

APPENDIX B

DETAILED TABLES AND FIGURES: AIR MONITORING

This Appendix contains tables and figures that were too lengthy or detailed to place in [Chapter III](#). References cited here are included in the list at the end of [Chapter III](#). The tables are presented first, then the figures. See the beginning pages of this report for a list of all tables and figures, including those in this appendix.

Table B-1. Plutonium in Airborne Particulates (fCi m⁻³) Measured by the Public Health Service/Environmental Protection Agency in Denver, Colorado; Pierre, South Dakota; Rockville, Maryland; Topeka, Kansas; and New York City, New York (1965–1989)

"Plutonium" includes Pu-238, -239, -240										
Midpoint	Plutonium concentration (fCi/m ³)			Notes						
	Denver	Pierre	Maryland							
Nov-65	0.09	0.094	0.054	Table says pCi/m ³ . Text says pCi/1000 m ³						
Dec-65	0.079	0.081	0.069	Table says pCi/m ³ . Text says pCi/1000 m ³						
Jan-66	0.09	0.089	0.078	Table says pCi/m ³ . Text says pCi/1000 m ³						
Feb-66	0.107	0.08	0.079	Table says pCi/m ³ . Text says pCi/1000 m ³						
Mar-66	0.085	0.089	0.066	Table says pCi/m ³ . Text says pCi/1000 m ³						
Apr-66	0.198	0.149	0.111	pCi/1000 m ³						
May-66	0.239	0.197	0.174	pCi/1000 m ³						
Jun-66	0.191	0.132	0.202	pCi/1000 m ³						
Jul-66	0.056	0.106	0.153							
Aug-66	0.075	0.076	0.066							
Sep-66	0.056	0.047	0.062							
Oct-66	0.042	0.037	0.04							
Nov-66	0.041	0.025	0.036							
Dec-66	0.035	0.032	0.033							
Jan-67	0.053	0.04	0.033							
Feb-67	0.073	0.041	0.053							
Mar-67		0.063	0.055	The Denver sample (2.259) was counted by alpha spec. See quote in text.						
Apr-67	0.143	0.079	0.088							
May-67	0.076	0.077	0.087							
Jun-67	0.082	0.073	0.062							
Jul-67	0.049	0.077	0.049							
Aug-67	0.0665	0.0521			Denver	Pierre	Rockville	Denver	Pierre	Rockville
Sep-67	0.0328	0.0336	0.0341		0.0394	0.02	nd	0.0271	0.0321	0.0264
Oct-67	0.03	0.0196	0.0153		0.0156	0.0117	0.0152	0.0172	0.0219	0.0189
Nov-67	0.074	0.0056	0.0055		0.0126	0.0058	0.0049	0.0174	0.0138	0.0104
Dec-67					0.0076	0.0024	0.0029	0.0664	0.0032	0.0026
Jan-68	0.0379	0.0177		No data						
Feb-68	0.0324	0.0256			0.0124	0.0058	NS	0.0255	0.0119	
Mar-68	0.0589	0.0475			0.0088	0.0057	NS	0.0236	0.0199	
Apr-68	0.112	0.037			0.0086	0.0104	NS	0.0503	0.0371	
May-68	0.103	0.067			0.017	0.005		0.095	0.032	
Jun-68	0.073	0.049			0.015	0.012		0.088	0.055	
Jul-68	0.07	0.05			0.011	0.007		0.062	0.042	
Sep-68	0.054	0.171	0.065	Aug-Sept 1968	0.01	0.009	ns	0.06	0.041	ns
Nov-68	0.122		0.016	Oct-Dec 1968	0.019	0.036	0.009	0.035	0.135	0.056
Feb-69	0.09	0.041	0.051	Jan-Mar 1969	0.012	0.008	0.006	0.11	0.028	0.01
May-69	0.138	0.13	0.092	Apr-June 1969	0.019	0.008	0.011	0.071	0.033	0.04
Aug-69	0.079	0.057	0.069	July-Sept 1969	0.03	0.02	0.018	0.108	0.11	0.074
Nov-69	0.041	0.073	0.027	Oct-Dec 1969	0.015	0.012	0.007	0.064	0.045	0.062
Feb-70	0.064	0.038	0.031	Jan-Mar 1970	0.006	0.007	0.006	0.035	0.066	0.021
May-70	0.146	0.104	0.089	Apr-June 1970	0.009	0.004	0.005	0.055	0.034	0.026
Aug-70	0.097	0.078	0.065	July-September 1970	0.016	0.009	0.007	0.13	0.095	0.082
Nov-70	0.037	0.025	0.022	Oct-Dec-1970	0.006	0.004	0.004	0.091	0.074	0.061
Feb-71	0.064	0.039	0.018	Jan-Mar 1971	0.004	0.002	nd	0.033	0.023	0.022
May-71	0.134	0.111	0.087	Baltimore April-June 1971	0.009	nd	nd	0.055	0.039	0.018
Aug-71	0.068	0.083	0.064	July-September 1971	0.009	0.007	0.005	0.125	0.104	0.082
Nov-71	0.017	0.015	0.014	Oct-Dec 71	0.002	0.004	0.002	0.066	0.079	0.062
Feb-72	0.076	0.024	0.026	Jan-Mar 72	nd	nd	nd	0.017	0.015	0.014
May-72	0.077	0.052	0.049	Apr-Jun 72	0.015	0.003	0.005	0.061	0.021	0.021
Aug-72	0.0184	0.0413	0.0328	July-Sept 72	0.013	0.007	0.008	0.064	0.045	0.041
Nov-72	0.0181	0.0983	0.0772	Oct-Dec 72	0.0019	0.0033	0.0018	0.0165	0.038	0.031
Feb-73	0.0209	0.0366	0.0212	Jan-Mar 73	0.0011	0.0023	0.0002	0.017	0.096	0.077
May-73	0.0297	0.0331	0.0183	April-June 73	0.0031	0.022	0.013	0.0178	0.0146	0.0082
Aug-73	0.0101	0.0302		July-Sept 73	0.0029	0.0088	0.0015	0.0268	0.0243	0.0168
Nov-73	0.0108	0.0026		Oct-Dec 73	0.0017	0.022		0.0084	0.0082	
Feb-74	0.0423	0.0161		Jan-Mar74	0.0021	0.0002		0.0087	0.0024	
					0.0026	0.0018		0.0397	0.0143	

(continued next page)

Table B-1. Plutonium in Airborne Particulates (aCi m⁻³) Measured by the Public Health Service/Environmental Protection Agency in Denver, Colorado; Pierre, South Dakota; Rockville, Maryland; Topeka, Kansas; and New York City, New York (1965–1989)(cont.)

Sampling Interval	Midpoint	DENVER		PIERRE, SD		TOPEKA, KS		NEW YORK CITY	
		Pu-238	Pu-239	Pu-238	Pu-239	Pu-238	Pu-239	Pu-238	Pu-239
Apr-Jun	May-74	8.3	108					9.9	50.7
July-Sept	Aug-74	4	30.2						
Oct-Dec	Nov-74	2.6	19.2					6.6	16.1
Jan-Mar	Feb-75	4.4	42.8						
Apr-Jun	May-75	2.3	57.8					8.6	46.2
July-Sept	Aug-75	5.5	16.5						
Oct-Dec	Nov-75	1.6	7.5						
Jan-Mar	Feb-76	0.5	11.8					NA	
Apr-June	May-76	4.3	12.9					NA	
July-Sept	Aug-76	3.7	6.5					NA	
Oct-Dec	Nov-76	6.6	14.2					9.7	11.2
Jan-Mar	Feb-77	1.6	9.7					NA	NA
Apr-Jun	May-77	2.7	54.2					NA	NA
July-Sept	Aug-77	5.9	44.6					15.8	27.5
Oct-Dec	Nov-77	4	33.5					2.5	16.9
Jan-Mar	Feb-78	3.5	55.2					4.8	40.6
Apr-Jun	May-78	4.9	78.8					2	41
July-Sept	Aug-78	10.7	39.2					3	33.4
Oct-Dec	Nov-78	3.1	17.1					4.8	9.7
Jan-Mar	Feb-79	5.6	10.9					3.2	11.3
Apr-June	May-79	6.8	17.5					3.9	18.7
July-Sept	Aug-79	2.8	11.2					6.8	9.8
Oct-Dec	Nov-79	2.7	6.7					7.6	7.5
Jan-Mar	Feb-80								
Apr-June	May-80	3.6	13.1	NS	NS	1.2	10.1	2	8.9
July-Sept	Aug-80	0.6	5	NS	NS	0.5	1.9	1.1	5.5
Oct-Dec	Nov-80	9.4	4.6	NS	NS	1	1.2	1.5	2.4
Jan-Mar	Feb-81	NS	NS	NS	NS	1.8	11.5	1.7	7.2
Apr-June	May-81	NS	NS	NS	NS	1.3	41	0.5	32.7
July-Sept	Aug-81	NS	NS	NS	NS	0.6	3.6	1	24.6
Oct-Dec	Nov-81	NS	NS	NS	NS	0	1.7	0.4	1.5
Jan-Mar	Feb-82	NS	NS	1.9	4	0.3	5	-0.1	3.2
Apr-June	May-82	NS	NS	0.4	3.6	0.2	3	-0.1	3.2
July-Sept	Aug-82	NS	NS	1.3	3.4	NS	NS	0.8	1
Oct-Dec	Nov-82	NS	NS	0.2	1.2	NS	NS	2.5	1.7
Jan-Mar	Feb-83	0.1	1.1	0.9	1.5	NS	NS	0.9	0.6
Apr-June	May-83	0.1	1.6	0.5	1.6	NS	NS	NS	NS
July-Sept	Aug-83	0.1	1.3	1.2	0.8	NS	NS	NS	NS
Oct-Dec	Nov-83	NS	NS	0	0.3	NS	NS	0.3	0.5
Jan-Mar	Feb-84	NS	NS	0	0.8	0.1	0.1	-0.7	0.6
Apr-June	May-84	0.6	1.6	-0.5	0.6	0.3	0.1	-0.1	0.7
July-Sept	Aug-84	0.2	1.1	1.7	1	0.3	0.2	0.3	0.3
Oct-Dec	Nov-84	0.8	0.3	-0.3	-0.3	0	0.3	0.2	0.2
Jan-June	Mar-85	0.1	0.2	0	0.9	0.1	0.1	0.3	0.4
July-Dec	Sep-85	1.2	0.7	1.2	-0.1	0.6	0.3	0.1	0.5
Jan-June	Mar-86	0.9	4.2	0.2	1.2	0.4	-0.9	0.1	0.2
July-Dec	Sep-86	2.1	0.7	-0.1	0.2	0.4	0.1	0.2	0.1
Jan-June	Mar-87	1.3	0.6	0.4	0.1	0.6	0.3	1.2	0.3
July-Dec	Sep-87	0.8	0	2.6	0.6	0.7	0.5	1.3	0.7
Jan-June	Mar-88	0.1	0.1	1.4	0.9	nd	0.4	3	0.7
July-Dec	Sep-88	0.2	0.1	nd	0.9	0.4	0.1	0.2	0.3
Jan-June	Mar-89	nd	nd	nd	nd	nd	0.1	nd	0.2
July-Dec	Sep-89	nd	0.7	NS	NS	ND	0.1	0.3	ND

Table B-2. Plutonium–239,-240 Concentrations (fCi m⁻³) in Air Near Rocky Flats and in New York City between 1970 and 1981^a

	RF #1 production area east fence	RF #2 Indiana Street	RF #3 6 km west of RFP at Coal Creek	RF #4 0.5 km east of production area	New York City
Jun-70	1.98				0.125
Jul-70	1.25				0.118
Aug-70	0.788				0.111
Sep-70	0.851				0.052
Oct-70	0.693				0.036
Nov-70	2.26				0.026
Dec-70	0.959				
Jan-71	1.96				0.027
Feb-71					0.022
Mar-71	7.11				0.044
Apr-71	9.72				0.059
May-71	4.91				0.111
Jun-71	8.73				0.132
Jul-71	3.79				0.135
Aug-71	2.98				0.093
Sep-71	3.53				0.038
Oct-71	4.04				0.026
Nov-71	5.76				0.014
Dec-71	3.16				0.018
Jan-72	5.45				0.024
Feb-72	1.67				0.024
Mar-72	4.59				0.026
Apr-72	1.45				0.031
May-72	2.08				0.037
Jun-72	6.62				0.049
Jul-72	4.73	0.099			0.048
Aug-72	1.38	0.055			0.039
Sep-72		0.119			0.020
Oct-72	1.62	0.608	0.022		0.015
Nov-72	0.495	0.049	0.018		0.009
Dec-72	1.86	0.045	0.026		0.005
Jan-73	1.17	0.038	0.018		0.011
Feb-73	3.64	0.058	0.042 ^b		0.016
Mar-73	2.52	0.056	0.024		0.019
Apr-73	0.612	0.716	0.024		0.021
May-73	1.78	0.052	0.04		0.018
Jun-73	3.04	0.058	0.042		0.019
Jul-73	2.92	0.092	0.026		0.021
Aug-73	3.31	0.065	0.026		0.010
Sep-73	1.05	0.152	0.038		0.005
Oct-73	2	0.031	0.021		0.008
Nov-73	1.81	0.025	0.011		0.006
Dec-73	1.69	0.076	0.017		0.007

Table B-2. Plutonium-239,-240 Concentrations (fCi m⁻³) in Air Near Rocky Flats and in New York City between 1970 and 1981 (continued)^a

	RF #1 production area east fence	RF #2 Indiana Street	RF #3 6 km west of RFP at Coal Creek	RF #4 0.5 km east of production area	New York City
Jan-74	0.402	0.017	0.022		0.009
Feb-74	0.801	0.023	0.039		0.020
Mar-74	0.891	0.457	0.163		0.049
Apr-74	1.81	0.135	0.283		0.059
May-74	3.05	0.176		1.46	0.079
Jun-74	5.45	0.14		0.756	0.077
Jul-74	2.67	0.079		1.43	0.084
Aug-74	3.32	0.058		0.222	0.025
Sep-74	1.12	0.034		0.199	0.024
Oct-74	0.406	0.024		0.394	0.012
Nov-74	0.581	0.029		1.24	0.015
Dec-74	0.644	0.044		0.711	0.013
Jan-75	1.26	0.14		0.288	0.016
Feb-75	1.36	0.035		0.393	0.021
Mar-75	1.78	0.057		1.85	0.034
Apr-75	2.18	0.04		0.254	0.047
May-75	2.18			0.14	0.037
Jun-75	1.16			0.684	0.025
Jul-75	0.567	0.027		0.118	0.022
Aug-75	0.426	0.014		0.146	0.013
Sep-75	0.179	0.01		0.72	0.006
Oct-75				0.189	0.004
Nov-75	1.22	0.011		0.188	0.011
Dec-75	0.653	0.016		0.128	0.005
Jan-76	0.68	0.012		0.184	
Feb-76	1.24	0.023		0.302	0.006
Mar-76	0.864	0.014		0.072	0.009
Apr-76	1.88	0.046		0.235	0.010
May-76	0.99	0.014		0.109	0.010
Jun-76	1.45	0.017		0.319	0.009
Jul-76	0.752	0.01		0.098	0.006
Aug-76	0.927	0.012		0.063	0.002
Sep-76	0.418			0.058	0.005
Oct-76	1.94			0.225	0.003
Nov-76	2.49			0.23	0.003
Dec-76	0.54			0.09	0.003
Jan-77	0.491			0.081	0.007
Feb-77	0.675			0.033	0.007
Mar-77	0.279			0.065	0.007
Apr-77	1.99			0.198	0.033
May-77	1.75			0.436	0.033
Jun-77	1.75			0.434	0.033
Jul-77	0.878			0.253	0.028
Aug-77	0.887				0.028
Sep-77	1.48			0.121	0.028
Oct-77	1.48			0.121	0.016
Nov-77	0.878			0.184	0.016

Table B-2. Plutonium-239,-240 Concentrations (fCi m⁻³) in Air Near Rocky Flats and in New York City between 1970 and 1981 (continued)^a

	RF #1 production area east fence	RF #2 Indiana Street	RF #3 6 km west of RFP at Coal Creek	RF #4 0.5 km east of production area	New York City
Dec-77	0.549			0.116	0.016
Jan-78				0.109	0.033
Feb-78				0.109	0.033
Mar-78				0.464	0.033
Apr-78				0.209	0.057
May-78	0.374			0.208	0.057
Jun-78	0.368			0.209	0.056
Jul-78	0.707			0.13	0.026
Aug-78	0.716			0.133	0.025
Sep-78	0.711			0.131	0.025
Oct-78	0.963			0.101	0.008
Nov-78	0.963			0.107	0.008
Dec-78	0.972			0.102	0.008
Jan-79	0.734			0.133	0.010
Feb-79	0.734			0.134	0.010
Mar-79	0.734				0.009
Apr-79	1.13			0.138	0.016
May-79	1.13			0.138	0.016
Jun-79	1.13			0.138	0.016
Jul-79	0.729			0.039	0.008
Aug-79	0.729			0.039	0.008
Sep-79	0.734			0.039	0.008
Oct-79	0.545			0.017 ^b	0.003
Nov-79	0.545			0.017 ^b	0.003
Dec-79	0.545				0.003
Jan-80	0.34				0.003
Feb-80	0.341				0.003
Mar-80	0.342			0.657	0.003
Apr-80	0.116			.	0.010
May-80	0.117				0.010
Jun-80					0.010
Jul-80	0.405			0.029	
Aug-80	0.405			0.029	
Sep-80	0.404			0.029	
Oct-80	0.513			0.172	0.005
Nov-80	0.513			0.172	0.005
Dec-80	0.513			0.172	0.005
Jan-81	0.287			0.099	
Feb-81	0.287			0.1	0.016
Mar-81	0.287			0.1	0.016
Apr-81	0.729			0.119	0.064
May-81	0.729				0.064
Jun-81	0.725				0.064
Jul-81	0.891				0.027
Aug-81	0.891			1.19	0.027
Sep-81				1.2	0.027

^aData collected by the Health and Safety Laboratory and published in Feeley et al. (1985). Locations shown on Figure III-8, Chapter III.

^bAnalytical error between 20 and 100%. For all others, analytical error <20%.

Table B-3. Plutonium-238 and ²³⁹Pu in Air Near Rocky Flats, Weekly Samples from HASL Station RF #1 at Eastern Production Area Fence in 1970 (Volchok 1971)

End of sampling period	fCi m ⁻³ ^a		Ratio ²³⁸ Pu/ ²³⁹ Pu
	²³⁸ Pu	²³⁹ Pu	
7/8/70	0.018	0.486	0.037
7/15/70	0.023	0.604	0.037
7/22/70	0.059	2.815	0.021
7/31/70	0.027	1.450	0.019
9/2/70	0.023	0.833	0.027
9/9/70	0.023	1.284	0.018
9/16/70	0.023	1.000	0.023
9/23/70	0.014	0.545	0.025
9/30/70	0.023	0.995	0.023
10/7/70	0.023	0.905	0.025
10/15/70	0.009	0.293	0.031
10/21/70	0.023	0.707	0.032
10/28/70	0.023	1.063	0.021
11/4/70	0.032	1.090	0.029
11/11/70	0.041	2.023	0.020
11/18/70	0.018	0.505	0.036
11/25/70	0.054	2.270	0.024
<u>12/2/70</u>	<u>0.144</u>	<u>6.622</u>	<u>0.022</u>
Average	0.033	1.42	0.026

^a Data were converted from units of dpm per 1000 cubic meters in the reference. The large number of significant figures shown does not imply this degree of precision, but was maintained to produce an accurate ratio (last column).

Table B-4. Plutonium-239,240 in Air (fCi m⁻³) at the Eastern Security Fence and Southeast Boundary of the RFP, Measured Monthly by the Colorado Department of Health (1969–1980)^a

	A	B	C	D	E	F	G
13	Mo-year	Station Code					
14		D-1	D-2	D-3	APC-56	D-4	D-5
15	Jan-69				9		
16	Feb-69				4.9		
17	Mar-69				2.99		
18	Apr-69				3.1		
19	May-69				6.5		
20	Jun-69				1.24		
21	Jul-69				0.71		
22	Aug-69				1.66		
23	Sep-69				1.15		
24	Oct-69				0.37		
25	Nov-69				0.57		
26	Dec-69				0.57		
27	Jan-70				1.07		
28	Feb-70				3.28		
29	Mar-70				0.49		
30	Apr-70				0.76		
31	May-70	0.42	0.91	33	0.79	4.4	
32	Jun-70	0.39	0.42	5.3	3.3	0.82	0.22
33	Jul-70	0.19	0.25	6.5	0.51	0.91	0.14
34	Aug-70	0.08	0.18	1.53	0.86	6.6	
35	Sep-70	0.24	0.21	1.4	0.26	1.07	
36	Oct-70	0.2	0.19	0.97	1.02	0.67	
37	Nov-70	0.54	0.46	0.51	2.1	1.52	
38	Dec-70	0.25	0.31	1.1	0.58	1.7	0.11
39	Jan-71	0.2	0.1	6.89	1.63	0.76	0.08
40	Feb-71	0.29	0.45	20.48	2.07	12.42	0.11
41	Mar-71	0.3	0.36	5.52	3.88	8.93	0.2
42	Apr-71	0.34	0.36	7.68	0.69	3.69	0.15
43	May-71	0.45	0.63	8.44	0.43	27.58	0.24
44	Jun-71	0.51	0.48	5.92	0.92	4.19	0.24
45	Jul-71	0.2	0.31	37.42	0.43	3.34	0.13
46	Aug-71	0.22	0.32	4.18	0.03	5.06	0.12
47	Sep-71	0.38	0.19	3.16	0.03	7.31	0.16
48	Oct-71	0.19	0.27	5.34	8.59	4.85	0.09
49	Nov-71	0.32	0.1	16.39	2.23	7.58	0.015
50	Dec-71	0.27	0.55	2.02	0.25	2.36	0.05
51	Jan-72	0.2	0.2	2.4	0.53	2.11	0.13
52	Feb-72	0.18	0.22	5.22	0.54	2.11	0.08
53	Mar-72	0.35	0.3	3.67	3.53	2.43	0.07
54	Apr-72	0.21	0.16	1.38	0.39	1.64	0.07
55	May-72	1.77	0.24	1.98	0.37	1.52	0.06
56	Jun-72	2.77	0.47	6.55	0.4	22.56	0.13
57	Jul-72	1.33	0.73	2.99	0.35	5.75	0.09
58	Aug-72	1.89	1.75	4.58	16.79	7.84	0.15
59	Sep-72	3.51	1.26	14.1	1.28	8.48	0.1
60	Oct-72	2.58	1.78	8.86	2.3	6.52	0.47
61	Nov-72	0.66	0.45	0.94	0.19	1.53	0.015
62	Dec-72	1.83	0.67	0.96	0.71	3.22	0.09
63	Jan-73	1.19	0.53	2.03	0.04	2.63	0.36
64	Feb-73	0.34	0.79	4.39	0.04	7.42	0.015
65	Mar-73	0.45	0.16	3.26	0.9	6.9	0.11
66	Apr-73	0.51	3.65	1.28		1.44	0.1
67	May-73	1.01	0.26	2.1	0.3	2.2	0.13
68	Jun-73	3.22	0.38	5.22	0.47	4.28	0.05
69	Jul-73	0.14	0.16	3.25	0.32	2.38	0.05
70	Aug-73	0.63	0.12	4.77	0.65	3.91	0.17
71	Sep-73	0.17	0.49	3.17	0.2		0.1
72	Oct-73	0.59	0.62	1.54	0.11	12.25	0.015
73	Nov-73	0.38	0.1	0.95	0.04		0.03
74	Dec-73	0.27	0.18	2.01	0.04	2.87	0.015
75	Jan-74	0.37	0.07	0.1	0.03	0.44	0.08
76	Feb-74	0.22	0.44	1.28	0.15	0.61	0.03
77	Mar-74	0.15	0.46	1.3	0.03	1.28	0.08
78	Apr-74	0.42	0.46	2.57	0.11	1.59	0.13
79	May-74	0.58	0.71	7.48	0.48	3.38	0.19
80	Jun-74	0.35	2.69	4.42	0.36	2.23	0.36
81	Jul-74	0.14	0.83	6.25	0.16	1.19	0.07
82	Aug-74	0.28	0.61	13.4	0.26	1.9	0.1
83	Sep-74	1.81	0.82	2.34	2.99	1.07	0.05
84	Oct-74	0.36	0.6	1.86		0.25	0.07
85	Nov-74	0.35	0.17	0.87	0.04	0.73	0.015
86	Dec-74	0.22	0.86	3.35	0.1		0.04

Cell: E19
Comment: Not in source B. This is source A value.

Cell: E21
Comment: Not in source B. This is source A value.

Cell: E22
Comment: Not in source B. This is source A value.

Cell: E24
Comment: Not in source B. This is source A value.

Cell: E27
Comment: Source A: 0.51

Cell: C34
Comment: Source A: 0.24

Cell: D34
Comment: Source A: 1.6

Cell: D35
Comment: Source A: 1.0

Cell: B37
Comment: Source A: 0.17

Cell: D55
Comment: Source A: 2.45

Cell: E58
Comment: Source A: 16.78

Cell: D60
Comment: Source A: 6.52

Cell: B65
Comment: Source A: 0.46

Cell: B66
Comment: No value in source B. This is source A value.

Cell: G67
Comment: Source A: 0.10

Cell: G68
Comment: Source A: 0.13

Cell: G69
Comment: No value in source B. This is source A value.

Cell: B70
Comment: Source A : 0.59

Cell: E70
Comment: Source A: 1.14

Cell: D73
Comment: Source A: 2.29

Cell: E77
Comment: Source A: 0.15

Table B-4. (continued)

	A	B	C	D	E	F	G
87	Jan-75	0.24	1.55	1.09	3.54	2.83	0.15
88	Feb-75	0.29	0.27	18.72	0.19	1.04	0.2
89	Mar-75	0.07		2.72	0.18	5.06	
90	Apr-75	0.46	0.41	2.51	0.43	3.15	0.09
91	May-75	6.27	0.44	3.34	0.15	6.71	
92	Jun-75	0.32	0.58	4.08	0.63	1.69	0.08
93	Jul-75	0.09	0.53	3.06	0.12	0.4	0.05
94	Aug-75				0.08		
95	Sep-75				0.05		
96	Oct-75		0.45	1.17	0.09	0.3	
97	Nov-75	0.1	0.18	1.05	0.11	0.36	
98	Dec-75	0.12	0.13	3.32	0.26	0.52	
99	Jan-76						
100	Feb-76	0.03		0.13	0.12	0.53	0.02
101	Mar-76	0.08		2.29	0.06	0.95	0.03
102	Apr-76	0.17		2.69	0.44	1.71	
103	May-76	0.16			0.07	1.08	0.03
104	Jun-76	0.11			0.39		0.02
105	Jul-76			0.51	0.63	0.94	0.1
106	Aug-76			0.05	0.16		
107	Sep-76			0.2	0.03	0.5	
108	Oct-76						
109	Nov-76						0.03
110	Dec-76						
111							
112	Jul-78					0.35	0.06
113	Aug-78			3.25		1.22	0.04
114	Sep-78			2.16		0.4	0.05
115	Oct-78			1.65		0.44	0.03
116	Nov-78			2.13		0.67	0.04
117	Dec-78			3.72		0.39	
118	Jan-79			0.84		0.37	0.03
119	Feb-79			0.21		1.11	0.03
120	Mar-79	0.37		1.38		0.31	0.15
121	Apr-79						
122	May-79						
123	Jun-79						
124	Jul-79	0.07	0.51	0.64	0.24	0.39	0.04
125	Aug-79	0.07	0.51	0.64		0.39	0.04
126	Sep-79	0.14	0.51	1.69	0.51	0.9	0.02
127	Oct-79	0.08	0.27	1.23	0.19	0.19	0.02
128	Nov-79	0.04	0.11	0.35	0.25	0.3	0.02
129	Dec-79	0.005	0.005	0.57	0.15	0.12	0.005
130	Jan-80	0.03	0.03	1.3	0.31	0.06	0.005
131	Feb-80	0.01	0.01	0.24	0.05	0.04	0.005
132	Mar-80	0.02	0.01	0.1		0.07	0.005
133	Apr-80	0.04	0.05	0.25	0.005	0.95	0.005
134	May-80	0.05	0.14	0.48	0.1	0.11	0.01
135	Jun-80	0.07	0.36	1.91	0.005	0.72	0.02
136	Jul-80	0.04	0.26	0.005		0.13	0.005
137	Aug-80				0.28		
138	Sep-80	0.02	0.17	0.66	0.08	0.51	0.005
139	Oct-80						
140	Nov-80						0.005
141	Dec-80				0.005		

^aData were transcribed from Terry (1992b) unless specified as source A, which is Terry (1992a). Discrepancies between the two sources are noted in the comments. Data expressed as less-than-detectable concentrations were set to 0.015 for APC-56 and 0.004 for the D-x samplers, which was one-half of the minimum detectable concentration (MDC). In 1979-1980, one-half the MDC was 0.005.

HIGH ALPHA COUNTS FROM ONSITE AIR SAMPLERS

Table B-5 contains all the daily measurements of total long-lived alpha activity in onsite air which were greater than or equal to 5 cpm (counts per minute). The data were taken from handwritten data sheets located in the Federal Records Center. The data in the table are sorted three ways, by station number, by date, and by cpm. The date range encompassed by these data is October 14, 1964 through December 31, 1971.

Table B-5. Daily Measurements of Total Long-Lived Alpha Activity Greater Than or Equal to 5 cpm

Sorted by Station			Sorted by Date			Sorted by cpm		
Station	Date	net cpm	Station	Date	net cpm	Station	Date	net cpm
S-1	10/7/68	5.7	S-8	12/10/64	6.4	S-4	5/15/68	5
S-1	1/24/66	5.9	S-8	12/15/64	29	S-5	6/17/70	5.1
S-1	11/2/65	7.6	S-8	12/21/64	6.7	S-6	9/19/66	5.1
S-1	6/16/70	9.2	S-8	12/22/64	19.6	S-6	5/22/68	5.1
S-1	8/7/67	9.9	S-3	1/13/65	9.9	S-8	2/4/69	5.1
S-1	9/6/66	10.6	S-1	11/2/65	7.6	S-8	2/26/70	5.1
S-2	12/6/65	5.7	S-2	12/6/65	5.7	S-8	7/15/68	5.2
S-3	4/22/68	5.3	S-5	12/6/65	8.1	S-3	4/22/68	5.3
S-3	8/23/67	5.5	S-6	12/6/65	8.7	S-8	6/6/69	5.3
S-3	5/14/68	9.7	S-1	1/24/66	5.9	S-8	6/7/69	5.3
S-3	1/13/65	9.9	S-1	9/6/66	10.6	S-8	6/8/69	5.3
S-4	5/15/68	5	S-6	9/19/66	5.1	S-8	9/13/67	5.4
S-4	12/27/66	7.3	S-4	11/8/66	7.6	S-3	8/23/67	5.5
S-4	11/8/66	7.6	S-4	12/27/66	7.3	S-50	8/17/71	5.5
S-5	6/17/70	5.1	S-8	1/26/67	12	S-8	1/31/68	5.5
S-5	1/6/69	6.2	S-8	2/13/67	25.3	S-8	2/3/70	5.5
S-5	12/6/65	8.1	S-7	7/13/67	6.8	S-1	10/7/68	5.7
S-5	6/18/70	54.5	S-1	8/7/67	9.9	S-2	12/6/65	5.7
S-6	9/19/66	5.1	S-8	8/14/67	5.9	S-8	10/24/67	5.7
S-6	5/22/68	5.1	S-3	8/23/67	5.5	S-8	4/22/68	5.7
S-6	10/31/68	6.1	S-8	9/13/67	5.4	S-8	5/15/68	5.8
S-6	6/18/70	6.6	S-8	10/18/67	6.2	S-8	7/29/68	5.8
S-6	5/21/68	6.9	S-8	10/19/67	14.6	S-1	1/24/66	5.9
S-6	4/24/68	7	S-8	10/20/67	6.8	S-8	8/14/67	5.9
S-6	12/6/65	8.7	S-8	10/21/67	6.8	S-7	4/25/68	6
S-6	4/16/68	9.7	S-8	10/22/67	6.8	S-6	10/31/68	6.1
S-6	7/15/71	10.4	S-8	10/23/67	18.1	S-5	1/6/69	6.2
S-6	7/10/69	12.2	S-8	10/24/67	5.7	S-7	6/18/68	6.2
S-6	1/7/69	13.4	S-8	10/25/67	6.6	S-8	10/18/67	6.2
S-6	6/4/68	39	S-8	10/30/67	6.4	S-8	12/4/68	6.2
S-7	4/25/68	6	S-8	11/9/67	7.2	S-8	11/15/67	6.3
S-7	6/18/68	6.2	S-8	11/15/67	6.3	S-8	3/6/69	6.3
S-7	7/13/67	6.8	S-8	11/30/67	7.4	S-8	12/10/64	6.4

Historical Public Exposures Studies on Rocky Flats Phase II
Task 4 Evaluation of Historical Environmental Data

Table B-5. (cont.)

Sorted by Station			Sorted by Date			Sorted by cpm		
Station	Date	net cpm	Station	Date	net cpm	Station	Date	net cpm
S-7	6/24/68	6.9	S-8	12/5/67	13.7	S-8	10/30/67	6.4
S-7	8/13/70	7.1	S-8	12/6/67	67.9	S-8	5/29/68	6.5
S-7	4/22/68	7.2	S-8	1/3/68	10.9	S-8	5/30/68	6.5
S-7	5/2/68	7.4	S-8	1/31/68	5.5	S-10	6/8/70	5.9
S-7	5/19/69	7.9	S-8	2/1/68	9.5	S-6	6/18/70	6.6
S-7	5/13/68	8.3	S-8	3/18/68	36.3	S-8	10/25/67	6.6
S-7	12/30/68	8.4	S-8	3/26/68	23.9	S-8	12/21/64	6.7
S-7	2/24/70	8.9	S-8	3/27/68	25.4	S-7	7/13/67	6.8
S-7	4/9/68	9.1	S-8	3/28/68	13.9	S-8	10/20/67	6.8
S-7	6/10/68	9.6	S-8	4/1/68	14.1	S-8	10/21/67	6.8
S-7	5/27/68	9.8	S-8	4/2/68	13.1	S-8	10/22/67	6.8
S-7	1/9/69	10.7	S-7	4/9/68	9.1	S-6	5/21/68	6.9
S-7	5/8/68	11.2	S-8	4/11/68	34.9	S-7	6/24/68	6.9
S-7	10/16/68	12.7	S-8	4/12/68	34.9	S-6	4/24/68	7
S-7	5/22/68	15.3	S-8	4/13/68	34.9	S-7	8/13/70	7.1
S-7	2/18/69	18.2	S-8	4/14/68	34.9	S-7	4/22/68	7.2
S-7	4/10/69	18.2	S-8	4/15/68	9	S-8	11/9/67	7.2
S-7	6/4/68	19.9	S-6	4/16/68	9.7	S-8	2/7/69	7.2
S-7	1/7/69	130.3	S-3	4/22/68	5.3	S-8	2/8/69	7.2
S-8	2/4/69	5.1	S-7	4/22/68	7.2	S-8	2/9/69	7.2
S-8	2/26/70	5.1	S-8	4/22/68	5.7	S-8	4/2/71	7.2
S-8	7/15/68	5.2	S-6	4/24/68	7	S-8	4/3/71	7.2
S-8	6/6/69	5.3	S-7	4/25/68	6	S-8	4/4/71	7.2
S-8	6/7/69	5.3	S-7	5/2/68	7.4	S-4	12/27/66	7.3
S-8	6/8/69	5.3	S-8	5/6/68	26.5	S-7	5/2/68	7.4
S-8	9/13/67	5.4	S-8	5/7/68	20	S-8	11/30/67	7.4
S-8	1/31/68	5.5	S-7	5/8/68	11.2	S-1	11/2/65	7.6
S-8	2/3/70	5.5	S-7	5/13/68	8.3	S-4	11/8/66	7.6
S-8	10/24/67	5.7	S-8	5/13/68	86.1	S-50	12/11/68	7.8
S-8	4/22/68	5.7	S-3	5/14/68	9.7	S-7	5/19/69	7.9
S-8	5/15/68	5.8	S-4	5/15/68	5	S-8	3/27/69	8
S-8	7/29/68	5.8	S-8	5/15/68	5.8	S-8	7/14/69	8
S-8	8/14/67	5.9	S-6	5/21/68	6.9	S-5	12/6/65	8.1
S-8	10/18/67	6.2	S-6	5/22/68	5.1	S-51	10/30/68	8.1
S-8	12/4/68	6.2	S-7	5/22/68	15.3	S-7	5/13/68	8.3
S-8	11/15/67	6.3	S-7	5/27/68	9.8	S-7	12/30/68	8.4
S-8	3/6/69	6.3	S-8	5/29/68	6.5	S-8	2/3/69	8.4
S-8	12/10/64	6.4	S-8	5/30/68	6.5	S-8	8/6/69	8.5
S-8	10/30/67	6.4	S-8	6/3/68	19	S-8	12/19/69	8.5
S-8	5/29/68	6.5	S-6	6/4/68	39	S-8	12/20/69	8.5
S-8	5/30/68	6.5	S-7	6/4/68	19.9	S-8	12/21/69	8.5
S-8	10/25/67	6.6	S-8	6/4/68	23	S-8	12/12/68	8.6
S-8	12/21/64	6.7	S-7	6/10/68	9.6	S-6	12/6/65	8.7
S-8	10/20/67	6.8	S-8	6/14/68	16.9	S-7	2/24/70	8.9
S-8	10/21/67	6.8	S-8	6/15/68	16.9	S-8	4/15/68	9
S-8	10/22/67	6.8	S-8	6/16/68	16.9	S-7	4/9/68	9.1

Table B-5. (cont.)

Sorted by Station			Sorted by Date			Sorted by cpm		
Station	Date	net cpm	Station	Date	net cpm	Station	Date	net cpm
S-8	11/9/67	7.2	S-7	6/18/68	6.2	S-8	3/20/69	9.1
S-8	2/7/69	7.2	S-7	6/24/68	6.9	S-1	6/16/70	9.2
S-8	2/8/69	7.2	S-8	7/12/68	9.4	S-8	12/30/68	9.2
S-8	2/9/69	7.2	S-8	7/13/68	9.4	S-8	7/12/68	9.4
S-8	4/2/71	7.2	S-8	7/14/68	9.4	S-8	7/13/68	9.4
S-8	4/3/71	7.2	S-8	7/15/68	5.2	S-8	7/14/68	9.4
S-8	4/4/71	7.2	S-8	7/29/68	5.8	S-8	2/1/68	9.5
S-8	11/30/67	7.4	S-8	9/17/68	40.3	S-7	6/10/68	9.6
S-8	3/27/69	8	S-1	10/7/68	5.7	S-8	1/13/69	9.6
S-8	7/14/69	8	S-7	10/16/68	12.7	S-3	5/14/68	9.7
S-8	2/3/69	8.4	S-51	10/30/68	8.1	S-6	4/16/68	9.7
S-8	8/6/69	8.5	S-6	10/31/68	6.1	S-7	5/27/68	9.8
S-8	12/19/69	8.5	S-8	11/22/68	44.8	S-1	8/7/67	9.9
S-8	12/20/69	8.5	S-8	11/23/68	44.8	S-3	1/13/65	9.9
S-8	12/21/69	8.5	S-8	11/24/68	44.8	S-6	7/15/71	10.4
S-8	12/12/68	8.6	S-8	11/25/68	35.1	S-1	9/6/66	10.6
S-8	4/15/68	9	S-8	12/3/68	23.6	S-7	1/9/69	10.7
S-8	3/20/69	9.1	S-8	12/4/68	6.2	S-8	6/24/69	10.8
S-8	12/30/68	9.2	S-8	12/5/68	261.5	S-8	1/3/68	10.9
S-8	7/12/68	9.4	S-50	12/11/68	7.8	S-8	1/23/69	11
S-8	7/13/68	9.4	S-8	12/11/68	35.7	S-8	2/5/69	11
S-8	7/14/68	9.4	S-8	12/12/68	8.6	S-8	3/4/69	11.1
S-8	2/1/68	9.5	S-7	12/30/68	8.4	S-7	5/8/68	11.2
S-8	1/13/69	9.6	S-8	12/30/68	9.2	S-8	1/26/67	12
S-8	6/24/69	10.8	S-8	12/31/68	22.2	S-6	7/10/69	12.2
S-8	1/3/68	10.9	S-8	1/1/69	22.2	S-7	10/16/68	12.7
S-8	1/23/69	11	S-8	1/2/69	36.7	S-8	6/26/69	12.7
S-8	2/5/69	11	S-8	1/3/69	38.8	S-8	6/25/69	12.9
S-8	3/4/69	11.1	S-8	1/4/69	38.8	S-8	4/2/68	13.1
S-8	1/26/67	12	S-8	1/5/69	38.8	S-6	1/7/69	13.4
S-8	6/26/69	12.7	S-5	1/6/69	6.2	S-8	12/5/67	13.7
S-8	6/25/69	12.9	S-8	1/6/69	215	S-8	3/28/68	13.9
S-8	4/2/68	13.1	S-6	1/7/69	13.4	S-8	1/10/69	14
S-8	12/5/67	13.7	S-7	1/7/69	130.3	S-8	1/11/69	14
S-8	3/28/68	13.9	S-8	1/7/69	422.2	S-8	1/12/69	14
S-8	1/10/69	14	S-7	1/9/69	10.7	S-8	4/1/68	14.1
S-8	1/11/69	14	S-8	1/9/69	24	S-8	10/19/67	14.6
S-8	1/12/69	14	S-8	1/10/69	14	S-8	1/17/69	15
S-8	4/1/68	14.1	S-8	1/11/69	14	S-8	1/18/69	15
S-8	10/19/67	14.6	S-8	1/12/69	14	S-8	1/19/69	15
S-8	1/17/69	15	S-8	1/13/69	9.6	S-8	4/3/69	15
S-8	1/18/69	15	S-8	1/15/69	19.1	S-8	4/4/69	15
S-8	1/19/69	15	S-8	1/17/69	15	S-8	4/5/69	15
S-8	4/3/69	15	S-8	1/18/69	15	S-8	4/6/69	15
S-8	4/4/69	15	S-8	1/19/69	15	S-7	5/22/68	15.3
S-8	4/5/69	15	S-8	1/21/69	15.3	S-8	1/21/69	15.3

Historical Public Exposures Studies on Rocky Flats Phase II
Task 4 Evaluation of Historical Environmental Data

Table B-5. (cont.)

Sorted by Station			Sorted by Date			Sorted by cpm		
Station	Date	net cpm	Station	Date	net cpm	Station	Date	net cpm
S-8	4/6/69	15	S-8	1/23/69	11	S-8	6/14/68	16.9
S-8	1/21/69	15.3	S-8	1/24/69	22.7	S-8	6/15/68	16.9
S-8	6/14/68	16.9	S-8	1/25/69	22.7	S-8	6/16/68	16.9
S-8	6/15/68	16.9	S-8	1/26/69	22.7	S-8	1/31/69	16.9
S-8	6/16/68	16.9	S-8	1/29/69	55.6	S-8	2/1/69	16.9
S-8	1/31/69	16.9	S-8	1/30/69	654.3	S-8	2/2/69	16.9
S-8	2/1/69	16.9	S-8	1/31/69	16.9	S-8	10/23/67	18.1
S-8	2/2/69	16.9	S-8	2/1/69	16.9	S-7	2/18/69	18.2
S-8	10/23/67	18.1	S-8	2/2/69	16.9	S-7	4/10/69	18.2
S-8	6/3/68	19	S-8	2/3/69	8.4	S-8	6/3/68	19
S-8	1/15/69	19.1	S-8	2/4/69	5.1	S-8	1/15/69	19.1
S-8	12/22/64	19.6	S-8	2/5/69	11	S-8	12/22/64	19.6
S-8	5/7/68	20	S-8	2/7/69	7.2	S-7	6/4/68	19.9
S-8	4/24/69	21.7	S-8	2/8/69	7.2	S-8	5/7/68	20
S-8	12/31/68	22.2	S-8	2/9/69	7.2	S-8	4/24/69	21.7
S-8	1/1/69	22.2	S-7	2/18/69	18.2	S-8	12/31/68	22.2
S-8	1/24/69	22.7	S-8	2/24/69	32.3	S-8	1/1/69	22.2
S-8	1/25/69	22.7	S-8	3/4/69	11.1	S-8	1/24/69	22.7
S-8	1/26/69	22.7	S-8	3/6/69	6.3	S-8	1/25/69	22.7
S-8	6/4/68	23	S-8	3/18/69	23.7	S-8	1/26/69	22.7
S-8	12/3/68	23.6	S-8	3/19/69	154.6	S-8	6/4/68	23
S-8	3/18/69	23.7	S-8	3/20/69	9.1	S-8	12/3/68	23.6
S-8	3/26/68	23.9	S-8	3/27/69	8	S-8	3/18/69	23.7
S-8	1/9/69	24	S-8	4/3/69	15	S-8	3/26/68	23.9
S-8	2/13/67	25.3	S-8	4/4/69	15	S-8	1/9/69	24
S-8	3/27/68	25.4	S-8	4/5/69	15	S-8	2/13/67	25.3
S-8	5/6/68	26.5	S-8	4/6/69	15	S-8	3/27/68	25.4
S-8	12/15/64	29	S-8	4/7/69	67.2	S-8	5/6/68	26.5
S-8	2/24/69	32.3	S-7	4/10/69	18.2	S-8	12/15/64	29
S-8	4/11/68	34.9	S-8	4/24/69	21.7	S-8	2/24/69	32.3
S-8	4/12/68	34.9	S-7	5/19/69	7.9	S-8	4/11/68	34.9
S-8	4/13/68	34.9	S-8	6/6/69	5.3	S-8	4/12/68	34.9
S-8	4/14/68	34.9	S-8	6/7/69	5.3	S-8	4/13/68	34.9
S-8	11/25/68	35.1	S-8	6/8/69	5.3	S-8	4/14/68	34.9
S-8	12/11/68	35.7	S-8	6/24/69	10.8	S-8	11/25/68	35.1
S-8	3/18/68	36.3	S-8	6/25/69	12.9	S-8	12/11/68	35.7
S-8	1/2/69	36.7	S-8	6/26/69	12.7	S-8	3/18/68	36.3
S-8	1/3/69	38.8	S-6	7/10/69	12.2	S-8	1/2/69	36.7
S-8	1/4/69	38.8	S-8	7/14/69	8	S-8	1/3/69	38.8
S-8	1/5/69	38.8	S-8	8/6/69	8.5	S-8	1/4/69	38.8
S-8	9/17/68	40.3	S-8	12/19/69	8.5	S-8	1/5/69	38.8
S-8	11/22/68	44.8	S-8	12/20/69	8.5	S-6	6/4/68	39
S-8	11/23/68	44.8	S-8	12/21/69	8.5	S-8	9/17/68	40.3
S-8	11/24/68	44.8	S-8	2/3/70	5.5	S-8	11/22/68	44.8
S-8	1/29/69	55.6	S-7	2/24/70	8.9	S-8	11/23/68	44.8

Table B-5. (cont.)

Sorted by Station			Sorted by Date			Sorted by cpm		
Station	Date	net cpm	Station	Date	net cpm	Station	Date	net cpm
S-8	4/7/69	67.2	S-8	2/26/70	5.1	S-8	11/24/68	44.8
S-8	12/6/67	67.9	S-10	6/8/70	5.9	S-5	6/18/70	54.5
S-8	5/13/68	86.1	S-1	6/16/70	9.2	S-8	1/29/69	55.6
S-8	3/19/69	154.6	S-5	6/17/70	5.1	S-8	4/7/69	67.2
S-8	1/6/69	215	S-5	6/18/70	54.5	S-8	12/6/67	67.9
S-8	12/5/68	261.5	S-6	6/18/70	6.6	S-8	5/13/68	86.1
S-8	1/7/69	422.2	S-7	8/13/70	7.1	S-7	1/7/69	130.3
S-8	1/30/69	654.3	S-8	4/2/71	7.2	S-8	3/19/69	154.6
S-10	6/8/70	5.9	S-8	4/3/71	7.2	S-8	1/6/69	215
S-50	8/17/71	5.5	S-8	4/4/71	7.2	S-8	12/5/68	261.5
S-50	12/11/68	7.8	S-6	7/15/71	10.4	S-8	1/7/69	422.2
S-51	10/30/68	8.1	S-50	8/17/71	5.5	S-8	1/30/69	654.3

**Table B-6. Monthly Average Concentrations (fCi m⁻³) of Total Long-Lived Alpha Activity in Onsite Air Samples Between October 1964 and December 1971
(Reconstructed from Daily Measurements)**

	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-50	S-51
Oct-64	2	6	2	4	4	3	3	11	6	4		
Nov-64	1	2	6	1	2	2	2	16	3	2		
Dec-64	2	3	4	2	7	4	3	79	4	3		
Jan-65	2	2	11	3	7	2	2	8	3	2		
Feb-65	3	2	2	4	4	4	3	4	2	3		
Mar-65	5	3	3	5	3	5	2	2	3	3		
Apr-65	5	3	2	2	2	3	3	5	2	2		
May-65	3	13	1	3	4	5	3	4	2	3		
Jun-65	4	2	2	2	4	5	2	8	2	2		
Jul-65	4	2	2	2	3	6	2	9	1	3		
Aug-65	4	1	2	3	3	4	2	5	2	3		
Sep-65	5	3	3	3	7	5	0	5	2	4		
Oct-65	3	3	3	1	2	4	2	3	3	2		
Nov-65	10	3	3	2	4	4	2	9	3	4		
Dec-65	4	7	7	6	14	13	5	7	4	9		
Jan-66	11	6	4	2	8	4	3	12	6	14		
Feb-66	3	2	3	5	6	2	1	11	3	4		
Mar-66	4	2	4	3	3	3	2	11	5	3		
Apr-66	3	2	3	4	4	4	2	6	3	2		
May-66	4	4	4	3	6	5	5	5	7	7		
Jun-66	7	5	4	2	3	13	8	12	6	8		
Jul-66	7	6	4	4	6	6	5	11	7	6		
Aug-66	15	7	4	12	7	11	8	13	8	6		
Sep-66	28	8	9	12	18	16	5	10	7	8		
Oct-66	11	4	4	7	8	8	9	10	7	4		
Nov-66	7	2	3	16	8	6	6	13	5	3		
Dec-66	7	4	5	14	10	12	4	8	8	6		
Jan-67	8	4	7	15	13	7	6	22	23	8		
Feb-67	5	6	6	22	8	8	13	38	6	4		
Mar-67	6	1	5	11	7	8	5	9	5	3		
Apr-67	3	3	6	6	10	7	3	11	5	7		
May-67	9	4	7	8	9	12	8	9	6	5		
Jun-67	10	5	8	13	14	11	17	18	5	5		
Jul-67	15	5	7	8	11	14	28	19	9	3		
Aug-67	27	6	15	10	11	17	28	26	10	12		
Sep-67	5	3	3	6	4	14	14	22	4	5		
Oct-67	5	3	7	7	5	15	24	99		7		
Nov-67	6	5	10	6	4	9	8	49		7		
Dec-67	9	7	17	7	3	3	9	92		4		
Jan-68	8	4	12	5	6	3	8	29		5		
Feb-68	15	9	23	12	7	6	10	33		11		
Mar-68	14	18	22	8	9	17	11	116		28		
Apr-68	16	11	13	9	6	27	31	182		10		
May-68	8	9	17	10	7	21	70	155		8		
Jun-68	6	6	8	12	4	51	68	110		18		
Jul-68	5	4	7	4	4	14	14	31		3		

Table B-6. (continued) Monthly Average Concentrations (fCi m⁻³) of Total Long-Lived Alpha Activity in Onsite Air Samples Between October 1964 and December 1971 (Reconstructed from Daily Measurements)

	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-50	S-51
Aug-68	9	6	8	5	7	9	10	17		4		
Sep-68	6	6	7	5	5	4	9	50		3		
Oct-68	12	7	8	6	4	11	19	33		3	7	11
Nov-68	7	4	6	3	7	9	6	168		4	4	2
Dec-68	11	6	4	8	6	6	20	357		3	11	3
Jan-69	10	6	9	7	10	15	127	1525		3	7	5
Feb-69	6	4	8	5	5	4	23	129		3	4	3
Mar-69	7	4	3	5	4	2	4	208		2	5	3
Apr-69	7	3	5	3	6	3	22	148	4	4	5	6
May-69	5	11	9	9	9	17	21	28	10	6	9	6
Jun-69	4	4	7	4	4	7	9	68	4	4	7	3
Jul-69	15	7	7	7	4	20	7	20	4	4	11	6
Aug-69	4	6	5	6	5	7	7	22	5	3	6	9
Sep-69	6	6	5	5	6	5	6	19	4	3	5	5
Oct-69	6	3	5	18	3	5	3	12	2	3	3	3
Nov-69	3	2	4	5	4	3	2	12	2	3	4	4
Dec-69	5	4	5	7	4	2	4	32	7	5	4	4
Jan-70	3	2	4	4	4	3	3	12	3	4	2	3
Feb-70	2	4	5	4	3	4	13	33	3	6	2	7
Mar-70	3	4	4	15	3	5	4	10	4	4	3	5
Apr-70	10	5	5	7	9	7	5	7	2	3	5	3
May-70	9	4	5	3	4	4	2	10	1	4	4	4
Jun-70	14	7	12	9	57	13	7	10	4	13	7	10
Jul-70	7	5	1	3	2	2	2	4	3	3	4	4
Aug-70	3	4	2	3	2	4	10	4	3	4	2	5
Sep-70	2	6	6	3	3	3	3	5	3	4	4	4
Oct-70	5	3	5	4	3	4	2	5	3	4	3	4
Nov-70	2	6	3	3	5	4	1	3	2	2	4	2
Dec-70	3	4	3	3	3	3	6	5	2	3	4	2
Jan-71	4	4	3	2	3	4	7	5	4	4	4	4
Feb-71	3	4	2	4	4	3	6	7	4	5	3	5
Mar-71	5	4	4	5	3	3	8	8	4	5	8	4
Apr-71	4	4	5	7	4	3	3	26	4	5	5	5
May-71	5	4	5	3	4	6	4	9	4	5	5	4
Jun-71	4	3	4	5	5	4	4	10	4	7	7	4
Jul-71	4	3	5	4	4	12	3	12	3	2	4	2
Aug-71	4	4	6	4	3	3	4	8	4	3	9	4
Sep-71	5	3	6	3	3	3	2	6	3	4	6	3
Oct-71	5	4	4	3	6	3	2	12	2	5	7	5
Nov-71	3	4	6	3	5	5	3	10	2	4	5	4
Dec-71	4	5	4	3	3	4	4	6	3	4	5	4

Table B-7. Relatively High Counts (≥ 1 cpm Net Total Long-Lived Alpha) in Community Air Samples, from 1966 (first three quarters) and 1968–1971

Date Sample On	Date Sample Off	Sampling duration (days)	Sampling Midpoint Date	Counting Date	Decay Time (days)	TLLa (Net cpm) ^a	Sampling Station Name
7/1/66	7/5/66	4	7/3/66	7/12/66	7	1.7	Marshall
7/5/66	8/2/66	28	7/19/66	8/9/66	7	1.0	Denver
8/2/66	8/30/66	28	8/16/66	9/7/66	8	2.1	Marshall
8/2/66	8/30/66	28	8/16/66	9/7/66	8	1.3	Wagner
8/2/66	8/30/66	28	8/16/66	9/7/66	8	1.1	Golden
None of these original data sheets were located for 1967.							
1/23/68	2/20/68	28	2/6/68	3/5/68	14	1.5	Westminster
1/23/68	2/20/68	28	2/6/68	3/5/68	14	9.2	Denver
1/23/68	2/20/68	28	2/6/68	3/5/68	14	1.0	Golden
1/23/68	2/20/68	28	2/6/68	3/5/68	14	1.9	Coal Creek
3/27/68	4/24/68	28	4/10/68	5/2/68	8	1.1	Wagner
7/24/68	8/21/68	28	8/7/68	na	na	1.1	Boulder
8/21/68	9/25/68	35	9/7/68	10/2/68	7	1.4	Lafayette
8/21/68	9/25/68	35	9/7/68	10/2/68	7	1.4	Westminster
9/25/68	10/23/68	28	10/9/68	10/31/68	8	1.0	Westminster
11/20/68	12/17/68	27	12/3/68	12/27/68	10	1.1	Denver
12/17/68	1/22/69	36	1/4/69	1/30/69	8	1.0	Marshall
3/19/69	4/23/69	35	4/5/69	5/1/69	8	1.0	Coal Creek
7/25/69	8/1/69	7	7/28/69	8/11/69	10	3.3 ^b	Marshall
7/25/69	8/1/69	7	7/28/69	8/11/69	10	1.9	Broomfield
7/25/69	8/1/69	7	7/28/69	8/11/69	10	1.0	Denver
4/3/70	4/10/70	7	4/6/70	4/20/70	10	1.06	Marshall
4/10/70	4/17/70	7	4/13/70	4/27/70	10	1.13	Westminster
5/1/70	5/8/70	7	5/4/70	5/18/70	10	1.26	Marshall
5/22/70 ^c	5/28/70	6	5/25/70	6/8/70	11	1.0	Marshall
2/5/71	2/12/71	7	2/8/71	2/22/71	10	1.0	Golden
9/24/71	10/1/71	7	9/27/71	10/11/71	10	1.6	Golden

^aThe counter background ranged from 0 to 1 cpm in 1966 and from 0 to 0.9 cpm in 1968–1971.

^bIllegible handwritten comment over this value on the data sheet.

^cHigh counts were obtained for samples collected 6/12/70. However, the technician notes on the data sheet that this week's delayed counts are "not dependable". This seems warranted, as the net count rates after 1-week decay time were higher than those taken on the same filters at three days after collection. The word "omit" is also written across the data sheet for the next week's samples (collected on 6/19/70), where the same problem apparently occurred.

Table B-8. Rocky Flats Air Monitoring Program 1971-1991

Year	OnSite/ Offsite	Locations	Hi/Low Vol	Sampling Frequency	Collection Frequency	Filter Type	Analysees			Notes
							Alpha	Beta	Other	
1971	On	1-10, 50, 51	L	continuous	daily	NS	X			Stetchy report; monthly avgs for individual stations provided.
	On	903 pad	H	grab	4 inch paper			X		Annual summaries for stations also provided.
	Off	9 communities	L	10 min/hr	weekly	NS	X		X?	does not specify which offsite stations analyzed for Be
	Off	(11, 13, 15-18, 20, 23, 25)	H	continuous	daily	4 inch paper			X	no info on analytical techniques or data reduction
1972	Off	26-37	H	continuous	daily	4 inch paper			X	
	Off	11, 18	H	grab	4 inch paper				X	
	On	1-10, 50, 51	L	continuous	daily	Whatman41	X	X (1Mk)		onsite data presented as monthly avg for all stations combined
	Off	9 communities	L	10 min/hr	weekly	Whatman41	X	X		Provides weekly avg Pu for all offsite stations combined
1973	Off	11, 18	L	continuous	weekly	Whatman41	X	X		annual summaries also provided; no mention of Be monitoring
	Off	26-37	H	continuous	daily	Whatman41		X (WC)		data reduction discussed as footnote, MDC's provided
	On	1-10, 50, 51, 52	L	continuous	5 days/wk	Geiman E	X	X (1Mk)	X(MC)	For on and offsite low vols, data presented monthly by station
	Off	9 communities	L	continuous	weekly	Geiman E	X	X	X(MC)	Alpha: Jan-Jun, Pu, Jul-Dec, Beta: Jan-Dec
1974	Off	26-37	H	continuous	3 days/wk	Delbag			X (MC)	Offsite Hi Vol data presented monthly composite data by station
	On	1-10, 50, 51, 52	L	continuous	5 days/wk	Microsorban		X (1Mk)	X (MC)	MDC's provided, paragraph on data reduction
	On	S-22, S-51 (dup), AF-83, AC-84	H	continuous	weekly	Delbag Micro	X	X (1Mk)	X (MC)	For onsite: annual summaries of Pu and beta by station, no monthly data, no alpha data.
	Off	9 communities	L	continuous	weekly	Geiman E	X	X	X(MC)	For offsite: low and hi vol, annual summaries only
1975	Off	26, 27, 28, 31-37	H	continuous	3 days/wk	Delbag Micro			X (MC)	alpha data provided for offsite low vols, MDC's provided
	On	1-24 (new stations)	H*	continuous	weekly	Delbag Micro		X(MC)	X(MC)	onsite and offsite Pu data: annual summaries by station, a few para re: QC, analytical & data reduction procedures
	Off	10 communities	H*	continuous	weekly	Delbag Micro		X (MC)	X(MC)	onsite and offsite Beta data: December data only
	Off	31-44	H	continuous	weekly	Delbag Micro			X (MC)	no Be data provided
1976	On	1-24	H	continuous	weekly	Delbag Micro		X(BWC)	X(BWC)	Onsite and offsite Pu & Beta data: annual summaries by station.
	Off	12 communities	H	continuous	weekly	Delbag Micro		X(BWC)	X(BWC)	No Be data provided in report.
	Off	31-44	H	continuous	weekly	Delbag Micro			X(BWC)	
	On	2-24 (no S-1)	H	continuous	weekly	Delbag Micro	X		X(BWC)	If onsite alpha > 0.01 pCi/mv ³ , filter analyzed for Pu, 8 of onsite filters composited for Pu routinely.
1977	Off	12 communities	H	continuous	weekly	Delbag Micro			X(BWC)	Annual summaries of Pu data provided. No mention of Be.
	Off	31-44	H	continuous	weekly	Delbag Micro			X(BWC)	11 of 23 onsite filters composited for Pu routinely.
	On	2-24	H	continuous	weekly	Delbag Micro	X		X(MC)	Annual summaries of Pu data provided. No mention of Be.
	Off	12 communities	H	continuous	weekly	Delbag Micro			X(MC)	ref: filter eff. testing study. Chinese bomb tests Mar & Dec.
1979	On	2-24	H	continuous	weekly	Delbag Micro	X		X(BWC)	Onsite, Pu if alpha > 0.01 pCi/mv ³ , 9 of 23 Pu routinely.
	Off	9 communities	H	continuous	weekly	Delbag Micro			X(MC)	Annual summaries of Pu data provided. No mention of Be.
	Off	31-44	H	continuous	weekly	Delbag Micro			X(MC)	Nonrad ambient air monitoring preliminary testing began.
	Off	Mobile Van (MAAM)	H	preliminary work toward nonrad air monitoring	weekly	Delbag Micro		X	X(BWC)	CO, NOx, O3
1980	On	2-24	H	continuous	weekly	Delbag Micro			X(BWC)	Onsite, Pu if alpha > 0.01 pCi/mv ³ , 9 of 23 Pu routinely.
	On	S-4, S-5, S-16	L	continuous	weekly	silical gel			X(MC)	Annual summaries of Pu and H-3 data provided.
	Off	9 communities	H	continuous	weekly	Delbag Micro			X(MC)	No mention of Be.
	Off	31-44	H	continuous	weekly	Delbag Micro			X(MC)	
1981	On	Mobile Van (MAAM)	H	continuous	weekly	Delbag Micro			X(BWC)	TSP, CO, NO2, O3, SO2, normethane hydrocarbons
	On	2-24	H	continuous	weekly	Delbag Micro	X		X(BWC)	Onsite, Pu if alpha > 0.01 pCi/mv ³ , 9 of 23 Pu routinely.
	Off	S-4, S-5, S-16	L	continuous	weekly	silical gel			X(MC)	Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	9 communities	H	continuous	weekly	Delbag Micro			X(MC)	
1982	On	Mobile Van (MAAM)	H	continuous	weekly	Delbag Micro			X(BWC)	TSP, O3
	On	2-24	H	continuous	weekly	Delbag Micro	X		X(BWC)	Onsite, Pu if alpha > 0.01 pCi/mv ³ , 5 of 23 Pu routinely.
	Off	S-4, S-5, S-16	L	continuous	weekly	silical gel			X(MC)	Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	12 communities	H	continuous	weekly	Delbag Micro			X(MC)	

Table B-8. Rocky Flats Air Monitoring Program 1971-1991 (continued)

Year	OnSite/ Offsite	Locations	Hi/Low Vol	Sampling Frequency	Collection Frequency	Filter Type	Analyses			Notes	
							Alpha	Beta	Be		
1983	On	Mobile Van (MAAM) 2-24	Van was stationed near east entrance of plant	continuous	biweekly	Scheuch & Schuell fiberglass	X			TSP, O3, SO2, lead	Onsite, Pu if alpha > 0.01 pCi/m ³ , 5 of 23 Pu routinely. New samplers/filters, flow rate reduced from 40 to 25 cfm
	On	S-4, S-5, S-16 12 communities		continuous	weekly	silical gel					Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	31-44		continuous	biweekly	S&S fiberglass	X(MC)				
	Off	Mobile Van (MAAM)	Van was stationed near east entrance of plant	continuous	biweekly	S&S fiberglass	X(MC)				
1984	On	2-24	Van was stationed near east entrance of plant	continuous	biweekly	S&S fiberglass	X				TSP, O3, SO2, NO2, lead, CO
	On	S-4, S-5, S-16 13 communities		continuous	weekly	silical gel					Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	31-44		continuous	biweekly	S&S fiberglass	X(MC)				
	Off	Mobile Van (MAAM)	page missing from report (assume location is near east entrance)	continuous	biweekly	S&S fiberglass	X(MC)				
1985	On	2-24	Van was stationed near east entrance of plant	continuous	biweekly	S&S fiberglass	X				TSP, O3, SO2, NO2, lead, CO
	On	S-4, S-5, S-16 14 communities		continuous	weekly	silical gel					Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	31-44		continuous	biweekly	S&S fiberglass	X(MC)				
	Off	Mobile Van (MAAM)	Van was stationed near east entrance of plant	continuous	biweekly	S&S fiberglass	X(MC)				
1986	On	2-24	Van was stationed near east entrance of plant	continuous	biweekly	S&S fiberglass	X				TSP, O3, SO2, NO2, lead, CO
	On	S-4, S-5, S-16 14 communities		continuous	weekly	silical gel					Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	31-44		continuous	biweekly	S&S fiberglass	X(MC)				
	Off	Monitoring shelter	Located near east entrance of plant	continuous	biweekly	S&S fiberglass	X(MC)				
1987	On	2-24	Van was stationed near east entrance of plant	continuous	biweekly	fiberglass	X				TSP, O3, SO2, NO2, lead, CO
	On	S-4, S-5, S-16 14 communities		continuous	weekly	silical gel					Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	31-44		continuous	biweekly	fiberglass	X(MC)				
	Off	Monitoring Shelter	Located near east entrance of plant	continuous	biweekly	fiberglass	X(MC)				
1988	On	2-24	Van was stationed near east entrance of plant	continuous	biweekly	fiberglass	X				TSP, O3, SO2, NO2, lead, CO
	On	S-4, S-5, S-16 14 communities		continuous	weekly	silical gel					Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	31-44		continuous	biweekly	fiberglass	X(MC)				
	Off	Monitoring Shelter	Located near east entrance of plant	continuous	biweekly	fiberglass	X(MC)				
1989	On	2-24	Van was stationed near east entrance of plant	continuous	biweekly	fiberglass	X				TSP, O3, SO2, NO2, lead, CO
	On	S-4, S-5, S-16 14 communities		continuous	weekly	silical gel					Annual summaries of Pu and H-3 data provided with 95% confidence intervals.
	Off	31-44		continuous	biweekly	fiberglass	X(MC)				
	Off	Monitoring Shelter	Located near east entrance of plant	continuous	biweekly	fiberglass	X(MC)				
1990	On	1-24 and S-8B	Located near east entrance of plant	continuous	biweekly	fiberglass	X(MC)				TSP, PM-10
	Off	14 communities		continuous	biweekly	fiberglass	X(MC)				No mention of alpha.
	Off	31-44		continuous	biweekly	fiberglass	X(MC)				No mention of tritium sampling
1991	On	Monitoring Shelter	Located near east entrance of plant	continuous	biweekly	fiberglass	X(MC)				TSP, PM-10
	On	1-11, 13, 14, 16-25 14 communities		continuous	biweekly	fiberglass	X(MC)				No mention of alpha.
	Off	31-44		continuous	biweekly	fiberglass	X(MC)				No mention of tritium sampling
	On	Monitoring Shelter	Located near east entrance of plant	continuous	biweekly	fiberglass	X(MC)				TSP, PM-10

BWC = Biweekly composite
MC = Monthly composite
NS = not specified
PM-10 = respirable particles < 10 µm
TSP = total suspended particulates
WC = Weekly composite

**Table B-9. Changes in Ambient Air Monitoring Station
Numbers in the Early 1970s**

Station Number in Previous Year Corresponding to Same Location in 1975				Description of Location, December 1975
1971-1972	1973	1974	1975	
S-1	S-1	S-1	S-1	Building 123, Northwest corner
S-2	S-2	S-2	S-2	Building 551, Northeast corner
S-3	S-3	S-3	S-3	North perimeter road
S-4	S-4	S-4	S-4	Northeast perimeter road
S-5	S-5	S-5	S-5	South of northeast perimeter road
S-50	S-50	S-50	S-6	East of Building 995
S-8	S-8	S-8	S-7	East perimeter road, south of 900 guard post
*	*	AC-84	S-8	East perimeter road, south of 900 guard post
*	*	AF-83	S-9	East perimeter road, south of 900 guard post
*	*	*	S-10	Southeast perimeter road
*	*	*	S-11	Southwest of Building 881
S-10	S-10	S-10	S-12	Northwest corner of Building 881 parking lot
*	*	*	S-13	South of Building 440, south of Cactus Avenue
*	*	*	S-14	North of West guard post
*	*	*	S-15	Corner of Northwest perimeter road and Sage Avenue
*	S-52	S-52	S-16	Northwest perimeter road
S-9	S-9	S-9	S-17	South of Building 708, South of Sage Avenue
S-7	S-7	S-7	S-18	South of Central Avenue
S-6	S-6	S-6	S-19	North of Central Avenue, East of 991 Drive
S-51	S-51	S-51	*	
*	*	*	S-20	Roof of Building 991, North side
*	*	*	S-21	Near road to "A" series ponds, north of perimeter fence
*	*	S-22	S-22	Near Pond A-1 inlet
*	*	*	S-23	Woman Creek West of Pond C-1
*	*	*	S-24	Pond A-3 outlet

*No sampler at equivalent location. Numbering changes determined from maps in annual environmental reports. Description of locations from Appendix II of December 1975 Monthly Environmental Report (Hornbacher 1976).

Table B-10. Annual Average Concentrations (fCi m⁻³) of Plutonium in Air for Three Location Groups, Rocky Flats Contractor Monitoring (1971–1990)^a

	Onsite ^b	Perimeter	Community
1971		0.26	
1972		0.14	
1973	0.274	0.05	0.26
1974	0.892	0.058	0.34
1975	0.517	0.037	0.031
1976	0.698	0.015	0.013
1977	0.393	0.038	0.037
1978	0.446	0.06	0.06
1979	0.278	0.02	0.02
1980	0.252	0.01	0.01
1981	0.287	0.018	0.019
1982	0.244	0.005	0.006
1983	0.226	0.003	0.007
1984	0.257	0.005	0.005
1985	0.235	0.002	0.002
1986	0.225	0.005	0.003
1987	0.639	0.005	0.003
1988	0.529	0.003	0.002
1989	0.363	0.001	0.001
1990	0.102	0.002	0.001

^a Obtained from Rocky Flats Plant contractor annual reports. Data are plotted as a line chart in Chapter III.

^b Onsite samples are the average of locations S-5, S-6, S-7, S-8, and S-9, as numbered in 1975.

Table B-11. Annual Average Concentrations (fCi m⁻³) of Plutonium in Onsite Air, Rocky Flats Contractor Monitoring (1973–1977)

Location ^a	1973	1974	1975	1976	1977
S-1	1.114	0.3	0.053	0.017	
S-2	0.19	0.365	0.176	0.021	
S-3	0.254	0.197	0.048	0.025	
S-4	0.258	0.293	0.104	0.047	
S-5	0.077	0.121	0.099	0.578	0.233
S-6	0.699	0.631	0.972	0.485	0.365
S-7	2.297	3.17	0.565	0.544	0.244
S-8		1.115	0.461	0.531	0.532
S-9		1.153	0.488	1.352	0.592
S-10			0.016	0.025	
S-11			0.016	0.019	
S-12	0.378	0.429	0.042	0.039	
S-13			0.009	0.032	
S-14			0.015	0.017	
S-15			0.032	0.02	
S-16	0.507	0.415	0.064	0.029	
S-17	0.248	0.511	0.053	0.057	
S-18	0.588	0.836	0.124	0.037	
S-19			0.05	0.077	0.068
S-20	6.509	0.118	0.085	0.383	0.095
S-21			0.03	0.062	0.061
S-22		0.023	0.039	0.019	
S-23			0.017	0.038	
S-24			0.064	0.063	

^a Station locations as they were numbered in 1975. Data from annual environmental reports.

Table B-12. ²³⁹Pu Activity in Air Samples (fCi m⁻³) Collected at 5, 10, 15, 20 and 25 feet above the Ground, East of the 903 Pad ^a

Date	Source ^b	5 feet	10 feet	15 feet	20 feet	25 feet
02/27/70	log	140		532		
03/2/70	log	651		150		51
03/4/70	log	2.4		11.8		5.3
03/23/70	log		4.6	1	1.9	0.6
03/24/70	log	2.4	0.6	0.3	0.4	0.4
04/6/70	log	252.5	27	20.8	287.6	191.3
04/22/70	log	847	46.4	15.5	11.6	0.1
04/29/70	log		2.6	0.7	0.1	0.2
05/6/70	log		2.9	1.8		4.5
05/14/70	log		0.9	1.3	1.1	5.2
05/20/70	log		0.1	0.8	0.5	0.3
05/26/70	log		0.1	0.1	0.1	
06/4/70	log/rep.		5.6	2.7	2.1	2.8
06/10/70	log/rep.		19	4.4	1.4	5.1
06/17/70	log/rep.		0.6	2.7	0.2	19.1
06/24/70	log/rep.		6	4	2	0.1
07/1/70	log/rep.		4	1.1	2.9	3.3
07/8/70	log/rep.	3.4	2	1.8	1.6	3.6
07/15/70	log	5	0.8	0.1	0.39	4
07/22/70	log/rep.	33	16	9		
07/29/70	log/rep.	1	0.1	2		
08/5/70	log/rep.	3	1	1	2	1
08/12/70	log/rep.	1.1	0.1	0.1	0.1	0.1
08/19/70	log/rep.	1.1	0.8	0.8	3.4	2.1
08/26/70	log/rep.	1	2	0.4	0.1	0.1
09/2/70	log/rep.	0.3	0.1	0.2	0.1	
09/9/70	log/rep.	2.3	0.9	2.3	2.4	
09/17/70	log/rep.	0.9	0.5	0.7	0.5	
09/23/70	log/rep.	0.6	0.1	1.1	0.7	
09/30/70	log/rep.	0.6	0.3	0.6	0.1	
10/7/70	log/rep.	0.2	0.2	1.8	0.1	
10/15/70	log/rep.	2.1	3.2	3.4	1.8	
10/22/70	log/rep.	1.2	1.9	0.9	2.5	
10/29/70	log/rep.	1.3	0.1	0.1	0.6	
11/4/70	log/rep.	3.9	0.1	0.5	0.6	
11/12/70	log/rep.	0.3	0.6	0.2	0.4	
11/19/70	log/rep.	3.8	0.2	0.2	0.6	
11/25/70	log/rep.	1.7	0.2	0.5	0.2	
12/2/70	log/rep.	0.7	1.4	0.7	1.3	
12/9/70	log/rep.	0.2	0.1	0.4	0.9	
12/16/70	log/rep.	0.7	0.8	0.3	0.4	
12/23/70	log/rep.	0.1	0.5	0.1	0.4	
12/30/70	log/rep.	0.4	0.1	0.3	8.1	

Table B-12. ²³⁹Pu Activity in Air Samples (fCi m⁻³) Collected at 5, 10, 15, 20 and 25 feet above the Ground, East of the 903 Pad (continued)

Date	Source^b	5 feet	10 feet	15 feet	20 feet	25 feet
1/6/71	log/rep.	0.1	0.4	0.1	0.7	
01/13/71	log/rep.	0.1	0.1	0.1	0.1	
01/19/71	log/rep.	0.2	1.1	0.3	0.3	
01/27/71	log/rep.	0.5	0.5	0.1	1	
02/3/71	log/rep.	4.3	5.3	4.5	5.1	
02/11/71	log/rep.	0.7	3.6	2.6	0.4	
02/16/71	log/rep.	0.9	0.1	0.4	0.7	
02/25/71	report	1.1	0.4	0.2	0.1	
03/4/71	report	0.1	1.5	0.3	0.2	
03/9/71	report	0.8	2.7	0.5	0.4	
03/17/71	report	0.5	1.4	0.5	0.8	
03/23/71	report	0.2	0.2	0.2	0.8	
04/2/71	report	0.1	11.1	23.8	10.7	
04/5/71	report	5	1.5	ns	ns	
04/7/71	report	1	0.3	0.3	0.8	
04/14/71	report	0.5	0.7	0.5	0.5	
04/21/71	report	0.6	0.5	0.5	0.7	
04/28/71	report	0.7	0.5	0.5	0.5	
05/12/71	report	0.8	0.5	0.5	ns	
05/19/71	report	0.5	0.6	0.5	2.2	
05/25/71	report	0.6	0.5	0.5	0.5	
06/3/71	report	1.9	1.6	2.1	1.2	
06/10/71	report	2.4	2.3	2.5	9.9	
06/15/71	report	49.6	0.9	1.6	0.5	
06/22/71	report	0.9	0.5	2.6	0.9	
07/7/71	report	ns	1.4	0.5	0.5	
07/15/71	report	0.5	0.5	5.2	0.5	
07/22/71	report	1.4	1	6.6	2.7	
07/28/71	report	1.1	1.9	5	0.6	
08/4/71	report	0.9	0.8	27.9	4.5	
08/11/71	report	2.2	2.8	0.9	2.9	
08/18/71	report	4.5	0.6	8.4	ns	
08/25/71	report	1.1	0.6	1.3	3.2	
09/1/71	report	0.5	1	7.2	0.3	
09/8/71	report	3.7	ia	1.2	5.4	
09/15/71	report	0.4	1.4	ia	7	
09/22/71	report	ia	ia	17	18	
09/29/71	report	ns	ia	8.7	0.4	
10/6/71	report	ns	ia	3	4.4	
10/13/71	report	ns	ia	1	3.2	
10/20/71	report	ns	ns	lost	0.6	
10/27/71	report	ns	0.5	50.8	0.4	
11/3/71	report	ns	0.4	0.6	7.7	
11/10/71	report	5.6	2.4	1.2	2.1	

Table B-12. ²³⁹Pu Activity in Air Samples (fCi m⁻³) Collected at 5, 10, 15, 20 and 25 feet above the Ground, East of the 903 Pad (continued)

Date	Source ^b	5 feet	10 feet	15 feet	20 feet	25 feet
11/15/71	report	0.7	0.4	0.4	0.5	
11/24/71	report	8.3	2.7	0.8	1.2	
12/3/71	report	2.5	2.2	2.1	7.6	
12/8/71	report	2.9	4.7	ia	9.7	
12/15/71	report	1	3.6	2	7.8	
12/22/71	report	9.3	4	2	2	
01/6/72	report	2.4	44.4	49	5.5	
01/13/72	report	3	13.1	7.2	5.9	
01/26/72	report	2	31.1	8.7	5.3	
02/2/72	report	3.7	6.1	2	7.1	
01/19/72	report	7	6.1	5.5	5.5	
02/9/72	report	2		3.3	2.3	
02/16/72	report	2	35.2	12.8	8.2	
02/24/72	report	1.5	2	2	4.1	
03/1/72	report	9.8		3		
03/8/72	report	2	2	2	5.9	
03/15/72	report	2	2	3.4	6	
03/22/72	report	0.4	1	0.4	0.4	
03/29/72	report	3.6	3.3	0.4	2	
04/5/72	report	0.4	6	0.4	0.8	

^a Using high-volume air samplers. ns = no sample taken; ia = incomplete analysis; blank = no data reported and no indication of reason.

^b Log data from Anonymous (1970–1971; report (“rep.”) from Dow (1970–1972).

Table B-13. Total ²³⁹Pu Activity in Air Samples (fCi m⁻³) Collected East of the 903 Area and the Fraction of the Total at Each Height above the Ground

Month/Day	Source ^a	Total	5ft/total	10ft/total	15ft/total	20ft/total	25ft/total
02/27/70	log	1344	0.10		0.40		0.50
03/2/70	log	852	0.76		0.18		0.06
03/4/70	log	19.5	0.12		0.61		0.27
03/23/70	log	8.1		0.57	0.12	0.23	0.07
03/24/70	log	4.1	0.59	0.15	0.07	0.10	0.10
04/6/70	log	779.2	0.32	0.03	0.03	0.37	0.25
04/22/70	log	920.6	0.92	0.05	0.02	0.01	
04/29/70	log	3.6		0.72	0.19	0.03	0.06
05/6/70	log	9.2		0.32	0.20		0.49
05/14/70	log	8.5		0.11	0.15	0.13	0.61
05/20/70	log	1.7		0.06	0.47	0.29	0.18
05/26/70	log	0.3		0.33	0.33	0.33	
06/4/70	log/rep.	13.2		0.42	0.20	0.16	0.21
06/10/70	log/rep.	29.9		0.64	0.15	0.05	0.17
06/17/70	log/rep.	22.6		0.03	0.12	0.01	0.85
06/24/70	log/rep.	12.1		0.50	0.33	0.17	0.01
07/1/70	log/rep.	11.3		0.35	0.10	0.26	0.29
07/8/70	log/rep.	12.4	0.27	0.16	0.15	0.13	0.29
07/15/70	log	10.29	0.49	0.08	0.01	0.04	0.39
07/22/70	log/rep.	58	0.57	0.28	0.16		
07/29/70	log/rep.	3.1	0.32	0.03	0.65		
08/5/70	log/rep.	8	0.38	0.13	0.13	0.25	0.13
08/12/70	log/rep.	1.5	0.73	0.07	0.07	0.07	0.07
08/19/70	log/rep.	8.2	0.13	0.10	0.10	0.41	0.26
08/26/70	log/rep.	3.6	0.28	0.56	0.11	0.03	0.03
09/2/70	log/rep.	0.7	0.43	0.14	0.29	0.14	
09/9/70	log/rep.	7.9	0.29	0.11	0.29	0.30	
09/17/70	log/rep.	2.6	0.35	0.19	0.27	0.19	
09/23/70	log/rep.	2.5	0.24	0.04	0.44	0.28	
09/30/70	log/rep.	1.6	0.38	0.19	0.38	0.06	
10/7/70	log/rep.	2.3	0.09	0.09	0.78	0.04	
10/15/70	log/rep.	10.5	0.20	0.30	0.32	0.17	
10/22/70	log/rep.	6.5	0.18	0.29	0.14	0.38	
10/29/70	log/rep.	2.1	0.62	0.05	0.05	0.29	
11/4/70	log/rep.	5.1	0.76	0.02	0.10	0.12	
11/12/70	log/rep.	1.5	0.20	0.40	0.13	0.27	
11/19/70	log/rep.	4.8	0.79	0.04	0.04	0.13	

Table B-13. Total ²³⁹Pu Activity in Air Samples (fCi m⁻³) Collected East of the 903 Area and the Fraction of the Total at Each Height above the Ground (continued)

Month/Day	Source ^a	Total	5ft/total	10ft/total	15ft/total	20ft/total	25ft/total
11/25/70	log/rep.	2.6	0.65	0.08	0.19	0.08	
12/2/70	log/rep.	4.1	0.17	0.34	0.17	0.32	
12/9/70	log/rep.	1.6	0.13	0.06	0.25	0.56	
12/16/70	log/rep.	2.2	0.32	0.36	0.14	0.18	
12/23/70	log/rep.	1.1	0.09	0.45	0.09	0.36	
12/30/70	log/rep.	8.9	0.04	0.01	0.03	0.91	
10/6/70	log/rep.	1.3	0.08	0.31	0.08	0.54	
01/13/71	log/rep.	0.4	0.25	0.25	0.25	0.25	
01/19/71	log/rep.	1.9	0.11	0.58	0.16	0.16	
01/27/71	log/rep.	2.1	0.24	0.24	0.05	0.48	
02/3/71	log/rep.	19.2	0.22	0.28	0.23	0.27	
02/11/71	log/rep.	7.3	0.10	0.49	0.36	0.05	
02/16/71	log/rep.	2.1	0.43	0.05	0.19	0.33	
02/25/71	report	1.8	0.61	0.22	0.11	0.06	
03/4/71	report	2.1	0.05	0.71	0.14	0.10	
03/9/71	report	4.4	0.18	0.61	0.11	0.09	
03/17/71	report	3.2	0.16	0.44	0.16	0.25	
03/23/71	report	1.4	0.14	0.14	0.14	0.57	
04/2/71	report	45.7		0.24	0.52	0.23	
04/5/71	report	6.5	0.77	0.23			
04/7/71	report	2.4	0.42	0.13	0.13	0.33	
04/14/71	report	2.2	0.23	0.32	0.23	0.23	
04/21/71	report	2.3	0.26	0.22	0.22	0.30	
04/28/71	report	2.2	0.32	0.23	0.23	0.23	
05/12/71	report	1.8	0.44	0.28	0.28		
05/19/71	report	3.8	0.13	0.16	0.13	0.58	
05/25/71	report	2.1	0.29	0.24	0.24	0.24	
06/3/71	report	6.8	0.28	0.24	0.31	0.18	
06/10/71	report	17.1	0.14	0.13	0.15	0.58	
06/15/71	report	52.6	0.94	0.02	0.03	0.01	
06/22/71	report	4.9	0.18	0.10	0.53	0.18	
07/7/71	report	2.4		0.58	0.21	0.21	
07/15/71	report	6.7	0.07	0.07	0.78	0.07	
07/22/71	report	11.7	0.12	0.09	0.56	0.23	
07/28/71	report	8.6	0.13	0.22	0.58	0.07	

Table B-13. Total ²³⁹Pu Activity in Air Samples (fCi m⁻³) Collected East of the 903 Area and the Fraction of the Total at Each Height above the Ground (continued)

Month/Day	Source ^a	Total	5ft/total	10ft/total	15ft/total	20ft/total	25ft/total
08/4/71	report	34.1	0.03	0.02	0.82		0.13
08/11/71	report	8.8	0.25	0.32	0.10		0.33
08/18/71	report	13.5	0.33	0.04	0.62		
08/25/71	report	6.2	0.18	0.10	0.21		0.52
09/1/71	report	9	0.06	0.11	0.80		0.03
09/8/71	report	10.3	0.36		0.12		0.52
09/15/71	report	8.8	0.05	0.16			0.80
09/22/71	report	35			0.49		0.51
09/29/71	report	9.1			0.96		0.04
10/6/71	report	7.4			0.41		0.59
10/13/71	report	4.2			0.24		0.76
10/20/71	report	0.6					1.00
10/27/71	report	51.7		0.01	0.98		0.01
11/3/71	report	8.7		0.05	0.07		0.89
11/10/71	report	11.3	0.50	0.21	0.11		0.19
11/15/71	report	2	0.35	0.20	0.20		0.25
11/24/71	report	13	0.64	0.21	0.06		0.09
12/3/71	report	14.4	0.17	0.15	0.15		0.53
12/8/71	report	17.3	0.17	0.27	0.00		0.56
12/15/71	report	14.4	0.07	0.25	0.14		0.54
12/22/71	report	17.3	0.54	0.23	0.12		0.12
01/6/72	report	101.3	0.02	0.44	0.48		0.05
01/13/72	report	29.2	0.10	0.45	0.25		0.20
01/26/72	report	47.1	0.04	0.66	0.18		0.11
02/2/72	report	18.9	0.20	0.32	0.11		0.38
01/19/72	report	24.1	0.29	0.25	0.23		0.23
02/9/72	report	7.6	0.26		0.43		0.30
02/16/72	report	58.2	0.03	0.60	0.22		0.14
02/24/72	report	9.6	0.16	0.21	0.21		0.43
03/1/72	report	12.8	0.77		0.23		
03/8/72	report	11.9	0.17	0.17	0.17		0.50
03/15/72	report	13.4	0.15	0.15	0.25		0.45
03/22/72	report	2.2	0.18	0.45	0.18		0.18
03/29/72	report	9.3	0.39	0.35	0.04		0.22
04/5/72	report	7.6	0.05	0.79	0.05		0.11

^aLog data from Anonymous (1970–1971; report (“rep.”) from Dow (1970–1972).

Table B-14. Annual Average Concentrations (fCi m⁻³) of ^{239,240}Pu in Denver Air, 1954–1989

Year	Average	5th percentile	95th percentile	Method of determination ^a
1954	7.9×10^{-2}	3.6×10^{-2}	1.9×10^{-1}	I
1955	1.0×10^{-1}	4.6×10^{-2}	2.4×10^{-1}	I
1956	1.3×10^{-1}	5.7×10^{-2}	3.0×10^{-1}	I
1957	1.3×10^{-1}	5.7×10^{-2}	3.0×10^{-1}	I
1958	1.8×10^{-1}	8.0×10^{-2}	4.2×10^{-1}	I
1959	2.4×10^{-1}	1.1×10^{-1}	5.8×10^{-1}	I
1960	3.7×10^{-2}	1.7×10^{-2}	8.9×10^{-2}	I
1961	7.4×10^{-2}	3.3×10^{-2}	1.7×10^{-1}	I
1962	2.5×10^{-1}	1.1×10^{-1}	5.9×10^{-1}	I
1963	6.1×10^{-1}	2.7×10^{-1}	1.4	I
1964	5.2×10^{-1}	2.4×10^{-1}	1.2	I
1965	6.8×10^{-2}	4.5×10^{-2}	8.0×10^{-2}	C
1966	8.1×10^{-2}	5.3×10^{-2}	9.6×10^{-2}	C
1967	3.2×10^{-2}	2.6×10^{-2}	3.8×10^{-2}	M
1968	5.5×10^{-2}	4.4×10^{-2}	6.6×10^{-2}	M
1969	7.0×10^{-2}	5.6×10^{-2}	8.3×10^{-2}	M
1970	7.7×10^{-2}	6.2×10^{-2}	9.2×10^{-2}	M
1971	6.6×10^{-2}	5.3×10^{-2}	7.9×10^{-2}	M
1972	4.0×10^{-2}	3.2×10^{-2}	4.8×10^{-2}	M
1973	1.5×10^{-2}	1.2×10^{-2}	1.8×10^{-2}	M
1974	4.9×10^{-2}	3.9×10^{-2}	5.9×10^{-2}	M
1975	3.1×10^{-2}	2.5×10^{-2}	3.7×10^{-2}	M
1976	1.1×10^{-2}	9.0×10^{-3}	1.3×10^{-2}	M
1977	3.6×10^{-2}	2.8×10^{-2}	4.3×10^{-2}	M
1978	4.8×10^{-2}	3.8×10^{-2}	5.7×10^{-2}	M
1979	1.2×10^{-2}	9.3×10^{-3}	1.4×10^{-2}	M
1980	7.6×10^{-3}	3.8×10^{-3}	1.1×10^{-2}	M
1981	1.6×10^{-2}	3.8×10^{-3}	1.1×10^{-2}	N
1982	2.3×10^{-3}	8.0×10^{-3}	2.4×10^{-2}	N
1983	1.3×10^{-3}	6.5×10^{-4}	2.0×10^{-3}	M
1984	1.0×10^{-3}	5.0×10^{-4}	1.5×10^{-3}	M
1985	4.5×10^{-3}	2.3×10^{-3}	6.8×10^{-3}	M
1986	2.5×10^{-3}	1.2×10^{-3}	3.7×10^{-3}	M
1987	6.0×10^{-4}	3.0×10^{-4}	9.0×10^{-4}	M
1988	1.0×10^{-4}	5.0×10^{-5}	1.5×10^{-4}	M
1989	7.0×10^{-4}	3.5×10^{-4}	1.1×10^{-3}	M
Sum (fCi y m ⁻³)	3.0	1.6	6.4	

^a I = inferred from Sr deposition measurements; C = calculated from total plutonium measurements and ^{239,240}Pu/total Pu ratio for 1967–1971; M = average of values measured by the Public Health Service or Environmental Protection Agency (EPA) in Denver for that year; N = no data for Denver, EPA data from New York City used. See Figure III-7 and associated text for additional discussion.

Table B-15. Estimates of Excess Plutonium (fCi m^{-3} above Background^a) at Air Monitoring Stations: Data Used by Rood and Grogan (1999c) to Compare to Predicted Concentrations from All Rocky Flats Sources

Year	Monitoring agency and location					
	HASL RF #4	HASL RF #2	CDH D-5	RFP contractor S-32/37 ^b	RFP contractor Broomfield	RFP contractor Leyden
1970			0.08			
1971			0.07	0.34		
1972		0.12	0.08	0.18		
1973		0.10	0.08	0.05	0.004	
1974	0.75	0.05	0.05	0.004	0.03	
1975	0.39	0.008	0.08	0.02	c	0.008
1976	0.15	0.007	0.03	0.01	0.0007	0.005
1977	0.15			0.008	c	c
1978	0.12		c	0.01	0.01	0.01
1979	0.07		0.03	0.008	0.02	0.008
1980	0.17		c	0.002	<i>0.002^d</i>	<i>0.002^d</i>
1981	0.45			0.005	0.003	0.002
1982			0.02	0.007	0.02	<i>0.002^d</i>
1983			0.04	<i>0.004^d</i>	<i>0.002^d</i>	<i>0.002^d</i>
1984				0.008	<i>0.003^d</i>	<i>0.002^d</i>
1985			0.03	0.004	c	c
1986			<i>0.002^d</i>	0.02	c	c
1987			<i>0.004^d</i>	0.006	<i>0.001^d</i>	<i>0.0004^d</i>
1988				0.01	<i>0.001^d</i>	<i>0.002^d</i>
1989				<i>0.002^d</i>	<i>0.0003^d</i>	<i>0.0003^d</i>

^aFallout background estimate was that measured by the EPA/PHS in Denver. See Table B-14.

^bThis is one station. It was called S-32 through 1974 and S-37 in 1975 and later.

^cMeasured value was less than that measured in Denver.

^dValues in italics are especially uncertain, because annual average measurement was the same or less than the agency's minimum detectable concentration.

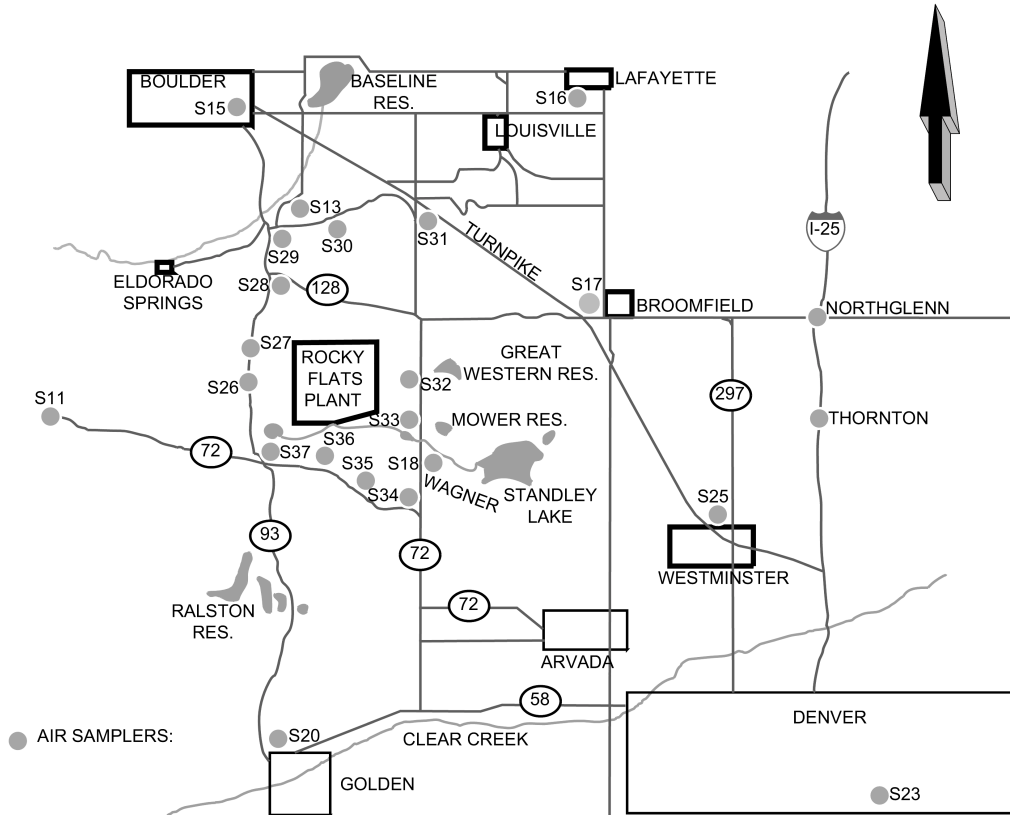


Figure B-1. Location of offsite air samplers in 1972 (adapted from figure in 1972 annual environmental report).

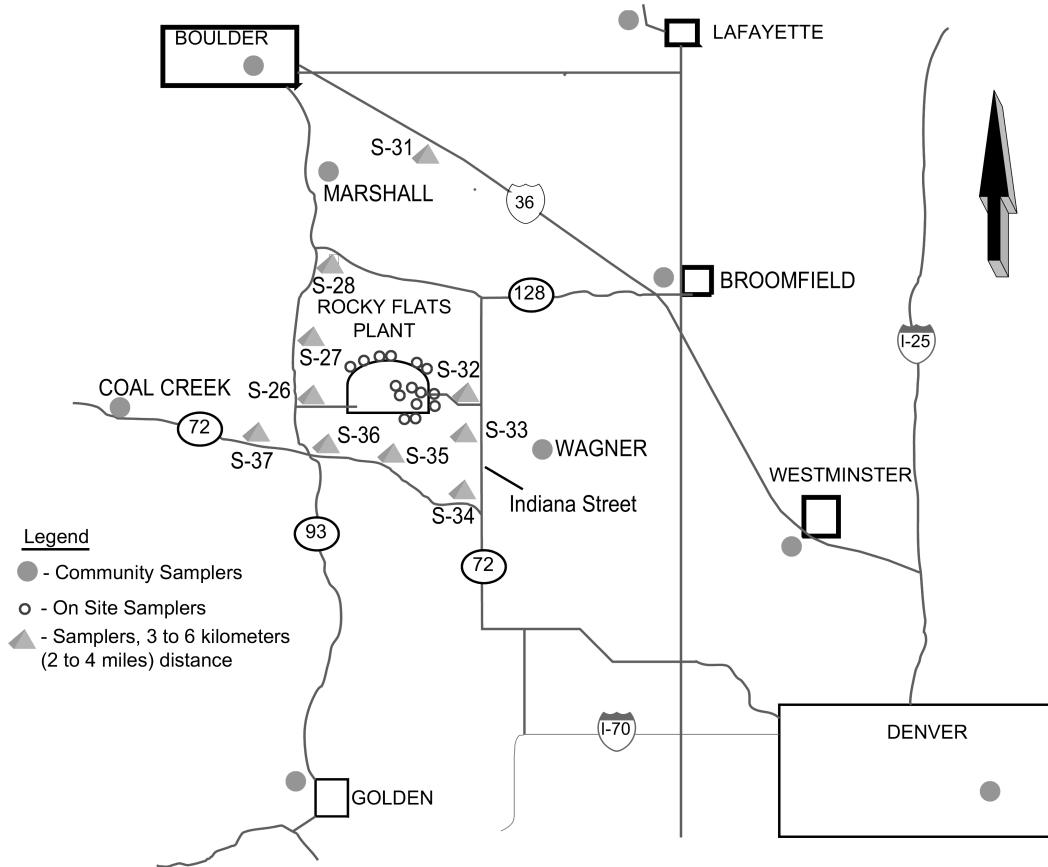


Figure B-3. Location of offsite air samplers in 1974 as shown in the 1974 Annual Environmental Monitoring Report.

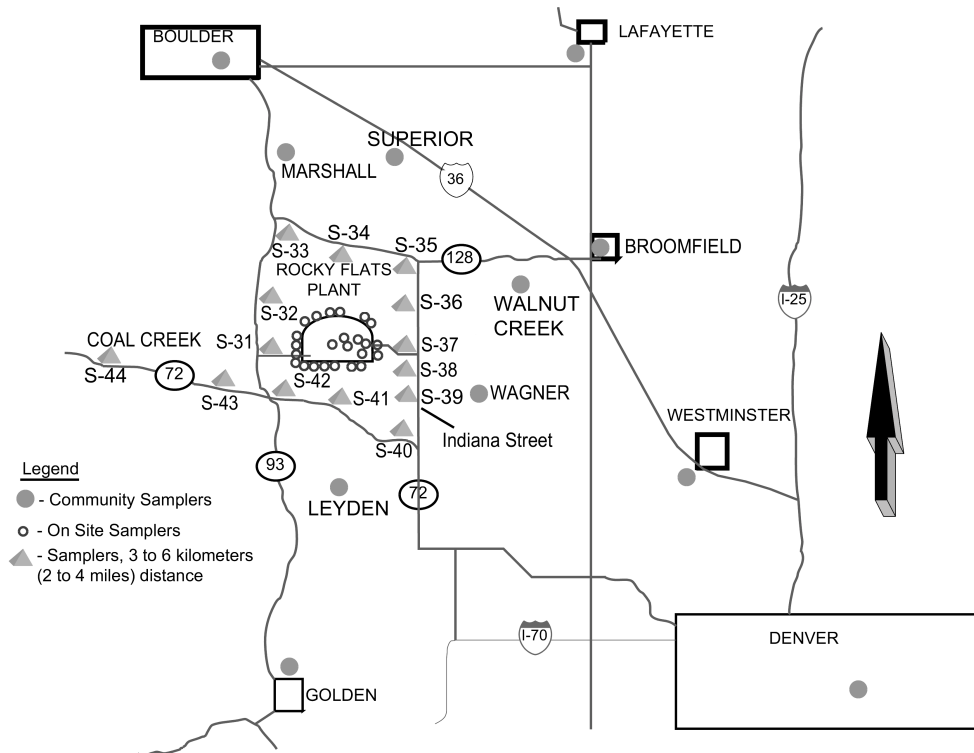


Figure B-4. Location of offsite air samplers in 1975, (adapted from figure in the 1975 annual environmental report).

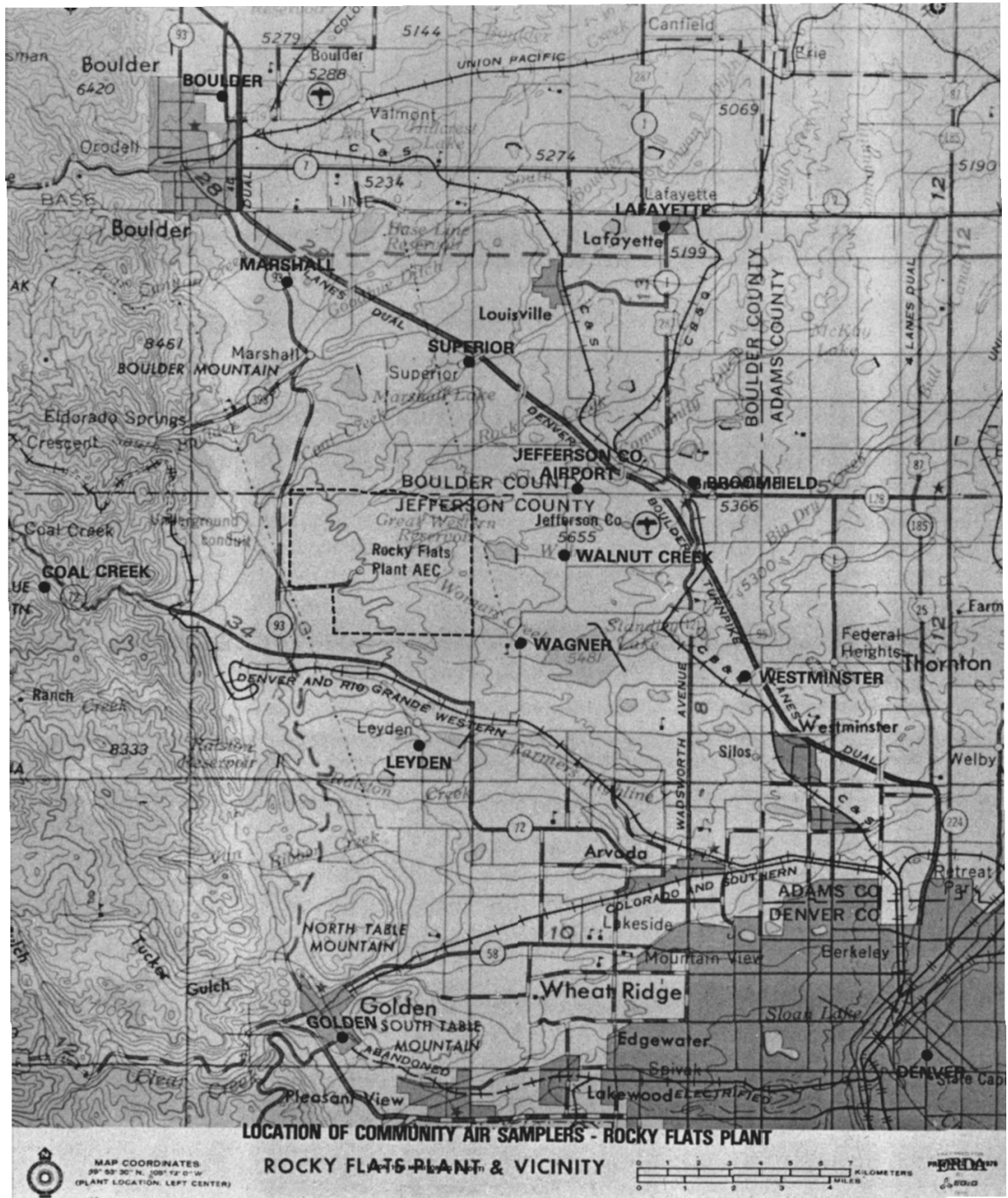


Figure B-5. Location of offsite air samplers in 1976, placed on topographic map of region (from Yoder 1977).

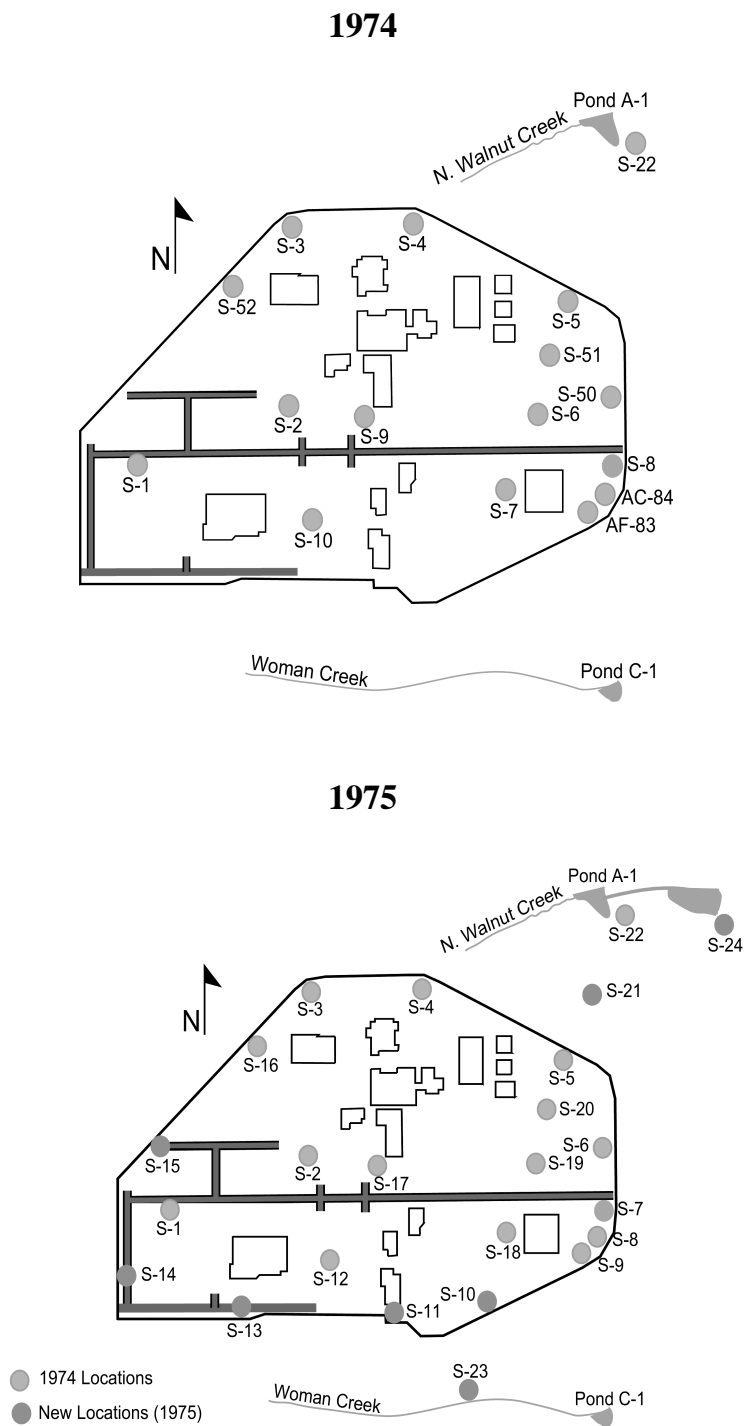


Figure B-6. Onsite ambient air monitoring stations in 1974 and 1975. Note the addition as well as renumbering of stations in 1975.

ON - SITE AIR SAMPLING STATIONS

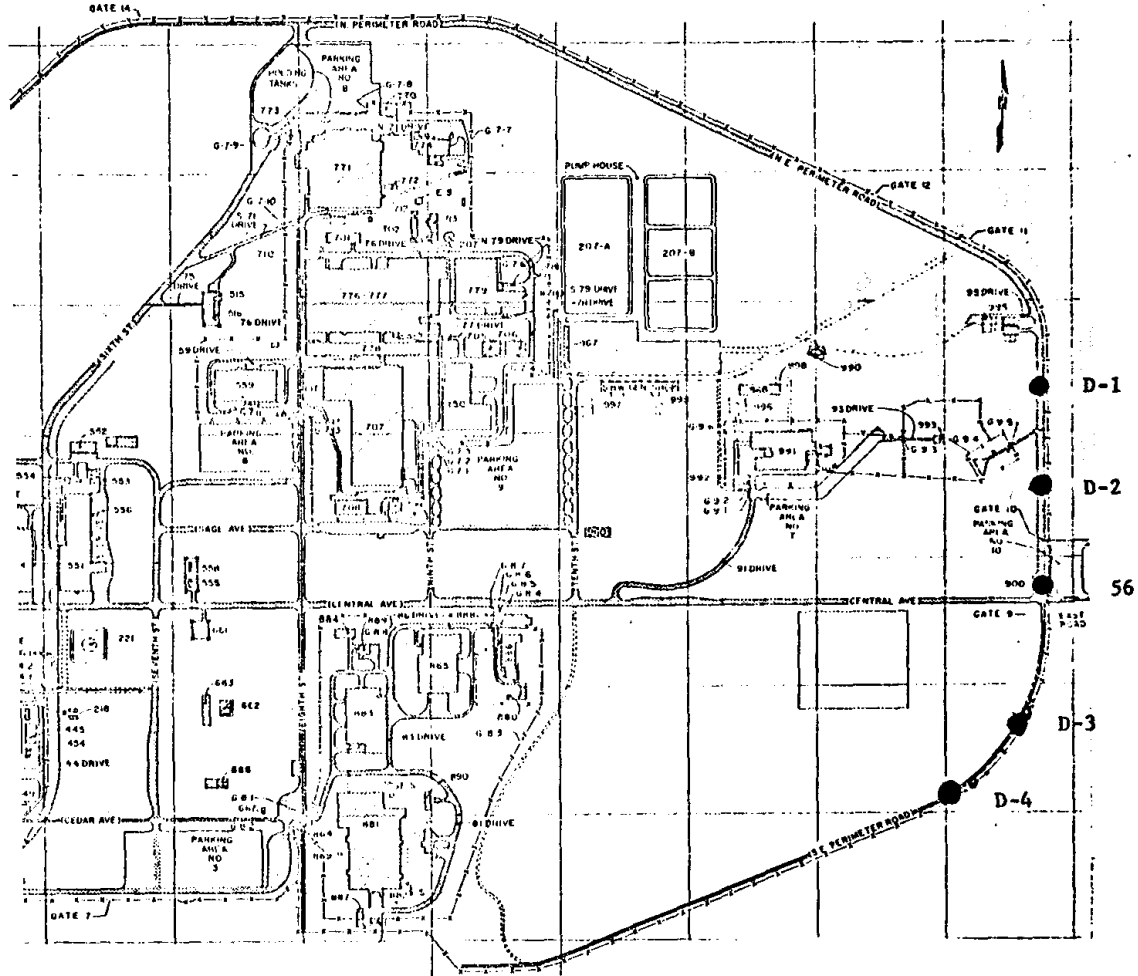
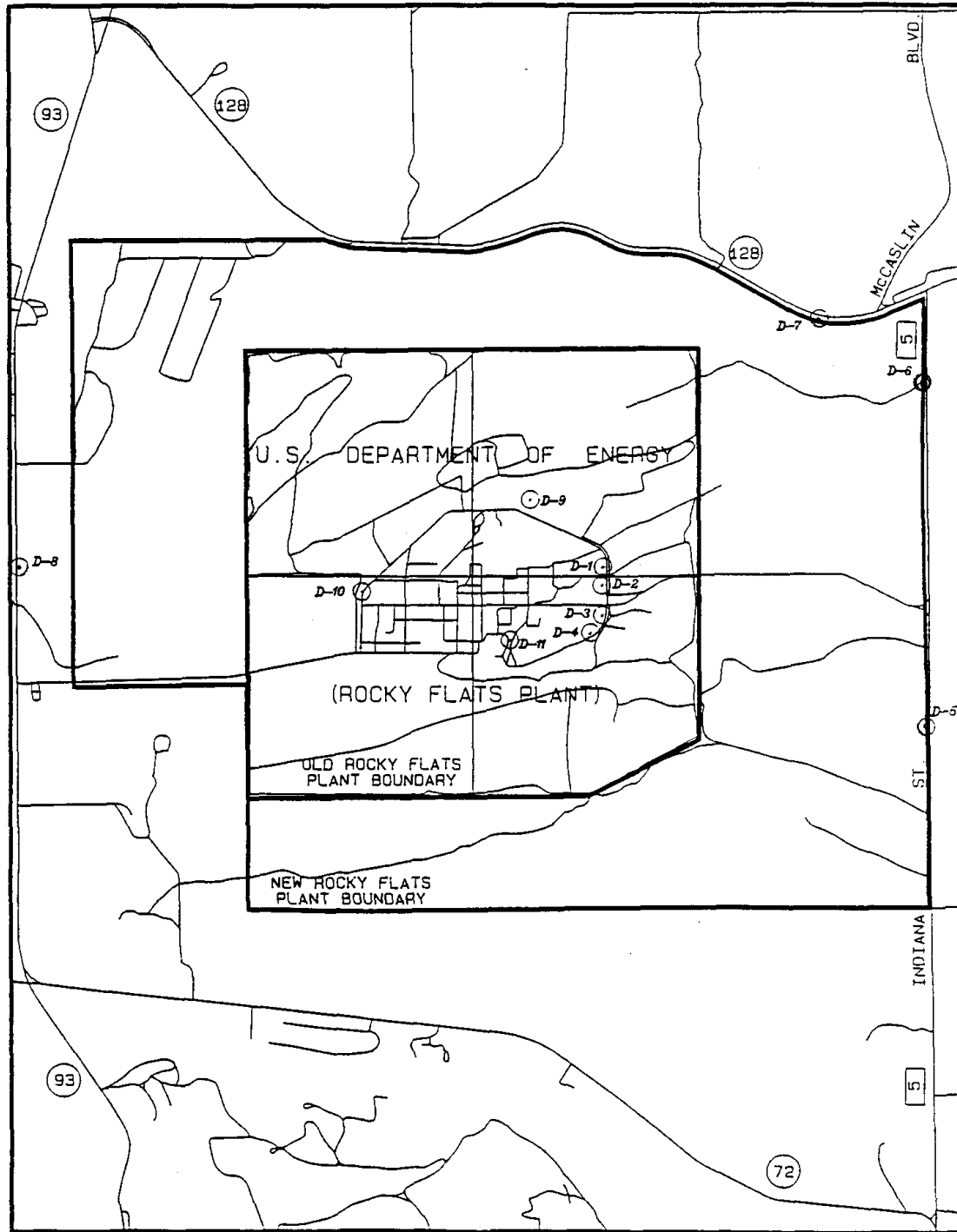


Figure B-7. Locations of five onsite ambient air monitoring stations operated by the Colorado Department of Public Health since 1970 (from CDH 1975).

ROCKY FLATS PLANT AREA - ○ AIR SAMPLING LOCATIONS



MAPS PROVIDED BY: JEFFERSON COUNTY MAPPING DEPARTMENT

Figure B-8. Locations of onsite and boundary ambient air monitoring stations operated by the Colorado Department of Public Health (from CDH 1990).