on August 4.

4. August 31 and September 27

Unable to obtain three different types of broadleaf vegetation samples at CL-115 and CL-117 due to plants being consumed by wildlife at CL-115, and plants rotting and dying at CL-117 because of hot and dry weather at the end of the growing season.

5. November 8

Composite water sampler at CL-90 was found de-energized. The exact cause for the loss of power is unknown. Power was restored to the unit.

6. December 26

TLD at CL-48 was unretrievable due to being buried in a snow mound that was created on the side of the road by snow removal trucks.

7. December 27

Air sampler elapsed timer at CL-15 was off by 2.1 hours due to a power outage during the sample period. The exact cause is unknown.

APPENDIX E

CPS Radiological Environmental Monitoring
Results During 2000

TABLE E-1
GROSS BETA ACTIVITY IN AIR PARTICULATES FOR 2000

(pCi/m³)

<u>DATE COLLECTED</u>	<u>CL-1</u>	<u>CL-2</u>	<u>CL-3</u>	<u>CL-4</u>	<u>CL-6</u>
1/05/00	0.037 ± 0.004	0.035 ± 0.004	0.040 ± 0.005	0.036 ± 0.004	0.041 ± 0.004
1/12/00	0.033 ± 0.004	0.036 ± 0.004	0.034 ± 0.004	0.034 ± 0.004	0.032 ± 0.004
1/19/00	0.027 ± 0.004	0.029 ± 0.004	0.027 ± 0.004	0.026 ± 0.004	NS
1/26/00	0.043 ± 0.005	0.044 ± 0.005	0.044 ± 0.005	0.047 ± 0.005	0.046 ± 0.005
2/2/00	0.026 ± 0.004	0.029 ± 0.004	0.033 ± 0.004	0.026 ± 0.004	0.023 ± 0.004
2/9/00	0.041 ± 0.005	0.039 ± 0.004	0.040 ± 0.004	0.041 ± 0.005	0.041 ± 0.005
2/16/00	0.031 ± 0.004	0.029 ± 0.004	0.033 ± 0.004	0.030 ± 0.004	0.029 ± 0.004
2/23/00	0.032 ± 0.004	0.032 ± 0.004	0.032 ± 0.004	0.032 ± 0.004	0.034 ± 0.004
3/1/00	0.021 ± 0.004	0.015 ± 0.004	0.015 ± 0.004	0.014 ± 0.003	0.019 ± 0.004
3/8/00	0.025 ± 0.004	0.021 ± 0.004	0.025 ± 0.004	0.025 ± 0.004	0.019 ± 0.004
3/15/00	0.022 ± 0.003	0.025 ± 0.004	0.022 ± 0.003	0.022 ± 0.003	0.023 ± 0.004
3/22/00	0.018 ± 0.003	0.017 ± 0.003	0.018 ± 0.004	0.019 ± 0.004	0.016 ± 0.003
3/29/00	0.015 ± 0.003	0.013 ± 0.003	0.014 ± 0.003	0.015 ± 0.003	0.016 ± 0.003
4/5/00	0.017 ± 0.003	0.020 ± 0.004	0.017 ± 0.003	0.028 ± 0.004	0.020 ± 0.004
4/12/00	0.015 ± 0.004	0.013 ± 0.003	0.015 ± 0.004	0.014 ± 0.003	0.015 ± 0.004
4/19/00	0.020 ± 0.004	0.019 ± 0.004	0.015 ± 0.003	0.017 ± 0.004	0.016 ± 0.004
4/26/00	0.019 ± 0.004	0.024 ± 0.004	0.022 ± 0.004	0.019 ± 0.004	0.022 ± 0.004
5/3/00	0.021 ± 0.004	0.023 ± 0.004	0.019 ± 0.004	0.020 ± 0.004	0.020 ± 0.004
5/10/00	0.022 ± 0.004	0.021 ± 0.004	0.021 ± 0.004	0.019 ± 0.004	0.021 ± 0.004
5/17/00	0.023 ± 0.004	0.025 ± 0.004	0.026 ± 0.004	0.023 ± 0.004	0.020 ± 0.004
5/24/00	0.024 ± 0.003	0.020 ± 0.003	0.026 ± 0.004	0.023 ± 0.004	0.020 ± 0.003
5/31/00	0.018 ± 0.003	0.021 ± 0.003	0.020 ± 0.003	0.021 ± 0.003	0.021 ± 0.003
6/07/00	0.018 ± 0.003	0.021 ± 0.003	0.020 ± 0.003	0.019 ± 0.003	0.021 ± 0.003
6/14/00	0.021 ± 0.004	0.023 ± 0.004	0.027 ± 0.004	0.025 ± 0.004	0.023 ± 0.004
6/21/00	0.014 ± 0.003	0.014 ± 0.003	0.013 ± 0.003	0.013 ± 0.003	0.014 ± 0.003
6/28/00	0.015 ± 0.003	0.019 ± 0.003	0.022 ± 0.003	0.017 ± 0.003	0.017 ± 0.003
7/5/00	0.021 ± 0.003	0.025 ± 0.004	0.024 ± 0.004	0.022 ± 0.003	0.027 ± 0.004
7/12/00	0.020 ± 0.004	0.020 ± 0.004	0.018 ± 0.004	0.017 ± 0.004	0.023 ± 0.004
7/19/00	0.013 ± 0.003	0.022 ± 0.004	0.022 ± 0.004	0.021 ± 0.004	0.024 ± 0.004
7/26/00	0.017 ± 0.003	0.019 ± 0.003	0.020 ± 0.004	0.019 ± 0.004	0.018 ± 0.004
8/2/00	0.025 ± 0.004	0.032 ± 0.004	0.029 ± 0.004	0.028 ± 0.004	0.031 ± 0.004
8/9/00	0.017 ± 0.004	0.021 ± 0.004	0.020 ± 0.004	0.017 ± 0.004	0.017 ± 0.004
8/16/00	0.029 ± 0.004	0.028 ± 0.004	0.029 ± 0.004	0.029 ± 0.004	0.028 ± 0.004
8/23/00	0.021 ± 0.004	0.023 ± 0.004	0.023 ± 0.004	0.020 ± 0.004	0.021 ± 0.004
8/30/00	0.038 ± 0.004	0.041 ± 0.004	0.038 ± 0.004	0.042 ± 0.004	0.042 ± 0.004
9/6/00	0.026 ± 0.004	0.026 ± 0.004	0.021 ± 0.004	0.021 ± 0.004	0.024 ± 0.004
9/13/00	0.017 ± 0.005	0.016 ± 0.003	0.015 ± 0.003	0.019 ± 0.003	0.016 ± 0.003
9/20/00	0.031 ± 0.006	0.028 ± 0.004	0.029 ± 0.004	0.032 ± 0.004	0.026 ± 0.004
9/27/00	0.019 ± 0.003	0.020 ± 0.003	0.019 ± 0.003	0.017 ± 0.003	0.022 ± 0.003
10/4/00	0.035 ± 0.004	0.036 ± 0.004	0.039 ± 0.004	0.034 ± 0.004	0.032 ± 0.004
10/11/00	0.014 ± 0.003	0.016 ± 0.003	0.019 ± 0.003	0.013 ± 0.003	0.015 ± 0.004
10/18/00	0.031 ± 0.004	0.037 ± 0.004	0.031 ± 0.004	0.030 ± 0.004	0.033 ± 0.004
10/25/00	0.053 ± 0.004	0.058 ± 0.005	0.061 ± 0.005	0.049 ± 0.004	0.056 ± 0.004
11/1/00	0.036 ± 0.004	0.033 ± 0.004	0.037 ± 0.004	0.037 ± 0.004	0.040 ± 0.004
11/08/00	0.027 ± 0.004	0.023 ± 0.004	0.033 ± 0.004	0.030 ± 0.005	0.027 ± 0.005
11/15/00	0.017 ± 0.004	0.019 ± 0.004	0.018 ± 0.004	0.021 ± 0.004	0.019 ± 0.004
11/22/00	0.037 ± 0.004	0.037 ± 0.004	0.030 ± 0.004	0.033 ± 0.004	0.034 ± 0.004
11/29/00	0.059 ± 0.005	0.058 ± 0.005	0.051 ± 0.005	0.057 ± 0.005	0.053 ± 0.004
12/06/00	0.020 ± 0.003	0.019 ± 0.003	0.023 ± 0.004	0.018 ± 0.003	0.025 ± 0.003
12/13/00	0.043 ± 0.005	0.041 ± 0.005	0.037 ± 0.004	0.045 ± 0.005	0.038 ± 0.004
12/20/00	0.039 ± 0.004	0.039 ± 0.004	0.042 ± 0.005	0.046 ± 0.005	0.047 ± 0.005
12/27/00	0.040 ± 0.004	0.038 ± 0.004	0.038 ± 0.004	0.043 ± 0.004	0.038 ± 0.004
1/03/01	0.048 ± 0.005	0.045 ± 0.005	0.056 ± 0.005	0.049 ± 0.005	0.054 ± 0.005

TABLE E-1 (Cont'd)

DATE COLLECTED	CL-7	CL-8	CL-11 ^a	CL-15	CL-94
01/05/00	0.038 ± 0.004	0.034 ± 0.004	0.040 ± 0.004	0.036 ± 0.004	0.037 ± 0.005
01/12/00	0.033 ± 0.004	0.030 ± 0.004	0.033 ± 0.004	0.030 ± 0.004	0.032 ± 0.004
01/19/00	0.023 ± 0.004	0.023 ± 0.004	0.029 ± 0.004	0.024 ± 0.004	0.024 ± 0.004
01/26/00	0.042 ± 0.005	0.047 ± 0.005	0.047 ± 0.005	0.042 ± 0.004	0.046 ± 0.005
02/02/00	0.027 ± 0.004	0.031 ± 0.004	0.028 ± 0.004	0.031 ± 0.004	0.025 ± 0.004
02/09/00	0.048 ± 0.005	0.041 ± 0.003	0.040 ± 0.005	0.041 ± 0.005	0.042 ± 0.005
02/16/00	0.031 ± 0.004	0.028 ± 0.004	0.030 ± 0.004	0.030 ± 0.004	0.029 ± 0.004
02/23/00	0.028 ± 0.004	0.034 ± 0.004	0.032 ± 0.004	0.034 ± 0.004	0.033 ± 0.004
03/01/00	0.018 ± 0.003	0.018 ± 0.004	0.018 ± 0.004	0.016 ± 0.004	0.016 ± 0.004
03/08/00	0.026 ± 0.004	0.022 ± 0.004	0.025 ± 0.004	0.024 ± 0.004	0.019 ± 0.004
03/15/00	0.024 ± 0.003	0.023 ± 0.003	0.025 ± 0.004	0.023 ± 0.003	0.025 ± 0.004
03/22/00	0.016 ± 0.004	0.019 ± 0.003	0.014 ± 0.003	0.016 ± 0.004	0.018 ± 0.004
03/29/00	0.014 ± 0.003	0.017 ± 0.004	0.017 ± 0.004	0.016 ± 0.003	0.018 ± 0.004
04/05/00	0.018 ± 0.003	0.019 ± 0.004	0.020 ± 0.004	0.021 ± 0.004	0.018 ± 0.003
04/12/00	0.014 ± 0.004	0.012 ± 0.003	0.016 ± 0.004	0.011 ± 0.003	0.007 ± 0.003
04/19/00	0.019 ± 0.004	0.017 ± 0.004	0.018 ± 0.004	0.016 ± 0.003	0.014 ± 0.004
04/26/00	0.020 ± 0.004	0.018 ± 0.004	0.022 ± 0.004	0.019 ± 0.004	0.016 ± 0.004
05/03/00	0.023 ± 0.004	0.020 ± 0.004	0.021 ± 0.004	0.018 ± 0.004	0.016 ± 0.004
05/10/00	0.020 ± 0.004	0.020 ± 0.004	0.018 ± 0.004	0.021 ± 0.004	0.019 ± 0.004
05/17/00	0.022 ± 0.004	0.020 ± 0.004	0.023 ± 0.004	0.027 ± 0.004	0.022 ± 0.004
05/24/00	0.021 ± 0.003	0.022 ± 0.003	0.022 ± 0.003	0.019 ± 0.003	0.017 ± 0.003
05/31/00	0.017 ± 0.003	0.023 ± 0.003	0.023 ± 0.003	0.014 ± 0.003	0.020 ± 0.003
06/07/00	0.020 ± 0.003	0.016 ± 0.003	0.022 ± 0.003	0.018 ± 0.003	0.023 ± 0.003
06/14/00	0.023 ± 0.004	0.025 ± 0.004	0.025 ± 0.004	0.024 ± 0.004	0.021 ± 0.004
06/21/00	0.014 ± 0.003	0.017 ± 0.003	0.015 ± 0.003	0.014 ± 0.003	0.015 ± 0.003
06/28/00	0.016 ± 0.003	0.016 ± 0.004	0.018 ± 0.003	0.017 ± 0.003	0.014 ± 0.003
07/05/00	0.023 ± 0.004	0.023 ± 0.004	0.025 ± 0.004	0.025 ± 0.004	0.024 ± 0.004
07/12/00	0.016 ± 0.004	0.020 ± 0.004	0.021 ± 0.004	0.019 ± 0.004	0.021 ± 0.004
07/19/00	0.021 ± 0.004	0.023 ± 0.004	0.023 ± 0.004	0.020 ± 0.004	0.022 ± 0.004
07/26/00	0.016 ± 0.003	0.015 ± 0.004	0.021 ± 0.004	0.019 ± 0.003	0.017 ± 0.003
08/02/00	0.021 ± 0.004	0.024 ± 0.004	0.027 ± 0.004	0.026 ± 0.004	0.032 ± 0.004
08/09/00	0.021 ± 0.004	0.017 ± 0.004	0.018 ± 0.004	0.018 ± 0.004	0.021 ± 0.004
08/16/00	0.027 ± 0.004	0.032 ± 0.004	0.033 ± 0.004	0.035 ± 0.004	0.027 ± 0.004
08/23/00	0.020 ± 0.004	0.018 ± 0.004	0.023 ± 0.004	0.016 ± 0.004	0.020 ± 0.004
08/30/00	0.037 ± 0.004	0.031 ± 0.004	0.040 ± 0.004	0.042 ± 0.004	0.043 ± 0.004
09/06/00	0.020 ± 0.004	0.024 ± 0.004	0.021 ± 0.004	0.023 ± 0.004	0.027 ± 0.004
09/13/00	0.018 ± 0.003	0.018 ± 0.003	0.017 ± 0.003	0.018 ± 0.003	0.018 ± 0.003
09/20/00	0.028 ± 0.004	0.028 ± 0.004	0.029 ± 0.004	0.029 ± 0.004	0.031 ± 0.004
09/27/00	0.018 ± 0.003	0.020 ± 0.003	0.017 ± 0.003	0.018 ± 0.003	0.019 ± 0.003
10/04/00	0.032 ± 0.004	0.031 ± 0.004	0.034 ± 0.004	0.034 ± 0.004	0.035 ± 0.004
10/11/00	0.012 ± 0.004	0.019 ± 0.003	0.018 ± 0.003	0.018 ± 0.003	0.017 ± 0.004
10/18/00	0.026 ± 0.004	0.026 ± 0.004	0.030 ± 0.004	0.033 ± 0.004	0.028 ± 0.004
10/25/00	0.044 ± 0.004	0.053 ± 0.004	0.049 ± 0.004	0.051 ± 0.004	0.056 ± 0.005
11/01/00	0.034 ± 0.004	0.036 ± 0.004	0.034 ± 0.004	0.036 ± 0.004	0.035 ± 0.004
11/08/00	0.024 ± 0.004	0.030 ± 0.004	0.028 ± 0.004	0.033 ± 0.004	0.029 ± 0.004
11/15/00	0.015 ± 0.004	0.021 ± 0.004	0.018 ± 0.004	0.018 ± 0.004	0.017 ± 0.004
11/22/00	0.031 ± 0.004	0.035 ± 0.004	0.031 ± 0.004	0.030 ± 0.004	0.045 ± 0.005
11/29/00	0.053 ± 0.005	0.057 ± 0.005	0.053 ± 0.005	0.052 ± 0.005	0.058 ± 0.005
12/06/00	0.019 ± 0.003	0.020 ± 0.003	0.017 ± 0.003	0.018 ± 0.003	0.021 ± 0.003
12/13/00	0.038 ± 0.004	0.041 ± 0.005	0.039 ± 0.004	0.051 ± 0.006	0.042 ± 0.005
12/20/00	0.037 ± 0.004	0.043 ± 0.005	0.033 ± 0.004	0.040 ± 0.005	0.045 ± 0.005
12/27/00	0.031 ± 0.004	0.040 ± 0.004	0.042 ± 0.004	0.025 ± 0.003	0.041 ± 0.004
1/03/01	0.045 ± 0.005	0.047 ± 0.005	0.048 ± 0.005	0.037 ± 0.005	0.049 ± 0.005

a control location, all other locations are indicators

NS = no sample

TABLE E-2

GAMMA ISOTOPIC ACTIVITY IN AIR PARTICULATES FOR 2000^a
(pCi/m³)

SITE	ISOTOPE	1 ST QTR	2 ND QTR	3 RD QTR	4 TH QTR
CL-1	Be-7	0.074 ± 0.013	0.073 ± 0.013	0.063 ± 0.012	0.055 ± 0.013
	K-40	< 0.016	< 0.016	< 0.020	< 0.025
	Co-60	< 0.0006	< 0.0004	< 0.0009	< 0.0006
	Nb-95	< 0.0007	< 0.0009	< 0.0009	< 0.0009
	Zr -95	< 0.0010	< 0.0009	< 0.0018	< 0.0014
	Ru-103	< 0.0004	< 0.0005	< 0.0009	< 0.0006
	Ru-106	< 0.0034	< 0.0028	< 0.0036	< 0.0040
	Cs-134	< 0.0004	< 0.0003	< 0.0009	< 0.0007
	Cs-137	< 0.0003	< 0.0006	< 0.0008	< 0.0006
	Ce-141	< 0.0008	< 0.0007	< 0.0019	< 0.0021
	Ce-144	< 0.0031	< 0.0025	< 0.0029	< 0.0055
CL-2	Be-7	0.058 ± 0.010	0.067 ± 0.011	0.061 ± 0.011	0.053 ± 0.017
	K-40	< 0.018	< 0.019	< 0.020	< 0.028
	Co-60	< 0.0004	< 0.0005	< 0.0008	< 0.0006
	Nb-95	< 0.0011	< 0.0013	< 0.0008	< 0.0009
	Zr -95	< 0.0019	< 0.0018	< 0.0009	< 0.0015
	Ru-103	< 0.0012	< 0.0007	< 0.0007	< 0.0005
	Ru-106	< 0.0092	< 0.0045	< 0.0077	< 0.0050
	Cs-134	< 0.0008	< 0.0005	< 0.0008	< 0.0007
	Cs-137	< 0.0007	< 0.0006	< 0.0006	< 0.0006
	Ce-141	< 0.0018	< 0.0011	< 0.0012	< 0.0019
	Ce-144	< 0.0037	< 0.0015	< 0.0034	< 0.0049
CL-3	Be-7	0.071 ± 0.013	0.085 ± 0.014	0.062 ± 0.017	0.041 ± 0.013
	K-40	< 0.014	< 0.018	< 0.020	< 0.021
	Co-60	< 0.0003	< 0.0004	< 0.0007	< 0.0005
	Nb-95	< 0.0009	< 0.0010	< 0.0007	< 0.0007
	Zr -95	< 0.0011	< 0.0008	< 0.0005	< 0.0014
	Ru-103	< 0.0009	< 0.0007	< 0.0009	< 0.0005
	Ru-106	< 0.0046	< 0.0018	< 0.0077	< 0.0073
	Cs-134	< 0.0005	< 0.0004	< 0.0007	< 0.0005
	Cs-137	< 0.0007	< 0.0007	< 0.0008	< 0.0005
	Ce-141	< 0.0011	< 0.0015	< 0.0010	< 0.0007
	Ce-144	< 0.0026	< 0.0020	< 0.0037	< 0.0034

^a all Iodine -131 results were < 0.07 pCi/m³

TABLE E-2 (Cont'd)

SITE	ISOTOPE	1 ST QTR	2 ND QTR	3 RD QTR	4 TH QTR
CL-4	Be-7	0.069 ± 0.012	0.072 ± 0.014	0.064 ± 0.012	0.058 ± 0.017
	K-40	< 0.020	< 0.024	< 0.022	< 0.026
	Co-60	< 0.0004	< 0.0010	< 0.0009	< 0.0007
	Nb-95	< 0.0007	< 0.0008	< 0.0009	< 0.0009
	Zr -95	< 0.0013	< 0.0019	< 0.0011	< 0.0018
	Ru-103	< 0.0011	< 0.0007	< 0.0009	< 0.0007
	Ru-106	< 0.0046	< 0.0066	< 0.0037	< 0.0060
	Cs-134	< 0.0007	< 0.0011	< 0.0009	< 0.0005
	Cs-137	< 0.0006	< 0.0008	< 0.0008	< 0.0005
	Ce-141	< 0.0009	< 0.0015	< 0.0019	< 0.0025
	Ce-144	< 0.0022	< 0.0032	< 0.0023	< 0.0053
CL-6	Be-7	0.076 ± 0.011	0.092 ± 0.016	0.065 ± 0.013	0.044 ± 0.015
	K-40	< 0.017	< 0.020	< 0.021	< 0.026
	Co-60	< 0.0006	< 0.0009	< 0.0007	< 0.0008
	Nb-95	< 0.0007	< 0.0012	< 0.0014	< 0.0011
	Zr -95	< 0.0014	< 0.0016	< 0.0014	< 0.0015
	Ru-103	< 0.0011	< 0.0008	< 0.0010	< 0.0009
	Ru-106	< 0.0043	< 0.0082	< 0.0040	< 0.0053
	Cs-134	< 0.0004	< 0.0010	< 0.0008	< 0.0008
	Cs-137	< 0.0005	< 0.0012	< 0.0006	< 0.0007
	Ce-141	< 0.0011	< 0.0019	< 0.0017	< 0.0023
	Ce-144	< 0.0031	< 0.0043	< 0.0036	< 0.0042
CL-7	Be-7	0.074 ± 0.013	0.079 ± 0.016	0.069 ± 0.009	0.037 ± 0.011
	K-40	< 0.018	< 0.025	< 0.011	< 0.026
	Co-60	< 0.0006	< 0.0008	< 0.0004	< 0.0006
	Nb-95	< 0.0010	< 0.0013	< 0.0007	< 0.0012
	Zr -95	< 0.0024	< 0.0010	< 0.0010	< 0.0014
	Ru-103	< 0.0010	< 0.0008	< 0.0007	< 0.0008
	Ru-106	< 0.0056	< 0.0057	< 0.0053	< 0.0057
	Cs-134	< 0.0007	< 0.0010	< 0.0004	< 0.0005
	Cs-137	< 0.0008	< 0.0009	< 0.0005	< 0.0006
	Ce-141	< 0.0012	< 0.0013	< 0.0005	< 0.0022
	Ce-144	< 0.0043	< 0.0022	< 0.0025	< 0.0046
CL-8	Be-7	0.056 ± 0.011	0.063 ± 0.020	0.070 ± 0.015	0.045 ± 0.013
	K-40	< 0.013	< 0.023	< 0.022	< 0.025
	Co-60	< 0.0003	< 0.0011	< 0.0007	< 0.0006
	Nb-95	< 0.0012	< 0.0017	< 0.0010	< 0.0007
	Zr -95	< 0.0006	< 0.0023	< 0.0009	< 0.0014
	Ru-103	< 0.0006	< 0.0014	< 0.0008	< 0.0007
	Ru-106	< 0.0031	< 0.0074	< 0.0068	< 0.0059
	Cs-134	< 0.0003	< 0.0010	< 0.0007	< 0.0005
	Cs-137	< 0.0005	< 0.0008	< 0.0006	< 0.0006
	Ce-141	< 0.0013	< 0.0021	< 0.0011	< 0.0011
	Ce-144	< 0.0026	< 0.0039	< 0.0040	< 0.0047

TABLE E-2 (Cont'd)

SITE	ISOTOPE	1 ST QTR	2 ND QTR	3 RD QTR	4 TH QTR
CL-11 ^b	Be-7	0.065 ± 0.010	0.088 ± 0.016	0.070 ± 0.014	0.054 ± 0.015
	K-40	< 0.019	< 0.020	< 0.021	< 0.026
	Co-60	< 0.0004	< 0.0005	< 0.0008	< 0.0006
	Nb-95	< 0.0007	< 0.0009	< 0.0009	< 0.0014
	Zr -95	< 0.0009	< 0.0015	< 0.0011	< 0.0014
	Ru-103	< 0.0009	< 0.0007	< 0.0007	< 0.0008
	Ru-106	< 0.0032	< 0.0031	< 0.0035	< 0.0059
	Cs-134	< 0.0007	< 0.0004	< 0.0006	< 0.0007
	Cs-137	< 0.0005	< 0.0005	< 0.0007	< 0.0007
	Ce-141	< 0.0011	< 0.0012	< 0.0020	< 0.0025
	Ce-144	< 0.0020	< 0.0043	< 0.0042	< 0.0038
CL-15	Be-7	0.073 ± 0.013	0.084 ± 0.013	0.063 ± 0.010	0.041 ± 0.012
	K-40	< 0.017	< 0.015	< 0.018	< 0.026
	Co-60	< 0.0004	< 0.0006	< 0.0006	< 0.0006
	Nb-95	< 0.0007	< 0.0007	< 0.0015	< 0.0008
	Zr-95	< 0.0010	< 0.0009	< 0.0014	< 0.0014
	Ru-103	< 0.0012	< 0.0010	< 0.0008	< 0.0010
	Ru-106	< 0.0034	< 0.0065	< 0.0054	< 0.0044
	Cs-134	< 0.0009	< 0.0006	< 0.0011	< 0.0007
	Cs-137	< 0.0008	< 0.0006	< 0.0008	< 0.0008
	Ce-141	< 0.0020	< 0.0012	< 0.0018	< 0.0020
	Ce-144	< 0.0050	< 0.0026	< 0.0044	< 0.0056
CL-94	Be-7	0.064 ± 0.012	0.076 ± 0.016	0.058 ± 0.010	0.055 ± 0.017
	K-40	< 0.014	< 0.026	< 0.020	< 0.026
	Co-60	< 0.0004	< 0.0012	< 0.0006	< 0.0008
	Nb-95	< 0.0010	< 0.0010	< 0.0011	< 0.0009
	Zr -95	< 0.0012	< 0.0022	< 0.0019	< 0.0020
	Ru-103	< 0.0009	< 0.0006	< 0.0011	< 0.0009
	Ru-106	< 0.0063	< 0.0095	< 0.0068	< 0.0051
	Cs-134	< 0.0006	< 0.0009	< 0.0007	< 0.0006
	Cs-137	< 0.0004	< 0.0006	< 0.0005	< 0.0007
	Ce-141	< 0.0009	< 0.0016	< 0.0011	< 0.0019
	Ce-144	< 0.0033	< 0.0035	< 0.0035	< 0.0056

^b Control location, all other locations are indicators

TABLE E-3

2000 QUARTERLY TLD RESULTS

(mR/quarter net exposure)

Location	1 ST QTR	2 ND QTR	3 RD QTR	4 TH QTR
CL-1	16.1 ± 0.2	18.1 ± 0.3	17.9 ± 0.2	17.9 ± 0.3
CL-2	18.2 ± 0.2	18.7 ± 0.2	20.1 ± 0.2	18.8 ± 0.2
CL-3	17.4 ± 0.2	17.8 ± 0.2	19.4 ± 0.2	17.9 ± 0.2
CL-4	17.4 ± 0.2	16.7 ± 0.2	19.3 ± 0.2	16.7 ± 0.2
CL-5	17.5 ± 0.2	18.3 ± 0.2	19.8 ± 0.2	19.0 ± 0.2
CL-6	15.1 ± 0.3	15.3 ± 0.2	16.7 ± 0.2	15.6 ± 0.2
CL-7	16.3 ± 0.2	16.8 ± 0.2	17.5 ± 0.2	16.3 ± 0.2
CL-8	16.4 ± 0.3	17.8 ± 0.2	18.5 ± 0.3	17.7 ± 0.5
CL-11 ^a	16.0 ± 0.2	16.4 ± 0.2	16.7 ± 0.2	16.0 ± 0.2
CL-15	13.5 ± 0.2	15.6 ± 0.2	14.9 ± 0.3	15.2 ± 0.2
CL-22	16.4 ± 0.2	16.4 ± 0.2	17.1 ± 0.2	17.1 ± 0.2
CL-23	15.1 ± 0.3	15.9 ± 0.2	16.1 ± 0.2	16.8 ± 0.2
CL-24	16.7 ± 0.2	16.7 ± 0.2	16.8 ± 0.2	17.1 ± 0.2
CL-33 ^b	18.7 ± 0.3	18.3 ± 0.2	18.5 ± 0.3	18.7 ± 0.2
CL-34	18.2 ± 0.2	19.3 ± 0.2	20.5 ± 0.2	19.4 ± 0.2
CL-35	16.1 ± 0.2	16.7 ± 0.2	17.5 ± 0.2	17.6 ± 0.2
CL-36	17.1 ± 0.2	18.1 ± 0.2	19.8 ± 0.2	17.8 ± 0.3
CL-37	17.1 ± 0.2	17.9 ± 0.2	19.1 ± 0.2	18.1 ± 0.3
CL-41	17.4 ± 0.2	18.3 ± 0.2	20.1 ± 0.2	18.0 ± 0.3
CL-42	16.6 ± 0.2	17.1 ± 0.2	19.4 ± 0.2	17.8 ± 0.4
CL-43	18.2 ± 0.2	19.8 ± 0.2	20.4 ± 0.2	19.7 ± 0.2
CL-44	18.2 ± 0.2	19.1 ± 0.2	20.5 ± 0.2	19.5 ± 0.2
CL-45	18.2 ± 0.2	19.7 ± 0.2	20.9 ± 0.2	20.2 ± 0.2
CL-46	17.7 ± 0.2	18.2 ± 0.2	19.7 ± 0.2	18.8 ± 0.2
CL-47	18.2 ± 0.2	18.3 ± 0.2	19.9 ± 0.2	19.5 ± 0.2
CL-48	17.1 ± 0.2	18.1 ± 0.2	18.5 ± 0.3	ND
CL-49	18.1 ± 0.2	20.1 ± 0.2	20.1 ± 0.2	19.9 ± 0.2
CL-51	17.1 ± 0.2	18.2 ± 0.2	19.2 ± 0.2	18.5 ± 0.2
CL-52	18.7 ± 0.2	18.5 ± 0.3	19.7 ± 0.2	19.1 ± 0.2
CL-53	16.8 ± 0.3	16.7 ± 0.2	17.9 ± 0.2	17.7 ± 0.3
CL-54	16.7 ± 0.2	18.0 ± 0.2	18.6 ± 0.3	18.7 ± 0.2
CL-55	17.4 ± 0.2	18.3 ± 0.2	20.1 ± 0.2	19.1 ± 0.2
CL-56	17.5 ± 0.2	19.9 ± 0.2	19.8 ± 0.2	19.5 ± 0.2
CL-57	18.2 ± 0.2	18.0 ± 0.3	19.7 ± 0.2	17.9 ± 0.3
CL-58	18.1 ± 0.2	19.7 ± 0.2	19.8 ± 0.2	19.1 ± 0.2
CL-60	17.9 ± 0.2	18.3 ± 0.4	19.8 ± 0.2	19.4 ± 0.2
CL-61	18.5 ± 0.2	19.4 ± 0.2	19.8 ± 0.2	19.0 ± 0.2
CL-63	18.8 ± 0.3	19.2 ± 0.2	20.1 ± 0.2	19.8 ± 0.2
CL-64	18.2 ± 0.2	18.9 ± 0.2	19.4 ± 0.2	19.5 ± 0.2
CL-65	18.9 ± 0.4	19.4 ± 0.2	20.1 ± 0.2	19.6 ± 0.2
CL-74	ND	17.8 ± 0.2	16.7 ± 0.2	16.4 ± 0.2
CL-75	18.5 ± 0.2	18.3 ± 0.2	18.5 ± 0.3	19.4 ± 0.2
CL-76	17.5 ± 0.2	19.4 ± 0.2	20.1 ± 0.2	19.4 ± 0.2
CL-77	16.7 ± 0.2	18.2 ± 0.2	18.5 ± 0.4	18.8 ± 0.2
CL-78	17.5 ± 0.2	19.5 ± 0.2	20.1 ± 0.2	19.4 ± 0.2

TABLE E-3 (Cont'd)

Location	1ST QTR	2ND QTR	3RD QTR	4TH QTR
CL-79	18.6 ± 0.2	18.6 ± 0.2	19.7 ± 0.2	18.9 ± 0.2
CL-80	18.6 ± 0.2	18.2 ± 0.2	20.4 ± 0.2	19.3 ± 0.2
CL-81	17.8 ± 0.2	20.9 ± 0.2	19.7 ± 0.2	20.6 ± 0.2
CL-84	16.8 ± 0.2	17.4 ± 0.2	17.5 ± 0.2	17.8 ± 0.3
CL-90	13.2 ± 0.2	15.0 ± 0.4	14.6 ± 0.2	15.0 ± 0.2
CL-91	15.1 ± 0.3	17.1 ± 0.2	16.7 ± 0.2	17.6 ± 0.3
CL-97 ^b	17.5 ± 0.2	18.3 ± 0.2	18.5 ± 0.3	18.5 ± 0.2
CL-99	13.6 ± 0.3	14.4 ± 0.3	14.8 ± 0.4	14.2 ± 0.2
CL-114 ^b	14.1 ± 0.2	16.0 ± 0.2	15.7 ± 0.2	16.8 ± 0.2

ND = No Data; TLD lost in the field

a ODCM control location

b Supplemental control locations

TABLE E-4**CL-13 SURFACE WATER ACTIVITY (pCi/l)**

<u>Date Collected</u>	<u>01-26-00</u>	<u>02-23-00</u>	<u>03-29-00</u>	<u>04-26-00</u>	<u>05-31-00</u>	<u>06-28-00</u>
Gross Beta	2.1 ± 0.3	2.1 ± 0.6	1.9 ± 0.5	3.2 ± 0.7	2.9 ± 0.6	2.5 ± 0.6
Be-7	< 18.4	< 38.8	< 33.4	< 25.5	< 44.9	< 72.2
K-40	< 91.9	< 79.6	< 121.8	< 53.6	< 87.0	< 109.0
Mn-54	< 1.3	< 3.3	< 3.9	< 1.5	< 3.6	< 2.9
Fe-59	< 2.7	< 5.6	< 6.7	< 4.0	< 11.2	< 6.6
Co-58	< 3.5	< 3.0	< 3.8	< 2.7	< 4.1	< 1.7
Co-60	< 1.2	< 2.9	< 3.7	< 2.1	< 2.0	< 7.3
Zn-65	< 2.8	< 4.4	< 3.3	< 3.3	< 7.7	< 9.9
Nb-95	< 3.7	< 4.6	< 4.6	< 3.3	< 4.2	< 3.6
Zr-95	< 7.1	< 6.8	< 7.4	< 6.8	< 7.2	< 15.0
Cs-134	< 2.9	< 3.5	< 5.0	< 3.5	< 4.3	< 6.0
Cs-137	< 2.7	< 4.1	< 3.3	< 2.8	< 4.0	< 6.5
Ba-140	< 14.0	< 17.6	< 21.3	< 12.5	< 29.6	< 26.8
La-140	< 1.9	< 3.7	< 3.2	< 2.9	< 9.2	< 8.9
Ce-144	< 32.6	< 36.0	< 36.1	< 25.9	< 25.2	< 52.2

<u>Date Collected</u>	<u>07-26-00</u>	<u>08-31-00</u>	<u>09-27-00</u>	<u>10-25-00</u>	<u>11-29-00</u>	<u>12-27-00</u>
Gross Beta	2.6 ± 0.6	2.1 ± 0.6	2.8 ± 0.4	2.3 ± 0.6	2.7 ± 0.6	3.1 ± 0.3
Be-7	< 40.1	< 37.6	< 26.2	< 23.6	< 51.6	< 38.1
K-40	< 75.7	< 81.9	< 103.5	< 134.2	< 56.4	< 63.1
Mn-54	< 1.6	< 3.5	< 3.8	< 6.8	< 3.1	< 4.0
Fe-59	< 5.3	< 8.9	< 5.0	< 7.9	< 8.4	< 9.7
Co-58	< 2.7	< 2.9	< 2.1	< 4.6	< 4.1	< 3.4
Co-60	< 3.4	< 5.0	< 2.6	< 6.4	< 2.6	< 3.7
Zn-65	< 4.1	< 5.7	< 3.6	< 9.7	< 4.9	< 3.7
Nb-95	< 2.2	< 3.0	< 2.0	< 5.0	< 4.8	< 4.6
Zr-95	< 9.4	< 9.6	< 7.3	< 12.3	< 7.7	< 8.7
Cs-134	< 3.1	< 5.6	< 4.0	< 7.0	< 2.7	< 2.0
Cs-137	< 3.5	< 4.8	< 1.6	< 6.1	< 5.4	< 2.7
Ba-140	< 20.1	< 22.2	< 17.6	< 27.7	< 36.3	< 23.9
La-140	< 4.8	< 6.4	< 4.2	< 3.5	< 8.0	< 4.4
Ce-144	< 22.7	< 32.4	< 33.5	< 31.0	< 43.4	< 40.9

TABLE E-5

CL-90 SURFACE WATER ACTIVITY (pCi/l)

<u>Date Collected</u>	<u>01-26-00</u>	<u>02-23-00</u>	<u>03-29-00</u>	<u>04-26-00</u>	<u>05-31-00</u>	<u>06-25-00</u>
Gross Alpha	0.9 ± 0.6	0.8 ± 0.5	< 0.5	0.5 ± 0.4	2.1 ± 1.0	< 0.7
Gross Beta	3.1 ± 0.5	2.2 ± 0.5	2.4 ± 0.5	2.2 ± 0.4	2.3 ± 0.7	2.2 ± 0.5
Iodine-131	< 0.3	< 0.3	< 0.4	< 0.3	< 0.3	< 0.4
Be-7	< 40.3	< 23.8	< 24.9	< 14.6	< 27.3	< 50.8
K-40	< 51.4	< 51.7	< 58.7	< 46.5	< 76.9	< 93.3
Mn-54	< 2.1	< 1.6	< 2.0	< 1.7	< 2.3	< 3.1
Fe-59	< 8.2	< 2.4	< 2.5	< 2.5	< 4.0	< 4.7
Co-58	< 2.6	< 1.8	< 2.0	< 1.4	< 3.5	< 1.7
Co-60	< 2.9	< 2.8	< 2.6	< 1.7	< 2.5	< 1.6
Zn-65	< 6.3	< 5.5	< 4.6	< 3.0	< 5.2	< 2.9
Nb-95	< 5.1	< 2.4	< 1.5	< 1.8	< 3.6	< 1.7
Zr-95	< 5.1	< 5.4	< 3.1	< 3.1	< 6.6	< 6.1
Cs-134	< 3.1	< 3.4	< 2.0	< 1.3	< 3.2	< 3.5
Cs-137	< 1.9	< 1.6	< 2.0	< 2.0	< 3.3	< 3.7
Ba-140	< 32.8	< 5.8	< 8.5	< 4.5	< 12.3	< 14.7
La-140	< 6.0	< 1.7	< 2.7	< 1.5	< 4.0	< 2.6
Ce-144	< 18.2	< 23.5	< 19.7	< 16.1	< 31.8	< 26.4
<u>Date Collected</u>	<u>07-26-00</u>	<u>08-31-00</u>	<u>09-27-00</u>	<u>10-25-00</u>	<u>11-29-00</u>	<u>12-27-00</u>
Gross Alpha	< 1.1	0.6 ± 0.3	< 0.5	< 0.4	< 1.3	0.9 ± 0.4
Gross Beta	3.4 ± 0.8	2.5 ± 0.4	1.7 ± 0.5	2.5 ± 0.4	2.6 ± 0.8	3.6 ± 0.4
Iodine-131	< 0.2	< 0.4	< 0.3	< 0.3	< 0.4	< 0.4
Be-7	< 45.8	< 13.2	< 21.5	< 30.2	< 26.8	< 33.4
K-40	< 74.6	< 90.3	< 106.1	< 62.8	< 17.2	< 44.2
Mn-54	< 1.5	< 5.7	< 3.3	< 2.3	< 1.5	< 2.3
Fe-59	< 4.8	< 6.3	< 3.7	< 5.7	< 2.5	< 4.2
Co-58	< 1.8	< 3.9	< 3.8	< 2.2	< 2.4	< 3.3
Co-60	< 2.2	< 2.7	< 5.0	< 2.9	< 1.4	< 3.0
Zn-65	< 6.0	< 4.6	< 6.7	< 4.1	< 4.7	< 4.6
Nb-95	< 3.2	< 5.9	< 1.7	< 3.4	< 2.5	< 2.9
Zr-95	< 7.6	< 10.0	< 5.0	< 5.5	< 3.2	< 5.5
Cs-134	< 1.8	< 3.8	< 5.7	< 2.8	< 2.2	< 3.8
Cs-137	< 2.6	< 3.2	< 4.6	< 2.9	< 3.0	< 3.3
Ba-140	< 5.7	< 21.9	< 18.0	< 13.7	< 10.3	< 9.9
La-140	< 1.4	< 4.0	< 6.0	< 1.5	< 4.8	< 2.0
Ce-144	< 28.7	< 40.4	< 38.8	< 26.5	< 15.6	< 25.8

TABLE E-6**CL-91 SURFACE WATER ACTIVITY (pCi/l)**

Date Collected	01-26-00	02-23-00	03-29-00	04-26-00	05-31-00	06-28-00
Gross Alpha	< 1.3	< 0.8	1.2 ± 0.7	< 0.6	< 1.5	1.3 ± 0.8
Gross Beta	2.5 ± 0.7	1.5 ± 0.5	2.1 ± 0.6	2.0 ± 0.6	4.1 ± 1.2	< 1.1
Be-7	< 20.5	< 45.0	< 36.9	< 41.8	< 57.0	< 31.2
K-40	< 73.7	< 119.6	< 73.9	< 89.0	< 107.7	< 101.3
Mn-54	< 2.0	< 6.7	< 4.6	< 5.4	< 5.6	< 4.0
Fe-59	< 3.7	< 11.3	< 6.4	< 6.5	< 12.6	< 6.1
Co-58	< 4.9	< 5.3	< 3.4	< 4.3	< 4.3	< 6.0
Co-60	< 2.3	< 4.3	< 3.3	< 2.4	< 4.0	< 4.9
Zn-65	< 6.1	< 13.1	< 11.5	< 5.5	< 6.7	< 5.8
Nb-95	< 4.1	< 5.3	< 4.0	< 3.9	< 6.0	< 7.1
Zr-95	< 6.9	< 4.7	< 7.4	< 11.7	< 11.5	< 10.1
Cs-134	< 2.4	< 2.5	< 5.3	< 4.0	< 4.9	< 4.6
Cs-137	< 3.1	< 6.9	< 4.3	< 5.2	< 3.2	< 3.7
Ba-140	< 11.8	< 26.0	< 25.2	< 29.8	< 40.1	< 36.8
La-140	< 3.0	< 3.6	< 4.3	< 2.8	< 7.0	< 5.8
Ce-144	< 29.8	< 62.8	< 44.6	< 47.2	< 51.3	< 51.0
Date Collected	07-26-00	08-31-00	09-27-00	10-25-00	11-29-00	12-27-00
Gross Alpha	< 0.6	< 0.4	< 0.7	0.6 ± 0.4	< 1.6	0.9 ± 0.6
Gross Beta	1.7 ± 0.6	2.0 ± 0.5	2.2 ± 0.6	2.6 ± 0.5	2.1 ± 1.0	2.1 ± 0.7
Be-7	< 27.1	< 31.2	< 29.0	< 48.4	< 15.9	< 28.7
K-40	< 74.8	< 54.3	< 75.7	< 123.2	< 18.2	< 25.1
Mn-54	< 1.8	< 3.2	< 1.1	< 5.7	< 1.4	< 2.1
Fe-59	< 4.2	< 4.8	< 3.0	< 10.4	< 2.0	< 2.6
Co-58	< 2.2	< 2.9	< 1.3	< 3.0	< 1.0	< 1.3
Co-60	< 1.2	< 2.1	< 3.1	< 6.9	< 0.9	< 2.7
Zn-65	< 2.3	< 3.6	< 4.2	< 6.3	< 3.6	< 2.9
Nb-95	< 2.8	< 3.5	< 1.7	< 7.3	< 2.2	< 2.1
Zr-95	< 4.1	< 8.4	< 3.0	< 8.7	< 3.8	< 3.6
Cs-134	< 2.7	< 2.8	< 1.4	< 5.5	< 1.7	< 2.6
Cs-137	< 2.8	< 2.9	< 2.9	< 4.7	< 1.8	< 1.5
Ba-140	< 14.2	< 17.9	< 12.6	< 27.2	< 12.5	< 15.8
La-140	< 3.1	< 6.4	< 2.6	< 3.5	< 3.6	< 4.3
Ce-144	< 15.6	< 32.3	< 28.5	< 47.9	< 16.4	< 26.3

TABLE E-7

CL-99 SURFACE WATER ACTIVITY (pCi/l)

<u>Date Collected</u>	<u>01-26-00</u>	<u>02-23-00</u>	<u>03-29-00</u>	<u>04-26-00</u>	<u>05-31-00</u>	<u>06-28-00</u>
Gross Alpha	3.0 ± 1.3	1.0 ± 0.6	< 1.6	< 1.2	< 0.8	< 1.3
Gross Beta	4.0 ± 1.0	1.5 ± 0.6	3.2 ± 1.0	2.1 ± 0.9	2.1 ± 0.8	2.4 ± 0.9
Be-7	< 42.5	< 40.7	< 45.3	< 37.7	< 26.2	< 44.4
K-40	< 153.6	< 58.0	< 112.1	< 65.8	< 52.6	< 84.9
Mn-54	< 1.8	< 2.7	< 4.3	< 3.0	< 1.2	< 2.6
Fe-59	< 4.1	< 6.1	< 7.1	< 6.9	< 4.9	< 8.6
Co-58	< 4.0	< 1.8	< 5.0	< 2.2	< 1.8	< 2.9
Co-60	< 1.7	< 1.6	< 2.1	< 3.5	< 1.1	< 3.0
Zn-65	< 6.9	< 6.0	< 3.6	< 4.9	< 3.4	< 4.7
Nb-95	< 3.8	< 4.4	< 4.5	< 3.8	< 2.9	< 2.6
Zr-95	< 8.4	< 9.4	< 11.0	< 5.6	< 4.3	< 12.5
Cs-134	< 5.0	< 2.8	< 2.7	< 2.7	< 2.5	< 3.9
Cs-137	< 2.1	< 2.6	< 6.0	< 3.9	< 2.1	< 3.3
Ba-140	< 13.7	< 21.9	< 12.8	< 20.2	< 26.8	< 28.4
La-140	< 3.5	< 2.8	< 3.1	< 3.5	< 4.5	< 7.7
Ce-144	< 21.8	< 29.2	< 41.7	< 25.9	< 20.5	< 47.2
<u>Date Collected</u>	<u>07-26-00</u>	<u>08-31-00</u>	<u>09-27-00</u>	<u>10-25-00</u>	<u>11-29-00</u>	<u>12-27-00</u>
Gross Alpha	< 1.0	0.8 ± 0.6	1.4 ± 0.9	< 0.9	< 2.5	< 1.3
Gross Beta	2.0 ± 0.8	3.7 ± 0.7	4.2 ± 0.9	3.3 ± 0.7	4.8 ± 1.6	3.8 ± 0.7
Be-7	< 51.6	< 32.9	< 33.3	< 23.0	< 21.6	< 30.3
K-40	< 99.8	< 61.9	< 81.9	< 60.1	< 76.4	< 75.2
Mn-54	< 3.9	< 2.1	< 2.5	< 2.3	< 3.5	< 2.6
Fe-59	< 6.9	< 6.6	< 2.9	< 3.4	< 3.9	< 4.9
Co-58	< 3.9	< 2.1	< 3.3	< 2.6	< 2.7	< 2.1
Co-60	< 1.9	< 1.6	< 1.8	< 3.3	< 1.6	< 1.4
Zn-65	< 5.1	< 4.1	< 6.0	< 2.6	< 4.1	< 3.0
Nb-95	< 2.7	< 1.7	< 2.5	< 2.9	< 2.8	< 3.0
Zr-95	< 9.0	< 4.8	< 6.1	< 5.3	< 3.6	< 9.0
Cs-134	< 6.4	< 3.2	< 1.8	< 2.6	< 2.1	< 2.4
Cs-137	< 5.6	< 2.1	< 2.8	< 3.2	< 1.8	< 1.9
Ba-140	< 25.6	< 22.4	< 9.9	< 15.6	< 29.4	< 19.2
La-140	< 3.5	< 7.1	< 1.5	< 4.6	< 5.3	< 4.1
Ce-144	< 38.5	< 27.1	< 31.0	< 17.2	< 23.8	< 26.8

TABLE E-8

SURFACE WATER and DRINKING WATER
QUARTERLY TRITIUM COMPOSITE
 (pCi/l)

<u>Quarter</u>	<u>CL-13</u>	<u>CL-14</u>	<u>CL-90</u>	<u>CL-91</u>	<u>CL-99</u>
1 st	< 179	< 179	< 179	< 179	< 179
2 nd	< 176	< 176	< 174	< 174	< 174
3 rd	< 178	< 178	< 178	< 178	< 178
4 th	< 169	< 169	< 169	< 169	< 169

TABLE E-9

CL-7D WELL WATER ACTIVITY
 (pCi/l)

<u>Collection Period</u>	<u>3/29/00</u>	<u>6/28/00</u>	<u>9/27/00</u>	<u>12/27/00</u>
Gross Alpha	< 1.2	< 1.8	1.2 ± 0.8	< 1.0
Gross Beta	< 1.4	< 1.5	< 1.1	2.0 ± 0.8
H-3	< 183	< 174	< 179	153
I-131	< 0.3	< 0.4	< 0.3	< 0.4
Be-7	< 36.3	< 34.4	< 31.1	< 16.7
K-40	< 72.6	< 106.0	< 81.6	< 41.9
Mn-54	< 3.7	< 3.9	< 3.0	< 1.8
Fe-59	< 8.1	< 12.6	< 3.2	< 3.1
Co-58	< 2.2	< 6.4	< 1.6	< 1.8
Co-60	< 2.0	< 2.5	< 1.2	< 2.8
Zn-65	< 3.4	< 5.4	< 5.5	< 2.2
Nb-95	< 4.8	< 5.5	< 3.2	< 3.4
Zr-95	< 9.4	< 6.8	< 4.6	< 4.1
Cs-134	< 3.0	< 2.8	< 2.0	< 2.6
Cs-137	< 3.8	< 3.9	< 3.2	< 2.8
Ba-140	< 12.0	< 30.5	< 19.3	< 7.5
La-140	< 3.4	< 8.5	< 3.9	< 4.4
Ce-144	< 21.8	< 44.6	< 21.6	< 18.8

TABLE E-10**CL-12 UNTREATED WELL WATER ACTIVITY**
(pCi/l)

<u>Collection Period</u>	<u>3/29/00</u>	<u>6/28/00</u>	<u>9/27/00</u>	<u>12/27/00</u>
Gross Alpha	< 2.2	< 2.8	< 1.5	< 1.5
Gross Beta	< 2.8	< 3.1	2.1 ± 1.4	< 2.1
H-3	< 183	< 174	< 179	< 153
I-131	< 0.3	< 0.4	< 0.3	< 0.3
Be-7	< 21.0	< 32.3	< 31.7	< 41.4
K-40	< 109.4	< 15.5	< 82.3	< 29.0
Mn-54	< 3.0	< 2.6	< 4.0	< 3.7
Fe-59	< 4.8	< 3.5	< 4.4	< 8.0
Co-58	< 3.5	< 1.4	< 3.0	< 3.7
Co-60	< 2.8	< 2.3	< 2.1	< 3.0
Zn-65	< 6.4	< 4.3	< 2.8	< 3.0
Nb-95	< 4.8	< 2.3	< 3.9	< 2.5
Zr-95	< 5.3	< 3.8	< 6.3	< 8.7
Cs-134	< 2.0	< 2.6	< 3.9	< 3.1
Cs-137	< 4.3	< 2.7	< 3.2	< 4.0
Ba-140	< 18.3	< 17.3	< 11.4	< 22.4
La-140	< 3.1	< 2.3	< 5.5	< 6.4
Ce-144	< 29.3	< 23.2	< 19.5	< 31.8

TABLE E-11**CL-12 TREATED WELL WATER ACTIVITY**
(pCi/l)

<u>Collection Period</u>	<u>3/29/00</u>	<u>6/28/00</u>	<u>9/27/00</u>	<u>12/27/00</u>
Gross Alpha	< 2.4	< 2.1	< 1.8	< 2.0
Gross Beta	< 2.7	4.0 ± 1.8	2.6 ± 1.6	2.2 ± 1.4
H-3	< 177	< 174	< 179	< 153
I-131	< 0.3	< 0.4	< 0.3	< 0.2
Be-7	< 45.6	< 41.2	< 47.3	< 18.4
K-40	< 80.0	< 114.3	< 104.0	< 34.1
Mn-54	< 4.2	< 3.1	< 4.1	< 1.6
Fe-59	< 4.4	< 6.7	< 11.8	< 3.1
Co-58	< 4.9	< 3.5	< 3.6	< 1.5
Co-60	< 3.5	< 2.7	< 2.9	< 1.2
Zn-65	< 7.9	< 4.6	< 3.9	< 3.6
Nb-95	< 2.3	< 2.5	< 3.6	< 1.8
Zr-95	< 11.0	< 8.7	< 13.3	< 4.3
Cs-134	< 5.5	< 3.4	< 4.1	< 2.6
Cs-137	< 6.3	< 2.8	< 4.3	< 1.7
Ba-140	< 30.0	< 29.2	< 38.3	< 13.9
La-140	< 3.9	< 6.3	< 5.6	< 2.0
Ce-144	< 33.7	< 29.9	< 40.8	< 17.1

TABLE E-12

CL-14 DRINKING WATER ACTIVITY
(pCi/l)

<u>Date Collected</u>	<u>01-26-00</u>	<u>02-23-00</u>	<u>03-29-00</u>	<u>04-26-00</u>	<u>05-31-00</u>	<u>06-28-00</u>
Gross Alpha	< 0.5	< 0.8	< 0.8	< 0.5	1.3 ± 0.8	< 0.6
Gross Beta	1.1 ± 0.3	1.4 ± 0.4	1.3 ± 0.4	1.2 ± 0.3	1.8 ± 0.5	< 0.6
Be-7	< 27.6	< 46.7	< 28.0	< 24.1	< 45.0	< 25.9
K-40	< 55.0	< 106.0	< 78.1	< 108.9	< 90.6	< 84.3
Mn-54	< 1.9	< 2.6	< 1.9	< 4.3	< 3.2	< 1.4
Fe-59	< 3.6	< 10.4	< 4.4	< 8.6	< 6.3	< 6.6
Co-58	< 1.7	< 3.2	< 4.0	< 1.4	< 4.3	< 3.8
Co-60	< 2.2	< 1.9	< 3.4	< 1.6	< 2.5	< 1.8
Zn-65	< 2.0	< 4.3	< 2.1	< 8.1	< 5.0	< 6.0
Nb-95	< 1.7	< 1.3	< 3.4	< 1.7	< 2.2	< 3.5
Zr-95	< 3.4	< 6.0	< 5.8	< 5.2	< 9.0	< 7.5
Cs-134	< 1.9	< 2.1	< 3.8	< 2.2	< 3.7	< 2.9
Cs-137	< 2.5	< 3.1	< 3.8	< 2.4	< 3.6	< 2.7
Ba-140	< 12.4	< 18.9	< 14.2	< 22.9	< 38.9	< 20.6
La-140	< 1.6	< 8.3	< 2.0	< 4.0	< 8.5	< 4.5
Ce-144	< 22.6	< 27.4	< 19.7	< 28.7	< 40.8	< 24.4
<u>Date Collected</u>	<u>07-26-00</u>	<u>08-31-00</u>	<u>09-27-00</u>	<u>10-25-00</u>	<u>11-29-00</u>	<u>12-27-00</u>
Gross Alpha	< 0.8	< 0.3	< 0.4	< 0.3	< 0.8	0.8 ± 0.5
Gross Beta	< 0.8	0.9 ± 0.3	1.0 ± 0.3	1.0 ± 0.3	1.2 ± 0.5	1.2 ± 0.3
Be-7	< 22.0	< 26.5	< 20.2	< 40.7	< 11.7	< 53.6
K-40	< 100.3	< 62.3	< 55.7	< 99.9	< 50.0	< 25.9
Mn-54	< 3.5	< 1.8	< 1.9	< 5.8	< 1.2	< 5.6
Fe-59	< 10.1	< 3.2	< 4.8	< 9.0	< 4.1	< 4.3
Co-58	< 4.1	< 3.2	< 1.6	< 2.7	< 2.6	< 4.2
Co-60	< 2.0	< 2.8	< 1.8	< 7.4	< 1.8	< 1.5
Zn-65	< 8.5	< 3.9	< 3.1	< 3.0	< 4.1	< 3.5
Nb-95	< 5.1	< 2.6	< 2.2	< 5.7	< 3.0	< 6.0
Zr-95	< 7.9	< 9.1	< 3.6	< 8.8	< 3.9	< 9.3
Cs-134	< 4.0	< 1.7	< 3.1	< 3.8	< 2.1	< 5.8
Cs-137	< 4.1	< 2.2	< 2.1	< 4.1	< 1.7	< 4.3
Ba-140	< 25.6	< 18.0	< 13.4	< 14.0	< 17.2	< 27.0
La-140	< 5.1	< 3.2	< 2.1	< 3.2	< 2.4	< 3.8
Ce-144	< 21.4	< 24.1	< 25.1	< 37.5	< 20.1	< 41.2

TABLE E-13

CL-116 MILK ACTIVITY - (control)
(pCi/l)

<u>Date Collected</u>	<u>01-26-00</u>	<u>02-23-00</u>	<u>03-29-00</u>	<u>04-26-00</u>	<u>05-10-00</u>
I-131	< 0.3	< 0.4	< 0.5	< 0.4	< 0.4
Sr-90	1.9 ± 0.6	0.9 ± 0.4	1.0 ± 0.4	1.0 ± 0.4	1.2 ± 0.4
Be-7	< 38.8	< 42.1	< 31.0	< 45.0	< 31.0
K-40	1429 ± 151	1429 ± 115	1216 ± 119	1486 ± 146	1120 ± 180
Mn-54	< 4.9	< 1.8	< 2.9	< 4.5	< 2.5
Fe-59	< 10.6	< 5.1	< 6.7	< 11.8	< 4.2
Co-58	< 6.7	< 2.0	< 2.5	< 3.1	< 3.3
Co-60	< 3.7	< 3.3	< 2.6	< 3.5	< 3.1
Zn-65	< 12.9	< 5.1	< 9.4	< 13.6	< 7.1
Nb-95	< 6.4	< 2.6	< 4.4	< 4.8	< 2.8
Zr-95	< 8.7	< 9.5	< 10.3	< 11.9	< 7.4
Cs-134	< 2.9	< 2.2	< 2.2	< 2.7	< 6.0
Cs-137	< 5.7	< 3.6	< 3.9	< 5.4	< 5.4
Ba-140	< 18.9	< 11.4	< 9.3	< 26.0	< 16.7
La-140	< 3.6	< 2.5	< 4.7	< 4.3	< 3.9
Ce-144	< 28.9	< 22.6	< 28.0	< 22.0	< 39.1

<u>Date Collected</u>	<u>05-24-00</u>	<u>06-07-00</u>	<u>06-21-00</u>	<u>07-05-00</u>	<u>07-19-00</u>
I-131	< 0.4	< 0.4	< 0.3	< 0.3	< 0.3
Sr-90	2.1 ± 0.4	1.3 ± 0.4	1.4 ± 0.4	0.9 ± 0.3	1.3 ± 0.4
Be-7	< 32.2	< 52.7	< 24.5	< 19.8	< 31.2
K-40	1231 ± 110	1147 ± 150	1499 ± 165	1260 ± 94	1315 ± 143
Mn-54	< 3.3	< 3.1	< 3.0	< 2.4	< 4.4
Fe-59	< 4.8	< 13.6	< 10.8	< 5.2	< 5.2
Co-58	< 2.7	< 4.0	< 5.7	< 2.3	< 3.1
Co-60	< 2.1	< 5.0	< 3.7	< 2.2	< 4.1
Zn-65	< 5.0	< 10.3	< 7.9	< 5.6	< 6.5
Nb-95	< 4.0	< 2.6	< 4.0	< 1.6	< 3.7
Zr-95	< 7.3	< 9.6	< 7.8	< 2.6	< 8.1
Cs-134	< 2.5	< 4.6	< 3.0	< 3.3	< 4.9
Cs-137	< 3.6	< 4.9	< 3.6	< 3.0	< 3.8
Ba-140	< 13.5	< 11.7	< 18.8	< 11.1	< 19.0
La-140	< 1.5	< 2.7	< 2.3	< 2.4	< 3.4
Ce-144	< 27.6	< 30.6	< 22.5	< 22.0	< 36.7

TABLE E-13 (Cont'd)

<u>Date Collected</u>	<u>08-02-00</u>	<u>08-16-00</u>	<u>08-30-00</u>	<u>09-13-00</u>	<u>09-27-00</u>
I-131	< 0.2	< 0.4	< 0.4	< 0.4	< 0.3
Sr-90	1.1 ± 0.3	1.7 ± 0.4	0.9 ± 0.4	0.2 ± 0.1	1.0 ± 0.3
Be-7	< 24.9	< 39.3	< 35.1	< 31.2	< 31.3
K-40	1353 ± 111	1336 ± 171	1388 ± 164	1427 ± 118	1302 ± 107
Mn-54	< 3.2	< 3.3	< 4.0	< 1.4	< 3.3
Fe-59	< 4.7	< 9.1	< 12.6	< 6.8	< 8.1
Co-58	< 1.9	< 4.5	< 5.2	< 2.9	< 1.8
Co-60	< 2.6	< 2.7	< 4.4	< 2.5	< 3.3
Zn-65	< 6.1	< 6.5	< 10.4	< 6.3	< 6.4
Nb-95	< 3.7	< 1.4	< 5.0	< 2.0	< 1.9
Zr-95	< 5.6	< 1.2	< 3.9	< 6.9	< 6.3
Cs-134	< 3.4	< 6.0	< 3.8	< 3.7	< 4.9
Cs-137	< 3.4	< 5.2	< 4.5	< 3.6	< 3.7
Ba-140	< 8.3	< 14.9	< 27.2	< 11.4	< 8.1
La-140	< 2.2	< 4.4	< 5.5	< 1.4	< 1.9
Ce-144	< 16.7	< 46.5	< 29.9	< 24.0	< 20.5

<u>Date Collected</u>	<u>10-12-00</u>	<u>10-25-00</u>	<u>11-29-00</u>	<u>12-26-00</u>
I-131	< 0.3	< 0.4	< 0.5	< 0.4
Sr-90	1.4 ± 0.4	1.5 ± 0.4	3.2 ± 0.5	0.7 ± 0.3
Be-7	< 14.7	< 35.2	< 15.6	< 33.3
K-40	1336 ± 80	1304 ± 111	1416 ± 117	1299 ± 116
Mn-54	< 2.3	< 2.7	< 3.1	< 2.6
Fe-59	< 4.4	< 4.7	< 9.8	< 5.3
Co-58	< 2.1	< 3.6	< 2.0	< 2.3
Co-60	< 1.6	< 3.3	< 3.2	< 3.3
Zn-65	< 3.4	< 6.4	< 8.0	< 6.8
Nb-95	< 2.1	< 3.7	< 2.9	< 4.0
Zr-95	< 3.0	< 4.0	< 7.5	< 5.4
Cs-134	< 2.3	< 3.6	< 2.7	< 4.2
Cs-137	< 2.4	< 3.7	< 3.2	< 2.8
Ba-140	< 11.6	< 13.9	< 11.1	< 22.3
La-140	< 2.1	< 2.4	< 3.7	< 3.0
Ce-144	< 19.5	< 38.6	< 3.3	< 38.8

TABLE E-14

CL-1 GRASS ACTIVITY
(pCi/g wet)

<u>Date Collected</u>	<u>04-26-00</u>	<u>05-10-00</u>	<u>05-24-00</u>	<u>06-07-00</u>	<u>06-21-00</u>
Be-7	3.86 ± 0.32	0.59 ± 0.20	0.75 ± 0.15	1.10 ± 0.29	0.72 ± 0.25
K-40	5.61 ± 0.46	4.04 ± 0.49	4.75 ± 0.37	4.51 ± 0.60	4.19 ± 0.58
Mn-54	< 0.010	< 0.020	< 0.012	< 0.022	< 0.013
Fe-59	< 0.036	< 0.039	< 0.016	< 0.020	< 0.045
Co-58	< 0.008	< 0.016	< 0.008	< 0.017	< 0.012
Co-60	< 0.004	< 0.017	< 0.010	< 0.026	< 0.020
Zn-65	< 0.035	< 0.037	< 0.013	< 0.040	< 0.037
Nb-95	< 0.009	< 0.027	< 0.010	< 0.013	< 0.021
Zr-95	< 0.018	< 0.042	< 0.019	< 0.022	< 0.053
I-131	< 0.027	< 0.021	< 0.014	< 0.020	< 0.023
Cs-134	< 0.011	< 0.019	< 0.010	< 0.014	< 0.021
Cs-137	< 0.014	< 0.017	< 0.005	< 0.017	< 0.018
Ba-140	< 0.080	< 0.079	< 0.035	< 0.11	< 0.066
La-140	< 0.015	< 0.009	< 0.007	< 0.014	< 0.010
Ce-144	< 0.085	< 0.10	< 0.074	< 0.12	< 0.13

<u>Date Collected</u>	<u>07-05-00</u>	<u>07-19-00</u>	<u>08-02-00</u>	<u>08-16-00</u>	<u>08-30-00</u>
Be-7	0.51 ± 0.13	1.12 ± 0.15	1.41 ± 0.27	2.77 ± 0.32	1.41 ± 0.28
K-40	3.83 ± 0.34	5.39 ± 0.35	5.66 ± 0.64	5.88 ± 0.64	6.55 ± 0.57
Mn-54	< 0.013	< 0.014	< 0.010	< 0.023	< 0.015
Fe-59	< 0.017	< 0.028	< 0.037	< 0.055	< 0.054
Co-58	< 0.010	< 0.004	< 0.016	< 0.020	< 0.013
Co-60	< 0.012	< 0.012	< 0.016	< 0.016	< 0.009
Zn-65	< 0.032	< 0.019	< 0.047	< 0.036	< 0.026
Nb-95	< 0.010	< 0.007	< 0.017	< 0.019	< 0.014
Zr-95	< 0.021	< 0.023	< 0.033	< 0.047	< 0.022
I-131	< 0.015	< 0.009	< 0.026	< 0.031	< 0.033
Cs-134	< 0.015	< 0.011	< 0.020	< 0.025	< 0.019
Cs-137	< 0.010	< 0.010	< 0.018	< 0.027	< 0.017
Ba-140	< 0.039	< 0.044	< 0.095	< 0.071	< 0.098
La-140	< 0.010	< 0.008	< 0.018	< 0.016	< 0.015
Ce-144	< 0.068	< 0.074	< 0.126	< 0.153	< 0.094

TABLE E-14 (Cont'd)

<u>Date Collected</u>	<u>09-13-00</u>	<u>09-27-00</u>	<u>10-11-00</u>	<u>10-25-00</u>
Be-7	1.14 ± 0.18	1.68 ± 0.31	3.88 ± 0.31	1.76 ± 0.19
K-40	4.18 ± 0.42	6.56 ± 0.71	5.89 ± 0.50	5.12 ± 0.38
Mn-54	< 0.010	< 0.014	< 0.014	< 0.009
Fe-59	< 0.020	< 0.041	< 0.021	< 0.025
Co-58	< 0.013	< 0.014	< 0.011	< 0.009
Co-60	< 0.011	< 0.012	< 0.017	< 0.012
Zn-65	< 0.015	< 0.020	< 0.033	< 0.016
Nb-95	< 0.010	< 0.020	< 0.016	< 0.011
Zr-95	< 0.024	< 0.036	< 0.025	< 0.014
I-131	< 0.019	< 0.019	< 0.019	< 0.018
Cs-134	< 0.015	< 0.021	< 0.013	< 0.007
Cs-137	< 0.011	< 0.020	< 0.017	< 0.008
Ba-140	< 0.052	< 0.064	< 0.047	< 0.035
La-140	< 0.012	< 0.020	< 0.020	< 0.007
Ce-144	< 0.073	< 0.132	< 0.099	< 0.072

TABLE E-15**CL-2 GRASS ACTIVITY**
(pCi/g wet)

<u>Date Collected</u>	<u>04-26-00</u>	<u>05-10-00</u>	<u>05-24-00</u>	<u>06-07-00</u>	<u>06-21-00</u>
Be-7	2.01 ± 0.26	0.54 ± 0.20	0.67 ± 0.21	0.94 ± 0.21	0.63 ± 0.09
K-40	4.37 ± 0.50	5.06 ± 0.58	4.45 ± 0.57	4.48 ± 0.54	3.25 ± 0.24
Mn-54	< 0.018	< 0.015	< 0.015	< 0.019	< 0.005
Fe-59	< 0.035	< 0.036	< 0.028	< 0.035	< 0.011
Co-58	< 0.017	< 0.015	< 0.019	< 0.013	< 0.003
Co-60	< 0.012	< 0.016	< 0.008	< 0.016	< 0.005
Zn-65	< 0.047	< 0.047	< 0.022	< 0.032	< 0.016
Nb-95	< 0.016	< 0.018	< 0.012	< 0.015	< 0.004
Zr-95	< 0.024	< 0.027	< 0.038	< 0.036	< 0.010
I-131	< 0.019	< 0.029	< 0.013	< 0.033	< 0.007
Cs-134	< 0.010	< 0.022	< 0.017	< 0.021	< 0.008
Cs-137	< 0.012	< 0.019	< 0.014	< 0.022	< 0.006
Ba-140	< 0.054	< 0.062	< 0.078	< 0.083	< 0.020
La-140	< 0.018	< 0.011	< 0.010	< 0.018	< 0.003
Ce-144	< 0.075	< 0.12	< 0.12	< 0.12	< 0.062

<u>Date Collected</u>	<u>07-05-00</u>	<u>07-19-00</u>	<u>08-02-00</u>	<u>08-16-00</u>	<u>08-30-00</u>
Be-7	1.43 ± 0.19	2.30 ± 0.24	0.66 ± 0.25	3.54 ± 0.35	4.82 ± 0.42
K-40	3.46 ± 0.35	6.60 ± 0.55	5.35 ± 0.65	8.97 ± 0.72	6.59 ± 0.65
Mn-54	< 0.011	< 0.015	< 0.008	< 0.016	< 0.025
Fe-59	< 0.014	< 0.039	< 0.049	< 0.039	< 0.051
Co-58	< 0.008	< 0.017	< 0.017	< 0.017	< 0.020
Co-60	< 0.010	< 0.013	< 0.022	< 0.027	< 0.021
Zn-65	< 0.012	< 0.044	< 0.018	< 0.066	< 0.045
Nb-95	< 0.009	< 0.015	< 0.018	< 0.023	< 0.018
Zr-95	< 0.026	< 0.027	< 0.031	< 0.038	< 0.049
I-131	< 0.020	< 0.022	< 0.026	< 0.036	< 0.036
Cs-134	< 0.012	< 0.011	< 0.009	< 0.021	< 0.020
Cs-137	< 0.012	< 0.018	< 0.014	< 0.017	< 0.022
Ba-140	< 0.054	< 0.068	< 0.067	< 0.081	< 0.068
La-140	< 0.009	< 0.010	< 0.022	< 0.013	< 0.017
Ce-144	< 0.078	< 0.072	< 0.136	< 0.134	< 0.152

TABLE E-15 (Cont'd)

<u>Date Collected</u>	<u>09-13-00</u>	<u>09-27-00</u>	<u>10-11-00</u>	<u>10-25-00</u>
Be-7	1.44 ± 0.25	3.47 ± 0.28	4.33 ± 0.36	3.91 ± 0.51
K-40	5.27 ± 0.62	6.15 ± 0.52	6.21 ± 0.53	5.27 ± 0.99
Mn-54	< 0.010	< 0.011	< 0.015	< 0.036
Fe-59	< 0.034	< 0.025	< 0.025	< 0.056
Co-58	< 0.014	< 0.011	< 0.019	< 0.026
Co-60	< 0.012	< 0.011	< 0.005	< 0.040
Zn-65	< 0.034	< 0.033	< 0.027	< 0.066
Nb-95	< 0.010	< 0.010	< 0.016	< 0.033
Zr-95	< 0.029	< 0.035	< 0.035	< 0.033
I-131	< 0.029	< 0.018	< 0.022	< 0.036
Cs-134	< 0.021	< 0.012	< 0.027	< 0.020
Cs-137	< 0.016	< 0.017	< 0.015	< 0.028
Ba-140	< 0.101	< 0.048	< 0.067	< 0.114
La-140	< 0.016	< 0.010	< 0.013	< 0.013
Ce-144	< 0.105	< 0.076	< 0.105	< 0.300

TABLE E-16

CL-8 GRASS ACTIVITY
(pCi/g wet)

<u>Date Collected</u>	<u>04-26-00</u>	<u>05-10-00</u>	<u>05-24-00</u>	<u>06-07-00</u>	<u>06-21-00</u>
Be-7	1.40 ± 0.19	0.56 ± 0.13	0.56 ± 0.17	0.83 ± 0.16	0.99 ± 0.22
K-40	7.83 ± 0.50	6.60 ± 0.43	6.72 ± 0.63	5.94 ± 0.37	6.05 ± 0.61
Mn-54	< 0.014	< 0.010	< 0.015	< 0.009	< 0.010
Fe-59	< 0.016	< 0.017	< 0.044	< 0.013	< 0.023
Co-58	< 0.009	< 0.011	< 0.008	< 0.006	< 0.017
Co-60	< 0.010	< 0.013	< 0.015	< 0.004	< 0.026
Zn-65	< 0.029	< 0.030	< 0.040	< 0.029	< 0.024
Nb-95	< 0.011	< 0.009	< 0.009	< 0.010	< 0.012
Zr-95	< 0.031	< 0.026	< 0.033	< 0.016	< 0.021
I-131	< 0.020	< 0.018	< 0.020	< 0.018	< 0.023
Cs-134	< 0.016	< 0.014	< 0.012	< 0.013	< 0.020
Cs-137	< 0.008	< 0.010	< 0.013	< 0.011	< 0.015
Ba-140	< 0.03	< 0.036	< 0.046	< 0.051	< 0.058
La-140	< 0.011	< 0.005	< 0.012	< 0.004	< 0.012
Ce-144	< 0.060	< 0.062	< 0.095	< 0.060	< 0.10
<u>Date Collected</u>	<u>07-05-00</u>	<u>07-19-00</u>	<u>08-02-00</u>	<u>08-16-00</u>	<u>08-30-00</u>
Be-7	0.99 ± 0.11	0.73 ± 0.14	1.40 ± 0.30	2.08 ± 0.28	< 0.37
K-40	5.73 ± 0.25	7.42 ± 0.46	8.12 ± 0.91	8.78 ± 0.79	7.64 ± 0.41
Mn-54	< 0.006	< 0.016	< 0.012	< 0.016	< 0.009
Fe-59	< 0.017	< 0.037	< 0.030	< 0.052	< 0.026
Co-58	< 0.007	< 0.017	< 0.021	< 0.024	< 0.007
Co-60	< 0.020	< 0.015	< 0.013	< 0.026	< 0.013
Zn-65	< 0.006	< 0.031	< 0.051	< 0.053	< 0.024
Nb-95	< 0.008	< 0.007	< 0.017	< 0.021	< 0.011
Zr-95	< 0.007	< 0.020	< 0.040	< 0.063	< 0.017
I-131	< 0.008	< 0.017	< 0.039	< 0.029	< 0.015
Cs-134	< 0.008	< 0.010	< 0.025	< 0.019	< 0.011
Cs-137	< 0.006	< 0.008	< 0.021	< 0.023	< 0.010
Ba-140	< 0.018	< 0.046	< 0.079	< 0.100	< 0.056
La-140	< 0.005	< 0.007	< 0.015	< 0.018	< 0.007
Ce-144	< 0.047	< 0.079	< 0.121	< 0.125	< 0.078

TABLE E-16 (Cont'd)

<u>Date Collected</u>	<u>09-13-00</u>	<u>09-27-00</u>	<u>10-11-00</u>	<u>10-25-00</u>
Be-7	3.36 ± 0.38	3.30 ± 0.30	4.57 ± 0.40	3.14 ± 0.40
K-40	7.92 ± 0.85	7.29 ± 0.59	7.15 ± 0.62	6.24 ± 0.75
Mn-54	< 0.031	< 0.008	< 0.016	< 0.016
Fe-59	< 0.053	< 0.026	< 0.056	< 0.071
Co-58	< 0.026	< 0.010	< 0.017	< 0.019
Co-60	< 0.011	< 0.008	< 0.025	< 0.039
Zn-65	< 0.036	< 0.029	< 0.052	< 0.067
Nb-95	< 0.019	< 0.009	< 0.023	< 0.025
Zr-95	< 0.038	< 0.033	< 0.042	< 0.052
I-131	< 0.035	< 0.025	< 0.028	< 0.037
Cs-134	< 0.020	< 0.016	< 0.021	< 0.027
Cs-137	< 0.021	< 0.014	< 0.016	< 0.020
Ba-140	< 0.110	< 0.081	< 0.092	< 0.107
La-140	< 0.013	< 0.007	< 0.014	< 0.024
Ce-144	< 0.191	< 0.111	< 0.166	< 0.221

TABLE E-17

CL-116 GRASS ACTIVITY (control)
(pCi/g wet)

<u>Date Collected</u>	<u>04-26-00</u>	<u>05-10-00</u>	<u>05-24-00</u>	<u>06-07-00</u>	<u>06-21-00</u>
Be-7	1.71 ± 0.20	0.29 ± 0.15	0.42 ± 0.25	0.55 ± 0.19	0.53 ± 0.13
K-40	4.13 ± 0.39	4.18 ± 0.51	4.44 ± 0.63	4.44 ± 0.55	3.89 ± 0.35
Mn-54	< 0.015	< 0.016	< 0.015	< 0.018	< 0.010
Fe-59	< 0.016	< 0.038	< 0.046	< 0.034	< 0.013
Co-58	< 0.012	< 0.016	< 0.018	< 0.015	< 0.011
Co-60	< 0.013	< 0.013	< 0.013	< 0.020	< 0.008
Zn-65	< 0.018	< 0.037	< 0.031	< 0.022	< 0.015
Nb-95	< 0.014	< 0.015	< 0.025	< 0.018	< 0.007
Zr-95	< 0.019	< 0.047	< 0.032	< 0.021	< 0.012
I-131	< 0.015	< 0.019	< 0.019	< 0.026	< 0.009
Cs-134	< 0.019	< 0.018	< 0.011	< 0.013	< 0.010
Cs-137	< 0.015	< 0.014	< 0.022	< 0.011	< 0.013
Ba-140	< 0.042	< 0.044	< 0.044	< 0.057	< 0.036
La-140	< 0.008	< 0.015	< 0.010	< 0.014	< 0.010
Ce-144	< 0.10	< 0.11	< 0.15	< 0.11	< 0.055

<u>Date Collected</u>	<u>07-05-00</u>	<u>07-19-00</u>	<u>08-02-00</u>	<u>08-16-00</u>	<u>08-30-00</u>
Be-7	0.89 ± 0.10	0.41 ± 0.09	0.63 ± 0.20	0.71 ± 0.25	2.11 ± 0.19
K-40	3.77 ± 0.27	4.89 ± 0.38	5.00 ± 0.54	7.86 ± 0.76	6.13 ± 0.41
Mn-54	< 0.008	< 0.009	< 0.012	< 0.017	< 0.009
Fe-59	< 0.013	< 0.022	< 0.036	< 0.024	< 0.018
Co-58	< 0.005	< 0.012	< 0.018	< 0.016	< 0.012
Co-60	< 0.009	< 0.008	< 0.019	< 0.014	< 0.007
Zn-65	< 0.020	< 0.021	< 0.028	< 0.031	< 0.021
Nb-95	< 0.010	< 0.013	< 0.012	< 0.017	< 0.012
Zr-95	< 0.011	< 0.018	< 0.025	< 0.036	< 0.026
I-131	< 0.010	< 0.018	< 0.018	< 0.025	< 0.015
Cs-134	< 0.010	< 0.013	< 0.016	< 0.022	< 0.011
Cs-137	< 0.009	< 0.012	< 0.013	< 0.022	< 0.009
Ba-140	< 0.027	< 0.029	< 0.076	< 0.069	< 0.033
La-140	< 0.007	< 0.013	< 0.008	< 0.012	< 0.005
Ce-144	< 0.046	< 0.068	< 0.084	< 0.079	< 0.086

TABLE E-17 (Cont'd)

<u>Date Collected</u>	<u>09-13-00</u>	<u>09-27-00</u>	<u>10-11-00</u>	<u>10-25-00</u>
Be-7	1.19 ± 0.26	1.63 ± 0.30	2.55 ± 0.29	2.75 ± 0.32
K-40	5.78 ± 0.66	5.38 ± 0.62	5.40 ± 0.53	4.67 ± 0.61
Mn-54	< 0.011	< 0.011	< 0.022	< 0.019
Fe-59	< 0.044	< 0.039	< 0.041	< 0.039
Co-58	< 0.015	< 0.011	< 0.011	< 0.012
Co-60	< 0.014	< 0.028	< 0.014	< 0.021
Zn-65	< 0.036	< 0.012	< 0.023	< 0.029
Nb-95	< 0.012	< 0.015	< 0.013	< 0.020
Zr-95	< 0.048	< 0.040	< 0.037	< 0.038
I-131	< 0.021	< 0.015	< 0.022	< 0.021
Cs-134	< 0.011	< 0.024	< 0.015	< 0.019
Cs-137	< 0.010	< 0.019	< 0.016	< 0.015
Ba-140	< 0.055	< 0.071	< 0.077	< 0.061
La-140	< 0.013	< 0.010	< 0.017	< 0.011
Ce-144	< 0.097	< 0.074	< 0.093	< 0.123

TABLE E-18

CL-114 GREEN LEAFY VEGETABLE ACTIVITY (control)
(pCi/g wet)

<u>Date Collected</u> Sample Type	<u>6/28/00</u> Cabbage	<u>6/28/00</u> Lettuce	<u>6/28/00</u> Swiss Chard	<u>7/26/00</u> Cabbage	<u>7/26/00</u> Kale	<u>7/26/00</u> Swiss Chard
Gross Beta	2.35 ± 0.05	3.55 ± 0.08	3.99 ± 0.09	3.41 ± 0.07	5.77 ± 0.13	5.70 ± 0.13
Be-7	< 0.089	< 0.22	0.18 ± 0.10	< 0.068	< 0.17	< 0.17
K-40	1.72 ± 0.27	3.98 ± 0.56	4.40 ± 0.34	3.00 ± 0.21	6.21 ± 0.58	4.91 ± 0.50
Mn-54	< 0.008	< 0.026	< 0.007	< 0.007	< 0.010	< 0.013
Fe-59	< 0.021	< 0.038	< 0.012	< 0.018	< 0.025	< 0.053
Co-58	< 0.009	< 0.016	< 0.006	< 0.006	< 0.019	< 0.011
Co-60	< 0.008	< 0.009	< 0.010	< 0.007	< 0.025	< 0.008
Zn-65	< 0.025	< 0.028	< 0.030	< 0.017	< 0.045	< 0.028
Nb-95	< 0.006	< 0.021	< 0.007	< 0.007	< 0.018	< 0.013
Zr-95	< 0.023	< 0.032	< 0.015	< 0.017	< 0.056	< 0.024
I-131	< 0.017	< 0.034	< 0.022	< 0.009	< 0.027	< 0.019
Cs-134	< 0.008	< 0.019	< 0.007	< 0.010	< 0.024	< 0.009
Cs-137	< 0.011	< 0.017	< 0.009	< 0.005	< 0.022	< 0.008
Ba-140	< 0.054	< 0.061	< 0.064	< 0.026	< 0.060	< 0.053
La-140	< 0.006	< 0.011	< 0.007	< 0.007	< 0.020	< 0.009
Ce-144	< 0.073	< 0.12	< 0.052	< 0.052	< 0.087	< 0.063

<u>Date Collected</u> Sample Type	<u>8/31/00</u> Collard Greens	<u>8/31/00</u> Cabbage	<u>8/31/00</u> Swiss chard	<u>9/27/00</u> Cabbage	<u>9/27/00</u> Collard Greens	<u>9/27/00</u> Swiss Chard
Gross Beta	3.81 ± 0.14	2.92 ± 0.09	4.13 ± 0.16	4.35 ± 0.12	5.69 ± 0.11	3.57 ± 0.07
Be-7	0.50 ± 0.13	< 0.14	0.23 ± 0.01	< 0.08	0.24 ± 0.13	0.19 ± 0.11
K-40	4.81 ± 0.38	2.74 ± 0.31	3.15 ± 0.34	3.18 ± 0.26	4.55 ± 0.46	3.41 ± 0.34
Mn-54	< 0.010	< 0.010	< 0.011	< 0.006	< 0.016	< 0.009
Fe-59	< 0.020	< 0.013	< 0.010	< 0.015	< 0.029	< 0.015
Co-58	< 0.013	< 0.012	< 0.010	< 0.003	< 0.019	< 0.013
Co-60	< 0.010	< 0.008	< 0.008	< 0.007	< 0.013	< 0.008
Zn-65	< 0.025	< 0.023	< 0.026	< 0.010	< 0.042	< 0.012
Nb-95	< 0.010	< 0.010	< 0.013	< 0.005	< 0.009	< 0.006
Zr-95	< 0.022	< 0.014	< 0.019	< 0.015	< 0.032	< 0.022
I-131	< 0.015	< 0.015	< 0.018	< 0.009	< 0.028	< 0.016
Cs-134	< 0.011	< 0.007	< 0.013	< 0.008	< 0.018	< 0.011
Cs-137	< 0.007	< 0.009	< 0.011	< 0.007	< 0.014	< 0.010
Ba-140	< 0.043	< 0.047	< 0.041	< 0.025	< 0.054	< 0.048
La-140	< 0.005	< 0.007	< 0.006	< 0.004	< 0.017	< 0.011
Ce-144	< 0.037	< 0.068	< 0.061	< 0.044	< 0.099	< 0.061

TABLE E-19

CL-117 GREEN LEAFY VEGETABLE ACTIVITY

(pCi/g wet)

<u>Date Collected</u>	<u>6/28/00</u>	<u>6/28/00</u>	<u>6/28/00</u>	<u>7/26/00</u>	<u>7/26/00</u>	<u>7/26/00</u>
Sample Type	Cabbage	Lettuce	Kale	Cabbage	Kale	Swiss Chard
Gross Beta	2.01 ± 0.04	3.19 ± 0.10	4.51 ± 0.11	3.03 ± 0.07	4.42 ± 0.11	5.68 ± 0.12
Be-7	< 0.075	< 0.15	< 0.19	< 0.082	< 0.17	< 0.15
K-40	1.87 ± 0.26	3.58 ± 0.26	5.53 ± 0.60	2.59 ± 0.24	5.76 ± 0.51	6.29 ± 0.52
Mn-54	< 0.007	< 0.007	< 0.015	< 0.004	< 0.007	< 0.014
Fe-59	< 0.015	< 0.010	< 0.043	< 0.011	< 0.028	< 0.037
Co-58	< 0.004	< 0.006	< 0.018	< 0.006	< 0.016	< 0.009
Co-60	< 0.007	< 0.007	< 0.010	< 0.006	< 0.006	< 0.009
Zn-65	< 0.012	< 0.013	< 0.038	< 0.023	< 0.015	< 0.022
Nb-95	< 0.006	< 0.007	< 0.021	< 0.009	< 0.012	< 0.015
Zr-95	< 0.008	< 0.016	< 0.036	< 0.019	< 0.023	< 0.041
I-131	< 0.016	< 0.011	< 0.026	< 0.010	< 0.013	< 0.025
Cs-134	< 0.007	< 0.007	< 0.013	< 0.008	< 0.017	< 0.018
Cs-137	< 0.009	< 0.008	< 0.011	< 0.006	< 0.016	< 0.012
Ba-140	< 0.038	< 0.024	< 0.074	< 0.030	< 0.065	< 0.083
La-140	< 0.012	< 0.005	< 0.016	< 0.008	< 0.010	< 0.008
Ce-144	< 0.044	< 0.046	< 0.11	< 0.046	< 0.082	< 0.081

<u>Date Collected</u>	<u>8/31/00</u>	<u>8/31/00</u>	<u>8/31/00</u>	<u>9/27/00</u>	<u>9/27/00</u>	<u>9/27/00</u>
Sample Type	*	*	*	*	*	*

Gross Beta

Be-7
K-40
Mn-54
Fe-59
Co-58
Co-60
Zn-65
Nb-95
Zr-95
I-131
Cs-134
Cs-137
Ba-140
La-140
Ce-144

* none available

TABLE E-20

CL-118 GREEN LEAFY VEGETABLE ACTIVITY

(pCi/g wet)

<u>Date Collected</u> Sample Type	<u>6/28/00</u> Cabbage	<u>6/28/00</u> Lettuce	<u>6/28/00</u> Kale	<u>7/26/00</u> Cabbage	<u>7/26/00</u> Turnip Greens	<u>7/26/00</u> Lettuce
Gross Beta	2.37 ± 0.05	3.64 ± 0.08	4.17 ± 0.11	2.65 ± 0.05	6.59 ± 0.15	5.11 ± 0.12
Be-7	< 0.12	0.28 ± 0.16	< 0.16	< 0.095	< 0.14	0.55 ± 0.16
K-40	2.96 ± 0.31	3.46 ± 0.41	4.18 ± 0.59	2.85 ± 0.30	5.30 ± 0.27	5.85 ± 0.50
Mn-54	< 0.010	< 0.009	< 0.017	< 0.009	< 0.009	< 0.011
Fe-59	< 0.020	< 0.036	< 0.038	< 0.013	< 0.017	< 0.039
Co-58	< 0.010	< 0.009	< 0.016	< 0.010	< 0.007	< 0.018
Co-60	< 0.007	< 0.009	< 0.008	< 0.012	< 0.007	< 0.010
Zn-65	< 0.018	< 0.021	< 0.025	< 0.012	< 0.016	< 0.018
Nb-95	< 0.006	< 0.009	< 0.011	< 0.011	< 0.007	< 0.014
Zr-95	< 0.024	< 0.019	< 0.027	< 0.013	< 0.012	< 0.044
I-131	< 0.013	< 0.023	< 0.035	< 0.014	< 0.010	< 0.017
Cs-134	< 0.014	< 0.010	< 0.017	< 0.011	< 0.007	< 0.015
Cs-137	< 0.010	< 0.011	< 0.016	< 0.010	< 0.006	< 0.019
Ba-140	< 0.055	< 0.059	< 0.036	< 0.051	< 0.028	< 0.047
La-140	< 0.009	< 0.015	< 0.014	< 0.011	< 0.004	< 0.009
Ce-144	< 0.076	< 0.11	< 0.094	< 0.054	< 0.033	< 0.098

<u>Date Collected</u> Sample Type	<u>8/31/00</u> Collard Greens	<u>8/31/00</u> Cabbage	<u>8/31/00</u> Kale	<u>9/27/00</u> Cabbage	<u>9/27/00</u> Collard Greens	<u>9/27/00</u> Turnips Green
Gross Beta	4.11 ± 0.17	2.19 ± 0.07	3.70 ± 0.12	2.80 ± 0.05	1.59 ± 0.07	4.77 ± 0.11
Be-7	< 0.18	< 0.11	0.37 ± 0.12	< 0.15	0.13 ± 0.07	0.46 ± 0.19
K-40	4.42 ± 0.49	2.82 ± 0.39	4.06 ± 0.36	2.67 ± 0.44	3.73 ± 0.29	5.65 ± 0.52
Mn-54	< 0.014	< 0.007	< 0.011	< 0.017	< 0.007	< 0.015
Fe-59	< 0.024	< 0.033	< 0.014	< 0.022	< 0.018	< 0.029
Co-58	< 0.015	< 0.013	< 0.007	< 0.069	< 0.006	< 0.013
Co-60	< 0.016	< 0.010	< 0.010	< 0.012	< 0.009	< 0.016
Zn-65	< 0.026	< 0.026	< 0.026	< 0.030	< 0.022	< 0.033
Nb-95	< 0.018	< 0.012	< 0.011	< 0.018	< 0.009	< 0.017
Zr-95	< 0.035	< 0.025	< 0.017	< 0.023	< 0.017	< 0.029
I-131	< 0.025	< 0.017	< 0.015	< 0.017	< 0.013	< 0.025
Cs-134	< 0.016	< 0.010	< 0.011	< 0.012	< 0.009	< 0.021
Cs-137	< 0.017	< 0.009	< 0.007	< 0.008	< 0.007	< 0.013
Ba-140	< 0.079	< 0.061	< 0.053	< 0.048	< 0.042	< 0.076
La-140	< 0.023	< 0.007	< 0.005	< 0.019	< 0.007	< 0.015
Ce-144	< 0.139	< 0.052	< 0.054	< 0.070	< 0.042	< 0.10

TABLE E-21**CL-106 MEAT ACTIVITY**

(pCi/g wet)

<u>Date Collected</u> Type	<u>3/15/00</u> Beef Thyroid	<u>3/15/00</u> Beef Liver	<u>3/15/00</u> Ground Beef
Be-7	< 0.23	< 0.11	< 0.16
K-40	1.69 ± 0.26	2.74 ± 0.37	2.00 ± 0.29
Mn-54	< 0.013	< 0.010	< 0.006
Fe-59	< 0.029	< 0.028	< 0.039
Co-58	< 0.021	< 0.015	< 0.011
Co-60	< 0.016	< 0.008	< 0.006
Zn-65	< 0.025	< 0.025	< 0.013
Zr-95	< 0.053	< 0.028	< 0.034
Nb-95	< 0.022	< 0.020	< 0.025
Ru-103	< 0.028	< 0.012	< 0.017
Ru-106	< 0.085	< 0.095	< 0.11
I-131	< 0.014	< 0.006	< 0.010
Cs-134	< 0.018	< 0.011	< 0.009
Cs-137	< 0.013	< 0.010	< 0.010
Ba-140	< 0.63	< 0.49	< 0.30
La-140	< 0.14	< 0.094	< 0.068
Ce-144	< 0.10	< 0.052	< 0.043

TABLE E-22

CL-19 FISH ACTIVITY

(pCi/g wet)

<u>Date Collected</u> Type	<u>4/25/00</u> Bluegill	<u>4/25/00</u> Carp	<u>4/25/00</u> Bass	
Be-7	< 0.06	< 0.11	< 0.094	
K-40	2.7 ± 0.27	2.4 ± 0.35	3.62 ± 0.31	
Mn-54	< 0.009	< 0.012	< 0.007	
Fe-59	< 0.031	< 0.027	< 0.019	
Co-58	< 0.011	< 0.014	< 0.010	
Co-60	< 0.011	< 0.016	< 0.011	
Zn-65	< 0.007	< 0.044	< 0.009	
Nb-95	< 0.013	< 0.021	< 0.012	
Zr-95	< 0.007	< 0.034	< 0.019	
Cs-134	< 0.005	< 0.013	< 0.009	
Cs-137	< 0.006	< 0.008	< 0.009	
Ba-140	< 0.108	< 0.27	< 0.126	
La-140	< 0.027	< 0.039	< 0.021	
Ce-144	< 0.032	< 0.052	< 0.029	

<u>Date Collected</u> Type	<u>10/16/00</u> Bluegill	<u>10/16/00</u> Carp	<u>10/16/00</u> Largemouth Bass	<u>10/16/00</u> Striped White Bass
Be-7	< 0.13	< 0.04	< 0.06	< 0.07
K-40	2.33 ± 0.39	2.72 ± 0.17	2.15 ± 0.27	3.35 ± 0.25
Mn-54	< 0.012	< 0.004	< 0.009	< 0.006
Fe-59	< 0.021	< 0.010	< 0.021	< 0.019
Co-58	< 0.014	< 0.004	< 0.008	< 0.005
Co-60	< 0.010	< 0.005	< 0.008	< 0.008
Zn-65	< 0.026	< 0.012	< 0.021	< 0.011
Nb-95	< 0.014	< 0.005	< 0.008	< 0.006
Zr-95	< 0.024	< 0.010	< 0.019	< 0.011
Cs-134	< 0.016	< 0.006	< 0.010	< 0.009
Cs-137	< 0.008	< 0.004	< 0.008	< 0.009
Ba-140	< 0.076	< 0.019	< 0.042	< 0.024
La-140	< 0.012	< 0.006	< 0.008	< 0.010
Ce-144	< 0.083	< 0.033	< 0.055	< 0.031

TABLE E-23

CL-105 FISH ACTIVITY (control)

(pCi/g wet)

<u>Date Collected</u> Type	<u>4/25/00</u> Bluegill	<u>4/25/00</u> Crappie	<u>4/25/00</u> Largemouth Bass	<u>4/25/00</u> Carp
Be-7	< 0.15	< 0.06	< 0.07	< 0.11
K-40	2.48 ± 0.35	3.54 ± 0.30	3.11 ± 0.28	3.01 ± 0.26
Mn-54	< 0.009	< 0.005	< 0.008	< 0.007
Fe-59	< 0.024	< 0.036	< 0.028	< 0.022
Co-58	< 0.010	< 0.005	< 0.009	< 0.005
Co-60	< 0.007	< 0.014	< 0.011	< 0.011
Zn-65	< 0.012	< 0.009	< 0.016	< 0.018
Nb-95	< 0.023	< 0.016	< 0.009	< 0.011
Zr-95	< 0.026	< 0.008	< 0.004	< 0.011
Cs-134	< 0.009	< 0.007	< 0.007	< 0.007
Cs-137	< 0.008	< 0.008	< 0.006	< 0.005
Ba-140	< 0.220	< 0.114	< 0.143	< 0.160
La-140	< 0.041	< 0.021	< 0.020	< 0.019
Ce-144	< 0.061	< 0.048	< 0.049	< 0.050

<u>Date Collected</u> Type	<u>10/19/00</u> Bluegill	<u>10/19/00</u> Crappie	<u>10/19/00</u> Largemouth Bass	<u>10/19/00</u> Carp
Be-7	< 0.10	< 0.10	< 0.06	< 0.05
K-40	2.49 ± 0.25	2.79 ± 0.35	2.89 ± 0.29	2.82 ± 0.31
Mn-54	< 0.010	< 0.015	< 0.006	< 0.010
Fe-59	< 0.014	< 0.033	< 0.013	< 0.010
Co-58	< 0.005	< 0.006	< 0.007	< 0.007
Co-60	< 0.010	< 0.013	< 0.008	< 0.010
Zn-65	< 0.012	< 0.026	< 0.020	< 0.012
Nb-95	< 0.009	< 0.016	< 0.009	< 0.010
Zr-95	< 0.019	< 0.028	< 0.015	< 0.013
Cs-134	< 0.007	< 0.016	< 0.008	< 0.009
Cs-137	< 0.006	< 0.013	< 0.007	< 0.009
Ba-140	< 0.034	< 0.048	< 0.036	< 0.030
La-140	< 0.005	< 0.017	< 0.005	< 0.005
Ce-144	< 0.055	< 0.055	< 0.036	< 0.037

TABLE E-24**AQUATIC VEGETATION ACTIVITY**

(pCi/g wet)

Location	CL-7B		CL-7C	
<u>Date Collected</u>	<u>4/18/00</u>	<u>10/16/00</u>	<u>4/18/00</u>	<u>10/16/00</u>
Be-7	0.70 ± 0.19	0.98 ± 0.36	0.56 ± 0.23	0.73 ± 0.19
K-40	2.51 ± 0.32	1.78 ± 0.60	2.23 ± 0.26	2.14 ± 0.34
Mn-54	< 0.019	< 0.030	< 0.012	< 0.020
Fe-59	< 0.058	< 0.059	< 0.026	< 0.036
Co-58	< 0.025	< 0.025	< 0.021	< 0.018
Co-60	< 0.021	< 0.032	< 0.012	< 0.025
Zn-65	< 0.033	< 0.063	< 0.016	< 0.044
Nb-95	< 0.042	< 0.049	< 0.027	< 0.025
Zr-95	< 0.046	< 0.076	< 0.034	< 0.048
Cs-134	< 0.024	< 0.033	< 0.017	< 0.026
Cs-137	< 0.020	< 0.029	< 0.014	< 0.020
Ba-140	< 0.71	< 0.24	< 0.27	< 0.17
La-140	< 0.065	< 0.043	< 0.097	< 0.042
Ce-144	< 0.12	< 0.13	< 0.059	< 0.096
Location	CL-9		CL-10	
<u>Date Collected</u>	<u>4/18/00</u>	<u>10/16/00</u>	<u>4/18/00</u>	<u>10/16/00</u>
Be-7	0.69 ± 0.22	0.51 ± 0.19	0.86 ± 0.22	0.93 ± 0.17
K-40	1.08 ± 0.14	1.09 ± 0.32	1.66 ± 0.23	2.68 ± 0.29
Mn-54	< 0.006	< 0.021	< 0.010	< 0.014
Fe-59	< 0.034	< 0.030	< 0.025	< 0.030
Co-58	< 0.011	< 0.015	< 0.009	< 0.017
Co-60	< 0.013	< 0.018	< 0.011	< 0.020
Zn-65	< 0.026	< 0.044	< 0.022	< 0.033
Nb-95	< 0.024	< 0.022	< 0.021	< 0.015
Zr-95	< 0.036	< 0.031	< 0.041	< 0.036
Cs-134	< 0.013	< 0.024	< 0.016	< 0.021
Cs-137	0.020 ± 0.007	< 0.020	0.019 ± 0.011	0.041 ± 0.016
Ba-140	< 0.36	< 0.16	< 0.40	< 0.17
La-140	< 0.044	< 0.044	< 0.054	< 0.042
Ce-144	< 0.057	< 0.095	< 0.070	< 0.096

TABLE E-24 (Cont'd)

<u>Location</u>	<u>CL-19</u>		<u>CL-105</u>	
<u>Date Collected</u>	<u>4/18/00</u>	<u>10/16/00</u>	<u>4/25/00</u>	<u>10/19/00</u>
Be-7	< 0.28	none available	0.42 ± 0.19	0.79 ± 0.19
K-40	2.01 ± 0.41		2.26 ± 0.28	1.71 ± 0.04
Mn-54	< 0.010		< 0.017	< 0.026
Fe-59	< 0.028		< 0.048	< 0.047
Co-58	< 0.025		< 0.014	< 0.015
Co-60	< 0.018		< 0.012	< 0.032
Zn-65	< 0.023		< 0.033	< 0.033
Nb-95	< 0.032		< 0.017	< 0.015
Zr-95	< 0.046		< 0.044	< 0.029
Cs-134	< 0.024		< 0.016	< 0.029
Cs-137	< 0.023		< 0.018	< 0.026
Ba-140	< 0.48		< 0.29	< 0.15
La-140	< 0.13		< 0.060	< 0.045
Ce-144	< 0.10		< 0.070	< 0.13

TABLE E-25
SHORELINE SEDIMENT ACTIVITY
(pCi/g dry)

Location	CL-7B		CL-7C	
Date Collected	4/18/00	10/16/00	4/18/00	10/16/00
Gross Alpha	< 4.3	< 3.8	< 2.5	< 3.3
Gross Beta	8.5 ± 2.2	7.5 ± 2.3	6.3 ± 1.7	11.1 ± 2.3
Sr-90	< 0.017	< 0.011	< 0.017	< 0.018
Be-7	< 0.25	< 0.12	< 0.14	< 0.20
K-40	8.12 ± 0.66	7.65 ± 0.47	6.55 ± 0.58	7.03 ± 0.59
Mn-54	< 0.020	< 0.011	< 0.016	< 0.009
Fe-59	< 0.064	< 0.041	< 0.047	< 0.045
Co-58	< 0.020	< 0.011	< 0.015	< 0.017
Co-60	< 0.027	< 0.009	< 0.008	< 0.021
Zn-65	< 0.058	< 0.024	< 0.050	< 0.035
Nb-95	< 0.023	< 0.014	< 0.020	< 0.025
Zr-95	< 0.032	< 0.019	< 0.030	< 0.027
Cs-134	< 0.025	< 0.015	< 0.022	< 0.020
Cs-137	< 0.019	< 0.009	< 0.015	< 0.011
Ba-140	< 0.25	< 0.11	< 0.22	< 0.12
La-140	< 0.038	< 0.013	< 0.031	< 0.034
Ce-144	< 0.072	< 0.056	< 0.070	< 0.098

Location	CL-10		CL-19	
Date Collected	4/18/00	10/16/00	4/18/00	10/16/00
Gross Alpha	< 2.7	< 3.5	4.0 ± 2.0	< 4.3
Gross Beta	7.5 ± 1.7	8.7 ± 2.2	13.3 ± 1.9	9.6 ± 2.5
Sr-90	< 0.017	< 0.016	< 0.013	0.036 ± 0.012
Be-7	< 0.12	< 0.13	< 0.21	< 0.13
K-40	6.22 ± 0.39	7.74 ± 0.59	8.87 ± 0.61	9.14 ± 0.54
Mn-54	< 0.007	< 0.014	< 0.015	< 0.013
Fe-59	< 0.024	< 0.056	< 0.062	< 0.037
Co-58	< 0.010	< 0.019	< 0.020	< 0.012
Co-60	< 0.008	< 0.012	< 0.012	< 0.017
Zn-65	< 0.032	< 0.051	< 0.061	< 0.032
Nb-95	< 0.012	< 0.017	< 0.022	< 0.012
Zr-95	< 0.020	< 0.020	< 0.035	< 0.027
Cs-134	< 0.015	< 0.018	< 0.028	< 0.011
Cs-137	< 0.009	< 0.015	< 0.016	< 0.012
Ba-140	< 0.16	< 0.072	< 0.24	< 0.17
La-140	< 0.022	< 0.018	< 0.040	< 0.018
Ce-144	< 0.064	< 0.072	< 0.067	< 0.054

TABLE E-25 (Cont'd)

<u>Location</u> <u>Date Collected</u>	<u>CL-88</u> <u>4/18/00</u>	<u>10/16/00</u>	<u>CL-89</u> <u>4/18/00</u>	<u>10/16/00</u>
Gross Alpha	< 2.8	< 2.8	5.6 ± 2.1	5.5 ± 3.1
Gross Beta	8.9 ± 1.8	10.1 ± 2.6	14.7 ± 2.1	18.2 ± 2.6
Sr-90	< 0.017	< 0.020	< 0.014	0.048 ± 0.012
Be-7	< 0.13	< 0.22	0.43 ± 0.20	0.74 ± 0.17
K-40	7.36 ± 0.38	12.68 ± 1.25	10.62 ± 0.69	13.00 ± 0.67
Mn-54	< 0.013	< 0.022	< 0.024	< 0.012
Fe-59	< 0.025	< 0.084	< 0.074	< 0.051
Co-58	< 0.011	< 0.042	< 0.017	< 0.016
Co-60	< 0.006	< 0.044	< 0.014	< 0.012
Zn-65	< 0.033	< 0.070	< 0.065	< 0.035
Nb-95	< 0.018	< 0.062	< 0.030	< 0.021
Zr-95	< 0.027	< 0.093	< 0.046	< 0.027
Cs-134	< 0.016	< 0.053	< 0.028	< 0.020
Cs-137	< 0.009	< 0.034	< 0.020	0.054 ± 0.020
Ba-140	< 0.12	< 0.24	< 0.20	< 0.20
La-140	< 0.068	< 0.075	< 0.030	< 0.034
Ce-144	< 0.068	< 0.137	< 0.11	< 0.062

<u>Location</u> <u>Date Collected</u>	<u>CL-105(control)</u> <u>4/25/00</u>	<u>10/19/00</u>
Gross Alpha	< 3.1	< 4.3
Gross Beta	12.4 ± 1.9	8.8 ± 2.4
Sr-90	< 0.014	0.044 ± 0.011
Be-7	< 0.077	< 0.13
K-40	8.89 ± 0.36	7.51 ± 0.45
Mn-54	< 0.011	< 0.012
Fe-59	< 0.050	< 0.026
Co-58	< 0.013	< 0.012
Co-60	< 0.010	< 0.011
Zn-65	< 0.041	< 0.036
Nb-95	< 0.023	< 0.014
Zr-95	< 0.044	< 0.019
Cs-134	< 0.024	< 0.016
Cs-137	< 0.013	< 0.011
Ba-140	< 0.17	< 0.082
La-140	< 0.016	< 0.014
Ce-144	< 0.11	< 0.065

TABLE E-26

BOTTOM SEDIMENT ACTIVITY

(pCi/g dry)

Location	CL-7C		CL-10		CL-13A	
Date Collected	4/18/00	10/16/00	4/18/00	10/16/00	4/18/00	10/16/00
Gross Alpha	16.47 ± 4.46	16.93 ± 4.11	15.11 ± 4.16	11.55 ± 3.48	4.25 ± 2.70	3.27 ± 2.26
Gross Beta	31.45 ± 3.38	30.91 ± 3.06	29.46 ± 3.18	24.76 ± 2.84	14.79 ± 2.53	10.36 ± 2.06
Sr-90	< 0.026	< 0.019	0.028 ± 0.011	0.029 ± 0.013	< 0.023	< 0.019
Be-7	< 0.29	< 0.23	< 0.44	< 0.34	< 0.15	< 0.22
K-40	16.41 ± 0.87	15.88 ± 0.79	19.15 ± 1.17	16.28 ± 0.97	10.89 ± 0.55	10.33 ± 0.75
Mn-54	< 0.028	< 0.022	< 0.029	< 0.029	< 0.016	< 0.020
Fe-59	< 0.034	< 0.061	< 0.078	< 0.065	< 0.057	< 0.075
Co-58	< 0.014	< 0.022	< 0.038	< 0.025	< 0.015	< 0.027
Co-60	< 0.023	< 0.029	< 0.033	< 0.033	< 0.013	< 0.026
Zn-65	< 0.057	< 0.059	< 0.084	< 0.057	< 0.048	< 0.060
Nb-95	< 0.028	< 0.036	< 0.034	< 0.053	< 0.029	< 0.032
Zr-95	< 0.024	< 0.049	< 0.070	< 0.036	< 0.040	< 0.038
Cs-134	< 0.023	< 0.036	< 0.027	< 0.040	< 0.020	< 0.029
Cs-137	0.13 ± 0.029	0.15 ± 0.035	0.27 ± 0.062	0.22 ± 0.041	< 0.016	< 0.022
Ba-140	< 0.59	< 0.22	< 0.51	< 0.28	< 0.25	< 0.18
La-140	< 0.10	< 0.047	< 0.081	< 0.072	< 0.041	< 0.021
Ce-144	< 0.12	< 0.12	< 0.19	< 0.16	< 0.11	< 0.10

Location	CL-17		CL-19		CL-89	
Date Collected	4/18/00	10/16/00	4/18/00	10/16/00	4/18/00	10/16/00
Gross Alpha	13.37 ± 4.20	9.65 ± 3.25	< 3.05	< 3.41	< 4.47	< 3.35
Gross Beta	26.60 ± 3.33	24.04 ± 2.66	8.92 ± 2.48	12.17 ± 2.15	13.70 ± 2.43	11.63 ± 1.75
Sr-90	< 0.012	0.021 ± 0.010	< 0.020	< 0.018	< 0.011	< 0.017
Be-7	< 0.25	0.31 ± 0.18	< 0.12	< 0.14	< 0.30	< 0.13
K-40	16.64 ± 0.76	15.55 ± 0.72	10.04 ± 0.47	9.96 ± 0.52	10.88 ± 1.00	8.56 ± 0.33
Mn-54	< 0.021	< 0.014	< 0.011	< 0.014	< 0.033	< 0.013
Fe-59	< 0.057	< 0.023	< 0.026	< 0.035	< 0.089	< 0.019
Co-58	< 0.020	< 0.016	< 0.016	< 0.011	< 0.035	< 0.016
Co-60	< 0.012	< 0.018	< 0.010	< 0.009	< 0.018	< 0.010
Zn-65	< 0.055	< 0.038	< 0.026	< 0.028	< 0.063	< 0.019
Nb-95	< 0.026	< 0.025	< 0.017	< 0.012	< 0.055	< 0.010
Zr-95	< 0.040	< 0.029	< 0.023	< 0.009	< 0.066	< 0.019
Cs-134	< 0.015	< 0.021	< 0.016	< 0.014	< 0.042	< 0.010
Cs-137	0.068 ± 0.029	0.064 ± 0.029	< 0.009	< 0.015	< 0.036	< 0.013
Ba-140	< 0.44	< 0.11	< 0.095	< 0.074	< 0.28	< 0.098
La-140	< 0.040	< 0.014	< 0.021	< 0.011	< 0.076	< 0.010
Ce-144	< 0.10	< 0.13	< 0.060	< 0.065	< 0.27	< 0.047

TABLE E-26 (Cont'd)

Location	CL-105	
<u>Date Collected</u>	<u>4/21/00</u>	<u>10/11/00</u>
Gross Alpha	18.28 ± 4.74	16.36 ± 4.27
Gross Beta	34.24 ± 3.44	31.86 ± 3.25
Sr-90	< 0.015	0.024 ± 0.011
Be-7	< 0.28	< 0.21
K-40	18.31 ± 0.92	18.8 ± 0.86
Mn-54	< 0.014	< 0.029
Fe-59	< 0.076	< 0.059
Co-58	< 0.033	< 0.027
Co-60	< 0.024	< 0.025
Zn-65	< 0.070	< 0.060
Nb-95	< 0.033	< 0.038
Zr-95	< 0.037	< 0.023
Cs-134	< 0.027	< 0.027
Cs-137	0.32 ± 0.046	0.29 ± 0.034
Ba-140	< 0.33	< 0.27
La-140	< 0.048	< 0.041
Ce-144	< 0.12	< 0.15