PNNL-13109

Pacific Northwest
National Laboratory
Operated by Battelle for the
U.S. Department of Energy

Hanford Site Environmental Surveillance Master Sampling Schedule

L. E. Bisping

January 2000

Prepared for the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830

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HANFORD SITE ENVIRONMENTAL SURVEILLANCE MASTER SAMPLING SCHEDULE

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Pacific Northwest National Laboratory
Richland, Washington 99352

SUMMARY

Environmental surveillance of the Hanford Site and surrounding areas is conducted by the Pacific Northwest National Laboratory (PNNL)[a] for the U.S. Department of Energy (DOE). Sampling is conducted to evaluate levels of radioactive and nonradioactive pollutants in the Hanford environs, as required in DOE Order 5400.1, "General Environmental Protection Program," and DOE Order 5400.5, "Radiation Protection of the Public and the Environment." The sampling design is described in the Environmental Monitoring Plan, United States Department of Energy, Richland Operations Office, DOE/RL-91-50, Rev.2, U.S. Department of Energy, Richland, Washington.

This document contains the CY 2000 schedules for the routine collection of samples for the Surface Environmental Surveillance Project (SESP) and Drinking Water Monitoring Project. Each section includes sampling locations, sample types, and analyses to be performed. In some cases, samples are scheduled on a rotating basis and may not be collected in 2000 in which case the anticipated year for collection is provided. In addition, a map showing approximate sampling locations is included for each media scheduled for collection in 2000.

SESP SAMPLING

The SESP is a multimedia environmental surveillance effort to measure the concentrations of radionuclides and chemicals in environmental media and assess the integrated effects of these materials on the environment and the public. Project staff collect samples of air, surface water, agricultural products, wildlife, and sediments. In addition, soil and natural vegetation samples are collected approximately every 5 years. Analytical capabilities include the measurement of radionuclides at very low environmental concentrations and, in selected media, nonradiological chemicals including metals, anions, and volatile organic compounds. In addition, the project includes the capability to measure ambient external radiation.

DRINKING WATER MONITORING PROJECT SAMPLING

The responsibility for monitoring onsite drinking water falls outside the scope of the SESP. The operator of the onsite drinking water systems (DynCorp Tri-Cities Services, Inc.) is responsible for monitoring drinking water quality as defined in the National Drinking Water Standards and Washington Administrative Code WAC 246-290. PNNL conducts radiological monitoring of onsite drinking water for DynCorp concurrent with the SESP to promote efficiency and consistency, utilize expertise developed

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over the years, and reduce costs associated with management, procedure development, data management, quality control, and reporting.

DATA MANAGEMENT

The Hanford Environmental Information System (HEIS) database is used as a repository for data gathered during environmental surveillance activities at the Hanford Site. For ease in retrieving these data from HEIS, the location names in this document reflect the exact location names used in HEIS.

SCHEDULED CHANGES

This schedule is subject to modification during the year in response to changes in site operations, program requirements, and the nature of the observed results. Operational limitations such as weather, mechanical failures, sample availability, etc., may also impact scheduled sampling. Therefore, this document may not be an accurate record of samples collected during the year.

COSAMPLES

Samples that are cosampled and analyzed by both PNNL and the Washington State Department of Health (DOH) are indicated in the schedule as are samples that are cosampled and analyzed by both PNNL and the U.S. Food and Drug Administration (FDA).

ADDITIONAL INFORMATION

Questions relating to the content of this document can be directed to T. M. Poston, Manager, Surface Environmental Surveillance Project, (509) 376-5678 or R. W. (Bill) Hanf, Manager, Drinking Water Monitoring Project, (509) 376-8264.

CONTENTS

FIGURES

ABBREVIATIONS

FREQUENCY SYMBOLS USED

A	annually
BE	biennial (every 2 years)
BW	biweekly (every 2 weeks)
M	monthly
M Comp.	monthly composite
Q	quarterly
Q Comp.	quarterly composite
SA	semiannually
TE	triennial (every 3 years)

ANALYTICAL SYMBOLS USED

Generally, standard element, chemical, and isotope designations are used to indicate the analyses performed. Other analytical designations used are:

Alpha	gross alpha activity of sample
Anions	major anions-generally Chloride, Fluoride, Nitrate, Nitrite, Sulfate
Beta	gross beta activity of sample
Comp. Only	sample analyzed as part of composite only
Gamma Scan	analysis of photon energy spectrum for individual photon-emitting radionuclides
HTO	tritiated water ($^{3}H^{1}H^{16}O$)
ICP-u, ICP-3	major metals by inductively coupled plasma spectrometry – samples unfiltered unless otherwise noted
Lo ^{3}H	analytical procedure includes electrolytic enrichment
Pu	Isotopic plutonium (^{238}Pu, $^{239,240}Pu$)
SEM/AVS	Simultaneously Extracted Metals/Acid Volatile Sulfide
TOC	Total Organic Carbon
U	Isotopic uranium (^{234}U, ^{235}U, ^{238}U)
VOA	Volatile Organic Compounds

INSTRUMENT SYMBOLS USED

BICRON	Microrem meter
GM	Geiger-Müeller counter
PIC	Pressurized ionization chamber

1.0 AIR SURVEILLANCE

1.1 AIR – PARTICULATE FILTER

	Individual Samples			Composited Samples		
Location	Location Number[a]	Frequency	Analyses	Composite Group	Frequency	Analyses
Onsite						
100 K Area	1	BW	Beta, Alpha	100 Areas	Q	^{90}Sr, Pu, Gamma Scan
100 N-1325 Crib	2	BW	Beta, Alpha			
100 D Area	3	BW	Beta, Alpha			
100 D Area[b]	3	BW (4^{th}Q)	Beta, Alpha	100 D Area	4^{th} Q	Gamma Scan
100 F Met Tower	4	BW	Beta, Alpha	Hanford Townsite	Q	^{90}Sr, Pu, Gamma Scan
Hanford Townsite	5	BW	Beta, Alpha			
N of 200 E	6	BW	Beta	N of 200 E	Q	Gamma Scan
E of 200 E	7	BW	Beta, Alpha	200 E Area	Q	^{90}Sr, Pu, U, Gamma Scan
200 ESE	8	BW	Beta, Alpha			
S of 200 E	9	BW	Beta, Alpha			
B Pond	10	BW	Beta, Alpha	B Pond	Q	^{90}Sr, Pu, U, Gamma Scan
Army Loop Camp	11	BW	Beta, Alpha	200 W South East	Q	^{90}Sr, Pu, U, Gamma Scan
200 Tel. Exchange	12	BW	Beta, Alpha			
200 W SE	13	BW	Beta, Alpha	200 West	Q	^{90}Sr, Pu, U, Gamma Scan
300 Water Intake	14	BW	Beta, Alpha	300 Area	Q	^{90}Sr, Pu, U, Gamma Scan
300 South Gate	15	BW	Beta, Alpha			
300 South West	16	BW	Beta, Alpha			
300 Trench	17	BW	Beta, Alpha}	Q U, Gamma	300 NE Q	^{90}Sr, Pu
300 NE	18	BW	Beta, Alpha}	Q U, Gamma		
400 E	19	BW	Beta, Alpha	400 Area	Q	^{90}Sr, Pu, Gamma Scan
400 W	20	BW	Beta, Alpha			
400 S	21	BW	Beta, Alpha			
400 N	22	BW	Beta, Alpha			
400 S[b]	21	BW (1^{st} Q)	Beta, Alpha	400 S	1^{st} Q	Gamma Scan
Wye Barricade	23	BW	Beta, Alpha	Wye Barricade	Q	^{90}Sr, Pu, U, Gamma Scan
Perimeter						
Ringold Met Tower	24	BW	Beta, Alpha	Ringold Met Tower	Q	^{90}Sr, Pu, Gamma Scan
W End of Fir Road	25	BW	Beta, Alpha	W End of Fir Road	Q	^{90}Sr, Pu, U, Gamma Scan

1.1 AIR - PARTICULATE FILTER (contd)

Location	Individual Samples: Location Number[a]	Fre-quency	Analyses	Composited Samples: Composite Group	Fre-quency	Analyses
Perimeter						
Dogwood Met Tower	26	BW	Beta, Alpha	Dogwood Met Tower	Q	^{90}Sr, Pu, U, Gamma Scan
Byers Landing	27	BW	Beta, Alpha	Byers Landing	Q	^{90}Sr, Pu, U, Gamma Scan
Battelle Complex	28	BW	Beta, Alpha	Battelle Complex	Q	Gamma Scan
Horn Rapids Substa	29	BW	Beta, Alpha	Prosser Barricade	Q	^{90}Sr, Pu, U, Gamma Scan
Prosser Barricade	30	BW	Comp.Only			
Yakima Barricade	31	BW	Beta, Alpha	Yakima Barricade	Q	^{90}Sr, Pu, Gamma Scan
Rattlesnake Springs	32	BW	Beta, Alpha			
Wahluke Slope	33	BW	Beta, Alpha	Wahluke Slope	Q	^{90}Sr, Pu, Gamma Scan
S End Vernita Bridge	34	BW	Beta, Alpha			
Community[c]						
Basin City School	35	BW	Beta, Alpha	Basin City School	Q	^{90}Sr, Pu, U, Gamma Scan
Basin City School[b]	35	BW (2^{nd} Q)	Beta, Alpha	Basin City School	2^{nd} Q	Gamma Scan
Leslie Groves-Rchlnd	36	BW	Beta, Alpha	Leslie Groves-Rchlnd	Q	^{90}Sr, Pu, U, Gamma Scan
Pasco	37	BW	Beta	Tri Cities	Q	^{90}Sr, Pu, Gamma Scan
Kennewick-Ely Street	38	BW	Beta, Alpha			
Benton City	39	BW	Beta	Benton City	Q	Gamma Scan
Edwin Markham School	40	BW	Beta, Alpha	Edwin Markham School	Q	^{90}Sr, Pu, U, Gamma Scan
Mattawa	41	BW	Beta	Mattawa	Q	Gamma Scan
Othello	42	BW	Beta	Othello	Q	Gamma Scan
Distant						
Yakima	43	BW	Beta, Alpha	Yakima	Q	^{90}Sr, Pu, U, Gamma Scan
Yakima[b]	43	BW (3^{rd} Q)	Beta, Alpha	Yakima	3^{rd} Q	Gamma Scan
Toppenish[c]	44	BW	Beta, Alpha	Toppenish	Q	^{90}Sr, Pu, U, Gamma Scan

(a) Refer to Figure 1.1, 2000 Air Sampling Locations.
(b) Sample is collected biweekly for one quarter and composited for the quarter indicated.
(c) Community-operated environmental surveillance stations.

1.2 AIR – TRITIUM AND IODINE

Location	Location Number[a]	Frequency[b]	Analysis	Frequency	Analysis[c]
Onsite					
100 K Area	1			M	^{3}H
100 N-1325 Crib	2			M	^{3}H
200 ESE	8	Q Comp	^{129}I	M	^{3}H
200 Tel. Exchange	12			M	^{3}H
300 Water Intake	14			M	^{3}H
300 South Gate[d]	15			M	^{3}H
300 South West	16			M	^{3}H
300 Trench	17			M	^{3}H
300 NE	18			M	^{3}H
400 E	19			M	^{3}H
Perimeter					
Ringold Met Tower	24	Q Comp	^{129}I	M	^{3}H
Dogwood Met Tower	26			M	^{3}H
Byers Landing	27	Q Comp	^{129}I	M	^{3}H
Prosser Barricade	30			M	^{3}H
Wahluke Slope	33			M	^{3}H
Community[e]					
Basin City School	35			M	^{3}H
Leslie Groves-Rchlnd	36			M	^{3}H
Edwin Markham School	40			M	^{3}H
Distant					
Yakima	43	Q Comp	^{129}I	M	^{3}H
Toppenish[e]	44			M	^{3}H

(a) Refer to Figure 1.1, 2000 Air Sampling Locations.
(b) Samples are collected monthly and composited for quarterly analyses.
(c) As HTO.
(d) Two silica gel samples are collected from this location.
(e) Community-operated environmental surveillance stations.

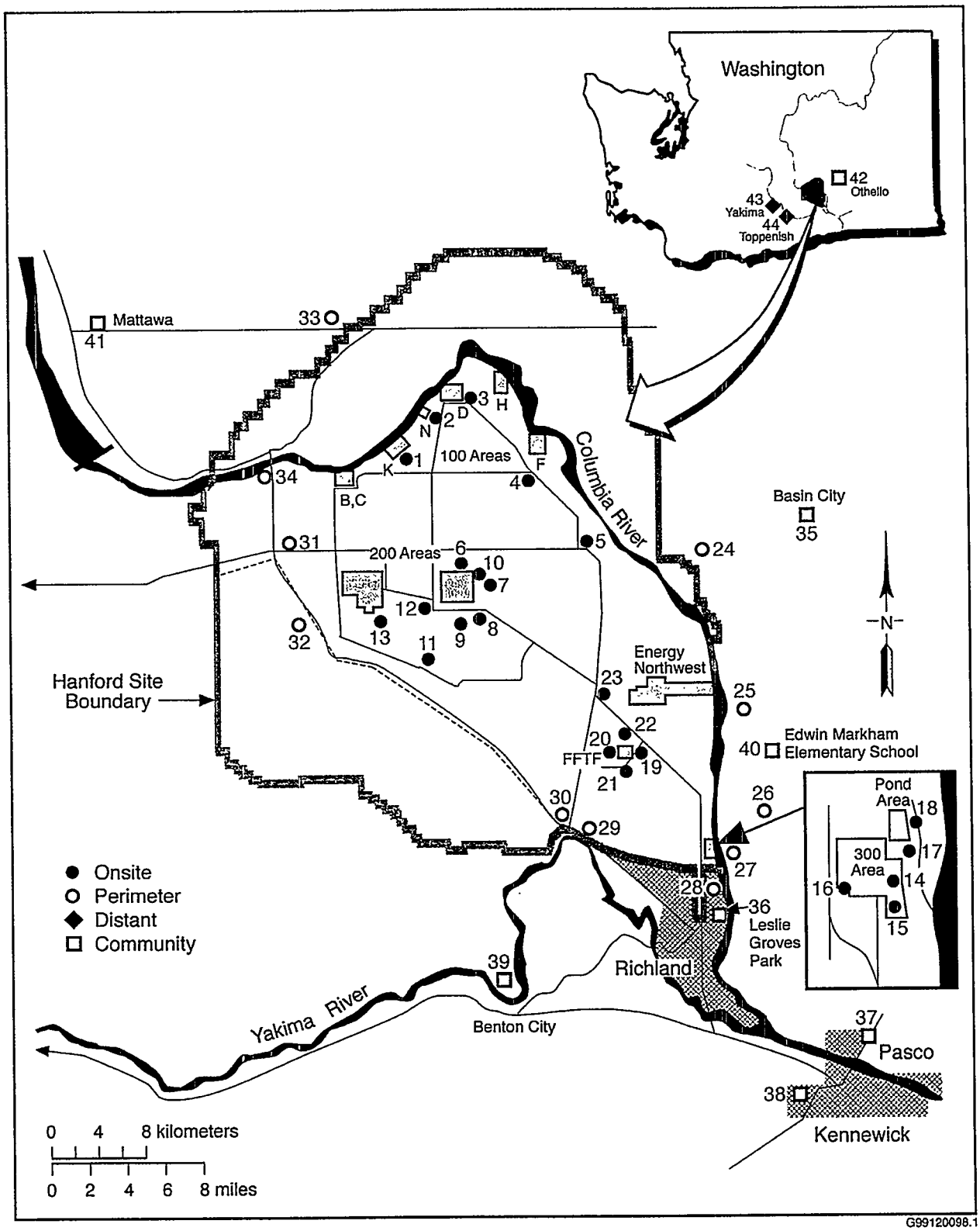

Figure 1.1. 2000 Air Sampling Locations

2.0 SURFACE WATER SURVEILLANCE

2.1 WATER – COLUMBIA RIVER

Location[a]	Sample Type	Frequency	Analyses
Priest Rapids-River	Cumulative	M Comp.[b]	Alpha, Beta, Lo ^{3}H, ^{90}Sr, ^{99}Tc, U, DOH[c]
		Q Comp.[b]	^{129}I
	Particulate (filter)	M Comp.[d]	Gamma Scan
		Q Comp.[d]	Pu
	Soluble (resin)	M Comp.[d]	Gamma San
		Q Comp.[d]	Pu
Rich.Pmphs HRM 46.4	Cumulative	M Comp.[b]	Alpha, Beta, Lo ^{3}H, ^{90}Sr, ^{99}Tc, U
		Q Comp.[b]	^{129}I
	Particulate (filter)	M Comp.[d]	Gamma Scan
		Q Comp.[d]	Pu
	Soluble (resin)	M Comp.[d]	Gamma Scan
		Q Comp.[d]	Pu
	Grab	Q	USGS-NASQAN[e]
Rich.Pmphs-1 HRM46.4	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs-2 HRM46.4	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs-3 HRM46.4	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs-5 HRM46.4	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs-7 HRM46.4	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs-10 HRM46.4	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs HRM 43.5	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs HRM 43.9	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs HRM 45.0	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Rich.Pmphs HRM 45.8	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Vernita	Grab	Q	USGS-NASQAN[e]
Vernita-1 HRM 0.3	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Vernita-2 HRM 0.3	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA

2.1 WATER – COLUMBIA RIVER (contd)

Location[a]	Sample Type	Frequency	Analyses
Vernita-3 HRM 0.3	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
Vernita-4 HRM 0.3	Transect	Q	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
		A	Cyanide, VOA
100 N -1 HRM 9.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
100 N -2 HRM 9.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
100 N -3 HRM 9.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
100 N -5 HRM 9.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
100 N -7 HRM 9.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
100 N -10 HRM 9.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 N Shore HRM 8.4	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 N Shore HRM 8.9	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 N Shore HRM 9.2	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 N Shore HRM 9.8	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -1 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -2 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -3 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -4 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -5 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -6 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -7 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -8 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -9 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
100 F -10 HRM 19.0	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd TS-1 HRM 28.7	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd TS-2 HRM 28.7	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd TS-3 HRM 28.7	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd TS-5 HRM 28.7	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd TS-7 HRM 28.7	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd TS-10 HRM 28.7	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd Twnsite HRM26	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd Twnsite HRM27	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd Twnsite HRM28	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
Hanfrd Twnsite HRM30	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
300 Area-1 HRM 43.1	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
300 Area -2 HRM 43.1	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
300 Area -3 HRM 43.1	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
300 Area -5 HRM 43.1	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
300 Area -7 HRM 43.1	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions, DOH[f]
300 Area -10 HRM 43.1	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
300 Area Shr HRM41.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions

2.1 WATER – COLUMBIA RIVER (contd)

Location[a]	Sample Type	Frequency	Analyses
300 Area Shr HRM42.1	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
300 Area Shr HRM42.5	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions
300 Area Shr HRM42.9	Transect	A	Lo ^{3}H, ^{90}Sr, U, ICP-3, ICP-3 Filtered, Anions

(a) Refer to Figure 2.1, 2000 Surface Water and Drinking Water Sampling Locations. HRM is referenced to Hanford River mile.
(b) Cumulative sample is collected weekly and composited for analysis.
(c) Cosampled with the Washington State Department of Health (January and June only)
(d) Sample is collected biweekly and composited for analysis.
(e) Analyses are performed by the United States Geological Survey (USGS) in conjunction with the National Stream Quality Accounting Network (NASQAN) Program, and includes: conductance, pH, temperature, turbidity, dissolved oxygen, hardness, Ca, Mg, alkalinity, carbonates, sulfate, Cl, F, solids, NH_4-N, NO_3+NO_2, N-Kjeldahl, P, Cr, Fe, dissolved organic carbon.
(f) Samples collected at transact stations 1-5 are cosampled with the Washington State Department of Health.

2.2 RIVERBANK SPRINGS

Location[a]	Sample Type	Frequency	Analyses
100-B Spring 38-3	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, ^{99}Tc, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, VOA
100-B Spring 39-2	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, ^{99}Tc, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, VOA
100-K Spring 63-1	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, VOA, DOH[b]
100-K Spring 77-1	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, VOA
100-N Spring 8-13	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, DOH[b]
100-N Spring Near 199N-46	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, Gamma Scan, ICP-3, ICP-3 Filtered, Anions
100-D Spring 110-1	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, Gamma Scan, ICP-3, ICP-3 Filtered, Anions
100-D Spring 102-1	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, Gamma Scan, ICP-3, ICP-3 Filtered, Anions
100-H Spring 152-2	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, ^{99}Tc, U, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, DOH[b]
100-H Spring 145-1	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, ^{99}Tc, U, Gamma Scan, ICP-3, ICP-3 Filtered, Anions
100-F Spring 207-1	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, U, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, VOA, DOH[b]
Hanford Spring 28-2	Grab	A	Alpha, Beta, ^{3}H, ^{99}Tc, U, ^{129}I, Gamma Scan, ICP-3, ICP-3 Filtered, Anions
Hanford Spr UR 28-2	Grab	A	Alpha, Beta, ^{3}H, ^{99}Tc, U, ^{129}I, Gamma Scan, ICP-3, ICP-3 Filtered, Anions
Hanford Spr DR 28-2	Grab	A	Alpha, Beta, ^{3}H, ^{99}Tc, U, ^{129}I, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, DOH[b]
300 Area Spring 42-2	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, U, ^{129}I, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, VOA, DOH[b]
300 Area Spr DR 42-2	Grab	A	Alpha, Beta, ^{3}H, ^{90}Sr, U, ^{129}I, Gamma Scan, ICP-3, ICP-3 Filtered, Anions, VOA

(a) Refer to Figure 2.1, 2000 Surface Water and Drinking Water Sampling Locations.
(b) Cosampled with the Washington State Department of Health.

2.3 ONSITE PONDS

Location[(a)]	Sample Type	Frequency	Analyses
West Lake	Grab	Q	Alpha, Beta, ^{3}H, ^{99}Tc, U, Gamma Scan
FFTF Pond	Grab	Q	Alpha, Beta, ^{3}H, Gamma Scan

(a) Refer to Figure 2.1, 2000 Surface Water and Drinking Water Sampling Locations.

2.4 OFFSITE IRRIGATION WATER

Location[(a)]	Sample Type	Frequency	Analyses
Riverview Canal	Grab	3 (May-Sept)	Alpha, Beta, Lo ^{3}H, ^{90}Sr, U, Gamma Scan

(a) Refer to Figure 2.1, 2000 Surface Water and Drinking Water Sampling Locations.

2.5 ONSITE DRINKING WATER

Location[(a)]	Sample Type	Frequency	Analyses
100 B Area-River	Grab	Q	Alpha, Beta, Lo ^{3}H, ^{90}Sr
100 D Area	Grab	Q	Alpha, Beta, ^{3}H, ^{90}Sr
100 K Area	Grab	Q	Alpha, Beta, Lo ^{3}H, ^{90}Sr
FFTF	Grab	Q	Alpha, Beta, ^{3}H, ^{90}Sr, DOH[(b)]

(a) Refer to Figure 2.1, 2000 Surface Water and Drinking Water Sampling Locations.
(b) Cosampled during 2nd quarter with Washington State Department of Health.

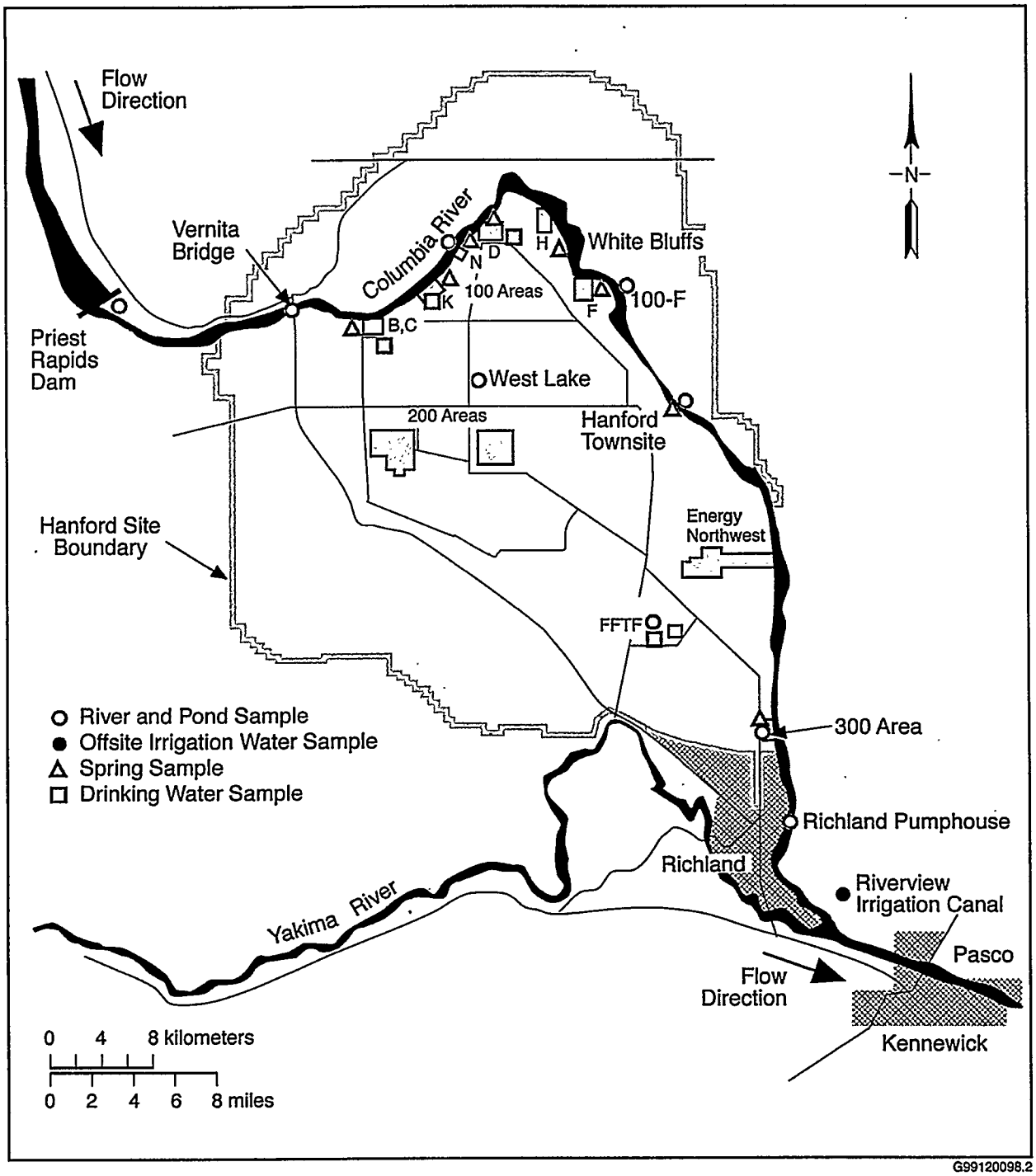

Figure 2.1. 2000 Surface Water and Drinking Water Sampling Locations

3.0 BIOTA

3.1 FOODSTUFFS AND FARM PRODUCTS

3.1.1 Whole Milk

Location[a]	Frequency	Analyses
East Wahluke Area[b]	Q	^{90}Sr, Gamma Scan
	SA	^{129}I
Sagemoor Composite[b]	Q	^{90}Sr, Gamma Scan
	SA	^{129}I
Sunnyside Area	Q	^{90}Sr, Gamma Scan
	SA	^{129}I

(a) Refer to Figure 3.1, 2000 Food and Farm Product Sampling Locations.
(b) Sample composited from multiple dairies in each area.

3.1.2 Leafy Vegetables

Location[a][b]	Frequency[c]	Analyses
Riverview Area	A	^{90}Sr, Gamma Scan, FDA[d], DOH[e]
Sunnyside Area	A	^{90}Sr, Gamma Scan, FDA[d]
East Wahluke Area	BE (2000)	^{90}Sr, Gamma Scan, DOH[e]
Sagemoor Area	BE (2001)	^{90}Sr, Gamma Scan, DOH[e]

(a) Refer to Figure 3.1, 2000 Food and Farm Product Sampling Locations.
(b) Two samples collected within each area, one sample analyzed and one archived.
(c) Sample are collected in 2000 according to their specified frequency unless otherwise noted.
(d) Cosamples sent to U.S. Food and Drug Administration.
(e) Cosampled with the Washington State Department of Health.

3.1.3 Vegetables

Location[a][b]	Sample Type	Frequency[c]	Analyses
Riverview Area	Potatoes	A	^{90}Sr, Gamma Scan, DOH[d]
	Tomatoes	A	^{90}Sr, ^{3}H, Gamma Scan
Sunnyside Area	Potatoes	A	^{90}Sr, Gamma Scan, FDA[e]
East Wahluke Area	Potatoes	A	^{90}Sr, Gamma Scan, DOH[d]
Harrah/Wapato Area[f]	Tomatoes	A	^{90}Sr, ^{3}H, Gamma Scan
Sagemoor Area	Potatoes	TE (2000)	^{90}Sr, Gamma Scan, FDA[e], DOH[d]
Horn Rapids Area	Potatoes	TE (2002)	^{90}Sr, Gamma Scan, FDA[e]

(a) Refer to Figure 3.1, 2000 Food and Farm Product Sampling Locations.
(b) Two samples collected within each area, one sample analyzed and one archived.
(c) Samples are collected in 2000 according to their specified frequency unless otherwise noted.
(d) Cosampled with the Washington State Department of Health.
(e) Cosamples sent to U.S. Food and Drug Administration.
(f) Samples provided to PNNL by Washington State Department of Health.

3.1.4 Fruit

Location[a][b]	Sample Type	Frequency[c]	Collection Period	Analyses
Sagemoor Area	Apples	TE (2000)	September	^{90}Sr, Gamma Scan, FDA[d], DOH[e]
	Concord Grapes[f]	TE (2001)	September	^{90}Sr, Gamma Scan, DOH[e]
	Cherries	TE (2002)	June	^{90}Sr, Gamma Scan, FDA[d], DOH[e]
Sunnyside Area	Apples	TE (2000)	September	^{90}Sr, Gamma Scan
	Concord Grapes[f]	TE (2001)	September	^{90}Sr, Gamma Scan
	Cherries	TE (2002)	June	^{90}Sr, Gamma Scan, DOH[e]
Riverview Area	Apples	TE (2000)	September	^{90}Sr, Gamma Scan, FDA[d], DOH[e]
	Concord Grapes[f]	TE (2001)	September	^{90}Sr, Gamma Scan, DOH[e]
	Cherries	TE (2002)	June	^{90}Sr, Gamma Scan
Mattawa Area	Apples	TE (2000)	September	^{90}Sr, Gamma Scan, DOH[e]
Cold Creek Area	Concord Grapes[f]	TE (2001)	September	^{90}Sr, Gamma Scan
Ringold Area	Cherries	TE (2002)	June	^{90}Sr, Gamma Scan
East Wahluke Area	Cherries	TE (2002)	June	^{90}Sr, Gamma Scan

(a) Refer to Figure 3.1, 2000 Food and Farm Product Sampling Locations.
(b) Two samples collected within each area, one sample analyzed and one archived.
(c) Samples are collected in 2000 according to their specified frequency unless otherwise noted.
(d) Cosamples sent to the U.S. Food and Drug Administration.
(e) Cosampled with the Washington State Department of Health.
(f) Concord grapes preferred; table grapes acceptable if concord grapes are unavailable.

3.1.5 Wine

Location[a][b]	Sample Type	Frequency	Collection Period	Analyses
Columbia Basin	White	A	December	Lo ^{3}H, Gamma Scan, DOH[c]
	Red	A	December	Lo ^{3}H, Gamma Scan, DOH[c]
Yakima Valley	White	A	December	Lo ^{3}H, Gamma Scan, DOH[c]
	Red	A	December	Lo ^{3}H, Gamma Scan, DOH[c]

(a) Refer to Figure 3.1, 2000 Food and Farm Product Sampling Locations.
(b) Two samples of each type collected within each area.
(c) Cosampled with the Washington State Department of Health.

3.1.6 Alfalfa

Location[a]	Sample Type	Frequency	Collection Period	Analyses
Sagemoor Area	Alfalfa	BE (2001)	May	^{90}Sr, Gamma Scan
Riverview Area	Alfalfa	BE (2001)	May	^{90}Sr, Gamma Scan, DOH[b]
Sunnyside Area	Alfalfa	BE (2001)	May	^{90}Sr, Gamma Scan
Horn Rapids Area	Alfalfa	BE (2001)	May	^{90}Sr, Gamma Scan, DOH[b]

(a) Two samples collected within each area, one sample analyzed and one archived.
(b) Cosampled with the Washington State Department of Health.

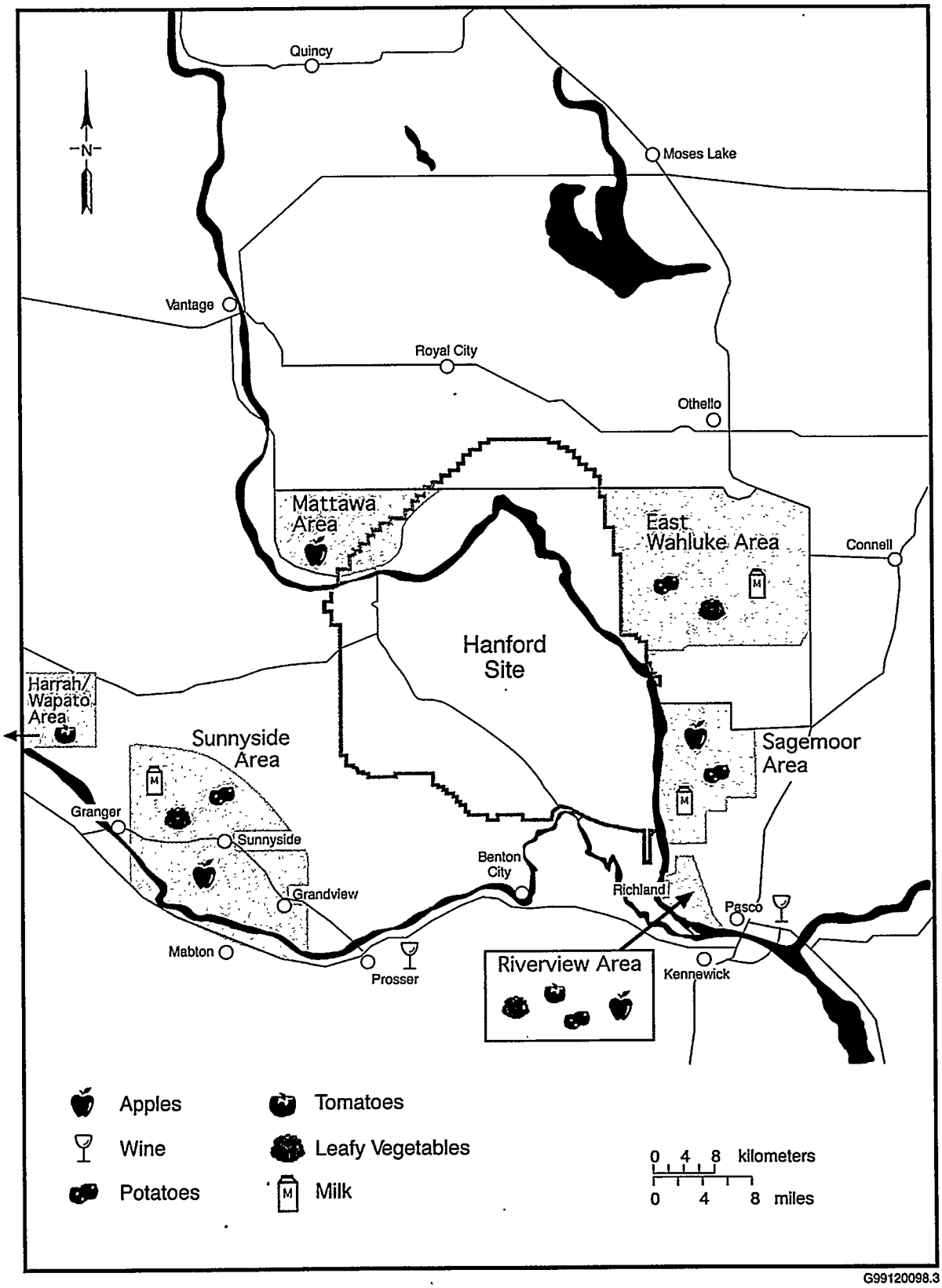

Figure 3.1. 2000 Food and Farm Product Sampling Locations

3.2 WILDLIFE

3.2.1 Aquatic Biota

Location[a]	Species/ Sample	Number of Samples	Frequency[b]	Collection Period	Analyses
100 N Area to 100 D Area[c]	Carp				
	Fillet	5	BE (2000)	June	Gamma Scan, DOH[d]
	Carcass	5	BE (2000)	June	^{90}Sr, DOH[d]
	Whitefish				
	Fillet	5	BE (2001)	November	Gamma Scan, DOH[d]
	Carcass	5	BE (2001)	November	^{90}Sr, DOH[d]
100 F Slough	Bass				
	Fillet	5	TE (2002)	May-June	Gamma Scan
	Carcass	5	TE (2002)	May-June	^{90}Sr
Hanford Slough	Bass				
	Fillet	5	TE (2002)	May-June	Gamma Scan
	Carcass	5	TE (2002)	May-June	^{90}Sr
300 Area[c]	Carp				
	Fillet	5	BE (2000)	June	Gamma Scan, DOH[d]
	Carcass	5	BE (2000)	June	^{90}Sr, DOH[d]
Desert Aire	Bass				
	Fillet	5	TE (2002)	June	Gamma Scan, DOH[d]
	Carcass	5	TE (2002)	June	^{90}Sr, DOH[d]
Vantage	Carp				
	Fillet	5	BE (2000)	June	Gamma Scan, DOH[d]
	Carcass	5	BE (2000)	June	^{90}Sr, DOH[d]

(a) Refer to Figure 3.2, 2000 Wildlife Sampling Locations.
(b) Samples are collected in 2000 according to their specified frequency unless otherwise note.
(c) If available, PNNL will collect one Squawfish sample and provide to the Washington State Department of Health.
(d) One cosample with the Washington State Department of Health.

3.2.2 Geese

Location	Species/Sample	Number of Samples	Frequency	Collection Period	Analyses
100 Areas	Canada Goose				
	Muscle	5	BE (2001)	August	Gamma Scan, DOH[a]
	Bone	5	BE (2001)	August	^{90}Sr, DOH[a]
Hanford Townsite	Canada Goose				
	Muscle	5	BE (2001)	August	Gamma Scan
	Bone	5	BE (2001)	August	^{90}Sr
Vantage	Canada Goose				
	Muscle	5	BE (2001)	August	Gamma Scan
	Bone	5	BE (2001)	August	^{90}Sr

(a) One cosample with the Washington State Department of Health.

3.2.3 Game Birds

Location[a]	Species/Sample[b]	Number of Samples	Frequency[c]	Collection Period	Analyses
100 D Area to	Pheasant				
100 H Area	Muscle	4	BE (2000)	September	Gamma Scan, DOH[d]
	Bone	4	BE (2000)	September	^{90}Sr, DOH[d]
100 H Area to	Pheasant				
100 F Area	Muscle	6	BE (2000)	September	Gamma Scan, DOH[d]
	Bone	6	BE (2000)	September	^{90}Sr, DOH[d]
Background	Pheasant				
	Muscle	5	BE (2000)	September	Gamma Scan, DOH[d]
	Bone	5	BE (2000)	September	^{90}Sr, DOH[d]

(a) Refer to Figure 3.2, 2000 Wildlife Sampling Locations.
(b) Pheasant preferred; chukar or quail acceptable if pheasant is unavailable.
(c) Samples are collected in 2000 according to their specified frequency unless otherwise noted.
(d) One cosample with the Washington State Department of Health.

3.2.4 Rabbits

Location	Species/Sample	Number of Samples	Frequency	Collection Period	Analyses
100 N Area	Cottontail or Jack Rabbit				
	Muscle	4	BE (2001)	April	Gamma Scan, DOH[a]
	Bone	4	BE (2001)	April	^{90}Sr, DOH[a]
200 E Area	Jack Rabbit				
	Muscle	4	BE (2001)	April	Gamma Scan
	Bone	4	BE (2001)	April	^{90}Sr
200 West	Jack Rabbit				
	Muscle	4	BE (2001)	April	Gamma Scan
	Bone	4	BE (2001)	April	^{90}Sr

(a) One cosample with the Washington State Department of Health.

3.2.5 Deer

Location[a]	Species/ Sample	Number of Samples	Frequency[b]	Collection Period	Analyses
100 N Area	Mule				
	Muscle	2	BE (2000)	December	Gamma Scan, DOH[c]
	Bone	2	BE (2000)	December	^{90}Sr, DOH[c]
200 Areas	Mule				
	Muscle	2	BE (2000)	December	Gamma Scan, DOH[c]
	Bone	2	BE (2000)	December	^{90}Sr, DOH[c]
Road Kill at Onsite Locations[d]	Mule				
	Muscle	6	BE (2000)	As Available	Gamma Scan
	Bone	6	BE (2000)	As Available	^{90}Sr
Background	Mule				
	Muscle	2	2000	October	Gamma Scan
	Bone	2	2000	October	^{90}Sr

(a) Refer to Figure 3.2, 2000 Wildlife Sampling Locations.
(b) Samples are collected in 2000 according to their specified frequency unless otherwise noted.
(c) One cosample with the Washington State Department of Health.
(d) As available, according to location.

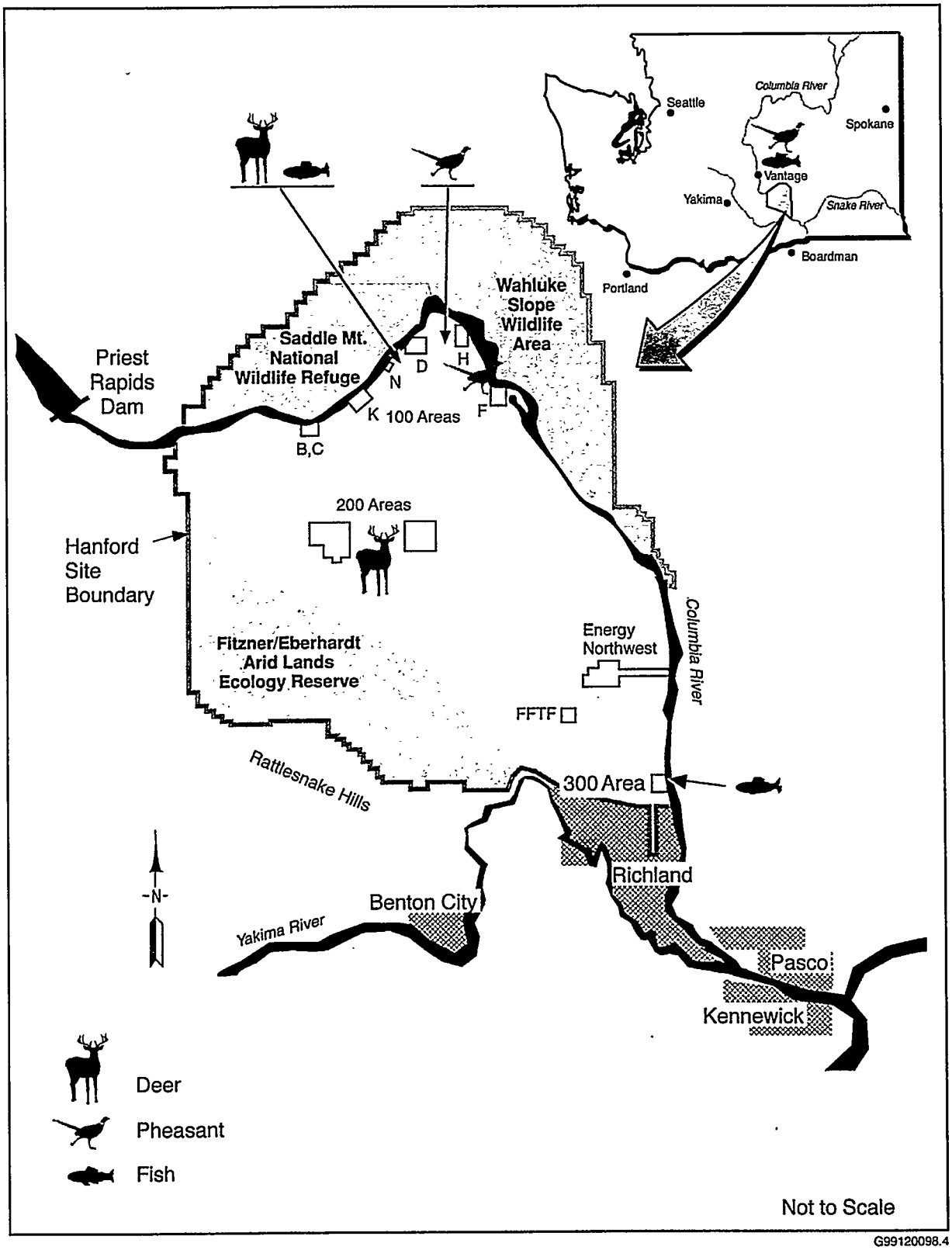

Figure 3.2. 2000 Wildlife Sampling Locations

4.0 SOIL AND VEGETATION

4.1 SOIL

Location	Frequency[a]	Collection Period	Analyses
100 K Area[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
NE of 100 N Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
E of 100 N Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[c]
100N Shore Above HGP[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
100N Spring Shoreline[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Above 100D Pumphouse	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
100 Area Fire Stat[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
200 ENC[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
E of 200 E	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
200 ESE	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, ^{241}Am
S of 200 E	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
SW of B/C Cribs	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, ^{241}Am
E of 200 W Gate	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu ,^{241}Am, DOH[c]
S of 200 W	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Rattlesnake Springs[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Yakima Barricade[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
400 E	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
SE Side of FFTF	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
North of 300 Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
South of 300 Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Hanford Townsite[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Wye Barricade[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Prosser Barricade[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
ALE Field Lab[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
N End Vernita Bridge[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Wahluke Slope[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Berg Ranch[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Ringold Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
W End of Fir Road[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Taylor Flats No. 2[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Sagemoor Farm	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, ^{241}Am
Byers Landing	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[c]
Riverview-Harris	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[c]
Benton City[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Sunnyside	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, ^{241}Am
McNary Dam[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Walla Walla[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Washtucna[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Toppenish[b]	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu

(a) Samples are collected once every 3 to 5 years and will be collected in 2001.
(b) Samples will be collected and archived but may be submitted for analyses at a later date.
(c) Cosampled with the Washington State Department of Health.

4.2 VEGETATION

Location	Frequency[a]	Collection Period	Analyses
100 K Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
NE of 100 N Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
E of 100 N Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[b]
100N Spring Shoreline	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[b]
E of 200 W Gate	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[b]
300 Area Shoreline	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[b]
Hanford Townsite	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Hanford Twnsite HRM28	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, ^{99}Tc, DOH[b]
Ringold Area	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Sagemoor Farm	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Byers Landing	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[b]
Riverview-Harris	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu, DOH[b]
Sunnyside	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu
Toppenish	3 to 5 yrs	June-Sept	Gamma Scan, ^{90}Sr, U, Pu

(a) Samples are collected once every 3 to 5 years and will be collected in 2001.
(b) Cosampled with the Washington State Department of Health.

5.0 SEDIMENT

Location[a]	Frequency	Analyses
River		
McNary Dam		
McNary-OR. Side Near Dam	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS, TOC, DOH[b]
McNary-Wash. Side Near Dam	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS, TOC, DOH[b]
Priest Rapids Dam (PRD)		
PRD-Grant Side Near Dam	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS, TOC, DOH[b]
PRD-Yakima Side Near Dam	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS, TOC, DOH[b]
White Bluffs Slough	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS
100 F Slough	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS, DOH[b]
Hanford Slough	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS
Richland	A	Gamma Scan, ^{90}Sr, U, Pu, ICP-u, SEM/AVS
Springs		
100-B Spring 37-1	A	Gamma Scan, ^{90}Sr, U, ICP-u
100-K Spring 63-1	A	Gamma Scan, ^{90}Sr, U, ICP-u, DOH[b]
100-K Spring 77-1	A	Gamma Scan, ^{90}Sr, U, ICP-u
100-F Spring 207-1	A	Gamma Scan, ^{90}Sr, U, ICP-u, DOH[b]
Hanford Spr UR 28-2	A	Gamma Scan, ^{90}Sr, U, ICP-u
Hanford Spr DR 28-2	A	Gamma Scan, ^{90}Sr, U, ICP-u, DOH[b]
300 Area Spring 42-2	A	Gamma Scan, ^{90}Sr, U, ICP-u, DOH[b]
300 Area Spr DR 42-2	A	Gamma Scan, ^{90}Sr, U, ICP-u

(a) Refer to Figure 5.1, 2000 Sediment Sampling Locations. UR and DR referenced to upriver and downriver.
(b) Cosampled with the Washington State Department of Health.

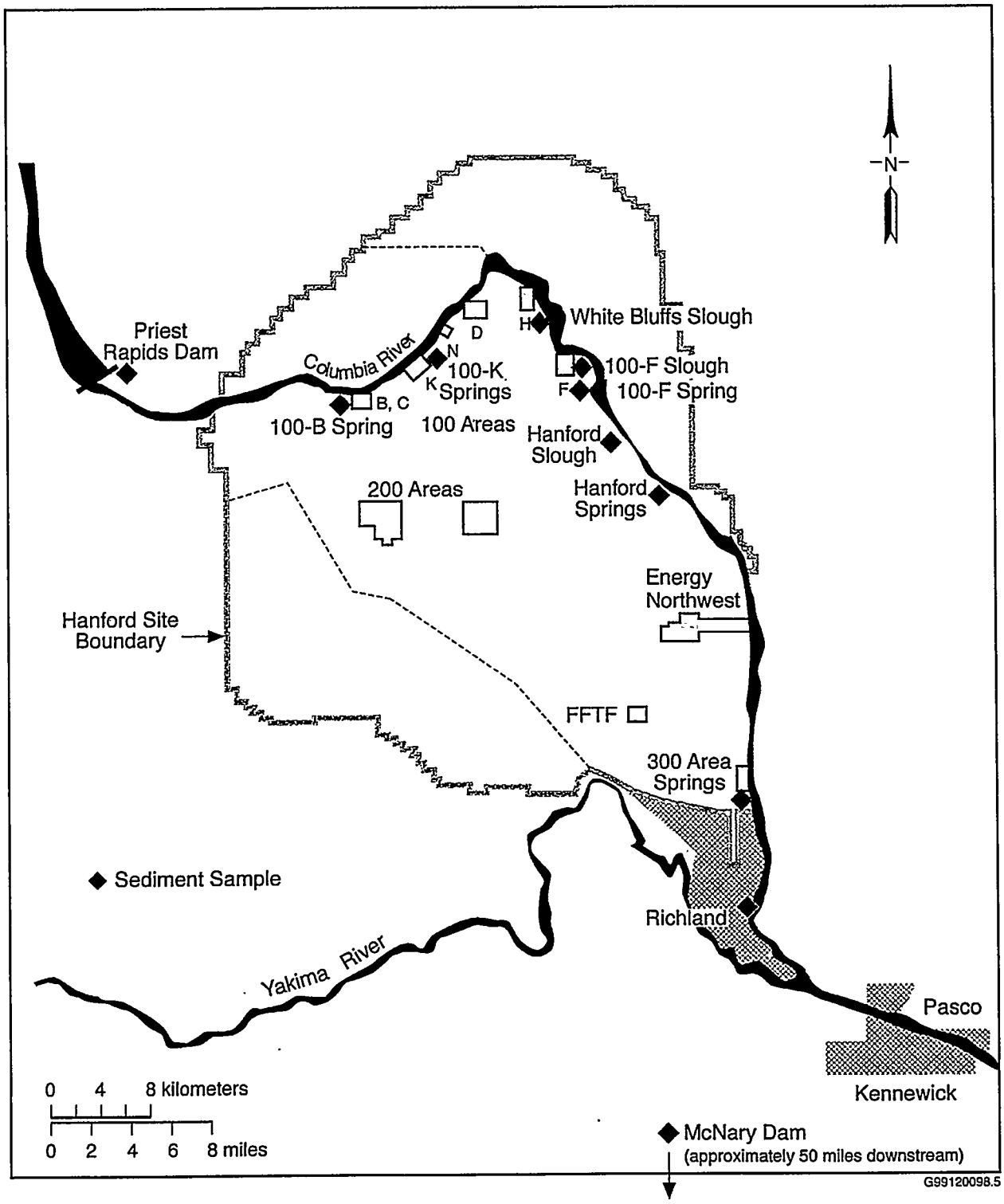

Figure 5.1. 2000 Sediment Sampling Locations

6.0 EXTERNAL RADIATION

6.1 THERMOLUMINESCENT DOSIMETERS (TLDS)

6.1.1 Terrestrial Locations

Location	Location Number	Frequency	Measurement	Instrument
Onsite[a]				
100 K Area[b]	1	Q	Ambient Dose	
100 D Area[b]	2	Q	Ambient Dose	
100 F Met Tower[b]	3	Q	Ambient Dose	
Hanford Townsite[b]	4	Q	Ambient Dose	
N of 200 E[b]	5	Q	Ambient Dose, DOH[c]	
B Pond[b]	6	Q	Ambient Dose	
E of 200 E[b]	7	Q	Ambient Dose, DOH[c]	
200 ESE[b]	8	Q	Ambient Dose, DOH[c]	
S of 200 E[b]	9	Q	Ambient Dose, DOH[c]	
200 Tel. Exchange[b]	10	Q	Ambient Dose	
200 W SE[b]	11	Q	Ambient Dose	
Army Loop Camp[b]	12	Q	Ambient Dose	
3705 Bldg. 300 Area	13	Q	Ambient Dose	
300 Water Intake[b]	14	Q	Ambient Dose	
300 Southwest Gate	15	Q	Ambient Dose	
300 South Gate[b]	16	Q	Ambient Dose	
300 Trench[b]	17	Q	Ambient Dose	
300 NE[b]	18	Q	Ambient Dose	
400 E[b]	19	Q	Ambient Dose, DOH[c]	
400 W[b]	20	Q	Ambient Dose	
400 S[b]	21	Q	Ambient Dose	
400 N[b]	22	Q	Ambient Dose	
US Ecology NE Corner	23	Q	Ambient Dose, DOH[c]	
US Ecology SE Corner	24	Q	Ambient Dose, DOH[c]	
US Ecology NW Corner	25	Q	Ambient Dose, DOH[c]	
US Ecology SW Corner	26	Q	Ambient Dose, DOH[c]	
Wye Barricade[b]	27	Q	Ambient Dose, DOH[c]	
WPPSS 1; S of WNP 2	28	Q	Ambient Dose, DOH[c]	
Perimeter[d]				
Ringold Met Tower[b]	1	Q	Ambient Dose	
W End of Fir Road[b]	2	Q	Ambient Dose, DOH[c]	
Dogwood Met Tower[b]	3	Q	Ambient Dose	
Byers Landing[b]	4	Q	Ambient Dose	
Battelle Complex[b]	5	Q	Ambient Dose	
WPPSS 4; WPS Warehse	6	Q	Ambient Dose, DOH[c]	
Horn Rapids Substa[b]	7	Q	Ambient Dose	
Prosser Barricade[b]	8	Q	Ambient Dose	
Yakima Barricade[b]	9	Q	Ambient Dose, DOH[c]	
Rattlesnake Springs[b]	10	Q	Ambient Dose	
Wahluke Slope[b]	11	Q	Ambient Dose	
S End Vernita Bridge[b]	12	Q	Ambient Dose	

6.1.1 Terrestrial Locations (contd)

Location	Location Number	Frequency	Measurement	Instrument
Community[d][e]				
Mattawa[b]	13	Q	Ambient Dose	
Othello[b]	14	Q	Ambient Dose, DOH[c]	
Basin City School[b]	15	Q	Ambient Dose	PIC
Edwin Markham School[b]	16	Q	Ambient Dose	PIC
Leslie Groves-Rchlnd[b]	17	Q	Ambient Dose	PIC
Pasco[b]	18	Q	Ambient Dose	
Kennewick-Ely Street[b]	19	Q	Ambient Dose	
Benton City[b]	20	Q	Ambient Dose	
Distant[d]				
Yakima[b]	21	Q	Ambient Dose, DOH[c]	
Toppenish[b][e]	22	Q	Ambient Dose, DOH[c]	PIC

(a) Refer to Figure 6.1, 2000 Thermoluminescent Dosimeter (TLD) Locations on the Hanford Site.
(b) Collocated with air sampling stations.
(c) Washington State Department of Health TLD also at this location.
(d) Refer to Figure 6.2, 2000 Thermoluminescent Dosimeter (TLD) Locations for Perimeter, Community, and Distant Sites.
(e) Community-operated environmental surveillance stations.

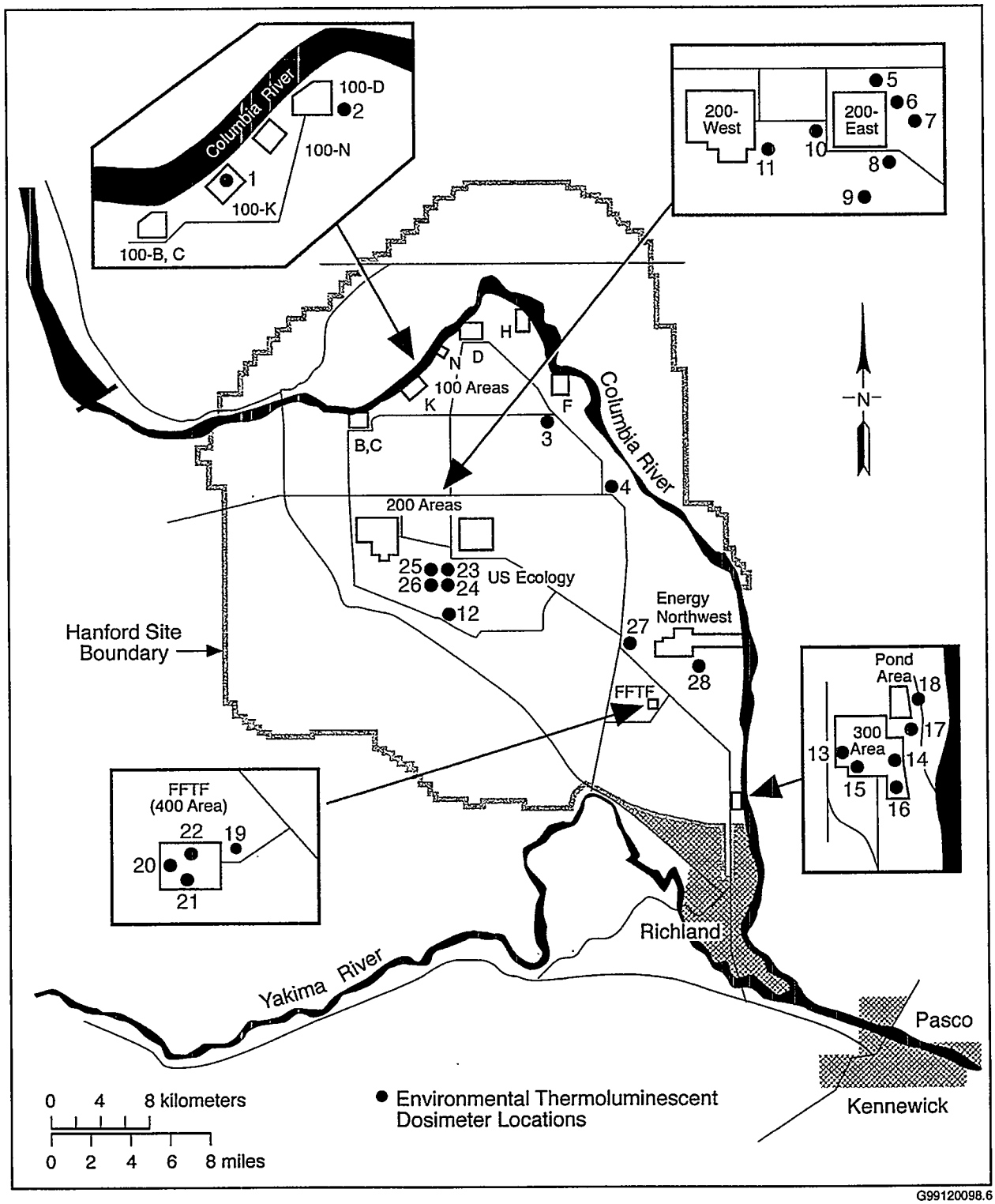

Figure 6.1. 2000 Thermoluminescent Dosimeter (TLD) Locations on the Hanford Site

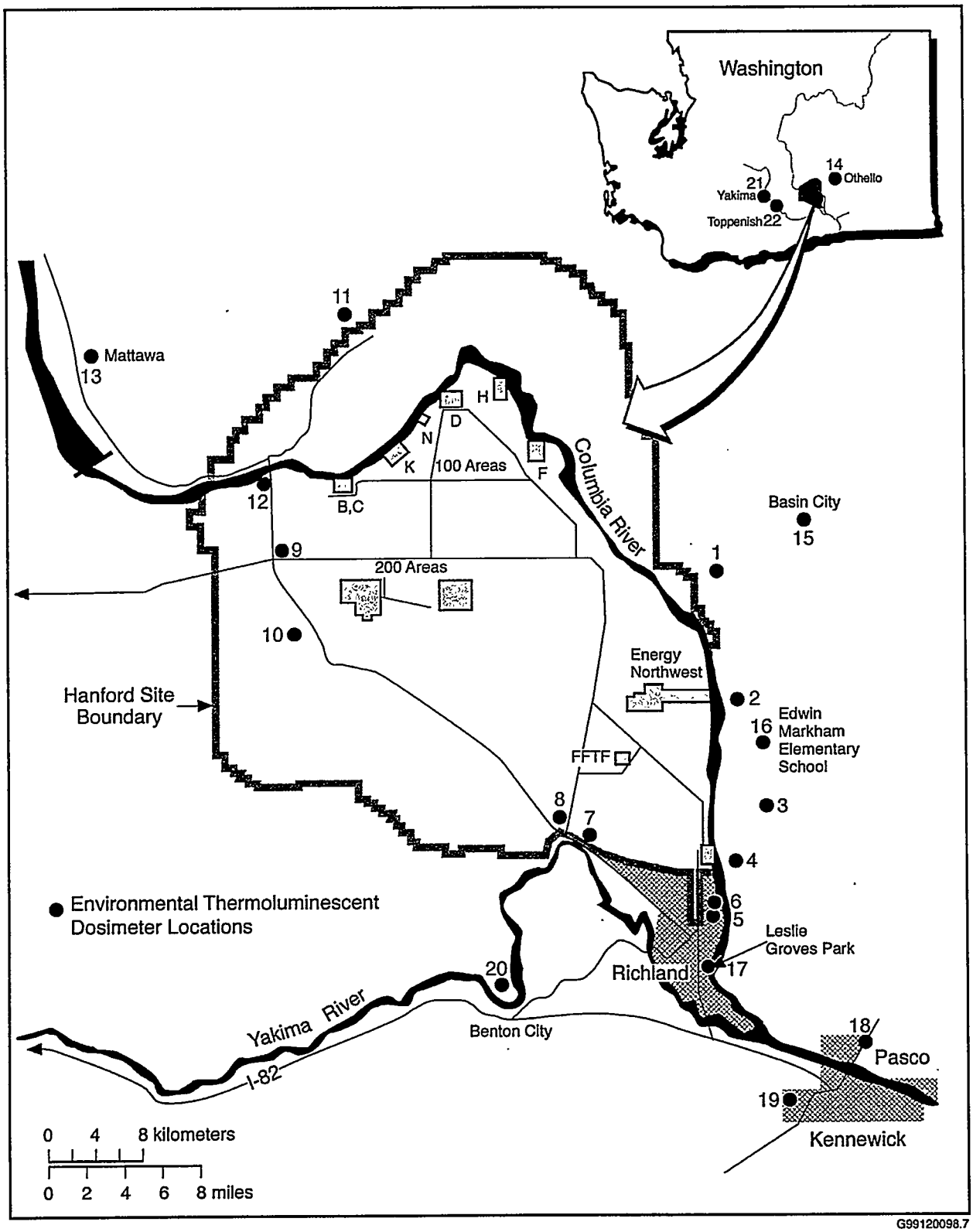

Figure 6.2. 2000 Thermoluminescent Dosimeter (TLD) Locations for Perimeter, Community, and Distant Sites

6.1.2 Columbia River Shoreline Locations

Location[a]	Location Number	Frequency	Measurement
Above 100 B Area	1	Q	Ambient Dose
Below 100 B Ret Basin	2	Q	Ambient Dose
Above 1K Boat Ramp	3	Q	Ambient Dose
Below 100N Outfall	4	Q	Ambient Dose
Above Tip 100N Berm	5	Q	Ambient Dose
100 N Trench Spring	6	Q	Ambient Dose
Below 100 D Area	7	Q	Ambient Dose
100-D Island	8	Q	Ambient Dose
100 H Area	9	Q	Ambient Dose
Lo End Locke Isl	10	Q	Ambient Dose
White Bluffs Fy Lnd.	11	Q	Ambient Dose
White Bluffs Slough	12	Q	Ambient Dose
Below 100 F	13	Q	Ambient Dose
100 F Floodplain	14	Q	Ambient Dose
Hanford Slough	15	Q	Ambient Dose
Hanf Powerline Xing	16	Q	Ambient Dose
Hanford RR Track	17	Q	Ambient Dose
Savage Isl Slough	18	Q	Ambient Dose
Ringold Island	19	Q	Ambient Dose
Powerline Crossing	20	Q	Ambient Dose
S End Wooded Island	21	Q	Ambient Dose
Islnd Above 300 Area	22	Q	Ambient Dose
Island Near 300 Area	23	Q	Ambient Dose
Port of Benton-River	24	Q	Ambient Dose
Isl DS Bateman Isl	25	Q	Ambient Dose

(a) Refer to Figure 6.3, 2000 Thermoluminescent Dosimeter (TLD) Locations on the Hanford Reach of the Columbia River.

6.2 COLUMBIA RIVER SHORELINE RADIATION SURVEYS

Location[a]	Location Number	Frequency	Measurement	Instrument
Above 1K Boat Ramp	3	Q	Exposure, Surface contamination	BICRON, GM
Below 100N Outfall	4	Q	Exposure, Surface contamination	BICRON, GM
Above Tip 100N Berm	5	Q	Exposure, Surface contamination	BICRON, GM
100 N Trench Spring	6	Q	Exposure, Surface contamination	BICRON, GM
100-D Island	8	Q	Exposure, Surface contamination	BICRON, GM
Lo End Locke Isl	10	Q	Exposure, Surface contamination	BICRON, GM
White Bluffs Fy Lnd.	11	Q	Exposure, Surface contamination	BICRON, GM
Below 100 F	13	Q	Exposure, Surface contamination	BICRON, GM
Hanf Powerline Xing	16	Q	Exposure, Surface contamination	BICRON, GM
Hanford RR Track	17	Q	Exposure, Surface contamination	BICRON, GM
Ringold Island	19	Q	Exposure, Surface contamination	BICRON, GM
Powerline Crossing	20	Q	Exposure, Surface contamination	BICRON, GM
Isl Above 300 Area	22	Q	Exposure, Surface contamination	BICRON, GM

(a) Refer to Figure 6.3, 2000 Thermoluminescent Dosimeter (TLD) Locations on the Hanford Reach of the Columbia River.

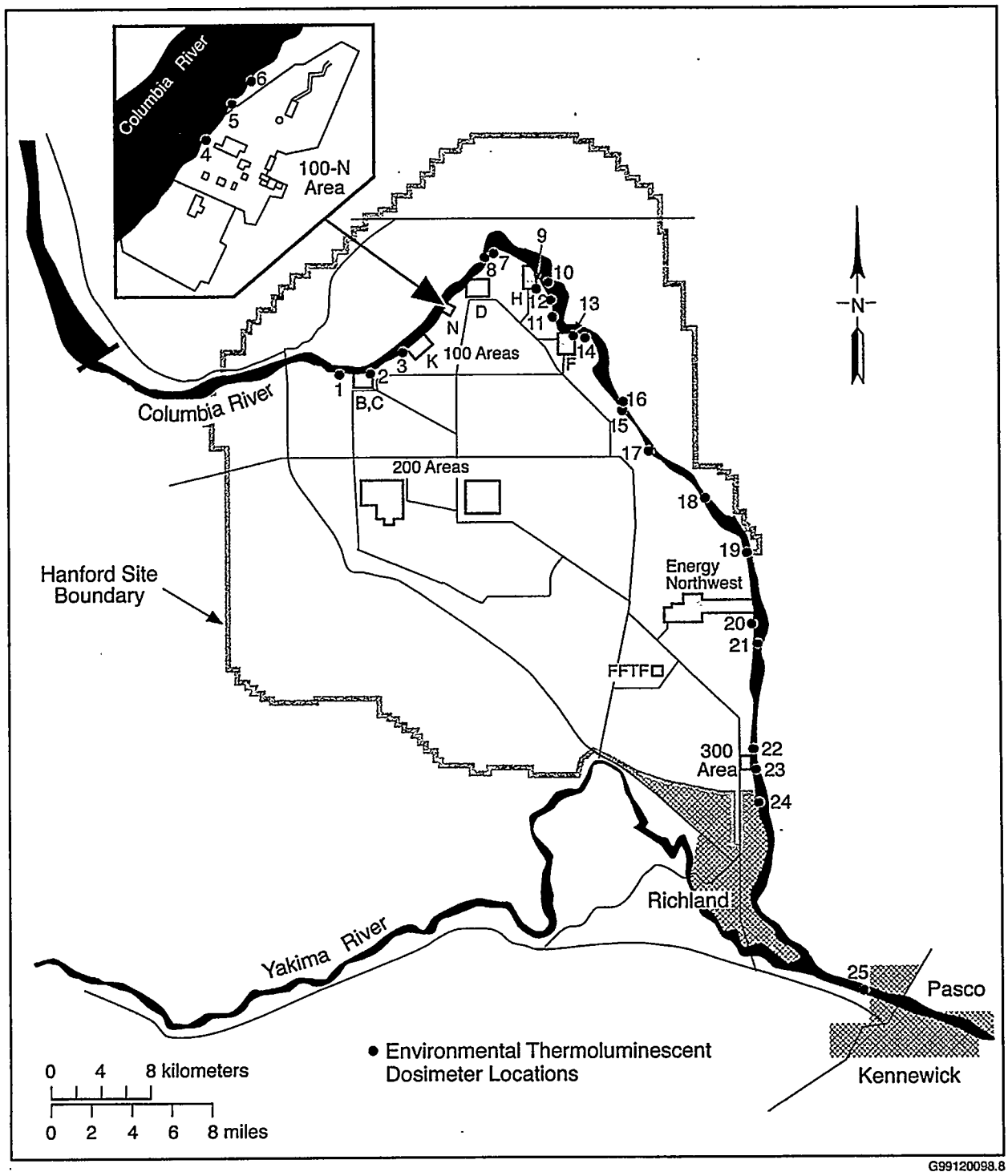

Figure 6.3. 2000 Thermoluminescent Dosimeter (TLD) Locations on the Hanford Reach of the Columbia River

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