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EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1969

APPENDICES

November 1970

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AEC RESEARCH & DEVELOPMENT REPORT

BNWL-1505 APP

BATTELLE NORTHWEST
BATTELLE MEMORIAL INSTITUTE PACIFIC NORTHWEST LABORATORIES
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EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1969 APPENDICES

By

The Environmental Evaluations Staff
J. P. Corley, Manager

Edited by C. B. Wilson

Radiation Protection Department
Operations and Services Division

November 1970

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Preface

This supplemental report is a compilation of results obtained from both radiochemical analyses of environmental samples and from radiological measurements made in the Hanford environs during 1969. The radiological significance of these data is discussed in the parent report (BNWL-1505).

The term "analytical limit" as used in this report is the concentration at which the laboratory can measure a radionuclide with a precision of ±100% at the 90% confidence level. The detection limit for a specific radionuclide varies with sample type, sample size, counting time, and the amounts of interfering radionuclides present. The "analytical limits" were chosen to represent upper bounds to these fluctuating detection limits.

November 1970

C. B. Wilson
Environmental Evaluations

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APPENDIX A

TABLE 1

CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT PRIEST RAPIDS GAUGE STATION (MONTHLY COMPOSITES OF WEEKLY CUMULATIVE SAMPLES)-1969

Units of picoCuries/Liter of Water

Date	^{3}H	^{90}Sr	^{95}Zr-Nb	^{99}Tc	^{106}Ru-Rh	Alpha
Analytical Limit	1000	0.5	5	5	5	1
1/28	-	-	-	-	-	-
2/25	-	-	-	-	-	-
3/25	2800	-	-	-	-	-
4/29	1700	0.52	-	-	-	-

Results less than the analytical limit are indicated by a (-).

APPENDIX A

TABLE 2
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT PRIEST RAPIDS GAUGE STATION
(MONTHLY COMPOSITES OF WEEKLY GRAB SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{3}H	^{90}Sr	^{95}Zr-Nb	^{99}Tc	^{106}Ru-Rh	Alpha
Analytical Limit	1000	0.5	5	5	5	1
4/29-5/27	1100	-	-	-	-	-
5/27-6/24	2300	-	-	-	-	-
6/24-7/29	4000	-				1.0
7/29-8/26	2300	-				-
8/26-9/30	1700	0.59				-
9/30-10/28	2400	-				-
10/28-11/25	-	-				-
11/25-12/23	1300	-				-
	1683	0.51				

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX A

TABLE 3
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT RICHLAND (GRAB SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{24}Na	^{51}Cr	^{56}Mn	^{64}Cu	^{65}Zn	^{69m}Zn	^{72}Ga	^{76}As	^{122}Sb	^{239}Np	RE+Y
Analytical Limit	35	70	50	20	20	70	70	5	5	10	5
1/13	480	1100	140	220	180	-	86.	260	90.	500	52.
2/10	2800	1400	140	1000	180	160	-	370	97.	920	600
3/16	3100	1800	470	4300	400	320	-	560	170	1500	750
4/14	1300	630	3800	840	120	96.	-	190	35.	660	760
5/12	1700	1100	3600	2900	890	400	-	280	75.	1400	930
6/9	1500	1600	2900	2800		240	75.	230	72.	1500	1600
7/4	720	370	370	710		-	78.	110	21.	350	350
8/11	2200	1200	75.	1100		-	-	360	94.	850	270
9/15	1400	780	210	780		100	-	190	50.	600	240
10/13	1700	1900	130	1100		170	-	410	180	1500	860
11/10	1800	2900	20.	2200		320	70.	490	89.	2100	2000
12/8	2600	1200	320	1900		180	-	270	100	1200	590
12/29	210	580									

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX A

TABLE 4
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT RICHLAND (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{46}Sc	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	20	70	20	2
12/30-1/6	100	82.	1100	80.	9.3
1/6-1/13	82.	91.	1000	100	6.1
1/13-1/20	89.	82.	1300	75.	6.1
1/20-1/27	ND	ND	ND	ND	ND
1/27-2/3	76.	52.	530	42.	5.2
2/3-2/10	72.	60.	840	97.	5.8
2/10-2/17	110	56.	1000	73.	5.9
2/17-2/24	73.	58.	720	86.	4.5
2/24-3/3	52.	38.	580	56.	4.1
3/3-3/10	100	52.	1100	72.	6.6
3/10-3/17	200	65.	1600	150	6.4
3/17-3/24	110	58.	700	100	6.5
3/24-4/1	150	73.	910	110	4.9
4/1-4/7	78.	57.	570	94.	3.2
4/7-4/14	69.	69.	700	80.	3.2
4/14-4/21	68.	110	540	66.	3.4
4/21-4/28	68.	74.	610	83.	2.8
4/28-5/5	43.	73.	290	70.	-
5/5-5/12	54.	40.	480	59.	2.3
5/12-5/19	50.	120	500	120	2.4
5/19-5/26	22.	-	220	43.	-
5/26-6/2	21.	-	170	31.	-
6/2-6/9	83.	170	830	78.	3.0
6/9-6/16	33.	30.	400	25.	-
6/16-6/23	35.	54.	400	53.	-
6/23-6/30	57.	56.	570	62.	3.1
6/30-7/7	35.	44.	350	60.	3.9
7/7-7/14	29.	57.	300	48.	2.4
7/14-7/21	10.	56.	200	49.	-
7/21-7/28	49.	55.	780	59.	3.7
7/28-8/4	64.	56.	770	73.	3.9
8/4-8/11	47.	100	600	60.	3.1
8/11-8/18	46.	45.	620	32.	3.5

Results less than the analytical limit are indicated by a (-).
ND - Indicates no data.

APPENDIX A

TABLE 4 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT RICHLAND (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{46}Sc	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	20	70	20	2
8/18-8/25	76.	73.	1000	51.	5.3
8/25-9/2	95.	60.	1200	67.	6.0
9/2-9/8	64.	68.	780	63.	4.1
9/8-9/15	75.	58.	900	50.	4.0
9/15-9/22	73.	92.	760	51.	3.3
9/22-9/29	140	79.	1200	68.	4.8
9/29-10/6	160	70.	1200	89.	5.5
10/6-10/13	110	110	770	210	4.0
10/13-10/20	140	140	1100	81.	5.0
10/20-10/27	56.	75.	460	76.	3.2
10/27-11/3	49.	110	580	60.	2.7
11/3-11/10	61.	88.	740	57.	6.2
11/10-11/17	95.	80.	930	89.	3.8
11/17-11/24	39.	68.	450	58.	3.9
11/24-12/1	19.	71.	210	50.	-
12/1-12/8	70.	84.	790	52.	3.7
12/8-12/15	89.	83.	890	64.	3.4
12/15-12/22	62.	100	710	69.	3.0
12/22-12/29	62.	100	620	52.	3.7

Results less than the analytical limit are indicated by a (-).

APPENDIX A

TABLE 5
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT RICHLAND
(MONTHLY COMPOSITE OF WEEKLY CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{3}H	^{90}Sr	^{95}Zr-Nb	^{99}Tc	^{106}Ru-Rh	Alpha
Analytical Limit	1000	0.5	5	5	5	1
12/30-1/27	-	-	-	7.3	-	-
1/27-2/24	-	0.57	-	-	-	-
2/24-3/24	2000	0.75	-	-	-	1.0
3/24-4/28	-	-	-	-	-	-
4/28-5/26	1600	-	-	-	-	-
5/26-6/23	1600	-	-	-	-	1.5
6/23-7/28	3300	-	-	-	-	-
7/28-8/25	2800	-	-	-	6.2	1.1
8/25-9/29	2800	-	-	-	-	1.0
9/29-10/27	1500	1.1	5.0	-	6.9	1.2
10/27-11/24	2800	-	-	5.0	-	-
11/24-12/22	1400	-	-	-	-	-

Results less than analytical limit are indicated by a (-).

APPENDIX A

TABLE 6
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT MCNARY DAM (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	70	20	2
12/27-1/3	43.	550	62.	3.8
1/3-1/10	30.	490	64.	2.9
1/10-1/17	24.	400	35.	4.4
1/17-1/24	36.	530	36.	3.2
1/24-1/31	29.	410	41.	3.3
1/31-2/7	44.	480	50.	2.1
2/7-2/14	42.	390	40.	3.7
2/14-2/20	61.	580	55.	3.0
2/20-2/28	60.	600	140	3.1
2/28-3/7	44.	190	54.	2.8
3/7-3/14	69.	540	45.	3.4
3/14-3/21	72.	520	60.	3.4
3/21-3/28	43.	340	44.	2.3
3/28-4/4	24.	160	33.	2.2
4/4-4/11	25.	190	34.	-
4/11-4/18	33.	270	49.	-
4/18-4/25	30.	310	47.	-
4/25-5/2	29.	230	26.	-
5/2-5/9	23.	150	41.	-
5/9-5/16	26.	260	38.	2.0
5/16-5/23	11.	-	24.	-
5/23-5/29	-	-	-	-
5/29-6/6	9.2	120	-	-
6/6-6/13	17.	230	31.	-
6/13-6/20	12.	280	32.	-
6/20-6/27	17.	290	29.	-
Avg.	33.0	333	44.2	2.6

Results less than analytical limit are indicated by a (-).

APPENDIX A

TABLE 7
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT BONNEVILLE DAM
(BI-WEEKLY COMPOSITE OF WEEKLY CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{46}Sc	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	20	70	20	2
12/31-1/14	21.	-	540	30.	15.
1/14-1/28	12.	21.	290	24.	3.0
1/28-2/11	16.	37.	360	38.	3.2
2/11-2/27	23.	26.	250	34.	2.1
2/27-3/11	23.	-	330	36.	2.2
3/11-3/25	24.	-	260	49.	-
3/25-4/8	22.	-	320	57.	2.3
4/8-4/22	15.	-	180	29.	-
4/22-5/6	15.		320	31.	2.4
5/6-5/20	14.		200	40.	2.0
5/20-6/3	8.1		100	37.	-
6/3-6/17	9.1		160	43.	-
6/17-7/1	9.4		130	44.	
7/1-7/15	32.		150	-	
7/15-7/29	8.1		120	25.	
7/29-8/12	11.		-	-	
8/12-8/26	6.8		520	-	
8/26-9/9	-		140	-	
9/9-9/23	6.3		280	-	
9/23-10/7	7.0		220	-	
10/7-10/21	15.		230	-	
10/21-11/4	12.		200	-	
11/4-11/18	12.		250	-	
11/18-12/2	9.8		260	-	
12/2-12/16	9.1		150	-	
12/16-12/30	13.		150	-	

Results less than analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX A

TABLE 8
ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES
IN THE COLUMBIA RIVER AT RICHLAND (GRAB SAMPLES)-1969
Units of Curies/Day

Date	^{24}Na	^{51}Cr	^{56}Mn	^{64}Cu	^{65}Zn	^{69m}Zn	^{72}Ga	^{76}As	^{122}Sb	^{239}Np	RE+Y
1/13	110	250	31.	50.	41.	< 16.	20.	60.	20.	120	12.
2/10	760	400	39.	290	48.	42.	<19.	100	27.	250	160
3/10	920	560	140	1300	120	98.	<21.	170	50.	440	220
4/14	590	300	1800	390	58.	45.	<33.	90.	16.	310	360
5/12	810	560	1700	1400	430	200	<34.	140	37.	670	450
6/9	880	940	1700	1700		140	44.	140	42.	870	950
7/14	380	190	200	370		37.	41.	59.	11.	180	180
8/11	670	360	23.	340		21.	<21.	110	29.	260	82.
9/15	290	160	44.	160		21.	< 7.3	39.	10.	120	50.
10/13	410	450	33.	270		40.	< 1.8	100	45.	360	210
11/10	550	930	42.	700		100	22.	150	28.	650	620
12/8	700	330	86.	520		50.	9.7	74.	28.	330	160
12/29	53.	140									

No entry indicates no analysis was made.

APPENDIX A

TABLE 9
ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES
IN THE COLUMBIA RIVER WATER AT RICHLAND (CUMULATIVE SAMPLES)-1969
Units of Curies/Day

Date	^{32}P	^{46}Sc	^{51}Cr	^{65}Zn	^{131}I
12/30-1/6	24.	20.	260	19.	2.2
1/6-1/13	17.	19.	220	21.	1.3
1/13-1/20	22.	20.	310	18.	1.5
1/20-1/27	ND	ND	ND	ND	ND
1/27-2/3	24.	17.	170	13.	1.6
2/3-2/10	21.	18.	240	28.	1.7
2/10-2/17	31.	16.	300	21.	1.7
2/17-2/24	21.	17.	210	25.	1.3
2/24-3/3	13.	10.	150	14.	1.0
3/3-3/10	28.	14.	300	20.	1.8
3/10-3/17	48.	16.	400	37.	1.6
3/17-3/24	31.	16.	190	28.	1.7
3/24-4/1	42.	20.	260	31.	1.4
4/1-4/7	28.	21.	210	34.	1.2
4/7-4/14	31.	31.	320	36.	1.4
4/14-4/21	32.	50.	250	31.	1.6
4/21-4/28	34.	37.	300	41.	1.4
4/28-5/5	22.	37.	150	36.	<1.0
5/5-5/12	29.	22.	260	32.	1.2
5/12-5/19	30.	74.	300	72.	1.4
5/19-5/26	14.	<13.	140	27.	<1.3
5/26-6/2	12.	<11.	95.	18.	<1.1
6/2-6/9	48.	97.	480	45.	1.7
6/9-6/16	21.	19.	250	15.	<1.2
6/16-6/23	21.	31.	240	31.	<1.2
6/23-6/30	32.	32.	320	35.	1.7
6/30-7/7	22.	28.	220	38.	2.5
7/7-7/14	17.	33.	180	28.	1.4
7/14-7/21	5.0	25.	87.	22.	<0.90
7/21-7/28	15.	17.	240	18.	1.1
7/28-8/4	18.	16.	210	20.	1.1
8/4-8/11	13.	28.	160	16.	0.80
8/11-8/18	11.	11.	160	8.0	0.90
8/18-8/25	17.	17.	240	15.	1.2
8/25-9/2	22.	14.	280	16.	1.4
9/2-9/8	13.	14.	150	12.	0.82

ND - Indicates no data.

APPENDIX A

TABLE 9 (Continued)
ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES
IN THE COLUMBIA RIVER WATER AT RICHLAND (CUMULATIVE SAMPLES)-1969
Units of Curies/Day

Date	^{32}P	^{46}Sc	^{51}Cr	^{65}Zn	^{131}I
9/8-9/15	13.	10.	160	8.8	0.70
9/15-9/22	13.	17.	140	9.3	0.60
9/22-9/29	26.	15.	210	12.	0.88
9/29-10/6	31.	13.	220	17.	1.0
10/6-10/13	23.	23.	160	44.	0.84
10/13-10/20	27.	27.	220	16.	1.0
10/20-10/27	12.	15.	93.	16.	0.65
10/27-11/3	9.2	20.	110	11.	0.51
11/3-11/10	13.	19.	160	12.	1.4
11/10-11/17	22.	18.	210	20.	0.88
11/17-11/24	8.7	15.	100	13.	0.87
11/24-12/1	4.4	16.	48.	11.	0.36
12/1-12/8	17.	20.	190	12.	0.89
12/8-12/15	21.	19.	210	15.	0.79
12/15-12/22	15.	25.	180	17.	0.76
12/22-12/29	13.	22.	140	11.	0.80

ND - Indicates no data.

APPENDIX A

TABLE 10
ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES
IN THE COLUMBIA RIVER WATER AT MCNARY DAM (CUMULATIVE SAMPLES)-1969
Units of Curies/Day

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
12/27-1/3	15.	200	22.	1.4
1/3-1/10	12.	200	26.	1.2
1/10-1/17	9.7	160	14.	1.8
1/17-1/24	15.	220	15.	1.3
1/24-1/31	12.	170	18.	1.4
1/31-2/7	20.	220	22.	0.92
2/7-2/14	16.	150	16.	1.4
2/14-2/20	27.	260	25.	1.3
2/20-2/28	23.	240	53.	1.2
2/28-3/7	18.	78.	22.	1.1
3/7-3/14	28.	220	18.	1.4
3/14-3/21	30.	210	25.	1.4
3/21-3/28	20.	160	21.	1.1
3/28-4/4	14.	100	20.	1.3
4/4-4/11	19.	140	25.	<1.5
4/11-4/18	26.	210	38.	<1.5
4/18-4/25	24.	250	37.	<1.6
4/25-5/2	24.	190	21.	<1.6
5/2-5/9	17.	110	31.	<1.5
5/9-5/16	25.	260	37.	2.0
5/16-5/23	12.	<75.	26.	<2.1
5/23-5/29	< 6.0	<69.	<20.	<2.0
5/29-6/6	8.0	100	<18.	<1.8
6/6-6/13	15.	210	28.	<1.8
6/13-6/20	10.	230	26.	<1.7
6/20-6/27	11.	200	20.	<1.4

APPENDIX A

TABLE 11
ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES IN THE COLUMBIA RIVER WATER AT BONNEVILLE DAM (BI-WEEKLY COMPOSITE CUMULATIVE SAMPLES)-1969

Units of Curies/Day

Date	^{32}P	^{46}Sc	^{51}Cr	^{65}Zn	^{131}I
12/31-1/14	8.8	6.2	220	13.	6.3
1/14-1/28	5.1	9.3	130	11.	1.4
1/28-2/11	7.2	16.	160	17.	1.4
2/11-2/27	10.	11.	110	15.	0.90
2/27-3/11	10.	6.0	140	16.	1.0
3/11-3/25	11.	6.7	110	22.	<0.90
3/25-4/8	14.	11.	210	35.	1.5
4/8-4/22	12.	<17.	160	25.	<1.7
4/22-5/6	12.		270	26.	2.0
5/6-5/20	14.		190	39.	2.0
5/20-6/3	8.0		99.	37.	<2.0
6/3-6/17	8.0		140	38.	<1.8
6/17-7/1	6.5		88.	30.	
7/1-7/15	22.		100	<14.	
7/15-7/29	3.7		54.	12.	
7/29-8/12	3.5		< 22.	< 6.4	
8/12-8/26	2.2		170	<18.	
8/26-9/9	< 1.4		35.	<0.80	
9/9-9/23	1.5		69.	<1.4	
9/23-10/7	1.9		59.	<1.5	
10/7-10/21	4.5		66.	3.0	
10/21-11/4	3.1		53.	2.0	
11/4-11/18	4.0		83.	2.9	
11/18-12/2	2.9		78.	1.7	
12/2-12/16	2.9		48.	2.9	
12/16-12/30	4.1		47.	5.1	

No entry indicates no analysis was made.

APPENDIX A

TABLE 12
BETA ACTIVITY IN THE COLUMBIA RIVER
AT RINGOLD FAR SHORE (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/mℓ
Analytical Limit	0.02
1/7	4.2
1/14	2.0
1/21	3.2
1/28	3.5
2/4	4.3
2/11	2.5
2/18	3.2
2/25	2.8
3/4	3.2
3/11	5.0
3/18	2.5
3/25	5.1
4/1	2.3
4/8	3.7
4/15	2.1
4/22	4.6
4/29	5.4
5/6	1.7
5/13	4.5
5/20	1.1
5/27	<0.10
6/3	3.1
6/10	2.0
6/17	1.1
6/24	3.2

APPENDIX A

TABLE 13
BETA ACTIVITY IN THE COLUMBIA RIVER AT RICHLAND (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/mℓ
Analytical Limit	0.02
1/13	0.81
2/10	5.0
3/10	11.
4/14	4.8
5/12	7.7
6/9	8.4
7/14	3.1
8/11	5.5
9/15	3.5
10/13	9.4
11/10	6.1
12/8	8.9
12/29	0.66

APPENDIX B

APPENDIX B

TABLE 1
CONCENTRATIONS OF RADIONUCLIDES IN RICHLAND DRINKING WATER (GRAB SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{24}Na	^{32}P	^{46}Sc	^{51}Cr	^{64}Cu	^{76}As	^{122}Sb	^{131}I	^{133}I	^{239}Np	RE+Y
Analytical Limit	35	6	20	70	20	5	5	2	10	10	5
2/18	2100	10.	30.	1300	460	150	98.	7.6	32.	860	56.
3/18	1200	39.	26.	960	80.	110	90.	4.0	30.	570	42.
4/21	960	-	-	630	150	12.	54.	4.9	26.	490	22.
5/20	490	-	27.	200	120	6.5	48.	-	-	170	16.
6/17	520	11.	26.	250	200	25.	29.	-	25.	160	29.
7/22	680	26.		260		69.	33.	2.4	15.	200	45.
8/19	2200	80.		1200		290	98.	6.3	41.	840	170
9/23	2900	120		1400		310	85.	6.7	41.	940	77.
10/21	190	35.		270		70.	23.	4.5	11.	200	37.
12/17	1800	40.		860		73.	73.	6.1	30.	520	62.

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX B

TABLE 2
CONCENTRATIONS OF RADIONUCLIDES IN RICHLAND DRINKING WATER (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	70	20	2
12/30-1/6	15.	260	38.	-
1/6-1/13	-	-	25.	-
1/13-1/20	ND	ND	ND	ND
2/10-2/17	11.	930	60.	5.5
2/17-2/24	8.3	730	64.	4.5
2/24-3/3	14.	410	39.	3.6
3/3-3/10	26.	960	-	4.4
3/10-3/17	32.	1500	91.	4.3
3/17-3/24	20.	610	79.	5.9
3/24-4/1	25.	920	54.	6.1
4/1-4/7	15.	570	36.	3.0
4/7-4/14	8.0	620	30.	2.6
4/14-4/21	-	540	24.	3.1
4/21-4/28	-	570	-	3.2
4/28-5/5	-	140	-	-
5/5-5/10	-	320	-	2.1
5/12-5/19	-	400	24.	3.2
5/19-5/26	-	160	-	-
5/26-6/2	-	210	-	-
6/2-6/9	8.9	350	-	2.1
6/9-6/16	9.3	320	-	-
6/16-6/23	9.0	380	-	-
6/23-6/30	21.	500	26.	2.9
6/30-7/7	28.		-	4.3
7/7-7/14	15.		-	-
7/14-7/22	6.1		-	-
7/22-7/28	45.		-	3.6
7/28-8/4	38.		35.	3.8
8/4-8/11	29.		-	2.6
8/11-8/18	28.		-	2.8
8/18-8/25	58.		26.	6.0
8/25-9/2	58.		32.	5.9
9/2-9/8	66.		-	3.6

Results less than the analytical limit are indicated by a (-).
ND - Indicates no data.
No entry indicates no analysis was made.

APPENDIX B

TABLE 2 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN
RICHLAND DRINKING WATER (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	70	20	2
9/8-9/15	48.		22.	4.1
9/15-9/22	57.		20.	3.8
9/22-9/29	99.		38.	5.0
9/29-10/6	110		22.	4.9
10/6-10/13	83.		43.	4.6
10/13-10/20	58.		29.	6.3
10/20-10/27	31.		32.	3.6
10/27-11/3	31.		28.	2.4
11/3-11/10	39.		38.	2.8
11/10-11/17	48.		42.	2.2
11/17-11/24	31.		52.	2.6
11/24-12/1	10.		35.	-
12/1-12/8	26.		26.	3.0
12/8-12/15	34.		58.	3.2
12/15-12/22	23.		48.	3.3
12/22-12/29	26.		36.	2.4

No entry indicates no analysis was made.

APPENDIX B

TABLE 3
CONCENTRATIONS OF RADIONUCLIDES IN PASCO DRINKING WATER (GRAB SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{24}Na	^{32}P	^{46}Sc	^{51}Cr	^{64}Cu	^{76}As	^{122}Sb	^{131}I	^{133}I	^{239}Np	RE+Y
Analytical Limit	35	6	20	70	20	5	5	2	10	10	5
1/7	140	59.	79.	770	40.	37.	30.	12.	12.	230	28.
2/4	440	62.	49.	1100	110	100	62.	4.4	11.	420	61.
3/11	390	10.	32.	1300	110	64.	77.	5.6	10.	510	29.
4/8	190	11.	-	250	-	20.	17.	-	-	150	5.8
5/6	-	-	-	-	-	-	-	-	-	17.	-
6/3	570	-	-	420	120	12.	72.	-	12.	280	10.
7/7	330	-		250		17.	23.	-	-	140	42.
8/5	770	13.		610		37.	54.	-	12.	380	19.
9/8	390	23.		590		42.	37.	-	-	260	37.
10/6	710	46.		1100		93.	100	-	13.	460	32.
11/4	86.	23.		480		12.	24.	2.3	-	92.	6.3
12/1	170	12.		280		22.	20.	2.3	-	94.	12.

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX B

TABLE 4
CONCENTRATIONS OF RADIONUCLIDES IN
PASCO DRINKING WATER (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	70	20	2
12/30-1/6	45.	800	47.	5.1
1/6-1/13	39.	820	66.	5.0
1/13-1/20	11.	910	49.	5.1
1/20-1/27	24.	950	55.	2.8
1/27-2/3	34.	540	40.	4.6
2/3-2/10	40.	720	63.	3.4
2/10-2/17	26.	740	61.	3.4
2/17-2/24	7.8	740	48.	4.8
2/24-3/3	9.3	350	42.	2.0
3/3-3/10	9.9	610	32.	3.7
3/10-3/17	16.	1000	64.	6.1
3/17-3/24	18.	680	65.	5.4
3/24-4/1	27.	850	63.	4.5
4/1-4/7	11.	500	51.	5.4
4/7-4/14	8.2	470	28.	2.4
4/14-4/21	-	420	21.	2.9
4/21-4/28	-	480	-	3.0
4/28-5/5	-	340	27.	2.1
5/5-5/12	-	310	-	2.0
5/12-5/19	-	260	-	-
5/19-5/26	-	99.	-	-
5/26-6/2	-	210	-	-
6/2-6/9	-	350	-	2.5
6/9-6/16	6.2	280	-	-
6/16-6/23	-	230	-	-
6/23-6/30	9.5	440	-	2.6
6/30-7/7	-		-	3.3
7/7-7/14	-		-	2.8
7/14-7/21	-		-	-
7/21-7/28	12.		-	2.6
7/28-8/4	11.		25.	2.4
8/4-8/11	9.2		-	2.6
8/11-8/18	20.		-	3.4
8/18-8/25	22.		-	5.3
8/25-9/2	13.		-	5.5

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX B

TABLE 4 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN
PASCO DRINKING WATER (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	70	20	2
9/2-9/8	15.		26.	3.2
9/8-9/15	17.		-	3.1
9/15-9/22	22.		-	2.9
9/22-9/29	26.		-	5.3
9/29-10/6	23.		-	5.1
10/6-10/13	34.		24.	3.7
10/13-10/20	33.		-	3.8
10/20-10/27	17.		24.	3.4
10/27-11/3	12.		-	-
11/3-11/10	16.		-	3.5
11/10-11/17	20.		-	3.3
11/17-11/24	23.		31.	3.9
11/24-12/1	8.9		27.	-
12/1-12/8	27.		-	2.6
12/8-12/15	24.		35.	2.0
12/15-12/22	29.		34.	2.8
12/22-12/29	14.		33.	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX B

TABLE 5
CONCENTRATIONS OF RADIONUCLIDES IN 100-N DRINKING WATER (GRAB SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{24}Na	^{32}P	^{46}Sc	^{51}Cr	^{56}Mn	^{64}Cu	^{69m}Zn	^{72}Ga	^{76}As	^{95}Zr-Nb	^{122}Sb	^{131}I	^{133}I	^{140}Ba-La	^{239}Np	RE+Y
Analytical Limit	35	6	20	70	50	20	70	70	5	5	5	2	10	20	10	5
1/8	7600	20.	25.	1800	3400	2100	97.	84.	26.	-	180	13.	120	50.	1300	87.
2/5	1900	6.6	-	620	1200	490	74.	-	13.	-	44.	4.2	29.	-	420	22.
3/5	3200	-	46.	800	3900	910	100	-	15.	-	67.	2.3	51.	-	630	74.
4/9	1200	-	-	430	24000	840	-	-	10.	-	32.	-	16.	-	290	18.
4/25					19000											
4/30					4900											
5/5					-											
5/7	1000	-	-	230	9200	210	-	-	11.	-	46.	-	23.	-	230	17.
5/14					4100											
5/19					850											
5/28					-											
6/2					2400											
6/4	840	-	-	260	3800	340	-	-	-	-	37.	-	-	-	200	10.
6/11					500											
6/16					520											
6/23					1100											
6/30					440											
7/9	340		-	120	550	120		-	-	-	12.	-	-	-	75.	5.0
7/11					510											
7/16					180											
7/21					540											
7/28					470											
8/6	2800		21.	750	930	560		-	7.4	-	76.	-	44.	-	510	20.
9/10	6700		48.	1200	3600	1400		-	18.	-	100	2.3	82.	-	860	46.
10/8	4000		30.	1100	950	1100		-	36.	-	80.	-	48.	-	712	33.
11/5	3600		-	920	2200	910		-	13.	-	66.	-	46.	-	550	35.
12/3	5300		24.	1400	340	1400		-	20.	-	84.	7.1	70.	-	820	48.

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX B

TABLE 6
CONCENTRATIONS OF RADIONUCLIDES IN
100-N DRINKING WATER (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	70	20	2
12/30-1/6	-	1500	68.	7.3
1/6-1/13	6.4	2200	85.	11.
1/13-1/20	8.4	1600	93.	6.4
1/20-1/27	6.0	970	49.	3.8
1/27-2/3	-	820	92.	4.6
2/3-2/10	-	690	50.	3.9
2/10-2/17	-	1100	68.	5.1
2/17-2/24	-	1700	100	3.3
2/24-3/3	13.	1000	91.	5.3
3/3-3/10	10.	2000	120	13.
3/10-3/17	-	1500	140	5.6
3/17-3/24	13.	1600	120	13.
3/24-4/1	6.4	860	65.	3.2
4/1-4/7	-	530	34.	-
4/7-4/14	-	430	-	2.2
4/14-4/21	-	440	-	2.0
4/21-4/28	-	360	-	-
4/28-5/5	-	110	-	-
5/5-5/12	-	140	-	-
5/12-5/19	-	120	-	-
5/19-5/26	-	-	-	-
5/26-6/2	-	170	-	-
6/2-6/9	-	180	-	-
6/9-6/16	-	98.	-	-
6/16-6/23	-	140	-	-
6/23-6/30	-	270	-	-
6/30-7/7	-		-	-
7/7-7/14	-		-	-
7/14-7/21	-		-	-
7/21-7/28	-		26.	4.9
7/28-8/4	-		43.	4.5
8/4-8/11	6.6		24.	5.0
8/11-8/18	-		20.	5.7
8/18-8/25	11.		-	12.

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX B

TABLE 6 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN
100-N DRINKING WATER (CUMULATIVE SAMPLES)-1969
Units of picoCuries/Liter of Water

Date	^{32}P	^{51}Cr	^{65}Zn	^{131}I
Analytical Limit	6	70	20	2
8/25-9/2	-		38.	7.6
9/2-9/8	-		43.	4.4
9/8-9/15	9.9		37.	5.6
9/15-9/22	-		50.	9.2
9/22-9/29	12.		71.	34.
9/29-10/6	11.		59.	12.
10/6-10/13	11.		59.	7.4
10/13-10/20	12.		72.	16.
10/20-10/27	6.6		42.	3.2
10/27-11/3	10.		58.	2.4
11/3-11/10	-		51.	6.4
11/10-11/17	7.2		78.	7.8
11/17-11/24	-		56.	-
11/24-12/1	-		32.	-
12/1-12/8	-		57.	5.1
12/8-12/15	26.		75.	7.2
12/15-12/22	-		60.	5.2
12/22-12/29	-		59.	5.3

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX B

TABLE 7
BETA ACTIVITY IN RICHLAND
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02					
1/2	<0.10	4/11	1.6	6/27	2.3
1/3	<0.10	4/14	1.1	6/30	1.9
1/6	<0.10	4/16	1.4	7/2	1.3
1/8	<0.10	4/18	1.6	7/3	1.8
1/10	<0.10	4/21	1.9	7/7	0.88
1/13	<0.10	4/23	2.6	7/9	0.81
2/10	3.4	4/25	1.8	7/11	1.2
2/12	2.7	4/30	1.8	7/14	0.99
2/14	2.9	5/2	2.0	7/16	0.18
2/17	2.8	5/5	0.44	7/18	<0.10
2/18	4.1	5/6	0.35	7/21	0.96
2/19	2.1	5/7	1.6	7/22	1.4
2/20	1.6	5/9	2.2	7/23	1.3
2/24	2.7	5/12	1.9	7/25	1.8
2/26	1.2	5/14	1.1	7/28	5.0
2/28	2.0	5/16	1.8	7/30	4.1
3/3	1.3	5/19	0.94	8/1	3.3
3/5	3.1	5/20	0.68	8/4	2.7
3/7	3.4	5/21	0.58	8/6	1.6
3/10	2.2	5/23	1.0	8/8	1.6
3/12	2.5	5/26	<0.10	8/11	2.9
3/14	4.1	5/28	<0.10	8/13	2.3
3/17	2.8	6/2	1.9	8/15	1.1
3/18	2.9	6/4	2.1	8/18	4.4
3/19	2.2	6/6	1.1	8/19	5.6
3/21	2.1	6/9	1.9	8/20	2.6
3/24	1.8	6/11	1.9	8/22	3.3
3/26	3.6	6/13	2.1	8/25	3.7
3/28	1.1	6/16	0.65	8/27	3.1
4/1	2.1	6/17	0.88	8/29	4.6
4/2	1.2	6/18	2.2	9/2	7.1
4/4	2.0	6/20	1.0	9/3	4.4
4/7	1.3	6/23	2.0	9/5	1.2
4/9	1.4	6/25	2.0	9/8	0.79

APPENDIX B

TABLE 7 (Continued)
BETA ACTIVITY IN RICHLAND
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02			
9/10	0.73	11/20	0.11
9/12	3.5	11/26	<0.10
9/15	3.0	12/1	1.2
9/17	2.5	12/3	1.1
9/19	1.9	12/5	3.2
9/22	2.1	12/8	0.68
9/23	4.4	12/10	2.6
9/24	5.4	12/12	2.5
9/26	2.8	12/15	4.2
9/29	2.4	12/17	2.5
10/1	2.0	12/19	1.5
10/3	4.2	12/22	0.60
10/6	6.2	12/26	1.7
10/8	2.5	12/29	0.89
10/10	3.0	12/31	2.0
10/13	2.4		
10/15	2.6		
10/17	3.1		
10/20	3.3		
10/21	0.99		
10/22	0.91		
10/24	0.99		
10/27	1.5		
10/29	1.6		
10/31	0.14		
11/3	2.6		
11/5	3.4		
11/7	2.9		
11/10	2.5		
11/12	3.7		
11/14	2.5		
11/17	3.7		
11/18	1.8		
11/19	0.30		

APPENDIX B

TABLE 8
BETA ACTIVITY IN PASCO
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02					
1/2	0.94	3/14	1.3	5/28	<0.10
1/3	1.1	3/17	1.4	6/2	1.2
1/6	0.70	3/19	1.0	6/3	1.1
1/7	0.67	3/21	0.74	6/4	1.7
1/8	1.2	3/24	0.13	6/6	0.50
1/10	1.0	3/26	1.1	6/9	1.1
1/13	0.41	3/28	1.3	6/11	1.2
1/15	1.1	4/1	0.86	6/13	1.1
1/17	0.54	4/2	1.8	6/16	0.61
1/20	0.72	4/4	0.98	6/18	1.6
1/22	1.0	4/7	0.50	6/20	0.58
1/24	0.88	4/8	0.30	6/23	1.2
1/27	0.77	4/9	0.58	6/25	1.5
1/29	0.76	4/11	0.75	6/27	1.9
1/31	1.1	4/14	0.86	6/30	1.6
2/3	1.1	4/16	1.3	7/2	2.0
2/4	1.6	4/18	0.48	7/3	1.9
2/5	1.4	4/21	0.82	7/7	2.6
2/7	1.1	4/23	0.72	7/11	0.61
2/10	0.72	4/25	0.96	7/14	0.63
2/12	1.2	4/28	1.0	7/16	0.68
2/14	1.2	4/30	0.86	7/21	0.20
2/17	0.91	5/2	0.80	7/23	1.2
2/19	1.4	5/5	0.39	7/25	2.2
2/20	1.1	5/6	0.16	7/28	2.2
2/24	0.46	5/7	0.84	7/30	6.4
2/26	0.60	5/9	1.5	8/1	0.80
2/28	0.42	5/12	1.3	8/4	1.4
3/3	0.40	5/14	2.1	8/5	2.3
3/5	1.2	5/16	1.2	8/6	2.6
3/7	0.77	5/19	0.29	8/8	1.2
3/10	1.5	5/21	0.61	8/11	1.2
3/11	1.2	5/23	0.58	8/13	3.2
3/12	1.4	5/26	0.13	8/15	<0.10

APPENDIX B

TABLE 8 (Continued)
BETA ACTIVITY IN PASCO
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02			
8/18	2.0	11/4	0.35
8/20	1.6	11/5	0.82
8/22	2.0	11/7	1.1
8/25	1.7	11/10	0.62
8/27	3.5	11/12	0.76
8/29	1.4	11/14	1.1
9/2	2.7	11/17	0.84
9/3	2.1	11/18	0.54
9/5	3.4	11/19	0.66
9/8	0.72	11/20	0.52
9/10	0.81	11/26	<0.10
9/12	2.7	12/1	0.34
9/15	1.0	12/3	0.30
9/17	1.6	12/5	0.22
9/19	1.8	12/8	2.5
9/22	0.94	12/10	0.99
9/24	1.7	12/12	0.83
9/26	3.2	12/15	1.2
9/29	1.0	12/17	0.80
10/1	2.1	12/19	1.0
10/3	1.1	12/22	0.70
10/6	2.1	12/26	0.29
10/8	2.1	12/29	0.57
10/10	1.3	12/31	0.76
10/13	0.57		
10/15	1.5		
10/17	2.3		
10/20	0.58		
10/22	0.46		
10/24	0.37		
10/27	0.32		
10/29	0.60		
10/31	0.21		
11/3	1.7		

APPENDIX B

TABLE 9
BETA ACTIVITY IN KENNEWICK
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02			
1/2	0.19	4/9	0.14
1/8	0.27	4/16	0.36
1/15	0.20	4/23	0.54
1/22	0.17	4/30	0.29
1/29	0.25	5/7	0.37
2/5	-	5/14	0.50
2/12	0.09	5/21	0.14
2/19	0.04	5/28	6.98
2/26	0.20	6/4	0.33
3/5	0.42	6/11	0.39
3/12	0.83	6/18	0.27
3/19	0.30	6/25	0.21
3/26	0.27	7/9	0.92
4/2	0.28		

Results less than the analytical limit are indicated by a (-).

APPENDIX B

TABLE 10
BETA ACTIVITY IN 100-N
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02					
1/2	9.0	4/2	13.	6/25	3.8
1/3	9.3	4/4	6.6	6/27	2.0
1/6	4.4	4/7	10.	6/30	1.0
1/8	14.	4/9	10.	7/2	< 1.0
1/10	7.0	4/11	1.6	7/3	0.94
1/13	14.	4/14	7.9	7/7	1.5
1/15	18.	4/16	1.2	7/9	1.0
1/17	18.	4/18	< 0.10	7/11	0.98
1/22	9.1	4/21	2.2	7/14	1.3
1/24	7.8	4/23	2.6	7/16	< 0.10
1/27	5.0	4/25	19.	7/18	< 0.10
1/31	13.	4/28	0.18	7/21	1.1
2/3	3.6	4/30	2.8	7/23	4.5
2/5	3.9	5/2	11.	7/25	5.6
2/7	6.4	5/5	< 0.10	7/28	5.9
2/10	9.3	5/7	6.4	7/30	7.7
2/12	4.2	5/9	3.4	8/1	4.6
2/14	9.4	5/12	6.2	8/4	6.6
2/17	10.	5/14	4.4	8/6	5.8
2/19	4.1	5/16	2.4	8/8	3.1
2/20	1.5	5/19	0.68	8/11	4.8
2/24	13.	5/21	1.0	8/13	5.3
2/26	3.7	5/23	4.6	8/15	4.2
2/28	6.4	5/26	< 0.10	8/18	8.2
3/3	23.	5/28	< 0.10	8/20	5.5
3/5	4.2	6/2	1.8	8/22	12.
3/14	17.	6/4	2.1	8/25	16.
3/17	12.	6/9	1.3	8/27	6.6
3/19	4.6	6/11	0.84	8/29	6.9
3/21	4.0	6/13	0.60	9/2	14.
3/24	14.	6/16	0.88	9/3	25.
3/26	12.	6/18	1.7	9/5	6.2
3/28	3.5	6/20	4.7	9/8	8.8
4/1	5.2	6/23	1.9	9/10	12.

APPENDIX B

TABLE 10 (Continued)
BETA ACTIVITY IN 100-N
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02			
9/12	4.4	12/3	10.
9/15	5.6	12/5	8.8
9/17	17.	12/8	16.
9/19	3.5	12/10	5.9
9/22	20.	12/12	11.
9/24	19.	12/15	9.8
9/26	16.	12/17	7.0
9/29	14.	12/19	6.0
10/1	19.	12/22	7.7
10/3	15.	12/23	10.
10/6	16.	12/26	11.
10/8	8.2	12/29	13.
10/10	12.	12/31	15.
10/13	13.		
10/15	19.		
10/17	24.		
10/20	2.3		
10/22	1.3		
10/24	5.1		
10/27	9.2		
10/29	2.3		
10/31	8.0		
11/3	16.		
11/5	7.4		
11/7	9.4		
11/10	9.3		
11/12	12.		
11/14	0.78		
11/17	12.		
11/19	12.		
11/21	0.38		
11/24	< 0.10		
11/26	< 0.10		
12/1	7.1		

APPENDIX B

TABLE 11
BETA ACTIVITY IN 100-K DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml	Date	c/m/ml
Analytical Limit = 0.02			
1/2	0.28	9/29	-
1/6	0.05	10/6	-
1/13	0.62	10/13	-
1/20	0.33	10/20	-
1/27	0.02	10/27	-
2/3	0.02	11/3	0.02
2/10	0.44	11/10	-
2/17	0.44	11/17	-
2/24	0.16	11/24	-
3/17	0.65	12/1	-
3/24	0.21	12/8	-
4/1	0.18	12/15	-
4/7	0.03	12/22	-
4/14	0.10	12/29	-
4/21	0.07		
4/28	-		
5/12	-		
5/19	-		
5/26	-		
6/2	-		
6/9	-		
6/16	-		
6/23	-		
6/30	-		
7/7	0.14		
7/14	-		
7/21	-		
7/28	-		
8/4	-		
8/11	-		
8/25	-		
9/2	-		
9/8	-		
9/15	-		
9/22	-		

Results less than the analytical limit are indicated by a (-).

APPENDIX B

TABLE 12
BETA ACTIVITY IN 100-D
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml
Analytical Limit = 0.02	
1/2	0.10
1/6	0.42
1/13	0.66
1/20	0.05
1/27	0.04
2/3	0.07
2/17	0.06
2/24	0.07
3/3	0.07
3/10	0.03
3/17	0.03
3/24	0.07
4/1	0.21
4/7	0.04
4/14	0.17
4/21	0.05
4/28	0.36
5/5	0.04
5/12	0.03
5/19	-
5/26	-
6/2	0.02
6/9	-
6/16	-
6/22	-

Results less than the analytical limit are indicated by a (-).

APPENDIX B

TABLE 13
BETA ACTIVITY IN 200-W
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml
Analytical Limit = 0.02	
1/2	0.02
1/6	0.04
1/13	0.06
1/20	0.02
1/27	0.05
2/3	0.06
2/10	0.02
2/17	0.03
2/24	0.06
3/3	0.02
3/17	-
3/24	0.03
4/1	0.04
4/7	0.02
4/14	-
4/21	0.04
4/28	0.05
5/12	0.02
5/19	0.02
5/26	0.02
6/2	0.02
6/9	-
6/16	-
6/23	-
7/22	-
8/19	-
9/23	-
10/21	-
11/18	-
12/23	-

Results less than the analytical limit are indicated by a (-).

APPENDIX B

TABLE 14
BETA ACTIVITY IN B-Y PHONE
DRINKING WATER (GRAB SAMPLES)-1969
Units of counts/minute/milliliter of Water

Date	c/m/ml
Analytical Limit = 0.02	
1/6	0.17
2/7	<0.10
3/7	<0.10
4/21	<0.09
5/20	<0.10
6/6	<0.10
6/30	<0.10
8/4	<0.10
9/9	<0.10
10/27	<0.10
12/1	<0.10
12/29	<0.09

APPENDIX C

APPENDIX C

TABLE 1
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF WHITEFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Ringold							
1/13	15.	140	5.1	0.89	1.1	16.	0.53
1/14	8.0	49.	6.2	0.76	0.78	14.	0.47
1/14	14.	9.2	3.9	1.1	1.2	19.	0.57
1/15	7.3	34.	3.9	0.79	1.5	16.	0.35
1/15	8.8	53.	3.7	2.0	1.2	24.	<0.23
1/27	6.1	9.2	3.3	0.88	1.1	14.	0.54
1/27	6.5	39.	2.4	1.5	1.4	18.	0.31
1/27	5.0	52.	<2.6	2.4	1.7	17.	0.71
1/28	4.0	4.0	4.5	0.39	0.56	14.	0.61
1/28	< 2.0	28.	4.0	1.0	1.1	16.	0.60
2/10	7.1	6.6	5.0	0.96	1.4	7.7	0.55
2/10	11.	2.9	2.9	0.66	1.2	14.	0.50
2/11	5.0	22.	3.8	0.57	0.64	24.	0.13
2/11	7.4	44.	4.4	1.3	1.4	20.	0.53
2/11	4.5	6.2	4.1	0.23	0.57	12.	0.21
2/24	6.2	4.0	3.0	0.99	2.5	12.	0.56
2/24	6.4	6.2	4.7	1.0	1.7	16.	0.55
2/24	7.7	2.2	5.4	0.88	2.1	14.	0.52
2/24	13.	46.	6.3	0.55	0.77	24.	0.22
2/24	2.3	2.6	4.4	0.73	1.6	9.6	0.55
3/10	28.	3.6	4.3	0.45	1.0	12.	0.52
3/10	25.	3.9	3.4	0.43	1.6	11.	0.63
3/10	17.	2.4	4.1	0.49	0.81	16.	0.35
3/10	9.4	5.4				15.	0.57
3/10		-	7.1			3.9	0.14
3/24	5.5	4.9	2.1	0.80	1.1	13.	0.24
3/24	8.7	2.9	3.6	0.24	0.76	8.8	<0.12
3/24	24.	3.2	2.9	0.72	1.4	13.	0.58
3/24		5.2	16.			11.	0.34
3/24		7.9	2.9			5.1	<0.11
4/7	5.9	6.3	6.3	0.64	0.85	15.	0.53

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX C

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF WHITEFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Ringold (Continued)							
4/7	5.9	25.	8.1	0.63	0.76	15.	0.48
4/7	11.	18.	5.8	1.5	2.0	18.	0.47
4/7	6.4	21.	4.9	0.65	1.4	13.	0.49
4/7	10.	20.	4.6	0.47	1.0	12.	0.48
4/21	5.4	4.2	3.1	0.44	1.6	9.4	0.39
4/21	6.9	6.0	4.9	0.55	1.5	9.8	0.54
4/21	14.	2.1	6.7	0.19	0.17	8.7	0.24
4/22	3.6	5.1	4.0	0.48	1.5	9.1	0.58
4/22	4.0	5.2	4.8	0.63	1.5	8.9	0.64
5/12	4.3	2.1	4.3	0.45	0.93	9.3	0.34
5/12	4.7	2.1	3.0	0.41	1.1	8.8	0.31
5/12	5.7	1.3	2.5	0.32	0.89	9.1	0.28
5/12	7.5	1.1	4.4	0.47	1.6	9.8	0.35
5/12	< 0.91	-	3.2	0.17	0.48	7.1	0.30
5/26		-	3.6			1.8	0.10
5/26		1.0	5.8			7.5	0.50
5/26	0.99	0.96	3.2	0.24	0.93	5.2	0.32
5/26	1.0	1.1	3.2	0.44	0.95	9.0	0.53
5/26		-	8.4			7.0	0.55
6/9	13.	-	3.1	-	0.45	6.1	0.57
6/9		-	8.7			6.4	0.70
6/9	26.	16.	4.7	0.23	0.48	4.4	-
6/9		2.2	8.5			2.5	-
6/9		1.6	7.1			1.6	0.10
6/30		13.					
6/30		6.0					
6/30		3.1					
6/30		14.					
6/30		6.4					
6/30Comp*	12.		4.5	0.25	0.71	4.6	0.35

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF WHITEFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Ringold (Continued)							
7/14		5.0					
7/14		15.					
7/14		7.9					
7/14		7.4					
7/14		79.					
7/14		34.					
7/14		10.					
7/14		21.					
7/14		14.					
7/14		160					
7/14Comp*	16.		5.5	0.77	0.94	6.8	0.39
7/28		8.3					
7/28		51.					
7/28		13.					
7/28		82.					
7/28		54.					
7/28		79.					
7/28		110					
7/28		52.					
7/28		61.					
7/28		150					
7/28Comp.	37.		4.4	0.64	0.26	3.7	0.30
8/11		8.8					
8/11		23.					
8/11		42.					
8/11		6.6					
8/11		15.					
8/11		29.					
8/11		19.					
8/11		78.					
8/11		53.					
8/11		57.					
8/11Comp.	23.		3.5	0.38	0.23	2.0	0.11

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF WHITEFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Ringold (Continued)							
9/2		130					
9/2		110					
9/2		220					
9/2		150					
9/2		200					
9/2Comp*	62.		3.5	1.4	0.74	8.4	0.37
9/22		150					
9/22		70.					
9/22		97.					
9/22		180					
9/22		140					
9/22Comp.	32.		6.2	1.5	0.97	12.	0.38
10/6		36.					
10/6		97.					
10/6		56.					
10/6		27.					
10/6		48.					
10/6Comp.	35.		4.0	1.4	1.1	8.5	0.41
10/28		9.8					
10/28		41.					
10/28		35.					
10/28		32.					
10/28		98.					
10/28Comp.	12.		-	1.7	0.91	7.0	0.46
11/10Comp.	24.		3.5	<1.3	0.92	5.5	0.65
11/10		3.9					
11/10		31.					
11/10		19.					
11/10		14.					
11/10		17.					
12/1		20.					

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF WHITEFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Ringold (Continued)							
12/12		18.					
12/12		30.					
12/12		53.					
12/12		73.					
12/22		30.					
12/22		25.					
12/22		32.					
12/22		29.					
12/22		26.					
12/22Comp*	7.6		3.0	1.4	1.0	7.7	0.31

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 2
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF BASS TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Island View							
2/27		-	27.			15.	<0.75
2/27		-	5.5			2.5	0.19
3/11		-	2.7			2.3	0.22
6/10		35.	3.0			5.1	0.12
6/10	< 1.8	27.	2.8	<0.21	-	8.4	0.31
6/13		-	2.3			5.3	<0.12
6/13		1.4	2.8			7.1	<0.19
8/25		1.0					
8/26		7.9					
8/26		9.2					
8/27		11.					
8/29		170					
8/29		81.					
8/25-8/29Comp*	<21.		3.2	-	-	3.3	0.22
9/16		27.					
9/16		71.					
9/16		74.					
9/16		46.					
9/17		100					
9/18		69.					
9/16-9/18Comp.	-		3.6	-	-	6.6	0.21
10/24		24.					
10/24Comp.			5.3			5.9	0.37
Burbank							
4/22		-	3.2			5.6	0.15
4/22		-	3.1			7.0	<0.19
5/21		-	3.9			7.6	<0.12
5/21		1.3	4.5			6.6	0.27
5/21		2.7	2.6			6.2	<0.14
5/21		-	2.9			6.9	<0.15

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 2 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF BASS TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
6/3		-	3.1			3.8	0.32
6/3		-	3.9			4.4	0.18
6/3		-	3.1			3.9	0.12
6/3		-	4.0			4.1	0.15
6/11		-	2.5			6.6	0.16
7/7		4.4					
7/8		2.2					
7/8		-					
7/8		-					
7/8		5.4					
7/9		-					
7/9		1.7					
7/9		3.8					
7/10Comp*			3.1			3.4	0.17
7/10		2.4					
7/10		15.					
8/6		2.9					
8/6		26.					
8/8		-					
8/14		15.					
8/14Comp.			4.2			4.4	0.33
9/10		22.					
9/12		87.					
9/12		48.					
9/12		27.					
9/10-9/12Comp			3.5			4.7	0.18
Hover							
3/7		-	3.0			4.4	0.24
5/16		-	4.0			6.9	0.31
5/29		-	3.4			-	<0.57
6/18		-	<5.1			7.8	<0.40
7/13		22.					

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 3
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CATFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Island View							
3/11		-	4.4			0.75	<0.22
3/11		-	4.6			1.6	<0.14
3/27		8.6	4.6			<0.49	<0.28
4/8		-	2.2			7.5	-
4/9		-	<1.7			<0.23	-
4/10		-	2.7			3.2	0.39
4/23		-	1.8			2.6	0.23
4/23		-	2.5			3.2	0.25
4/23		-	2.0			2.0	0.11
4/24		3.5	3.7			5.9	0.98
4/24		-	2.7			2.8	0.32
4/24		-	2.2			2.3	0.13
4/24		-	2.6			2.6	0.34
5/6		-	2.7			1.1	<0.11
5/6		-	1.7			2.6	-
5/6		2.7	2.6			3.0	-
5/6		-	2.3			4.2	-
5/14		-	2.6			0.72	-
5/14		-	2.6			0.72	-
5/21		8.1	3.2			0.32	-
5/21		-	3.2			1.1	-
5/21		-	3.0			-	0.11
5/10		12.	6.7			5.0	0.22
5/10		10.	2.5			5.0	0.19
6/13		2.7	3.0			3.0	-
6/13		2.5	2.8			2.5	-
6/13		1.1	3.4			5.9	-
6/13		2.6	3.2			2.1	0.11
6/13		-	2.5			5.8	-
6/13		11.	3.7			3.1	<0.18
6/24		-	3.0			3.9	0.21
7/24		-					
7/24		-					
7/24		4.7					

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 3 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CATFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Island View (Continued)							
7/25		-					
7/25		4.8					
7/25		4.3					
7/25		-					
7/25		-					
7/25		6.6					
7/25		1.7					
7/25 Comp.*			2.7			2.4	0.18
8/26		1.3					
8/27-8/29 Comp.			1.8			3.2	0.32
8/27		7.8					
8/27		27.					
8/27		23.					
8/29		20.					
9/18		19.					
9/23		-					
9/23		-					
9/24		7.5					
9/24		8.4					
9/24		42.					
9/18 Comp.			3.3			2.1	-
10/23		-					
10/23		-					
10/23		-					
10/23		-					
10/24		8.1					
10/24 Comp.			<2.0			6.1	0.58
11/21		-					
12/5		-					
12/5		-					

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 3 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CATFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank							
2/18		-	3.7			6.0	-
2/19		-	3.1			5.4	0.16
2/19		-	3.3			6.5	0.17
2/19		-	3.0			5.9	0.17
3/5		-	2.4			5.5	0.14
3/5		-	2.3			6.0	0.15
3/5		-	2.2			10.	-
3/5		-	3.1			2.8	-
3/5		-	3.0			7.9	0.15
3/5			2.9			5.7	0.15
3/6		-	2.7			2.5	0.18
3/6		-	2.8			5.6	-
3/6		-	3.0			1.2	-
3/6		-	2.8			0.91	-
4/3		-	2.0			3.6	0.11
4/3		-	1.9			4.0	-
4/3		-	2.0			3.8	-
4/3		-	2.4			3.4	-
4/3		-	1.4			3.5	-
4/3		-	2.6			3.5	-
4/3		-	2.8			1.7	0.15
4/3		-	1.6			6.1	-
4/3		-	1.9			7.1	-
4/3		14.	2.5			5.0	-
5/7		1.2	2.8			4.2	-
5/7		4.5	2.3			4.2	-
5/7		1.8	2.9			2.4	-
5/7		-	2.0			4.7	-
5/7		-	2.8			3.6	-
5/7		-	2.6			3.4	-
5/7		-	3.2			4.8	0.13
5/7		-	3.3			4.2	0.13
5/7		-	2.7			5.9	-
5/7		1.3	3.0			5.9	0.11

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 3 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CATFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
6/3		-	3.2			4.3	-
6/3		-	2.8			5.2	-
6/3		-	3.1			2.2	-
6/3		-	2.1			4.6	-
6/3		-	2.5			4.1	-
6/3		-	2.7			7.0	0.14
6/3		-	2.6			3.8	0.15
6/3		-	2.3			2.9	-
6/3		-	2.3			6.8	<0.11
6/11		-	3.0			5.0	0.13
7/1		-					
7/1		1.1					
7/1		5.8					
7/1		-					
7/1		-					
7/1		3.0					
7/1		1.3					
7/1		1.2					
7/1		-					
7/1		-					
7/1Comp*			2.9			4.1	-
8/5		1.8					
8/6		-					
8/6		1.1					
8/6		1.9					
8/6		1.7					
8/6		2.7					
8/6		2.7					
8/6		8/6					
8/8		1.7					
8/8		-					
8/6Comp.			2.3			3.0	-

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 3 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CATFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
9/11		1.7					
9/11		34.					
9/12		74.					
9/12		83.					
9/12		130					
9/12		30.					
9/12		110					
9/12		25.					
9/12		37.					
9/12		96.					
9/12 Comp*		130	3.1			4.2	-
Hover							
3/7		-	4.8			4.1	<0.16
3/12		-	2.1			5.7	-
3/12		-	2.4			4.3	-
3/12		-	2.4			6.8	-
3/18		-	3.3			5.3	<0.18
3/19		-	< 2.4			4.9	0.20
3/20		-	3.6			3.7	<0.13
4/2		-	4.0			5.7	0.11
4/9		-	2.6			9.4	-
5/7		-	3.1			2.4	0.17
5/7		-	2.0			4.2	0.11
5/7		-	3.5			6.8	-
5/15		-	5.9			4.7	0.43
5/15		3.0	4.1			4.0	<0.25
5/23		-	2.4			6.6	-
6/16		7.1	5.4			5.8	<0.19
6/16		3.3	4.0			4.6	<0.18
6/17		11.	<3.2			4.9	<0.25

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 3 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CATFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Hover (Continued)							
7/29Comp*	5.5		3.2	-	-	4.9	-
7/29		-					
7/29		-					
7/29		3.6					
7/29		34.					
7/29		34.					
7/29		26.					
7/31		13.					
7/31		44.					
7/31		19.					
7/31		19.					
8/19		17.					
8/19		10.					
8/19		1.4					
8/19		-					
8/19		12.					
8/20		8.2					
8/20		7.6					
8/20		3.5					
8/20		11.					
8/20		8.4					
8/20Comp.			4.6			5.6	0.13
9/3		51.					
9/5		45.					
9/5		47.					
9/5		39.					
9/30		9.6					
9/30		22.					
9/30		-					
9/30		30.					
9/30		11.					
9/30Comp.			3.3			4.6	-

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 3 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CATFISH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Hover (Continued)							
11/18		8.3					
11/18		-					
11/18		16.					
11/18		1.6					
11/18		2.5					
11/18Comp*	-		2.6	-	-	6.6	0.13
11/13		3.0					

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 4
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CRAPPIE TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Island View							
2/27		-	2.8			5.6	<0.15
2/27		-	3.4			5.1	0.19
2/27		-	3.3			5.4	0.30
3/11		-	4.2			3.9	0.13
3/11		-	4.2			6.7	0.20
3/11		-	4.1			2.9	0.14
3/11		-	5.4			6.4	<0.19
3/11		-	<2.4			7.1	<0.19
3/11		-	<3.1			6.0	<0.24
3/11		-	5.9			3.2	<0.27
3/11		-	<2.9			2.2	<0.23
4/8	<1.9	-	<2.5	<0.25	<0.16	7.0	<0.19
4/9		-	<3.2			6.1	<0.25
4/10		-	<1.8			21.	<0.14
4/24		-	<3.9			0.68	<0.30
5/6		-	<2.7			4.6	<0.21
5/6		-	<2.6			4.9	<0.20
5/13		5.7	3.8			7.1	<0.19
6/13		-	2.6			5.7	-
6/13		2.3	<2.5			5.7	0.32
6/24		-	2.5			3.1	-
6/24		-	3.5			2.4	-
6/24		-	2.7			4.6	<0.11
6/24		3.8	<3.0			1.9	<0.24
7/24		4.7					
7/24		2.4					
7/25		2.5					
7/25		2.0					
7/25		2.3					
7/25		2.8					
7/25		2.4					
7/25		1.3					
7/25		3.6					

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 4 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CRAPPIE TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Island View (Continued)							
7/25Comp*	< 2.8		3.2	-	-	5.4	0.21
9/20		40.					
9/20		2.8					
9/20		2.1					
9/20		4.0					
9/23		3.8					
9/23		52.					
9/24		70.					
9/23Comp.			3.9			3.6	0.29
10/23		41.					
11/21		24.					
11/21		1.9					
12/3		-					
12/5		2.0					
12/3-12/5Comp.			3.5			5.0	0.25
Burbank							
2/14		-	5.7			9.4	<0.21
3/6		-	3.0			8.3	<0.19
3/21		-	<2.9			4.5	<0.23
4/3		-	1.9			8.3	<0.13
4/3		-	<2.2			7.8	<0.17
4/3		-	<2.2			5.3	<0.17
4/29		-	2.9			6.7	<0.11
4/29		2.2	<2.6			5.9	<0.20
4/29		1.0	3.7			6.7	<0.18
4/29		-	4.3			4.5	<0.24
4/30		-	3.2			5.1	0.13

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 4 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CRAPPIE TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
4/30		-	3.4			7.0	-
4/30		-	5.0			7.8	0.19
5/2		-	3.7			6.8	<0.13
5/2		-	<2.3			5.8	<0.18
5/2		-	<2.0			6.2	<0.16
5/7		1.2	2.0			4.9	<0.14
5/7		-	3.2			4.2	0.18
5/7		-	3.7			4.7	<0.13
5/21		1.7	2.8			5.8	<0.21
6/3		-	4.6			4.9	<0.15
6/3		-	2.9			5.0	<0.30
6/11		-	3.4			4.5	0.22
6/11		-	2.4			6.4	0.14
7/1		-					
7/1		-					
7/1		5.6					
7/7		-					
7/8		6.8					
7/8		5.9					
7/8		5.3					
7/16		4.8					
7/16		6.3					
7/16		4.3					
7/1Comp*			3.3			4.8	0.16
8/4Comp.			-			3.3	<0.25
8/6		2.0					
8/6		18.					
8/6		8.6					
8/6		13.					
8/6		7.1					
8/13		8.6					
8/13		3.7					
8/15		42.					

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 4 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CRAPPIE TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
8/15		4.9					
8/15Comp*	< 2.8		2.6	-	-	4.5	0.25
9/9		24.					
9/9		26.					
9/9		58.					
9/10		38.					
9/10		29.					
9/10		39.					
9/9-9/10Comp.			2.7			5.4	-
9/11		55.					
9/11		110					
Hover							
3/12		-	2.3			8.4	<0.13
3/14		-	2.5			7.4	0.15
3/18		1.6	4.3			4.0	<0.20
3/20		-	3.3			7.9	0.36
4/2		5.9	4.4			3.5	0.39
4/2		-	3.3			1.5	<0.20
4/2		-	6.1			5.8	<0.25
4/2		1.1	4.8			8.8	<0.24
4/3		-	4.8			11.	0.43
4/3		1.2	2.8			8.4	<0.21
4/9		-	<2.8			7.0	<0.22
4/18		-	5.8			7.5	<0.26
4/23		5.1	<3.5			7.6	<0.27
5/1		2.9	<2.8			7.2	0.25
5/2		-	3.6			5.2	0.30
5/15		13.	<2.3			6.5	<0.18
5/15		4.1	2.2			8.0	<0.14
5/15		3.0	2.3			7.1	0.19
5/15		2.7	<2.8			6.4	<0.22
5/15		11.	3.9			6.1	<0.16
5/16		11.	<1.3			2.6	-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 4 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CRAPPIE TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Hover (Continued)							
6/18		22.	<5.3			6.3	0.42
7/29		20.					
7/29		37.					
7/31		13.					
7/31		22.					
7/31		13.					
8/1		38.					
8/1		48.					
8/1		15.					
8/20		3.9					
9/30Comp*			5.6			6.2	<0.19
9/30		17.					
9/30		2.1					
9/30		7.7					

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 5
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF PERCH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Island View							
3/28		-	6.9			5.2	0.22
3/28		-	6.4			5.4	0.37
4/8		-	<2.4			5.5	<0.19
4/8		-	<3.0			6.7	<0.23
4/8		-	2.8			4.4	<0.18
4/8		-	3.6			5.4	<0.23
4/8		-	<2.0			3.9	<0.16
4/8		-	3.2			4.2	<0.18
4/8		-	<2.4			4.7	<0.19
4/8		-	<2.8			4.0	<0.22
4/9		-	3.1			4.7	<0.19
4/24		2.0	4.8			5.1	0.30
5/13		4.6	3.5			7.0	<0.16
5/20		-	4.1			4.5	<0.14
5/20		-	4.2			4.7	<0.15
5/20		-	3.4			5.3	<0.15
5/20		-	<2.2			5.0	<0.18
5/20		-	3.1			5.7	<0.15
5/20		-	4.1			4.8	<0.13
5/20		-	2.5			6.9	<0.14
5/20		2.5	3.3			5.4	0.34
5/20		3.8	3.3			5.8	<0.14
6/13		-	2.6			4.1	<0.20
6/13		-	3.8			3.6	<0.19
6/13		36.	2.7			6.3	0.17
6/13		41.	3.5			4.8	0.15
6/13		14.	3.7			4.5	0.16
9/20		71.					
9/23		4.0					
10/23		3.0					
10/23		2.0					
10/23		2.0					
10/23		-					
10/23		2.5					
10/23		-					
10/23		-					
11/20		-					
11/21		-					

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 5 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF PERCH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank							
1/21		2.7	<4.0			7.4	<0.34
1/21		-	<3.8			5.1	<0.32
2/14		2.5	<2.6			7.7	0.21
2/14		-	1.7			4.9	0.13
2/14		-	3.6			5.3	<0.15
2/14		-	2.6	<0.21		7.5	<0.16
2/14		-	3.6			8.4	0.48
2/14		1.0	3.8			4.9	<0.18
2/14		-	4.6			6.0	0.36
2/14		-	2.8			4.0	<0.15
3/5		-	3.6			5.4	<0.19
3/5		-	3.6			8.1	0.40
3/5		-	5.1			7.6	0.19
3/5		-	3.6			7.0	<0.18
3/6		-	2.2			3.8	<0.16
3/6		-	3.0			4.5	<0.14
3/6		-	2.9			2.4	<0.14
3/6		-	3.7			5.7	<0.17
3/6		-	2.9			6.7	0.21
3/6		-	4.0			6.8	<0.16
4/3		-	3.1			5.3	0.20
4/3		-	2.8			5.8	<0.17
4/3		-	3.8			4.9	<0.19
4/3		-	<3.1			8.9	<0.24
4/3		-	4.7			3.7	<0.20
4/3		-	<2.1			3.9	<0.16
4/3		-	3.9			5.6	<0.22
4/3		-	<3.9			6.8	<0.30
4/29		-	3.0			4.7	<0.13
4/29		-	3.6			6.2	<0.15
5/2		-	<2.1			3.6	<0.17
5/2	<14.	-	2.2	<0.18	-	3.6	<0.14
5/2		-	3.6			4.2	<0.14
5/2		-	2.6			6.6	<0.15
5/2		-	<2.1			4.0	<0.16
5/2		-	<1.8			6.0	<0.14
5/2		-	2.4			4.8	<0.16

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 5 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF PERCH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
5/2		-	<1.9			4.4	<0.15
5/7		-	3.6			5.8	0.18
5/21		-	3.4			7.4	<0.22
5/21		-	3.2			6.1	<0.15
6/3		-	3.6			3.1	0.25
6/3		-	2.9			2.8	<0.15
6/3		-	2.3			3.7	<0.15
6/3		-	4.1			5.3	0.34
6/3		-	4.0			5.3	<0.15
6/3		-	3.5			4.3	<0.13
6/3		-	3.8			5.2	0.19
6/11		-	2.8			4.0	<0.12
6/11		-	3.7			4.3	<0.12
6/11		-	3.3			4.3	0.20
7/1		1.3					
7/3		-					
7/3		2.2					
7/15		2.2					
7/17		7.9					
7/17		3.2					
7/17		5.7					
7/17		6.8					
7/17		10.					
8/4		11.					
8/11		35.					
8/12		14.					
8/12		13.					
8/12		14.					
8/13		19.					
8/13		8.1					
8/13		22.					
8/13		14.					
8/14		11.					
9/8		21.					
9/8		130					
9/9		140					

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 5 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF PERCH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
9/10		17.					
9/10		18.					
9/10		8.4					
9/10		21.					
9/11		24.					
9/11		11.					
9/11		31.					
9/10-9/11 Comp*			2.8			3.9	-
10/14		19.					
10/15		25.					
10/29		5.7					
10/29		24.					
10/29		4.5					
10/29		16.					
10/29		13.					
12/11		2.6					
12/11		1.5					
12/11		2.0					
12/11		6.0					
12/11		6.7					
12/11		5.1					
12/11		7.9					
12/11		5.8					
12/11		3.0					
12/11		3.6					
Hover							
3/7		-	2.9			5.1	<0.14
3/7		-	< 1.9			2.9	0.15
3/12		-	3.7			5.9	0.52
3/12		-	3.3			4.7	0.76
3/12		-	3.6			3.1	<0.15

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 5 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF PERCH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Hover (Continued)							
3/12		-	<2.0			7.4	0.61
3/12		-	<2.3			6.7	<0.18
3/12		-	3.9			7.0	<0.20
3/12		-	3.6			4.3	<0.17
3/12		-	3.7			3.8	<0.17
4/4		-	6.4			7.3	0.28
4/4	<82.	2.0	5.5	<0.29	0.21	8.2	0.35
4/11	<1600	-	<2.6	<0.27	<0.17	5.4	0.21
4/11		1.0	4.0			5.0	0.68
4/18		-	2.5			7.9	0.29
4/23		4.8	3.0			5.6	<0.20
4/23		6.3	2.8			5.9	<0.20
4/23		1.2	<2.8			8.4	<0.22
4/23		6.1	4.5			6.1	<0.21
4/24		-	2.3			4.8	0.25
5/1		4.3	3.5			5.2	0.21
5/2		2.2	<1.7			8.2	0.21
5/15		6.3	<4.4			5.6	<0.35
5/15		-	3.4			6.2	0.38
5/19		5.0	4.3			6.5	0.46
5/20		4.1	4.5			4.5	<0.15
5/20		3.6	4.5			6.1	0.20
5/21		-	3.4			4.7	<0.15
5/21		-	5.3			4.4	<0.14
5/22		1.6	2.0			6.9	0.32
5/22		1.8	<2.4			6.4	0.29
6/5		2.5	5.4			5.7	0.22
6/5		2.4	4.5			6.9	0.59
6/6		1.1	3.9			4.7	0.50
6/16		36.	3.8			6.6	0.23
6/16		21.	3.2			5.8	<0.12
6/17		7.5	3.5			5.3	0.19
6/17		7.7	<2.5			4.9	<0.19
6/17		4.7	4.7			5.6	0.34
6/17		12.	3.4			6.2	0.29
6/17		34.	4.4			5.9	0.25

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 5 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF PERCH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Hover (Continued)							
7/29		11.					
7/29		19.					
7/29		67.					
7/29		52.					
7/29		63.					
7/29		71.					
7/29		64.					
7/29		54.					
7/29		56.					
7/29		49.					
7/29Comp*			8.0			6.3	0.56
8/19		9.4					
8/19		4.7					
8/19		52.					
8/19		32.					
8/20		24.					
8/20		37.					
8/20		48.					
8/20		33.					
8/20		47.					
8/20		42.					
8/19Comp.			3.2			4.7	0.59
9/4		66.					
9/4		110					
9/4		50.					
9/4		39.					
9/4		71.					
9/5		48.					
9/5		100					
9/5		39.					
9/5		44.					
9/5		34.					
10/1		10.					
10/1		13.					
10/1		80.					
10/1		12.					

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 5 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF PERCH TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Hover (Continued)							
10/1		22.					
10/1		19.					
10/1		13.					
10/1		26.					
10/1		33.					
10/3		62.					
11/13		5.7					
11/13		30.					
11/13		37.					
11/13		26.					
11/13		130					
11/13		23.					
11/13		29.					
11/13		18.					
11/13		14.					
11/13Comp*	-		4.3	-	-	7.8	-
11/18		14.					
11/18		3.7					
11/18		11.					
12/18		2.6					
12/18		2.0					
12/18		3.6					
12/18		3.4					
12/18		4.1					
12/18		2.1					
12/19		1.3					

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 6
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CARP TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank							
2/13		-	3.7	-		9.6	-
2/13		-	3.3			17.	<0.11
2/14		-	2.6			13.	-
2/14		-	3.0			22.	-
2/14		-	2.7			15.	-
2/14		-	3.0			12.	-
2/18		1.2	3.0	-		15.	0.10
2/18		-	3.0	-		18.	-
2/18		-	3.4			7.0	-
3/5		-	3.1			14.	0.10
3/5		-	3.1			13.	-
3/5		1.1	2.9			14.	-
3/5		-	2.6			14.	0.14
3/5		-	2.7			15.	-
3/5		-	2.3			11.	-
3/5		-	2.7			17.	-
3/6		-	2.4			0.35	-
3/6		-	3.0			13.	<0.10
3/6		-	3.8			4.2	-
4/3		-	2.5			20.	-
4/3		-	2.5			19.	-
4/3		1.3	2.8			12.	-
4/30		-	2.6			21.	-
5/21		4.5	3.8			24.	0.33
5/21		3.4	3.2			10.	-
5/21		4.9	3.5			15.	0.12
5/21		-	2.5			9.4	<0.11
6/3		-	3.4			22.	-
6/3		-	3.1			14.	0.16
6/3		-	2.6			0.80	0.12
6/11		1.0	3.4			11.	-
6/11		1.5	2.8			13.	-
6/11		1.1	3.5			8.6	-
6/11		-	2.2			12.	0.10
6/11		-	3.0			13.	0.16
6/11		-	2.2			6.6	-
6/11		-	2.6			12.	0.12

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 6 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CARP TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Burbank (Continued)							
7/1		1.4					
7/1		11.					
7/1		4.8					
Island View							
2/27		-	3.6	-		25.	-
2/27		-	3.9			17.	-
2/27		-	3.1	-		24.	-
2/27		-	3.1			2.8	-
2/27		-	2.4			3.1	-
2/27		-	3.7	-		23.	0.11
2/27		-	3.7			21.	-
2/27		-	3.5	-		7.2	0.14
2/27	< 0.88	-	1.6	0.16	0.15	19.	0.46
2/27		-	3.7			0.25	-
3/11		-	3.1			2.4	-
3/11		-	2.9			2.3	-
3/11		-	2.8			10.	0.11
3/11		-	1.8			0.91	-
3/11		-	3.5			12.	-
3/11		-	4.8			15.	0.34
3/11		-	2.4			11.	<0.12
3/11		-	3.5			9.6	<0.12
3/11		-	2.8			3.8	<0.11
3/11		-	4.1			2.6	<0.11
4/8		-	2.3			11.	-
4/9		-	2.1			2.1	-
4/10		-	5.9			33.	0.57
4/24		-	2.9			-	-
4/24		-	2.4			1.4	-
5/12	2.2	4.9	3.3	-	0.22	14.	0.38
5/12		2.1	4.2			12.	<0.11
5/13		-	3.5			1.3	-
5/13		1.0	2.6			1.7	-
5/14		-	3.3			2.9	<0.11
5/14		-	-			15.	-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 6 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CARP TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Island View (Continued)							
5/14		-	2.7			3.4	-
5/14		-	2.8			2.6	-
5/14		-	2.6			14.	-
5/14		3.1	3.2			3.2	-
6/10		-	2.8			6.9	0.17
6/10	<0.89	1.2	3.5	-	-	11.	0.16
6/10		-	3.1			9.0	0.16
6/13		5.7	3.9			9.4	0.13
6/24		-	2.8			6.6	-
6/24		-	2.6			2.2	-
6/24		2.7	2.6			15.	-
11/20		12.					
11/20		-					
11/20		3.3					
11/21		2.4					
11/21		12.					
11/21		1.3					
11/21Comp*			2.7			6.1	-
12/3		2.0					
12/3		-					
12/3		-					
12/5		1.2					
12/5		2.9					
12/5		-					
12/3Comp.			3.0			5.0	-
Hover							
3/3		-	2.2			20.	0.14
3/4		-	3.4			2.7	-
3/4		-	3.1			12.	-
3/4		-	2.8			13.	0.15
3/12		-	2.4			47.	-

* Composites consisting of equal weights from five fish that were analyzed for ^{32}P were also analyzed for gamma-emitting radionuclides.
No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 6 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF CARP TAKEN FROM THE COLUMBIA RIVER-1969
Units of picoCuries/gram (wet weight)

Date	^{24}Na	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	0.6	1.0	1.0	0.15	0.15	0.2	0.1
Hover (Continued)							
3/12		-	1.8			8.9	-
3/12	< 1.6	-	3.0	-	-	15.	-
3/12		-	1.9			9.7	-
3/14	<25.	-	1.9	-	-	33.	-
3/14		-	2.9			13.	-
3/14		-	2.2			17.	-
4/2		1.5	4.8			20.	<0.11
4/3		4.0	2.9			8.7	<0.12
4/9	-	-	2.6	-	-	11.	-
4/9		2.3	2.6			18.	-
4/9		-	3.0			13.	-
4/10		3.0	-			0.44	-
4/18		2.9	3.5			11.	0.16
4/18	<30.	3.4	2.8	-	-	9.9	<0.11
4/24		2.0	3.4			13.	-
5/2	< 6.3		3.2	-	-	15.	0.11
5/2	7.1	-	2.2	-	-	17.	0.13
5/9		-	2.8			12.	-
5/16		7.3	4.4			16.	0.29
5/16		8.4	3.3			11.	-
5/19		12.	2.8			20.	-
5/20		4.4	3.2			13.	-
5/22		-	2.8			0.26	-
5/22		13.	6.8			15.	0.22
5/22		4.2	3.2			9.9	0.13
6/12		8.2	4.2			16.	0.13
6/12		12.	3.8			3.7	-
6/12		16.	4.2			17.	<0.11
6/12		8.9	4.8			8.0	-
6/16		6.0	4.7			7.1	-
6/16		25.	3.6			12.	0.14
6/17	1.9	3.4	2.4	-	-	21.	0.22
6/17		-	3.4			11.	0.10
6/17	1.3	14.	3.4	-	-	4.7	-
6/18		-	4.0			6.1	-
6/18	-	3.5	3.7	<0.11	-	13.	0.15
6/26		11.	5.8			13.	<0.11

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 7
CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE HEADS OF WATERFOWL SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

Date	Species	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	0.15	0.15	0.2		0.1
DUCKS								
White Bluffs								
1/7	Mallard	390	<4.2	<0.38		22.	10.	<0.36
1/8	Mallard	39.	<3.7	<0.33		11.	3.3	<0.32
1/9	Mallard	7.6	3.6			4.4		<0.28
1/9	Mallard	4.6	<3.5			5.0		<0.30
1/9	Mallard	5.6	4.0			2.9		<0.25
1/9	Mallard	12.	<2.8			3.1		<0.24
Hanford								
1/2	Merganser	100	<2.8	0.51	0.37	6.8		0.25
1/2	Mallard	260	<3.6			22.		<0.31
1/2	Mallard	130	<3.1			20.		<0.27
1/7	Golden Eye	380	8.9	1.7	0.90	55.		<0.23
1/9	Mallard	2.7	<4.0			10.		<0.35
1/10	Mallard	6.3	<2.7			16.		<0.23
1/13	Mallard	28.	<3.4			1.9		<0.30
1/13	Mallard	1.4	<3.4			2.4		<0.29
1/13	Golden Eye	390	<4.6	1.5	0.59	31.		<0.39
Redox Swamp (216-S-16)								
1/3	Ruddy Duck	4.1	<5.4			< 0.83	<1.8	110
1/3	Ruddy Duck	56.	<5.0			< 0.77	3.1	160
Gable Mt. Swamp (216-A-25)								
1/3	Bufflehead	230	<5.8			< 0.91	2.7	180
1/3	Bufflehead	290	<6.6			< 1.0	3.1	170
1/3	Bufflehead	66.	<5.9			< 0.92	<2.0	120
1/3	Teal Gr. Wing	110	<5.0			< 0.77	2.5	170
1/3	Teal Gr. Wing	48.	<5.2			< 0.81	<1.8	110

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 7 (Continued)
CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE HEADS OF WATERFOWL SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

Date	Species	^{24}Na	^{32}P	^{40}K	^{46}Sc	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
100-K Trench										
12/29	Mallard Cross	4000	NA		4000	320	57.	5200		76.

Date	Species	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	0.15	0.15	0.2		0.1
GEESE								
White Bluffs								
1/2	Lesser Can.Goose	20.	<1.9	<0.18	0.28	9.3		< 0.17
1/2	Lesser Can.Goose	-	<3.7			1.2		< 0.32
1/2	Lesser Can.Goose	6.6	2.6			10.		< 0.16
1/2	Lesser Can.Goose	2.6	<1.9			5.4		< 0.16
1/7	Lesser Can.Goose	5.7	1.8	-		9.9		< 0.14
1/8	Lesser Can.Goose	-	<2.1			< 0.34		< 0.19
1/8	Lesser Can.Goose	-	<2.6			< 0.42		< 0.23
1/10	Lesser Can.Goose	-	3.7			14.		< 0.24
1/10	Lesser Can.Goose	3.7	<2.4			19.		< 0.21
Hanford								
1/2	Lesser Can.Goose	-	<2.3			0.38		< 0.20

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 8
CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF WATERFOWL SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

Date	Species	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	0.15	0.15	0.2		0.1
DUCKS								
White Bluffs								
1/7	Mallard	370	4.3	<0.21		15.		< 0.20
1/8	Mallard	-	3.7	-		4.6		< 0.12
1/9	Mallard	9.4	3.1			1.7		< 0.15
1/9	Mallard	9.2	3.3			2.7		< 0.11
1/9	Mallard	1.7	2.9			1.8		< 0.11
1/9	Mallard	26.	3.4			2.7		< 0.13
10/27	Mallard	1.1	3.9			0.53		-
12/4	Mallard	-	2.2	-	-	-		-
12/4	Mallard	3.0	2.2			2.3		-
Hanford								
1/2	Merganser	63.	3.4	<0.15	<0.20	2.7		< 0.15
1/2	Mallard	360	3.1			15.		< 0.11
1/2	Mallard	180	3.2			15.		-
1/7	Golden Eye	510	5.4	0.81	0.43	39.		< 0.14
1/9	Mallard	1.7	3.0			4.1		< 0.15
1/10	Mallard	25.	3.2			5.4		< 0.13
1/13	Mallard	-	3.6			0.93		-
1/13	Mallard	2.8	3.1			1.1		< 0.11
1/13	Golden Eye	440	5.9	0.71	<0.32	31.		< 0.23
12/4	Mallard	1.0	2.2			0.66		-
12/4	Mallard	6.8	2.8			3.2		-
12/4	Mallard	53.	2.5			4.5		-
12/4	Mallard	23.	1.9			2.0		-
12/4	Mallard	73.	1.8			3.7		-
12/4	Mallard	15.	3.0			0.63		1.4
12/4	Mallard	18.	3.1			3.5		-
12/19	Ruddy Duck	340	2.7	0.19	0.12	9.5		-
12/19	Comm. Merganser	23.	3.0			14.		-
12/19	Hooded Merganser	6.9	3.3			1.8		-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 8 (Continued)
CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF WATERFOWL SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

Date	Species	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	0.15	0.15	0.2		0.1
DUCKS								
Hanford (Continued)								
12/23	Mallard	-	2.1			-		-
12/23	Mallard	-	3.0	-	-	-		-
Savage Island								
11/10	Teal	53.	1.4	-	-	2.7		-
11/10	Teal	77.	7.5	0.23	-	5.0		-
11/10	Mallard	5.7		-		3.4		-
11/10	Mallard	2.7	2.6	-	-	0.63		-
11/25	Mallard	1.6	3.4			0.93		0.14
11/25	Mallard	1.5	2.1			2.4		-
12/19	Mallard	-	2.0			0.56		-
12/19	Mallard	18.	1.6			4.4		-
12/22	Mallard	-	3.1			0.23		-
12/22	Mallard	4.0	2.9			1.7		-
12/22	Mallard	-	2.7			0.56		-
300 Area								
10/6	Mallard	16.	2.7			63.		-
10/6	Merganser	160	2.5	0.23	-	11.		-
10/6	Merganser	100	3.7	-	-	5.2		-
10/6	Merganser	150	3.3	-	-	6.5		-
10/6	Merganser	180	3.2	0.16	-	9.2		-
Redox Swamp (216-S-16)								
1/3	Ruddy Duck	2.5	<4.0			< 0.62	<1.4	70.
1/3	Ruddy Duck	80.	5.2			< 0.44	5.4	390

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 8 (Continued)
CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF WATERFOWL SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

Date	Species	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	0.15	0.15	0.2		0.1
DUCKS								
Gable Mt. Swamp (216-A-25)								
1/3	Bufflehead	97.	5.4			<0.52	5.2	390
1/3	Bufflehead	9.2	5.0			<0.57	5.7	420
1/3	Bufflehead	6.1	4.9			<0.74	4.2	290
1/3	Teal Gr. Wing	5.2	<2.6			<0.41	8.4	380
1/3	Teal Gr. Wing	40.	4.6			<0.41	1.6	130

Date	Species	^{32}P	^{40}K	^{46}Sc	^{51}Cr	^{58}Co	^{60}Co	^{65}Zn	^{95}Zr	^{134}Cs	^{137}Cs-^{137m}Ba	^{144}Ce-Pr
Analytical Limit		1.	1.			0.15	0.15	0.2			0.1	
100-K Trench												
12/29	Mallard Cross	2,800	6.7			0.53	-	42.			0.27	
12/29	Mallard Cross	110,000		450	7600	71.	12.	2900	25.		95.	240

Date	Species	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	0.15	0.16	0.2		0.1
GEESE								
White Bluffs								
1/2	Lesser Can.Goose	-	2.8	-	-	5.8		-
1/2	Lesser Can.Goose	-	3.2			0.36		< 0.11
1/2	Lesser Can.Goose	-	3.4			-		< 0.11
1/2	Lesser Can.Goose	-	3.2			0.24		< 0.13
1/7	Lesser Can.Goose	5.3	2.8	-		9.4		0.14
1/8	Lesser Can.Goose	-	-			0.21		0.11

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 8 (Continued)
CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF WATERFOWL SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

Date	Species	^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{134}Cs	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	0.15	0.15	0.2		0.1
GEESE								
White Bluffs (Continued)								
1/8	Lesser Can.Goose	-	3.1			0.29		0.11
1/10	Lesser Can.Goose	9.7	2.9			6.4		-
1/10	Lesser Can.Goose	2.4	2.8			6.9		-
Hanford								
1/2	Lesser Can.Goose	2.0	2.8			-		-
11/8	Lesser Can.Goose	8.2	2.7	-	-	22.		-
Ringold								
9/6	Goose	5.3	3.5			8.5		-
100-D								
12/29	Canadian Honker	-	3.0			-		-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 9
CONCENTRATIONS OF RADIONUCLIDES IN UPLAND GAME BIRD SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

Species	Date	Muscle ^{32}P	^{40}K	^{58}Co	^{60}Co	^{65}Zn	^{137}Cs-[illegible] Ba
Analytical Limit		1	1	.15	.15	0.2	0.1
PHEASANT							
White Bluffs							
	10/27	16.	3.2	-	-	2.3	-
	10/27	32.	2.9			5.4	-
	11/11	12.	2.1	-		2.6	0.10
	11/11	10.	2.3	-		2.9	-
	12/10	2.7	2.8			2.3	-
	12/11	-	3.3			0.95	-
	12/16	1.1	3.5			1.7	-
	12/16	-	2.8			5.8	-
	12/18	-	2.6			1.5	-
	12/29	-	1.8			0.36	-
	12/31	-	3.4			1.7	-
	12/31	-	2.5			0.79	-
Hanford							
	10/27	-	3.2			0.22	-
	12/4	340	5.1	-	-	11.	0.20
	12/8	-	3.0			2.7	-
	12/8	-	3.3			0.95	-
	12/8	< 2.0	2.6			4.4	-
	12/11	-	3.2			2.3	-
100-K							
	12/9	2.3	2.8			2.4	0.14
	12/29	2.0	2.0			4.6	-
QUAIL							
White Bluffs							
	11/11	5.9	-		-	1.1	
	11/11	6.9	<1.8		-	0.66	0.11
	12/3	-	<2.5			0.85	-
	12/10	30.	<2.3			0.65	-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX C

TABLE 9 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN UPLAND
GAME BIRD SAMPLES IN THE HANFORD ENVIRONS-1969
Units of picoCuries/gram (wet weight)

		Muscle					
Species	Date	^{32}P	^{40}K	^{58}Co	^{69}Co	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit		1.	1.	.15	.15	0.2	0.1
QUAIL (Continued)							
White Bluffs (Continued)							
	12/11	-	<2.6			-	-
	12/11	-	<2.5			-	<0.22
	12/16	1.2	<1.4			0.65	-
	12/16	1.2	-			-	0.28
Hanford							
	10/9	7.4	<1.8			2.2	-
	10/9	110	4.6			6.9	-
	10/17	4.4	2.2			0.59	-
	11/8	18.	2.9	-		3.6	-
	11/11	23.	<1.0	-		2.5	-
	11/11	15.	-	-	-	2.0	-
	12/8	2.8	3.8			2.3	<0.19
	12/8	2.2	<2.2			1.8	-
	12/16	1.1	-			1.8	-
	12/16	-	3.5			0.62	-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX D

APPENDIX D

TABLE 1
CONCENTRATION OF RADIONUCLIDES IN OYSTERS FROM WILLAPA BAY, WASHINGTON - 1969
Units of picoCuries/Gram (Wet Weight)

Date	^{32}P	^{40}K	^{65}Zn	^{137}Cs-^{137m}Ba
Analytical Limit	1.0	1.0	0.2	0.1
1/6	-	1.8	18.	-
2/18	2.5	2.0	21.	-
3/3	9.8	1.7	16.	-
3/17	4.7	1.8	19.	-
4/9	15.	1.6	21.	-
4/23	7.0	1.9	22.	-
5/5	5.2	2.0	20.	-
5/21	5.3	2.0	24.	0.10
6/19	4.5	1.9	21.	-
7/15	1.4	2.5	22.	-
7/23	2.4	2.7	22.	-
8/12	-	2.4	17.	-
8/26	-	2.2	17.	-
9/9	-	2.2	16.	-
9/23	-	2.1	16.	-
10/8	-	2.0	18.	-
10/20	-	1.8	28.	0.66
11/4	-	2.0	14.	0.82
11/17	-	2.0	13.	0.10
12/16	-	1.9	17.	-
12/30	-	1.8	17.	-
	3.3	2.0	19	0.16

Results less than the analytical limit are indicated by a (-).

APPENDIX E

APPENDIX E

TABLE 1
CONCENTRATIONS OF ^{131}I IN THE AIR OF THE HANFORD ENVIRONS-1969
Units of picoCuries/cubic meter of air (Continuous samples)

Approx. Wk.End. Date	(200 E &) (200 W) Project	S. E. Quadrant									
		Richland	Pasco	Benton City	Byers Landing	Mesa	Wahluke	Eltopia	Ringold	Berg Ranch	Finley
1/6		-	-	-	0.04		-				-
1/13	-	-	-	-	-	-	0.03	-	0.02	-	0.02
1/20	-	-	-	-	-	0.02	-	0.02	-	-	-
1/27	-		0.03		0.10	0.03	0.04	0.02	-	-	
2/3	-		0.03		0.03		0.03	-	-	0.04	0.20
2/10	0.02	-	0.03	-	-	0.03	0.03	-	-	-	-
2/17	-	-	0.03	-	-	-	-	-	-	-	-
2/24	-	-	0.02	-	0.04		-	-	-	0.02	0.02
3/3	-	-	-	-	-		-	-	0.03	-	-
3/10	-	-	-	0.02	-	-	-	-	0.06	-	-
3/17	-		-	0.02	-	-	0.04	-	-	0.03	-
3/24	-	-	-	-	-	0.02	0.02	0.04	-	-	-
4/1	-	-	-	-	-	-	-	-	-	-	-
4/7	-	-	-	-	0.03	-	-	-	0.06	-	-
4/14	-	-	0.02	0.03	-	-	0.03	-	-	-	-
4/21	-	-	-	-	-	-	-	-	0.02	0.02	0.02
4/28	-	-	-	-	-	-	-	-	-	-	-
5/5	-	-	-	-	-	-	-	-	-	0.02	-
5/12	-	-	0.03	-	-	0.02	-	0.03	-		-
5/19	-	-	-	-	-	-	-	-	-	-	-
5/26	-	-	-	-	-	-	-	-	-	0.04	-
6/2	-	-	-	-	-	0.02	-	-	0.02	-	0.03
6/9	-	-	0.02	-	-	-	-	-	-	-	-
6/16	-	-	0.02	0.03	-	-	-	-	-	-	-
6/23	-	-	-	-	-	-	-	-	-	-	0.02
7/1	-	-	-	-	-	-	-		0.05	-	0.04
7/8	-	0.03	-	-	-	-	-		-	-	
7/15	-	-	-	-	-	-	-		-	-	
7/22	-	-	-	-	-	-	-		-	-	
7/29	-	0.04	-	-	-	-	0.02		-	-	

As a result of sampling schedules the off date for some locations may differ by a few days from the date indicated.
Results less than analytical limit of 0.02 pCi/m^3 are indicated by a (-).
No entry indicates no analysis made.

APPENDIX E

TABLE 1 (Continued)
CONCENTRATIONS OF ^{131}I IN THE AIR OF THE HANFORD ENVIRONS-1969
Units of picoCuries/cubic meter of air (Continuous samples)

Approx. Wk.End. Date	(200 E &) (200 W) Project	S. E. Quadrant									
		Richland	Pasco	Benton City	Byers Landing	Mesa	Wahluke	Eltopia	Ringold	Berg Ranch	Finley
8/5	-	-	-	-	-	0.08	-		0.02	-	
8/12	-	-	0.03	-	-	-	-		-	-	
8/19	-	-	-	0.02	-	-	-		-	0.02	
8/26	-	-	0.02	-	-	-	-		0.06	-	
9/2	0.02	0.02	-	-	-	-	-		-	-	
9/9	-	-	-	-	-	0.02	-		0.02	-	
9/16	-	-	-	-	-	0.02	-		-	-	
9/23	0.02	-	-	0.02	-	-	-		-	-	
9/30	0.02	-	-	-	-	-	-		0.02	-	
10/7	-	-	-	-	-	-	-		-	-	
10/14	0.04	0.02	0.02	-	0.02	-	-		-	-	
10/21	0.02	-	-	-	0.03	-	-		0.02	-	
10/28	0.03	-	-	-	-	-	-		-	0.02	
11/4	-	-	-	-	-	-	-		-	-	
11/11	0.02	0.02	-	-	-	-	-		0.06	-	
11/18	-	-	-	-	-	-	-		-	0.02	
11/25	-	-	-	-	-	-	-		-	-	
12/2	-	0.02	-	0.04	0.02	-	0.04		-	-	
12/9	-	-	-	0.02	-	-	-		-	-	
12/16	-	-	-	-	-	-	-		0.02	-	
12/23	-	-	0.02	-	-	-	-		-	-	
12/30	-	-	-	-	-	-	-		-	-	

As a result of sampling schedules the off date for some locations may differ by a few days from the date indicated.
Results less than analytical limit of 0.02 pCi/m^3 are indicated by a (-).
No entry indicates no analysis made.

APPENDIX E

TABLE 2 (Part A)
CONCENTRATION OF RADIOACTIVE BETA PARTICULATES IN THE AIR OF THE HANFORD ENVIRONS-1969
Units of picoCuries/cubic meter of air (Continuous samples)

Approx. Wk.End. Date	(200 E &) (200 W) Project	S. E. Quadrant										
		Richland	Pasco	Benton City	Byers Landing	Mesa	Wahluke	Eltopia	Ringold	Berg Ranch	Finley	Wahluke #1
1/6	0.28	-	0.08	0.11	0.14	0.09	0.02	0.12	0.14		0.07	
1/13	0.19	-	0.05	0.09	0.07	0.06	0.08	0.03	0.04	0.05	0.14	
1/20	0.14	0.03	0.06	0.09	0.08	0.08	0.10	0.07	0.05	0.07	0.09	
1/27	0.14	0.14	0.09	0.17	0.10	0.14	0.16	0.11	0.08	0.08	0.10	
2/3	0.28	0.08	-		0.07	0.09	0.08	0.06	0.11	0.09	0.12	
2/10	0.20	0.14	0.08	0.04	0.10	0.04	0.06	0.05	0.09	0.07	0.10	
2/17	0.17	0.12	0.09	0.12	0.10	0.04	0.08	0.11	0.11	0.08	0.09	
2/24	0.38	0.10	0.09	0.07	0.10		0.09	0.19	0.08	0.10	0.13	
3/3	0.27	0.10	0.24	0.12	0.16		0.09	0.07	0.08	0.08	0.12	
3/10	0.33	0.07	0.08	0.21	0.09	0.13	0.14	0.13	0.12	0.16	0.09	
3/17	0.74		0.15	0.19	0.13	0.17	0.13	0.12	0.13	0.15	0.03	
3/24	0.26	0.06	0.07	0.12	0.07	0.16	0.10	0.82	0.10	0.08	0.12	
4/1	0.30	0.12	0.09	0.26	0.19	0.21	0.31	0.17	0.13	0.23	0.12	
4/7	0.26	0.09	0.13	0.19	0.13	0.19	0.17	0.31	0.06	0.13	0.21	
4/14	0.28	0.15	0.12	0.22	0.12	0.22	0.22	0.21		0.20	0.13	
4/21	0.32	0.09	0.10	0.20	0.17	0.15	0.03	0.14	0.12	0.14	0.14	
4/28	0.52	0.32	0.24	0.16	0.18	0.11	0.12	0.16	0.04	0.10	0.17	
5/5	0.11	0.15	0.11	0.26	0.11	0.23	0.24	0.26	0.03	0.18	0.12	
5/12	0.82	0.48	0.42	0.58	0.40	0.47	0.45	0.50	0.24	0.34	0.20	
5/19	0.67	0.48	0.50	0.53	0.44	0.43	0.31	0.51	0.24	0.46	0.41	
5/26	0.52	0.41	0.36	0.42	0.36	0.28	0.24	0.34	0.20	0.30	0.49	
6/2	0.45	0.29	0.22	0.51	0.27	0.42	0.45	0.56	0.24	0.42	0.47	
6/9	0.63	0.54	0.44	0.65	0.58	0.65	0.46	0.52	0.38	0.57	0.50	
6/16	0.76	0.83	0.74	0.68	0.74	0.80	0.98	0.95	1.1	0.96	0.58	
6/23	0.66	0.52	0.50	0.20	0.53	0.28	0.26	0.24	0.27	0.38	0.92	
7/1	0.23	0.12	0.10	0.15	0.12	0.41	0.32	0.32	0.12	0.37	0.31	
7/8	0.39	0.08	0.26	0.30	0.27	0.34	0.34	0.41	0.43	0.35		
7/15	0.41	0.39	0.47	0.49	0.45	0.52	0.59	0.65	0.36	0.53		
7/22	1.1	0.56	0.83	0.68	0.62	0.63	0.65	0.80	0.36	0.76		
7/29	0.64	0.57	0.63	0.68	0.73	0.52	0.47	0.64	0.34	0.67		

As a result of sampling schedules the off date for some locations may differ by a few days from the date indicated.
Results less than analytical limit of 0.02 pCi/m^3 are indicated by a (-).
No entry indicates no analysis made.

APPENDIX E

TABLE 2 (Part A Continued)
CONCENTRATION OF RADIOACTIVE BETA PARTICULATES
IN THE AIR OF THE HANFORD ENVIRONS-1969
Units of picoCuries/cubic meter of air (Continuous samples)

Approx. Wk.End. Date	(200 E &) (200 W) Project	S. E. Quadrant										
		Richland	Pasco	Benton City	Byers Landing	Mesa	Wahluke	Eltopia	Ringold	Berg Ranch	Finley	Wahluke #1
8/5	0.91	0.74	0.77	0.50	0.79	0.68	0.64	0.77	0.29	0.70		
8/12	0.82	0.40	0.37	0.68	0.54	0.50	0.35	0.66	0.30	0.57		
8/19	0.55	0.14	0.47	0.49	0.38	0.43	0.52	0.37	0.23	0.41		
8/26	0.54	0.24	0.28	0.54	0.22	0.55	0.39	0.44	0.15	0.43		
9/2	0.72	0.46	0.45	0.70	0.33	0.49	0.54	0.58	0.20	0.53		
9/9	0.47	0.47	0.56	0.19	0.31	0.34	0.32	0.40	0.75	0.29		
9/16	0.75	0.30	0.35	0.27	0.27	0.34	0.36	0.40	0.23	0.31		
9/23	0.58	0.21	0.22	0.16	0.17	0.19	0.08	0.21	0.08	0.19		
9/30	0.42	0.43	0.52	0.23	0.25	0.27	0.26	0.20	0.02	0.22		
10/7	0.52	0.34	0.54	0.23	0.25	0.49	0.34	0.31	0.07	0.20		
10/14	0.28	0.21	0.24	0.23	0.11	0.31	0.39	0.26	0.04	0.26		
10/21	0.62	0.22	0.20	0.39	0.12	0.43	0.50	0.40	0.14	0.39		
10/28	0.35	0.46	0.46	0.34	0.25	0.25	0.32	0.06	0.08	0.39		
11/4	0.77	0.22	0.21	0.20	0.25	0.14	0.22	0.13	0.07	0.15		
11/11	1.8	0.26	0.31	0.33	0.20	0.34	0.16	0.14	0.11	0.37		
11/18	1.6	0.19	0.16	0.26	0.22	0.31	0.31	0.26	0.13	0.27		
11/25	1.6	0.33	0.25	0.13	0.08	0.13	0.07	0.09	0.11	0.09		
12/2	0.56	0.06	0.38	0.22	0.10	0.18	0.23	0.16	0.18	0.20		0.21
12/9	0.36	0.19	0.28	0.10	0.21	0.09	0.10	0.10	0.07	0.12		0.20
12/16	0.46	0.13	0.10	0.14	0.17	0.07	0.13	0.28	0.05	0.15		0.12
12/23	0.33	0.07	0.06	0.05	0.08	0.06	0.06	0.05	0.04	0.07		0.05
12/30	0.38	0.06	0.04	0.09	0.04	0.09	0.07	0.08	0.04	0.07		0.06

As a result of sampling schedules the off date for some locations may differ by a few days from the date indicated.
Results less than analytical limit of 0.02 pCi/m^3 are indicated by a (-).
No entry indicates no analysis made.

APPENDIX E

TABLE 2 (Part B)
CONCENTRATION OF RADIOACTIVE BETA PARTICULATES
IN THE AIR OF THE HANFORD ENVIRONS-1969
Units of picoCuries/cubic meter of air (Continuous samples)

Approx. Wk.End. Date	Perimeter Communities					
	Walla Walla	McNary Dam	Washtucna	Moses Lake	Ellensburg	Sunnyside
1/3	0.12	0.08		0.26	0.11	0.03
1/10	0.08	0.06		0.23	0.11	
1/17	0.09	0.08		0.13	0.07	
1/24	0.11	0.09		0.19	0.14	0.15
1/31	0.09	0.12		0.25	0.14	0.12
2/7	0.09	0.05		0.16	0.07	0.07
2/14	0.09	0.05		0.12	0.02	0.09
2/21	0.12	0.11		0.15	0.07	0.11
2/28	0.14	0.11	0.15	0.15	0.04	0.08
3/7	0.10	0.08	0.16	0.15	0.07	0.11
3/14	0.18	0.15	0.23	0.24	0.11	0.15
3/21	0.09	0.09	0.10	0.16	0.06	0.07
3/28	0.20	0.15	0.37	0.32	0.15	0.19
4/4	0.24	0.18	0.26	0.32	0.12	0.12
4/11	0.17	0.12	0.24	0.28	0.16	0.14
4/18	0.11	0.16	0.39	0.28	0.18	0.15
4/25	0.18	0.14	0.19	0.24	0.19	0.19
5/2	0.17	0.13	0.19	0.30	0.11	0.15
5/9	0.17	0.20	0.61	0.58	0.30	0.47
5/16	0.55	0.44	0.82	0.86	0.30	0.44
5/23	0.53	0.38	0.77	0.73	0.40	0.37
5/30	0.45	0.33	0.52	0.75	0.43	0.33
6/6	0.45	0.44	0.90	1.4	0.43	0.66
6/13	0.66	0.43	1.2	0.90	0.78	0.66
6/20	0.97	0.84	0.90	1.3		0.57
6/27	0.21	0.16	0.27	0.20	0.12	0.16
7/3	0.29	0.20	0.62	0.47	0.21	0.35
7/11	0.49	0.29	0.94	0.73	0.46	0.64
7/18	0.71	0.55	1.5	1.2	0.59	0.77
7/25	0.75	0.70	2.1	1.2	0.59	0.69
8/1	0.92	0.89	0.96	1.5	0.84	1.1
8/8	0.62	0.49	0.46	0.81	0.40	0.38
8/15	0.47	0.15	0.39	0.62	0.39	0.41
8/22	0.40	0.12	0.52	0.64	0.37	0.55
8/29	0.36	0.29	0.45	0.48	0.37	0.47
9/5	0.61	0.44	0.24	0.54	0.38	0.54
9/12	0.36	0.76	0.18	0.38	0.24	0.30
9/17	0.24	0.14	0.26	0.26	0.26	0.21

As a result of sampling schedules the off date for some locations may differ by a few days from the date indicated.
Results less than analytical limit of 0.02 pCi/m^3 are indicated by a (-).
No entry indicates no analysis made.

APPENDIX E

TABLE 2 (Part B Continued)
CONCENTRATION OF RADIOACTIVE BETA PARTICULATES
IN THE AIR OF THE HANFORD ENVIRONS-1969
Units of picoCuries/cubic meter of air (Continuous samples)

Approx. Wk.End. Date	Perimeter Communities					
	Walla Walla	McNary Dam	Washtucna	Moses Lake	Ellensburg	Sunnyside
9/26	0.19	0.16	0.18	0.17	0.14	0.19
10/3	0.19	0.11	0.24	0.16	0.09	0.10
10/10	0.15	0.06	0.16	0.16	0.11	0.12
10/17	0.17	0.27	0.24	0.16	0.09	0.27
10/24	0.23	0.19	0.18	0.23	0.12	0.12
10/31	0.12	0.16	0.10	0.13	0.08	0.11
11/7	0.12	0.09	0.17	0.11	0.08	0.12
11/14	0.15	0.11	0.10		0.09	0.11
11/21	0.12	0.11	0.10		0.05	0.08
11/28	0.12	0.07	0.10		0.08	0.13
12/5	0.12	0.15	0.13		0.15	0.18
12/12	0.07	0.08	0.09	0.42	0.06	0.07
12/19	0.08	0.04	0.06	0.06	0.04	0.06
12/26	0.05	0.05	0.06	0.06	0.04	0.08

As a result of sampling schedules the off date for some locations may differ by a few days from the date indicated.
Results less than analytical limit of 0.02 pCi/m^3 are indicated by a (-).
No entry indicates no analysis made.

APPENDIX E

TABLE 3
CONCENTRATIONS OF GAMMA-EMITTING RADIONUCLIDES ON SELECTED AIR FILTERS-1969

Units of picoCuries/cubic meter of air (Continuous samples)

Inclusive Dates		^{95}Zr-Nb	^{106}Ru-Rh	^{131}I	^{134}Cs	^{137}Cs-^{137m}Ba	^{140}Ba-La	^{144}Ce-Pr
Ringold								
1/21	1/28	-	<0.05	-	-	0.01	-	-
1/28	2/25	0.01	-	-	-	-	0.07	-
2/25	3/25	0.01	0.08	-	-	<1.0	-	-
3/25	4/15	0.49	-	<4.9	-	<1.0	-	-
4/15	4/29	0.02	<0.05	-	-	<0.01	-	<0.08
4/29	5/27	0.07	0.15	-	-	<0.01	-	<0.11
5/27	6/24	0.20	0.37	<0.04	-	<0.01	-	<0.31
6/24	7/31	0.14	0.18	-	-	0.01	-	0.13
7/31	8/28	0.13	0.19	-	-	0.01	-	0.12
8/28	9/25	0.05	-	-	-	-	-	-
9/25	10/30	0.04	-	-	-	-	-	-
10/30	11/26	0.01	0.06	-	-	-	-	-
11/26	12/31	0.01	0.09	-	-	-	-	-
Byers Landing								
1/20	1/28	-	0.06	-	-	<0.01	-	-
1/28	2/24	-	-	-	-	0.01	0.31	-
2/24	3/24	0.02	0.09	-	-	<0.01	-	-
3/24	4/28	0.04	0.10	-	-	<0.01	-	0.08
4/28	5/26	0.16	0.44	<0.04	-	<0.01	-	0.22
5/26	6/23	0.28	0.53	<0.04	-	0.01	-	<0.31
6/23	7/28	0.19	0.30	-	-	-	-	0.21
7/28	8/25	0.20	0.25	-	-	0.01	-	0.21
8/25	9/29	0.07	0.13	-	-	0.01	-	0.10
9/29	10/27	0.07	0.14	-	-	-	-	-
10/27	11/24	0.01	-	-	-	-	-	-
11/24	12/29	0.01	-	-	-	0.01	-	-
Moses Lake								
7/20	7/25	0.76	1.0	<0.04	-	<0.04	-	1.0
Washtucna								
12/4/68	2/24*	0.01	0.04	<0.03	-	0.004	0.07	<0.04
7/20	7/28	0.92	1.6	<0.08	-	<0.01	-	1.1

* Also a peak at 60 keV was observed and was attributed to fallout.

Eltopia								
3/19	3/26	0.02	<0.20	-	-	<0.03	0.72	-

The (-) indicates that the radionuclide was not detected.

APPENDIX F

APPENDIX F

TABLE 1
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Riverview Irrigation District - Farm No. 1							
1/6	-	1100	-			-	-
1/14	-	1000	-	-	3.8	-	-
1/20	-	1100	-			-	-
1/27	-	1100	-			-	-
2/3	-	1300	-			-	-
2/11	-	1200	-			-	-
2/17	-	1400	-			-	-
2/25	-	1200	-			-	-
3/3	-	1100	-			-	-
3/11	-	1500	-			-	-
3/17	-	920	-			-	-
3/24	-	980	-			-	-
4/1	21.	1100	-			-	-
4/8	-	850	-			-	-
4/15	23.	1100	-	2.8	5.2	-	-
4/22	-	1400	-			-	39.
4/29	-	1200	-			-	-
5/6	-	1000	-			-	-
5/15	140	1100	-			-	-
5/20	180	1100	-			-	-
5/27	230	1200	120			-	-
6/3	300	1200	200			-	-
6/9	210	1100	190			-	34.
6/17	300	1200	180			-	-
6/24	240	1300	170			-	-
7/3	490	1200	220			-	-
7/7	750	1400	250			-	-
7/14	520	1000	200			-	-
7/21	320	1200	140			-	-
7/28	330	1200	180			-	-
8/4	340	1000	170			-	-
8/11	400	1400	250			-	-
8/18	400	1100	230			-	-
8/25	270	1300	240			-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Riverview Irrigation District - Farm No. 1 (Continued)							
9/2	350	1100	220			-	-
9/8	270	1100	140			-	-
9/15	430	1100	190			-	-
9/22	350	1300	230			-	-
9/29	140	1300	210			-	-
10/6	690	1400	300			-	-
10/13	85.	1100	160			-	-
10/20	460	1300	210	4.7	3.9	-	-
10/27	34.	1400	110			-	-
11/3	40.	1600	160			-	32.
11/10	49.	1200	-			-	-
11/17	-	1400	-			-	-
11/24	-	1200	-			3.4	-
12/1	-	1000	-			-	-
12/8	-	1400	-			-	-
12/15	-	940	-			-	-
12/22	-	1100	-			-	-
12/29	-	-	-			-	-
Riverview Irrigation District - Farm No. 3							
1/14	-	940	-			-	-
1/21	-	1000	120			-	-
1/28	-	1100	130			-	-
Riverview Irrigation District - Farm No. 4							
5/20	-	1300	-			-	-
5/27	-	930	-			-	-
6/3	52.	1300	100			-	34.
6/9	63.	880	-			-	-
6/17	77.	980	-			-	-
6/24	41.	1200	-			-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Pasco Farm No. 2							
1/7						-	
1/14						-	
1/21						-	
1/28						-	
2/4						-	
2/11						-	
2/18						-	
2/25						-	
3/4						-	
3/11						6.0	
3/18						3.5	
3/25						-	
4/1						3.0	
4/8						-	
4/15						-	
4/22						-	
4/29						-	
5/6						-	
5/13						-	
5/20						-	
5/27						-	
6/3						-	
6/9						-	
6/17						-	
6/24						-	
7/3						-	
7/10						-	
7/17						-	
7/24						-	
7/31						-	
8/7						-	
8/14						-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Pasco Farm No. 2 (Continued)							
8/21						-	
8/28						-	
9/4						-	
9/11						-	
9/18						-	
9/25						-	
10/2						-	
10/9						-	
10/16						-	
10/23						-	
10/30						-	
11/6						-	
11/14						-	
11/20						-	
11/26						-	
12/4						-	
12/18						-	
Pasco Farm No. 4							
3/18	26.	940	-			-	-
3/25	-	1000	-			-	-
4/1	-	1100	-			-	-
4/8	-	970	-			-	-
4/5	-	1200	-			-	-
4/22	-	1300	-			-	-
4/29	-	1500	-			-	-
5/6	-	1200	-			-	-
5/13	-	1300	-			-	-
5/20	-	940	-			-	-
5/27	-	1100	-			-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Pasco Farm No. 4 (Continued)							
6/3	-	1200	-			-	-
6/9	-	1100	-			-	-
6/17	-	1400	-			-	-
6/24	-	1200	-			-	-
7/3	-	1400	-			-	-
7/10	-	1200	-			-	-
7/17	-	1600	-			-	-
7/24	-	1500	-			-	-
7/31	-	1400	-			-	-
8/7	-	1500	-			-	-
8/15	26.	1200	-			-	-
8/21	82.	1300	-			-	-
8/28	25.	1100	-			-	-
9/4	78.	1400	-			-	-
9/11	24.	1300	-			-	-
9/18	26.	1300	-			-	-
9/25	-	1400	-			-	-
10/2	110	1100	-			-	-
10/9	33.	1300	-			-	-
Eltopia Farm No. 2							
1/7		1200	-			-	-
1/14		1300	-			-	-
1/21		1300	-			-	-
1/28		1100	-			-	-
2/4		560	-			-	-
2/11		1100	-			-	-
2/18		1200	-			-	-
2/25		1200	-			-	-
3/4		1000	-			-	-
3/11		1100	-			8.1	-
3/25		690	-			-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Eltopia Farm No. 2 (Continued)							
4/1		1100	-			-	-
4/8						-	
4/15		1100	-			-	-
4/22		1100	-			-	-
4/29		1300	-			-	-
5/6		1100	-			-	-
5/13		1200	-			-	-
5/20		1200	-			-	-
5/27		1100	-			-	-
6/3		1300	-			-	-
6/9		1000	-			-	-
6/17		1300	-			-	-
6/25		1100	-			-	-
7/3		1400	-			-	-
7/17		1100	-			-	-
7/24		1200	-			-	-
7/31		1400	-			-	-
8/7		1400	110			-	46.
8/14		990	-			-	-
8/21		1400	-			-	-
8/28		1200	-			-	-
9/4		1400	-			-	-
9/11		1300	-			-	-
9/18		1200	-			-	-
9/25		1400	-			-	34.
10/2		1200	-			-	-
10/16		980	-			-	-
10/23		1300	-			-	-
10/30		1200	-			-	-
11/6		1000	-			-	-
11/13		1100	-			-	-
11/20		1400	-			-	-
11/26		1000	-			-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Eltonia Farm No. 2 (Continued)							
12/4		1400	-			-	-
12/11		1200	-			-	-
12/18		1200	-			-	-
12/23		1300	-			-	-
12/31		1100	-			-	-
West Richland Farm No. 1							
1/2		980	-			-	-
1/16		890	-			-	-
1/23		890	-			-	-
1/30		990	-			-	-
2/6		880	-			-	-
2/13		800	-			-	-
2/20		860	-			-	-
2/27		650	-			-	-
3/6		1000	-			-	-
3/13		700	-			-	-
3/20		680	-			-	-
3/27		830	-			-	-
4/3		900	-			-	-
4/10		710	-			-	-
4/17		800	-			-	-
4/24		660	-			-	-
5/1		680	-			-	-
5/8		690	-			-	-
5/15		840	-			-	-
5/22		770	-			-	-
5/29		990	-			-	-
6/5		1200	-			-	-
6/9		1300	-			-	35.
6/12		1300	-			-	-
6/19		1400	-			-	-
6/26		1100	-			-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
West Richland Farm No. 1 (Continued)							
7/3		1300	-			-	-
7/10		1200	-			-	-
7/17		1500	-			-	-
7/24		1700	-			-	31.
7/31		1300	-			-	-
8/7		1200	-			-	-
8/14		1300	-			-	-
8/21		1400	-			-	-
8/28		1400	-			-	-
9/4		1100	-			-	-
9/11		1600	-			-	-
9/18		1400	-			-	-
9/25		1700	-			-	-
10/2		1300	-			-	-
10/9		1200	-			-	-
10/16		1200	-			-	-
10/23		1400	-			-	-
10/30		1500	-			-	-
11/6		1400	-			-	-
11/13		1400	-			-	39.
11/20		1300	-			-	-
11/26		1000	-			-	-
12/4		1200	-			-	-
12/11		1100	-			-	-
12/18		870	-			-	-
12/23		1000	-			-	-
12/31		760	-			-	-
Benton City Farm							
1/2						-	
1/9						-	
1/16						-	
1/23						-	
1/30						-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Benton City Farm (Continued)							
2/6						-	
2/13						-	
2/20						-	
2/27						-	
3/6						-	
3/13						<3.1	
3/20						-	
3/27						-	
4/3						-	
4/10						-	
4/17						-	
4/24						-	
5/1						-	
5/8						-	
5/15						-	
5/22						-	
5/29						-	
6/5						-	
6/10						-	
6/12						-	
6/19						-	
6/26						-	
7/3						-	
7/10						-	
7/17						-	
7/24						-	
7/31						-	
8/7						-	
8/14						-	
8/21						-	
8/28						-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Benton City Farm (Continued)							
9/4						-	
9/11						-	
9/18						-	
9/25						-	
10/2						-	
10/9						-	
10/16						-	
10/23						-	
10/30						-	
11/6						-	
11/13						-	
11/20						-	
11/26						-	
12/4						-	
12/11						-	
12/18						-	
12/23						-	
12/31						-	
Mesa Farm							
1/8						-	
1/15						-	
1/22						-	
1/29						-	
2/5						-	
2/12						-	
2/19						-	
2/26						-	
3/5						-	
3/12						6.6	
3/19						-	
3/26						-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Mesa Farm (Continued)							
4/2						-	
4/9						-	
4/16						-	
4/23						-	
4/30						-	
5/7						-	
5/14						-	
5/21						-	
5/28						-	
6/4						-	
6/9						-	
6/18						-	
6/25						-	
7/2						-	
7/9						-	
7/16						-	
7/23						-	
7/30						-	
8/6						-	
8/13						-	
8/20						-	
8/27						-	
9/3						-	
9/10						-	
9/17						-	
9/24						-	
10/1						-	
10/8						-	
10/15						-	
10/22						-	
10/29						-	
11/5						-	
11/12						-	
11/19						-	
11/26						-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Mesa Farm (Continued)							
12/4						-	
12/11						-	
12/18						-	
12/23						-	
12/31						-	
Finley Farm							
1/2						-	
1/9						-	
1/16						-	
1/23						-	
1/30						-	
2/6						-	
2/13						-	
2/20						-	
2/27						-	
3/6						-	
3/13						-	
3/20						-	
3/27						-	
4/10						-	
4/17						-	
4/24						-	
5/1						-	
5/8						-	
5/15						-	
5/22						-	
5/29						-	
6/5						-	
6/9		1300	-			-	33.
6/13						-	
6/19						-	
6/26						-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Milk Shed Samples							
Columbia Basin Composite No. 1							
1/13	-	1100	-			-	-
1/24	-	1100	-	-	-	-	-
2/6	-	1100	-			-	-
2/20	-	1300	-			-	-
3/7	-	1100	-			-	-
3/27	-	1200	-			-	-
4/10	-	1000	-			-	-
4/25	60.	1000	-		-	-	-
5/13	-	1100	-			-	-
5/22	-	1100	-			-	-
6/9	-	1200	-			-	33.
6/20	-	1200	-		-	-	-
7/14	-	1200	-			-	-
7/24	-	1200	-			-	-
8/15	-	1100	-			-	-
8/21	300	1300	-			-	-
9/11	-	1400	-			-	-
Columbia Basin Composite No. 2							
12/18	-	1200	-			-	-
12/31	-	1200	-			-	-
Local Purchase - Commercial Milk							
Brand A							
1/16	-					-	
1/30	-					-	
2/13	-					-	
2/27	-			-	2.6	-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Brand A (Continued)							
3/13	-					<4.0	
3/27	-					-	
4/10	-					-	
4/24	48.					-	
5/15	80.					-	
5/29	-				9.5	-	
6/12	-					-	
6/26	-					-	
7/17	-					-	
7/31	-					-	
8/14	-					-	
8/28	-				2.4	-	
9/18	-					-	
10/2	21.					-	
10/16	-					-	
10/30	140					-	
11/13	23.					-	
11/24	-				2.4	-	
12/11	-					-	
12/22	-					-	
Brand F							
1/9						-	
2/6						-	
3/6					2.3	-	
4/10						-	
5/8						3.2	
6/5					-	-	
7/10						-	
8/7						-	
9/11					-	-	
10/9						-	
11/6						-	
12/4					5.1	-	

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Brand H							
1/9		1200	-	-	4.2	-	-
2/6		1100	-			-	-
3/6		900	-			3.3	-
4/10		1000	-		5.2	-	-
5/8		1100	-			-	-
6/5		1400	-			-	41.
7/10		1600	-		2.5	-	-
7/28		1100	-			-	38.
8/7		1300	110			-	51.
9/11		1400	-			-	-
10/9		1100	-		7.2	-	-
10/31						-	
11/6		1200	-			-	-
12/4		940	-			-	-
Brand Z							
1/16		1100	-			-	-
1/30		1200	-			-	-
2/13		1400	-			-	-
2/27		1000	-			-	-
3/13		1100	-			5.6	-
3/27		1400	-		-	-	-
4/10		880	-			-	-
4/24		950	-			-	-
5/15		880	-			-	-
5/29		990	-			-	-
6/9		1100	-			-	-
6/12		1200	-			-	-
6/26		1600	-		3.7	-	-
7/17		1000	-			-	-
7/31		1000	-			-	-
8/14		1300	-			-	-
8/20		1100	-			-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 1 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1969
Units of picoCuries/Liter of Milk

Date	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit	20	400	100	2	2	3	30
Brand Z (Continued)							
9/18		1200	-		-	-	-
10/2		1000	-			-	-
10/16		1100	-			-	-
10/30		1300	-			-	-
11/13		1300	-			-	-
11/24		1000	-			-	-
12/11		990	-			-	-
12/22		990	-		2.6	-	-

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 2
CONCENTRATIONS OF RADIONUCLIDES IN HAY AND PASTURE GRASS - 1969

Date	^{40}K	^{51}Cr	^{54}Mn	^{90}Sr	^{95}Zr-Nb	^{103}Ru-Rh	^{106}Ru-Rh	^{131}I	^{137}Cs-^{137m}Ba	^{141}Ce	^{144}Ce-Pr
Riverview Farm No. 1											
6/9	5.4		<0.13		1.7	0.29	<1.5	<0.42	<0.13	0.19	<5.8
Riverview Farm No. 4											
2/25				0.007							
6/9	7.4		<0.14		1.3	0.29	<1.6	<0.43	<0.14	<0.18	<6.3
Pasco Farm No. 2											
6/9	20.		<0.08		2.0		3.7	<0.25	<0.08	0.46	<3.6
Pasco Farm No. 4											
3/18									-		
6/9	9.3		<0.20		2.4	0.33	<2.3	<0.63	<0.20	0.35	<9.0
Eltopia Farm No. 2											
6/9	7.7		<0.12		0.54	<0.11	<1.4	<0.38	<0.12	0.24	<5.5
West Richland Farm No. 1											
6/9	6.4		0.12		1.3	0.27	<0.73	<0.20	<0.062	0.26	<2.8
Benton City Farm											
3/20									<0.5		
6/9	5.4	<0.71	0.063		0.81	0.21	<0.36		0.04	<0.041	<1.4

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 2 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN HAY AND PASTURE GRASS - 1969

Date	^{40}K	^{51}Cr	^{54}Mn	^{90}Sr	^{95}Zr-Nb	^{103}Ru-Rh	^{106}Ru-Rh	^{131}I	^{137}Cs-^{137m}Ba	^{141}Ce	^{144}Ce-Pr
Mesa Farm											
3/5									-		
3/12									<0.04		
6/9	20.		<0.10		0.36	<0.093	<1.2	<0.32	<0.10	<0.13	<4.6
Finley Farm											
6/9	6.6		0.084		0.98	0.22	<0.41	<0.11	0.066	0.28	<1.6

Results less than the analytical limit are indicated by a (-).
No entry indicates no analysis was made.

APPENDIX F

TABLE 3
CONCENTRATIONS OF RADIONUCLIDES IN LOCALLY PURCHASED MEAT-1969
Units of picoCuries/gram (wet weight)

Commercial Date	Produce	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{95}Zr-Nb	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit		1.0	0.4	0.1	0.002	0.002	0.03	0.05	0.03
1/15	Fish		2.8	-					<0.049
1/15	Ground Beef		1.7	-					<0.047
1/15	Liver		2.2	-					<0.052
1/15	Pork Chops		2.0	-					<0.045
1/15	Pork Roast	-	1.4	-					<0.048
1/15	Beef	-	2.5	-	0.002	-			<0.044
1/15	Ham		2.8	<0.11					<0.058
2/20	Beef	Lost	2.5	-	-	0.005			0.031
3/18	Ground Round		1.9	-					0.085
3/21	Beef	-	2.3	-		-			-
3/25	Pork Chops		2.3	-					-
4/18	Beef	-	2.9	-		-			0.075
4/18	Pork Roast	-	2.1	-	-	-			-
4/22	Calves Liver		2.2	-	0.004	-			-
5/21	Ocean Fish		2.8	0.19		-			-
5/21	Pork Chops		2.3	-					-
5/21	Calves Liver		2.2	-					-
5/21	Ocean Fish		3.3	-					0.051
5/21	Ham		2.3	-					-
5/21	Ground Beef		2.2	-					-
5/23	Ground Beef	Lost	1.8	-		-			-
6/20	Ground Beef	-	2.4	-		0.031			-
7/17	Pork Roast	-	1.9	-		-	-		-
7/17	Beef	-	2.4	-		0.003			0.035
7/17	Ground Beef		2.5	0.17					0.051
7/24	Lamb Chops		1.4	-	-	0.007			0.037
8/20	Ground Round	-	2.3	-		0.002			0.046
9/16	Ground Round	-	2.8	-		0.006			0.040
9/16	Ground Round		2.1	-					0.050
10/17	Pork Roast	-	2.4	-		0.006			-
10/17	Beef	-	2.4	-		0.005		-	0.071

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX F

TABLE 3 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN LOCALLY PURCHASED MEAT-1969
Units of picoCuries/gram (wet weight)

Date	Produce	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{95}Zr-Nb	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit		1.0	0.4	0.1	0.002	0.002	0.03	0.05	0.03
11/18	Beef		2.6	-		-			-
11/18	Ham		2.0	-				-	-
11/18	Pork Chops		2.3	-					-
11/18	Calves Liver		2.0	-					-
11/18	Ground Round		2.1	-					-
11/18	Ocean Fish		4.6	-					< 0.056
12/16	Ground Round	-				0.024			
12/22	Beef		2.4	-	-	0.003			0.115
Farm									
10/1	Beef (Riverview)		3.0	2.6					-
12/1	Beef (Ringold)		2.4	1.5					-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX F

TABLE 4
CONCENTRATIONS OF RADIONUCLIDES IN LOCALLY GROWN FRUITS-1969
Units of picoCuries/gram (wet weight)

Date	Produce	^{32}P	^{40}K	^{65}Zn	^{90}Sr	^{95}Zr-Nb	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit		1.0	0.4	0.1	0.002	0.03	0.05	0.03
Pasco & Riverview Area								
5/15	Rhubarb	-	3.2	-	0.006	-	-	<0.031
5/27	Rhubarb	-	3.0	-		-	-	<0.052
6/6	Strawberries	-	1.5	-	0.012	-	-	-
6/6	Rhubarb	-	2.5	-	0.007	-	-	-
6/6	Gooseberries	-	1.7	-	0.005	-	-	<0.037
6/12	Rhubarb	-	3.4	-	<0.200	-	-	<0.044
8/15	Cantalope	-	3.1	-		-	-	-
8/15	Watermelon	-	1.4	-		-	-	<0.039
8/15	Rhubarb	-	3.2	-	0.057	-	-	-
8/15	Grapes	-	1.8	0.14	0.005	-	-	-
8/15	Cantalope	-	1.7	-		-	-	-
8/17	Plums	-	1.4	0.35		-	-	-
8/17	Plums	-	1.7	0.11		-	-	-
9/4	Apples	-	0.93	-				-
9/4	Cantalope	-	2.5	0.12			<0.085	-
Ringold								
6/10	Cherries	-	1.8	-	<0.20	-	<0.066	-
8/14	Apples	-	0.78	-		-	-	-
8/14	Grapes	-	2.2	-		-	-	-
Richland								
6/26	Rhubarb	-	2.1	-	0.026	-	-	<0.037

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX F

TABLE 5
CONCENTRATIONS OF RADIONUCLIDES IN
LOCALLY GROWN LEAFY VEGETABLES-1969
Units of picoCuries/gram (wet weight)

Date	Produce	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{95}Zr-Nb	^{106}Ru-Rh	^{131}I	^{137}Cs-^{137m}Ba	^{144}Ce-Pr
Analytical Limit		1.0	0.4	0.1	0.002	0.002	0.03	0.06	0.05	0.03	1.0
Pasco & Riverview Area											
5/15	Leaf Lettuce	-	3.4	-		0.015				<0.053	
5/15	Leaf Lettuce	-	4.3	-		0.009				<0.054	
5/15	Spinach	-	7.4	0.23		0.015				<0.061	
5/15	Swiss Chard	-	4.2	-		0.015				<0.052	
5/15	Mustard	-	5.2	-		0.034				<0.057	
5/27	Spinach	-	7.4	0.23						<0.061	
5/27	Beet Tops	-	4.0	0.20						<0.085	
6/6	Leaf Lettuce	-	5.0	-		0.023	0.28	0.69	<0.10	<0.038	-
6/6	Leaf Lettuce	-	2.8	-		0.024	0.22	0.37	<0.12	<0.044	-
6/6	Carrot Tops	-	6.7	<0.11		0.075	0.42	1.0	<0.16	<0.061	1.2
6/6	Beet Tops	-	6.8	-		0.008	0.23	0.52	<0.11	<0.042	-
6/12	Lettuce	-	3.8	0.20		0.066	0.62	0.87	<0.29	<0.10	
6/12	Radish Tops	-	5.2	0.73			0.69	<1.3		<0.19	
6/12	Lettuce	-	0.99	-		0.017				<0.058	
6/12	Carrot Tops	-	18.	3.3			3.4	7.9		<0.22	
6/12	Beet Tops	Lost	3.6	0.74			0.80	1.4	<0.33	<0.083	
7/7	Cabbage	-	1.6	-						-	
7/17	Cabbage	-	2.7	-		0.008				-	
7/17	Lettuce	-	4.0	0.50		0.026	0.08	<0.063	-	-	-
8/15	Carrot Tops	-	8.2	2.0			0.21	0.55	0.55	-	
8/15	Cabbage	-	2.1	-	0.002	0.003				-	

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX F

TABLE 6
CONCENTRATIONS OF RADIONUCLIDES IN OTHER LOCALLY GROWN VEGETABLES-1969
Units of picoCuries/gram (wet weight)

Date	Produce	^{32}P	^{40}K	^{65}Zn	^{90}Sr	^{95}Zr-Nb	^{106}Ru-Rh	^{131}I	^{137}Cs-^{137m}Ba	^{144}Ce-Pr
Analytical Limit		1.0	0.4	0.1	0.002	0.03	0.06	0.05	0.03	1.0
Pasco & Riverview Area										
5/27	Beets	-	5.0	-		0.37	0.65	<0.12	<0.036	0.78
5/27	Peas (inc. shells)	-	2.1	-					<0.036	
6/6	Carrots	-	3.3	-	0.018				<0.037	
6/6	Beets	-	4.7	-	0.024				<0.050	
6/6	Onions	-	5.6	0.36	0.021				0.094	
6/6	Peas	-	2.2	0.19	0.028				<0.049	
6/6	Dill	-	6.3	-	0.036			<0.19	<0.056	
6/12	Peas (shelled)	-	2.5	<0.11	0.020				<0.060	
6/12	Peas (shelled)	-	2.7	0.23	0.018				<0.045	
6/12	Radishes	-	2.5	<0.17					<0.092	
6/12	Carrots	-	2.4	-	0.016				<0.044	
6/12	Beets	-	2.5	0.10		0.054	<0.29	<0.12	<0.041	
6/12	Onions	-	1.8	-	0.039				<0.052	
7/17	Peppers	-	2.2	-	-	0.046		-	-	
7/17	Onions	-	1.6	0.12	0.012			-	-	
7/17	Onion Tops	-	2.5	0.39	0.023	0.18	-	-	<0.032	0.49
7/17	Squash	-	1.3	-	0.002	-	0.39	-	-	
7/17	Corn on Cob	-	2.4	0.11	-				-	
7/17	Potatoes	-	3.8	-	0.005	-	0.52	<0.10	-	2.0
7/17	Onions	-	1.2	0.10	0.021	-		<0.081	-	
8/15	Peppers	-	2.0	-					-	
8/15	Tomatoes	-	1.7	-					-	
8/15	Cucumbers	-	1.8	-					-	
8/15	Eggplant	-	2.0	-					<0.030	
8/15	Okra	-	3.2	0.11					-	
8/15	String Beans	-	2.7	-	0.013				<0.034	
8/15	Onions	-	1.6	0.15				0.19	0.056	
8/15	Potatoes	-	3.8	-	-				-	

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX F

TABLE 6 (Continued)
CONCENTRATIONS OF RADIONUCLIDES IN OTHER LOCALLY GROWN VEGETABLES-1969
Units of picoCuries/gram (wet weight)

Date	Produce	^{32}P	^{40}K	^{65}Zn	^{90}Sr	^{95}Zr-Nb	^{106}Ru-Rh	^{131}I	^{137}Cs-^{137m}Ba	^{144}Ce-Pr
Analytical Limit		1.0	0.4	0.1	0.002	0.03	0.06	0.05	0.03	1.0
Pasco & Riverview Area (Continued)										
8/15	Corn on Cob	-	2.2	0.15		0.04		<0.076	-	
8/15	Squash	-	1.5	0.16				-	<0.032	
8/15	Egg Plant	-	2.2	0.10					<0.034	
8/15	Beets	-	2.2	0.13					-	
8/15	Corn on Cob	-	2.6	-					-	
8/15	Squash	-	2.9	-				<0.062	-	
8/15	Carrots	-	3.4	0.12					-	
8/15	Tomatoes	-	1.7	-					-	
8/15	Potatoes	-	4.4	0.15	-			-	-	
8/15	Peppers	-	1.9	-					<0.030	
8/15	Cucumbers	-	1.7	-					-	
9/4	Sweet Potatoes	-	4.1	-	0.016				-	
9/4	Tomatoes	-	1.8	-					-	
9/4	Onion	-	1.8	-					-	
9/4	Corn	-	2.3	-					-	
9/4	Peppers	-	2.2	-					-	
9/4	Cucumbers	-	2.3	-					-	
9/4	Potatoes	-	3.9	-				<0.086	-	
9/4	Squash	-	1.1	-					-	
9/4	Egg Plant	-	2.4	-					<0.031	
9/4	Tomatoes	-	1.9	-					-	
9/4	Cucumbers	-	1.7	-					-	
9/4	Egg Plant	-	1.9	-					-	
9/4	Peppers	-	2.0	0.11					0.044	
9/4	Okra	-	3.7	0.12	0.023				-	

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX F

TABLE 7
CONCENTRATIONS OF RADIONUCLIDES IN
CHICKEN AND EGGS FROM LOCAL FARMS-1969
Units of picoCuries/gram (wet weight)

Date	Type	^{32}P	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit		1.0	0.4	0.1	0.002	0.002	0.05	0.03
Riverview Irrigation District								
1/14	Eggs	-	0.55	-				<0.44
3/11	Chicken	-	1.9	-	-	-		-
4/15	Eggs	2.8	0.70	-				-
5/13	Eggs	-	0.93	-				-
6/10	Eggs	-	0.95	-	0.007	-		-
6/19	Chicken	1.7	2.0	-	-	-		0.038
7/10	Eggs	-	1.2	-				-
9/25	Eggs	-	1.8	-	0.013	-		-
9/25	Chicken	-	2.6	-	-	-		-
10/16	Eggs	-	0.95	-			-	-
12/16	Eggs	-	0.85	-	0.013	-		-
12/16	Chicken	-	2.0	-	0.008	-		-
Ringold								
4/29	Eggs	-	1.1	0.48				-
4/29	Eggs	-	1.2	0.58				-
7/10	Eggs	1.4	1.2	2.1			-	-
8/14	Eggs	4.5	<0.86	1.9				<0.064
9/25	Eggs	22.	1.2	5.0			0.086	0.034
9/26	Chicken	14.	3.0	2.1			-	-
10/9	Eggs	8.9	0.95	4.9			-	-
10/16	Eggs	12.	1.5	5.3			<0.124	0.078

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX F

TABLE 8
CONCENTRATIONS OF RADIONUCLIDES IN
CHICKEN AND EGGS PURCHASED FROM LOCAL STORES-1969
Units of picoCuries/gram (wet weight)

Date	Type	^{40}K	^{65}Zn	^{89}Sr	^{90}Sr	^{131}I	^{137}Cs-^{137m}Ba
Analytical Limit		0.4	0.1	0.002	0.005	0.05	0.03
1/15	Chicken	1.8	-				<0.048
2/25	Chicken	1.8	-	0.009	0.005		-
3/18	Chicken	1.6	-				-
5/21	Chicken	1.4	-				-
7/17	Chicken	1.3	-				-
8/28	Chicken	1.8	-	-	0.003	-	-
9/16	Chicken	2.2	-				-
11/18	Chicken	1.7	-				-
1/15	Eggs	0.79	-				<0.045
5/21	Eggs	1.0	-				-
7/17	Eggs	1.0	-				-
11/18	Eggs	1.2	-			-	-

No entry indicates no analysis was made.
Results less than the analytical limit are indicated by a (-).

APPENDIX G

APPENDIX G

TABLE 1
^{131}I IN BEEF THYROIDS FROM CATTLE SLAUGHTERED AT SEVERAL LOCATIONS-1969
Units of picoCuries/gram (wet weight)

Date Sampled	Thyroid Wt (gm)	^{131}I Concentration	Grazing Area
Pasco			
1/6	27	<1	Hermiston, Oregon
1/6	18	<1	Burbank
1/7	27	<1	Mesa
1/13	16	<1	Prosser
1/14	33	<1	Eltopia
1/16	26	<1	Walla Walla
1/20	51	<1	Kennewick
1/22	31	<1	Pasco
1/20	110	<1	Walla Walla
1/27	24	<1	Warden
1/29	45	<1	Reith
1/30	33	<1	Hermiston, Oregon
2/3	19	<1	Walla Walla
2/4	38	<1	Moses Lake
2/6	30	<1	Pasco
2/11	21	<1	Warden
2/11	24	5	Eltopia
2/12	30	<1	George
2/17	14	2	Hermiston, Oregon
2/18	27	<1	Richland
2/19	40	<1	Kennewick
2/24	25	<1	Mesa
2/25	32	<1	Pasco
2/26	33	<1	George
3/3	26	1	Burbank
3/4	26	<1	Athena, Oregon
3/5	52	1	Walla Walla
3/10	64	<1	Connell
3/11	33	<1	Moses Lake
3/12	27	<1	Prosser
3/17	33	<1	Mesa
3/17	60	<1	Walla Walla
3/20	28	1	Hermiston, Oregon
3/24	24	<1	Connell
3/25	29	<1	Moses Lake
3/27	30	<1	Milton-Freewater, Oregon
3/31	25	1	Warden
4/1	32	1	Walla Walla
4/1	110	<1	Prosser
4/7	50	<1	Hermiston, Oregon

APPENDIX G

TABLE 1 (Continued)
^{131}I IN BEEF THYROIDS FROM CATTLE
SLAUGHTERED AT SEVERAL LOCATIONS-1969
Units of picoCuries/gram (wet weight)

Date Sampled	Thyroid Wt (gm)	^{131}I Concentration	Grazing Area
Pasco (Continued)			
4/8	33	<1	Pasco
4/9	19	<1	Moses Lake
4/14	34	<1	Warden
4/15	25	2	Walla Walla
4/16	34	<1	Kennewick
4/21	45	<1	Hermiston, Oregon
4/22	100	<1	Mesa
4/23	36	<1	Othello
4/28	26	<1	Milton-Freewater, Oregon
4/29	29	<1	Eltopia
4/30	32	<1	Pasco
5/5	33	<1	Hermiston, Oregon
5/6	35	<1	Kennewick
5/7	37	<1	Warden
5/12	24	<1	Prosser
5/13	89	<1	Walla Walla
5/15	30	<1	Wallula
5/19	35	<1	Kennewick
5/20	35	<1	Milton-Freewater, Oregon
5/22	21	<1	Connell
5/27	21	<1	Walla Walla
5/28	46	<1	Dayton
5/28	22	2	Burbank
6/3	20	1	Connell
6/3	44	<1	Pasco
6/4	71	<1	Wallula
6/10	48	<1	Dayton
6/11	46	<1	Hermiston, Oregon
6/12	45	<1	Kennewick
6/17	46	3	Walla Walla
6/16	51	<1	Moses Lake
6/17	23	<1	Mesa
6/23	34	<1	Warden
6/24	65	<1	George
6/25	29	<1	Burbank

APPENDIX G

TABLE 1 (Continued)
^{131}I IN BEEF THYROIDS FROM CATTLE
SLAUGHTERED AT SEVERAL LOCATIONS-1969
Units of picoCuries/gram (wet weight)

Date Sampled	Thyroid Wt (gm)	^{131}I Concentration	Grazing Area
Moses Lake			
1/4	230	<1	Composite
1/8	220	<1	Composite
2/1	230	<1	Composite
2/15	200	<1	Composite
3/1	220	<1	Composite
3/15	290	<1	Composite
3/29	160	<1	Composite
4/12	210	<1	Composite
4/26	200	<1	Composite
5/10	200	<1	Composite
5/24	210	<1	Composite
6/7	210	<1	Composite
6/21	200	<1	Composite
Wapato			
1/17	310	<1	Composite
2/7	430	3	Composite
2/14	330	<1	Composite
3/21	330	<1	Composite
4/11	310	<1	Composite
5/2	220	<1	Composite
5/16	230	<1	Composite
6/6	190	<1	Composite
6/27	200	<1	Composite

APPENDIX H

APPENDIX H

TABLE 1
IONIZATION CHAMBER MEASUREMENTS FOR THE HANFORD RESERVATION, 100N-WPPSS, AND RICHLAND-1969
Units of milliRoentgens/Day

Date	Richland	Hanford	100N-WPPSS	Date	Richland	Hanford	100N-WPPSS
12/30-1/31	ND	ND		5/2-5/5	0.36	0.37	0.52
1/31-2/3	0.19	0.28		5/5-5/7	0.22	0.24	0.73
2/3-2/5	0.22	0.24		5/7-5/9	0.41	0.38	0.76
2/5-2/7	0.22	0.23		5/9-5/12	0.21	0.28	1.0
2/7-2/10	0.21	0.24		5/12-5/14	0.24	0.19	0.55
2/10-2/12	0.27	0.31		5/14-5/16	0.22	0.37	0.49
2/12-2/14	0.33	0.30		5/16-5/19	0.29	0.31	1.0
2/14-2/17	0.41	0.34		5/19-5/21	0.16	0.34	0.42
2/17-2/19	0.29	0.30		5/21-5/23	0.30	0.25	0.45
2/19-2/24	0.20	0.26		5/23-5/26	0.29	0.38	0.37
2/24-2/26	0.38	0.25		5/26-5/28	0.28	0.31	0.38
2/26-2/28	ND	ND		5/28-6/2	0.30	0.41	0.66
2/28-3/3	0.26	0.27		6/2-6/4	0.25	ND	0.57
3/3-3/5	0.21	0.27		6/4-6/6	0.24	0.31	0.76
3/5-3/7	0.29	0.22		6/6-6/9	0.26	0.31	0.79
3/7-3/10	0.21	0.31		6/9-6/11	0.21	0.29	0.45
3/10-3/12	0.30	0.34		6/11-6/13	0.24	0.29	0.46
3/12-3/14	0.23	0.34		6/13-6/16	0.19	0.28	0.37
3/14-3/17	0.30	0.28		6/16-6/18	0.27	0.36	0.44
3/17-3/19	0.24	0.34		6/18-6/20	0.19	0.26	0.41
3/19-3/21	0.30	0.33		6/20-6/23	0.23	0.22	0.34
3/21-3/24	0.36	0.26		6/23-6/25	0.23	0.38	0.42
3/24-3/26	0.26	0.30	0.55	6/25-6/27	0.19	0.29	0.43
3/26-3/28	0.77	0.33	0.42	6/27-6/30	0.22		1.1
3/28-4/2	0.33	0.35	0.51	6/30-7/2	0.17	0.27	0.25
4/2-4/4	0.28	0.34	0.49	7/2-7/3	0.15	0.32	0.43
4/4-4/7	0.27	0.34	0.39	7/3-7/7	0.23	0.32	ND
4/7-4/9	0.26	0.34	0.39	7/7-7/9	0.18	1.6	0.44
4/9-4/11	0.28	0.31	0.36	7/9-7/11	0.22	0.33	0.38
4/11-4/14	0.28	0.33	>0.40	7/11-7/14	0.26	0.10	0.38
4/14-4/16	0.27	0.36	>0.40	7/14-7/16	0.19	0.31	0.34
4/16-4/18	0.26	0.34	0.30	7/16-7/18		0.29	0.30
4/18-4/21	0.28	0.32	>0.67	7/18-7/21	0.24	0.32	0.82
4/21-4/23	0.23	0.35	0.30	7/21-7/23	0.23	0.91	0.46
4/23-4/25	0.25	0.28	0.31	7/23-7/25	0.25	0.36	0.47
4/25-4/28	0.19	0.32	>0.67	7/25-7/28	0.27	0.35	0.48
4/28-4/30	0.38	0.30	0.80	7/28-7/30	0.24	0.30	0.50
4/30-5/2	0.32	0.36	0.64	7/30-8/1	0.21	0.16	0.51

ND - No data or invalid measurements.
No entry indicates no analysis was made.

APPENDIX H

TABLE 1 (Continued)
IONIZATION CHAMBER MEASUREMENTS FOR THE HANFORD RESERVATION, 100N-WPPSS, AND RICHLAND-1969
Units of milliRoentgen/Day

Date	Richland	Hanford	100N-WPPSS
8/1-8/4	0.24	0.35	0.40
8/4-8/6	0.33	0.37	0.41
8/6-8/8	0.25	0.38	0.44
8/8-8/11	0.25	0.29	0.41
8/11-8/13	0.26	0.34	0.47
8/13-8/15	0.49	0.24	0.40
8/15-8/18	0.44	0.36	0.45
8/18-8/20	0.32	0.41	0.24
8/20-8/22	0.80	0.28	0.41
8/22-8/25	0.29	0.35	0.49
8/25-8/27	0.23	0.33	0.46
8/27-8/29	0.25	0.27	0.43
8/29-9/2	0.27	0.38	0.50
9/2-9/3	0.24	0.31	0.56
9/3-9/5	0.24	0.32	0.43
9/5 -9/8	0.26	0.35	0.49
9/8-9/10	0.28	0.33	0.62
9/10-9/12	0.28	0.35	0.52
9/12-9/15	0.25	0.34	0.44
9/15-9/17	0.38	0.36	0.60
9/17-9/19	0.27	0.42	0.57
9/19-9/22	0.30	0.51	0.78
9/22-9/24	0.29	0.35	0.64
9/24-9/26	0.22	0.40	0.63
9/26-9/29	0.30	0.43	0.58
9/29-10/1	0.22	0.26	0.49
10/1-10/3	0.30	0.40	0.56
10/3-10/6	0.35	0.42	0.63
10/6-10/8	0.35	0.48	0.80
10/8-10/10	0.38	0.38	0.55
10/10-10/13	0.34	0.46	0.55
10/13-10/15	0.39	0.50	0.68
10/15-10/17	0.45	0.51	0.74
10/17-10/20	0.41	0.54	0.81
10/20-10/22	0.41	0.50	0.69
10/22-10/24	0.44	0.52	0.55
10/24-10/27	0.33	0.43	0.61
10/27-10/29	0.44	0.54	0.59
10/29-10/31	0.34	0.51	0.57
10/31-11/3	0.39	0.48	0.64
11/3-11/5	0.45	0.51	0.58
11/5-11/7	0.33	0.48	0.58
11/7-11/10	0.34	0.45	0.61
11/10-11/12	0.33	0.38	0.57
11/12-11/14	0.47	0.62	0.75
11/14-11/17	0.37	0.40	0.63
11/17-11/19	0.30	0.44	0.51
11/19-11/21	0.38	0.37	0.44
11/21-11/24	0.41	0.50	0.53
11/24-11/26	0.48	0.47	0.57
11/26-12/1	0.34	>0.65	>0.65
12/1-12/3	0.45	0.43	0.75
12/3-12/5	0.39	0.47	0.65
12/5-12/8	0.43	0.50	0.67
12/8-12/10	0.39	0.50	0.65
12/10-12/12	0.39	0.46	0.60
12/12-12/15	0.33	0.39	0.62
12/15-12/17	0.35	0.40	0.49
12/17-12/19	0.41	0.47	0.50
12/19-12/22	0.27	0.40	0.51
12/22-12/23	0.28	0.50	0.57
12/23-12/26	0.28	0.40	0.51
12/26-12/29	0.39	0.36	0.50
12/29-12/31	0.38	0.37	0.37

ND - No data or invalid measurements.

APPENDIX H

TABLE 2
IONIZATION CHAMBER MEASUREMENTS IN THE COLUMBIA RIVER-1969
Units of milliRoentgens/Day

Measurement Period	Exposure Rate	Measurement Period	Exposure Rate	Measurement Period	Exposure Rate
Priest Rapids Gauge					
12/31-1/7	0.36	4/22-4/29	0.46	8/12-8/19	ND
1/7-1/14	ND	4/29-5/6	0.31	8/19-8/26	ND
1/14-1/21	ND	5/6-5/13	0.24	8/26-9/2	ND
1/21-1/28	ND	5/13-5/20	0.29	9/2-9/9	0.71
1/28-2/4	1.0	5/20-5/27	0.29	9/9-9/16	0.64
2/4-2/11	ND	5/27-6/3	0.34	9/16-9/23	0.54
2/11-2/18	0.50	6/3-6/10	0.87	10/21-10/28	0.60
2/18-2/25	0.82	6/10-6/17	0.40	10/28-11/4	0.26
2/25-3/4	1.3	6/17-6/24	1.0	11/4-11/11	0.41
3/4-3/11	0.48	6/24-7/1	0.67	11/11-11/18	0.76
3/11-3/18	0.86	7/1-7/8	1.0	11/18-11/25	0.47
3/18-3/25	0.73	7/8-7/15	0.53	11/25-12/2	0.53
3/25-4/1	1.6	7/15-7/22	0.40	12/2-12/9	0.63
4/1-4/8	0.50	7/22-7/29	0.71	12/9-12/16	0.47
4/8-4/15	0.54	7/29-8/5	0.79	12/16-12/23	0.50
4/15-4/22	0.50	8/5-8/12	0.81	12/23-12/30	ND
100-F					
12/31-1/7	5.9	6/13-6/17	4.9	9/16-9/19	7.2
1/7-1/14	7.1	6/17-6/20	8.0	9/19-9/23	7.8
1/14-1/21	ND	6/20-6/24	6.7	9/23-9/26	8.8
1/21-1/28	5.9	6/24-6/27	8.4	9/26-9/30	8.2
1/28-2/4	4.9	6/27-7/1	6.0	9/30-10/3	11.
2/4-2/11	4.3	7/1-7/3	8.2	10/3-10/7	7.9
2/11-2/18	3.8	7/3-7/8	5.4	10/7-10/10	9.1
2/18-2/25	3.2	7/8-7/11	4.5	10/10-10/14	7.8
2/25-3/4	2.8	7/11-7/15	4.5	10/14-10/17	12.
3/4-3/11	4.8	7/15-7/18	0.9	10/17-10/21	9.3
3/11-3/18	5.4	7/18-7/22	3.6	10/21-10/24	8.4
3/18-3/25	4.8	7/22-7/25	5.3	10/24-10/28	8.4
3/25-4/1	6.3	7/25-7/29	8.2	10/28-10/31	9.3
4/1-4/8	ND	7/29-8/1	8.5	10/31-11/4	6.5
4/8-4/15	ND	8/1-8/5	ND	11/4-11/11	> 8.9
4/15-4/22	8.5	8/5-8/8	3.2	11/11-11/14	13.
4/22-4/29	> 2.0	8/8-8/12	7.3	11/14-11/18	8.6
4/29-5/6	6.9	8/12-8/15	3.3	11/18-11/21	7.8
5/6-5/13	> 1.0	8/15-8/18	9.6	11/21-11/25	6.2
5/13-5/20	7.9	8/18-8/22	5.2	11/25-12/2	4.5
5/20-5/23	5.9	8/22-8/26	8.6	12/2-12/5	7.9
5/23-5/27	2.6	8/26-8/29	9.3	12/5-12/9	8.4
5/27-5/29	2.4	8/29-9/2	9.5	12/9-12/16	7.0
5/29-6/3	10.	9/2-9/5	9.2	12/16-12/19	7.0
6/3-6/6	7.3	9/5-9/9	6.1	12-19-12/23	5.4
6/6-6/10	1.2	9/9-9/12	7.7	12/23-12/26	6.0
6/10-6/13	10.	9/12-9/16	7.4	12/26-12/30	6.3

ND - No data or invalid measurements.

APPENDIX H

TABLE 2 (Continued)
IONIZATION CHAMBER MEASUREMENTS IN THE COLUMBIA RIVER-1969
Units of milliRoentgens/Day

Measurement Period	Exposure Rate	Measurement Period	Exposure Rate	Measurement Period	Exposure Rate
Ringold					
12/31-1/7	2.7	3/18-3/25	1.4	10/23-10/30	2.1
1/7-1/14	3.0	3/25-8/28	ND	10/30-11/6	1.9
1/14-1/21	6.1	8/28-9/4	1.4	11/6-11/13	2.3
1/21-1/28	2.3	9/4-9/11	1.2	11/13-11/20	1.5
1/28-2/4	1.8	9/11-9/18	1.2	11/20-11/26	1.4
2/4-2/11	1.8	9/18-9/25	2.1	11/26-12/4	1.3
2/11-2/18	1.4	9/25-10/3	3.0	12/4-12/11	2.2
2/18-2/25	1.4	10/3-10/10	1.5	12/11-12/18	1.8
2/25-3/4	0.76	10/10-10/16	1.5	12/18-12/23	1.5
3/4-3/11	1.3	10/16-10/23	3.0	12/23-12/31	1.4
3/11-3/18	2.0				
Richland Pumphouse					
12/31-1/7	ND	5/6-5/13	ND	9/2-9/9	3.8
1/7-1/14	2.9	5/13-5/20	3.3	9/9-9/16	3.5
1/14-1/21	1.9	5/20-5/27	2.0	9/16-9/23	2.6
1/21-1/28	2.2	5/27-6/3	2.0	9/23-9/30	3.2
1/28-2/4	1.8	6/3-6/9	2.3	9/30-10/8	3.1
2/4-2/11	1.9	6/9-6/17	1.6	10/8-10/14	4.5
2/11-2/18	1.6	6/17-6/24	1.6	10/14-10/21	3.0
2/18-2/25	2.1	6/24-7/1	2.1	10/21-10/28	3.0
2/25-3/4	3.3	7/1-7/8	2.4	10/28-11/4	3.0
3/4-3/11	1.8	7/8-7/15	2.6	11/4-11/11	3.7
3/11-3/18	2.6	7/15-7/22	2.0	11/11-11/18	5.0
3/18-3/25	2.0	7/22-7/29	2.5	11/18-11/25	2.2
3/25-4/1	2.4	7/29-8/5	2.9	11/25-12/2	3.9
4/1-4/8	2.6	8/5-8/12	3.1	12/2-12/9	3.7
4/8-4/15	2.4	8/12-8/19	2.0	12/9-12/16	2.9
4/15-4/22	2.7	8/19-8/26	2.9	12/16-12/23	3.2
4/22-4/29	ND	8/26-9/2	2.7	12/23-12/30	2.7
4/29-5/6	ND				

ND - No data or invalid measurements.

APPENDIX H

TABLE 2 (Continued)
IONIZATION CHAMBER MEASUREMENTS
IN THE COLUMBIA RIVER-1969
Units of milliRoentgens/Day

Measurement Period	Exposure Rate	Measurement Period	Exposure Rate	Measurement Period	Exposure Rate
Pasco Pumphouse					
1/2-1/8	7.4	5/8-5/14	1.1	9/3-9/10	1.2
1/8-1/15	3.5	5/14-5/21	1.7	9/10-9/17	2.2
1/15-1/22	2.5	5/21-5/28	1.4	9/17-9/24	1.9
1/22-1/28	3.5	5/28-6/4	ND	9/24-10/1	1.9
1/28-2/5	2.8	6/4-6/11	ND	10/1-10/8	2.1
2/5-2/12	2.4	6/11-6/18	0.72	10/8-10/15	1.7
2/12-2/19	1.6	6/18-6/25	1.8	10/15-10/22	1.8
2/19-2/26	1.2	6/25-7/2	1.1	10/22-10/29	2.5
2/26-3/5	2.3	7/2-7/9	0.69	10/29-11/5	1.8
3/5-3/12	2.1	7/9-7/16	0.69	11/5-11/12	1.9
3/12-3/19	2.7	7/16-7/23	2.9	11/12-11/18	2.5
3/19-3/26	2.6	7/23-7/30	1.6	11/18-11/26	1.5
3/26-4/2	3.1	7/30-8/6	1.8	11/26-12/3	1.8
4/2-4/9	2.3	8/6-8/13	1.3	12/3-12/10	2.2
4/9-4/16	2.4	8/13-8/20	0.96	12/10-12/17	1.8
4/16-4/23	1.2	8/20-8/27	2.1	12/17-12/26	1.4
4/23-4/30	1.9	8/27-9/3	1.6	12/26-12/31	1.7
4/30-5/8	3.7				
300 Area					
12/31-1/7	ND	1/21-1/28	4.1	2/4-2/11	2.5
1/7-1/14	4.8	1/28-2/4	3.1	2/11-2/18	2.2
1/14-1/21	ND				

ND - No data or invalid measurements.

APPENDIX H

TABLE 3
EXTERNAL EXPOSURE RATE MEASUREMENT AT 3' ABOVE THE COLUMBIA RIVER SHORELINE AT THE RICHLAND TRAVERSE AND AT SACAJAWEA-1969
Units of microRoentgens/Hour

Richland Traverse		Sacajawea	
Date	Exposure Rate	Date	Exposure Rate
1/9	35	1/15	20
1/16	26	1/22	13
1/23	27	1/29	14
2/6	20	2/5	18
2/13	15	2/12	24
2/20	25	2/19	18
2/27	35	2/26	20
3/6	40	3/5	20
3/13	32	3/12	22
3/20	25	3/19	22
3/26	21	3/26	22
4/1	50	4/2	19
4/3	18	4/9	22
4/10	16	4/16	22
4/17	28	4/23	26
4/24	32	5/4	15
5/1	34	5/21	15
5/8	22	5/28	13
5/15	16	6/5	26
5/22	33	6/11	16
5/29	20	6/18	24
6/5	20	6/25	25
6/12	40	7/16	40
6/19	40	8/6	22
6/26	38	8/13	34
7/17	32	8/20	24
8/7	21	8/27	18
8/14	21	10/8	25
8/21	23	10/15	28
10/16	26	10/22	24
11/6	44	10/29	30
11/13	13	11/5	24
11/20	13	11/12	29
12/4	40	11/19	29
12/18	30	11/26	32
12/26	60	12/4	38
		12/9	41
		12/17	60
		12/22	30

APPENDIX I

APPENDIX I

TABLE 1
CHEMICAL CHARACTERISTICS OF COLUMBIA RIVER WATER AT VERNITA-1969

Results in parts/million

Date	Mg	Fe	Cu	Ca	SO_4	PO_4	Cl	Diss O_2	Phth Alk.	MO Alk.	Hard-ness	Solids	Mn
1/7	3.	0.01	0.003	22.	13.	0.02	0.35	12.	ND	55.	70.	95.	
1/22	3.	0.02	0.01	23.	15.	0.05	0.30	11.	1.	54.	71.	93.	
2/4	3.	0.03	0.01	25.	15.	0.05	0.30	12.	1.	58.	75.	74.	
2/18	3.	0.07	0.002	24.	14.	0.14	0.25	11.	0.	52.	75.	90.	
3/4	3.	0.04	0.003	26.	15.	0.06	0.15	14.	2.	59.	79.	100	
3/18	4.	0.04	0.003	25.	16.	0.04	0.30	12.	1.	59.	80.	87.	
4/8	4.	0.2	0.003	29.	20.	0.03	0.50	10.	2.	67.	88.	120	
4/22	4.	0.38	0.002	23.	18.	0.01	0.75	11.	0.	58.	75.	100	0.01
4/25							0.80						0.02
5/6	4.	0.35	0.003	23.	19.	0.02	0.68	11.	0.	56.	74.	100	
5/20	3.	0.22	0.008	21.	23.	0.05	0.35	11.	0.	56.	74.	89.	
6/3	2.3	0.05	0.001	19.	10.	0.008	0.25	9.7	0.	46.	58.	74.	
6/24	2.3	0.02	0.01	21.	10.	0.04	0.55	8.7	1.	46.	62.	81.	
7/8	2.2	0.03	0.002	22.	13.	0.03	0.36	11.	1.	64.	64.	76.	
7/18	2.1	0.01	0.005	24.	12.	0.03	0.28	10.	1.	51.	68.	90.	
8/5	2.2	0.01	0.005	24.	10.	0.02	0.28	9.6	2.	51.	68.	86.	
8/19	2.3	0.005	0.006	25.	11.	0.00	0.18	9.0	1.	49.	72.	91.	
9/9	2.2	0.02	0.006	26.	11.	0.06	0.35	9.4	1.	53.	75.	87.	
9/23	2.4	0.04	0.004	26.	16.	0.02	0.35	8.1	1.	50.	74.	72.	
10/7	2.6	0.02	0.001	24.	16.	0.02	0.30	8.5	1.	53.	71.	82.	
10/20	2.1	0.02	0.000	24.	15.	0.02	0.27	10.	0.	61.	68.	76.	
11/4	4.5	0.03	0.01	23.	13.	0.02	0.30	8.3	2.	65.	68.	77.	
11/18	5.4	0.02	0.002	20.	14.	0.02	0.36	11.	2.	69.	72.	75.	
12/2	5.5	0.04	0.000	20.	16.	0.04	0.40	11.	3.	72.	73.	80.	
12/16	5.0	0.03	0.005	20.	14.	0.08	0.43	10.	2.	68.	71.	93.	

No entry indicates no analysis was made.
ND - No data.

APPENDIX I

TABLE 2
CHEMICAL CHARACTERISTICS OF COLUMBIA RIVER WATER AT 100-F-1969
Results in parts/million

Date	Mg	Fe	Cu	Ca	SO_4	PO_4	Cl	Diss O_2	Phth Alk.	MO Alk.	Hard-ness	Solids	Mn
1/7	4.	0.01	0.004	22.	12.	0.02	0.45	10.	ND	55.	73.	95.	
1/22	4.	0.02	0.006	22.	14.	0.03	0.25	ND	1.	57.	70.	85.	
2/4	3.	0.04	0.008	24.	16.	0.03	0.35	11.	1.	59.	74.	76.	
2/18	3.	0.08	0.008	26.	12.	0.15	0.23	10.	0.	56.	79.	97.	
3/4	3.	0.05	0.003	27.	15.	0.11	0.30	14.	3.	59.	80.	100	
3/18	4.	0.03	0.004	25.	19.	0.09	0.42	12.	1.	61.	80.	80.	
4/8	4.	0.14	0.01	22.	22.	0.07	0.55	9.9	2.	62.	81.	110	
4/22	4.	0.36	0.001	24.	18.	0.02	1.6	12.	0.	62.	76.	110	0.01
4/25							0.85						0.02
5/6	4.	0.35	0.002	22.	18.	0.03	0.68	12.	0.	58.	72.	100	
5/20	3.	0.24	0.002	22.	14.	0.05	0.45	11.	0.	59.	68.	84.	
6/3	1.9	0.08	0.004	24.	10.	0.003	0.30	11.	0.	41.	63.	68.	
6/24	2.4	0.02	0.01	21.	12.	0.04	0.38	12.	1.	46.	63.	72.	
7/8	2.3	0.03	0.000	23.	13.	0.06	0.27	12.	3.	55.	66.	83.	
7/18	1.9	0.04	0.005	27.	12.	0.04	0.43	14.	1.	58.	75.	90.	
8/5	2.3	0.02	0.004	32.	12.	0.02	0.68	9.3	2.	68.	88.	89.	
8/19	2.5	0.005	0.006	24.	11.	0.005	0.18	9.4	1.	53.	70.	87.	
9/9	2.8	0.02	0.001	21.	12.	0.06	0.33	8.5	1.	54.	75.	82.	
9/23	2.2	0.02	0.003	27.	14.	0.04	0.55	8.5	2.	56.	78.	81.	
10/7	2.9	0.02	0.001	22.	15.	0.02	0.46	9.2	2.	53.	66.	78.	
10/20	2.3	0.03	0.000	24.	14.	0.02	0.17	9.7	0.	60.	68.	70.	
11/4	4.8	0.04	0.01	24.	12.	0.02	0.33	7.4	5.	76.	79.	78.	
11/18	5.4	0.04	0.002	21.	15.	0.02	0.28	10.	2.	69.	74.	79.	
12/2	5.5	0.02	0.000	21.	15.	0.06	0.36	10.	3.	70.	74.	84.	
12/16	5.8	0.04	0.004	18.	14.	0.1	0.66	10.	2.	70.	71.	100	

No entry indicates no analysis was made.
ND - No data.

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