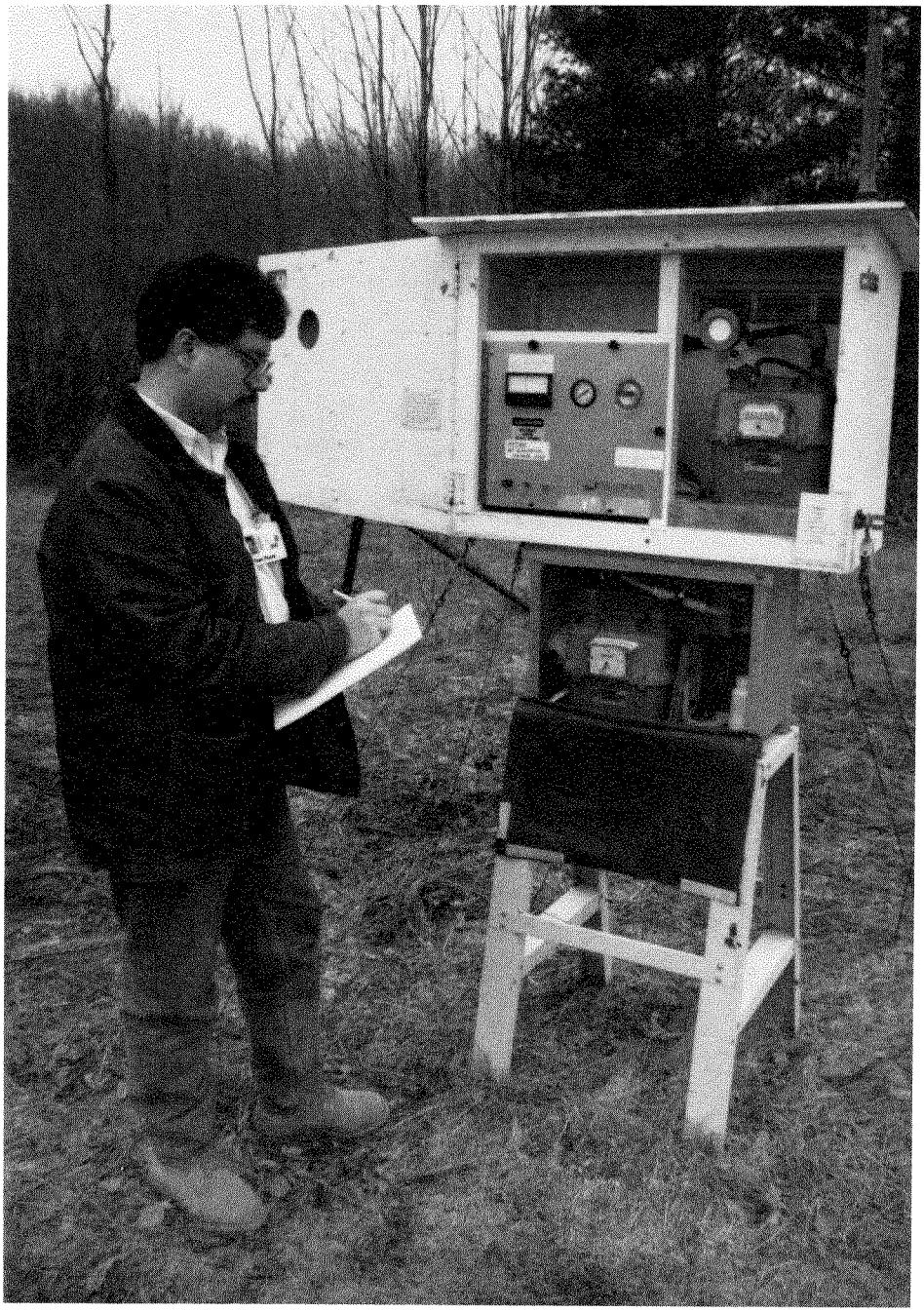

WEEKLY VISIT TO A PERIMETER AIR SAMPLER

APPENDIX C - 2

SUMMARY OF AIR MONITORING DATA

Table C - 2. 1.

1989 Airborne Radioactive Effluent Activity Monthly Totals (curies) from Main Ventilation Stack (ANSTACK)

MONTH	Alpha	Beta	Tritium
JAN	3.61 ±1.1 E-07	1.45 ±0.1 E-05	2.42 ±0.2 E-02
FEB	9.45 ±5.4 E-08	3.30 ±0.3 E-06	2.36 ±0.2 E-02
MAR	1.20 ±0.7 E-07	9.00 ±0.5 E-06	3.20 ±0.3 E-02
APR	2.77 ±0.9 E-07	1.58 ±0.1 E-05	2.31 ±0.2 E-02
MAY	1.19 ±0.6 E-07	1.31 ±0.1 E-05	1.54 ±0.2 E-02
JUN	2.04 ±0.7 E-07	4.31 ±0.1 E-05	2.02 ±0.2 E-02
JUL	2.10 ±0.9 E-07	1.05 ±0.1 E-05	3.02 ±0.3 E-02
AUG	1.16 ±0.6 E-07	1.15 ±0.1 E-05	2.17 ±0.2 E-02
SEP	1.35 ±0.6 E-07	9.86 ±0.6 E-06	2.46 ±0.3 E-02
OCT	2.10 ±0.8 E-07	1.35 ±0.1 E-05	2.27 ±0.2 E-02
NOV	1.68 ±0.7 E-07	9.64 ±0.7 E-06	1.29 ±0.1 E-02
DEC	1.61 ±0.8 E-07	6.18 ±0.4 E-06	1.94 ±0.2 E-02
1989 TOTALS	2.18 ±0.3 E-06	1.60 ±-0.03E-04	2.70 ±0.1 E-01

Table C - 2. 2

1989 Airborne Radioactive Effluent Activity Quarterly Totals (curies)from Main Ventilation Stack (ANSTACK)

	C0-60	SR-90	I-129	CS-134	CS-137	EU-154
1ST QTR	<4.0 E-07	7.23 ±0.7 E-06	1.05 ±0.1 E-05	<9.3 E-08	7.42 ±0.8 E-06	<1.1 E-07
2ND QTR	<1.4 E-07	2.56 ±0.3 E-05	1.60 ±0.1 E-05	<9.2 E-08	2.01 ±0.2 E-05	<1.3 E-07
3RD QTR	6.37 ±4.1 E-08	1.20 ±0.1 E-05	1.82 ±0.1 E-05	<7.4 E-08	1.04 ±0.1 E-05	<1.1 E-07
4TH QTR	5.58 ±4.1 E-08	4.40 ±0.4 E−06	1.12 ±0.1 E-05	<8.4 E-08	9.95 ±1.0 E-06	<1.2 E-07
1989 TOTALS	<4.3 E-07	4.92 ±0.3 E-05	5.59 ±0.2 E-05	<1.7 E-07	4.79 ±0.3 E-05	<2.4 E-07

	U-234	U-235	U-238	PU-238	PU-239	AM-241
1ST QTR	6.98 ±3.7 E-09	<4.3 E-09	6.98 ±3.7 E-09	6.70 ±0.9 E-08	8.91 ±1.2 E-08	3.88 ±0.6 E-07
2ND QTR	<4.8 E-09	<4.8 E-09	<4.8 E-09	1.46 ±0.3 E-07	1.40 ±0.3 E-07	1.57 ±1.3 E-08
3RD QTR	9.00 ±5.6 E-09	<7.2 E-09	9.00 ±5.6 E-09	6.77 ±1.4 E-09	9.09 ±1.8 E-09	2.22 ±1.5 E-09
4TH QTR	1.06 ±0.4 E-08	<3.3 E-09	2.14 ±0.5 E-08	6.67 ±1.3 E-08	8.35 ±1.6 E-08	<3.5 E-09
1989 TOTALS	3.14 ±1.2 E-08	<1.0 E-08	3.74 ±1.0 E-08	2.86 ±0.3 E-07	3.22 ±0.4 E-07	4.09 ±0.6 E-07

Table C - 2. 3

Comparison of 1989 Main Stack Exhaust Radioactivity Concentrations with Department of Energy Guidelines

ISOTOPE	Half-life	Total μCi Released [a]	Avg Conc (μCi/mL)	DCG(μCi/mL)	Percent Of DCG[c]
ALPHA	N/A	2.18E+00 (7.99E+04 Bq)	2.4 E-15	NA [b]	—
BETA	N/A	1.60E+02 (5.88E+06 Bq)	1.8 E-13	NA [b]	—
H-3	12.35 years	2.70E+05(9.99E+09 Bq)	3.0E-10[d]	1 E-07	0.3
Co-60	5.27 years	<4.3E-01(<1.59E+04Bq)	<4.8 E-16	8 E-11	<0.1
Sr-90	29.124 years	4.92E+01 (1.82E+06 Bq)	5.5 E-14	9 E-12	0.6
I-129	1.57E+07 years	5.59E+01 (2.07E+06 Bq)	6.3 E-14	7 E-11	<0.1
Cs-134	2.06 years	<1.7E-01(<6.29E+03 Bq)	<1.9 E-16	2 E-10	<0.1
Cs-137	30 years	4.79E+01(1.77E+06 Bq)	5.4 E-14	4 E-10	<0.1
Eu-154	8.8 years	<2.4E-01(<8.88E+03 Bq)	<2.7 E-16	5 E-11	<0.1
U-234 [e]	2.45 E+05 years	3.14E-02(9.84E+02 Bq)	3.5 E-17	9 E-14	<0.1
U-235 [e]	7.1 E+08 years	<1.0E-02(<3.7E+02 Bq)	<1.1 E-17	1 E-13	<0.1
U-238 [e]	4.47 E+09 years	3.74E-02(1.38E+03 Bq)	4.2 E-17	1 E-13	<0.1
Pu-238	87.07 years	2.86E-01(1.06E+04 Bq)	3.2 E-16	3 E-14	1.1
Pu-239	2.4 E+04 years	3.22E-01(1.19E+04 Bq)	3.6 E-16	2 E-14	1.8
Am-241	432 years	4.09E-01(1.50E+04 Bq)	4.6 E-16	2 E-14	2.3
					6.4 [c]

NOTES:

[a] Total volume released at 60,000 cfm = 8.92 E+14 mL/year. μCi values are expressed also in Bq

[b] Derived Concentration Guides (DCG) are not specified for gross alpha or gross beta activity

[c] Total percent DCG for applicable measured radionuclides. The percent DCG at the site boundary location with the highest annual average concentration is only 0.000027

[d] Tritium reported in pCi/mL = 3.0E-04

[e] Total U(μg) = 1.36E+05; average U(pg/mL) = 1.52E-04

DCGs are listed for reference only. They are applicable to the average concentrations at the site boundary but not to the stack concentrations, as might be inferred from their inclusion in this table.

Table C - 2. 4

1989 Airborne Radioactive Effluent Activity Monthly Totals (curies)from Cement Solidification System Ventilation Stack (ANCSSTK)

MONTH	Alpha	Beta
JAN	<5.0E-09	6.18 ±2.1 E-08
FEB	<4.6E-09	6.69 ±2.1 E-08
MAR	<7.2E-09	6.56 ±2.4 E-08
APR	<5.7E-09	6.99 ±2.4 E-08
MAY	<4.7E-09	4.82 ±1.8 E-08
JUN	<5.6E-09	6.66 ±2.1 E-08
JUL	<5.1E-09	7.65 ±2.6 E-08
AUG	<5.6E-09	3.82 ±1.7 E-08
SEP	<6.1E-09	3.19 ±1.9 E-08
OCT	<6.2E-09	2.48 ±1.5 E-08
NOV	<4.2E-09	2.42 ±1.5 E-08
DEC	<5.3E-09	1.68 ±1.6 E-08
1989 TOTALS	<1.9E-08	5.91 ±0.7 E-07

Table C - 2. 5

1989 Airborne Radioactive Effluent Activity Quarterly Totals (curies)from Cement Solidification System Ventilation Stack (ANCSSTK)

	C0-60	SR-90	I-129	CS-134	CS-137	EU-154
1ST QTR	<4.3 E-08	1.13 ±0..7 E-09	<1.5 E-08	<1.8 E-08	<2.0 E-08	<1.8 E-08
2ND QTR	<2.2 E-08	4.44 ±.2.1 E-09	5.24 ±1.0 E-08	<1.4 E-08	<1.8 E-08	<1.2 E-08
3RD QTR	<4.6 E-08	3.20 ±0.7 E-09	7.31 ±1.2 E-08	<3.7 E-08	<3.8 E-08	<3.1 E-08
4TH QTR	<1.6 E-08	3.84 ±0.7 E-09	8.25 ±1.3 E-08	<9.4 E-09	<1.3 E-08	<1.5 E-08
1989 TOTALS	<6.9 E-08	1.26 ±0.2 E-08	2.23 ±0.3 E-07	<4.4 E-08	<4.8 E-08	<4.1 E-08

	U-234	U-235	U-238	PU-238	PU-239	AM-241
1ST QTR	1.78±0.8 E−09	<8.5 E-10	1.84 ±0.8 E-09	<1.4 E-10	<2.0 E-10	2.44 ±1.0 E−09
2ND QTR	<2.5 E-09	<2.5 E-09	<2.5 E-09	<1.3 E-09	<2.3 E-09	<3.0 E-10
3RD QTR	<2.1 E-09	<2.1 E-09	<2.1 E-09	<3.2 E-11	<3.2 E-11	3.67 ±2.8 E-10
4TH QTR	1.37 ±0.7 E-09	<8.0 E-10	<8.0 E-10	<2.4 E-10	3.91 ±3.6 E-10	<1.4 E-09
1989 TOTALS	<3.4 E-09	<3.5 E-09	<3.5E-09	<1.3 E-09	<2.3 E-09	4.51 ±1.8 E-09

Table C - 2. 6.

1989 Airborne Radioactive Effluent Activity Monthly Totals (curies) from the Contact Size Reduction Facility Ventilation Stack (ANCSRFK)

MONTH	Alpha	Beta
JAN	<3.9E-09	5.76 ±1.4 E-08
FEB	<2.8E-09	4.59 ±1.3 E-08
MAR	<4.2E-09	4.66 ±1.4 E-08
APR	<3.7E-09	4.74 ±1.5 E-08
MAY	<2.3E-09	3.31 ±1.1 E-08
JUN	<2.7E-09	4.14 ±1.2 E-08
JUL	<3.8E-09	2.17 ±1.1 E-08
AUG	<3.3E-09	2.42 ±1.0 E-08
SEP	<2.9E-09	1.76 ±1.0 E-08
OCT	<2.9E-09	1.12 ±0.8 E-08
NOV	<2.8E-09	1.00 ±0.8 E-08
DEC	<3.3E-09	1.33 ±0.9 E-08
1989 TOTALS	<1.1E-08	3.70 ±0.4 E-07

Table C - 2. 7

1989 Airborne Radioactive Effluent Activity Quarterly Totals (curies) from Contact Size Reduction Facility Ventilation Stack (ANCSRFK)

	C0-60	SR-90	I-129	CS-134	CS-137	EU-154
1ST QTR	<2.7 E-08	2.60 ±0.5 E-09	<8.0 E-09	<1.1 E-08	<1.5 E-08	<1.1 E-08
2ND QTR	<1.3 E-08	<1.8 E-09	1.03 ±0.1 E-07	<7.4 E-09	<8.2 E-09	<9.0 E-09
3RD QTR	<1.2 E-08	7.08 ±3.7 E-10	<7.1 E-09	<7.4 E-09	<7.9 E-09	<7.4 E-09
4TH QTR	<1.3 E-08	3.85 ±0.6 E-09	<6.5 E-09	<7.4 E-09	<7.1 E-09	<7.9 E-09
1989 TOTALS	<3.5 E-08	8.96 ±2.0 E-09	1.25 ±0.2 E-07	<1.7 E-08	<2.0 E-08	<1.8 E-08

	U-234	U-235	U-238	PU-238	PU-239	AM-241
1ST QTR	7.87 ±4.0 E-10	<4.6 E-10	8.89 ±4.2 E-10	5.07 ±4.6 E-11	6.08 ±5.0 E-11	<1.3 E-09
2ND QTR	<1.4 E-09	<1.4 E-09	<1.4 E-09	<2.8 E-10	<2.8 E-10	1.06 ±0.6 E-09
3RD QTR	<7.6 E-10	<7.6 E-10	9.23 ±6.0 E-10	<1.6 E-11	<2.1 E-11	2.09 ±1.7 E-10
4TH QTR	<6.5 E-10	<6.5 E-10	<6.5 E-10	2.77 ±2.1 E-10	<1.2 E-10	<2.2 E-10
1989 TOTALS	<1.8 E-09	<1.8 E-09	3.82 ±1.7 E-09	6.24 ±3.5 E-10	<3.1 E-10	2.79±1.5 E-09

Table C - 2. 8

1989 Airborne Radioactive Effluent Activity Monthly Totals (curies) from the Supernatant Treatment System Ventilation Stack (ANSTSTK)

MONTH	Alpha	Beta
JAN	<1.7E-09	1.54 ±0.6 E-08
FEB	<2.1E-09	2.27 ±0.7 E-08
MAR	<2.2E-09	2.48 ±0.8 E-08
APR	<2.1E-09	2.63 ±0.9 E-08
MAY	<1.6E-09	1.89 ±0.7 E-08
JUN	<1.5E-09	1.88 ±0.7 E-08
JUL	<1.9E-09	1.34 ±0.8 E-08
AUG	<1.5E-09	9.81 ±5.6 E-09
SEP	<2.0E-09	1.11 ±0.7 E-08
OCT	<1.6E-09	1.10 ±0.6 E-08
NOV	<1.5E-09	1.42 ±0.6 E-08
DEC	<1.7E-09	9.44 ±6.0 E-09
1989 TOTALS	<6.2E-09	1.96±0.2 E-07

Table C - 2. 9

1989 Airborne Radioactive Effluent Activity Quarterly Totals (curies)from the Supernatant Treatment System Ventilation System (ANSTSTK)

	C0-60	SR-90	I-129	CS-134	CS-137	EU-154	H-3
1ST QTR	<2.1 E-08	5.33 ±3.0 E-10	2.34 ±0.2 E-07	<8.3 E-09	<9.8 E-09	<8.3 E-09	ND
2ND QTR	<8.9 E-09	<2.2 E-09	2.93 ±0.2 E-07	<7.0 E-09	<7.0 E-09	<5.9 E-09	ND
3RD QTR	<8.6 E-09	1.93 ±0.3 E-09	2.34 ±0.2 E-07	<4.5 E-09	<5.6 E-09	<4.8 E-09	ND
4TH QTR	<9.1 E-09	1.34 ±0.3 E-09	6.20 ±0.4 E-07	<5.3 E-09	<4.9 E-09	<6.2 E-09	ND
1989 TOTALS	<2.6 E-08	6.00 ±2.3 E-09	1.38 ±0.1 E-06	<1.3 E-08	<1.4 E-08	<1.3 E-08	ND

	U-234	U-235	U-238	PU-238	PU-239	AM-241
1ST QTR	8.24 ±3.5 E-10	<3.6 E-10	1.04 ±0.4 E-09	<6.2 E-11	<8.9 E-11	1.10 ±0.4 E-09
2ND QTR	<1.2 E-09	<1.2 E-09	<1.2 E-09	<3.8 E-10	4.50 ±4.1 E-10	<2.8 E-10
3RD QTR	7.43 ±5.0 E-10	<6.6 E-10	1.09 ±0.6 E-09	<1.8 E-11	<1.3 E-11	<1.5 E-10
4TH QTR	7.83 ±3.6 E-10	<3.8 E-10	<3.8 E-10	2.03 ±1.7 E-10	<2.5 E-10	<2.0 E-10
1989 TOTALS	3.55 ±1.4 E-09	<1.5 E-09	3.71 ±1.5 E-09	<4.2 E-10	<4.9 E-10	1.73 ±0.5 E-09

ND - No discharge detectable. No moisture could be collected for H-3 analysis because of dry exhaust air conditons.

Table C - 2. 10

1989 Airborne Radioactive Effluent Activity Monthly Totals (curies)from (ANSUPCV) Supercompactor Ventilation System

MONTH	Alpha	Beta
JAN	<1.0E-10	1.02 ±0.4 E-09
FEB	2.26 ±1.6 E-10	1.51 ±0.3 E-09
MAR	<2.0E-10	2.65 ±0.6 E-09
APR	<1.0E-10	2.01 ±0.6 E-09
MAY	<1.7E-10	3.71 ±0.6 E-09
JUN	<1.1E-10	2.13 ±0.5 E-09
JUL	<1.4E-10	2.74 ±0.6 E-09
AUG	<1.1E-10	2.52 ±0.6 E-09
SEP	3.61 ±2.4 E-10	4.61 ±0.7 E-09
OCT	<1.3E-10	2.03 ±0.5 E-09
NOV	<1.5E-10	1.88 ±0.5 E-09
DEC	2.91 ±2.4 E-10	5.25 ±0.6 E-09
1989 TOTALS	2.09±0.6 E-09	3.24 ±0.2 E-08

Table C - 2. 11

1989 Airborne Radioactive Effluent Activity Quarterly Totals (curies)from (ANSUPCV) Supercompactor Ventilation System

	C0-60	SR-90	CS-134	CS-137	EU-154
1ST QTR	<5.0 E-09	<1.1 E-10	<1.9 E-09	1.78 ±1.2 E-09	<1.7 E-09
2ND QTR	<1.6 E-09	<3.3 E-10	<1.2 E-09	1.60 ±0.8 E-09	<1.0 E-09
3RD QTR	<1.7 E-09	2.05 ±0.7 E-10	<1.4 E-09	<1.8 E-09	<1.2 E-09
4TH QTR	<2.5 E-09	1.74±0.7 E-10	<1.1 E-09	2.73 ±1.0 E-09	<1.4 E-09
1989 TOTALS	<6.1 E-09	8.19 ±3.6 E-10	<2.9 E-09	7.91 ±2.5 E-09	<2.7 E-09

	U-234	U-235	U-238	PU-238	PU-239	AM-241
1ST QTR	1.05 ±0.6 E-10	<6.7 E-11	<6.7 E-11	<4.7 E-12	7.60 ±6.8 E-12	4.38 ±2.0 E-10
2ND QTR	<1.6 E-10	<1.6 E-10	<1.6 E-10	<9.0 E-11	<4.7 E-11	<2.8 E-11
3RD QTR	4.60 ±1.2 E-10	8.21 ±5.6 E-11	3.29 ±1.0 E-10	<3.2 E-12	<3.2 E-12	<1.9 E-11
4TH QTR	<1.5 E-10	<1.5 E-10	<1.5 E-10	<2.9 E-11	<2.9 E-11	<4.7 E-11
1989 TOTALS	8.75 ±2.6 E-10	<2.4 E-10	7.06 ±2.5 E-10	<9.5 E-11	<5.6 E-11	5.32±2.1 E-10

Table C - 2. 12

1989 Radioactivity Concentrations in Airborne Particulates at Fox Valley Air Sampler (AFFXVRD)(μCi/mL)

Month	Alpha	Beta	Strontium-90	Cesium-137
JAN	8.26 ±7.3 E-16	2.66 ±0.3 E-14		
FEB	1.14 ±0.8 E-15	2.40 ±0.3 E-14		
MAR	1.07 ±0.8 E-15	2.11 ±0.3 E-14		
1st Qtr			<7.96 E-17	<7.40 E-16
APR	9.82 ±7.6 E-16	2.01 ±0.3 E-14		
MAY	<5.85 E-16	1.47 ±0.3 E-14		
JUN	8.44 ±6.9 E-16	1.52 ±0.3 E−14		
2nd Qtr			<2.03 E-16	<6.89 E-16
JUL	1.38 ±0.9 E-15	1.67 ±0.3 E-14		
AUG	9.21 ±7.3 E-16	1.74 ±0.3 E-14		
SEP	<5.78 E-16	1.51 ±0.3 E-14		
3rd Qtr			4.77±2.4 E-17	<4.49 E-16
OCT	8.94 ±6.9 E-16	2.14 ±0.3 E-14		
NOV	1.46 ±1.1 E-15	2.52 ±0.4 E-14		
DEC	2.12 ±1.2 E-15	1.09 ±0.4 E-14		
4th Qtr			<5.14 E-17	<4.75 E-16

Table C - 2. 13

1989 Radioactivity Concentrations in Airborne Particulates at Rock Springs Rd. Sampler (AFRSPRD)(μCi/mL)

Month	Alpha	Beta	Strontium-90	Iodine-129	Cesium-137
JAN	1.11 ±0.8 E-15	2.97 ±0.4 E-14			
FEB	1.26 ±0.8 E-15	2.82 ±0.4 E-14			
MAR	1.22 ±0.9 E-15	2.30 ±0.3 E-14			
1st Qtr			<5.30 E-17	<3.81 E-16	<7.43 E-16
APR	9.44 ±7.7E-16	1.87 ±0.3 E-14			
MAY	5.88 ±5.4 E-16	1.49 ±0.3 E-14			
JUN	5.25 ±5.1 E-16	1.47 ±0.3 E-14			
2nd Qtr			<1.27 E-16	<3.40 E-16	<6.71 E-16
JUL	1.19 ±0.8 E-15	1.66 ±0.3 E-14			
AUG	9.52 ±6.8 E-16	1.80 ±0.3 E-14			
SEP	5.35 ±5.3 E-16	1.28 ±0.2 E-14			
3rd Qtr			<4.37 E-17	<3.40 E-16	<4.23 E-16
OCT	7.84 ±6.7 E-16	2.40 ±0.3 E-14			
NOV	<6.88 E-16	1.97 ±0.3 E-14			
DEC	1.02 ±0.8 E-15	2.34 ±0.3 E-14			
4th Qtr			<4.25 E-17	<3.50 E-16	<4.20 E-16

Table C - 2. 14

1989 Radioactivity Concentrations in Airborne Particulate at Route 240 Air Sampler (AFRT240) (μCi/mL)

Month	Alpha	Beta	Strontium-90	Cesium-137
JAN	1.18 ±0.9 E-15	3.23 ±0.4 E-14		
FEB	1.45 ±0.9 E-15	2.73 ±0.4 E-14		
MAR	8.47 ±7.6 E-16	2.08 ±0.3 E-14		
1st Qtr			<7.69 E-17	<8.77 E-16
APR	1.25 ±0.9 E-15	1.89 ±0.3 E-14		
MAY	<6.78 E-16	1.36 ±0.3 E-14		
JUN	7.97 ±7.6 E-16	1.90 ±0.4 E-14		
2nd Qtr			<1.74 E-16	<5.08 E-16
JUL	1.26 ±1.0 E−15	1.88 ±0.4 E-14		
AUG	1.42 ±1.0 E-15	2.11 ±0.4 E-14		
SEP	<8.06 E-16	1.63 ±0.3 E-14		
3rd Qtr			<4.88 E-17	<6.78 E-16
OCT	1.29 ±0.9 E-15	2.70 ±0.4 E-14		
NOV	8.56 ±7.8 E-16	1.87 ±0.3 E-14		
DEC	9.55 ±8.0 E-16	2.36 ±0.4 E-14		
4th Qtr			5.09 ±2.5 E-17	<5.05 E-16

Table C - 2. 15

1989 Radioactivity Concentrations in Airborne Particulate at Springville Air Sampler (AFSPRVL) (μCi/mL)

Month	Alpha	Beta	Strontium-90	Cesium-137
JAN	<8.1 E-16	3.52 ±0.5 E-14		
FEB	1.74 ±1.1 E-15	3.28 ±0.5 E-14		
MAR	<1.0 E-15	2.90 ±0.5 E-14		
1st Qtr			<5.24 E-17	<9.61 E-16
APR	1.36 ±1.1 E-15	2.63 ±0.4 E-14		
MAY	<1.3 E-15	2.80 ±0.5 E-14		
JUN	<1.2 E-15	3.20 ±0.6 E-14		
2nd Qtr			<4.04 E-16	<4.49 E-16
JUL	1.64 ±1.2 E-15	2.37 ±0.4 E-14		
AUG	2.05 ±1.3 E-15	2.59 ±0.4 E-14		
SEP	1.75 ±1.5 E-15	3.40 ±0.6 E-14		
3rd Qtr			<6.32 E-17	<7.61 E-16
OCT	2.53 ±2.1 E-15	4.42 ±0.5 E-14		
NOV	3.12 ±3.1 E-15	8.23 ±1.4 E-14		
DEC	2.21 ±1.6 E-15	4.85 ±0.7 E-14		
4th Qtr			<9.01 E-17	<1.17 E-15

Table C - 2. 16

1989 Radioactivity Concentrations in Airborne Particulates at Thomas Corners Air Sampler (AFTCORD) (μCi/mL)

Month	Alpha	Beta	Strontium-90	Cesium-137
JAN	1.47 ± 0.8 E-15	2.38 ±0.3 E-14		
FEB	9.32 ±6.5 E-16	2.34 ±0.3 E-14		
MAR	1.20 ±0.8 E-15	2.06 ±0.3 E-14		
1st Qtr			<5.37 E-17	<6.69 E-16
APR	4.12 ±0.8 E-15	1.84 ±0.3 E-14		
MAY	<5.6 E-16	1.44 ±0.3 E-14		
JUN	9.70 ±7.3 E-16	1.53 ±0.3 E-14		
2nd Qtr			<1.34 E-16	<6.15 E-16
JUL	9.80 ±8.0 E-16	1.54 ±0.3 E-14		
AUG	1.30±0.8 E-15	1.94 ±0.3 E-14		
SEP	7.71 ±7.0 E-16	1.57 ±0.3 E-14		
3rd Qtr			7.65 ± 2.3 E-17	<3.86 E-16
OCT	7.39 ±6.5 E-16	2.23 ±0.3 E-14		
NOV	<6.0 E-16	1.67 ±0.3 E-14		
DEC	1.03 ±0.7 E-15	2.21 ±0.3 E-14		
4th Qtr			4.70 ± 2.0 E-17	<4.25 E-16

Table C - 2.17

1989 Radioactivity Concentrations in Airborne Particulates at West Valley Air Sampler (AFWEVAL)(μCi/mL)

Month	Alpha	Beta	Strontium-90	Cesium-137
JAN	1.33 ±0.8 E-15	2.88 ±0.4 E-14		
FEB	1.17 ±0.8 E-15	2.67 ±0.3 E-14		
MAR	1.13 ±0.8 E-15	2.14 ±0.3 E-14		
1st Qtr			<4.09 E-17	<8.48 E-16
APR	8.50 ±6.8 E-16	1.96 ±0.3 E-14		
MAY	<5.5 E-16	1.50 ±0.3 E-14		
JUN	7.61 ±6.1 E-16	1.60 ±0.3 E-14		
2nd Qtr			<1.14 E-16	<4.20 E-16
JUL	1.54 ±0.9 E-15	1.70 ±0.3 E-14		
AUG	9.47 ±7.0 E-16	1.77 ± 0.3 E-14		
SEP	6.95 ±6.5 E-16	1.52 ±0.3 E-14		
3rd Qtr			4.83 ± 2.4 E-17	<4.38 E-16
OCT	1.87 ±1.3 E-15	3.48 ±0.5 E-14		
NOV	1.02 ±1.0 E-15	2.51 ±0.4 E-14		
DEC	1.91 ±1.3 E-15	3.83 ±0.5 E-14		
4th Qtr			1.03 ± 0.3 E-16	<5.75 E-16

Table C - 2.18

1989 Radioactivity Concentrations in Airborne Particulate at Great Valley Air Sampler (AFGRVAL) (μCi/mL)

Month	Alpha	Beta	Strontium-90	Iodine-129	Cesium-137
JAN	9.34 ±7.5 E-16	3.01 ±0.4 E-14			
FEB	1.10 ±0.8 E-15	2.63 ±0.4 E-14			
MAR	1.11 ±0.8 E-15	1.94 ±0.3 E-14			
1st Qtr			<3.90 E-17	<3.89 E-16	<7.74 E-16
APR	1.40 ±0.9 E-15	1.67 ±0.3 E-14			
MAY	5.84 ±4.9 E-16	1.27 ±0.2 E-14			
JUN	1.19 ±0.8 E-15	1.80 ±0.3 E-14			
2nd Qtr			<1.68 E-16	<3.30 E-16	<5.98 E-16
JUL	1.39 ±0.9 E-15	1.79 ±0.3 E-14			
AUG	9.67 ±6.9 E-16	1.97 ±0.3 E-14			
SEP	<5.60E-16	1.66±0.3 E-14			
3rd Qtr			9.23 ± 2.5 E-17	<3.55 E-16	<4.19 E-16
OCT	1.11 ±0.9 E-15	2.49 ±0.4 E-14			
NOV	<6.50 E-16	1.83 ±0.3 E-14			
DEC	1.50 ±0.9 E-15	2.46 ±0.3 E-14			
4th Qtr			5.89 ± 2.1 E-17	<3.66 E-16	<4.85 E-16

Table C - 2.19

1989 Radioactivity Concentrations in Airborne Particulate at Dunkirk Air Sampler (AFDNKRK) (μCi/mL)

Month	Alpha	Beta	Strontium-90	Cesium - 137
JAN	1.33 ±1.0 E-15	3.36 ±0.4 E-14		
FEB	1.70 ±1.3 E-15	3.46 ±0.5 E-14		
MAR	9.33 ±8.7 E-16	2.07 ±0.3 E-14		
1st Qtr			<5.66 E-17	<1.02 E-15
APR	<6.1 E-16	1.81 ±0.9 E-14		
MAY	<6.7 E-16	1.54 ±0.3 E-14		
JUN	7.87 ±7.8 E-16	2.43 ±0.4 E-14		
2nd Qtr			<1.37 E-16	<8.02 E-16
JUL	1.58 ±1.0 E-15	2.10 ±0.4 E-14		
AUG	1.43 ±0.9 E-15	2.25 ±0.4 E-14		
SEP	<7.1 E-16	1.91 ±0.3 E-14		
3rd Qtr			7.50 ± 2.6 E-17	<5.27 E-16
OCT	1.29 ±0.9 E-15	2.60 ±0.4 E-14		
NOV	9.49 ±7.3 E-16	2.01 ±0.3 E-14		
DEC	1.23 ±0.9 E-15	2.47 ±0.4 E-14		
4th Qtr			4.92 ± 2.3 E-17	<5.23 E-16

Table C - 2. 20

1989 Radioactivity Concentrations in Airborne Particulates at Dutch Hill Air Sampler (AFBOEHN) (μCi/mL)

Month	Alpha	Beta	Strontium-90	Cesium-137
JAN	9.69 ±7.4 E-16	2.62 ±0.3 E-14		
FEB	1.55 ±0.9 E-15	2.48 ±0.3 E-14		
MAR	6.85 ±6.6 E-16	1.98 ±0.3 E-14		
1st Qtr			<4.10 E-17	5.56 ± 4.4 E-16
APR	1.18 ±0.8 E-15	1.93 ±0.3 E-14		
MAY	7.62 ±6.7 E-16	1.43 ±0.3 E-14		
JUN	7.02 ±6.4 E-16	1.54 ±0.3 E-14		
2nd Qtr			<1.22 E-16	<5.95 E-16
JUL	9.73 ±8.0 E-16	1.71 ±0.3 E-14		
AUG	1.34 ±0.9 E-15	1.69 ± 0.3 E-14		
SEP	7.59 ±7.3 E-16	1.49 ± 0.3 E-14		
3rd Qtr			<3.84 E-17	<4.52 E-16
OCT	1.02 ±0.8 E−15	2.33 ±0.3 E-14		
NOV	<1.11E-15	1.46 ±0.4 E-14		
DEC	1.37 ±1.0 E-15	2.04 ±0.3 E-14		
4th Qtr			<4.54 E-17	<5.53 E-16

Table C - 2. 21

Radioactivity in Fallout during 1989 (nCi/m^2/mo)

Dutch Hill (AFDHFOP)

MONTH	Gross Alpha	Gross Beta	H-3 (μCi/mL)
JANUARY	5.4 E-03	1.1 E-01	< 1.0 E-07
FEBRUARY	2.8 E-02	1.8 E-01	< 1.2 E-07
MARCH	5.0 E-02	3.0 E-01	< 1.0 E-07
APRIL	4.4 E-02	2.8 E-01	< 1.0 E-07
MAY	3.8 E-02	3.4 E-01	< 1.0 E-07
JUNE	4.6 E-02	3.4 E-01	< 1.0 E-07
JULY	5.3 E-02	2.9 E-01	< 1.0 E-07
AUGUST	1.2 E-02	1.9 E-01	< 1.0 E-07
SEPTEMBER	2.2 E-02	2.0 E-01	< 1.0 E-07
OCTOBER	1.1 E-02	1.6 E-01	2.70 ± 1.1 E−07
NOVEMBER	4.8 E-02	3.5 E-01	< 1.0 E-07
DECEMBER	1.0 E-02	1.2 E-01	< 1.0 E-07

Fox Valley Road (AFFXFOP)

MONTH	Gross Alpha	Gross Beta	H-3 (μCi/mL)
JANUARY	2.1 E-02	2.6 E-01	< 1.0 E-07
FEBRUARY	3.7 E-02	2.7 E-01	< 1.0 E-07
MARCH	9.6 E-02	4.8 E-01	< 1.0 E-07
APRIL	8.3 E-02	3.2 E-01	< 1.2 E-07
MAY	6.4 E-02	4.3 E-01	< 1.0 E-07
JUNE	6.2 E-02	3.6 E-01	< 1.0 E-07
JULY	2.8 E-02	1.7 E-01	< 1.0 E-07
AUGUST	1.6 E-02	1.4 E-01	< 1.0 E-07
SEPTEMBER	1.2 E-02	3.7 E-01	< 1.0 E-07
OCTOBER	1.1 E-02	3.5 E-01	< 1.0 E-07
NOVEMBER	7.5 E-02	4.9 E-01	< 1.0 E-07
DECEMBER	3.2 E-02	2.4 E-01	2.16 ±1.2 E−07

Route 240 (AF24FOP)

MONTH	Gross Alpha	Gross Beta	H-3 (μCi/mL)
JANUARY	3.0 E-02	1.9 E-01	< 1.0 E-07
FEBRUARY	4.1 E-02	1.9 E-01	< 1.0 E-07
MARCH	5.9 E-02	3.8 E-01	< 1.0 E-07
APRIL	4.0 E-02	2.9 E-01	2.21 ±1.2 E-07
MAY	3.4 E-02	3.7 E-01	< 1.0 E-07
JUNE	4.1 E-02	5.7 E-01	< 1.0 E-07
JULY	1.9 E-02	2.6 E-01	SAMPLE DRY
AUGUST	2.6 E-02	3.0 E-01	< 1.0 E-07
SEPTEMBER	2.4 E-02	2.8 E-01	< 1.0 E-07
OCTOBER	2.5 E-02	4.9 E-01	< 1.0 E-07
NOVEMBER	4.4 E-02	4.0 E-01	< 1.0 E-07
DECEMBER	1.7 E-02	2.1 E-01	1.56 ±1.2 E−07

Thomas Corners Road (AFTCFOP)

MONTH	Gross Alpha	Gross Beta	H-3 (μCi/mL)
JANUARY	4.2 E-02	2.8 E-01	< 1.0 E-07
FEBRUARY	3.0 E-02	1.9 E-01	< 1.0 E-07
MARCH	4.5 E-02	4.0 E-01	< 1.0 E-07
APRIL	7.2 E-02	3.4 E-01	< 1.0 E-07
MAY	6.3 E-02	4.1 E-01	< 1.0 E-07
JUNE	7.9 E-02	3.6 E-01	< 1.0 E-07
JULY	1.8 E-02	1.8 E-01	SAMPLE DRY
AUGUST	3.1 E-02	2.2 E-01	< 1.0 E-07
SEPTEMBER	2.6 E-02	2.1 E-01	< 1.0 E-07
OCTOBER	2.6 E-02	2.6 E-01	< 1.0 E-07
NOVEMBER	1.1 E-01	6.3 E-01	< 1.0 E-07
DECEMBER	3.3 E-02	2.2 E-01	1.32 ±1.2 E-07

Note: Gross alpha uncertainty is ± 60%; gross beta uncertainty is ± 10%

Table C - 2. 22

pH of Precipitation Collected in Fallout Pots in 1989

	Dutch Hill *	Fox Valley Road*	Route 240*	Thomas Corners Road*
JANUARY	3.71	4.44	3.74	4.07
FEBRUARY	4.14	5.36	4.10	4.42
MARCH	4.18	6.00	4.23	6.09
APRIL	4.17	5.84	4.53	6.03
MAY	4.06	4.11	3.90	4.21
JUNE	3.94	3.94	4.98	3.81
JULY	6.29	3.53	DRY	DRY
AUGUST	4.24	3.53	5.75	3.75
SEPTEMBER	4.65	4.81	4.06	4.10
OCTOBER	6.15	5.62	7.03	4.11
NOVEMBER	4.08	4.49	3.95	4.14
DECEMBER	4.29	4.22	4.17	4.15

*** LOCATION CODE**

Dutch Hill - AFDHFOP

Fox Valley Road - AFFXFOP

Route 240 - AF24FOP

Thomas Corners Road - AFTCFOP