

HANFORD SITE



Near-Facility Environmental Monitoring Data Report

for Calendar Year 2002

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Cover Photo: The present and past natural history of the Hanford Site come together along the Columbia River. The active sand dunes of the Hanford Reach National Monument march eastward across the desert with the ancestral Columbia River deposits of the White Bluffs forming a backdrop. Franklin County farmland is in the distance. The cover photo is from LMSI (92100762-24cn), Richland, Washington.



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Hanford Site Near-Facility Environmental Monitoring Data Report for Calendar Year 2002

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LIST OF TERMS

ALARA	As Low As Reasonably Achievable
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	<i>Code of Federal Regulations</i>
CSB	Canister Storage Building
DCG	derived concentration guide
DOE	U.S. Department of Energy
EDE	effective dose equivalent
EMP	environmental monitoring plan
EPA	U.S. Environmental Protection Agency
ERC	Environmental Restoration Contractor
ERDF	Environmental Restoration Disposal Facility
ESD	environmental sites database
Federal Services	Duratek Federal Services, Inc., Northwest Operations
FH	Fluor Hanford, Inc.
GPS	global positioning system
HEPA	high-efficiency particulate air (filter)
HGIS	Hanford Geographical Information System
LWDF	Liquid Waste Disposal Facility
MCL	maximum contaminant level
PHMC	Project Hanford Management Contract
PNNL	Pacific Northwest National Laboratory
PFP	Plutonium Finishing Plant
PUREX	Plutonium-Uranium Extraction (Facility)
QA	quality assurance
RCRA	Resource Conservation and Recovery Act
RPP	River Protection Project
SALDS	State-Approved Land Disposal Structure
TLD	thermoluminescent dosimeters
TRU	transuranic
WAC	<i>Washington Administrative Code</i>
WDOH	Washington State Department of Health
WIDS	Waste Information Data System
WSCF	Waste Sampling and Characterization Facility

1.0 NEAR-FACILITY ENVIRONMENTAL MONITORING AT HANFORD

Near-facility environmental monitoring is defined as monitoring near facilities that have the potential to discharge or have discharged, stored, or disposed of radioactive or hazardous materials. Monitoring locations are associated with nuclear facilities such as the Plutonium Finishing Plant (PFP), Canister Storage Building (CSB), and the K Basins; inactive nuclear facilities such as N Reactor and the Plutonium-Uranium Extraction (PUREX) Facility; and waste storage or disposal facilities such as burial grounds, cribs, ditches, ponds, tank farms, and trenches.

Much of the monitoring consists of collecting and analyzing environmental samples and methodically surveying areas near facilities. The program is also designed to evaluate acquired analytical data, determine the effectiveness of facility effluent monitoring and controls, assess the adequacy of containment at waste disposal units, and detect and monitor unusual conditions. The monitoring implements applicable portions of U.S. Department of Energy (DOE) Orders 435.1 (DOE 2001), 5400.1 (DOE 1990), and 5400.5 (DOE 1993); *Washington Administrative Code* (WAC) 246-247; Title 40, *Code of Federal Regulations* (CFR) Part 61, Subpart H; and 10 CFR 835.

Several types of environmental media are sampled near facilities to monitor waste management and restoration activities, and to evaluate the effectiveness of effluent treatment and control practices. Routine sampling and monitoring includes ambient air, water, external radiation, soil, and vegetation. The parameters typically monitored are radionuclide concentrations and radiation fields. Sampling methods are discussed in detail in the Duratek Federal Services, Inc., Northwest Operations (Federal Services) *Operational Environmental Monitoring*, DFSNW-OEM-001.

Samples are collected from known or expected effluent pathways. These pathways are generally downwind of potential or actual airborne releases and down gradient of liquid discharges. Table 1-1 shows the type, quantity, and location of routine near-facility monitoring samples collected in 2002.

Table 1-1. Near-Facility Routine Environmental Monitoring Samples and Locations, 2002.

Sample Type	Number of sample locations	Operational area								
		100-B,C	100-D,DR	100-K	100-F	100-H	100-N	ERDF ^a	200/600	300/400
Air	82	5	4	11	6	2	5	3	41 ^b	5
Soil	82	3	0	2	2	0	5	1	56	13
Vegetation	63	0	0	0	0	0	4	0	46	13
External radiation	135	5	0	20	5	0	14	3	67	21
Water	11	0	0	0	0	0	11	0	0	0

a - Environmental Restoration Disposal Facility (ERDF) in the 200 West Area.

b - Includes 1 station at the Wye Barricade, 19 in the 200 East Area, and 21 in the 200 West Area.

Waste disposal sites and the surrounding terrain are surveyed to detect and characterize radioactive surface contamination. Routine radiological surveys are conducted across the surfaces of Underground Radioactive Materials areas and along the perimeters of Contamination Areas. Locations include cribs, trenches, retention basins, ponds, ditches, solid waste disposal sites, unplanned release sites, tank farms, stabilized waste disposal sites, roads, and firebreaks in and around the Site operational areas.

Nonroutine, investigative samples are also collected as part of the Near-Facility Environmental Monitoring Program to confirm the absence or presence of radioactive and/or hazardous contaminants.

A Noxious Weed Control Program has been developed on the Hanford Site in response to Federal, State, and local laws requiring eradication or control of noxious weeds. A general discussion of the program and of control measures is provided in Section 8.0 of this Appendix.

This Appendix contains brief discussions, specific sampling location information, and complete analytical data results for the various near-facility environmental monitoring efforts for 2002. Detailed discussions and summarized analytical results are provided in Section 3.2 (“Near-Facility Environmental Monitoring”) of the *Hanford Site Environmental Report for Calendar Year 2002* (PNNL-14295).

1.1 AIR MONITORING

Near-facility air sampling monitors the effectiveness of waste management and environmental remediation controls, and effluent treatment systems in reducing effluents and emissions. These air samplers also monitor diffuse source emissions.

Ambient air monitoring is conducted to determine baseline concentrations of radionuclides in the operations areas, assess the impact of operations on the local environment, and monitor diffuse and fugitive emissions from sources located within the operations area. These measurements also provide an indication of the Project Hanford Management Contract (PHMC), River Protection Project (RPP), and Environmental Restoration Contractor (ERC) managed facilities’ performance and are used to demonstrate compliance with environmental protection criteria.

In 2002, air radioactivity was sampled by a network of continuously operating samplers at 82 locations. Location-specific maps and monitoring results are provided in Section 2.0.

1.2 GROUNDWATER MONITORING

The Near-Facility Environmental Monitoring Program did not conduct groundwater monitoring in 2002. Detailed discussion of groundwater monitoring management strategies and the 2002 monitoring results can be found in PNNL-14295 (Section 6.0, “Hanford Site

Groundwater Monitoring”) and in the *Hanford Site Groundwater Monitoring for Fiscal Year 2002* report (Hartman 2003).

1.3 SOIL AND VEGETATION SAMPLING

Soil and vegetation samples were collected on or adjacent to waste disposal units, and from locations downwind and near or within the boundaries of the operating facilities. Samples were collected to detect potential migration and deposition of facility effluents. Migration of radionuclides can occur as the result of resuspension from radioactively contaminated surface areas, absorption by the roots of vegetation growing on or near underground and surface water disposal units, or intrusion by animals.

Radiological analyses of soil and vegetation samples included strontium-90, plutonium-239/240, isotopic uranium, and gamma-emitting radionuclides. Location-specific maps and the analytical results are presented in Section 3.0.

1.4 EXTERNAL RADIATION

External radiation levels were monitored near facilities and waste handling, storage, and disposal sites to measure, assess, and control the impacts of operations. Thermoluminescent dosimeters (TLDs) are used at numerous fixed locations to gather dose rate information over extended periods of time. TLD results can be used individually or averaged to determine dose rates in a given area for a particular sampling period.

Environmental dosimeters measure dose rates from all types of external radiation sources, including cosmic radiation, naturally occurring radioactivity in air and soil, and fallout from nuclear weapons testing, as well as any contribution from Hanford Site activities. During any year, changes in soil moisture and snow cover can cause external radiation levels to vary from 15% to 25% at any given location. The results are reported in units of millirems per year (mrem/yr). Individual TLD results and their locations are provided in Section 4.0.

1.5 RIVERBANK SPRINGS MONITORING

The springs along the 100-N Area Columbia River shoreline (N-Springs) were sampled in 2002 to assess the effectiveness of effluent and contamination controls. Eleven water samples were collected. The radiological analyses were performed onsite at the Waste Sampling and Characterization Facility (WSCF), and the analyses included tritium, strontium-90, and gamma-emitting radionuclides. A location-specific map and the analytical results of the sampling are presented in Section 5.0.

1.6 RADIOLOGICAL SURVEYS

In 2002, the Hanford Site had approximately 3,643 ha (9,002 acres) of posted outdoor surface contamination, and 665 ha (1,643 acres) of posted underground radioactive material, not including the production facilities (e.g., PUREX, T-Plant, etc.). The total area of surface contamination was approximately six times larger than the area of underground radioactive material.

Since 1996, a global positioning system (GPS) has been utilized to accurately measure the surface area of these radiologically controlled sites. This collected information was entered into the Hanford Geographical Information System (HGIS), a computer database maintained by Fluor Hanford, Inc (FH). Survey location maps are provided in Section 6.0.

1.7 INVESTIGATIVE SAMPLING

Investigative sampling was conducted in the operations areas to confirm the absence or presence of radioactive and/or hazardous contaminants. Investigative sampling took place near facilities, such as storage and disposal sites, for at least one of the following reasons:

- To follow up radiological surface surveys that had indicated radioactive contamination was present.
- To conduct preoperational surveys to characterize the radiological/hazardous conditions at a site prior to facility construction, operation, or ultimate remediation.
- To determine if biotic intrusion (e.g., animal burrows or deep-rooted vegetation) has created a potential for contaminants to spread.
- To determine the integrity of waste containment systems.

Generally, the predominant radionuclides detected during these efforts were activation and fission products in the 100 Areas, fission products in the 200 Areas, and uranium in the 300 Area. Hazardous chemicals generally have not been identified above background levels in preoperational environmental monitoring samples. Special characterization samples collected in 2002 included: a bird carcass in the 200 West Area; a feral canine captured at the 100-N Area; a bushy tailed wood rat collected in the 200 North Area; and deep-rooted vegetation samples collected at the State-Approved Land Disposal Site (SALDS). Complete results, including counting errors, and field instrument and dose rate readings, where appropriate, are provided in Section 7.0.

1.8 NOXIOUS WEED CONTROL PROGRAM

The Noxious Weed Control Program on the Hanford Site has been developed in response to Federal, State, and local laws requiring eradication or control of noxious weeds. A noxious weed is defined as “any plant which when established is highly destructive, competitive, or difficult to control by cultural or chemical practices.” Typically, noxious weeds are non-native (alien) species that invade and displace native species, reduce habitat for fish and wildlife, and contribute to the extinction of sensitive species.

Ten plant species are on a high priority list for control at Hanford. These species are Yellow Starthistle (*Centaurea solstitialis*), Rush Skeletonweed (*Chondrilla juncea*), Babysbreath (*Gypsophila paniculata*), Medusa Head (*Taeniatherum asperum*), Dalmatian Toadflax (*Linaria genistifolia* ssp. *Dalmatica*), Spotted Knapweed (*Centaurea maculosa*), Diffuse Knapweed (*Centaurea diffusa*), Russian Knapweed (*Acroptilon repens*), Saltcedar (*Tamarix spp.*), and Purple Loosestrife (*Lythrum salicaria*).

Maps generally depicting the spatial distribution of these species across the Hanford Site can be found in Section 8.0.

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2.0 AMBIENT AIR MONITORING

Air samplers are located primarily at or near (within approximately 500 m [1,600 ft]) sites and/or facilities having the potential for, or history of, environmental releases, with emphasis on potential source terms as well as prevailing wind direction. Meteorological conditions are monitored continuously by the PNNL meteorology stations, which are strategically positioned in and around the Hanford Site.

For 2002, a network of continuously operating samplers at 82 locations (Table 2-1) sampled radioactivity in air. Location-specific maps are illustrated in Figures 2-1 through 2-11. Historical air sampling results for the 100-K, 100-N, 200 and 300 Areas are represented in graph form in Figures 2-12 through 2-23. The 2002 composited, sampler-specific monitoring results are provided in Table 2-2. Additional discussion of the 2002 results can be found in Section 3.2 of the *Hanford Site Environmental Report for Calendar Year 2002* (PNNL-14295).

Several PNNL ambient air monitoring stations were utilized to provide additional information for several ERC remediation projects. The projects and the associated PNNL stations are the 100-B/C, 100-F, 100-KR-1 and 100-NR-1 remedial action projects (PNNL station “Yakima Barricade”), 300-FF-1&2 remedial action project (PNNL stations “300NE”, “300 Trench” and “300 Water Intake”), and the Environmental Restoration Disposal Facility (ERDF) project (PNNL station “200 West SE”). The 2002 air monitoring data results for these locations can be found in Table 2-3.

Air monitoring within the 300 and 400 Areas was performed by PNNL as part of the Site Surface Environmental Surveillance Project. Data acquired are reviewed by Near-Facility Monitoring personnel. A more detailed discussion of these results is provided in PNNL-14295, Section 4.1, “Air Surveillance.”

Near-facility environmental air samplers operate at a flow rate of 0.057 m³/min (2 ft³/min), drawing a sample through a 47 mm (2 in.), open-faced filter about 2 m (6 ft) aboveground. All sample filters are exchanged biweekly, held one week (to allow for decay of short-lived natural radioactivity), and then sent to the analytical laboratory for initial analysis of total alpha and total beta activity. These initial analyses serve as an indicator of potential environmental problems.

Depending on project/facility requirements, the filters were stored until the end of either a three- or six-month sample period, then segregated and composited by sample location for specific radionuclide analysis as shown in Table 2-1. Segregating and compositing air filters by site provides a larger sample size and, thus, a more sensitive and accurate measurement of the concentration of airborne radionuclides.

To help assess the impact of Site operations, monitoring results are compared to DOE derived concentration guides (DCGs), to the results obtained from the distant communities of Yakima and Sunnyside as reported by PNNL Site Environmental Surveillance Program, and to data acquired from collocated sampling locations managed by Near-Facility Monitoring, PNNL

and the Washington State Department of Health (WDOH). Collocated sampling results are used for comparability and precision of data.

Table 2-1. Near-Facility Air Sampling Locations and Analyses, 2002.

Site	Number of samplers	EDP code ^a	Analyses	
			Bi-weekly	Composite ^b
100-B/C Remedial Action Project	5	N464, N465, N466, N496, N497	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
105-D Interim Safe Storage Project	1	N523	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
105-DR Interim Safe Storage Project	2	N492, N493	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
117-DR Decommissioning Project	1	N515	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
105-F Interim Safe Storage Project	2	N494, N495	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
105-F Remedial Action Project	4	N519, N520, N521, N522	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
105-H Interim Safe Storage Project	2	N524, N525	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
100-K Spent Nuclear Fuels	8	N401, N402, N403, N404, N476 N477, N478, N479	Gross α , β	GEA, Sr-90, Pu-iso, U-iso,
100-KR-1 Remedial Action Project	3	N528, N529, N530	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
100-N Surveillance and Maintenance/Transition Project and 100-NR-1 Remedial Action Project	5	N102, N103, N105, N106, N526	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
200 East Area	17	N019, N158, N498, N499, N957 N967, N968, N969, N970, N972 N973, N976, N977, N978, N984 N985, N999	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
Canister Storage Building (200 East Area)	2	N480, N481	Gross α , β	GEA, Sr-90, Pu-iso, U-iso, Pu-241, Am-241
200 West Area	21	N155, N161, N165, N168, N200 N304, N433, N441, N442, N449, N456, N457, N956, N963, N964, N965, N966, N974, N975, N987, N994	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
Environmental Restoration Disposal Facility	3	N482 ^c , N517, N518	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
300-FF-1&2 Remedial Action Project Area	5	N130, N485, N486, N487, N527	Gross α , β	GEA, Sr-90, Pu-iso, U-iso
600 Area	1	N981 ^d	Gross α , β	GEA, Sr-90, Pu-iso, U-iso

a - EDP Code = sampler location code.

b - GEA = Gamma energy analysis; Pu-iso = plutonium-238 and -239/240; U-iso = uranium-234, -235, -238.

c - Collocated sampling location with Washington State Department of Health (WDOH).

d - Collocated sampling location with WDOH and Pacific Northwest National Laboratory (PNNL).

Figure 2-1. 100-B/C Area Air Sampler Locations.

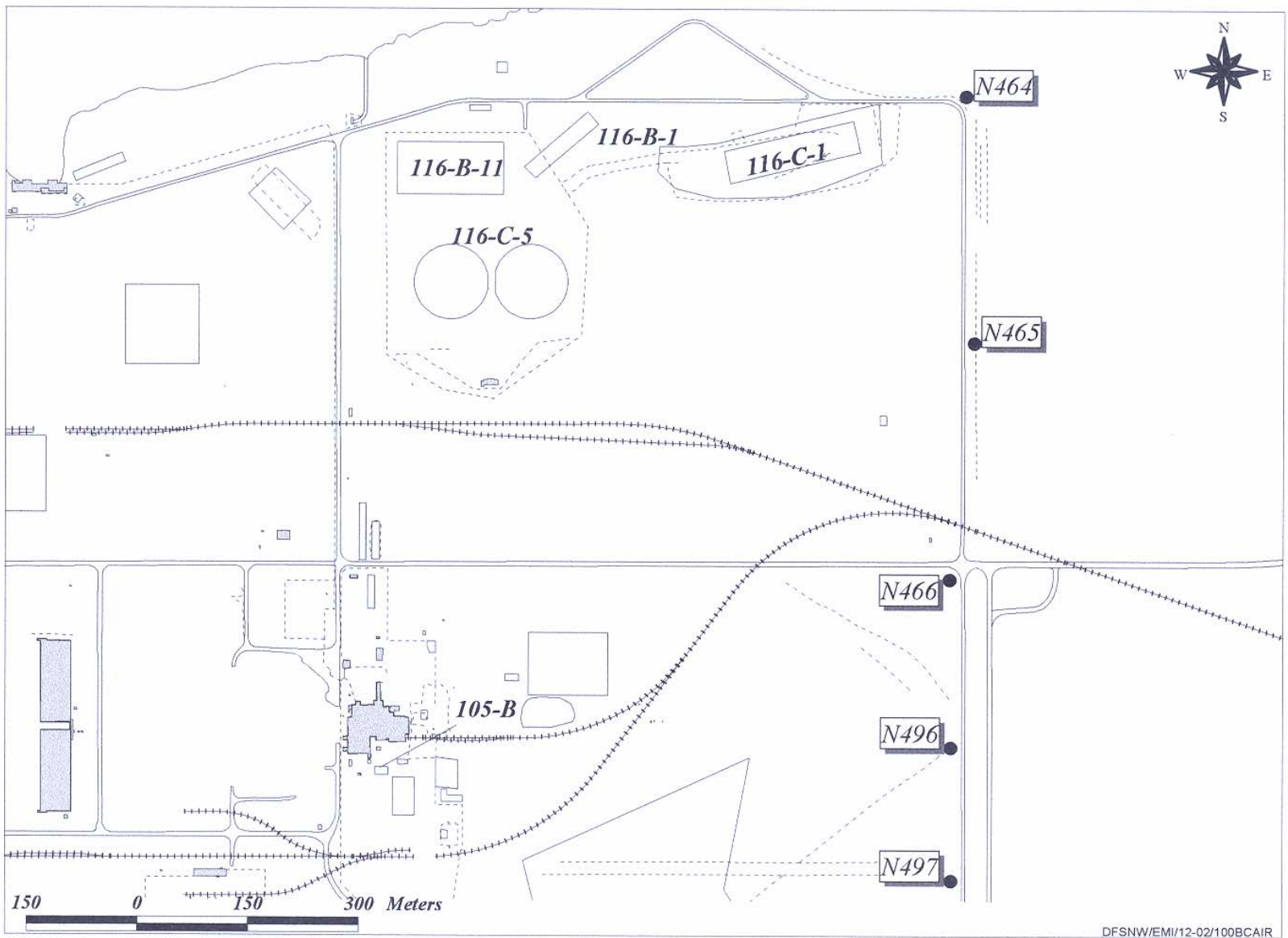


Figure 2-2. 100-D/DR Area Air Sampler Locations.

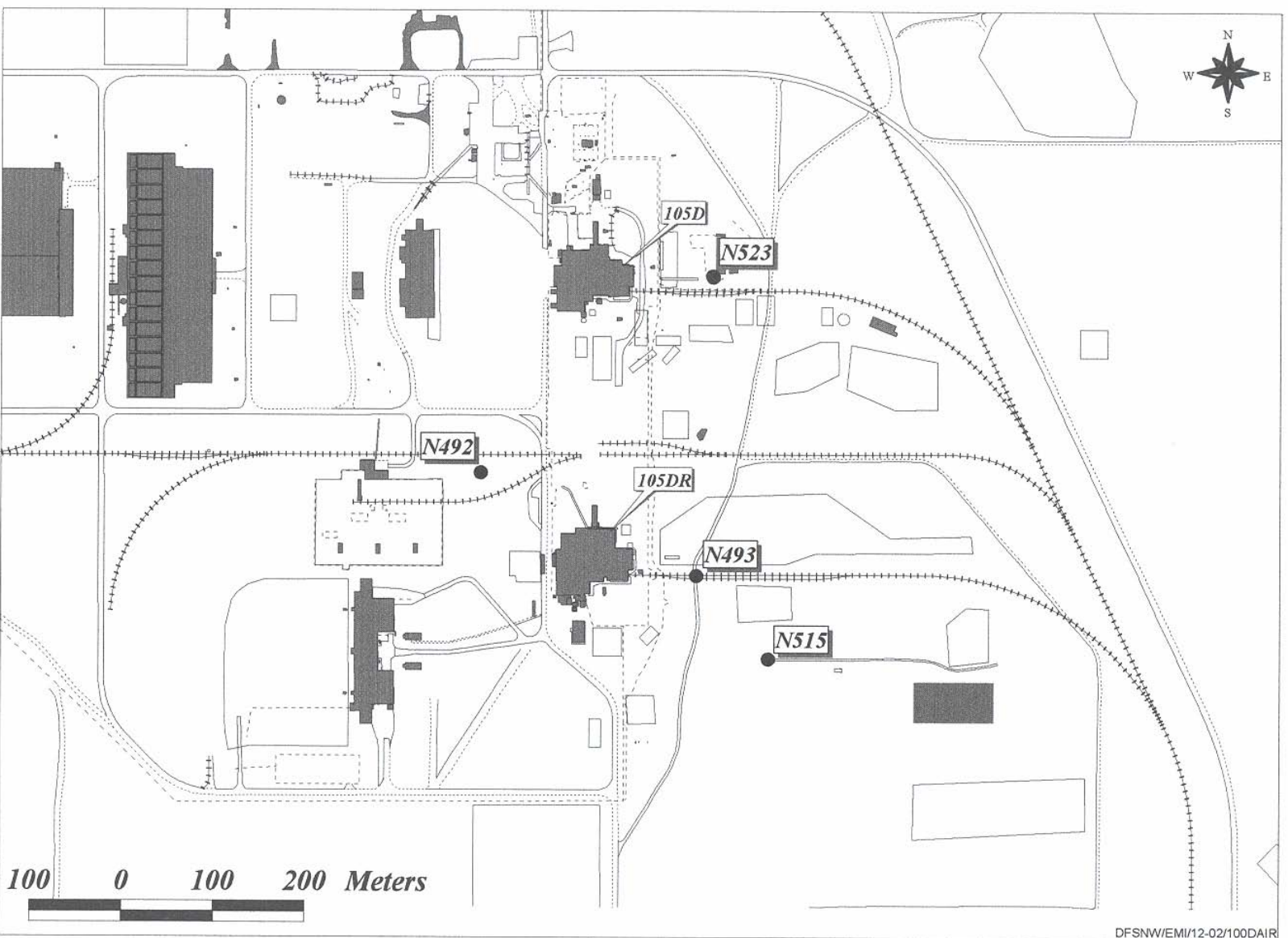


Figure 2-3. 100-F Area Air Sampler Locations.

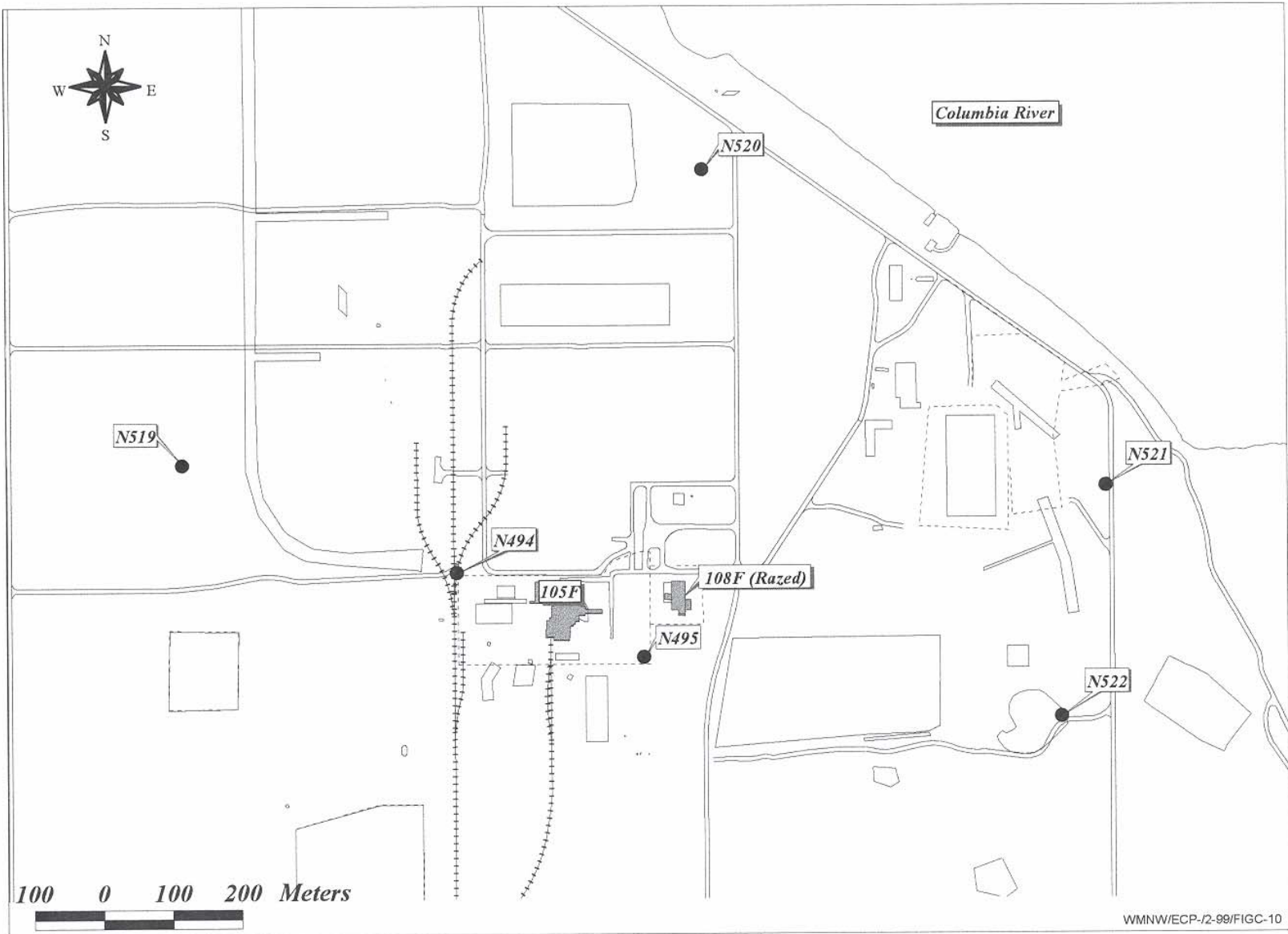
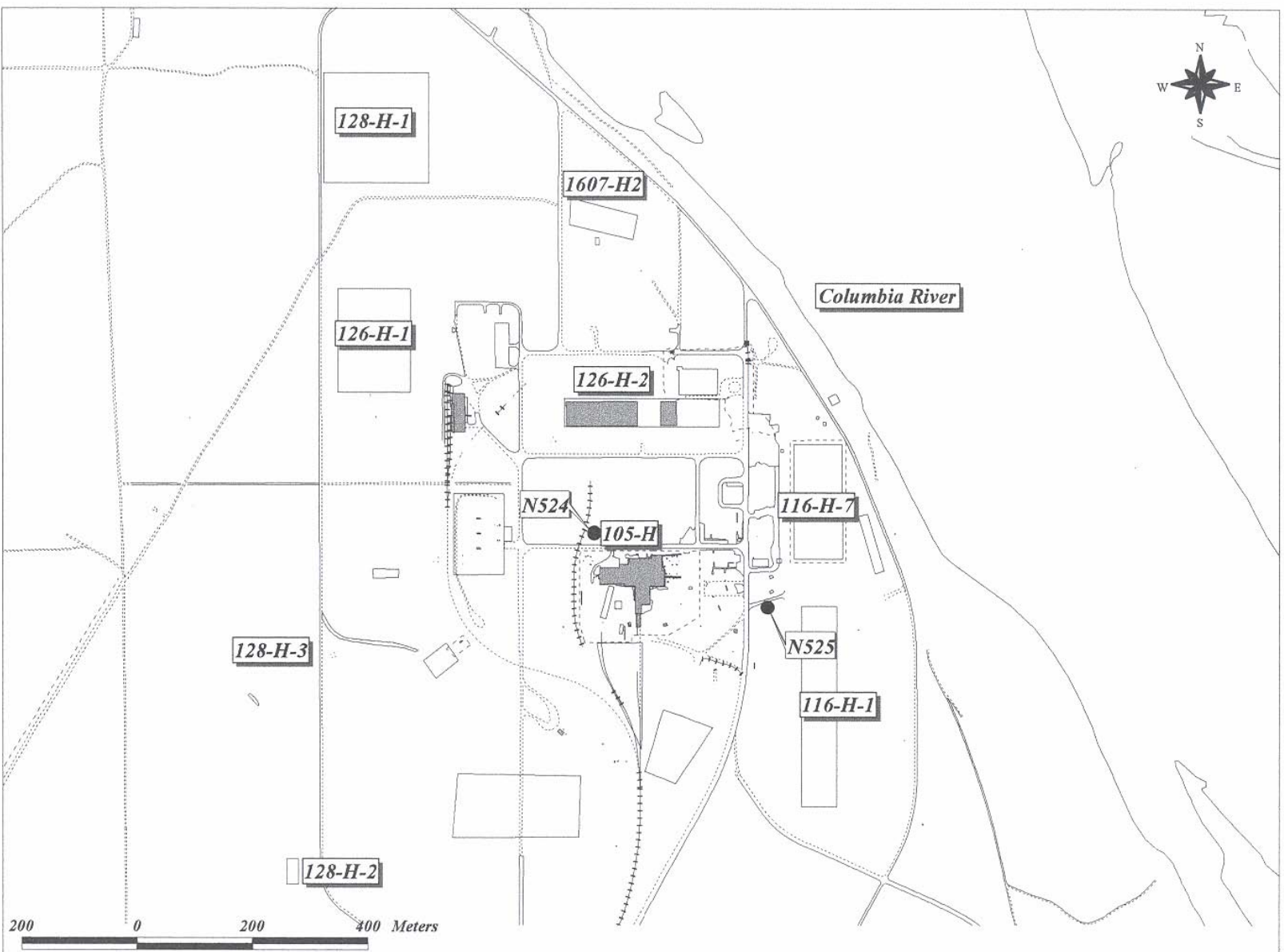


Figure 2-4. 100-H Area Air Sampler Locations.



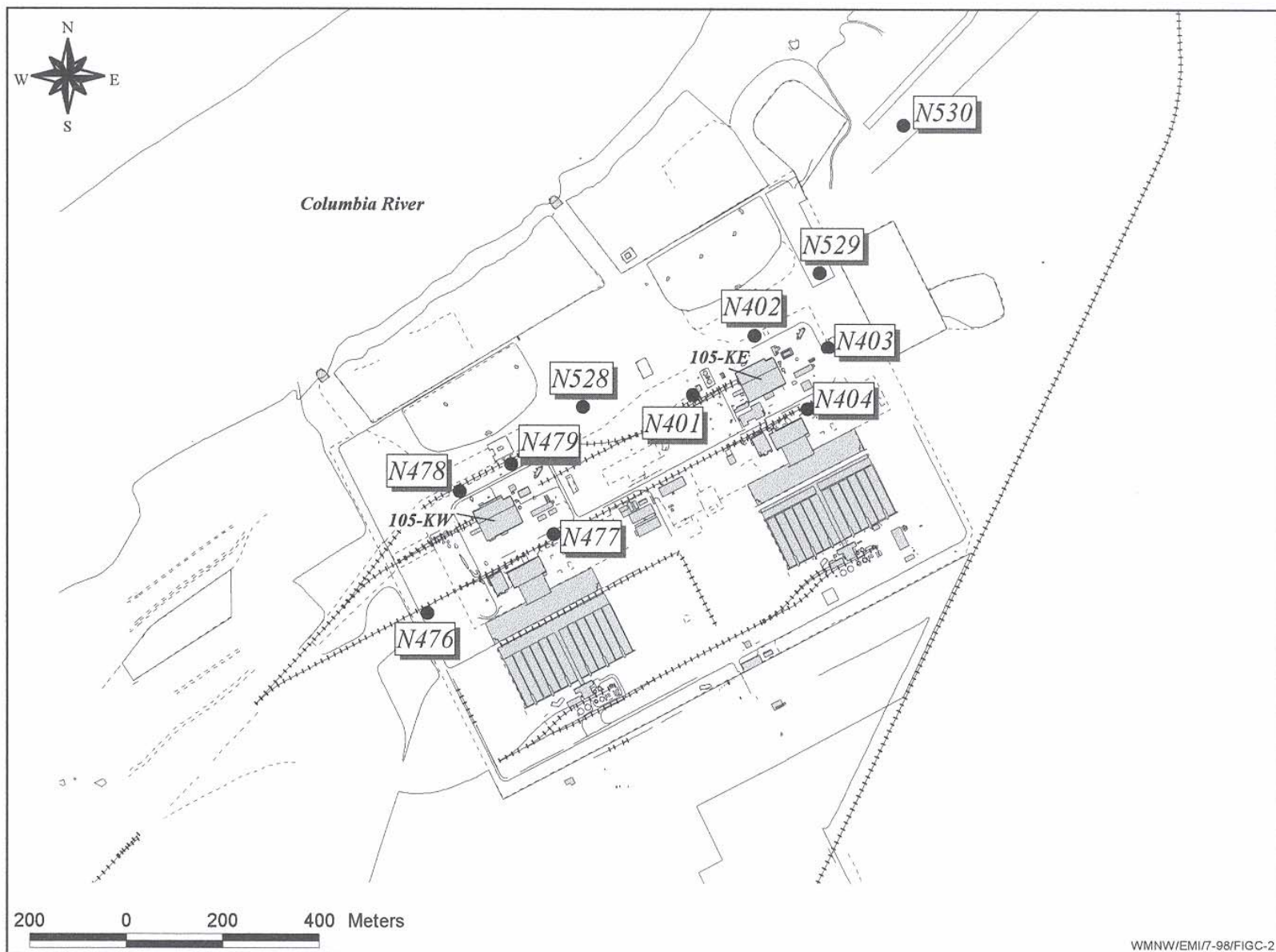


Figure 2-5. 100-K Area Air Sampler Locations.

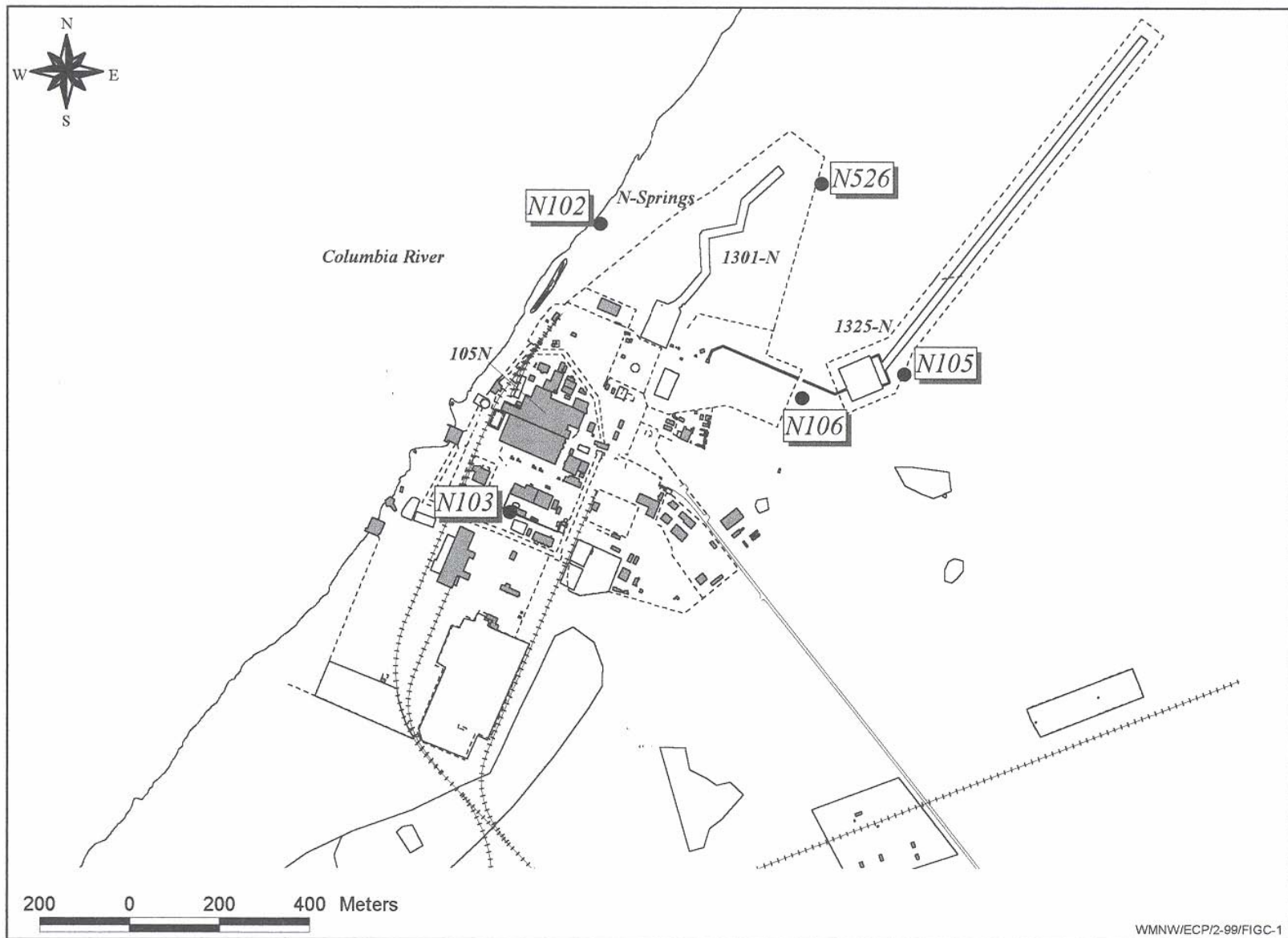


Figure 2-6. 100-N Area Air Sampler Locations.

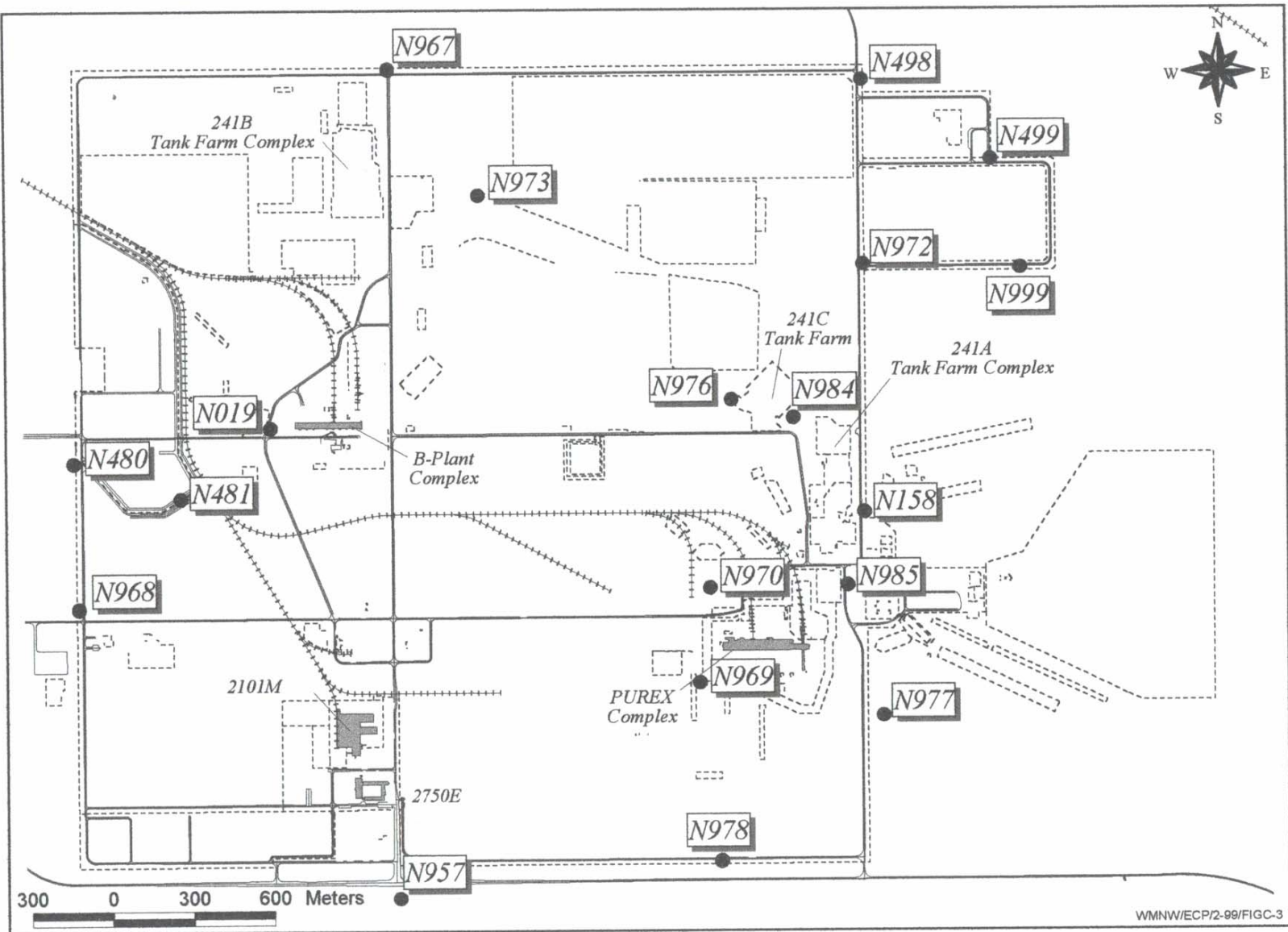


Figure 2-7. 200 East Area Air Sampler Locations.

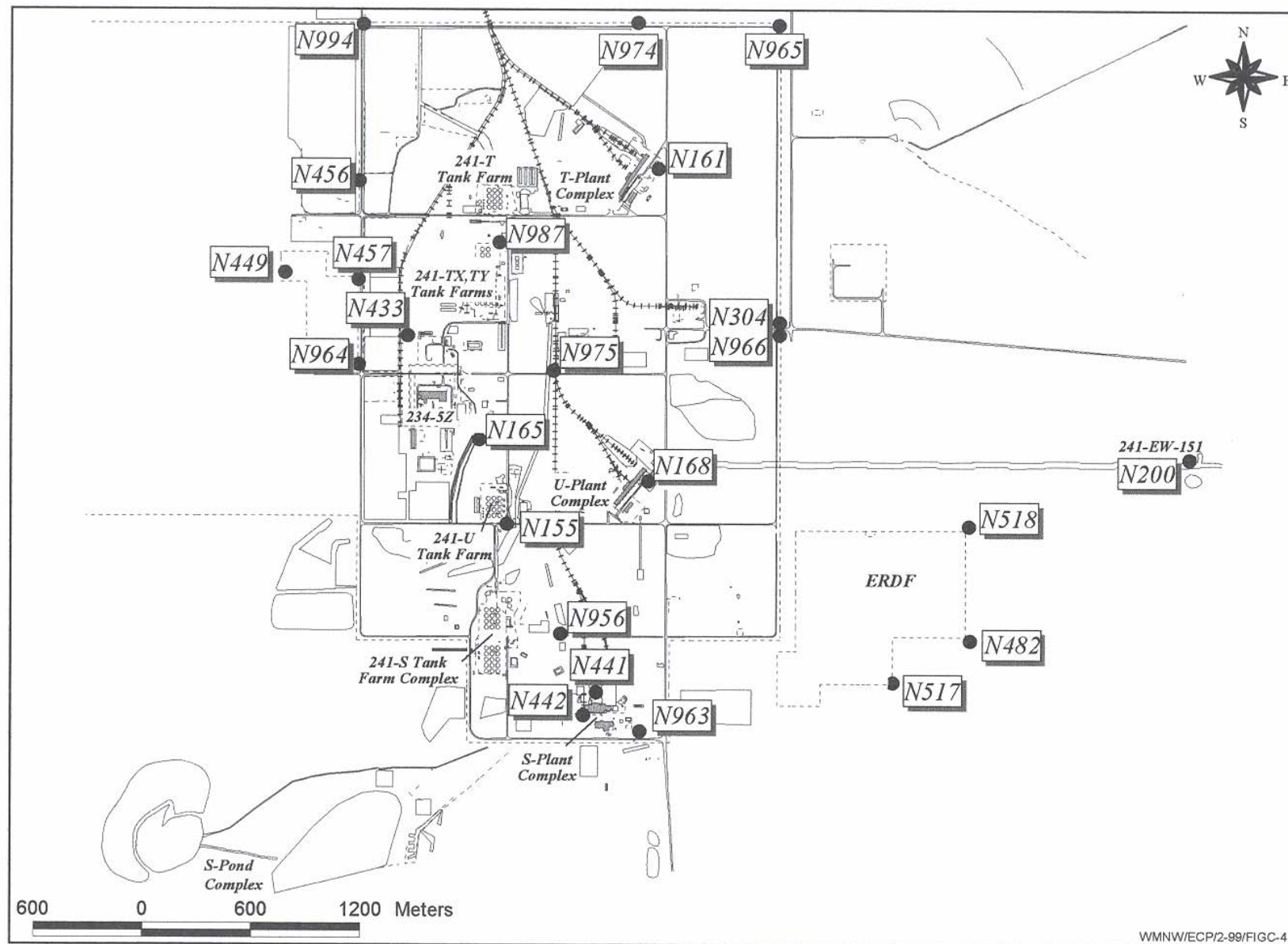


Figure 2-8. 200 West Area Air Sampler Locations.

Figure 2-9. 300 Area Air Sampler Locations.

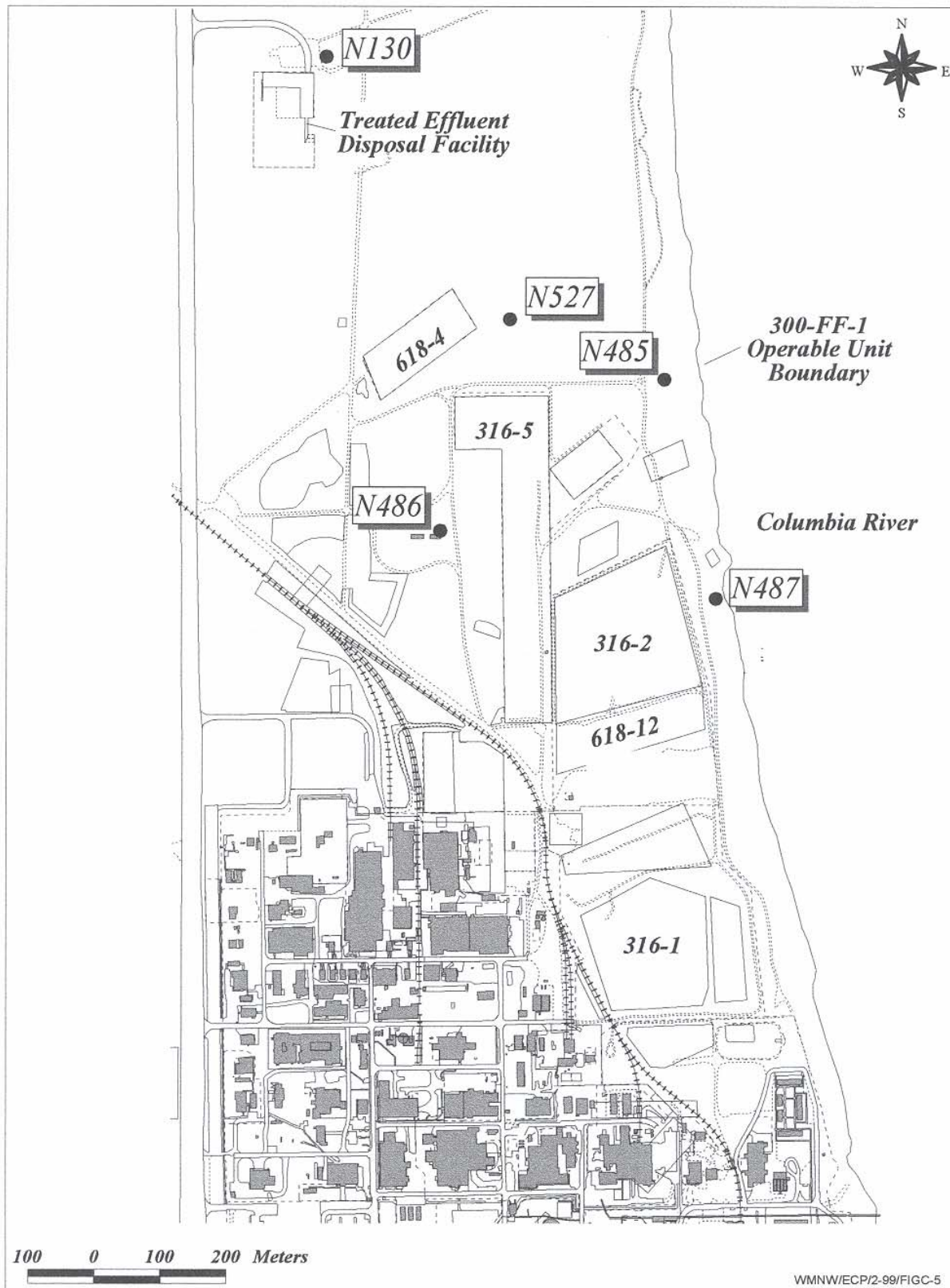


Figure 2-10. Environmental Restoration Disposal Facility Air Sampler Locations.

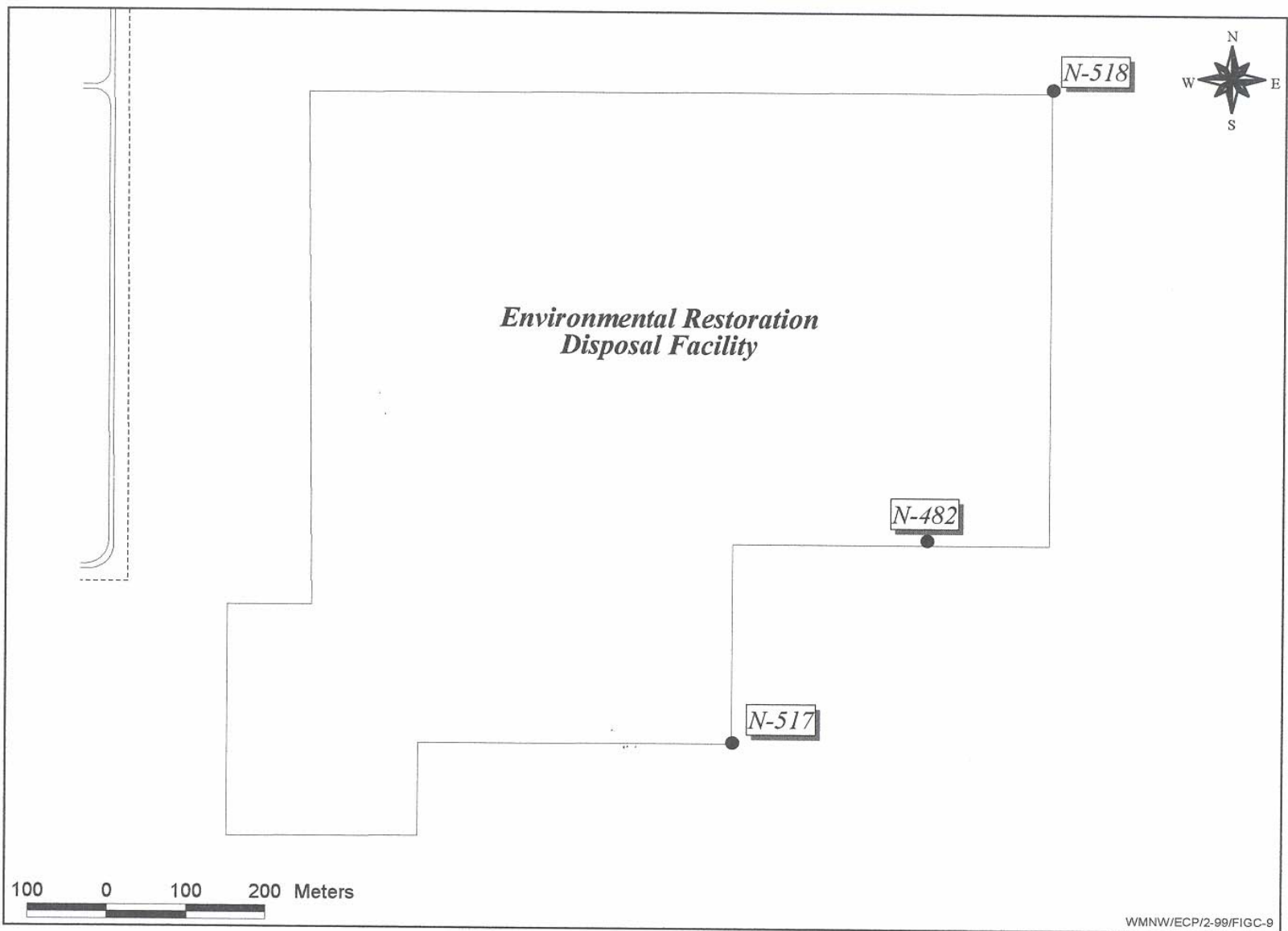


Figure 2-11. 600 Area Air Sampler Location.

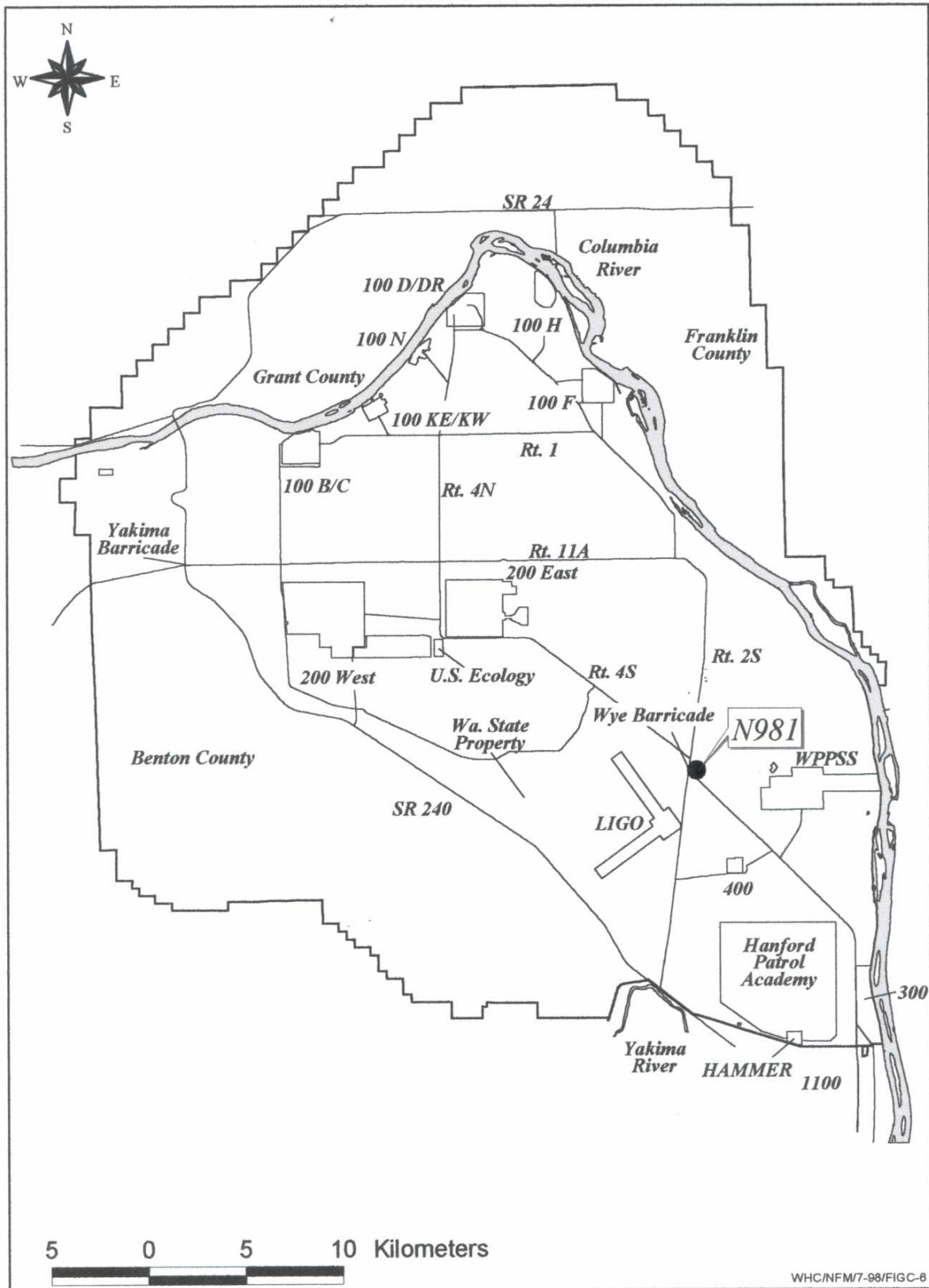


Figure 2-12. Annual Average Strontium-90 Concentrations in Air, 100-K Area.

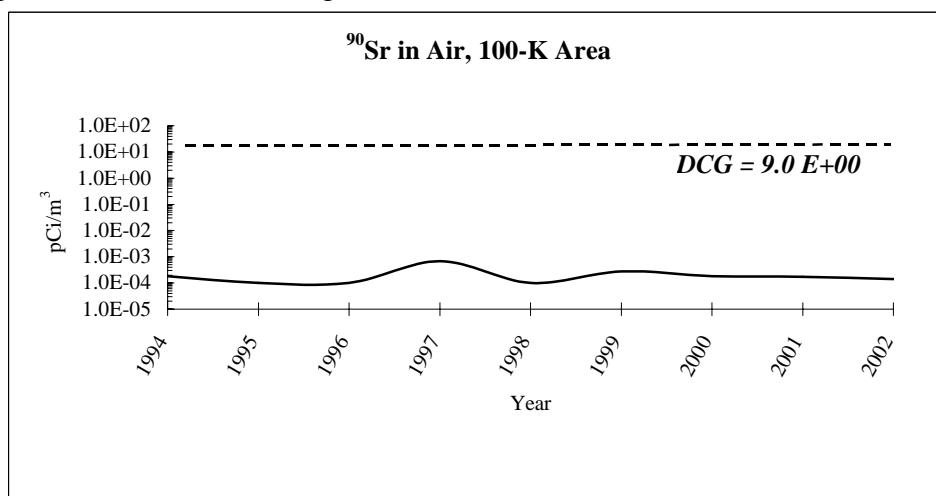


Figure 2-13. Annual Average Plutonium-239/240 Concentrations in Air, 100-K Area.

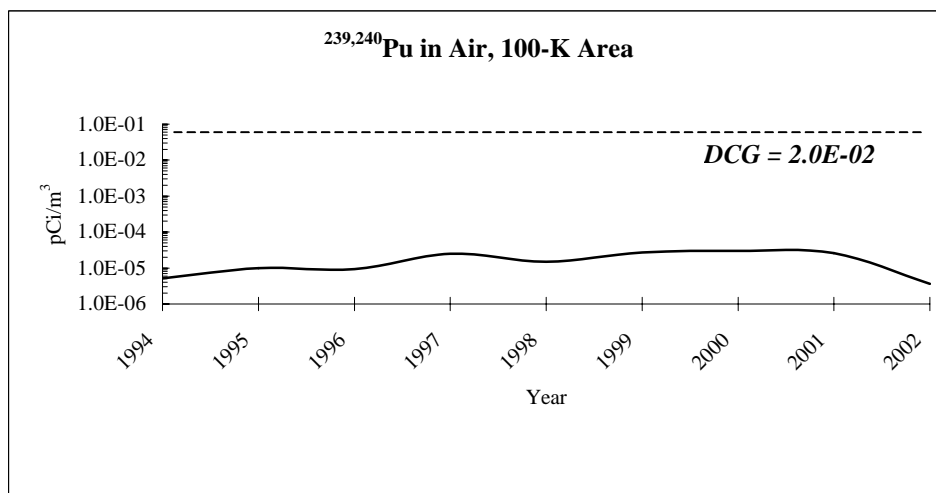


Figure 2-14. Annual Average Americium-241 Concentrations in Air, 100-K Area.

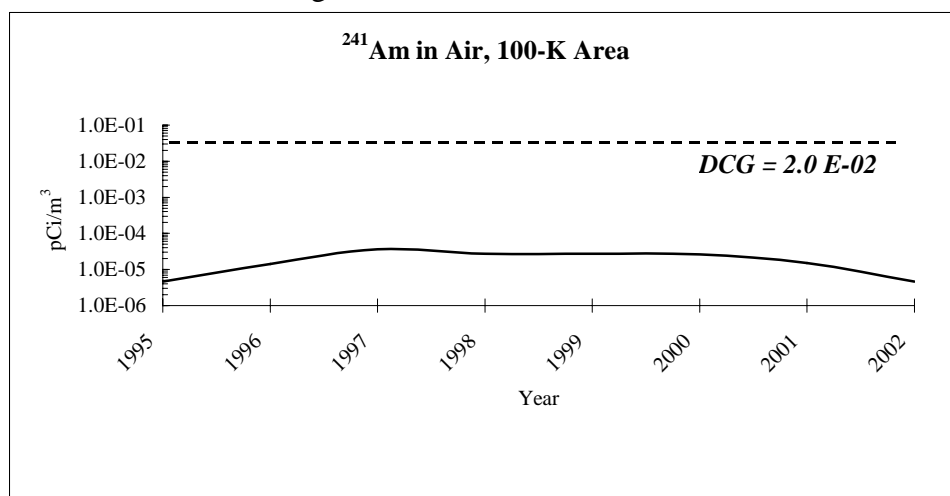


Figure 2-15. Annual Average Cobalt-60 Concentrations in Air, 100-N.

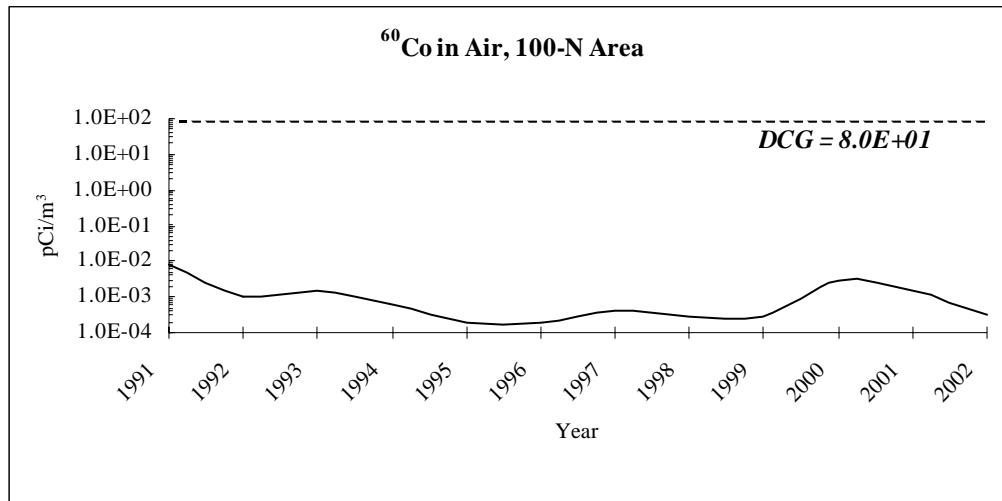


Figure 2-16. Annual Average Strontium-90 Concentrations in Air, 100-N.

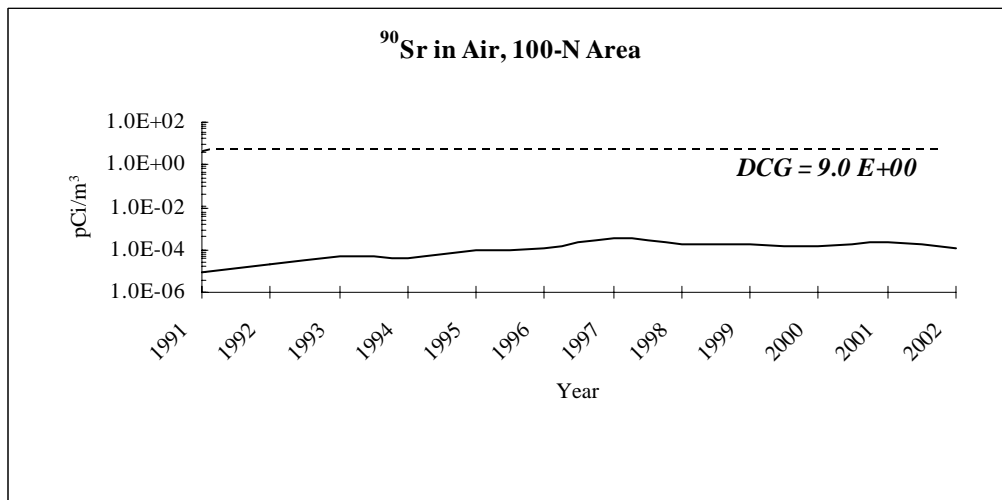


Figure 2-17. Annual Average Cesium-137 Concentrations in Air, 100-N.

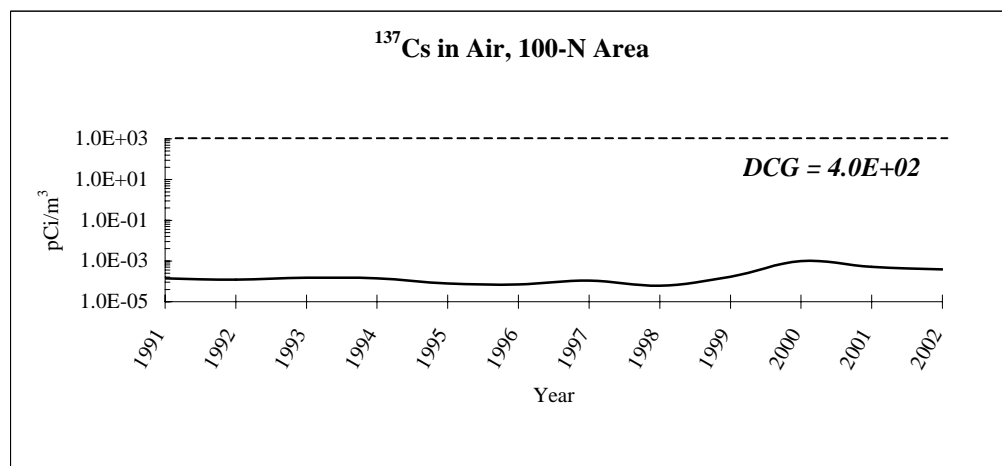


Figure 2-18. Annual Average Plutonium-239/240 Concentrations in Air, 100-N Area.

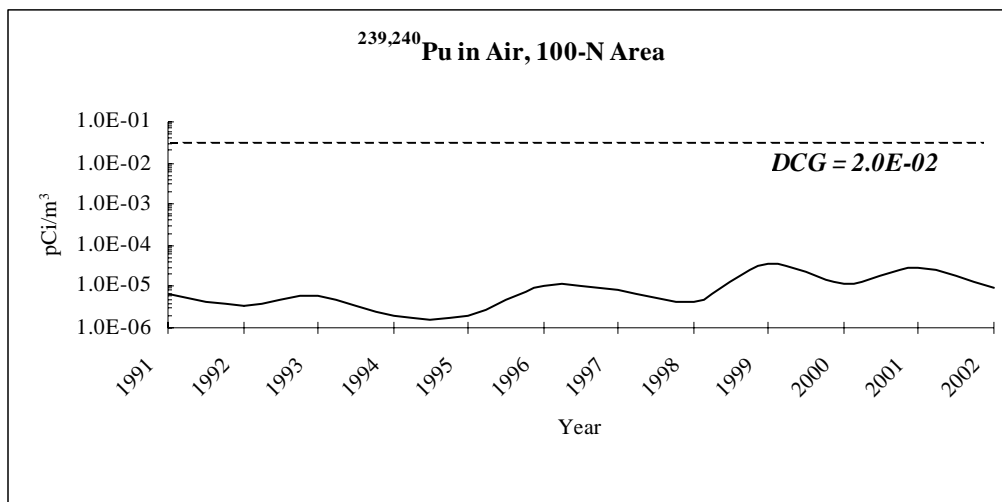


Figure 2-19. Annual Average Strontium-90 Concentrations in Air, 200 Areas.

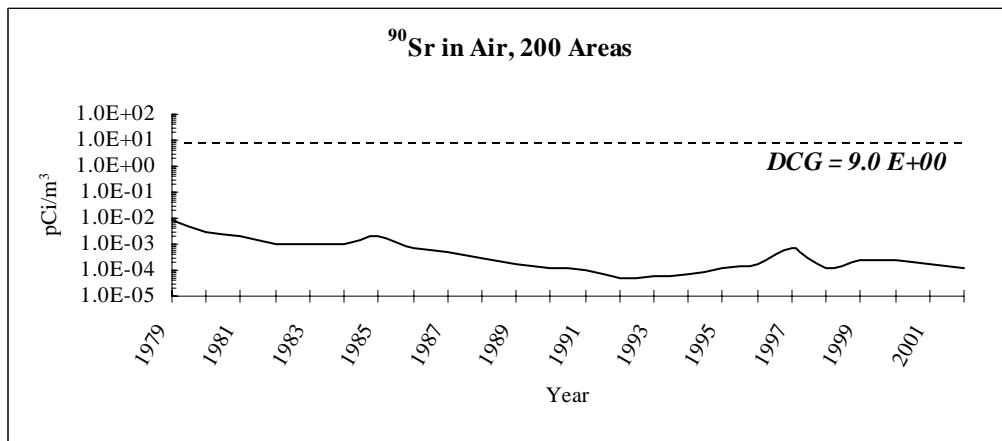


Figure 2-20. Annual Average Cesium-137 Concentrations in Air, 200 Areas.

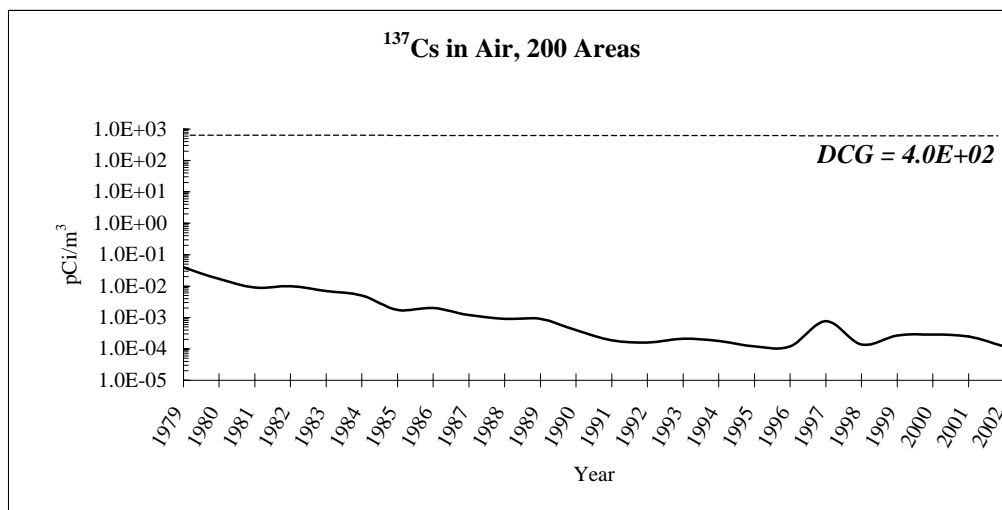


Figure 2-21. Annual Average Plutonium-239/240 Concentrations in Air, 200 Areas.

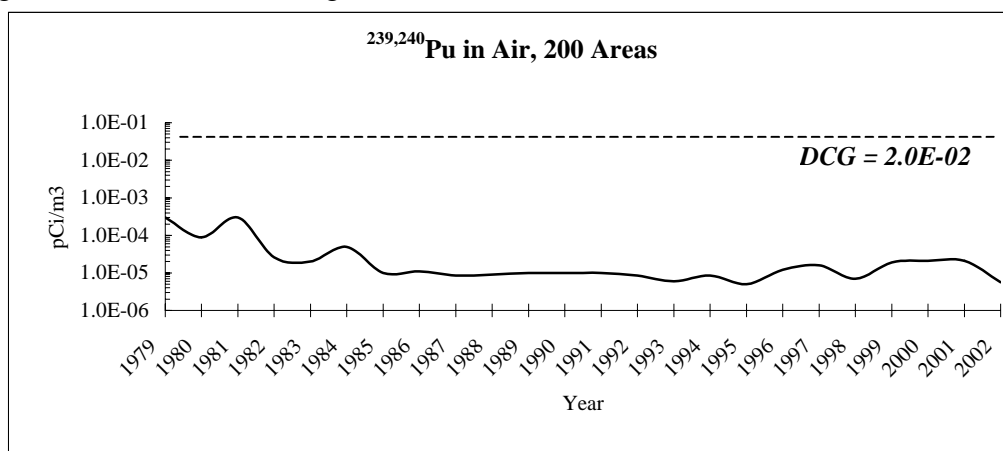


Figure 2-22. Annual Average Uranium-234 Concentrations in Air, 300 Area.

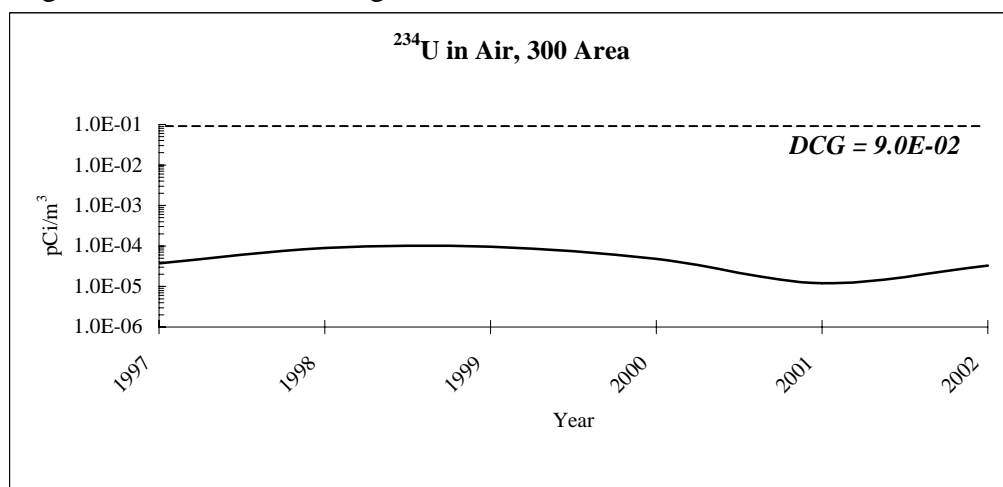


Figure 2-23. Annual Average Uranium-238 Concentrations in Air, 300 Area.

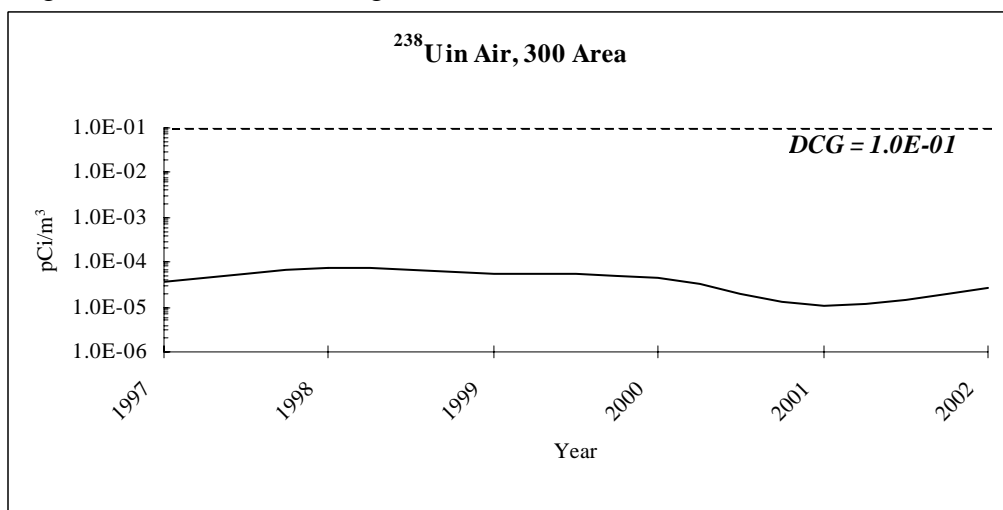


Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).

Location	Isotope	Result	±	Uncertainty	RQ*
N464	¹⁴⁴ Ce	7.5E-05	±	5.6E-04	U
(100-B/C)	⁶⁰ Co	-1.8E-05	±	7.0E-05	U
Composite Period	¹³⁴ Cs	6.1E-06	±	6.1E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.3E-05	±	6.9E-05	U
	¹⁵² Eu	2.3E-06	±	2.3E-05	U
	¹⁵⁴ Eu	7.4E-05	±	2.1E-04	U
	¹⁵⁵ Eu	-8.6E-06	±	8.6E-05	U
	²³⁸ Pu	1.3E-06	±	2.6E-06	U
	^{239,240} Pu	1.9E-06	±	2.8E-06	U
	¹⁰³ Ru	-1.0E-04	±	1.1E-04	U
	¹⁰⁶ Ru	-1.1E-04	±	5.9E-04	U
	¹²⁵ Sb	-3.9E-05	±	1.5E-04	U
	¹¹³ Sn	-2.6E-05	±	7.9E-05	U
	⁹⁰ Sr	7.1E-06	±	5.4E-05	U
	²³⁴ U	1.1E-05	±	7.2E-06	
	²³⁵ U	9.3E-07	±	9.6E-07	U
	²³⁸ U	5.4E-06	±	5.4E-06	U
	⁶⁵ Zn	-1.1E-05	±	1.1E-04	U
N465	¹⁴⁴ Ce	4.1E-04	±	7.7E-04	U
(100-B/C)	⁶⁰ Co	-3.6E-05	±	7.0E-05	U
Composite Period	¹³⁴ Cs	-8.8E-05	±	9.1E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	5.4E-05	±	7.1E-05	U
	¹⁵² Eu	-6.5E-05	±	1.8E-04	U
	¹⁵⁴ Eu	1.2E-05	±	1.2E-04	U
	¹⁵⁵ Eu	-9.2E-05	±	2.0E-04	U
	²³⁸ Pu	2.5E-05	±	1.1E-05	
	^{239,240} Pu	2.6E-05	±	1.2E-05	
	¹⁰³ Ru	-1.1E-05	±	7.4E-05	U
	¹⁰⁶ Ru	4.7E-04	±	6.7E-04	U
	¹²⁵ Sb	5.3E-05	±	1.8E-04	U
	¹¹³ Sn	-7.4E-05	±	8.2E-05	U
	⁹⁰ Sr	1.7E-04	±	9.4E-05	
	²³⁴ U	9.3E-06	±	6.8E-06	
	²³⁵ U	1.8E-06	±	2.6E-06	U
	²³⁸ U	7.2E-06	±	5.8E-06	
	⁶⁵ Zn	-9.4E-05	±	1.7E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N464	¹⁴⁴ Ce	-4.7E-04	±	7.4E-04	U
(100-B/C)	⁶⁰ Co	-3.6E-05	±	6.8E-05	U
Composite Period	¹³⁴ Cs	-2.8E-05	±	6.9E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	4.5E-05	±	7.0E-05	U
	¹⁵² Eu	-3.5E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-1.6E-04	±	2.1E-04	U
	¹⁵⁵ Eu	9.4E-05	±	1.9E-04	U
	²³⁸ Pu	6.2E-07	±	6.2E-06	U
	^{239,240} Pu	-1.2E-06	±	3.1E-06	U
	¹⁰³ Ru	-1.1E-05	±	7.5E-05	U
	¹⁰⁶ Ru	2.6E-05	±	2.6E-04	U
	¹²⁵ Sb	-9.3E-05	±	1.6E-04	U
	¹¹³ Sn	4.1E-05	±	7.6E-05	U
	⁹⁰ Sr	3.4E-05	±	6.3E-05	U
	²³⁴ U	8.9E-06	±	6.7E-06	
	²³⁵ U	5.8E-06	±	5.4E-06	U
	²³⁸ U	1.2E-05	±	6.9E-06	
	⁶⁵ Zn	8.3E-05	±	1.7E-04	U
N465	¹⁴⁴ Ce	5.4E-04	±	7.3E-04	U
(100-B/C)	⁶⁰ Co	7.0E-06	±	7.0E-05	U
Composite Period	¹³⁴ Cs	-1.9E-06	±	1.9E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-2.8E-05	±	7.4E-05	U
	¹⁵² Eu	1.0E-04	±	1.8E-04	U
	¹⁵⁴ Eu	3.8E-05	±	2.5E-04	U
	¹⁵⁵ Eu	4.1E-05	±	1.7E-04	U
	²³⁸ Pu	2.5E-06	±	6.3E-06	U
	^{239,240} Pu	6.3E-07	±	6.5E-07	U
	¹⁰³ Ru	1.2E-05	±	7.1E-05	U
	¹⁰⁶ Ru	-3.3E-04	±	6.2E-04	U
	¹²⁵ Sb	-8.4E-05	±	1.6E-04	U
	¹¹³ Sn	-5.1E-05	±	8.3E-05	U
	⁹⁰ Sr	5.4E-05	±	6.7E-05	U
	²³⁴ U	5.1E-05	±	2.1E-05	
	²³⁵ U	7.4E-06	±	5.3E-06	
	²³⁸ U	2.8E-05	±	1.3E-05	
	⁶⁵ Zn	-1.2E-04	±	1.7E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N466	¹⁴⁴ Ce	-1.6E-06	±	1.7E-05	U
(100-B/C)	⁶⁰ Co	1.1E-06	±	1.1E-05	U
Composite Period	¹³⁴ Cs	4.8E-05	±	7.5E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	-1.3E-05	±	6.9E-05	U
	¹⁵² Eu	-5.3E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-1.9E-05	±	1.9E-04	U
	¹⁵⁵ Eu	-1.3E-04	±	1.7E-04	U
	²³⁸ Pu	6.0E-07	±	6.2E-07	U
	^{239,240} Pu	1.8E-06	±	2.8E-06	U
	¹⁰³ Ru	-2.3E-05	±	7.6E-05	U
	¹⁰⁶ Ru	-8.6E-05	±	6.2E-04	U
	¹²⁵ Sb	-3.0E-05	±	1.5E-04	U
	¹¹³ Sn	-1.2E-05	±	8.0E-05	U
	⁹⁰ Sr	7.0E-06	±	7.0E-05	U
	²³⁴ U	1.2E-05	±	8.5E-06	
	²³⁵ U	2.5E-06	±	4.6E-06	U
	²³⁸ U	8.3E-06	±	5.7E-06	
	⁶⁵ Zn	-9.0E-05	±	1.9E-04	U
N496	¹⁴⁴ Ce	2.8E-04	±	7.7E-04	U
(100-B/C)	⁶⁰ Co	-5.8E-05	±	9.8E-05	U
Composite Period	¹³⁴ Cs	4.9E-05	±	1.2E-04	U
9/3/02 - 1/6/03	¹³⁷ Cs	4.7E-05	±	8.4E-05	U
	¹⁵² Eu	-1.8E-04	±	2.1E-04	U
	¹⁵⁴ Eu	1.8E-04	±	3.3E-04	U
	¹⁵⁵ Eu	-6.9E-05	±	2.3E-04	U
	²³⁸ Pu	-1.0E-05	±	1.7E-05	U
	^{239,240} Pu	-1.0E-06	±	5.3E-06	U
	¹⁰³ Ru	4.8E-05	±	9.8E-05	U
	¹⁰⁶ Ru	-6.5E-04	±	1.1E-03	U
	¹²⁵ Sb	7.9E-05	±	2.2E-04	U
	¹¹³ Sn	7.1E-05	±	9.9E-05	U
	⁹⁰ Sr	1.5E-04	±	1.1E-04	U
	²³⁴ U	1.5E-05	±	9.2E-06	
	²³⁵ U	3.7E-06	±	4.5E-06	
	²³⁸ U	1.0E-05	±	8.7E-06	U
	⁶⁵ Zn	-1.2E-04	±	2.4E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N466	¹⁴⁴ Ce	5.4E-04	±	6.4E-04	U
(100-B/C)	⁶⁰ Co	3.8E-05	±	7.4E-05	U
Composite Period	¹³⁴ Cs	-3.4E-05	±	8.8E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.3E-05	±	6.6E-05	U
	¹⁵² Eu	-1.1E-05	±	1.1E-04	U
	¹⁵⁴ Eu	-1.2E-05	±	1.2E-04	U
	¹⁵⁵ Eu	-4.6E-05	±	1.7E-04	U
	²³⁸ Pu	-1.7E-05	±	1.7E-05	U
	^{239,240} Pu	2.2E-06	±	2.7E-06	U
	¹⁰³ Ru	4.0E-05	±	7.9E-05	U
	¹⁰⁶ Ru	-2.9E-04	±	6.2E-04	U
	¹²⁵ Sb	-2.5E-05	±	1.6E-04	U
	¹¹³ Sn	1.2E-06	±	1.2E-05	U
	⁹⁰ Sr	2.7E-04	±	1.1E-04	
	²³⁴ U	1.5E-05	±	8.6E-06	
	²³⁵ U	4.9E-06	±	4.5E-06	U
	²³⁸ U	1.1E-05	±	6.6E-06	
	⁶⁵ Zn	9.5E-06	±	9.5E-05	U
N497	¹⁴⁴ Ce	-1.5E-03	±	1.5E-03	U
(100-B/C)	⁶⁰ Co	-1.5E-05	±	1.2E-04	U
Composite Period	¹³⁴ Cs	5.5E-05	±	1.2E-04	U
9/3/02 - 1/6/03	¹³⁷ Cs	-4.5E-05	±	1.1E-04	U
	¹⁵² Eu	1.7E-04	±	3.2E-04	U
	¹⁵⁴ Eu	2.4E-04	±	3.1E-04	U
	¹⁵⁵ Eu	-2.4E-05	±	2.4E-04	U
	²³⁸ Pu	1.1E-05	±	1.6E-05	U
	^{239,240} Pu	9.4E-07	±	9.4E-06	U
	¹⁰³ Ru	-5.3E-05	±	1.2E-04	U
	¹⁰⁶ Ru	-2.2E-04	±	9.7E-04	U
	¹²⁵ Sb	1.6E-04	±	2.8E-04	U
	¹¹³ Sn	-3.5E-05	±	1.3E-04	U
	⁹⁰ Sr	2.1E-04	±	1.3E-04	
	²³⁴ U	1.1E-05	±	8.3E-06	
	²³⁵ U	2.1E-06	±	5.3E-06	U
	²³⁸ U	1.1E-05	±	7.8E-06	
	⁶⁵ Zn	-3.0E-05	±	2.5E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N492	¹⁴⁴ Ce	-1.6E-04	±	1.5E-03	U
(100-D/DR)	⁶⁰ Co	-1.1E-04	±	1.4E-04	U
Composite Period	¹³⁴ Cs	-5.0E-05	±	1.7E-04	U
12/26/01 - 3/18/02	¹³⁷ Cs	1.2E-04	±	1.5E-04	U
	¹⁵² Eu	-4.1E-04	±	4.2E-04	U
	¹⁵⁴ Eu	-1.8E-04	±	4.3E-04	U
	¹⁵⁵ Eu	2.8E-04	±	4.2E-04	U
	²³⁸ Pu	-1.7E-06	±	1.7E-05	U
	^{239,240} Pu	3.2E-06	±	4.6E-06	U
	¹⁰³ Ru	-3.3E-05	±	1.4E-04	U
	¹⁰⁶ Ru	4.1E-04	±	1.3E-03	U
	¹²⁵ Sb	-2.0E-04	±	3.5E-04	U
	¹¹³ Sn	1.3E-04	±	1.7E-04	U
	⁹⁰ Sr	4.3E-04	±	2.1E-04	
	²³⁴ U	2.0E-05	±	1.3E-05	
	²³⁵ U	9.1E-06	±	7.9E-06	
	²³⁸ U	7.0E-06	±	7.8E-06	U
	⁶⁵ Zn	1.0E-03	±	1.0E-03	
N492	¹⁴⁴ Ce	-2.0E-03	±	2.1E-03	U
(100-D/DR)	⁶⁰ Co	-8.6E-05	±	1.7E-04	U
Composite Period	¹³⁴ Cs	-1.0E-04	±	1.8E-04	U
6/25/02 - 9/17/02	¹³⁷ Cs	-1.7E-05	±	1.6E-04	U
	¹⁵² Eu	5.0E-05	±	4.0E-04	U
	¹⁵⁴ Eu	-2.3E-04	±	5.0E-04	U
	¹⁵⁵ Eu	9.5E-05	±	4.3E-04	U
	²³⁸ Pu	9.6E-06	±	1.7E-05	U
	^{239,240} Pu	4.0E-06	±	8.1E-06	U
	¹⁰³ Ru	-2.4E-05	±	1.6E-04	U
	¹⁰⁶ Ru	9.1E-05	±	9.1E-04	U
	¹²⁵ Sb	-8.1E-05	±	3.9E-04	U
	¹¹³ Sn	-1.1E-04	±	1.7E-04	U
	⁹⁰ Sr	2.6E-04	±	1.9E-04	
	²³⁴ U	1.9E-05	±	1.3E-05	
	²³⁵ U	5.0E-06	±	6.1E-06	
	²³⁸ U	1.9E-05	±	1.3E-05	
	⁶⁵ Zn	8.6E-05	±	3.8E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N492	¹⁴⁴ Ce	-5.0E-05	±	5.0E-04	U
(100-D/DR)	⁶⁰ Co	1.3E-05	±	1.2E-04	U
Composite Period	¹³⁴ Cs	-4.8E-05	±	1.5E-04	U
3/18/02 - 6/25/02	¹³⁷ Cs	-4.5E-05	±	1.4E-04	U
	¹⁵² Eu	2.5E-04	±	3.2E-04	U
	¹⁵⁴ Eu	2.4E-04	±	3.5E-04	U
	¹⁵⁵ Eu	2.0E-04	±	3.0E-04	U
	²³⁸ Pu	-3.8E-06	±	1.5E-05	U
	^{239,240} Pu	8.9E-06	±	8.2E-06	U
	¹⁰³ Ru	3.8E-05	±	1.2E-04	U
	¹⁰⁶ Ru	-2.0E-04	±	1.1E-03	U
	¹²⁵ Sb	-2.9E-04	±	3.0E-04	U
	¹¹³ Sn	4.4E-05	±	1.3E-04	U
	⁹⁰ Sr	1.2E-04	±	1.4E-04	U
	²³⁴ U	1.3E-05	±	8.8E-06	
	²³⁵ U	8.0E-06	±	7.0E-06	
	²³⁸ U	7.4E-06	±	6.4E-06	
	⁶⁵ Zn	-3.3E-05	±	2.9E-04	U
N492	¹⁴⁴ Ce	6.5E-04	±	9.6E-04	U
(100-D/DR)	⁶⁰ Co	9.0E-05	±	1.2E-04	U
Composite Period	¹³⁴ Cs	1.6E-04	±	1.2E-04	U
9/17/02 - 1/7/03	¹³⁷ Cs	7.0E-05	±	1.3E-04	U
	¹⁵² Eu	-4.3E-05	±	2.6E-04	U
	¹⁵⁴ Eu	1.3E-04	±	3.2E-04	U
	¹⁵⁵ Eu	-4.8E-05	±	2.5E-04	U
	²³⁸ Pu	-1.1E-05	±	2.3E-05	U
	^{239,240} Pu	7.5E-06	±	6.5E-06	
	¹⁰³ Ru	2.9E-05	±	1.1E-04	U
	¹⁰⁶ Ru	6.5E-05	±	6.5E-04	U
	¹²⁵ Sb	-1.4E-04	±	2.5E-04	U
	¹¹³ Sn	5.5E-05	±	1.3E-04	U
	⁹⁰ Sr	2.2E-04	±	1.4E-04	
	²³⁴ U	9.8E-06	±	8.3E-06	
	²³⁵ U	5.4E-06	±	6.6E-06	U
	²³⁸ U	1.7E-05	±	1.1E-05	
	⁶⁵ Zn	-1.5E-04	±	2.7E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N493	¹⁴⁴ Ce	-8.0E-04	±	1.7E-03	U
(100-D/DR)	⁶⁰ Co	-1.3E-04	±	1.8E-04	U
Composite Period	¹³⁴ Cs	-6.0E-05	±	1.7E-04	U
12/26/01 - 3/18/02	¹³⁷ Cs	7.0E-05	±	1.5E-04	U
	¹⁵² Eu	2.7E-04	±	4.1E-04	U
	¹⁵⁴ Eu	1.1E-04	±	5.2E-04	U
	¹⁵⁵ Eu	1.3E-04	±	3.8E-04	U
	²³⁸ Pu	1.2E-05	±	1.8E-05	U
	^{239,240} Pu	6.1E-06	±	8.6E-06	U
	¹⁰³ Ru	-2.9E-05	±	1.3E-04	U
	¹⁰⁶ Ru	1.8E-04	±	1.4E-03	U
	¹²⁵ Sb	1.8E-04	±	3.7E-04	U
	¹¹³ Sn	-4.3E-05	±	1.6E-04	U
	⁹⁰ Sr	1.6E-04	±	1.4E-04	
	²³⁴ U	1.9E-05	±	1.3E-05	
	²³⁵ U	1.1E-05	±	1.0E-05	U
	²³⁸ U	4.5E-06	±	6.8E-06	U
	⁶⁵ Zn	2.6E-05	±	2.6E-04	U
N493	¹⁴⁴ Ce	-4.6E-04	±	1.4E-03	U
(100-D/DR)	⁶⁰ Co	4.4E-07	±	4.4E-06	U
Composite Period	¹³⁴ Cs	8.4E-05	±	1.4E-04	U
6/25/02 - 9/17/02	¹³⁷ Cs	-6.4E-05	±	1.6E-04	U
	¹⁵² Eu	9.7E-05	±	3.2E-04	U
	¹⁵⁴ Eu	-9.4E-05	±	4.7E-04	U
	¹⁵⁵ Eu	2.8E-04	±	3.5E-04	U
	²³⁸ Pu	1.1E-05	±	2.4E-05	U
	^{239,240} Pu	1.7E-06	±	1.8E-06	U
	¹⁰³ Ru	-5.9E-05	±	1.3E-04	U
	¹⁰⁶ Ru	4.9E-04	±	1.3E-03	U
	¹²⁵ Sb	-9.1E-05	±	3.3E-04	U
	¹¹³ Sn	2.4E-05	±	1.7E-04	U
	⁹⁰ Sr	4.7E-04	±	2.2E-04	
	²³⁴ U	1.7E-05	±	1.1E-05	
	²³⁵ U	8.0E-06	±	7.5E-06	
	²³⁸ U	1.3E-05	±	9.7E-06	
	⁶⁵ Zn	1.2E-04	±	3.1E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N493	¹⁴⁴ Ce	-2.8E-05	±	2.8E-04	U
(100-D/DR)	⁶⁰ Co	1.5E-05	±	1.3E-04	U
Composite Period	¹³⁴ Cs	-1.0E-04	±	1.5E-04	U
3/18/02 - 6/25/02	¹³⁷ Cs	6.9E-05	±	1.2E-04	U
	¹⁵² Eu	-1.3E-04	±	3.6E-04	U
	¹⁵⁴ Eu	2.3E-04	±	3.8E-04	U
	¹⁵⁵ Eu	-2.9E-05	±	2.9E-04	U
	²³⁸ Pu	-2.5E-06	±	1.8E-05	U
	^{239,240} Pu	2.5E-06	±	3.5E-06	U
	¹⁰³ Ru	3.8E-06	±	3.8E-05	U
	¹⁰⁶ Ru	-2.4E-04	±	1.2E-03	U
	¹²⁵ Sb	3.0E-05	±	3.0E-04	U
	¹¹³ Sn	7.0E-05	±	1.5E-04	U
	⁹⁰ Sr	3.9E-05	±	1.2E-04	U
	²³⁴ U	1.6E-05	±	1.2E-05	
	²³⁵ U	6.0E-06	±	7.4E-06	U
	²³⁸ U	1.8E-05	±	1.1E-05	
	⁶⁵ Zn	-3.2E-04	±	3.3E-04	U
N493	¹⁴⁴ Ce	-1.5E-04	±	1.5E-03	U
(100-D/DR)	⁶⁰ Co	7.6E-05	±	1.8E-04	U
Composite Period	¹³⁴ Cs	-1.2E-04	±	2.1E-04	U
9/17/02 - 11/20/02	¹³⁷ Cs	1.0E-05	±	1.0E-04	U
	¹⁵² Eu	3.4E-05	±	3.4E-04	U
	¹⁵⁴ Eu	-1.0E-04	±	5.8E-04	U
	¹⁵⁵ Eu	9.9E-05	±	4.0E-04	U
	²³⁸ Pu	6.7E-06	±	3.7E-05	U
	^{239,240} Pu	2.3E-06	±	2.3E-06	U
	¹⁰³ Ru	-5.4E-05	±	1.7E-04	U
	¹⁰⁶ Ru	-4.0E-05	±	4.0E-04	U
	¹²⁵ Sb	-3.8E-04	±	4.4E-04	U
	¹¹³ Sn	-2.9E-05	±	1.9E-04	U
	⁹⁰ Sr	1.3E-04	±	2.4E-04	U
	²³⁴ U	4.4E-05	±	2.5E-05	
	²³⁵ U	1.2E-05	±	1.2E-05	
	²³⁸ U	4.2E-05	±	2.5E-05	
	⁶⁵ Zn	-2.5E-04	±	4.4E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N515	¹⁴⁴ Ce	1.0E-03	±	2.6E-03	U
(100-D/DR)	⁶⁰ Co	-6.4E-05	±	3.3E-04	U
Composite Period	¹³⁴ Cs	-3.5E-05	±	3.5E-04	U
11/20/02 - 1/7/03	¹³⁷ Cs	1.9E-04	±	3.5E-04	U
	¹⁵² Eu	-5.3E-04	±	7.0E-04	U
	¹⁵⁴ Eu	1.5E-04	±	9.1E-04	U
	¹⁵⁵ Eu	2.2E-04	±	7.3E-04	U
	²³⁸ Pu	-7.0E-06	±	5.3E-05	U
	^{239,240} Pu	7.0E-06	±	1.4E-05	U
	¹⁰³ Ru	-1.9E-04	±	3.0E-04	U
	¹⁰⁶ Ru	2.6E-03	±	2.9E-03	U
	¹²⁵ Sb	-6.1E-04	±	6.9E-04	U
	¹¹³ Sn	-6.0E-05	±	3.2E-04	U
	⁹⁰ Sr	2.1E-04	±	3.0E-04	U
	²³⁴ U	4.3E-05	±	3.0E-05	
	²³⁵ U	1.6E-05	±	1.7E-05	
	²³⁸ U	3.7E-06	±	1.6E-05	U
	⁶⁵ Zn	1.7E-04	±	7.5E-04	U
N523	¹⁴⁴ Ce	-2.1E-03	±	4.6E-03	U
(100-D/DR)	⁶⁰ Co	-6.3E-05	±	6.3E-04	U
Composite Period	¹³⁴ Cs	-6.3E-04	±	6.7E-04	U
3/18/02 - 6/25/02	¹³⁷ Cs	7.9E-04	±	6.3E-04	U
	¹⁵² Eu	-4.2E-05	±	4.2E-04	U
	¹⁵⁴ Eu	-9.7E-04	±	1.6E-03	U
	¹⁵⁵ Eu	-1.0E-04	±	1.0E-03	U
	²³⁸ Pu	-5.2E-06	±	5.2E-05	U
	^{239,240} Pu	5.2E-06	±	2.3E-05	U
	¹⁰³ Ru	-2.1E-04	±	5.2E-04	U
	¹⁰⁶ Ru	-1.0E-03	±	4.9E-03	U
	¹²⁵ Sb	-6.1E-04	±	1.3E-03	U
	¹¹³ Sn	-1.2E-06	±	1.2E-05	U
	⁹⁰ Sr	2.4E-02	±	4.7E-03	
	²³⁴ U	2.1E-05	±	3.5E-05	U
	²³⁵ U	5.8E-06	±	2.0E-05	U
	²³⁸ U	1.5E-05	±	2.8E-05	U
	⁶⁵ Zn	-1.3E-03	±	1.3E-03	U

Location	Isotope	Result	±	Uncertainty	RQ*
N523	¹⁴⁴ Ce	9.8E-03	±	2.5E-02	U
(100-D/DR)	⁶⁰ Co	2.4E-05	±	2.4E-04	U
Composite Period	¹³⁴ Cs	-1.9E-04	±	8.7E-04	U
12/26/01 - 3/18/02	¹³⁷ Cs	2.1E-04	±	1.1E-03	U
	¹⁵² Eu	5.4E-04	±	4.3E-03	U
	¹⁵⁴ Eu	-4.7E-04	±	1.8E-03	U
	¹⁵⁵ Eu	-2.2E-03	±	6.2E-03	U
	²³⁸ Pu	-2.4E-05	±	1.4E-04	U
	^{239,240} Pu	3.1E-05	±	4.4E-05	U
	¹⁰³ Ru	-6.9E-04	±	1.4E-03	U
	¹⁰⁶ Ru	-5.1E-03	±	9.1E-03	U
	¹²⁵ Sb	-2.0E-04	±	2.0E-03	U
	¹¹³ Sn	-4.8E-04	±	1.6E-03	U
	⁹⁰ Sr	1.9E-03	±	1.0E-03	
	²³⁴ U	1.6E-04	±	8.0E-05	
	²³⁵ U	2.6E-05	±	3.8E-05	U
	²³⁸ U	4.7E-05	±	4.0E-05	
	⁶⁵ Zn	-1.3E-03	±	1.3E-03	U
N523	¹⁴⁴ Ce	-2.0E-03	±	5.7E-03	U
(100-D/DR)	⁶⁰ Co	2.5E-04	±	7.6E-04	U
Composite Period	¹³⁴ Cs	6.2E-04	±	7.8E-04	U
6/25/02 - 9/17/02	¹³⁷ Cs	1.5E-03	±	9.0E-04	U
	¹⁵² Eu	3.2E-03	±	2.7E-03	U
	¹⁵⁴ Eu	-3.3E-04	±	2.1E-03	U
	¹⁵⁵ Eu	6.0E-04	±	1.6E-03	U
	²³⁸ Pu	-2.6E-05	±	9.5E-05	U
	^{239,240} Pu	1.6E-04	±	7.7E-05	
	¹⁰³ Ru	6.6E-05	±	6.6E-04	U
	¹⁰⁶ Ru	-2.3E-03	±	6.1E-03	U
	¹²⁵ Sb	2.1E-04	±	1.6E-03	U
	¹¹³ Sn	-3.1E-04	±	6.9E-04	U
	⁹⁰ Sr	1.9E-03	±	8.7E-04	
	²³⁴ U	7.8E-05	±	5.1E-05	
	²³⁵ U	3.6E-05	±	3.3E-05	
	²³⁸ U	2.6E-05	±	2.6E-05	
	⁶⁵ Zn	-1.0E-03	±	1.8E-03	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N523	¹⁴⁴ Ce	8.6E-04	±	3.8E-03	U
(100-D/DR)	⁶⁰ Co	-6.2E-05	±	5.1E-04	U
Composite Period	¹³⁴ Cs	-1.5E-04	±	5.2E-04	U
9/17/02 - 1/7/03	¹³⁷ Cs	1.3E-04	±	4.8E-04	U
	¹⁵² Eu	-7.4E-04	±	1.2E-03	U
	¹⁵⁴ Eu	4.1E-05	±	4.1E-04	U
	¹⁵⁵ Eu	5.0E-04	±	1.1E-03	U
	²³⁸ Pu	4.6E-05	±	5.9E-05	U
	^{239,240} Pu	1.5E-05	±	2.3E-05	U
	¹⁰³ Ru	-2.0E-04	±	4.7E-04	U
	¹⁰⁶ Ru	-1.2E-03	±	4.2E-03	U
	¹²⁵ Sb	2.1E-04	±	1.3E-03	U
	¹¹³ Sn	-1.3E-04	±	4.9E-04	U
	⁹⁰ Sr	1.5E-03	±	7.8E-04	U
	²³⁴ U	1.5E-05	±	4.0E-05	U
	²³⁵ U	1.7E-05	±	3.3E-05	U
	²³⁸ U	4.1E-05	±	3.3E-05	U
	⁶⁵ Zn	-2.7E-04	±	1.1E-03	U
N494	¹⁴⁴ Ce	3.9E-04	±	1.3E-03	U
(100-F)	⁶⁰ Co	1.0E-05	±	1.0E-04	U
Composite Period	¹³⁴ Cs	-9.0E-05	±	1.4E-04	U
3/19/02 - 6/25/02	¹³⁷ Cs	8.0E-05	±	1.3E-04	U
	¹⁵² Eu	2.1E-04	±	4.0E-04	U
	¹⁵⁴ Eu	-1.7E-04	±	3.8E-04	U
	¹⁵⁵ Eu	3.4E-04	±	3.9E-04	U
	²³⁸ Pu	-1.3E-06	±	1.3E-05	U
	^{239,240} Pu	6.4E-06	±	7.2E-06	U
	¹⁰³ Ru	-2.2E-05	±	1.3E-04	U
	¹⁰⁶ Ru	-5.7E-05	±	5.7E-04	U
	¹²⁵ Sb	1.7E-04	±	3.1E-04	U
	¹¹³ Sn	-1.9E-05	±	1.3E-04	U
	⁹⁰ Sr	1.7E-04	±	1.6E-04	U
	²³⁴ U	2.2E-05	±	1.3E-05	U
	²³⁵ U	6.2E-06	±	5.8E-06	U
	²³⁸ U	2.8E-05	±	1.4E-05	U
	⁶⁵ Zn	8.5E-05	±	3.1E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N494	¹⁴⁴ Ce	-3.1E-04	±	1.4E-03	U
(100-F)	⁶⁰ Co	5.5E-05	±	1.5E-04	U
Composite Period	¹³⁴ Cs	3.3E-05	±	1.7E-04	U
12/27/01 - 3/19/02	¹³⁷ Cs	4.5E-06	±	4.5E-05	U
	¹⁵² Eu	5.8E-05	±	4.1E-04	U
	¹⁵⁴ Eu	-7.8E-05	±	5.0E-04	U
	¹⁵⁵ Eu	1.2E-04	±	3.5E-04	U
	²³⁸ Pu	6.0E-06	±	2.2E-05	U
	^{239,240} Pu	1.5E-06	±	1.5E-05	U
	¹⁰³ Ru	-5.2E-05	±	1.3E-04	U
	¹⁰⁶ Ru	6.9E-04	±	1.3E-03	U
	¹²⁵ Sb	3.5E-05	±	3.4E-04	U
	¹¹³ Sn	1.6E-04	±	1.7E-04	U
	⁹⁰ Sr	2.3E-04	±	1.6E-04	U
	²³⁴ U	2.2E-05	±	1.3E-05	U
	²³⁵ U	1.3E-05	±	9.2E-06	U
	²³⁸ U	1.4E-05	±	9.4E-06	U
	⁶⁵ Zn	-9.0E-05	±	3.3E-04	U
N494	¹⁴⁴ Ce	1.6E-04	±	1.5E-03	U
(100-F)	⁶⁰ Co	1.1E-05	±	1.1E-04	U
Composite Period	¹³⁴ Cs	-1.4E-04	±	1.6E-04	U
6/25/02 - 9/17/02	¹³⁷ Cs	1.6E-04	±	1.7E-04	U
	¹⁵² Eu	1.8E-04	±	4.5E-04	U
	¹⁵⁴ Eu	1.0E-04	±	4.1E-04	U
	¹⁵⁵ Eu	-1.9E-04	±	4.4E-04	U
	²³⁸ Pu	-2.8E-06	±	2.1E-05	U
	^{239,240} Pu	5.7E-05	±	2.5E-05	U
	¹⁰³ Ru	-3.5E-05	±	1.6E-04	U
	¹⁰⁶ Ru	-1.9E-04	±	1.2E-03	U
	¹²⁵ Sb	5.5E-04	±	5.6E-04	U
	¹¹³ Sn	-7.4E-05	±	1.6E-04	U
	⁹⁰ Sr	9.9E-04	±	3.3E-04	U
	²³⁴ U	2.8E-05	±	1.7E-05	U
	²³⁵ U	3.4E-06	±	4.8E-06	U
	²³⁸ U	1.9E-05	±	1.2E-05	U
	⁶⁵ Zn	-6.1E-04	±	6.3E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N494	¹⁴⁴ Ce	-2.1E-04	±	1.2E-03	U
(100-F)	⁶⁰ Co	-7.4E-05	±	1.4E-04	U
Composite Period	¹³⁴ Cs	1.1E-04	±	1.1E-04	U
9/17/02 - 1/7/03	¹³⁷ Cs	4.7E-05	±	1.3E-04	U
	¹⁵² Eu	-3.0E-05	±	3.0E-04	U
	¹⁵⁴ Eu	-1.8E-04	±	3.9E-04	U
	¹⁵⁵ Eu	6.4E-05	±	3.0E-04	U
	²³⁸ Pu	5.4E-06	±	1.3E-05	U
	^{239,240} Pu	1.1E-05	±	7.7E-06	
	¹⁰³ Ru	1.6E-04	±	1.1E-04	U
	¹⁰⁶ Ru	1.2E-04	±	1.1E-03	U
	¹²⁵ Sb	-4.5E-05	±	2.7E-04	U
	¹¹³ Sn	-2.5E-06	±	2.5E-05	U
	⁹⁰ Sr	3.7E-04	±	1.9E-04	
	²³⁴ U	5.5E-06	±	7.3E-06	U
	²³⁵ U	4.8E-06	±	6.8E-06	U
	²³⁸ U	1.1E-05	±	7.7E-06	
	⁶⁵ Zn	-2.1E-04	±	3.2E-04	U
N495	¹⁴⁴ Ce	-6.0E-05	±	6.0E-04	U
(100-F)	⁶⁰ Co	2.4E-04	±	1.9E-04	U
Composite Period	¹³⁴ Cs	1.9E-04	±	1.7E-04	U
3/19/02 - 6/25/02	¹³⁷ Cs	4.3E-03	±	1.3E-03	
	¹⁵² Eu	3.2E-03	±	8.6E-04	
	¹⁵⁴ Eu	6.3E-04	±	5.5E-04	U
	¹⁵⁵ Eu	-1.1E-04	±	3.4E-04	U
	²³⁸ Pu	1.6E-05	±	1.9E-05	U
	^{239,240} Pu	3.3E-04	±	1.1E-04	
	¹⁰³ Ru	-5.7E-05	±	1.5E-04	U
	¹⁰⁶ Ru	-2.5E-04	±	1.3E-03	U
	¹²⁵ Sb	-2.4E-04	±	3.5E-04	U
	¹¹³ Sn	-6.3E-05	±	1.6E-04	U
	⁹⁰ Sr	4.4E-03	±	1.4E-03	
	²³⁴ U	2.9E-05	±	1.5E-05	
	²³⁵ U	2.5E-06	±	5.1E-06	U
	²³⁸ U	1.5E-05	±	9.7E-06	
	⁶⁵ Zn	5.5E-04	±	6.2E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N495	¹⁴⁴ Ce	-4.5E-04	±	1.3E-03	U
(100-F)	⁶⁰ Co	-9.8E-05	±	1.7E-04	U
Composite Period	¹³⁴ Cs	-1.3E-04	±	1.8E-04	U
12/27/01 - 3/19/02	¹³⁷ Cs	-8.1E-06	±	8.1E-05	U
	¹⁵² Eu	2.4E-05	±	2.4E-04	U
	¹⁵⁴ Eu	-2.2E-04	±	5.5E-04	U
	¹⁵⁵ Eu	2.4E-04	±	4.4E-04	U
	²³⁸ Pu	2.1E-05	±	1.9E-05	U
	^{239,240} Pu	5.4E-06	±	7.6E-06	U
	¹⁰³ Ru	1.4E-05	±	1.4E-04	U
	¹⁰⁶ Ru	-3.5E-04	±	1.5E-03	U
	¹²⁵ Sb	-7.2E-05	±	3.6E-04	U
	¹¹³ Sn	3.6E-05	±	1.7E-04	U
	⁹⁰ Sr	6.0E-04	±	2.5E-04	
	²³⁴ U	3.0E-05	±	1.5E-05	
	²³⁵ U	1.5E-05	±	1.0E-05	
	²³⁸ U	2.2E-05	±	1.3E-05	
	⁶⁵ Zn	-3.3E-04	±	3.9E-04	U
N495	¹⁴⁴ Ce	-9.4E-04	±	1.5E-03	U
(100-F)	⁶⁰ Co	1.3E-04	±	2.0E-04	U
Composite Period	¹³⁴ Cs	3.0E-04	±	2.3E-04	U
6/25/02 - 9/17/02	¹³⁷ Cs	1.1E-03	±	4.3E-04	
	¹⁵² Eu	1.4E-03	±	8.9E-04	U
	¹⁵⁴ Eu	2.0E-04	±	5.7E-04	U
	¹⁵⁵ Eu	7.2E-05	±	3.7E-04	U
	²³⁸ Pu	7.9E-06	±	2.1E-05	U
	^{239,240} Pu	3.4E-05	±	1.8E-05	
	¹⁰³ Ru	8.5E-05	±	1.4E-04	U
	¹⁰⁶ Ru	6.3E-04	±	1.4E-03	U
	¹²⁵ Sb	1.3E-04	±	3.7E-04	U
	¹¹³ Sn	4.0E-05	±	1.7E-04	U
	⁹⁰ Sr	1.3E-03	±	4.2E-04	
	²³⁴ U	3.2E-05	±	1.8E-05	
	²³⁵ U	5.2E-06	±	6.4E-06	
	²³⁸ U	2.9E-05	±	1.6E-05	
	⁶⁵ Zn	-3.6E-04	±	5.3E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N495	¹⁴⁴ Ce	-1.2E-04	±	1.2E-03	U
(100-F)	⁶⁰ Co	-4.2E-05	±	1.5E-04	U
Composite Period	¹³⁴ Cs	-1.1E-04	±	1.4E-04	U
9/17/02 - 1/7/03	¹³⁷ Cs	2.9E-04	±	2.8E-04	
	¹⁵² Eu	-7.5E-05	±	3.2E-04	U
	¹⁵⁴ Eu	2.9E-04	±	3.2E-04	U
	¹⁵⁵ Eu	5.2E-05	±	3.6E-04	U
	²³⁸ Pu	3.4E-06	±	1.6E-05	U
	^{239,240} Pu	5.8E-06	±	7.7E-06	U
	¹⁰³ Ru	3.9E-05	±	1.1E-04	U
	¹⁰⁶ Ru	4.9E-04	±	1.1E-03	U
	¹²⁵ Sb	-1.0E-04	±	3.0E-04	U
	¹¹³ Sn	1.8E-05	±	1.3E-04	U
	⁹⁰ Sr	3.9E-04	±	1.8E-04	
	²³⁴ U	2.1E-05	±	1.3E-05	
	²³⁵ U	1.5E-06	±	1.5E-06	U
	²³⁸ U	1.7E-05	±	1.1E-05	
	⁶⁵ Zn	1.8E-05	±	1.8E-04	U
N519	¹⁴⁴ Ce	-2.4E-04	±	5.3E-04	U
(100-F)	⁶⁰ Co	1.2E-05	±	6.4E-05	U
Composite Period	¹³⁴ Cs	2.2E-05	±	6.9E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	-5.0E-05	±	6.6E-05	U
	¹⁵² Eu	3.6E-05	±	1.5E-04	U
	¹⁵⁴ Eu	-4.8E-05	±	1.9E-04	U
	¹⁵⁵ Eu	-7.3E-05	±	1.5E-04	U
	²³⁸ Pu	-1.9E-06	±	6.3E-06	U
	^{239,240} Pu	-6.4E-07	±	2.2E-06	U
	¹⁰³ Ru	3.1E-05	±	6.4E-05	U
	¹⁰⁶ Ru	-2.4E-04	±	5.8E-04	U
	¹²⁵ Sb	-3.2E-05	±	1.5E-04	U
	¹¹³ Sn	1.8E-05	±	6.7E-05	U
	⁹⁰ Sr	1.2E-04	±	9.2E-05	
	²³⁴ U	1.6E-05	±	8.7E-06	
	²³⁵ U	3.1E-06	±	3.2E-06	
	²³⁸ U	1.2E-05	±	6.9E-06	
	⁶⁵ Zn	7.2E-05	±	1.5E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N519	¹⁴⁴ Ce	-3.8E-04	±	7.7E-04	U
(100-F)	⁶⁰ Co	1.0E-05	±	6.5E-05	U
Composite Period	¹³⁴ Cs	-4.2E-05	±	7.4E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	-2.6E-05	±	7.0E-05	U
	¹⁵² Eu	-3.1E-06	±	3.1E-05	U
	¹⁵⁴ Eu	2.0E-04	±	2.1E-04	U
	¹⁵⁵ Eu	1.5E-04	±	2.0E-04	U
	²³⁸ Pu	-2.5E-06	±	9.0E-06	U
	^{239,240} Pu	-6.3E-07	±	1.3E-06	U
	¹⁰³ Ru	-2.3E-06	±	2.3E-05	U
	¹⁰⁶ Ru	-1.5E-04	±	6.0E-04	U
	¹²⁵ Sb	1.2E-05	±	1.3E-04	U
	¹¹³ Sn	3.9E-05	±	8.3E-05	U
	⁹⁰ Sr	7.1E-06	±	5.5E-05	U
	²³⁴ U	1.3E-05	±	7.4E-06	
	²³⁵ U	1.6E-06	±	2.2E-06	U
	²³⁸ U	1.6E-05	±	8.9E-06	
	⁶⁵ Zn	-1.0E-05	±	1.0E-04	U
N520	¹⁴⁴ Ce	2.3E-04	±	6.5E-04	U
(100-F)	⁶⁰ Co	-6.0E-07	±	6.0E-06	U
Composite Period	¹³⁴ Cs	-1.9E-05	±	6.8E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	4.5E-05	±	6.9E-05	U
	¹⁵² Eu	9.8E-05	±	1.5E-04	U
	¹⁵⁴ Eu	-2.1E-04	±	2.2E-04	U
	¹⁵⁵ Eu	5.9E-05	±	1.6E-04	U
	²³⁸ Pu	8.4E-06	±	1.1E-05	U
	^{239,240} Pu	2.6E-06	±	2.7E-06	
	¹⁰³ Ru	5.1E-05	±	7.2E-05	U
	¹⁰⁶ Ru	1.9E-04	±	5.9E-04	U
	¹²⁵ Sb	4.8E-06	±	4.8E-05	U
	¹¹³ Sn	7.6E-06	±	6.9E-05	U
	⁹⁰ Sr	1.5E-04	±	9.5E-05	
	²³⁴ U	5.8E-06	±	5.4E-06	U
	²³⁵ U	3.2E-06	±	3.3E-06	
	²³⁸ U	1.0E-05	±	6.9E-06	
	⁶⁵ Zn	-1.5E-05	±	1.5E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N520	¹⁴⁴ Ce	1.2E-04	±	7.0E-04	U
(100-F)	⁶⁰ Co	-3.8E-05	±	7.9E-05	U
Composite Period	¹³⁴ Cs	-2.2E-05	±	6.8E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	2.4E-05	±	7.0E-05	U
	¹⁵² Eu	-4.7E-05	±	1.7E-04	U
	¹⁵⁴ Eu	1.8E-04	±	2.0E-04	U
	¹⁵⁵ Eu	7.1E-05	±	2.0E-04	U
	²³⁸ Pu	6.0E-07	±	4.6E-06	U
	^{239,240} Pu	1.2E-06	±	3.3E-06	U
	¹⁰³ Ru	7.3E-06	±	7.1E-05	U
	¹⁰⁶ Ru	4.7E-04	±	6.8E-04	U
	¹²⁵ Sb	-2.1E-05	±	1.6E-04	U
	¹¹³ Sn	1.1E-05	±	8.0E-05	U
	⁹⁰ Sr	1.7E-04	±	9.1E-05	
	²³⁴ U	1.0E-05	±	6.8E-06	
	²³⁵ U	3.5E-06	±	3.4E-06	
	²³⁸ U	1.2E-05	±	7.1E-06	
	⁶⁵ Zn	-4.4E-05	±	1.9E-04	U
N521	¹⁴⁴ Ce	-9.9E-05	±	6.9E-04	U
(100-F)	⁶⁰ Co	-3.5E-05	±	8.4E-05	U
Composite Period	¹³⁴ Cs	2.1E-05	±	7.4E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	-1.9E-05	±	6.9E-05	U
	¹⁵² Eu	2.9E-05	±	1.7E-04	U
	¹⁵⁴ Eu	1.0E-04	±	2.2E-04	U
	¹⁵⁵ Eu	-1.0E-04	±	1.7E-04	U
	²³⁸ Pu	8.1E-06	±	7.3E-06	U
	^{239,240} Pu	1.2E-06	±	1.7E-06	U
	¹⁰³ Ru	-6.8E-06	±	6.8E-05	U
	¹⁰⁶ Ru	-8.2E-05	±	6.1E-04	U
	¹²⁵ Sb	3.4E-05	±	1.6E-04	U
	¹¹³ Sn	-4.1E-05	±	7.7E-05	U
	⁹⁰ Sr	5.4E-05	±	7.7E-05	U
	²³⁴ U	1.6E-05	±	8.4E-06	
	²³⁵ U	4.8E-06	±	4.4E-06	U
	²³⁸ U	9.5E-06	±	5.9E-06	
	⁶⁵ Zn	-1.9E-04	±	2.0E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N521	¹⁴⁴ Ce	7.8E-05	±	7.4E-04	U
(100-F)	⁶⁰ Co	2.5E-07	±	2.5E-06	U
Composite Period	¹³⁴ Cs	3.9E-05	±	7.5E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	1.1E-05	±	6.4E-05	U
	¹⁵² Eu	9.0E-05	±	1.8E-04	U
	¹⁵⁴ Eu	1.1E-04	±	2.0E-04	U
	¹⁵⁵ Eu	-4.2E-05	±	1.9E-04	U
	²³⁸ Pu	-5.3E-06	±	1.0E-05	U
	^{239,240} Pu	3.3E-06	±	4.1E-06	U
	¹⁰³ Ru	-5.2E-05	±	9.6E-05	U
	¹⁰⁶ Ru	3.5E-04	±	6.3E-04	U
	¹²⁵ Sb	2.3E-05	±	1.8E-04	U
	¹¹³ Sn	-4.0E-05	±	8.1E-05	U
	⁹⁰ Sr	2.3E-04	±	1.1E-04	
	²³⁴ U	1.3E-05	±	7.4E-06	
	²³⁵ U	1.5E-06	±	2.1E-06	U
	²³⁸ U	7.8E-06	±	5.2E-06	
	⁶⁵ Zn	-5.9E-05	±	1.6E-04	U
N522	¹⁴⁴ Ce	5.3E-04	±	7.1E-04	U
(100-F)	⁶⁰ Co	-5.8E-06	±	5.8E-05	U
Composite Period	¹³⁴ Cs	-2.7E-05	±	8.0E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	3.3E-04	±	1.5E-04	
	¹⁵² Eu	1.7E-04	±	1.9E-04	U
	¹⁵⁴ Eu	1.5E-04	±	2.4E-04	U
	¹⁵⁵ Eu	-9.0E-05	±	1.7E-04	U
	²³⁸ Pu	1.2E-05	±	1.4E-05	U
	^{239,240} Pu	4.8E-05	±	2.0E-05	
	¹⁰³ Ru	-1.2E-06	±	1.3E-05	U
	¹⁰⁶ Ru	-5.2E-05	±	5.2E-04	U
	¹²⁵ Sb	-2.4E-05	±	1.7E-04	U
	¹¹³ Sn	-3.6E-06	±	3.6E-05	U
	⁹⁰ Sr	5.3E-04	±	2.0E-04	
	²³⁴ U	2.3E-05	±	1.1E-05	
	²³⁵ U	1.5E-06	±	2.2E-06	U
	²³⁸ U	1.4E-05	±	7.9E-06	
	⁶⁵ Zn	1.6E-04	±	1.9E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N522	¹⁴⁴ Ce	-1.5E-04	±	7.0E-04	U
(100-F)	⁶⁰ Co	-4.1E-05	±	8.2E-05	U
Composite Period	¹³⁴ Cs	-5.1E-05	±	8.2E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	2.1E-05	±	8.0E-05	U
	¹⁵² Eu	-6.6E-06	±	6.6E-05	U
	¹⁵⁴ Eu	-1.5E-04	±	2.3E-04	U
	¹⁵⁵ Eu	9.4E-05	±	1.8E-04	U
	²³⁸ Pu	-6.7E-07	±	6.1E-06	U
	^{239,240} Pu	7.0E-06	±	4.8E-06	
	¹⁰³ Ru	9.5E-06	±	8.1E-05	U
	¹⁰⁶ Ru	2.9E-04	±	7.3E-04	U
	¹²⁵ Sb	1.5E-05	±	1.5E-04	U
	¹¹³ Sn	-2.5E-05	±	7.6E-05	U
	⁹⁰ Sr	1.8E-04	±	9.6E-05	
	²³⁴ U	2.0E-05	±	9.7E-06	
	²³⁵ U	6.4E-07	±	6.4E-06	U
	²³⁸ U	1.0E-05	±	6.6E-06	
	⁶⁵ Zn	-5.4E-06	±	5.4E-05	U
N524	¹⁴⁴ Ce	-1.9E-04	±	1.3E-03	U
(100-H)	⁶⁰ Co	2.2E-05	±	1.3E-04	U
Composite Period	¹³⁴ Cs	-3.1E-05	±	1.3E-04	U
3/19/02 - 6/25/02	¹³⁷ Cs	5.1E-05	±	1.3E-04	U
	¹⁵² Eu	1.4E-04	±	3.7E-04	U
	¹⁵⁴ Eu	-1.3E-04	±	4.0E-04	U
	¹⁵⁵ Eu	1.9E-05	±	1.9E-04	U
	²³⁸ Pu	-1.4E-05	±	2.0E-05	U
	^{239,240} Pu	2.8E-06	±	5.5E-06	U
	¹⁰³ Ru	1.6E-05	±	1.2E-04	U
	¹⁰⁶ Ru	-1.2E-04	±	1.2E-03	U
	¹²⁵ Sb	1.1E-05	±	1.1E-04	U
	¹¹³ Sn	-6.3E-05	±	1.5E-04	U
	⁹⁰ Sr	1.3E-04	±	1.4E-04	U
	²³⁴ U	1.2E-05	±	1.4E-05	U
	²³⁵ U	1.3E-05	±	1.3E-05	U
	²³⁸ U	1.4E-05	±	1.2E-05	
	⁶⁵ Zn	2.0E-05	±	2.0E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N524	¹⁴⁴ Ce	-5.5E-04	±	1.3E-03	U
(100-H)	⁶⁰ Co	7.0E-05	±	1.6E-04	U
Composite Period	¹³⁴ Cs	1.4E-04	±	1.9E-04	U
12/27/01 - 3/19/02	¹³⁷ Cs	-5.3E-05	±	1.7E-04	U
	¹⁵² Eu	9.2E-04	±	4.9E-04	U
	¹⁵⁴ Eu	2.5E-04	±	4.5E-04	U
	¹⁵⁵ Eu	1.1E-06	±	1.1E-05	U
	²³⁸ Pu	-4.6E-06	±	2.7E-05	U
	^{239,240} Pu	2.2E-05	±	1.6E-05	
	¹⁰³ Ru	1.7E-05	±	1.4E-04	U
	¹⁰⁶ Ru	-2.1E-04	±	1.5E-03	U
	¹²⁵ Sb	-1.4E-04	±	3.9E-04	U
	¹¹³ Sn	6.8E-05	±	1.6E-04	U
	⁹⁰ Sr	4.6E-04	±	2.1E-04	
	²³⁴ U	2.2E-05	±	1.7E-05	
	²³⁵ U	3.3E-06	±	1.2E-05	U
	²³⁸ U	6.1E-06	±	7.5E-06	U
	⁶⁵ Zn	1.2E-04	±	4.0E-04	U
N524	¹⁴⁴ Ce	-1.4E-03	±	1.7E-03	U
(100-H)	⁶⁰ Co	-5.1E-05	±	1.7E-04	U
Composite Period	¹³⁴ Cs	1.2E-04	±	1.6E-04	U
6/25/02 - 9/17/02	¹³⁷ Cs	1.4E-04	±	1.6E-04	U
	¹⁵² Eu	-1.6E-04	±	4.4E-04	U
	¹⁵⁴ Eu	-5.6E-05	±	4.8E-04	U
	¹⁵⁵ Eu	2.1E-04	±	4.2E-04	U
	²³⁸ Pu	-3.3E-06	±	2.1E-05	U
	^{239,240} Pu	1.1E-05	±	1.0E-05	U
	¹⁰³ Ru	-5.6E-05	±	1.4E-04	U
	¹⁰⁶ Ru	-3.0E-04	±	1.4E-03	U
	¹²⁵ Sb	2.2E-04	±	3.7E-04	U
	¹¹³ Sn	-1.5E-04	±	1.7E-04	U
	⁹⁰ Sr	3.9E-04	±	2.2E-04	
	²³⁴ U	1.4E-05	±	1.0E-05	
	²³⁵ U	1.7E-06	±	3.4E-06	U
	²³⁸ U	9.8E-06	±	8.8E-06	U
	⁶⁵ Zn	4.3E-05	±	3.5E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N524	¹⁴⁴ Ce	6.8E-04	±	1.0E-03	U
(100-H)	⁶⁰ Co	-4.9E-05	±	1.3E-04	U
Composite Period	¹³⁴ Cs	1.3E-04	±	1.3E-04	U
9/17/02 - 1/7/03	¹³⁷ Cs	3.0E-05	±	1.2E-04	U
	¹⁵² Eu	1.3E-04	±	2.8E-04	U
	¹⁵⁴ Eu	4.7E-04	±	3.9E-04	U
	¹⁵⁵ Eu	6.1E-05	±	2.6E-04	U
	²³⁸ Pu	1.9E-05	±	1.7E-05	U
	^{239,240} Pu	1.6E-05	±	1.1E-05	
	¹⁰³ Ru	7.9E-05	±	8.8E-05	U
	¹⁰⁶ Ru	-6.1E-04	±	1.1E-03	U
	¹²⁵ Sb	-7.7E-05	±	2.5E-04	U
	¹¹³ Sn	9.4E-06	±	9.4E-05	U
	⁹⁰ Sr	4.0E-04	±	1.9E-04	
	²³⁴ U	1.6E-05	±	1.1E-05	
	²³⁵ U	7.0E-06	±	6.6E-06	
	²³⁸ U	1.2E-05	±	8.4E-06	
	⁶⁵ Zn	-1.7E-04	±	2.9E-04	U
N525	¹⁴⁴ Ce	-7.6E-04	±	1.5E-03	U
(100-H)	⁶⁰ Co	8.3E-05	±	1.8E-04	U
Composite Period	¹³⁴ Cs	-1.2E-04	±	1.8E-04	U
3/19/02 - 6/25/02	¹³⁷ Cs	-4.1E-05	±	1.4E-04	U
	¹⁵² Eu	3.6E-05	±	3.6E-04	U
	¹⁵⁴ Eu	9.6E-05	±	5.2E-04	U
	¹⁵⁵ Eu	7.4E-05	±	3.7E-04	U
	²³⁸ Pu	-1.3E-06	±	1.3E-05	U
	^{239,240} Pu	1.3E-06	±	4.7E-06	U
	¹⁰³ Ru	-2.8E-05	±	1.6E-04	U
	¹⁰⁶ Ru	-5.5E-04	±	1.4E-03	U
	¹²⁵ Sb	1.6E-05	±	1.6E-04	U
	¹¹³ Sn	-7.3E-05	±	1.6E-04	U
	⁹⁰ Sr	-1.5E-05	±	1.5E-04	U
	²³⁴ U	7.7E-06	±	1.1E-05	U
	²³⁵ U	1.3E-06	±	1.3E-06	U
	²³⁸ U	1.2E-05	±	9.8E-06	U
	⁶⁵ Zn	-3.3E-04	±	3.8E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N525	¹⁴⁴ Ce	-1.3E-03	±	1.6E-03	U
(100-H)	⁶⁰ Co	9.6E-07	±	9.6E-06	U
Composite Period	¹³⁴ Cs	9.0E-05	±	1.8E-04	U
12/27/01 - 3/19/02	¹³⁷ Cs	1.1E-04	±	1.6E-04	U
	¹⁵² Eu	-5.3E-05	±	3.6E-04	U
	¹⁵⁴ Eu	-2.2E-04	±	4.6E-04	U
	¹⁵⁵ Eu	-1.3E-04	±	4.2E-04	U
	²³⁸ Pu	5.8E-06	±	2.2E-05	U
	^{239,240} Pu	1.3E-05	±	9.4E-06	
	¹⁰³ Ru	-1.0E-04	±	1.5E-04	U
	¹⁰⁶ Ru	1.3E-03	±	1.4E-03	U
	¹²⁵ Sb	-2.8E-04	±	3.6E-04	U
	¹¹³ Sn	-3.7E-05	±	1.7E-04	U
	⁹⁰ Sr	2.5E-04	±	1.7E-04	
	²³⁴ U	2.9E-05	±	1.5E-05	
	²³⁵ U	1.2E-05	±	9.1E-06	
	²³⁸ U	4.1E-06	±	6.2E-06	U
	⁶⁵ Zn	-1.9E-04	±	3.1E-04	U
N525	¹⁴⁴ Ce	-5.5E-04	±	1.5E-03	U
(100-H)	⁶⁰ Co	-6.9E-05	±	1.9E-04	U
Composite Period	¹³⁴ Cs	7.2E-05	±	1.7E-04	U
6/25/02 - 9/17/02	¹³⁷ Cs	1.9E-05	±	1.7E-04	U
	¹⁵² Eu	2.5E-04	±	3.7E-04	U
	¹⁵⁴ Eu	1.5E-04	±	4.5E-04	U
	¹⁵⁵ Eu	8.7E-05	±	3.7E-04	U
	²³⁸ Pu	3.1E-06	±	2.5E-05	U
	^{239,240} Pu	4.6E-05	±	2.3E-05	
	¹⁰³ Ru	-1.1E-06	±	1.1E-05	U
	¹⁰⁶ Ru	2.1E-04	±	1.4E-03	U
	¹²⁵ Sb	2.3E-04	±	3.7E-04	U
	¹¹³ Sn	-7.5E-05	±	1.5E-04	U
	⁹⁰ Sr	4.6E-04	±	2.3E-04	
	²³⁴ U	1.7E-05	±	1.0E-05	
	²³⁵ U	3.1E-06	±	6.2E-06	U
	²³⁸ U	1.4E-05	±	9.1E-06	
	⁶⁵ Zn	2.5E-04	±	4.2E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N525	¹⁴⁴ Ce	-6.6E-05	±	6.6E-04	U
(100-H)	⁶⁰ Co	3.6E-06	±	3.6E-05	U
Composite Period	¹³⁴ Cs	-5.2E-05	±	1.4E-04	U
9/17/02 - 1/7/03	¹³⁷ Cs	6.7E-05	±	1.2E-04	U
	¹⁵² Eu	-3.1E-04	±	3.3E-04	U
	¹⁵⁴ Eu	-2.9E-04	±	4.0E-04	U
	¹⁵⁵ Eu	-1.9E-04	±	3.1E-04	U
	²³⁸ Pu	-1.9E-05	±	2.0E-05	U
	^{239,240} Pu	1.3E-06	±	1.4E-06	U
	¹⁰³ Ru	-5.3E-05	±	1.1E-04	U
	¹⁰⁶ Ru	9.0E-04	±	1.4E-03	U
	¹²⁵ Sb	-9.9E-05	±	2.9E-04	U
	¹¹³ Sn	-1.1E-04	±	1.3E-04	U
	⁹⁰ Sr	2.4E-04	±	1.6E-04	
	²³⁴ U	2.1E-05	±	1.2E-05	
	²³⁵ U	6.1E-06	±	7.5E-06	U
	²³⁸ U	1.2E-05	±	8.8E-06	
	⁶⁵ Zn	2.0E-04	±	3.4E-04	U
N401	²⁴¹ Am	6.3E-06	±	9.0E-06	U
(100-K)	¹⁴⁴ Ce	-5.3E-04	±	6.4E-04	U
Composite Period	⁶⁰ Co	6.1E-06	±	6.1E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	4.8E-05	±	7.4E-05	U
	¹³⁷ Cs	1.0E-04	±	9.3E-05	U
	¹⁵² Eu	1.4E-05	±	1.4E-04	U
	¹⁵⁴ Eu	-1.8E-04	±	2.0E-04	U
	¹⁵⁵ Eu	1.2E-04	±	1.6E-04	U
	²³⁸ Pu	2.2E-06	±	5.2E-06	U
	^{239,240} Pu	1.1E-06	±	2.2E-06	U
	²⁴¹ Pu	2.5E-05	±	2.5E-04	U
	¹⁰³ Ru	-2.0E-05	±	5.8E-05	U
	¹⁰⁶ Ru	-1.1E-04	±	5.7E-04	U
	¹²⁵ Sb	-3.8E-06	±	3.8E-05	U
	¹¹³ Sn	1.1E-05	±	6.6E-05	U
	⁹⁰ Sr	5.7E-05	±	6.5E-05	U
	²³⁴ U	3.9E-06	±	6.3E-06	U
	²³⁵ U	2.5E-06	±	3.9E-06	U
	²³⁸ U	1.5E-06	±	5.3E-06	U
	⁶⁵ Zn	-7.5E-05	±	1.4E-04	U
Location	Isotope	Result	±	Uncertainty	RQ*
N401	²⁴¹ Am	7.1E-06	±	1.2E-05	U
(100-K)	¹⁴⁴ Ce	4.9E-04	±	7.2E-04	U
Composite Period	⁶⁰ Co	-1.9E-05	±	7.6E-05	U
12/26/01 - 6/25/02	¹³⁴ Cs	-4.4E-05	±	7.8E-05	U
	¹³⁷ Cs	5.4E-06	±	5.4E-05	U
	¹⁵² Eu	-5.7E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-4.6E-06	±	4.6E-05	U
	¹⁵⁵ Eu	4.9E-05	±	2.0E-04	U
	²³⁸ Pu	2.1E-05	±	3.0E-05	U
	^{239,240} Pu	3.0E-06	±	4.3E-06	U
	²⁴¹ Pu	5.7E-04	±	6.8E-04	U
	¹⁰³ Ru	-1.5E-06	±	1.5E-05	U
	¹⁰⁶ Ru	-3.2E-04	±	6.9E-04	U
	¹²⁵ Sb	2.0E-05	±	1.5E-04	U
	¹¹³ Sn	-1.2E-05	±	7.4E-05	U
	⁹⁰ Sr	4.3E-05	±	6.2E-05	U
	²³⁴ U	1.3E-05	±	7.7E-06	
	²³⁵ U	2.6E-06	±	3.2E-06	
	²³⁸ U	8.6E-06	±	5.9E-06	
	⁶⁵ Zn	-5.9E-05	±	1.4E-04	U
N402	²⁴¹ Am	7.8E-06	±	1.2E-05	U
(100-K)	¹⁴⁴ Ce	5.4E-04	±	7.2E-04	U
Composite Period	⁶⁰ Co	6.3E-05	±	7.4E-05	U
12/26/01 - 6/25/02	¹³⁴ Cs	-1.7E-05	±	7.9E-05	U
	¹³⁷ Cs	3.6E-05	±	6.8E-05	U
	¹⁵² Eu	1.4E-04	±	1.9E-04	U
	¹⁵⁴ Eu	9.6E-05	±	2.9E-04	U
	¹⁵⁵ Eu	4.7E-05	±	1.9E-04	U
	²³⁸ Pu	-1.5E-05	±	2.2E-05	U
	^{239,240} Pu	3.0E-06	±	4.3E-06	U
	²⁴¹ Pu	9.9E-04	±	7.4E-04	
	¹⁰³ Ru	4.0E-05	±	6.9E-05	U
	¹⁰⁶ Ru	6.1E-06	±	6.2E-05	U
	¹²⁵ Sb	-4.0E-05	±	1.7E-04	U
	¹¹³ Sn	3.8E-05	±	7.1E-05	U
	⁹⁰ Sr	6.4E-05	±	6.9E-05	U
	²³⁴ U	1.1E-05	±	6.7E-06	
	²³⁵ U	1.4E-06	±	2.0E-06	U
	²³⁸ U	1.5E-05	±	8.2E-06	
	⁶⁵ Zn	-5.7E-05	±	1.7E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N402	²⁴¹ Am	9.5E-06	±	8.6E-06	U
(100-K)	¹⁴⁴ Ce	-5.7E-04	±	6.6E-04	U
Composite Period	⁶⁰ Co	4.0E-05	±	8.2E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	-7.3E-06	±	7.3E-05	U
	¹³⁷ Cs	1.2E-04	±	1.1E-04	U
	¹⁵² Eu	-1.1E-04	±	1.7E-04	U
	¹⁵⁴ Eu	2.6E-05	±	2.4E-04	U
	¹⁵⁵ Eu	-5.9E-05	±	1.7E-04	U
	²³⁸ Pu	2.3E-06	±	3.3E-06	U
	²⁴¹ Pu	2.3E-06	±	3.3E-06	U
	^{239,240} Pu	6.8E-05	±	6.1E-04	U
	¹⁰³ Ru	-1.4E-05	±	6.6E-05	U
	¹⁰⁶ Ru	4.2E-04	±	6.8E-04	U
	¹²⁵ Sb	5.8E-05	±	1.6E-04	U
	¹¹³ Sn	-1.9E-06	±	1.9E-05	U
	⁹⁰ Sr	2.7E-04	±	1.2E-04	U
	²³⁴ U	1.0E-05	±	5.9E-06	U
	²³⁵ U	2.5E-06	±	2.6E-06	U
	²³⁸ U	9.5E-06	±	6.0E-06	U
	⁶⁵ Zn	-5.7E-05	±	1.7E-04	U
N403	²⁴¹ Am	6.1E-06	±	6.3E-06	U
(100-K)	¹⁴⁴ Ce	-1.6E-04	±	5.2E-04	U
Composite Period	⁶⁰ Co	2.6E-05	±	6.2E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	4.1E-05	±	6.6E-05	U
	¹³⁷ Cs	7.3E-05	±	6.5E-05	U
	¹⁵² Eu	-1.2E-04	±	1.5E-04	U
	¹⁵⁴ Eu	-7.1E-05	±	1.8E-04	U
	¹⁵⁵ Eu	1.5E-04	±	1.3E-04	U
	²³⁸ Pu	1.1E-06	±	5.0E-06	U
	^{239,240} Pu	-1.1E-06	±	2.2E-06	U
	²⁴¹ Pu	-1.9E-04	±	1.9E-03	U
	¹⁰³ Ru	-1.8E-05	±	5.1E-05	U
	¹⁰⁶ Ru	6.4E-05	±	5.4E-04	U
	¹²⁵ Sb	2.5E-05	±	1.4E-04	U
	¹¹³ Sn	1.5E-05	±	5.8E-05	U
	⁹⁰ Sr	8.4E-05	±	7.1E-05	U
	²³⁴ U	1.1E-05	±	6.2E-06	U
	²³⁵ U	2.2E-06	±	2.7E-06	U
	²³⁸ U	7.7E-06	±	4.9E-06	U
	⁶⁵ Zn	1.8E-04	±	2.0E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N403	²⁴¹ Am	1.1E-05	±	1.4E-05	U
(100-K)	¹⁴⁴ Ce	-5.3E-04	±	6.5E-04	U
Composite Period	⁶⁰ Co	5.3E-06	±	5.3E-05	U
12/26/01 - 6/25/02	¹³⁴ Cs	3.0E-05	±	8.2E-05	U
	¹³⁷ Cs	9.8E-05	±	8.2E-05	U
	¹⁵² Eu	-7.6E-05	±	1.7E-04	U
	¹⁵⁴ Eu	2.7E-05	±	2.1E-04	U
	¹⁵⁵ Eu	4.0E-05	±	1.8E-04	U
	²³⁸ Pu	-1.0E-05	±	3.7E-05	U
	²⁴¹ Pu	-2.1E-06	±	7.3E-06	U
	^{239,240} Pu	1.1E-03	±	1.0E-03	U
	¹⁰³ Ru	-4.2E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-4.4E-05	±	4.4E-04	U
	¹²⁵ Sb	1.0E-04	±	1.5E-04	U
	¹¹³ Sn	-2.9E-05	±	8.0E-05	U
	⁹⁰ Sr	2.7E-04	±	1.2E-04	U
	²³⁴ U	1.7E-05	±	9.2E-06	U
	²³⁵ U	4.4E-06	±	3.9E-06	U
	²³⁸ U	2.2E-05	±	1.1E-05	U
	⁶⁵ Zn	-3.9E-06	±	3.9E-05	U
N404	²⁴¹ Am	4.7E-06	±	1.3E-05	U
(100-K)	¹⁴⁴ Ce	1.4E-04	±	7.2E-04	U
Composite Period	⁶⁰ Co	-4.6E-05	±	8.0E-05	U
12/26/01 - 6/25/02	¹³⁴ Cs	-4.7E-05	±	7.5E-05	U
	¹³⁷ Cs	-1.2E-05	±	6.9E-05	U
	¹⁵² Eu	-1.6E-05	±	1.6E-04	U
	¹⁵⁴ Eu	-3.0E-05	±	1.8E-04	U
	¹⁵⁵ Eu	-1.2E-04	±	2.1E-04	U
	²³⁸ Pu	2.9E-06	±	2.3E-05	U
	^{239,240} Pu	5.9E-06	±	6.1E-06	U
	²⁴¹ Pu	1.0E-03	±	6.9E-04	U
	¹⁰³ Ru	-2.6E-05	±	6.3E-05	U
	¹⁰⁶ Ru	-8.7E-05	±	6.6E-04	U
	¹²⁵ Sb	-1.8E-06	±	1.9E-05	U
	¹¹³ Sn	-1.3E-05	±	7.1E-05	U
	⁹⁰ Sr	1.6E-04	±	9.2E-05	U
	²³⁴ U	6.0E-06	±	5.6E-06	U
	²³⁵ U	-8.3E-07	±	1.7E-06	U
	²³⁸ U	4.4E-06	±	3.9E-06	U
	⁶⁵ Zn	-1.2E-04	±	1.7E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*	Location	Isotope	Result	±	Uncertainty	RQ*
N404	²⁴¹ Am	-5.9E-06	±	1.5E-05	U	N476	²⁴¹ Am	3.1E-06	±	1.1E-05	U
(100-K)	¹⁴⁴ Ce	1.1E-04	±	8.8E-04	U	(100-K)	¹⁴⁴ Ce	7.1E-04	±	7.1E-04	U
Composite Period	⁶⁰ Co	1.9E-05	±	8.6E-05	U	Composite Period	⁶⁰ Co	2.5E-05	±	8.5E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	1.3E-05	±	9.3E-05	U	12/26/01 - 6/25/02	¹³⁴ Cs	3.3E-06	±	3.3E-05	U
	¹³⁷ Cs	5.3E-05	±	8.9E-05	U		¹³⁷ Cs	6.5E-05	±	7.8E-05	U
	¹⁵² Eu	-4.5E-05	±	2.2E-04	U		¹⁵² Eu	8.6E-05	±	1.8E-04	U
	¹⁵⁴ Eu	-6.0E-05	±	2.6E-04	U		¹⁵⁴ Eu	-9.0E-05	±	2.5E-04	U
	¹⁵⁵ Eu	-1.5E-04	±	2.8E-04	U		¹⁵⁵ Eu	-9.2E-05	±	1.9E-04	U
	²³⁸ Pu	-1.2E-05	±	2.9E-05	U		²³⁸ Pu	-7.0E-06	±	2.1E-05	U
	^{239,240} Pu	9.8E-06	±	8.6E-06			^{239,240} Pu	1.0E-05	±	1.1E-05	U
	²⁴¹ Pu	-1.3E-04	±	1.3E-03	U		²⁴¹ Pu	5.6E-04	±	6.9E-04	U
	¹⁰³ Ru	1.4E-05	±	7.6E-05	U		¹⁰³ Ru	5.1E-05	±	7.0E-05	U
	¹⁰⁶ Ru	-4.3E-04	±	8.1E-04	U		¹⁰⁶ Ru	8.3E-04	±	6.9E-04	U
	¹²⁵ Sb	-1.9E-05	±	2.0E-04	U		¹²⁵ Sb	1.1E-04	±	1.8E-04	U
	¹¹³ Sn	4.5E-05	±	9.2E-05	U		¹¹³ Sn	-7.5E-06	±	7.5E-05	U
	⁹⁰ Sr	2.2E-04	±	1.3E-04			⁹⁰ Sr	1.4E-04	±	9.3E-05	
	²³⁴ U	8.2E-06	±	5.3E-06			²³⁴ U	1.0E-05	±	6.5E-06	
	²³⁵ U	6.9E-07	±	7.1E-07	U		²³⁵ U	3.1E-06	±	3.2E-06	
	²³⁸ U	1.1E-05	±	6.2E-06			²³⁸ U	1.0E-05	±	6.5E-06	
	⁶⁵ Zn	-1.7E-04	±	2.0E-04	U		⁶⁵ Zn	-6.3E-05	±	1.7E-04	U
N476	²⁴¹ Am	5.5E-06	±	8.3E-06	U	N477	²⁴¹ Am	3.6E-06	±	1.1E-05	U
(100-K)	¹⁴⁴ Ce	2.0E-04	±	5.9E-04	U	(100-K)	¹⁴⁴ Ce	-1.9E-04	±	5.9E-04	U
Composite Period	⁶⁰ Co	-2.5E-06	±	2.5E-05	U	Composite Period	⁶⁰ Co	2.4E-05	±	6.8E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	2.2E-05	±	7.7E-05	U	12/26/01 - 6/25/02	¹³⁴ Cs	-4.8E-05	±	8.3E-05	U
	¹³⁷ Cs	2.5E-05	±	7.1E-05	U		¹³⁷ Cs	-3.4E-05	±	6.2E-05	U
	¹⁵² Eu	-1.9E-05	±	1.5E-04	U		¹⁵² Eu	-8.2E-06	±	8.2E-05	U
	¹⁵⁴ Eu	-6.7E-05	±	2.0E-04	U		¹⁵⁴ Eu	3.5E-04	±	2.0E-04	U
	¹⁵⁵ Eu	-4.5E-05	±	1.7E-04	U		¹⁵⁵ Eu	2.0E-05	±	1.6E-04	U
	²³⁸ Pu	1.1E-06	±	1.1E-05	U		²³⁸ Pu	4.9E-06	±	2.4E-05	U
	^{239,240} Pu	6.6E-06	±	5.8E-06			^{239,240} Pu	1.7E-06	±	7.5E-06	U
	²⁴¹ Pu	1.5E-04	±	5.0E-04	U		²⁴¹ Pu	7.7E-04	±	7.2E-04	U
	¹⁰³ Ru	3.6E-05	±	6.5E-05	U		¹⁰³ Ru	5.0E-07	±	5.0E-06	U
	¹⁰⁶ Ru	7.2E-05	±	6.0E-04	U		¹⁰⁶ Ru	-2.1E-04	±	5.7E-04	U
	¹²⁵ Sb	-9.9E-05	±	1.6E-04	U		¹²⁵ Sb	-1.1E-05	±	1.1E-04	U
	¹¹³ Sn	1.0E-05	±	7.3E-05	U		¹¹³ Sn	-3.4E-05	±	6.7E-05	U
	⁹⁰ Sr	1.6E-04	±	9.1E-05			⁹⁰ Sr	6.3E-05	±	7.7E-05	U
	²³⁴ U	6.6E-06	±	4.7E-06			²³⁴ U	1.3E-05	±	7.8E-06	
	²³⁵ U	1.8E-06	±	2.8E-06	U		²³⁵ U	1.7E-06	±	2.4E-06	U
	²³⁸ U	5.5E-06	±	4.3E-06			²³⁸ U	1.2E-05	±	7.3E-06	
	⁶⁵ Zn	-2.2E-04	±	2.3E-04	U		⁶⁵ Zn	-5.3E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N477	²⁴¹ Am	2.5E-06	±	8.6E-06	U
(100-K)	¹⁴⁴ Ce	1.6E-04	±	5.3E-04	U
Composite Period	⁶⁰ Co	3.8E-06	±	3.8E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	6.0E-06	±	6.0E-05	U
	¹³⁷ Cs	-1.5E-06	±	1.5E-05	U
	¹⁵² Eu	1.4E-05	±	1.4E-04	U
	¹⁵⁴ Eu	1.4E-04	±	1.8E-04	U
	¹⁵⁵ Eu	1.2E-04	±	1.4E-04	U
	²³⁸ Pu	-1.1E-06	±	1.1E-05	U
	^{239,240} Pu	3.4E-06	±	4.2E-06	
	²⁴¹ Pu	2.6E-05	±	2.6E-04	U
	¹⁰³ Ru	-4.5E-05	±	5.9E-05	U
	¹⁰⁶ Ru	-1.9E-04	±	5.3E-04	U
	¹²⁵ Sb	1.5E-04	±	1.5E-04	U
	¹¹³ Sn	-4.6E-05	±	6.6E-05	U
	⁹⁰ Sr	1.8E-04	±	1.0E-04	
	²³⁴ U	8.6E-06	±	5.4E-06	
	²³⁵ U	2.1E-06	±	2.6E-06	
	²³⁸ U	6.1E-06	±	4.2E-06	
	⁶⁵ Zn	2.9E-05	±	1.4E-04	U
N478	²⁴¹ Am	4.7E-06	±	7.6E-06	U
(100-K)	¹⁴⁴ Ce	3.8E-04	±	6.9E-04	U
Composite Period	⁶⁰ Co	-2.7E-05	±	8.5E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	-6.4E-05	±	7.2E-05	U
	¹³⁷ Cs	7.1E-05	±	6.8E-05	U
	¹⁵² Eu	4.7E-05	±	1.6E-04	U
	¹⁵⁴ Eu	-3.9E-05	±	2.5E-04	U
	¹⁵⁵ Eu	-1.6E-05	±	1.6E-04	U
	²³⁸ Pu	1.2E-06	±	1.2E-05	U
	^{239,240} Pu	2.4E-06	±	3.4E-06	U
	²⁴¹ Pu	-1.9E-04	±	1.9E-03	U
	¹⁰³ Ru	3.8E-05	±	6.2E-05	U
	¹⁰⁶ Ru	-5.6E-04	±	6.1E-04	U
	¹²⁵ Sb	-3.8E-05	±	1.6E-04	U
	¹¹³ Sn	-3.0E-06	±	3.0E-05	U
	⁹⁰ Sr	2.0E-04	±	9.9E-05	
	²³⁴ U	8.5E-06	±	5.1E-06	
	²³⁵ U	-7.2E-07	±	1.5E-06	U
	²³⁸ U	5.6E-06	±	3.9E-06	
	⁶⁵ Zn	8.9E-05	±	1.4E-04	U
Location	Isotope	Result	±	Uncertainty	RQ*
N478	²⁴¹ Am	1.6E-06	±	1.1E-05	U
(100-K)	¹⁴⁴ Ce	6.7E-05	±	6.7E-04	U
Composite Period	⁶⁰ Co	4.9E-05	±	8.2E-05	U
12/26/01 - 6/25/02	¹³⁴ Cs	-4.3E-06	±	4.3E-05	U
	¹³⁷ Cs	-4.9E-05	±	8.6E-05	U
	¹⁵² Eu	-1.4E-04	±	2.4E-04	U
	¹⁵⁴ Eu	-1.1E-04	±	2.5E-04	U
	¹⁵⁵ Eu	-1.8E-04	±	2.3E-04	U
	²³⁸ Pu	-8.0E-06	±	2.4E-05	U
	^{239,240} Pu	1.6E-06	±	1.6E-06	U
	²⁴¹ Pu	7.8E-04	±	8.1E-04	U
	¹⁰³ Ru	1.1E-05	±	7.3E-05	U
	¹⁰⁶ Ru	4.6E-04	±	7.3E-04	U
	¹²⁵ Sb	1.0E-04	±	2.0E-04	U
	¹¹³ Sn	4.2E-05	±	8.6E-05	U
	⁹⁰ Sr	4.9E-05	±	8.0E-05	U
	²³⁴ U	1.5E-05	±	9.0E-06	
	²³⁵ U	3.2E-06	±	3.9E-06	
	²³⁸ U	1.4E-05	±	8.7E-06	
	⁶⁵ Zn	-2.4E-05	±	1.8E-04	U
N479	²⁴¹ Am	8.9E-07	±	9.2E-07	U
(100-K)	¹⁴⁴ Ce	1.9E-05	±	1.9E-04	U
Composite Period	⁶⁰ Co	2.4E-05	±	9.8E-05	U
12/26/01 - 6/25/02	¹³⁴ Cs	1.2E-04	±	9.4E-05	U
	¹³⁷ Cs	-8.6E-06	±	8.6E-05	U
	¹⁵² Eu	2.4E-05	±	1.9E-04	U
	¹⁵⁴ Eu	-7.7E-05	±	2.6E-04	U
	¹⁵⁵ Eu	9.0E-05	±	2.1E-04	U
	²³⁸ Pu	-8.9E-06	±	2.3E-05	U
	^{239,240} Pu	5.2E-06	±	6.4E-06	
	²⁴¹ Pu	6.8E-04	±	7.0E-04	U
	¹⁰³ Ru	-5.2E-05	±	8.5E-05	U
	¹⁰⁶ Ru	-4.5E-04	±	8.3E-04	U
	¹²⁵ Sb	7.3E-05	±	1.9E-04	U
	¹¹³ Sn	-1.1E-05	±	8.6E-05	U
	⁹⁰ Sr	1.2E-04	±	9.1E-05	U
	²³⁴ U	6.9E-06	±	6.9E-06	U
	²³⁵ U	2.1E-06	±	3.0E-06	U
	²³⁸ U	1.9E-06	±	4.9E-06	U
	⁶⁵ Zn	-8.5E-06	±	8.5E-05	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N479	²⁴¹ Am	4.6E-06	±	1.0E-05	U
(100-K)	¹⁴⁴ Ce	-2.7E-04	±	6.1E-04	U
Composite Period	⁶⁰ Co	-4.6E-05	±	7.5E-05	U
6/25/02 - 1/6/03	¹³⁴ Cs	2.0E-05	±	1.0E-04	U
	¹³⁷ Cs	8.3E-05	±	7.9E-05	U
	¹⁵² Eu	7.5E-05	±	1.5E-04	U
	¹⁵⁴ Eu	1.3E-04	±	2.3E-04	U
	¹⁵⁵ Eu	-2.7E-06	±	2.7E-05	U
	²³⁸ Pu	-1.2E-05	±	4.2E-05	U
	^{239,240} Pu	4.8E-06	±	9.8E-06	U
	²⁴¹ Pu	-6.7E-05	±	6.7E-04	U
	¹⁰³ Ru	-2.1E-05	±	6.3E-05	U
	¹⁰⁶ Ru	3.7E-04	±	6.6E-04	U
	¹²⁵ Sb	-7.1E-06	±	7.1E-05	U
	¹¹³ Sn	-1.3E-05	±	7.5E-05	U
	⁹⁰ Sr	1.5E-04	±	8.5E-05	
	²³⁴ U	8.1E-06	±	4.8E-06	
	²³⁵ U	1.8E-06	±	2.2E-06	
	²³⁸ U	3.5E-06	±	3.2E-06	U
	⁶⁵ Zn	-4.0E-05	±	1.6E-04	U
N529	²⁴¹ Am	3.9E-06	±	2.7E-05	U
(100-K)	¹⁴⁴ Ce	-1.9E-04	±	1.4E-03	U
Composite Period	⁶⁰ Co	-1.7E-05	±	1.7E-04	U
10/24/02 - 1/7/03	¹³⁴ Cs	3.7E-05	±	1.7E-04	U
	¹³⁷ Cs	3.2E-05	±	1.5E-04	U
	¹⁵² Eu	-1.8E-05	±	1.8E-04	U
	¹⁵⁴ Eu	3.8E-04	±	5.9E-04	U
	¹⁵⁵ Eu	-3.3E-05	±	3.3E-04	U
	²³⁸ Pu	3.3E-06	±	3.3E-05	U
	^{239,240} Pu	3.3E-06	±	3.3E-05	U
	²⁴¹ Pu	1.3E-03	±	1.7E-03	U
	¹⁰³ Ru	-9.2E-05	±	1.6E-04	U
	¹⁰⁶ Ru	9.6E-04	±	1.5E-03	U
	¹²⁵ Sb	-4.5E-05	±	3.9E-04	U
	¹¹³ Sn	4.8E-05	±	1.7E-04	U
	⁹⁰ Sr	1.1E-03	±	3.6E-04	
	²³⁴ U	1.5E-05	±	1.8E-05	U
	²³⁵ U	2.7E-06	±	9.4E-06	U
	²³⁸ U	1.0E-05	±	1.7E-05	U
	⁶⁵ Zn	8.9E-05	±	3.7E-04	U
Location	Isotope	Result	±	Uncertainty	RQ*
N528	²⁴¹ Am	1.2E-05	±	3.0E-05	U
(100-K)	¹⁴⁴ Ce	-4.9E-04	±	2.4E-03	U
Composite Period	⁶⁰ Co	9.3E-05	±	2.3E-04	U
10/30/02 - 1/7/03	¹³⁴ Cs	9.4E-05	±	2.5E-04	U
	¹³⁷ Cs	-1.8E-04	±	2.3E-04	U
	¹⁵² Eu	-2.1E-04	±	5.7E-04	U
	¹⁵⁴ Eu	2.5E-04	±	5.9E-04	U
	¹⁵⁵ Eu	-1.3E-04	±	6.7E-04	U
	²³⁸ Pu	-3.9E-06	±	2.1E-05	U
	^{239,240} Pu	7.7E-06	±	1.1E-05	U
	²⁴¹ Pu	1.4E-03	±	2.0E-03	U
	¹⁰³ Ru	-5.5E-05	±	1.9E-04	U
	¹⁰⁶ Ru	7.3E-04	±	2.1E-03	U
	¹²⁵ Sb	5.1E-04	±	5.8E-04	U
	¹¹³ Sn	3.7E-05	±	2.5E-04	U
	⁹⁰ Sr	3.6E-04	±	2.8E-04	
	²³⁴ U	4.1E-05	±	2.4E-05	
	²³⁵ U	2.4E-06	±	2.5E-06	U
	²³⁸ U	2.4E-05	±	1.7E-05	
	⁶⁵ Zn	-1.1E-06	±	1.1E-05	U
N530	²⁴¹ Am	7.0E-06	±	2.9E-05	U
(100-K)	¹⁴⁴ Ce	-8.6E-04	±	1.5E-03	U
Composite Period	⁶⁰ Co	3.9E-04	±	2.3E-04	
10/24/02 - 1/7/03	¹³⁴ Cs	-6.3E-05	±	1.8E-04	U
	¹³⁷ Cs	-1.2E-04	±	1.9E-04	U
	¹⁵² Eu	6.8E-05	±	4.0E-04	U
	¹⁵⁴ Eu	4.2E-04	±	6.5E-04	U
	¹⁵⁵ Eu	-3.8E-05	±	3.8E-04	U
	²³⁸ Pu	-2.0E-05	±	2.1E-05	U
	^{239,240} Pu	-2.9E-06	±	1.0E-05	U
	²⁴¹ Pu	3.0E-04	±	1.4E-03	U
	¹⁰³ Ru	-7.0E-05	±	1.6E-04	U
	¹⁰⁶ Ru	-2.4E-04	±	1.6E-03	U
	¹²⁵ Sb	-4.2E-05	±	4.0E-04	U
	¹¹³ Sn	-6.3E-05	±	1.7E-04	U
	⁹⁰ Sr	2.7E-04	±	2.0E-04	
	²³⁴ U	8.3E-06	±	1.2E-05	U
	²³⁵ U	1.9E-06	±	3.8E-06	U
	²³⁸ U	1.9E-05	±	1.2E-05	
	⁶⁵ Zn	-2.2E-04	±	4.0E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N102	¹⁴⁴ Ce	1.2E-04	±	7.4E-04	U
(100-N)	⁶⁰ Co	1.5E-04	±	1.1E-04	U
Composite Period	¹³⁴ Cs	-1.3E-06	±	1.3E-05	U
12/26/01 - 6/25/02	¹³⁷ Cs	6.0E-05	±	7.9E-05	U
	¹⁵² Eu	-1.6E-04	±	2.0E-04	U
	¹⁵⁴ Eu	-7.8E-05	±	2.4E-04	U
	¹⁵⁵ Eu	-4.4E-05	±	1.7E-04	U
	²³⁸ Pu	7.9E-07	±	4.2E-06	U
	^{239,240} Pu	6.1E-06	±	4.8E-06	U
	¹⁰³ Ru	-4.6E-05	±	8.0E-05	U
	¹⁰⁶ Ru	-2.9E-04	±	7.0E-04	U
	¹²⁵ Sb	-3.4E-05	±	1.7E-04	U
	¹¹³ Sn	3.4E-05	±	8.2E-05	U
	⁹⁰ Sr	2.5E-04	±	1.2E-04	U
	²³⁴ U	7.0E-06	±	6.4E-06	U
	²³⁵ U	2.5E-06	±	3.8E-06	U
	²³⁸ U	7.0E-06	±	5.6E-06	U
	⁶⁵ Zn	5.1E-05	±	2.0E-04	U
N103	¹⁴⁴ Ce	1.5E-04	±	5.7E-04	U
(100-N)	⁶⁰ Co	2.0E-05	±	7.2E-05	U
Composite Period	¹³⁴ Cs	3.7E-05	±	7.1E-05	U
12/26/01 - 6/25/02	¹³⁷ Cs	1.2E-05	±	6.8E-05	U
	¹⁵² Eu	1.7E-04	±	1.7E-04	U
	¹⁵⁴ Eu	-9.2E-05	±	1.9E-04	U
	¹⁵⁵ Eu	9.4E-05	±	1.6E-04	U
	²³⁸ Pu	-2.9E-06	±	5.6E-06	U
	^{239,240} Pu	7.1E-07	±	7.3E-07	U
	¹⁰³ Ru	-3.4E-05	±	7.3E-05	U
	¹⁰⁶ Ru	2.2E-04	±	5.8E-04	U
	¹²⁵ Sb	7.8E-05	±	1.5E-04	U
	¹¹³ Sn	4.1E-07	±	4.1E-06	U
	⁹⁰ Sr	6.4E-05	±	6.1E-05	U
	²³⁴ U	1.4E-05	±	9.4E-06	U
	²³⁵ U	7.8E-07	±	2.7E-06	U
	²³⁸ U	2.9E-06	±	4.1E-06	U
	⁶⁵ Zn	-1.5E-04	±	1.6E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N102	¹⁴⁴ Ce	-2.5E-04	±	7.5E-04	U
(100-N)	⁶⁰ Co	2.2E-04	±	1.3E-04	U
Composite Period	¹³⁴ Cs	-2.5E-05	±	8.2E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	9.5E-05	±	8.1E-05	U
	¹⁵² Eu	-5.9E-05	±	2.2E-04	U
	¹⁵⁴ Eu	-9.3E-05	±	2.2E-04	U
	¹⁵⁵ Eu	3.0E-05	±	2.1E-04	U
	²³⁸ Pu	-1.2E-05	±	1.2E-05	U
	^{239,240} Pu	3.2E-06	±	3.6E-06	U
	¹⁰³ Ru	4.2E-06	±	4.2E-05	U
	¹⁰⁶ Ru	-2.6E-04	±	6.7E-04	U
	¹²⁵ Sb	-1.5E-06	±	1.5E-05	U
	¹¹³ Sn	-6.8E-05	±	8.9E-05	U
	⁹⁰ Sr	7.3E-05	±	8.3E-05	U
	²³⁴ U	1.8E-05	±	9.3E-06	U
	²³⁵ U	5.5E-06	±	4.5E-06	U
	²³⁸ U	1.2E-05	±	7.6E-06	U
	⁶⁵ Zn	-4.3E-05	±	1.7E-04	U
N103	¹⁴⁴ Ce	-3.6E-04	±	6.9E-04	U
(100-N)	⁶⁰ Co	-7.1E-06	±	7.1E-05	U
Composite Period	¹³⁴ Cs	3.6E-05	±	7.4E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	5.9E-05	±	7.5E-05	U
	¹⁵² Eu	-1.2E-04	±	1.7E-04	U
	¹⁵⁴ Eu	-5.5E-05	±	2.3E-04	U
	¹⁵⁵ Eu	-7.0E-05	±	1.6E-04	U
	²³⁸ Pu	2.4E-06	±	8.8E-06	U
	^{239,240} Pu	2.4E-06	±	3.0E-06	U
	¹⁰³ Ru	5.9E-05	±	7.6E-05	U
	¹⁰⁶ Ru	5.2E-04	±	5.9E-04	U
	¹²⁵ Sb	1.0E-04	±	1.7E-04	U
	¹¹³ Sn	-6.2E-05	±	8.0E-05	U
	⁹⁰ Sr	8.1E-05	±	7.3E-05	U
	²³⁴ U	1.5E-05	±	8.5E-06	U
	²³⁵ U	3.7E-06	±	3.5E-06	U
	²³⁸ U	1.2E-05	±	7.1E-06	U
	⁶⁵ Zn	-5.6E-05	±	2.0E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N105	¹⁴⁴ Ce	5.8E-04	±	7.7E-04	U
(100-N)	⁶⁰ Co	5.8E-04	±	1.9E-04	
Composite Period	¹³⁴ Cs	-6.1E-06	±	6.1E-05	U
12/26/01 - 6/25/02	¹³⁷ Cs	2.5E-04	±	1.4E-04	
	¹⁵² Eu	-2.1E-05	±	1.8E-04	U
	¹⁵⁴ Eu	3.8E-05	±	1.9E-04	U
	¹⁵⁵ Eu	-1.5E-04	±	2.1E-04	U
	²³⁸ Pu	5.6E-06	±	5.8E-06	U
	^{239,240} Pu	1.7E-05	±	9.3E-06	
	¹⁰³ Ru	2.6E-05	±	8.5E-05	U
	¹⁰⁶ Ru	-2.3E-05	±	2.3E-04	U
	¹²⁵ Sb	-2.5E-05	±	1.7E-04	U
	¹¹³ Sn	6.4E-06	±	6.4E-05	U
	⁹⁰ Sr	1.5E-04	±	9.0E-05	
	²³⁴ U	2.1E-05	±	1.1E-05	
	²³⁵ U	4.5E-06	±	4.2E-06	
	²³⁸ U	1.5E-05	±	9.3E-06	
	⁶⁵ Zn	3.1E-05	±	1.5E-04	U
N106	¹⁴⁴ Ce	-8.3E-05	±	6.7E-04	U
(100-N)	⁶⁰ Co	5.7E-05	±	9.5E-05	U
Composite Period	¹³⁴ Cs	1.0E-05	±	7.6E-05	U
12/26/01 - 6/25/02	¹³⁷ Cs	1.0E-04	±	9.3E-05	U
	¹⁵² Eu	-7.9E-06	±	8.0E-05	U
	¹⁵⁴ Eu	-6.8E-05	±	2.1E-04	U
	¹⁵⁵ Eu	-4.8E-05	±	1.7E-04	U
	²³⁸ Pu	3.4E-06	±	4.2E-06	U
	^{239,240} Pu	8.5E-06	±	5.7E-06	
	¹⁰³ Ru	5.6E-05	±	6.7E-05	U
	¹⁰⁶ Ru	1.0E-04	±	6.4E-04	U
	¹²⁵ Sb	-1.2E-04	±	1.6E-04	U
	¹¹³ Sn	3.4E-07	±	3.4E-06	U
	⁹⁰ Sr	6.4E-05	±	6.9E-05	U
	²³⁴ U	1.1E-05	±	7.9E-06	
	²³⁵ U	3.1E-06	±	3.8E-06	U
	²³⁸ U	1.1E-05	±	6.8E-06	
	⁶⁵ Zn	-1.7E-04	±	1.8E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N105	¹⁴⁴ Ce	-3.8E-04	±	7.7E-04	U
(100-N)	⁶⁰ Co	4.6E-04	±	1.9E-04	
Composite Period	¹³⁴ Cs	5.6E-05	±	9.6E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	3.4E-04	±	1.9E-04	
	¹⁵² Eu	1.5E-06	±	1.5E-05	U
	¹⁵⁴ Eu	-3.1E-06	±	3.1E-05	U
	¹⁵⁵ Eu	-3.0E-05	±	2.1E-04	U
	²³⁸ Pu	1.4E-06	±	9.7E-06	U
	^{239,240} Pu	8.0E-06	±	5.3E-06	
	¹⁰³ Ru	9.5E-05	±	9.8E-05	U
	¹⁰⁶ Ru	-4.5E-04	±	7.3E-04	U
	¹²⁵ Sb	-2.8E-05	±	1.9E-04	U
	¹¹³ Sn	8.5E-06	±	8.5E-05	U
	⁹⁰ Sr	9.6E-05	±	8.6E-05	U
	²³⁴ U	1.0E-05	±	7.5E-06	
	²³⁵ U	3.3E-06	±	3.4E-06	
	²³⁸ U	1.1E-05	±	7.1E-06	
	⁶⁵ Zn	-4.6E-05	±	2.3E-04	U
N106	¹⁴⁴ Ce	-2.1E-04	±	5.8E-04	U
(100-N)	⁶⁰ Co	2.6E-04	±	1.1E-04	
Composite Period	¹³⁴ Cs	-4.5E-05	±	7.4E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	1.9E-04	±	1.1E-04	
	¹⁵² Eu	5.0E-05	±	1.4E-04	U
	¹⁵⁴ Eu	1.7E-04	±	2.0E-04	U
	¹⁵⁵ Eu	-5.3E-06	±	5.3E-05	U
	²³⁸ Pu	1.6E-06	±	7.8E-06	U
	^{239,240} Pu	6.8E-06	±	4.6E-06	
	¹⁰³ Ru	7.0E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-7.5E-05	±	5.3E-04	U
	¹²⁵ Sb	3.1E-05	±	1.5E-04	U
	¹¹³ Sn	7.5E-06	±	6.5E-05	U
	⁹⁰ Sr	1.1E-04	±	7.3E-05	
	²³⁴ U	8.2E-06	±	6.1E-06	
	²³⁵ U	3.9E-06	±	3.5E-06	
	²³⁸ U	7.5E-06	±	5.0E-06	
	⁶⁵ Zn	-1.6E-05	±	1.4E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N526	¹⁴⁴ Ce	-2.3E-04	±	6.8E-04	U
(100-N)	⁶⁰ Co	1.0E-03	±	3.2E-04	
Composite Period	¹³⁴ Cs	-7.6E-06	±	7.6E-05	U
12/26/01 - 6/25/02	¹³⁷ Cs	1.5E-03	±	5.2E-04	
	¹⁵² Eu	1.2E-04	±	2.0E-04	U
	¹⁵⁴ Eu	1.3E-04	±	2.3E-04	U
	¹⁵⁵ Eu	1.1E-04	±	1.7E-04	U
	²³⁸ Pu	2.7E-06	±	9.6E-06	U
	^{239,240} Pu	2.1E-05	±	1.0E-05	
	¹⁰³ Ru	6.7E-05	±	8.4E-05	U
	¹⁰⁶ Ru	4.5E-04	±	6.4E-04	U
	¹²⁵ Sb	1.8E-05	±	1.6E-04	U
	¹¹³ Sn	-2.6E-05	±	8.4E-05	U
	⁹⁰ Sr	1.5E-04	±	9.7E-05	
	²³⁴ U	2.4E-05	±	1.2E-05	
	²³⁵ U	1.5E-06	±	2.2E-06	U
	²³⁸ U	1.5E-05	±	8.3E-06	
	⁶⁵ Zn	-8.8E-05	±	1.9E-04	U
N482	¹⁴⁴ Ce	2.4E-04	±	7.2E-04	U
(ERDF)	⁶⁰ Co	8.0E-05	±	8.7E-05	U
Composite Period	¹³⁴ Cs	8.7E-05	±	1.1E-04	U
12/27/01 - 6/25/02	¹³⁷ Cs	1.8E-04	±	1.3E-04	
	¹⁵² Eu	-1.9E-05	±	1.9E-04	U
	¹⁵⁴ Eu	-1.0E-04	±	1.9E-04	U
	¹⁵⁵ Eu	-2.1E-04	±	2.1E-04	U
	²³⁸ Pu	7.1E-07	±	2.5E-06	U
	^{239,240} Pu	6.6E-06	±	5.7E-06	U
	¹⁰³ Ru	2.8E-05	±	7.2E-05	U
	¹⁰⁶ Ru	-1.1E-04	±	6.0E-04	U
	¹²⁵ Sb	1.4E-06	±	1.4E-05	U
	¹¹³ Sn	-3.3E-05	±	8.3E-05	U
	⁹⁰ Sr	1.5E-04	±	8.5E-05	
	²³⁴ U	1.3E-05	±	7.2E-06	
	²³⁵ U	1.8E-06	±	2.5E-06	U
	²³⁸ U	7.8E-06	±	5.3E-06	
	⁶⁵ Zn	-4.6E-05	±	1.6E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N526	¹⁴⁴ Ce	2.9E-04	±	6.1E-04	U
(100-N)	⁶⁰ Co	6.4E-04	±	2.2E-04	
Composite Period	¹³⁴ Cs	-8.2E-05	±	8.5E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	1.2E-03	±	3.9E-04	
	¹⁵² Eu	-7.9E-06	±	7.9E-05	U
	¹⁵⁴ Eu	-1.3E-04	±	1.9E-04	U
	¹⁵⁵ Eu	1.4E-05	±	1.3E-04	U
	²³⁸ Pu	4.2E-06	±	6.0E-06	U
	^{239,240} Pu	2.0E-05	±	9.8E-06	
	¹⁰³ Ru	-1.3E-05	±	6.3E-05	U
	¹⁰⁶ Ru	-1.4E-04	±	5.6E-04	U
	¹²⁵ Sb	-5.0E-05	±	1.5E-04	U
	¹¹³ Sn	2.3E-05	±	6.9E-05	U
	⁹⁰ Sr	1.4E-04	±	8.3E-05	
	²³⁴ U	1.2E-05	±	6.8E-06	
	²³⁵ U	6.2E-07	±	1.2E-06	U
	²³⁸ U	5.1E-06	±	4.1E-06	
	⁶⁵ Zn	1.3E-04	±	1.7E-04	U
N482	¹⁴⁴ Ce	9.5E-05	±	6.8E-04	U
(ERDF)	⁶⁰ Co	2.4E-05	±	7.5E-05	U
Composite Period	¹³⁴ Cs	3.6E-05	±	7.7E-05	U
6/25/02 - 1/8/03	¹³⁷ Cs	5.2E-05	±	7.3E-05	U
	¹⁵² Eu	1.8E-04	±	1.8E-04	U
	¹⁵⁴ Eu	-1.1E-04	±	2.1E-04	U
	¹⁵⁵ Eu	-2.2E-04	±	2.3E-04	U
	²³⁸ Pu	2.9E-06	±	7.9E-06	U
	^{239,240} Pu	1.2E-06	±	2.3E-06	U
	¹⁰³ Ru	-4.8E-05	±	7.6E-05	U
	¹⁰⁶ Ru	3.0E-04	±	6.7E-04	U
	¹²⁵ Sb	3.2E-05	±	1.5E-04	U
	¹¹³ Sn	1.3E-04	±	1.3E-04	U
	⁹⁰ Sr	8.1E-05	±	7.6E-05	U
	²³⁴ U	1.2E-05	±	7.2E-06	
	²³⁵ U	-6.8E-07	±	2.4E-06	U
	²³⁸ U	5.1E-06	±	5.1E-06	U
	⁶⁵ Zn	-5.8E-05	±	1.9E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N517	¹⁴⁴ Ce	2.1E-05	±	2.1E-04	U
(ERDF)	⁶⁰ Co	2.0E-04	±	1.0E-04	
Composite Period	¹³⁴ Cs	-3.5E-05	±	7.7E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	2.6E-04	±	1.6E-04	
	¹⁵² Eu	-7.1E-05	±	1.8E-04	U
	¹⁵⁴ Eu	7.9E-05	±	2.5E-04	U
	¹⁵⁵ Eu	9.3E-05	±	1.9E-04	U
	²³⁸ Pu	7.1E-06	±	1.2E-05	U
	^{239,240} Pu	1.2E-05	±	7.5E-06	
	¹⁰³ Ru	1.2E-05	±	7.7E-05	U
	¹⁰⁶ Ru	-1.1E-04	±	6.8E-04	U
	¹²⁵ Sb	1.1E-04	±	1.7E-04	U
	¹¹³ Sn	-1.5E-05	±	8.4E-05	U
	⁹⁰ Sr	7.3E-05	±	7.2E-05	U
	²³⁴ U	9.5E-06	±	7.0E-06	
	²³⁵ U	2.6E-06	±	3.1E-06	
	²³⁸ U	1.2E-05	±	7.4E-06	
	⁶⁵ Zn	2.5E-05	±	1.9E-04	U
N518	¹⁴⁴ Ce	-1.1E-05	±	1.1E-04	U
(ERDF)	⁶⁰ Co	5.2E-05	±	1.0E-04	U
Composite Period	¹³⁴ Cs	-2.1E-05	±	8.0E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	7.0E-05	±	8.2E-05	U
	¹⁵² Eu	7.6E-05	±	2.0E-04	U
	¹⁵⁴ Eu	-1.1E-04	±	2.7E-04	U
	¹⁵⁵ Eu	-3.4E-05	±	1.8E-04	U
	²³⁸ Pu	7.1E-07	±	7.1E-06	U
	^{239,240} Pu	1.2E-05	±	7.6E-06	
	¹⁰³ Ru	1.9E-05	±	8.2E-05	U
	¹⁰⁶ Ru	2.4E-04	±	6.7E-04	U
	¹²⁵ Sb	1.1E-05	±	1.1E-04	U
	¹¹³ Sn	-1.9E-05	±	8.3E-05	U
	⁹⁰ Sr	5.1E-05	±	8.8E-05	U
	²³⁴ U	1.4E-05	±	8.5E-06	
	²³⁵ U	3.4E-06	±	3.5E-06	
	²³⁸ U	1.7E-05	±	9.4E-06	
	⁶⁵ Zn	1.5E-05	±	1.5E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N517	¹⁴⁴ Ce	4.3E-04	±	6.5E-04	U
(ERDF)	⁶⁰ Co	-1.2E-05	±	8.6E-05	U
Composite Period	¹³⁴ Cs	4.6E-06	±	4.6E-05	U
6/25/02 - 1/8/03	¹³⁷ Cs	4.5E-05	±	7.9E-05	U
	¹⁵² Eu	-3.7E-05	±	1.8E-04	U
	¹⁵⁴ Eu	-8.9E-05	±	2.2E-04	U
	¹⁵⁵ Eu	1.4E-06	±	1.4E-05	U
	²³⁸ Pu	-5.7E-06	±	9.2E-06	U
	^{239,240} Pu	1.9E-06	±	3.8E-06	U
	¹⁰³ Ru	6.2E-06	±	6.3E-05	U
	¹⁰⁶ Ru	1.6E-04	±	6.8E-04	U
	¹²⁵ Sb	-1.4E-04	±	1.6E-04	U
	¹¹³ Sn	1.4E-04	±	8.8E-05	U
	⁹⁰ Sr	4.7E-05	±	7.1E-05	U
	²³⁴ U	1.2E-05	±	7.2E-06	
	²³⁵ U	1.5E-06	±	2.1E-06	U
	²³⁸ U	8.7E-06	±	6.2E-06	
	⁶⁵ Zn	1.3E-04	±	1.8E-04	U
N518	¹⁴⁴ Ce	1.0E-04	±	6.3E-04	U
(ERDF)	⁶⁰ Co	-4.5E-05	±	9.0E-05	U
Composite Period	¹³⁴ Cs	-2.1E-06	±	2.1E-05	U
6/25/02 - 1/8/03	¹³⁷ Cs	3.1E-05	±	7.6E-05	U
	¹⁵² Eu	-3.9E-05	±	1.6E-04	U
	¹⁵⁴ Eu	-8.7E-05	±	2.1E-04	U
	¹⁵⁵ Eu	-1.3E-04	±	1.8E-04	U
	²³⁸ Pu	-9.4E-06	±	9.8E-06	U
	^{239,240} Pu	1.2E-06	±	2.4E-06	U
	¹⁰³ Ru	-2.5E-05	±	7.9E-05	U
	¹⁰⁶ Ru	-4.1E-04	±	6.5E-04	U
	¹²⁵ Sb	-9.1E-06	±	9.1E-05	U
	¹¹³ Sn	-1.5E-05	±	7.9E-05	U
	⁹⁰ Sr	2.0E-05	±	5.5E-05	U
	²³⁴ U	6.0E-06	±	4.9E-06	
	²³⁵ U	6.6E-07	±	2.3E-06	U
	²³⁸ U	1.3E-05	±	7.2E-06	
	⁶⁵ Zn	-2.2E-04	±	2.3E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N019	¹⁴⁴ Ce	-4.9E-04	±	6.5E-04	U
(200-East)	⁶⁰ Co	-5.2E-05	±	8.6E-05	U
Composite Period	¹³⁴ Cs	8.6E-05	±	8.4E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	4.7E-05	±	8.0E-05	U
	¹⁵² Eu	8.3E-05	±	1.6E-04	U
	¹⁵⁴ Eu	5.5E-06	±	5.5E-05	U
	¹⁵⁵ Eu	1.1E-04	±	1.9E-04	U
	²³⁸ Pu	-1.9E-06	±	7.8E-06	U
	^{239,240} Pu	6.5E-07	±	2.9E-06	U
	¹⁰³ Ru	2.7E-05	±	6.4E-05	U
	¹⁰⁶ Ru	1.9E-04	±	6.9E-04	U
	¹²⁵ Sb	6.7E-05	±	1.7E-04	U
	¹¹³ Sn	-3.3E-08	±	3.3E-07	U
	⁹⁰ Sr	7.8E-05	±	7.4E-05	U
	²³⁴ U	7.8E-06	±	5.7E-06	
	²³⁵ U	4.5E-06	±	4.0E-06	
	²³⁸ U	9.9E-06	±	6.3E-06	
	⁶⁵ Zn	3.0E-05	±	2.0E-04	U
N158	¹⁴⁴ Ce	-2.9E-04	±	6.5E-04	U
(200-East)	⁶⁰ Co	4.0E-05	±	8.2E-05	U
Composite Period	¹³⁴ Cs	-3.2E-05	±	1.0E-04	U
12/26/01 - 6/24/02	¹³⁷ Cs	2.4E-04	±	1.4E-04	
	¹⁵² Eu	4.1E-05	±	1.8E-04	U
	¹⁵⁴ Eu	-1.4E-04	±	2.6E-04	U
	¹⁵⁵ Eu	-3.1E-05	±	1.8E-04	U
	²³⁸ Pu	-5.8E-06	±	1.1E-05	U
	^{239,240} Pu	1.1E-05	±	6.7E-06	
	¹⁰³ Ru	1.9E-06	±	1.9E-05	U
	¹⁰⁶ Ru	5.2E-05	±	5.2E-04	U
	¹²⁵ Sb	-1.7E-05	±	1.7E-04	U
	¹¹³ Sn	2.6E-05	±	7.3E-05	U
	⁹⁰ Sr	1.7E-04	±	9.7E-05	
	²³⁴ U	1.3E-05	±	8.0E-06	
	²³⁵ U	3.0E-06	±	3.1E-06	
	²³⁸ U	1.3E-05	±	7.3E-06	
	⁶⁵ Zn	-6.7E-05	±	1.7E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N019	¹⁴⁴ Ce	-3.9E-04	±	6.7E-04	U
(200-East)	⁶⁰ Co	-1.8E-05	±	8.4E-05	U
Composite Period	¹³⁴ Cs	6.3E-05	±	7.4E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	1.4E-05	±	7.1E-05	U
	¹⁵² Eu	-1.4E-04	±	1.7E-04	U
	¹⁵⁴ Eu	1.9E-05	±	1.9E-04	U
	¹⁵⁵ Eu	4.1E-05	±	1.7E-04	U
	²³⁸ Pu	3.4E-06	±	1.1E-05	U
	^{239,240} Pu	6.8E-07	±	3.1E-06	U
	¹⁰³ Ru	-3.5E-08	±	3.5E-07	U
	¹⁰⁶ Ru	5.4E-04	±	6.6E-04	U
	¹²⁵ Sb	-1.5E-05	±	1.5E-04	U
	¹¹³ Sn	-3.8E-05	±	7.3E-05	U
	⁹⁰ Sr	3.5E-04	±	1.4E-04	
	²³⁴ U	1.5E-05	±	7.9E-06	
	²³⁵ U	1.5E-06	±	3.1E-06	U
	²³⁸ U	3.4E-06	±	3.9E-06	U
	⁶⁵ Zn	-3.0E-05	±	1.5E-04	U
N158	¹⁴⁴ Ce	-1.7E-05	±	1.7E-04	U
(200-East)	⁶⁰ Co	8.2E-06	±	7.1E-05	U
Composite Period	¹³⁴ Cs	-5.6E-05	±	7.4E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.3E-04	±	1.2E-04	
	¹⁵² Eu	-2.5E-04	±	2.6E-04	U
	¹⁵⁴ Eu	5.7E-05	±	1.9E-04	U
	¹⁵⁵ Eu	-1.2E-04	±	1.9E-04	U
	²³⁸ Pu	2.0E-06	±	9.4E-06	U
	^{239,240} Pu	6.6E-07	±	6.6E-06	U
	¹⁰³ Ru	5.1E-05	±	6.4E-05	U
	¹⁰⁶ Ru	6.1E-04	±	6.5E-04	U
	¹²⁵ Sb	2.2E-04	±	1.4E-04	U
	¹¹³ Sn	-3.8E-05	±	7.3E-05	U
	⁹⁰ Sr	6.8E-06	±	6.8E-05	U
	²³⁴ U	6.8E-06	±	4.6E-06	
	²³⁵ U	3.0E-06	±	3.2E-06	
	²³⁸ U	9.5E-06	±	5.7E-06	
	⁶⁵ Zn	-8.9E-05	±	1.4E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N480	²⁴¹ Am	1.3E-05	±	1.3E-05	U
(200-East, CSB)	¹⁴⁴ Ce	-4.1E-04	±	5.8E-04	U
Composite Period	⁶⁰ Co	3.5E-05	±	7.4E-05	U
12/26/01 - 6/24/02	¹³⁴ Cs	5.9E-06	±	5.9E-05	U
	¹³⁷ Cs	5.0E-05	±	6.9E-05	U
	¹⁵² Eu	-3.5E-05	±	1.5E-04	U
	¹⁵⁴ Eu	-6.7E-05	±	1.9E-04	U
	¹⁵⁵ Eu	-7.7E-05	±	1.6E-04	U
	²³⁸ Pu	1.5E-06	±	1.6E-05	U
	^{239,240} Pu	3.0E-06	±	6.1E-06	U
	²⁴¹ Pu	7.0E-04	±	7.3E-04	U
	¹⁰³ Ru	-3.0E-05	±	6.2E-05	U
	¹⁰⁶ Ru	-3.3E-04	±	5.5E-04	U
	¹²⁵ Sb	2.8E-05	±	1.5E-04	U
	¹¹³ Sn	3.7E-05	±	6.7E-05	U
	⁹⁰ Sr	3.5E-05	±	6.1E-05	U
	²³⁴ U	1.2E-05	±	8.0E-06	
	²³⁵ U	1.7E-06	±	2.4E-06	U
	²³⁸ U	2.4E-06	±	6.2E-06	U
	⁶⁵ Zn	-3.3E-05	±	1.6E-04	U
N481	²⁴¹ Am	5.0E-06	±	1.1E-05	U
(200-East, CSB)	¹⁴⁴ Ce	9.0E-05	±	6.9E-04	U
Composite Period	⁶⁰ Co	3.6E-05	±	7.8E-05	U
12/26/01 - 6/24/02	¹³⁴ Cs	6.6E-05	±	8.0E-05	U
	¹³⁷ Cs	2.6E-05	±	6.7E-05	U
	¹⁵² Eu	-8.6E-05	±	2.0E-04	U
	¹⁵⁴ Eu	-3.0E-05	±	2.1E-04	U
	¹⁵⁵ Eu	7.9E-05	±	2.0E-04	U
	²³⁸ Pu	1.6E-06	±	1.4E-05	U
	^{239,240} Pu	-3.3E-06	±	8.1E-06	U
	²⁴¹ Pu	9.9E-04	±	8.4E-04	U
	¹⁰³ Ru	-1.5E-05	±	6.2E-05	U
	¹⁰⁶ Ru	-1.2E-05	±	1.2E-04	U
	¹²⁵ Sb	2.2E-05	±	1.6E-04	U
	¹¹³ Sn	-1.3E-05	±	7.2E-05	U
	⁹⁰ Sr	7.8E-05	±	8.1E-05	U
	²³⁴ U	1.6E-05	±	9.5E-06	
	²³⁵ U	9.2E-07	±	3.2E-06	U
	²³⁸ U	8.5E-06	±	6.1E-06	
	⁶⁵ Zn	-1.6E-05	±	1.4E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N480	²⁴¹ Am	3.2E-06	±	7.8E-06	U
(200-East, CSB)	¹⁴⁴ Ce	-3.1E-05	±	3.1E-04	U
Composite Period	⁶⁰ Co	-5.3E-07	±	5.3E-06	U
6/24/02 - 1/6/03	¹³⁴ Cs	2.4E-05	±	6.5E-05	U
	¹³⁷ Cs	-7.8E-06	±	6.2E-05	U
	¹⁵² Eu	-2.3E-05	±	1.4E-04	U
	¹⁵⁴ Eu	3.1E-05	±	1.8E-04	U
	¹⁵⁵ Eu	-2.7E-05	±	1.3E-04	U
	²³⁸ Pu	-2.1E-06	±	1.4E-05	U
	^{239,240} Pu	3.2E-06	±	4.8E-06	U
	²⁴¹ Pu	-6.7E-06	±	6.7E-05	U
	¹⁰³ Ru	-3.0E-05	±	5.9E-05	U
	¹⁰⁶ Ru	-3.0E-04	±	4.9E-04	U
	¹²⁵ Sb	1.2E-05	±	1.2E-04	U
	¹¹³ Sn	-8.5E-06	±	6.4E-05	U
	⁹⁰ Sr	1.0E-04	±	7.6E-05	
	²³⁴ U	5.3E-06	±	4.6E-06	U
	²³⁵ U	1.3E-06	±	1.8E-06	U
	²³⁸ U	6.5E-06	±	4.8E-06	
	⁶⁵ Zn	-7.4E-06	±	7.4E-05	U
N481	²⁴¹ Am	-1.3E-06	±	1.0E-05	U
(200-East, CSB)	¹⁴⁴ Ce	-2.9E-04	±	5.6E-04	U
Composite Period	⁶⁰ Co	4.2E-06	±	4.2E-05	U
6/24/02 - 1/6/03	¹³⁴ Cs	2.4E-05	±	6.6E-05	U
	¹³⁷ Cs	3.9E-05	±	6.3E-05	U
	¹⁵² Eu	6.5E-05	±	1.5E-04	U
	¹⁵⁴ Eu	6.2E-05	±	1.9E-04	U
	¹⁵⁵ Eu	1.7E-05	±	1.5E-04	U
	²³⁸ Pu	1.1E-05	±	2.1E-05	U
	^{239,240} Pu	6.5E-06	±	6.2E-06	
	²⁴¹ Pu	-1.3E-04	±	1.3E-03	U
	¹⁰³ Ru	-9.1E-06	±	5.9E-05	U
	¹⁰⁶ Ru	-1.4E-04	±	5.7E-04	U
	¹²⁵ Sb	5.0E-06	±	5.0E-05	U
	¹¹³ Sn	-8.3E-06	±	6.3E-05	U
	⁹⁰ Sr	9.3E-05	±	7.5E-05	
	²³⁴ U	6.7E-06	±	5.0E-06	
	²³⁵ U	2.5E-06	±	2.6E-06	
	²³⁸ U	8.0E-06	±	5.3E-06	
	⁶⁵ Zn	-4.0E-05	±	1.5E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N498	¹⁴⁴ Ce	9.7E-04	±	7.2E-04	U
(200-East)	⁶⁰ Co	-4.7E-05	±	8.7E-05	U
Composite Period	¹³⁴ Cs	-7.0E-05	±	8.1E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.2E-04	±	1.2E-04	U
	¹⁵² Eu	8.0E-05	±	1.8E-04	U
	¹⁵⁴ Eu	2.4E-04	±	2.5E-04	U
	¹⁵⁵ Eu	-4.0E-05	±	1.7E-04	U
	²³⁸ Pu	6.3E-07	±	6.5E-07	U
	^{239,240} Pu	1.3E-06	±	2.6E-06	U
	¹⁰³ Ru	-1.7E-05	±	7.2E-05	U
	¹⁰⁶ Ru	-2.9E-04	±	6.2E-04	U
	¹²⁵ Sb	6.0E-05	±	1.6E-04	U
	¹¹³ Sn	-2.1E-05	±	7.6E-05	U
	⁹⁰ Sr	1.6E-04	±	9.4E-05	
	²³⁴ U	2.2E-05	±	1.0E-05	
	²³⁵ U	5.0E-06	±	4.6E-06	U
	²³⁸ U	8.6E-06	±	6.7E-06	
	⁶⁵ Zn	1.1E-04	±	1.8E-04	U
N499	¹⁴⁴ Ce	3.8E-04	±	6.3E-04	U
(200-East)	⁶⁰ Co	-4.2E-05	±	7.9E-05	U
Composite Period	¹³⁴ Cs	-1.5E-05	±	8.3E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	6.8E-05	±	8.3E-05	U
	¹⁵² Eu	-7.6E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-6.6E-05	±	2.3E-04	U
	¹⁵⁵ Eu	4.3E-05	±	1.9E-04	U
	²³⁸ Pu	6.8E-07	±	7.0E-07	U
	^{239,240} Pu	6.1E-06	±	4.9E-06	
	¹⁰³ Ru	-4.1E-05	±	7.5E-05	U
	¹⁰⁶ Ru	4.3E-04	±	7.0E-04	U
	¹²⁵ Sb	-3.4E-05	±	1.8E-04	U
	¹¹³ Sn	3.2E-05	±	7.8E-05	U
	⁹⁰ Sr	1.1E-04	±	8.2E-05	
	²³⁴ U	1.1E-05	±	7.4E-06	
	²³⁵ U	2.4E-06	±	3.7E-06	U
	²³⁸ U	9.2E-06	±	6.2E-06	
	⁶⁵ Zn	-7.8E-05	±	1.9E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N498	¹⁴⁴ Ce	8.2E-05	±	7.2E-04	U
(200-East)	⁶⁰ Co	1.0E-05	±	6.7E-05	U
Composite Period	¹³⁴ Cs	-3.3E-05	±	7.3E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	5.8E-05	±	7.0E-05	U
	¹⁵² Eu	-2.1E-05	±	1.7E-04	U
	¹⁵⁴ Eu	1.3E-04	±	2.0E-04	U
	¹⁵⁵ Eu	-8.2E-05	±	2.0E-04	U
	²³⁸ Pu	8.1E-06	±	8.4E-06	U
	^{239,240} Pu	6.3E-07	±	1.3E-06	U
	¹⁰³ Ru	-1.0E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-1.7E-04	±	5.8E-04	U
	¹²⁵ Sb	7.8E-05	±	1.9E-04	U
	¹¹³ Sn	3.2E-05	±	7.5E-05	U
	⁹⁰ Sr	6.1E-05	±	6.3E-05	U
	²³⁴ U	2.2E-05	±	1.1E-05	
	²³⁵ U	5.5E-06	±	4.3E-06	
	²³⁸ U	1.8E-05	±	9.5E-06	
	⁶⁵ Zn	-1.0E-04	±	1.5E-04	U
N499	¹⁴⁴ Ce	2.5E-05	±	2.5E-04	U
(200-East)	⁶⁰ Co	4.3E-06	±	4.3E-05	U
Composite Period	¹³⁴ Cs	-2.0E-05	±	8.3E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-1.5E-05	±	7.1E-05	U
	¹⁵² Eu	-1.9E-04	±	1.9E-04	U
	¹⁵⁴ Eu	6.6E-06	±	6.6E-05	U
	¹⁵⁵ Eu	-4.0E-05	±	1.9E-04	U
	²³⁸ Pu	-1.9E-06	±	9.4E-06	U
	^{239,240} Pu	-1.2E-06	±	1.8E-06	U
	¹⁰³ Ru	9.6E-06	±	7.3E-05	U
	¹⁰⁶ Ru	-3.5E-05	±	3.5E-04	U
	¹²⁵ Sb	1.2E-04	±	1.7E-04	U
	¹¹³ Sn	-6.1E-05	±	8.0E-05	U
	⁹⁰ Sr	1.0E-04	±	8.3E-05	
	²³⁴ U	7.6E-06	±	6.5E-06	U
	²³⁵ U	3.7E-06	±	3.5E-06	
	²³⁸ U	1.1E-05	±	6.6E-06	
	⁶⁵ Zn	-4.3E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N957	¹⁴⁴ Ce	-7.7E-05	±	6.7E-04	U
(200-East)	⁶⁰ Co	1.6E-05	±	7.7E-05	U
Composite Period	¹³⁴ Cs	4.6E-05	±	7.6E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	5.1E-05	±	7.0E-05	U
	¹⁵² Eu	1.4E-05	±	1.4E-04	U
	¹⁵⁴ Eu	1.2E-04	±	2.5E-04	U
	¹⁵⁵ Eu	1.4E-04	±	1.7E-04	U
	²³⁸ Pu	5.4E-07	±	1.9E-06	U
	^{239,240} Pu	3.3E-06	±	3.2E-06	U
	¹⁰³ Ru	-2.8E-05	±	7.0E-05	U
	¹⁰⁶ Ru	-4.6E-04	±	6.5E-04	U
	¹²⁵ Sb	5.0E-05	±	1.5E-04	U
	¹¹³ Sn	1.0E-05	±	7.3E-05	U
	⁹⁰ Sr	5.6E-05	±	7.4E-05	U
	²³⁴ U	8.3E-06	±	6.8E-06	
	²³⁵ U	1.5E-06	±	2.9E-06	U
	²³⁸ U	1.2E-05	±	7.2E-06	
	⁶⁵ Zn	-1.1E-04	±	1.8E-04	U
N967	¹⁴⁴ Ce	-1.0E-04	±	6.6E-04	U
(200-East)	⁶⁰ Co	-4.2E-05	±	8.6E-05	U
Composite Period	¹³⁴ Cs	5.8E-06	±	5.8E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	4.7E-04	±	2.3E-04	
	¹⁵² Eu	-8.8E-06	±	8.8E-05	U
	¹⁵⁴ Eu	-7.4E-05	±	2.2E-04	U
	¹⁵⁵ Eu	1.4E-05	±	1.4E-04	U
	²³⁸ Pu	6.0E-07	±	1.2E-06	U
	^{239,240} Pu	4.8E-06	±	3.7E-06	
	¹⁰³ Ru	-3.8E-06	±	3.8E-05	U
	¹⁰⁶ Ru	-6.4E-04	±	6.7E-04	U
	¹²⁵ Sb	-1.1E-04	±	1.7E-04	U
	¹¹³ Sn	3.1E-05	±	7.6E-05	U
	⁹⁰ Sr	1.3E-04	±	8.3E-05	
	²³⁴ U	2.1E-05	±	1.1E-05	
	²³⁵ U	2.6E-06	±	3.2E-06	
	²³⁸ U	1.4E-05	±	8.1E-06	
	⁶⁵ Zn	-7.1E-05	±	1.9E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N957	¹⁴⁴ Ce	-9.6E-05	±	6.9E-04	U
(200-East)	⁶⁰ Co	9.7E-05	±	8.7E-05	
Composite Period	¹³⁴ Cs	-1.6E-05	±	7.1E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-3.2E-06	±	3.2E-05	U
	¹⁵² Eu	1.1E-04	±	1.9E-04	U
	¹⁵⁴ Eu	-9.1E-05	±	2.2E-04	U
	¹⁵⁵ Eu	-1.0E-05	±	1.0E-04	U
	²³⁸ Pu	-1.2E-06	±	8.4E-06	U
	^{239,240} Pu	5.9E-07	±	6.1E-07	U
	¹⁰³ Ru	-5.1E-06	±	5.1E-05	U
	¹⁰⁶ Ru	1.0E-04	±	6.0E-04	U
	¹²⁵ Sb	-5.2E-05	±	1.8E-04	U
	¹¹³ Sn	-8.3E-05	±	8.7E-05	U
	⁹⁰ Sr	1.1E-04	±	8.1E-05	
	²³⁴ U	4.4E-06	±	6.2E-06	U
	²³⁵ U	1.6E-06	±	3.3E-06	U
	²³⁸ U	6.5E-06	±	6.7E-06	U
	⁶⁵ Zn	-1.2E-04	±	1.7E-04	U
N967	¹⁴⁴ Ce	-1.1E-04	±	6.9E-04	U
(200-East)	⁶⁰ Co	-5.8E-05	±	7.6E-05	U
Composite Period	¹³⁴ Cs	5.8E-05	±	7.2E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.3E-03	±	7.6E-04	
	¹⁵² Eu	3.4E-05	±	1.8E-04	U
	¹⁵⁴ Eu	5.6E-06	±	5.6E-05	U
	¹⁵⁵ Eu	1.3E-04	±	1.8E-04	U
	²³⁸ Pu	-5.5E-06	±	8.9E-06	U
	^{239,240} Pu	6.7E-07	±	1.3E-06	U
	¹⁰³ Ru	5.6E-05	±	7.0E-05	U
	¹⁰⁶ Ru	-4.0E-04	±	6.2E-04	U
	¹²⁵ Sb	6.6E-05	±	1.8E-04	U
	¹¹³ Sn	1.9E-05	±	7.8E-05	U
	⁹⁰ Sr	1.4E-04	±	7.4E-05	
	²³⁴ U	1.0E-05	±	6.9E-06	
	²³⁵ U	3.9E-06	±	3.7E-06	
	²³⁸ U	1.0E-05	±	6.6E-06	
	⁶⁵ Zn	-2.1E-04	±	2.2E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N968	¹⁴⁴ Ce	-4.4E-04	±	7.3E-04	U
(200-East)	⁶⁰ Co	1.5E-05	±	9.2E-05	U
Composite Period	¹³⁴ Cs	2.2E-05	±	8.7E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	2.1E-05	±	7.4E-05	U
	¹⁵² Eu	1.4E-04	±	2.1E-04	U
	¹⁵⁴ Eu	-3.4E-06	±	3.4E-05	U
	¹⁵⁵ Eu	-1.5E-04	±	1.9E-04	U
	²³⁸ Pu	-7.6E-07	±	7.7E-06	U
	^{239,240} Pu	-7.6E-07	±	5.1E-06	U
	¹⁰³ Ru	-8.3E-05	±	8.6E-05	U
	¹⁰⁶ Ru	-1.6E-04	±	6.9E-04	U
	¹²⁵ Sb	-1.1E-04	±	2.2E-04	U
	¹¹³ Sn	-3.8E-05	±	8.3E-05	U
	⁹⁰ Sr	1.8E-04	±	9.2E-05	
	²³⁴ U	1.8E-05	±	1.1E-05	
	²³⁵ U	8.4E-07	±	4.5E-06	U
	²³⁸ U	2.1E-05	±	1.0E-05	
	⁶⁵ Zn	1.6E-04	±	1.9E-04	U
N969	¹⁴⁴ Ce	-1.7E-04	±	6.4E-04	U
(200-East)	⁶⁰ Co	6.6E-05	±	9.2E-05	U
Composite Period	¹³⁴ Cs	7.0E-05	±	8.9E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	9.8E-06	±	7.9E-05	U
	¹⁵² Eu	1.0E-04	±	1.9E-04	U
	¹⁵⁴ Eu	-1.9E-04	±	2.4E-04	U
	¹⁵⁵ Eu	1.0E-04	±	1.9E-04	U
	²³⁸ Pu	-3.9E-06	±	1.0E-05	U
	^{239,240} Pu	2.6E-06	±	3.2E-06	U
	¹⁰³ Ru	6.8E-06	±	6.8E-05	U
	¹⁰⁶ Ru	2.3E-04	±	7.0E-04	U
	¹²⁵ Sb	-1.2E-04	±	2.0E-04	U
	¹¹³ Sn	2.4E-05	±	7.8E-05	U
	⁹⁰ Sr	2.3E-04	±	1.1E-04	
	²³⁴ U	1.1E-05	±	7.2E-06	
	²³⁵ U	7.8E-07	±	3.5E-06	U
	²³⁸ U	5.6E-06	±	5.5E-06	U
	⁶⁵ Zn	-1.6E-04	±	2.0E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N968	¹⁴⁴ Ce	-7.9E-05	±	6.2E-04	U
(200-East)	⁶⁰ Co	2.3E-05	±	7.4E-05	U
Composite Period	¹³⁴ Cs	9.0E-06	±	7.7E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.0E-05	±	7.2E-05	U
	¹⁵² Eu	-2.8E-05	±	1.9E-04	U
	¹⁵⁴ Eu	8.6E-05	±	2.2E-04	U
	¹⁵⁵ Eu	4.7E-05	±	1.8E-04	U
	²³⁸ Pu	-3.8E-06	±	8.0E-06	U
	^{239,240} Pu	-1.2E-06	±	1.8E-06	U
	¹⁰³ Ru	1.2E-05	±	6.8E-05	U
	¹⁰⁶ Ru	-2.1E-04	±	6.9E-04	U
	¹²⁵ Sb	7.3E-05	±	1.7E-04	U
	¹¹³ Sn	-4.8E-05	±	7.7E-05	U
	⁹⁰ Sr	2.3E-04	±	1.0E-04	
	²³⁴ U	1.7E-05	±	9.3E-06	
	²³⁵ U	1.5E-06	±	2.2E-06	U
	²³⁸ U	1.7E-05	±	9.2E-06	
	⁶⁵ Zn	1.1E-04	±	1.9E-04	U
N969	¹⁴⁴ Ce	4.0E-05	±	4.0E-04	U
(200-East)	⁶⁰ Co	-4.8E-07	±	4.8E-06	U
Composite Period	¹³⁴ Cs	-4.8E-05	±	7.2E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	3.0E-05	±	6.6E-05	U
	¹⁵² Eu	-3.0E-05	±	1.6E-04	U
	¹⁵⁴ Eu	7.8E-05	±	2.0E-04	U
	¹⁵⁵ Eu	1.4E-05	±	1.3E-04	U
	²³⁸ Pu	3.4E-06	±	9.9E-06	U
	^{239,240} Pu	1.3E-06	±	3.4E-06	U
	¹⁰³ Ru	8.1E-06	±	6.8E-05	U
	¹⁰⁶ Ru	-6.8E-04	±	7.1E-04	U
	¹²⁵ Sb	-1.1E-04	±	1.5E-04	U
	¹¹³ Sn	-2.6E-05	±	6.6E-05	U
	⁹⁰ Sr	9.9E-05	±	7.4E-05	
	²³⁴ U	1.5E-05	±	8.8E-06	
	²³⁵ U	-8.5E-07	±	3.0E-06	U
	²³⁸ U	6.4E-06	±	6.6E-06	U
	⁶⁵ Zn	-1.1E-04	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N970	¹⁴⁴ Ce	-8.9E-05	±	6.1E-04	U
(200-East)	⁶⁰ Co	-5.6E-05	±	6.5E-05	U
Composite Period	¹³⁴ Cs	-1.5E-05	±	8.8E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	4.1E-05	±	6.7E-05	U
	¹⁵² Eu	2.9E-04	±	2.0E-04	
	¹⁵⁴ Eu	1.5E-04	±	2.0E-04	U
	¹⁵⁵ Eu	-3.3E-05	±	1.7E-04	U
	²³⁸ Pu	6.9E-06	±	9.2E-06	U
	^{239,240} Pu	2.3E-06	±	2.9E-06	U
	¹⁰³ Ru	-4.2E-05	±	6.6E-05	U
	¹⁰⁶ Ru	3.5E-04	±	5.9E-04	U
	¹²⁵ Sb	-8.2E-05	±	1.5E-04	U
	¹¹³ Sn	7.2E-06	±	7.1E-05	U
	⁹⁰ Sr	2.6E-04	±	1.1E-04	
	²³⁴ U	1.3E-05	±	7.4E-06	
	²³⁵ U	3.4E-06	±	3.3E-06	
	²³⁸ U	1.6E-05	±	8.6E-06	
	⁶⁵ Zn	1.5E-04	±	1.8E-04	U
N972	¹⁴⁴ Ce	-1.8E-04	±	7.3E-04	U
(200-East)	⁶⁰ Co	-1.4E-05	±	7.0E-05	U
Composite Period	¹³⁴ Cs	-3.8E-05	±	7.7E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.2E-04	±	1.3E-04	U
	¹⁵² Eu	-1.1E-05	±	1.1E-04	U
	¹⁵⁴ Eu	-1.2E-05	±	1.2E-04	U
	¹⁵⁵ Eu	3.7E-05	±	2.0E-04	U
	²³⁸ Pu	-3.7E-06	±	8.3E-06	U
	^{239,240} Pu	5.0E-06	±	5.7E-06	U
	¹⁰³ Ru	3.8E-05	±	6.8E-05	U
	¹⁰⁶ Ru	-1.9E-04	±	5.7E-04	U
	¹²⁵ Sb	-1.4E-04	±	1.8E-04	U
	¹¹³ Sn	-1.0E-04	±	1.0E-04	U
	⁹⁰ Sr	2.4E-04	±	1.2E-04	
	²³⁴ U	1.2E-05	±	6.6E-06	
	²³⁵ U	6.4E-07	±	2.2E-06	U
	²³⁸ U	6.9E-06	±	5.4E-06	
	⁶⁵ Zn	-2.3E-04	±	2.4E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N970	¹⁴⁴ Ce	-8.1E-04	±	8.6E-04	U
(200-East)	⁶⁰ Co	2.9E-05	±	7.0E-05	U
Composite Period	¹³⁴ Cs	5.7E-05	±	7.4E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.3E-05	±	6.9E-05	U
	¹⁵² Eu	-3.4E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-3.7E-05	±	1.7E-04	U
	¹⁵⁵ Eu	5.9E-06	±	5.9E-05	U
	²³⁸ Pu	5.2E-06	±	8.5E-06	U
	^{239,240} Pu	6.6E-07	±	1.3E-06	U
	¹⁰³ Ru	-3.6E-05	±	6.5E-05	U
	¹⁰⁶ Ru	-2.9E-04	±	5.8E-04	U
	¹²⁵ Sb	7.6E-05	±	1.6E-04	U
	¹¹³ Sn	3.2E-05	±	7.8E-05	U
	⁹⁰ Sr	9.3E-05	±	7.4E-05	U
	²³⁴ U	8.6E-06	±	5.8E-06	
	²³⁵ U	2.4E-06	±	2.9E-06	
	²³⁸ U	1.3E-05	±	7.7E-06	
	⁶⁵ Zn	-2.4E-05	±	1.4E-04	U
N972	¹⁴⁴ Ce	-2.6E-04	±	6.6E-04	U
(200-East)	⁶⁰ Co	1.7E-06	±	1.7E-05	U
Composite Period	¹³⁴ Cs	-1.9E-05	±	7.0E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	1.5E-04	±	1.2E-04	
	¹⁵² Eu	4.2E-05	±	1.6E-04	U
	¹⁵⁴ Eu	-5.2E-05	±	2.1E-04	U
	¹⁵⁵ Eu	-6.8E-06	±	6.8E-05	U
	²³⁸ Pu	6.6E-06	±	9.4E-06	U
	^{239,240} Pu	6.1E-07	±	3.2E-06	U
	¹⁰³ Ru	2.0E-05	±	7.0E-05	U
	¹⁰⁶ Ru	-3.5E-04	±	6.3E-04	U
	¹²⁵ Sb	7.7E-05	±	1.6E-04	U
	¹¹³ Sn	5.0E-05	±	7.0E-05	U
	⁹⁰ Sr	1.2E-04	±	7.9E-05	
	²³⁴ U	1.5E-05	±	8.1E-06	
	²³⁵ U	6.3E-06	±	5.0E-06	U
	²³⁸ U	1.4E-05	±	8.0E-06	
	⁶⁵ Zn	5.4E-05	±	1.7E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N973	¹⁴⁴ Ce	-3.9E-04	±	6.5E-04	U
(200-East)	⁶⁰ Co	1.9E-05	±	8.9E-05	U
Composite Period	¹³⁴ Cs	6.0E-06	±	6.0E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	2.6E-04	±	1.6E-04	
	¹⁵² Eu	9.6E-05	±	1.9E-04	U
	¹⁵⁴ Eu	-3.8E-05	±	2.3E-04	U
	¹⁵⁵ Eu	-2.4E-05	±	1.7E-04	U
	²³⁸ Pu	2.6E-06	±	7.7E-06	U
	^{239,240} Pu	1.2E-06	±	2.5E-06	U
	¹⁰³ Ru	-6.4E-05	±	7.3E-05	U
	¹⁰⁶ Ru	-3.1E-04	±	6.7E-04	U
	¹²⁵ Sb	-1.0E-04	±	1.6E-04	U
	¹¹³ Sn	1.6E-05	±	7.7E-05	U
	⁹⁰ Sr	9.7E-05	±	7.5E-05	U
	²³⁴ U	5.8E-06	±	5.0E-06	
	²³⁵ U	3.2E-06	±	3.9E-06	U
	²³⁸ U	4.4E-06	±	5.4E-06	U
	⁶⁵ Zn	2.0E-05	±	1.9E-04	U
N976	¹⁴⁴ Ce	-6.3E-04	±	7.1E-04	U
(200-East)	⁶⁰ Co	-6.0E-05	±	8.2E-05	U
Composite Period	¹³⁴ Cs	-6.9E-05	±	7.9E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.2E-05	±	7.9E-05	U
	¹⁵² Eu	9.4E-05	±	1.7E-04	U
	¹⁵⁴ Eu	2.2E-04	±	2.4E-04	U
	¹⁵⁵ Eu	-6.8E-05	±	1.6E-04	U
	²³⁸ Pu	-1.3E-06	±	5.1E-06	U
	^{239,240} Pu	6.4E-07	±	6.4E-06	U
	¹⁰³ Ru	-5.3E-05	±	7.7E-05	U
	¹⁰⁶ Ru	1.4E-05	±	1.4E-04	U
	¹²⁵ Sb	1.6E-04	±	1.7E-04	U
	¹¹³ Sn	-2.4E-05	±	7.5E-05	U
	⁹⁰ Sr	4.9E-05	±	6.8E-05	U
	²³⁴ U	2.4E-05	±	1.2E-05	
	²³⁵ U	1.7E-06	±	2.4E-06	U
	²³⁸ U	1.4E-05	±	8.4E-06	
	⁶⁵ Zn	-2.6E-05	±	1.6E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N973	¹⁴⁴ Ce	-7.2E-05	±	6.0E-04	U
(200-East)	⁶⁰ Co	-2.3E-05	±	7.7E-05	U
Composite Period	¹³⁴ Cs	4.1E-05	±	7.8E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.6E-04	±	1.7E-04	
	¹⁵² Eu	1.1E-04	±	1.6E-04	U
	¹⁵⁴ Eu	-5.2E-05	±	2.0E-04	U
	¹⁵⁵ Eu	6.4E-05	±	1.7E-04	U
	²³⁸ Pu	-6.1E-06	±	7.5E-06	U
	^{239,240} Pu	6.1E-07	±	1.2E-06	U
	¹⁰³ Ru	1.1E-06	±	1.1E-05	U
	¹⁰⁶ Ru	-1.8E-05	±	1.8E-04	U
	¹²⁵ Sb	-4.0E-05	±	1.6E-04	U
	¹¹³ Sn	-1.5E-05	±	7.3E-05	U
	⁹⁰ Sr	9.8E-05	±	7.8E-05	
	²³⁴ U	1.2E-05	±	7.0E-06	
	²³⁵ U	4.0E-06	±	3.8E-06	U
	²³⁸ U	7.2E-06	±	5.2E-06	
	⁶⁵ Zn	1.2E-04	±	1.7E-04	U
N976	¹⁴⁴ Ce	-5.9E-04	±	6.8E-04	U
(200-East)	⁶⁰ Co	3.2E-05	±	7.8E-05	U
Composite Period	¹³⁴ Cs	-9.7E-05	±	1.0E-04	U
6/24/02 - 1/6/03	¹³⁷ Cs	8.2E-05	±	8.4E-05	U
	¹⁵² Eu	3.1E-06	±	3.1E-05	U
	¹⁵⁴ Eu	3.0E-05	±	2.2E-04	U
	¹⁵⁵ Eu	-2.1E-05	±	1.6E-04	U
	²³⁸ Pu	3.3E-06	±	8.3E-06	U
	^{239,240} Pu	6.6E-07	±	6.8E-07	U
	¹⁰³ Ru	-1.2E-05	±	6.9E-05	U
	¹⁰⁶ Ru	-2.5E-04	±	5.9E-04	U
	¹²⁵ Sb	2.5E-05	±	1.6E-04	U
	¹¹³ Sn	-9.5E-06	±	7.3E-05	U
	⁹⁰ Sr	1.3E-04	±	7.7E-05	
	²³⁴ U	1.7E-05	±	9.3E-06	
	²³⁵ U	2.6E-06	±	3.1E-06	
	²³⁸ U	2.2E-05	±	1.1E-05	
	⁶⁵ Zn	-3.3E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N977	¹⁴⁴ Ce	1.6E-04	±	6.9E-04	U
(200-East)	⁶⁰ Co	-1.5E-05	±	7.2E-05	U
Composite Period	¹³⁴ Cs	-5.6E-05	±	8.0E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	6.4E-05	±	7.7E-05	U
	¹⁵² Eu	-1.2E-04	±	1.8E-04	U
	¹⁵⁴ Eu	-5.7E-05	±	2.1E-04	U
	¹⁵⁵ Eu	-1.0E-04	±	2.0E-04	U
	²³⁸ Pu	-1.4E-05	±	1.4E-05	U
	^{239,240} Pu	8.8E-06	±	6.8E-06	
	¹⁰³ Ru	2.6E-05	±	7.5E-05	U
	¹⁰⁶ Ru	8.2E-05	±	6.8E-04	U
	¹²⁵ Sb	-1.0E-05	±	1.0E-04	U
	¹¹³ Sn	-8.0E-05	±	8.3E-05	U
	⁹⁰ Sr	1.2E-04	±	8.2E-05	
	²³⁴ U	1.5E-05	±	1.0E-05	
	²³⁵ U	5.1E-06	±	4.9E-06	
	²³⁸ U	1.8E-05	±	1.0E-05	
	⁶⁵ Zn	-3.8E-05	±	1.5E-04	U
N978	¹⁴⁴ Ce	6.0E-05	±	6.0E-04	U
(200-East)	⁶⁰ Co	-3.4E-06	±	3.4E-05	U
Composite Period	¹³⁴ Cs	3.9E-05	±	7.5E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	5.4E-08	±	5.4E-07	U
	¹⁵² Eu	1.0E-05	±	1.0E-04	U
	¹⁵⁴ Eu	1.6E-04	±	2.3E-04	U
	¹⁵⁵ Eu	-6.2E-05	±	1.7E-04	U
	²³⁸ Pu	-9.3E-06	±	1.1E-05	U
	^{239,240} Pu	1.4E-06	±	4.3E-06	U
	¹⁰³ Ru	-1.9E-05	±	7.6E-05	U
	¹⁰⁶ Ru	-1.5E-04	±	6.1E-04	U
	¹²⁵ Sb	8.8E-05	±	1.7E-04	U
	¹¹³ Sn	-5.1E-05	±	7.7E-05	U
	⁹⁰ Sr	1.0E-04	±	7.5E-05	
	²³⁴ U	7.8E-06	±	6.1E-06	
	²³⁵ U	3.9E-06	±	3.7E-06	
	²³⁸ U	7.8E-06	±	5.7E-06	
	⁶⁵ Zn	-2.3E-05	±	1.8E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N977	¹⁴⁴ Ce	-2.7E-04	±	6.1E-04	U
(200-East)	⁶⁰ Co	-3.8E-05	±	7.6E-05	U
Composite Period	¹³⁴ Cs	7.7E-05	±	9.1E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-1.2E-05	±	7.7E-05	U
	¹⁵² Eu	-1.6E-04	±	1.7E-04	U
	¹⁵⁴ Eu	9.3E-06	±	9.3E-05	U
	¹⁵⁵ Eu	6.3E-05	±	1.8E-04	U
	²³⁸ Pu	-3.8E-06	±	9.5E-06	U
	^{239,240} Pu	6.3E-07	±	3.3E-06	U
	¹⁰³ Ru	-5.2E-05	±	7.7E-05	U
	¹⁰⁶ Ru	-3.9E-04	±	6.7E-04	U
	¹²⁵ Sb	-2.6E-06	±	2.7E-05	U
	¹¹³ Sn	3.9E-06	±	3.9E-05	U
	⁹⁰ Sr	1.2E-04	±	7.1E-05	
	²³⁴ U	1.1E-05	±	7.2E-06	
	²³⁵ U	8.1E-07	±	2.9E-06	U
	²³⁸ U	1.3E-05	±	7.6E-06	
	⁶⁵ Zn	-1.8E-04	±	1.9E-04	U
N978	¹⁴⁴ Ce	2.4E-04	±	5.2E-04	U
(200-East)	⁶⁰ Co	1.1E-05	±	7.0E-05	U
Composite Period	¹³⁴ Cs	4.7E-06	±	4.7E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	4.2E-05	±	6.5E-05	U
	¹⁵² Eu	1.7E-06	±	1.7E-05	U
	¹⁵⁴ Eu	4.8E-05	±	2.0E-04	U
	¹⁵⁵ Eu	-3.3E-05	±	1.5E-04	U
	²³⁸ Pu	2.7E-06	±	7.0E-06	U
	^{239,240} Pu	-1.1E-06	±	2.2E-06	U
	¹⁰³ Ru	-3.0E-05	±	6.5E-05	U
	¹⁰⁶ Ru	8.6E-05	±	5.6E-04	U
	¹²⁵ Sb	-1.4E-06	±	1.4E-05	U
	¹¹³ Sn	4.3E-06	±	4.3E-05	U
	⁹⁰ Sr	9.6E-05	±	8.2E-05	U
	²³⁴ U	9.6E-06	±	6.5E-06	
	²³⁵ U	1.6E-06	±	2.3E-06	U
	²³⁸ U	1.3E-05	±	7.6E-06	
	⁶⁵ Zn	-2.0E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N984	¹⁴⁴ Ce	-1.4E-04	±	6.7E-04	U
(200-East)	⁶⁰ Co	4.0E-06	±	4.0E-05	U
Composite Period	¹³⁴ Cs	1.7E-05	±	7.4E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.6E-04	±	1.1E-04	
	¹⁵² Eu	4.4E-05	±	1.8E-04	U
	¹⁵⁴ Eu	-6.2E-05	±	2.6E-04	U
	¹⁵⁵ Eu	1.2E-05	±	1.3E-04	U
	²³⁸ Pu	-1.4E-06	±	1.1E-05	U
	^{239,240} Pu	3.4E-06	±	3.9E-06	U
	¹⁰³ Ru	-2.0E-05	±	7.5E-05	U
	¹⁰⁶ Ru	-1.0E-04	±	6.3E-04	U
	¹²⁵ Sb	-7.2E-05	±	1.8E-04	U
	¹¹³ Sn	-6.5E-05	±	7.9E-05	U
	⁹⁰ Sr	2.1E-04	±	1.0E-04	
	²³⁴ U	2.4E-05	±	1.2E-05	
	²³⁵ U	2.6E-06	±	3.2E-06	
	²³⁸ U	2.6E-05	±	1.3E-05	
	⁶⁵ Zn	5.7E-05	±	1.8E-04	U
N985	¹⁴⁴ Ce	3.2E-04	±	7.9E-04	U
(200-East)	⁶⁰ Co	1.1E-04	±	7.8E-05	U
Composite Period	¹³⁴ Cs	-1.3E-05	±	9.2E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.8E-04	±	1.4E-04	
	¹⁵² Eu	-2.2E-05	±	2.0E-04	U
	¹⁵⁴ Eu	-5.1E-05	±	3.1E-04	U
	¹⁵⁵ Eu	1.2E-04	±	1.9E-04	U
	²³⁸ Pu	1.5E-06	±	1.1E-05	U
	^{239,240} Pu	2.3E-06	±	3.5E-06	U
	¹⁰³ Ru	-5.7E-05	±	8.6E-05	U
	¹⁰⁶ Ru	-5.1E-04	±	8.0E-04	U
	¹²⁵ Sb	-1.2E-04	±	1.8E-04	U
	¹¹³ Sn	4.9E-06	±	4.9E-05	U
	⁹⁰ Sr	2.7E-04	±	1.3E-04	
	²³⁴ U	2.8E-05	±	1.3E-05	
	²³⁵ U	3.0E-06	±	3.6E-06	
	²³⁸ U	1.3E-05	±	8.0E-06	
	⁶⁵ Zn	-1.0E-04	±	2.1E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N984	¹⁴⁴ Ce	3.1E-04	±	7.4E-04	U
(200-East)	⁶⁰ Co	-2.5E-06	±	2.5E-05	U
Composite Period	¹³⁴ Cs	4.6E-05	±	7.5E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.7E-04	±	1.5E-04	
	¹⁵² Eu	-2.9E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-2.0E-04	±	2.5E-04	U
	¹⁵⁵ Eu	1.7E-04	±	1.8E-04	U
	²³⁸ Pu	2.0E-06	±	1.0E-05	U
	^{239,240} Pu	2.0E-06	±	3.0E-06	U
	¹⁰³ Ru	4.7E-07	±	4.7E-06	U
	¹⁰⁶ Ru	-3.2E-04	±	6.9E-04	U
	¹²⁵ Sb	-4.8E-05	±	1.5E-04	U
	¹¹³ Sn	1.1E-05	±	7.2E-05	U
	⁹⁰ Sr	1.8E-04	±	9.3E-05	
	²³⁴ U	1.4E-05	±	8.0E-06	
	²³⁵ U	1.5E-06	±	3.1E-06	U
	²³⁸ U	9.5E-06	±	6.1E-06	
	⁶⁵ Zn	-1.4E-04	±	1.8E-04	U
N985	¹⁴⁴ Ce	4.9E-04	±	5.5E-04	U
(200-East)	⁶⁰ Co	2.0E-05	±	6.6E-05	U
Composite Period	¹³⁴ Cs	-1.3E-05	±	6.9E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.7E-04	±	1.4E-04	
	¹⁵² Eu	6.6E-05	±	1.5E-04	U
	¹⁵⁴ Eu	-5.7E-05	±	1.9E-04	U
	¹⁵⁵ Eu	4.5E-05	±	1.4E-04	U
	²³⁸ Pu	4.6E-06	±	9.4E-06	U
	^{239,240} Pu	2.0E-06	±	3.1E-06	U
	¹⁰³ Ru	1.4E-05	±	6.5E-05	U
	¹⁰⁶ Ru	1.2E-04	±	6.4E-04	U
	¹²⁵ Sb	-1.1E-05	±	1.1E-04	U
	¹¹³ Sn	9.9E-05	±	9.8E-05	U
	⁹⁰ Sr	1.2E-04	±	7.6E-05	
	²³⁴ U	8.1E-06	±	5.4E-06	
	²³⁵ U	4.3E-06	±	4.2E-06	U
	²³⁸ U	8.8E-06	±	5.8E-06	
	⁶⁵ Zn	1.9E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N999	¹⁴⁴ Ce	3.0E-05	±	3.0E-04	U
(200-East)	⁶⁰ Co	4.1E-05	±	7.4E-05	U
Composite Period	¹³⁴ Cs	-2.7E-05	±	7.3E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.1E-04	±	7.9E-05	U
	¹⁵² Eu	-2.4E-05	±	1.9E-04	U
	¹⁵⁴ Eu	-8.6E-05	±	1.9E-04	U
	¹⁵⁵ Eu	4.4E-05	±	2.0E-04	U
	²³⁸ Pu	6.1E-07	±	5.0E-06	U
	^{239,240} Pu	1.2E-06	±	2.4E-06	U
	¹⁰³ Ru	1.7E-06	±	1.7E-05	U
	¹⁰⁶ Ru	-1.3E-04	±	6.1E-04	U
	¹²⁵ Sb	-1.1E-04	±	1.7E-04	U
	¹¹³ Sn	1.2E-05	±	7.6E-05	U
	⁹⁰ Sr	1.5E-04	±	8.4E-05	
	²³⁴ U	2.1E-05	±	1.1E-05	
	²³⁵ U	3.7E-06	±	3.8E-06	
	²³⁸ U	1.5E-05	±	8.5E-06	
	⁶⁵ Zn	1.5E-04	±	1.8E-04	U
N155	¹⁴⁴ Ce	-1.3E-04	±	5.4E-04	U
(200-West)	⁶⁰ Co	2.1E-05	±	6.9E-05	U
Composite Period	¹³⁴ Cs	2.8E-05	±	8.0E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	3.4E-04	±	1.6E-04	
	¹⁵² Eu	5.6E-05	±	1.6E-04	U
	¹⁵⁴ Eu	9.2E-05	±	2.0E-04	U
	¹⁵⁵ Eu	-6.4E-05	±	1.5E-04	U
	²³⁸ Pu	2.0E-06	±	8.2E-06	U
	^{239,240} Pu	1.6E-05	±	9.0E-06	
	¹⁰³ Ru	3.7E-06	±	3.7E-05	U
	¹⁰⁶ Ru	2.8E-04	±	5.6E-04	U
	¹²⁵ Sb	-5.6E-06	±	5.6E-05	U
	¹¹³ Sn	3.6E-05	±	6.7E-05	U
	⁹⁰ Sr	5.6E-05	±	6.5E-05	U
	²³⁴ U	2.2E-05	±	1.1E-05	
	²³⁵ U	3.2E-06	±	3.3E-06	
	²³⁸ U	1.4E-05	±	8.3E-06	
	⁶⁵ Zn	-6.6E-05	±	1.4E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N999	¹⁴⁴ Ce	-1.7E-04	±	5.1E-04	U
(200-East)	⁶⁰ Co	-7.0E-06	±	6.6E-05	U
Composite Period	¹³⁴ Cs	1.4E-04	±	9.6E-05	
6/24/02 - 1/6/03	¹³⁷ Cs	8.1E-05	±	8.7E-05	U
	¹⁵² Eu	-1.2E-04	±	1.5E-04	U
	¹⁵⁴ Eu	-1.4E-05	±	1.4E-04	U
	¹⁵⁵ Eu	-1.5E-06	±	1.5E-05	U
	²³⁸ Pu	-6.1E-07	±	6.1E-06	U
	^{239,240} Pu	6.1E-07	±	1.2E-06	U
	¹⁰³ Ru	-1.2E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-3.2E-04	±	5.5E-04	U
	¹²⁵ Sb	1.3E-06	±	1.3E-05	U
	¹¹³ Sn	1.8E-06	±	1.8E-05	U
	⁹⁰ Sr	2.6E-05	±	6.1E-05	U
	²³⁴ U	2.8E-05	±	1.3E-05	
	²³⁵ U	3.4E-06	±	3.9E-06	U
	²³⁸ U	1.9E-05	±	9.7E-06	
	⁶⁵ Zn	4.5E-05	±	1.6E-04	U
N155	¹⁴⁴ Ce	1.0E-04	±	5.1E-04	U
(200-West)	⁶⁰ Co	4.8E-05	±	6.8E-05	U
Composite Period	¹³⁴ Cs	2.6E-06	±	2.6E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	6.5E-04	±	2.4E-04	
	¹⁵² Eu	1.0E-04	±	1.5E-04	U
	¹⁵⁴ Eu	-9.5E-05	±	1.8E-04	U
	¹⁵⁵ Eu	-6.5E-05	±	1.4E-04	U
	²³⁸ Pu	2.3E-06	±	8.0E-06	U
	^{239,240} Pu	7.2E-06	±	4.7E-06	
	¹⁰³ Ru	2.4E-05	±	5.7E-05	U
	¹⁰⁶ Ru	3.5E-05	±	3.5E-04	U
	¹²⁵ Sb	-8.2E-05	±	1.4E-04	U
	¹¹³ Sn	2.4E-06	±	2.4E-05	U
	⁹⁰ Sr	5.9E-05	±	6.7E-05	U
	²³⁴ U	9.1E-06	±	5.3E-06	
	²³⁵ U	2.7E-06	±	2.8E-06	
	²³⁸ U	9.8E-06	±	5.5E-06	
	⁶⁵ Zn	2.4E-05	±	1.5E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N161	¹⁴⁴ Ce	-1.5E-04	±	5.5E-04	U
(200-West)	⁶⁰ Co	-3.0E-05	±	6.6E-05	U
Composite Period	¹³⁴ Cs	4.0E-05	±	8.5E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	8.5E-05	±	7.5E-05	U
	¹⁵² Eu	3.4E-05	±	1.4E-04	U
	¹⁵⁴ Eu	1.3E-04	±	2.1E-04	U
	¹⁵⁵ Eu	-9.2E-05	±	1.5E-04	U
	²³⁸ Pu	6.5E-07	±	6.7E-07	U
	^{239,240} Pu	1.1E-05	±	6.7E-06	
	¹⁰³ Ru	-3.9E-06	±	3.9E-05	U
	¹⁰⁶ Ru	-1.1E-04	±	5.7E-04	U
	¹²⁵ Sb	-2.1E-04	±	2.2E-04	U
	¹¹³ Sn	-3.0E-06	±	3.0E-05	U
	⁹⁰ Sr	4.3E-05	±	5.7E-05	U
	²³⁴ U	1.2E-05	±	7.8E-06	
	²³⁵ U	3.0E-06	±	4.3E-06	U
	²³⁸ U	1.2E-05	±	7.2E-06	
	⁶⁵ Zn	1.9E-05	±	1.8E-04	U
N165	¹⁴⁴ Ce	2.2E-04	±	7.6E-04	U
(200-West)	⁶⁰ Co	7.8E-06	±	6.4E-05	U
Composite Period	¹³⁴ Cs	6.3E-06	±	6.3E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	-9.6E-06	±	7.3E-05	U
	¹⁵² Eu	-5.7E-06	±	5.7E-05	U
	¹⁵⁴ Eu	2.7E-05	±	2.0E-04	U
	¹⁵⁵ Eu	1.7E-05	±	1.7E-04	U
	²³⁸ Pu	-6.5E-07	±	6.5E-06	U
	^{239,240} Pu	5.5E-05	±	2.2E-05	
	¹⁰³ Ru	1.3E-05	±	6.2E-05	U
	¹⁰⁶ Ru	1.1E-04	±	6.1E-04	U
	¹²⁵ Sb	-3.6E-05	±	1.8E-04	U
	¹¹³ Sn	-3.7E-06	±	3.7E-05	U
	⁹⁰ Sr	1.2E-04	±	7.9E-05	
	²³⁴ U	7.8E-06	±	6.7E-06	U
	²³⁵ U	2.3E-06	±	3.4E-06	U
	²³⁸ U	1.6E-05	±	8.4E-06	
	⁶⁵ Zn	-8.6E-05	±	1.8E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N161	¹⁴⁴ Ce	1.4E-04	±	6.9E-04	U
(200-West)	⁶⁰ Co	-6.3E-06	±	6.3E-05	U
Composite Period	¹³⁴ Cs	1.6E-05	±	7.5E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	1.0E-05	±	7.1E-05	U
	¹⁵² Eu	8.3E-05	±	1.7E-04	U
	¹⁵⁴ Eu	1.7E-04	±	2.4E-04	U
	¹⁵⁵ Eu	1.8E-04	±	1.8E-04	U
	²³⁸ Pu	6.1E-07	±	6.1E-06	U
	^{239,240} Pu	6.7E-06	±	4.9E-06	
	¹⁰³ Ru	2.6E-06	±	2.6E-05	U
	¹⁰⁶ Ru	-3.3E-05	±	3.3E-04	U
	¹²⁵ Sb	-8.9E-05	±	1.6E-04	U
	¹¹³ Sn	7.3E-06	±	7.0E-05	U
	⁹⁰ Sr	9.4E-05	±	7.1E-05	
	²³⁴ U	9.4E-06	±	5.4E-06	
	²³⁵ U	6.7E-07	±	1.4E-06	U
	²³⁸ U	6.0E-06	±	4.1E-06	
	⁶⁵ Zn	-1.4E-04	±	2.1E-04	U
N165	¹⁴⁴ Ce	-3.0E-04	±	6.1E-04	U
(200-West)	⁶⁰ Co	-9.0E-06	±	8.6E-05	U
Composite Period	¹³⁴ Cs	-1.9E-05	±	7.6E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.8E-06	±	2.8E-05	U
	¹⁵² Eu	-1.0E-05	±	1.0E-04	U
	¹⁵⁴ Eu	-9.6E-06	±	9.6E-05	U
	¹⁵⁵ Eu	1.1E-04	±	1.8E-04	U
	²³⁸ Pu	3.3E-06	±	1.1E-05	U
	^{239,240} Pu	6.8E-05	±	2.6E-05	
	¹⁰³ Ru	-1.3E-05	±	6.9E-05	U
	¹⁰⁶ Ru	2.9E-04	±	6.6E-04	U
	¹²⁵ Sb	-5.8E-05	±	1.6E-04	U
	¹¹³ Sn	-2.9E-05	±	7.2E-05	U
	⁹⁰ Sr	3.4E-05	±	7.2E-05	U
	²³⁴ U	8.9E-06	±	5.4E-06	
	²³⁵ U	5.6E-07	±	5.9E-07	U
	²³⁸ U	5.0E-06	±	3.7E-06	
	⁶⁵ Zn	-8.6E-05	±	1.8E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N168	¹⁴⁴ Ce	-3.5E-04	±	7.2E-04	U
(200-West)	⁶⁰ Co	4.5E-05	±	8.8E-05	U
Composite Period	¹³⁴ Cs	2.3E-05	±	7.6E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.2E-04	±	1.3E-04	
	¹⁵² Eu	1.5E-04	±	2.0E-04	U
	¹⁵⁴ Eu	-5.3E-06	±	5.3E-05	U
	¹⁵⁵ Eu	2.6E-05	±	1.7E-04	U
	²³⁸ Pu	6.9E-07	±	7.2E-07	U
	^{239,240} Pu	1.5E-05	±	8.2E-06	
	¹⁰³ Ru	-5.4E-05	±	7.1E-05	U
	¹⁰⁶ Ru	-2.7E-04	±	7.1E-04	U
	¹²⁵ Sb	6.5E-05	±	1.7E-04	U
	¹¹³ Sn	-4.5E-05	±	7.7E-05	U
	⁹⁰ Sr	7.4E-06	±	6.6E-05	U
	²³⁴ U	2.0E-05	±	1.0E-05	
	²³⁵ U	4.6E-06	±	4.0E-06	
	²³⁸ U	7.0E-06	±	5.7E-06	
	⁶⁵ Zn	1.1E-05	±	1.1E-04	U
N200	¹⁴⁴ Ce	-8.7E-05	±	6.7E-04	U
(200-West)	⁶⁰ Co	-1.9E-06	±	1.9E-05	U
Composite Period	¹³⁴ Cs	-3.1E-05	±	7.9E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	4.4E-06	±	4.4E-05	U
	¹⁵² Eu	-1.9E-05	±	1.7E-04	U
	¹⁵⁴ Eu	3.0E-05	±	2.2E-04	U
	¹⁵⁵ Eu	1.1E-04	±	2.1E-04	U
	²³⁸ Pu	1.3E-06	±	1.0E-05	U
	^{239,240} Pu	9.2E-06	±	5.9E-06	
	¹⁰³ Ru	1.2E-05	±	6.9E-05	U
	¹⁰⁶ Ru	1.1E-04	±	6.7E-04	U
	¹²⁵ Sb	-6.0E-05	±	1.7E-04	U
	¹¹³ Sn	-4.5E-05	±	7.6E-05	U
	⁹⁰ Sr	2.0E-04	±	1.1E-04	
	²³⁴ U	1.4E-05	±	7.6E-06	
	²³⁵ U	2.1E-06	±	3.1E-06	U
	²³⁸ U	9.2E-06	±	6.7E-06	
	⁶⁵ Zn	-5.4E-05	±	1.8E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N168	¹⁴⁴ Ce	-4.2E-04	±	5.2E-04	U
(200-West)	⁶⁰ Co	-1.4E-06	±	1.4E-05	U
Composite Period	¹³⁴ Cs	5.0E-05	±	7.1E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-3.3E-05	±	7.1E-05	U
	¹⁵² Eu	3.0E-05	±	1.6E-04	U
	¹⁵⁴ Eu	-1.4E-05	±	1.4E-04	U
	¹⁵⁵ Eu	-1.5E-05	±	1.5E-04	U
	²³⁸ Pu	1.8E-06	±	8.6E-06	U
	^{239,240} Pu	1.8E-06	±	2.2E-06	
	¹⁰³ Ru	6.5E-05	±	6.4E-05	U
	¹⁰⁶ Ru	-1.4E-04	±	5.5E-04	U
	¹²⁵ Sb	-9.4E-05	±	1.4E-04	U
	¹¹³ Sn	2.5E-05	±	5.9E-05	U
	⁹⁰ Sr	2.7E-05	±	5.7E-05	U
	²³⁴ U	7.4E-06	±	4.6E-06	
	²³⁵ U	2.0E-06	±	3.0E-06	U
	²³⁸ U	6.7E-06	±	4.3E-06	
	⁶⁵ Zn	-6.1E-05	±	1.3E-04	U
N200	¹⁴⁴ Ce	-4.8E-04	±	8.0E-04	U
(200-West)	⁶⁰ Co	1.0E-05	±	9.4E-05	U
Composite Period	¹³⁴ Cs	3.4E-05	±	8.5E-05	U
6/25/02 - 12/27/02	¹³⁷ Cs	3.1E-05	±	8.1E-05	U
	¹⁵² Eu	1.3E-04	±	2.0E-04	U
	¹⁵⁴ Eu	5.6E-05	±	3.0E-04	U
	¹⁵⁵ Eu	1.0E-04	±	2.0E-04	U
	²³⁸ Pu	7.8E-06	±	1.1E-05	U
	^{239,240} Pu	7.8E-07	±	7.8E-06	U
	¹⁰³ Ru	-6.0E-05	±	7.8E-05	U
	¹⁰⁶ Ru	7.9E-06	±	7.9E-05	U
	¹²⁵ Sb	-3.5E-05	±	1.9E-04	U
	¹¹³ Sn	-8.7E-06	±	8.7E-05	U
	⁹⁰ Sr	4.9E-05	±	8.2E-05	U
	²³⁴ U	1.7E-05	±	9.3E-06	
	²³⁵ U	7.4E-06	±	5.5E-06	
	²³⁸ U	1.3E-05	±	7.8E-06	
	⁶⁵ Zn	-3.4E-05	±	2.2E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N304	¹⁴⁴ Ce	2.4E-05	±	2.4E-04	U
(200-West)	⁶⁰ Co	3.2E-06	±	3.2E-05	U
Composite Period	¹³⁴ Cs	-9.4E-06	±	8.0E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	2.2E-05	±	6.9E-05	U
	¹⁵² Eu	1.4E-04	±	1.6E-04	U
	¹⁵⁴ Eu	-6.2E-05	±	2.0E-04	U
	¹⁵⁵ Eu	-7.0E-05	±	1.5E-04	U
	²³⁸ Pu	4.0E-06	±	1.0E-05	U
	^{239,240} Pu	1.1E-05	±	6.9E-06	
	¹⁰³ Ru	-4.6E-06	±	4.6E-05	U
	¹⁰⁶ Ru	2.3E-04	±	5.7E-04	U
	¹²⁵ Sb	-5.0E-05	±	1.5E-04	U
	¹¹³ Sn	-2.3E-06	±	2.3E-05	U
	⁹⁰ Sr	1.6E-04	±	9.4E-05	
	²³⁴ U	1.6E-05	±	8.7E-06	
	²³⁵ U	2.9E-06	±	3.0E-06	
	²³⁸ U	1.4E-05	±	7.7E-06	
	⁶⁵ Zn	-5.3E-05	±	1.5E-04	U
N433	¹⁴⁴ Ce	-7.8E-04	±	8.0E-04	U
(200-West)	⁶⁰ Co	4.4E-05	±	9.7E-05	U
Composite Period	¹³⁴ Cs	1.8E-05	±	8.0E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	6.8E-05	±	7.8E-05	U
	¹⁵² Eu	1.7E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-5.9E-05	±	2.2E-04	U
	¹⁵⁵ Eu	-8.1E-05	±	1.8E-04	U
	²³⁸ Pu	-1.4E-06	±	7.7E-06	U
	^{239,240} Pu	1.2E-05	±	7.2E-06	
	¹⁰³ Ru	-5.8E-05	±	7.4E-05	U
	¹⁰⁶ Ru	-3.3E-06	±	3.3E-05	U
	¹²⁵ Sb	-1.1E-04	±	2.0E-04	U
	¹¹³ Sn	-1.3E-05	±	7.7E-05	U
	⁹⁰ Sr	1.8E-04	±	1.0E-04	
	²³⁴ U	1.2E-05	±	7.4E-06	
	²³⁵ U	3.8E-06	±	3.6E-06	
	²³⁸ U	1.6E-05	±	8.6E-06	
	⁶⁵ Zn	1.7E-05	±	1.7E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N304	¹⁴⁴ Ce	-3.5E-04	±	6.9E-04	U
(200-West)	⁶⁰ Co	-1.7E-05	±	6.8E-05	U
Composite Period	¹³⁴ Cs	-5.0E-05	±	6.9E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	7.0E-05	±	6.9E-05	U
	¹⁵² Eu	-8.2E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-1.5E-05	±	1.5E-04	U
	¹⁵⁵ Eu	1.4E-04	±	1.9E-04	U
	²³⁸ Pu	2.1E-06	±	9.7E-06	U
	^{239,240} Pu	2.8E-06	±	4.0E-06	U
	¹⁰³ Ru	-1.8E-05	±	6.3E-05	U
	¹⁰⁶ Ru	5.9E-04	±	6.2E-04	U
	¹²⁵ Sb	-1.3E-04	±	1.7E-04	U
	¹¹³ Sn	4.0E-07	±	4.0E-06	U
	⁹⁰ Sr	8.0E-05	±	7.5E-05	
	²³⁴ U	1.1E-05	±	6.0E-06	
	²³⁵ U	7.3E-07	±	1.5E-06	U
	²³⁸ U	2.4E-06	±	2.9E-06	U
	⁶⁵ Zn	1.6E-04	±	1.8E-04	U
N433	¹⁴⁴ Ce	-2.2E-04	±	6.7E-04	U
(200-West)	⁶⁰ Co	-9.8E-05	±	1.0E-04	U
Composite Period	¹³⁴ Cs	2.9E-05	±	8.9E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	5.5E-05	±	8.0E-05	U
	¹⁵² Eu	6.9E-05	±	1.9E-04	U
	¹⁵⁴ Eu	-3.2E-04	±	3.3E-04	U
	¹⁵⁵ Eu	-1.8E-04	±	1.9E-04	U
	²³⁸ Pu	5.0E-06	±	1.1E-05	U
	^{239,240} Pu	5.0E-06	±	5.2E-06	U
	¹⁰³ Ru	2.2E-05	±	6.2E-05	U
	¹⁰⁶ Ru	-1.7E-04	±	6.1E-04	U
	¹²⁵ Sb	-6.2E-05	±	1.6E-04	U
	¹¹³ Sn	1.0E-04	±	1.2E-04	U
	⁹⁰ Sr	9.8E-05	±	7.8E-05	
	²³⁴ U	1.1E-05	±	6.7E-06	
	²³⁵ U	3.4E-06	±	3.2E-06	
	²³⁸ U	1.2E-05	±	6.9E-06	
	⁶⁵ Zn	-9.7E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N441	¹⁴⁴ Ce	2.6E-04	±	6.9E-04	U
(200-West)	⁶⁰ Co	-1.6E-05	±	9.2E-05	U
Composite Period	¹³⁴ Cs	-2.7E-05	±	7.7E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	9.3E-05	±	8.3E-05	U
	¹⁵² Eu	1.8E-04	±	2.1E-04	U
	¹⁵⁴ Eu	-9.1E-05	±	2.4E-04	U
	¹⁵⁵ Eu	2.4E-05	±	1.8E-04	U
	²³⁸ Pu	7.2E-07	±	7.2E-06	U
	^{239,240} Pu	6.0E-06	±	4.7E-06	
	¹⁰³ Ru	-3.8E-05	±	7.2E-05	U
	¹⁰⁶ Ru	3.3E-04	±	6.5E-04	U
	¹²⁵ Sb	-7.1E-05	±	1.6E-04	U
	¹¹³ Sn	-2.1E-06	±	2.1E-05	U
	⁹⁰ Sr	7.9E-05	±	7.6E-05	U
	²³⁴ U	3.0E-05	±	1.4E-05	
	²³⁵ U	3.8E-06	±	3.9E-06	
	²³⁸ U	1.9E-05	±	1.1E-05	
	⁶⁵ Zn	1.5E-05	±	1.5E-04	U
N442	¹⁴⁴ Ce	1.8E-04	±	6.0E-04	U
(200-West)	⁶⁰ Co	-1.8E-05	±	8.0E-05	U
Composite Period	¹³⁴ Cs	-4.2E-05	±	8.7E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.1E-04	±	1.2E-04	U
	¹⁵² Eu	2.2E-05	±	1.6E-04	U
	¹⁵⁴ Eu	-9.4E-05	±	2.3E-04	U
	¹⁵⁵ Eu	-1.4E-04	±	2.0E-04	U
	²³⁸ Pu	1.5E-06	±	8.5E-06	U
	^{239,240} Pu	6.2E-06	±	5.3E-06	
	¹⁰³ Ru	-9.9E-06	±	6.5E-05	U
	¹⁰⁶ Ru	2.0E-04	±	6.5E-04	U
	¹²⁵ Sb	6.9E-05	±	1.8E-04	U
	¹¹³ Sn	4.0E-06	±	4.1E-05	U
	⁹⁰ Sr	1.7E-04	±	1.0E-04	
	²³⁴ U	1.2E-05	±	7.8E-06	
	²³⁵ U	2.4E-06	±	2.9E-06	
	²³⁸ U	1.3E-05	±	7.3E-06	
	⁶⁵ Zn	7.9E-05	±	2.0E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N441	¹⁴⁴ Ce	2.7E-04	±	6.7E-04	U
(200-West)	⁶⁰ Co	-3.6E-06	±	3.6E-05	U
Composite Period	¹³⁴ Cs	-4.6E-05	±	7.1E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.6E-04	±	1.4E-04	
	¹⁵² Eu	-1.2E-04	±	1.7E-04	U
	¹⁵⁴ Eu	-3.9E-05	±	2.0E-04	U
	¹⁵⁵ Eu	-7.6E-06	±	7.6E-05	U
	²³⁸ Pu	1.3E-06	±	8.7E-06	U
	^{239,240} Pu	2.0E-06	±	2.4E-06	
	¹⁰³ Ru	1.2E-05	±	6.1E-05	U
	¹⁰⁶ Ru	-9.3E-05	±	5.7E-04	U
	¹²⁵ Sb	2.6E-04	±	1.8E-04	U
	¹¹³ Sn	2.1E-05	±	7.0E-05	U
	⁹⁰ Sr	1.9E-04	±	9.3E-05	
	²³⁴ U	1.0E-05	±	6.2E-06	
	²³⁵ U	1.8E-06	±	2.3E-06	
	²³⁸ U	1.6E-05	±	8.1E-06	
	⁶⁵ Zn	2.2E-04	±	1.4E-04	U
N442	¹⁴⁴ Ce	7.6E-04	±	6.8E-04	U
(200-West)	⁶⁰ Co	1.2E-05	±	8.2E-05	U
Composite Period	¹³⁴ Cs	1.4E-05	±	7.3E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.4E-04	±	1.5E-04	
	¹⁵² Eu	2.2E-05	±	1.6E-04	U
	¹⁵⁴ Eu	7.8E-05	±	2.3E-04	U
	¹⁵⁵ Eu	-2.1E-04	±	2.2E-04	U
	²³⁸ Pu	-2.0E-06	±	1.0E-05	U
	^{239,240} Pu	2.8E-06	±	4.5E-06	U
	¹⁰³ Ru	-9.3E-06	±	6.3E-05	U
	¹⁰⁶ Ru	4.4E-04	±	5.8E-04	U
	¹²⁵ Sb	-1.2E-04	±	1.7E-04	U
	¹¹³ Sn	-5.3E-05	±	7.4E-05	U
	⁹⁰ Sr	4.4E-04	±	1.6E-04	
	²³⁴ U	1.5E-05	±	8.1E-06	
	²³⁵ U	-6.5E-07	±	2.9E-06	U
	²³⁸ U	7.9E-06	±	5.5E-06	
	⁶⁵ Zn	-2.3E-05	±	1.8E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N449	¹⁴⁴ Ce	-2.6E-04	±	6.0E-04	U
(200-West)	⁶⁰ Co	-1.6E-05	±	6.6E-05	U
Composite Period	¹³⁴ Cs	-3.4E-05	±	8.8E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	-6.4E-05	±	8.1E-05	U
	¹⁵² Eu	-1.9E-04	±	1.9E-04	U
	¹⁵⁴ Eu	-1.1E-05	±	1.1E-04	U
	¹⁵⁵ Eu	9.1E-05	±	1.7E-04	U
	²³⁸ Pu	7.1E-07	±	7.4E-07	U
	^{239,240} Pu	1.2E-05	±	6.9E-06	
	¹⁰³ Ru	-2.1E-05	±	5.9E-05	U
	¹⁰⁶ Ru	-3.2E-04	±	6.5E-04	U
	¹²⁵ Sb	9.2E-05	±	1.6E-04	U
	¹¹³ Sn	-2.6E-05	±	6.8E-05	U
	⁹⁰ Sr	2.9E-05	±	8.5E-05	U
	²³⁴ U	2.0E-05	±	1.1E-05	
	²³⁵ U	8.1E-07	±	3.6E-06	U
	²³⁸ U	1.2E-05	±	7.7E-06	
	⁶⁵ Zn	-1.7E-04	±	1.7E-04	U
N456	¹⁴⁴ Ce	-3.1E-04	±	7.4E-04	U
(200-West)	⁶⁰ Co	3.6E-06	±	3.6E-05	U
Composite Period	¹³⁴ Cs	-6.4E-06	±	6.4E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	2.3E-04	±	1.3E-04	
	¹⁵² Eu	-1.2E-04	±	1.8E-04	U
	¹⁵⁴ Eu	-1.2E-04	±	2.4E-04	U
	¹⁵⁵ Eu	5.6E-05	±	2.0E-04	U
	²³⁸ Pu	1.3E-06	±	1.2E-05	U
	^{239,240} Pu	6.6E-07	±	3.0E-06	U
	¹⁰³ Ru	-4.9E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-1.1E-04	±	6.4E-04	U
	¹²⁵ Sb	-7.7E-05	±	1.8E-04	U
	¹¹³ Sn	2.5E-05	±	7.3E-05	U
	⁹⁰ Sr	1.5E-04	±	9.7E-05	
	²³⁴ U	1.8E-05	±	1.0E-05	
	²³⁵ U	8.8E-06	±	6.8E-06	
	²³⁸ U	1.2E-05	±	7.4E-06	
	⁶⁵ Zn	-4.2E-05	±	1.7E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N449	¹⁴⁴ Ce	-2.0E-04	±	6.4E-04	U
(200-West)	⁶⁰ Co	7.0E-05	±	7.8E-05	U
Composite Period	¹³⁴ Cs	4.9E-05	±	7.8E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	9.1E-05	±	7.6E-05	U
	¹⁵² Eu	-5.6E-05	±	1.6E-04	U
	¹⁵⁴ Eu	8.3E-06	±	8.3E-05	U
	¹⁵⁵ Eu	1.2E-04	±	1.9E-04	U
	²³⁸ Pu	4.5E-06	±	8.6E-06	U
	^{239,240} Pu	2.6E-06	±	4.9E-06	U
	¹⁰³ Ru	2.0E-05	±	7.0E-05	U
	¹⁰⁶ Ru	6.8E-04	±	6.6E-04	U
	¹²⁵ Sb	-7.5E-05	±	1.6E-04	U
	¹¹³ Sn	2.0E-05	±	7.2E-05	U
	⁹⁰ Sr	1.4E-04	±	8.1E-05	
	²³⁴ U	1.1E-05	±	6.8E-06	
	²³⁵ U	7.4E-07	±	1.5E-06	U
	²³⁸ U	5.2E-06	±	4.1E-06	
	⁶⁵ Zn	-2.9E-05	±	1.6E-04	U
N456	¹⁴⁴ Ce	6.5E-04	±	7.5E-04	U
(200-West)	⁶⁰ Co	-3.7E-05	±	7.0E-05	U
Composite Period	¹³⁴ Cs	1.1E-04	±	7.6E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-1.7E-05	±	6.5E-05	U
	¹⁵² Eu	4.8E-05	±	1.5E-04	U
	¹⁵⁴ Eu	1.2E-05	±	1.2E-04	U
	¹⁵⁵ Eu	-9.9E-06	±	9.9E-05	U
	²³⁸ Pu	-5.0E-06	±	1.0E-05	U
	^{239,240} Pu	-1.4E-06	±	3.6E-06	U
	¹⁰³ Ru	-4.2E-05	±	6.2E-05	U
	¹⁰⁶ Ru	-4.0E-04	±	5.7E-04	U
	¹²⁵ Sb	1.2E-04	±	1.5E-04	U
	¹¹³ Sn	-2.4E-06	±	2.4E-05	U
	⁹⁰ Sr	3.4E-05	±	6.9E-05	U
	²³⁴ U	1.6E-05	±	8.0E-06	
	²³⁵ U	2.0E-06	±	3.0E-06	U
	²³⁸ U	1.2E-05	±	7.2E-06	
	⁶⁵ Zn	-7.7E-06	±	7.7E-05	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N457	¹⁴⁴ Ce	5.2E-04	±	7.4E-04	U
(200-West)	⁶⁰ Co	6.1E-06	±	6.1E-05	U
Composite Period	¹³⁴ Cs	1.2E-05	±	7.9E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	5.9E-05	±	7.9E-05	U
	¹⁵² Eu	-4.4E-05	±	1.8E-04	U
	¹⁵⁴ Eu	1.1E-04	±	2.3E-04	U
	¹⁵⁵ Eu	-7.0E-05	±	1.8E-04	U
	²³⁸ Pu	8.7E-06	±	1.1E-05	U
	^{239,240} Pu	3.2E-06	±	3.1E-06	
	¹⁰³ Ru	-9.4E-05	±	9.7E-05	U
	¹⁰⁶ Ru	-2.5E-04	±	7.2E-04	U
	¹²⁵ Sb	4.3E-05	±	1.7E-04	U
	¹¹³ Sn	-2.2E-05	±	7.8E-05	U
	⁹⁰ Sr	1.4E-05	±	6.8E-05	U
	²³⁴ U	5.0E-05	±	2.1E-05	
	²³⁵ U	3.2E-06	±	3.3E-06	
	²³⁸ U	3.5E-05	±	1.6E-05	
	⁶⁵ Zn	-5.5E-05	±	2.1E-04	U
N956	¹⁴⁴ Ce	4.0E-04	±	7.8E-04	U
(200-West)	⁶⁰ Co	3.4E-05	±	8.0E-05	U
Composite Period	¹³⁴ Cs	1.6E-05	±	6.8E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.9E-04	±	1.1E-04	
	¹⁵² Eu	4.2E-05	±	1.8E-04	U
	¹⁵⁴ Eu	1.7E-04	±	2.1E-04	U
	¹⁵⁵ Eu	-1.8E-05	±	1.8E-04	U
	²³⁸ Pu	3.7E-06	±	4.7E-06	U
	^{239,240} Pu	1.0E-05	±	3.5E-06	
	¹⁰³ Ru	-1.7E-05	±	7.1E-05	U
	¹⁰⁶ Ru	4.1E-05	±	4.1E-04	U
	¹²⁵ Sb	9.5E-05	±	1.7E-04	U
	¹¹³ Sn	1.3E-04	±	1.5E-04	U
	⁹⁰ Sr	7.5E-06	±	7.5E-05	U
	²³⁴ U	1.2E-05	±	7.9E-06	
	²³⁵ U	5.2E-06	±	4.6E-06	
	²³⁸ U	9.7E-06	±	7.2E-06	
	⁶⁵ Zn	-4.3E-05	±	1.7E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N457	¹⁴⁴ Ce	-4.9E-05	±	4.9E-04	U
(200-West)	⁶⁰ Co	-2.0E-05	±	8.4E-05	U
Composite Period	¹³⁴ Cs	-1.5E-05	±	7.0E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	2.0E-05	±	6.9E-05	U
	¹⁵² Eu	-6.2E-06	±	6.2E-05	U
	¹⁵⁴ Eu	8.5E-05	±	1.8E-04	U
	¹⁵⁵ Eu	-7.8E-05	±	2.0E-04	U
	²³⁸ Pu	4.1E-06	±	1.0E-05	U
	^{239,240} Pu	2.4E-06	±	2.5E-06	
	¹⁰³ Ru	-5.0E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-1.2E-04	±	6.1E-04	U
	¹²⁵ Sb	-8.9E-06	±	8.9E-05	U
	¹¹³ Sn	-6.5E-05	±	7.9E-05	U
	⁹⁰ Sr	6.1E-05	±	7.2E-05	U
	²³⁴ U	9.5E-06	±	6.4E-06	
	²³⁵ U	6.0E-07	±	2.1E-06	U
	²³⁸ U	1.3E-05	±	6.9E-06	
	⁶⁵ Zn	-1.1E-04	±	1.4E-04	U
N956	¹⁴⁴ Ce	2.1E-04	±	7.1E-04	U
(200-West)	⁶⁰ Co	-4.0E-06	±	4.0E-05	U
Composite Period	¹³⁴ Cs	-1.5E-05	±	7.4E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	4.8E-04	±	1.9E-04	
	¹⁵² Eu	-7.7E-05	±	1.6E-04	U
	¹⁵⁴ Eu	1.2E-04	±	2.3E-04	U
	¹⁵⁵ Eu	3.1E-05	±	1.6E-04	U
	²³⁸ Pu	5.2E-06	±	9.5E-06	U
	^{239,240} Pu	8.8E-06	±	5.7E-06	
	¹⁰³ Ru	1.5E-05	±	6.4E-05	U
	¹⁰⁶ Ru	7.5E-05	±	6.2E-04	U
	¹²⁵ Sb	4.9E-06	±	4.9E-05	U
	¹¹³ Sn	4.3E-05	±	7.7E-05	U
	⁹⁰ Sr	1.2E-04	±	7.5E-05	
	²³⁴ U	9.4E-06	±	6.2E-06	
	²³⁵ U	1.5E-06	±	2.1E-06	U
	²³⁸ U	1.2E-05	±	6.8E-06	
	⁶⁵ Zn	-1.7E-04	±	1.9E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N963	¹⁴⁴ Ce	3.4E-05	±	3.4E-04	U
(200-West)	⁶⁰ Co	4.4E-05	±	8.0E-05	U
Composite Period	¹³⁴ Cs	4.8E-05	±	8.4E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	3.3E-05	±	7.6E-05	U
	¹⁵² Eu	-2.7E-05	±	1.9E-04	U
	¹⁵⁴ Eu	2.7E-06	±	2.7E-05	U
	¹⁵⁵ Eu	4.2E-05	±	1.8E-04	U
	²³⁸ Pu	4.0E-06	±	3.7E-06	U
	^{239,240} Pu	5.7E-06	±	4.0E-06	
	¹⁰³ Ru	-5.7E-05	±	7.6E-05	U
	¹⁰⁶ Ru	6.0E-04	±	7.3E-04	U
	¹²⁵ Sb	3.6E-05	±	1.7E-04	U
	¹¹³ Sn	1.4E-05	±	8.2E-05	U
	⁹⁰ Sr	-7.2E-06	±	6.4E-05	U
	²³⁴ U	1.4E-05	±	7.8E-06	
	²³⁵ U	3.1E-06	±	3.2E-06	
	²³⁸ U	6.4E-06	±	5.1E-06	
	⁶⁵ Zn	-6.0E-05	±	1.7E-04	U
N964	¹⁴⁴ Ce	6.2E-05	±	6.2E-04	U
(200-West)	⁶⁰ Co	2.4E-05	±	8.5E-05	U
Composite Period	¹³⁴ Cs	-2.0E-05	±	8.1E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	2.3E-05	±	8.1E-05	U
	¹⁵² Eu	1.0E-04	±	2.1E-04	U
	¹⁵⁴ Eu	-3.9E-05	±	2.5E-04	U
	¹⁵⁵ Eu	-5.9E-05	±	2.1E-04	U
	²³⁸ Pu	3.6E-06	±	3.9E-06	U
	^{239,240} Pu	7.9E-06	±	5.3E-06	
	¹⁰³ Ru	-8.5E-06	±	7.7E-05	U
	¹⁰⁶ Ru	1.1E-04	±	6.7E-04	U
	¹²⁵ Sb	8.3E-05	±	2.0E-04	U
	¹¹³ Sn	3.0E-05	±	8.4E-05	U
	⁹⁰ Sr	1.6E-04	±	9.0E-05	
	²³⁴ U	1.4E-05	±	8.1E-06	
	²³⁵ U	5.7E-06	±	4.7E-06	
	²³⁸ U	1.1E-05	±	7.1E-06	
	⁶⁵ Zn	1.6E-04	±	2.3E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N963	¹⁴⁴ Ce	8.2E-05	±	6.6E-04	U
(200-West)	⁶⁰ Co	2.9E-06	±	2.9E-05	U
Composite Period	¹³⁴ Cs	1.8E-05	±	7.5E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	7.5E-05	±	8.4E-05	U
	¹⁵² Eu	1.4E-04	±	2.0E-04	U
	¹⁵⁴ Eu	-4.8E-05	±	2.2E-04	U
	¹⁵⁵ Eu	1.1E-04	±	1.8E-04	U
	²³⁸ Pu	2.8E-06	±	9.0E-06	U
	^{239,240} Pu	8.9E-06	±	5.5E-06	
	¹⁰³ Ru	2.0E-05	±	6.9E-05	U
	¹⁰⁶ Ru	3.9E-04	±	6.6E-04	U
	¹²⁵ Sb	-1.6E-05	±	1.6E-04	U
	¹¹³ Sn	-1.3E-05	±	9.7E-05	U
	⁹⁰ Sr	1.8E-04	±	9.7E-05	
	²³⁴ U	5.7E-06	±	5.3E-06	U
	²³⁵ U	1.4E-06	±	1.9E-06	U
	²³⁸ U	5.7E-06	±	4.6E-06	
	⁶⁵ Zn	-4.3E-04	±	4.5E-04	U
N964	¹⁴⁴ Ce	-8.0E-05	±	6.8E-04	U
(200-West)	⁶⁰ Co	8.0E-05	±	7.6E-05	U
Composite Period	¹³⁴ Cs	-8.9E-05	±	9.2E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-9.4E-06	±	6.7E-05	U
	¹⁵² Eu	-2.2E-04	±	2.3E-04	U
	¹⁵⁴ Eu	1.6E-04	±	1.9E-04	U
	¹⁵⁵ Eu	7.9E-06	±	8.0E-05	U
	²³⁸ Pu	-6.2E-06	±	8.9E-06	U
	^{239,240} Pu	4.5E-06	±	3.5E-06	
	¹⁰³ Ru	6.4E-06	±	6.2E-05	U
	¹⁰⁶ Ru	2.6E-04	±	5.9E-04	U
	¹²⁵ Sb	1.6E-05	±	1.6E-04	U
	¹¹³ Sn	1.7E-05	±	7.7E-05	U
	⁹⁰ Sr	-9.4E-05	±	6.4E-05	U
	²³⁴ U	1.4E-05	±	8.3E-06	
	²³⁵ U	2.0E-06	±	3.7E-06	U
	²³⁸ U	1.4E-05	±	7.6E-06	
	⁶⁵ Zn	-1.2E-04	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N965	¹⁴⁴ Ce	-1.7E-05	±	1.7E-04	U
(200-West)	⁶⁰ Co	1.8E-05	±	6.6E-05	U
Composite Period	¹³⁴ Cs	-2.5E-05	±	8.6E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.9E-05	±	6.7E-05	U
	¹⁵² Eu	8.1E-05	±	1.8E-04	U
	¹⁵⁴ Eu	2.5E-04	±	2.0E-04	U
	¹⁵⁵ Eu	5.1E-05	±	1.7E-04	U
	²³⁸ Pu	6.1E-07	±	2.1E-06	U
	^{239,240} Pu	4.2E-06	±	4.3E-06	U
	¹⁰³ Ru	1.3E-05	±	6.5E-05	U
	¹⁰⁶ Ru	3.0E-04	±	6.0E-04	U
	¹²⁵ Sb	-8.1E-05	±	1.5E-04	U
	¹¹³ Sn	-7.5E-05	±	7.8E-05	U
	⁹⁰ Sr	6.5E-05	±	7.4E-05	U
	²³⁴ U	1.4E-05	±	8.5E-06	
	²³⁵ U	1.6E-06	±	4.0E-06	U
	²³⁸ U	8.7E-06	±	5.8E-06	
	⁶⁵ Zn	2.0E-04	±	1.9E-04	U
N966	¹⁴⁴ Ce	-5.2E-04	±	7.3E-04	U
(200-West)	⁶⁰ Co	9.1E-06	±	7.6E-05	U
Composite Period	¹³⁴ Cs	-1.3E-05	±	7.3E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	3.7E-05	±	6.9E-05	U
	¹⁵² Eu	5.6E-05	±	1.8E-04	U
	¹⁵⁴ Eu	8.6E-05	±	2.0E-04	U
	¹⁵⁵ Eu	7.6E-05	±	2.0E-04	U
	²³⁸ Pu	-7.7E-06	±	7.9E-06	U
	^{239,240} Pu	5.0E-06	±	4.7E-06	U
	¹⁰³ Ru	3.5E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-2.4E-04	±	6.0E-04	U
	¹²⁵ Sb	6.7E-05	±	1.6E-04	U
	¹¹³ Sn	1.6E-05	±	7.7E-05	U
	⁹⁰ Sr	4.9E-05	±	7.0E-05	U
	²³⁴ U	1.5E-05	±	8.5E-06	
	²³⁵ U	2.2E-06	±	3.4E-06	U
	²³⁸ U	1.3E-05	±	7.8E-06	
	⁶⁵ Zn	1.4E-04	±	1.6E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N965	¹⁴⁴ Ce	-3.0E-04	±	6.7E-04	U
(200-West)	⁶⁰ Co	8.9E-06	±	8.9E-05	U
Composite Period	¹³⁴ Cs	5.1E-05	±	7.0E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	4.4E-05	±	7.4E-05	U
	¹⁵² Eu	-8.0E-05	±	1.8E-04	U
	¹⁵⁴ Eu	-2.6E-04	±	2.7E-04	U
	¹⁵⁵ Eu	-1.6E-05	±	1.6E-04	U
	²³⁸ Pu	-1.2E-06	±	7.7E-06	U
	^{239,240} Pu	4.8E-06	±	3.7E-06	
	¹⁰³ Ru	-9.5E-06	±	6.7E-05	U
	¹⁰⁶ Ru	3.2E-04	±	5.7E-04	U
	¹²⁵ Sb	-9.8E-05	±	1.5E-04	U
	¹¹³ Sn	4.8E-05	±	7.6E-05	U
	⁹⁰ Sr	1.8E-04	±	9.2E-05	
	²³⁴ U	1.1E-05	±	6.7E-06	
	²³⁵ U	5.0E-06	±	4.2E-06	
	²³⁸ U	8.6E-06	±	5.9E-06	
	⁶⁵ Zn	-2.5E-04	±	2.6E-04	U
N966	¹⁴⁴ Ce	2.1E-04	±	5.7E-04	U
(200-West)	⁶⁰ Co	-2.0E-05	±	7.5E-05	U
Composite Period	¹³⁴ Cs	2.8E-05	±	7.8E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	7.8E-05	±	7.6E-05	U
	¹⁵² Eu	-4.0E-05	±	1.5E-04	U
	¹⁵⁴ Eu	-1.9E-05	±	1.9E-04	U
	¹⁵⁵ Eu	-1.3E-05	±	1.3E-04	U
	²³⁸ Pu	1.2E-06	±	8.1E-06	U
	^{239,240} Pu	3.4E-06	±	3.9E-06	U
	¹⁰³ Ru	-1.0E-05	±	6.8E-05	U
	¹⁰⁶ Ru	-3.2E-04	±	6.2E-04	U
	¹²⁵ Sb	3.5E-05	±	1.5E-04	U
	¹¹³ Sn	-4.2E-05	±	7.4E-05	U
	⁹⁰ Sr	8.5E-07	±	8.5E-06	U
	²³⁴ U	7.2E-06	±	5.9E-06	U
	²³⁵ U	5.1E-06	±	4.0E-06	
	²³⁸ U	7.9E-06	±	5.0E-06	
	⁶⁵ Zn	-6.4E-05	±	1.9E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N974	¹⁴⁴ Ce	7.2E-06	±	7.2E-05	U
(200-West)	⁶⁰ Co	5.5E-05	±	6.4E-05	U
Composite Period	¹³⁴ Cs	3.1E-05	±	8.6E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	2.4E-05	±	6.7E-05	U
	¹⁵² Eu	9.6E-05	±	1.5E-04	U
	¹⁵⁴ Eu	-8.2E-06	±	8.2E-05	U
	¹⁵⁵ Eu	-4.5E-05	±	1.6E-04	U
	²³⁸ Pu	1.4E-06	±	5.7E-06	U
	^{239,240} Pu	3.4E-06	±	3.9E-06	U
	¹⁰³ Ru	2.4E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-1.2E-04	±	5.9E-04	U
	¹²⁵ Sb	9.6E-05	±	1.5E-04	U
	¹¹³ Sn	2.0E-07	±	2.0E-06	U
	⁹⁰ Sr	8.6E-05	±	7.3E-05	U
	²³⁴ U	1.4E-05	±	8.7E-06	
	²³⁵ U	2.5E-06	±	3.1E-06	
	²³⁸ U	1.4E-05	±	7.9E-06	
	⁶⁵ Zn	-8.3E-05	±	1.4E-04	U
N975	¹⁴⁴ Ce	2.5E-04	±	7.0E-04	U
(200-West)	⁶⁰ Co	2.8E-05	±	7.7E-05	U
Composite Period	¹³⁴ Cs	8.6E-06	±	7.4E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	3.0E-05	±	6.7E-05	U
	¹⁵² Eu	-1.2E-05	±	1.2E-04	U
	¹⁵⁴ Eu	4.3E-05	±	2.0E-04	U
	¹⁵⁵ Eu	1.5E-04	±	2.1E-04	U
	²³⁸ Pu	6.3E-07	±	4.9E-06	U
	^{239,240} Pu	2.8E-05	±	1.2E-05	
	¹⁰³ Ru	-3.1E-05	±	7.2E-05	U
	¹⁰⁶ Ru	2.5E-04	±	5.6E-04	U
	¹²⁵ Sb	-3.4E-06	±	3.5E-05	U
	¹¹³ Sn	-5.0E-06	±	5.0E-05	U
	⁹⁰ Sr	2.1E-04	±	1.2E-04	
	²³⁴ U	1.6E-05	±	8.7E-06	
	²³⁵ U	1.5E-06	±	2.1E-06	U
	²³⁸ U	8.0E-06	±	5.6E-06	
	⁶⁵ Zn	-1.4E-05	±	1.4E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N974	¹⁴⁴ Ce	5.7E-04	±	5.7E-04	U
(200-West)	⁶⁰ Co	-5.2E-05	±	7.3E-05	U
Composite Period	¹³⁴ Cs	2.4E-05	±	7.2E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	-4.3E-05	±	6.4E-05	U
	¹⁵² Eu	2.7E-05	±	1.5E-04	U
	¹⁵⁴ Eu	8.8E-05	±	2.0E-04	U
	¹⁵⁵ Eu	1.7E-04	±	1.8E-04	U
	²³⁸ Pu	7.2E-06	±	1.2E-05	U
	^{239,240} Pu	7.2E-06	±	6.2E-06	U
	¹⁰³ Ru	2.5E-05	±	6.5E-05	U
	¹⁰⁶ Ru	-4.7E-04	±	6.1E-04	U
	¹²⁵ Sb	1.4E-05	±	1.4E-04	U
	¹¹³ Sn	4.1E-05	±	7.0E-05	U
	⁹⁰ Sr	1.5E-04	±	8.9E-05	
	²³⁴ U	6.0E-06	±	5.6E-06	U
	²³⁵ U	4.0E-06	±	3.8E-06	
	²³⁸ U	4.4E-06	±	3.9E-06	
	⁶⁵ Zn	-1.3E-05	±	1.3E-04	U
N975	¹⁴⁴ Ce	-1.1E-04	±	6.9E-04	U
(200-West)	⁶⁰ Co	-1.7E-06	±	1.7E-05	U
Composite Period	¹³⁴ Cs	-6.9E-05	±	7.7E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	8.6E-05	±	8.1E-05	U
	¹⁵² Eu	-3.2E-04	±	3.3E-04	U
	¹⁵⁴ Eu	-7.9E-05	±	2.2E-04	U
	¹⁵⁵ Eu	-1.6E-05	±	1.6E-04	U
	²³⁸ Pu	5.3E-06	±	9.1E-06	U
	^{239,240} Pu	3.3E-06	±	5.3E-06	U
	¹⁰³ Ru	-2.8E-05	±	7.0E-05	U
	¹⁰⁶ Ru	2.9E-04	±	6.1E-04	U
	¹²⁵ Sb	-1.3E-04	±	1.8E-04	U
	¹¹³ Sn	-2.8E-05	±	8.2E-05	U
	⁹⁰ Sr	1.7E-04	±	9.9E-05	
	²³⁴ U	1.2E-05	±	8.1E-06	
	²³⁵ U	6.4E-06	±	5.0E-06	
	²³⁸ U	8.3E-06	±	6.1E-06	
	⁶⁵ Zn	-8.0E-05	±	1.5E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N987	¹⁴⁴ Ce	-4.8E-04	±	6.8E-04	U
(200-West)	⁶⁰ Co	1.1E-05	±	8.3E-05	U
Composite Period	¹³⁴ Cs	-7.2E-05	±	9.3E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	1.0E-04	±	8.0E-05	U
	¹⁵² Eu	-1.0E-04	±	1.8E-04	U
	¹⁵⁴ Eu	8.6E-05	±	2.0E-04	U
	¹⁵⁵ Eu	7.4E-05	±	1.7E-04	U
	²³⁸ Pu	-4.9E-06	±	8.9E-06	U
	^{239,240} Pu	5.6E-06	±	5.8E-06	U
	¹⁰³ Ru	2.6E-05	±	6.9E-05	U
	¹⁰⁶ Ru	1.9E-04	±	6.2E-04	U
	¹²⁵ Sb	-5.4E-05	±	1.6E-04	U
	¹¹³ Sn	1.3E-05	±	7.6E-05	U
	⁹⁰ Sr	1.7E-04	±	9.0E-05	
	²³⁴ U	2.3E-05	±	1.3E-05	
	²³⁵ U	6.4E-06	±	5.6E-06	
	²³⁸ U	1.9E-05	±	1.1E-05	
	⁶⁵ Zn	-2.1E-04	±	2.2E-04	U
N994	¹⁴⁴ Ce	-3.6E-05	±	3.6E-04	U
(200-West)	⁶⁰ Co	7.7E-05	±	9.2E-05	U
Composite Period	¹³⁴ Cs	6.9E-06	±	6.9E-05	U
12/26/01 - 6/24/02	¹³⁷ Cs	3.9E-05	±	7.7E-05	U
	¹⁵² Eu	1.5E-04	±	1.9E-04	U
	¹⁵⁴ Eu	-1.1E-04	±	2.5E-04	U
	¹⁵⁵ Eu	-1.7E-04	±	2.1E-04	U
	²³⁸ Pu	-2.0E-06	±	7.3E-06	U
	^{239,240} Pu	4.7E-06	±	4.4E-06	U
	¹⁰³ Ru	-5.2E-06	±	5.2E-05	U
	¹⁰⁶ Ru	1.6E-04	±	7.0E-04	U
	¹²⁵ Sb	9.1E-05	±	1.8E-04	U
	¹¹³ Sn	-1.4E-05	±	8.6E-05	U
	⁹⁰ Sr	1.4E-04	±	8.2E-05	
	²³⁴ U	1.5E-05	±	9.3E-06	
	²³⁵ U	2.9E-06	±	3.5E-06	
	²³⁸ U	1.4E-05	±	8.6E-06	
	⁶⁵ Zn	-1.8E-04	±	2.1E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N987	¹⁴⁴ Ce	-6.7E-04	±	7.2E-04	U
(200-West)	⁶⁰ Co	2.4E-05	±	6.0E-05	U
Composite Period	¹³⁴ Cs	-5.2E-06	±	5.2E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	3.3E-05	±	7.2E-05	U
	¹⁵² Eu	-2.4E-04	±	2.5E-04	U
	¹⁵⁴ Eu	-1.0E-04	±	1.9E-04	U
	¹⁵⁵ Eu	-1.8E-04	±	2.0E-04	U
	²³⁸ Pu	-9.2E-06	±	9.6E-06	U
	^{239,240} Pu	2.4E-06	±	3.4E-06	U
	¹⁰³ Ru	1.9E-05	±	6.5E-05	U
	¹⁰⁶ Ru	4.3E-04	±	6.2E-04	U
	¹²⁵ Sb	2.1E-04	±	1.8E-04	U
	¹¹³ Sn	3.4E-05	±	8.1E-05	U
	⁹⁰ Sr	1.5E-04	±	8.8E-05	
	²³⁴ U	1.1E-05	±	6.6E-06	
	²³⁵ U	4.6E-06	±	3.8E-06	
	²³⁸ U	1.4E-05	±	7.6E-06	
	⁶⁵ Zn	-1.7E-04	±	1.8E-04	U
N994	¹⁴⁴ Ce	1.3E-04	±	6.5E-04	U
(200-West)	⁶⁰ Co	-8.5E-06	±	7.5E-05	U
Composite Period	¹³⁴ Cs	-6.2E-05	±	7.6E-05	U
6/24/02 - 1/6/03	¹³⁷ Cs	5.2E-05	±	6.8E-05	U
	¹⁵² Eu	9.9E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-5.9E-05	±	2.3E-04	U
	¹⁵⁵ Eu	-8.3E-05	±	1.6E-04	U
	²³⁸ Pu	9.4E-06	±	1.1E-05	U
	^{239,240} Pu	6.1E-07	±	2.7E-06	U
	¹⁰³ Ru	-2.7E-05	±	6.7E-05	U
	¹⁰⁶ Ru	-2.7E-04	±	6.3E-04	U
	¹²⁵ Sb	9.1E-05	±	1.6E-04	U
	¹¹³ Sn	8.1E-06	±	7.0E-05	U
	⁹⁰ Sr	1.1E-04	±	7.5E-05	
	²³⁴ U	1.2E-05	±	6.9E-06	
	²³⁵ U	2.7E-06	±	2.8E-06	
	²³⁸ U	1.0E-05	±	6.0E-06	
	⁶⁵ Zn	-3.4E-04	±	3.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N130	¹⁴⁴ Ce	-2.2E-04	±	7.2E-04	U
(300 TEDF)	⁶⁰ Co	-1.4E-05	±	7.4E-05	U
Composite Period	¹³⁴ Cs	-1.5E-06	±	1.5E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	5.3E-06	±	5.4E-05	U
	¹⁵² Eu	-7.3E-05	±	1.7E-04	U
	¹⁵⁴ Eu	1.3E-04	±	2.0E-04	U
	¹⁵⁵ Eu	6.8E-05	±	1.9E-04	U
	²³⁸ Pu	1.1E-05	±	1.5E-05	U
	^{239,240} Pu	2.9E-05	±	1.5E-05	
	¹⁰³ Ru	1.5E-05	±	6.1E-05	U
	¹⁰⁶ Ru	2.7E-04	±	5.6E-04	U
	¹²⁵ Sb	-1.6E-05	±	1.5E-04	U
	¹¹³ Sn	-3.7E-05	±	7.5E-05	U
	⁹⁰ Sr	1.4E-04	±	8.7E-05	
	²³⁴ U	2.4E-05	±	1.3E-05	
	²³⁵ U	3.8E-06	±	3.9E-06	
	²³⁸ U	8.5E-06	±	6.1E-06	
	⁶⁵ Zn	-2.6E-05	±	1.2E-04	U
N485	¹⁴⁴ Ce	-3.7E-04	±	1.0E-03	U
(300-FF-1&2)	⁶⁰ Co	-5.2E-05	±	1.2E-04	U
Composite Period	¹³⁴ Cs	-2.1E-05	±	1.1E-04	U
3/8/02 - 6/25/02	¹³⁷ Cs	1.9E-05	±	1.1E-04	U
	¹⁵² Eu	1.2E-04	±	2.5E-04	U
	¹⁵⁴ Eu	-2.8E-06	±	2.8E-05	U
	¹⁵⁵ Eu	-1.6E-04	±	2.5E-04	U
	¹⁰³ Ru	8.6E-05	±	1.3E-04	U
	¹⁰⁶ Ru	-7.8E-04	±	1.0E-03	U
	¹²⁵ Sb	1.8E-05	±	1.8E-04	U
	¹¹³ Sn	1.2E-05	±	1.1E-04	U
	²³⁴ U	4.0E-05	±	2.1E-05	
	²³⁵ U	1.4E-06	±	7.5E-06	U
	²³⁸ U	2.1E-05	±	1.2E-05	
	⁶⁵ Zn	-1.4E-04	±	2.6E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N130	¹⁴⁴ Ce	-4.0E-04	±	6.3E-04	U
(300 TEDF)	⁶⁰ Co	2.9E-05	±	7.8E-05	U
Composite Period	¹³⁴ Cs	4.5E-05	±	7.4E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	7.1E-05	±	7.4E-05	U
	¹⁵² Eu	2.0E-05	±	1.6E-04	U
	¹⁵⁴ Eu	-4.2E-05	±	2.1E-04	U
	¹⁵⁵ Eu	-4.3E-05	±	1.8E-04	U
	²³⁸ Pu	6.7E-07	±	6.7E-06	U
	^{239,240} Pu	2.0E-06	±	4.1E-06	U
	¹⁰³ Ru	3.8E-05	±	6.5E-05	U
	¹⁰⁶ Ru	-2.6E-04	±	6.6E-04	U
	¹²⁵ Sb	1.3E-04	±	1.6E-04	U
	¹¹³ Sn	-4.5E-05	±	7.1E-05	U
	⁹⁰ Sr	1.3E-04	±	8.5E-05	
	²³⁴ U	1.3E-05	±	7.3E-06	
	²³⁵ U	1.9E-06	±	2.7E-06	U
	²³⁸ U	3.0E-06	±	3.2E-06	
	⁶⁵ Zn	2.7E-05	±	1.8E-04	U
N485	¹⁴⁴ Ce	1.6E-04	±	7.3E-04	U
(300-FF-1&2)	⁶⁰ Co	3.1E-05	±	7.3E-05	U
Composite Period	¹³⁴ Cs	4.4E-06	±	4.4E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	-1.8E-05	±	6.9E-05	U
	¹⁵² Eu	5.5E-06	±	5.5E-05	U
	¹⁵⁴ Eu	-1.2E-04	±	1.7E-04	U
	¹⁵⁵ Eu	-2.4E-05	±	1.9E-04	U
	¹⁰³ Ru	2.6E-05	±	7.1E-05	U
	¹⁰⁶ Ru	-2.8E-04	±	5.8E-04	U
	¹²⁵ Sb	3.1E-05	±	1.7E-04	U
	¹¹³ Sn	3.4E-06	±	3.4E-05	U
	²³⁴ U	3.1E-05	±	1.5E-05	
	²³⁵ U	9.5E-06	±	6.8E-06	
	²³⁸ U	2.1E-05	±	1.1E-05	
	⁶⁵ Zn	-9.2E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N486	¹⁴⁴ Ce	-9.9E-04	±	1.3E-03	U
(300-FF-1&2)	⁶⁰ Co	1.2E-04	±	1.4E-04	U
Composite Period	¹³⁴ Cs	-9.7E-05	±	1.3E-04	U
3/12/02 - 6/25/02	¹³⁷ Cs	7.8E-06	±	7.8E-05	U
	¹⁵² Eu	-1.5E-04	±	3.2E-04	U
	¹⁵⁴ Eu	7.8E-05	±	3.5E-04	U
	¹⁵⁵ Eu	1.7E-04	±	3.5E-04	U
	¹⁰³ Ru	-1.4E-05	±	1.3E-04	U
	¹⁰⁶ Ru	3.6E-04	±	1.1E-03	U
	¹²⁵ Sb	-2.3E-04	±	2.9E-04	U
	¹¹³ Sn	1.4E-04	±	1.4E-04	U
	²³⁴ U	3.2E-05	±	1.6E-05	
	²³⁵ U	1.1E-06	±	1.2E-06	U
	²³⁸ U	1.6E-05	±	1.1E-05	
	⁶⁵ Zn	-3.5E-04	±	3.6E-04	U
N487	¹⁴⁴ Ce	6.6E-04	±	1.1E-03	U
(300-FF-1&2)	⁶⁰ Co	-2.2E-05	±	1.1E-04	U
Composite Period	¹³⁴ Cs	-5.5E-06	±	5.5E-05	U
3/11/02 - 6/25/02	¹³⁷ Cs	-8.2E-05	±	1.2E-04	U
	¹⁵² Eu	-3.0E-05	±	2.7E-04	U
	¹⁵⁴ Eu	9.6E-05	±	3.6E-04	U
	¹⁵⁵ Eu	8.1E-05	±	2.7E-04	U
	¹⁰³ Ru	-3.1E-05	±	1.2E-04	U
	¹⁰⁶ Ru	1.6E-04	±	9.6E-04	U
	¹²⁵ Sb	-2.7E-04	±	2.8E-04	U
	¹¹³ Sn	-5.9E-05	±	1.3E-04	U
	²³⁴ U	3.5E-05	±	1.6E-05	
	²³⁵ U	4.3E-06	±	4.4E-06	
	²³⁸ U	2.8E-05	±	1.4E-05	
	⁶⁵ Zn	-1.8E-04	±	3.0E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N486	¹⁴⁴ Ce	-4.7E-05	±	4.7E-04	U
(300-FF-1&2)	⁶⁰ Co	1.9E-05	±	7.3E-05	U
Composite Period	¹³⁴ Cs	-2.2E-05	±	7.0E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	5.3E-05	±	6.5E-05	U
	¹⁵² Eu	9.5E-05	±	1.5E-04	U
	¹⁵⁴ Eu	5.0E-05	±	2.0E-04	U
	¹⁵⁵ Eu	-4.0E-05	±	1.5E-04	U
	¹⁰³ Ru	-3.7E-05	±	7.4E-05	U
	¹⁰⁶ Ru	-2.9E-04	±	6.0E-04	U
	¹²⁵ Sb	7.0E-05	±	1.5E-04	U
	¹¹³ Sn	2.6E-05	±	6.8E-05	U
	²³⁴ U	2.5E-05	±	1.2E-05	
	²³⁵ U	3.1E-06	±	4.4E-06	U
	²³⁸ U	9.4E-06	±	7.3E-06	
	⁶⁵ Zn	-7.7E-06	±	7.7E-05	U
N487	¹⁴⁴ Ce	2.3E-04	±	7.6E-04	U
(300-FF-1&2)	⁶⁰ Co	-7.3E-07	±	7.3E-06	U
Composite Period	¹³⁴ Cs	5.8E-05	±	7.6E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	4.8E-05	±	8.0E-05	U
	¹⁵² Eu	-5.2E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-7.9E-05	±	2.2E-04	U
	¹⁵⁵ Eu	1.7E-05	±	1.7E-04	U
	¹⁰³ Ru	-3.7E-05	±	7.8E-05	U
	¹⁰⁶ Ru	3.0E-04	±	6.5E-04	U
	¹²⁵ Sb	2.4E-05	±	1.8E-04	U
	¹¹³ Sn	-5.0E-06	±	5.0E-05	U
	²³⁴ U	3.5E-05	±	1.5E-05	
	²³⁵ U	7.1E-06	±	5.2E-06	
	²³⁸ U	3.6E-05	±	1.6E-05	
	⁶⁵ Zn	-5.8E-05	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-2. Near-Facility Air Sampling Results, 2002 (pCi/m³ ± total analytical uncertainty).
(cont)

Location	Isotope	Result	±	Uncertainty	RQ*
N527	¹⁴⁴ Ce	-6.0E-04	±	1.3E-03	U
(300-FF-1&2)	⁶⁰ Co	1.0E-04	±	1.7E-04	U
Composite Period	¹³⁴ Cs	2.8E-05	±	1.5E-04	U
3/13/02 - 6/25/02	¹³⁷ Cs	-9.5E-05	±	1.5E-04	U
	¹⁵² Eu	-1.3E-04	±	3.4E-04	U
	¹⁵⁴ Eu	-9.9E-05	±	6.1E-04	U
	¹⁵⁵ Eu	-1.2E-04	±	3.8E-04	U
	¹⁰³ Ru	-1.6E-05	±	1.6E-04	U
	¹⁰⁶ Ru	-6.1E-05	±	6.1E-04	U
	¹²⁵ Sb	-4.0E-04	±	4.1E-04	U
	¹¹³ Sn	-3.3E-05	±	1.7E-04	U
	²³⁴ U	3.6E-05	±	1.9E-05	
	²³⁵ U	7.5E-06	±	9.2E-06	U
	²³⁸ U	3.9E-05	±	2.0E-05	
	⁶⁵ Zn	-2.0E-04	±	3.7E-04	U
N981	¹⁴⁴ Ce	4.0E-04	±	7.3E-04	U
(WYE Barricade)	⁶⁰ Co	-1.8E-05	±	6.6E-05	U
Composite Period	¹³⁴ Cs	-3.0E-05	±	7.4E-05	U
12/27/01 - 6/25/02	¹³⁷ Cs	-6.0E-05	±	6.9E-05	U
	¹⁵² Eu	-8.4E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-1.2E-06	±	1.2E-05	U
	¹⁵⁵ Eu	-2.0E-05	±	1.9E-04	U
	²³⁸ Pu	-2.6E-06	±	1.1E-05	U
	^{239,240} Pu	3.2E-06	±	5.5E-06	U
	¹⁰³ Ru	3.2E-05	±	6.3E-05	U
	¹⁰⁶ Ru	-1.9E-04	±	6.2E-04	U
	¹²⁵ Sb	5.5E-05	±	1.9E-04	U
	¹¹³ Sn	-4.3E-05	±	7.3E-05	U
	⁹⁰ Sr	2.5E-04	±	1.0E-04	
	²³⁴ U	5.2E-06	±	4.3E-06	
	²³⁵ U	8.4E-07	±	1.7E-06	U
	²³⁸ U	5.9E-06	±	5.1E-06	
	⁶⁵ Zn	-1.3E-04	±	1.6E-04	U

Location	Isotope	Result	±	Uncertainty	RQ*
N527	¹⁴⁴ Ce	-2.0E-04	±	6.6E-04	U
(300-FF-1&2)	⁶⁰ Co	-5.3E-05	±	7.7E-05	U
Composite Period	¹³⁴ Cs	-4.7E-05	±	7.2E-05	U
6/25/02 - 1/7/03	¹³⁷ Cs	1.2E-05	±	6.4E-05	U
	¹⁵² Eu	-2.7E-05	±	1.6E-04	U
	¹⁵⁴ Eu	2.0E-04	±	2.3E-04	U
	¹⁵⁵ Eu	1.3E-04	±	1.7E-04	U
	¹⁰³ Ru	7.8E-05	±	7.3E-05	U
	¹⁰⁶ Ru	2.1E-04	±	5.9E-04	U
	¹²⁵ Sb	-9.7E-06	±	9.7E-05	U
	¹¹³ Sn	-3.5E-05	±	7.7E-05	U
	²³⁴ U	6.0E-05	±	2.5E-05	
	²³⁵ U	5.9E-06	±	4.9E-06	
	²³⁸ U	7.2E-05	±	2.9E-05	
	⁶⁵ Zn	4.9E-05	±	1.7E-04	U
N981	¹⁴⁴ Ce	-2.9E-04	±	6.7E-04	U
(WYE Barricade)	⁶⁰ Co	2.7E-05	±	6.7E-05	U
Composite Period	¹³⁴ Cs	-1.2E-04	±	1.2E-04	U
6/25/02 - 1/7/03	¹³⁷ Cs	1.8E-05	±	6.0E-05	U
	¹⁵² Eu	-2.4E-05	±	1.7E-04	U
	¹⁵⁴ Eu	-6.4E-05	±	1.9E-04	U
	¹⁵⁵ Eu	-3.8E-05	±	1.8E-04	U
	²³⁸ Pu	-1.2E-06	±	1.1E-05	U
	^{239,240} Pu	2.5E-06	±	4.3E-06	U
	¹⁰³ Ru	-3.0E-05	±	6.6E-05	U
	¹⁰⁶ Ru	-1.8E-04	±	5.7E-04	U
	¹²⁵ Sb	4.9E-05	±	1.6E-04	U
	¹¹³ Sn	1.5E-05	±	7.4E-05	U
	⁹⁰ Sr	3.9E-05	±	6.0E-05	U
	²³⁴ U	1.2E-05	±	7.5E-06	
	²³⁵ U	2.3E-06	±	2.8E-06	
	²³⁸ U	9.2E-06	±	6.2E-06	
	⁶⁵ Zn	-1.6E-04	±	1.6E-04	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-3. Pacific Northwest National Laboratory Air Sampling Data, 2002
(pCi/m³ ± total analytical uncertainty).

Sampler	Isotope	Result ± Uncertainty	RQ*
200 W SE	⁶⁰ Co	-2.7E-04 ± 7.0E-04	U
Composite Period	¹³⁴ Cs	7.4E-04 ± 6.9E-04	U
01/02/02 - 03/27/02	¹³⁷ Cs	7.7E-05 ± 5.6E-04	U
	¹⁵⁴ Eu	-4.1E-04 ± 1.6E-03	U
	¹⁵⁵ Eu	-2.3E-04 ± 1.0E-03	U
	²³⁸ Pu	2.0E-06 ± 2.7E-06	U
	^{239,240} Pu	3.4E-06 ± 3.3E-06	U
	¹⁰⁶ Ru	-5.8E-03 ± 5.6E-03	U
	¹²⁵ Sb	-6.1E-04 ± 1.3E-03	U
	⁹⁰ Sr	1.3E-04 ± 7.0E-05	
	²³⁴ U	2.6E-05 ± 1.1E-05	
	²³⁵ U	7.5E-07 ± 3.0E-06	U
	²³⁸ U	1.8E-05 ± 9.3E-06	
200 W SE	⁶⁰ Co	2.3E-04 ± 5.3E-04	U
Composite Period	¹³⁴ Cs	1.4E-04 ± 5.6E-04	U
07/01/02 - 10/08/02	¹³⁷ Cs	-1.9E-04 ± 5.1E-04	U
	¹⁵⁴ Eu	5.8E-04 ± 1.6E-03	U
	¹⁵⁵ Eu	1.2E-03 ± 1.5E-03	U
	²³⁸ Pu	8.4E-07 ± 2.0E-06	U
	^{239,240} Pu	7.2E-06 ± 4.9E-06	
	¹⁰⁶ Ru	-3.7E-04 ± 5.0E-03	U
	¹²⁵ Sb	4.6E-04 ± 1.3E-03	U
	⁹⁰ Sr	9.1E-05 ± 8.7E-05	U
	²³⁴ U	2.6E-05 ± 9.3E-06	
	²³⁵ U	1.1E-06 ± 2.4E-06	U
	²³⁸ U	2.2E-05 ± 8.5E-06	
300 NE	⁶⁰ Co	-9.4E-05 ± 7.1E-04	U
Composite Period	¹³⁴ Cs	-1.9E-04 ± 6.8E-04	U
12/27/01 - 4/3/02	¹³⁷ Cs	2.9E-04 ± 5.0E-04	U
	¹⁵⁴ Eu	-1.3E-05 ± 1.7E-03	U
	¹⁵⁵ Eu	6.8E-04 ± 1.3E-03	U
	²³⁸ Pu	-2.3E-07 ± 5.5E-07	U
	^{239,240} Pu	2.9E-07 ± 5.8E-07	U
	¹⁰⁶ Ru	4.0E-03 ± 5.0E-03	U
	¹²⁵ Sb	-3.9E-04 ± 1.3E-03	U
	⁹⁰ Sr	1.4E-05 ± 3.0E-05	U
	²³⁴ U	3.1E-05 ± 1.1E-05	
	²³⁵ U	2.7E-06 ± 2.7E-06	U
	²³⁸ U	3.6E-05 ± 1.2E-05	

Sampler	Isotope	Result ± Uncertainty	RQ*
200 W SE	⁶⁰ Co	2.3E-05 ± 4.1E-04	U
Composite Period	¹³⁴ Cs	-5.3E-04 ± 4.4E-04	U
03/27/02 - 07/01/02	¹³⁷ Cs	4.7E-05 ± 3.6E-04	U
	¹⁵⁴ Eu	3.7E-04 ± 1.2E-03	U
	¹⁵⁵ Eu	-8.0E-05 ± 6.8E-04	U
	²³⁸ Pu	-5.1E-07 ± 1.6E-06	U
	^{239,240} Pu	8.0E-06 ± 4.6E-06	
	¹⁰⁶ Ru	-8.6E-04 ± 3.8E-03	U
	¹²⁵ Sb	1.4E-04 ± 1.0E-03	U
	⁹⁰ Sr	-2.0E-05 ± 5.1E-05	U
	²³⁴ U	1.4E-05 ± 7.3E-06	
	²³⁵ U	-1.1E-06 ± 2.0E-06	U
	²³⁸ U	1.7E-05 ± 8.5E-06	
200 W SE	⁶⁰ Co	2.0E-04 ± 4.6E-04	U
Composite Period	¹³⁴ Cs	-5.9E-05 ± 4.8E-04	U
10/08/02 - 12/31/02	¹³⁷ Cs	1.9E-04 ± 4.1E-04	U
	¹⁵⁴ Eu	-9.5E-04 ± 1.2E-03	U
	¹⁵⁵ Eu	-5.3E-05 ± 6.7E-04	U
	²³⁸ Pu	-5.8E-07 ± 1.6E-06	U
	^{239,240} Pu	-2.1E-07 ± 1.7E-06	U
	¹⁰⁶ Ru	1.6E-03 ± 5.0E-03	U
	¹²⁵ Sb	2.9E-04 ± 1.1E-03	U
	⁹⁰ Sr	-2.2E-05 ± 6.4E-05	U
	²³⁴ U	1.4E-05 ± 1.0E-05	
	²³⁵ U	-2.2E-07 ± 3.8E-06	U
	²³⁸ U	1.3E-05 ± 9.8E-06	
300 NE	⁶⁰ Co	-3.1E-04 ± 5.3E-04	U
Composite Period	¹³⁴ Cs	-1.7E-04 ± 6.8E-04	U
4/3/02 - 6/28/02	¹³⁷ Cs	-2.9E-04 ± 5.2E-04	U
	¹⁵⁴ Eu	-8.2E-04 ± 1.5E-03	U
	¹⁵⁵ Eu	-1.1E-03 ± 9.6E-04	U
	²³⁸ Pu	-2.9E-07 ± 1.6E-06	U
	^{239,240} Pu	-9.0E-07 ± 1.2E-06	U
	¹⁰⁶ Ru	3.7E-03 ± 5.1E-03	U
	¹²⁵ Sb	-5.7E-04 ± 1.2E-03	U
	⁹⁰ Sr	-8.1E-06 ± 3.1E-05	U
	²³⁴ U	4.2E-05 ± 1.7E-05	
	²³⁵ U	7.4E-07 ± 5.0E-06	U
	²³⁸ U	3.9E-05 ± 1.6E-05	

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-3. Pacific Northwest National Laboratory Air Sampling Data, 2002
(pCi/m³ ± total analytical uncertainty). (cont)

Sampler	Isotope	Result ± Uncertainty	RQ*
300 NE	⁶⁰ Co	-4.0E-04 ± 6.3E-04	U
Composite Period	¹³⁴ Cs	1.4E-04 ± 5.6E-04	U
6/27/02 - 10/2/02	¹³⁷ Cs	-2.4E-04 ± 4.5E-04	U
	¹⁵⁴ Eu	5.1E-04 ± 1.7E-03	U
	¹⁵⁵ Eu	2.1E-04 ± 8.2E-04	U
	²³⁸ Pu	6.7E-08 ± 7.1E-07	U
	^{239,240} Pu	5.5E-07 ± 9.3E-07	U
	¹⁰⁶ Ru	3.7E-04 ± 4.3E-03	U
	¹²⁵ Sb	-2.7E-04 ± 9.9E-04	U
	⁹⁰ Sr	-3.6E-05 ± 3.8E-05	U
	²³⁴ U	3.4E-05 ± 1.2E-05	
	²³⁵ U	-5.3E-07 ± 2.8E-06	U
	²³⁸ U	2.9E-05 ± 1.1E-05	
300 NE			
Sample Period			
12/27/01 - 1/23/02	³ H	9.8E+00 ± 1.4E+00	
1/23/02 - 2/20/02	³ H	1.5E+01 ± 2.2E+00	
2/20/02 - 3/21/02	³ H	3.0E+00 ± 7.3E-01	
3/21/02 - 4/17/02	³ H	4.2E+00 ± 5.3E-01	
4/17/02 - 5/15/02	³ H	2.6E+00 ± 7.3E-01	
5/15/02 - 6/13/02	³ H	6.6E+00 ± 9.6E-01	
6/13/02 - 7/11/02	³ H	4.1E+00 ± 8.3E-01	
300 Trench	⁶⁰ Co	1.9E-04 ± 4.1E-04	U
Composite Period	¹³⁴ Cs	3.8E-04 ± 4.8E-04	U
12/27/01 - 4/3/02	¹³⁷ Cs	4.7E-05 ± 4.6E-04	U
	¹⁵⁴ Eu	4.0E-04 ± 1.0E-03	U
	¹⁵⁵ Eu	-5.2E-04 ± 7.4E-04	U
	¹⁰⁶ Ru	6.7E-04 ± 3.9E-03	U
	¹²⁵ Sb	-7.9E-04 ± 1.2E-03	U
	²³⁴ U	3.5E-05 ± 1.1E-05	
	²³⁵ U	1.1E-06 ± 1.6E-06	U
	²³⁸ U	1.6E-05 ± 6.5E-06	
300 Trench	⁶⁰ Co	3.0E-04 ± 6.2E-04	U
Composite Period	¹³⁴ Cs	3.4E-04 ± 5.1E-04	U
6/27/02 - 10/2/02	¹³⁷ Cs	4.5E-04 ± 5.4E-04	U
	¹⁵⁴ Eu	-2.8E-04 ± 1.5E-03	U
	¹⁵⁵ Eu	-8.8E-04 ± 9.6E-04	U
	¹⁰⁶ Ru	2.7E-03 ± 4.7E-03	U
	¹²⁵ Sb	1.8E-04 ± 1.2E-03	U
	²³⁴ U	3.9E-05 ± 1.3E-05	
	²³⁵ U	2.2E-06 ± 3.3E-06	U
	²³⁸ U	3.5E-05 ± 1.3E-05	

Sampler	Isotope	Result ± Uncertainty	RQ*
300 NE	⁶⁰ Co	8.2E-05 ± 5.4E-04	U
Composite Period	¹³⁴ Cs	4.3E-04 ± 5.2E-04	U
10/2/02 - 1/8/03	¹³⁷ Cs	3.4E-05 ± 4.7E-04	U
	¹⁵⁴ Eu	-2.3E-04 ± 1.5E-03	U
	¹⁵⁵ Eu	-4.2E-04 ± 1.3E-03	U
	²³⁸ Pu	1.8E-07 ± 6.8E-07	U
	^{239,240} Pu	-8.9E-08 ± 5.6E-07	U
	¹⁰⁶ Ru	2.6E-04 ± 4.6E-03	U
	¹²⁵ Sb	1.7E-04 ± 1.3E-03	U
	⁹⁰ Sr	2.7E-05 ± 3.7E-05	U
	²³⁴ U	1.8E-05 ± 1.0E-05	
	²³⁵ U	1.6E-06 ± 4.4E-06	U
	²³⁸ U	2.2E-05 ± 1.1E-05	
300 NE			
Sample Period			
7/11/02 - 8/7/02	³ H	6.6E+00 ± 1.3E+00	
8/7/02 - 9/4/02	³ H	4.2E+00 ± 1.2E+00	
9/4/02 - 10/2/02	³ H	3.8E+00 ± 1.0E+00	
10/2/02 - 10/30/02	³ H	5.6E+00 ± 7.7E-01	
10/30/02 - 11/26/02	³ H	1.3E+01 ± 2.7E+00	
11/26/02 - 12/26/02	³ H	2.7E+00 ± 7.7E-01	
12/26/02 - 1/22/03	³ H	8.0E+00 ± 1.4E+00	
300 Trench	⁶⁰ Co	7.5E-05 ± 5.2E-04	U
Composite Period	¹³⁴ Cs	-5.9E-05 ± 6.2E-04	U
4/3/02 - 6/27/02	¹³⁷ Cs	3.6E-04 ± 4.2E-04	U
	¹⁵⁴ Eu	3.8E-04 ± 1.9E-03	U
	¹⁵⁵ Eu	1.1E-04 ± 8.6E-04	U
	¹⁰⁶ Ru	3.0E-03 ± 5.2E-03	U
	¹²⁵ Sb	-1.4E-03 ± 1.4E-03	U
	²³⁴ U	3.3E-05 ± 1.3E-05	
	²³⁵ U	2.0E-06 ± 3.5E-06	U
	²³⁸ U	2.7E-05 ± 1.2E-05	
300 Trench	⁶⁰ Co	1.8E-04 ± 4.3E-04	U
Composite Period	¹³⁴ Cs	-2.6E-04 ± 3.4E-04	U
10/2/02 - 1/8/03	¹³⁷ Cs	1.5E-05 ± 3.2E-04	U
	¹⁵⁴ Eu	-3.0E-04 ± 1.1E-03	U
	¹⁵⁵ Eu	-1.8E-04 ± 6.3E-04	U
	¹⁰⁶ Ru	-2.6E-03 ± 3.3E-03	U
	¹²⁵ Sb	6.7E-04 ± 9.9E-04	U
	²³⁴ U	2.4E-05 ± 1.1E-05	
	²³⁵ U	2.1E-06 ± 4.0E-06	U
	²³⁸ U	3.4E-05 ± 1.3E-05	

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 2-3. Pacific Northwest National Laboratory Air Sampling Data, 2002
(pCi/m³ ± total analytical uncertainty). (cont)

Sampler	Isotope	Result ± Uncertainty	RQ*
300 Trench			
Sample Period			
12/27/01 - 1/23/02	³ H	1.0E+01 ± 1.3E+00	
1/23/02 - 2/20/02	³ H	4.3E+00 ± 8.9E-01	
2/20/02 - 3/21/02	³ H	2.5E+00 ± 4.0E-01	
3/21/02 - 4/17/02	³ H	1.5E+00 ± 4.6E-01	
4/17/02 - 5/15/02	³ H	2.6E+00 ± 8.2E-01	
5/15/02 - 6/13/02	³ H	1.8E+00 ± 5.6E-01	
6/13/02 - 7/11/02	³ H	5.9E+00 ± 6.2E-01	
300 Water Intake			
Sample Period			
12/27/01 - 1/23/02	³ H	2.5E+00 ± 1.1E+00	
1/23/02 - 2/20/02	³ H	5.7E+00 ± 1.4E+00	
2/20/02 - 3/21/02	³ H	2.4E+00 ± 9.1E-01	
3/21/02 - 4/17/02	³ H	4.9E+00 ± 7.2E-01	
4/17/02 - 5/15/02	³ H	4.9E+00 ± 1.2E+00	
5/15/02 - 6/13/02	³ H	4.2E+00 ± 8.6E-01	
6/13/02 - 7/11/02	³ H	3.3E+00 ± 8.6E-01	
Yakima Barricade			
Composite Period			
12/27/01 - 4/3/02	⁶⁰ Co	1.9E-05 ± 3.9E-04	U
	¹³⁴ Cs	7.0E-05 ± 3.4E-04	U
	¹³⁷ Cs	-2.0E-04 ± 3.0E-04	U
	¹⁵⁴ Eu	-7.1E-04 ± 1.1E-03	U
	¹⁵⁵ Eu	2.7E-05 ± 5.0E-04	U
	²³⁸ Pu	-2.1E-07 ± 2.2E-07	U
	^{239,240} Pu	3.0E-08 ± 3.2E-07	U
	¹⁰⁶ Ru	-2.8E-04 ± 2.7E-03	U
	¹²⁵ Sb	-1.9E-04 ± 7.0E-04	U
	⁹⁰ Sr	1.1E-05 ± 2.2E-05	U
Yakima Barricade			
Composite Period			
6/27/02 - 10/2/02	⁶⁰ Co	1.8E-04 ± 3.5E-04	U
	¹³⁴ Cs	1.6E-04 ± 3.2E-04	U
	¹³⁷ Cs	-3.8E-06 ± 2.9E-04	U
	¹⁵⁴ Eu	-4.0E-04 ± 9.4E-04	U
	¹⁵⁵ Eu	-4.0E-04 ± 6.6E-04	U
	²³⁸ Pu	-1.5E-07 ± 5.4E-07	U
	^{239,240} Pu	6.6E-07 ± 8.8E-07	U
	¹⁰⁶ Ru	-3.8E-04 ± 2.7E-03	U
	¹²⁵ Sb	-3.8E-04 ± 8.1E-04	U
	⁹⁰ Sr	-1.2E-06 ± 2.0E-05	U

Sampler	Isotope	Result ± Uncertainty	RQ*
300 Trench			
Sample Period			
7/11/02 - 8/7/02	³ H	4.3E+00 ± 7.0E-01	
8/7/02 - 9/4/02	³ H	4.6E+00 ± 1.5E+00	
9/4/02 - 10/2/02	³ H	2.8E+00 ± 7.6E-01	
10/2/02 - 10/30/02	³ H	6.1E+00 ± 8.2E-01	
10/30/02 - 11/26/02	³ H	3.0E+00 ± 8.3E-01	
11/26/02 - 12/26/02	³ H	4.2E+00 ± 1.0E+00	
12/26/02 - 1/22/03	³ H	3.8E+00 ± 9.1E-01	
300 Water Intake			
Sample Period			
7/11/02 - 8/7/02	³ H	4.0E+00 ± 1.3E+00	
8/7/02 - 9/4/02	³ H	6.5E+00 ± 1.6E+00	
9/4/02 - 10/2/02	³ H	2.3E+00 ± 1.1E+00	
10/2/02 - 10/30/02	³ H	5.5E+00 ± 8.3E-01	
10/30/02 - 11/26/02	³ H	8.2E+00 ± 1.6E+00	
12/26/02 - 1/22/03	³ H	1.2E+01 ± 2.3E+00	
Yakima Barricade			
Composite Period			
4/3/02 - 6/27/02	⁶⁰ Co	1.4E-05 ± 3.6E-04	U
	¹³⁴ Cs	-1.2E-04 ± 3.3E-04	U
	¹³⁷ Cs	2.0E-04 ± 2.8E-04	U
	¹⁵⁴ Eu	4.5E-04 ± 7.8E-04	U
	¹⁵⁵ Eu	-3.2E-04 ± 5.0E-04	U
	²³⁸ Pu	-1.7E-07 ± 4.5E-07	U
	^{239,240} Pu	4.2E-07 ± 5.7E-07	U
	¹⁰⁶ Ru	5.7E-04 ± 2.8E-03	U
	¹²⁵ Sb	-1.6E-04 ± 7.2E-04	U
	⁹⁰ Sr	2.4E-05 ± 2.4E-05	U
Yakima Barricade			
Composite Period			
10/2/02 - 1/8/03	⁶⁰ Co	-3.8E-05 ± 3.0E-04	U
	¹³⁴ Cs	1.0E-04 ± 3.1E-04	U
	¹³⁷ Cs	2.1E-04 ± 2.9E-04	U
	¹⁵⁴ Eu	3.0E-04 ± 8.4E-04	U
	¹⁵⁵ Eu	-1.3E-04 ± 5.4E-04	U
	²³⁸ Pu	1.4E-07 ± 4.5E-07	U
	^{239,240} Pu	8.9E-08 ± 3.1E-07	U
	¹⁰⁶ Ru	2.1E-03 ± 2.8E-03	U
	¹²⁵ Sb	-2.8E-04 ± 6.7E-04	U
	⁹⁰ Sr	-2.1E-06 ± 1.7E-05	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

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3.0 SOIL AND VEGETATION MONITORING

The radionuclide content of soil and vegetation was measured to evaluate long-term trends in environmental accumulation of radioactivity in the 100, 200/600, and 300/400 Areas. Soil and vegetation samples were collected on or near facilities that store, handle, or dispose of radioactive waste. The number of soil and vegetation samples collected in 2002 and their locations are shown in Table 3-1.

Table 3-1. Soil and Vegetation Samples Collected in 2002.

Sample type	Number of sample locations	Operational area							
		100-B,C	100-D,DR	100-F	100-K	100-N	200/600 ^a	300/400	ERDF ^b
Soil	82	3	0	2	2	5	56	13	1
Vegetation	63	0	0	0	0	4	46	13	0

a - Even-numbered soil and vegetation sampling locations in the 200/600 Areas are sampled in even-numbered years.

b - Environmental Restoration Disposal Facility (ERDF).

Soil sampling locations are illustrated in Figures 3-1 through 3-9. Historical soil sampling results for the 100, 200/600, and 300/400 Areas are displayed in Table 3-2. The 2002 soil sampling results for all areas are provided in Table 3-3.

Vegetation sampling locations are illustrated in Figures 3-10 through 3-15. Historical vegetation sampling results for the 100-N, 200/600, and 300/400 Areas are displayed in Table 3-4. The 2002 vegetation sampling results for all areas are provided in Table 3-5.

Radionuclide analyses indicated that cobalt-60, strontium-90, cesium-137, plutonium-239/240, and uranium were consistently detectable in both soil and vegetation samples in 2002. Generally, the predominant radionuclides observed in soil samples were activation products and strontium-90 in the 100-N Area, fission products in the 200 Areas, and uranium in the 300 Area. For vegetation samples, the predominant radionuclides were generally activation and fission products in the 100 Areas, fission products in the 200 Areas, and uranium in the 300 Area.

Additional discussion of the 2002 results can be found in Section 3.2 of PNNL-14295.

Figure 3-1. 2002 Soil Sampling Locations, 100-B/C Area.

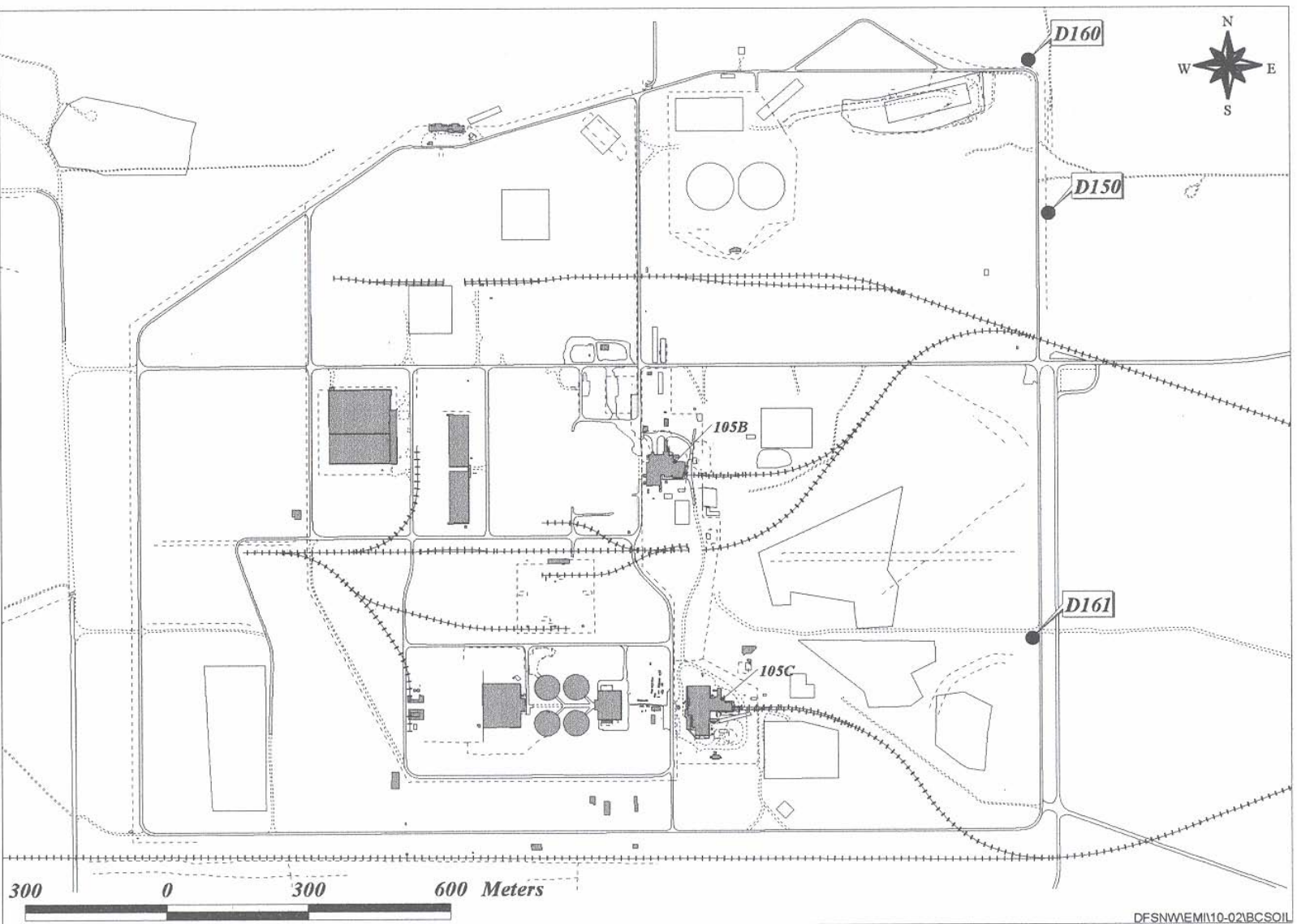


Figure 3-2. 2002 Soil Sampling Locations, 100-F Area.



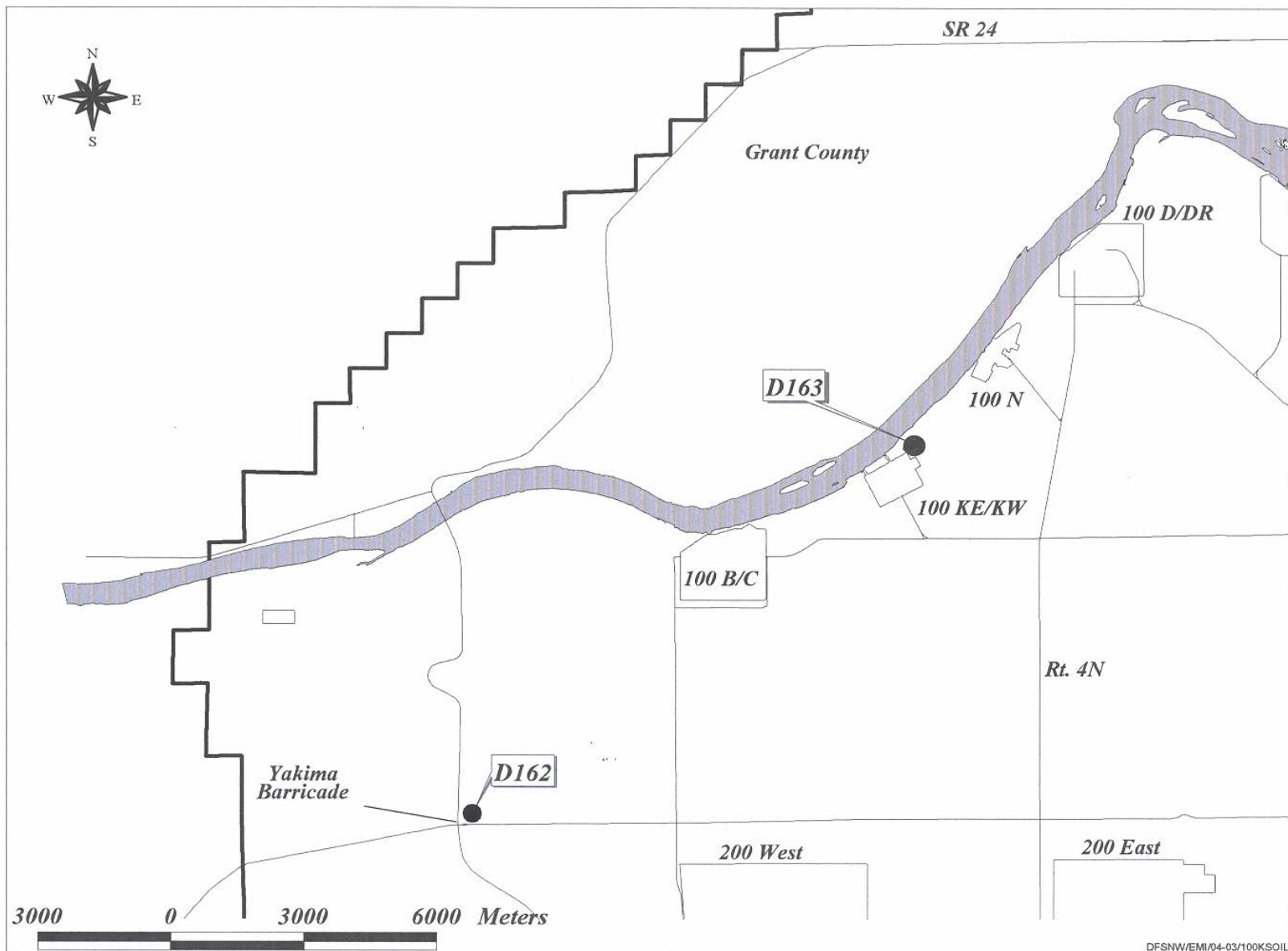
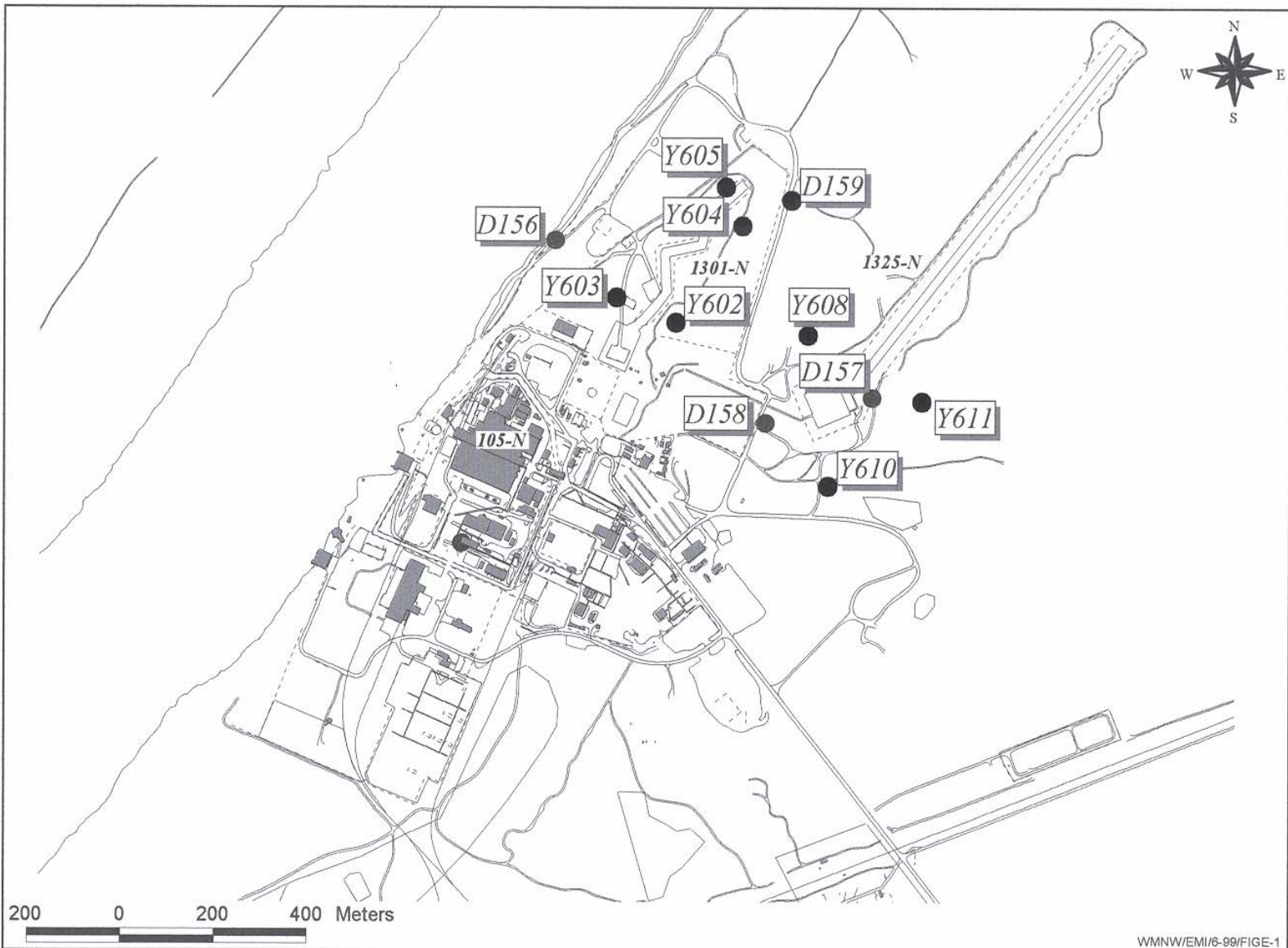


Figure 3-3. 2002 Soil Sampling Locations, 100-K Area.

Figure 3-4. 2002 Soil Sampling Locations, 100-N Area.



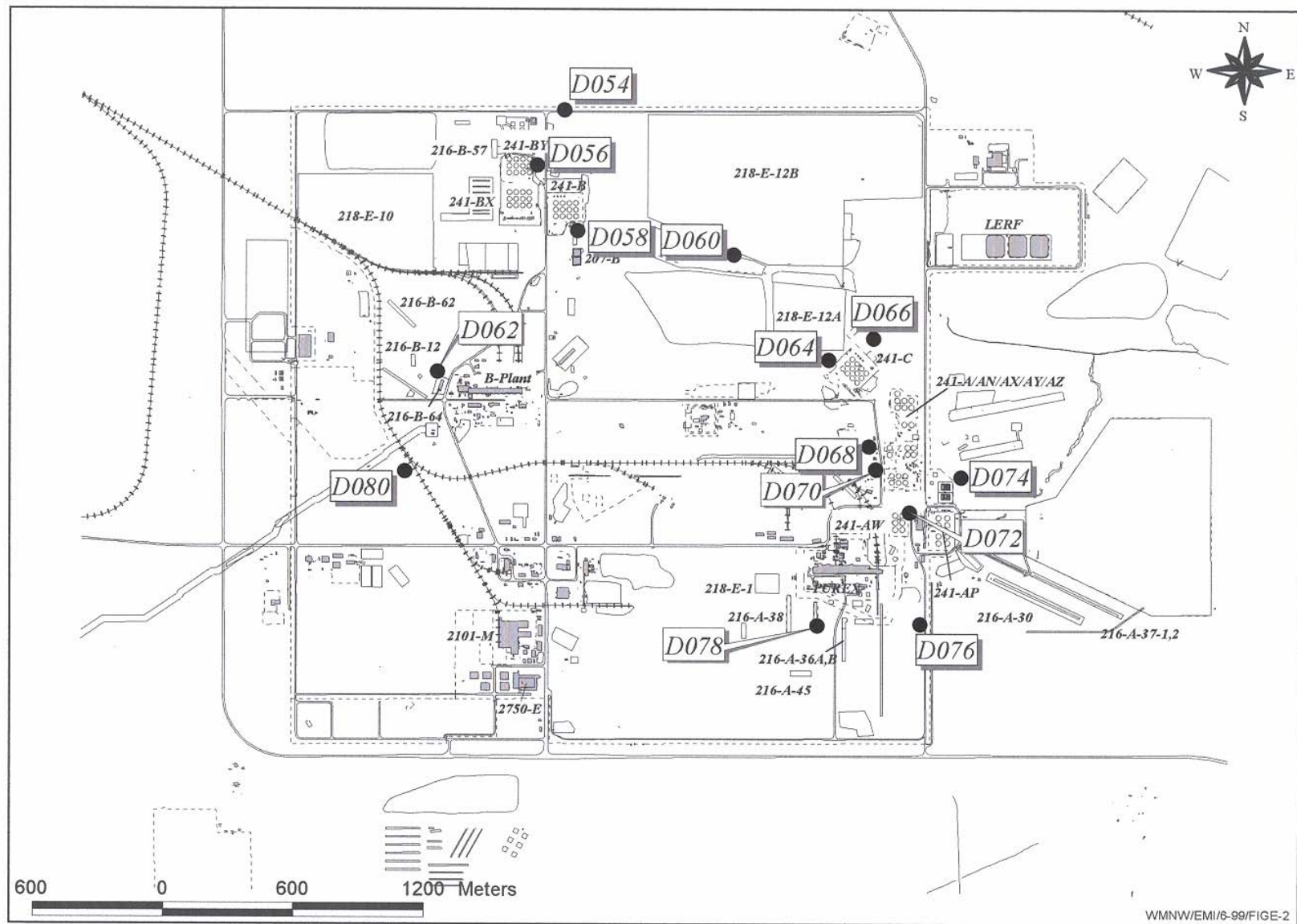


Figure 3-5. 2002 Soil Sampling Locations, 200 East Area.

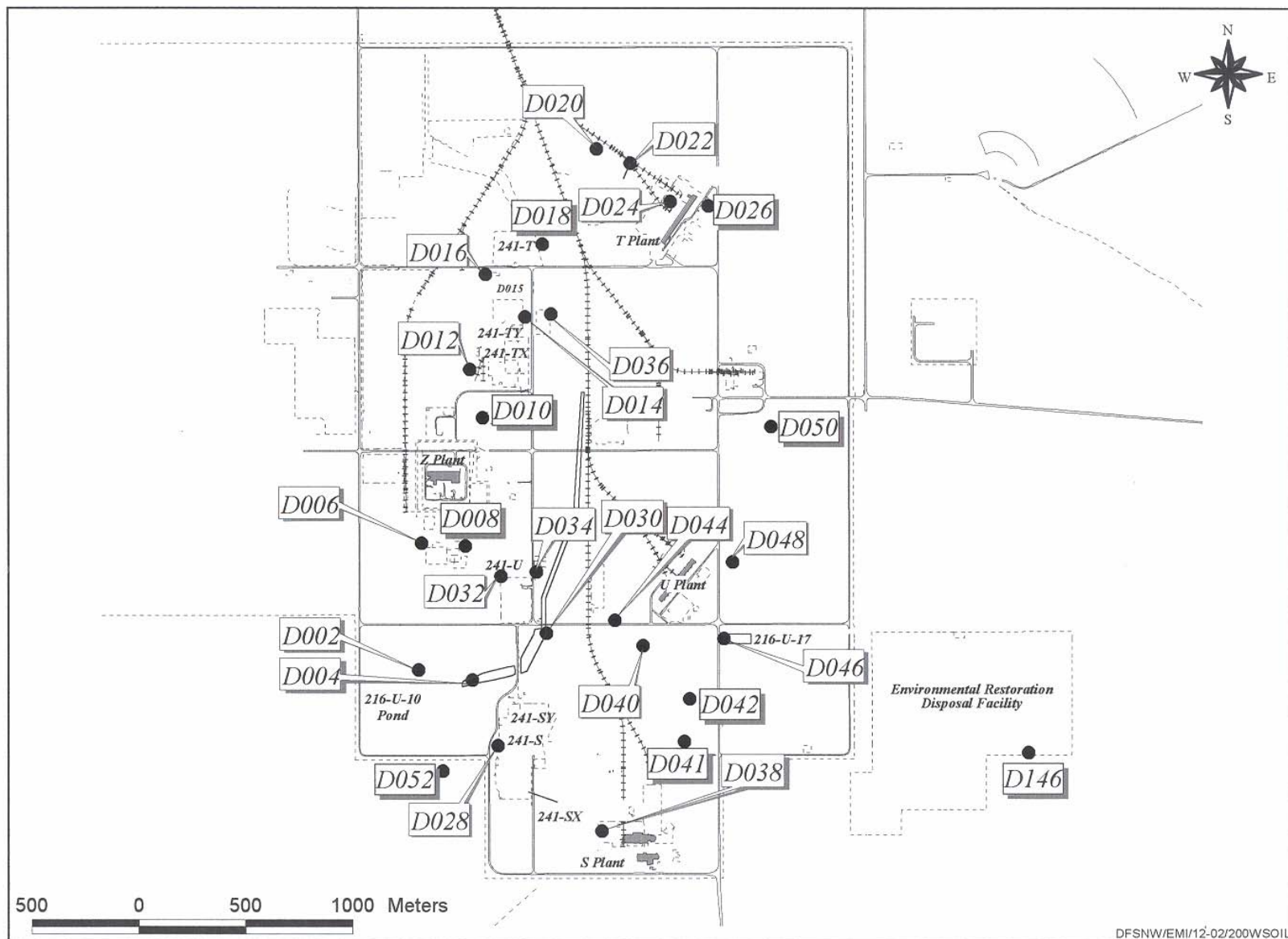


Figure 3-6. 2002 Soil Sampling Locations, 200 West Area.

Figure 3-7. 2002 Soil Sampling Locations, 300 Area.

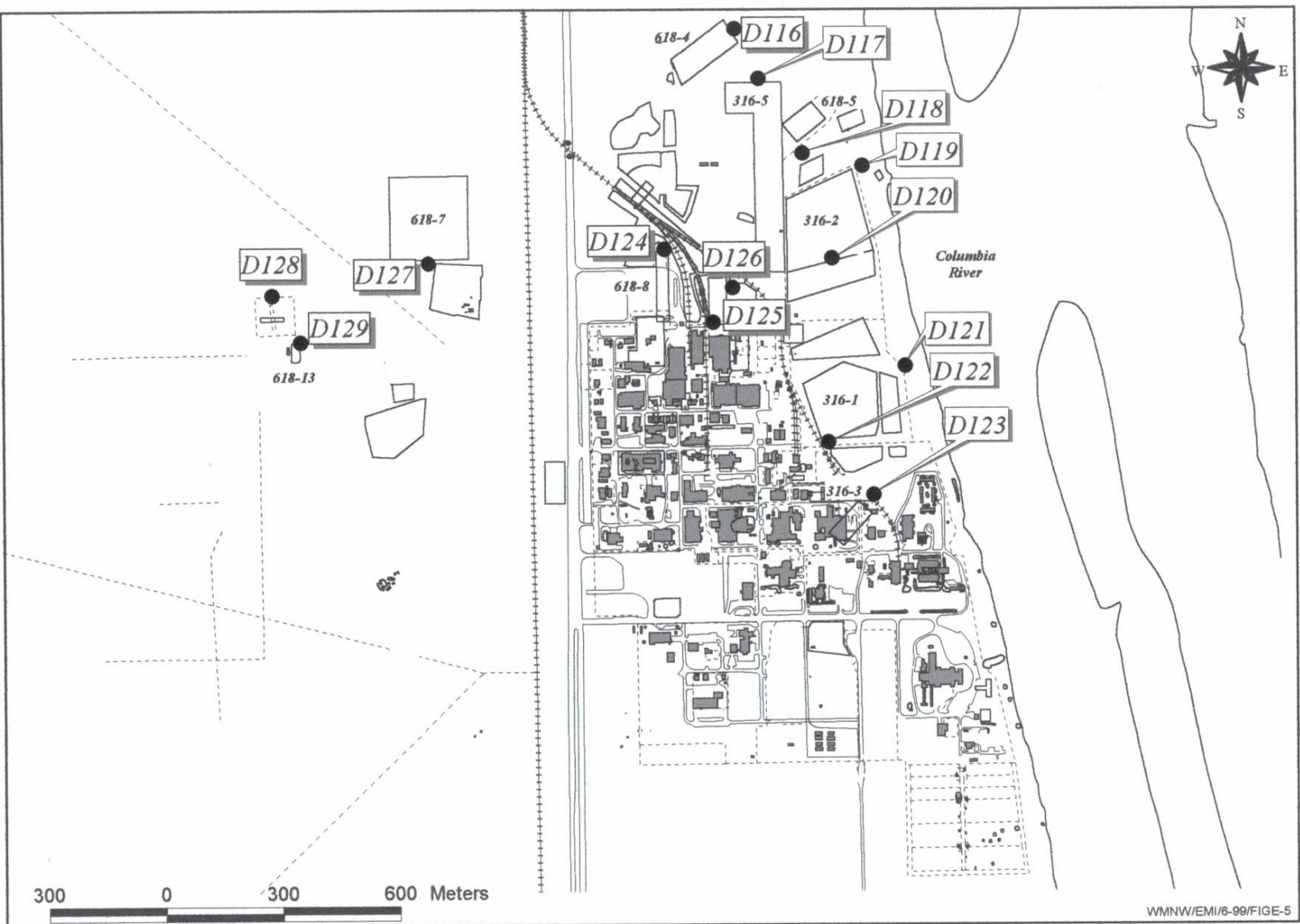
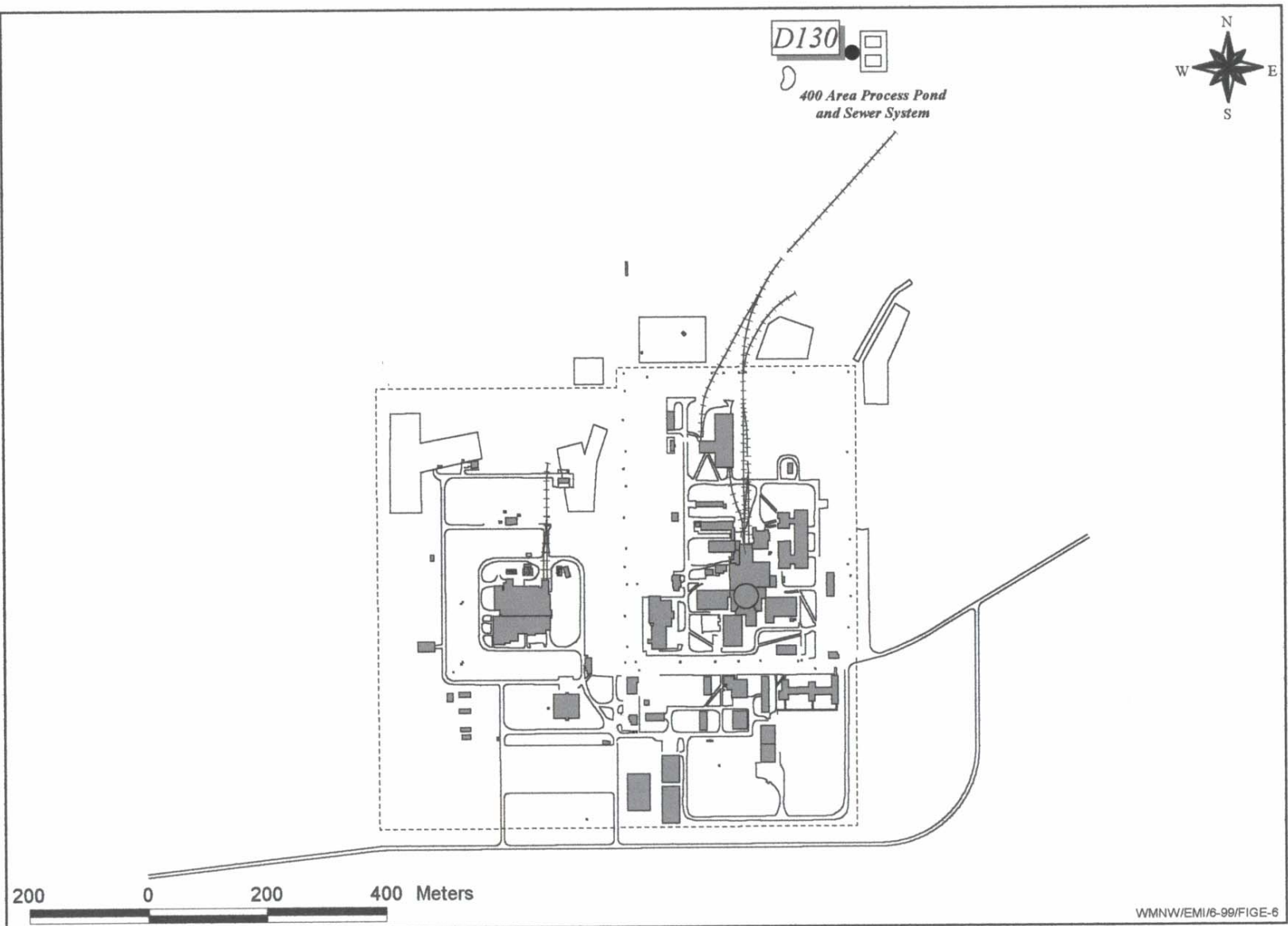


Figure 3-8. 2002 Soil Sampling Locations, 400 Area.



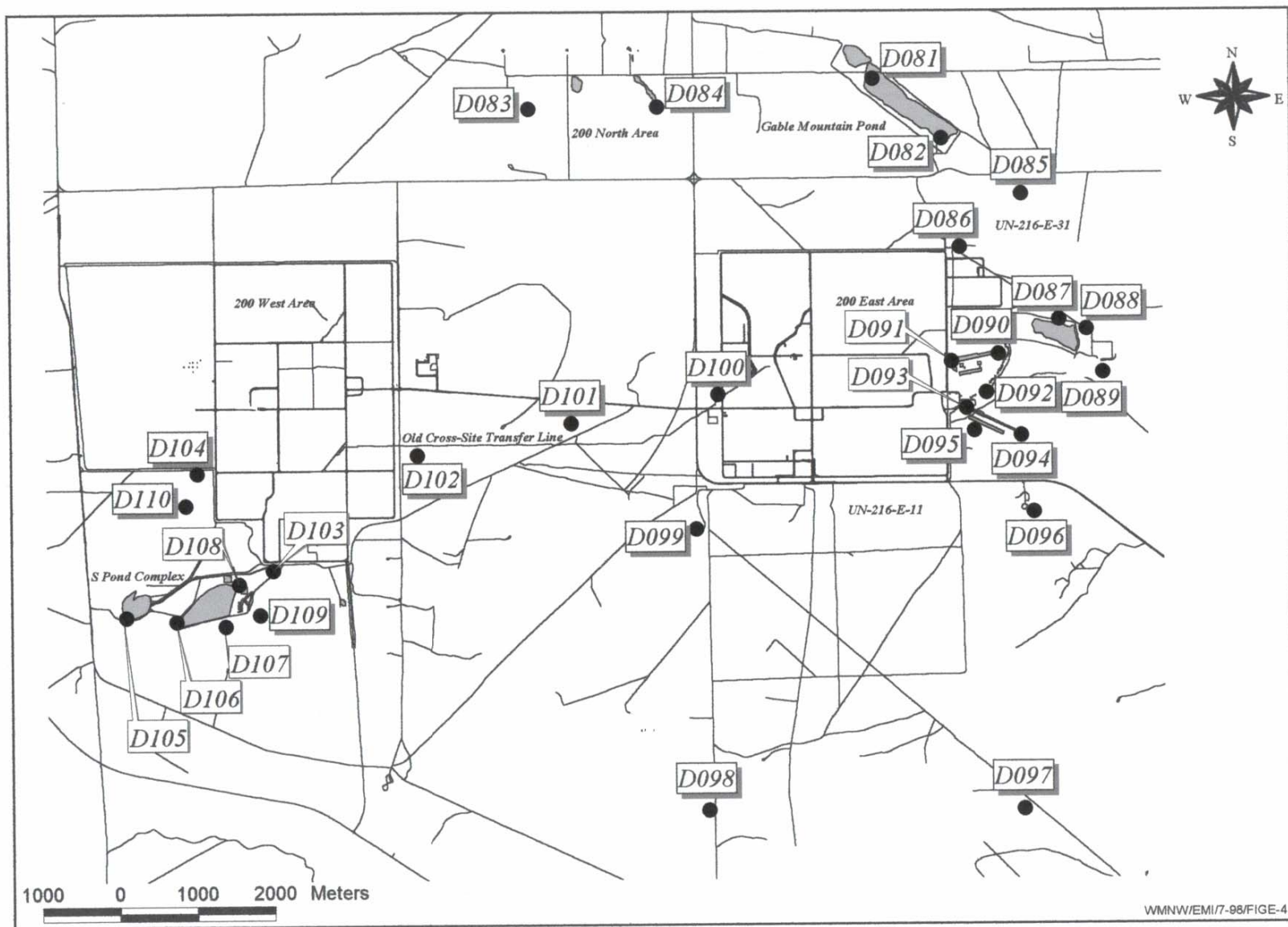


Figure 3-9. 2002 Soil Sampling Locations, 600 Area.

Table 3-2. Average Radionuclide Concentrations (pCi/g^a)
in Hanford Soils, 1995 through 2002.

<u>100 N Area</u>						
Year	⁶⁰ Co	⁹⁰ Sr	¹³⁷ Cs	²³⁴ U	²³⁸ U	^{239,240} Pu
1995	9.4E-01 ± 3.4E+00	1.3E-01 ± 2.5E-01	5.1E-01 ± 8.4E-01	9.1E-02 ± 3.9E-02	9.7E-02 ± 4.8E-02	1.4E-02 ± 3.1E-02
1996	1.5E+00 ± 3.0E+00	2.0E-01 ± 2.0E-01	7.7E-01 ± 1.1E+00	5.7E-01 ± 2.0E-01	5.7E-01 ± 3.1E-01	4.3E-02 ± 4.2E-02
1997	2.5E+00 ± 8.0E+00	3.4E+00 ± 1.5E+01	8.9E-01 ± 2.4E+00	2.1E-01 ± 9.8E-02	2.1E-01 ± 8.7E-02	5.2E-01 ± 2.5E+00
1998	4.9E+00 ± 2.1E+01	1.0E+00 ± 2.6E+00	3.1E+00 ± 1.1E+01	2.1E-01 ± 1.5E-01	1.7E-01 ± 6.5E-02	1.3E-01 ± 3.0E-01
1999	1.6E+00 ± 4.6E+00	1.9E+00 ± 4.4E+00	8.4E-01 ± 1.8E+00	2.2E-01 ± 7.4E-02	2.0E-01 ± 6.6E-02	2.6E-02 ± 4.3E-02
2000	3.1E+00 ± 5.9E-01	8.4E-01 ± 9.0E-01	2.1E+00 ± 5.0E+00	2.2E-01 ± 7.4E-02	2.2E-01 ± 7.8E-02	5.0E-02 ± 7.7E-02
2001	2.7E-01 ± 6.6E-01	2.0E-01 ± 5.1E-01	3.2E-01 ± 4.4E-01	2.4E-01 ± 8.8E-02	2.5E-01 ± 6.6E-02	2.3E-02 ± 4.0E-02
2002	3.0E-01 ± 1.1E+00	1.5E-01 ± 4.7E-01	2.6E-01 ± 5.1E-01	1.3E-01 ± 4.7E-02	1.1E-01 ± 3.9E-02	6.1E-03 ± 6.1E-03

<u>200/600 Areas</u>						
Year	⁶⁰ Co	⁹⁰ Sr	¹³⁷ Cs	²³⁴ U	²³⁸ U	^{239,240} Pu
1995	3.6E-03 ± 2.6E-02	4.9E-01 ± 1.3E+00	2.7E+00 ± 7.8E+00	1.2E-01 ± 1.2E-01	1.2E-01 ± 1.1E-01	7.0E-02 ± 2.2E-01
1996	3.2E-03 ± 2.6E-02	3.5E-01 ± 1.1E+00	2.0E+00 ± 5.4E+00	1.0E-01 ± 9.0E-02	1.1E-01 ± 8.9E-02	1.6E-01 ± 8.3E-01
1997	1.7E-03 ± 1.7E-02	4.2E-01 ± 1.4E+00	1.7E+00 ± 5.1E+00	2.0E-01 ± 9.6E-02	2.0E-01 ± 8.7E-02	7.1E-02 ± 4.0E-01
1998	1.4E-03 ± 8.8E-03	2.1E-01 ± 6.7E-01	1.0E+00 ± 3.1E+00	1.9E-01 ± 7.0E-02	1.9E-01 ± 7.1E-02	8.4E-02 ± 4.9E-01
1999	Not Detected	5.1E-01 ± 1.9E+00	1.3E+00 ± 3.8E+00	2.3E-01 ± 1.3E-01	2.2E-01 ± 1.3E-01	7.6E-02 ± 2.7E-01
2000	6.0E-03 ± 6.0E-03	9.9E-01 ± 1.3E+00	1.4E+00 ± 3.8E+00	2.3E-01 ± 2.2E-01	2.3E-01 ± 2.2E-01	2.9E-01 ± 2.3E+00
2001	Not Detected	3.1E-01 ± 1.1E+00	1.5E+00 ± 4.0E+00	2.2E-01 ± 1.1E-01	2.2E-01 ± 1.1E-01	9.7E-02 ± 3.7E-01
2002	Not Detected	2.7E-01 ± 6.6E-01	1.4E+00 ± 4.3E+00	1.7E-01 ± 1.0E-01	1.7E-01 ± 1.1E-01	1.2E-01 ± 7.2E-01

<u>300/400 Area</u>						
Year	⁶⁰ Co	⁹⁰ Sr	¹³⁷ Cs	²³⁴ U	²³⁸ U	^{239,240} Pu
1995	2.2E-03 ± 1.7E-02	4.5E-02 ± 7.5E-02	2.2E-01 ± 4.1E-01	1.9E+00 ± 7.4E+00	1.9E+00 ± 7.7E+00	2.3E-02 ± 9.0E-02
1996	1.7E-03 ± 2.3E-02	3.7E-02 ± 5.1E-02	1.5E-01 ± 3.0E-01	1.3E+00 ± 4.3E+00	1.2E+00 ± 4.2E+00	2.5E-02 ± 1.3E-01
1997	Not Detected	9.3E-02 ± 6.1E-01	6.8E-02 ± 1.2E-01	9.0E-01 ± 3.8E+00	8.8E-01 ± 3.7E+00	1.8E-02 ± 8.2E-02
1998	Not Detected	4.9E-03 ± 2.6E-02	8.6E-02 ± 2.6E-01	1.4E+00 ± 5.3E+00	1.4E+00 ± 5.5E+00	3.3E-02 ± 1.4E-01
1999	Not Detected	8.5E-01 ± 7.0E-01	9.1E-02 ± 9.8E-02	7.0E-01 ± 1.8E+00	6.6E-01 ± 1.8E+00	3.2E-02 ± 4.8E-02
2000	Not Detected	5.6E-01 ± 4.0E-01	9.2E-02 ± 2.3E-01	5.4E+00 ± 2.4E+01	5.4E+00 ± 2.4E+01	6.9E-02 ± 2.1E-01
2001	Not Detected	Not Detected	4.2E-02 ± 8.4E-02	9.4E-01 ± 3.0E+00	9.5E-01 ± 3.1E+00	2.6E-02 ± 1.0E-01
2002	Not Detected	2.8E-02 ± 2.9E-02	7.4E-02 ± 1.3E-01	1.5E+00 ± 6.4E+00	1.5E+00 ± 6.4E+00	2.4E-02 ± 9.9E-02

a - ± 2 standard deviations.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty).

Location	Isotope	Result	\pm	Uncertainty	RQ*
D146 (ERDF)	¹⁴⁴ Ce	4.1E-02	\pm	1.3E-01	U
	⁶⁰ Co	5.4E-03	\pm	5.7E-03	U
	¹³⁴ Cs	2.4E-02	\pm	9.5E-03	
	¹³⁷ Cs	4.9E-02	\pm	1.1E-02	
	¹⁵² Eu	-2.2E-02	\pm	3.6E-02	U
	¹⁵⁴ Eu	5.8E-03	\pm	2.2E-02	U
	¹⁵⁵ Eu	6.1E-02	\pm	3.9E-02	
	²³⁸ Pu	1.6E-03	\pm	1.6E-03	U
	^{239,240} Pu	6.6E-03	\pm	6.6E-03	
	¹⁰³ Ru	6.0E-04	\pm	6.0E-03	U
	¹⁰⁶ Ru	-1.4E-02	\pm	5.1E-02	U
	¹²⁵ Sb	-4.0E-03	\pm	1.7E-02	U
	¹¹³ Sn	-4.8E-03	\pm	8.9E-03	U
	⁹⁰ Sr	2.8E-01	\pm	1.3E-01	
	²³⁴ U	1.8E-01	\pm	5.0E-02	
	²³⁵ U	1.1E-02	\pm	1.0E-02	
	²³⁸ U	1.9E-01	\pm	5.3E-02	
	⁶⁵ Zn	7.2E-03	\pm	1.6E-02	U
D160 (100-B/C Remedial Action)	¹⁴⁴ Ce	-2.2E-02	\pm	1.2E-01	U
	⁶⁰ Co	5.3E-03	\pm	7.3E-03	U
	¹³⁴ Cs	3.9E-02	\pm	1.2E-02	U
	¹³⁷ Cs	3.3E-01	\pm	5.0E-02	
	¹⁵² Eu	3.8E-01	\pm	3.6E-02	
	¹⁵⁴ Eu	4.2E-02	\pm	2.6E-02	U
	¹⁵⁵ Eu	6.4E-02	\pm	4.4E-02	
	²³⁸ Pu	-1.5E-02	\pm	3.1E-02	U
	^{239,240} Pu	1.5E-02	\pm	1.1E-02	
	¹⁰³ Ru	-2.6E-03	\pm	7.3E-03	U
	¹⁰⁶ Ru	-2.9E-02	\pm	6.6E-02	U
	¹²⁵ Sb	1.2E-03	\pm	1.2E-02	U
	¹¹³ Sn	-8.8E-04	\pm	8.8E-03	U
	⁹⁰ Sr	5.8E-01	\pm	1.7E-01	
	²³⁴ U	2.3E-01	\pm	6.2E-02	
	²³⁵ U	3.0E-02	\pm	1.7E-02	
	²³⁸ U	1.8E-01	\pm	5.2E-02	
	⁶⁵ Zn	9.2E-02	\pm	3.6E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D150 (100-B/C Remedial Action)	¹⁴⁴ Ce	-1.1E-01	\pm	1.2E-01	U
	⁶⁰ Co	-4.9E-03	\pm	5.7E-03	U
	¹³⁴ Cs	4.0E-02	\pm	1.4E-02	U
	¹³⁷ Cs	2.0E-01	\pm	2.9E-02	
	¹⁵² Eu	1.3E-01	\pm	2.0E-02	
	¹⁵⁴ Eu	5.7E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	2.2E-02	\pm	3.0E-02	U
	²³⁸ Pu	2.0E-03	\pm	2.0E-02	U
	^{239,240} Pu	2.0E-02	\pm	1.5E-02	
	¹⁰³ Ru	1.2E-04	\pm	1.2E-03	U
	¹⁰⁶ Ru	3.2E-02	\pm	5.1E-02	U
	¹²⁵ Sb	-6.2E-04	\pm	6.2E-03	U
	¹¹³ Sn	-7.3E-03	\pm	8.1E-03	U
	⁹⁰ Sr	2.3E-01	\pm	1.2E-01	
	²³⁴ U	1.6E-01	\pm	4.8E-02	
	²³⁵ U	1.9E-02	\pm	1.5E-02	
	²³⁸ U	1.6E-01	\pm	4.8E-02	
	⁶⁵ Zn	2.2E-02	\pm	2.3E-02	U
D161 (100-B/C Remedial Action)	¹⁴⁴ Ce	1.1E-02	\pm	1.1E-01	U
	⁶⁰ Co	-9.7E-04	\pm	6.9E-03	U
	¹³⁴ Cs	4.3E-02	\pm	1.4E-02	U
	¹³⁷ Cs	6.5E-02	\pm	1.7E-02	
	¹⁵² Eu	4.1E-02	\pm	1.8E-02	
	¹⁵⁴ Eu	1.4E-03	\pm	1.4E-02	U
	¹⁵⁵ Eu	5.0E-02	\pm	3.4E-02	
	²³⁸ Pu	-2.4E-02	\pm	2.4E-02	U
	^{239,240} Pu	9.2E-03	\pm	8.4E-03	
	¹⁰³ Ru	5.8E-03	\pm	6.2E-03	U
	¹⁰⁶ Ru	1.6E-02	\pm	5.8E-02	U
	¹²⁵ Sb	7.5E-03	\pm	1.7E-02	U
	¹¹³ Sn	-6.8E-03	\pm	8.6E-03	U
	⁹⁰ Sr	1.8E-01	\pm	1.1E-01	
	²³⁴ U	1.9E-01	\pm	5.3E-02	
	²³⁵ U	6.2E-03	\pm	1.1E-02	U
	²³⁸ U	2.2E-01	\pm	5.7E-02	
	⁶⁵ Zn	2.1E-02	\pm	2.0E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D154 (100-F Remedial Action)	¹⁴⁴ Ce	-7.2E-02	\pm	1.2E-01	U
	⁶⁰ Co	4.0E-02	\pm	8.5E-03	
	¹³⁴ Cs	2.5E-02	\pm	1.0E-02	U
	¹³⁷ Cs	6.0E-01	\pm	9.2E-02	
	¹⁵² Eu	2.8E-01	\pm	2.6E-02	
	¹⁵⁴ Eu	5.8E-02	\pm	3.6E-02	U
	¹⁵⁵ Eu	4.9E-02	\pm	3.6E-02	U
	²³⁸ Pu	2.1E-03	\pm	2.1E-02	U
	^{239,240} Pu	3.1E-02	\pm	1.9E-02	
	¹⁰³ Ru	-4.3E-03	\pm	6.7E-03	U
	¹⁰⁶ Ru	-3.2E-02	\pm	6.3E-02	U
	¹²⁵ Sb	1.4E-03	\pm	1.4E-02	U
	¹¹³ Sn	-2.3E-03	\pm	9.0E-03	U
	⁹⁰ Sr	2.0E-01	\pm	1.1E-01	U
	²³⁴ U	1.3E-01	\pm	4.2E-02	
	²³⁵ U	2.2E-02	\pm	1.6E-02	
	²³⁸ U	1.1E-01	\pm	3.6E-02	
	⁶⁵ Zn	2.4E-02	\pm	2.8E-02	U
D162 (100-KR-1 Remedial Action)	¹⁴⁴ Ce	7.1E-03	\pm	7.1E-02	U
	⁶⁰ Co	1.3E-03	\pm	6.4E-03	U
	¹³⁴ Cs	3.7E-02	\pm	1.2E-02	U
	¹³⁷ Cs	1.2E-01	\pm	2.1E-02	
	¹⁵² Eu	1.7E-02	\pm	3.2E-02	U
	¹⁵⁴ Eu	-1.9E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	2.2E-02	\pm	2.9E-02	U
	²³⁸ Pu	-1.9E-02	\pm	3.0E-02	U
	^{239,240} Pu	9.4E-03	\pm	1.0E-02	U
	¹⁰³ Ru	4.2E-03	\pm	7.4E-03	U
	¹⁰⁶ Ru	5.9E-02	\pm	6.3E-02	U
	¹²⁵ Sb	2.4E-02	\pm	1.8E-02	U
	¹¹³ Sn	5.1E-03	\pm	8.3E-03	U
	⁹⁰ Sr	2.5E-02	\pm	8.6E-02	U
	²³⁴ U	1.2E-01	\pm	3.8E-02	
	²³⁵ U	6.2E-03	\pm	9.3E-03	U
	²³⁸ U	1.3E-01	\pm	3.9E-02	
	⁶⁵ Zn	2.7E-02	\pm	1.8E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D155 (100-F Remedial Action)	¹⁴⁴ Ce	-1.6E-02	\pm	1.1E-01	U
	⁶⁰ Co	2.3E-03	\pm	5.6E-03	U
	¹³⁴ Cs	3.3E-02	\pm	1.1E-02	U
	¹³⁷ Cs	2.3E-01	\pm	3.4E-02	
	¹⁵² Eu	2.3E-01	\pm	2.3E-02	
	¹⁵⁴ Eu	3.0E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	2.0E-02	\pm	2.7E-02	U
	²³⁸ Pu	1.5E-02	\pm	3.6E-02	U
	^{239,240} Pu	1.0E-02	\pm	9.1E-03	
	¹⁰³ Ru	1.9E-03	\pm	5.5E-03	U
	¹⁰⁶ Ru	-2.8E-04	\pm	2.8E-03	U
	¹²⁵ Sb	-9.0E-03	\pm	1.6E-02	U
	¹¹³ Sn	-4.0E-03	\pm	7.4E-03	U
	⁹⁰ Sr	1.0E-01	\pm	1.2E-01	U
	²³⁴ U	1.6E-01	\pm	4.6E-02	
	²³⁵ U	9.0E-03	\pm	9.0E-03	
	²³⁸ U	1.5E-01	\pm	4.5E-02	
	⁶⁵ Zn	3.8E-02	\pm	1.9E-02	U
D163 (100-KR-1 Remedial Action)	¹⁴⁴ Ce	2.8E-02	\pm	1.4E-01	U
	⁶⁰ Co	5.4E-03	\pm	8.5E-03	U
	¹³⁴ Cs	4.7E-02	\pm	1.5E-02	U
	¹³⁷ Cs	4.1E-01	\pm	6.7E-02	
	¹⁵² Eu	2.7E-01	\pm	3.1E-02	
	¹⁵⁴ Eu	-3.7E-03	\pm	3.3E-02	U
	¹⁵⁵ Eu	4.7E-02	\pm	3.6E-02	U
	²³⁸ Pu	-1.2E-02	\pm	2.9E-02	U
	^{239,240} Pu	2.9E-02	\pm	1.6E-02	
	¹⁰³ Ru	-7.2E-04	\pm	7.2E-03	U
	¹⁰⁶ Ru	-5.4E-03	\pm	5.4E-02	U
	¹²⁵ Sb	9.5E-03	\pm	2.2E-02	U
	¹¹³ Sn	-1.3E-02	\pm	1.3E-02	U
	⁹⁰ Sr	-3.7E-03	\pm	3.7E-02	U
	²³⁴ U	1.6E-01	\pm	4.6E-02	
	²³⁵ U	1.4E-02	\pm	1.1E-02	
	²³⁸ U	1.6E-01	\pm	4.6E-02	
	⁶⁵ Zn	8.5E-02	\pm	3.6E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D156	¹⁴⁴ Ce	-5.1E-02	\pm	8.6E-02	U
(100-NR-1	⁶⁰ Co	6.8E-03	\pm	6.0E-03	U
Remedial	¹³⁴ Cs	2.3E-02	\pm	9.4E-03	U
Action,	¹³⁷ Cs	2.9E-02	\pm	8.8E-03	
6/24/02)	¹⁵² Eu	-3.4E-03	\pm	1.9E-02	U
	¹⁵⁴ Eu	-1.9E-02	\pm	1.9E-02	U
	¹⁵⁵ Eu	5.1E-02	\pm	2.8E-02	
	²³⁸ Pu	-2.6E-02	\pm	2.9E-02	U
	^{239,240} Pu	-3.5E-03	\pm	4.9E-03	U
	¹⁰³ Ru	2.7E-05	\pm	2.7E-04	U
	¹⁰⁶ Ru	3.5E-02	\pm	4.5E-02	U
	¹²⁵ Sb	-8.6E-03	\pm	1.4E-02	U
	¹¹³ Sn	-4.8E-04	\pm	4.8E-03	U
	⁹⁰ Sr	-2.0E-01	\pm	2.0E-01	U
	²³⁴ U	1.2E-01	\pm	3.6E-02	
	²³⁵ U	1.4E-02	\pm	1.0E-02	
	²³⁸ U	1.3E-01	\pm	3.9E-02	
	⁶⁵ Zn	2.2E-02	\pm	2.4E-02	U
D157	¹⁴⁴ Ce	-9.7E-02	\pm	1.3E-01	U
(100-NR-1	⁶⁰ Co	1.8E+00	\pm	1.4E-01	
Remedial	¹³⁴ Cs	3.7E-02	\pm	1.2E-02	U
Action,	¹³⁷ Cs	8.5E-01	\pm	1.1E-01	
6/24/02)	¹⁵² Eu	-3.7E-03	\pm	2.4E-02	U
	¹⁵⁴ Eu	-7.3E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	5.3E-02	\pm	3.4E-02	
	²³⁸ Pu	6.6E-03	\pm	3.4E-02	U
	^{239,240} Pu	2.6E-02	\pm	1.6E-02	
	¹⁰³ Ru	-8.6E-03	\pm	8.6E-03	U
	¹⁰⁶ Ru	4.1E-02	\pm	6.7E-02	U
	¹²⁵ Sb	1.2E-02	\pm	2.2E-02	U
	¹¹³ Sn	-1.8E-03	\pm	9.9E-03	U
	⁹⁰ Sr	2.8E-01	\pm	1.4E-01	
	²³⁴ U	1.1E-01	\pm	3.6E-02	
	²³⁵ U	5.7E-03	\pm	1.1E-02	U
	²³⁸ U	9.1E-02	\pm	3.3E-02	
	⁶⁵ Zn	-1.8E-02	\pm	2.2E-02	U

Location	Isotope	Result	\pm	Uncertainty	RQ*
D156	¹⁴⁴ Ce	1.7E-02	\pm	1.2E-01	U
(100-NR-1	⁶⁰ Co	3.5E-03	\pm	7.5E-03	U
Remedial	¹³⁴ Cs	3.6E-02	\pm	1.1E-02	U
Action,	¹³⁷ Cs	1.4E-02	\pm	1.2E-02	
11/12/02)	¹⁵² Eu	6.6E-03	\pm	2.8E-02	U
	¹⁵⁴ Eu	-6.6E-03	\pm	2.4E-02	U
	¹⁵⁵ Eu	4.4E-02	\pm	3.5E-02	U
	²³⁸ Pu	3.4E-03	\pm	2.5E-02	U
	^{239,240} Pu	6.9E-03	\pm	8.3E-03	U
	¹⁰³ Ru	-6.1E-03	\pm	6.9E-03	U
	¹⁰⁶ Ru	-3.9E-02	\pm	6.5E-02	U
	¹²⁵ Sb	1.6E-02	\pm	1.9E-02	U
	¹¹³ Sn	-1.1E-02	\pm	1.1E-02	U
	⁹⁰ Sr	1.6E-01	\pm	1.4E-01	
	²³⁴ U	1.2E-01	\pm	3.6E-02	
	²³⁵ U	5.2E-03	\pm	7.3E-03	U
	²³⁸ U	1.0E-01	\pm	3.2E-02	
	⁶⁵ Zn	3.6E-02	\pm	2.0E-02	U
D157	¹⁴⁴ Ce	1.0E-02	\pm	1.0E-01	U
(100-NR-1	⁶⁰ Co	2.7E-01	\pm	2.7E-02	
Remedial	¹³⁴ Cs	3.6E-02	\pm	1.4E-02	U
Action,	¹³⁷ Cs	2.9E-01	\pm	5.1E-02	
11/12/02)	¹⁵² Eu	8.7E-03	\pm	3.2E-02	U
	¹⁵⁴ Eu	-2.6E-02	\pm	3.1E-02	U
	¹⁵⁵ Eu	5.9E-02	\pm	4.4E-02	U
	²³⁸ Pu	2.5E-02	\pm	3.0E-02	U
	^{239,240} Pu	8.2E-03	\pm	1.3E-02	U
	¹⁰³ Ru	-2.7E-03	\pm	8.7E-03	U
	¹⁰⁶ Ru	3.2E-02	\pm	8.0E-02	U
	¹²⁵ Sb	1.3E-02	\pm	2.9E-02	U
	¹¹³ Sn	8.4E-04	\pm	8.3E-03	U
	⁹⁰ Sr	2.7E-01	\pm	1.9E-01	U
	²³⁴ U	1.1E-01	\pm	3.2E-02	
	²³⁵ U	1.4E-02	\pm	1.2E-02	
	²³⁸ U	7.4E-02	\pm	2.5E-02	
	⁶⁵ Zn	2.4E-02	\pm	2.7E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D158	¹⁴⁴ Ce	-4.1E-02	\pm	1.1E-01	U
(100-NR-1	⁶⁰ Co	4.3E-02	\pm	8.3E-03	
Remedial	¹³⁴ Cs	3.4E-02	\pm	9.6E-03	U
Action,	¹³⁷ Cs	3.7E-02	\pm	1.0E-02	
6/24/02)	¹⁵² Eu	-8.4E-03	\pm	2.6E-02	U
	¹⁵⁴ Eu	2.2E-03	\pm	2.2E-02	U
	¹⁵⁵ Eu	3.6E-02	\pm	3.2E-02	U
	²³⁸ Pu	-9.8E-03	\pm	2.5E-02	U
	^{239,240} Pu	8.2E-03	\pm	9.0E-03	U
	¹⁰³ Ru	1.5E-04	\pm	1.5E-03	U
	¹⁰⁶ Ru	1.1E-02	\pm	5.4E-02	U
	¹²⁵ Sb	9.2E-03	\pm	1.7E-02	U
	¹¹³ Sn	-5.4E-04	\pm	5.4E-03	U
	⁹⁰ Sr	2.9E-02	\pm	1.0E-01	U
	²³⁴ U	1.0E-01	\pm	3.1E-02	
	²³⁵ U	1.2E-02	\pm	9.4E-03	
	²³⁸ U	1.2E-01	\pm	3.6E-02	
	⁶⁵ Zn	2.4E-03	\pm	1.6E-02	U
D159	¹⁴⁴ Ce	2.6E-02	\pm	1.5E-01	U
(100-NR-1	⁶⁰ Co	2.4E-01	\pm	2.9E-02	
Remedial	¹³⁴ Cs	3.1E-02	\pm	1.3E-02	U
Action,	¹³⁷ Cs	4.6E-01	\pm	6.8E-02	
6/24/02)	¹⁵² Eu	2.5E-02	\pm	4.1E-02	U
	¹⁵⁴ Eu	-6.4E-03	\pm	2.5E-02	U
	¹⁵⁵ Eu	7.4E-03	\pm	3.6E-02	U
	²³⁸ Pu	3.8E-03	\pm	2.8E-02	U
	^{239,240} Pu	3.8E-03	\pm	5.3E-03	U
	¹⁰³ Ru	2.5E-04	\pm	2.5E-03	U
	¹⁰⁶ Ru	1.0E-02	\pm	6.1E-02	U
	¹²⁵ Sb	-2.6E-03	\pm	2.1E-02	U
	¹¹³ Sn	-3.7E-03	\pm	9.7E-03	U
	⁹⁰ Sr	-3.3E-02	\pm	1.1E-01	U
	²³⁴ U	1.6E-01	\pm	4.3E-02	
	²³⁵ U	1.5E-02	\pm	1.0E-02	
	²³⁸ U	1.1E-01	\pm	3.3E-02	
	⁶⁵ Zn	-1.2E-02	\pm	1.9E-02	U

Location	Isotope	Result	\pm	Uncertainty	RQ*
D158	¹⁴⁴ Ce	5.4E-02	\pm	1.6E-01	U
(100-NR-1	⁶⁰ Co	7.1E-02	\pm	1.2E-02	
Remedial	¹³⁴ Cs	3.9E-02	\pm	1.4E-02	U
Action,	¹³⁷ Cs	1.5E-01	\pm	2.7E-02	
11/12/02)	¹⁵² Eu	-2.1E-02	\pm	4.7E-02	U
	¹⁵⁴ Eu	-1.8E-02	\pm	2.6E-02	U
	¹⁵⁵ Eu	3.6E-02	\pm	4.1E-02	U
	²³⁸ Pu	8.0E-03	\pm	2.7E-02	U
	^{239,240} Pu	-2.0E-03	\pm	4.0E-03	U
	¹⁰³ Ru	-1.2E-03	\pm	8.1E-03	U
	¹⁰⁶ Ru	-2.7E-02	\pm	7.1E-02	U
	¹²⁵ Sb	9.1E-03	\pm	2.3E-02	U
	¹¹³ Sn	7.2E-04	\pm	7.2E-03	U
	⁹⁰ Sr	2.1E-01	\pm	1.6E-01	U
	²³⁴ U	1.2E-01	\pm	3.4E-02	
	²³⁵ U	4.8E-03	\pm	6.7E-03	U
	²³⁸ U	1.2E-01	\pm	3.5E-02	
	⁶⁵ Zn	1.1E-02	\pm	2.3E-02	U
D159	¹⁴⁴ Ce	3.2E-02	\pm	1.5E-01	U
(100-NR-1	⁶⁰ Co	2.2E-01	\pm	2.3E-02	
Remedial	¹³⁴ Cs	3.6E-02	\pm	1.3E-02	U
Action,	¹³⁷ Cs	3.5E-01	\pm	5.5E-02	
11/12/02)	¹⁵² Eu	1.8E-02	\pm	3.3E-02	U
	¹⁵⁴ Eu	-2.2E-02	\pm	2.8E-02	U
	¹⁵⁵ Eu	5.2E-02	\pm	3.8E-02	U
	²³⁸ Pu	1.9E-02	\pm	2.7E-02	U
	^{239,240} Pu	2.1E-03	\pm	2.1E-03	U
	¹⁰³ Ru	-8.6E-04	\pm	8.3E-03	U
	¹⁰⁶ Ru	3.4E-02	\pm	8.0E-02	U
	¹²⁵ Sb	-1.3E-03	\pm	1.3E-02	U
	¹¹³ Sn	-2.2E-03	\pm	1.1E-02	U
	⁹⁰ Sr	6.6E-01	\pm	2.0E-01	
	²³⁴ U	1.7E-01	\pm	4.9E-02	
	²³⁵ U	6.3E-03	\pm	9.4E-03	U
	²³⁸ U	1.4E-01	\pm	4.2E-02	
	⁶⁵ Zn	1.3E-02	\pm	2.4E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
Y611 (100-N)	¹⁴⁴ Ce	3.4E-02	\pm	1.0E-01	U
	⁶⁰ Co	6.3E-02	\pm	8.4E-03	
	¹³⁴ Cs	3.9E-02	\pm	9.7E-03	U
	¹³⁷ Cs	1.7E-01	\pm	2.4E-02	
	¹⁵² Eu	1.2E-02	\pm	1.6E-02	U
	¹⁵⁴ Eu	-1.2E-02	\pm	1.8E-02	U
	¹⁵⁵ Eu	5.1E-02	\pm	3.3E-02	
	²³⁸ Pu	-3.4E-03	\pm	2.7E-02	U
	^{239,240} Pu	5.1E-03	\pm	7.7E-03	U
	¹⁰³ Ru	-3.4E-03	\pm	4.9E-03	U
	¹⁰⁶ Ru	-1.5E-03	\pm	1.5E-02	U
	¹²⁵ Sb	5.8E-03	\pm	1.5E-02	U
	¹¹³ Sn	5.4E-04	\pm	5.4E-03	U
	⁹⁰ Sr	-5.3E-02	\pm	1.2E-01	U
	²³⁴ U	1.5E-01	\pm	4.4E-02	
	²³⁵ U	1.4E-02	\pm	1.2E-02	U
	²³⁸ U	1.0E-01	\pm	3.2E-02	
	⁶⁵ Zn	-1.0E-02	\pm	1.3E-02	U
D002 (200 West)	¹⁴⁴ Ce	-5.1E-02	\pm	9.6E-02	U
	⁶⁰ Co	-2.7E-03	\pm	5.8E-03	U
	¹³⁴ Cs	3.0E-02	\pm	1.1E-02	
	¹³⁷ Cs	1.5E-01	\pm	2.6E-02	
	¹⁵² Eu	-9.3E-03	\pm	2.0E-02	U
	¹⁵⁴ Eu	-2.1E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	5.2E-02	\pm	2.9E-02	
	²³⁸ Pu	1.8E-03	\pm	1.8E-02	U
	^{239,240} Pu	5.3E-02	\pm	2.3E-02	
	¹⁰³ Ru	-1.2E-03	\pm	5.3E-03	U
	¹⁰⁶ Ru	-3.8E-02	\pm	5.1E-02	U
	¹²⁵ Sb	3.3E-03	\pm	1.5E-02	U
	¹¹³ Sn	-6.7E-03	\pm	7.1E-03	U
	⁹⁰ Sr	2.6E-01	\pm	1.6E-01	
	²³⁴ U	1.5E-01	\pm	4.4E-02	
	²³⁵ U	1.1E-02	\pm	1.0E-02	
	²³⁸ U	1.2E-01	\pm	4.0E-02	
	⁶⁵ Zn	1.9E-02	\pm	1.6E-02	U

Location	Isotope	Result	\pm	Uncertainty	RQ*
D004 (200 West)	¹⁴⁴ Ce	-1.3E-01	\pm	1.5E-01	U
	⁶⁰ Co	1.1E-03	\pm	6.2E-03	U
	¹³⁴ Cs	3.5E-02	\pm	1.1E-02	
	¹³⁷ Cs	7.2E-01	\pm	1.0E-01	
	¹⁵² Eu	-2.9E-03	\pm	2.9E-02	U
	¹⁵⁴ Eu	-4.2E-03	\pm	2.3E-02	U
	¹⁵⁵ Eu	-2.4E-02	\pm	3.4E-02	U
	²³⁸ Pu	1.3E-02	\pm	3.1E-02	U
	^{239,240} Pu	4.1E-02	\pm	1.9E-02	
	¹⁰³ Ru	-5.8E-03	\pm	6.8E-03	U
	¹⁰⁶ Ru	-3.6E-02	\pm	5.6E-02	U
	¹²⁵ Sb	-4.7E-03	\pm	2.0E-02	U
	¹¹³ Sn	-2.0E-03	\pm	9.3E-03	U
	⁹⁰ Sr	6.2E-02	\pm	1.5E-01	U
	²³⁴ U	1.3E-01	\pm	4.2E-02	
	²³⁵ U	8.6E-03	\pm	1.2E-02	U
	²³⁸ U	1.4E-01	\pm	4.2E-02	
	⁶⁵ Zn	8.8E-03	\pm	1.6E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D006 (200 West)	¹⁴⁴ Ce	2.5E-02	\pm	1.1E-01	U
	⁶⁰ Co	-2.8E-03	\pm	5.7E-03	U
	¹³⁴ Cs	3.6E-02	\pm	1.3E-02	
	¹³⁷ Cs	1.1E-01	\pm	2.1E-02	
	¹⁵² Eu	-2.6E-04	\pm	2.6E-03	U
	¹⁵⁴ Eu	-2.2E-02	\pm	2.2E-02	U
	¹⁵⁵ Eu	2.6E-02	\pm	3.0E-02	U
	²³⁸ Pu	3.8E-03	\pm	2.9E-02	U
	^{239,240} Pu	3.2E-02	\pm	1.8E-02	
	¹⁰³ Ru	3.6E-03	\pm	5.6E-03	U
	¹⁰⁶ Ru	-3.9E-02	\pm	5.2E-02	U
	¹²⁵ Sb	-3.6E-03	\pm	1.6E-02	U
	¹¹³ Sn	8.4E-04	\pm	8.3E-03	U
	⁹⁰ Sr	7.5E-02	\pm	1.2E-01	U
	²³⁴ U	1.2E-01	\pm	3.6E-02	
	²³⁵ U	1.1E-02	\pm	9.2E-03	
	²³⁸ U	9.0E-02	\pm	3.0E-02	
	⁶⁵ Zn	-8.1E-03	\pm	1.5E-02	U
D010 (200 West)	¹⁴⁴ Ce	3.9E-02	\pm	1.0E-01	U
	⁶⁰ Co	-1.6E-03	\pm	4.8E-03	U
	¹³⁴ Cs	2.9E-02	\pm	1.0E-02	
	¹³⁷ Cs	4.9E-01	\pm	6.5E-02	
	¹⁵² Eu	2.8E-02	\pm	2.0E-02	
	¹⁵⁴ Eu	6.3E-03	\pm	1.6E-02	U
	¹⁵⁵ Eu	2.4E-02	\pm	2.6E-02	U
	²³⁸ Pu	1.3E-02	\pm	2.5E-02	U
	^{239,240} Pu	6.6E-02	\pm	2.6E-02	
	¹⁰³ Ru	4.7E-04	\pm	4.7E-03	U
	¹⁰⁶ Ru	2.3E-02	\pm	4.9E-02	U
	¹²⁵ Sb	7.8E-03	\pm	1.6E-02	U
	¹¹³ Sn	-1.0E-02	\pm	1.0E-02	U
	⁹⁰ Sr	-1.5E-02	\pm	1.4E-01	U
	²³⁴ U	1.7E-01	\pm	4.8E-02	
	²³⁵ U	7.8E-03	\pm	1.2E-02	U
	²³⁸ U	1.4E-01	\pm	4.2E-02	
	⁶⁵ Zn	-3.0E-03	\pm	1.3E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D008 (200 West)	¹⁴⁴ Ce	3.5E-02	\pm	1.0E-01	U
	⁶⁰ Co	-2.7E-03	\pm	4.6E-03	U
	¹³⁴ Cs	3.3E-02	\pm	9.9E-03	
	¹³⁷ Cs	9.4E-02	\pm	1.5E-02	
	¹⁵² Eu	6.6E-03	\pm	1.8E-02	U
	¹⁵⁴ Eu	5.1E-03	\pm	1.8E-02	U
	¹⁵⁵ Eu	3.1E-02	\pm	2.6E-02	U
	²³⁸ Pu	2.5E-02	\pm	2.7E-02	U
	^{239,240} Pu	2.4E+00	\pm	4.8E-01	
	¹⁰³ Ru	-3.1E-03	\pm	4.8E-03	U
	¹⁰⁶ Ru	-6.0E-03	\pm	4.1E-02	U
	¹²⁵ Sb	-4.9E-03	\pm	1.4E-02	U
	¹¹³ Sn	-3.5E-03	\pm	6.6E-03	U
	⁹⁰ Sr	1.1E-01	\pm	1.6E-01	U
	²³⁴ U	1.1E-01	\pm	3.5E-02	
	²³⁵ U	1.5E-02	\pm	1.2E-02	
	²³⁸ U	1.4E-01	\pm	4.1E-02	
	⁶⁵ Zn	-1.4E-02	\pm	1.4E-02	U
D012 (200 West)	¹⁴⁴ Ce	-6.7E-02	\pm	1.2E-01	U
	⁶⁰ Co	3.1E-04	\pm	3.1E-03	U
	¹³⁴ Cs	3.2E-02	\pm	8.4E-03	
	¹³⁷ Cs	2.6E+00	\pm	3.3E-01	
	¹⁵² Eu	-1.6E-02	\pm	2.2E-02	U
	¹⁵⁴ Eu	-4.4E-03	\pm	1.7E-02	U
	¹⁵⁵ Eu	3.5E-02	\pm	3.5E-02	U
	²³⁸ Pu	7.2E-03	\pm	1.9E-02	U
	^{239,240} Pu	3.2E-02	\pm	1.6E-02	
	¹⁰³ Ru	-4.3E-03	\pm	6.9E-03	U
	¹⁰⁶ Ru	2.5E-02	\pm	5.4E-02	U
	¹²⁵ Sb	6.1E-03	\pm	2.1E-02	U
	¹¹³ Sn	-2.3E-03	\pm	9.4E-03	U
	⁹⁰ Sr	1.6E-01	\pm	1.4E-01	U
	²³⁴ U	1.3E-01	\pm	3.9E-02	
	²³⁵ U	9.2E-03	\pm	1.0E-02	U
	²³⁸ U	1.4E-01	\pm	4.1E-02	
	⁶⁵ Zn	-5.2E-03	\pm	1.4E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D014 (200 West)	¹⁴⁴ Ce	-7.9E-02	\pm	1.3E-01	U
	⁶⁰ Co	6.4E-04	\pm	6.0E-03	U
	¹³⁴ Cs	2.8E-02	\pm	9.7E-03	
	¹³⁷ Cs	3.3E+00	\pm	4.6E-01	
	¹⁵² Eu	-5.1E-02	\pm	5.1E-02	U
	¹⁵⁴ Eu	-2.3E-02	\pm	2.3E-02	U
	¹⁵⁵ Eu	2.7E-02	\pm	3.2E-02	U
	²³⁸ Pu	1.8E-03	\pm	1.8E-02	U
	^{239,240} Pu	2.9E-02	\pm	1.6E-02	
	¹⁰³ Ru	1.4E-02	\pm	1.2E-02	
	¹⁰⁶ Ru	-4.7E-02	\pm	6.7E-02	U
	¹²⁵ Sb	1.6E-02	\pm	2.5E-02	U
	¹¹³ Sn	6.3E-03	\pm	1.1E-02	U
	⁹⁰ Sr	1.1E-01	\pm	1.4E-01	U
	²³⁴ U	1.7E-01	\pm	4.6E-02	
	²³⁵ U	1.1E-02	\pm	9.2E-03	
	²³⁸ U	1.7E-01	\pm	4.6E-02	
	⁶⁵ Zn	2.8E-02	\pm	1.7E-02	
D018 (200 West)	¹⁴⁴ Ce	9.1E-02	\pm	1.3E-01	U
	⁶⁰ Co	1.5E-03	\pm	5.3E-03	U
	¹³⁴ Cs	2.3E-02	\pm	9.3E-03	
	¹³⁷ Cs	9.5E-01	\pm	1.4E-01	
	¹⁵² Eu	1.0E-03	\pm	1.0E-02	U
	¹⁵⁴ Eu	-2.7E-02	\pm	2.7E-02	U
	¹⁵⁵ Eu	4.3E-02	\pm	3.0E-02	U
	²³⁸ Pu	1.3E-02	\pm	2.7E-02	U
	^{239,240} Pu	7.4E-02	\pm	2.9E-02	
	¹⁰³ Ru	-3.1E-03	\pm	6.4E-03	U
	¹⁰⁶ Ru	2.1E-02	\pm	6.0E-02	U
	¹²⁵ Sb	1.5E-02	\pm	1.9E-02	U
	¹¹³ Sn	2.7E-03	\pm	8.5E-03	U
	⁹⁰ Sr	1.6E-01	\pm	1.2E-01	
	²³⁴ U	1.6E-01	\pm	4.6E-02	
	²³⁵ U	2.0E-02	\pm	1.4E-02	
	²³⁸ U	1.6E-01	\pm	4.6E-02	
	⁶⁵ Zn	-4.9E-03	\pm	1.5E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D016 (200 West)	¹⁴⁴ Ce	-3.5E-02	\pm	1.1E-01	U
	⁶⁰ Co	-3.5E-04	\pm	3.4E-03	U
	¹³⁴ Cs	3.2E-02	\pm	1.5E-02	
	¹³⁷ Cs	1.8E+00	\pm	2.8E-01	
	¹⁵² Eu	-1.2E-02	\pm	2.3E-02	U
	¹⁵⁴ Eu	1.2E-03	\pm	1.2E-02	U
	¹⁵⁵ Eu	2.1E-02	\pm	2.8E-02	U
	²³⁸ Pu	-2.0E-02	\pm	3.0E-02	U
	^{239,240} Pu	2.1E-02	\pm	1.4E-02	
	¹⁰³ Ru	-1.3E-03	\pm	7.2E-03	U
	¹⁰⁶ Ru	3.2E-02	\pm	6.1E-02	U
	¹²⁵ Sb	-5.7E-03	\pm	2.1E-02	U
	¹¹³ Sn	-7.1E-03	\pm	9.4E-03	U
	⁹⁰ Sr	2.9E-02	\pm	1.1E-01	U
	²³⁴ U	2.0E-01	\pm	5.4E-02	
	²³⁵ U	2.4E-02	\pm	1.5E-02	
	²³⁸ U	2.3E-01	\pm	6.0E-02	
	⁶⁵ Zn	5.4E-03	\pm	1.7E-02	U
D020 (200 West)	¹⁴⁴ Ce	-2.1E-02	\pm	1.2E-01	U
	⁶⁰ Co	-4.8E-06	\pm	4.8E-05	U
	¹³⁴ Cs	2.9E-02	\pm	1.2E-02	
	¹³⁷ Cs	6.1E-01	\pm	9.3E-02	
	¹⁵² Eu	8.4E-03	\pm	2.8E-02	U
	¹⁵⁴ Eu	-1.5E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	6.6E-02	\pm	4.7E-02	
	²³⁸ Pu	-1.7E-03	\pm	1.7E-02	U
	^{239,240} Pu	1.7E-02	\pm	1.2E-02	
	¹⁰³ Ru	-3.4E-03	\pm	6.5E-03	U
	¹⁰⁶ Ru	3.5E-03	\pm	3.5E-02	U
	¹²⁵ Sb	-2.1E-03	\pm	1.9E-02	U
	¹¹³ Sn	-5.6E-03	\pm	8.7E-03	U
	⁹⁰ Sr	1.9E-01	\pm	1.3E-01	
	²³⁴ U	1.8E-01	\pm	5.0E-02	
	²³⁵ U	6.5E-03	\pm	9.8E-03	U
	²³⁸ U	1.9E-01	\pm	5.3E-02	
	⁶⁵ Zn	-2.0E-04	\pm	2.0E-03	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D022 (200 West)	¹⁴⁴ Ce	4.4E-04	\pm	4.4E-03	U
	⁶⁰ Co	4.7E-03	\pm	5.1E-03	U
	¹³⁴ Cs	3.4E-02	\pm	1.0E-02	
	¹³⁷ Cs	2.0E+00	\pm	2.5E-01	
	¹⁵² Eu	-1.6E-02	\pm	2.1E-02	U
	¹⁵⁴ Eu	1.8E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	2.0E-02	\pm	2.8E-02	U
	²³⁸ Pu	2.2E-01	\pm	6.6E-02	
	^{239,240} Pu	1.0E-01	\pm	3.3E-02	
	¹⁰³ Ru	-1.4E-03	\pm	7.5E-03	U
	¹⁰⁶ Ru	8.1E-02	\pm	7.5E-02	U
	¹²⁵ Sb	-6.8E-03	\pm	2.0E-02	U
	¹¹³ Sn	-9.6E-03	\pm	9.6E-03	U
	⁹⁰ Sr	4.4E-01	\pm	1.5E-01	
	²³⁴ U	1.8E-01	\pm	5.0E-02	
	²³⁵ U	1.8E-02	\pm	1.3E-02	
	²³⁸ U	1.5E-01	\pm	4.5E-02	
	⁶⁵ Zn	-5.4E-03	\pm	1.3E-02	U
D026 (200 West)	¹⁴⁴ Ce	-5.2E-02	\pm	1.1E-01	U
	⁶⁰ Co	-1.2E-03	\pm	6.1E-03	U
	¹³⁴ Cs	3.8E-02	\pm	1.1E-02	
	¹³⁷ Cs	1.7E+00	\pm	2.7E-01	
	¹⁵² Eu	4.8E-03	\pm	2.9E-02	U
	¹⁵⁴ Eu	-1.7E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	3.1E-02	\pm	3.3E-02	U
	²³⁸ Pu	5.7E-03	\pm	2.8E-02	U
	^{239,240} Pu	7.5E-01	\pm	1.6E-01	
	¹⁰³ Ru	3.0E-03	\pm	6.9E-03	U
	¹⁰⁶ Ru	-8.8E-02	\pm	8.8E-02	U
	¹²⁵ Sb	-1.6E-03	\pm	1.6E-02	U
	¹¹³ Sn	-5.9E-03	\pm	8.8E-03	U
	⁹⁰ Sr	5.8E-01	\pm	1.4E-01	
	²³⁴ U	1.3E-01	\pm	3.9E-02	
	²³⁵ U	1.9E-02	\pm	1.3E-02	
	²³⁸ U	1.4E-01	\pm	4.1E-02	
	⁶⁵ Zn	8.0E-03	\pm	1.6E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D024 (200 West)	¹⁴⁴ Ce	6.0E-03	\pm	6.0E-02	U
	⁶⁰ Co	2.4E-03	\pm	8.9E-03	U
	¹³⁴ Cs	3.0E-02	\pm	1.2E-02	
	¹³⁷ Cs	3.6E+00	\pm	5.0E-01	
	¹⁵² Eu	-4.2E-02	\pm	4.2E-02	U
	¹⁵⁴ Eu	-1.7E-02	\pm	2.4E-02	U
	¹⁵⁵ Eu	3.2E-02	\pm	4.3E-02	U
	²³⁸ Pu	-2.7E-02	\pm	3.2E-02	U
	^{239,240} Pu	4.0E-01	\pm	9.6E-02	
	¹⁰³ Ru	-5.1E-03	\pm	1.0E-02	U
	¹⁰⁶ Ru	2.8E-02	\pm	8.0E-02	U
	¹²⁵ Sb	1.6E-02	\pm	3.1E-02	U
	¹¹³ Sn	-5.0E-03	\pm	1.3E-02	U
	⁹⁰ Sr	3.4E-01	\pm	1.4E-01	
	²³⁴ U	1.8E-01	\pm	5.4E-02	
	²³⁵ U	2.3E-03	\pm	1.8E-02	U
	²³⁸ U	1.8E-01	\pm	5.2E-02	
	⁶⁵ Zn	3.5E-02	\pm	2.1E-02	
D028 (200 West)	¹⁴⁴ Ce	4.5E-02	\pm	1.4E-01	U
	⁶⁰ Co	6.1E-03	\pm	5.3E-03	U
	¹³⁴ Cs	2.4E-02	\pm	1.0E-02	
	¹³⁷ Cs	1.8E+00	\pm	2.6E-01	
	¹⁵² Eu	-9.9E-03	\pm	3.5E-02	U
	¹⁵⁴ Eu	-1.4E-02	\pm	1.7E-02	U
	¹⁵⁵ Eu	-1.9E-02	\pm	3.3E-02	U
	²³⁸ Pu	3.4E-03	\pm	2.2E-02	U
	^{239,240} Pu	2.6E-02	\pm	1.4E-02	
	¹⁰³ Ru	-1.2E-03	\pm	7.0E-03	U
	¹⁰⁶ Ru	-4.1E-03	\pm	4.1E-02	U
	¹²⁵ Sb	6.8E-03	\pm	2.1E-02	U
	¹¹³ Sn	2.3E-03	\pm	9.4E-03	U
	⁹⁰ Sr	3.6E-01	\pm	1.6E-01	
	²³⁴ U	1.4E-01	\pm	4.2E-02	
	²³⁵ U	2.5E-02	\pm	1.6E-02	
	²³⁸ U	1.5E-01	\pm	4.5E-02	
	⁶⁵ Zn	-2.1E-03	\pm	1.5E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D030 (200 West)	¹⁴⁴ Ce	-4.4E-03	\pm	4.4E-02	U
	⁶⁰ Co	1.2E-03	\pm	6.9E-03	U
	¹³⁴ Cs	3.9E-02	\pm	1.1E-02	
	¹³⁷ Cs	5.9E-01	\pm	9.0E-02	
	¹⁵² Eu	1.3E-02	\pm	2.6E-02	U
	¹⁵⁴ Eu	-6.1E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	2.5E-02	\pm	2.8E-02	U
	²³⁸ Pu	1.6E-02	\pm	2.7E-02	U
	^{239,240} Pu	5.5E-02	\pm	2.4E-02	
	¹⁰³ Ru	-2.5E-04	\pm	2.5E-03	U
	¹⁰⁶ Ru	-1.8E-02	\pm	5.3E-02	U
	¹²⁵ Sb	5.3E-03	\pm	1.7E-02	U
	¹¹³ Sn	-1.4E-03	\pm	7.9E-03	U
	⁹⁰ Sr	6.8E-02	\pm	1.2E-01	U
	²³⁴ U	1.7E-01	\pm	4.8E-02	
	²³⁵ U	2.1E-02	\pm	1.4E-02	
	²³⁸ U	1.6E-01	\pm	4.6E-02	
	⁶⁵ Zn	-6.9E-03	\pm	1.5E-02	U
	¹⁴⁴ Ce	-1.6E-01	\pm	1.6E-01	U
	⁶⁰ Co	5.0E-03	\pm	7.1E-03	U
D032 (200 West)	¹³⁴ Cs	3.8E-02	\pm	1.5E-02	
	¹³⁷ Cs	7.3E+00	\pm	1.1E+00	
	¹⁵² Eu	-2.9E-02	\pm	3.3E-02	U
	¹⁵⁴ Eu	4.2E-03	\pm	2.5E-02	U
	¹⁵⁵ Eu	4.3E-02	\pm	3.8E-02	U
	²³⁸ Pu	9.7E-03	\pm	3.4E-02	U
	^{239,240} Pu	7.4E-01	\pm	1.6E-01	
	¹⁰³ Ru	-1.1E-02	\pm	1.2E-02	U
	¹⁰⁶ Ru	-2.1E-02	\pm	7.9E-02	U
	¹²⁵ Sb	1.2E-02	\pm	3.2E-02	U
	¹¹³ Sn	-3.7E-03	\pm	1.4E-02	U
	⁹⁰ Sr	7.8E-01	\pm	1.6E-01	
	²³⁴ U	1.8E-01	\pm	4.9E-02	
	²³⁵ U	2.4E-02	\pm	1.5E-02	
	²³⁸ U	2.0E-01	\pm	5.4E-02	
	⁶⁵ Zn	1.8E-02	\pm	1.7E-02	U
	¹⁴⁴ Ce	-2.0E-02	\pm	1.3E-01	U
	⁶⁰ Co	-5.0E-03	\pm	5.6E-03	U
	¹³⁴ Cs	3.5E-02	\pm	1.2E-02	
	¹³⁷ Cs	2.2E-01	\pm	3.4E-02	
D034 (200 West)	¹⁵² Eu	3.5E-03	\pm	3.5E-02	U
	¹⁵⁴ Eu	-2.2E-02	\pm	2.2E-02	U
	¹⁵⁵ Eu	1.4E-02	\pm	3.2E-02	U
	²³⁸ Pu	-4.4E-03	\pm	4.1E-02	U
	^{239,240} Pu	2.2E-03	\pm	2.2E-03	U
	¹⁰³ Ru	-1.8E-03	\pm	6.9E-03	U
	¹⁰⁶ Ru	-4.2E-02	\pm	5.2E-02	U
	¹²⁵ Sb	2.4E-02	\pm	1.8E-02	U
	¹¹³ Sn	3.1E-05	\pm	3.1E-04	U
	⁹⁰ Sr	2.0E-01	\pm	1.6E-01	U
	²³⁴ U	1.5E-01	\pm	4.4E-02	
	²³⁵ U	1.0E-02	\pm	9.1E-03	
	²³⁸ U	1.7E-01	\pm	4.8E-02	
	⁶⁵ Zn	6.0E-03	\pm	1.6E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D038 (200 West)	¹⁴⁴ Ce	-5.9E-02	\pm	1.1E-01	U
	⁶⁰ Co	-1.7E-03	\pm	6.0E-03	U
	¹³⁴ Cs	4.1E-02	\pm	1.2E-02	
	¹³⁷ Cs	1.4E+00	\pm	2.1E-01	
	¹⁵² Eu	-5.6E-03	\pm	2.8E-02	U
	¹⁵⁴ Eu	-2.3E-03	\pm	2.2E-02	U
	¹⁵⁵ Eu	4.3E-02	\pm	3.6E-02	
	²³⁸ Pu	5.1E-03	\pm	6.1E-03	
	^{239,240} Pu	2.7E-02	\pm	1.4E-02	
	¹⁰³ Ru	1.6E-03	\pm	9.0E-03	U
	¹⁰⁶ Ru	2.7E-02	\pm	5.7E-02	U
	¹²⁵ Sb	1.2E-02	\pm	1.9E-02	U
	¹¹³ Sn	-8.7E-03	\pm	9.5E-03	U
	⁹⁰ Sr	4.9E-01	\pm	1.5E-01	
	²³⁴ U	1.5E-01	\pm	4.5E-02	
	²³⁵ U	1.9E-02	\pm	1.3E-02	
	²³⁸ U	1.6E-01	\pm	4.6E-02	
	⁶⁵ Zn	1.5E-02	\pm	1.6E-02	U
D040 (200 West)	¹⁴⁴ Ce	1.7E-02	\pm	1.0E-01	U
	⁶⁰ Co	5.2E-03	\pm	5.8E-03	U
	¹³⁴ Cs	2.7E-02	\pm	8.8E-03	
	¹³⁷ Cs	4.4E-01	\pm	6.8E-02	
	¹⁵² Eu	1.0E-02	\pm	2.4E-02	U
	¹⁵⁴ Eu	2.2E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	2.7E-02	\pm	3.2E-02	U
	²³⁸ Pu	-1.3E-02	\pm	3.4E-02	U
	^{239,240} Pu	4.6E-02	\pm	2.2E-02	
	¹⁰³ Ru	9.6E-04	\pm	6.3E-03	U
	¹⁰⁶ Ru	2.0E-02	\pm	5.3E-02	U
	¹²⁵ Sb	-1.1E-03	\pm	1.1E-02	U
	¹¹³ Sn	-1.1E-03	\pm	7.7E-03	U
	⁹⁰ Sr	5.7E-02	\pm	1.2E-01	U
	²³⁴ U	1.5E-01	\pm	4.4E-02	
	²³⁵ U	9.7E-03	\pm	8.8E-03	
	²³⁸ U	1.7E-01	\pm	4.8E-02	
	⁶⁵ Zn	7.4E-03	\pm	1.5E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D038 (200 West, duplicate)	¹⁴⁴ Ce	4.2E-02	\pm	1.2E-01	U
	⁶⁰ Co	7.2E-03	\pm	6.0E-03	U
	¹³⁴ Cs	3.0E-02	\pm	1.2E-02	
	¹³⁷ Cs	2.5E+00	\pm	3.8E-01	
	¹⁵² Eu	2.8E-03	\pm	2.5E-02	U
	¹⁵⁴ Eu	-1.8E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	2.5E-02	\pm	2.8E-02	U
	²³⁸ Pu	-3.4E-03	\pm	8.5E-03	U
	^{239,240} Pu	2.9E-02	\pm	1.4E-02	
	¹⁰³ Ru	-7.8E-03	\pm	1.0E-02	U
	¹⁰⁶ Ru	1.9E-02	\pm	6.3E-02	U
	¹²⁵ Sb	2.5E-02	\pm	2.2E-02	U
	¹¹³ Sn	1.1E-02	\pm	1.1E-02	U
	⁹⁰ Sr	8.8E-02	\pm	9.7E-02	U
	²³⁴ U	2.1E-01	\pm	5.7E-02	
	²³⁵ U	2.4E-02	\pm	1.8E-02	U
	²³⁸ U	2.0E-01	\pm	5.6E-02	
	⁶⁵ Zn	4.8E-03	\pm	1.7E-02	U
D042 (200 West)	¹⁴⁴ Ce	5.1E-02	\pm	1.2E-01	U
	⁶⁰ Co	-3.8E-04	\pm	3.7E-03	U
	¹³⁴ Cs	3.9E-02	\pm	1.2E-02	
	¹³⁷ Cs	3.0E-01	\pm	4.4E-02	
	¹⁵² Eu	-1.2E-02	\pm	2.7E-02	U
	¹⁵⁴ Eu	-2.0E-02	\pm	2.3E-02	U
	¹⁵⁵ Eu	6.6E-02	\pm	3.5E-02	
	²³⁸ Pu	-2.0E-02	\pm	3.4E-02	U
	^{239,240} Pu	5.2E-02	\pm	2.4E-02	
	¹⁰³ Ru	-5.4E-03	\pm	7.8E-03	U
	¹⁰⁶ Ru	1.2E-02	\pm	6.2E-02	U
	¹²⁵ Sb	-5.3E-03	\pm	1.9E-02	U
	¹¹³ Sn	-3.2E-03	\pm	9.4E-03	U
	⁹⁰ Sr	1.3E-01	\pm	1.4E-01	U
	²³⁴ U	1.5E-01	\pm	4.2E-02	
	²³⁵ U	1.2E-02	\pm	9.4E-03	
	²³⁸ U	1.6E-01	\pm	4.3E-02	
	⁶⁵ Zn	3.9E-02	\pm	2.0E-02	

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D044 (200 West)	¹⁴⁴ Ce	-5.9E-03	\pm	5.9E-02	U
	⁶⁰ Co	4.5E-03	\pm	6.7E-03	U
	¹³⁴ Cs	2.6E-02	\pm	1.0E-02	
	¹³⁷ Cs	5.1E+00	\pm	8.0E-01	
	¹⁵² Eu	-1.8E-02	\pm	3.2E-02	U
	¹⁵⁴ Eu	-2.3E-02	\pm	2.3E-02	U
	¹⁵⁵ Eu	2.4E-02	\pm	3.5E-02	U
	²³⁸ Pu	2.3E-03	\pm	2.3E-03	U
	^{239,240} Pu	6.3E-01	\pm	1.4E-01	
	¹⁰³ Ru	-5.0E-03	\pm	1.1E-02	U
	¹⁰⁶ Ru	-5.8E-02	\pm	7.8E-02	U
	¹²⁵ Sb	-3.1E-03	\pm	3.1E-02	U
	¹¹³ Sn	-4.0E-03	\pm	1.3E-02	U
	⁹⁰ Sr	5.4E-01	\pm	1.6E-01	
	²³⁴ U	2.1E-01	\pm	5.7E-02	
	²³⁵ U	1.9E-02	\pm	1.3E-02	
	²³⁸ U	2.0E-01	\pm	5.4E-02	
	⁶⁵ Zn	-6.6E-03	\pm	1.9E-02	U
D048 (200 West)	¹⁴⁴ Ce	-1.0E-01	\pm	1.1E-01	U
	⁶⁰ Co	1.3E-03	\pm	5.0E-03	U
	¹³⁴ Cs	3.2E-02	\pm	9.3E-03	
	¹³⁷ Cs	1.3E+00	\pm	1.6E-01	
	¹⁵² Eu	-1.0E-02	\pm	2.2E-02	U
	¹⁵⁴ Eu	-1.8E-02	\pm	1.9E-02	U
	¹⁵⁵ Eu	4.7E-02	\pm	3.7E-02	
	²³⁸ Pu	-6.0E-03	\pm	4.1E-02	U
	^{239,240} Pu	5.7E-02	\pm	3.1E-02	
	¹⁰³ Ru	-1.6E-03	\pm	6.8E-03	U
	¹⁰⁶ Ru	5.1E-03	\pm	4.9E-02	U
	¹²⁵ Sb	5.4E-03	\pm	1.8E-02	U
	¹¹³ Sn	-3.4E-03	\pm	8.5E-03	U
	⁹⁰ Sr	-1.1E-02	\pm	1.1E-01	U
	²³⁴ U	2.6E-01	\pm	6.5E-02	
	²³⁵ U	2.6E-02	\pm	1.6E-02	
	²³⁸ U	3.1E-01	\pm	7.4E-02	
	⁶⁵ Zn	-1.6E-02	\pm	1.6E-02	U
D046 (200 West)	¹⁴⁴ Ce	1.6E-02	\pm	1.4E-01	U
	⁶⁰ Co	1.1E-03	\pm	6.2E-03	U
	¹³⁴ Cs	3.3E-02	\pm	1.1E-02	
	¹³⁷ Cs	1.3E-01	\pm	2.3E-02	
	¹⁵² Eu	3.3E-03	\pm	3.1E-02	U
	¹⁵⁴ Eu	-1.1E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	1.5E-02	\pm	3.4E-02	U
	²³⁸ Pu	-2.5E-02	\pm	4.3E-02	U
	^{239,240} Pu	1.5E-02	\pm	1.4E-02	U
	¹⁰³ Ru	-3.4E-03	\pm	7.4E-03	U
	¹⁰⁶ Ru	3.2E-02	\pm	5.6E-02	U
	¹²⁵ Sb	1.5E-02	\pm	1.8E-02	U
	¹¹³ Sn	-4.2E-03	\pm	9.1E-03	U
	⁹⁰ Sr	2.0E-01	\pm	1.5E-01	
	²³⁴ U	1.8E-01	\pm	5.0E-02	
	²³⁵ U	1.1E-02	\pm	1.0E-02	
	²³⁸ U	2.1E-01	\pm	5.7E-02	
	⁶⁵ Zn	8.3E-03	\pm	1.7E-02	U
D050 (200 West)	¹⁴⁴ Ce	7.6E-04	\pm	7.6E-03	U
	⁶⁰ Co	1.4E-04	\pm	1.4E-03	U
	¹³⁴ Cs	3.0E-02	\pm	1.1E-02	
	¹³⁷ Cs	9.7E-02	\pm	1.6E-02	
	¹⁵² Eu	-1.9E-02	\pm	1.9E-02	U
	¹⁵⁴ Eu	6.6E-03	\pm	2.0E-02	U
	¹⁵⁵ Eu	3.4E-02	\pm	3.5E-02	U
	²³⁸ Pu	2.1E-02	\pm	2.9E-02	U
	^{239,240} Pu	1.1E-02	\pm	1.2E-02	U
	¹⁰³ Ru	-3.7E-03	\pm	6.1E-03	U
	¹⁰⁶ Ru	3.0E-02	\pm	4.7E-02	U
	¹²⁵ Sb	1.1E-02	\pm	1.6E-02	U
	¹¹³ Sn	-3.4E-03	\pm	7.5E-03	U
	⁹⁰ Sr	5.7E-02	\pm	1.3E-01	U
	²³⁴ U	1.9E-01	\pm	5.1E-02	
	²³⁵ U	1.6E-02	\pm	1.2E-02	
	²³⁸ U	1.7E-01	\pm	4.8E-02	
	⁶⁵ Zn	-1.5E-02	\pm	1.5E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D052 (200 West)	¹⁴⁴ Ce	-1.0E-01	\pm	1.1E-01	U
	⁶⁰ Co	-1.6E-03	\pm	5.1E-03	U
	¹³⁴ Cs	2.8E-02	\pm	9.4E-03	
	¹³⁷ Cs	2.5E-01	\pm	3.6E-02	
	¹⁵² Eu	-1.4E-02	\pm	1.7E-02	U
	¹⁵⁴ Eu	-7.7E-03	\pm	1.7E-02	U
	¹⁵⁵ Eu	3.2E-02	\pm	3.1E-02	U
	²³⁸ Pu	-1.7E-02	\pm	3.2E-02	U
	^{239,240} Pu	1.9E-02	\pm	1.3E-02	
	¹⁰³ Ru	3.8E-03	\pm	5.9E-03	U
	¹⁰⁶ Ru	-2.5E-02	\pm	4.5E-02	U
	¹²⁵ Sb	2.0E-03	\pm	1.5E-02	U
	¹¹³ Sn	-3.8E-03	\pm	7.3E-03	U
	⁹⁰ Sr	1.4E-01	\pm	1.3E-01	U
	²³⁴ U	1.3E-01	\pm	4.0E-02	
	²³⁵ U	1.1E-02	\pm	1.0E-02	
	²³⁸ U	1.5E-01	\pm	4.4E-02	
	⁶⁵ Zn	-7.8E-03	\pm	1.5E-02	U
D056 (200 East)	¹⁴⁴ Ce	5.9E-02	\pm	1.3E-01	U
	⁶⁰ Co	2.3E-03	\pm	6.6E-03	U
	¹³⁴ Cs	2.1E-02	\pm	1.2E-02	
	¹³⁷ Cs	1.9E+00	\pm	2.7E-01	
	¹⁵² Eu	-8.9E-03	\pm	3.1E-02	U
	¹⁵⁴ Eu	-2.2E-02	\pm	2.2E-02	U
	¹⁵⁵ Eu	3.9E-02	\pm	3.7E-02	U
	²³⁸ Pu	1.4E-02	\pm	3.5E-02	U
	^{239,240} Pu	-4.5E-03	\pm	9.0E-03	U
	¹⁰³ Ru	1.7E-03	\pm	9.1E-03	U
	¹⁰⁶ Ru	-9.9E-03	\pm	6.6E-02	U
	¹²⁵ Sb	3.8E-03	\pm	2.4E-02	U
	¹¹³ Sn	-9.6E-03	\pm	1.1E-02	U
	⁹⁰ Sr	3.1E-01	\pm	1.4E-01	
	²³⁴ U	3.6E-01	\pm	8.3E-02	
	²³⁵ U	2.0E-02	\pm	1.3E-02	
	²³⁸ U	3.8E-01	\pm	8.7E-02	
	⁶⁵ Zn	2.5E-02	\pm	1.9E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D054 (200 East)	¹⁴⁴ Ce	4.8E-02	\pm	1.5E-01	U
	⁶⁰ Co	-1.9E-03	\pm	5.5E-03	U
	¹³⁴ Cs	3.4E-02	\pm	1.3E-02	
	¹³⁷ Cs	5.2E+00	\pm	7.7E-01	
	¹⁵² Eu	-7.5E-03	\pm	3.4E-02	U
	¹⁵⁴ Eu	4.7E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	1.5E-02	\pm	3.3E-02	U
	²³⁸ Pu	2.4E-02	\pm	4.1E-02	U
	^{239,240} Pu	-2.2E-03	\pm	1.3E-02	U
	¹⁰³ Ru	6.5E-03	\pm	1.0E-02	U
	¹⁰⁶ Ru	1.2E-02	\pm	7.1E-02	U
	¹²⁵ Sb	1.4E-02	\pm	2.7E-02	U
	¹¹³ Sn	-1.4E-03	\pm	1.2E-02	U
	⁹⁰ Sr	5.2E-01	\pm	1.6E-01	
	²³⁴ U	1.6E-01	\pm	4.5E-02	
	²³⁵ U	1.2E-02	\pm	1.0E-02	
	²³⁸ U	1.3E-01	\pm	3.9E-02	
	⁶⁵ Zn	1.1E-02	\pm	1.5E-02	U
D058 (200 East)	¹⁴⁴ Ce	5.6E-02	\pm	1.6E-01	U
	⁶⁰ Co	7.5E-04	\pm	6.5E-03	U
	¹³⁴ Cs	3.1E-02	\pm	9.6E-03	
	¹³⁷ Cs	1.2E+01	\pm	1.9E+00	
	¹⁵² Eu	-3.8E-03	\pm	3.8E-02	U
	¹⁵⁴ Eu	-6.2E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	-1.1E-02	\pm	4.1E-02	U
	²³⁸ Pu	1.5E-02	\pm	3.0E-02	U
	^{239,240} Pu	1.5E-02	\pm	1.2E-02	
	¹⁰³ Ru	-1.8E-03	\pm	1.4E-02	U
	¹⁰⁶ Ru	5.3E-02	\pm	1.1E-01	U
	¹²⁵ Sb	7.0E-03	\pm	3.9E-02	U
	¹¹³ Sn	-1.3E-03	\pm	1.3E-02	U
	⁹⁰ Sr	8.2E-01	\pm	2.0E-01	
	²³⁴ U	2.3E-01	\pm	6.0E-02	
	²³⁵ U	2.7E-02	\pm	1.5E-02	
	²³⁸ U	2.4E-01	\pm	6.0E-02	
	⁶⁵ Zn	2.7E-02	\pm	1.7E-02	

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D060 (200 East)	¹⁴⁴ Ce	3.1E-02	\pm	1.6E-01	U
	⁶⁰ Co	-2.3E-03	\pm	6.5E-03	U
	¹³⁴ Cs	3.3E-02	\pm	1.2E-02	
	¹³⁷ Cs	1.2E+00	\pm	1.8E-01	
	¹⁵² Eu	2.0E-02	\pm	3.7E-02	U
	¹⁵⁴ Eu	2.3E-02	\pm	2.5E-02	U
	¹⁵⁵ Eu	3.5E-02	\pm	3.8E-02	U
	²³⁸ Pu	-2.5E-03	\pm	2.5E-02	U
	^{239,240} Pu	9.9E-03	\pm	1.2E-02	U
	¹⁰³ Ru	1.0E-03	\pm	8.8E-03	U
	¹⁰⁶ Ru	1.3E-02	\pm	6.5E-02	U
	¹²⁵ Sb	-3.1E-03	\pm	2.3E-02	U
	¹¹³ Sn	-3.2E-04	\pm	3.2E-03	U
	⁹⁰ Sr	2.5E-01	\pm	1.1E-01	
	²³⁴ U	1.0E-01	\pm	3.4E-02	
	²³⁵ U	4.7E-03	\pm	6.6E-03	U
	²³⁸ U	1.4E-01	\pm	4.5E-02	
	⁶⁵ Zn	-4.1E-03	\pm	1.8E-02	U
D064 (200 East)	¹⁴⁴ Ce	1.5E-01	\pm	1.2E-01	U
	⁶⁰ Co	3.5E-03	\pm	5.5E-03	U
	¹³⁴ Cs	2.8E-02	\pm	7.8E-03	
	¹³⁷ Cs	1.6E+00	\pm	2.1E-01	
	¹⁵² Eu	-1.5E-02	\pm	2.1E-02	U
	¹⁵⁴ Eu	-1.6E-02	\pm	1.9E-02	U
	¹⁵⁵ Eu	4.0E-02	\pm	3.7E-02	U
	²³⁸ Pu	2.0E-03	\pm	2.0E-03	U
	^{239,240} Pu	7.9E-03	\pm	7.9E-03	
	¹⁰³ Ru	-9.4E-05	\pm	9.4E-04	U
	¹⁰⁶ Ru	5.4E-02	\pm	5.5E-02	U
	¹²⁵ Sb	-4.7E-03	\pm	2.0E-02	U
	¹¹³ Sn	-7.9E-03	\pm	9.5E-03	U
	⁹⁰ Sr	1.9E+00	\pm	3.8E-01	
	²³⁴ U	1.5E-01	\pm	4.5E-02	
	²³⁵ U	1.6E-02	\pm	1.2E-02	
	²³⁸ U	1.5E-01	\pm	4.5E-02	
	⁶⁵ Zn	-1.8E-02	\pm	1.8E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D062 (200 East)	¹⁴⁴ Ce	8.5E-02	\pm	1.2E-01	U
	⁶⁰ Co	1.9E-03	\pm	5.8E-03	U
	¹³⁴ Cs	3.5E-02	\pm	1.1E-02	
	¹³⁷ Cs	1.9E+00	\pm	2.8E-01	
	¹⁵² Eu	-5.2E-03	\pm	2.6E-02	U
	¹⁵⁴ Eu	-1.5E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	3.0E-02	\pm	3.1E-02	U
	²³⁸ Pu	1.9E-03	\pm	1.9E-03	U
	^{239,240} Pu	1.3E-02	\pm	1.0E-02	
	¹⁰³ Ru	2.2E-03	\pm	8.2E-03	U
	¹⁰⁶ Ru	6.7E-02	\pm	6.0E-02	U
	¹²⁵ Sb	9.5E-03	\pm	2.1E-02	U
	¹¹³ Sn	-2.4E-03	\pm	9.9E-03	U
	⁹⁰ Sr	5.9E-01	\pm	1.8E-01	
	²³⁴ U	1.2E-01	\pm	4.1E-02	
	²³⁵ U	2.0E-02	\pm	1.5E-02	
	²³⁸ U	1.4E-01	\pm	4.3E-02	
	⁶⁵ Zn	1.5E-02	\pm	1.6E-02	U
D066 (200 East)	¹⁴⁴ Ce	6.9E-02	\pm	1.3E-01	U
	⁶⁰ Co	5.2E-03	\pm	5.1E-03	U
	¹³⁴ Cs	2.4E-02	\pm	1.0E-02	
	¹³⁷ Cs	5.2E+00	\pm	6.6E-01	
	¹⁵² Eu	-8.7E-03	\pm	2.6E-02	U
	¹⁵⁴ Eu	-2.6E-03	\pm	1.9E-02	U
	¹⁵⁵ Eu	-1.0E-02	\pm	3.3E-02	U
	²³⁸ Pu	1.2E-02	\pm	1.2E-02	U
	^{239,240} Pu	7.7E-03	\pm	7.7E-03	
	¹⁰³ Ru	3.3E-04	\pm	3.3E-03	U
	¹⁰⁶ Ru	2.0E-02	\pm	6.1E-02	U
	¹²⁵ Sb	7.0E-03	\pm	2.5E-02	U
	¹¹³ Sn	-1.6E-03	\pm	1.2E-02	U
	⁹⁰ Sr	5.4E-01	\pm	1.6E-01	
	²³⁴ U	1.3E-01	\pm	4.0E-02	
	²³⁵ U	1.5E-02	\pm	1.2E-02	
	²³⁸ U	1.6E-01	\pm	4.6E-02	
	⁶⁵ Zn	-1.1E-02	\pm	1.4E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D068 (200 East)	¹⁴⁴ Ce	1.7E-03	\pm	1.7E-02	U
	⁶⁰ Co	5.5E-03	\pm	5.9E-03	U
	¹³⁴ Cs	2.8E-02	\pm	9.3E-03	
	¹³⁷ Cs	7.9E-02	\pm	1.4E-02	
	¹⁵² Eu	-6.1E-03	\pm	2.3E-02	U
	¹⁵⁴ Eu	5.6E-04	\pm	5.6E-03	U
	¹⁵⁵ Eu	5.5E-03	\pm	2.6E-02	U
	²³⁸ Pu	8.2E-03	\pm	1.1E-02	U
	^{239,240} Pu	-2.0E-03	\pm	4.0E-03	U
	¹⁰³ Ru	7.2E-03	\pm	6.4E-03	U
	¹⁰⁶ Ru	-5.1E-03	\pm	5.1E-02	U
	¹²⁵ Sb	-5.0E-03	\pm	1.6E-02	U
	¹¹³ Sn	-5.5E-03	\pm	7.8E-03	U
	⁹⁰ Sr	8.9E-02	\pm	1.2E-01	U
	²³⁴ U	2.1E-01	\pm	5.9E-02	
	²³⁵ U	1.9E-02	\pm	1.4E-02	
	²³⁸ U	2.6E-01	\pm	6.8E-02	
	⁶⁵ Zn	3.2E-03	\pm	1.7E-02	U
D072 (200 East)	¹⁴⁴ Ce	-1.4E-02	\pm	1.1E-01	U
	⁶⁰ Co	-1.8E-03	\pm	5.1E-03	U
	¹³⁴ Cs	1.2E-02	\pm	7.3E-03	
	¹³⁷ Cs	9.1E-02	\pm	1.7E-02	
	¹⁵² Eu	-9.4E-03	\pm	3.1E-02	U
	¹⁵⁴ Eu	-9.3E-03	\pm	1.7E-02	U
	¹⁵⁵ Eu	4.9E-02	\pm	2.8E-02	
	²³⁸ Pu	-2.0E-03	\pm	1.3E-02	U
	^{239,240} Pu	4.0E-03	\pm	5.6E-03	U
	¹⁰³ Ru	-1.9E-03	\pm	6.0E-03	U
	¹⁰⁶ Ru	-2.0E-02	\pm	4.5E-02	U
	¹²⁵ Sb	-1.2E-03	\pm	1.2E-02	U
	¹¹³ Sn	1.5E-03	\pm	7.0E-03	U
	⁹⁰ Sr	-9.8E-02	\pm	9.8E-02	U
	²³⁴ U	1.4E-01	\pm	4.5E-02	
	²³⁵ U	9.5E-03	\pm	9.5E-03	
	²³⁸ U	1.5E-01	\pm	4.7E-02	
	⁶⁵ Zn	8.8E-03	\pm	1.4E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D070 (200 East)	¹⁴⁴ Ce	2.4E-02	\pm	8.8E-02	U
	⁶⁰ Co	-1.9E-03	\pm	5.5E-03	U
	¹³⁴ Cs	3.1E-02	\pm	1.1E-02	
	¹³⁷ Cs	3.8E-02	\pm	1.1E-02	
	¹⁵² Eu	6.1E-03	\pm	1.9E-02	U
	¹⁵⁴ Eu	-1.2E-02	\pm	1.8E-02	U
	¹⁵⁵ Eu	4.4E-03	\pm	2.2E-02	U
	²³⁸ Pu	6.1E-03	\pm	6.1E-02	U
	^{239,240} Pu	2.0E-03	\pm	2.0E-03	U
	¹⁰³ Ru	-1.3E-03	\pm	5.6E-03	U
	¹⁰⁶ Ru	7.2E-03	\pm	4.6E-02	U
	¹²⁵ Sb	-4.7E-03	\pm	1.4E-02	U
	¹¹³ Sn	-3.0E-03	\pm	6.6E-03	U
	⁹⁰ Sr	1.5E-01	\pm	1.4E-01	U
	²³⁴ U	1.6E-01	\pm	5.0E-02	
	²³⁵ U	1.3E-02	\pm	1.2E-02	
	²³⁸ U	1.4E-01	\pm	4.5E-02	
	⁶⁵ Zn	8.7E-03	\pm	1.4E-02	U
D074 (200 East)	¹⁴⁴ Ce	-9.1E-02	\pm	1.2E-01	U
	⁶⁰ Co	1.0E-03	\pm	5.8E-03	U
	¹³⁴ Cs	3.4E-02	\pm	1.1E-02	
	¹³⁷ Cs	1.9E+00	\pm	2.9E-01	
	¹⁵² Eu	-1.7E-02	\pm	2.4E-02	U
	¹⁵⁴ Eu	1.4E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	2.2E-02	\pm	2.8E-02	U
	²³⁸ Pu	4.4E-03	\pm	2.9E-02	U
	^{239,240} Pu	4.4E-03	\pm	6.2E-03	U
	¹⁰³ Ru	-6.8E-03	\pm	7.9E-03	U
	¹⁰⁶ Ru	-1.5E-03	\pm	1.5E-02	U
	¹²⁵ Sb	8.9E-03	\pm	2.1E-02	U
	¹¹³ Sn	-1.3E-02	\pm	1.3E-02	U
	⁹⁰ Sr	4.1E-01	\pm	1.6E-01	
	²³⁴ U	1.9E-01	\pm	5.3E-02	
	²³⁵ U	2.0E-02	\pm	1.5E-02	
	²³⁸ U	2.2E-01	\pm	5.9E-02	
	⁶⁵ Zn	5.5E-03	\pm	1.5E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D076 (200 East)	¹⁴⁴ Ce	6.3E-02	\pm	1.0E-01	U
	⁶⁰ Co	2.7E-05	\pm	2.7E-04	U
	¹³⁴ Cs	2.7E-02	\pm	9.5E-03	
	¹³⁷ Cs	1.8E-01	\pm	2.9E-02	
	¹⁵² Eu	7.1E-03	\pm	2.8E-02	U
	¹⁵⁴ Eu	-4.1E-02	\pm	4.1E-02	U
	¹⁵⁵ Eu	3.7E-02	\pm	3.0E-02	U
	²³⁸ Pu	1.9E-02	\pm	3.2E-02	U
	^{239,240} Pu	1.9E-02	\pm	1.4E-02	
	¹⁰³ Ru	2.7E-03	\pm	6.7E-03	U
	¹⁰⁶ Ru	-1.2E-02	\pm	5.1E-02	U
	¹²⁵ Sb	-5.2E-03	\pm	1.6E-02	U
	¹¹³ Sn	-2.3E-03	\pm	7.9E-03	U
	⁹⁰ Sr	7.5E-01	\pm	1.9E-01	
	²³⁴ U	1.4E-01	\pm	4.3E-02	
	²³⁵ U	6.2E-03	\pm	1.1E-02	U
	²³⁸ U	9.1E-02	\pm	3.2E-02	
	⁶⁵ Zn	2.4E-02	\pm	1.6E-02	
D080 (200 East)	¹⁴⁴ Ce	-8.2E-02	\pm	1.4E-01	U
	⁶⁰ Co	9.9E-05	\pm	9.9E-04	U
	¹³⁴ Cs	2.5E-02	\pm	1.2E-02	
	¹³⁷ Cs	9.5E-02	\pm	1.7E-02	
	¹⁵² Eu	2.2E-02	\pm	3.5E-02	U
	¹⁵⁴ Eu	3.1E-03	\pm	2.2E-02	U
	¹⁵⁵ Eu	4.3E-03	\pm	3.2E-02	U
	²³⁸ Pu	-1.4E-02	\pm	2.8E-02	U
	^{239,240} Pu	1.4E-02	\pm	1.0E-02	
	¹⁰³ Ru	1.9E-03	\pm	7.3E-03	U
	¹⁰⁶ Ru	-2.2E-02	\pm	5.4E-02	U
	¹²⁵ Sb	8.5E-04	\pm	8.5E-03	U
	¹¹³ Sn	-1.7E-03	\pm	8.7E-03	U
	⁹⁰ Sr	7.7E-02	\pm	1.3E-01	U
	²³⁴ U	1.6E-01	\pm	4.6E-02	
	²³⁵ U	4.3E-03	\pm	8.6E-03	U
	²³⁸ U	1.5E-01	\pm	4.5E-02	
	⁶⁵ Zn	2.3E-02	\pm	1.6E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D078 (200 East)	¹⁴⁴ Ce	-2.5E-02	\pm	9.6E-02	U
	⁶⁰ Co	-2.7E-03	\pm	5.9E-03	U
	¹³⁴ Cs	3.9E-02	\pm	1.1E-02	
	¹³⁷ Cs	2.8E-01	\pm	4.5E-02	
	¹⁵² Eu	5.4E-03	\pm	2.6E-02	U
	¹⁵⁴ Eu	-9.3E-03	\pm	2.0E-02	U
	¹⁵⁵ Eu	4.7E-02	\pm	3.0E-02	
	²³⁸ Pu	2.0E-02	\pm	2.8E-02	U
	^{239,240} Pu	9.0E-03	\pm	1.1E-02	U
	¹⁰³ Ru	2.2E-03	\pm	6.5E-03	U
	¹⁰⁶ Ru	-9.7E-03	\pm	5.0E-02	U
	¹²⁵ Sb	8.3E-03	\pm	1.6E-02	U
	¹¹³ Sn	-4.3E-03	\pm	7.5E-03	U
	⁹⁰ Sr	-1.1E-01	\pm	1.1E-01	U
	²³⁴ U	1.5E-01	\pm	4.5E-02	
	²³⁵ U	1.8E-02	\pm	1.2E-02	
	²³⁸ U	1.6E-01	\pm	4.6E-02	
	⁶⁵ Zn	2.7E-03	\pm	1.6E-02	U
D082 (600 Area)	¹⁴⁴ Ce	7.7E-02	\pm	1.1E-01	U
	⁶⁰ Co	-1.1E-03	\pm	5.2E-03	U
	¹³⁴ Cs	3.4E-02	\pm	1.2E-02	
	¹³⁷ Cs	9.3E-02	\pm	1.5E-02	
	¹⁵² Eu	-3.9E-03	\pm	1.9E-02	U
	¹⁵⁴ Eu	3.6E-03	\pm	1.8E-02	U
	¹⁵⁵ Eu	4.1E-02	\pm	3.2E-02	U
	²³⁸ Pu	9.0E-03	\pm	3.1E-02	U
	^{239,240} Pu	1.3E-02	\pm	1.1E-02	U
	¹⁰³ Ru	-5.5E-03	\pm	6.3E-03	U
	¹⁰⁶ Ru	-1.5E-02	\pm	4.8E-02	U
	¹²⁵ Sb	2.2E-03	\pm	1.6E-02	U
	¹¹³ Sn	-5.2E-03	\pm	7.9E-03	U
	⁹⁰ Sr	1.5E-01	\pm	1.2E-01	U
	²³⁴ U	1.3E-01	\pm	3.9E-02	
	²³⁵ U	1.5E-02	\pm	1.2E-02	
	²³⁸ U	1.4E-01	\pm	4.2E-02	
	⁶⁵ Zn	-5.0E-03	\pm	1.5E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D084 (600 Area)	¹⁴⁴ Ce	5.4E-02	\pm	1.2E-01	U
	⁶⁰ Co	-5.3E-03	\pm	5.5E-03	U
	¹³⁴ Cs	4.1E-02	\pm	1.2E-02	
	¹³⁷ Cs	3.6E-01	\pm	4.9E-02	
	¹⁵² Eu	6.1E-03	\pm	2.0E-02	U
	¹⁵⁴ Eu	2.2E-02	\pm	2.4E-02	U
	¹⁵⁵ Eu	3.0E-02	\pm	2.8E-02	U
	²³⁸ Pu	-6.2E-03	\pm	2.7E-02	U
	^{239,240} Pu	4.1E-03	\pm	8.2E-03	U
	¹⁰³ Ru	2.4E-03	\pm	6.6E-03	U
	¹⁰⁶ Ru	-2.0E-03	\pm	2.0E-02	U
	¹²⁵ Sb	1.9E-02	\pm	1.7E-02	U
	¹¹³ Sn	-9.4E-04	\pm	8.0E-03	U
	⁹⁰ Sr	9.6E-02	\pm	1.3E-01	U
	²³⁴ U	1.2E-01	\pm	3.8E-02	
	²³⁵ U	2.0E-03	\pm	7.0E-03	U
	²³⁸ U	1.1E-01	\pm	3.5E-02	
	⁶⁵ Zn	-1.7E-02	\pm	1.7E-02	U
D088 (600 Area)	¹⁴⁴ Ce	-2.1E-02	\pm	1.1E-01	U
	⁶⁰ Co	-4.2E-03	\pm	6.3E-03	U
	¹³⁴ Cs	3.5E-02	\pm	1.1E-02	
	¹³⁷ Cs	1.3E-02	\pm	8.5E-03	
	¹⁵² Eu	8.3E-03	\pm	2.4E-02	U
	¹⁵⁴ Eu	-7.8E-03	\pm	2.0E-02	U
	¹⁵⁵ Eu	3.8E-02	\pm	3.2E-02	U
	²³⁸ Pu	6.5E-03	\pm	3.4E-02	U
	^{239,240} Pu	4.3E-03	\pm	1.2E-02	U
	¹⁰³ Ru	2.1E-03	\pm	7.6E-03	U
	¹⁰⁶ Ru	6.9E-03	\pm	5.5E-02	U
	¹²⁵ Sb	1.7E-02	\pm	1.7E-02	U
	¹¹³ Sn	-1.1E-02	\pm	1.1E-02	U
	⁹⁰ Sr	1.5E-01	\pm	1.3E-01	
	²³⁴ U	2.3E-01	\pm	6.2E-02	
	²³⁵ U	1.7E-02	\pm	1.3E-02	
	²³⁸ U	2.3E-01	\pm	6.2E-02	
	⁶⁵ Zn	2.1E-02	\pm	1.8E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D086 (600 Area)	¹⁴⁴ Ce	-2.3E-02	\pm	1.2E-01	U
	⁶⁰ Co	5.0E-03	\pm	6.1E-03	U
	¹³⁴ Cs	4.1E-02	\pm	1.0E-02	
	¹³⁷ Cs	8.5E-01	\pm	1.1E-01	
	¹⁵² Eu	-1.9E-02	\pm	2.3E-02	U
	¹⁵⁴ Eu	8.7E-04	\pm	8.7E-03	U
	¹⁵⁵ Eu	3.1E-02	\pm	3.1E-02	U
	²³⁸ Pu	-1.9E-03	\pm	1.9E-02	U
	^{239,240} Pu	9.7E-03	\pm	1.1E-02	U
	¹⁰³ Ru	1.4E-03	\pm	8.4E-03	U
	¹⁰⁶ Ru	-1.3E-04	\pm	1.3E-03	U
	¹²⁵ Sb	-8.2E-03	\pm	1.9E-02	U
	¹¹³ Sn	3.4E-04	\pm	3.4E-03	U
	⁹⁰ Sr	8.8E-02	\pm	1.1E-01	U
	²³⁴ U	1.0E-01	\pm	3.3E-02	
	²³⁵ U	8.1E-03	\pm	8.1E-03	
	²³⁸ U	1.2E-01	\pm	3.7E-02	
	⁶⁵ Zn	-2.3E-02	\pm	2.3E-02	U
D090 (600 Area)	¹⁴⁴ Ce	-1.0E-01	\pm	1.4E-01	U
	⁶⁰ Co	-4.0E-03	\pm	5.7E-03	U
	¹³⁴ Cs	3.3E-02	\pm	1.2E-02	
	¹³⁷ Cs	3.8E-01	\pm	5.7E-02	
	¹⁵² Eu	1.0E-02	\pm	3.6E-02	U
	¹⁵⁴ Eu	-1.2E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	1.6E-03	\pm	1.5E-02	U
	²³⁸ Pu	3.1E-02	\pm	3.4E-02	U
	^{239,240} Pu	2.1E-03	\pm	7.3E-03	U
	¹⁰³ Ru	-8.5E-04	\pm	7.7E-03	U
	¹⁰⁶ Ru	2.6E-02	\pm	5.4E-02	U
	¹²⁵ Sb	1.0E-03	\pm	1.0E-02	U
	¹¹³ Sn	1.9E-03	\pm	9.2E-03	U
	⁹⁰ Sr	-3.5E-03	\pm	3.5E-02	U
	²³⁴ U	1.6E-01	\pm	5.0E-02	
	²³⁵ U	9.3E-03	\pm	1.1E-02	U
	²³⁸ U	1.7E-01	\pm	4.9E-02	
	⁶⁵ Zn	3.3E-02	\pm	1.8E-02	

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D092 (600 Area)	¹⁴⁴ Ce	2.9E-02	\pm	1.2E-01	U
	⁶⁰ Co	-2.9E-03	\pm	5.8E-03	U
	¹³⁴ Cs	3.6E-02	\pm	1.2E-02	
	¹³⁷ Cs	4.0E-02	\pm	1.5E-02	
	¹⁵² Eu	-2.3E-02	\pm	2.3E-02	U
	¹⁵⁴ Eu	5.6E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	3.2E-02	\pm	2.9E-02	U
	²³⁸ Pu	-4.0E-03	\pm	2.9E-02	U
	^{239,240} Pu	2.0E-03	\pm	4.0E-03	U
	¹⁰³ Ru	2.2E-04	\pm	2.2E-03	U
	¹⁰⁶ Ru	-1.8E-02	\pm	5.4E-02	U
	¹²⁵ Sb	1.9E-03	\pm	1.6E-02	U
	¹¹³ Sn	-3.8E-03	\pm	8.3E-03	U
	⁹⁰ Sr	4.9E-02	\pm	1.0E-01	U
	²³⁴ U	1.3E-01	\pm	4.2E-02	
	²³⁵ U	1.2E-02	\pm	1.1E-02	
	²³⁸ U	1.4E-01	\pm	4.5E-02	
	⁶⁵ Zn	-9.5E-03	\pm	1.7E-02	U
D096 (600 Area)	¹⁴⁴ Ce	-6.9E-02	\pm	1.2E-01	U
	⁶⁰ Co	-2.0E-03	\pm	5.2E-03	U
	¹³⁴ Cs	4.0E-02	\pm	8.6E-03	
	¹³⁷ Cs	2.0E-01	\pm	2.9E-02	
	¹⁵² Eu	-2.3E-02	\pm	2.3E-02	U
	¹⁵⁴ Eu	6.4E-03	\pm	1.9E-02	U
	¹⁵⁵ Eu	3.1E-02	\pm	3.6E-02	U
	²³⁸ Pu	3.6E-02	\pm	3.3E-02	U
	^{239,240} Pu	9.4E-03	\pm	1.1E-02	U
	¹⁰³ Ru	-7.0E-04	\pm	6.9E-03	U
	¹⁰⁶ Ru	-1.4E-02	\pm	4.8E-02	U
	¹²⁵ Sb	-1.2E-02	\pm	1.9E-02	U
	¹¹³ Sn	7.9E-04	\pm	7.9E-03	U
	⁹⁰ Sr	4.3E-01	\pm	1.5E-01	
	²³⁴ U	2.8E-01	\pm	7.0E-02	
	²³⁵ U	8.8E-03	\pm	8.8E-03	
	²³⁸ U	3.1E-01	\pm	7.8E-02	
	⁶⁵ Zn	-4.6E-03	\pm	1.5E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D094 (600 Area)	¹⁴⁴ Ce	-2.2E-02	\pm	1.2E-01	U
	⁶⁰ Co	2.9E-04	\pm	2.9E-03	U
	¹³⁴ Cs	3.1E-02	\pm	8.2E-03	
	¹³⁷ Cs	2.7E-01	\pm	3.7E-02	
	¹⁵² Eu	1.9E-02	\pm	2.2E-02	U
	¹⁵⁴ Eu	2.5E-02	\pm	1.9E-02	U
	¹⁵⁵ Eu	5.1E-02	\pm	3.8E-02	
	²³⁸ Pu	1.3E-02	\pm	4.0E-02	U
	^{239,240} Pu	2.1E-03	\pm	2.1E-03	U
	¹⁰³ Ru	-3.6E-03	\pm	7.3E-03	U
	¹⁰⁶ Ru	-4.2E-02	\pm	5.1E-02	U
	¹²⁵ Sb	4.4E-03	\pm	1.7E-02	U
	¹¹³ Sn	-2.2E-03	\pm	8.6E-03	U
	⁹⁰ Sr	1.3E-01	\pm	1.1E-01	U
	²³⁴ U	2.3E-01	\pm	6.2E-02	
	²³⁵ U	2.3E-02	\pm	1.5E-02	
	²³⁸ U	2.5E-01	\pm	6.5E-02	
	⁶⁵ Zn	-5.6E-03	\pm	1.5E-02	U
D098 (600 Area)	¹⁴⁴ Ce	-3.6E-02	\pm	1.2E-01	U
	⁶⁰ Co	-2.0E-03	\pm	6.9E-03	U
	¹³⁴ Cs	3.1E-02	\pm	1.3E-02	
	¹³⁷ Cs	1.1E-01	\pm	1.9E-02	
	¹⁵² Eu	-6.8E-03	\pm	2.6E-02	U
	¹⁵⁴ Eu	-1.7E-02	\pm	2.2E-02	U
	¹⁵⁵ Eu	4.1E-02	\pm	3.5E-02	U
	²³⁸ Pu	2.4E-02	\pm	3.4E-02	U
	^{239,240} Pu	5.9E-03	\pm	7.1E-03	
	¹⁰³ Ru	4.0E-04	\pm	4.0E-03	U
	¹⁰⁶ Ru	-3.1E-02	\pm	6.2E-02	U
	¹²⁵ Sb	7.0E-03	\pm	2.1E-02	U
	¹¹³ Sn	5.0E-03	\pm	9.3E-03	U
	⁹⁰ Sr	1.2E-01	\pm	1.1E-01	U
	²³⁴ U	1.3E-01	\pm	4.3E-02	
	²³⁵ U	1.7E-02	\pm	1.3E-02	
	²³⁸ U	1.2E-01	\pm	4.1E-02	
	⁶⁵ Zn	2.6E-02	\pm	3.2E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D100 (600 Area)	¹⁴⁴ Ce	4.9E-02	\pm	1.5E-01	U
	⁶⁰ Co	3.5E-04	\pm	3.5E-03	U
	¹³⁴ Cs	3.0E-02	\pm	9.9E-03	
	¹³⁷ Cs	1.4E-01	\pm	2.3E-02	
	¹⁵² Eu	2.9E-02	\pm	3.8E-02	U
	¹⁵⁴ Eu	-2.2E-02	\pm	2.2E-02	U
	¹⁵⁵ Eu	3.6E-03	\pm	3.6E-02	U
	²³⁸ Pu	-8.3E-03	\pm	3.0E-02	U
	^{239,240} Pu	1.3E-02	\pm	1.4E-02	U
	¹⁰³ Ru	-6.0E-04	\pm	6.0E-03	U
	¹⁰⁶ Ru	-4.5E-02	\pm	6.0E-02	U
	¹²⁵ Sb	1.1E-02	\pm	1.9E-02	U
	¹¹³ Sn	-1.4E-03	\pm	9.5E-03	U
	⁹⁰ Sr	8.6E-02	\pm	1.2E-01	U
	²³⁴ U	2.4E-01	\pm	6.5E-02	
	²³⁵ U	1.9E-02	\pm	1.4E-02	
	²³⁸ U	2.5E-01	\pm	6.7E-02	
	⁶⁵ Zn	4.0E-02	\pm	1.9E-02	
D104 (600 Area)	¹⁴⁴ Ce	-6.0E-02	\pm	1.1E-01	U
	⁶⁰ Co	-2.9E-03	\pm	6.5E-03	U
	¹³⁴ Cs	4.3E-02	\pm	1.5E-02	
	¹³⁷ Cs	1.9E-02	\pm	7.6E-03	
	¹⁵² Eu	8.4E-03	\pm	2.7E-02	U
	¹⁵⁴ Eu	-1.4E-05	\pm	1.4E-04	U
	¹⁵⁵ Eu	4.1E-02	\pm	3.7E-02	U
	²³⁸ Pu	1.7E-02	\pm	1.7E-02	U
	^{239,240} Pu	-1.9E-03	\pm	3.8E-03	U
	¹⁰³ Ru	-2.6E-03	\pm	7.8E-03	U
	¹⁰⁶ Ru	-6.7E-02	\pm	6.7E-02	U
	¹²⁵ Sb	-5.7E-03	\pm	1.7E-02	U
	¹¹³ Sn	-7.7E-03	\pm	8.9E-03	U
	⁹⁰ Sr	-2.6E-02	\pm	1.1E-01	U
	²³⁴ U	1.5E-01	\pm	4.4E-02	
	²³⁵ U	1.4E-02	\pm	1.1E-02	
	²³⁸ U	1.7E-01	\pm	4.8E-02	
	⁶⁵ Zn	8.7E-03	\pm	1.9E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D102 (600 Area)	¹⁴⁴ Ce	2.9E-03	\pm	2.9E-02	U
	⁶⁰ Co	4.3E-03	\pm	6.0E-03	U
	¹³⁴ Cs	3.2E-02	\pm	1.2E-02	
	¹³⁷ Cs	1.1E+00	\pm	1.7E-01	
	¹⁵² Eu	-1.6E-02	\pm	2.5E-02	U
	¹⁵⁴ Eu	6.7E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	3.5E-02	\pm	3.5E-02	U
	²³⁸ Pu	3.5E-02	\pm	3.1E-02	U
	^{239,240} Pu	8.0E-02	\pm	2.9E-02	
	¹⁰³ Ru	1.4E-03	\pm	8.2E-03	U
	¹⁰⁶ Ru	-1.2E-02	\pm	6.0E-02	U
	¹²⁵ Sb	4.9E-03	\pm	2.0E-02	U
	¹¹³ Sn	-1.1E-02	\pm	1.1E-02	U
	⁹⁰ Sr	4.0E-01	\pm	1.4E-01	
	²³⁴ U	2.1E-01	\pm	5.7E-02	
	²³⁵ U	3.3E-02	\pm	1.8E-02	
	²³⁸ U	2.0E-01	\pm	5.4E-02	
	⁶⁵ Zn	-1.6E-03	\pm	1.6E-02	U
D106 (600 Area)	¹⁴⁴ Ce	-6.9E-02	\pm	1.1E-01	U
	⁶⁰ Co	1.6E-03	\pm	5.1E-03	U
	¹³⁴ Cs	2.4E-02	\pm	6.9E-03	
	¹³⁷ Cs	2.3E-01	\pm	3.3E-02	
	¹⁵² Eu	-4.0E-03	\pm	1.8E-02	U
	¹⁵⁴ Eu	-7.4E-03	\pm	1.8E-02	U
	¹⁵⁵ Eu	4.2E-02	\pm	3.0E-02	
	²³⁸ Pu	1.7E-03	\pm	7.7E-03	U
	^{239,240} Pu	7.7E-02	\pm	2.7E-02	
	¹⁰³ Ru	-1.3E-03	\pm	6.7E-03	U
	¹⁰⁶ Ru	-1.4E-02	\pm	4.7E-02	U
	¹²⁵ Sb	-3.8E-03	\pm	1.5E-02	U
	¹¹³ Sn	-5.7E-04	\pm	5.7E-03	U
	⁹⁰ Sr	1.2E-01	\pm	1.1E-01	U
	²³⁴ U	1.8E-01	\pm	5.0E-02	
	²³⁵ U	2.5E-02	\pm	1.5E-02	
	²³⁸ U	1.4E-01	\pm	4.2E-02	
	⁶⁵ Zn	1.8E-03	\pm	1.4E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D108 (600 Area)	¹⁴⁴ Ce	7.9E-02	\pm	1.5E-01	U
	⁶⁰ Co	1.1E-03	\pm	6.1E-03	U
	¹³⁴ Cs	2.9E-02	\pm	1.0E-02	
	¹³⁷ Cs	1.1E+00	\pm	1.6E-01	
	¹⁵² Eu	-1.5E-02	\pm	4.3E-02	U
	¹⁵⁴ Eu	-1.9E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	3.5E-02	\pm	3.6E-02	U
	²³⁸ Pu	5.5E-03	\pm	1.3E-02	U
	^{239,240} Pu	1.5E-01	\pm	4.4E-02	
	¹⁰³ Ru	-3.3E-04	\pm	3.3E-03	U
	¹⁰⁶ Ru	6.1E-03	\pm	6.1E-02	U
	¹²⁵ Sb	1.2E-02	\pm	2.2E-02	U
	¹¹³ Sn	-6.1E-03	\pm	1.1E-02	U
	⁹⁰ Sr	3.4E-01	\pm	1.2E-01	
	²³⁴ U	1.3E-01	\pm	3.9E-02	
	²³⁵ U	1.2E-02	\pm	1.2E-02	U
	²³⁸ U	1.2E-01	\pm	3.7E-02	
	⁶⁵ Zn	8.1E-03	\pm	1.7E-02	U
D112 (Duplicate of D072, 200 East)	¹⁴⁴ Ce	-7.8E-03	\pm	7.8E-02	U
	⁶⁰ Co	2.7E-03	\pm	4.4E-03	U
	¹³⁴ Cs	2.5E-02	\pm	7.0E-03	
	¹³⁷ Cs	1.7E-01	\pm	2.4E-02	
	¹⁵² Eu	1.3E-02	\pm	1.6E-02	U
	¹⁵⁴ Eu	-3.0E-02	\pm	1.6E-02	U
	¹⁵⁵ Eu	1.7E-02	\pm	2.1E-02	U
	²³⁸ Pu	5.1E-03	\pm	1.1E-02	U
	^{239,240} Pu	1.7E-03	\pm	3.4E-03	U
	¹⁰³ Ru	6.8E-04	\pm	5.8E-03	U
	¹⁰⁶ Ru	3.0E-03	\pm	3.0E-02	U
	¹²⁵ Sb	7.3E-03	\pm	1.3E-02	U
	¹¹³ Sn	6.2E-04	\pm	6.2E-03	U
	⁹⁰ Sr	2.3E-01	\pm	1.2E-01	
	²³⁴ U	1.4E-01	\pm	3.9E-02	
	²³⁵ U	8.8E-03	\pm	9.7E-03	U
	²³⁸ U	1.2E-01	\pm	3.6E-02	
	⁶⁵ Zn	-1.1E-02	\pm	1.3E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D110 (600 Area)	¹⁴⁴ Ce	-5.2E-02	\pm	1.1E-01	U
	⁶⁰ Co	3.1E-03	\pm	5.9E-03	U
	¹³⁴ Cs	2.9E-02	\pm	9.1E-03	
	¹³⁷ Cs	4.8E-02	\pm	1.2E-02	
	¹⁵² Eu	1.0E-03	\pm	1.0E-02	U
	¹⁵⁴ Eu	-1.6E-02	\pm	1.9E-02	U
	¹⁵⁵ Eu	1.0E-03	\pm	1.0E-02	U
	²³⁸ Pu	-1.7E-03	\pm	7.7E-03	U
	^{239,240} Pu	7.0E-03	\pm	8.4E-03	U
	¹⁰³ Ru	-3.4E-03	\pm	7.1E-03	U
	¹⁰⁶ Ru	-2.2E-03	\pm	2.2E-02	U
	¹²⁵ Sb	-2.2E-03	\pm	1.5E-02	U
	¹¹³ Sn	-2.3E-03	\pm	7.9E-03	U
	⁹⁰ Sr	1.1E-01	\pm	1.2E-01	U
	²³⁴ U	3.5E-02	\pm	1.1E-02	
	²³⁵ U	1.5E-03	\pm	3.0E-03	U
	²³⁸ U	3.6E-02	\pm	1.1E-02	
	⁶⁵ Zn	-6.3E-03	\pm	1.6E-02	U
D114 (Duplicate of D092, 600 Area)	¹⁴⁴ Ce	-1.8E-02	\pm	1.0E-01	U
	⁶⁰ Co	5.2E-03	\pm	5.7E-03	U
	¹³⁴ Cs	3.2E-02	\pm	1.1E-02	
	¹³⁷ Cs	9.9E-03	\pm	7.0E-03	U
	¹⁵² Eu	-1.5E-02	\pm	2.2E-02	U
	¹⁵⁴ Eu	-1.1E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	2.5E-02	\pm	2.6E-02	U
	²³⁸ Pu	-1.8E-03	\pm	6.3E-03	U
	^{239,240} Pu	9.2E-03	\pm	1.0E-02	U
	¹⁰³ Ru	8.7E-04	\pm	7.8E-03	U
	¹⁰⁶ Ru	-1.2E-02	\pm	5.8E-02	U
	¹²⁵ Sb	-3.0E-03	\pm	1.6E-02	U
	¹¹³ Sn	-6.6E-03	\pm	9.5E-03	U
	⁹⁰ Sr	-8.2E-02	\pm	9.2E-02	U
	²³⁴ U	2.3E-01	\pm	5.8E-02	
	²³⁵ U	1.9E-02	\pm	1.2E-02	
	²³⁸ U	2.2E-01	\pm	5.5E-02	
	⁶⁵ Zn	3.1E-02	\pm	1.7E-02	

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D116 (300 Area)	¹⁴⁴ Ce	-1.5E-02	\pm	1.1E-01	U
	⁶⁰ Co	4.9E-03	\pm	5.5E-03	U
	¹³⁴ Cs	2.2E-02	\pm	7.7E-03	
	¹³⁷ Cs	7.5E-02	\pm	1.4E-02	
	¹⁵² Eu	-2.7E-04	\pm	2.7E-03	U
	¹⁵⁴ Eu	9.5E-03	\pm	2.0E-02	U
	¹⁵⁵ Eu	4.4E-02	\pm	3.0E-02	
	²³⁸ Pu	6.8E-03	\pm	2.4E-02	U
	^{239,240} Pu	6.8E-03	\pm	6.8E-03	
	¹⁰³ Ru	3.0E-03	\pm	5.2E-03	U
	¹⁰⁶ Ru	1.5E-02	\pm	4.4E-02	U
	¹²⁵ Sb	-7.8E-03	\pm	1.5E-02	U
	¹¹³ Sn	-4.9E-03	\pm	6.9E-03	U
	⁹⁰ Sr	2.3E-02	\pm	7.8E-02	U
	²³⁴ U	1.6E-01	\pm	4.6E-02	
	²³⁵ U	8.6E-03	\pm	8.6E-03	
	²³⁸ U	1.8E-01	\pm	5.0E-02	
	⁶⁵ Zn	2.4E-03	\pm	1.4E-02	U
D118 (300 Area)	¹⁴⁴ Ce	4.8E-02	\pm	9.6E-02	U
	⁶⁰ Co	-1.8E-03	\pm	5.0E-03	U
	¹³⁴ Cs	2.5E-02	\pm	9.1E-03	
	¹³⁷ Cs	4.4E-02	\pm	9.8E-03	
	¹⁵² Eu	1.4E-02	\pm	1.7E-02	U
	¹⁵⁴ Eu	4.8E-03	\pm	1.6E-02	U
	¹⁵⁵ Eu	3.2E-02	\pm	2.9E-02	U
	²³⁸ Pu	-4.9E-03	\pm	2.6E-02	U
	^{239,240} Pu	8.2E-03	\pm	9.0E-03	U
	¹⁰³ Ru	1.0E-03	\pm	5.2E-03	U
	¹⁰⁶ Ru	1.6E-03	\pm	1.6E-02	U
	¹²⁵ Sb	2.8E-03	\pm	1.4E-02	U
	¹¹³ Sn	-8.9E-03	\pm	8.9E-03	U
	⁹⁰ Sr	5.7E-02	\pm	1.0E-01	U
	²³⁴ U	5.7E-01	\pm	1.3E-01	
	²³⁵ U	6.8E-02	\pm	2.7E-02	
	²³⁸ U	5.3E-01	\pm	1.2E-01	
	⁶⁵ Zn	-4.5E-04	\pm	4.5E-03	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D117 (300 Area)	¹⁴⁴ Ce	-8.1E-02	\pm	1.1E-01	U
	⁶⁰ Co	-3.3E-03	\pm	5.2E-03	U
	¹³⁴ Cs	3.1E-02	\pm	9.0E-03	
	¹³⁷ Cs	1.7E-01	\pm	2.4E-02	
	¹⁵² Eu	5.7E-03	\pm	1.7E-02	U
	¹⁵⁴ Eu	-1.1E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	3.4E-02	\pm	2.6E-02	U
	²³⁸ Pu	-4.7E-03	\pm	1.9E-02	U
	^{239,240} Pu	6.2E-03	\pm	8.7E-03	U
	¹⁰³ Ru	-2.6E-03	\pm	5.3E-03	U
	¹⁰⁶ Ru	1.0E-02	\pm	4.6E-02	U
	¹²⁵ Sb	5.7E-03	\pm	1.5E-02	U
	¹¹³ Sn	3.2E-03	\pm	6.9E-03	U
	⁹⁰ Sr	1.4E-01	\pm	1.0E-01	U
	²³⁴ U	6.2E-01	\pm	1.4E-01	
	²³⁵ U	6.8E-02	\pm	2.7E-02	
	²³⁸ U	5.5E-01	\pm	1.2E-01	
	⁶⁵ Zn	-4.0E-04	\pm	4.0E-03	U
D119 (300 Area)	¹⁴⁴ Ce	-4.2E-02	\pm	1.2E-01	U
	⁶⁰ Co	2.4E-03	\pm	5.2E-03	U
	¹³⁴ Cs	2.6E-02	\pm	8.0E-03	
	¹³⁷ Cs	1.2E-01	\pm	1.9E-02	
	¹⁵² Eu	-1.1E-02	\pm	1.7E-02	U
	¹⁵⁴ Eu	-8.7E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	3.4E-02	\pm	3.3E-02	U
	²³⁸ Pu	-5.0E-02	\pm	5.0E-02	U
	^{239,240} Pu	1.5E-01	\pm	4.2E-02	
	¹⁰³ Ru	1.4E-03	\pm	5.7E-03	U
	¹⁰⁶ Ru	-3.2E-02	\pm	4.5E-02	U
	¹²⁵ Sb	2.0E-02	\pm	1.5E-02	U
	¹¹³ Sn	-5.5E-03	\pm	7.1E-03	U
	⁹⁰ Sr	2.2E-02	\pm	8.1E-02	U
	²³⁴ U	7.3E+00	\pm	1.4E+00	
	²³⁵ U	3.7E-01	\pm	8.9E-02	
	²³⁸ U	7.3E+00	\pm	1.4E+00	
	⁶⁵ Zn	-1.3E-03	\pm	1.3E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D121 (300 Area)	¹⁴⁴ Ce	-2.5E-02	\pm	1.0E-01	U
	⁶⁰ Co	-2.4E-03	\pm	4.9E-03	U
	¹³⁴ Cs	3.1E-02	\pm	8.1E-03	
	¹³⁷ Cs	2.0E-02	\pm	8.0E-03	
	¹⁵² Eu	-1.4E-02	\pm	1.6E-02	U
	¹⁵⁴ Eu	-2.7E-03	\pm	1.9E-02	U
	¹⁵⁵ Eu	5.1E-02	\pm	3.6E-02	
	²³⁸ Pu	-6.1E-03	\pm	1.9E-02	U
	^{239,240} Pu	1.2E-02	\pm	9.7E-03	
	¹⁰³ Ru	2.0E-03	\pm	5.5E-03	U
	¹⁰⁶ Ru	3.1E-03	\pm	3.1E-02	U
	¹²⁵ Sb	5.7E-03	\pm	1.4E-02	U
	¹¹³ Sn	-1.4E-03	\pm	6.9E-03	U
	⁹⁰ Sr	1.6E-01	\pm	9.9E-02	
	²³⁴ U	5.8E-01	\pm	1.3E-01	
	²³⁵ U	2.1E-02	\pm	1.9E-02	U
	²³⁸ U	6.4E-01	\pm	1.4E-01	
	⁶⁵ Zn	2.4E-03	\pm	2.0E-02	U
D124 (300 Area)	¹⁴⁴ Ce	1.1E-02	\pm	1.1E-01	U
	⁶⁰ Co	-4.2E-04	\pm	4.2E-03	U
	¹³⁴ Cs	2.1E-02	\pm	1.0E-02	
	¹³⁷ Cs	4.0E-02	\pm	1.1E-02	
	¹⁵² Eu	-2.7E-02	\pm	3.7E-02	U
	¹⁵⁴ Eu	-2.6E-02	\pm	2.6E-02	U
	¹⁵⁵ Eu	4.3E-02	\pm	3.3E-02	U
	²³⁸ Pu	1.4E-02	\pm	2.2E-02	U
	^{239,240} Pu	7.1E-03	\pm	9.9E-03	U
	¹⁰³ Ru	-1.1E-03	\pm	6.7E-03	U
	¹⁰⁶ Ru	-1.4E-02	\pm	5.4E-02	U
	¹²⁵ Sb	8.3E-03	\pm	1.7E-02	U
	¹¹³ Sn	6.9E-04	\pm	6.9E-03	U
	⁹⁰ Sr	2.0E-02	\pm	7.5E-02	U
	²³⁴ U	2.4E-01	\pm	6.2E-02	
	²³⁵ U	9.4E-03	\pm	8.6E-03	
	²³⁸ U	2.3E-01	\pm	6.0E-02	
	⁶⁵ Zn	2.6E-02	\pm	1.8E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D123 (300 Area)	¹⁴⁴ Ce	-3.1E-02	\pm	1.0E-01	U
	⁶⁰ Co	2.2E-03	\pm	5.7E-03	U
	¹³⁴ Cs	2.7E-02	\pm	1.0E-02	
	¹³⁷ Cs	2.8E-02	\pm	9.5E-03	
	¹⁵² Eu	3.6E-04	\pm	3.6E-03	U
	¹⁵⁴ Eu	-2.7E-03	\pm	1.9E-02	U
	¹⁵⁵ Eu	1.9E-02	\pm	2.6E-02	U
	²³⁸ Pu	-3.0E-02	\pm	3.0E-02	U
	^{239,240} Pu	1.8E-03	\pm	6.3E-03	U
	¹⁰³ Ru	-9.3E-04	\pm	5.7E-03	U
	¹⁰⁶ Ru	-2.7E-02	\pm	4.5E-02	U
	¹²⁵ Sb	-8.2E-03	\pm	1.5E-02	U
	¹¹³ Sn	-2.2E-03	\pm	7.2E-03	U
	⁹⁰ Sr	3.8E-02	\pm	8.7E-02	U
	²³⁴ U	1.7E-01	\pm	4.8E-02	
	²³⁵ U	1.6E-02	\pm	1.2E-02	
	²³⁸ U	1.6E-01	\pm	4.6E-02	
	⁶⁵ Zn	-1.3E-04	\pm	1.3E-03	U
D125 (300 Area)	¹⁴⁴ Ce	3.9E-02	\pm	1.1E-01	U
	⁶⁰ Co	-4.0E-03	\pm	7.3E-03	U
	¹³⁴ Cs	3.4E-02	\pm	1.2E-02	
	¹³⁷ Cs	9.2E-03	\pm	7.1E-03	U
	¹⁵² Eu	-1.5E-02	\pm	2.1E-02	U
	¹⁵⁴ Eu	-5.0E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	5.0E-02	\pm	3.5E-02	
	²³⁸ Pu	2.9E-02	\pm	2.6E-02	U
	^{239,240} Pu	6.8E-03	\pm	6.8E-03	
	¹⁰³ Ru	-4.4E-03	\pm	6.2E-03	U
	¹⁰⁶ Ru	-2.1E-02	\pm	5.4E-02	U
	¹²⁵ Sb	8.5E-04	\pm	8.5E-03	U
	¹¹³ Sn	-6.5E-04	\pm	6.5E-03	U
	⁹⁰ Sr	5.1E-02	\pm	9.9E-02	U
	²³⁴ U	1.4E-01	\pm	4.1E-02	
	²³⁵ U	1.4E-02	\pm	1.1E-02	
	²³⁸ U	1.4E-01	\pm	3.9E-02	
	⁶⁵ Zn	-1.7E-02	\pm	1.8E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D126 (300 Area)	¹⁴⁴ Ce	-3.9E-03	\pm	3.9E-02	U
	⁶⁰ Co	-4.1E-03	\pm	5.3E-03	U
	¹³⁴ Cs	3.4E-02	\pm	8.7E-03	
	¹³⁷ Cs	1.1E-02	\pm	6.9E-03	
	¹⁵² Eu	-1.8E-02	\pm	1.8E-02	U
	¹⁵⁴ Eu	-1.2E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	-2.0E-03	\pm	2.0E-02	U
	²³⁸ Pu	-1.2E-02	\pm	2.6E-02	U
	^{239,240} Pu	-1.0E-02	\pm	1.0E-02	U
	¹⁰³ Ru	4.6E-04	\pm	4.6E-03	U
	¹⁰⁶ Ru	2.3E-02	\pm	4.5E-02	U
	¹²⁵ Sb	5.4E-03	\pm	1.4E-02	U
	¹¹³ Sn	-4.1E-03	\pm	8.0E-03	U
	⁹⁰ Sr	1.5E-02	\pm	9.2E-02	U
	²³⁴ U	1.4E-01	\pm	4.2E-02	
	²³⁵ U	1.5E-02	\pm	1.2E-02	
	²³⁸ U	1.3E-01	\pm	4.0E-02	
	⁶⁵ Zn	4.5E-03	\pm	1.4E-02	U
D128 (300 Area)	¹⁴⁴ Ce	-4.6E-02	\pm	9.9E-02	U
	⁶⁰ Co	7.8E-04	\pm	6.3E-03	U
	¹³⁴ Cs	3.2E-02	\pm	9.0E-03	
	¹³⁷ Cs	1.4E-01	\pm	2.4E-02	
	¹⁵² Eu	2.4E-03	\pm	2.1E-02	U
	¹⁵⁴ Eu	-1.7E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	4.2E-02	\pm	3.3E-02	
	²³⁸ Pu	-3.4E-03	\pm	2.0E-02	U
	^{239,240} Pu	1.0E-02	\pm	1.1E-02	U
	¹⁰³ Ru	7.1E-03	\pm	6.2E-03	U
	¹⁰⁶ Ru	-3.5E-02	\pm	5.4E-02	U
	¹²⁵ Sb	-6.1E-03	\pm	1.6E-02	U
	¹¹³ Sn	-5.7E-03	\pm	7.4E-03	U
	⁹⁰ Sr	-8.3E-02	\pm	1.0E-01	U
	²³⁴ U	3.4E-01	\pm	8.2E-02	
	²³⁵ U	3.5E-02	\pm	1.9E-02	
	²³⁸ U	4.5E-01	\pm	1.0E-01	
	⁶⁵ Zn	1.1E-02	\pm	1.6E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D127 (300 Area)	¹⁴⁴ Ce	-1.1E-01	\pm	1.2E-01	U
	⁶⁰ Co	-1.3E-03	\pm	6.8E-03	U
	¹³⁴ Cs	3.6E-02	\pm	1.3E-02	
	¹³⁷ Cs	2.3E-01	\pm	3.4E-02	
	¹⁵² Eu	1.3E-02	\pm	2.6E-02	U
	¹⁵⁴ Eu	-3.0E-02	\pm	3.0E-02	U
	¹⁵⁵ Eu	4.3E-02	\pm	3.0E-02	U
	²³⁸ Pu	-2.1E-03	\pm	2.1E-02	U
	^{239,240} Pu	6.4E-03	\pm	7.7E-03	
	¹⁰³ Ru	2.3E-03	\pm	7.5E-03	U
	¹⁰⁶ Ru	2.0E-02	\pm	5.8E-02	U
	¹²⁵ Sb	3.5E-03	\pm	1.9E-02	U
	¹¹³ Sn	-9.4E-03	\pm	9.4E-03	U
	⁹⁰ Sr	3.0E-02	\pm	1.0E-01	U
	²³⁴ U	3.2E-01	\pm	8.0E-02	
	²³⁵ U	2.4E-02	\pm	1.7E-02	
	²³⁸ U	3.5E-01	\pm	8.7E-02	
	⁶⁵ Zn	7.6E-03	\pm	1.9E-02	U
D129 (300 Area)	¹⁴⁴ Ce	-5.1E-02	\pm	1.1E-01	U
	⁶⁰ Co	-1.5E-03	\pm	5.4E-03	U
	¹³⁴ Cs	4.7E-02	\pm	1.2E-02	
	¹³⁷ Cs	3.4E-03	\pm	6.0E-03	U
	¹⁵² Eu	1.4E-03	\pm	1.4E-02	U
	¹⁵⁴ Eu	-1.2E-02	\pm	1.9E-02	U
	¹⁵⁵ Eu	2.6E-02	\pm	2.8E-02	U
	²³⁸ Pu	-1.4E-02	\pm	2.5E-02	U
	^{239,240} Pu	1.7E-03	\pm	1.7E-02	U
	¹⁰³ Ru	-2.4E-03	\pm	6.0E-03	U
	¹⁰⁶ Ru	-1.6E-03	\pm	1.6E-02	U
	¹²⁵ Sb	1.4E-02	\pm	1.6E-02	U
	¹¹³ Sn	1.2E-03	\pm	7.7E-03	U
	⁹⁰ Sr	1.0E-02	\pm	1.0E-01	U
	²³⁴ U	1.8E-01	\pm	5.4E-02	
	²³⁵ U	5.2E-03	\pm	7.3E-03	U
	²³⁸ U	1.5E-01	\pm	4.8E-02	
	⁶⁵ Zn	-4.8E-03	\pm	2.2E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-3. 2002 Soil Sampling Results, (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
D130 (400 Area)	¹⁴⁴ Ce	-1.1E-01	\pm	1.1E-01	U
	⁶⁰ Co	7.4E-04	\pm	5.5E-03	U
	¹³⁴ Cs	2.3E-02	\pm	8.8E-03	
	¹³⁷ Cs	1.2E-01	\pm	2.2E-02	
	¹⁵² Eu	-1.1E-03	\pm	1.1E-02	U
	¹⁵⁴ Eu	-5.5E-03	\pm	1.9E-02	U
	¹⁵⁵ Eu	5.6E-03	\pm	2.4E-02	U
	²³⁸ Pu	-1.3E-02	\pm	2.5E-02	U
	^{239,240} Pu	7.5E-03	\pm	1.0E-02	U
	¹⁰³ Ru	-4.7E-03	\pm	6.0E-03	U
	¹⁰⁶ Ru	2.1E-02	\pm	5.1E-02	U
	¹²⁵ Sb	1.2E-02	\pm	1.5E-02	U
	¹¹³ Sn	-3.1E-03	\pm	7.5E-03	U
	⁹⁰ Sr	-6.6E-02	\pm	6.6E-02	U
	²³⁴ U	1.4E-01	\pm	4.2E-02	
	²³⁵ U	2.1E-02	\pm	1.4E-02	
	²³⁸ U	1.8E-01	\pm	5.0E-02	
	⁶⁵ Zn	1.0E-02	\pm	1.5E-02	U
D139 (Duplicate of D118, 300 Area)	¹⁴⁴ Ce	8.8E-03	\pm	8.8E-02	U
	⁶⁰ Co	-7.2E-05	\pm	7.2E-04	U
	¹³⁴ Cs	2.4E-02	\pm	8.8E-03	
	¹³⁷ Cs	2.2E-02	\pm	8.6E-03	
	¹⁵² Eu	-8.4E-03	\pm	2.7E-02	U
	¹⁵⁴ Eu	-1.8E-02	\pm	2.0E-02	U
	¹⁵⁵ Eu	1.8E-02	\pm	2.6E-02	U
	²³⁸ Pu	1.4E-02	\pm	3.1E-02	U
	^{239,240} Pu	3.5E-03	\pm	7.0E-03	U
	¹⁰³ Ru	8.4E-04	\pm	6.4E-03	U
	¹⁰⁶ Ru	5.9E-02	\pm	5.4E-02	U
	¹²⁵ Sb	2.8E-03	\pm	1.9E-02	U
	¹¹³ Sn	-2.9E-03	\pm	8.1E-03	U
	⁹⁰ Sr	-7.1E-02	\pm	9.2E-02	U
	²³⁴ U	3.9E-01	\pm	9.4E-02	
	²³⁵ U	3.8E-02	\pm	2.1E-02	
	²³⁸ U	4.0E-01	\pm	9.2E-02	
	⁶⁵ Zn	2.2E-02	\pm	1.8E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
D131 (Duplicate of D119, 300 Area)	¹⁴⁴ Ce	-3.6E-02	\pm	1.2E-01	U
	⁶⁰ Co	1.6E-03	\pm	5.1E-03	U
	¹³⁴ Cs	2.9E-02	\pm	8.3E-03	
	¹³⁷ Cs	1.3E-01	\pm	2.1E-02	
	¹⁵² Eu	8.4E-03	\pm	1.8E-02	U
	¹⁵⁴ Eu	-1.5E-02	\pm	1.8E-02	U
	¹⁵⁵ Eu	4.4E-03	\pm	3.2E-02	U
	²³⁸ Pu	5.2E-03	\pm	3.2E-02	U
	^{239,240} Pu	1.6E-01	\pm	4.6E-02	
	¹⁰³ Ru	4.8E-04	\pm	4.7E-03	U
	¹⁰⁶ Ru	2.6E-02	\pm	5.4E-02	U
	¹²⁵ Sb	6.2E-03	\pm	1.6E-02	U
	¹¹³ Sn	-1.2E-03	\pm	7.6E-03	U
	⁹⁰ Sr	-2.3E-02	\pm	1.0E-01	U
	²³⁴ U	1.2E+01	\pm	2.3E+00	
	²³⁵ U	6.5E-01	\pm	1.6E-01	
	²³⁸ U	1.2E+01	\pm	2.3E+00	
	⁶⁵ Zn	-3.3E-04	\pm	3.3E-03	U
D140 (Duplicate of D123, 300 Area)	¹⁴⁴ Ce	-5.8E-02	\pm	9.9E-02	U
	⁶⁰ Co	1.9E-03	\pm	6.3E-03	U
	¹³⁴ Cs	3.1E-02	\pm	1.2E-02	
	¹³⁷ Cs	1.8E-02	\pm	1.1E-02	
	¹⁵² Eu	-1.2E-02	\pm	2.8E-02	U
	¹⁵⁴ Eu	-1.4E-02	\pm	2.1E-02	U
	¹⁵⁵ Eu	5.9E-02	\pm	3.3E-02	
	²³⁸ Pu	2.3E-02	\pm	2.5E-02	U
	^{239,240} Pu	8.0E-03	\pm	8.8E-03	U
	¹⁰³ Ru	-2.4E-03	\pm	6.0E-03	U
	¹⁰⁶ Ru	-3.6E-02	\pm	5.4E-02	U
	¹²⁵ Sb	1.5E-02	\pm	1.9E-02	U
	¹¹³ Sn	-8.4E-04	\pm	7.5E-03	U
	⁹⁰ Sr	1.3E-01	\pm	1.3E-01	U
	²³⁴ U	1.6E-01	\pm	4.6E-02	
	²³⁵ U	1.0E-02	\pm	1.2E-02	U
	²³⁸ U	2.1E-01	\pm	5.5E-02	
	⁶⁵ Zn	2.3E-02	\pm	1.7E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Figure 3-10. 2002 Vegetation Sampling Locations, 100 N Area.

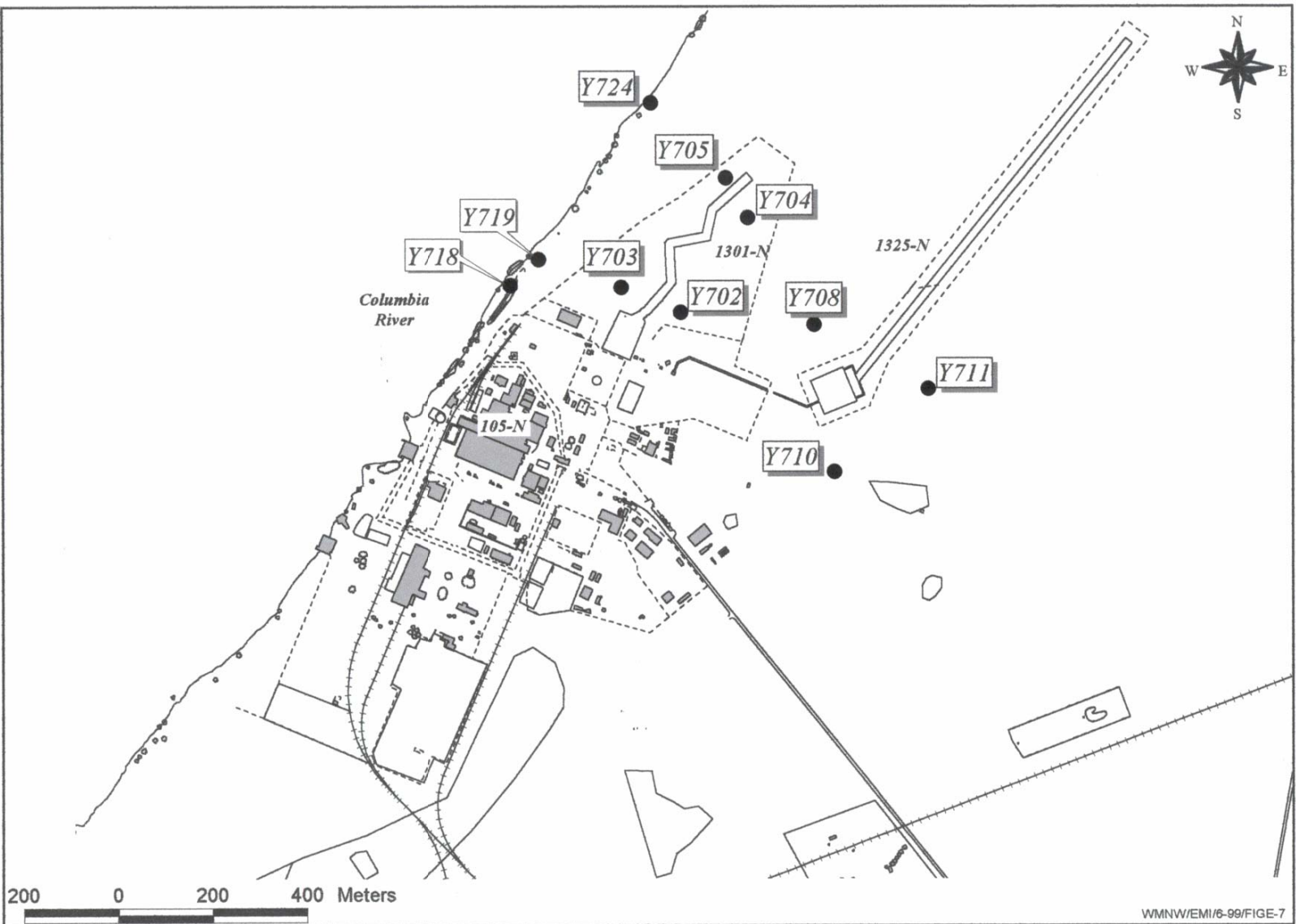
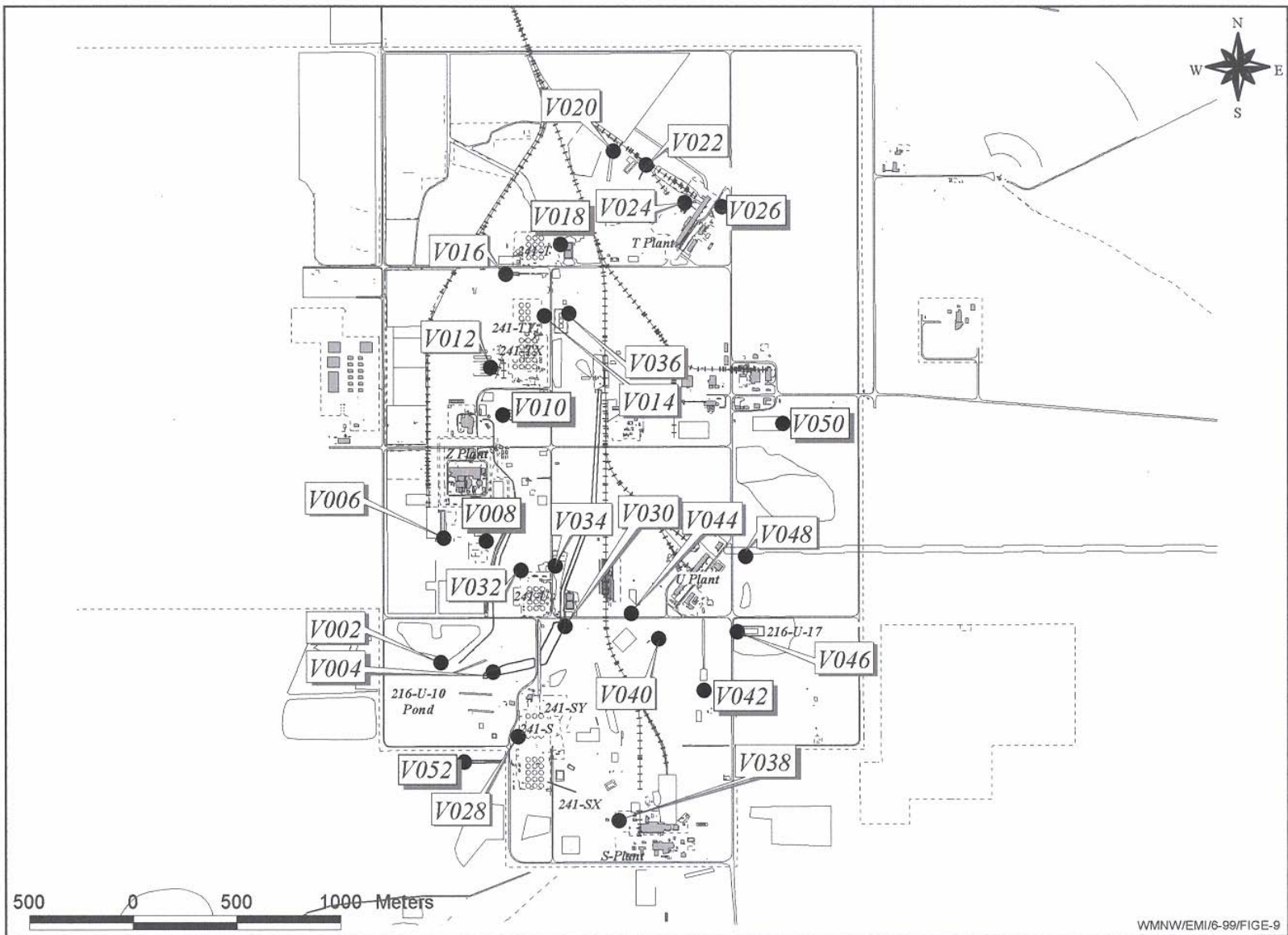


Figure 3-11. 2002 Vegetation Sampling Locations, 200 East Area.

Figure 3-12. 2002 Vegetation Sampling Locations, 200 West Area.



WMNW/EMI/6-99/FI-9

Figure 3-13. 2002 Vegetation Sampling Locations, 300 Area.

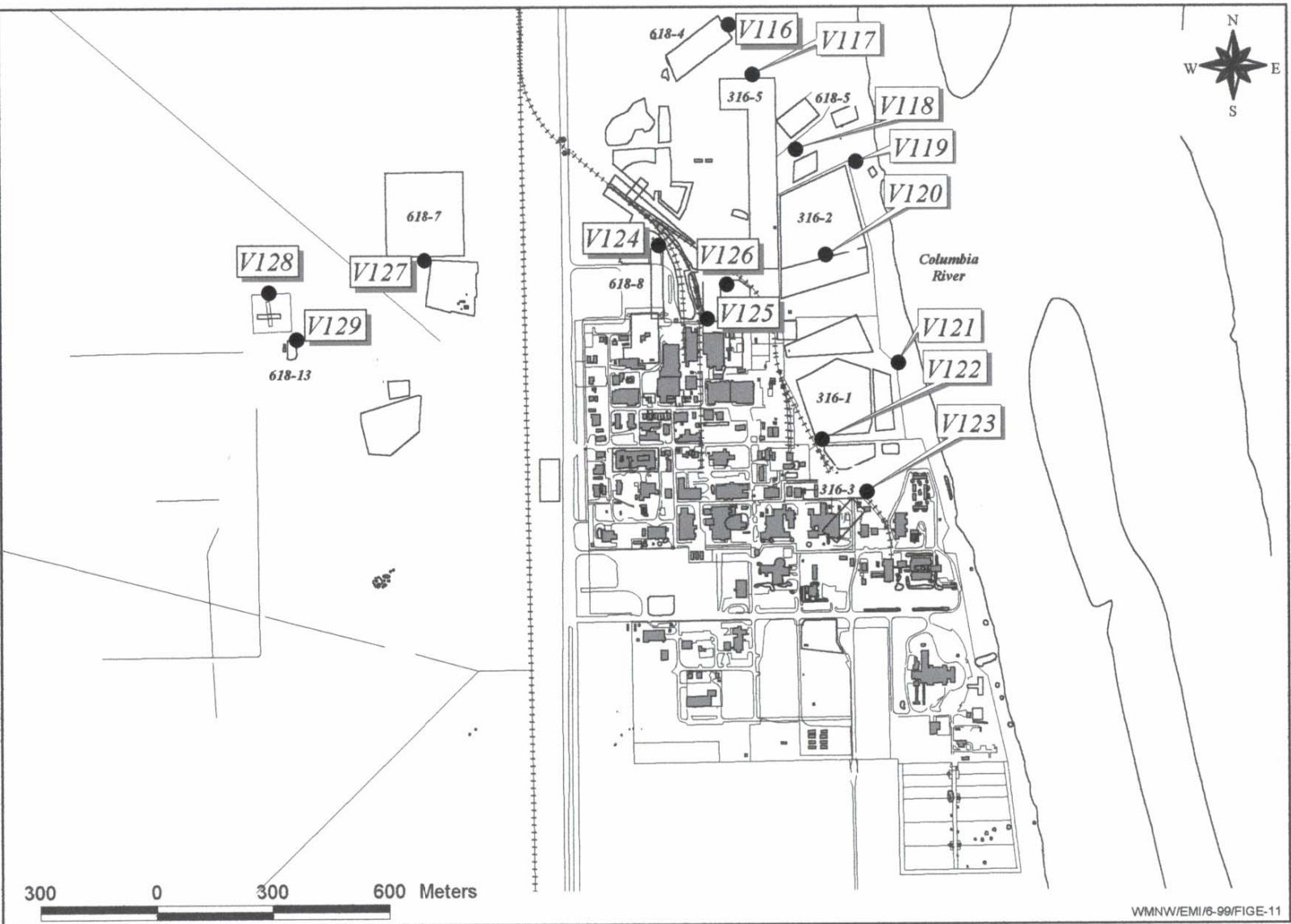
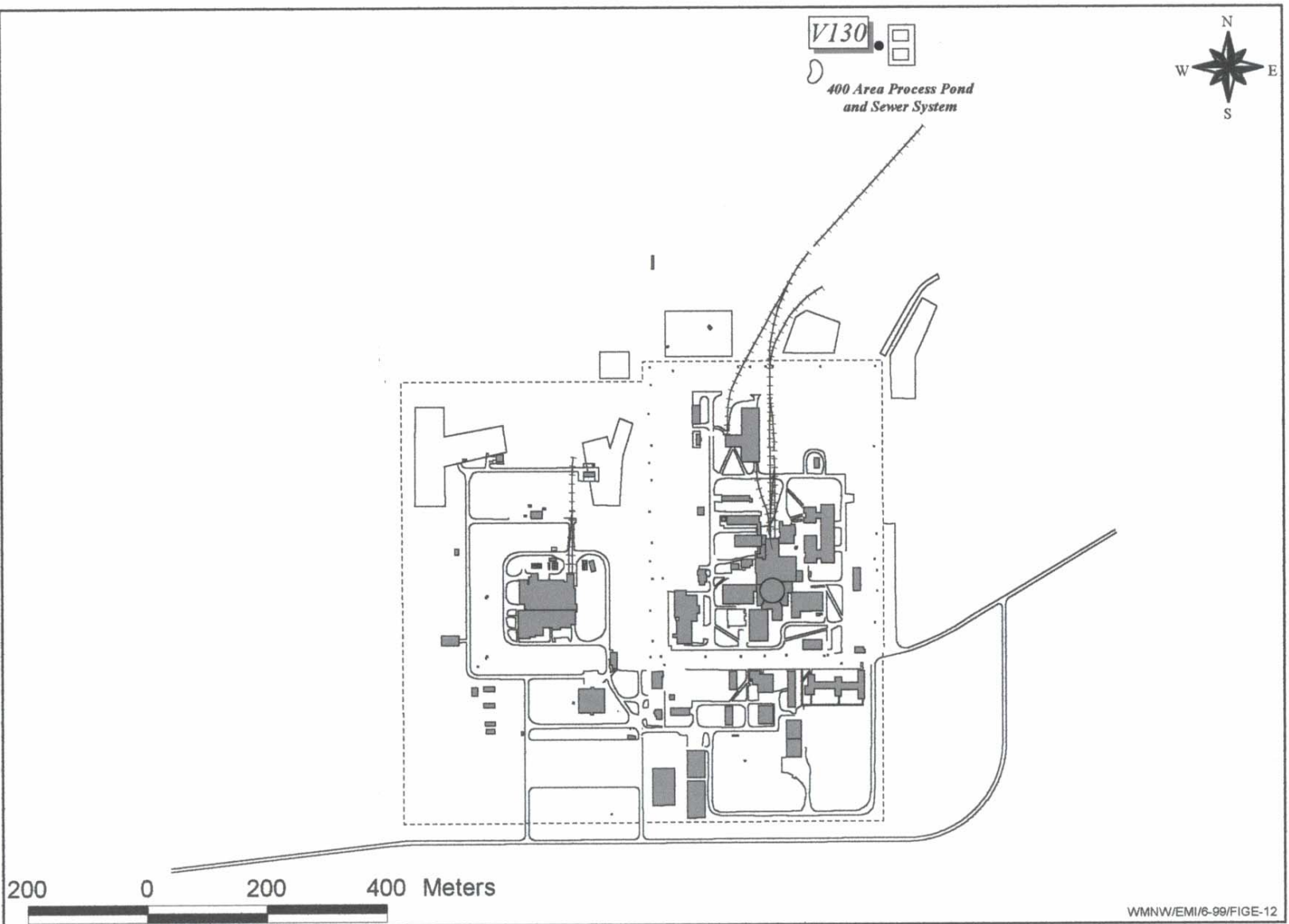


Figure 3-14. 2002 Vegetation Sampling Locations, 400 Area.



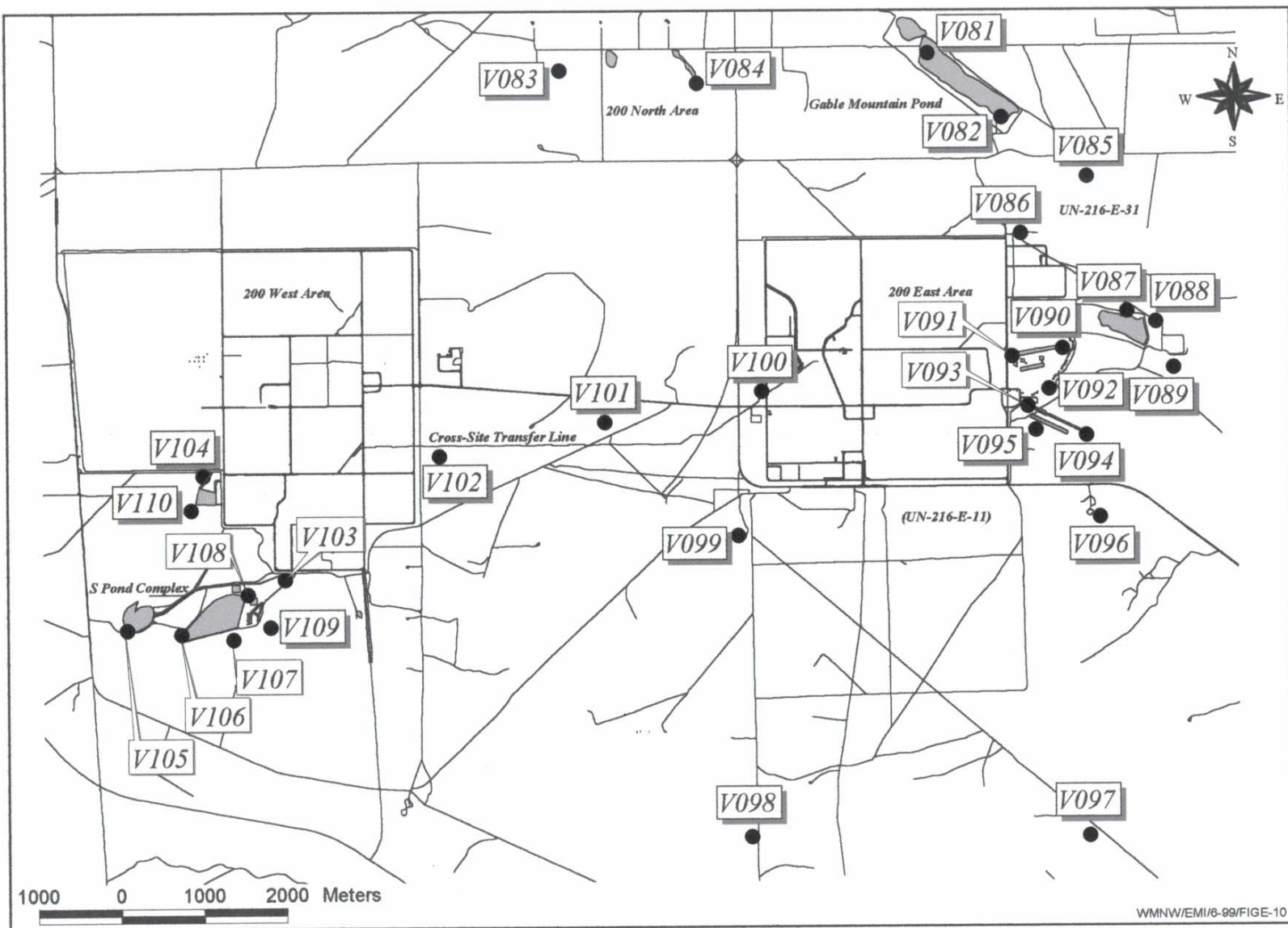


Figure 3-15. 2002 Vegetation Sampling Locations, 600 Area.

Table 3-4. Average Radionuclide Concentrations (pCi/g^a)
in Hanford Vegetation, 1995 through 2002.

<u>100 N Area</u>						
Year	⁶⁰ Co	⁹⁰ Sr	¹³⁷ Cs	²³⁴ U	²³⁸ U	^{239,240} Pu
1995	3.1E-02 ± 2.5E-01	1.3E+00 ± 6.2E+00	7.4E-02 ± 1.8E-01	6.7E-03 ± 2.4E-02	6.0E-03 ± 1.7E-02	3.5E-03 ± 8.0E-03
1996	2.4E+00 ± 1.4E+01	2.3E+02 ± 1.3E+03	1.1E+03 ± 6.4E+03	2.6E-02 ± 1.1E-01	2.9E-03 ± 7.4E-02	Not Detected
1997	5.5E-02 ± 2.6E-01	2.6E+00 ± 1.2E+01	1.0E-01 ± 2.0E-01	1.3E-02 ± 1.2E+01	9.1E-03 ± 1.4E-02	Not Detected
1998	6.2E-01 ± 1.3E+00	1.2E+01 ± 3.2E+01	3.8E+01 ± 9.4E+01	1.4E-02 ± 1.8E-02	8.7E-03 ± 1.3E-02	1.8E-03 ± 4.3E-03
1999	6.1E-01 ± 1.4E+00	9.1E+01 ± 3.0E+02	2.5E+02 ± 6.7E+02	2.8E-02 ± 3.1E-02	2.1E-02 ± 2.2E-02	1.1E-02 ± 1.9E-02
2000	4.8E-02 ± 8.7E-02	5.7E+00 ± 1.6E+01	2.0E-01 ± 1.6E-01	3.3E-02 ± 7.0E-02	2.4E-02 ± 4.1E-02	3.6E-04 ± 3.8E-02
2001	8.9E-01 ± 2.3E+00	3.5E+00 ± 8.4E+00	3.8E-01 ± 4.5E-01	9.8E-03 ± 7.4E-03	9.2E-03 ± 7.4E-03	2.4E-02 ± 3.2E-02
2002	3.7E-03 ± 3.7E-02	5.4E+00 ± 1.8E+01	2.4E-03 ± 8.4E-03	9.8E-03 ± 4.5E-03	5.1E-03 ± 2.9E-03	1.9E-03 ± 5.3E-03
<u>200/600 Areas</u>						
Year	⁶⁰ Co	⁹⁰ Sr	¹³⁷ Cs	²³⁴ U	²³⁸ U	^{239,240} Pu
1995	1.6E-02 ± 1.5E-01	1.9E+00 ± 6.1E+00	1.6E-01 ± 9.9E-01	1.1E-02 ± 4.7E-02	7.9E-03 ± 3.2E-02	4.9E-03 ± 2.1E-02
1996	2.6E-02 ± 1.7E-01	3.7E-01 ± 1.3E+00	6.9E-02 ± 2.1E-01	5.0E-03 ± 7.3E-03	5.0E-03 ± 7.2E-03	5.5E-03 ± 2.9E-02
1997	Not Detected	1.8E+00 ± 1.0E+01	6.6E-02 ± 2.1E-01	1.5E-02 ± 1.5E-02	1.1E-02 ± 1.4E-02	3.3E-03 ± 6.3E-03
1998	Not Detected	1.4E-01 ± 5.0E-01	5.1E-02 ± 1.8E-01	1.6E-02 ± 1.9E-02	9.5E-03 ± 8.5E-03	7.0E-03 ± 2.4E-02
1999	Not Detected	7.9E-01 ± 2.3E+00	1.3E-01 ± 1.8E-01	3.3E-02 ± 3.8E-02	2.3E-02 ± 2.8E-02	8.7E-03 ± 1.7E-02
2000	Not Detected	1.3E+00 ± 3.3E+00	1.6E-01 ± 2.1E-01	2.0E-02 ± 1.9E-02	1.4E-02 ± 1.7E-02	3.3E-02 ± 6.1E-02
2001	Not Detected	1.0E+00 ± 2.3E+00	1.7E-01 ± 2.4E-01	1.9E-02 ± 1.9E-02	1.8E-02 ± 1.8E-02	2.1E-02 ± 3.2E-02
2002	3.2E-04 ± 1.8E-03	3.2E-01 ± 1.1E+00	8.9E-02 ± 4.2E-01	1.6E-02 ± 1.6E-02	1.4E-02 ± 1.5E-02	8.8E-03 ± 2.4E-02
<u>300/400 Area</u>						
Year	⁶⁰ Co	⁹⁰ Sr	¹³⁷ Cs	²³⁴ U	²³⁸ U	^{239,240} Pu
1995	4.2E-02 ± 2.1E-02	5.1E-02 ± 9.6E-02	3.8E-03 ± 1.4E-01	5.6E-02 ± 1.6E-01	5.4E-02 ± 1.6E-01	3.6E-04 ± 7.3E-04
1996	7.1E-03 ± 8.8E-02	6.3E-02 ± 1.0E-01	1.6E-02 ± 6.6E-02	4.9E-02 ± 1.6E-01	4.7E-02 ± 1.5E-01	3.8E-04 ± 7.7E-04
1997	Not Detected	1.3E-01 ± 6.4E-01	Not Detected	6.9E-02 ± 6.4E-01	6.2E-02 ± 1.8E-01	1.2E-03 ± 2.0E-03
1998	Not Detected	1.7E-02 ± 9.2E-02	Not Detected	4.6E-02 ± 1.2E-01	4.0E-02 ± 1.2E-01	3.2E-03 ± 1.1E-02
1999	Not Detected	4.5E-01 ± 2.5E-01	Not Detected	9.4E-02 ± 2.0E-01	8.9E-01 ± 1.9E-01	5.0E-03 ± 6.4E-03
2000	Not Detected	2.1E-01 ± 1.5E-01	Not Detected	1.8E-02 ± 7.2E-01	1.7E-02 ± 7.3E-01	3.8E-03 ± 7.8E-03
2001	Not Detected	2.6E-01 ± 3.9E-01	Not Detected	9.8E-02 ± 3.3E-01	1.1E-01 ± 3.3E-01	2.9E-03 ± 3.5E-03
2002	Not Detected	2.1E-01 ± 4.7E-01	1.1E-02 ± 7.9E-02	3.2E-02 ± 5.5E-02	2.9E-02 ± 5.8E-02	-3.6E-04 ± 7.2E-04

a - ± 2 standard deviations.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty).

Location	Isotope	Result	\pm	Uncertainty	RQ*
Y711 (100-N)	¹⁴⁴ Ce	2.3E-02	\pm	4.2E-02	U
	⁶⁰ Co	3.7E-03	\pm	3.4E-03	U
	¹³⁴ Cs	-1.3E-03	\pm	3.2E-03	U
	¹³⁷ Cs	-2.0E-03	\pm	3.2E-03	U
	¹⁵² Eu	-8.3E-03	\pm	9.1E-03	U
	¹⁵⁴ Eu	2.6E-03	\pm	1.1E-02	U
	¹⁵⁵ Eu	1.3E-02	\pm	1.6E-02	U
	²³⁸ Pu	-2.5E-03	\pm	1.3E-02	U
	^{239,240} Pu	8.3E-04	\pm	2.9E-03	U
	¹⁰³ Ru	6.0E-04	\pm	3.0E-03	U
	¹⁰⁶ Ru	-4.7E-03	\pm	2.7E-02	U
	¹²⁵ Sb	3.1E-03	\pm	8.9E-03	U
	¹¹³ Sn	1.1E-04	\pm	1.1E-03	U
	⁹⁰ Sr	1.6E-01	\pm	1.1E-01	
	²³⁴ U	1.3E-02	\pm	8.3E-03	
	²³⁵ U	5.1E-03	\pm	4.9E-03	U
	²³⁸ U	5.4E-03	\pm	4.2E-03	
	⁶⁵ Zn	-1.2E-03	\pm	7.8E-03	U
Y719 (N Springs Shoreline)	¹⁴⁴ Ce	-1.1E-02	\pm	4.4E-02	U
	⁶⁰ Co	3.0E-03	\pm	3.8E-03	U
	¹³⁴ Cs	-2.3E-04	\pm	2.3E-03	U
	¹³⁷ Cs	4.5E-03	\pm	3.9E-03	U
	¹⁵² Eu	4.7E-03	\pm	9.7E-03	U
	¹⁵⁴ Eu	-9.1E-03	\pm	1.1E-02	U
	¹⁵⁵ Eu	-9.9E-03	\pm	1.2E-02	U
	²³⁸ Pu	3.3E-03	\pm	1.3E-02	U
	^{239,240} Pu	8.2E-04	\pm	8.2E-04	U
	¹⁰³ Ru	2.8E-03	\pm	3.9E-03	U
	¹⁰⁶ Ru	-1.4E-02	\pm	3.2E-02	U
	¹²⁵ Sb	-6.8E-04	\pm	6.8E-03	U
	¹¹³ Sn	-1.4E-03	\pm	4.3E-03	U
	⁹⁰ Sr	2.1E+01	\pm	2.9E+00	
	²³⁴ U	9.5E-03	\pm	7.7E-03	U
	²³⁵ U	3.8E-03	\pm	5.3E-03	U
	²³⁸ U	3.5E-03	\pm	4.9E-03	U
	⁶⁵ Zn	1.2E-02	\pm	9.7E-03	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
Y718 (N Springs Shoreline)	¹⁴⁴ Ce	4.9E-03	\pm	4.6E-02	U
	⁶⁰ Co	7.7E-03	\pm	4.1E-03	
	¹³⁴ Cs	8.0E-04	\pm	4.1E-03	U
	¹³⁷ Cs	8.2E-03	\pm	4.8E-03	
	¹⁵² Eu	-4.8E-03	\pm	1.0E-02	U
	¹⁵⁴ Eu	-5.9E-04	\pm	5.9E-03	U
	¹⁵⁵ Eu	-4.7E-03	\pm	1.2E-02	U
	²³⁸ Pu	7.9E-03	\pm	1.6E-02	U
	^{239,240} Pu	4.4E-03	\pm	4.0E-03	
	¹⁰³ Ru	6.3E-04	\pm	3.3E-03	U
	¹⁰⁶ Ru	1.4E-03	\pm	1.4E-02	U
	¹²⁵ Sb	8.9E-04	\pm	8.9E-03	U
	¹¹³ Sn	-1.8E-03	\pm	4.4E-03	U
	⁹⁰ Sr	4.2E-01	\pm	1.3E-01	
	²³⁴ U	1.0E-02	\pm	7.3E-03	
	²³⁵ U	4.0E-03	\pm	5.6E-03	U
	²³⁸ U	7.3E-03	\pm	5.9E-03	
	⁶⁵ Zn	4.5E-03	\pm	7.7E-03	U
Y724 (N Springs Shoreline)	¹⁴⁴ Ce	7.3E-03	\pm	3.3E-02	U
	⁶⁰ Co	2.8E-04	\pm	2.8E-03	U
	¹³⁴ Cs	-2.3E-03	\pm	4.1E-03	U
	¹³⁷ Cs	-8.8E-04	\pm	3.1E-03	U
	¹⁵² Eu	3.2E-03	\pm	8.0E-03	U
	¹⁵⁴ Eu	-7.7E-03	\pm	1.0E-02	U
	¹⁵⁵ Eu	-2.9E-03	\pm	9.2E-03	U
	²³⁸ Pu	-8.2E-04	\pm	8.2E-03	U
	^{239,240} Pu	1.6E-03	\pm	4.5E-03	U
	¹⁰³ Ru	-8.0E-04	\pm	2.6E-03	U
	¹⁰⁶ Ru	-1.2E-02	\pm	2.5E-02	U
	¹²⁵ Sb	7.1E-03	\pm	7.3E-03	U
	¹¹³ Sn	-4.1E-03	\pm	4.1E-03	U
	⁹⁰ Sr	1.2E-01	\pm	1.0E-01	U
	²³⁴ U	6.7E-03	\pm	6.4E-03	U
	²³⁵ U	3.6E-03	\pm	3.6E-03	
	²³⁸ U	4.2E-03	\pm	4.6E-03	U
	⁶⁵ Zn	6.4E-03	\pm	8.4E-03	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V002 (200 West)	¹⁴⁴ Ce	-2.7E-01	\pm	6.0E-01	U
	⁶⁰ Co	-2.7E-02	\pm	4.5E-02	U
	¹³⁴ Cs	-4.5E-03	\pm	4.5E-02	U
	¹³⁷ Cs	1.3E-01	\pm	6.5E-02	
	¹⁵² Eu	-2.8E-02	\pm	1.3E-01	U
	¹⁵⁴ Eu	-8.7E-02	\pm	1.5E-01	U
	¹⁵⁵ Eu	-6.8E-02	\pm	1.6E-01	U
	²³⁸ Pu	2.0E-02	\pm	1.6E-02	U
	^{239,240} Pu	8.5E-03	\pm	5.6E-03	
	¹⁰³ Ru	1.7E-02	\pm	4.8E-02	U
	¹⁰⁶ Ru	3.1E-02	\pm	3.1E-01	U
	¹²⁵ Sb	-9.0E-02	\pm	1.1E-01	U
	¹¹³ Sn	2.4E-02	\pm	5.5E-02	U
	⁹⁰ Sr	2.4E-01	\pm	1.1E-01	
	²³⁴ U	1.7E-02	\pm	8.3E-03	
	²³⁵ U	1.7E-03	\pm	3.4E-03	U
	²³⁸ U	1.3E-02	\pm	6.9E-03	
	⁶⁵ Zn	7.0E-02	\pm	1.2E-01	U
V006 (200 West)	¹⁴⁴ Ce	-1.2E-03	\pm	1.2E-02	U
	⁶⁰ Co	-1.1E-02	\pm	3.9E-02	U
	¹³⁴ Cs	1.6E-02	\pm	3.9E-02	U
	¹³⁷ Cs	4.4E-02	\pm	3.9E-02	U
	¹⁵² Eu	-3.7E-02	\pm	1.0E-01	U
	¹⁵⁴ Eu	-6.8E-02	\pm	1.3E-01	U
	¹⁵⁵ Eu	4.2E-02	\pm	1.1E-01	U
	²³⁸ Pu	-5.9E-03	\pm	1.4E-02	U
	^{239,240} Pu	4.0E-03	\pm	4.0E-03	
	¹⁰³ Ru	2.7E-02	\pm	3.9E-02	U
	¹⁰⁶ Ru	1.5E-01	\pm	3.3E-01	U
	¹²⁵ Sb	-1.1E-01	\pm	1.1E-01	U
	¹¹³ Sn	1.6E-03	\pm	1.5E-02	U
	⁹⁰ Sr	4.0E-01	\pm	1.4E-01	
	²³⁴ U	1.8E-02	\pm	9.2E-03	
	²³⁵ U	2.9E-03	\pm	4.4E-03	U
	²³⁸ U	2.0E-02	\pm	9.4E-03	
	⁶⁵ Zn	4.4E-02	\pm	1.0E-01	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V004 (200 West)	¹⁴⁴ Ce	1.2E-01	\pm	3.8E-01	U
	⁶⁰ Co	2.2E-02	\pm	3.1E-02	U
	¹³⁴ Cs	-7.4E-04	\pm	7.4E-03	U
	¹³⁷ Cs	7.8E-02	\pm	3.7E-02	
	¹⁵² Eu	1.6E-02	\pm	7.5E-02	U
	¹⁵⁴ Eu	-1.0E-01	\pm	1.0E-01	U
	¹⁵⁵ Eu	-5.1E-03	\pm	5.1E-02	U
	²³⁸ Pu	-8.6E-03	\pm	1.5E-02	U
	^{239,240} Pu	6.0E-03	\pm	5.8E-03	U
	¹⁰³ Ru	-4.6E-03	\pm	2.9E-02	U
	¹⁰⁶ Ru	-1.0E-01	\pm	2.2E-01	U
	¹²⁵ Sb	-1.2E-02	\pm	6.7E-02	U
	¹¹³ Sn	1.3E-02	\pm	3.3E-02	U
	⁹⁰ Sr	3.2E+00	\pm	6.4E-01	
	²³⁴ U	3.8E-02	\pm	1.4E-02	
	²³⁵ U	5.5E-03	\pm	5.3E-03	U
	²³⁸ U	3.9E-02	\pm	1.4E-02	
	⁶⁵ Zn	5.4E-02	\pm	7.5E-02	U
V008 (200 West)	¹⁴⁴ Ce	7.9E-01	\pm	1.3E+00	U
	⁶⁰ Co	-1.7E-03	\pm	1.7E-02	U
	¹³⁴ Cs	9.4E-03	\pm	9.4E-02	U
	¹³⁷ Cs	5.6E-02	\pm	1.1E-01	U
	¹⁵² Eu	1.1E-01	\pm	2.8E-01	U
	¹⁵⁴ Eu	-1.4E-01	\pm	2.8E-01	U
	¹⁵⁵ Eu	-9.9E-03	\pm	9.9E-02	U
	²³⁸ Pu	-5.0E-03	\pm	1.3E-02	U
	^{239,240} Pu	1.3E-02	\pm	7.3E-03	
	¹⁰³ Ru	8.1E-02	\pm	1.3E-01	U
	¹⁰⁶ Ru	-3.4E-01	\pm	9.3E-01	U
	¹²⁵ Sb	-1.2E-01	\pm	2.5E-01	U
	¹¹³ Sn	-1.0E-01	\pm	1.2E-01	U
	⁹⁰ Sr	4.1E-02	\pm	8.6E-02	U
	²³⁴ U	1.7E-02	\pm	8.0E-03	
	²³⁵ U	4.3E-03	\pm	3.9E-03	
	²³⁸ U	3.9E-03	\pm	4.3E-03	U
	⁶⁵ Zn	-1.9E-01	\pm	2.6E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V010 (200 West)	¹⁴⁴ Ce	-1.0E+00	\pm	1.0E+00	U
	⁶⁰ Co	-3.6E-02	\pm	5.0E-02	U
	¹³⁴ Cs	-2.2E-02	\pm	4.8E-02	U
	¹³⁷ Cs	1.1E-02	\pm	4.4E-02	U
	¹⁵² Eu	-1.6E-01	\pm	1.6E-01	U
	¹⁵⁴ Eu	-8.3E-02	\pm	1.6E-01	U
	¹⁵⁵ Eu	-1.0E-02	\pm	1.0E-01	U
	²³⁸ Pu	-2.1E-03	\pm	1.4E-02	U
	^{239,240} Pu	7.2E-03	\pm	5.6E-03	
	¹⁰³ Ru	3.6E-03	\pm	3.6E-02	U
	¹⁰⁶ Ru	1.8E-01	\pm	3.9E-01	U
	¹²⁵ Sb	3.9E-02	\pm	1.2E-01	U
	¹¹³ Sn	-3.3E-03	\pm	3.3E-02	U
	⁹⁰ Sr	9.1E-01	\pm	1.8E-01	
	²³⁴ U	7.7E-03	\pm	6.3E-03	U
	²³⁵ U	3.7E-03	\pm	3.7E-03	
	²³⁸ U	8.5E-03	\pm	5.6E-03	
	⁶⁵ Zn	3.1E-02	\pm	1.4E-01	U
V016 (200 West)	¹⁴⁴ Ce	-1.1E-01	\pm	4.7E-01	U
	⁶⁰ Co	3.7E-02	\pm	3.8E-02	U
	¹³⁴ Cs	3.1E-02	\pm	3.3E-02	U
	¹³⁷ Cs	4.6E-02	\pm	2.5E-02	U
	¹⁵² Eu	5.3E-02	\pm	9.9E-02	U
	¹⁵⁴ Eu	2.0E-02	\pm	1.1E-01	U
	¹⁵⁵ Eu	5.1E-02	\pm	1.2E-01	U
	²³⁸ Pu	-1.7E-02	\pm	1.7E-02	U
	^{239,240} Pu	8.5E-03	\pm	6.5E-03	
	¹⁰³ Ru	-3.1E-03	\pm	3.1E-02	U
	¹⁰⁶ Ru	3.4E-02	\pm	2.7E-01	U
	¹²⁵ Sb	5.0E-03	\pm	5.0E-02	U
	¹¹³ Sn	-2.2E-02	\pm	5.4E-02	U
	⁹⁰ Sr	8.9E-02	\pm	1.1E-01	U
	²³⁴ U	1.9E-02	\pm	8.7E-03	
	²³⁵ U	2.7E-03	\pm	3.2E-03	
	²³⁸ U	2.2E-02	\pm	9.5E-03	
	⁶⁵ Zn	-2.6E-02	\pm	8.3E-02	U
V012 (200 West)	¹⁴⁴ Ce	9.1E-02	\pm	6.5E-01	U
	⁶⁰ Co	-4.7E-03	\pm	4.7E-02	U
	¹³⁴ Cs	4.8E-02	\pm	5.7E-02	U
	¹³⁷ Cs	-1.8E-02	\pm	5.4E-02	U
	¹⁵² Eu	-4.1E-02	\pm	1.5E-01	U
	¹⁵⁴ Eu	-4.4E-02	\pm	1.5E-01	U
	¹⁵⁵ Eu	-7.0E-03	\pm	7.0E-02	U
	²³⁸ Pu	2.0E-03	\pm	1.8E-02	U
	^{239,240} Pu	4.1E-03	\pm	4.9E-03	U
	¹⁰³ Ru	-5.8E-03	\pm	5.8E-02	U
	¹⁰⁶ Ru	-2.2E-01	\pm	5.3E-01	U
	¹²⁵ Sb	-2.7E-02	\pm	1.3E-01	U
	¹¹³ Sn	-3.7E-02	\pm	6.6E-02	U
	⁹⁰ Sr	2.9E-02	\pm	1.1E-01	U
	²³⁴ U	1.3E-02	\pm	7.9E-03	
	²³⁵ U	5.4E-03	\pm	4.5E-03	
	²³⁸ U	6.7E-03	\pm	5.4E-03	
	⁶⁵ Zn	2.3E-02	\pm	1.4E-01	U
V020 (200 West)	¹⁴⁴ Ce	-1.3E-01	\pm	4.1E-01	U
	⁶⁰ Co	1.4E-02	\pm	3.0E-02	U
	¹³⁴ Cs	2.8E-02	\pm	2.9E-02	U
	¹³⁷ Cs	3.3E-02	\pm	3.2E-02	U
	¹⁵² Eu	-7.2E-02	\pm	8.7E-02	U
	¹⁵⁴ Eu	1.5E-02	\pm	9.0E-02	U
	¹⁵⁵ Eu	6.7E-03	\pm	6.7E-02	U
	²³⁸ Pu	8.1E-03	\pm	1.8E-02	U
	^{239,240} Pu	9.0E-03	\pm	5.9E-03	
	¹⁰³ Ru	-8.6E-03	\pm	2.9E-02	U
	¹⁰⁶ Ru	1.5E-03	\pm	1.5E-02	U
	¹²⁵ Sb	2.1E-02	\pm	8.4E-02	U
	¹¹³ Sn	-1.2E-02	\pm	3.8E-02	U
	⁹⁰ Sr	1.0E-01	\pm	9.5E-02	U
	²³⁴ U	1.3E-02	\pm	8.6E-03	
	²³⁵ U	3.6E-03	\pm	6.1E-03	U
	²³⁸ U	1.4E-02	\pm	7.6E-03	
	⁶⁵ Zn	-3.6E-02	\pm	7.1E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V022 (200 West)	¹⁴⁴ Ce	3.4E-01	\pm	3.6E-01	U
	⁶⁰ Co	-2.8E-02	\pm	2.8E-02	U
	¹³⁴ Cs	-1.0E-02	\pm	2.9E-02	U
	¹³⁷ Cs	8.7E-02	\pm	3.6E-02	
	¹⁵² Eu	-1.5E-02	\pm	7.4E-02	U
	¹⁵⁴ Eu	-1.4E-02	\pm	8.6E-02	U
	¹⁵⁵ Eu	1.9E-02	\pm	8.8E-02	U
	²³⁸ Pu	9.1E-03	\pm	1.7E-02	U
	^{239,240} Pu	8.1E-03	\pm	6.2E-03	
	¹⁰³ Ru	-7.7E-03	\pm	3.0E-02	U
	¹⁰⁶ Ru	-1.6E-01	\pm	2.2E-01	U
	¹²⁵ Sb	-8.4E-03	\pm	6.8E-02	U
	¹¹³ Sn	-2.0E-02	\pm	3.5E-02	U
	⁹⁰ Sr	1.5E-01	\pm	1.1E-01	
	²³⁴ U	1.9E-02	\pm	9.3E-03	
	²³⁵ U	8.2E-03	\pm	5.7E-03	
	²³⁸ U	2.8E-02	\pm	1.1E-02	
	⁶⁵ Zn	1.4E-02	\pm	6.4E-02	U
V026 (200 West)	¹⁴⁴ Ce	1.0E-01	\pm	5.0E-01	U
	⁶⁰ Co	1.2E-03	\pm	1.2E-02	U
	¹³⁴ Cs	-9.6E-03	\pm	3.3E-02	U
	¹³⁷ Cs	8.7E-02	\pm	5.3E-02	
	¹⁵² Eu	-1.5E-02	\pm	1.1E-01	U
	¹⁵⁴ Eu	-1.0E-01	\pm	1.0E-01	U
	¹⁵⁵ Eu	-8.7E-02	\pm	1.2E-01	U
	²³⁸ Pu	-7.1E-03	\pm	1.4E-02	U
	^{239,240} Pu	3.7E-02	\pm	1.4E-02	
	¹⁰³ Ru	-4.8E-02	\pm	4.8E-02	U
	¹⁰⁶ Ru	-6.8E-02	\pm	3.0E-01	U
	¹²⁵ Sb	7.2E-02	\pm	1.0E-01	U
	¹¹³ Sn	-1.2E-03	\pm	1.2E-02	U
	⁹⁰ Sr	2.8E-01	\pm	9.8E-02	
	²³⁴ U	1.4E-02	\pm	8.3E-03	
	²³⁵ U	5.6E-03	\pm	5.4E-03	U
	²³⁸ U	1.2E-02	\pm	6.8E-03	
	⁶⁵ Zn	-6.9E-03	\pm	6.9E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V024 (200 West)	¹⁴⁴ Ce	2.4E-02	\pm	2.4E-01	U
	⁶⁰ Co	1.7E-02	\pm	5.4E-02	U
	¹³⁴ Cs	-4.2E-02	\pm	5.8E-02	U
	¹³⁷ Cs	6.3E-02	\pm	5.6E-02	U
	¹⁵² Eu	5.7E-02	\pm	1.4E-01	U
	¹⁵⁴ Eu	-1.7E-02	\pm	1.7E-01	U
	¹⁵⁵ Eu	4.1E-02	\pm	1.7E-01	U
	²³⁸ Pu	-1.2E-02	\pm	1.3E-02	U
	^{239,240} Pu	7.6E-03	\pm	5.5E-03	
	¹⁰³ Ru	2.0E-02	\pm	6.3E-02	U
	¹⁰⁶ Ru	-1.7E-01	\pm	5.0E-01	U
	¹²⁵ Sb	2.9E-02	\pm	1.4E-01	U
	¹¹³ Sn	-2.1E-02	\pm	6.8E-02	U
	⁹⁰ Sr	2.0E-01	\pm	1.2E-01	
	²³⁴ U	1.7E-02	\pm	9.9E-03	
	²³⁵ U	1.9E-03	\pm	3.8E-03	U
	²³⁸ U	1.5E-02	\pm	1.0E-02	
	⁶⁵ Zn	-1.7E-01	\pm	1.7E-01	U
V030 (200 West)	¹⁴⁴ Ce	1.0E-01	\pm	8.4E-01	U
	⁶⁰ Co	9.7E-03	\pm	5.3E-02	U
	¹³⁴ Cs	-1.1E-03	\pm	1.1E-02	U
	¹³⁷ Cs	1.5E+00	\pm	2.3E-01	
	¹⁵² Eu	5.1E-02	\pm	1.9E-01	U
	¹⁵⁴ Eu	-2.5E-01	\pm	2.5E-01	U
	¹⁵⁵ Eu	-2.4E-01	\pm	2.4E-01	U
	²³⁸ Pu	-8.5E-04	\pm	8.5E-03	U
	^{239,240} Pu	8.5E-03	\pm	5.6E-03	
	¹⁰³ Ru	4.5E-02	\pm	7.4E-02	U
	¹⁰⁶ Ru	-2.8E-01	\pm	5.3E-01	U
	¹²⁵ Sb	3.0E-02	\pm	1.7E-01	U
	¹¹³ Sn	-1.4E-02	\pm	9.3E-02	U
	⁹⁰ Sr	2.6E-01	\pm	1.3E-01	
	²³⁴ U	3.3E-02	\pm	1.3E-02	
	²³⁵ U	1.5E-02	\pm	7.8E-03	
	²³⁸ U	2.6E-02	\pm	1.0E-02	
	⁶⁵ Zn	9.3E-02	\pm	1.5E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V032 (200 West)	¹⁴⁴ Ce	-1.1E-01	\pm	4.2E-01	U
	⁶⁰ Co	1.0E-03	\pm	1.0E-02	U
	¹³⁴ Cs	-1.6E-02	\pm	3.0E-02	U
	¹³⁷ Cs	1.3E-01	\pm	6.5E-02	
	¹⁵² Eu	-8.9E-02	\pm	9.9E-02	U
	¹⁵⁴ Eu	-1.9E-03	\pm	1.9E-02	U
	¹⁵⁵ Eu	-5.7E-02	\pm	1.1E-01	U
	²³⁸ Pu	1.6E-03	\pm	1.4E-02	U
	^{239,240} Pu	1.4E-02	\pm	8.4E-03	
	¹⁰³ Ru	-3.4E-04	\pm	3.4E-03	U
	¹⁰⁶ Ru	1.0E-01	\pm	2.8E-01	U
	¹²⁵ Sb	-5.6E-03	\pm	5.6E-02	U
	¹¹³ Sn	2.0E-02	\pm	4.0E-02	U
	⁹⁰ Sr	3.9E-02	\pm	8.8E-02	U
	²³⁴ U	1.1E-02	\pm	9.1E-03	U
	²³⁵ U	1.7E-03	\pm	3.4E-03	U
	²³⁸ U	1.1E-02	\pm	6.9E-03	
	⁶⁵ Zn	5.0E-03	\pm	5.0E-02	U
V038 (200 West)	¹⁴⁴ Ce	-4.7E-02	\pm	3.7E-01	U
	⁶⁰ Co	1.8E-02	\pm	3.2E-02	U
	¹³⁴ Cs	5.1E-02	\pm	3.4E-02	U
	¹³⁷ Cs	9.3E-02	\pm	4.3E-02	
	¹⁵² Eu	-2.8E-02	\pm	8.7E-02	U
	¹⁵⁴ Eu	6.2E-02	\pm	9.2E-02	U
	¹⁵⁵ Eu	-7.2E-02	\pm	9.7E-02	U
	²³⁸ Pu	-3.2E-03	\pm	8.3E-03	U
	^{239,240} Pu	6.4E-03	\pm	5.2E-03	
	¹⁰³ Ru	9.3E-03	\pm	3.5E-02	U
	¹⁰⁶ Ru	-6.1E-02	\pm	2.7E-01	U
	¹²⁵ Sb	-8.1E-03	\pm	7.6E-02	U
	¹¹³ Sn	-2.0E-02	\pm	3.7E-02	U
	⁹⁰ Sr	5.9E-02	\pm	9.7E-02	U
	²³⁴ U	1.8E-02	\pm	8.1E-03	
	²³⁵ U	6.6E-03	\pm	4.8E-03	
	²³⁸ U	1.5E-02	\pm	7.2E-03	
	⁶⁵ Zn	-1.4E-01	\pm	1.4E-01	U
V034 (200 West)	¹⁴⁴ Ce	-2.5E-01	\pm	3.6E-01	U
	⁶⁰ Co	2.6E-03	\pm	2.3E-02	U
	¹³⁴ Cs	-3.4E-04	\pm	3.4E-03	U
	¹³⁷ Cs	1.7E-01	\pm	5.8E-02	
	¹⁵² Eu	3.3E-02	\pm	7.5E-02	U
	¹⁵⁴ Eu	-3.5E-02	\pm	7.0E-02	U
	¹⁵⁵ Eu	-1.9E-03	\pm	1.9E-02	U
	²³⁸ Pu	-5.3E-03	\pm	8.5E-03	U
	^{239,240} Pu	4.4E-02	\pm	1.5E-02	
	¹⁰³ Ru	1.9E-02	\pm	3.2E-02	U
	¹⁰⁶ Ru	-6.1E-02	\pm	2.3E-01	U
	¹²⁵ Sb	-4.0E-02	\pm	7.0E-02	U
	¹¹³ Sn	4.9E-03	\pm	3.6E-02	U
	⁹⁰ Sr	1.6E-01	\pm	9.6E-02	
	²³⁴ U	9.8E-03	\pm	6.1E-03	
	²³⁵ U	5.7E-03	\pm	5.0E-03	U
	²³⁸ U	7.5E-03	\pm	5.4E-03	
	⁶⁵ Zn	3.8E-02	\pm	6.8E-02	U
V040 (200 West)	¹⁴⁴ Ce	3.8E-02	\pm	3.8E-01	U
	⁶⁰ Co	6.5E-02	\pm	3.2E-02	
	¹³⁴ Cs	-6.0E-03	\pm	3.0E-02	U
	¹³⁷ Cs	9.1E-02	\pm	4.8E-02	
	¹⁵² Eu	-5.5E-03	\pm	5.5E-02	U
	¹⁵⁴ Eu	4.0E-02	\pm	7.8E-02	U
	¹⁵⁵ Eu	-2.5E-02	\pm	9.4E-02	U
	²³⁸ Pu	8.9E-04	\pm	8.9E-03	U
	^{239,240} Pu	9.8E-03	\pm	6.2E-03	
	¹⁰³ Ru	-1.6E-02	\pm	3.4E-02	U
	¹⁰⁶ Ru	-1.6E-01	\pm	2.5E-01	U
	¹²⁵ Sb	3.2E-02	\pm	7.2E-02	U
	¹¹³ Sn	-1.2E-02	\pm	3.7E-02	U
	⁹⁰ Sr	1.6E-01	\pm	1.2E-01	U
	²³⁴ U	1.3E-02	\pm	7.8E-03	
	²³⁵ U	3.0E-03	\pm	3.6E-03	
	²³⁸ U	1.3E-02	\pm	7.4E-03	
	⁶⁵ Zn	5.0E-02	\pm	6.3E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V042 (200 West)	¹⁴⁴ Ce	-2.5E-02	\pm	2.5E-01	U
	⁶⁰ Co	1.8E-02	\pm	4.2E-02	U
	¹³⁴ Cs	-4.3E-03	\pm	4.1E-02	U
	¹³⁷ Cs	3.6E-02	\pm	3.8E-02	U
	¹⁵² Eu	-1.8E-01	\pm	1.8E-01	U
	¹⁵⁴ Eu	1.9E-02	\pm	1.4E-01	U
	¹⁵⁵ Eu	-9.7E-03	\pm	9.7E-02	U
	²³⁸ Pu	4.6E-03	\pm	1.2E-02	U
	^{239,240} Pu	5.4E-03	\pm	5.4E-03	U
	¹⁰³ Ru	-4.8E-03	\pm	4.6E-02	U
	¹⁰⁶ Ru	1.5E-01	\pm	3.5E-01	U
	¹²⁵ Sb	3.3E-03	\pm	3.3E-02	U
	¹¹³ Sn	1.4E-02	\pm	5.0E-02	U
	⁹⁰ Sr	2.2E-01	\pm	9.7E-02	
	²³⁴ U	2.4E-02	\pm	9.6E-03	
	²³⁵ U	-1.6E-03	\pm	2.2E-03	U
	²³⁸ U	1.5E-02	\pm	7.2E-03	
	⁶⁵ Zn	1.4E-01	\pm	1.1E-01	U
V046 (200 West)	¹⁴⁴ Ce	-1.5E-02	\pm	1.6E-01	U
	⁶⁰ Co	-1.9E-02	\pm	3.9E-02	U
	¹³⁴ Cs	4.3E-02	\pm	3.7E-02	U
	¹³⁷ Cs	8.8E-02	\pm	5.2E-02	
	¹⁵² Eu	-1.4E-03	\pm	1.4E-02	U
	¹⁵⁴ Eu	-4.9E-02	\pm	1.0E-01	U
	¹⁵⁵ Eu	1.8E-02	\pm	1.2E-01	U
	²³⁸ Pu	-8.2E-04	\pm	8.2E-03	U
	^{239,240} Pu	4.9E-03	\pm	5.4E-03	U
	¹⁰³ Ru	1.5E-03	\pm	1.5E-02	U
	¹⁰⁶ Ru	5.3E-02	\pm	3.2E-01	U
	¹²⁵ Sb	-1.4E-02	\pm	9.2E-02	U
	¹¹³ Sn	-7.1E-03	\pm	5.0E-02	U
	⁹⁰ Sr	2.1E-01	\pm	1.2E-01	
	²³⁴ U	1.7E-02	\pm	7.8E-03	
	²³⁵ U	4.4E-03	\pm	4.0E-03	
	²³⁸ U	7.8E-03	\pm	5.0E-03	
	⁶⁵ Zn	-2.0E-01	\pm	2.0E-01	U
V044 (200 West)	¹⁴⁴ Ce	-3.0E-01	\pm	5.5E-01	U
	⁶⁰ Co	-2.3E-02	\pm	3.7E-02	U
	¹³⁴ Cs	1.7E-02	\pm	4.0E-02	U
	¹³⁷ Cs	1.7E-01	\pm	7.1E-02	
	¹⁵² Eu	-2.1E-02	\pm	1.1E-01	U
	¹⁵⁴ Eu	8.6E-03	\pm	8.6E-02	U
	¹⁵⁵ Eu	7.1E-02	\pm	1.3E-01	U
	²³⁸ Pu	2.4E-03	\pm	1.4E-02	U
	^{239,240} Pu	3.1E-02	\pm	1.2E-02	
	¹⁰³ Ru	-1.7E-02	\pm	5.0E-02	U
	¹⁰⁶ Ru	-1.2E-01	\pm	3.5E-01	U
	¹²⁵ Sb	1.3E-02	\pm	1.0E-01	U
	¹¹³ Sn	-6.8E-02	\pm	6.8E-02	U
	⁹⁰ Sr	1.7E-02	\pm	8.5E-02	U
	²³⁴ U	1.2E-02	\pm	7.3E-03	
	²³⁵ U	5.9E-03	\pm	4.7E-03	
	²³⁸ U	2.1E-02	\pm	9.4E-03	
	⁶⁵ Zn	2.4E-02	\pm	8.7E-02	U
V048 (200 West)	¹⁴⁴ Ce	1.5E-01	\pm	3.4E-01	U
	⁶⁰ Co	2.1E-03	\pm	2.1E-02	U
	¹³⁴ Cs	-1.0E-02	\pm	2.4E-02	U
	¹³⁷ Cs	1.3E-01	\pm	4.7E-02	
	¹⁵² Eu	-1.7E-02	\pm	7.0E-02	U
	¹⁵⁴ Eu	-4.2E-03	\pm	4.2E-02	U
	¹⁵⁵ Eu	-1.5E-02	\pm	8.6E-02	U
	²³⁸ Pu	1.1E-02	\pm	1.2E-02	U
	^{239,240} Pu	3.8E-02	\pm	1.4E-02	
	¹⁰³ Ru	-3.9E-03	\pm	3.1E-02	U
	¹⁰⁶ Ru	8.9E-02	\pm	2.0E-01	U
	¹²⁵ Sb	8.3E-03	\pm	6.7E-02	U
	¹¹³ Sn	-2.0E-02	\pm	3.4E-02	U
	⁹⁰ Sr	1.3E-01	\pm	9.7E-02	U
	²³⁴ U	3.3E-02	\pm	1.2E-02	
	²³⁵ U	6.2E-03	\pm	4.8E-03	
	²³⁸ U	3.2E-02	\pm	1.2E-02	
	⁶⁵ Zn	1.9E-02	\pm	5.7E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V050 (200 West)	¹⁴⁴ Ce	-1.8E-02	\pm	1.8E-01	U
	⁶⁰ Co	-1.1E-02	\pm	4.3E-02	U
	¹³⁴ Cs	-9.0E-03	\pm	5.3E-02	U
	¹³⁷ Cs	2.3E-02	\pm	4.3E-02	U
	¹⁵² Eu	-1.4E-01	\pm	1.4E-01	U
	¹⁵⁴ Eu	-5.4E-02	\pm	1.1E-01	U
	¹⁵⁵ Eu	4.8E-02	\pm	1.3E-01	U
	²³⁸ Pu	4.8E-03	\pm	1.2E-02	U
	^{239,240} Pu	7.2E-03	\pm	5.9E-03	U
	¹⁰³ Ru	-1.7E-02	\pm	5.1E-02	U
	¹⁰⁶ Ru	-2.4E-01	\pm	3.8E-01	U
	¹²⁵ Sb	-6.3E-02	\pm	1.0E-01	U
	¹¹³ Sn	2.2E-02	\pm	5.1E-02	U
	⁹⁰ Sr	2.8E-01	\pm	1.3E-01	
	²³⁴ U	9.3E-03	\pm	5.4E-03	
	²³⁵ U	2.5E-03	\pm	3.0E-03	
	²³⁸ U	7.3E-03	\pm	4.7E-03	
	⁶⁵ Zn	1.0E-01	\pm	1.0E-01	U
V058 (200 East)	¹⁴⁴ Ce	-3.7E-03	\pm	3.7E-02	U
	⁶⁰ Co	-2.0E-02	\pm	3.4E-02	U
	¹³⁴ Cs	-1.6E-02	\pm	3.8E-02	U
	¹³⁷ Cs	1.1E-01	\pm	5.5E-02	
	¹⁵² Eu	-8.3E-02	\pm	1.2E-01	U
	¹⁵⁴ Eu	-3.6E-02	\pm	1.0E-01	U
	¹⁵⁵ Eu	4.1E-02	\pm	1.3E-01	U
	²³⁸ Pu	4.5E-03	\pm	1.3E-02	U
	^{239,240} Pu	9.0E-04	\pm	3.1E-03	U
	¹⁰³ Ru	-1.2E-02	\pm	4.4E-02	U
	¹⁰⁶ Ru	-2.3E-01	\pm	3.2E-01	U
	¹²⁵ Sb	-2.8E-02	\pm	9.4E-02	U
	¹¹³ Sn	-4.7E-02	\pm	4.8E-02	U
	⁹⁰ Sr	2.9E-01	\pm	1.2E-01	
	²³⁴ U	1.1E-02	\pm	6.4E-03	
	²³⁵ U	9.9E-04	\pm	2.0E-03	U
	²³⁸ U	5.6E-03	\pm	4.4E-03	
	⁶⁵ Zn	3.4E-02	\pm	9.1E-02	U
V052 (200 West)	¹⁴⁴ Ce	-1.7E-01	\pm	4.6E-01	U
	⁶⁰ Co	1.3E-02	\pm	4.0E-02	U
	¹³⁴ Cs	-3.7E-03	\pm	3.7E-02	U
	¹³⁷ Cs	6.3E-02	\pm	4.2E-02	U
	¹⁵² Eu	4.9E-02	\pm	1.2E-01	U
	¹⁵⁴ Eu	4.2E-02	\pm	1.2E-01	U
	¹⁵⁵ Eu	1.3E-02	\pm	1.2E-01	U
	²³⁸ Pu	-6.6E-03	\pm	1.2E-02	U
	^{239,240} Pu	1.1E-02	\pm	7.3E-03	
	¹⁰³ Ru	-8.7E-03	\pm	4.5E-02	U
	¹⁰⁶ Ru	1.4E-01	\pm	3.6E-01	U
	¹²⁵ Sb	3.4E-03	\pm	3.4E-02	U
	¹¹³ Sn	-2.3E-03	\pm	2.3E-02	U
	⁹⁰ Sr	2.3E-01	\pm	1.0E-01	
	²³⁴ U	7.4E-03	\pm	6.1E-03	U
	²³⁵ U	1.8E-03	\pm	3.6E-03	U
	²³⁸ U	1.1E-02	\pm	6.6E-03	
	⁶⁵ Zn	-6.0E-02	\pm	9.7E-02	U
V060 (200 East)	¹⁴⁴ Ce	-3.1E-01	\pm	1.0E+00	U
	⁶⁰ Co	3.9E-02	\pm	8.3E-02	U
	¹³⁴ Cs	-2.1E-02	\pm	9.1E-02	U
	¹³⁷ Cs	1.1E-02	\pm	9.1E-02	U
	¹⁵² Eu	9.7E-02	\pm	2.4E-01	U
	¹⁵⁴ Eu	-9.3E-03	\pm	9.3E-02	U
	¹⁵⁵ Eu	-1.6E-01	\pm	2.8E-01	U
	²³⁸ Pu	5.1E-03	\pm	1.1E-02	U
	^{239,240} Pu	-3.1E-03	\pm	3.7E-03	U
	¹⁰³ Ru	-2.5E-02	\pm	1.1E-01	U
	¹⁰⁶ Ru	3.8E-01	\pm	7.7E-01	U
	¹²⁵ Sb	-8.1E-02	\pm	2.2E-01	U
	¹¹³ Sn	-2.1E-03	\pm	2.1E-02	U
	⁹⁰ Sr	6.0E-01	\pm	1.5E-01	
	²³⁴ U	1.6E-02	\pm	8.0E-03	
	²³⁵ U	1.9E-03	\pm	2.7E-03	U
	²³⁸ U	1.0E-02	\pm	5.9E-03	
	⁶⁵ Zn	3.0E-01	\pm	1.9E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*	Location	Isotope	Result	\pm	Uncertainty	RQ*
V062 (200 East)	¹⁴⁴ Ce	-7.7E-02	\pm	3.7E-01	U	V064 (200 East)	¹⁴⁴ Ce	1.0E-01	\pm	3.7E-01	U
	⁶⁰ Co	-3.6E-02	\pm	3.6E-02	U		⁶⁰ Co	-4.0E-03	\pm	3.0E-02	U
	¹³⁴ Cs	-3.6E-03	\pm	2.8E-02	U		¹³⁴ Cs	2.6E-02	\pm	3.2E-02	U
	¹³⁷ Cs	8.9E-02	\pm	3.8E-02			¹³⁷ Cs	3.4E-02	\pm	3.2E-02	U
	¹⁵² Eu	-7.5E-03	\pm	7.2E-02	U		¹⁵² Eu	2.7E-02	\pm	8.1E-02	U
	¹⁵⁴ Eu	-3.2E-02	\pm	1.1E-01	U		¹⁵⁴ Eu	4.1E-02	\pm	9.4E-02	U
	¹⁵⁵ Eu	-3.5E-02	\pm	9.7E-02	U		¹⁵⁵ Eu	4.1E-02	\pm	9.9E-02	U
	²³⁸ Pu	-5.4E-03	\pm	8.1E-03	U		²³⁸ Pu	5.0E-03	\pm	6.0E-03	U
	^{239,240} Pu	-9.0E-04	\pm	4.0E-03	U		^{239,240} Pu	8.2E-04	\pm	2.9E-03	U
	¹⁰³ Ru	-2.2E-02	\pm	3.4E-02	U		¹⁰³ Ru	1.3E-03	\pm	1.3E-02	U
	¹⁰⁶ Ru	-3.8E-02	\pm	2.4E-01	U		¹⁰⁶ Ru	2.3E-01	\pm	2.5E-01	U
	¹²⁵ Sb	4.1E-02	\pm	6.9E-02	U		¹²⁵ Sb	2.1E-02	\pm	7.6E-02	U
	¹¹³ Sn	4.5E-02	\pm	4.5E-02	U		¹¹³ Sn	1.3E-02	\pm	3.6E-02	U
	⁹⁰ Sr	2.2E+00	\pm	4.4E-01			⁹⁰ Sr	9.2E-01	\pm	1.8E-01	
	²³⁴ U	9.0E-03	\pm	5.8E-03			²³⁴ U	1.1E-02	\pm	5.9E-03	
	²³⁵ U	-1.0E-03	\pm	2.0E-03	U		²³⁵ U	7.1E-04	\pm	7.1E-03	U
	²³⁸ U	6.5E-03	\pm	4.8E-03			²³⁸ U	7.1E-03	\pm	4.8E-03	
	⁶⁵ Zn	2.2E-02	\pm	8.2E-02	U		⁶⁵ Zn	8.2E-02	\pm	1.2E-01	U
V066 (200 East)	¹⁴⁴ Ce	-2.2E-01	\pm	4.1E-01	U	V068 (200 East)	¹⁴⁴ Ce	4.2E-02	\pm	4.2E-01	U
	⁶⁰ Co	-9.3E-03	\pm	3.2E-02	U		⁶⁰ Co	-7.2E-03	\pm	3.6E-02	U
	¹³⁴ Cs	2.2E-02	\pm	3.2E-02	U		¹³⁴ Cs	-6.4E-02	\pm	6.4E-02	U
	¹³⁷ Cs	7.9E-02	\pm	4.5E-02			¹³⁷ Cs	2.3E-03	\pm	2.3E-02	U
	¹⁵² Eu	-5.6E-02	\pm	7.9E-02	U		¹⁵² Eu	-3.3E-02	\pm	1.0E-01	U
	¹⁵⁴ Eu	2.8E-02	\pm	1.1E-01	U		¹⁵⁴ Eu	1.4E-02	\pm	1.1E-01	U
	¹⁵⁵ Eu	-9.4E-02	\pm	9.4E-02	U		¹⁵⁵ Eu	-3.2E-02	\pm	1.3E-01	U
	²³⁸ Pu	-1.8E-03	\pm	6.8E-03	U		²³⁸ Pu	1.6E-02	\pm	1.0E-02	
	^{239,240} Pu	8.7E-04	\pm	8.7E-04	U		^{239,240} Pu	5.8E-03	\pm	5.6E-03	U
	¹⁰³ Ru	-1.4E-03	\pm	1.4E-02	U		¹⁰³ Ru	3.8E-04	\pm	3.8E-03	U
	¹⁰⁶ Ru	3.4E-02	\pm	2.7E-01	U		¹⁰⁶ Ru	-1.8E-01	\pm	3.0E-01	U
	¹²⁵ Sb	4.2E-02	\pm	7.3E-02	U		¹²⁵ Sb	6.2E-03	\pm	6.2E-02	U
	¹¹³ Sn	-7.4E-03	\pm	3.3E-02	U		¹¹³ Sn	1.6E-02	\pm	4.2E-02	U
	⁹⁰ Sr	1.6E-02	\pm	8.2E-02	U		⁹⁰ Sr	4.8E-01	\pm	1.4E-01	
	²³⁴ U	1.1E-02	\pm	6.5E-03			²³⁴ U	1.2E-02	\pm	7.0E-03	
	²³⁵ U	-9.1E-04	\pm	3.2E-03	U		²³⁵ U	3.0E-03	\pm	3.6E-03	
	²³⁸ U	1.0E-02	\pm	5.8E-03			²³⁸ U	9.8E-03	\pm	6.1E-03	
	⁶⁵ Zn	-8.6E-02	\pm	8.6E-02	U		⁶⁵ Zn	-4.2E-02	\pm	7.8E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V076 (200 East)	¹⁴⁴ Ce	1.4E-01	\pm	3.5E-01	U
	⁶⁰ Co	1.9E-02	\pm	3.0E-02	U
	¹³⁴ Cs	9.7E-03	\pm	3.3E-02	U
	¹³⁷ Cs	3.2E-02	\pm	3.4E-02	U
	¹⁵² Eu	-1.8E-03	\pm	1.8E-02	U
	¹⁵⁴ Eu	1.0E-02	\pm	8.6E-02	U
	¹⁵⁵ Eu	-4.9E-02	\pm	9.6E-02	U
	²³⁸ Pu	-8.6E-04	\pm	5.7E-03	U
	^{239,240} Pu	1.7E-03	\pm	2.4E-03	U
	¹⁰³ Ru	-1.3E-02	\pm	2.8E-02	U
	¹⁰⁶ Ru	2.5E-01	\pm	2.8E-01	U
	¹²⁵ Sb	2.7E-02	\pm	7.5E-02	U
	¹¹³ Sn	-1.4E-02	\pm	3.3E-02	U
	⁹⁰ Sr	1.7E-01	\pm	1.1E-01	
	²³⁴ U	6.9E-03	\pm	5.0E-03	
	²³⁵ U	4.7E-03	\pm	5.2E-03	U
	²³⁸ U	1.5E-02	\pm	7.8E-03	
	⁶⁵ Zn	-5.5E-02	\pm	6.6E-02	U
V080 (200 East)	¹⁴⁴ Ce	-7.4E-02	\pm	3.3E-01	U
	⁶⁰ Co	7.6E-03	\pm	2.3E-02	U
	¹³⁴ Cs	-1.7E-03	\pm	1.7E-02	U
	¹³⁷ Cs	3.6E-03	\pm	2.5E-02	U
	¹⁵² Eu	1.2E-02	\pm	7.0E-02	U
	¹⁵⁴ Eu	-1.4E-02	\pm	8.5E-02	U
	¹⁵⁵ Eu	-4.0E-02	\pm	7.9E-02	U
	²³⁸ Pu	-4.2E-03	\pm	1.4E-02	U
	^{239,240} Pu	8.5E-04	\pm	4.5E-03	U
	¹⁰³ Ru	-1.2E-02	\pm	2.3E-02	U
	¹⁰⁶ Ru	-9.6E-02	\pm	1.9E-01	U
	¹²⁵ Sb	-2.4E-02	\pm	6.7E-02	U
	¹¹³ Sn	-3.6E-02	\pm	3.6E-02	U
	⁹⁰ Sr	9.3E-02	\pm	1.1E-01	U
	²³⁴ U	9.6E-03	\pm	6.7E-03	
	²³⁵ U	1.6E-03	\pm	4.0E-03	U
	²³⁸ U	6.7E-03	\pm	5.1E-03	
	⁶⁵ Zn	-2.1E-02	\pm	6.4E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V078 (200 East)	¹⁴⁴ Ce	-8.2E-02	\pm	3.3E-01	U
	⁶⁰ Co	-2.5E-02	\pm	2.5E-02	U
	¹³⁴ Cs	-8.2E-03	\pm	2.5E-02	U
	¹³⁷ Cs	3.4E-02	\pm	3.0E-02	U
	¹⁵² Eu	1.1E-02	\pm	7.1E-02	U
	¹⁵⁴ Eu	-7.3E-03	\pm	6.5E-02	U
	¹⁵⁵ Eu	-2.7E-02	\pm	8.5E-02	U
	²³⁸ Pu	6.7E-03	\pm	1.9E-02	U
	^{239,240} Pu	1.9E-03	\pm	2.7E-03	U
	¹⁰³ Ru	1.6E-03	\pm	1.6E-02	U
	¹⁰⁶ Ru	1.4E-01	\pm	2.1E-01	U
	¹²⁵ Sb	-3.6E-02	\pm	6.7E-02	U
	¹¹³ Sn	-4.3E-03	\pm	3.1E-02	U
	⁹⁰ Sr	4.2E-01	\pm	1.3E-01	
	²³⁴ U	1.4E-02	\pm	7.3E-03	
	²³⁵ U	1.9E-03	\pm	2.7E-03	U
	²³⁸ U	9.4E-03	\pm	7.6E-03	U
	⁶⁵ Zn	-2.9E-01	\pm	2.9E-01	U
V082 (600 Area)	¹⁴⁴ Ce	-1.0E-01	\pm	8.5E-01	U
	⁶⁰ Co	2.1E-02	\pm	6.3E-02	U
	¹³⁴ Cs	-2.0E-02	\pm	6.4E-02	U
	¹³⁷ Cs	8.6E-03	\pm	6.1E-02	U
	¹⁵² Eu	1.7E-01	\pm	1.7E-01	U
	¹⁵⁴ Eu	1.6E-01	\pm	1.8E-01	U
	¹⁵⁵ Eu	5.2E-02	\pm	1.9E-01	U
	²³⁸ Pu	2.4E-03	\pm	1.1E-02	U
	^{239,240} Pu	3.9E-03	\pm	4.3E-03	U
	¹⁰³ Ru	-2.4E-02	\pm	5.7E-02	U
	¹⁰⁶ Ru	-5.2E-01	\pm	5.8E-01	U
	¹²⁵ Sb	7.0E-03	\pm	7.0E-02	U
	¹¹³ Sn	-2.2E-02	\pm	7.2E-02	U
	⁹⁰ Sr	1.3E-01	\pm	9.2E-02	U
	²³⁴ U	7.6E-03	\pm	6.8E-03	U
	²³⁵ U	8.3E-03	\pm	5.2E-03	
	²³⁸ U	4.8E-03	\pm	4.7E-03	U
	⁶⁵ Zn	-1.0E-01	\pm	1.6E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V084 (600 Area)	¹⁴⁴ Ce	3.2E-01	\pm	4.6E-01	U
	⁶⁰ Co	1.3E-02	\pm	3.4E-02	U
	¹³⁴ Cs	-8.3E-03	\pm	4.0E-02	U
	¹³⁷ Cs	3.1E-02	\pm	3.6E-02	U
	¹⁵² Eu	-3.1E-02	\pm	1.0E-01	U
	¹⁵⁴ Eu	-5.6E-03	\pm	5.6E-02	U
	¹⁵⁵ Eu	9.4E-02	\pm	1.3E-01	U
	²³⁸ Pu	2.6E-03	\pm	1.4E-02	U
	^{239,240} Pu	1.7E-03	\pm	3.4E-03	U
	¹⁰³ Ru	2.7E-02	\pm	3.2E-02	U
	¹⁰⁶ Ru	-1.2E-01	\pm	3.0E-01	U
	¹²⁵ Sb	-1.6E-02	\pm	9.3E-02	U
	¹¹³ Sn	-2.3E-02	\pm	4.2E-02	U
	⁹⁰ Sr	2.8E-01	\pm	1.2E-01	
	²³⁴ U	3.6E-02	\pm	1.3E-02	
	²³⁵ U	1.3E-02	\pm	7.4E-03	
	²³⁸ U	2.0E-02	\pm	1.0E-02	
	⁶⁵ Zn	-2.5E-02	\pm	7.5E-02	U
V088 (600 Area)	¹⁴⁴ Ce	3.0E-02	\pm	2.9E-01	U
	⁶⁰ Co	-2.7E-03	\pm	2.7E-02	U
	¹³⁴ Cs	-1.8E-02	\pm	2.4E-02	U
	¹³⁷ Cs	2.4E-02	\pm	2.7E-02	U
	¹⁵² Eu	4.1E-02	\pm	8.0E-02	U
	¹⁵⁴ Eu	9.3E-03	\pm	8.1E-02	U
	¹⁵⁵ Eu	2.5E-02	\pm	9.0E-02	U
	²³⁸ Pu	-6.5E-03	\pm	1.2E-02	U
	^{239,240} Pu	9.2E-04	\pm	1.8E-03	U
	¹⁰³ Ru	-2.1E-03	\pm	2.1E-02	U
	¹⁰⁶ Ru	6.3E-02	\pm	2.2E-01	U
	¹²⁵ Sb	6.3E-03	\pm	6.3E-02	U
	¹¹³ Sn	-6.2E-03	\pm	3.4E-02	U
	⁹⁰ Sr	2.2E-01	\pm	1.1E-01	
	²³⁴ U	2.1E-02	\pm	1.1E-02	
	²³⁵ U	7.0E-03	\pm	5.1E-03	
	²³⁸ U	1.8E-02	\pm	9.0E-03	
	⁶⁵ Zn	-2.4E-01	\pm	2.4E-01	U
V086 (600 Area)	¹⁴⁴ Ce	-5.1E-02	\pm	3.1E-01	U
	⁶⁰ Co	-9.9E-03	\pm	2.4E-02	U
	¹³⁴ Cs	-7.4E-03	\pm	2.9E-02	U
	¹³⁷ Cs	9.0E-02	\pm	4.4E-02	
	¹⁵² Eu	1.3E-02	\pm	7.1E-02	U
	¹⁵⁴ Eu	1.3E-02	\pm	7.8E-02	U
	¹⁵⁵ Eu	7.7E-02	\pm	8.4E-02	U
	²³⁸ Pu	1.4E-02	\pm	1.3E-02	U
	^{239,240} Pu	8.5E-04	\pm	8.5E-04	U
	¹⁰³ Ru	1.5E-02	\pm	2.4E-02	U
	¹⁰⁶ Ru	-2.1E-02	\pm	2.1E-01	U
	¹²⁵ Sb	-2.8E-02	\pm	6.4E-02	U
	¹¹³ Sn	6.6E-03	\pm	3.1E-02	U
	⁹⁰ Sr	5.8E-02	\pm	9.0E-02	U
	²³⁴ U	1.8E-02	\pm	8.3E-03	
	²³⁵ U	5.4E-03	\pm	5.2E-03	U
	²³⁸ U	1.9E-02	\pm	8.7E-03	
	⁶⁵ Zn	-1.1E-01	\pm	1.1E-01	U
V090 (600 Area)	¹⁴⁴ Ce	-1.4E-01	\pm	3.5E-01	U
	⁶⁰ Co	-2.0E-02	\pm	2.6E-02	U
	¹³⁴ Cs	-4.3E-04	\pm	4.2E-03	U
	¹³⁷ Cs	7.9E-02	\pm	4.1E-02	
	¹⁵² Eu	-3.3E-02	\pm	7.8E-02	U
	¹⁵⁴ Eu	-1.9E-02	\pm	7.0E-02	U
	¹⁵⁵ Eu	3.1E-02	\pm	8.8E-02	U
	²³⁸ Pu	2.8E-03	\pm	9.2E-03	U
	^{239,240} Pu	2.0E-02	\pm	1.1E-02	
	¹⁰³ Ru	-2.1E-03	\pm	2.1E-02	U
	¹⁰⁶ Ru	4.8E-02	\pm	2.2E-01	U
	¹²⁵ Sb	-5.9E-02	\pm	7.0E-02	U
	¹¹³ Sn	-9.2E-03	\pm	3.2E-02	U
	⁹⁰ Sr	3.6E-01	\pm	1.4E-01	
	²³⁴ U	2.2E-02	\pm	1.0E-02	
	²³⁵ U	7.3E-03	\pm	5.3E-03	
	²³⁸ U	1.3E-02	\pm	7.1E-03	
	⁶⁵ Zn	-2.6E-01	\pm	2.6E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*	Location	Isotope	Result	\pm	Uncertainty	RQ*
V092 (600 Area)	¹⁴⁴ Ce	-1.9E-01	\pm	4.5E-01	U	V094 (600 Area)	¹⁴⁴ Ce	1.4E-01	\pm	3.4E-01	U
	⁶⁰ Co	-5.5E-03	\pm	3.5E-02	U		⁶⁰ Co	-6.1E-03	\pm	3.1E-02	U
	¹³⁴ Cs	2.8E-04	\pm	2.8E-03	U		¹³⁴ Cs	1.8E-02	\pm	3.4E-02	U
	¹³⁷ Cs	1.2E-01	\pm	5.7E-02			¹³⁷ Cs	1.2E-02	\pm	3.2E-02	U
	¹⁵² Eu	-7.2E-03	\pm	7.2E-02	U		¹⁵² Eu	-2.4E-02	\pm	8.3E-02	U
	¹⁵⁴ Eu	-5.8E-02	\pm	1.1E-01	U		¹⁵⁴ Eu	-5.6E-02	\pm	9.1E-02	U
	¹⁵⁵ Eu	-2.0E-02	\pm	1.1E-01	U		¹⁵⁵ Eu	-8.4E-04	\pm	8.3E-03	U
	²³⁸ Pu	-3.2E-03	\pm	7.7E-03	U		²³⁸ Pu	8.0E-03	\pm	1.4E-02	U
	^{239,240} Pu	4.8E-03	\pm	5.8E-03	U		^{239,240} Pu	3.2E-03	\pm	3.8E-03	U
	¹⁰³ Ru	2.1E-02	\pm	3.3E-02	U		¹⁰³ Ru	2.4E-02	\pm	2.5E-02	U
	¹⁰⁶ Ru	8.1E-02	\pm	3.3E-01	U		¹⁰⁶ Ru	-1.1E-01	\pm	2.7E-01	U
	¹²⁵ Sb	3.8E-02	\pm	9.0E-02	U		¹²⁵ Sb	-2.1E-02	\pm	7.8E-02	U
	¹¹³ Sn	-3.1E-03	\pm	3.1E-02	U		¹¹³ Sn	-1.5E-02	\pm	3.6E-02	U
	⁹⁰ Sr	1.9E-01	\pm	1.1E-01			⁹⁰ Sr	1.3E-01	\pm	9.1E-02	U
	²³⁴ U	1.6E-02	\pm	8.3E-03			²³⁴ U	2.0E-02	\pm	9.6E-03	
	²³⁵ U	1.1E-02	\pm	6.8E-03			²³⁵ U	-8.6E-04	\pm	3.0E-03	U
	²³⁸ U	2.2E-02	\pm	9.2E-03			²³⁸ U	2.0E-02	\pm	9.4E-03	
	⁶⁵ Zn	-1.5E-01	\pm	1.5E-01	U		⁶⁵ Zn	-7.4E-02	\pm	7.5E-02	U
V096 (600 Area)	¹⁴⁴ Ce	-1.9E-01	\pm	4.9E-01	U	V098 (600 Area)	¹⁴⁴ Ce	-4.3E-01	\pm	5.5E-01	U
	⁶⁰ Co	-1.5E-03	\pm	1.5E-02	U		⁶⁰ Co	4.1E-02	\pm	4.1E-02	U
	¹³⁴ Cs	-1.3E-02	\pm	3.9E-02	U		¹³⁴ Cs	-2.5E-02	\pm	4.1E-02	U
	¹³⁷ Cs	3.7E-03	\pm	3.4E-02	U		¹³⁷ Cs	1.8E-02	\pm	4.0E-02	U
	¹⁵² Eu	-5.3E-03	\pm	5.3E-02	U		¹⁵² Eu	-6.7E-02	\pm	1.4E-01	U
	¹⁵⁴ Eu	9.8E-02	\pm	1.2E-01	U		¹⁵⁴ Eu	1.3E-01	\pm	1.3E-01	U
	¹⁵⁵ Eu	2.2E-02	\pm	1.2E-01	U		¹⁵⁵ Eu	4.3E-02	\pm	1.6E-01	U
	²³⁸ Pu	-2.0E-03	\pm	1.1E-02	U		²³⁸ Pu	8.8E-04	\pm	8.8E-03	U
	^{239,240} Pu	5.8E-03	\pm	4.5E-03			^{239,240} Pu	-1.8E-03	\pm	2.5E-03	U
	¹⁰³ Ru	1.0E-02	\pm	3.4E-02	U		¹⁰³ Ru	-1.8E-02	\pm	3.8E-02	U
	¹⁰⁶ Ru	9.0E-02	\pm	3.2E-01	U		¹⁰⁶ Ru	-2.8E-01	\pm	3.8E-01	U
	¹²⁵ Sb	-7.2E-02	\pm	8.8E-02	U		¹²⁵ Sb	4.7E-02	\pm	1.1E-01	U
	¹¹³ Sn	7.9E-03	\pm	4.1E-02	U		¹¹³ Sn	8.7E-03	\pm	4.9E-02	U
	⁹⁰ Sr	2.5E-01	\pm	1.0E-01			⁹⁰ Sr	1.8E-01	\pm	1.3E-01	U
	²³⁴ U	1.2E-02	\pm	8.4E-03			²³⁴ U	1.0E-02	\pm	6.7E-03	
	²³⁵ U	9.3E-04	\pm	3.3E-03	U		²³⁵ U	3.0E-03	\pm	3.6E-03	U
	²³⁸ U	1.4E-02	\pm	7.4E-03			²³⁸ U	7.0E-03	\pm	5.4E-03	
	⁶⁵ Zn	-4.3E-02	\pm	8.4E-02	U		⁶⁵ Zn	-1.9E-01	\pm	1.9E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V100 (600 Area)	¹⁴⁴ Ce	-4.6E-02	\pm	2.6E-01	U
	⁶⁰ Co	-1.5E-02	\pm	2.1E-02	U
	¹³⁴ Cs	9.2E-03	\pm	2.2E-02	U
	¹³⁷ Cs	5.3E-03	\pm	2.0E-02	U
	¹⁵² Eu	-4.7E-02	\pm	6.2E-02	U
	¹⁵⁴ Eu	6.2E-02	\pm	6.4E-02	U
	¹⁵⁵ Eu	-5.2E-02	\pm	7.0E-02	U
	²³⁸ Pu	1.1E-02	\pm	1.3E-02	U
	^{239,240} Pu	-7.7E-04	\pm	3.5E-03	U
	¹⁰³ Ru	2.8E-03	\pm	1.9E-02	U
	¹⁰⁶ Ru	3.8E-03	\pm	3.8E-02	U
	¹²⁵ Sb	3.5E-02	\pm	5.7E-02	U
	¹¹³ Sn	3.4E-03	\pm	2.5E-02	U
	⁹⁰ Sr	8.1E-02	\pm	1.1E-01	U
	²³⁴ U	1.8E-02	\pm	9.4E-03	
	²³⁵ U	8.5E-04	\pm	3.8E-03	U
	²³⁸ U	1.1E-02	\pm	6.9E-03	
	⁶⁵ Zn	2.8E-04	\pm	2.8E-03	U
V104 (600 Area)	¹⁴⁴ Ce	-3.2E-01	\pm	5.8E-01	U
	⁶⁰ Co	5.3E-03	\pm	4.2E-02	U
	¹³⁴ Cs	8.9E-03	\pm	4.5E-02	U
	¹³⁷ Cs	2.5E-03	\pm	2.5E-02	U
	¹⁵² Eu	-3.1E-02	\pm	1.2E-01	U
	¹⁵⁴ Eu	-1.1E-01	\pm	1.4E-01	U
	¹⁵⁵ Eu	1.4E-01	\pm	1.3E-01	U
	²³⁸ Pu	-2.3E-03	\pm	9.9E-03	U
	^{239,240} Pu	8.5E-04	\pm	3.8E-03	U
	¹⁰³ Ru	5.3E-03	\pm	3.9E-02	U
	¹⁰⁶ Ru	-4.0E-01	\pm	4.0E-01	U
	¹²⁵ Sb	2.1E-02	\pm	1.2E-01	U
	¹¹³ Sn	3.4E-02	\pm	4.8E-02	U
	⁹⁰ Sr	3.7E-02	\pm	8.9E-02	U
	²³⁴ U	1.7E-03	\pm	7.1E-03	U
	²³⁵ U	9.1E-04	\pm	4.1E-03	U
	²³⁸ U	5.8E-03	\pm	4.5E-03	
	⁶⁵ Zn	-7.8E-02	\pm	9.9E-02	U
V102 (600 Area)	¹⁴⁴ Ce	-1.7E-01	\pm	4.4E-01	U
	⁶⁰ Co	-1.6E-02	\pm	4.2E-02	U
	¹³⁴ Cs	-9.0E-03	\pm	4.0E-02	U
	¹³⁷ Cs	9.0E-02	\pm	6.5E-02	
	¹⁵² Eu	-6.0E-02	\pm	1.1E-01	U
	¹⁵⁴ Eu	3.5E-02	\pm	1.2E-01	U
	¹⁵⁵ Eu	-2.8E-02	\pm	1.3E-01	U
	²³⁸ Pu	2.5E-03	\pm	1.4E-02	U
	^{239,240} Pu	5.0E-03	\pm	6.5E-03	U
	¹⁰³ Ru	-3.0E-02	\pm	3.7E-02	U
	¹⁰⁶ Ru	2.7E-02	\pm	2.7E-01	U
	¹²⁵ Sb	8.5E-02	\pm	8.3E-02	U
	¹¹³ Sn	-9.6E-04	\pm	9.6E-03	U
	⁹⁰ Sr	8.5E-02	\pm	1.0E-01	U
	²³⁴ U	1.9E-02	\pm	9.5E-03	
	²³⁵ U	3.6E-03	\pm	3.6E-03	
	²³⁸ U	1.4E-02	\pm	7.6E-03	
	⁶⁵ Zn	-1.6E-01	\pm	1.6E-01	U
V106 (600 Area)	¹⁴⁴ Ce	3.8E-01	\pm	4.3E-01	U
	⁶⁰ Co	4.9E-03	\pm	3.0E-02	U
	¹³⁴ Cs	-2.3E-02	\pm	3.1E-02	U
	¹³⁷ Cs	1.3E-01	\pm	5.8E-02	
	¹⁵² Eu	-5.3E-02	\pm	8.8E-02	U
	¹⁵⁴ Eu	-9.7E-02	\pm	9.7E-02	U
	¹⁵⁵ Eu	-1.4E-01	\pm	1.4E-01	U
	²³⁸ Pu	-8.5E-04	\pm	8.5E-03	U
	^{239,240} Pu	1.6E-02	\pm	8.6E-03	
	¹⁰³ Ru	6.2E-03	\pm	2.9E-02	U
	¹⁰⁶ Ru	-2.0E-01	\pm	2.8E-01	U
	¹²⁵ Sb	1.6E-02	\pm	8.1E-02	U
	¹¹³ Sn	-6.4E-04	\pm	6.4E-03	U
	⁹⁰ Sr	5.1E-02	\pm	9.4E-02	U
	²³⁴ U	3.5E-02	\pm	1.3E-02	
	²³⁵ U	3.5E-03	\pm	4.9E-03	U
	²³⁸ U	2.1E-02	\pm	9.4E-03	
	⁶⁵ Zn	-1.7E-01	\pm	1.7E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V108 (600 Area)	¹⁴⁴ Ce	-1.5E-01	\pm	3.7E-01	U
	⁶⁰ Co	-4.7E-03	\pm	2.9E-02	U
	¹³⁴ Cs	6.6E-03	\pm	3.3E-02	U
	¹³⁷ Cs	1.2E-01	\pm	5.9E-02	
	¹⁵² Eu	4.1E-02	\pm	9.1E-02	U
	¹⁵⁴ Eu	-4.9E-02	\pm	9.6E-02	U
	¹⁵⁵ Eu	-2.9E-02	\pm	9.9E-02	U
	²³⁸ Pu	2.6E-02	\pm	1.6E-02	
	^{239,240} Pu	5.2E-02	\pm	1.7E-02	
	¹⁰³ Ru	-1.1E-02	\pm	2.8E-02	U
	¹⁰⁶ Ru	-2.2E-01	\pm	2.9E-01	U
	¹²⁵ Sb	-4.4E-02	\pm	8.1E-02	U
	¹¹³ Sn	-8.9E-03	\pm	3.7E-02	U
	⁹⁰ Sr	2.9E-01	\pm	1.2E-01	
	²³⁴ U	2.3E-02	\pm	9.9E-03	
	²³⁵ U	8.6E-04	\pm	1.7E-03	U
	²³⁸ U	1.5E-02	\pm	7.5E-03	
	⁶⁵ Zn	1.7E-02	\pm	8.0E-02	U
V112 (Duplicate of V032)	¹⁴⁴ Ce	-2.2E-01	\pm	4.4E-01	U
	⁶⁰ Co	-2.1E-02	\pm	3.5E-02	U
	¹³⁴ Cs	1.1E-02	\pm	3.4E-02	U
	¹³⁷ Cs	3.9E-02	\pm	3.6E-02	U
	¹⁵² Eu	-4.0E-02	\pm	8.6E-02	U
	¹⁵⁴ Eu	-2.1E-02	\pm	9.8E-02	U
	¹⁵⁵ Eu	3.7E-02	\pm	1.0E-01	U
	²³⁸ Pu	6.4E-03	\pm	1.5E-02	U
	^{239,240} Pu	5.5E-03	\pm	6.6E-03	U
	¹⁰³ Ru	-8.3E-03	\pm	3.0E-02	U
	¹⁰⁶ Ru	-4.7E-02	\pm	2.9E-01	U
	¹²⁵ Sb	9.5E-03	\pm	8.2E-02	U
	¹¹³ Sn	3.1E-02	\pm	3.6E-02	U
	⁹⁰ Sr	2.0E-01	\pm	1.1E-01	U
	²³⁴ U	1.5E-02	\pm	7.9E-03	
	²³⁵ U	2.7E-03	\pm	3.2E-03	
	²³⁸ U	1.5E-02	\pm	7.9E-03	
	⁶⁵ Zn	-1.3E-01	\pm	1.3E-01	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V110 (600 Area)	¹⁴⁴ Ce	3.3E-02	\pm	3.3E-01	U
	⁶⁰ Co	3.7E-03	\pm	3.6E-02	U
	¹³⁴ Cs	1.6E-03	\pm	1.6E-02	U
	¹³⁷ Cs	-2.8E-02	\pm	3.7E-02	U
	¹⁵² Eu	5.2E-02	\pm	1.1E-01	U
	¹⁵⁴ Eu	-7.2E-04	\pm	7.2E-03	U
	¹⁵⁵ Eu	4.6E-03	\pm	4.6E-02	U
	²³⁸ Pu	8.4E-04	\pm	8.4E-04	U
	^{239,240} Pu	8.4E-04	\pm	1.7E-03	U
	¹⁰³ Ru	-8.9E-03	\pm	3.7E-02	U
	¹⁰⁶ Ru	-1.5E-01	\pm	3.3E-01	U
	¹²⁵ Sb	-1.9E-02	\pm	1.1E-01	U
	¹¹³ Sn	-8.1E-03	\pm	4.9E-02	U
	⁹⁰ Sr	1.3E-01	\pm	1.0E-01	U
	²³⁴ U	9.4E-03	\pm	6.1E-03	
	²³⁵ U	3.4E-03	\pm	3.4E-03	
	²³⁸ U	6.3E-03	\pm	5.1E-03	
	⁶⁵ Zn	-3.5E-03	\pm	3.5E-02	U
V114 (Duplicate of D096)	¹⁴⁴ Ce	-1.1E-01	\pm	3.8E-01	U
	⁶⁰ Co	4.8E-03	\pm	2.7E-02	U
	¹³⁴ Cs	1.2E-02	\pm	3.5E-02	U
	¹³⁷ Cs	2.1E-02	\pm	3.0E-02	U
	¹⁵² Eu	-4.6E-02	\pm	8.2E-02	U
	¹⁵⁴ Eu	-5.7E-03	\pm	5.7E-02	U
	¹⁵⁵ Eu	-5.6E-02	\pm	1.1E-01	U
	²³⁸ Pu	-8.1E-04	\pm	8.1E-03	U
	^{239,240} Pu	-8.1E-04	\pm	3.6E-03	U
	¹⁰³ Ru	-3.2E-02	\pm	3.2E-02	U
	¹⁰⁶ Ru	-8.9E-02	\pm	2.5E-01	U
	¹²⁵ Sb	4.4E-02	\pm	7.8E-02	U
	¹¹³ Sn	2.9E-02	\pm	3.6E-02	U
	⁹⁰ Sr	1.2E-01	\pm	1.1E-01	U
	²³⁴ U	1.2E-02	\pm	6.8E-03	
	²³⁵ U	4.6E-03	\pm	4.2E-03	
	²³⁸ U	8.5E-03	\pm	5.6E-03	
	⁶⁵ Zn	-7.9E-02	\pm	7.9E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V116 (300 Area)	¹⁴⁴ Ce	9.6E-03	\pm	9.6E-02	U
	⁶⁰ Co	-1.0E-02	\pm	1.9E-02	U
	¹³⁴ Cs	-1.1E-02	\pm	2.2E-02	U
	¹³⁷ Cs	-4.7E-03	\pm	2.4E-02	U
	¹⁵² Eu	-4.6E-03	\pm	4.6E-02	U
	¹⁵⁴ Eu	-2.3E-02	\pm	7.3E-02	U
	¹⁵⁵ Eu	5.7E-02	\pm	9.0E-02	U
	²³⁸ Pu	4.1E-03	\pm	1.4E-02	U
	^{239,240} Pu	1.0E-03	\pm	5.3E-03	U
	¹⁰³ Ru	-9.9E-03	\pm	2.1E-02	U
	¹⁰⁶ Ru	1.6E-01	\pm	2.1E-01	U
	¹²⁵ Sb	-2.1E-02	\pm	6.3E-02	U
	¹¹³ Sn	-2.0E-02	\pm	3.1E-02	U
	⁹⁰ Sr	1.7E-01	\pm	1.0E-01	
	²³⁴ U	2.9E-02	\pm	1.2E-02	
	²³⁵ U	1.9E-03	\pm	2.7E-03	U
	²³⁸ U	2.0E-02	\pm	9.4E-03	
	⁶⁵ Zn	-1.9E-02	\pm	5.8E-02	U
V118 (300 Area)	¹⁴⁴ Ce	-3.7E-01	\pm	3.7E-01	U
	⁶⁰ Co	1.4E-02	\pm	3.3E-02	U
	¹³⁴ Cs	2.7E-03	\pm	2.7E-02	U
	¹³⁷ Cs	-1.7E-02	\pm	3.0E-02	U
	¹⁵² Eu	7.6E-02	\pm	8.3E-02	U
	¹⁵⁴ Eu	-7.2E-02	\pm	1.0E-01	U
	¹⁵⁵ Eu	-3.7E-03	\pm	3.7E-02	U
	²³⁸ Pu	1.8E-03	\pm	1.2E-02	U
	^{239,240} Pu	-9.1E-04	\pm	4.1E-03	U
	¹⁰³ Ru	5.1E-03	\pm	2.5E-02	U
	¹⁰⁶ Ru	-3.2E-02	\pm	2.7E-01	U
	¹²⁵ Sb	-1.7E-02	\pm	7.2E-02	U
	¹¹³ Sn	6.4E-03	\pm	3.3E-02	U
	⁹⁰ Sr	8.8E-01	\pm	1.8E-01	
	²³⁴ U	7.0E-02	\pm	2.0E-02	
	²³⁵ U	8.7E-03	\pm	6.0E-03	
	²³⁸ U	5.6E-02	\pm	1.7E-02	
	⁶⁵ Zn	-8.6E-02	\pm	8.6E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V117 (300 Area)	¹⁴⁴ Ce	8.6E-02	\pm	3.6E-01	U
	⁶⁰ Co	3.0E-03	\pm	3.0E-02	U
	¹³⁴ Cs	-1.1E-03	\pm	1.1E-02	U
	¹³⁷ Cs	5.3E-02	\pm	4.5E-02	
	¹⁵² Eu	-4.3E-02	\pm	8.5E-02	U
	¹⁵⁴ Eu	-5.8E-02	\pm	9.2E-02	U
	¹⁵⁵ Eu	-3.9E-02	\pm	1.0E-01	U
	²³⁸ Pu	2.1E-03	\pm	1.5E-02	U
	^{239,240} Pu	1.1E-03	\pm	1.1E-02	U
	¹⁰³ Ru	-6.5E-03	\pm	2.9E-02	U
	¹⁰⁶ Ru	-2.2E-01	\pm	2.9E-01	U
	¹²⁵ Sb	-4.9E-02	\pm	8.2E-02	U
	¹¹³ Sn	1.7E-02	\pm	3.6E-02	U
	⁹⁰ Sr	6.7E-01	\pm	1.7E-01	
	²³⁴ U	2.3E-02	\pm	1.2E-02	
	²³⁵ U	-3.0E-03	\pm	6.6E-03	U
	²³⁸ U	6.4E-03	\pm	6.2E-03	U
	⁶⁵ Zn	-1.1E-01	\pm	1.1E-01	U
V119 (300 Area)	¹⁴⁴ Ce	7.0E-02	\pm	3.0E-01	U
	⁶⁰ Co	-6.4E-03	\pm	2.1E-02	U
	¹³⁴ Cs	1.5E-02	\pm	2.6E-02	U
	¹³⁷ Cs	-2.0E-03	\pm	2.0E-02	U
	¹⁵² Eu	4.1E-03	\pm	4.1E-02	U
	¹⁵⁴ Eu	1.4E-02	\pm	6.4E-02	U
	¹⁵⁵ Eu	5.8E-02	\pm	8.0E-02	U
	²³⁸ Pu	-1.9E-03	\pm	1.4E-02	U
	^{239,240} Pu	-2.9E-03	\pm	3.5E-03	U
	¹⁰³ Ru	-1.0E-02	\pm	2.2E-02	U
	¹⁰⁶ Ru	-1.6E-01	\pm	1.9E-01	U
	¹²⁵ Sb	-4.9E-02	\pm	6.1E-02	U
	¹¹³ Sn	7.7E-03	\pm	2.9E-02	U
	⁹⁰ Sr	1.0E-02	\pm	8.8E-02	U
	²³⁴ U	1.2E-01	\pm	3.0E-02	
	²³⁵ U	8.5E-03	\pm	6.5E-03	
	²³⁸ U	1.3E-01	\pm	3.2E-02	
	⁶⁵ Zn	3.9E-02	\pm	5.2E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V121 (300 Area)	¹⁴⁴ Ce	-1.1E-02	\pm	1.1E-01	U
	⁶⁰ Co	6.5E-03	\pm	3.4E-02	U
	¹³⁴ Cs	6.7E-03	\pm	4.3E-02	U
	¹³⁷ Cs	4.3E-03	\pm	3.0E-02	U
	¹⁵² Eu	-1.5E-02	\pm	7.6E-02	U
	¹⁵⁴ Eu	1.2E-02	\pm	1.0E-01	U
	¹⁵⁵ Eu	5.6E-02	\pm	9.8E-02	U
	²³⁸ Pu	1.1E-02	\pm	1.5E-02	U
	^{239,240} Pu	-1.8E-03	\pm	6.3E-03	U
	¹⁰³ Ru	1.9E-02	\pm	2.9E-02	U
	¹⁰⁶ Ru	-2.6E-01	\pm	2.6E-01	U
	¹²⁵ Sb	-7.4E-03	\pm	7.4E-02	U
	¹¹³ Sn	-1.4E-03	\pm	1.4E-02	U
	⁹⁰ Sr	2.4E-01	\pm	1.4E-01	
	²³⁴ U	4.0E-02	\pm	1.4E-02	
	²³⁵ U	3.6E-03	\pm	4.3E-03	U
	²³⁸ U	4.1E-02	\pm	1.4E-02	
	⁶⁵ Zn	-7.2E-02	\pm	7.4E-02	U
V124 (300 Area)	¹⁴⁴ Ce	-1.5E-01	\pm	3.8E-01	U
	⁶⁰ Co	1.9E-02	\pm	2.9E-02	U
	¹³⁴ Cs	-6.7E-03	\pm	3.0E-02	U
	¹³⁷ Cs	1.2E-02	\pm	2.8E-02	U
	¹⁵² Eu	6.9E-02	\pm	1.2E-01	U
	¹⁵⁴ Eu	2.9E-03	\pm	2.9E-02	U
	¹⁵⁵ Eu	1.8E-02	\pm	1.0E-01	U
	²³⁸ Pu	7.0E-03	\pm	1.5E-02	U
	^{239,240} Pu	1.0E-03	\pm	1.0E-02	U
	¹⁰³ Ru	-7.3E-05	\pm	7.3E-04	U
	¹⁰⁶ Ru	-2.1E-02	\pm	2.0E-01	U
	¹²⁵ Sb	-3.5E-02	\pm	8.4E-02	U
	¹¹³ Sn	4.1E-03	\pm	3.4E-02	U
	⁹⁰ Sr	1.5E-01	\pm	1.1E-01	
	²³⁴ U	2.1E-02	\pm	1.0E-02	
	²³⁵ U	3.6E-03	\pm	3.6E-03	
	²³⁸ U	1.4E-02	\pm	8.3E-03	
	⁶⁵ Zn	-5.1E-02	\pm	6.5E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V123 (300 Area)	¹⁴⁴ Ce	-9.3E-02	\pm	5.1E-01	U
	⁶⁰ Co	-6.8E-03	\pm	5.0E-02	U
	¹³⁴ Cs	2.0E-02	\pm	4.7E-02	U
	¹³⁷ Cs	2.6E-02	\pm	4.5E-02	U
	¹⁵² Eu	1.3E-01	\pm	1.2E-01	U
	¹⁵⁴ Eu	-1.4E-01	\pm	1.6E-01	U
	¹⁵⁵ Eu	1.3E-01	\pm	1.4E-01	U
	²³⁸ Pu	1.0E-03	\pm	1.0E-03	U
	^{239,240} Pu	1.1E-03	\pm	1.1E-03	U
	¹⁰³ Ru	-1.3E-02	\pm	3.8E-02	U
	¹⁰⁶ Ru	-1.6E-02	\pm	1.6E-01	U
	¹²⁵ Sb	-1.0E-01	\pm	1.1E-01	U
	¹¹³ Sn	-3.7E-02	\pm	4.8E-02	U
	⁹⁰ Sr	1.0E-01	\pm	1.0E-01	U
	²³⁴ U	1.3E-02	\pm	7.9E-03	
	²³⁵ U	1.9E-03	\pm	4.7E-03	U
	²³⁸ U	1.1E-02	\pm	6.8E-03	
	⁶⁵ Zn	-6.1E-02	\pm	1.1E-01	U
V125 (300 Area)	¹⁴⁴ Ce	-2.4E-01	\pm	5.9E-01	U
	⁶⁰ Co	1.0E-02	\pm	4.5E-02	U
	¹³⁴ Cs	4.5E-02	\pm	5.3E-02	U
	¹³⁷ Cs	1.6E-02	\pm	5.1E-02	U
	¹⁵² Eu	5.4E-02	\pm	1.4E-01	U
	¹⁵⁴ Eu	8.3E-02	\pm	1.5E-01	U
	¹⁵⁵ Eu	1.4E-01	\pm	1.6E-01	U
	²³⁸ Pu	1.6E-02	\pm	9.8E-03	
	^{239,240} Pu	-1.5E-02	\pm	1.5E-02	U
	¹⁰³ Ru	1.5E-02	\pm	4.6E-02	U
	¹⁰⁶ Ru	3.6E-03	\pm	3.6E-02	U
	¹²⁵ Sb	2.7E-02	\pm	1.2E-01	U
	¹¹³ Sn	1.7E-02	\pm	5.7E-02	U
	⁹⁰ Sr	3.2E-01	\pm	1.3E-01	
	²³⁴ U	1.2E-02	\pm	7.1E-03	
	²³⁵ U	2.0E-03	\pm	4.0E-03	U
	²³⁸ U	1.5E-02	\pm	8.2E-03	
	⁶⁵ Zn	-6.8E-02	\pm	1.1E-01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V126 (300 Area)	¹⁴⁴ Ce	3.0E-01	\pm	3.1E-01	U
	⁶⁰ Co	-5.2E-03	\pm	2.1E-02	U
	¹³⁴ Cs	8.5E-03	\pm	2.4E-02	U
	¹³⁷ Cs	-3.9E-03	\pm	2.2E-02	U
	¹⁵² Eu	1.1E-02	\pm	7.0E-02	U
	¹⁵⁴ Eu	-2.1E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	-4.0E-04	\pm	4.0E-03	U
	²³⁸ Pu	8.4E-04	\pm	8.4E-03	U
	^{239,240} Pu	1.7E-03	\pm	2.4E-03	U
	¹⁰³ Ru	-3.5E-03	\pm	2.3E-02	U
	¹⁰⁶ Ru	-9.7E-02	\pm	2.0E-01	U
	¹²⁵ Sb	-2.1E-02	\pm	6.3E-02	U
	¹¹³ Sn	3.2E-02	\pm	3.0E-02	U
	⁹⁰ Sr	1.1E-01	\pm	1.0E-01	U
	²³⁴ U	5.0E-02	\pm	1.6E-02	
	²³⁵ U	7.1E-03	\pm	5.8E-03	
	²³⁸ U	3.2E-02	\pm	1.2E-02	
	⁶⁵ Zn	4.3E-02	\pm	5.2E-02	U
V128 (300 Area)	¹⁴⁴ Ce	6.4E-03	\pm	6.4E-02	U
	⁶⁰ Co	-4.1E-03	\pm	2.9E-02	U
	¹³⁴ Cs	-1.9E-02	\pm	2.9E-02	U
	¹³⁷ Cs	2.0E-02	\pm	2.7E-02	U
	¹⁵² Eu	4.1E-02	\pm	7.1E-02	U
	¹⁵⁴ Eu	-3.9E-02	\pm	8.3E-02	U
	¹⁵⁵ Eu	1.5E-02	\pm	8.7E-02	U
	²³⁸ Pu	1.6E-03	\pm	4.0E-03	U
	^{239,240} Pu	4.0E-03	\pm	3.6E-03	
	¹⁰³ Ru	4.5E-03	\pm	2.5E-02	U
	¹⁰⁶ Ru	-1.7E-01	\pm	2.4E-01	U
	¹²⁵ Sb	-1.7E-02	\pm	7.0E-02	U
	¹¹³ Sn	-2.1E-02	\pm	3.0E-02	U
	⁹⁰ Sr	5.3E-02	\pm	9.1E-02	U
	²³⁴ U	1.7E-02	\pm	8.0E-03	
	²³⁵ U	2.4E-03	\pm	2.9E-03	
	²³⁸ U	2.6E-02	\pm	1.0E-02	
	⁶⁵ Zn	-1.6E-02	\pm	7.3E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V127 (300 Area)	¹⁴⁴ Ce	9.4E-02	\pm	3.8E-01	U
	⁶⁰ Co	1.8E-02	\pm	3.0E-02	U
	¹³⁴ Cs	-1.5E-02	\pm	4.3E-02	U
	¹³⁷ Cs	3.8E-02	\pm	3.1E-02	U
	¹⁵² Eu	-1.2E-02	\pm	8.4E-02	U
	¹⁵⁴ Eu	-8.9E-02	\pm	9.2E-02	U
	¹⁵⁵ Eu	1.0E-01	\pm	9.8E-02	U
	²³⁸ Pu	3.3E-03	\pm	6.3E-03	U
	^{239,240} Pu	8.1E-04	\pm	8.1E-04	U
	¹⁰³ Ru	5.8E-03	\pm	3.0E-02	U
	¹⁰⁶ Ru	1.9E-01	\pm	2.7E-01	U
	¹²⁵ Sb	-4.5E-02	\pm	7.8E-02	U
	¹¹³ Sn	-1.9E-02	\pm	3.6E-02	U
	⁹⁰ Sr	1.4E-01	\pm	1.2E-01	U
	²³⁴ U	1.8E-02	\pm	9.2E-03	
	²³⁵ U	-8.0E-04	\pm	4.2E-03	U
	²³⁸ U	1.2E-02	\pm	8.2E-03	
	⁶⁵ Zn	-2.7E-02	\pm	7.8E-02	U
V129 (300 Area)	¹⁴⁴ Ce	-2.4E-01	\pm	3.8E-01	U
	⁶⁰ Co	1.3E-02	\pm	2.5E-02	U
	¹³⁴ Cs	5.6E-03	\pm	2.8E-02	U
	¹³⁷ Cs	1.8E-02	\pm	2.9E-02	U
	¹⁵² Eu	1.7E-01	\pm	1.3E-01	
	¹⁵⁴ Eu	-2.3E-02	\pm	8.5E-02	U
	¹⁵⁵ Eu	-9.9E-02	\pm	1.1E-01	U
	²³⁸ Pu	-6.4E-03	\pm	1.2E-02	U
	^{239,240} Pu	3.2E-03	\pm	3.2E-03	
	¹⁰³ Ru	-1.4E-02	\pm	2.8E-02	U
	¹⁰⁶ Ru	4.6E-02	\pm	2.4E-01	U
	¹²⁵ Sb	2.0E-02	\pm	7.4E-02	U
	¹¹³ Sn	-2.2E-02	\pm	3.4E-02	U
	⁹⁰ Sr	1.1E-01	\pm	1.1E-01	U
	²³⁴ U	2.2E-02	\pm	8.8E-03	
	²³⁵ U	5.3E-03	\pm	4.1E-03	
	²³⁸ U	3.3E-02	\pm	1.1E-02	
	⁶⁵ Zn	2.8E-02	\pm	6.7E-02	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 3-5. 2002 Vegetation Sampling Results (pCi/g \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm	Uncertainty	RQ*
V130 (400 Area)	¹⁴⁴ Ce	2.5E-01	\pm	2.7E-01	U
	⁶⁰ Co	5.1E-03	\pm	1.9E-02	U
	¹³⁴ Cs	-1.3E-02	\pm	2.1E-02	U
	¹³⁷ Cs	8.2E-03	\pm	1.9E-02	U
	¹⁵² Eu	1.1E-02	\pm	5.8E-02	U
	¹⁵⁴ Eu	3.4E-02	\pm	6.2E-02	U
	¹⁵⁵ Eu	1.1E-02	\pm	7.0E-02	U
	²³⁸ Pu	2.6E-03	\pm	5.2E-03	U
	^{239,240} Pu	8.7E-04	\pm	3.0E-03	U
	¹⁰³ Ru	-1.0E-02	\pm	2.0E-02	U
	¹⁰⁶ Ru	-9.1E-02	\pm	1.7E-01	U
	¹²⁵ Sb	1.6E-02	\pm	5.5E-02	U
	¹¹³ Sn	6.5E-03	\pm	2.5E-02	U
	⁹⁰ Sr	1.2E-01	\pm	1.1E-01	U
	²³⁴ U	1.6E-02	\pm	8.3E-03	
	²³⁵ U	1.8E-03	\pm	2.5E-03	U
	²³⁸ U	9.0E-03	\pm	5.7E-03	
	⁶⁵ Zn	-2.1E-01	\pm	2.1E-01	U
V132 (Duplicate of V123)	¹⁴⁴ Ce	-1.2E-01	\pm	5.0E-01	U
	⁶⁰ Co	2.8E-02	\pm	3.7E-02	U
	¹³⁴ Cs	4.0E-03	\pm	4.0E-02	U
	¹³⁷ Cs	1.7E-02	\pm	5.8E-02	U
	¹⁵² Eu	-1.2E-02	\pm	1.1E-01	U
	¹⁵⁴ Eu	1.7E-02	\pm	1.2E-01	U
	¹⁵⁵ Eu	5.2E-02	\pm	1.2E-01	U
	²³⁸ Pu	3.6E-03	\pm	5.0E-03	U
	^{239,240} Pu	8.9E-04	\pm	3.1E-03	U
	¹⁰³ Ru	-1.1E-02	\pm	3.8E-02	U
	¹⁰⁶ Ru	2.8E-01	\pm	3.4E-01	U
	¹²⁵ Sb	-7.2E-02	\pm	1.1E-01	U
	¹¹³ Sn	-3.7E-02	\pm	4.8E-02	U
	⁹⁰ Sr	-6.1E-02	\pm	8.5E-02	U
	²³⁴ U	8.5E-03	\pm	5.8E-03	
	²³⁵ U	4.2E-03	\pm	3.8E-03	
	²³⁸ U	7.7E-03	\pm	5.9E-03	
	⁶⁵ Zn	1.5E-02	\pm	9.0E-02	U
Location	Isotope	Result	\pm	Uncertainty	RQ*
V131 (Duplicate of V116)	¹⁴⁴ Ce	9.8E-03	\pm	9.8E-02	U
	⁶⁰ Co	8.6E-03	\pm	2.8E-02	U
	¹³⁴ Cs	4.0E-03	\pm	3.0E-02	U
	¹³⁷ Cs	-1.0E-02	\pm	3.0E-02	U
	¹⁵² Eu	6.6E-02	\pm	8.9E-02	U
	¹⁵⁴ Eu	2.1E-03	\pm	2.1E-02	U
	¹⁵⁵ Eu	9.0E-03	\pm	9.0E-02	U
	²³⁸ Pu	5.0E-02	\pm	1.7E-02	
	^{239,240} Pu	8.7E-04	\pm	8.7E-04	U
	¹⁰³ Ru	5.5E-03	\pm	3.1E-02	U
	¹⁰⁶ Ru	5.5E-02	\pm	2.4E-01	U
	¹²⁵ Sb	-8.6E-02	\pm	8.6E-02	U
	¹¹³ Sn	-2.9E-02	\pm	3.8E-02	U
	⁹⁰ Sr	9.2E-02	\pm	1.3E-01	U
	²³⁴ U	1.5E-02	\pm	7.6E-03	
	²³⁵ U	8.4E-03	\pm	5.8E-03	
	²³⁸ U	2.4E-02	\pm	1.0E-02	
	⁶⁵ Zn	5.5E-02	\pm	7.6E-02	U
V138 (Duplicate of V118)	¹⁴⁴ Ce	-1.3E-01	\pm	4.6E-01	U
	⁶⁰ Co	-8.2E-03	\pm	4.1E-02	U
	¹³⁴ Cs	2.1E-03	\pm	2.1E-02	U
	¹³⁷ Cs	-5.7E-03	\pm	4.1E-02	U
	¹⁵² Eu	1.6E-02	\pm	1.1E-01	U
	¹⁵⁴ Eu	6.8E-02	\pm	1.2E-01	U
	¹⁵⁵ Eu	1.4E-02	\pm	1.3E-01	U
	²³⁸ Pu	-8.7E-04	\pm	5.7E-03	U
	^{239,240} Pu	-1.7E-03	\pm	3.4E-03	U
	¹⁰³ Ru	7.0E-02	\pm	6.3E-02	
	¹⁰⁶ Ru	-2.8E-01	\pm	3.4E-01	U
	¹²⁵ Sb	-2.3E-02	\pm	1.1E-01	U
	¹¹³ Sn	-1.3E-02	\pm	4.7E-02	U
	⁹⁰ Sr	1.8E-01	\pm	1.2E-01	
	²³⁴ U	4.0E-02	\pm	1.4E-02	
	²³⁵ U	5.5E-03	\pm	5.3E-03	U
	²³⁸ U	3.4E-02	\pm	1.3E-02	
	⁶⁵ Zn	1.7E-01	\pm	1.0E-01	

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

4.0 EXTERNAL RADIATION

External radiation fields were monitored near facilities and waste handling, storage, and disposal sites to measure and assess the impacts of operations. TLDs were used at numerous fixed locations to gather dose rate information over extended periods of time, typically three months.

In 2002, there were 135 TLD locations collecting external radiation information. At 3 of the operational areas, the calculated dosimeter results showed a decrease of 7% or more in external radiation from 2001 levels. At one location (212-R in the 200 North Area), there was a 38% calculated increase in radiation detected. At the remaining operational areas, change in the external radiation levels were calculated to be 5% or less.

In September 2002, five new TLD locations were established for the 100-KR-1 remedial action project, northeast of the 100-K Area.

The number of TLD locations and a comparison summary between the 2001 and 2002 TLD results for each of the operational areas is provided in Table 4-1.

Table 4-1. Thermoluminescent Dosimeter Results (mrem/yr) for 2001 and 2002.

Area	Number of Locations, 2002	2001		2002		% Change ^a
		Maximum	Mean	Maximum	Mean	
100-B/C	5	93	87	93	86	0%
100-F	5	90	85	93	86	<1%
100-K	11	410	125	440	129	5%
CVDF ^b	4	80	77	83	79	3%
100-KR-1	5	NA ^c	NA	110	96	NA
100-N	14	980	310	1042	274	-12%
200 East Area	42	400	120	290	113	-1%
200 West Area	24	173	100	220	108	5%
200 North (212-R)	1	2500	2300	3400	3200	38%
300 Area	8	170	110	130	99	-7%
300 TEDF ^d	6	90	85	88	85	<1%
400 Area	7	83	81	86	82	<1%
ERDF ^e	3	110	100	95	90	-10%

a - Numbers indicate a calculated decrease (-) or increase from the 2001 mean.

b - CVDF = Cold Vacuum Drying Facility (100-K Area).

c - NA = Not Applicable. TLD monitoring was initiated in September 2002.

d - TEDF = Treated Effluent Disposal Facility (300 Area).

e - ERDF = Environmental Restoration Disposal Facility.

Significant observations from external radiation level monitoring in 2002 included:

212-R. One TLD was placed at the 212-R Railroad Car Disposition Area in 200 North Area. This dosimeter was placed in close proximity to a radiation area erected to provide an administrative barrier in a 1 mrem/hr radiation field. The normalized dose rate averaged 3,200 mrem/yr during 2002, an increase of 38% compared to levels measured in 2001. Dose rates measured at this location exceeded the DOE annual external dose limit to members of the public (100 mrem/yr); however, no member of the public, or a Hanford worker would conceivably spend an entire year at 212-R.

Maps illustrating TLD locations in 2002 are provided in Figures 4-1 through 4-10. Individual TLD results for 2002 are provided in Table 4-2.

Figure 4-1. 2002 Thermoluminescent Dosimeter Locations, 100-B/C Area.

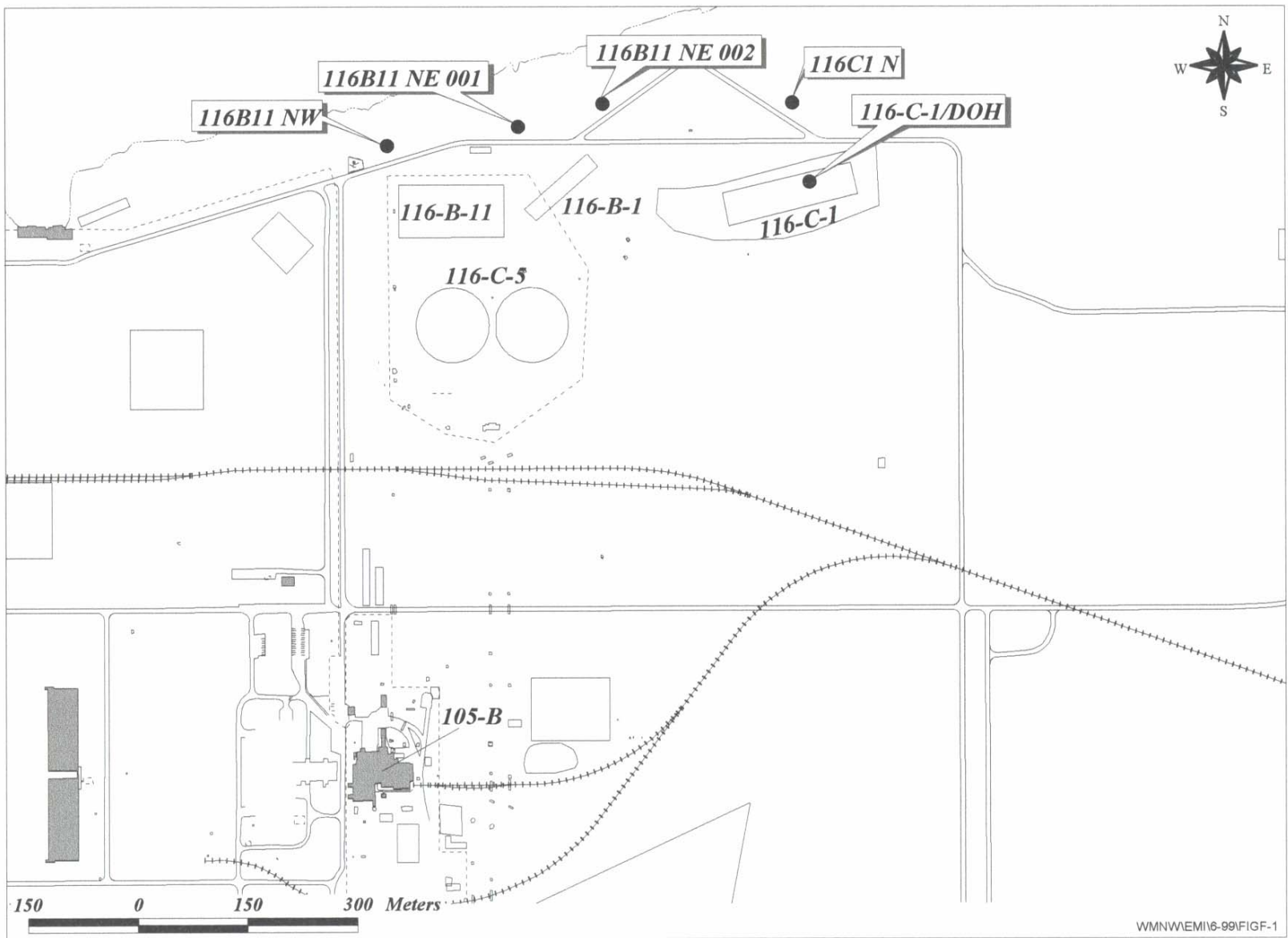


Figure 4-2. 2002 Thermoluminescent Dosimeter Locations, 100-F Area.

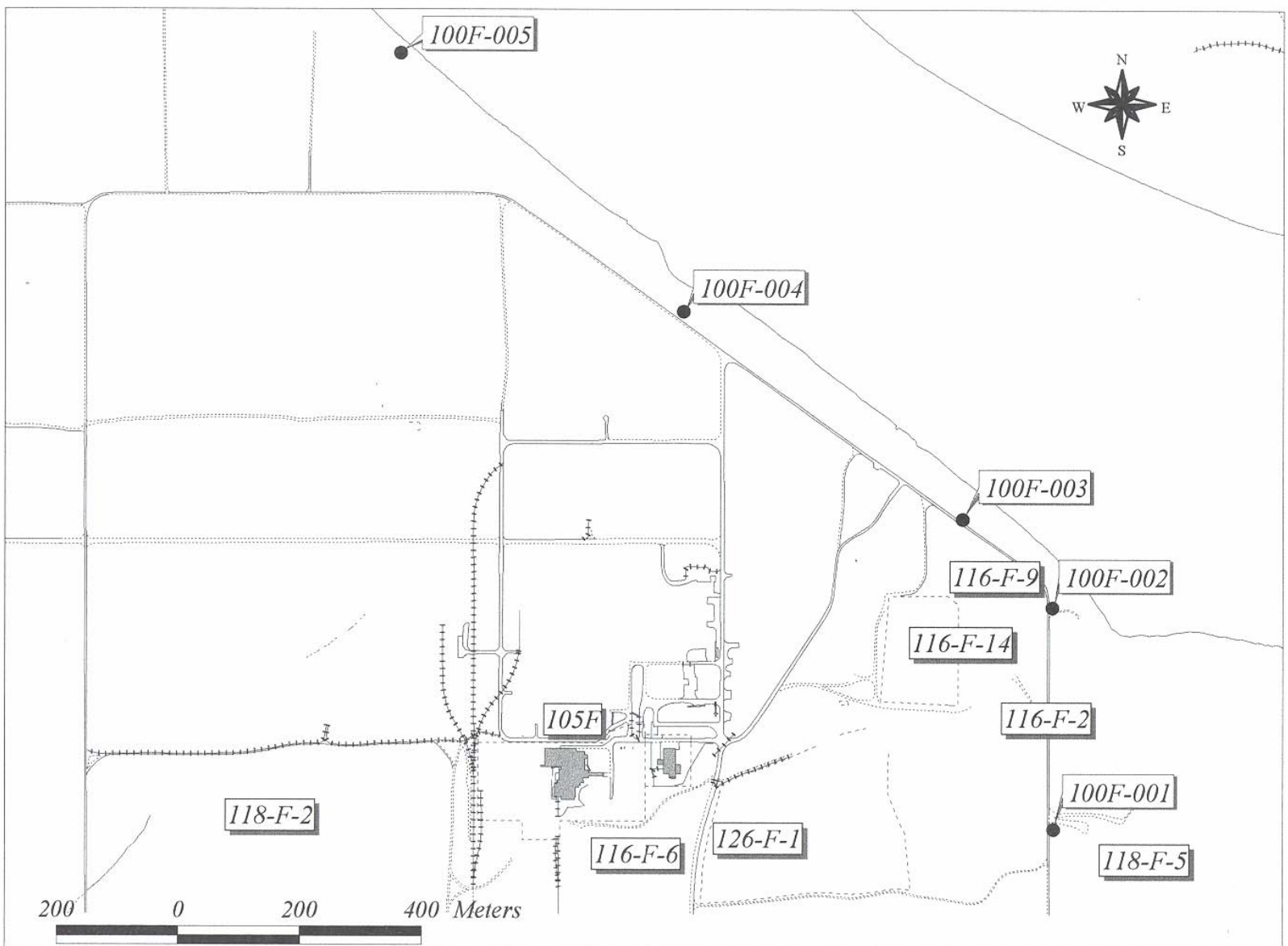


Figure 4-3. 2002 Thermoluminescent Dosimeter Locations, 100-K Area, Cold Vacuum Drying Facility and 100-KR-1.

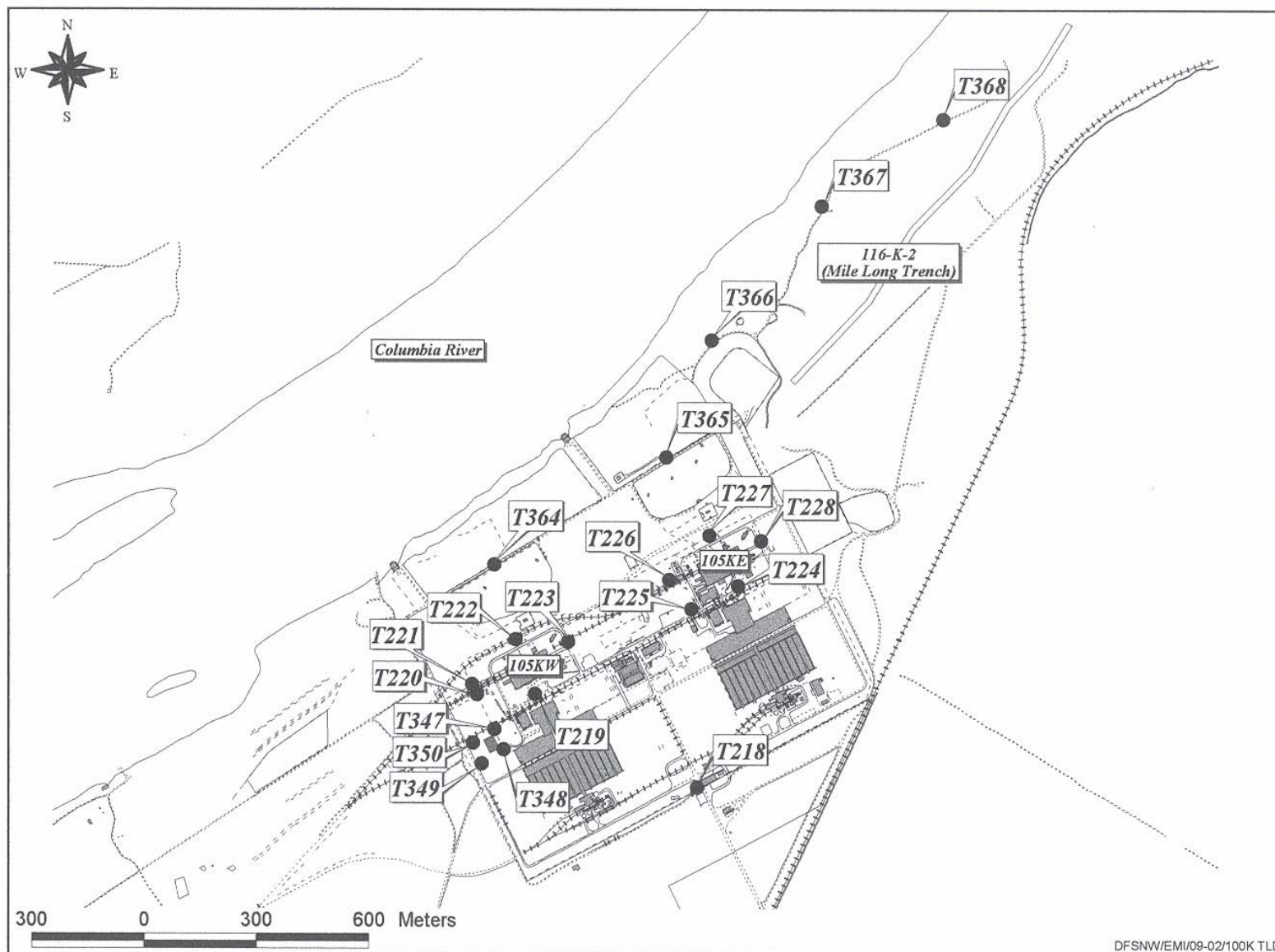


Figure 4-4. 2002 Thermoluminescent Dosimeter Locations, 100-N Area.

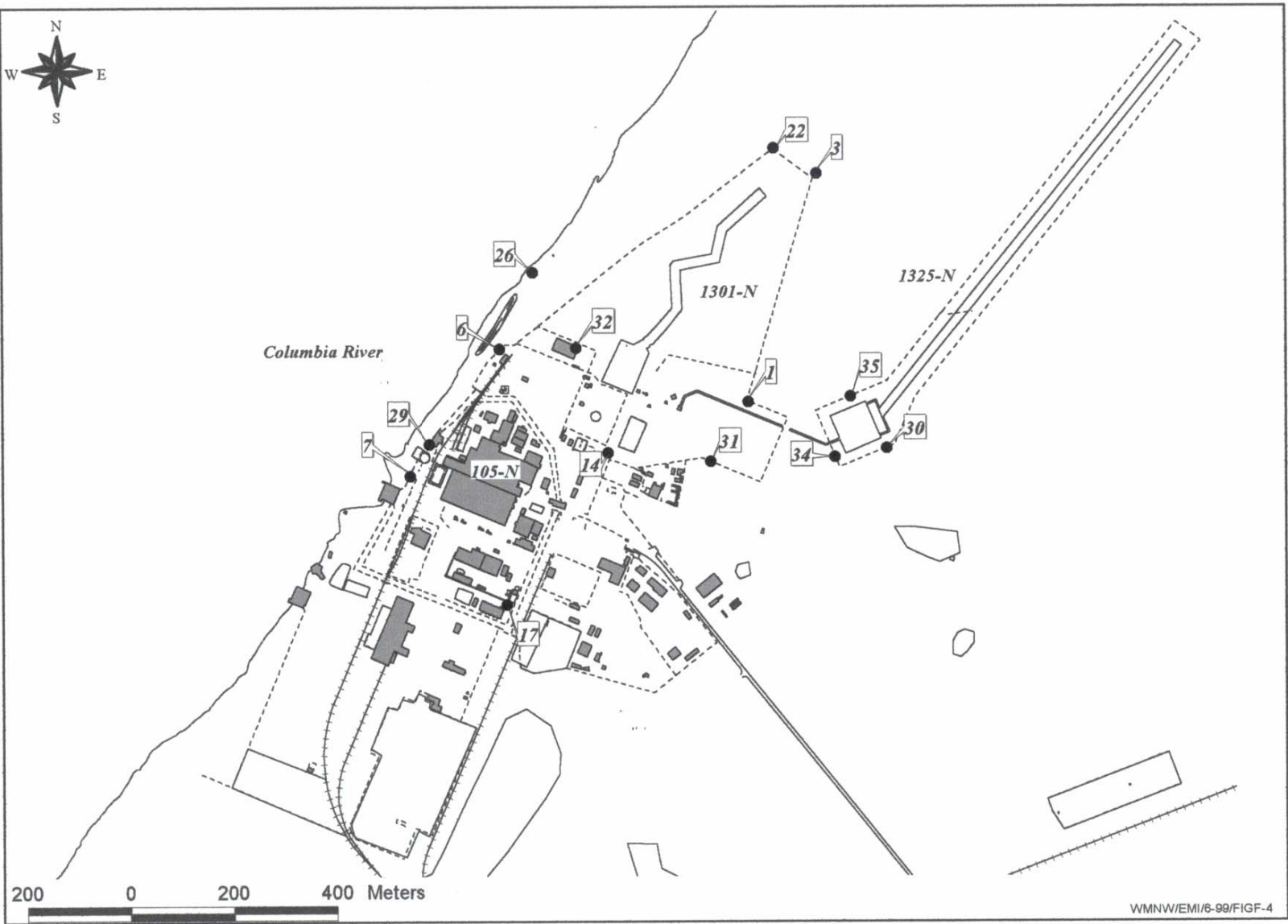


Figure 4-6. 2002 Thermoluminescent Dosimeter Locations, 200 West Area.

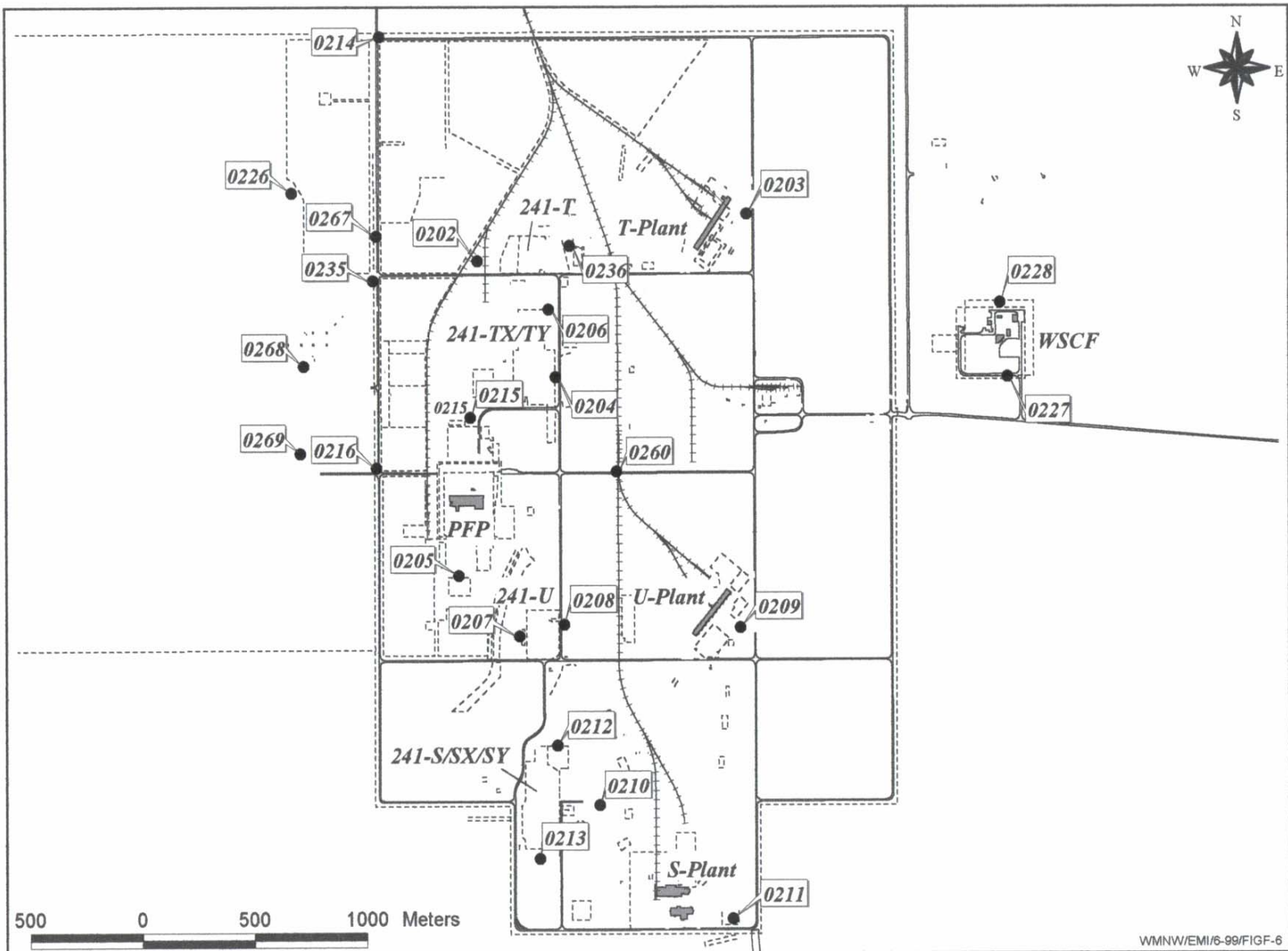


Figure 4-7. 2002 Thermoluminescent Dosimeter Locations, 200 North Area.



Figure 4-8. 2002 Thermoluminescent Dosimeter Locations, 300 Area
Treated Effluent Disposal Facility and 300 Area.

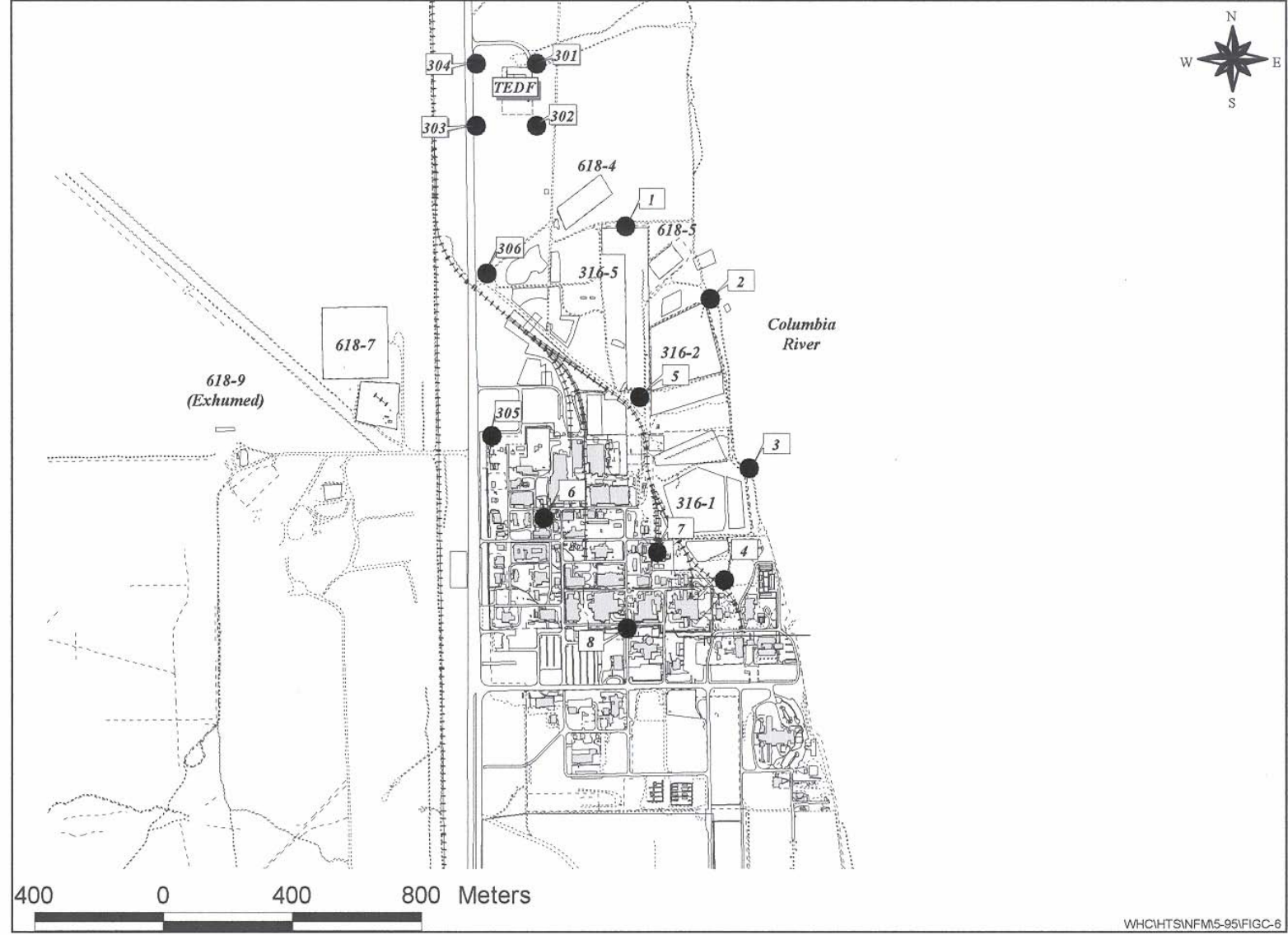


Figure 4-9. 2002 Thermoluminescent Dosimeter Locations, 400 Area.

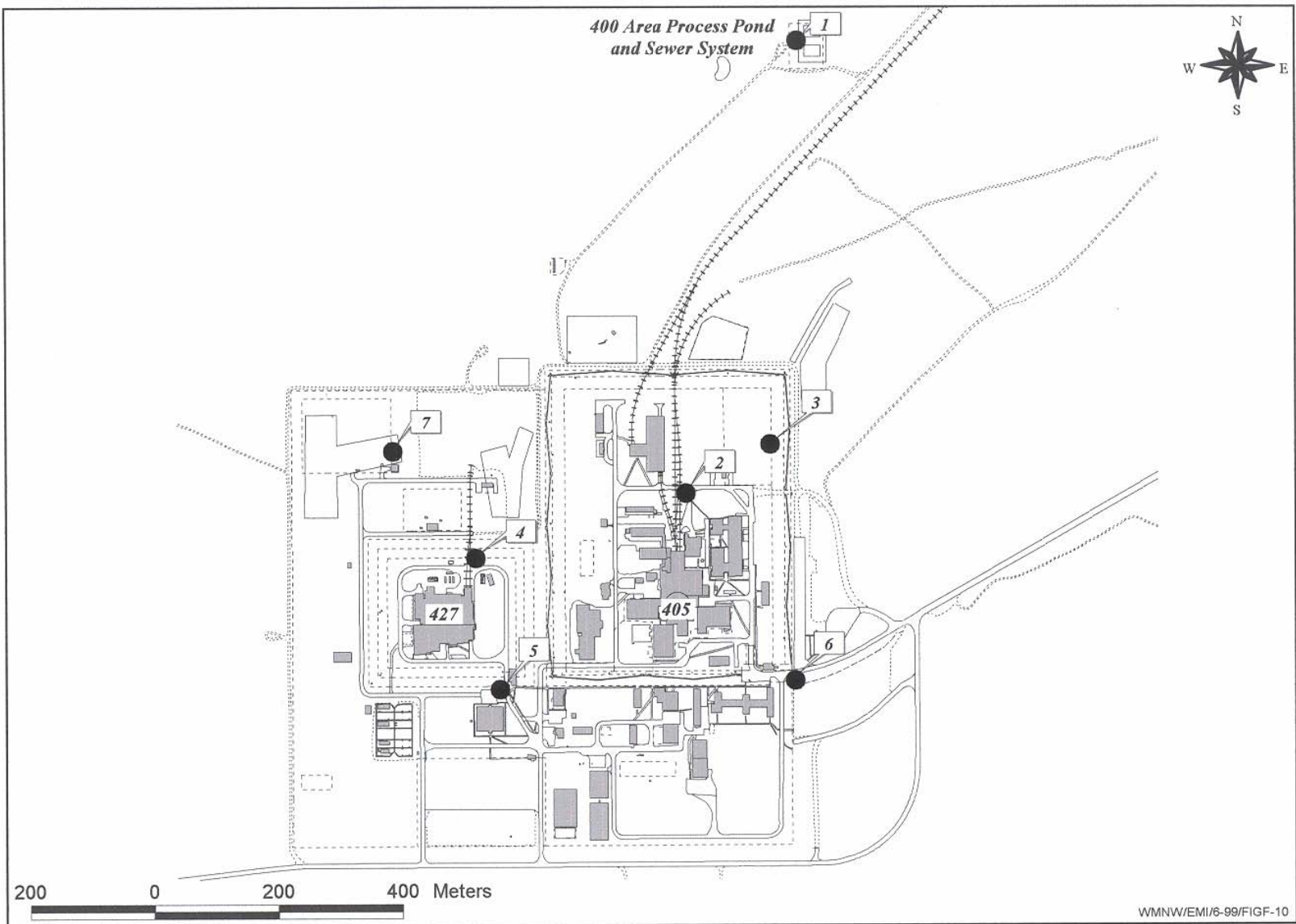


Figure 4-10. 2002 Thermoluminescent Dosimeter Locations,
Environmental Restoration Disposal Facility.

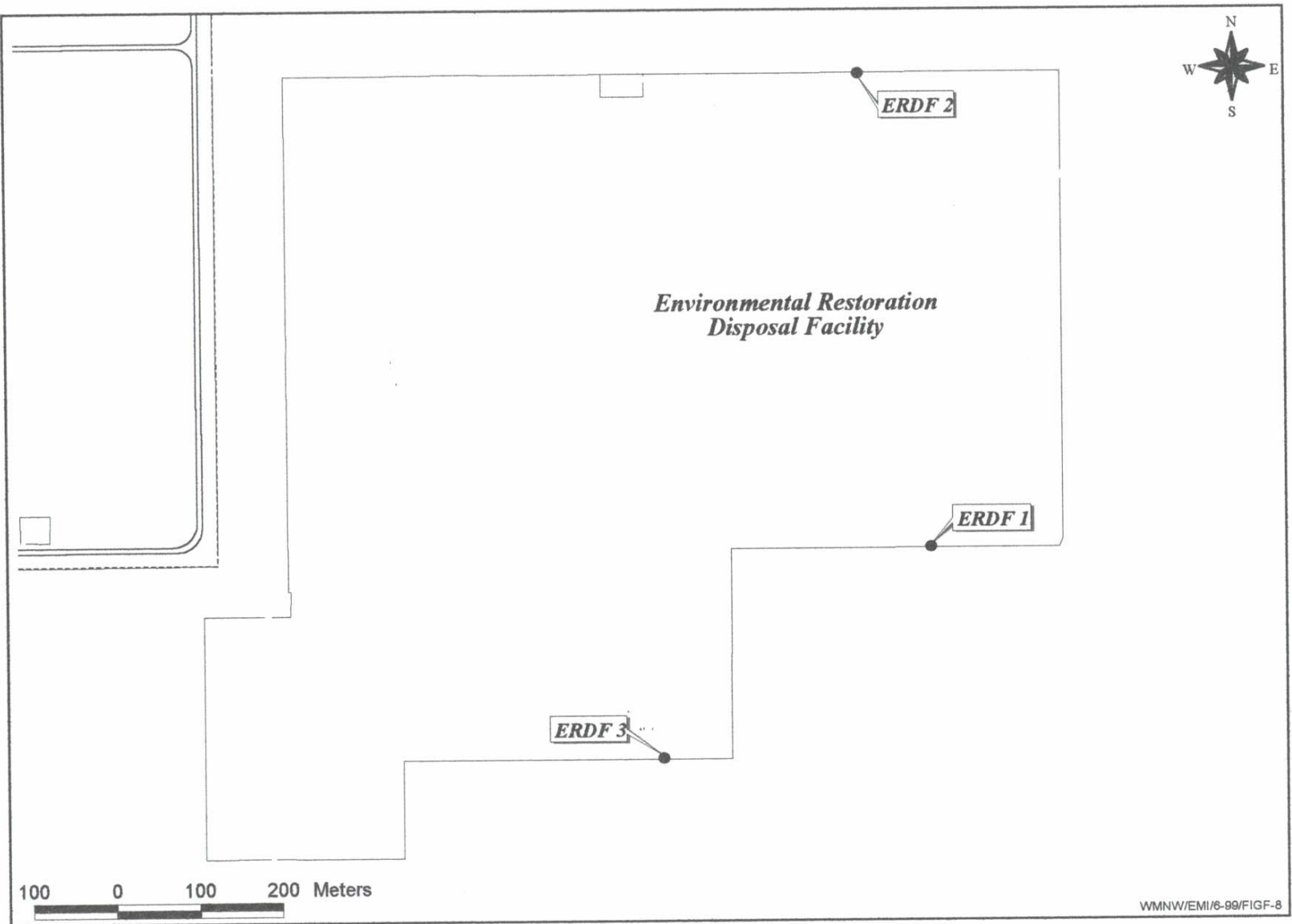


Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002.

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field						
100-B/C Area 1st Quarter '02	T200	0.01	0.26	24.3	96	92						
	T201	0.01	0.24	22.5	89	92						
	T202	0.01	0.23	21.3	85	92						
	T203	0.01	0.23	20.9	83	92						
	T204	0.01	0.23	21.1	84	92						
100-B/C Area 2nd Quarter '02	T200	0.01	0.25	22.1	90	90						
	T201	0.01	0.23	20.3	82	90						
	T202	0.01	0.22	19.6	79	90						
	T203	0.01	0.22	19.5	79	90						
	T204	0.01	0.22	19.8	80	90						
100-B/C Area 3rd Quarter '02	T200	0.01	0.24	22.9	88	95						
	T201	0.01	0.24	22.7	87	95						
	T202	0.01	0.24	22.7	87	95						
	T203	0.01	0.22	21.2	81	95						
	T204	0.01	0.22	21.3	82	95						
100-B/C Area 4th Quarter '02	T200	0.01	0.27	21.6	99	80						
	T201	0.01	0.24	19.6	89	80						
	T202	0.01	0.25	19.8	90	80						
	T203	0.01	0.24	19.0	87	80						
	T204	NR	NR	NR	NR	NR						
100-B/C Area, Annual Average ± 2 Standard Deviation (2SD)												
EDP Code	mrem/hr	±	2SD	mrem/day	±	2SD	mrem/qtr	±	2SD	mrem/yr	±	2SD
T200	0.01	±	0.001	0.25	±	0.03	23.2	±	2.6	93	±	10
T201	0.01	±	0.001	0.24	±	0.02	21.7	±	1.6	87	±	7
T202	0.01	±	0.001	0.23	±	0.03	21.3	±	2.4	85	±	9
T203	0.01	±	0.001	0.23	±	0.02	20.6	±	1.7	82	±	7
T204	0.01	±	0.000	0.22	±	0.01	20.5	±	0.9	82	±	3

NR = Not returned to the laboratory for analysis.

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
100-F Area 1st Quarter '02	T210	0.01	0.24	21.7	86	92
	T211	0.01	0.23	21.2	84	92
	T212	0.01	0.23	21.6	86	92
	T213	0.01	0.23	21.3	85	92
	T214	0.01	0.25	22.8	91	92
100-F Area 2nd Quarter '02	T210	0.01	0.23	21.1	85	90
	T211	0.01	0.24	21.3	86	90
	T212	0.01	0.24	21.5	87	90
	T213	0.01	0.22	19.5	79	90
	T214	0.01	0.25	22.9	93	90
100-F Area 3rd Quarter '02	T210	0.01	0.24	22.3	86	95
	T211	0.01	0.21	20.4	79	95
	T212	0.01	0.22	20.9	80	95
	T213	0.01	0.22	20.7	80	95
	T214	0.01	0.25	23.7	91	95
100-F Area 4th Quarter '02	T210	0.01	0.24	19.7	88	82
	T211	0.01	0.24	20.0	89	82
	T212	0.01	0.25	20.2	90	82
	T213	0.01	0.22	18.3	81	82
	T214	0.01	0.27	22.0	98	82
100-F Area, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T210	0.01 \pm 0.000	0.24 \pm 0.01	21.5 \pm 0.5	86 \pm 2		
T211	0.01 \pm 0.001	0.23 \pm 0.02	21.1 \pm 2.2	84 \pm 9		
T212	0.01 \pm 0.001	0.23 \pm 0.02	21.4 \pm 2.1	86 \pm 8		
T213	0.01 \pm 0.001	0.22 \pm 0.01	20.3 \pm 1.2	81 \pm 5		
T214	0.01 \pm 0.001	0.25 \pm 0.02	23.2 \pm 1.8	93 \pm 7		

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
100-K Area 1st Quarter '02	T218	0.01	0.21	19.5	77	92
	T219	0.01	0.23	21.1	84	92
	T220	0.01	0.24	21.7	86	92
	T221	0.01	0.25	22.8	91	92
	T222	0.01	0.28	25.8	102	92
	T223	0.01	0.23	20.9	83	92
	T224	0.01	0.28	25.3	100	92
	T225	0.05	1.30	120.0	476	92
	T226	0.01	0.33	30.2	120	92
	T227	0.02	0.50	45.6	181	92
	T228	0.01	0.26	23.9	95	92
100-K Area 2nd Quarter '02	T218	0.01	0.20	18.4	75	90
	T219	0.01	0.23	20.5	83	90
	T220	0.01	0.23	20.5	83	90
	T221	0.01	0.25	22.3	91	90
	T222	0.01	0.30	27.0	110	90
	T223	0.01	0.21	19.0	77	90
	T224	0.01	0.24	21.8	89	90
	T225	0.06	1.32	118.8	482	90
	T226	0.01	0.28	25.2	102	90
	T227	0.02	0.40	35.9	146	90
	T228	0.01	0.23	20.8	84	90
100-K Area 3rd Quarter '02	T218	0.01	0.21	20.0	77	95
	T219	0.01	0.22	20.8	80	95
	T220	0.01	0.24	22.5	87	95
	T221	0.01	0.25	23.8	91	95
	T222	0.01	0.34	32.3	124	95
	T223	0.01	0.21	20.1	77	95
	T224	0.01	0.24	22.8	88	95
	T225	0.04	0.97	91.9	353	95
	T226	0.01	0.29	27.6	106	95
	T227	0.02	0.40	37.9	146	95
	T228	0.01	0.23	22.1	85	95

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
100-K Area 4th Quarter '02	T218	0.01	0.23	18.4	84	80
	T219	0.01	0.24	19.0	87	80
	T220	0.01	0.27	21.3	97	80
	T221	0.01	0.27	21.4	98	80
	T222	0.02	0.37	29.8	136	80
	T223	0.01	0.21	17.1	78	80
	T224	0.01	0.24	19.2	87	80
	T225	0.05	1.24	98.9	451	80
	T226	0.01	0.30	23.7	108	80
	T227	0.02	0.39	30.9	141	80
	T228	0.01	0.25	19.8	91	80
100-K Area, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T218	0.01 \pm 0.001	0.21 \pm 0.02	19.5 \pm 2.0	78 \pm 8		
T219	0.01 \pm 0.001	0.23 \pm 0.02	20.8 \pm 1.4	83 \pm 6		
T220	0.01 \pm 0.001	0.24 \pm 0.03	22.0 \pm 3.1	88 \pm 12		
T221	0.01 \pm 0.001	0.25 \pm 0.02	23.1 \pm 1.7	92 \pm 7		
T222	0.01 \pm 0.003	0.32 \pm 0.08	29.4 \pm 7.5	117 \pm 30		
T223	0.01 \pm 0.001	0.22 \pm 0.02	19.7 \pm 1.4	79 \pm 6		
T224	0.01 \pm 0.001	0.25 \pm 0.03	22.8 \pm 3.1	91 \pm 12		
T225	0.05 \pm 0.014	1.20 \pm 0.33	109.8 \pm 30	439 \pm 120		
T226	0.01 \pm 0.002	0.30 \pm 0.04	27.3 \pm 3.8	109 \pm 15		
T227	0.02 \pm 0.004	0.42 \pm 0.10	38.4 \pm 9.3	154 \pm 37		
T228	0.01 \pm 0.001	0.24 \pm 0.03	22.1 \pm 2.5	88 \pm 10		

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
CVDF (100-K Area) 1st Quarter '02	T347	0.01	0.22	20.3	81	92
	T348	0.01	0.23	21.6	86	92
	T349	0.01	0.21	19.4	77	92
	T350	0.01	0.22	20.2	80	92
CVDF (100-K Area) 2nd Quarter '02	T347	0.01	0.21	19.0	77	90
	T348	0.01	0.22	19.7	80	90
	T349	0.01	0.21	19.3	78	90
	T350	0.01	0.19	17.5	71	90
CVDF (100-K Area) 3rd Quarter '02	T347	0.01	0.21	19.8	76	95
	T348	0.01	0.22	21.0	81	95
	T349	0.01	0.21	19.8	76	95
	T350	0.01	0.21	20.4	78	95
CVDF (100-K Area) 4th Quarter '02	T347	0.01	0.23	18.2	83	80
	T348	0.01	0.24	18.9	86	80
	T349	0.01	0.21	17.0	78	80
	T350	0.01	0.22	17.6	81	80
CVDF, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T347	0.01 \pm 0.001	0.22 \pm 0.02	19.7 \pm 1.6	79 \pm 6		
T348	0.01 \pm 0.001	0.23 \pm 0.02	20.7 \pm 1.7	83 \pm 7		
T349	0.01 \pm 0.000	0.21 \pm 0.01	19.3 \pm 0.5	77 \pm 2		
T350	0.01 \pm 0.001	0.21 \pm 0.02	19.4 \pm 2.2	77 \pm 9		

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
100-KR-1 (100-K Area) 4th Quarter '02	T364	0.01	0.25	20.1	91	81
	T365	0.01	0.22	18.2	82	81
	T366	0.01	0.28	22.7	102	81
	T367	0.01	0.27	22.1	100	81
	T368	0.01	0.29	23.6	106	81
100-KR-1, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T364	0.01 \pm 0.000	0.2484 \pm 0	22.7 \pm 0	91 \pm 0		
T365	0.01 \pm 0.000	0.2247 \pm 0	20.5 \pm 0	82 \pm 0		
T366	0.01 \pm 0.000	0.2801 \pm 0	25.6 \pm 0	102 \pm 0		
T367	0.01 \pm 0.000	0.2732 \pm 0	24.9 \pm 0	100 \pm 0		
T368	0.01 \pm 0.000	0.2914 \pm 0	26.6 \pm 0	106 \pm 0		

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
100-N Area 1st Quarter '02	T229	0.02	0.49	59.6	180	121
	T231	0.02	0.38	35.0	139	92
	T234	0.01	0.32	29.5	117	92
	T235	0.03	0.62	56.6	225	92
	T240	0.02	0.52	47.5	189	92
	T243	0.01	0.22	19.8	79	92
	T245	0.02	0.42	39.0	155	92
	T246	0.01	0.30	27.2	108	92
	T248	0.04	0.93	85.1	338	92
	T249	0.13	3.07	282.0	1119	92
	T250	0.01	0.33	30.6	121	92
	T251	0.01	0.34	31.6	125	92
	T253	0.08	1.84	169.0	671	92
	T254	0.05	1.17	108.0	429	92
100-N Area 2nd Quarter '02	T229	0.02	0.44	26.6	159	61
	T231	0.02	0.40	35.8	145	90
	T234	0.01	0.29	26	106	90
	T235	0.03	0.60	54.4	221	90
	T240	0.02	0.44	39.8	161	90
	T243	0.01	0.21	18.6	75	90
	T245	0.02	0.46	41.3	167	90
	T246	0.01	0.28	25.2	102	90
	T248	0.04	0.87	77.9	316	90
	T249	0.12	2.84	255.7	1037	90
	T250	0.01	0.29	26.3	107	90
	T251	0.01	0.26	23.4	95	90
	T253	0.07	1.80	161.7	656	90
	T254	0.05	1.19	106.9	434	90
100-N Area 3rd Quarter '02	T229	0.02	0.47	44.4	171	95
	T231	0.02	0.41	38.7	149	95
	T234	0.01	0.31	29.8	115	95
	T235	0.02	0.58	55.5	213	95
	T240	0.02	0.45	42.4	163	95
	T243	0.01	0.21	19.6	75	95
	T245	0.02	0.45	42.6	164	95
	T246	0.01	0.29	27.4	105	95
	T248	0.04	0.91	86.4	332	95
	T249	0.11	2.53	240.2	923	95
	T250	0.01	0.30	28.8	111	95
	T251	0.01	0.31	29.8	115	95
	T253	0.08	1.83	173.7	667	95
	T254	0.05	1.11	105.6	406	95

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
100-N Area 4th Quarter '02	T229	0.02	0.44	35.5	160	81
	T231	0.02	0.41	32.9	148	81
	T234	0.01	0.32	26.2	118	81
	T235	0.02	0.60	48.3	218	81
	T240	0.02	0.47	37.8	170	81
	T243	0.01	0.21	17.4	78	81
	T245	0.02	0.48	39.1	176	81
	T246	0.01	0.31	25	113	81
	T248	0.04	0.88	70.9	320	81
	T249	0.13	3.02	244.4	1102	81
	T250	0.01	0.32	25.9	117	81
	T251	0.01	0.30	24.5	110	81
	T253	0.07	1.74	140.8	634	81
	T254	0.04	1.02	82.9	374	81
100-N Area, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T229	0.02 \pm 0.002	0.46 \pm 0.05	42.3 \pm 4.9	169 \pm 20		
T231	0.02 \pm 0.001	0.40 \pm 0.02	36.3 \pm 2.3	145 \pm 9		
T234	0.01 \pm 0.001	0.31 \pm 0.03	28.4 \pm 2.8	114 \pm 11		
T235	0.03 \pm 0.001	0.60 \pm 0.03	54.8 \pm 2.4	219 \pm 9		
T240	0.02 \pm 0.003	0.47 \pm 0.07	42.7 \pm 6.2	171 \pm 25		
T243	0.01 \pm 0.000	0.21 \pm 0.01	19.2 \pm 0.9	77 \pm 4		
T245	0.02 \pm 0.002	0.45 \pm 0.05	41.3 \pm 4.4	165 \pm 18		
T246	0.01 \pm 0.001	0.29 \pm 0.02	26.7 \pm 2.2	107 \pm 9		
T248	0.04 \pm 0.002	0.90 \pm 0.06	81.7 \pm 5.1	327 \pm 20		
T249	0.12 \pm 0.020	2.86 \pm 0.49	261 \pm 44	1042 \pm 178		
T250	0.01 \pm 0.002	0.31 \pm 0.04	28.4 \pm 3.3	114 \pm 13		
T251	0.01 \pm 0.003	0.31 \pm 0.07	27.9 \pm 6.4	111 \pm 25		
T253	0.08 \pm 0.004	1.80 \pm 0.09	164 \pm 8.2	658 \pm 33		
T254	0.05 \pm 0.006	1.13 \pm 0.15	103 \pm 14	411 \pm 55		

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
200 East Area 1st Quarter '02	T259	0.01	0.23	22.7	85	98
	T260	0.01	0.22	21.8	81	98
	T261	0.01	0.24	24.1	89	99
	T262	0.01	0.24	23.5	87	99
	T263	0.01	0.23	22.7	84	99
	T264	0.01	0.31	30.5	113	99
	T265	0.01	0.31	30.8	114	99
	T266	0.01	0.23	23.1	85	99
	T267	0.01	0.26	25.7	95	99
	T268	0.01	0.35	34.8	128	99
	T269	0.01	0.25	24.5	90	99
	T270	0.02	0.37	36.3	134	99
	T271	0.01	0.24	24.1	89	99
	T272	0.01	0.30	29.4	108	99
	T273	0.01	0.22	22.1	82	99
	T274	0.01	0.25	24.5	90	99
	T275	0.01	0.24	23.5	87	99
	T276	0.01	0.22	23.1	81	104
	T277	0.01	0.26	25.3	93	99
	T278	0.01	0.25	25.2	93	99
	T279	0.01	0.26	25.4	94	99
	T280	0.01	0.22	21.7	80	99
	T281	0.01	0.23	23.0	85	99
	T282	0.01	0.24	23.5	87	99
	T283	0.01	0.23	23.2	86	99
	T284	0.01	0.30	29.3	108	99
	T285	0.03	0.63	61.9	228	99
	T286	0.02	0.36	36.0	133	99
	T287	0.05	1.28	127.0	468	99
	T288	0.03	0.68	66.9	247	99
	T289	0.02	0.41	40.2	148	99
	T290	0.02	0.37	36.7	135	99
	T291	0.02	0.46	45.9	169	99
	T292	0.03	0.75	73.8	272	99
	T293	0.02	0.51	50.0	184	99
	T294	0.01	0.28	27.8	103	99
	T295	0.01	0.32	31.9	118	99
	T296	0.01	0.26	26.1	96	99
	T297	0.01	0.24	24.0	89	99
	T298	0.01	0.22	22.0	81	99
	T299	0.01	0.22	21.3	79	99
	T300	0.01	0.26	25.8	95	99

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
200 East Area 2nd Quarter '02	T259	0.01	0.23	19.5	85	84
	T260	0.01	0.21	17.8	77	84
	T261	0.01	0.21	17.5	77	83
	T262	0.01	0.23	19.0	83	83
	T263	0.01	0.24	19.7	87	83
	T264	0.01	0.31	25.3	111	83
	T265	0.01	0.31	26.0	114	83
	T266	0.01	0.23	19.1	84	83
	T267	0.01	0.25	20.4	90	83
	T268	0.01	0.32	26.8	118	83
	T269	0.01	0.25	20.9	92	83
	T270	0.01	0.35	29.3	129	83
	T271	0.01	0.25	20.7	91	83
	T272	0.01	0.29	24.0	106	83
	T273	0.01	0.23	19.2	85	83
	T274	0.01	0.23	19.4	85	83
	T275	0.01	0.24	19.7	87	83
	T276	0.01	0.24	18.6	87	78
	T277	0.01	0.25	20.7	91	83
	T278	0.01	0.23	19.0	84	83
	T279	0.01	0.22	18.3	80	83
	T280	0.01	0.23	19.5	86	83
	T281	0.01	0.23	18.9	83	83
	T282	0.01	0.24	19.5	86	83
	T283	0.01	0.24	20.3	89	83
	T284	0.01	0.28	23.6	104	83
	T285	0.03	0.65	54.2	236	84
	T286	0.02	0.37	30.9	136	83
	T287	0.02	0.40	33.8	147	84
	T288	0.03	0.83	69.4	302	84
	T289	0.02	0.38	31.1	137	83
	T290	0.02	0.37	30.9	134	84
	T291	0.02	0.48	40.3	175	84
	T292	0.03	0.73	60.7	267	83
	T293	0.01	0.29	23.7	104	83
	T294	0.01	0.28	23.2	102	83
	T295	0.01	0.26	22.0	97	83
	T296	0.01	0.24	20.3	89	83
	T297	0.01	0.24	19.7	87	83
	T298	0.01	0.22	18.6	82	83
	T299	0.01	0.22	18.6	82	83
	T300	0.01	0.27	22.3	98	83

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
200 East Area	T259	0.01	0.23	22.6	85	97
	T260	0.01	0.22	20.9	79	97
3rd Quarter '02	T261	0.01	0.22	21.1	80	96
	T262	0.01	0.24	22.6	86	96
	T263	0.01	0.24	22.6	86	96
	T264	0.01	0.31	30.2	114	97
	T265	0.01	0.31	30.2	114	97
	T266	0.01	0.23	22.6	85	97
	T267	0.01	0.24	23.6	89	97
	T268	0.01	0.32	31.1	117	97
	T269	0.01	0.24	23.2	87	97
	T270	0.02	0.37	35.5	134	97
	T271	0.01	0.24	23.2	87	97
	T272	0.01	0.30	28.8	108	97
	T273	0.01	0.20	19.9	75	97
	T274	0.01	0.24	22.9	86	97
	T275	0.01	0.25	24.5	92	97
	T276	0.01	0.21	20.4	77	97
	T277	0.01	0.25	24.1	91	97
	T278	0.01	0.23	22.7	85	97
	T279	0.01	0.23	22.4	84	97
	T280	0.01	0.22	21.3	80	97
	T281	0.01	0.23	22.3	84	97
	T282	0.01	0.22	21.2	80	97
	T283	0.01	0.23	22.3	84	97
	T284	0.01	0.27	26.3	99	97
	T285	0.02	0.58	55.3	210	96
	T286	0.02	0.36	34.8	131	97
	T287	0.02	0.41	39.3	149	96
	T288	0.03	0.70	66.8	254	96
	T289	0.02	0.39	37.5	141	97
	T290	0.01	0.35	33.7	128	96
	T291	0.02	0.46	44.1	168	96
	T292	0.03	0.74	71.7	270	97
	T293	0.01	0.28	27.3	103	97
	T294	0.01	0.31	30.2	114	97
	T295	0.01	0.23	21.9	82	97
	T296	0.01	0.25	24.1	91	97
	T297	0.01	0.22	21.6	81	97
	T298	0.01	0.22	21.7	82	97
	T299	0.01	0.21	20.1	76	97
	T300	0.01	0.24	23.3	88	97

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
200 East Area 4th Quarter '02	T259	0.01	0.22	19.1	82	85
	T260	0.01	0.22	18.7	80	85
	T261	0.01	0.24	21.0	89	86
	T262	0.01	0.25	21.1	90	86
	T263	0.01	0.25	21.3	90	86
	T264	0.01	0.32	26.9	115	85
	T265	0.01	0.30	25.5	109	85
	T266	0.01	0.23	19.6	84	85
	T267	0.01	0.26	21.7	93	85
	T268	0.01	0.34	29.0	125	85
	T269	0.01	0.26	22.1	95	85
	T270	0.01	0.36	30.3	130	85
	T271	0.01	0.25	21.2	91	85
	T272	0.01	0.29	24.6	106	85
	T273	0.01	0.23	19.3	83	85
	T274	0.01	0.24	20.5	88	85
	T275	0.01	0.25	21.4	92	85
	T276	0.01	0.23	19.3	83	85
	T277	0.01	0.25	21.3	91	85
	T278	0.01	0.24	20.0	86	85
	T279	0.01	0.23	19.5	84	85
	T280	0.01	0.23	19.8	85	85
	T281	0.01	0.23	20.0	86	85
	T282	0.01	0.23	19.8	85	85
	T283	0.01	0.23	19.9	85	85
	T284	0.01	0.29	24.6	106	85
	T285	0.02	0.55	46.4	199	85
	T286	0.02	0.38	32.0	138	85
	T287	0.01	0.29	24.6	106	85
	T288	0.02	0.42	35.5	152	85
	T289	0.02	0.39	32.9	141	85
	T290	0.01	0.31	26.3	113	85
	T291	0.02	0.45	38.5	165	85
	T292	0.04	0.96	81.8	351	85
	T293	0.01	0.30	25.4	109	85
	T294	0.03	0.70	59.1	254	85
	T295	0.01	0.23	19.4	83	85
	T296	0.01	0.25	21.0	90	85
	T297	0.01	0.23	19.9	85	85
	T298	0.01	0.23	19.3	83	85
	T299	0.01	0.25	21.0	90	85
	T300	0.01	0.25	21.0	90	85

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

200 East Area, Annual Average \pm 2 Standard Deviation (2SD)				
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD
T259	0.01 \pm 0.000	0.23 \pm 0.01	21.0 \pm 0.7	84 \pm 3
T260	0.01 \pm 0.000	0.22 \pm 0.01	19.9 \pm 0.8	79 \pm 3
T261	0.01 \pm 0.001	0.23 \pm 0.03	21.0 \pm 3.1	84 \pm 12
T262	0.01 \pm 0.001	0.24 \pm 0.01	21.6 \pm 1.3	86 \pm 5
T263	0.01 \pm 0.001	0.24 \pm 0.01	21.6 \pm 1.3	86 \pm 5
T264	0.01 \pm 0.000	0.31 \pm 0.01	28.3 \pm 0.9	113 \pm 3
T265	0.01 \pm 0.001	0.31 \pm 0.01	28.2 \pm 1.2	113 \pm 5
T266	0.01 \pm 0.000	0.23 \pm 0.00	21.2 \pm 0.3	85 \pm 1
T267	0.01 \pm 0.001	0.25 \pm 0.02	22.9 \pm 1.4	92 \pm 6
T268	0.01 \pm 0.001	0.33 \pm 0.03	30.5 \pm 2.7	122 \pm 11
T269	0.01 \pm 0.001	0.25 \pm 0.02	22.7 \pm 1.5	91 \pm 6
T270	0.02 \pm 0.001	0.36 \pm 0.01	33.0 \pm 1.2	132 \pm 5
T271	0.01 \pm 0.000	0.25 \pm 0.01	22.4 \pm 0.9	89 \pm 3
T272	0.01 \pm 0.000	0.29 \pm 0.01	26.8 \pm 0.8	107 \pm 3
T273	0.01 \pm 0.001	0.22 \pm 0.02	20.2 \pm 2.1	81 \pm 8
T274	0.01 \pm 0.001	0.24 \pm 0.01	21.9 \pm 1.1	87 \pm 4
T275	0.01 \pm 0.001	0.24 \pm 0.02	22.3 \pm 1.6	89 \pm 6
T276	0.01 \pm 0.001	0.22 \pm 0.02	20.4 \pm 2.1	82 \pm 9
T277	0.01 \pm 0.000	0.25 \pm 0.01	22.9 \pm 0.6	92 \pm 2
T278	0.01 \pm 0.001	0.24 \pm 0.02	21.8 \pm 2.1	87 \pm 8
T279	0.01 \pm 0.001	0.24 \pm 0.03	21.5 \pm 2.9	86 \pm 11
T280	0.01 \pm 0.001	0.23 \pm 0.02	20.6 \pm 1.5	82 \pm 6
T281	0.01 \pm 0.000	0.23 \pm 0.01	21.1 \pm 0.6	84 \pm 2
T282	0.01 \pm 0.001	0.23 \pm 0.02	21.1 \pm 1.6	84 \pm 6
T283	0.01 \pm 0.001	0.24 \pm 0.01	21.5 \pm 1.1	86 \pm 5
T284	0.01 \pm 0.001	0.29 \pm 0.02	26.0 \pm 1.9	104 \pm 8
T285	0.02 \pm 0.004	0.60 \pm 0.09	54.6 \pm 8.3	218 \pm 33
T286	0.02 \pm 0.001	0.37 \pm 0.02	33.5 \pm 1.5	134 \pm 6
T287	0.03 \pm 0.038	0.62 \pm 0.92	56.3 \pm 84.1	225 \pm 337
T288	0.03 \pm 0.014	0.66 \pm 0.34	59.8 \pm 31.2	239 \pm 125
T289	0.02 \pm 0.001	0.39 \pm 0.03	35.5 \pm 2.3	142 \pm 9
T290	0.01 \pm 0.002	0.35 \pm 0.06	32.0 \pm 5.1	128 \pm 20
T291	0.02 \pm 0.001	0.46 \pm 0.02	42.3 \pm 2.1	169 \pm 8
T292	0.03 \pm 0.009	0.79 \pm 0.22	72.2 \pm 20.5	289 \pm 82
T293	0.01 \pm 0.009	0.35 \pm 0.22	31.7 \pm 19.8	127 \pm 79
T294	0.02 \pm 0.017	0.39 \pm 0.41	35.2 \pm 37	141 \pm 148
T295	0.01 \pm 0.004	0.26 \pm 0.09	23.8 \pm 8.3	95 \pm 33
T296	0.01 \pm 0.001	0.25 \pm 0.02	22.9 \pm 1.6	92 \pm 6
T297	0.01 \pm 0.001	0.23 \pm 0.02	21.4 \pm 1.5	85 \pm 6
T298	0.01 \pm 0.000	0.22 \pm 0.00	20.5 \pm 0.4	82 \pm 1
T299	0.01 \pm 0.002	0.22 \pm 0.04	20.3 \pm 3.2	81 \pm 13
T300	0.01 \pm 0.001	0.25 \pm 0.03	23.1 \pm 2.3	93 \pm 9

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
200 West Area 1st Quarter '02	T302	0.01	0.25	24.9	93	98
	T303	0.01	0.33	32.7	122	98
	T304	0.02	0.38	36.9	137	98
	T305	0.01	0.24	23.2	86	98
	T306	0.01	0.30	29.7	111	98
	T307	0.01	0.29	28.1	105	98
	T308	0.01	0.26	25.6	95	98
	T309	0.01	0.24	23.4	87	98
	T310	0.01	0.28	27.2	101	98
	T311	0.01	0.24	23.9	89	98
	T312	0.01	0.34	33.1	123	98
	T313	0.02	0.50	49.2	183	98
	T314	0.01	0.23	23.0	86	98
	T315	0.01	0.26	25.6	95	98
	T316	0.01	0.25	24.8	92	98
	T317	0.01	0.29	26.1	106	90
	T318	0.01	0.23	22.9	85	98
	T319	0.01	0.24	23.2	86	98
	T320	0.01	0.31	30.3	113	98
	T321	0.01	0.30	29.2	109	98
	T322	0.01	0.23	22.1	82	98
	T323	0.01	0.27	26.2	98	98
	T324	0.03	0.60	58.8	219	98
	T325	0.01	0.32	31.7	118	98
200 West Area 2nd Quarter '02	T302	0.01	0.26	21.6	95	83
	T303	0.01	0.33	27.5	121	83
	T304	0.02	0.36	30.2	133	83
	T305	0.01	0.24	20.0	88	83
	T306	0.01	0.30	25.2	111	83
	T307	0.01	0.26	21.4	94	83
	T308	0.01	0.26	21.9	96	83
	T309	0.01	0.24	19.5	86	83
	T310	0.01	0.29	23.7	104	83
	T311	0.01	0.25	21.0	93	83
	T312	0.01	0.35	28.7	126	83
	T313	0.02	0.50	41.3	182	83
	T314	0.01	0.23	19.2	84	83
	T315	0.01	0.25	20.9	92	83
	T316	0.01	0.24	19.8	87	83
	T317	0.01	0.26	21.3	94	83
	T318	0.01	0.23	19.4	85	83
	T319	0.01	0.24	20.0	88	83
	T320	0.01	0.30	24.9	109	83
	T321	0.01	0.28	23.5	103	83
	T322	0.01	0.22	18.2	80	83
	T323	0.01	0.23	19.1	84	83
	T324	0.03	0.61	51.5	224	84
	T325	0.01	0.29	24.4	107	83

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
200 West Area (cont) 3rd Quarter '02	T302	0.01	0.24	23.7	89	97
	T303	0.01	0.33	31.6	119	97
	T304	0.02	0.37	35.5	134	97
	T305	0.01	0.23	21.9	82	97
	T306	0.01	0.29	27.7	104	97
	T307	0.01	0.30	29.0	109	97
	T308	0.01	0.27	26.6	100	97
	T309	0.01	0.24	22.8	86	97
	T310	0.01	0.29	27.9	105	97
	T311	0.01	0.23	22.4	83	98
	T312	0.02	0.43	41.5	156	97
	T313	0.02	0.51	49.1	185	97
	T314	0.01	0.23	22.6	85	97
	T315	0.01	0.25	24.5	92	97
	T316	0.01	0.24	23.3	88	97
	T317	0.01	0.25	24.6	93	97
	T318	0.01	0.22	21.5	81	97
	T319	0.01	0.23	22.0	83	97
	T320	0.01	0.31	29.8	112	97
	T321	0.01	0.31	30.5	115	97
	T322	0.01	0.23	22.3	84	97
	T323	0.01	0.25	24.5	92	97
	T324	0.03	0.63	60.2	229	96
	T325	0.01	0.29	28.2	106	97
200 West Area 4th Quarter '02	T302	0.01	0.26	22.2	94	86
	T303	0.01	0.31	26.4	112	86
	T304	0.02	0.36	31.2	133	86
	T305	0.01	0.23	20.1	85	86
	T306	0.01	0.29	25.1	107	86
	T307	0.01	0.32	27.8	118	86
	T308	0.01	0.29	25.0	106	86
	T309	0.01	0.25	21.1	89	86
	T310	0.01	0.27	23.6	100	86
	T311	0.01	0.25	20.9	90	85
	T312	0.02	0.41	34.9	148	86
	T313	0.02	0.50	42.6	181	86
	T314	0.01	0.24	20.4	87	86
	T315	0.01	0.25	21.9	93	86
	T316	0.01	0.25	21.7	92	86
	T317	0.01	0.27	23.4	99	86
	T318	0.01	0.23	19.7	84	86
	T319	0.01	0.25	21.8	93	86
	T320	0.01	0.28	24.5	104	86
	T321	0.01	0.27	23.6	100	86
	T322	0.01	0.22	18.9	80	86
	T323	0.01	0.24	20.5	87	86
	T324	0.02	0.52	44.4	189	86
	T325	0.01	0.34	29.4	125	86

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

200 West Area, Annual Average \pm 2 Standard Deviation (2SD)				
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD
T302	0.01 \pm 0.001	0.25 \pm 0.014	23.2 \pm 1.3	93 \pm 5
T303	0.01 \pm 0.001	0.32 \pm 0.025	29.6 \pm 2.2	118 \pm 9
T304	0.02 \pm 0.001	0.37 \pm 0.012	33.6 \pm 1.1	134 \pm 4
T305	0.01 \pm 0.001	0.23 \pm 0.013	21.4 \pm 1.2	85 \pm 5
T306	0.01 \pm 0.001	0.30 \pm 0.018	27 \pm 1.6	108 \pm 6
T307	0.01 \pm 0.002	0.29 \pm 0.054	26.6 \pm 5.0	106 \pm 20
T308	0.01 \pm 0.001	0.27 \pm 0.027	24.8 \pm 2.4	99 \pm 10
T309	0.01 \pm 0.000	0.24 \pm 0.009	21.8 \pm 0.9	87 \pm 3
T310	0.01 \pm 0.001	0.28 \pm 0.012	25.7 \pm 1.1	103 \pm 4
T311	0.01 \pm 0.001	0.24 \pm 0.021	22.1 \pm 1.9	88 \pm 8
T312	0.02 \pm 0.004	0.38 \pm 0.089	34.7 \pm 8.1	139 \pm 32
T313	0.02 \pm 0.000	0.50 \pm 0.010	45.7 \pm 0.9	183 \pm 3
T314	0.01 \pm 0.000	0.23 \pm 0.006	21.4 \pm 0.5	85 \pm 2
T315	0.01 \pm 0.000	0.26 \pm 0.009	23.3 \pm 0.8	93 \pm 3
T316	0.01 \pm 0.001	0.25 \pm 0.016	22.5 \pm 1.4	90 \pm 6
T317	0.01 \pm 0.001	0.27 \pm 0.033	24.4 \pm 3.0	98 \pm 12
T318	0.01 \pm 0.001	0.23 \pm 0.011	20.9 \pm 1.0	84 \pm 4
T319	0.01 \pm 0.001	0.24 \pm 0.022	21.8 \pm 2.0	87 \pm 8
T320	0.01 \pm 0.001	0.30 \pm 0.023	27.4 \pm 2.1	110 \pm 8
T321	0.01 \pm 0.002	0.29 \pm 0.036	26.8 \pm 3.2	107 \pm 13
T322	0.01 \pm 0.000	0.22 \pm 0.010	20.4 \pm 0.9	82 \pm 4
T323	0.01 \pm 0.001	0.25 \pm 0.032	22.6 \pm 3.0	91 \pm 12
T324	0.02 \pm 0.004	0.59 \pm 0.099	53.9 \pm 9.1	215 \pm 36
T325	0.01 \pm 0.002	0.31 \pm 0.049	28.5 \pm 4.5	114 \pm 18

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
212-R, 1st Quarter'02	T301	0.34	8.16	808	2979	99
212-R, 2nd Quarter '02	T301	0.37	8.77	737	3203	84
212-R, 3rd Quarter '02	T301	0.39	9.38	891.1	3424	95
212-R, 4th Quarter '02	T301	0.38	9.21	791.9	3361	86
212-R, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T301	0.37 \pm 0.045	8.9 \pm 1.1	809 \pm 99	3237 \pm 396		

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
300 Area 1st Quarter '02	T332	0.01	0.23	22.7	84	99
	T333	0.01	0.23	22.7	84	99
	T334	0.01	0.24	23.7	87	99
	T335	0.02	0.42	41.1	152	99
	T336	0.01	0.24	23.7	87	99
	T337	0.01	0.25	24.4	90	99
	T338	0.02	0.41	40.4	149	99
	T339	0.01	0.27	26.7	98	99
300 Area 2nd Quarter '02	T332	0.01	0.22	19.9	82	89
	T333	0.01	0.24	21.5	88	89
	T334	0.01	0.23	20.2	83	89
	T335	0.02	0.40	35.5	146	89
	T336	0.01	0.23	20.9	86	89
	T337	0.01	0.24	21.3	87	89
	T338	0.01	0.34	30.2	124	89
	T339	0.01	0.28	25.0	102	89
300 Area 3rd Quarter '02	T332	0.01	0.22	18.7	80	85
	T333	0.01	0.24	20.3	87	85
	T334	0.01	0.23	19.3	83	85
	T335	0.01	0.32	27.1	116	85
	T336	0.01	0.23	19.3	83	85
	T337	0.01	0.25	20.9	90	85
	T338	0.01	0.31	26.4	114	85
	T339	0.01	0.29	24.3	104	85
300 Area 4th Quarter '02	T332	0.01	0.24	21.6	87	91
	T333	0.01	0.25	22.9	92	91
	T334	0.01	0.24	21.4	86	91
	T335	0.01	0.27	24.9	100	91
	T336	0.01	0.24	21.5	86	91
	T337	0.01	0.25	22.4	90	91
	T338	0.01	0.33	30.2	121	91
	T339	0.01	0.32	28.8	115	91

300 Area, Annual Average \pm 2 Standard Deviation (2SD)

EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD
T332	0.01 \pm 0.001	0.23 \pm 0.016	20.8 \pm 1.4	83 \pm 6
T333	0.01 \pm 0.001	0.24 \pm 0.018	21.9 \pm 1.7	88 \pm 7
T334	0.01 \pm 0.001	0.23 \pm 0.013	21.2 \pm 1.2	85 \pm 5
T335	0.01 \pm 0.006	0.35 \pm 0.134	32.2 \pm 12.2	129 \pm 49
T336	0.01 \pm 0.000	0.23 \pm 0.010	21.4 \pm 0.9	86 \pm 4
T337	0.01 \pm 0.000	0.24 \pm 0.007	22.3 \pm 0.6	89 \pm 2
T338	0.01 \pm 0.004	0.35 \pm 0.084	31.9 \pm 7.7	128 \pm 31
T339	0.01 \pm 0.002	0.29 \pm 0.040	26.3 \pm 3.6	105 \pm 15

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
300 Area TEDF 1st Quarter '02	T326	0.01	0.24	23.8	88	99
	T327	0.01	0.23	22.5	83	99
	T328	0.01	0.24	23.8	88	99
	T329	0.01	0.24	23.7	87	99
	T330	0.01	0.22	21.6	80	99
	T331	0.01	0.23	22.9	84	99
300 Area TEDF 2nd Quarter '02	T326	0.01	0.23	20.8	85	89
	T327	0.01	0.23	20.5	84	89
	T328	0.01	0.25	21.9	90	89
	T329	0.01	0.24	21.1	87	89
	T330	0.01	0.22	19.4	79	89
	T331	0.01	0.23	20.7	85	89
300 Area TEDF 3rd Quarter '02	T326	0.01	0.23	19.4	83	85
	T327	0.01	0.22	18.5	79	85
	T328	0.01	0.24	20.2	87	85
	T329	0.01	0.22	19.1	82	85
	T330	0.01	0.22	18.9	81	85
	T331	0.01	0.23	20.0	86	85
300 Area TEDF 4th Quarter '02	T326	0.01	0.23	20.9	84	91
	T327	0.01	0.25	22.3	90	91
	T328	0.01	0.25	22.3	90	91
	T329	0.01	0.25	22.3	90	91
	T330	0.01	0.24	22.2	89	91
	T331	0.01	0.25	22.5	90	91
300 Area TEDF, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T326	0.01 \pm 0.000	0.23 \pm 0.01	21.3 \pm 1	85 \pm 4		
T327	0.01 \pm 0.001	0.23 \pm 0.02	21 \pm 2.1	84 \pm 8		
T328	0.01 \pm 0.000	0.24 \pm 0.01	22.1 \pm 0.7	88 \pm 3		
T329	0.01 \pm 0.001	0.24 \pm 0.02	21.6 \pm 1.6	86 \pm 6		
T330	0.01 \pm 0.001	0.23 \pm 0.02	20.6 \pm 2.2	82 \pm 9		
T331	0.01 \pm 0.001	0.24 \pm 0.01	21.6 \pm 1.4	86 \pm 5		

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
400 Area 1st Quarter '02	T340	0.01	0.22	21.5	79	99
	T341	0.01	0.21	20.8	77	99
	T342	0.01	0.23	23.0	85	99
	T343	0.01	0.22	22.1	82	99
	T344	0.01	0.22	21.4	79	99
	T345	0.01	0.23	22.4	83	99
	T346	0.01	0.20	20.2	75	99
400 Area 2nd Quarter '02	T340	0.01	0.23	20.3	83	89
	T341	0.01	0.21	18.9	77	89
	T342	0.01	0.24	21.4	88	89
	T343	0.01	0.22	19.3	79	89
	T344	0.01	0.22	19.5	80	89
	T345	0.01	0.22	19.6	80	89
	T346	0.01	0.22	19.8	81	89
400 Area 3rd Quarter '02	T340	0.01	0.23	19.5	84	85
	T341	0.01	0.21	17.7	76	85
	T342	0.01	0.24	20.4	87	85
	T343	0.01	0.21	18.1	78	85
	T344	0.01	0.22	18.4	79	85
	T345	0.01	0.21	18.3	79	85
	T346	0.01	0.22	18.9	81	85
400 Area 4th Quarter '02	T340	0.01	0.25	22.6	91	91
	T341	0.01	0.24	22.3	89	91
	T342	0.01	0.23	21.2	85	91
	T343	0.01	0.22	20.1	81	91
	T344	0.01	0.24	21.5	86	91
	T345	0.01	0.23	21.1	85	91
	T346	0.01	0.22	19.8	79	91

400 Area, Annual Average \pm 2 Standard Deviation (2SD)

EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD
T340	0.01 \pm 0.001	0.23 \pm 0.03	21 \pm 2.3	84 \pm 9
T341	0.01 \pm 0.001	0.22 \pm 0.03	19.9 \pm 3.2	80 \pm 13
T342	0.01 \pm 0.000	0.24 \pm 0.01	21.5 \pm 0.7	86 \pm 3
T343	0.01 \pm 0.000	0.22 \pm 0.01	19.9 \pm 0.8	80 \pm 3
T344	0.01 \pm 0.001	0.22 \pm 0.02	20.3 \pm 1.7	81 \pm 7
T345	0.01 \pm 0.001	0.22 \pm 0.01	20.4 \pm 1.4	82 \pm 5
T346	0.01 \pm 0.001	0.22 \pm 0.02	19.7 \pm 1.6	79 \pm 6

Table 4-2. Near-Facility Thermoluminescent Dosimeter Results, 2002. (cont)

Location/Sample Period	EDP Code	mrem/hr	mrem/day	mrem/qtr	mrem/year	Days in Field
ERDF 1st Quarter '02	T351	NR	NR	NR	NR	NR
	T352	NR	NR	NR	NR	NR
	T353	NR	NR	NR	NR	NR
ERDF 2nd Quarter '02	T351	0.01	0.21	19.0	77	90
	T352	0.01	0.23	20.6	84	90
	T353	0.01	0.26	23.6	96	90
ERDF 3rd Quarter '02	T351	0.01	0.24	22.9	86	97
	T352	0.01	0.24	23.7	89	97
	T353	0.01	0.25	24.5	92	97
ERDF 4th Quarter '02	T351	0.01	0.25	26.2	90	106
	T352	0.01	0.26	28.0	96	106
	T353	0.01	0.27	28.1	97	106
ERDF, Annual Average \pm 2 Standard Deviation (2SD)						
EDP Code	mrem/hr \pm 2SD	mrem/day \pm 2SD	mrem/qtr \pm 2SD	mrem/yr \pm 2SD		
T351	0.01 \pm 0.002	0.23 \pm 0.04	21.2 \pm 3.4	85 \pm 13		
T352	0.01 \pm 0.002	0.25 \pm 0.04	22.5 \pm 3.2	90 \pm 13		
T353	0.01 \pm 0.001	0.26 \pm 0.01	23.7 \pm 1.2	95 \pm 5		

NR = Not returned to the laboratory for analysis.

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5.0 100-N RIVERBANK SPRINGS MONITORING

In 2002, water samples were taken only at the riverbank springs in the 100-N Area. All radiological analyses were performed onsite at the WSCF. Analyses for riverbank springs water included tritium, strontium-90, and gamma-emitting radionuclides. Sampling locations are illustrated in Figure 5-1.

Riverbank springs and/or shoreline seepage wells along the 100-N Area shoreline are sampled annually to verify that the reported radionuclide releases to the Columbia River are conservative (i.e., not underreported). In the past, radioactive effluent streams sent to the 1301-N and 1325-N Liquid Waste Disposal Facilities (LWDFs) in the 100-N Area contributed to the release of radionuclides to the Columbia River through their migration with the groundwater. Radionuclides from these facilities enter the Columbia River along the riverbank region commonly called N Springs.

The amount of radionuclides entering the river at these springs is calculated based on analyses of samples routinely collected from monitoring well 199-N-46, located near the shoreline. To calculate these releases, conservatively high radionuclide activities in samples collected from well 199-N-46 are multiplied by the estimated groundwater discharged into the river. The estimated groundwater flow rate used to calculate 2002 releases from the springs was 43 L/min (11 gal/min). The results of the annual riverbank spring samples can then be compared to the activities measured in well 199-N-46 to ensure that activities in the well reflect the highest activities of radionuclides in the groundwater. Additional discussion of the release calculations may be found in *Environmental Releases for Calendar Year 2002*, HNF-EP-0527-12 (Dyckman 2003).

In October 2002, 11 samples were collected from the 13 shoreline wells. Two wells were dry and could not be sampled. The shoreline seepage well samples were collected using a bailer, carefully lowered into each well water column to avoid sediment suspension, and a 4-L (1-gal) sample was obtained. The sampling methods are discussed in more detail in DFSNW-OEM-001.

In 2002, the levels of strontium-90 detected in samples from riverbank springs were highest in N Springs wells Y302, Y303 (near well 199-N-46), and Y311 (downstream of well 199-N-46). Strontium-90 concentrations did not exceed the DOE DCG value at any well. Tritium and gamma-emitting radionuclide concentrations were below analytical detection limits in 2002. The 2002 data results from riverbank springs sampling are summarized in Table 5-1. Historical tritium and strontium-90 sampling results are provided in Tables 5-2 and 5-3.

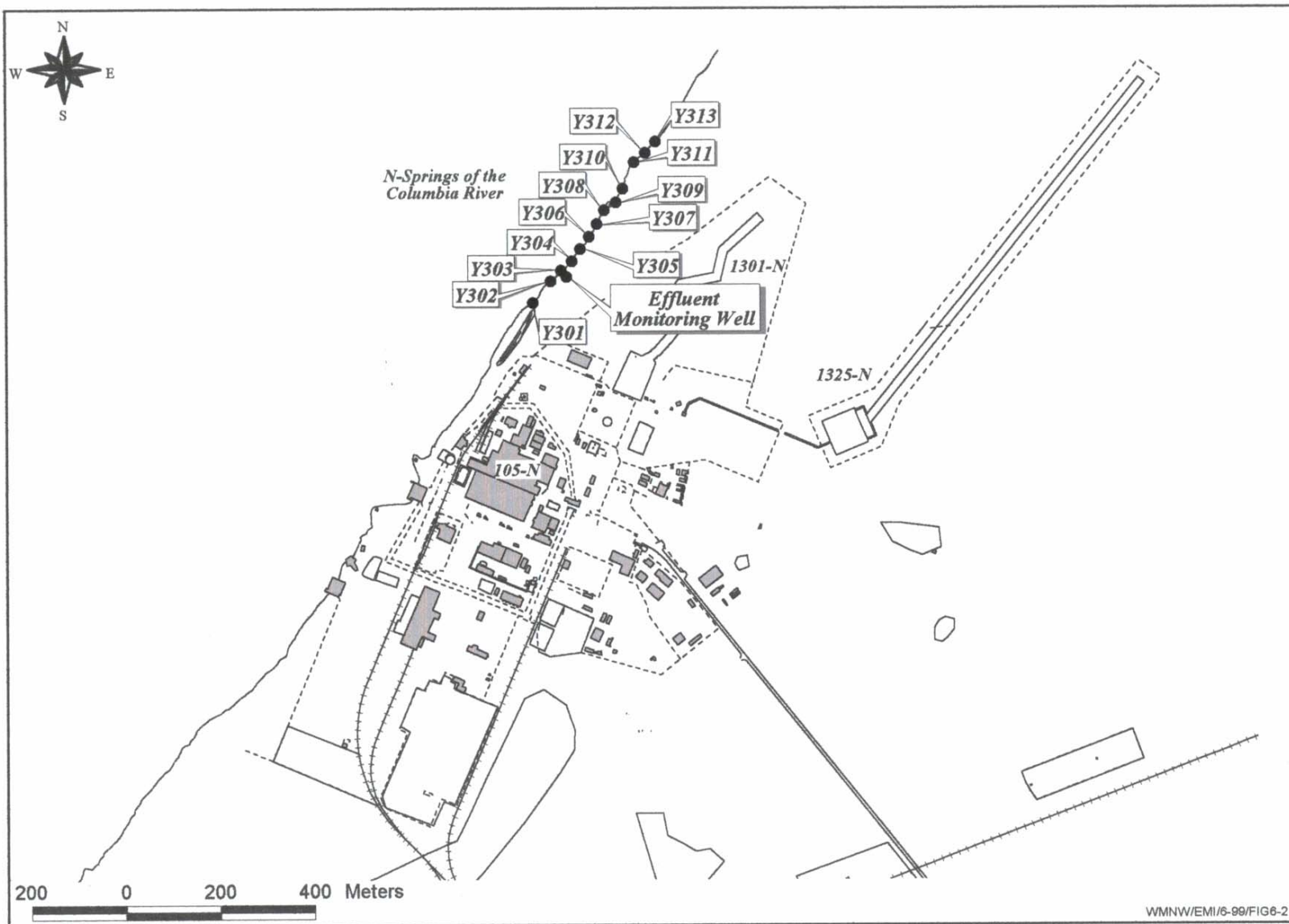


Figure 5-1. 100-N Area Shoreline Seepage Well Locations.

Table 5-1. 2002 Radiological Results for N-Springs Water Samples
(pCi/L \pm total analytical uncertainty).

Location	Isotope	Result	\pm Uncertainty	RQ*
Y301	¹⁴⁴ Ce	-1.7E+01	\pm 6.9E+01	U
	⁶⁰ Co	6.1E+00	\pm 5.8E+00	U
	¹³⁴ Cs	1.5E+00	\pm 6.8E+00	U
	¹³⁷ Cs	-1.3E+00	\pm 6.1E+00	U
	¹⁵² Eu	7.7E+00	\pm 1.7E+01	U
	¹⁵⁴ Eu	1.2E+00	\pm 1.2E+01	U
	¹⁵⁵ Eu	-9.0E+00	\pm 2.0E+01	U
	³ H	-3.0E+02	\pm 4.8E+02	U
	¹⁰³ Ru	3.3E-01	\pm 3.3E+00	U
	¹⁰⁶ Ru	2.1E+01	\pm 5.5E+01	U
	¹²⁵ Sb	9.4E-01	\pm 9.4E+00	U
	¹¹³ Sn	2.4E+00	\pm 7.0E+00	U
	⁹⁰ Sr	5.2E+00	\pm 1.0E+00	U
	⁶⁵ Zn	1.4E+01	\pm 1.4E+01	U
Y303	¹⁴⁴ Ce	-7.3E+00	\pm 6.3E+01	U
	⁶⁰ Co	-1.6E-01	\pm 1.6E+00	U
	¹³⁴ Cs	6.8E-01	\pm 5.1E+00	U
	¹³⁷ Cs	-5.6E+00	\pm 5.6E+00	U
	¹⁵² Eu	-1.9E+01	\pm 1.9E+01	U
	¹⁵⁴ Eu	-3.4E+00	\pm 1.1E+01	U
	¹⁵⁵ Eu	6.6E-01	\pm 6.6E+00	U
	³ H	-4.7E+02	\pm 8.0E+02	U
	¹⁰³ Ru	-1.7E+00	\pm 5.2E+00	U
	¹⁰⁶ Ru	1.7E+01	\pm 3.9E+01	U
	¹²⁵ Sb	3.2E+00	\pm 1.3E+01	U
	¹¹³ Sn	3.2E-01	\pm 3.2E+00	U
	⁹⁰ Sr	8.2E+01	\pm 1.6E+01	U
	⁶⁵ Zn	-2.2E+00	\pm 1.0E+01	U
Y306	¹⁴⁴ Ce	5.6E+00	\pm 5.6E+01	U
	⁶⁰ Co	-4.4E-01	\pm 4.4E+00	U
	¹³⁴ Cs	-1.9E+00	\pm 6.1E+00	U
	¹³⁷ Cs	-1.3E+00	\pm 6.8E+00	U
	¹⁵² Eu	-1.2E+01	\pm 1.7E+01	U
	¹⁵⁴ Eu	7.9E+00	\pm 1.6E+01	U
	¹⁵⁵ Eu	-1.8E+01	\pm 1.9E+01	U
	³ H	-3.6E+02	\pm 3.6E+02	U
	¹⁰³ Ru	-1.6E+00	\pm 5.5E+00	U
	¹⁰⁶ Ru	-1.6E+01	\pm 5.4E+01	U
	¹²⁵ Sb	-7.0E+00	\pm 1.5E+01	U
	¹¹³ Sn	-4.4E-01	\pm 4.3E+00	U
	⁹⁰ Sr	1.6E+00	\pm 5.6E-01	U
	⁶⁵ Zn	1.2E+01	\pm 1.3E+01	U
Location	Isotope	Result	\pm Uncertainty	RQ*
Y302	¹⁴⁴ Ce	-5.6E+00	\pm 5.6E+01	U
	⁶⁰ Co	9.7E-01	\pm 5.0E+00	U
	¹³⁴ Cs	4.4E+00	\pm 8.6E+00	U
	¹³⁷ Cs	-3.8E+00	\pm 5.4E+00	U
	¹⁵² Eu	2.7E-01	\pm 2.7E+00	U
	¹⁵⁴ Eu	-8.2E+00	\pm 1.5E+01	U
	¹⁵⁵ Eu	6.3E+00	\pm 1.7E+01	U
	³ H	-3.2E+02	\pm 5.1E+02	U
	¹⁰³ Ru	-1.4E+00	\pm 5.1E+00	U
	¹⁰⁶ Ru	7.9E+00	\pm 4.7E+01	U
	¹²⁵ Sb	-1.8E+00	\pm 1.4E+01	U
	¹¹³ Sn	5.1E+00	\pm 6.3E+00	U
	⁹⁰ Sr	2.2E+01	\pm 4.4E+00	U
	⁶⁵ Zn	-6.1E-02	\pm 6.1E-01	U
Y305	¹⁴⁴ Ce	2.4E+01	\pm 6.9E+01	U
	⁶⁰ Co	-1.9E+00	\pm 4.2E+00	U
	¹³⁴ Cs	-5.1E-01	\pm 4.7E+00	U
	¹³⁷ Cs	-2.1E+00	\pm 5.1E+00	U
	¹⁵² Eu	2.6E+00	\pm 1.5E+01	U
	¹⁵⁴ Eu	-3.3E+00	\pm 1.4E+01	U
	¹⁵⁵ Eu	1.1E+00	\pm 1.1E+01	U
	³ H	-4.9E+02	\pm 4.9E+02	U
	¹⁰³ Ru	-2.5E-01	\pm 2.5E+00	U
	¹⁰⁶ Ru	1.6E+01	\pm 4.0E+01	U
	¹²⁵ Sb	-1.3E+01	\pm 1.4E+01	U
	¹¹³ Sn	-5.1E+00	\pm 6.5E+00	U
	⁹⁰ Sr	5.2E+00	\pm 1.0E+00	U
	⁶⁵ Zn	1.1E+01	\pm 1.0E+01	U
Y307	¹⁴⁴ Ce	5.7E+01	\pm 7.5E+01	U
	⁶⁰ Co	-4.5E+00	\pm 5.9E+00	U
	¹³⁴ Cs	-3.8E+00	\pm 6.5E+00	U
	¹³⁷ Cs	8.1E-01	\pm 6.2E+00	U
	¹⁵² Eu	1.5E+01	\pm 1.8E+01	U
	¹⁵⁴ Eu	1.3E+01	\pm 2.0E+01	U
	¹⁵⁵ Eu	3.2E+00	\pm 2.1E+01	U
	³ H	-4.3E+02	\pm 4.3E+02	U
	¹⁰³ Ru	-3.2E+00	\pm 6.0E+00	U
	¹⁰⁶ Ru	3.2E+01	\pm 5.6E+01	U
	¹²⁵ Sb	7.9E+00	\pm 1.6E+01	U
	¹¹³ Sn	1.4E+00	\pm 7.7E+00	U
	⁹⁰ Sr	6.0E-01	\pm 5.1E-01	U
	⁶⁵ Zn	-6.3E+00	\pm 1.5E+01	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 5-1. 2002 Radiological Results for N-Springs Water Samples
(pCi/L \pm total analytical uncertainty). (cont)

Location	Isotope	Result	\pm Uncertainty	RQ*
Y308	¹⁴⁴ Ce	2.3E+01	\pm 6.3E+01	U
	⁶⁰ Co	2.4E+00	\pm 5.6E+00	U
	¹³⁴ Cs	8.7E-01	\pm 5.8E+00	U
	¹³⁷ Cs	-1.1E+00	\pm 5.6E+00	U
	¹⁵² Eu	-6.9E-01	\pm 6.9E+00	U
	¹⁵⁴ Eu	-1.5E+01	\pm 1.6E+01	U
	¹⁵⁵ Eu	5.4E+00	\pm 1.7E+01	U
	³ H	-3.2E+02	\pm 3.8E+02	U
	¹⁰³ Ru	-2.8E+00	\pm 5.4E+00	U
	¹⁰⁶ Ru	-2.8E+01	\pm 5.0E+01	U
	¹²⁵ Sb	6.5E+00	\pm 1.5E+01	U
	¹¹³ Sn	8.5E-01	\pm 6.5E+00	U
	⁹⁰ Sr	6.9E+00	\pm 1.4E+00	U
	⁶⁵ Zn	1.4E+01	\pm 1.3E+01	U
Y310	¹⁴⁴ Ce	2.1E+01	\pm 7.3E+01	U
	⁶⁰ Co	2.6E+00	\pm 5.9E+00	U
	¹³⁴ Cs	1.0E+00	\pm 5.1E+00	U
	¹³⁷ Cs	-8.9E+00	\pm 8.9E+00	U
	¹⁵² Eu	-4.6E+00	\pm 1.6E+01	U
	¹⁵⁴ Eu	-3.1E+00	\pm 1.8E+01	U
	¹⁵⁵ Eu	1.1E+01	\pm 1.8E+01	U
	³ H	-3.4E+02	\pm 3.4E+02	U
	¹⁰³ Ru	-5.8E-01	\pm 5.4E+00	U
	¹⁰⁶ Ru	-1.2E+01	\pm 4.2E+01	U
	¹²⁵ Sb	9.0E+00	\pm 1.5E+01	U
	¹¹³ Sn	-2.5E-01	\pm 2.5E+00	U
	⁹⁰ Sr	1.2E+00	\pm 6.6E-01	U
	⁶⁵ Zn	1.2E+01	\pm 1.1E+01	U
Y312	¹⁴⁴ Ce	2.4E+01	\pm 6.1E+01	U
	⁶⁰ Co	3.3E+00	\pm 3.9E+00	U
	¹³⁴ Cs	-1.5E+00	\pm 4.3E+00	U
	¹³⁷ Cs	1.7E+00	\pm 4.6E+00	U
	¹⁵² Eu	9.2E+00	\pm 1.4E+01	U
	¹⁵⁴ Eu	-1.2E+01	\pm 1.2E+01	U
	¹⁵⁵ Eu	-4.8E+00	\pm 1.5E+01	U
	³ H	-2.3E+02	\pm 4.3E+02	U
	¹⁰³ Ru	-4.3E+00	\pm 4.5E+00	U
	¹⁰⁶ Ru	-1.1E+01	\pm 3.7E+01	U
	¹²⁵ Sb	6.6E+00	\pm 1.2E+01	U
	¹¹³ Sn	1.7E+00	\pm 5.8E+00	U
	⁹⁰ Sr	8.6E+00	\pm 1.7E+00	U
	⁶⁵ Zn	-6.4E-01	\pm 6.4E+00	U
Location	Isotope	Result	\pm Uncertainty	RQ*
Y309	¹⁴⁴ Ce	2.1E+01	\pm 7.7E+01	U
	⁶⁰ Co	-1.5E+00	\pm 5.6E+00	U
	¹³⁴ Cs	3.1E+00	\pm 6.4E+00	U
	¹³⁷ Cs	2.7E+00	\pm 5.9E+00	U
	¹⁵² Eu	-6.0E+00	\pm 2.1E+01	U
	¹⁵⁴ Eu	-1.5E+01	\pm 1.7E+01	U
	¹⁵⁵ Eu	2.7E+01	\pm 2.2E+01	U
	³ H	-3.5E+02	\pm 3.9E+02	U
	¹⁰³ Ru	2.0E+00	\pm 5.9E+00	U
	¹⁰⁶ Ru	-4.8E+00	\pm 4.8E+01	U
	¹²⁵ Sb	4.1E-01	\pm 4.1E+00	U
	¹¹³ Sn	-1.9E+00	\pm 7.5E+00	U
	⁹⁰ Sr	1.9E+00	\pm 5.7E-01	U
	⁶⁵ Zn	1.8E+01	\pm 1.3E+01	U
Y311	¹⁴⁴ Ce	-2.6E+01	\pm 6.3E+01	U
	⁶⁰ Co	4.2E-01	\pm 4.1E+00	U
	¹³⁴ Cs	9.1E-01	\pm 4.4E+00	U
	¹³⁷ Cs	2.3E+00	\pm 4.9E+00	U
	¹⁵² Eu	-3.4E+00	\pm 1.5E+01	U
	¹⁵⁴ Eu	-5.2E+00	\pm 1.3E+01	U
	¹⁵⁵ Eu	6.3E+00	\pm 1.5E+01	U
	³ H	-2.6E+02	\pm 3.6E+02	U
	¹⁰³ Ru	-2.6E+00	\pm 4.8E+00	U
	¹⁰⁶ Ru	3.9E+00	\pm 3.9E+01	U
	¹²⁵ Sb	6.4E-01	\pm 6.4E+00	U
	¹¹³ Sn	1.6E+00	\pm 6.1E+00	U
	⁹⁰ Sr	3.1E+01	\pm 4.7E+00	U
	⁶⁵ Zn	1.2E+00	\pm 9.7E+00	U

RQ = Result Qualifier. U = The analyte was analyzed for but not detected.

Table 5-2. Historical N-Springs Shoreline Tritium Concentrations
(pCi/L \pm overall analytical uncertainty).

Year	Effluent monitoring						
	Y301	Y302	well	Y303	Y304	Y305	Y306
1987	6.8E+04	7.6E+04	9.5E+04	9.2E+04	9.4E+04	8.8E+04	7.9E+04
1988	5.7E+03	2.8E+04	7.5E+04	6.9E+04	7.4E+04	NS	NS
1989	2.5E+04	2.8E+04	3.9E+04	3.6E+04	5.0E+04	NS	6.8E+04
1990	2.9E+04	3.2E+04	3.8E+04	3.6E+04	NS	NS	3.4E+03
1991	2.2E+02	8.4E+01	3.7E+04	2.6E+03	3.4E+04	NS	4.0E+02
1992	7.2E+02	NS	5.0E+04	9.5E-01	NS	NS	1.5E+02
1993	2.8E+02	1.3E+02	2.7E+04 \pm 2.1E+03	1.4E+02	5.6E+02	1.0E+02	1.8E+02
1994	NS	4.0E+01 \pm 1.9E+02	2.6E+04 \pm 2.1E+03	4.0E+01	NS	NS	1.2E+02 \pm 2.0E+02
1995	NS	NS	5.2E+03	-1.2E+01 \pm 1.2E+02	NS	NS	-4.4E+01 \pm 1.5E+02
1996	2.5E+02	8.5E+02 \pm 2.5E+02	2.0E+04 \pm 1.6E+03	1.6E+04 \pm 1.3E+03	4.2E+03 \pm 5.0E+02	1.6E+02 \pm 2.2E+02	2.2E+02 \pm 2.1E+02
1997	-4.3E+01 \pm 5.6E+01	3.6E+01 \pm 3.2E+01	1.6E+04 \pm 1.3E+03	3.0E+03 \pm 6.0E+02	-6.3E+02 \pm 1.1E+03	-5.7E+01 \pm 9.1E+01	-1.1E+02 \pm 5.4E+02
1998	NS	4.6E+02 \pm 2.1E+02	1.6E+04 \pm 5.1E+03	1.4E+02 \pm 3.6E+01	NS	3.7E+02 \pm 2.6E+02	4.3E+02 \pm 2.2E+02
1999	9.7E+01 \pm 7.4E+01	1.0E+02 \pm 7.0E+01	1.3E+02 \pm 7.9E+01	1.9E+02 \pm 9.7E+01	NS	4.7E+01 \pm 4.7E+01	3.6E+00 \pm 7.6E+00
2000	1.3E+03 \pm 3.3E+02	2.8E+02 \pm 1.5E+02	7.0E+03 \pm 3.1E+03	2.8E+02 \pm 1.5E+02	2.8E+02 \pm 1.4E+02	2.0E+02 \pm 1.4E+02	2.0E+02 \pm 1.4E+02
2001	9.9E-01 \pm 8.9E-01	9.9E-01 \pm 7.9E-01	5.0E+03 \pm 5.1E+02	9.6E+01 \pm 6.7E+01	NS	5.9E+01 \pm 6.2E+01	5.0E+01 \pm 6.5E+01
2002	-3.0E+02 \pm 4.8E+02	-3.2E+02 \pm 5.1E+02	6.8E+02 \pm 6.8E+01	-4.7E+02 \pm 8.0E+02	NS	-4.9E+02 \pm 4.9E+02	-3.6E+02 \pm 3.6E+02
Year	Y307	Y308	Y309	Y310	Y311	Y312	Y313
1987	7.3E+04	4.6E+04	7.5E+04	4.0E+03	5.8E+04	2.1E+04	1.3E+03
1988	1.1E+04	3.0E+04	1.0E+04	NS	2.9E+04	1.9E+04	3.0E+03
1989	NS	7.7E+04	7.0E+04	3.5E+04	4.2E+04	NS	NS
1990	NS	1.4E+04	3.5E+03	9.7E+03	3.8E+04	2.0E+04	NS
1991	8.1E+02	2.1E+03	6.5E+03	7.9E+02	7.1E+02	2.4E+03	9.3E+00
1992	NS	NS	3.0E+02	4.3E+02	6.5E+02	1.7E+02	NS
1993	NS	NS	NS	NS	NS	NS	NS
1994	8.5E+01 \pm 1.9E+02	1.3E+02 \pm 2.0E+02	8.4E+01 \pm 1.9E+02	4.0E+02 \pm 2.1E+02	4.5E+02 \pm 2.1E+02	2.9E+02 \pm 2.0E+02	NS
1995	-2.1E+00 \pm 2.1E+01	-2.3E+01 \pm 1.4E+02	-3.1E+01 \pm 1.4E+02	-1.2E+01 \pm 1.2E+02	3.2E+02 \pm 1.6E+02	5.0E+02 \pm 1.8E+02	NS
1996	1.9E+02 \pm 2.1E+02	2.4E+02 \pm 2.1E+02	NS	NS	2.2E+02 \pm 2.1E+02	NS	NS
1997	-1.4E+02 \pm 1.4E+03	-1.2E+02 \pm 8.2E+02	-6.4E+01 \pm 1.0E+02	-1.1E+02 \pm 5.4E+02	2.6E+01 \pm 2.1E+01	NS	NS
1998	3.5E+02 \pm 2.6E+02	NS	3.5E+02 \pm 2.7E+02	3.0E+02 \pm 2.1E+02	5.6E+02 \pm 2.5E+02	6.2E+02 \pm 2.5E+02	5.2E+02 \pm 2.6E+02
1999	2.7E+02 \pm 1.1E+02	1.1E+02 \pm 8.8E+01	NS	1.3E+02 \pm 8.5E+01	1.8E+02 \pm 9.9E+01	1.5E+02 \pm 9.8E+01	NS
2000	3.0E+02 \pm 1.5E+02	2.4E+02 \pm 1.4E+02	1.9E+02 \pm 1.3E+02	2.4E+02 \pm 1.4E+02	4.0E+02 \pm 1.6E+02	3.7E+02 \pm 1.7E+02	2.5E+02 \pm 1.4E+02
2001	9.7E+01 \pm 9.9E+01	NS	1.9E+02 \pm 1.1E+02	8.8E+01 \pm 9.7E+01	5.3E+01 \pm 8.5E+01	9.9E-01 \pm 2.4E+00	NS
2002	-4.3E+02 \pm 4.3E+02	-3.2E+02 \pm 3.8E+02	-3.5E+02 \pm 3.9E+02	-3.4E+02 \pm 3.4E+02	-2.6E+02 \pm 3.6E+02	-2.3E+02 \pm 4.3E+02	NS

NS - Not sampled.

Table 5-3. Historical N-Springs Shoreline Strontium-90 Concentrations
(pCi/L \pm overall analytical uncertainty).

Year	Effluent monitoring						
	Y301	Y302	well	Y303	Y304	Y305	Y306
1987	1.7E+03	2.7E+03	6.1E+03	8.3E+03	4.1E+03	9.5E+02	7.2E+02
1988	8.7E+02	3.0E+03	7.9E+03	9.1E+03	3.5E+03	NS	NS
1989	9.8E+02	2.1E+03	6.5E+03	5.4E+03	3.8E+03	NS	8.9E+02
1990	2.4E+03	2.9E+03	4.9E+03	7.1E+03	NS	NS	1.5E+02
1991	1.6E+01	2.4E+01	6.9E+03	1.4E+03	3.2E+03	NS	8.6E+01
1992	NS	NS	6.3E+03	1.5E+02	NS	NS	9.6E+00
1993	1.2E+01	8.3E+01	7.4E+03 \pm 1.3E+03	1.2E+02	4.1E+03	4.1E+01	1.3E+01
1994	NS	1.1E+02 \pm 2.6E+01	6.6E+03 \pm 1.4E+03	1.2E+02	NS	NS	6.4E+00 \pm 1.7E+00
1995	NS	NS	5.7E+03 \pm 1.4E+03	3.0E+02 \pm 5.1E+01	NS	NS	7.0E+00 \pm 1.4E+00
1996	5.8E+01	2.6E+02 \pm 6.5E+01	1.4E+04 \pm 4.1E+03	5.8E+03 \pm 1.6E+03	9.5E+02 \pm 2.6E+02	3.7E+01 \pm 1.0E+01	1.6E+01 \pm 4.2E+00
1997	3.1E+01 \pm 4.7E+00	2.0E+02 \pm 2.8E+01	1.0E+04 \pm 3.5E+03	3.2E+03 \pm 3.8E+02	1.7E+02 \pm 2.2E+01	2.6E+01 \pm 4.7E+00	3.1E+00 \pm 1.6E+00
1998	NS	1.1E+02 \pm 1.3E+01	1.4E+04 \pm 2.1E+03	1.9E+03 \pm 2.3E+02	NS	1.7E+01 \pm 2.6E+00	7.7E+00 \pm 1.5E+00
1999	7.1E+00 \pm 1.4E+00	4.9E+01 \pm 7.4E+00	3.2E+03 \pm 4.8E+02	1.3E+03 \pm 2.0E+02	NS	3.0E+01 \pm 4.5E+00	8.1E+00 \pm 1.6E+00
2000	8.3E+00 \pm 1.7E+00	1.1E+01 \pm 1.6E+00	1.3E+04 \pm 4.0E+03	1.3E+02 \pm 2.6E+01	1.8E+02 \pm 2.7E+01	7.1E+00 \pm 1.4E+00	4.0E+00 \pm 1.0E+00
2001	4.3E+00 \pm 8.6E-01	1.9E+01 \pm 2.8E+00	9.7E+03 \pm 2.2E+03	4.5E+01 \pm 6.8E+00	NS	9.6E+00 \pm 1.9E+00	3.3E+00 \pm 8.2E-01
2002	5.2E+00 \pm 1.0E+00	2.2E+01 \pm 4.4E+00	4.8E+03 \pm 4.8E+02	8.2E+01 \pm 1.6E+01	NS	5.2E+00 \pm 1.0E+00	1.6E+00 \pm 5.6E-01

Year	Y307	Y308	Y309	Y310	Y311	Y312	Y313
1987	1.3E+01	4.2E+01	2.4E+02	5.7E+01	6.6E+02	5.8E+01	5.0E+01
1988	1.5E+01	3.2E+01	4.1E+01	NS	3.4E+02	4.0E+01	5.8E+01
1989	NS	7.8E+01	2.9E+02	1.6E+02	9.5E+02	NS	NS
1990	NS	9.0E+01	4.4E+01	3.1E+01	5.8E+02	5.4E+01	NS
1991	1.4E+01	2.8E+01	1.0E+02	1.5E+01	4.0E+02	8.9E+00	8.1E+00
1992	NS	NS	8.1E+00	6.7E+00	1.1E+02	7.1E+00	NS
1993	NS	NS	NS	NS	NS	NS	NS
1994	3.8E+00 \pm 8.7E-01	1.2E+01 \pm 2.5E+00	3.4E+00 \pm 9.2E-01	3.8E+00 \pm 1.0E+00	5.1E+01 \pm 1.1E+01	1.8E+01 \pm 4.3E+00	NS
1995	3.8E+00 \pm 8.0E-01	1.4E+01 \pm 2.7E+00	5.5E+00 \pm 1.2E+00	7.0E+00 \pm 1.4E+00	7.1E+01 \pm 1.3E+01	1.9E+01 \pm 3.6E+00	NS
1996	6.5E+00 \pm 1.8E+00	2.2E+01 \pm 5.7E+00	NS	NS	1.7E+02 \pm 4.9E+01	NS	NS
1997	3.6E-01 \pm 1.9E+00	1.1E+01 \pm 2.2E+00	5.6E+00 \pm 1.7E+00	7.6E-01 \pm 2.0E+00	1.5E+02 \pm 2.0E+01	NS	NS
1998	1.5E+01 \pm 2.3E+00	NS	5.1E+00 \pm 1.0E+00	2.9E+00 \pm 8.7E-01	1.1E+02 \pm 1.4E+01	1.8E+01 \pm 2.3E+00	3.6E+00 \pm 1.1E+00
1999	1.9E+00 \pm 7.6E-01	2.5E+00 \pm 7.5E-01	NS	4.0E+00 \pm 8.8E-01	4.3E+01 \pm 6.5E+00	9.2E+00 \pm 1.5E+00	NS
2000	3.3E+00 \pm 8.2E-01	4.5E+00 \pm 1.1E+00	2.2E+00 \pm 6.6E-01	7.0E-01 \pm 5.6E-01	4.8E+01 \pm 1.2E+01	3.8E+00 \pm 7.6E-01	2.0E-01 \pm 4.4E-01
2001	3.4E+00 \pm 8.5E-01	NS	2.5E+00 \pm 7.5E-01	2.8E+00 \pm 8.4E-01	3.4E+01 \pm 5.1E+00	6.0E+00 \pm 1.2E+00	NS
2002	6.0E-01 \pm 5.1E-01	6.9E+00 \pm 1.4E+00	1.9E+00 \pm 5.7E-01	1.2E+00 \pm 6.6E-01	3.1E+01 \pm 4.7E+00	8.6E+00 \pm 1.7E+00	NS

NS - Not sampled.

6.0 RADIOLOGICAL SURVEYS

In 2002, there were approximately 3,643 ha (9,002 acres) of posted outdoor contamination areas and 665 ha (1,643 acres) of posted underground radioactive materials areas at the Hanford Site. Survey locations are illustrated in Figures 6-1 through 6-10. These areas were typically associated with cribs, trenches, burial grounds, tank farms, and covered ponds and ditches.

The posted contamination areas vary in number and size between years because of an ongoing effort to clean, stabilize, and remediate areas of known contamination. During this time, new areas of contamination are also being identified. Approximately 4 ha (10 acres) were reclassified from contamination/soil contamination areas to underground radioactive materials areas. During 2002, two small contaminated sites totaling less than 0.1 ha (0.25 acre) were added to the 200 West Area total and one small contaminated area site totaling less than 50 m² (500 ft²) were added to the 100-K Area total.

It was estimated that the external dose rate at 80% of the identified outdoor contamination areas was less than 1 mrem/hr, although direct dose rate readings from isolated radioactive specks (a diameter less than 0.6 cm [0.25 in.]) could have been considerably higher. Contamination levels of this magnitude did not significantly add to dose rates for the public or Hanford Site workers in 2002.

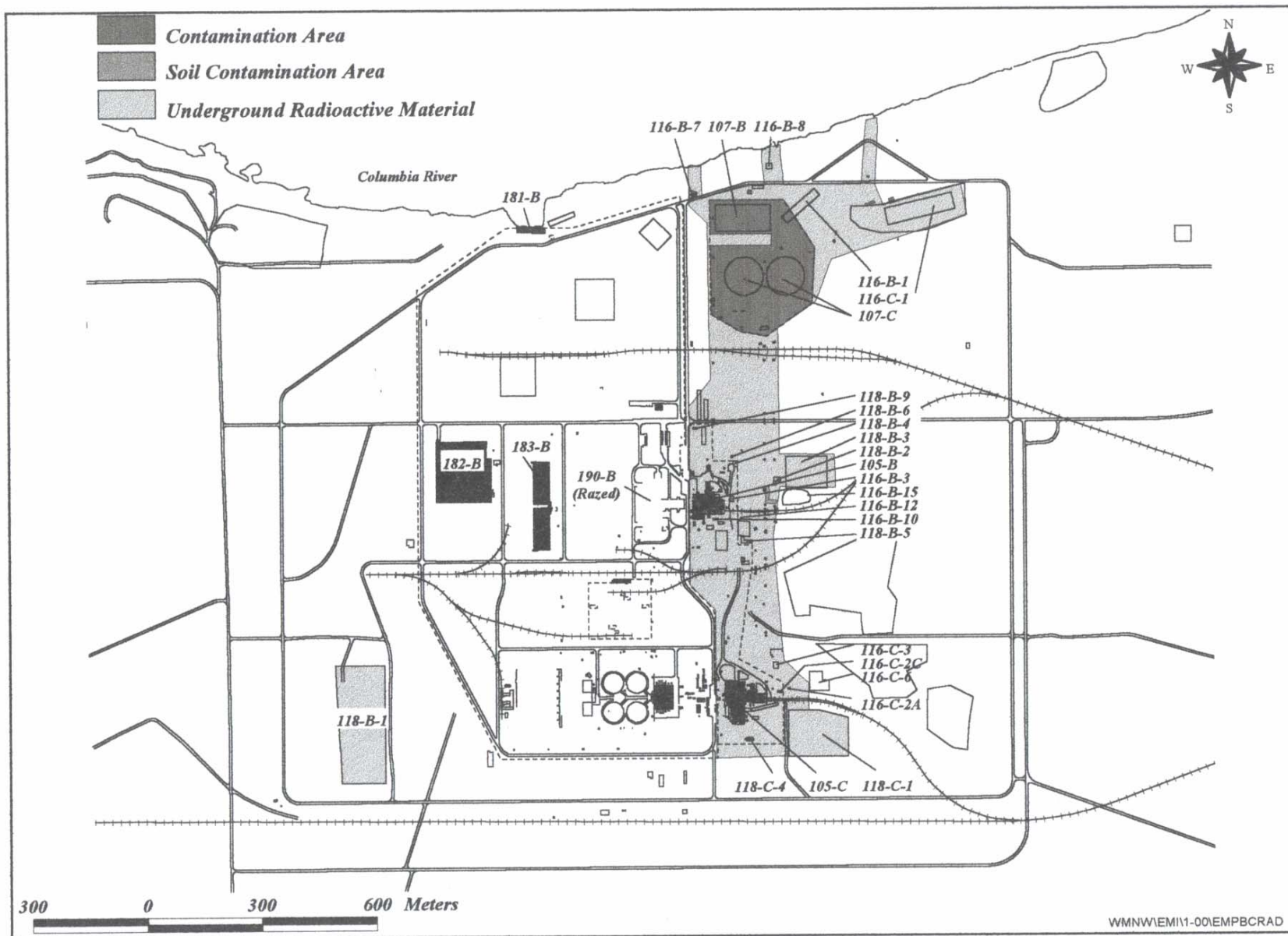


Figure 6-1. 2002 Radiological Survey Locations, 100-B/C Area.

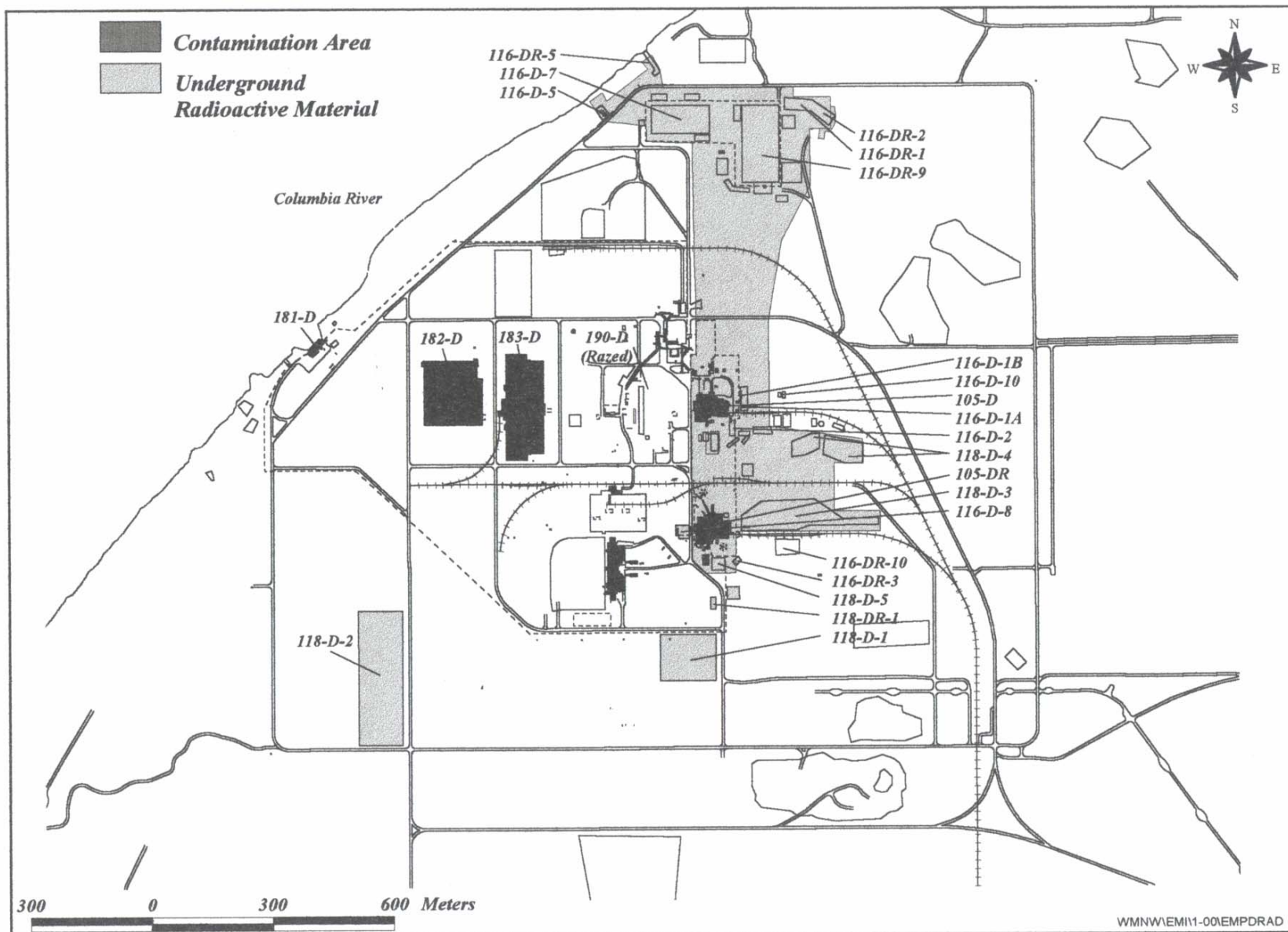
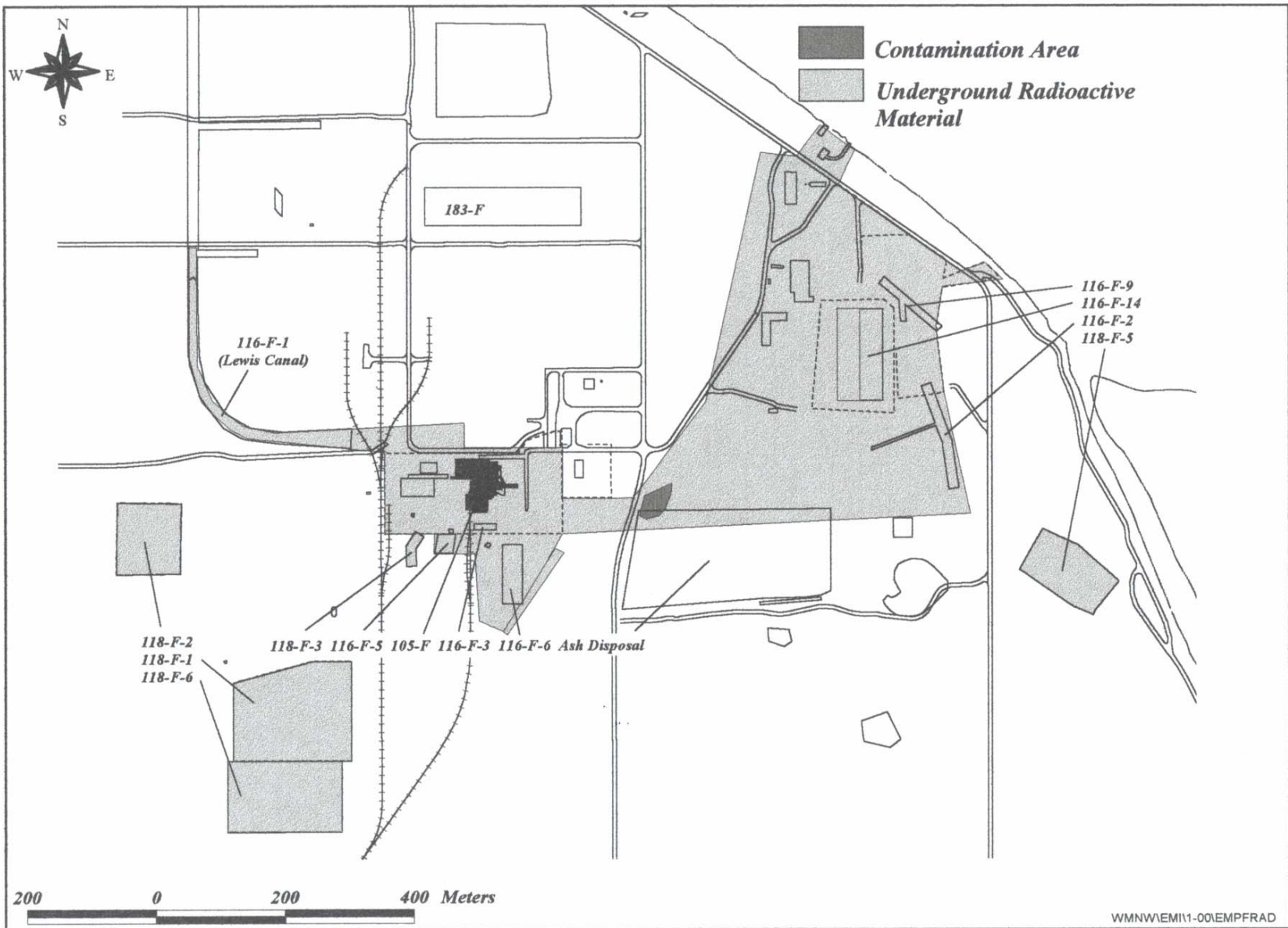


Figure 6-2. 2002 Radiological Survey Locations, 100-D/DR Area.

Figure 6-3. 2002 Radiological Survey Locations, 100-F Area.



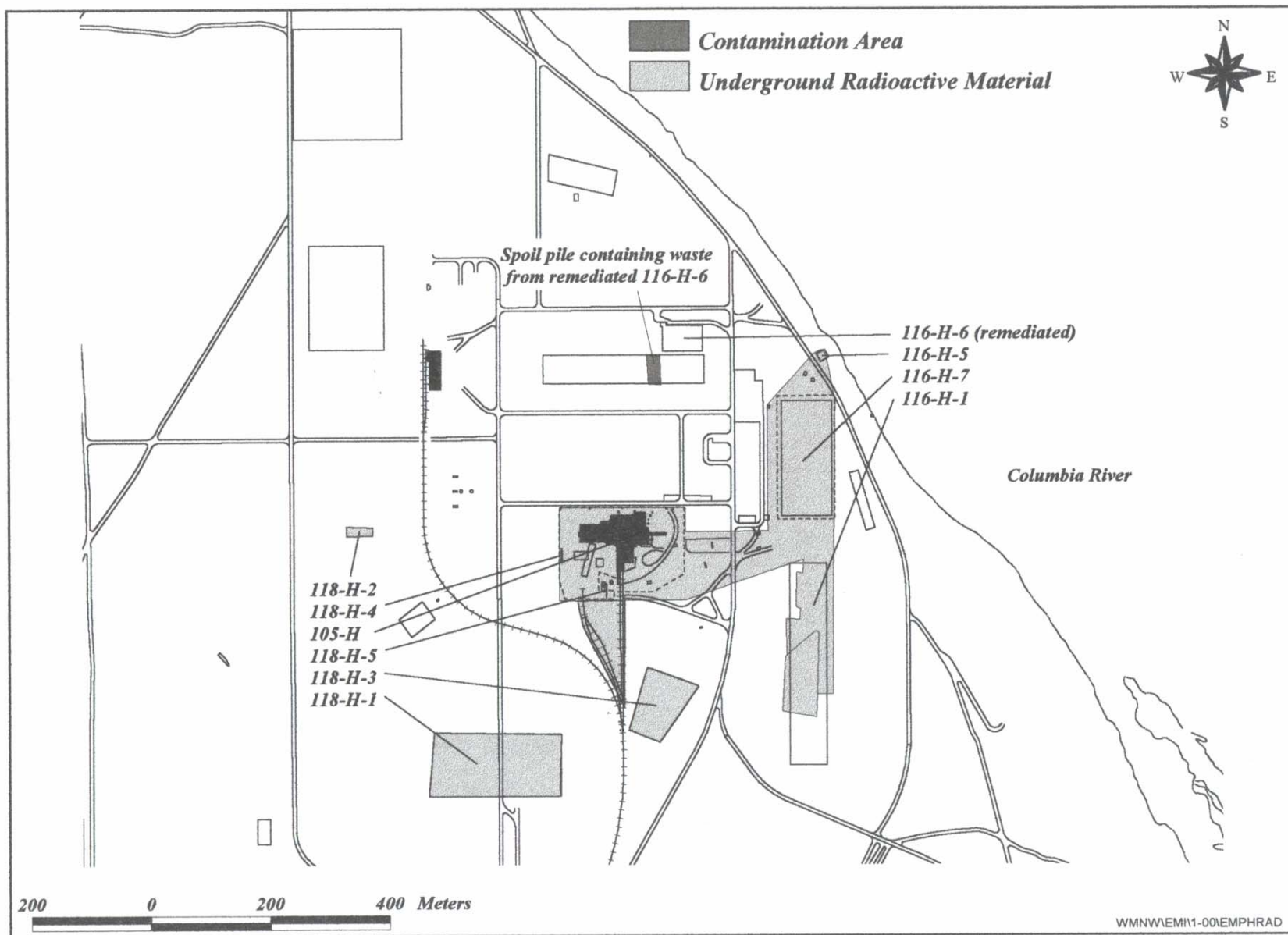


Figure 6-4. 2002 Radiological Survey Locations, 100-H Area.

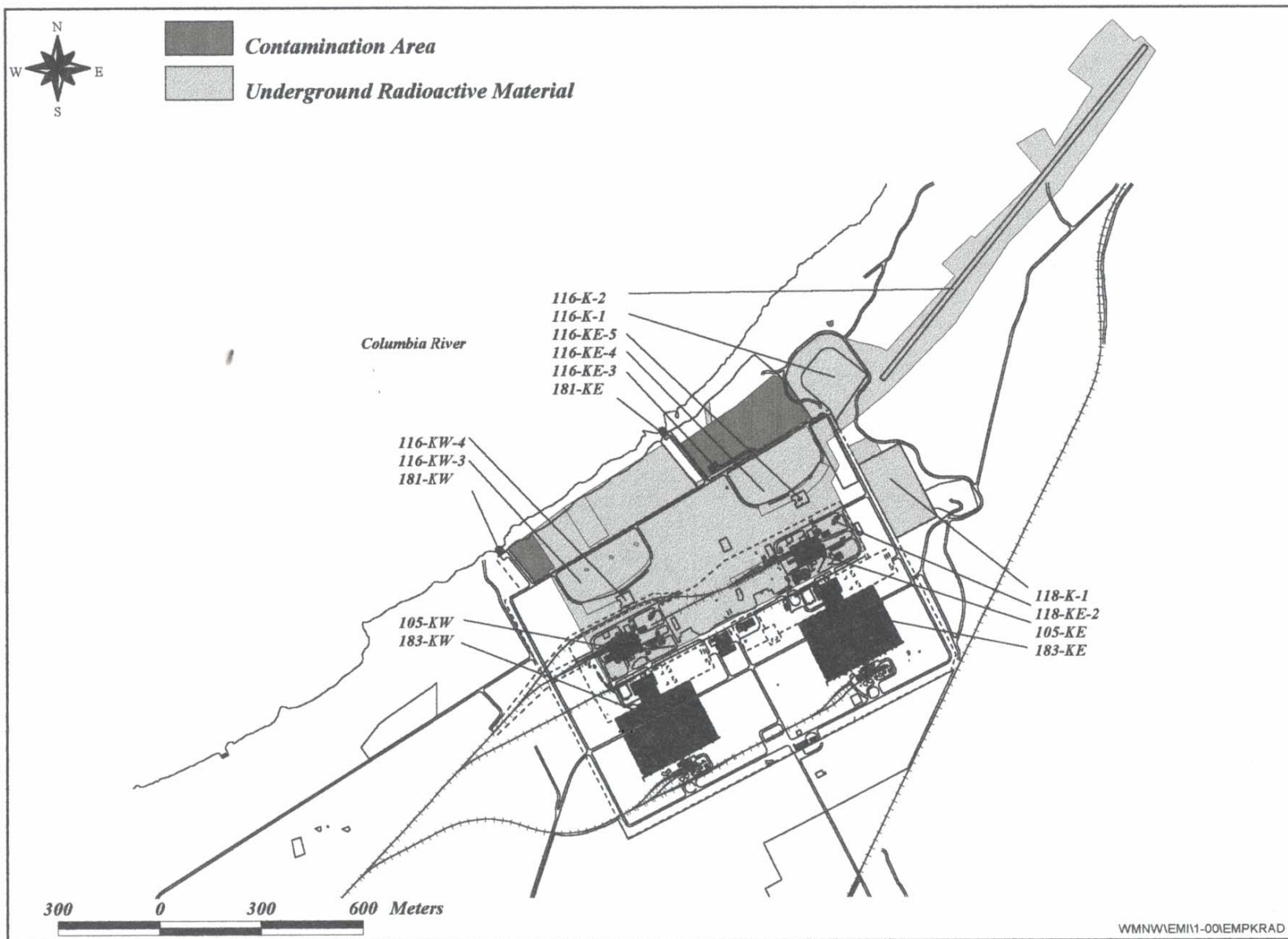


Figure 6-5. 2002 Radiological Survey Locations, 100-K Area.

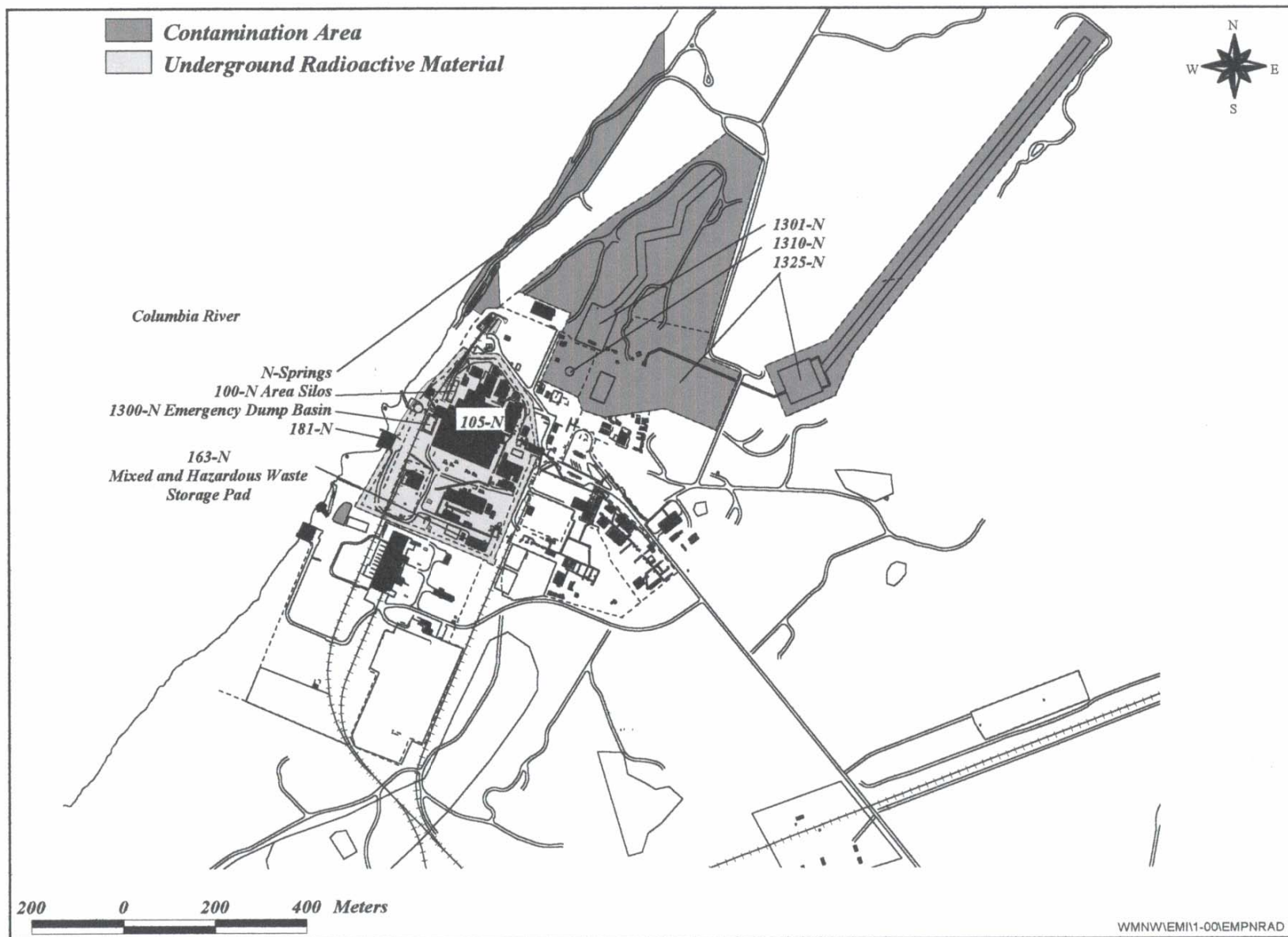


Figure 6-6. 2002 Radiological Survey Locations, 100-N Area.

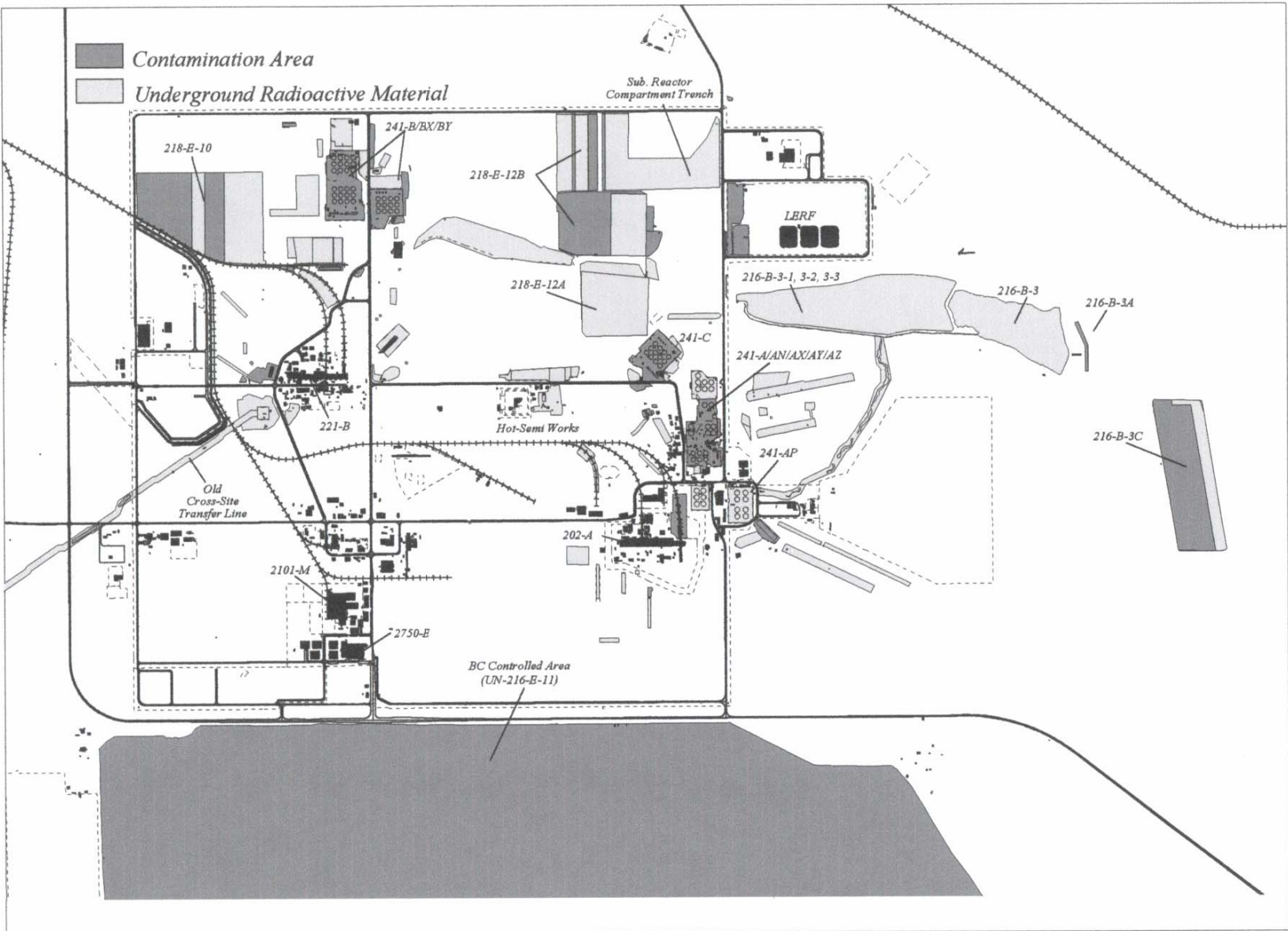


Figure 6-7. 2002 Radiological Survey Locations, 200 East Area.

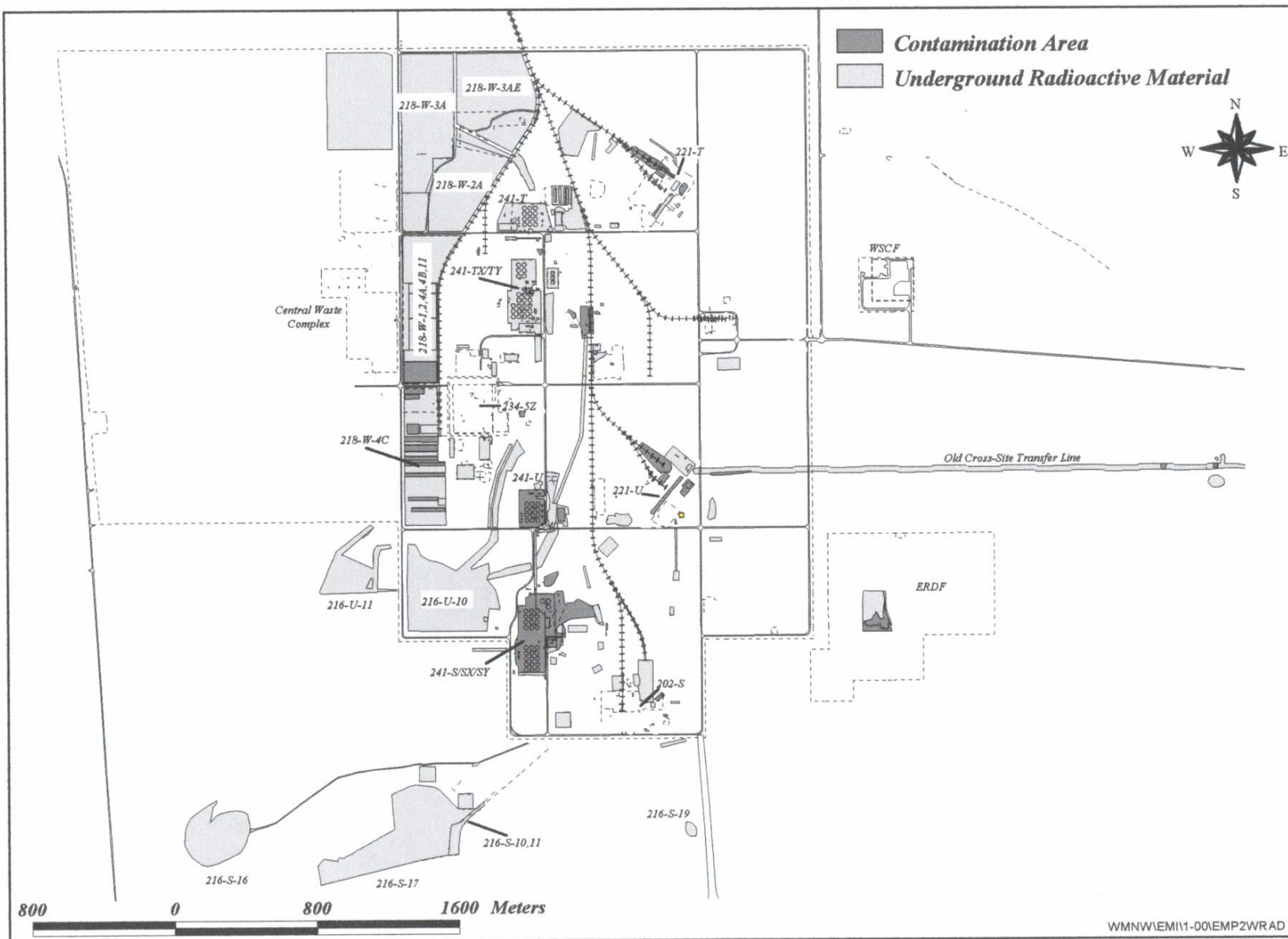
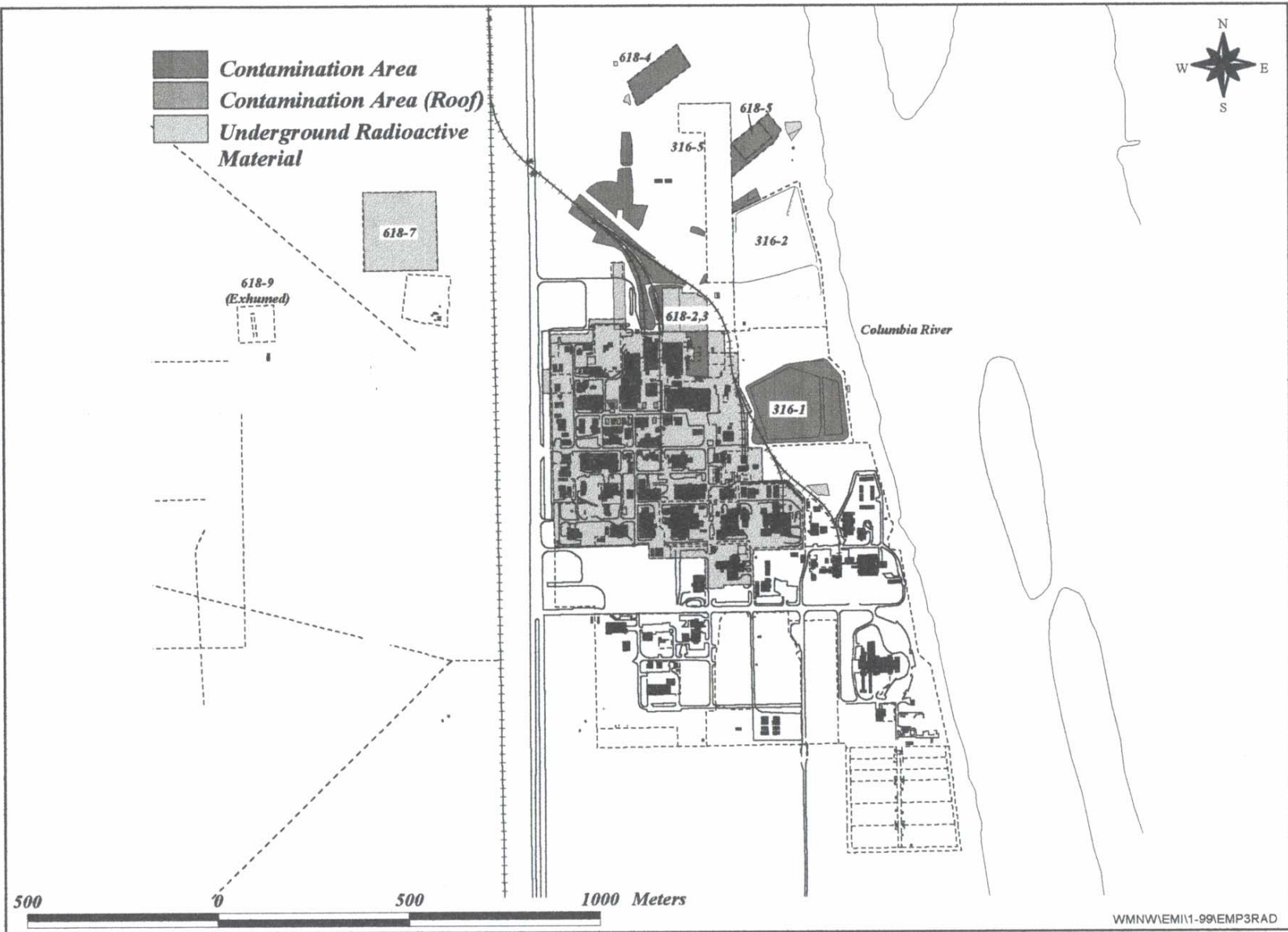


Figure 6-8. 2002 Radiological Survey Locations, 200 West Area.

Figure 6-9. 2002 Radiological Survey Locations, 300 Area.



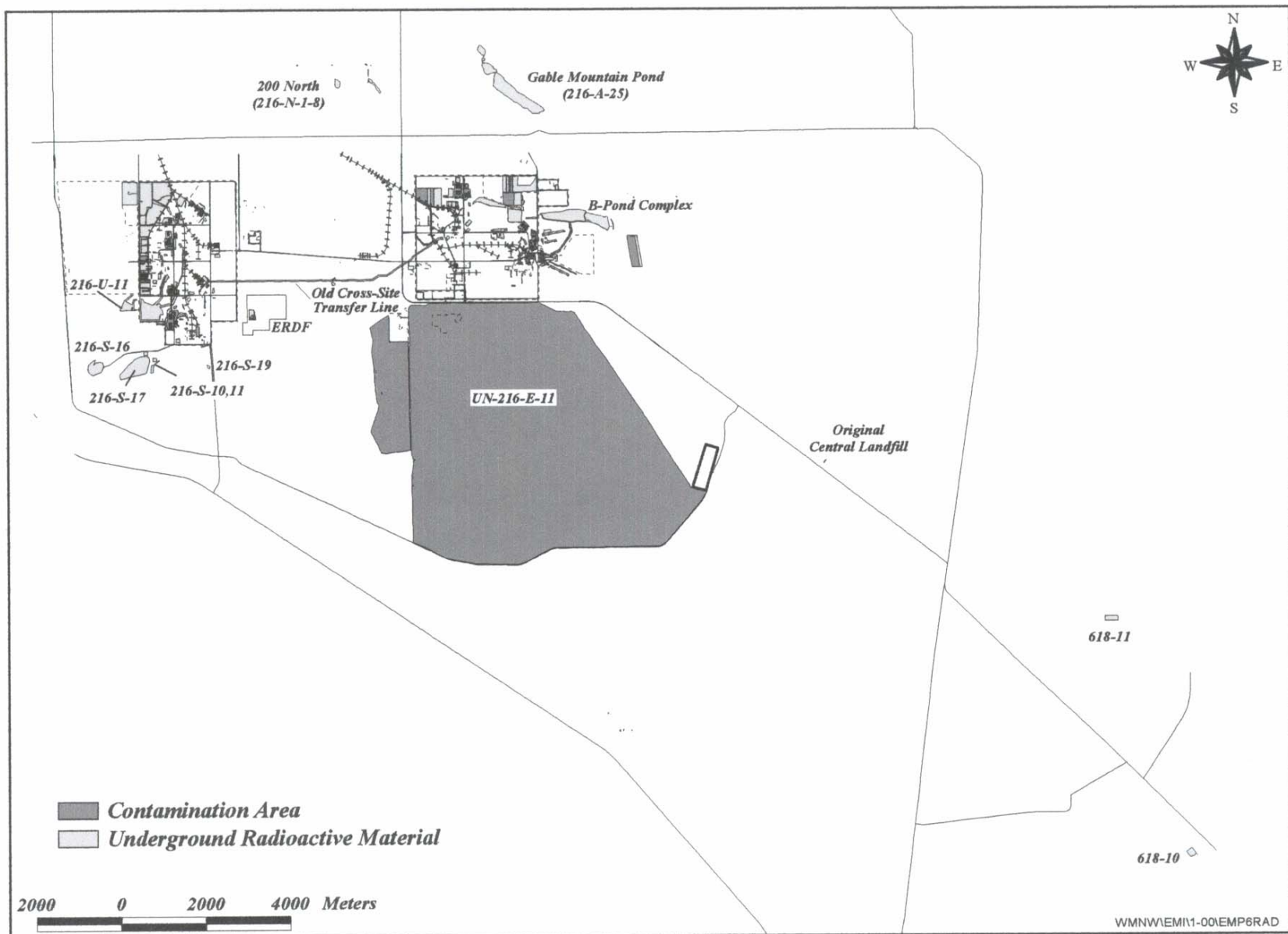


Figure 6-10. 2001 Radiological Survey Locations, 600 Area.

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7.0 INVESTIGATIVE SAMPLING

Examples of investigative samples collected in 2002 included soil, vegetation, animals, animal feces, and water. Investigative samples were collected where known or suspected radioactive contamination was present, or to verify radiological conditions at project sites. Samples were analyzed for radionuclides at either the 222-S Laboratory in the 200 West Area of the Hanford Site or at the Severn Trent Laboratories in Richland, Washington. Analytical results are provided in Table 7-1. Another 55 contaminated environmental samples were collected and disposed without isotopic analyses (although field instrument readings were recorded) during clean-up operations. These results are provided in Table 7-2.

7.1 SOIL

In 2002, there were 22 instances of radiological contamination in which soil was identified as the carrier of contamination. None of these soil samples were submitted to the laboratory for radioisotopic analysis. Of these, 16 were identified only as specks or soil specks. Often, specks observed under high magnification are found to be small pieces of decomposed vegetation, most often tumbleweeds. External radioactivity levels ranged from slightly above background (approximately 2,000 disintegration's per minute [dpm]/100 cm²) to greater than 200 mR/hr. Contaminated areas were radiologically posted or cleaned up. The number of contamination incidents, the range of radiation dose rate levels, and radionuclide concentrations observed in 2002 were generally within historical ranges.

7.2 VEGETATION

In 2002, there were 16 instances in which vegetation was identified as the carrier of radiological contamination. None of these vegetation samples were submitted to the laboratory for radioisotopic analysis. One contaminated vegetation instance had field readings in excess of one million dpm/100 cm². The radioactivity levels and range of radionuclide concentrations were all within historical ranges.

The reduced number of incidents from 31 in 2001 to 16 in 2002 can be attributed to improvements in the deep-rooted weed prevention program. Nevertheless, contaminated tumbleweeds that grew in recent years continue to be identified by radiological surveys. It is expected that as contaminated vegetation from past years is identified and cleaned up, subsequent years will show the results of program improvements.

7.3 ANIMALS

Animals were collected either as part of an integrated pest management program or as a result of radiological surveys finding contaminated wildlife-related material (e.g., feces, nests, etc.). Animals were collected directly from or near facilities in an effort to monitor and track

effectiveness of preventive measures designed to deter animal intrusion. For 2002, the numbers of animals found to be contaminated with radioactivity, the radioactivity levels, and the range of radionuclide concentrations were within historical ranges.

In 2002, four instances of animals, or animal-related contamination were identified and from these, nine samples were submitted to the laboratory for analysis.

- In February 2002, a contaminated starling carcass was found in the ductwork in the 222-S Facility. Contaminants included cesium-137 and strontium-89/90.
- In March 2002, a feral canine that had been seen entering several radiologically controlled waste sites was captured at the 100-N Area. Contaminants included strontium-89/90 and uranium.
- In August 2002, near the 212-R Metal Storage Building railroad siding in the 200 North Area, a contaminated bushy tailed wood rat and its nest were discovered in a regulated Manitowoc Crane. Significant levels of cesium-137 and strontium-89/90 were measured in the wood rat samples. No samples from the nest were collected. The wood rat samples represented the highest radionuclide concentrations observed in investigative wildlife samples in 2002.
- In December 2002, the regulated Manitowoc Crane, was moved to the 218-W-3AE Burial Ground to off load incoming waste for disposal. While stored in the adjacent radiological materials storage area, feces from the contaminated wood rat were discovered. The feces were submitted for laboratory analysis and the contaminants found included strontium-89/90 and cesium-137.

7.4 WATER

Also in August 2002, while investigating the source of contamination for the wood rat, standing water was discovered in a cut off pipe at the abandoned 212-R Pump House. Although no contamination was evident in the water using field instruments, the laboratory gamma energy analysis of the sample revealed a measurable level of cesium-137.

7.5 SPECIAL CHARACTERIZATION SAMPLING

Special characterization projects were conducted in 2002 to ascertain the radiological status, and in some cases, the physical properties of site-specific operations and included the following:

- Deep-rooted vegetation, Big Sagebrush, and Rabbitbrush were collected on top of and along the perimeter of the SALDS located north of the 200 West Area to determine the concentrations of tritium being transported through the plant medium. The laboratory results from the three samples collected and analyzed for this sampling activity can be found in Table 7-1.

- A preoperational monitoring plan (*Remote-Handled Immobilized Low-Activity Waste Disposal Facility, Preoperational Monitoring Plan*, RPP-6877 [Horton et al. 2000]) has been developed in support of the Waste Vitrification initiative. As part of this plan, an on-going survey is being conducted on the proposed location for the Remote-Handled Immobilized Low-Activity Waste Disposal Facility in the 200 East Area. Tasks completed in 2002 included ground penetrating radar surveys and surface and subsurface soil sampling to a depth of 15 m (50 ft) at three locations located within the footprint of Disposal Trench 1. Following the completion of all the tasks outlined in the monitoring plan, the data collected will be published in a final report. The report is scheduled for publication in 2005.

Table 7-1. Investigative Sample Results, 2002.

Sample				Isotope	Result ^a	Analytical
Number	Matrix	Location	Date		(pCi/Sample) ^b ±	Uncertainty
6896	Starling Carcass	222-S Room S3-C Duct Works	02/20/02	⁶⁰ Co	<1.2E+01	
				^{89,90} Sr	4.2E+01 ± 2.0E+00	
				¹³⁴ Cs	<1.0E+01	
				¹³⁷ Cs	1.0E+02 ± 1.7E+01	
				¹⁵² Eu	<2.6E+01	
				¹⁵⁴ Eu	<3.9E+01	
				¹⁵⁵ Eu	<3.6E+01	
				Total U ^c	<7.4E+02	
				²³⁸ Pu	<4.9E+00 ± 1.0E+02	
				^{239,240} Pu	<1.16E+05	
6897	Canine Intestinal Tract	100-N Area	03/02/02	⁶⁰ Co	<1.3E-02	
				^{89,90} Sr	3.5E+02	
				¹³⁴ Cs	<1.1E-02	
				¹³⁷ Cs	<2.4E-02	
				¹⁵² Eu	<2.7E-02	
				¹⁵⁴ Eu	<3.9E-02	
				¹⁵⁵ Eu	<3.9E-02	
				Total U ^c	7.9E+00	
				²³⁸ Pu	<1.6E-02 ± 1.0E+02	
				^{239,240} Pu	<1.2E+02	
6898	Canine Leg	100-N Area	03/02/02	⁶⁰ Co	<1.6E-01	
				^{89,90} Sr	<3.6E-01 ± 8.8E+01	
				¹³⁴ Cs	<1.4E-01	
				¹³⁷ Cs	<2.5E-01	
				¹⁵² Eu	<3.5E-01	
				¹⁵⁴ Eu	<4.7E-01	
				¹⁵⁵ Eu	<4.9E-01	
				Total U ^c	<1.0E+02	
				²³⁸ Pu	<2.2E-01 ± 1.3E+01	
				^{239,240} Pu	<1.6E+03	
6899	Canine Liver	100-N Area	03/02/02	⁶⁰ Co	<2.0E-02	
				^{89,90} Sr	<2.1E-02 ± 4.3E+02	
				¹³⁴ Cs	<1.6E-02	
				¹³⁷ Cs	<2.9E-02	
				¹⁵² Eu	<4.1E-2	
				¹⁵⁴ Eu	<5.8E-02	
				¹⁵⁵ Eu	<5.8E-02	
				Total U ^c	<1.2E+01	
				²³⁸ Pu	<2.1E-02 ± 1.3E+01	
				^{239,240} Pu	<1.9E+02	

Table 7-1. Investigative Sample Results, 2002. (cont)

Sample				Isotope	Result ^a	Analytical
Number	Matrix	Location	Date		(pCi/gm) ^b	± Uncertainty
6901	Vegetation	600 Area SALDS	07/23/02	³ H	9.7E-01	± 1.7E-01
6902	Vegetation	600 Area SALDS	07/23/02	³ H	6.5E-01	± 4.3E-01
6903	Vegetation	600 Area SALDS	07/23/02	³ H	<1.3E-01	± 9.7E-02
6904	Bushy Tailed Wood Rat Intestinal Tract	212-R (Manitowac Crane)	08/08/02	⁶⁰ Co	1.9E+01	± 6.7E+00
				^{89,90} Sr	9.0E+01	± 1.8E+01
				¹³⁴ Cs	<6.1E+00	
				¹³⁷ Cs	1.4E+04	± 2.5E-01
				¹⁵² Eu	<1.8E+01	
				¹⁵⁴ Eu	<2.9E+00	
				¹⁵⁵ Eu	<2.1E+01	
				Total U ^c	<5.1E+03	
				²³⁸ Pu	<3.7E-01	± 1.0E+02
				^{239,240} Pu	<7.9E+00	
6905	Bushy Tailed Wood Rat Muscle	212-R (Manitowac Crane)	08/08/02	⁶⁰ Co	<4.7E-01	
				^{89,90} Sr	1.7E+03	± 1.7E+00
				¹³⁴ Cs	<4.0E+00	
				¹³⁷ Cs	1.9E+04	± 1.3E-01
				¹⁵² Eu	<1.2E+01	
				¹⁵⁴ Eu	<1.7E+00	
				¹⁵⁵ Eu	<1.4E+01	
				Total U ^c	<3.4E+03	
				²³⁸ Pu	<1.1E-01	± 1.0E+02
				^{239,240} Pu	<5.2E+04	
6906	Bushy Tailed Wood Rat Bone	212-R (Manitowac Crane)	08/08/02	⁶⁰ Co	<1.2E+00	
				^{89,90} Sr	8.9E+03	± 1.5E+00
				¹³⁴ Cs	<6.6E+00	
				¹³⁷ Cs	1.4E+04	± 2.7E-01
				¹⁵² Eu	<1.9E+01	
				¹⁵⁴ Eu	<3.5E+00	
				¹⁵⁵ Eu	<2.4E+01	
				Total U ^c	<5.6E+03	
				²³⁸ Pu	<4.0E-01	± 1.0E+02
				^{239,240} Pu	<8.6E+04	

Table 7-1. Investigative Sample Results, 2002. (cont)

Sample				Isotope	Result ^a	Analytical
Number	Matrix	Location	Date		(pCi/gm) ^b	± Uncertainty
6907	Bushy Tailed Wood Rat Fur/Skin	212-R (Manitowac Crane)	08/08/02	⁶⁰ Co	3.9E+01	± 4.5E+00
				^{89,90} Sr	4.6E+03	± 1.9E+00
				¹³⁴ Cs	<7.2E+00	
				¹³⁷ Cs	1.9E+04	± 2.2E-01
				¹⁵² Eu	<2.1E+01	
				¹⁵⁴ Eu	<3.6E+00	
				¹⁵⁵ Eu	<2.6E+01	
				Total U ^c	<6.1E-03	
				²³⁸ Pu	3.7E+00	± 3.6E+00
				^{239,240} Pu	<9.3E+04	
6908	Bushy Tailed Wood Rat Feces	212-R (Manitowac Crane)	08/08/02	⁶⁰ Co	<3.2E-01	
				^{89,90} Sr	2.3E+02	± 2.2E+00
				¹³⁴ Cs	<3.2E-01	
				¹³⁷ Cs	3.5E+01	± 3.1E+00
				¹⁵² Eu	<8.6E-01	
				¹⁵⁴ Eu	<8.8E-01	
				¹⁵⁵ Eu	<1.1E+00	
				Total U ^c	<2.3E+02	
				²³⁸ Pu	1.3E-01	± 1.0E+02
				^{239,240} Pu	<3.7E+03	
6909	Water	212-R Pump House	08/08/02	⁶⁰ Co	<1.2E+00	
				¹³⁴ Cs	<3.38E+00	
				¹³⁷ Cs	1.6E+01	± 5.1E+01
				¹⁵² Eu	<1.1E+00	
				¹⁵⁴ Eu	<4.8E+00	
				¹⁵⁵ Eu	<8.6E+00	

a - A "<" symbol indicates that the analyte was analyzed for but not detected. Uncertainty values were not reported by the laboratory for all results.

b - To convert to international metric system units (SI), multiply pCi/g by 0.03704 to obtain Bq/g.

c - Total uranium concentrations are reported by the laboratory in units of ug/g. These results have been converted to pCi/g using a specific activity of 9.6E+05 pCi/g for total uranium.

d - To convert to international metric system units (SI), multiply pCi/L by 0.03704 to obtain Bq/L.

Table 7-2. Investigative Samples Not Analyzed, 2002.

Date	Sample Matrix	Location	Field Reading ^a
01/04/02	Concrete	105-KE Reactor Building	150,000dpm/100cm ²
01/07/02	Tumbleweed	URM Pipeline south of 16th	14,750dpm/100cm ²
01/11/02	Pavement	UPR-200-E-69	145,000dpm/100cm ²
01/21/02	Specks,T.W. Fragments, roofing, maslin cloth	100-F ISS Project Site	600,000dpm/probe area
01/25/02	Speck	East of 241-C Tank Farm	450,000dpm/100cm ²
01/28/02	Tumbleweed Fragments & Soil	Construction Forces Area East of 2201-B	40,000dpm/100cm ²
01/28/02	Soil	116-N-1 Trench	10,000dpm/probe area
02/04/02	Truck tail gate	209-E 90 Day Storage Area	200,000dpm/100cm ²
02/05/02	Tumbleweeds	UPR-600-20/UN-216-E-41	30,000dpm/100cm ²
02/22/02	Specks	116-N-1 Trench	10,000dpm/100cm ²
02/27/02	Soil	West of the 241-TX/TY Tank Farm	40,000dpm/100cm ²
03/13/02	Speck	Outside 105-F perimeter fence	56,000dpm/probe area
03/14/02	Speck	Outside 241-C Tank Farm perimeter fence	100,000dpm/probe area
03/20/02	Plastic	ERDF	58,450dpm/100cm ²
03/21/02	Speck	Outside 241-C Tank Farm perimeter fence	250,000dpm/100cm ²
03/27/02	Empty Waste Boxes	Central Waste Complex Staging Area	15,000dpm/100cm ²
03/28/02	Carpet and Specks	100-F ISS Project Site	60,000dpm/100cm ²
04/01/02	Tumbleweed Fragments	200-W-79 (URM Pipeline, 241-T-151 to 216-T-36)	50,000dpm/100cm ²
04/23/02	Steel Plate	1162 Shipping Facility	25,000dpm/100cm ²
04/24/02	Speck	241-BY Tank Farm	199,000dpm/100cm ²
05/13/02	Tehebrionid Beetle (Stink Bug)	Inside 235-5Z (PFP)	42,000dpm/100cm ² (alpha)
05/20/02	Speck	3730 Building	3,000dpm/100cm ²
05/29/02	Speck	100-B/C Pipeline RAP	772,000dpm/100cm ²
06/01/02	Tumbleweeds	LERF Fenceline	72,000dpm/100cm ²
06/04/02	Tumbleweed	URM Pipeline to 241-BX/BY	66,000dpm/100cm ²
06/05/02	Tumbleweed	LERF Transfer line from 242-A	1,800,000dpm/100cm ²
06/07/02	Tumbleweed	218-E-14 (PUREX Tunnel)	70,000dpm/100cm ²
06/19/02	Speck	Outside 241-B Tank Farm south Fence	99,000dpm/100cm ²
06/28/02	Plastic	ERDF	51,000dpm/100cm ²
07/22/02	Concrete	Rt. 4S & 11A Intersection	60,000dpm/100cm ²
07/28/02	Tumbleweed Fragment	241-AY	60,000dpm/100cm ²
08/01/02	Soil	Inside 200-E fenced area near 2255-EA	8,000dpm/100cm ²
08/01/02	Tumbleweed	URM Transfer Line west of U-Plant	60,000dpm/100cm ²
08/05/02	Soil	200-E-130	28,500dpm/100cm ²
08/06/02	Soil	183-K Outfall	149,000dpm/100cm ²
08/07/02	Soil	Outside posted URMA at 200-E-129	64,500dpm/100cm ²
08/15/02	Soil Speck	Outside perimeter of 241-BX	70,000dpm/100cm ²
09/05/02	Tumbleweeds	200-E-77(241-B-154 Diversion Box)	10,000dpm/100cm ²
09/20/02	Tumbleweeds	200-E-115 North fo 241-C	15,000dpm/100cm ²
10/02/02	House Fly	231-W-151 Diversion Box	3,000dpm/100cm ²
10/04/02	Bird	105-KW FTS Annex CTO Staging Area	2,500dpm/100cm ²
10/10/02	Speck	618-1 Burial Ground	2,000dpm/100cm ²
10/15/02	Speck	East of 241-AZ Tank Farm	100,000dpm/100cm ²
11/01/02	Tumbleweed	216-A-30 Crib	120,000dpm/100cm ²
11/08/02	Soil/Dust	100-NR-1(116-N-1 Crib)	200mR/hr

Table 7-2. Investigative Samples Not Analyzed, 2002. (cont)

Date	Sample Matrix	Location	Field Reading ^a
11/13/02	Tumbleweeds	241-BX/BY Tank Farm Perimeter	360,000dpm/100cm ²
11/13/02	Mouse	241-BX/BY Tank Farm Perimeter	60,000dpm/100cm ²
11/13/02	Mouse Bait Stations	241-BX/BY Tank Farm Perimeter	20,000dpm/100cm ²
11/13/02	Soil	241-BX/BY Tank Farm Perimeter	60,000dpm/100cm ²
11/15/02	Control Rod Button	North perimeter of 241-B Tank Farm	4,000dpm/100cm ²
11/18/02	Mouse Feces and Nest	Inside Truck Cab at 2713-W RCV/RMA area	30,000dpm/100cm ²
11/19/02	Mouse	Outside 241-BX Tank Farm	500,000dpm/100cm ²
11/25/02	Tumbleweed Fragments	Inside posted CA 241-B Tank Farm Perimeter	500,000dpm/100cm ²
12/12/02	Mouse Feces and Nest	HO-17-4005 Manitowoc Crane	600,000dpm/100cm ²
12/28/02	Speck	TC-4 Rail Spur	800,000dpm/100cm ²

a - Field readings listed are Beta/Gamma unless otherwise noted.

Field monitoring results are typically of two types: Alpha and Beta/Gamma.

Alpha values are obtained through the use of a portable alpha meter (PAM). PAM readings are displayed as counts per minute and are then converted to disintegrations per minute using an individual instrument's efficiency factor that is determined during the instrument's routine calibration.

Beta/Gamma values are obtained through the use of a Geiger-Müller (GM) detector. GM readings are expressed as disintegrations per minute (dpm) per probe area and the geometry of the source is not considered; or as millirad per hour (mrads/h) when an ion chamber is used. To obtain Beta/Gamma field instrument readings expressed as dpm/100cm², the measured background radioactivity is subtracted from the GM reading (in counts per minute) and converted to dpm by multiplying x 10 (an average conversion), and further converted to dpm per 100 cm² by multiplying x 6 (approximate number of probe areas in 100 cm²).

8.0 NOXIOUS WEED CONTROL PROGRAM

Ten plant species are on a high priority list for control at the Hanford Site. These species are listed below, with a summary of the 2002 control activities. Major populations of noxious weeds on the Hanford Site are illustrated in Figure 8-1.

Yellow Starthistle (*Centaurea solstitialis*). Yellow starthistle represents the most rapidly expanding weed infestation in the Western United States. Hanford is at a critical point in the infestation cycle. Over 2,023 ha (5,000 acres) have been infested, and a seed bank has been established in the soil. Many additional acres have scattered starthistle infestation. Application of aerial herbicides in 1998 and 1999 have continued to be effective, dramatically reducing the acreage of yellow starthistle infestation requiring treatment in 2002. Seeds were found to have germinated in scattered locations through areas where the population was previously controlled. These individuals were controlled by herbicide application, or hand-pulled and destroyed. Biological control organisms, primarily the hairy weevil (*Eustenopus villosus*) and the bud weevil (*Bangasternus orientalis*) are common in starthistle located in 2002.

Rush Skeletonweed (*Chondrilla juncea*). Rush skeletonweed is widely scattered over large areas on the Hanford Site. Although areas of dense infestation have largely been eliminated, a considerable population remains as scattered individuals. Populations of skeletonweed have increased on some areas burned in the 24 Command Wildland Fire (June 2000).

In 2002, control of rush skeletonweed concentrated on the area South of the Hanford town site. As in most years, some populations were highly affected by the bio-controls, and flowering was eliminated. Other populations were less affected, and some were not significantly impacted by the bio-control agents.

Medusahead (*Taeniatherum asperum*). Several individual plants of medusahead were discovered on the 200 Area plateau during the winter of 2002. Seedheads with remaining seeds were collected and burned. Monitoring and eradication efforts will continue in 2003 as the plants mature to the point they can be distinguished from neighboring grass species.

Babysbreath (*Gypsophila paniculata*). Efforts to control babysbreath in 2002 concentrated on the main infestation at the Hanford town site. Although babysbreath is resistant to control by herbicides, the invasion on the Hanford Site is relatively small, and control by attrition is the practical alternative.

Dalmatian Toadflax (*Linaria genistifolia* ssp. *Dalmatica*). In 2002, control of dalmatian toadflax focused on a small population at 100-B/C Area. The species at Hanford has yielded to past control efforts. Seedlings of the long-lived perennial plant will be eliminated as they are identified.

Spotted Knapweed (*Centaurea maculosa*). Most populations of spotted knapweed on the Hanford Site have been reduced to scattered individuals, or seedlings germinating from the long-lived seeds. Cooperative work with neighboring landowners continues to eliminate spotted knapweed near the Hanford Site.

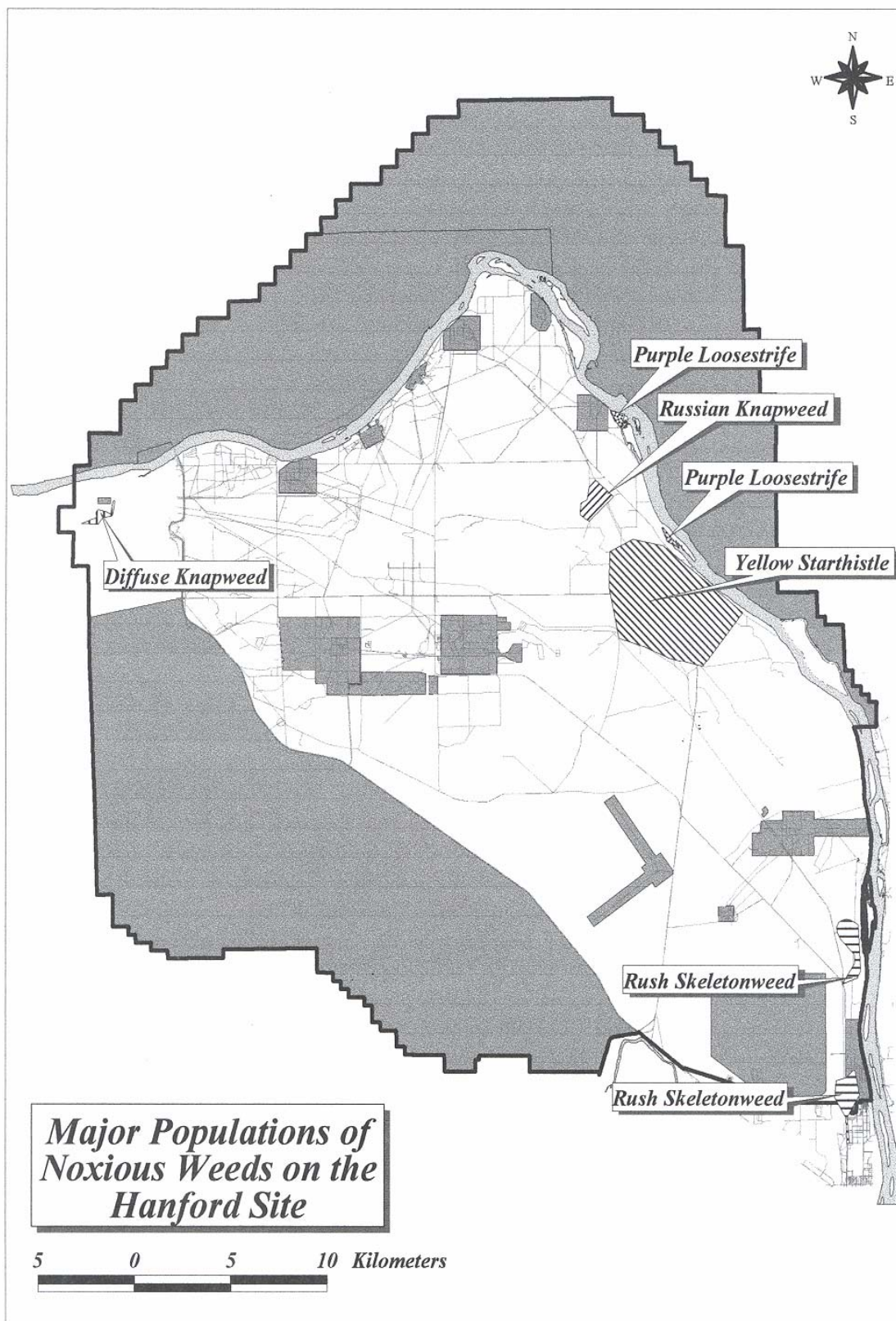
Diffuse Knapweed (*Centaurea diffusa*). Aerial applications for control of diffuse knapweed have been effective in the past. Spot treatment of scattered individuals continued in 2002. The population of diffuse knapweed near the high water mark of the Columbia River has not actively been controlled by herbicides due to the biological sensitivity of the area. Biological controls have been established, and are monitored to observe effectiveness in controlling the weed.

Russian Knapweed (*Acroptilon repens*). Biological controls for Russian knapweed are limited, and success in the arid climate of Hanford has been poor. Chemicals and techniques are being developed that promise to be effective with this difficult to control species.

Saltcedar (*Tamarix spp.*). Several individual plants of saltcedar are found on the Hanford Site. Most are remaining from ornamental plantings near homes in the early part of the previous century. A few populations are the result of natural seed dispersal. Most individuals south and west of the Columbia River have been eliminated. Those remaining alive continue to be treated with herbicide, and will be monitored until they no longer show signs of life.

Purple Loosestrife (*Lythrum salicaria*). Purple loosestrife has established only sparse populations along the south and west bank of the Columbia River. Portions of the riverbank and slews are monitored for purple loosestrife and identified individuals are controlled.

Figure 8-1. Major Populations of Noxious Weeds, 2002.



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9.0 QUALITY ASSURANCE

Quality assurance (QA) may be defined as the actions necessary to provide confidence that an item, process, or program meets or exceeds that user's requirements and expectations. The near-facility environmental monitoring QA program consists of procedures and guides to demonstrate that environmental monitoring techniques and analyses are performed within established limits of acceptance. This is documented in the *Near-Facility Environmental Monitoring Quality Assurance Project Plan* (McKinney 2002).

Written operating procedures are an integral part of near-facility environmental monitoring QA. Procedures for field operations are provided in an internal Federal Services manual entitled *Operational Environmental Monitoring* (DFSNW-OEM-001). This section briefly describes the essential components of the near-facility environmental monitoring QA program.

9.1 DOCUMENTATION

Record keeping is a vital part of any environmental monitoring program. Maintenance of environmental data is important from a QA standpoint, from a regulatory standpoint, and for trend analyses and optimization of environmental monitoring procedures. Each phase of near-facility environmental monitoring is documented. This documentation includes environmental sample logbooks, quarterly reports, annual reports, and occurrence reports.

9.2 SAMPLE REPLICATION

Replicate sampling and subsequent analyses are the primary means of assessing sample variability. Duplicate samples of air, water, soil, sediment, and vegetation are collected.

9.3 DATA ANALYSIS

Environmental data are reviewed to determine compliance with applicable federal and company guides. The data are analyzed both graphically and by standard statistical tests to determine trends and impacts on the environment. Newly acquired data are compared with historical data and natural background levels. Routine environmental data are stored on both magnetic media (i.e., in a computer environment) and hard-copy printouts.

9.4 TRAINING

To ensure quality and consistency in sample collection and handling, all personnel performing such work received formal training. All radiological control technicians are required to complete a certification program. In addition, those radiological control technicians assigned to environmental monitoring receive special classroom orientation and on-the-job training by experienced personnel. Federal Services Environmental Monitoring and Investigations personnel, in addition to their formal training received while obtaining professional degrees, have received training in courses taught through Washington State University, the Harvard School of Public Health, and various other institutions.

9.5 SAMPLE FREQUENCY

1. Ambient air sample filters are collected biweekly.
2. Radiological surveys of roads are performed quarterly, bimonthly, or annually.
3. The TLDs are exchanged quarterly.
4. Radiological surveys of waste sites are performed quarterly, semiannually, or annually depending on the operating status, condition, and history of the site.
5. Soil, vegetation, and surface water samples are collected annually.

9.6 ANALYTICAL PROCEDURES

Three laboratories provided routine analytical support to the near-facility environmental monitoring: PNNL, the WSCF, and the 222-S Analytical Laboratory. Samples are analyzed in accordance with prescribed procedures and quality control guides that are described briefly in the following paragraphs.

9.6.1 Pacific Northwest National Laboratory Radiation Standards and Engineering

9.6.1.1 Thermoluminescent Dosimeters. External radiation levels are measured using TLDs. The Hanford Site uses the Harshaw 8807 dosimeter and the Harshaw 8800 reader. The TLDs are calibrated, packaged, and read by the PNNL Radiation Calibration Laboratory, Radiation Standards and Engineering Department. All TLD work is performed in accordance with formal, written procedures.

9.6.2 222-S, Severn Trent Laboratories, and Waste Sampling and Characterization Facility Analytical Laboratories

The 222-S and WSCF laboratories also provide analytical support to near-facility environmental monitoring. The WSCF is used for the samples containing typical environmental levels of radioactivity. The 222-S Laboratory is normally used for samples containing higher than normal environmental levels of radioactivity. Severn Trent Laboratories was used to perform special analysis for tritium in vegetation samples. Formal, written laboratory procedures are used in analyzing samples.

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10.0 GLOSSARY

Accessible Soils: Hanford soils that are not behind security fences must meet a 10 mrem/yr effective dose equivalent (EDE) limit from Hanford Site operations to the most exposed member of the public.

As Low As Reasonably Achievable (ALARA): The implementation of ALARA is described in HNF-PRO-1620, *ALARA Program Scope*. This concept applies to maintaining releases at or below prescribed regulatory limits.

Average Soil Contamination: Contamination generally dispersed through the soil. Numerically, the radioactivity content averaged over a suitable mass of soil.

Background Radiation: Refers to regional levels of radioactivity produced by sources other than those of specific interest (e.g., the nuclear activities at the Hanford Site).

Becquerel (Bq): The standard international unit of radioactivity. One Becquerel is one disintegration per second or: $Bq = 2.7 \text{ E-11 Ci}$

Biological Transport: Means of biological transport may include one or more of the following processes:

- Movement of subsurface radioactivity to the surface by physiological vegetative processes.
- Dispersion of such vegetation by the wind.
- Contaminated urine and feces deposited by animals that have gained access to and ingested radioactive materials.
- Contaminated animals themselves that have ingested radioactive materials directly or ingested other contaminated animals or plants.
- Physical displacement of radioactive materials by burrowing animals.
- Nests built using contaminated materials.

Biota: The plant and animal life of a specific region.

Burial Ground: A land area specifically designated to receive contaminated solid or solidified liquid waste packages and equipment. The contaminated articles are usually placed in trenches and covered with overburden.

Byproduct: A material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slag or distillation column bottoms. The term does not include a coproduct that is produced for the general public's use and is ordinarily used in the form in which it is produced by the process.

Calibration: Determining the deviation of an instrument from a standard traceable to the National Bureau of Standards or other recognized agency and reporting the deviations and/or eliminating them by adjustment.

Chemical Processing: Chemical treatment of material to separate desired components selectively. At the Hanford Site, plutonium, uranium, and fission products were chemically separated from irradiated fuels.

Committed Dose Equivalent: The predicted total dose equivalent to a tissue or organ over a 50-year period after a known intake of a radionuclide into the body. It does not include contributions from external dose. Committed dose equivalent is expressed in units of rem (or sievert).

Committed Effective Dose Equivalent: The sum of the committed dose equivalents to various tissues in the body, each multiplied by the appropriate weighing factor. Committed effective dose equivalent is expressed in units of rem (or sievert).

Composite Sample: A number of random samples initially collected from a waste and combined into a single sample; this sample is analyzed for the contaminants of concern.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): Commonly known as “Superfund,” CERCLA was enacted to respond to uncontrolled releases of hazardous substances to the environment, primarily at inactive sites that were not adequately addressed by the *Resource Conservation and Recovery Act of 1976 (RCRA)*. CERCLA also applies to actively managed facilities and any onshore or offshore facility.

Controlled Area: An area where access is controlled to protect individuals from exposure to radiation and/or radioactive materials.

Contamination Area: Any area where contamination levels are greater than the values specified in Chapter 2, Table 2-2, *PHMC Radiological Control Manual*, HNF-5173, but less than or equal to 100 times those values.

Crib: An underground structure designed to receive liquid waste that percolates into the soil directly or percolates into the soil after having traveled through a connected tile field.

Decommissioning: Actions taken to reduce the potential health and safety impacts of DOE-controlled contaminated facilities. Actions could include stabilizing, reducing, or removing radioactivity or demolishing the contaminated facilities.

Decontamination: The removal of radioactive or hazardous contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical treating, mechanical cleaning, or other techniques.

Derived Concentration Guide for Public Exposure (DCG-Public): The concentration of a radionuclide in air or water that, under conditions of continuous exposure for one year by one exposure mode (e.g., ingestion of water, submersion in air, or inhalation of air), would result in an EDE equal to the annual dose limit applicable to the group exposed. For exposure of the public, the DCG is the radionuclide concentration in air or water that would result in an EDE of 100 mrem (1 mSv) to a person having the characteristics of the reference manual.

Diffuse Source: A source or sources of radioactive or chemical contaminants released into the environment that do not have a defined point or origin of release (a nonpoint source). Such sources are also known as area sources.

Disposal Facility: Any facility or part of a facility where hazardous and/or radioactive waste is intentionally placed or where any land or water wastes will remain after closure.

Ditch: An open surface site for transport of liquid wastes to a pond or trench structure designed for percolation.

Ecology: The Washington State Department of Ecology.

Effective Dose Equivalent (EDE): The summation of the products of the dose equivalent received by specified tissues of the body and a tissue-specific weighing factor. This sum is a risk-equivalent value and can be used to estimate the health-effects risk of the exposed individual. The tissue-specific weighing factor represents the fraction of the total health risk resulting from uniform whole-body irradiation that would be contributed by that particular tissue. The EDE includes the committed EDE from internal deposition of radionuclides and the EDE caused by penetrating radiation from sources outside the body. EDE is expressed in units of rem (or sievert).

Effluent: An airborne or liquid discharge from a facility after all engineered waste treatment and effluent controls have been performed. The term includes onsite discharges to the atmosphere, lagoons, ponds, cribs, injection wells, French drains, or ditches. The term does not include solid waste stored or removed for disposal or waste that is contained in retention basins or tanks before treatment and/or disposal.

Emissions Unit: Regarding air pollutant emissions, any part of a stationary source that emits or would have the potential to emit any pollutant subject to regulation.

Environmental Monitoring Plan (EMP): A two-part document prepared for each site, facility, or process that uses, generates, releases, or manages significant pollutants or hazardous materials.

Environmental Sites Database (ESD): A database of environmental sites that is administered by the ERC.

External Radiation: Radiation originating from a source outside the body.

Facility: A processing plant, tank farm, shop, laboratory, powerhouse, or laundry. Including all contiguous land and structures, other appurtenances, and improvements on land used for recycling, reusing, reclaiming, transferring, storing, and treating of dangerous waste (including treatment, storage, and disposal sites as well as groundwater wells). (40 CFR 264, “Standards for Owners and Operators of Hazardous Waste Treatment Storage and Disposal Facilities,” and WAC 173-303-040.)

Facility-Specific Environmental Monitoring: Routine environmental monitoring of all environmental media (air, biota, etc.) around facility parameters.

Field Blank: Aliquots of analyte-free water or solvents brought to the field in sealed containers and transported to the laboratory with the sample container. Field blanks include trip blanks and equipment blanks.

Field Duplicate: Field duplicates are collected at specified frequencies and are used to document precision. The field duplicate precision depends on the variance of waste composition, sampling techniques, and analytical technique.

Fugitive Emissions: Material that is generated incidental to an operation, process, or activity and that is released or dispersed into the open air. Fugitive emissions occur via pathways that do not allow routine measurement at the point of release.

Grab Sample: A single sample removed from a sample medium over a short time interval.

Groundwater: Water that exists below the water table, also referred to as the zone of saturation. However, the capillary fringe directly above can be completely saturated if the sediment is fine enough. To avoid this ambiguous term, the use of phreatic water, which is water that enters freely into wells under both confined and unconfined conditions is suggested. Phreatic water is a term originally applied only to water that occurs in the upper part of the zone of saturation under water table conditions (unconfined groundwater or well water), but has come to be applied to all water in the zone of saturation, thus making it an exact synonym of groundwater. Above the water table is the vadose zone, where water pressures are less than atmospheric pressure. This zone still contains water, but the water is held to the soil particles or other groundwater material by capillary force. Thus, while this water still can move within the vadose zone, it cannot move out of the zone into a well or other place is exposed to atmospheric pressure. The dividing line between water in the vadose zone and phreatic water is the atmospheric pressure between the two, with the pressure of vadose water being below atmospheric pressure and that of phreatic water (i.e., groundwater) above atmospheric pressure.

High-Efficiency Particulate Air (HEPA) Filter: To qualify as a HEPA filter, a filter must achieve an efficiency of 99.97% under laboratory conditions and 99.95% after installation for the removal of airborne particulates greater than 3×10^{-5} cm (0.3 microns).

High-Level Nuclear Waste: Spent nuclear fuel or radioactive waste resulting directly from the dissolution and reprocessing of spent nuclear fuel. Secondary waste streams resulting from the dissolution and reprocessing of spent nuclear fuel are not considered high-level waste.

Immobile Radionuclides: All those radionuclides that are sorbed onto Hanford Site soils and usually would not migrate through the vadose zone or the groundwater below the future control zone.

Inaccessible Soils: Areas from which the general public is excluded (by fences, posting, patrols, or distance), but that are still subject to meteorological effects, are subject to a 10 mrem/yr operational EDE limit.

Inactive Crib: A crib that has been designated as permanently out of service.

Inactive Radioactive Waste Site: Any waste site that is no longer needed for current operational programs and that is not currently an active waste disposal site.

Inactive Waste Sites: Inactive waste sites include units such as burial grounds, unplanned release sites, cribs, ditches, ponds, trenches, and basins, abandoned storage areas, drains, single-shell tank piping, transfer pits, and jumper boxes.

Less Than Detectable: An analytical term for a concentration in a sample that is lower than the minimum detection capabilities of that analytical equipment or process.

Low-Level Waste: Any gaseous, liquid, or solid radioactive waste not classified as high-level waste, transuranic waste, or spent nuclear fuel, as defined by DOE Order 435.1, *Radioactive Waste Management*.

Maximum Contaminant Level (MCL): The drinking water standards specified in 40 CFR 141, “National Primary Drinking Water Regulations.” See Appendix C, “Maximum Contaminant Levels.”

Mean: Average value of a series of measurements.

Minimum Detection Limit: Smallest amount or concentration of a radionuclide or nonradioactive element that can be reliably detected in a sample.

Mixed Waste: Dangerous waste that also contains enough radioactivity to be classified as radioactive waste.

Monitoring System: Instrumentation that provides measurement of an airborne or liquid waste stream parameters. The system includes a detector and associated readout components. A continuous monitoring system measures the stream parameters on a near-real-time basis or as specified in applicable Environmental Protection Agency regulations, 40 CFR 52, “Approval and Promulgation of Implementation Plans,” Appendix E; 40 CFR 51, “Requirements for Preparation, Adoption, and Submittal of Implementation Plans,” Appendix P, or as defined in

applicable American National Standards Institute standards. A radiation monitoring system is a system in which radiation or radioactivity is the measured parameter. An integrating monitoring system totals the instantaneously measured parameter over some time period. A sampling system does not measure or read out an instantaneous stream parameter.

Near Facility Environmental Monitoring: The collection and analysis of samples of air, water, soil, biota, and other media near nuclear facilities on DOE sites and their environs and the measurement of external radiation to demonstrate compliance with applicable standards and assess radiation exposures to employees and members of the public, and the near-field environment.

Nonroutine Activities: Any actions on a large-scale (>5 acres), including stabilization, soil removal, fixative or sealant application, other surface treatments, or other activities that could affect future remediation activities in an inactive waste site.

Not Detected: A reporting term which describes any or all of the following: the overall analytical error was greater than the radionuclide concentration itself; or, after allowing for the subtraction of the background level of the radionuclide, the resulting concentration was less than zero; or, no radio analytical peak was detected during the analysis.

Operations: In this report, this term loosely refers to Fluor Project Hanford activities including chemical processing, waste management, and decommissioning.

Pesticide: As defined in 40 CFR 162, the term pesticide covers all pest-control chemicals such as herbicides, rodenticides, and insecticides.

Plutonium Processing and Handling Facility: Any facility constructed primarily to process plutonium (including plutonium-238) and that handles in-process plutonium.

Plutonium Storage Facility: Any facility constructed to store strategic (category I) quantities of plutonium.

Point Source: A single defined point (origin) of an airborne release, such as a vent or stack.

Pond: A surface impoundment used to contain or percolate low-level liquid radioactive waste, mixed waste, or hazardous waste.

Quality Assurance (QA): A process designed to maintain the quality of the results of a program within established limits of acceptance.

Radiation Survey: Evaluation of an area or object with portable instruments to identify radioactive materials and radiation fields present.

Radioactive Byproduct: Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or using special nuclear material. The nonradioactive hazardous component of the waste material will be subject to regulation under the RCRA.

Radioactive Liquid Effluent: A liquid effluent that has a reasonable potential for containing radioactive materials in quantities such that the annual average concentration is equal to or greater than the MCL.

Radiological Control Area: An area where access is controlled to protect individuals from exposure to radiation and/or radioactive materials. Radiological control areas include, but are not limited to, areas posted as Radiation Area, Surface Contamination, and Underground Radioactive Materials, to describe the radiological condition of the area within.

Radiological Posting: Information in the form of signs and barriers to inform people of radiological conditions that warrant avoidance or special precautions for entry.

Representative Sample: The average stream parameter being measured occurs in the sample in the same average proportion that it occurs in the environmental discharge.

Retired Waste Site: A waste site that is isolated and no longer available to receive waste in any form.

Routine Activities: Any actions on a small-scale (<5 acres), including radioactive hot-spot removal, vegetation removal, fencing, posting, herbicide spraying, stabilization, or immediate spill response) in an inactive waste site. In general, these routine actions shall not interfere with RCRA/CERCLA response or site investigations.

Sampling System: Instrumentation and equipment that remove a part of a liquid or airborne waste stream for subsequent quantitative determination of stream parameters. The system generally employs such devices as filters, other sample collection media, or effluent traps of some kind. A continuous sampling system removes a part of the stream continuously except during sample change, maintenance, repair, or other necessary outages. A grab sampling system removes an instantaneous part of the stream or removes a part of the stream over a time period.

Sediment Column: The sediment beneath a crib. It can mean either all the sediment beneath the bottom of the crib extending to the water table or all sediment beneath a crib contaminated by radioactive materials.

Site: The location of a significant event, a prehistoric or historic occupation or activity, or a building or structure (whether standing, ruined, or vanished) where the location itself maintains historical or archeological value, regardless of the value of any existing structure.

Soil at depth: Soil below 91 cm (36 in.).

Soil Contamination: Contaminated soil not releasable in accordance with DOE Order 5400.5.

Solid Waste: Any discarded material that is not excluded by WAC 173-303-017(2) or that is not excluded by a variance granted under WAC 173-303-017(5). Materials are solid waste if they are: (1) abandoned by being disposed of, burned, or incinerated, or (2) accumulated, stored, or treated (but not recycled) before (or in lieu of) being abandoned by being disposed of, burned, or incinerated. In addition, a solid waste includes any material considered to be inherently waste-like.

Speck Contamination: Single grains of soil, rust particles, feces, or pieces of vegetation.

Spot Contamination: A spot or quantity of contamination less than 1 cm³ in volume, or areal contamination less than 15 cm² in area.

Stabilization: The process of covering surface contaminated areas with clean backfill or topsoil.

Standard: A specified set of rules or conditions concerned with the classification of components; delineation of procedures; definition of terms; designation of materials, performance, design, or operations; or measurements of quality in describing materials, products, systems, services, or practices. A standard is more general than a procedure or specification and more specific than a criterion.

Standard Deviation: A measure of the range of values about the mean.

Standard Error of the Mean: A measure of the uncertainty in the estimated mean of averaged values.

Surface Soil: Soil from 0 cm (0 in.) to 5 cm (2 in.) deep.

Surplus Facilities: Surplus facilities include all facilities that have been accepted into a decommissioning program.

Survey: A method to detect the release, disposal, or presence of radioactive materials or hazardous substances under a specific set of conditions to determine actual or potential hazards. Such an evaluation may include, but is not limited to, tests, physical examinations, and measurements of radiation or concentrations of materials.

Suspect Waste Site: A site, believed to have been previously unknown or undocumented, that, because of characteristics present at the site or historical information about the site, is suspected of containing waste (i.e., non-dangerous, hazardous, dangerous, mixed, and radioactive).

Tank Farm: An area of large underground tanks designed to store up to 1 Mgal each of high-level liquid waste.

Thermoluminescent Dosimeter: A chip or series of chips used for measuring external gamma radiation. It consists of a material capable of absorbing energy imparted by ionizing radiation, then emitting light as a result of thermal stimulation. A measure of that light is proportional to the radioactivity absorbed.

Topsoil: The soil used as a plant growth medium at the surface to a depth of 30 cm as measured at the restabilization site. Topsoil is added soil to support the stabilization of a retired disposal facility with the objective of controlling erosion, establishing the growth of perennial grasses, and preventing the growth of deep-rooted vegetation.

Total Analytical Uncertainty: All analytical measurements include some degree of uncertainty as a consequence of a series of unavoidable and unintentional inaccuracies related to the collection and analysis of samples. Examples of these inaccuracies can include errors associated with reading and recording results, sample handling and processing, instrument calibrations, numerical rounding, and randomness of radioactive decay. The total analytical uncertainty value implies that approximately 95% of the time a recount or reanalysis of the sample would give a value somewhere in the range between the initial reported value plus or minus the total analytical uncertainty.

Transuranic (TRU) Radionuclide: Any radionuclide having an atomic number greater than 92 (DOE Order 435.1).

Transuranic Waste: Without regard to source or form, radioactive waste that at the end of institutional control periods is contaminated with alpha-emitting transuranium radionuclides with half-lives greater than 20 years and concentrations greater than 100 nCi/g (3700 Bq/g). The Waste Isolation Pilot Plant, high-level waste, and spent nuclear fuel as defined by DOE Order 435.1 are specifically excluded from this definition.

Trip Blank: A type of field blank used to accompany sample containers to and from the field and to detect contamination or cross-contamination that occurs during sample handling and transportation.

Uncontaminated Soil: A soil or a land area that requires no controls or restrictions in any way for radiation protection purposes and/or meets the contamination limit specifications.

Underground Radioactive Material: A radiological posting status where subsurface radioactivity is present but where surface contamination does not exceed the soil standards.

Unity Rule: If more than one radionuclide is present, the sum of the fractions represented by each radionuclide concentration divided by its respective limiting concentration (administrative control value) shall not exceed unity. This rule could also apply to parameters other than radionuclide concentration.

Unplanned Release Site: An area that was contaminated by an unplanned release of radioactive contamination, making it a radiological control area.

Unrestricted Release: Values below which unrestricted release of soils will occur will be

defined in an applicable record of decision.

U.S. Environmental Protection Agency (EPA): The federal agency chartered with carrying out and monitoring the environmental regulations.

Waste Information Data System (WIDS): A database that identifies waste management units on the Hanford Site. It is a subset of the ESD.

Waste Management: The activity involved with storing, disposing of, shipping, handling, and monitoring all radioactive waste.

Waste Sites: Any facility used for the planned disposal of hazardous, radioactive, toxic, or nonradioactive/nontoxic waste.

Water Table: The upper boundary of an unconfined aquifer below which saturated groundwater occurs.

Table 10-1. Radionuclide Nomenclature.

Radionuclide	Symbol	Half-Life	Radionuclide	Symbol	Half-Life
Tritium	³ H	12.3 yr	Cesium-134	¹³⁴ Cs	2.1 yr
Beryllium-7	⁷ Be	53.28 d	Cesium-137	¹³⁷ Cs	30.3 yr
Carbon-14	¹⁴ C	5.72E+03 yr	Cerium-141	¹⁴¹ Ce	32.5 d
Sodium-22	²² Na	2.6 yr	Cerium-144	¹⁴⁴ Ce	284.6 d
Potassium-40	⁴⁰ K	1.26 E+09 yr	Promethium-147	¹⁴⁷ Pm	13.4 min
Argon-41	⁴¹ Ar	1.8 h	Europium-152	¹⁵² Eu	13.5 yr
Chromium-51	⁵¹ Cr	27.7 d	Europium-154	¹⁵⁴ Eu	8.6 yr
Manganese-54	⁵⁴ Mn	312 d	Europium-155	¹⁵⁵ Eu	4.7 yr
Cobalt-58	⁵⁸ Co	71 d	Thallium-208	²⁰⁸ Tl	3.1 min
Iron-59	⁵⁹ Fe	45 d	Bismuth-212	²¹² Bi	60.6 min
Cobalt-60	⁶⁰ Co	5.3 yr	Lead-212	²¹² Pb	10.6 h
Nickel-63	⁶³ Ni	100 yr	Polonium-212	²¹² Po	0.3 x 10 ⁻⁶ s
Zinc-65	⁶⁵ Zn	243.8 d	Polonium-216	²¹⁶ Po	0.15 s
Krypton-85	⁸⁵ Kr	10.7 yr	Radon-220	²²⁰ Rn	55.6 s
Strontium-89	⁸⁹ Sr	50.5 d	Radium-226	²²⁶ Ra	1.60 E+03 yr
Strontium-90	⁹⁰ Sr	29.1 yr	Radium-228	²²⁸ Ra	5.75 yr
Niobium-95	⁹⁵ Nb	35.0 d	Thorium-232	²³² Th	1.40 E+10 yr
Zirconium-95	⁹⁵ Zr	64.0 d	Uranium Total	U or	4.50 E+09 yr
			Uranium		
Technetium-99	⁹⁹ Tc	2.12 E+05 yr	Uranium-234	²³⁴ U	2.40 E+05 yr
Ruthenium-103	¹⁰³ Ru	39.4 d	Uranium-235	²³⁵ U	7.00 E+08 yr
Ruthenium-106	¹⁰⁶ Ru	1.0 yr	Uranium-236	²³⁶ U	2.30 E+07 yr
Tin-113	¹¹³ Sn	115 d	Uranium-238	²³⁸ U	4.50 E+09 yr
Antimony-124	¹²⁴ Sb	60 d	Plutonium-238	²³⁸ Pu	87.7 yr
Antimony-125	¹²⁵ Sb	2.7 yr	Plutonium-239/240	^{239,240} Pu	2.40 E+04 yr
Iodine-129	¹²⁹ I	1.7 E+07 yr	Plutonium-241	²⁴¹ Pu	14.4 yr
Iodine-131	¹³¹ I	8.0 d	Americium-241	²⁴¹ Am	433 yr
Barium-133	¹³³ Ba	10.53 yr			

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11.0 STANDARDS

Table 11-1. U.S. Department of Energy Derived Concentration Guides.^a

Radionuclide	DCG		Radionuclide	DCG	
	Air (pCi/m ³)	Liquid (pCi/L)		Air (pCi/m ³)	Liquid (pCi/L)
³ H	1.0E+05	2.0E+06	¹⁴⁷ Pm	3.0E+02	1.0E+05
¹⁴ C	6.0E+03	7.0E+04	¹⁵² Eu	5.0E+01	2.0E+04
⁴⁰ K	9.0E+02	7.0E+03	¹⁵⁴ Eu	5.0E+01	2.0E+04
⁴¹ Ar	1.0E+04	0.0E+00	¹⁵⁵ Eu	3.0E+02	1.0E+05
⁵¹ Cr	6.0E+04	1.0E+06	²⁰⁸ Tl	5.0E+03	0.0E+00
⁵⁴ Mn	2.0E+03	5.0E+04	²¹² Bi	6.0E+02	1.0E+05
⁵⁹ Fe	8.0E+02	2.0E+04	²¹⁴ Bi	2.0E+03	6.0E+05
⁵⁸ Co	2.0E+03	4.0E+04	²¹² Pb	8.0E+01	3.0E+03
⁶⁰ Co	8.0E+01	5.0E+03	²¹⁴ Pb	2.0E+03	2.0E+05
⁶⁵ Zn	6.0E+02	9.0E+03	²¹² Po	1.0E+00	8.0E+01
⁸⁵ Kr	3.0E+06	0.0E+00	²¹⁶ Po	1.0E+00	8.0E+01
⁸⁹ Sr	3.0E+02	2.0E+04	²²⁰ Rn	3.0E+03	0.0E+00
⁹⁰ Sr	9.0E+00	1.0E+03	²²⁴ Ra	4.0E+00	4.0E+02
⁹⁵ Zr	6.0E+02	4.0E+04	²²⁶ Ra	1.0E+00	1.0E+02
⁹⁵ Nb	3.0E+03	6.0E+04	²²⁸ Ac	4.0E+01	6.0E+04
⁹⁹ Tc	2.0E+03	1.0E+05	²³² Th	7.0E-03	5.0E+01
¹⁰³ Ru	2.0E+03	5.0E+04	Total U	1.0E-01	6.0E+02
¹⁰⁶ Ru	3.0E+01	6.0E+03	²³⁴ U	9.0E-02	5.0E+02
¹¹³ Sn	1.0E+03	5.0E+04	²³⁵ U	1.0E-01	6.0E+02
¹²⁴ Sb	6.0E+02	1.0E+04	²³⁶ U	1.0E-01	5.0E+02
¹²⁵ Sb	1.0E+03	5.0E+04	²³⁸ U	1.0E-01	6.0E+02
¹²⁹ I	7.0E+01	5.0E+02	²³⁸ Pu	3.0E-02	4.0E+01
¹³¹ I	4.0E+02	3.0E+03	^{239/240} Pu	2.0E-02	3.0E+01
¹³⁴ Cs	2.0E+02	2.0E+03	²⁴¹ Pu	1.0E+00	2.0E+03
¹³⁷ Cs	4.0E+02	3.0E+03	²⁴¹ Am	2.0E-02	3.0E+01
¹⁴¹ Ce	1.0E+03	5.0E+04	Total Alpha	2.0E-02	3.0E+01
¹⁴⁴ Ce	3.0E+01	7.0E+03	Total Beta	9.0E+00	1.0E+03

a – From DOE Order 5400.5.

Table 11-2. EPA Concentration Levels for Environmental Compliance.^a
(Radionuclide Concentrations [pCi/m³] in Air)

Radionuclide	Concentration	Radionuclide	Concentration
³ H	1.5E+03	¹³⁷ Cs	1.9E-02
¹⁴ C	1.0E+01	¹⁴¹ Ce	6.3E+00
⁴⁰ K	2.7E-02	¹⁴⁴ Ce	6.2E-01
⁴¹ Ar	1.7E+03	¹⁴⁷ Pm	1.1E+01
⁵¹ Cr	3.1E+01	¹⁵² Eu	2.0E-02
⁵⁴ Mn	2.8E-01	¹⁵⁴ Eu	2.3E-02
⁵⁹ Fe	6.7E-01	¹⁵⁵ Eu	5.9E-01
⁵⁸ Co	6.7E-01	²¹² Bi	5.6E+01
⁶⁰ Co	1.7E-02	²¹⁴ Bi	1.4E+02
⁶⁵ Zn	9.1E-02	²¹² Pb	6.3E+00
⁸⁵ Kr	1.0E+06	²¹⁴ Pb	1.2E+02
⁸⁹ Sr	1.8E+00	²²⁴ Ra	1.5E-01
⁹⁰ Sr	1.9E-02	²²⁶ Ra	3.3E-03
⁹⁵ Zr	6.7E-01	²²⁸ Ac	3.7E+00
⁹⁵ Nb	2.2E+00	²³² Th	6.2E-04
⁹⁹ Tc	1.4E-01	²³⁴ U	7.7E-03
¹⁰³ Ru	2.6E+00	²³⁵ U	7.1E-03
¹⁰⁶ Ru	3.4E-01	²³⁶ U	7.7E-03
¹¹³ Sn	1.4E+00	²³⁸ U	8.3E-03
¹²⁴ Sb	5.3E-01	²³⁸ Pu	2.1E-03
¹²⁵ Sb	1.6E-01	^{239/240} Pu	2.0E-03
¹²⁹ I	9.1E-03	²⁴¹ Pu	1.0E-01
¹³¹ I	2.1E-01	²⁴¹ Am	1.9E-03
¹³⁴ Cs	2.7E-02		

a - from 40 CFR 61, Subpart I, Appendix E, Table 2

Table 11-3. Inaccessible Soil Concentrations (pCi/g).

Radionuclide	100 BDKN	100 F, H	200 West Area	200 East Area	300 Area	400 Area
³ H	1.4 E+08	7.4 E+07	3.7 E+08	2.0 E+08	9.5 E+06	1.4 E+07
¹⁴ C	6.2 E+05	6.2 E+05	6.2 E+05	6.2 E+05	6.2 E+05	6.2 E+05
⁵⁵ Fe	9.7 E+06	9.7 E+06	3.6 E+10	1.9 E+10	1.0 E+07	1.4 E+09
⁵⁸ Co	9.8 E+06	9.8 E+06	8.1 E+09	4.3 E+09	1.2 E+07	3.1 E+08
⁶⁰ Co	9.9 E+05	9.9 E+05	5.7 E+08	3.0 E+08	1.0 E+06	9.9 E+06
⁶³ Ni	1.5 E+08	1.5 E+08	6.9 E+09	6.9 E+09	1.5 E+08	2.2 E+08
⁹⁰ Sr*	8.3 E+05	8.3 E+05	2.2 E+08	1.2 E+08	8.3 E+05	8.4 E+06
⁹⁹ Tc	1.3 E+07	1.3 E+07	1.3 E+07	1.3 E+07	1.3 E+07	1.3 E+07
¹⁰⁶ Ru*	2.0 E+07	2.0 E+07	5.7 E+08	3.0 E+08	1.5 E+07	2.2 E+07
¹²⁵ Sb*	9.1 E+06	9.1 E+06	5.7 E+09	3.0 E+09	9.2 E+06	1.1 E+08
¹²⁹ I	2.8 E+05	2.8 E+05	2.8 E+05	2.8 E+05	2.2 E+05	2.8 E+05
¹³⁴ Cs	1.7 E+04	1.7 E+04	2.5 E+08	1.4 E+08	2.4 E+04	9.7 E+06
¹³⁷ Ce*	1.7 E+04	1.7 E+04	3.5 E+08	1.8 E+08	1.7 E+04	1.3 E+07
¹⁴⁴ Cs*	1.4 E+06	1.4 E+06	7.4 E+08	4.0 E+08	1.9 E+06	2.8 E+07
¹⁴⁷ Pm	3.4 E+07	3.4 E+07	7.4 E+09	4.0 E+09	3.5 E+07	2.8 E+08
¹⁵² Eu	4.5 E+06	4.5 E+06	1.2 E+09	6.2 E+08	4.6 E+06	4.5 E+07
¹⁵⁴ Eu	3.3 E+06	3.3 E+06	8.8 E+08	4.7 E+08	3.3 E+06	3.4 E+07
¹⁵⁵ Eu	2.3 E+07	2.3 E+07	6.9 E+09	3.7 E+09	2.4 E+07	2.6 E+08
²²⁶ Ra*	1.3 E+05	1.3 E+05	2.1 E+05	2.1 E+05	1.3 E+05	1.4 E+05
²²⁷ Ac*	2.4 E+03	2.4 E+03	5.4 E+04	2.9 E+04	1.4 E+03	2.1 E+03
²³² Th*	2.0 E+04	2.0 E+04	2.0 E+04	2.0 E+04	4.7 E+03	7.1 E+03
²³² U*	5.5 E+04	5.5 E+04	1.4 E+05	1.4 E+05	9.9 E+03	1.5 E+04
²³³ U	4.5 E+05	4.5 E+05	4.5 E+05	4.5 E+05	6.7 E+04	1.0 E+05
²³⁴ U	4.6 E+05	4.6 E+05	4.6 E+05	4.6 E+05	6.9 E+04	1.0 E+05
²³⁵ U*	4.9 E+05	4.9 E+05	4.9 E+05	4.9 E+05	7.3 E+04	1.1 E+05
²³⁶ U	4.9 E+05	4.9 E+05	4.9 E+05	4.9 E+05	7.1 E+04	1.1 E+05
²³⁸ U*	4.7 E+05	4.7 E+05	4.7 E+05	4.7 E+05	7.7 E+04	1.2 E+05
²³⁷ Np*	8.9 E+02	8.9 E+02	8.9 E+02	8.9 E+02	8.9 E+02	8.9 E+02
²³⁸ Pu	1.3 E+04	1.3 E+04	8.8 E+05	4.7 E+05	1.3 E+04	3.4 E+04
²³⁹ Pu	1.2 E+04	1.2 E+04	1.2 E+04	1.2 E+04	1.2 E+04	1.2 E+04
²⁴⁰ Pu	1.2 E+04	1.2 E+04	1.4 E+04	1.4 E+04	1.2 E+04	1.2 E+04
²⁴¹ Pu	6.1 E+05	6.1 E+05	4.2 E+07	2.2 E+07	6.1 E+05	1.2 E+06
²⁴¹ Am	2.5 E+04	2.5 E+04	7.4 E+05	4.0 E+05	1.9 E+04	2.8 E+04

Note: Asterisks mark nuclides with progeny that are assumed to be present in equilibrium amounts. However, ²³⁴U was not included in the ²³⁸U limits. For supporting references see WHC-SD-EN-TI-070.

Table 11-4. Accessible Soil Concentrations (pCi/g).

Radionuclide	100 BDKN	100 F, H	200 West Area	200 East Area	300 Area	400 Area
³ H	1.4 E+08	7.4 E+07	3.7 E+08	2.0 E+08	9.5 E+06	1.4 E+07
¹⁴ C	6.2 E+05	6.2 E+05	6.2 E+05	6.2 E+05	6.2 E+05	6.2 E+05
⁵⁵ Fe	5.3 E+05	5.3 E+05	5.3 E+05	5.3 E+05	5.3 E+05	5.3 E+05
⁵⁸ Co	1.8 E+01	1.8 E+01	1.8 E+01	1.8 E+01	1.8 E+01	1.8 E+01
⁶⁰ Co	7.1 E+00	7.1 E+00	7.1 E+00	7.1 E+00	7.1 E+00	7.1 E+00
⁶³ Ni	2.5 E+07	2.5 E+07	2.5 E+07	2.5 E+07	2.5 E+07	2.5 E+07
⁹⁰ Sr*	2.8 E+03	2.8 E+03	2.8 E+03	2.8 E+03	2.8 E+03	2.8 E+03
⁹⁹ Tc	1.0 E+06	1.0 E+06	1.0 E+06	1.0 E+06	1.0 E+06	1.0 E+06
¹⁰⁶ Ru*	7.7 E+01	7.7 E+01	7.7 E+01	7.7 E+01	7.7 E+01	7.7 E+01
¹²⁵ Sb*	3.7 E+01	3.7 E+01	3.7 E+01	3.7 E+01	3.7 E+01	3.7 E+01
¹²⁹ I	1.0 E+04	1.0 E+04	1.0 E+04	1.0 E+04	1.0 E+04	1.0 E+04
¹³⁴ Cs	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01
¹³⁷ Cs*	3.0 E+01	3.0 E+01	3.0 E+01	3.0 E+01	3.0 E+01	3.0 E+01
¹⁴⁴ Ce*	3.3 E+02	3.3 E+02	3.3 E+02	3.3 E+02	3.3 E+02	3.3 E+02
¹⁴⁷ Pm	1.1 E+06	1.1 E+06	1.1 E+06	1.1 E+06	1.1 E+06	1.1 E+06
¹⁵² Eu	1.5 E+01	1.5 E+01	1.5 E+01	1.5 E+01	1.5 E+01	1.5 E+01
¹⁵⁴ Eu	1.4 E+01	1.4 E+01	1.4 E+01	1.4 E+01	1.4 E+01	1.4 E+01
¹⁵⁵ Eu	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02
²²⁶ Ra*	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01
²²⁷ Ac*	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01
²³² Th*	5.9 E+00	5.9 E+00	5.9 E+00	5.9 E+00	5.9 E+00	5.9 E+00
²³² U*	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01	1.0 E+01
²³³ U	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02
²³⁴ U	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02	6.3 E+02
²³⁵ U*	1.7 E+02	1.7 E+02	1.7 E+02	1.7 E+02	1.7 E+02	1.7 E+02
²³⁶ U	6.7 E+02	6.7 E+02	6.7 E+02	6.7 E+02	6.7 E+02	6.7 E+02
²³⁸ U*	3.7 E+02	3.7 E+02	3.7 E+02	3.7 E+02	3.7 E+02	3.7 E+02
²³⁷ Np*	4.8 E+01	4.8 E+01	4.8 E+01	4.8 E+01	4.8 E+01	4.8 E+01
²³⁸ Pu	2.1 E+02	2.1 E+02	2.1 E+02	2.1 E+02	2.1 E+02	2.1 E+02
²³⁹ Pu	1.9 E+02	1.9 E+02	1.9 E+02	1.9 E+02	1.9 E+02	1.9 E+02
²⁴⁰ Pu	1.9 E+02	1.9 E+02	1.9 E+02	1.9 E+02	1.9 E+02	1.9 E+02
²⁴¹ Pu	1.0 E+04	1.0 E+04	1.0 E+04	1.0 E+04	1.0 E+04	1.0 E+04
²⁴¹ Am	1.8 E+02	1.8 E+02	1.8 E+02	1.8 E+02	1.8 E+02	1.8 E+02

Note: Asterisks mark nuclides with progeny that are assumed to be present in equilibrium amounts. However, ²³⁴U was not included in the ²³⁸U limits. For supporting references see WHC-SD-EN-TI-070.

12.0 DATA SUMMARY METHODS

Measuring any physical quantity has some degree of inherent uncertainty. This uncertainty results from the combination of all possible inaccuracies in the measurements process, including such factors as the reading of the result, the calibration of the measuring device, and numerical rounding errors.

In this report, individual radioactive measurements are accompanied by a plus or minus (\pm) value, which represents the total propagated analytical uncertainty (or 2-sigma counting error). The two-sigma counting error gives information on what the measurement might be if the same sample were counted again under identical conditions. The two-sigma counting error implies that approximately 95% of the time, a recount of the same sample would give a value within plus or minus the two-sigma counting error at the value reported.

Values in the tables that are less than the minimum detectable activity indicate that the reported result might have come from a sample with no radioactivity. Such values are considered below the detection limits of the measuring instrument. Also note that each radioactive measurement must have the random background radioactivity of the measuring instrument subtracted; therefore, negative results are possible, especially when the sample has very little radioactivity.

Reported averages also are accompanied by a plus or minus (\pm) value, which represents two standard deviations from the mean. If the data fluctuate randomly, this is a measure of the uncertainty in the estimated average of the data because of this randomness.

Where averages of averages are reported, the plus or minus (\pm) value represents two standard errors of the mean.

The mean, \bar{X} , is computed as:

$$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i$$

where X_i is the i th measurement and n is the number of measurements.

The standard error of the mean was computed as:

$$SE = \sqrt{\frac{S^2}{n}}$$

where S^2 , the variance of the n measurements, was computed as:

$$S_M^2 = \frac{1}{n-1} \sum_{i=1}^n (X_i - \bar{X})^2$$

This estimator, S^2 , includes the variance among the samples and the counting variance. The estimated S^2 occasionally may be less than the average counting variance.

13.0 REFERENCES

- 10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*, as amended.
- 40 CFR 51, "Requirements for Preparation, Adoption, and Submittal of Implementation Plans," *Code of Federal Regulations*, as amended.
- 40 CFR 52, "Approval and Promulgation of Implementation Plans," *Code of Federal Regulations*, as amended.
- 40 CFR 61, Subpart H, "National Emissions Standards for Hazardous Air Pollutants," *Code of Federal Regulations*, as amended.
- 40 CFR 141, "National Primary Drinking Water Regulations," *Code of Federal Regulations*, as amended.
- 40 CFR 162, "State Registration of Pesticide Products," *Code of Federal Regulations*, as amended.
- 40 CFR 264, "Standards for Owners and Operators of Hazardous Waste Treatment Storage and Disposal Facilities," *Code of Federal Regulations*, as amended.
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, 42 USC 9601, et seq.
- DFSNW-OEM-001, 2000, *Operational Environmental Monitoring*, Duratek Federal Services, Inc., Richland, Washington.
- DOE, 2001, *Radioactive Waste Management*, DOE Order 435.1, U.S. Department of Energy, Washington, D.C.
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