Appendix G: Errata for Past ASERs

Appendix G. Errata for Past ASERs

As this 2018 Oak Ridge Reservation Annual Site Environmental Report (ORR ASER) was being prepared, it was discovered that a unit conversion error in some previous ORR ASERs resulted in reporting incorrect radionuclide concentration data for hay and vegetables. The error began with the ASER issued for calendar year 2003. In the affected ASERs, the titles of tables that reported radionuclide concentrations in hay and vegetables indicated the concentrations shown in the body of the table were presented in pCi/kg. However, the results were instead shown in pCi/mg.

The following ASERs were affected by this error:

For hay:	2003–2007 and 2017 (data was not reported for hay in 2008–2016)
For vegetables:	2003–2016 (data was not reported for vegetables in 2017)

Correct versions of the affected tables are provided on the following pages. The concentration values in these replacement tables are reported in pCi/kg, as their titles indicate. Other than providing corrected concentration values, the corrected tables have the same numbers and titles and are as similar as possible to the tables in the original ASERs to facilitate comparisons.

It is important to note that dose calculations reported in the 2003–2017 ASERs were not affected by this unit conversion error. Dose calculations for all ASERs used unconverted hay and vegetable radionuclide concentrations, and were therefore reported correctly.

Location	Gross alpha	Gross beta	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		Lettuce				
East of Y-12, #1	23	2,600	5,700	7.4	С	С
East of Y-12, Claxton	36	3,500	6,300	С	С	С
Northeast of Y-12, Scarboro #1	с	1,600	3,100	С	С	3.3
Northeast of Y-12, Scarboro #2	32	3,200	5,100	10	С	5.4
Southeast of ORNL	20	2,300	3,800	С	С	С
West of ETTP	С	2,200	4,400	4.4	С	С
		Tomato				
East of Y-12, #1	с	2,200	1,700	С	С	С
East of Y-12, Claxton	С	1,900	1,900	3.9	2.3	С
Northeast of Y-12, Scarboro #1	с	1,900	с	3.1	С	С
Northeast of Y-12, Scarboro #2	С	1,900	1,600	С	2.0	1.3
Southeast of ORNL	с	1,700	1,700	С	С	С
West of ETTP	с	2,100	1,800	С	С	С
		Turnip				
East of Y-12, #1	20	2,000	3,100	С	С	С
East of Y-12, Claxton	63	3,800	5,100	С	С	С
Northeast of Y-12, Scarboro #1	20	1,700	2,300	С	С	с
Northeast of Y-12, Scarboro #2	С	2,100	2,700	С	С	С
Southeast of ORNL	31	2,600	4,000	С	С	С
West of ETTP	24	2,300	3,100	с	с	с

Table 7.6. Concentrations of radionuclides detected in vegetal	oles, 2003 (pCi/kg) ^{a,b}
--	------------------------------------

^{*a*}Detected radionuclides are detected above the minimum detectable activity. ^{*b*}1 pCi = 3.7E-02 Bq. ^{*c*}Value was not detected above the minimum detectable activity.

Location	Gross alpha	Gross beta	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		Lettuce				
East of Y-12, #1	23	2,200	2,500	b	b	3.9
East of Y-12, Claxton	b	3,400	4,000	6.9	b	3.7
Northeast of Y-12, Scarboro #1	53	2,700	3,600	9.8	2.8	6.3
Northeast of Y-12, Scarboro #2	b	2,500	2,800	8.1	b	5.4
Southeast of ORNL	29	2,100	3,100	8.8	2.7	b
West of ETTP	b	2,600	3,500	9.0	2.1	b
		Tomato				
East of Y-12, #1	b	1,700	1,900	b	b	b
East of Y-12, Claxton	25	1,500	b	b	b	b
Northeast of Y-12, Scarboro #1	220	2,600	2,700	17	b	10
Northeast of Y-12, Scarboro #2	35	1,400	b	7.1	b	b
Southeast of ORNL	44	1,700	2,900	23	b	b
West of ETTP	b	1,500	2,500	9.6	b	b
		Turnip				
East of Y-12, #1	33	2,500	b	b	b	6.5
East of Y-12, Claxton	b	2,200	2,200	b	b	b
Northeast of Y-12, Scarboro #1	34	2,500	2,000	b	b	b
Northeast of Y-12, Scarboro #2	150	2,900	3,200	28	b	19
Southeast of ORNL	62	2,800	3,200	b	b	b
West of ETTP	b	3,000	4,500	b	b	b

Table 7.6. Concentrations of radionuclides detected in	vegetables, 2004 (pCi/kg) ^a
--	--

^aDetected radionuclides are detected above the minimum detectable activity.

 ${}^{b}\mbox{Value}$ was not detected above the minimum detectable activity.

Location	Gross alpha	Gross beta	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		Lettuce				
East of Y-12, #1	b	2,700	4,300	8.6	3.2	b
East of Y-12, Claxton	46	2,400	4,700	7.6	b	4.0
Northeast of Y-12, Scarboro #1	49	2,100	3,800	9.4	b	11
Northeast of Y-12, Scarboro #2	140	2,300	6,500	12	4.5	7.3
Southeast of ORNL	140	3,300	4,400	8.8	5.9	9.2
West of ETTP	44	3,100	3,400	8.7	b	3.9
		Tomato				
East of Y-12, #1	70	1,900	2,600	8.0	b	b
East of Y-12, Claxton	50	1,300	1,500	b	b	b
Northeast of Y-12, Scarboro #1	b	1,500	2,900	b	b	b
Northeast of Y-12, Scarboro #2	b	1,400	b	6.3	b	7.1
Southeast of ORNL	21	1,400	b	b	b	23
West of ETTP	b	1,600	2,400	b	b	b
		Turnip				
East of Y-12, #1	b	1,400	2,600	b	b	b
East of Y-12, Claxton	b	1,300	2,300	b	b	b
Northeast of Y-12, Scarboro #1	b	1,600	2,900	4.6	b	b
Northeast of Y-12, Scarboro #2	b	2,000	5,200	7.0	b	b
Southeast of ORNL	b	2,100	3,800	b	b	b
West of ETTP	b	2,100	2,600	b	b	b

Table 7.6. Concentrations of radionuclides detected in	n vegetables, 2005 (pCi/kg) ^a
--	--

^{*a*}Detected radionuclides are detected above the minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq.

 ${}^{b}\mbox{Value}$ was not detected above the minimum detectable activity.

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
Location	Gross alpha		Lettuce	K	U		U
East of ORR	b	3,400	b	5,100	b	b	4.1
(Claxton vicinity)	D	3,400	D	5,100	υ	D	4.1
North of ETTP	32	2,100	b	3,700	b	b	12
North of ORR	b	2,500	b	3,800	8.4	2.0	5.7
(Wartburg vicinity)	-	_,	-	-,			
Northeast of Y-12, Scarboro #1	60	2,500	b	4,300	b	b	8.8
Northeast of Y-12, Scarboro #2	b	3,900	b	7,100	b	b	b
South of ORR (Eton Crossroad/ Lenoir City vicinity)	130	4,200	b	6,100	9.3	b	11
Southeast of ORNL	b	2,800	960	3,200	b	1.9	b
Southwest of ORR (Kingston vicinity)	160	4,400	b	5,800	13	1.8	14
		2	Tomato				
East of ORR (Claxton vicinity)	b	1,100	b	b	b	b	b
North of ETTP	73	1,800	b	3,500	b	b	b
North of ORR (Wartburg vicinity)	110	1,500	b	1,900	b	b	b
Northeast of Y-12, Scarboro #1	b	1,000	b	2,900	9.0	b	b
Northeast of Y-12, Scarboro #2	b	1,500	b	2,300	b	b	b
South of ORR (Eton Crossroad/ Lenoir City vicinity)	b	1,800	b	2,400	b	b	b
Southeast of ORNL	55	1,500	b	1,800	b	b	b
Southwest of ORR (Kingston vicinity)	b	1,500	b	2,800	b	b	b
		Tur	rnip Root	Ś			
East of ORR (Claxton vicinity)	b	1,800	b	4,200	b	b	b
North of ETTP	19	1,600	b	3,100	b	b	b
North of ORR (Wartburg vicinity)	b	2,000	b	5,000	3.8	b	b
Northeast of Y-12, Scarboro #1	b	1,200	b	1,800	b	b	b
Northeast of Y-12, Scarboro #2	25	1,800	b	3,700	8.5	b	5.2
South of ORR (Eton Crossroad/ Lenoir City vicinity)	32	2,100	b	2,600	b	b	b
Southeast of ORNL	23	2,200	b	3,700	b	b	b

Table 7.7. Concentrations of radionuclides detected in vegetables, 2006 (pCi/kg)^a

Table 1.1. Concentrations of radionacides detected in vegetables, 2000 (points) (continued)									
Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U		
Southwest of ORR (Kingston vicinity)	24	2,100	b	3,400	b	3.3	b		

Table 7.7. Concentrations of radionuclides detected in vegetables, 2006 (pCi/kg)^a (Continued)

^{*a*}Detected radionuclides are those detected at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not detected above minimum detectable activity.

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		1	Lettuce				
East of ORR (Claxton vicinity)	91	2,500	b	4,800	b	b	b
North of ETTP	61	2,400	b	6,700	9.2	3.6	10
Northeast of Y-12, Scarboro #1	b	2,800	b	4,200	9.1	2.2	9.1
Northeast of Y-12, Scarboro #2	b	1,800	b	4,600	6.0	b	b
Southeast of ORNL	91	3,000	b	5,000	b	b	b
Southwest of ORNL	b	2,500	b	6,800	b	b	b
		7	Tomato				
East of ORR (Claxton vicinity)	b	1,500	b	2,000	b	b	b
North of ETTP	b	1,200	b	3,100	5.3	b	3.9
Northeast of Y-12, Scarboro #1	b	1,700	b	1,800	b	2.5	b
Northeast of Y-12, Scarboro #2	b	1,500	b	1,600	b	b	b
Southeast of ORNL	b	540	b	1,800	b	b	b
Southwest of ORNL	b	800	b	1,800	b	b	b
		1	urnips				
East of ORR (Claxton vicinity)	b	1,800	b	1,900	b	b	b
North of ETTP	56	2,000	b	2,600	6.0	2.7	b
Northeast of Y-12, Scarboro #1	b	1,500	b	1,800	b	b	b
Northeast of Y-12, Scarboro #2	50	2,500	b	2,100	b	b	b
Southeast of ORNL	b	2,200	b	3,200	b	b	b
Southwest of ORNL	b	1,800	b	2,400	b	b	b

Table 6.7. Concentrations of radionuclides detected in vegetables, 2007 (pCi/kg)^a

^{*a*}Detected radionuclides are those detected at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq.

^bValue was not detected above minimum detectable activity.

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
			Lettuce				
East of ORR (Claxton vicinity)	30	940	b	3,200	5.0	b	b
North of ETTP	b	4,700	b	7,900	5.7	b	b
Northeast of Y-12, Scarboro #1	23	1,400	b	4,700	b	b	b
Northeast of Y-12, Scarboro #2	30	2,000	b	4,600	b	b	b
Southeast of ORNL	79	2,500	340	4,900	b	b	b
Southwest of ORNL	140	3,000	b	5,800	b	b	b
		,	Tomato				
East of ORR (Claxton vicinity)	48	1,300	b	2,400	b	b	b
North of ETTP	b	1,700	b	2,600	b	b	b
Northeast of Y-12, Scarboro #1	29	1,300	b	2,400	b	b	b
Northeast of Y-12, Scarboro #2	b	1,900	b	2,500	b	b	b
Southeast of ORNL	190	1,400	b	2,700	b	b	b
Southwest of ORNL	18	1,600	b	1,700	b	b	b
		2	Furnips				
East of ORR (Claxton vicinity)	51	1,500	b	1,900	b	b	b
North of ETTP	41	1,900	b	3,500	b	1.6	b
Northeast of Y-12, Scarboro #1	100	2,200	b	3,000	b	b	b
Northeast of Y-12, Scarboro #2	92	1,900	b	2,500	b	b	b
Southeast of ORNL	69	1,500	b	2,400	b	b	b
Southwest of ORNL	85	2,000	b	2,400	b	b	b

^{*a*}Detected radionuclides are those detected at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq.

^bValue was not detected above minimum detectable activity.

T a satism	Cuesa elst	Cuesa het-	7 D .	⁴⁰ K	²³⁴ U	²³⁵ U	238U
Location	Gross alpha	Gross beta	⁷ Be	™K	U	²³³ U	U
		Lettuce	4 4 6 6	4.000			c -
East of ORR	40	2,900	1,100	4,800	7.3	b	9.2
(Claxton vicinity)		• • • • •	_				~ ~
North of ETTP	57	3,600	b	4,500	4.8	b	5.2
Northeast of Y-12, Scarboro #2	b	3,000	b	5,200	2.8	b	3.1
North of Y12	67	4,100	b	6,300	14	b	14
Southwest of ORNL, Lenoir City #1	71 ^c	4,200	b	5,100	9.3	b	9.2
Southwest of ORNL, Lenoir City #2	80	3,400	b	5,500	b	b	b
Reference location, Maryville	38	2,900	b	3,800	3.7	b	b
		Tomato					
East of ORR (Claxton vicinity)	400^{d}	690	b	b	b	b	2.2
North of ETTP	260	570	b	b	4.4	b	b
Northeast of Y-12, Scarboro #2	b	470	b	2,500	b	2.3	b
North of Y12	210	730	b	1,500	4.8	b	b
Southwest of ORNL, Lenoir City #1	b	740	b	b	8.5	b	b
Southwest of ORNL, Lenoir City #2	15^e	710	b	1,900	b	b	b
Reference location, Maryville	b	610	b	2,000	b	b	2.6
		Turnips		,			
East of ORR (Claxton vicinity)	b	1,500	b	2,500	b	b	2.5
North of ETTP	22	1,700	b	2,600	b	b	b
Northeast of Y-12, Scarboro #2	200^{f}	1,700	b	3,300	b	b	b
North of Y12	17	1,900	b	2,300	b	b	b
Southwest of ORNL, Lenoir City #1	110	2,200	b	2,800	b	b	b
Southwest of ORNL, Lenoir City #2	b,g	2,300	b	2,500	b	b	b
Reference location, Maryville	22^h	2,000	b	b	b	b	b

Table 6.6. Concentrations of radionuclides detected in vegetable	s, 2009 (pCi/kg) ^a
--	-------------------------------

^aDetected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq.

^bValue was not above minimum detectable activity.

^cAdditional analyses were conducted to identify alpha activity: ^{239/240}Pu was detected at 6.1 pCi/kg; none of the following were above minimum detectable activity: ²⁴¹Am, ²⁴²Cm, ²⁴⁴Cm, ²³⁷Np, ²³⁸Pu, ²²⁸Th, ²³⁰Th, and ²³²Th.

^dAdditional analyses were conducted to identify alpha activity, and none of the following were above minimum detectable activity: ²⁴¹Am, ²⁴²Cm, ²⁴⁴Cm, ²³⁷Np, ²³⁸Pu, ^{239/240}Pu, ²²⁸Th, and ²³⁰Th, and ²³²Th.

^eAdditional analyses were conducted to identify alpha activity: ²⁴¹Am was detected at 4.2 pCi/kg, and ²⁴²Cm was detected at 13 pCi/kg. None of the following were above minimum detectable activity: ²⁴⁴Cm, ²³⁷Np, ²³⁸Pu, ^{239/240}Pu, ²²⁸Th, and ²³⁰Th, and ²³²Th. ^fAdditional analyses were conducted to identify alpha activity; none of the following were above minimum detectable activity: ²⁴¹Am, ²⁴²Cm, ²⁴⁴Cm, ²³⁷Np, ²³⁸Pu, ^{239/240}Pu, ²²⁸Th, ²³⁰Th, and ²³²Th.

^gAdditional analyses were conducted to identify alpha activity: ²³²Th was detected at 2.9 pCi/kg; none of the following were above minimum detectable activity: ²⁴¹Am, ²⁴²Cm, ²³⁴Cm, ²³⁷Np, ²³⁸Pu, ^{239/240}Pu, ²²⁸Th, and ²³⁰Th.

^{*h*}Additional analyses were conducted to identify alpha activity; none of the following were above minimum detectable activity: ²⁴¹Am, ²⁴²Cm, ²⁴⁴Cm, ²³⁷Np, ²³⁸Pu, ^{239/240}Pu, ²²⁸Th, ²³⁰Th, and ²³²Th.

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
			Lettuce				
East of ORR (Claxton vicinity)	41	2,600	b	3,000	b	b	b
North of ETTP	34	4,000	b	4,600	8.7	b	5.6
Northeast of Y-12, Scarboro #2	b	2,600	b	4,800	22	b	28
Southwest of ORNL, Lenoir City #1	46 ^c	4,500	b	5,300	b	b	b
Southwest of ORNL, Lenoir City #2	22	2,000	b	5,800	b	b	b
Reference location, Maryville	27	2,200	b	6,400	b	b	b
		,	Tomato				
East of ORR (Claxton vicinity)	b	800	b	b	27	b	b
North of ETTP	b	820	b	2,500	b	b	b
Northeast of Y-12, Scarboro #2	b	950	b	1,200	b	b	b
Southwest of ORNL, Lenoir City #1	b	640	b	2,000	b	b	b
Southwest of ORNL, Lenoir City #2	b^d	1,100	b	1,300	4.1	b	b
Reference location, Maryville	26	450	b	1,700	b	b	b
		,	Turnips				
East of ORR (Claxton vicinity)	280	1,100	b	2,200	b	b	b
North of ETTP	32	1,600	b	2,600	b	b	b
Northeast of Y-12, Scarboro #2	190	1,800	b	3,200	b	b	b
Southwest of ORNL, Lenoir City #1	b	1,100	b	3,300	b	b	b
Southwest of ORNL, Lenoir City #2	b	1,400	b	2,600	b	b	b
Reference location, Maryville	31	990	b	b	b	b	b

Table C.F. Company functions		detected in the website	$0.040 (m O(1/m))^{2}$
Table 6.5. Concentrations	of radionuclides	detected in vegetables	, 2010 (pci/kg)"

^{*a*}Detected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq.

^{*b*}Value was not above minimum detectable activity.

^cAdditional analyses were conducted to identify alpha activity: ²⁴¹Am was detected at 3.4 pCi/kg and ²³²Th was detected at 16 pCi/kg; none of the following were above minimum detectable activity: ²⁴²Cm, ²⁴⁴Cm, ²³⁷Np, ²³⁸Pu, ^{239/240}Pu, ²²⁸Th, and ²³⁰Th. ^dAdditional analyses were conducted to identify alpha activity: ²³²Th was detected at 17 pCi/kg; none of the following were above minimum detectable activity: ²³²Th was detected at 17 pCi/kg; none of the following were above minimum detectable activity: ²⁴¹Am, ²⁴²Cm, ²³⁷Np, ²³⁸Pu, ^{239/240}Pu, ²²⁸Th, and ²³⁰Th.

					-		
Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
			Lettuce				
East of ORR (Claxton vicinity)	41	3,200	b	3,700	b	b	b
North of ETTP	120	4,600	b	5,300	b	b	b
Northeast of Y-12 Complex, Scarboro #2	41	3,000	b	4,100	b	b	b
Southwest of ORNL, Lenoir City #1	45	4,200	b	5,600	8.6	b	6.4
Southwest of ORNL, Lenoir City #2	65	4,700	b	5,400	b	b	b
Reference location, Maryville	170	3,300	b	3,500	b	b	b
			Tomato				
East of ORR (Claxton vicinity)	b	840	b	b	b	b	b
North of ETTP	b	720	b	3,000	b	b	b
Northeast of Y-12 Complex, Scarboro #2	b	360	b	1,900	b	b	b
Southwest of ORNL, Lenoir City #1	120	830	b	b	b	b	b
Southwest of ORNL, Lenoir City #2	23	600	b	b	b	b	b
Reference location, Maryville	b	380	b	b	b	b	b
			Turnips				
East of ORR (Claxton vicinity)	b	1,100	b	3,000	b	b	b
North of ETTP	b	900	b	b	b	b	b
Northeast of Y-12 Complex, Scarboro #2	b	860	b	1,900	b	b	b
Southwest of ORNL, Lenoir City #1	b	900	b	2,800	b	b	3.5
Southwest of ORNL, Lenoir City #2	17	790	b	b	b	b	b
Reference location, Maryville	b	620	b	b	b	b	b

Table 6.5. Concentrations of radionuclides detected in vegetables, 2011 (pCi/kg)^a

^{*a*}Detected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not above minimum detectable activity.

Acronyms

ETTP = East Tennessee Technology Park ORNL = Oak Ridge National Laboratory ORR = Oak Ridge Reservation Y-12 Complex = Y-12 National Security Complex

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		1	Lettuce				
East of Y-12 Complex (Claxton vicinity)	61	3,800	b	4,900	b	b	b
West of ETTP	b	3,900	b	4,900	b	b	b
North of Y-12 Complex	100	5,100	b	6,100	b	b	b
South of ORNL	b	2,300	b	4,800	b	b	b
Southwest of ORNL, Lenoir City	b	3,000	b	4,900	b	b	b
Reference location, Maryville	b	2,700	b	4,400	b	b	b
		7	Tomato				
East of Y-12 Complex, (Claxton vicinity)	b	320	b	1,300	b	b	b
West of ETTP	b	450	b	1,700	b	b	b
North of Y-12 Complex	b	530	b	b	2.6	b	b
South of ORNL	31	780	b	1,500	b	b	b
Southwest of ORNL, Lenoir City	b	850	b	b	b	b	b
Reference location, Maryville	b	400	b	1,400	b	b	b
		1	Furnips				
East of Y-12, Complex (Claxton vicinity)	b	1,600	b	2,400	b	b	b
West of ETTP	34	1,300	b	2,600	b	b	b
North of Y-12 Complex	36	1,500	b	1,800	b	b	b
South of ORNL	190	1,600	b	1,800	b	b	b
Southwest of ORNL, Lenoir City	b	1,800	b	4,800	b	1.5	b
Reference location, Maryville	b	1,300	b	2,500	b	b	b

Table 6.5. Concentrations	of radionuclides detected in	n vegetables, 2012 (pCi/kg)a
	or radionuclides delected i	1 vegelables, zuiz (pol/kg)a

^{*a*}Detected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not above minimum detectable activity.

Acronyms

ETTP = East Tennessee Technology Park

ORNL = Oak Ridge National Laboratory

Y-12 Complex = Y-12 National Security Complex

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
			Lettuce				
East of Y-12 Complex (Claxton vicinity)	b	2,860	b	3,580	6.11	b	4.92
West of ETTP	b	3,380	b	3,590	b	b	b
North of Y-12 Complex	b	4,730	b	6,950	5.22	b	4.24
South of ORNL	b	3,100	b	4,570	b	b	3.77
Southwest of ORNL, Lenoir City	b	3,520	b	3,610	b	b	b
Reference location, Maryville	b	3,340	b	5,260	b	b	b
		2	Tomato				
East of Y-12 Complex, (Claxton vicinity)	b	1,310	b	2,480	b	0.836	b
West of ETTP	b	988	b	2,090	b	b	b
North of Y-12 Complex	b	1,120	b	2,720	b	b	b
South of ORNL	b	994	b	2,560	2.68	b	b
Southwest of ORNL, Lenoir City	b	418	b	b	b	b	b
Reference location, Maryville	b	606	b	b	b	b	b
		7	Furnips				
East of Y-12, Complex (Claxton vicinity)	b	2,200	b	3,080	b	b	b
West of ETTP	b	1,050	b	2,150	b	b	b
North of Y-12 Complex	b	2,260	b	5,150	b	1.11	b
South of ORNL	b	2,510	b	3,620	b	b	b
Southwest of ORNL, Lenoir City	35.9	1,640	b	3,020	b	b	b
Reference location, Maryville	b	1,500	b	2,210	b	b	b

Table 6.5 Concentrations	of radionuclides	detected in vegetabl	$a = 2013 (nCi/ka)^{a}$
Table 6.5. Concentrations	orradionuclides	detected in vegetabl	es, zurs (pci/kg)*

^{*a*}Detected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq.

 ${}^{b}\mbox{Value}$ was not above minimum detectable activity.

Acronyms

ETTP = East Tennessee Technology Park

ORNL = Oak Ridge National Laboratory

Y-12 Complex = Y-12 National Security Complex

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
			Lettuce				
East of Y-12, Claxton vicinity	b	3,530	b	4,020	7.54	b	6.51
West of ETTP	b	4,700	574	5,410	5.62	b	10.1
North of Y-12	b	3,120	b	4,130	3.44	b	3.76
South of ORNL	b	3,500	b	5,760	2.74	b	0.856
Southwest of ORNL, Lenoir City	b	2,130	b	3,840	b	0.879	1.49
Reference location, Maryville	b	3,280	b	4,550	b	b	b
		,	Tomato				
East of Y-12, Claxton vicinity	b	419	b	1,090	3.02	b	b
West of ETTP	b	812	b	1,870	2.34	b	b
North of Y-12	b	483	b	b	1.58	b	b
South of ORNL	b	1,090	b	1,530	2.15	1.26	b
Southwest of ORNL, Lenoir City	b	1,170	b	1,510	b	b	b
Reference location, Maryville	b	727	b	1,880	b	b	1.39
		1	Furnips				
East of Y-12, Claxton vicinity	b	2,520	b	2,920	b	b	b
West of ETTP	b	3,130	b	2,280	b	b	b
North of Y-12	b	3,440	b	2,970	b	b	b
South of ORNL	b	2,150	b	3,150	b	b	b
Southwest of ORNL, Lenoir City	b	2,030	b	2,320	b	b	b
Reference location, Maryville	b	2,610	b	4,280	b	b	b

^{*a*}Detected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not above minimum detectable activity.

Acronyms

ETTP = East Tennessee Technology Park ORNL = Oak Ridge National Laboratory Y-12 = Y-12 National Security Complex

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
			Lettuce				
East of Y-12, Claxton vicinity	80.9	4,110	b	5,270	9.37	b	7.58
West of ETTP	b	3,740	b	5,210	b	b	2.45
North of Y-12	86.1	4,420	b	5,410	7.48	b	3.69
South of ORNL	b	3,720	b	3,850	5.50	b	4.11
Southwest of ORNL, Lenoir City	81.8	4,360	b	4,520	b	b	b
Reference location	b	4,710	b	6,310	b	b	b
		2	Tomato				
East of Y-12, Claxton vicinity	b	572	b	b	b	b	b
West of ETTP	b	3,330	b	1,820	b	b	b
North of Y-12	b	897	b	b	4.04	1.46	b
South of ORNL	26.7	935	b	1,520	b	1.30	b
Southwest of ORNL, Lenoir City	27.6	908	b	1,540	b	b	b
Reference location	b	460	b	b	3.07	1.60	b
		2	Furnips				
East of Y-12, Claxton vicinity	b	2,800	b	3,410	b	b	b
West of ETTP	b	2,160	b	2,050	b	b	1.75
North of Y-12	b	2,970	b	4,430	3.74	b	b
South of ORNL	b	2,070	b	1,800	6.36	b	b
Southwest of ORNL, Lenoir City	b	2,240	b	1,410	b	b	2.94
Reference location	b	3,530	b	3,600	1.76	b	b

Table 6.5. Concentrations of radionuclides detected in vegetables, 2015 (pCi/kg)^a

^{*a*}Detected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not above minimum detectable activity.

Acronyms

ETTP = East Tennessee Technology Park ORNL = Oak Ridge National Laboratory

Y-12 = Y-12 National Security Complex

Location	Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		1	Lettuce				
East of Y-12, Claxton vicinity	76.8	4,190	672	5,390	3.79	b	b
West of ETTP	b	5,370	b	7,350	b	b	b
North of Y-12	b	5,260	b	6,640	b	b	2.75
South of ORNL	b	4,230	b	5,200	b	1.80	b
Southwest of ORNL, Lenoir City	b	3,080	b	2,290	3.96	b	b
Reference location	b	1,390	b	1,250	3.44	b	b
		7	Tomato				
East of Y-12, Claxton vicinity	b	2,290	b	1,590	b	b	b
West of ETTP	b	1,300	b	1,780	b	b	b
North of Y-12	b	2,160	b	2,760	b	b	b
South of ORNL	b	2,190	b	2,030	b	b	b
Southwest of ORNL, Lenoir City	b	1,440	b	1,790	b	b	1.84
Reference location	b	1,500	b	1,530	2.81	2.2	b

^{*a*} Detected radionuclides are those at or above minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*} Value was less than or equal to minimum detectable activity.

Acronyms

ETTP = East Tennessee Technology Park ORNL = Oak Ridge National Laboratory Y-12 = Y-12 National Security Complex

Gross alpha	Gross beta	⁷ Be	⁴⁰ K	^{233/234} U	²³⁸ U				
		Area 1-2-3	composite						
92	2,300	3,200	5100	С	С				
Area 2-4-5 composite									
100	1,500	5,200	С	8.8	С				
		Ar	ea 6						
140	1,500	3,700	3100	20	16				
	Area 7 – Norris reference location								
130	2,300	5,700	С	12	С				

Table 7.5. Concentrations of radionuclides detected in hay, 2003 (pCi/kg)^{*a,b*}

^aDetected radionuclides are detected above the minimum detectable activity.

 $^{b}1$ pCi = 3.7E-02 Bq.

^{*c*}Value was not detected above the minimum detectable activity.

Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²²⁸ Ac	²³⁴ U	²³⁵ U	²³⁸ U
		Aı	rea 1-2-3 con	nposite			
b	10,000	10,000	b	b	10	b	b
		Aı	rea 2-4-5 con	nposite			
60	3,000	17,000	b	b	6.1	b	b
			Area 6				
430	3,200	12,000	b	b	52	6.2	53
		Area 7 –	Norris refer	ence location			
91	4,100	11,000	b	1,600	7.2	b	b

Table 7.5. Concentrations of radionuclides detected in hay, 2004 (pCi/kg)^a

^{*a*}Detected radionuclides are detected above the minimum detectable activity.

^bValue was not detected above the minimum detectable activity.

Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		Area	a 1-2-3 composit	e		
b	11,000	b	17,000	b	b	b
		Area	a 2-4-5 composit	e		
83	9,900	b	28,000	8.0	b	5.7
			Area 6			
120	9,400	9,800	17,000	b	b	9.0
		Area 7 – N	orris reference l	ocation		
b	9,200	b	23,000	b	b	2.1

^{*a*}Detected radionuclides are detected above the minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not detected above the minimum detectable activity.

Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		Area	a 1-2-3 composit	e		
150	11,000	6,200	15,000	12	b	9.3
		Area	a 2-4-5 composit	e		
320	14,000	b	15,000	35	2.9	40
			Area 6			
b	11,000	b	17,000	9.5	b	7.3
		Area 7 – N	orris reference l	ocation		
110	12,000	10,000	15,000	b	b	b

Table 7.6. Concentrations of radionuclides	detected in hay, 2006 (pCi/kg) ^a
--	---

^{*a*}Detected radionuclides are detected above the minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not detected above the minimum detectable activity.

Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U
		Are	a 1-2-3 composit	e		
b	14,000	b	22,000	b	b	5.1
		Are	a 2-4-5 composit	e		
190	10,000	b	20,000	4.6	b	8.7
			Area 6			
b	11,000	b	17,000	b	b	b
	Aı	rea 8 Fort Lo	udon Dam refere	ence location		
130	11,000	b	11,000	3.4	b	4.2

Table 6.6. Concentrations of radionuclides	detected in hay, 2007 (pCi/kg) ^a
--	---

^{*a*}Detected radionuclides are detected above the minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq. ^{*b*}Value was not detected above the minimum detectable activity.

Gross alpha	Gross beta	⁷ Be	⁴⁰ K	²³⁴ U	²³⁵ U	²³⁸ U	²¹⁴ Pb
b	10,100	7,910	12,900	3.27	b	2.82	525

^{*a*}Detected radionuclides are those detected above the minimum detectable activity. 1 pCi = 3.7×10^{-2} Bq.

 ${}^{b}\mbox{Value}$ was not detected above the minimum detectable activity.