

**START**

**RECORD OF REVISION**

(1) Document Number

WHC-EP-0620

Page 1 of 5

(2) Title

100 Areas CERCLA Ecological Investigations

**CHANGE CONTROL RECORD**

(3) Revision

(4) Description of Change - Replace, Add, and Delete Pages

Authorized for Release

(5) Cog. Engr.

(6) Cog. Mgr.

Date

Page iii  
Executive  
Summary

(7)  
Add as second paragraph: "These CERCLA studies are designed to complement ongoing sampling conducted under Westinghouse near-field (waste-site) monitoring and Pacific Northwest Laboratory Site-wide surveillance programs. Some of the results from these programs are reproduced in this report. Because these other programs sample within the reactor areas (near-field sampling) or 600 areas (site-wide), this project emphasized other areas and biota, such as vegetation along the Columbia River near the operable units."

*D. L. Lander*  
2-17-94

*J. L. Lander* 2/17/94

Page iv  
Executive  
Summary

Add to end of second-to-last paragraph: "It must be reiterated that the results in this report have been compared to data from a variety of other studies, because of the lack of Hanford-specific "background" data on contaminants, especially metals, in vegetation. These comparisons are not intended to be the deciding factors in determining remedial actions for any waste sites."

Page 2

Insert at end of section 1.0:  
"Historically, data on metals contamination has not been collected for these programs: however, metals are now being analyzed for in samples collected under the Sitewide monitoring program."

Page 16

Under seasonal occurrence, the illegible footnote between "m" and "b" should read "a" (those species that were observed in breeding and nesting activities.)



9473207.2141

**RECORD OF REVISION**

(1) Document Number

WHC-EP-0620

Page 2 of 5

(2) Title

100 Areas CERCLA Ecological Investigations

**CHANGE CONTROL RECORD**

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog. Engr.	(6) Cog. Mgr.	Date
Page 23	(7) 2nd paragraph, 1st sentence: mammals listed in parentheses could also include coyotes and badgers			
Page 32	delete the symbol "a" in Table 7			
Page 44	Insert the following paragraph immediately after the first paragraph  Comparison of biological tissue chemical concentrations to sitewide background soil threshold values was done because a comprehensive data set for background biological tissue is not available. When a background biological tissue data base is developed, it will be the preferred benchmark for comparison purposes. Comparison with soil thresholds should be cautioned for a number of reasons such as: 1) soil threshold values are based primarily on Hanford formation sediments, which have a different chemical makeup that the riparian/aquatic soils in which most of the plant and animals reported in this document were associated, 2) biota have preferential uptake affinity for different chemicals, thus the chemical signature in the organism's soil environment may not be reflected in tissue data, 3) adverse biological activity is chemical specific, so that trace levels of a chemical in a tissue may have an adverse impact even though it is below a soil concentration. The inverse of this can also be true.			

9413207-2142

**RECORD OF REVISION**

(1) Document Number

WHC-EP-0620

Page 3 of 5

(2) Title

100 Areas CERCLA Ecological Investigations

**CHANGE CONTROL RECORD**

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog. Engr.	(6) Cog. Mgr.	Date
Page 47	(7) The term "background" in this section refers to Peterson and Johnson's (1992) use of the term found on pages 29 and 31 of their document. The radionuclide background values they refer to in sediments come from Priest Rapids Dam. In lieu of river sediment background values from upstream of Hanford, local Hanford Site soil/sediment background threshold values are used as preliminary reference values (Hoover and Legore 1991). "World average shale" (Bowen 1966) served as a third reference scale.			
Page 50	Under section 8.5, 2nd paragraph, insert the word "previous" before background values so it reads "no previous background values..."			
Page 51	Figure 2 should read "Strontium-90 Concentrations in Tree Leaves Near Reactor Sites (July 1992)"			
Page 52	Figure 3 should read "Copper and Zinc Concentrations in Mulberry Leaves Near Reactor Sites (1991 and 1992)"			
Page 54	Figure 4 should read "Antimony, Cadmium, Lead, and Zinc Concentrations in Water Milfoil at N Springs (1992)"			
Page 54	Section 8.6: Replace the second and third sentences with: "Zinc values in coyote scat ranged from 44.5 to 367.0 ppm and 70.6 to 585.0 ppm in raptor pellets (Figure 5)"			
Page 54	Second paragraph under Section 8.6, remove.			

9417207.243

RECORD OF REVISION

(1) Document Number

WHC-EP-0620

Page 4 of 5

(2) Title

100 Areas CERCLA Ecological Investigations

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog. Engr.	(6) Cog. Mgr.	Date
Page 56	<p>(7) An introduction to sections 8.7 and 8.8 should state that</p> <p>"The work plans (e.g., DOE 1992A) indicate that the burrowing of rodents and insects into waste sites will be evaluated. In 1991, the waste sites were checked for evidence of burrowing activity (see Table 4-2 in Sackschewsky and Landeen 1991). Later, it was decided to sample the soil brought up by these animals. In 1992 new burrowing activity was sampled, adjacent to the waste sites. At many of the sites we were not able to obtain permission to enter on top of the waste sites and sample because of safety concerns. However, collecting the samples adjacent to waste sites does show whether or not contaminants are being transported away from the waste site and verifies the integrity of the waste site boundary areas. In addition, the 1991 surveys indicated that most animal activity was adjacent to the sites, probably as a result of pesticides that eliminated virtually all vegetation on the waste site. Any high levels of contaminants found in these samples would have warranted further investigation at the site."</p>			
Page 57	Data qualifier definitions at bottom of page. Under the definition of J values delete the word "not"			
Page 58	Section 9.2 Summary, delete 3rd sentence in first paragraph: "The levels reported here for metals and radionuclides are well below those levels considered to be of environmental concern."			

9413207-2144

RECORD OF REVISION

(1) Document Number

WHC-EP-0620

Page 5 of 5

(2) Title

100 Areas CERCLA Ecological Investigations

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog. Engr.	(6) Cog. Mgr.	Date
Page A-4	(7) Add "owl" to the caption.			
Page A-5	Add "Harvester" before ant in figure caption			
Page I-1	Change title to "The 12 Ecological Areas Surveyed"			
Page J-i	Change title to "Selected Average Metals Concentrations in All Media in and Near 100 Area Operable Units and Reference Sites"			
Page A-3	All of the sample ID numbers refer to mulberry trees except for the following: BOOVY1, BOOVY2 are Locust trees, BOOVX3, BOOVX4, B07927, B07928 are Elm trees			
Appendices C-G	Under the definition of the J data qualifier in the footnotes delete the word "not"			

9413207-2145

DISTRIBUTION (continued)

L. C. Hulstrom	H6-03
A. R. Johnson	T1-30
W. L. Johnson	H6-04
C. J. Kemp	H4-14
A. D. Krug	H6-02
D. S. Landeen (5)	H4-14
M. J. Lauterbach	H6-01
K. M. Leonard	H6-22
J. G. Lucas	H6-04
R. M. Mitchell	H6-04
N. M. Naiknimbalkar	H6-02
J. W. Roberts	H6-02
R. C. Roos	H6-04
M. R. Sackschewsky (5)	H4-14
J. C. Sonnichsen	H4-14
D. R. Speer	H6-32
M. T. Stankovich	H6-02
R. S. Weeks	H6-26
S. G. Weiss (5)	H6-02
C. D. Wittreich	H6-03
Central Files	L8-04
Information Release Administration (3)	H4-17

9413207.2146