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ENVIRONMENTAL SURVEILLANCE
MASTER SAMPLING SCHEDULE

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Pacific Northwest Laboratory
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MASTER

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SUMMARY

Environmental surveillance of the Hanford Site and surrounding areas is conducted by the Pacific Northwest Laboratory (PNL)^(a) for the U.S. Department of Energy (DOE). This document contains the planned schedule for routine sample collection for the Surface Environmental Surveillance Project (SESP) and Ground-Water Monitoring Project. The routine sampling plan for the SESP has been revised this year to reflect changing site operations and priorities. Some sampling previously performed at least annually has been reduced in frequency, and some new sampling to be performed at a less than annual frequency has been added. Therefore, the SESP schedule reflects sampling to be conducted in calendar year 1991 as well as future years. The ground-water sampling schedule is for 1991. 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 require schedule modifications. Changes will be documented in the respective project files, but this plan will not be reissued.

The purpose of these monitoring projects is to evaluate levels of radioactive and nonradioactive pollutants in the Hanford environs, as required in DOE Order 5400.1, "General Environmental Protection Program," DOE Order 5400.5, "Radiation Protection of the Public and the Environment," DOE Order 5480.1B, "Environmental Protection, Safety, and Health Protection Program for Department of Energy Operations," and DOE Order 5484.1, "Environmental Protection, Safety, and Health Protection Information Reporting Requirements." The sampling locations and sampling methods, with few exceptions, will be the same as those described in PNL's annual monitoring report to the DOE, Hanford Site Environmental Report for Calendar Year 1989, PNL-7346.

This schedule includes ground-water sampling performed by PNL for environmental surveillance of the Hanford Site. It does not list ground-water sampling performed for other ground-water monitoring programs on the

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SUMMARY (contd)

Site. Environmental and ground-water samples that are split with the Washington State Department of Health are indicated in the schedule. Also indicated in the schedule are the environmental samples that are split with the U.S. Food and Drug Administration.

Questions can be directed to Rodger Woodruff, Manager, Surface Environmental Surveillance Project, and Robert Bryce, Manager, Ground-Water Environmental Surveillance Project.

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ABBREVIATIONS

FREQUENCY SYMBOLS USED

A - annually
BA - biannually
BM - bimonthly (every 2 months)
BW - biweekly (every 2 weeks)
M - monthly
M Comp - monthly composite
NRA - not routinely analyzed
Q - quarterly
SA - semiannually
W - weekly

ANALYSIS SYMBOLS USED

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

Alpha - gross alpha activity of sample
Beta - gross beta activity of sample
BOD - biological oxygen demand
DO - dissolved oxygen
Gamma Scan - analysis of photon energy spectrum for individual photon-emitting radionuclides, including ^{22}Na , ^{60}Co , ^{65}Zn , ^{106}Ru , ^{131}I , and ^{137}Cs
U - natural uranium
Isotopic uranium - ^{234}U , ^{235}U , ^{238}U
Isotopic plutonium - ^{238}Pu , $^{239-240}\text{Pu}$
Lo ^3H - analytical procedure includes electrolytic enrichment
WQ - water quality - nonradiological
LEP - Samples analyzed by Low Energy Photon System

PORTABLE INSTRUMENTS SYMBOLS USED

GM - Geiger-Mueller counter
LLM - Ludlum micro R meter

PART I. HANFORD SURFACE ENVIRONMENTAL SURVEILLANCE

1.0 SAMPLES FOR RADIOLOGICAL ANALYSES

1.1 AIR - PARTICULATE FILTER

Location	Individual Samples			Composite Group	Composited Samples		
	Sample Number	Frequency	Analyses		Sample Number	Frequency	Analyses
<u>Onsite</u>							
100-K	0058	BW	Beta, Alpha	100 Areas	1753	M Q	Gamma Scan 90Sr, Pu(a), U(b)
100-N (WPPSS)	1529	BW	Beta				
100-D	1074	BW	Beta, Alpha				
Rt. 11 A-Mile 9	0249	BW	Beta, Alpha	200 North	0613	M Q	Gamma Scan 90Sr, Pu(a)
N of 200-E	0051	BW	Beta, Alpha				
E of 200-E	0030	BW	Beta, Alpha	200 East	1749	M Q	Gamma Scan 90Sr, Pu(a), U(b)
200-ESE	0043	BW	Beta, Alpha				
S of 200-E	0031	BW	Beta, Alpha				
B Pond	0038	BW	Beta, Alpha	B Pond	1738	M Q	Gamma Scan 90Sr, Pu(a), U(b)
B Pond No. 2	0039	BW	NRA				
SW of B/C Cribs	0250	BW	Beta, Alpha	200-W South and East	0614	M Q	Gamma Scan 90Sr, Pu(a), U(b)
Army Loop Camp	0248	BW	Beta, Alpha				
200 Tel. Exchange	0052	BW	Beta, Alpha				
200-W SE	0026	BW	Beta, Alpha	200 West	1739	M Q	Gamma Scan 90Sr, Pu(a), U(b)
200-W SE No. 2	0027	BW	NRA				
300 Water Intake	1793	BW	Beta	300 Area	1741	M Q	Gamma Scan 90Sr, Pu(a), U(b)
300 South Gate	6150	BW	Beta, Alpha				
300 Trench	1544	BW	Beta, Alpha				
300 NE	0022	BW	Beta, Alpha	300 NE	1740	M Q	Gamma Scan 90Sr, Pu(a), U(b)
300 NE No. 2	0023	BW	NRA				
400-E	6308	BW	Beta, Alpha	400 Area	6465	M Q	Gamma Scan 90Sr, Pu(a)
400-W	6455	BW	Beta, Alpha				
400-S	6456	BW	Beta, Alpha				
400-N	6457	BW	Beta, Alpha				
Hanford Townsite	0057	BW	Beta, Alpha	Hanford	0600	M Q	Gamma Scan 90Sr, Pu(a), U(b)
Hanford No. 2	0035	BW	NRA				
Wye Barricade	0924	BW	Beta, Alpha	Wye Barricade	0601	M Q	Gamma Scan 90Sr, Pu(a), U(b)
Wye Barricade No. 2	0036	BW	NRA				

1.1 AIR - PARTICULATE FILTER (contd)

Location	Individual Samples			Composite Group	Sample Number	Composited Samples	
	Sample Number	Frequency	Analyses			Frequency	Analyses
<u>Perimeter</u>							
Berg Ranch	1405	BW	Beta, Alpha	Northeast Perimeter	0602	M	Gamma Scan 90Sr, Pu(a)
Ringold Met. Tower	0048	BW	Beta, Alpha			Q	
W End of Fir Road	6391	BW	Beta, Alpha	East Perimeter	0603	M	Gamma Scan 90Sr, Pu(a), U(b)
Pettett Farm	6351	BW	Beta, Alpha			Q	
Byers Landing	0247	BW	Beta, Alpha	Southeast Perimeter	0604	M	Gamma Scan 90Sr, Pu(a), U(b)
Battelle Complex	6182	BW	Beta, Alpha			Q	
Horn Rapids Substation	0050	BW	Beta	Prosser Barricade	0606	M	Gamma Scan 90Sr, Pu(a), U(b)
Prosser Barricade	0055	BW	Beta, Alpha			Q	
ALE Field Lab	0929	BW	Beta	ALE Field Lab	0612	M	Archive
ALE Field Lab No. 2	0025	BW	NRA				
Rattlesnake Springs	0972	BW	Beta	West Perimeter	0607	M	Gamma Scan 90Sr, Pu(a)
Yakima Barricade	1650	BW	Beta, Alpha			Q	
Vernita Bridge S End	1651	BW	Beta	Northwest Perimeter	0608	M	Gamma Scan 90Sr, Pu(a)
Wahluke Slope	1551	BW	Beta, Alpha			Q	
<u>Community</u>							
Othello	1652	BW	Beta	Northeast Communities	0609	M	Gamma Scan 90Sr, Pu(a)
Connell	1653	BW	Beta			Q	
Pasco	1654	BW	Beta	Tri-Cities	0610	M	Gamma Scan 90Sr, Pu(a)
Richland	0054	BW	Beta, Alpha			Q	
Kennewick	1655	BW	Beta				
Benton City	0029	BW	Beta, Alpha	Benton City	0615	M	Gamma Scan 90Sr, Pu(a)
Benton City No. 2	0021	BW	NRA			Q	
Eltopia	1120	BW	Beta	Eltopia	0617	M	Gamma Scan 90Sr, Pu(a)
Eltopia No. 2	0033	BW	NRA			Q	
Mattawa	0626	BW	Beta	Mattawa	0618	M	Gamma Scan 90Sr, Pu(a)
Mattawa No. 2	0034	BW	NRA			Q	
<u>Distant</u>							
Moses Lake	0960	BW	Beta, Alpha	Moses Lake	1737	M	Gamma Scan 90Sr, Pu(a), U(b)
Moses Lake No. 2	0961	BW	NRA			Q	

1.1 AIR - PARTICULATE FILTER (contd)

<u>Location</u>	<u>Individual Samples</u>			<u>Composite Group</u>	<u>Composited Samples</u>		
	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>		<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
<u>Distant (contd)</u>							
Sunnyside	0964	BW	Beta, Alpha	Sunnyside	1740	M	Gamma Scan
Sunnyside No. 2	0032	BW	NRA		Q	^{90}Sr , Pu(a) , U(b)	
Yakima	0624	BW	Beta, Alpha	Yakima	0623	M	Gamma Scan
Yakima No. 2	0040	BW	NRA		Q	^{90}Sr , Pu(a) , U(b)	

(a) Isotopic plutonium.
 (b) Isotopic uranium.

1.2 AIR - GASES AND VAPOR

Location	¹³¹ I		¹²⁹ I		³ H HTO		⁸⁵ Kr	
	Sample Number	Fre-quency	Sample Number	Fre-quency(a)	Sample Number	Fre-quency	Sample Number	Fre-quency
<u>Onsite</u>								
100-K					0278	M		
200-ESE			0008	Q Comp	6201	M	1534	M
200 Tel. Exchange					0275	M		
300 South Gate					0279	M		
300 Trench					0900	M		
300 NE	1583	BW			6202	M		
400-E	6309	BW			6428	M		
400-W	6450	M (NRA)						
400-S	6459	M (NRA)						
400-N	6460	M (NRA)						
Wye Barricade	1584	BW						
<u>Perimeter</u>								
Berg Ranch					0267	M		
Ringold Met. Tower	0258	BW	0004	Q Comp	0906	M		
W End of Fir Road	6392	BW			6393	M		
Pettett Farm	6352	BW			0280	M		
Byers Landing	0246	BW	0005	Q Comp	0273	M		
Prosser Barricade	6248	BW			0908	M		
Wahluke Slope					0266	M		
<u>Community</u>								
Mattawa	1656	M (NRA)						
Richland	0231	BW			6207	M		
<u>Distant</u>								
Moses Lake	1682	BW			0281	M		
Yakima	0630	BW			0631	M	0634	M
Yakima No. 2			0001	Q Comp				

(a) Samples are collected monthly and composited for quarterly analyses.

1.3 WATER - COLUMBIA RIVER

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
Priest Rapids Dam	Cumulative (collected weekly)	1265	M Comp	Alpha, Beta, Lo ^3H , Gamma Scan, ^{90}Sr , ^{99}Tc , U(a)
	Particulate (filter)	6395	BW Q Comp	Gamma Scan $\text{Pu}(b)$
	Soluble (resin)	6394	BW Q Comp	Gamma Scan ^{129}I , $\text{Pu}(b)$
Richland	Cumulative (collected weekly)	1000	M Comp	Alpha, Beta, Lo ^3H , Gamma Scan, ^{90}Sr , ^{99}Tc , U(a)
	Particulate (filter)	6463	BW Q Comp	Gamma Scan $\text{Pu}(b)$
	Soluble (resin)	6464	BW Q Comp	Gamma Scan ^{129}I , $\text{Pu}(b)$
Richland No. 2	Cumulative (collected weekly)	1001	W	Alpha, Beta
300 Water Intake	Particulate (filter)	6385	BW Q Comp	Gamma Scan $\text{Pu}(b)$
	Soluble (resin)	6384	BW Q Comp	Gamma Scan ^{129}I , $\text{Pu}(b)$

(a) Isotopic uranium.

(b) Isotopic plutonium.

1.4 WATER - COLUMBIA RIVER (NONRADIOLOGICAL)

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses^(a)</u>
Vernita	Grab	1373 (1615)(b)	M	NO ₃ , BOD, Coliforms, Fecal Coliforms, pH
			Q	WQ-NASQAN, Temp, DO, Turbidity, pH, Fecal Coliform, SS, DS, Cond, Hardness as CaCO ₃ , P, Cr, N-Kjeldahl, TOC, Fe, NH ₃ -N
Below Priest Rapids Dam	Thermograph	1266	Continuous	Temperature
Richland	Grab	1365 (1041)(b)	M	NO ₃ , BOD, Coliforms, Fecal Coliforms, pH
			Q	WQ-NASQAN, Temp, DO, Turbidity, pH, Fecal Coliform, SS, DS, Cond, Hardness as CaCO ₃ , P, Cr, N-Kjeldahl, TOC, Fe, NH ₃ -N
	Thermograph	1003	Continuous	Temperature

- (a) Monthly analyses are performed by the Hanford Environmental Health Foundation (HEHF). Numerous water quality (WQ) analyses are performed by the United States Geological Survey (USGS) in conjunction with the National Stream Quality Accounting Network (NASQAN) Program. Thermograph stations are operated and maintained by the USGS.
- (b) Analytical results are retrieved from the environmental data base using this sample number.

1.5 WATER - ONSITE POND

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
West Lake	Grab	6133	Q	Alpha, Beta, ³ H, ⁹⁰ Sr, U(a), Gamma Scan
B Pond	Grab	0015	M	Alpha, Beta, ³ H, ⁹⁰ Sr, ⁹⁹ Tc, Gamma Scan
FFTF Pond	Grab	6467	Q	Alpha, Beta, ³ H, Gamma Scan

- (a) Isotopic uranium.

1.6 WATER - SPRING

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
100-N Spring 8-13	Grab	0115	A	Alpha, Beta, ^{90}Sr , ^{99}Tc , Gamma Scan, $\text{NO}_3\text{-N}$
Hanford Spring 28-2	Grab	0116	A	Alpha, Beta, ^3H , ^{99}Tc , Gamma Scan, $\text{NO}_3\text{-N}$
300 Area Spring 42-2	Grab	0117	A	Alpha, Beta, $\text{U}^{(a)}$, Gamma Scan, $\text{NO}_3\text{-N}$

(a) Isotopic uranium.

1.7 WATER - IRRIGATION

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Number of Samples</u>	<u>Collection Period</u>	<u>Analyses</u>
Riverview Canal	Grab	0098	3	May-Sept	Alpha, Beta, ^3H , ^{90}Sr , $\text{U}^{(a)}$, Gamma Scan

(a) Isotopic uranium.

1.8 WATER - DRINKING

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
<u>Onsite</u>				
100-B River	Grab	6518	Q	Alpha, Beta, Lo ^3H , ^{90}Sr , Gamma Scan
100-D River	Grab	1219	Q	Alpha, Beta, ^3H , ^{90}Sr , Gamma Scan
Yakima Barricade	Grab	6543	Q	Alpha, Beta, ^3H , ^{90}Sr , Gamma Scan
Observatory	Grab	6381	Q	Alpha, Beta, ^3H , ^{90}Sr , Gamma Scan
FFTF	Grab	1220	M A	Alpha, Beta, ^3H , ^{90}Sr , Gamma Scan ^{129}I
300 Water Intake	Cumulative	6243	Q Comp ^(a)	Alpha, Beta, Lo ^3H , ^{90}Sr , ^{99}Tc , $\text{U}^{(b)}$, Gamma Scan
Firing Range	Grab	0099	Q	Alpha, Beta, ^3H , ^{90}Sr , Gamma Scan
ALE Headquarters	Grab	6299	Q	Alpha, Beta, ^3H , ^{90}Sr , Gamma Scan

1.8 WATER - DRINKING (contd)

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
<u>Offsite</u>				
Ringold Hatchery	Grab	0995	Q A	Alpha, Beta, ^3H , U ^(b) , Gamma Scan 129I, WQ(c)
Mathews Corner	Grab	0997	Q A	Alpha, Beta, ^3H , U ^(b) , Gamma Scan 129I, WQ(c)
White Bluffs Shallow	Grab	0993	Q A	Alpha, Beta, ^3H , U ^(b) , Gamma Scan 129I, WQ(c)
White Bluffs Deep	Grab	0994	Q A	Alpha, Beta, ^3H , U ^(b) , Gamma Scan 129I, WQ(c)
Alexander Farm	Grab	0999	Q A	Alpha, Beta, ^3H , U ^(b) , Gamma Scan 129I, WQ(c)

(a) Composite of monthly cumulative samples.

(b) Isotopic uranium.

(c) Water quality analysis performed by HEHF.

1.9 FOODSTUFFS - ANIMAL PRODUCTS

1.9.1 Whole Milk

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
Wahluke Area Composite(a)	0305	Q SA	^{131}I , ^3H , ^{90}Sr , Gamma Scan ^{129}I
Sagemoor Area Composite(a)	0306	BW M Q SA	^{131}I , Gamma Scan ^3H ^{90}Sr ^{129}I
Sunnyside Area	6355	Q SA	^{131}I , ^3H , ^{90}Sr , Gamma Scan ^{129}I
Moses Lake Area	0307	M Q SA	^{131}I , Gamma Scan, ^3H ^{90}Sr ^{129}I

(a) Sample composited from three sources in each area.

1.9.2 Poultry and Eggs

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
Sagemoor Area	Chicken	6386	SA	^{90}Sr , Gamma Scan
	Eggs	6387	SA	^{90}Sr , Gamma Scan
Sunnyside Area	Chicken	6371	SA	^{90}Sr , Gamma Scan
	Eggs	6370	SA	^{90}Sr , Gamma Scan

1.9.3 Beef

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
Sagemoor Area	6418	A	^{90}Sr , Gamma Scan
Riverview Area	1292	A	^{90}Sr , Gamma Scan
Sunnyside Area	0322	A	^{90}Sr , Gamma Scan

1.10 FOODSTUFFS - PRODUCE

1.10.1 Leafy Vegetables

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u> ^(a)	<u>Analyses</u>
Wahluke Area	0308	BA	⁹⁰ Sr, Gamma Scan
Sagemoor Area	6419	A	⁹⁰ Sr, Gamma Scan, ¹²⁹ I-LEP
Riverview Area	1609	A	⁹⁰ Sr, ⁹⁹ Tc, Gamma Scan, FDA(b)
Sunnyside Area	6372	A	⁹⁰ Sr, Gamma Scan, DOH(c)
Moses Lake Area	6407	A	⁹⁰ Sr, ⁹⁹ Tc, Gamma Scan, ¹²⁹ I-LEP, DOH(c), FDA(b)

(a) Three samples collected within each area. Biannual (BA) samples will next be collected in 1992.

(b) Duplicate samples sent to U.S. Food and Drug Administration.

(c) Duplicate samples sent to the Washington State Department of Health.

1.10.2 Vegetables

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u> ^(a)	<u>Analyses</u>
Riverview Area	Potatoes	0009	A	⁹⁰ Sr, Gamma Scan, FDA(b)
	Tomatoes	0011	A	⁹⁰ Sr, Gamma Scan
	Carrots	0013	A	⁹⁰ Sr, Gamma Scan
Horn Rapids	Potatoes	0536	A	⁹⁰ Sr, ⁹⁹ Tc, Pu(c), U(d), Gamma Scan, DOH(e)
Sagemoor Area	Potatoes	0538	A	⁹⁰ Sr, Pu(c), Gamma Scan, FDA(b)
Sunnyside Area	Potatoes	0537	A	⁹⁰ Sr, Pu(c), U(d), ⁹⁹ Tc, Gamma Scan, DOH(e), FDA(b)
Wahluke Area	Potatoes	0539	BA	⁹⁰ Sr, Gamma Scan

(a) Three samples of each type collected within each area. Biannual (BA) samples will next be collected in 1992.

(b) Duplicate samples sent to U.S. Food and Drug Administration.

(c) Isotopic plutonium.

(d) Isotopic uranium.

(e) Duplicate samples sent to the Washington State Department of Health.

1.10.3 Fruit

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u> ^(a)	<u>Analyses</u>
Sagemoor Area	Apples	0565	A	³ H, ⁹⁰ Sr, Pu ^(b) , Gamma Scan, FDA ^(c)
	Cherries	0543	A	³ H, ⁹⁰ Sr, Gamma Scan
	Concord Grapes ^(d)	6417	A	³ H, ⁹⁰ Sr, Gamma Scan, ¹²⁹ I-LEP, DOH ^(e)
Cold Creek Area	Apples	0304	BA	³ H, ⁹⁰ Sr, Gamma Scan
	Concord Grapes ^(d)	0303	BA	³ H, ⁹⁰ Sr, Gamma Scan
Sunnyside Area	Apples	6440	A	³ H, ⁹⁰ Sr, Pu ^(b) , Gamma Scan, DOH ^(e)
	Cherries	6453	A	³ H, ⁹⁰ Sr, Gamma Scan, DOH ^(e)
	Concord Grapes ^(d)	6454	A	³ H, ⁹⁰ Sr, Gamma Scan, ¹²⁹ I-LEP, DOH ^(e)
Riverview Area	Apples	0541	A	³ H, ⁹⁰ Sr, Gamma Scan, FDA ^(c)
	Concord Grapes ^(d)	0542	A	³ H, ⁹⁰ Sr, Gamma Scan
	Melons	0012	A	³ H, ⁹⁰ Sr, Gamma Scan, DOH ^(e)
Ringold	Apples	0550	A	³ H, ⁹⁰ Sr, Pu ^(b) , Gamma Scan, DOH ^(e)
	Cherries	0551	A	³ H, ⁹⁰ Sr, Gamma Scan, DOH ^(e)
Mattawa Area	Apples	0563	BA	³ H, ⁹⁰ Sr, Gamma Scan
	Concord Grapes ^(d)	0564	BA	³ H, ⁹⁰ Sr, Gamma Scan
Wahluke Area	Apples	0540	BA	³ H, ⁹⁰ Sr, Gamma Scan, FDA ^(c)

(a) Three samples of each type collected within each area. Biannual (BA) samples will next be collected in 1992.

(b) Isotopic plutonium.

(c) Duplicate samples sent to the U.S. Food and Drug Administration.

(d) Concord grapes preferred; table grapes acceptable if concord grapes are unavailable.

(e) Duplicate samples sent to the Washington State Department of Health.

1.11 FOODSTUFFS - FARM PRODUCTS

1.11.1 Wine

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u> ^(a)	<u>Analyses</u>
Columbia Basin	White	0544	A	³ H, Gamma Scan
	Red	0546	A	³ H, Gamma Scan
Yakima Valley	White	0545	A	³ H, Gamma Scan
	Red	0547	A	³ H, Gamma Scan

(a) Three samples of each type collected within each area.

1.11.2 Wheat and Alfalfa

<u>Location</u>	<u>Sample Type</u>	<u>Sample Number</u>	<u>Frequency</u> ^(a)	<u>Analyses</u>
Wahluke Area	Wheat	0320	BA	⁹⁰ Sr, Gamma Scan
	Alfalfa	0311	BA	⁹⁰ Sr, Gamma Scan
Sagemoor Area	Wheat	0319	A	⁹⁰ Sr, Pu ^(b) , Gamma Scan, FDA ^(c)
	Alfalfa	0312	A	⁹⁰ Sr, Gamma Scan
Riverview Area	Wheat	0318	A	⁹⁰ Sr, Gamma Scan
	Alfalfa	0313	A	⁹⁰ Sr, Gamma Scan, DOH ^(d)
Benton City Area	Wheat	0317	BA	⁹⁰ Sr, Gamma Scan
	Alfalfa	0314	BA	⁹⁰ Sr, Gamma Scan
Sunnyside Area	Wheat	0316	BA	⁹⁰ Sr, Pu ^(b) , Gamma Scan
	Alfalfa	0315	BA	⁹⁰ Sr, Gamma Scan
Mosas Lake Area	Wheat	0321	A	⁹⁰ Sr, Gamma Scan, FDA ^(c)
	Alfalfa	0310	A	⁹⁰ Sr, Gamma Scan, DOH ^(d)
Battelle Field	Alfalfa	0301	BA	⁹⁰ Sr, Gamma Scan

(a) Three samples of each type collected within each area. Biannual (BA) samples will next be collected in 1992.

(b) Isotopic plutonium.

(c) Duplicate samples sent to the U.S. Food and Drug Administration.

(d) Duplicate samples sent to the Washington State Department of Health.

1.12 WILDLIFE

1.12.1 Aquatic Biota

<u>Location</u>	<u>Species/ Sample</u>	<u>Sample Number</u>	<u>Number of Samples</u>	<u>Collection Period</u>	<u>Analyses</u>
100-N	Whitefish				
	Fillet	6486	10	Oct-Dec	⁹⁰ Sr, Gamma Scan
	Carcass	6487	10	Oct-Dec	⁹⁰ Sr
	Carp				
	Fillet	0345	5	May-June	⁹⁰ Sr, Gamma Scan
	Carcass	0346	5	May-June	⁹⁰ Sr
	Clams	0351	1(a)	Aug-Sept	⁹⁰ Sr, Gamma Scan, DOH(b)
100-D	Crayfish	0355	1(a)	Aug-Sept	⁹⁰ Sr, ⁹⁹ Tc, Gamma Scan
	Whitefish				
	Fillet	6431	10	Oct-Dec	⁹⁰ Sr, Gamma Scan
100-F Slough	Carcass	6490	10	Oct-Dec	⁹⁰ Sr
	Bass				
	Fillet	6369	5	May-June	⁹⁰ Sr, Gamma Scan
300 Area	Carcass	0338	5	May-June	⁹⁰ Sr
	Whitefish				
	Fillet	6488	10	Oct-Dec	⁹⁰ Sr, U(c), ⁹⁹ Tc, Gamma Scan
	Carcass	6489	10	Oct-Dec	⁹⁰ Sr
	Carp				
	Fillet	0347	5	May-June	⁹⁰ Sr, Gamma Scan
	Carcass	0348	5	May-June	⁹⁰ Sr
Vantage(d)	Clams	0352	1(a)	Aug-Sept	⁹⁰ Sr, U(c), Gamma Scan, DOH(b)
	Crayfish	0356	1(a)	Aug-Sept	⁹⁰ Sr, U(c), ⁹⁹ Tc, Gamma Scan
	Carp				
Kettle River(d)	Fillet	--	20	May-June	⁹⁰ Sr, U(c), Gamma Scan
	Carcass	--			⁹⁰ Sr
	Whitefish				
Upstream Columbia River(d)	Fillet	--	20	Oct-Dec	⁹⁰ Sr, U(c), ⁹⁹ Tc, Gamma Scan
	Carcass	--			⁹⁰ Sr
	Whitefish				
Upstream Columbia River(d)	Bass				
	Fillet	--	20	May-June	⁹⁰ Sr, U(c), Gamma Scan
	Carcass	--	20		⁹⁰ Sr

1.12.1 Aquatic Biota (contd)

<u>Location</u>	<u>Species/ Sample</u>	<u>Sample Number</u>	<u>Number of Samples</u>	<u>Collection Period</u>	<u>Analyses</u>
Priest Rapids(d)	Clams	--	1(a)	Aug-Sept	⁹⁰ Sr, U(c), Gamma Scan
Wapato Canal(d)	Crayfish	--	1(a)	Aug-Sept	⁹⁰ Sr, U(c), ⁹⁹ Tc, Gamma Scan

(a) Sample size for 500 g of clam flesh; Sample size for 300 g of crayfish flesh.

(b) Duplicate samples sent to the Washington State Department of Health.

(c) Isotopic uranium.

(d) Background samples to be collected at least once every 5 years and will next be collected in 1993. Sample numbers will be assigned prior to collecting sample.

1.12.2 Ducks

<u>Location</u>	<u>Species/(a) Sample</u>	<u>Sample Number</u>	<u>Number of Samples</u>	<u>Collection Period</u>	<u>Analyses</u>
100-N Area	Mallard				
	Muscle	0456	4	September	⁹⁰ Sr, Gamma Scan
	Liver	0457	4	September	NRA(b)
	Bone	0458	4	September	NRA(b)
B Pond	Mallard				
	Muscle	0444	20	September	⁹⁰ Sr, ⁹⁹ Tc, Gamma Scan
	Liver	0445	20	September	NRA(b)
	Bone	0446	20	September	NRA(b)
West Lake	Mallard				
	Muscle	6186	4	September	⁹⁰ Sr, Gamma Scan
	Liver	6198	4	September	NRA(b)
	Bone	6199	4	September	NRA(b)
300 Area	Mallard				
	Muscle	0435	4	September	U(c), Gamma Scan
	Liver	0436	4	September	NRA(b)
	Bone	0437	4	September	NRA(b)
Vantage(d)	Mallard				
	Muscle	--	20	September	⁹⁰ Sr, U(c), ⁹⁹ Tc, Gamma Scan
	Liver	--	20	September	Pu(e)
	Bone	--	20	September	⁹⁰ Sr

(a) Mallard preferred; other puddle ducks acceptable if mallard is unavailable.

(b) Not Routinely Analyzed (NRA) - Retain liver and bone to be analyzed for isotopic plutonium and ⁹⁰Sr, respectively, if ¹³⁷Cs exceeds 100 pCi/g (wet weight) in the muscle.

(c) Isotopic uranium.

(d) Background samples to be collected at least every 5 years and will next be collected in 1994. Sample numbers will be assigned prior to collecting sample.

(e) Isotopic plutonium.

1.12.3 Game Birds

<u>Location</u>	<u>Species/(a) Sample</u>	<u>Sample Number</u>	<u>Number of Samples</u>	<u>Collection Period</u>	<u>Analyses</u>
100-N Trench	Pheasant				
	Muscle	0479	3	October	⁹⁰ Sr, Gamma Scan
	Liver	0480	3	October	NRA(b)
	Bone	0481	3	October	NRA(b)
100-D to 100-F	Pheasant				
	Muscle	0473	10	October	Gamma Scan
	Liver	0474	10	October	NRA(b)
	Bone	0475	10	October	NRA(b)
200-E Area	Pheasant				
	Muscle	0467	3	October	Gamma Scan
	Liver	0468	3	October	NRA(b)
	Bone	0469	3	October	NRA(b)
200-W Area	Pheasant				
	Muscle	0470	3	October	Gamma Scan
	Liver	0471	3	October	NRA(b)
	Bone	0472	3	October	NRA(b)
300 Area	Pheasant				
	Muscle	0464	3	October	U(c), Gamma Scan
	Liver	0465	3	October	NRA(b)
	Bone	0466	3	October	NRA(b)
Yakima County(d)	Pheasant				
	Muscle	--	20	September	⁹⁰ Sr, U(c), Gamma Scan
	Liver	--	20	September	Pu(e)
	Bone	--	20	September	⁹⁰ Sr

(a) Pheasant preferred; chukar or quail acceptable if pheasant is unavailable.

(b) Not Routinely Analyzed (NRA) - Retain liver and bone to be analyzed for isotopic plutonium and ⁹⁰Sr, respectively, if ¹³⁷Cs exceeds 100 pCi/g (wet weight) in muscle.

(c) Isotopic uranium.

(d) Background samples to be collected at least every 5 years and will next be collected in 1994. Sample numbers will be assigned prior to collecting sample.

(e) Isotopic plutonium.

1.12.4 Deer

<u>Location</u>	<u>Species/ Sample</u>	<u>Sample Number</u>	<u>Number of Samples</u>	<u>Collection Period</u>	<u>Analyses</u>
100-N Area	Mule				
	Muscle	6250	2	October	Gamma Scan
	Liver	6251	2	October	Pu(a)
	Bone	6303	2	October	90Sr
200 Ponds	Mule				
	Muscle	0369	2	October	Gamma Scan
	Liver	0370	2	October	Pu(a)
	Bone	0371	2	October	90Sr
Road Kill at Onsite Locations(b)	Mule				
	Muscle	ATL(c)	6	Annual	Gamma Scan
	Liver	ATL	6	Annual	Pu(a)
Ellensburg(d)	Mule				
	Muscle	--	2	October	Gamma Scan
	Liver	--	2	October	Pu(a)
	Bone	--	2	October	90Sr

(a) Isotopic plutonium.

(b) As available.

(c) ATL - according to location.

(d) Background samples to be collected at least every 5 years and will next be collected in 1995.
Sample numbers will be assigned prior to collecting samples.

1.12.5 Rabbits

<u>Location</u>	<u>Type/ Sample</u>	<u>Sample Number</u>	<u>Number of Samples</u>	<u>Collection Period</u>	<u>Analyses</u>
100-N River Bank	Cottontail				
	Muscle	6145	4	April	Gamma Scan
	Liver	6146	4	April	Pu(a)
	Bone	6452	4	April	90Sr
200-E Area	Jack Rabbit				
	Muscle	1769	4	April	Gamma Scan
	Liver	1770	4	April	Pu(a)
	Bone	6432	4	April	90Sr
200-W Area	Jack Rabbit				
	Muscle	1789	4	April	Gamma Scan
	Liver	1790	4	April	Pu(a)
	Bone	6413	4	April	90Sr
Boardman, OR(b)	Jack Rabbit				
	Muscle	--	10	April	Gamma Scan
	Liver	--	10	April	Pu(a)
	Bone	--	10	April	90Sr
Boardman, OR(b)	Cottontail				
	Muscle	--	10	April	Gamma Scan
	Liver	--	10	April	Pu(a)
	Bone	--	10	April	90Sr

(a) Isotopic plutonium.

(b) Background samples to be collected at least every 5 years and will next be collected in 1995. Sample numbers will be assigned prior to collecting sample.

1.13 SOIL

Location	Sample Number	Frequency ^(a)	Analyses
NE of 100-N Area	0590	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
E of 100-N Area	0578	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
100-N Shoreline Above Boundary	0570	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
100-N Springs Shoreline	0571	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
100-N Shoreline Below Boundary	0572	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
100-Area Fire Station	0580	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
200-ENC	6362	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
E of 200-E(d)	0581	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
200-ESE(d)	6022	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c), ²⁴¹ Am
S of 200-E(d)	0582	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
SW of B/C Cribs(d)	0583	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c), ²⁴¹ Am
E of 200-W Gate	6276	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c), ²⁴¹ Am
S of 200-W	0584	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Rattlesnake Springs(d)	6003	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Yakima Barricade(d)	6004	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
400-E	6282	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
SE Side of FFTF	6277	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
N of 300 Area	6322	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
S of 300 Area	6323	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Hanford Townsite	6017	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Wye Barricade(d)	6016	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Prosser Barricade(d)	6225	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Othello	0505	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Connell	0503	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
ALE Field Lab	6278	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
N End Vernita Bridge	6005	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Wahluke Slope(d)	6007	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Berg Ranch(d)	6008	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Ringold	6009	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
W End of Fir Road	6360	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Taylor Flats No. 2	6421	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Sagemoor Farm	6358	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c), ²⁴¹ Am
Byers Landing(d)	6011	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Riverview - Harris	6361	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Benton City	6000	1/3 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Sunnyside	6357	1/5 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c), ²⁴¹ Am
McNary Dam	0504	1/5 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Walla Walla	0502	1/5 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Moses Lake	0500	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Washtucna	0501	1/5 yr	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)
Yakima	0512	A	Gamma Scan, ⁹⁰ Sr, U(b), Pu(c)

(a) Specified samples are collected once every 3 or 5 years, respectively. The next samples for 1/3-year and 1/5-year locations will be 1993 and 1995, respectively.

(b) ²³⁵U-LEP, ²³⁸U-LEP.

(c) Isotopic plutonium.

(d) Located at air sampling station.

1.14 VEGETATION

<u>Location</u>	<u>Sample Number</u>	<u>Frequency^(a)</u>	<u>Analyses</u>
NE of 100-N Area	0591	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
E of 100-N Area	0579	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
100 N (Shoreline)	0573	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
100 Area Fire Station	0585	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
200-ENC	6368	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
E of 200-E(c)	0586	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
200-ESE(c)	6068	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
S of 200-E(c)	0587	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
SW of B/C Cribs(c)	0588	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
E of 200-W Gate	6283	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
S of 200-W	0589	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Rattlesnake Springs(c)	6049	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Yakima Barricade(c)	6050	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
400-E	6285	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
SE Side of FFTF	6286	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
N of 300 Area	6328	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
S of 300 Area	6329	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
300 Area (Shoreline)	0574	A	Gamma Scan, ⁹⁰ Sr, U(d), Pu(b)
Hanford Townsite	6063	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Hanford Townsite (shoreline)	0575	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b), ⁹⁹ Tc
Upstream Hanford (shoreline)	0576	A	Gamma Scan, ⁹⁰ Sr, U(d), Pu(b), ⁹⁹ Tc
Wye Barricade(c)	6062	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Prosser Barricade(c)	6227	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Othello	0511	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Connell	0509	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
ALE Field Lab	6287	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
N End Vernita Bridge	6051	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Wahluke Slope(c)	6053	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Berg Ranch(c)	6054	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Ringold	6055	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
W End of Fir Road	6366	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Taylor Flats No. 2	6423	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Sagemoor Farm	6364	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Byers Landing(c)	6057	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Riverview - Harris	6367	A	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Benton City	6046	1/3 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Sunnyside	6363	1/5 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
McNary Dam	0510	1/5 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Walla Walla	0508	1/5 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Moses Lake	0506	A	Gamma Scan, ⁹⁰ Sr, U(d), Pu(b)
Washtucna	0507	1/5 yr	Gamma Scan, ⁹⁰ Sr, U, Pu(b)
Yakima	0513	A	Gamma Scan, ⁹⁰ Sr, U(d), Pu(b)

(a) Specified samples are collected once every 3 or 5 years, respectively. The next sampling for 1/3-year and 1/5-year locations will be 1993 and 1995, respectively.

(b) Isotopic plutonium.

(c) Located at air sampling station.

(d) Isotopic uranium.

1.15 SEDIMENT

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Analyses</u>
McNary Dam	0595	A	Gamma Scan, ^{90}Sr , U(a), Pu(b)
	-0 Oregon Shore		
	-1 1/3 from Oregon Shore		
	-2 2/3 from Oregon Shore		
	-3 Washington Shore		
Priest Rapids Dam	0596	A	Gamma Scan, ^{90}Sr , U(a), Pu(b)
	-0 Grant County Shore		
	-1 1/3 from Grant County Shore		
	-2 2/3 from Grant County Shore		
	-3 Yakima County Shore		
White Bluffs Slough	0592	A	Gamma Scan, ^{90}Sr , U(a), Pu(b)
100-F Slough	0593	A	Gamma Scan, ^{90}Sr , U(a), Pu(b)
Hanford Slough	0594	A	Gamma Scan, ^{90}Sr , U(a), Pu(b)
Richland	0597	A	Gamma Scan, ^{90}Sr , U(a), Pu(b)

(a) ^{235}U -LEP, ^{238}U -LEP.
(b) Isotopic plutonium.

2.0 DIRECT RADIATION MEASUREMENTS

2.1 THERMOLUMINESCENT DOSIMETERS (TLDs)

2.1.1 Terrestrial Locations

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Measurement</u>
<u>Onsite</u>			
100-K(a)	1138	Q	Ambient Dose
100-N (WPPSS)(a)	1136	Q	Ambient Dose
100-D(a)	1398	Q	Ambient Dose
Rt. 11A-Mile 9(a)	1140	Q	Ambient Dose, DOH(b)
N of 200-E(a)	1141	Q	Ambient Dose, DOH(b)
200 Tel. Exchange(a)	1142	Q	Ambient Dose, DOH(b)
200 W SE(a)	1143	Q	Ambient Dose
SW of B/C Cribs(a)	1144	Q	Ambient Dose, DOH(b)
S of 200-E(a)	1145	Q	Ambient Dose, DOH(b)
B Pond(a)	1146	Q	Ambient Dose
E of 200-E(a)	1148	Q	Ambient Dose, DOH(b)
200-ESE(a)	1399	Q	Ambient Dose, DOH(b)
3705 Building	1149	Q	Ambient Dose
300 Water Intake(a)	1150	Q	Ambient Dose
300 Southwest Gate	1151	Q	Ambient Dose
300 South Gate(a)	1152	Q	Ambient Dose
300 Trench(a)	1153	Q	Ambient Dose
300 NE(a)	1154	Q	Ambient Dose
400-E(a)	1400	Q	Ambient Dose
400-W(a)	1155	Q	Ambient Dose
400-S(a)	1156	Q	Ambient Dose
400-N(a)	1158	Q	Ambient Dose
Wye Barricade(a)	1395	Q	Ambient Dose, DOH(b)
US Ecology NE Corner	0118	Q	Ambient Dose, DOH(b)
US Ecology SE Corner	0119	Q	Ambient Dose, DOH(b)
US Ecology NW Corner	0120	Q	Ambient Dose, DOH(b)
US Ecology SW Corner	0121	Q	Ambient Dose, DOH(b)
WPPSS 1 S of WNP 2	0122	Q	Ambient Dose, DOH(b)
<u>Perimeter</u>			
Ringold Met. Tower(a)	0930	Q	Ambient Dose
Byers Landing(a)	1166	Q	Ambient Dose
Battelle Complex(a)	1167	Q	Ambient Dose
S End Vernita Bridge(a)	1173	Q	Ambient Dose
WPPSS 4 WPPSS Warehouse	0123	Q	Ambient Dose, DOH(b)
WPPSS 8 Fir Road	0124	Q	Ambient Dose, DOH(b)

2.1.1 Terrestrial Locations (contd)

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Measurement</u>
<u>Community</u>			
Othello(a)	1376	Q	Ambient Dose
Conne11(a)	1377	Q	Ambient Dose, DOH(b)
Pasco(a)	1378	Q	Ambient Dose
Kennewick(a)	1379	Q	Ambient Dose
Richland(a)	1380	Q	Ambient Dose, DOH(b)
Benton City(a)	1381	Q	Ambient Dose
Eltopia(a)	1383	Q	Ambient Dose
Mattawa(a)	1384	Q	Ambient Dose
<u>Distant</u>			
Moses Lake(a)	1385	Q	Ambient Dose, DOH(b)
Sunnyside(a)	1388	Q	Ambient Dose, DOH(b)
Yakima(a)	1389	Q	Ambient Dose, DOH(b)

(a) Located at air sampling station.

(b) Washington State Department of Health TLDs also at these locations.

2.1.2 Columbia River Shoreline Locations

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Measurement</u>
Coyote Rapids	1176	Q	Immersion Dose
Richland Pumphouse	1177	Q	Immersion Dose
Above 100-B Area	1178	Q	Ambient Dose
Below 100-B Retention Basin	1179	Q	Ambient Dose
Above 100-K Boat Ramp	1180	Q	Ambient Dose
Below 100-N Outfall	1181	M	Ambient Dose
Below 100-N Stack	1182	M	Ambient Dose
Above Tip 100-N Berm	1183	M	Ambient Dose
100-N Trench Spring	1397	M	Ambient Dose
Below 100-D Area	1184	Q	Ambient Dose
Below Opposite 100-D	1185	Q	Ambient Dose
Lower End Locke Island	1186	Q	Ambient Dose
White Bluffs Ferry Landing	1187	Q	Ambient Dose
White Bluffs Slough	1188	Q	Ambient Dose
100-F Floodplain	1205	Q	Ambient Dose
Below 100-F	1206	Q	Ambient Dose
Hanford Slough	1207	Q	Ambient Dose
Hanford Powerline Crossing	1208	Q	Ambient Dose
Hanford Ferry Landing	1209	Q	Ambient Dose
Hanford RR Track	1210	Q	Ambient Dose
Savage Island Slough	1211	Q	Ambient Dose
Ringold Island	1212	Q	Ambient Dose
Powerline Crossing	1213	Q	Ambient Dose
N End Wooded Island	1214	Q	Ambient Dose
S End Wooded Island	1215	Q	Ambient Dose
Island Near 300 Area	1216	Q	Ambient Dose
Island DS Bateman Island	1217	Q	Ambient Dose

2.2 COLUMBIA RIVER SHORELINE RADIATION SURVEYS

<u>Location</u>	<u>Sample Number</u>	<u>Frequency</u>	<u>Instrument</u>
Above 100-K Boat Ramp	6132	Q	LLM, GM
100-N Trench Springs	6129	M	LLM, GM
Below Opposite 100-D	6241	Q	LLM, GM
Lower End Locke Island	6123	Q	LLM, GM
White Bluffs Ferry Landing	6121	Q	LLM, GM
Below 100-F	6120	Q	LLM, GM
Hanford Powerline Crossing	6118	Q	LLM, GM
Hanford Ferry Landing	6117	Q	LLM, GM
Hanford RR Track	6242	Q	LLM, GM
Ringold Island	6114	Q	LLM, GM
Powerline Crossing	6113	Q	LLM, GM
Below 100-N Outfall	6483	M	LLM, GM
Below 100-N Stack	6484	M	LLM, GM
Above Tip 100-N Berm	6485	M	LLM, GM

2.3 ONSITE ROADWAY RADIATION SURVEYS

Description	Sample Number	Identification Trip	Frequency	Instrument ^(a)
1100 Area to FFTF 4-S at 1100 Area; 4-S at No. 2 RR Track; 4-S at FFTF Access; FFTF; FFTF Access at 4-S; 4-S at No. 2 RR Track; 4-S at 300 Area	1800	1	W	Road Monitor
FFTF to US Ecology 4-S at FFTF; 4-S at Wy. Barricade; 4-S at Army Loop; 4-S at US Ecology	1801	2	W	Road Monitor
100-N to 100-K to 200-W Rt. 1 at Rt. 4-N Junction; Rt. 4N at 100-N Access; 100-N; 100-N Access at Rt. 4-N; Rt. 4-N at Rt. 1 Junction; Rt. 1 at 100-K Access; 100-K; 100-K Access at Rt. 1; Rt. 1 at Rt. 4-N Junction; Rt. 4 at 11A Junction; 11A at 200-W N Access; N Access Gate 609; 200-W	1802	3	M	Road Monitor
Yakima Barricade to US Ecology Yakima Barricade; Army Loop Road; 4-S; US Ecology; 4-S Rt. 3; 200-W; 11A; 200-W; 4-S; 11A	1803	4	Q	Road Monitor
Army Loop Road 4-S Army Loop; Old Powerline Crossing; S 200-W Area; 11A Army Loop	1804	5	A	Road Monitor
US Ecology to FFTF 4-S US Ecology; 4-S Army Loop; Wye Barricade; Rt. 10 FFTF Access Road; Prosser Barricade; Rt. 10 FFTF Access; FFTF; Rt. 10 FFTF Access; Rt. 10 and 4-S; 4-S and FFTF Access Road; FFTF	1805	6	A	Road Monitor
300-Area through 1100 Area 300 Area; Garage; Stores; Gas Station; Parking Lot; 1st Street; Kaiser's Shop Area; 1st Street; IT; George Washington Way - Stevens; IT	1806	7	A	Road Monitor
Yakima Barricade to 100-B/C and 200-N Yakima Barricade; 11A and Rt. 6; Rt. 6 and Rt. 1; Rt. 1 and 100-B Cut-off; Rt. 1 100-B Access; Rt. 1 100-K Access; Rt. 1 100-B Access; Rt. 1 100-B Cut-off; 4-N and 100-B Cut-off; Rt. 1 100-B Cut-off; Rt. 1 and Rt. 6; 11A and Rt. 6; 11A and 200-N Access Road; 200-N; 4-N and 200-N Access; 4-N and 11A; 11A and 200-N Access	1807	8	A	Road Monitor
Wye Barricade to 100-N Wye Barricade; 2-N and 11A; 2-N and 100-F; 2-N and 100-H; 2-N and 100-D; 2-N and 4-N; 4-N and 100-N Access; 4-N and 2-N; 2-N and 100-D; 2-N and 100-H; 2-N and 100-F; 2-N and 11A; Wye Barricade	1808	9	A	Road Monitor
Rt. 2-S and Rt. 11A to White Bluffs 2-N and 11A; 11A and 4-N; 4-N and Rt. 1; Rt. 1 and 2-N; Rt. 1 and White Bluffs Cut-off; White Bluffs Ferry Landing; White Bluffs Cut-off and Rt. 1; Rt. 1 and 4-N; 4-S and 11A; 11A and 2-S	1809	10	A	Road Monitor

2.3 ONSITE ROADWAY RADIATION SURVEYS (contd)

<u>Description</u>	<u>Sample Number</u>	<u>Identification Trip</u>	<u>Frequency</u>	<u>Instrument (a)</u>
300 Area Outside 300 Area Perimeter Fence; NW Corner of Pond Area; 4-S 300 Railroad Crossing; 3-N Gate Parking Lot; 4-S Cypress Street; 3701 Badge House; N of 331 Bldg.; 3614-A Bldg.; Inside 300 Area Perimeter Fence	1810	11	Q	Road Monitor
400 Area Visitor Center Access Road; Main Gate; NW Corner Parking Lot; NE Corner Parking Lot; Visitor Center; Old 4-E Monitoring Station; NE Corner Perimeter Fence; NW Corner Perimeter Fence; SW Corner Perimeter Fence; SE Corner Perimeter Fence; Main Gate	1811	12	Q	Road Monitor

(a) The instrument used for road monitoring consist of sodium iodide detectors with associated electronics which function as gross-gamma counters.

2.4 ONSITE RAILWAY RADIATION SURVEYS

<u>Description</u>	<u>Sample Number</u>	<u>Identification Trip</u>	<u>Frequency</u>	<u>Instrument (a)</u>
Ruby Junction; Geneva Junction; FFTF; Geneva Junction	1815	1	Q	Railway Monitor
200-L Gate; Ethel Junction; Susie Junction; 200-W Gate; Susie Junction; Audrey Junction; 100-K Gate; Audrey Junction; Helen Junction; Nancy Junction	1816	2	Q	Railway Monitor
Geneva Junction; May Junction; Willa Junction; Pearl Junction; Ethel Junction;	1817	3	Q	Railway Monitor
Nancy Junction; Ginger Junction; Betty Junction; Ruth Junction; Edna Junction; May Junction	1818	4	Q	Railway Monitor
1100 Area; Van Giesen; Yakima River Bridge; Columbia Center	1819	5	Q	Railway Monitor

(a) The instrument used for railway monitoring consist of sodium iodide detectors with associated electronics which function as gross-gamma counters.

2.5 ONSITE AERIAL RADIATION SURVEYS

<u>Description</u>	<u>Sample Number</u>	<u>Identification Trip</u>	<u>Frequency</u>	<u>Instrument (a)</u>
Project Perimeter	1820	3	A	Aerial Monitor

(a) The instrument used for aerial monitoring consist of sodium iodide detectors with associated electronics which function as gross-gamma counters.

2.6 WASTE SITE RADIATION SURVEYS^(a)

<u>Location</u> ^(b)	<u>Frequency</u>
<u>100-B and 100-C Areas</u>	
107-B Liquid Waste Disposal Trench (116-B-1)	SA
105-B Storage Basin Trench (116-B-2)	SA
Dummy Decontamination French Drain (116-B-4)	SA
108-B Crib (116-B-5)	SA
1904-B1 Outfall Structure (116-B-7)	SA
107-B Retention Basin (116-B-11)	SA
107-B South Sludge Trench (116-B-13)	SA
107-C Liquid Waste Disposal Trench (116-C-1)	SA
105-C Pluto Crib (116-C-2A)	SA
Chemical Waste Tanks (116-C-3)	SA
107-C Retention Basin (116-C-5)	SA
105-B Burial Ground (118-B-1)	SA
100-B/C Construction Burial Grounds #1 (118-B-2)	SA
100-B/C Construction Burial Grounds #2 (118-B-3)	SA
Ball 3x Burial Ground (118-B-5)	SA
Solid Waste Burial Ground (118-B-6)	SA
105-C Burial Ground (118-C-1)	SA
100-B/C Effluent Diversion Box (None)	SA
<u>100-D and 100-DC Areas</u>	
105-D Storage Basin Trench #2 (116-D-18)	SA
1904-D Outfall Structure (116-D-5)	SA
107-D Retention Basin (116-D-7)	SA
107-DR Liquid Waste Disposal Trench #1 (116-DR-1)	SA
107-DR Liquid Waste Disposal Trench #2 (116-DR-2)	SA
105-DR Storage Basin Trench (116-DR-3)	SA
1608-DR Liquid Disposal Trench (116-DR-6)	SA
107-DR Retention Basin (116-DR-9)	SA
100-D Burial Ground #1 (118-D-1)	SA
100-D Burial Ground #2 (118-D-2)	SA
100-D Burial Ground #3 (118-D-3)	SA
100-D/DR Construction Burial Ground (118-D-4)	SA
100-D/DR Effluent Lines (None)	SA
<u>100-F Area</u>	
100-F Lewis Canal (116-F-1)	SA
107-F Liquid Waste Disposal Trench (116-F-2)	SA
105-F Storage Basin Trench (116-F-3)	SA

- (a) Radiation surveys of inactive waste sites consist of monitoring the perimeter of the sites with a GM survey meter and a micro R meter, and visual inspection for earth subsidence, vegetation growth, animal intrusion, fence integrity (if fenced), and posting (if required).
- (b) The site location listed is the common alias in the Waste Information Data System (WIDS), followed by the official WIDS name in parentheses. "None" indicates that the site is not part of the WIDS database.

2.6 WASTE SITE RADIATION SURVEYS^(a) (contd)

<u>Location</u> ^(b)	<u>Frequency</u>
<u>100-F Area (contd)</u>	
100-F Ball Washer Crib (116-F-5)	SA
1608-F Liquid Waste Disposal Trench (116-F-6)	SA
117-F Crib (116-F-7)	SA
100-F Animal Waste Leaching Trench (116-F-9)	SA
100-F Retention Basin (116-F-14)	SA
100-F Burial Ground #1 (118-F-1)	SA
100-F Burial Ground #2 (118-F-2)	SA
100-F Burial Ground #3 (118-F-3)	SA
PNL Sawdust Repository (118-F-5)	SA
100-F 60-inch Overground Pipe (None)	SA
100-F Happy Valley Farm Plots (None)	SA
<u>100-H Area</u>	
107-H Liquid Waste Disposal Trench (116-H-1)	SA
1608-H Liquid Waste Disposal Trench (116-H-2)	SA
105-H Dummy Decontamination French Drain (116-H-3)	SA
107-H Retention Basin (116-H-7)	SA
100-H Burial Ground #1 (118-H-1)	SA
100-H Burial Ground #2 (118-H-2)	SA
100-H Effluent Lines - Junction Boxes (None)	SA
<u>100-K and 100-KE Areas</u>	
100-K Mile Long Trench (116-K-2)	SA
107-KE Retention Basins (116-KE-4)	SA
<u>200 Areas</u>	
200-E 216-A-6 Cavern (216-A-6)	SA
200-E 216-A-30 Crib (216-A-30)	SA
200-E 216-A-37 Crib (216-A-37-1)	SA
200-E B Pond (216-B-3)	SA
200-E 216-BC-1 to 216-BC-6 Cribs (216-B-14 to 216-B-19)	SA
200-E NE Perimeter Fence (None)	SA
200-E US Ecology Burial Ground Perimeter (None)	SA
200-N Trenches and Cribs (216-N-1 to 216-N-8)	SA
212-N Storage Facility (212-N Storage Facility)	SA
212-P Storage Facility (212-P Storage Facility)	SA
212-R Storage Facility (212-R Storage Facility)	SA

- (a) Radiation surveys of inactive waste sites consist of monitoring the perimeter of the sites with a GM survey meter and a micro R meter, and visual inspection for earth subsidence, vegetation growth, animal intrusion, fence integrity (if fenced), and posting (if required).
- (b) The site location listed is the common alias in the Waste Information Data System (WIDS), followed by the official WIDS name in parentheses. "None" indicates that the site is not part of the WIDS database.

2.6 WASTE SITE RADIATION SURVEYS^(a) (contd)

<u>Location^(b)</u>	<u>Frequency</u>
<u>200 Areas (contd)</u>	
200-W 216-S-5 Cavern #1 (216-S-5)	SA
200-W 216-S-6 Cavern #2 (216-S-6)	SA
200-W 216-S-11 Swamp (216-S-11)	SA
200-W Redox Pond #2 and Ditch (216-S-16-D & P)	SA
200-W Redox Pond #1 (216-S-17)	SA
200-W Low-Level Radioactive Mixed Waste Burial Grounds (218-W-5)	SA
<u>300 Area</u>	
300 Area S Process Pond Fence Perimeter (316-1)	SA
300 Area N Process Pond Fence Perimeter (316-2)	SA
300 Area N Process Trench Perimeter (316-3)	SA
300 Area Burial Ground #4 (618-4)	SA

- (a) Radiation surveys of inactive waste sites consist of monitoring the perimeter of the sites with a GM survey meter and a micro R meter, and visual inspection for earth subsidence, vegetation growth, animal intrusion, fence integrity (if fenced), and posting (if required).
- (b) The site location listed is the common alias in the Waste Information Data System (WIDS), followed by the official WIDS name in parentheses. "None" indicates that the site is not part of the WIDS database.

PART II. HANFORD GROUND-WATER MONITORING

1.0 100-AREA WELLS

Well Number(a)	Lab pH Cond(b)	Alk(b)	Anions NO3	³ H(b)	GC-VOA	Filtered ICAP Metals	F	CN	⁹⁰ Sr	⁹⁹ Tc	Gamma Scan	Isotopic Pu	¹²⁹ I	Uranium	Alpha	Beta
1-B3-1					A						A					
1-B4-1					A						A					
1-B4-2	A		A	A	A	A			A	A	A			A		
1-B4-3	A		A	A	A	A			A	A	A					
1-B4-4					A						A					
1-B4-5	SA		SA	SA	SA	SA			SA	A	SA					
1-B4-6	SA		SA	SA	SA	SA			SA	A	SA					
1-B4-7	SA		SA	SA	SA	SA			SA	A	SA					
1-B9-1					A											
1-D2-5					A				A	A	A					
1-D5-12					A					A	A					
1-D8-3					A				A	A	A					
1-F5-1					A					A	A					
1-F5-3	A		A	A	A	A			A	A	A					
1-F5-4					A				A	A	A					
1-F5-6										A	A		A			
1-F7-1					A				A	A	A					
1-F8-1					A				A	A	A					
1-F8-2	A		A	A	A	A			A	A	A			A		
1-H3-1																
1-H3-2A																
1-H3-2B																
1-H4-10																
1-H4-11																
1-H4-12A																
1-H4-12B																
1-H4-12C																
1-H4-13																
1-H4-14																
1-H4-15A																
1-H4-15B																
1-H4-16																
1-H4-17																
1-H4-18																
1-H4-3																
1-H4-4(c)			Q	Q							Q				Q	Q
1-H4-5				A												
1-H4-6				A												

1.0 100-AREA WELLS (contd)

Well Number (a)	Lab pH Cond(b)	Alk(b)	Anions NO3	3H(b)	GC-VOA	Filtered ICAP Metals F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
1-H4-7				A											
1-H4-8				A											
1-H4-9				A											
1-K-11								A	A	A					
1-K-19									A	A					
1-K-20									A	A					
1-K-22									A	A					
1-K-28								A	A	A					
1-K-29							A		A	A					
1-K-30								A	A	A					
1-N-14(c)													A	Q	Q
1-N-16							A								
1-N-17								A							
1-N-18								A							
1-N-20								A							
1-N-21			A												
1-N-22			A												
1-N-24			A					A							
1-N-25			A					A							
1-N-26			A					A							
1-N-28			A					A							
1-N-3(c)														Q	Q
1-N-37								A							
1-N-41			A							A					
1-N-42															
1-N-5								A							
1-N-50			A							A					
1-N-51			A							A					
1-N-52			A							A					
1-N-54								A							
1-N-55			A					A							
1-N-56			A					A							
1-N-59							A								
1-N-6								A							

1.0 100-AREA WELLS (contd)

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO ₃	3H (b)	GC-VOA	ICAP	Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
1-N-60																	
1-N-61																	
1-N-70(c)																	

- (a) Wells not equipped with sampling pump will be sampled for anions (nitrate) and tritium only.
 (b) Specific Conductivity: Alk = Alkalinity; 3H = Tritium.
 (c) Indicates sample split with Washington Department of Health.

2.0 200-AREA WELLS

Well Number(a)	Lab pH Cond(b)	Alk(b)	Anions NO ₃	3H(b)	GC-VOA	ICAP	Filtered Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
2-E17-1													A	A			
2-E17-12													A	A			
2-E17-13													A	A			
2-E17-14										A			A	A			
2-E17-15													A	A			
2-E17-16													A	A			
2-E17-17													A	A			
2-E17-18													A	A			
2-E17-19													A	A			
2-E17-2			A	A								A					
2-E17-20										A			A	A			
2-E17-5													A	A			
2-E17-6													A	A			
2-E17-8			A	A									A	A			
2-E17-9										A			A	A			
2-E18-1													A	A			
2-E18-2			A	A									A	A			
2-E18-3			A	A									A	A			
2-E18-4			A	A									A	A			
2-E23-1			A	A									A	A			
2-E24-1			A	A						A				A			
2-E24-11			A	A													
2-E24-12										A			A	A			
2-E24-13			A	A									A	A			
2-E24-16													A	A			
2-E24-17													A	A			
2-E24-18													A	A			
2-E24-4													A	A			
2-E24-7			A	A							A		A	A			
2-E24-8													A	A			
2-E25-13			A	A													
2-E25-21										A							
2-E25-22										A			A				
2-E25-23																	
2-E25-26																	
2-E25-28																	
2-E25-29P																	
2-E25-3			A	A													

2.0 200-AREA WELLS (contd)

Well Number(a)	Lab pH Cond(b)	ALK(b)	Anions NO ₃	³ H(b)	GC-VOA	Filtered ICAP Metals	F	CN	⁹⁰ Sr	⁹⁹ Tc	Gamma Scan	Isotopic Pu	¹²⁹ I	Uranium	Alpha	Beta
2-E25-30			A	A						A						
2-E25-31													A			
2-E25-33													A			
2-E25-37					A											
2-E25-38												A				
2-E26-4			A	A												
2-E28-12			A	A												
2-E28-16																
2-E28-17			A	A								A				
2-E28-18																
2-E28-19												A				
2-E28-21												A				
2-E28-23																
2-E28-24			A	A												
2-E28-25			A	A					A							
2-E28-26																
2-E28-7			A	A												
2-E28-9			A	A												
2-E32-1			A	A								A				
2-E33-26			A	A								A				
2-E33-5																
2-E33-7			A	A												
2-E34-4			A	A												
2-W10-13																
2-W10-15																
2-W10-16																
2-W10-9																
2-W11-14			A	A												
2-W11-18																
2-W11-23			A	A												
2-W14-2			A	A												
2-W14-6			A	A												
2-W15-10																
2-W15-12			A	A												
2-W15-15																
2-W15-16																
2-W15-17																
2-W15-18																

2.0 200-AREA WELLS (contd)

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO ₃	3H (b)	GC-VOA	Filtered ICAP Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
2-W15-19					A											
2-W15-20					A											
2-W15-24					A											
2-W15-3			A	A												
2-W15-7																
2-W15-8			A	A				A				A				
2-W18-15												A				
2-W18-17			A	A								A				
2-W18-20			A	A								A				
2-W18-21					A											
2-W18-23					A											
2-W18-24			A	A												
2-W18-26					A											
2-W18-4			A	A												
2-W19-1			A	A												
2-W19-11																
2-W19-12			A	A								A				
2-W19-13					A							A				
2-W19-14												A				
2-W19-15					A							A				
2-W19-16					A							A				
2-W19-17			A	A								A				
2-W19-18					A							A				
2-W19-19					A							A				
2-W19-2					A							A				
2-W19-20					A							A				
2-W19-21																
2-W19-23					A							A				
2-W19-24					A							A				
2-W19-25					A							A				
2-W19-26					A							A				
2-W19-27					A							A				
2-W19-28			A	A								A				
2-W19-3												A				
2-W19-9												A				
2-W22-1																
2-W22-10																

2.0 200-AREA WELLS (contd)

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO ₃	3H (b)	Filtered			90Sr	99Tc	Gamma Scan	Isotopic		Alpha	Beta
					GC-VDA	ICAP	Metals				Pu	129I		
2-W22-2			A	A					A	Q				
2-W22-20(c)			Q	Q	A							A	Q	Q
2-W22-21														
2-W22-22					A				A		A			
2-W23-1			A	A										
2-W23-10									A		A			
2-W23-11									A					
2-W23-2			A	A										
2-W23-3			A	A										
2-W23-4			A	A					A					
2-W23-7			A	A					A					
2-W23-9			A	A										
2-W26-6									A					
2-W27-1														
2-W6-2					A									
2-W7-4					A									
2-W7-5					A									
2-W7-7					A									

(a) Wells not equipped with sampling pump will be sampled for anions (nitrate) and tritium only.

(b) Specific Conductivity; Alk = Alkalinity; ³H = Tritium.

(c) Indicates sample split with Washington Department of Health.

3.0 300 AREA WELLS

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO ₃	³ H (b)	GC-VOA	Filtered ICAP Metals	F	CN	⁹⁰ Sr	⁹⁹ Tc	Gamma Scan	Isotopic Pu	¹²⁹ I	Uranium	Alpha	Beta
3-1-1										A				A		
3-1-10														A		
3-1-11														A		
3-1-12														A		
3-1-14														A		
3-1-15			A	A										A		
3-1-16A																
3-1-16B					A											
3-1-17A (c)			Q	Q							Q			A	Q	Q
3-1-17C																
3-1-18A										A						
3-1-18B										A						
3-1-18C										A						
3-1-19										A				A		
3-1-2										A						
3-1-3										A				A		
3-1-4										A						
3-1-6										A						
3-1-7										A				A		
3-1-8										A						
3-1-9										A						
3-2-1										A				A		
3-2-2										A				A		
3-2-3										A						
3-3-1										A						
3-3-10														A		
3-3-11										A						
3-3-12										A						
3-3-2										A						
3-3-3										A						
3-3-4B										A						
3-3-6										A						
3-3-7														A		
3-3-9														A		
3-4-1														A		
3-4-10										A						
3-4-7																
3-4-9										A				A		

3.0 300-AREA WELLS (contd)

Well Number (a)	Lab pH Cond(b)	Alk(b)	Anions NO3	3H(b)	GC-VOA	ICAP	Filtered Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
3-5-1																	
3-6-1			SA	SA	SA	SA	SA				A				SA		
3-8-1			SA	SA	SA	SA	SA				A				SA		
3-8-2			SA	SA	SA	SA	SA				A				SA		
3-8-3			SA	SA	SA	SA	SA				A				SA		
3-8-4			SA	SA	SA	SA	SA				A				SA		

(a) Wells not equipped with sampling pump will be sampled for anions (nitrate) and tritium only.

(b) Specific Conductivity; Alk = Alkalinity; ^3H = Tritium.

(c) Indicates sample split with Washington Department of Health.

4.0 400 AREA WELLS

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO3	3H (b)	GC-VOA	ICAP Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
4-S0-7			M	M						A						
4-S0-8			M	M						A						
4-S1-7B										A						
4-S1-7C										A						
4-S1-8A			A	A						A						
4-S1-8B										A						
4-S1-8J			M	M												

(a) Wells not equipped with sampling pump will be sampled for anions (nitrate) and tritium only.
 (b) Specific Conductivity; Alk = Alkalinity; 3H = Tritium.

5.0 600-AREA WELLS

Well Number(a)	Lab pH Cond(b)	Alk(b)	Anions NO3	3H(b)	GC-VOA	Filtered ICAP Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
6-1-8			A	A												
6-10-54			A	A												
6-10-E12	A		A	A	A	A				A	A					
6-14-38	A	A	A	A	A	A										
6-17-5(c)			Q	Q						A	Q				Q	Q
6-17-70			A	A												
6-19-43	A	A	A	A	A	A										
6-19-88			A	A												
6-19-E13	A		A	A	A	A					A					
6-2-3			A	A												
6-2-7			A	A												
6-20-20			A	A												
6-20-E12	A		A	A	A	A					A					
6-20-E12P	A		A	A	A	A					A					
6-20-E5A			A	A												
6-21-6			A	A												
6-23-34			A	A	A											
6-24-1T			A	A												
6-24-33(c)			Q	Q	A	A					Q				Q	Q
6-24-34A					A											
6-24-34B					A											
6-24-34C					A											
6-25-34A			A	A												
6-26-15A			A	A												
6-26-35A																
6-27-8			A	A												
6-28-40			A	A												
6-29-4			A	A												
6-29-78			A	A												
6-29-79			A	A	A					A						
6-31-31	A	A	A	A	A	A										
6-31-31P			A	A	A						A				A	Q
6-32-22			A	A												
6-32-43(c)			Q	Q							Q				Q	Q
6-32-66			A	A												
6-32-70B			A	A												
6-32-72			A	A												
6-32-77	A	A	A	A	A	A										

5.0 600-AREA WELLS (contd)

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO3	3H (b)	GC-VOA	Filtered ICAP Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
6-32-E13B			A	A												
6-33-42			A	A												
6-34-41B			A	A												
6-34-42			A	A												
6-35-66			A	A												
6-35-70(c)			Q	Q							Q		A		Q	Q
6-35-78A													A			
6-35-9			A	A												
6-36-46Q(c)			Q	Q							Q				Q	Q
6-36-61A			A	A												
6-36-61B			A	A												
6-36-93			A	A												
6-37-E4	A		A	A	A						A					
6-37-43			A	A												
6-37-82A			A	A												
6-38-15			A	A												
6-38-65(c)			Q	Q							Q				Q	Q
6-38-70												A				
6-39-0	A		A	A	A						A					
6-39-39			A	A												
6-39-79			A	A	A											
6-40-1(c)	A		Q	Q	A						Q				Q	Q
6-40-33A(c)			Q	Q							Q				Q	Q
6-40-39												A				
6-40-62			A	A								A				
6-41-1(c)			Q	Q												
6-41-23			A	A												
6-42-12A			A	A												
6-42-2	A		A	A	A						Q				Q	Q
6-42-42B																
6-43-3	A		A	A	A											
6-44-4	A		A	A	A											
6-44-64			A	A												
6-45-2	A		A	A	A											
6-45-42			A	A												
6-45-69A			A	A												
6-46-21B			A	A												
6-46-4	A		A	A	A						A					

5.0 600-AREA WELLS (contd)

Well Number(a)	Lab pH Cond(b)	Alk(b)	Anions NO3	3H(b)	GC-VOA	Filtered ICAP Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu - 129I	Uranium	Alpha	Beta
6-47-35A			A	A						A					
6-47-46A			A	A						A					
6-47-5	A		A	A	A	A				A					
6-47-60			A	A						A					
6-48-18	A		A	A	A	A				A					
6-48-7	A		A	A	A	A				A					
6-48-71			A	A											
6-49-100C(c)			Q	Q	A	A					Q		A	Q	Q
6-49-28			A	A						A					
6-49-55A			A	A				A		A					
6-49-57			A	A				A							
6-49-79			A	A											
6-49-E13	A		A	A	A	A				A					
6-50-53			A	A				A		A					
6-50-85			A	A											
6-51-63			A	A						A					
6-51-75	A	A	A	A	A	A									
6-52-19	A		A	A	A	A									
6-53-47A			A	A					A						
6-53-47B															
6-53-48A			A	A						A					
6-53-48B			A	A					A						
6-54-34															
6-54-48										A					
6-54-49										A					
6-55-40			A	A											
6-55-50C															
6-55-76	A	A	A	A	A	A									
6-55-89			A	A						A					
6-57-29A			A	A											
6-58-24	A		A	A	A	A									
6-59-58			A	A											
6-60-57			A	A											
6-61-37			A	A											
6-61-41			A	A											
6-61-62			A	A											
6-61-66			A	A											
6-62-31			A	A											

5.0 600-AREA WELLS (contd)

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO ₃ ⁻	3H (b)	GC-VOA	ICAP	Filtered Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
6-63-25	A		A	A	A	A	A				A	A					
6-63-25A			A	A							A		A				
6-63-55			A	A							A						
6-63-58			A	A							A						
6-63-90			A	A							A						
6-64-27			A	A							A						
6-64-62			A	A							A						
6-65-59A			A	A							A						
6-65-72			A	A							A						
6-66-23	A		A	A	A	A	A				A						
6-66-38			A	A							A						
6-66-39			A	A							A						
6-66-58			A	A							A						
6-66-64			A	A							A						
6-67-51			A	A							A						
6-67-86	A	A	A	A	A	A	A				A						
6-71-30	A		A	A	A	A	A				A						
6-71-30			A	A							A						
6-71-77	A		A	A	A	A	A				A						
6-72-73	A		A	A	A	A	A				A						
6-72-88	A		A	A	A	A	A				A						
6-73-61			A	A							A						
6-74-44			A	A							A						
6-77-36			A	A							A						
6-77-54			A	A							A						
6-78-62			A	A							A						
6-8-17			A	A							A						
6-8-25			A	A							A						
6-81-58			A	A							A						
6-83-47			A	A							A						
6-84-35A	A		A	A	A	A	A				A						
6-87-55	A		A	A	A	A	A				A						
6-89-35	A		A	A	A	A	A				A						
6-90-45			A	A							A						
6-96-49			A	A							A						
6-97-43	A		A	A	A	A	A				A						
6-97-51A	A		A	A	A	A	A				A						
6-S11-E12A			A	A							A						

5.0 600-AREA WELLS (contd)

Well Number (a)	Lab pH Cond(b)	Alk(b)	Anions NO3	3H(b)	GC-VOA	ICAP Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
6-S12-29			A	A						A						
6-S12-3(c)			Q	Q							Q				Q	Q
6-S19-11(c)			Q	Q							Q				Q	Q
6-S19-E13			SA	SA		SA										
6-S27-E14	A		A	A	A	A				A	A					
6-S28-E0			A	A						A						
6-S29-E12	A		A	A	A	A				A	A					
6-S3-25	A	A	A	A	A	A										
6-S3-E12			A	A												
6-S30-E10A			A	A	A	A								A		
6-S30-E10B			A	A	A	A								A		
6-S30-E15A(c)	A		Q	Q	A	A				A	Q				Q	Q
6-S31-1	A	A	A	A	A	A										
6-S31-E10A			A	A	A	A								A		
6-S31-E10B			A	A	A	A								A		
6-S31-E10C			A	A	A	A								A		
6-S31-E10D			A	A	A	A								A		
6-S31-E13			A	A	A	A								A		
6-S31-E8			A	A	A	A								A		
6-S32-E13A			A	A	A	A										
6-S32-E13B			A	A	A	A										
6-S32-E8			A	A	A	A										
6-S34-E10			A	A	A	A					A					
6-S36-E12B			A	A	A	A										
6-S36-E13A			A	A	A	A										
6-S36-E13B			A	A	A	A										
6-S37-E11			A	A	A	A										
6-S37-E14			A	A	A	A										
6-S38-E11			A	A	A	A										
6-S38-E12A			A	A	A	A										
6-S38-E12B			A	A	A	A										
6-S40-E14			A	A	A	A										
6-S41-E11			A	A	A	A										
6-S41-E12			A	A	A	A					A					
6-S41-E13A			A	A	A	A								A		
6-S41-E13B			A	A	A	A					A					
6-S41-E13C			A	A	A	A					A					
6-S43-E12			A	A	A	A										

5.0 600-AREA WELLS (contd)

Well Number (a)	Lab pH Cond (b)	Alk (b)	Anions NO3	3H (b)	GC-VOA	ICAP Metals	F	CN	90Sr	99Tc	Gamma Scan	Isotopic Pu	129I	Uranium	Alpha	Beta
6-S6-E14A			A	A						A					Q	Q
6-S6-E48(c)			Q	Q							Q				Q	Q
6-S6-E4(c)			Q	Q							Q				Q	Q
6-S8-19	A	A	A	A	A	A										
11-41-13C			A	A	A	A										

(a) Wells not equipped with sampling pump will be sampled for anions (nitrate) and tritium only.

(b) Specific Conductivity; Alk = Alkalinity; 3H = Tritium.

(c) Indicates sample split with Washington Department of Health.

END

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