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HNF-SP-0098
Revision 22

[00834834]

Environmental Monitoring Schedule

Calendar Year 2011

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EDMC

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-09RL14728

P.O. Box 650
Richland, Washington 99352

Approved for Public Release;
Further Dissemination Unlimited

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1227146

HNF-SP-0098
Revision 22

Environmental Monitoring Schedule

Calendar Year 2011

S. M. McKinney
Mission Support Alliance

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Date Published
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ENVIRONMENTAL MONITORING SCHEDULE
CALENDAR YEAR 2011

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Date

Reviewed/Approved By:

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APPENDIX A – SURVEY SITES AND SAMPLE LOCATIONS A-1

LIST OF TERMS

CA	Contamination Area
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
EDP Code	Environmental Data Point (Sample Location)
ERDF	Environmental Restoration Disposal Facility
LERF	Liquid Effluent Retention Facility
MSA	Mission Support Alliance, LLC
MSC	Mission Support Contract
PRC	Plateau Remediation Contract
PUREX	Plutonium-Uranium Extraction (202-A Plant)
RARA	Radiation Area Remedial Action
REDOX	Reduction-Oxidation (202-S Plant)
RCCP	River Corridor Closure Project
TLD	Thermoluminescent Dosimeter
TOC	Tank Operations Contract
TRI-ANNUALLY	Three times per year
TSD	Treatment Storage Disposal
URMA	Underground Radioactive Material Area
WAC	Washington Administrative Code
WCH	Washington Closure Hanford, LLC
WIDS	Waste Information Data System
WRPS	Washington River Protection Solutions, LLC

PURPOSE

This document identifies the radiological survey and sampling routines for the near-facility environmental monitoring program for performance during calendar year 2011. Completion of the identified routines provides evidence that the environmental and radiation protection requirements are being met at and/or adjacent to nuclear facilities and radioactive waste sites operated by the River Corridor Closure Project (RCCP), the Plateau Remediation Contract (PRC), Tank Operations Contract (TOC), and the Mission Support Contract (MSC). Key environmental and radiation protection requirements, which encompass monitoring diffuse and fugitive emissions, include 10 CFR 835, *Occupational Radiation Protection;* U. S. Department of Energy (DOE) Order 435.1.1, *Radioactive Waste Management;* DOE Order 5400.5, *Radiation Protection of the Public and Environment;* DOE Order 450.1A, *Environmental Protection Program;* DOE/EH-0173T, *Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance;* DOE/RL-91-50, *Environmental Monitoring Plan;* 40 CFR 61, *National Emission Standards for Hazardous Air Pollutants*, Subpart H, "National Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities;" Washington Administrative Code (WAC) 246-247, *Radiation Protection – Air Emissions*; *Department of Energy Hanford Site Air Emissions License #FF-01;* DOE M 231.1-1, *Environment, Safety and Health Reporting Manual,* and "Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of Energy Concerning the Clean Air Act Emissions Standards for Radionuclides 40 CFR Part 61 including Subparts H, I, Q & T."

The contractors provide input for the surveys of waste sites under their responsibility. Every attempt is made to follow this schedule. It should be noted that some of the surveys on an annual frequency may not be performed within the quarter that they are scheduled; however, they will be conducted within the calendar year. This flexibility is provided to accommodate consequences due to various unpredictable activities/circumstances and/or changes in project priorities. In cases of deviation from this schedule, a written notification (internal memorandum, e-mail, etc.) will be sent to Mission Support Alliance, LLC (MSA) Site Effluent & Near-Facility Monitoring staff and the affected contractor.

The survey frequencies for particular sites are determined by the technical judgment of the contractors responsible for the waste sites and may depend on the site history, radiological status, use, and general conditions. Additional surveys may be requested at irregular frequencies if conditions warrant. All radioactive waste sites, identified in the Waste Information Data System (WIDS) that are outside the facilities or tank farm perimeter boundaries, are scheduled to be surveyed at least annually. Any newly discovered wastes sites not included in this document will be included in the following calendar year's revision.

This document does not discuss staffing needs, nor does it list the monitoring equipment to be used in completing specific routines. Personnel performing the routines shall communicate any need for assistance in completing the routines to Radiological Control management and (MSA) Environmental Integration.

MSA staff will be notified of the completion of the radiological surveys. At a minimum, the following radiological survey documentation will be forwarded to near-facility monitoring staff at the end of each quarter during the calendar year. If contamination is found, copies of the radiological survey report/record, maps, and data sheets will be forwarded to Site Effluent & Near-Facility Monitoring staff, who then provide the information to the affected contractor(s). If no contamination is evident, documentation of the surveys performance, in the form of a spread sheet, table, or database, etc, will be forwarded to Site Effluent & Near-Facility Monitoring staff. The form shall include as a minimum the waste site identification number, survey number, and date surveyed. Surveys cannot be statused as

complete in the Quarterly Environmental Radiological Survey Summary until this documentation is received. Contamination found by the MSC, PRC, RCCP, and TOC contractors while performing environmental radiological surveys outside of those scheduled in this document will also be reported to Site Effluent & Near-Facility Monitoring staff.

In this schedule, the contaminated areas on the maps are classified as "Contamination Areas" (CAs), "Underground Radioactive Material Areas" (URMA), and "Interim Closure." Contaminated areas include locations that meet the following MSA Radiological Control Manual (MSA-5173) posting criteria:

- Soil Contamination Areas
- Contamination Areas
- High Contamination Areas.

The areas designated as "Underground Radioactive Materials" are the same as defined in the MSA Radiological Control Manual. The areas designated as "Interim Closure" are released from posting when the remedial actions meet the operable unit's record of decision cleanup requirements.

RIVER CORRIDOR CLOSURE PROJECT
WASHINGTON CLOSURE HANFORD

ANNUAL SCHEDULE

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CALENDAR YEAR 2011 ANNUAL SURVEYS

As a minimum, radiological surveys will be performed annually on radiological waste sites to provide a level of assurance that the contamination controls for the various waste sites are effective. It should be noted that the radiological surveys scheduled for some sites under RCCP may not be performed as scheduled due to various closure project activities and schedules. Several of these sites are undergoing remediation and receive frequent radiological surveys, while others have completed remediation activities and await final approval for release.

Perform a radiological survey on the following WIDS sites:

Site	Site Description
100-D Area	
100-D-1	Storm Drain/Process Sewer
100-D-102	Suspect Leak Near 107-DR Basin
100-D-13	Unnumbered Septic System
100-D-14	Septic Tank System
100-D-31	100-D-31:1 1607-D2 Sewer Pipeline
	100-D-31:2 1700-D Buildings Sewer Pipelines
	100-D-31:3 105-D Sewer Pipeline
	100-D-31:4 190-D Sewer Pipeline
	100-D-31:7 116-D/D Pond Sewer Pipeline
	100-D-31:8 183-D/186-D Northern Sewer
	100-D-31:9 183-D/186-D Process Sewer
	100-D-31:10 182-D North Sewer Pipeline
	100-D-31:11 182-D/183-D Sewer Pipeline
	100-D-31:12 183-D West Process Sewer
100-D-50	100-D-50:1 (Service Area 2 requires remediation)
	100-D-50:2
	100-D-50:3
100-D-56	100-D-56:1, North Section Sodium Dichromate Underground Line
	100-D-56:2, South Portion
100-D-60	100-D/DR River Effluent Pipelines
100-D-63	Service Water Pipelines
100-D-67	D-Island Contamination
100-D-71	Vertical Safety Rod Tower Components
100-D-74	Drywell North Side of 105-D Rx
100-D-76	Potential Crib Next to 108D
100-D-85	100-D-85:1, Additional 107-DR Effluent Pipelines
	100-D-85:2 Additional 105-DR Reactor Effluent Pipelines
100-D-86	100-D-86:1 105-D Gas Recirculation Pipelines
	100-D-86:2 Process Sewer Pipelines

Site	Site Description
100-D-88	100D Misc. Pipelines
116-D-10	105-D Fuel Storage Basin
116-D-5	1904-D Outfall
116-D-8	100-D Cask Storage Pad
116-DR-10	105-DR Storage Basin Percolation
116-DR-3	105-DR Storage Basin Trench
116-DR-5	1904-DR Outfall
	118-D-3:2 Anomaly Storage Area
118-D-4	Construction BG 4F
118-D-6:4	105-D Fuel Storage Basin Side Slopes
1607-D2:5	Inlet Pipe to Replacement Tile Field
UPR-100-D-5	Effluent Line Leak No. 4
100-H Area	
100-H-28	100-H-28:2 South Process Sewers
	100-H-28:3 North Process Sewers
	100-H-28:4 1607-H1 Sanitary Sewer
	100-H-28:5 1607-H2 Sanitary Sewer
	100-H-28:7 183-H Process Water Lines
100-H-33	Solar Evaporation Basins
100-H-34	100-H River Effluent Pipelines
100-H-35	100-H Service Water Pipelines
100-H-36	1904-H Spillway
100-H-4	1717-H French Drain & Contaminated Storage
100-H-41	100-H Contaminated Area
100-H-42	1906-H Drainage Lift Station
100-H-49	100-H Contaminated French Drains
100-H-51	100-H-51:1, 1703-H Sanitary Sewer Pipe Segment
	100-H-51:2, 117-H Seal Pit Crib Feedline
	100-H-51:3, 184-H Brine Discharge Line
	100-H-51:4, Main Gate Storm Drain
100-H-53	Carbon Steel Pipe
100-H-58	Mud Dauber Nests on Active Powerlines in H Area
116-H-4	Pluto Crib
116-H-9	Seal Pit Water Crib
118-H-2	H-1 Loop BG
118-H-3	Construction BG
118-H-4	Ball 3X BG
118-H-6	118-H-6:1 Rx Block and ISS
126-H-2	183-H Clearwells
1607-H3	Septic Tank System
100-K Area	
100-K-2	118-K-2 Sludge Burial Ground
100-K-78	Fenced Contamination Area
100-N Area	
100-N-102	Potentially Contaminated French Drains
100-N-103	100-N Steam Condensate French Drains

Site	Site Description
100-N-28	Resin Disposal Pit
100-N-53	Waste Oil Tank
100-N-55	Drywell Near 153N
100-N-79	1908-N Spillway
100-N-83	Two Contaminated Areas Near 116-N-1
100-N-84	100-N-84:1 Raw Water Pipelines
	100-N-84:2 Fuel and Foam Pipelines
	100-N-84:3 Filter & Potable Water P-lines
	100-N-84:4 Steam & Condensate Pipelines
	100-N-84:5 Sanitary Sewer Pipelines
	100-N-84:6 Chem/Process Sewer Pipelines
	100-N-84:7 Unidentified & Misc. Pipelines
	100-N-84:8 100-N Area Unidentified Pipelines within Planned Excavations
100-N-87	116-N Vent Stack Piping and French Drain
100-N-90	100-N Reactor Rod Caves
120-N-4	Hazardous Waste Storage Area
	300 Area
2607-FSM	Septic System at 100-N Fire Station
300 Area	Misc. Piping
300 RLWS	Radioactive Liquid Waste Sewer
300 RRLWS	Retired Radioactive Liquid Waste Sewer
300-15	300 Area Process Sewer System (pipes)
300-16	Solid Waste Contamination Area
300-2	Contaminated Light Water Disposal
300-214	300 Area Retention Process Sewer
300-218	314 & 314A Buildings (costs included w/D4)
300-219	300 Area Waste Acid Transfer Line
300-22	309 B-Cell Cleanout Leak
300-224	WATS and U Bearing Piping Trench
300-24	Soil Contamination Area
300-25	324 Building (costs included in D4)
300-251	Unplanned Release
300-255	309 Tank Farm Contaminated Soil
300-257	309 Process Sewer to River
300-258	Abandoned Pipe Trench b/w 334 & 306E
300-260	Contaminated Soil Release Site
300-263	324 Building Diversion Tank
300-264	327 Building (costs included in D4)
300-265	Pipe Trench b/w 324 & 325 Buildings
300-268	3741 Building Foundation
300-273	Fuel Oil Transfer Pipeline
300-274	Surface Debris
300-276	3607 Sanitary System
300-28	Contamination Along Gingko Street
300-32	Fabrication Shop Leak
300-34	Soil Contaminated by Process Sewer Leak
300-39	309 Building (costs included in D4)

Site	Site Description
300-40	Corrosion of Vitrified Clay Sewer Pipe
300-43	Uranium-contaminated Soil around 304 Bldg
300-46	Soil Contamination Surrounding 3706 Bldg
300-48	Thorium Oxide and Fuel Fab Wastes
300-5	Contaminated Soil from Fuel Tanks & Piping
300-7	Undocumented Solid Waste BG
300-80	333 Building Storm Water Runoff
300-9	Solid Waste BG
309-TW-1	309-TW Tank #1 (costs included in D4)
309-TW-2	309-TW Tank #2 (costs included in D4)
309-TW-3	309-TW Tank #3 (costs included in D4)
309-WS-1	309 Building Vault (costs included in D4)
309-WS-2	309 Building Ion Pit (costs included in D4)
309-WS-3	309 Brine Tank (costs included in D4)
313 ESSP	East Side Storage Pad
316-3	307 Disposal Trenches
316-4	300 Area North Cribs
323 Tank 1	321 Building Underground Waste Tank
323 Tank 2	321 Building Underground Waste Tank
323 Tank 3	321 Building Underground Waste Tank
323 Tank 4	321 Building Underground Waste Tank
331 LSLT1	Life Sciences Lab Trench No. 1
331 LSLT2	Life Sciences Lab Trench No. 2
333 WSTF	333 West Side Tank Farm (costs w/D4)
340 Complex	Radioactive Liquid Waste Handling Fac
3712-USSA	Uranium Scrap Storage Area (costs w/D4)
600-117	300 Area Treated Effluent Disposal Facility
600-276	GEDF, Cold Test Facility
600-290:2	300 West Storage Area
600-58	H. J. Ashe Substation Oil
600-59	H. J. Ashe Substation Storage Area
600-60	H. J. Ashe Substation Switchyard Facility
600-62	Benton Switch Substation Releases
600-63	300-N Lysimeter Area
618-10	Solid Waste BG
618-11	Y BG
UPR-300-1	Waste Line Leak
UPR-300-11	Underground Radioactive Liquid Line Leak
UPR-300-2	Releases at the 340 Facility
UPR-300-38	Soil Contamination Beneath 313 Bldg
UPR-300-4	Soil Contamination Beneath 321 Bldg
UPR-300-40	Acid Release
UPR-300-42	300 Area Powerhouse Fuel Oil Spill
UPR-300-45	303-F Bldg Uranium-Bearing Acid Spill
UPR-300-5	Spill at 309 Storage Basin
UPR-600-22	WPPSS Windrow Site

PLAUTEAU REMEDIATION CONTRACT
CH2M HILL PLATEAU REMEDIATION COMPANY

ANNUAL SCHEDULE

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CALENDAR YEAR 2011 ANNUAL SURVEYS

Outdoor radiological waste sites under the responsibility of the PRC are radiologically surveyed at least once per year. More frequent surveys are performed, if warranted, to provide assurance that contamination and migration controls are effective. Visual inspections for housekeeping, proper posting, subsidence, animal or plant intrusion, etc., are also performed, at a minimum, on an annual frequency.

Radiological surveys and visual inspections are performed on the following:

100-K-1
100-K-100
100-K-57
100-K-64, 100-KE Flood Plain
100-K-81
100-K-99
116-K-3 Outfall
116-KE-2
116-KW-2

200-E-102
200-E-103
200-E-105
200-E-107
200-E-109
200-E-110
200-E-111-PL
200-E-112-PL
200-E-113-PL
200-E-114-PL
200-E-115
200-E-116-PL
200-E-117, CA south of B-Plant
200-E-118, B-Pond Diverter Station
200-E-121
200-E-122
200-E-123, CA south of 216-B-2 stabilized ditches
200-E-124
200-E-125, CA northwest of 244-AR
200-E-126-PL-B
200-E-127-PL-B
200-E-128
200-E-129, East side of B-Plant Rail Cut
200-E-130, West side of B-Plant Chemical Spur
200-E-135, CA south of 241-C Tank Farm
200-E-139, North of 241-C Tank Farm
200-E-14, IMUST
200-E-145-PL
200-E-147-PL
200-E-149-PL
200-E-150-PL
200-E-153-PL
200-E-156-PL
200-E-157-PL
200-E-158-PL
200-E-159-PL
200-E-160-PL
200-E-161-PL
200-E-162-PL
200-E-163-PL
200-E-164-PL
200-E-165-PL
200-E-166-PL
200-E-167-PL
200-E-168-PL
200-E-28
200-E-29
200-E-41
200-E-43
200-E-44
200-E-45
200-E-53
200-E-55
200-E-56
200-E-57
200-E-58

200-W-1, REDOX Mud Pit West
200-W-100-PL
200-W-101
200-W-102-PL
200-W-104
200-W-105-PL
200-W-106
200-W-114
200-W-125-PL
200-W-127
200-W-128
200-W-129-PL

200-W-130-PL
200-W-131-PL
200-W-132-PL
200-W-133-PL
200-W-134-PL
200-W-136-PL
200-W-137-PL
200-W-138-PL
200-W-139-PL
200-W-140-PL
200-W-141-PL
200-W-142-PL
200-W-143-PL
200-W-146-PL
200-W-147-PL-B
200-W-149-PL
200-W-150-PL
200-W-155-PL-B
200-W-16, IMUST
200-W-21
200-W-22
200-W-23
200-W-36
200-W-37
200-W-40
200-W-42
200-W-43, 291-S Stack Sand Filter
200-W-44, 291-UStack Sand Filter
200-W-45, 291-T Stack Sand Filter
200-W-53
200-W-54
200-W-58
200-W-59
200-W-63
200-W-64
200-W-67
200-W-7, IMUST
200-W-73
200-W-77
200-W-78-PL
200-W-79-PL
200-W-80
200-W-81
200-W-82
200-W-83
200-W-84-PL
200-W-85
200-W-86
200-W-87
200-W-88-PL
200-W-89
200-W-9
200-W-90
200-W-91
200-W-92

200-W-97-PL
200-W-98-PL
200-W-99-PL

201-C

207-B Retention Basin
207-S Retention Basin
207-T Retention Basin
207-U Retention Basin

209-E-WS-1, French Drain
209-E-WS-2, French Drain
209-E-WS-3, IMUST

216-A-1
216-A-10
216-A-11
216-A-12
216-A-13
216-A-14
216-A-15
216-A-18
216-A-19
216-A-2
216-A-20
216-A-21
216-A-22
216-A-24
216-A-25
216-A-26
216-A-26A
216-A-27
216-A-28
216-A-29
216-A-3
216-A-30
216-A-31
216-A-32
216-A-33
216-A-34
216-A-35
216-A-36A
216-A-36B
216-A-37-1
216-A-37-2

216-A-38-1
216-A-4
216-A-40
216-A-41
216-A-42
216-A-45
216-A-5
216-A-508 Valve Box
216-A-524 Weir
216-A-6
216-A-7
216-A-8
216-A-9

216-B-10A
216-B-10B
216-B-11A & 11B
216-B-12
216-B-13
216-B-14 through 216-B-34 (BC Trenches)
216-B-2-1
216-B-2-2
216-B-2-3
216-B-3
216-B-3-1
216-B-3-2
216-B-3-3
216-B-35
216-B-36
216-B-37
216-B-38
216-B-39
216-B-3A RAD
216-B-3B RAD
216-B-3C RAD
216-B-4
216-B-40
216-B-41
216-B-42
216-B-43
216-B-44
216-B-45
216-B-46
216-B-47
216-B-48
216-B-49
216-B-5
216-B-50
216-B-51
216-B-52
216-B-53A
216-B-53B
216-B-54
216-B-55
216-B-57
216-B-58
216-B-59
216-B-59B Retention Basin
216-B-6
216-B-62
216-B-63
216-B-64
216-B-7A & 7B
216-B-8
216-B-9
216-BY-201, IMUST

216-C-1
216-C-10
216-C-2
216-C-3
216-C-4
216-C-5
216-C-6
216-C-7
216-C-8
216-C-9

216-S-1 & S-2
216-S-10 D
216-S-10 P
216-S-11
216-S-12
216-S-13
216-S-16 D
216-S-16 P
216-S-17
216-S-172
216-S-18
216-S-20
216-S-21
216-S-22
216-S-23
216-S-25
216-S-4
216-S-5
216-S-6
216-S-7
216-S-8
216-S-9
216-SX-2

216-T-1
216-T-12
216-T-13
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216-T-18
216-T-19
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216-T-21
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216-T-23
216-T-24
216-T-25
216-T-26
216-T-27
216-T-28
216-T-29
216-T-3
216-T-33
216-T-34
216-T-35
216-T-36
216-T-4-1D
216-T-4-2
216-T-4A
216-T-4B
216-T-5
216-T-6
216-T-7
216-T-8
216-TY-201, IMUST

216-U-1 & 2
216-U-10
216-U-11
216-U-12
216-U-14
216-U-15
216-U-16
216-U-17
216-U-3
216-U-4
216-U-4A
216-U-4B
216-U-5
216-U-6
216-U-7
216-U-8

216-W-LWC

216-Z-1 & 2
216-Z-10
216-Z-11
216-Z-12
216-Z-16
216-Z-17
216-Z-18
216-Z-19
216-Z-1A
216-Z-1D
216-Z-20
216-Z-3
216-Z-4
216-Z-5
216-Z-6
216-Z-7
216-Z-8
216-Z-9

218-C-9

218-E-1
218-E-10
218-E-10
218-E-12A
218-E-12B
218-E-14, PUREX Storage Tunnel #1 Perimeter
218-E-15, PUREX Storage Tunnel #2 Perimeter
218-E-2
218-E-2A
218-E-3
218-E-4
218-E-5
218-E-5A
218-E-6
218-E-7
218-E-8
218-E-9

218-W-1
218-W-1A
218-W-11
218-W-2
218-W-2A
218-W-3
218-W-3A
218-W-3AE
218-W-4A

218-W-4B
218-W-4C
218-W-5
218-W-7
218-W-8
218-W-9

231-W-151, IMUST

232-Z

241-B-361, IMUST
241-CX-70, IMUST
241-CX-71, IMUST
241-ER-151
241-ER-152
241-ER-153
241-ER-311
241-ER-311A
241-EW-151
241-T-361, IMUST
241-U-361, IMUST
241-WR Vault
241-Z
241-Z-361, IMUST
241-Z-8, IMUST

242-T-135, IMUST
242-T-151

244-AR Vault

2607-E9
2607-EB
2607-EE
2607-W7

2704-C-WS-1
270-E-1 Tank
270-W
2718-E-WS-1

2904-S-160
2904-S-170
2904-S-171

291-C, Fan & Filter Building
291-C-1, Stack Burial Trench

299-E24-111 Test Well

600-118
600-285-PL
600-286-PL
600-287-PL

HSVP (Hot Semiworks Valve Pit)

UPR-200-E-1
UPR-200-E-10
UPR-200-E-100
UPR-200-E-101
UPR-200-E-103
UPR-200-E-106
UPR-200-E-11
UPR-200-E-112
UPR-200-E-117
UPR-200-E-12
UPR-200-E-138
UPR-200-E-14
UPR-200-E-143
UPR-200-E-144
UPR-200-E-145
UPR-200-E-15
UPR-200-E-17
UPR-200-E-18
UPR-200-E-19
UPR-200-E-2
UPR-200-E-20
UPR-200-E-21
UPR-200-E-22
UPR-200-E-28
UPR-200-E-29
UPR-200-E-3
UPR-200-E-35
UPR-200-E-39
UPR-200-E-44
UPR-200-E-50
UPR-200-E-52
UPR-200-E-56
UPR-200-E-59
UPR-200-E-64
UPR-200-E-66
UPR-200-E-68
UPR-200-E-69
UPR-200-E-7
UPR-200-E-72
UPR-200-E-79
UPR-200-E-80
UPR-200-E-83 (BC Controlled Area Perimeters)
UPR-200-E-85
UPR-200-E-87

UPR-200-E-88
UPR-200-E-89
UPR-200-E-9
UPR-200-E-90
UPR-200-E-94
UPR-200-E-95
UPR-200-E-96
UPR-200-E-97
UPR-200-E-98

UPR-200-N-1
UPR-200-N-2

UPR-200-W-10
UPR-200-W-101
UPR-200-W-102
UPR-200-W-104
UPR-200-W-105
UPR-200-W-106
UPR-200-W-107
UPR-200-W-108
UPR-200-W-109
UPR-200-W-11
UPR-200-W-110
UPR-200-W-111
UPR-200-W-112
UPR-200-W-114
UPR-200-W-115
UPR-200-W-116
UPR-200-W-117
UPR-200-W-118
UPR-200-W-123
UPR-200-W-124
UPR-200-W-13
UPR-200-W-130
UPR-200-W-137
UPR-200-W-138
UPR-200-W-139
UPR-200-W-14
UPR-200-W-15
UPR-200-W-16
UPR-200-W-160
UPR-200-W-161
UPR-200-W-162
UPR-200-W-163
UPR-200-W-164
UPR-200-W-165
UPR-200-W-166
UPR-200-W-19
UPR-200-W-2
UPR-200-W-26
UPR-200-W-29
UPR-200-W-3
UPR-200-W-30
UPR-200-W-32
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UPR-200-W-34
UPR-200-W-35
UPR-200-W-38
UPR-200-W-39
UPR-200-W-4
UPR-200-W-41
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UPR-200-W-65
UPR-200-W-67
UPR-200-W-69
UPR-200-W-70
UPR-200-W-72
UPR-200-W-73
UPR-200-W-8
UPR-200-W-82
UPR-200-W-83
UPR-200-W-95
UPR-200-W-97
UPR-200-W-98
UPR-200-W-99

UPR-600-12
UPR-600-20

TANK OPERATIONS CONTRACT
WASHINGTON RIVER PROTECTION SOLUTIONS

ANNUAL SCHEDULE

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CALENDAR YEAR 2011 ANNUAL SURVEYS

Outdoor radiological waste sites under the responsibility of the TOC are radiologically surveyed at least once per year. More frequent surveys are performed, if warranted, to provide assurance that contamination and migration controls are effective. Visual inspections for housekeeping, proper posting, subsidence, animal or plant intrusion, etc., are also performed, at a minimum, on an annual frequency. Washington River Protection Solutions (WRPS) performs radiological surveys in accordance with TFC-ESHQ-RP-MON-P-10, *Required Radiological Surveillances*.

Radiological surveys are performed on the following:

200-E-120
200-E-143-PL
200-E-144-PL
200-E-146-PL
200-E-148-PL
200-E-151-PL
200-E-152-PL
200-E-154-PL

200-W-126

241-C-154

600-629

UPR-200-42
UPR-200-E-67
UPR-200-E-77
UPR-200-E-78
UPR-200-E-99

UPR-200-W-113
UPR-200-W-131
UPR-200-W-135
UPR-200-W-167
UPR-200-W-21
UPR-200-W-28
UPR-200-W-5
UPR-200-W-6
UPR-200-W-76

AY-101 Pipeline to AZ-301

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MISSION SUPPORT CONTRACT
MISSION SUPPORT ALLIANCE

ANNUAL SCHEDULE

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JANUARY

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps if insects present.

BIWEEKLY

Routine air sample collection

QUARTERLY

Perform a radiological survey on the Remedial Activities Haul Route Intersections 100 and 300 Areas to Environmental Restoration Disposal Facility (ERDF).

SEMI-ANNUALLY

Perform a radiological survey on the following:

241-EW-151 Vent Station perimeter and associated contamination area
Roads inside the 200 East Area
Roads inside the 200 West Area.

ANNUALLY

Perform radiological surveys on the following:

Highway Route 4 South, 1100 Area to Wye Barricade.

FEBRUARY

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps if insects present.

BIWEEKLY

Routine air sample collection

ANNUALLY

Perform radiological surveys on the following:

Highway Route 4 south, 200 East Area hill to Wye Barricade
BC Controlled Area Perimeter Roads
307 retention basin perimeter
200-W-94 (CHG WIDS Site).

MARCH

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

QUARTERLY

*Thermoluminescent dosimeters (TLD) exchange 100 Areas and ERDF
TLD exchange 200/600 Areas
TLD exchange 300/400 Areas

ANNUALLY

Perform radiological surveys on the following:

Highway from entrance of the 200 West Area to Route 11A, Route 11A to Route 2 south and to Highway 240 via Route 10
UPR-200-E-82 (UN-216-E-10)
UPR-200-E-86 (UN-216-E-14).

MISCELLANEOUS

*618-10 soil sample collection (D179, D180, D181, & D182)

***Note**: Work performed under contract to Washington Closure Hanford, LLC (WCH).

APRIL

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

QUARTERLY

Perform a radiological survey on the Remedial Activities Haul Route Intersections 100 and 300 Areas to ERDF.

SEMI-ANNUALLY

Perform radiological surveys on the following:

218-W-3A outside perimeter
218-W-3AE outside perimeter
218-W-4B outside perimeter
218-W-4C outside perimeter
218-W-5 outside perimeter
218-E-10 outside perimeter
218-E-12A outside perimeter
218-E-12B outside perimeter.

TRI-ANNUALLY

Waste site visual inspection (posting, housekeeping, vegetation control, animal activity, unusual conditions, etc.).

ANNUALLY

300/400 Area soil and vegetation sampling

Perform radiological surveys on the following:

Highway Route 11A from the Yakima Barricade to Route 4 South
Unassigned URMA pipelines in 200-E South of 7th Street.

MAY

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

SEMI-ANNUALLY

Perform radiological surveys on the following:

244-A lift station perimeter
241-ER-151 diversion box perimeter
241-ER-152 diversion box perimeter
241-TX-155 diversion box perimeter
241-T tank farm perimeter
241-TX/TY tank farm perimeters
241-S/SX/SY (including 200-W-54) tank farm perimeters
241-U (including 200-W-91 and 200-W-95) tank farm perimeters
241-A, AN, AX, AY, & AZ tank farm perimeters
241-AP tank farm perimeter
241-AW tank farm perimeter
241-B tank farm perimeter
241-BX/BY tank farm perimeters
241-C tank farm perimeter
Perform tumbleweed surveys inside and outside of the Northeast corners of 200-E and 200-W Perimeter Fences.

ANNUALLY

200/600 Areas soil and vegetation sampling (even numbered sites on even years and odd numbered sites on odd years)
*ERDF Annual Soil Sample (D-146)

Perform radiological surveys on the following:

Highway Route 2N, 100-N Area to intersection of Route 11A, including all parking areas and paved access roads
Highway Route 1 from Hanford Townsite to 100-B Area
Federal Ave from Route 1 to Route 2.

***Note**: Work performed under contract to WCH.

JUNE

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

QUARTERLY

*TLD exchange 100 Areas and ERDF
TLD exchange 200/600 Areas
TLD exchange 300/400 Areas

ANNUALLY

*100-N Area vegetation sampling (shoreline locations Y718, Y719, and Y724)

Perform radiological surveys on the following:

Highway 100-B/C cut-off, West Lake to Route 6
Highway Route 6 to Route 11 A
Highway Route 11 A to Intersection of Route 3
1706 KE Facility perimeter
Revisit old contamination areas that have been cleaned up and released.

MISCELLANEOUS

*100-F soil sample collection (D154, D155, & D168). Collection date subject to change – Contact NFM.
*100-N soil sample collection (D156, D158, & D183).
*118-K-1 soil sample collection (D166 & D167). Collection date subject to change – Contact NFM.

*Note: Work performed under contract to WCH.

JULY

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

QUARTERLY

Perform a radiological survey of the Remedial Activities Haul Route Intersections 100 and 300 Areas to ERDF.

TRI-ANNUALLY

Waste site visual inspection (posting, housekeeping, vegetation control, animal activity, unusual conditions, etc.).

SEMI-ANNUALLY

Survey the 241-EW-151 Vent station perimeter and associated contamination area.

ANNUALLY

Perform radiological surveys of the following:

241-AX-151 Diversion Box
241-AR-151 Diversion Box
Outside perimeter road 200 East Area
Outside perimeter road 200 West Area
Highway Route 4 north, from intersection of Route 3 to 100-N
Unassigned URMA Pipelines in 200-East Area North of 7th Street.

AUGUST

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

ANNUALLY

Perform radiological surveys on the following:

Highway Route 3 from 200 West Area main gate, to route 4 South
Highway Route 4 South to the 200 East Area hill
Unassigned URMA Pipelines in 200 West Area North of 16th Street
200-E-120 Perimeter
200-E-132 Perimeter.

SEPTEMBER

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

QUARTERLY

*TLD exchange - 100 Areas and ERDF
TLD exchange - 200/600 Areas
TLD exchange - 300/400 Areas

SEMI-ANNUALLY

Perform radiological surveys on the following:

218-W-3A outside perimeter
218-W-3AE outside perimeter
218-W-4B outside perimeter
218-W-4C outside perimeter
218-W-5 outside perimeter
218-E-10 outside perimeter
218-E-12A outside perimeter
218-E-12B outside perimeter.

ANNUALLY

Perform radiological surveys on the following:

UPR-200-E-77 (UN-216-E-5)
UPR-200-E-78 (UN-216-E-6

Active Railroad lines [Contact Rhett Peterson at Tri-City Railroad Co. (371-8114 or 727-8824)].

*Note: Work performed under contract to WCH.

OCTOBER

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps as required in: US Ecology, 200 East & West, and 400 Area.

BIWEEKLY

Routine air sample collection

QUARTERLY

Perform radiological surveys on the Remedial Activities Haul Route Intersections 100 and 300 Areas to ERDF.

TRI-ANNUALLY

Waste site visual inspection (posting, housekeeping, vegetation control, animal activity, unusual conditions, etc.).

SEMI-ANNUALLY

Perform tumbleweed surveys inside and outside of the Northeast corners of 200-E and 200-W Perimeter Fences.

Perform radiological surveys on the following:

Roads inside 200 East Area
Roads inside 200 West Area.

ANNUALLY

Perform radiological surveys of the following:

Unassigned URMA Pipelines in 200-West Area South of 16th Street
200/600 Areas Emergency Plots.

MISCELLANEOUS

*100-D soil sample collection (D147, D171, D172, & D173). Collection date subject to change – contact NFM.
*100-H soil sample collection (D152, D176, D177, & D178). Collection date subject to change – contact NFM.

*Note: Work performed under contract to WCH.

NOVEMBER

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps if insects present.

BIWEEKLY

Routine air sample collection

SEMI-ANNUALLY

Perform radiological surveys on the following:

244-A lift station perimeter
241-ER-151 diversion box perimeter
241-ER-152 diversion box perimeter
241-TX-155 diversion box perimeter
241-T tank farm perimeter
241-TX/TY tank farm perimeters
241-S/SX/SY tank farm perimeters (including 200-W-54 and 216-SX-2)
241-U tank farm perimeter
241-A, AN, AX, AY, AZ tank farm perimeters
241-AN tank farm perimeters
241-AP tank farm perimeter
241-AW tank farm perimeter
241-B tank farm perimeter
241-BX/BY tank farm perimeters (including 216-BY-201 tank)
241-C tank farm perimeter (including posted CA South of 7th street).

DECEMBER

WEEKLY

2724-WB RMA Inspection
Air sampler inspection
Instrument exchange/inventory
Survey flying insect traps if insects present.

BIWEEKLY

Routine air sample collection

QUARTERLY

*TLD exchange - 100 Areas and ERDF
TLD exchange - 200/600 Areas
TLD exchange - 300/400 Areas

ANNUALLY

Perform radiological surveys on the following:

300-15 (Process Sewer from 300 Area to 300 TEDF)
UN-300-4 (UPR-300-4) 321 Building
UN-300-40 (UPR-300-40) 303-F Pipe Trench
UN-300-18 (UPR-300-18) inside 321 Tank Farms
207-SL Basin Perimeter
207-A Basin Perimeter.

Special surveys (e.g., animal feces, biota, pipelines, etc.), contact Near-Facility Monitoring.

***Note**: Work performed under contract to WCH.

REFERENCES

10 CFR 835, "Occupational Radiation Protection," Title 10, *Code of Federal Regulations*, Part 835, as amended.

40 CFR 61, *National Emissions Standards for Hazardous Air Pollutants* (NESHAP), Subpart H, "National Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities," Title 40, *Code of Federal Regulations*, Part 61, as amended.

DOE M 231.1-1, *Environment, Safety and Health Reporting Manual*, U.S. Department of Energy, Washington, D.C.

DOE Order 435.1.1, *Radioactive Waste Management*, U.S. Department of Energy, Washington, D.C.

DOE Order 450.1A, *Environmental Protection Program*, U.S. Department of Energy, Washington, D.C.

DOE Order 5400.5, *Radiation Protection of the Public and Environment*, U.S. Department of Energy, Washington, D.C.

DOE/EH-0173T, *Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance*, U.S. Department of Energy, Washington, D.C.

DOE/RL-91-50, *Environmental Monitoring Plan*, Rev. 4, U.S. Department of Energy, Richland Operation Office, Richland, Washington.

TFC-ESHQ-RP-MON-P-10, *Required Radiological Surveillances*, Washington River Protection Solutions, LLC, Richland, Washington.

WAC 246-247, "Radiation Protection – Air Emissions," *Washington Administrative Code*, Olympia, Washington.

Department of Energy Hanford Site Radioactive Air Emissions License #FF-01.

Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of Energy Concerning the Clean Air Act Emissions Standards for Radionuclides 40 CFR Part 61 including Subparts H, I, Q & T.

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APPENDIX A

SURVEY SITES AND SAMPLE LOCATIONS

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The locations, site descriptions and maps for the Waste Sites and Unplanned Release Sites can be found in the Hanford Site Atlas, the WIDS and the Environmental Sites Database.

AIR SAMPLE LOCATIONS

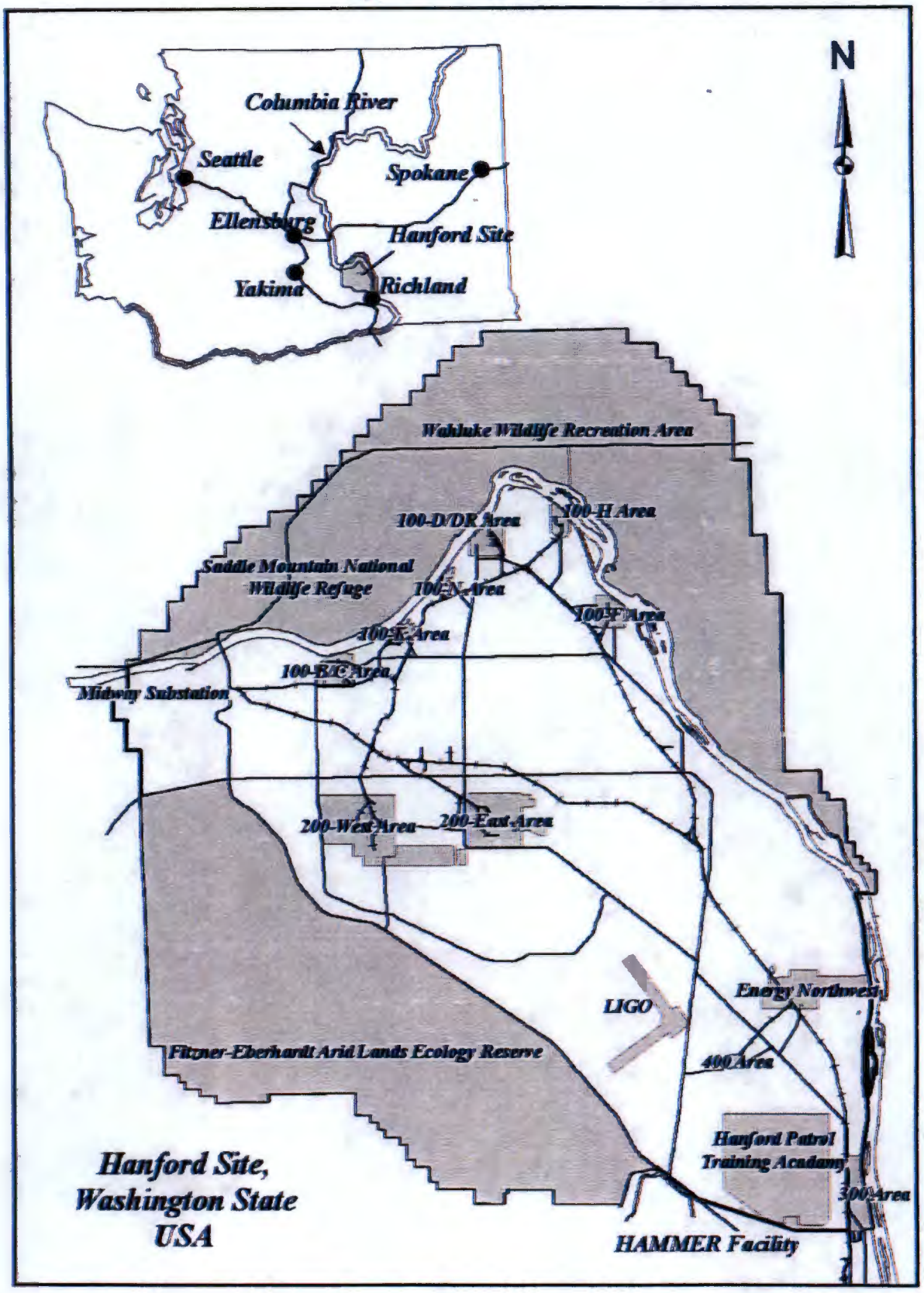
EDP CODE	AREA	LOCATION DESCRIPTION
N019	200E	West of 221-B (B-Plant)
N102	100N	100-N, N-Springs
N103	100N	100-N, Northwest Corner
N106	100N	100-N, 1301-N
N130	300	North of 300 Area TEDF
N155	200W	West of 241-U Tank Farm
N158	200E	East of 241-AX Tank Farm
N161	200W	224-T Stack
N165	200W	216-Z-9 Ditch
N168	200W	221-U Stack
N200	200W	North of 241-E/W-151 Vent Station (6241-V Building)
N304	200W	Gate 612, West Fence line 200 W (N966)
N403	100K	100-KE, East of 105KE*
N433	200W	North of TRU Waste Retrieval
N441	200W	North of 233-S
N442	200W	South of 233-S
N449	200W	West of WRAP-1
N456	200W	WRAP Northeast
N457	200W	WRAP Southeast
N467	100D	100-D Field Remediation Project, NW
N468	100D	100-D Field Remediation Project, NE
N476	100K	105-KW, Southwest
N480	200E	CSB, Northwest
N481	200E	CSB, Southeast
N482	600	ERDF, East *
N498	200E	ETF, Northwest
N499	200E	ETF, Southeast
N508	100-H	100-H Northwest
N509	100-H	100-H, East
N510	100-H	100-H, Southeast
N514	100D	100-D Field Remediation Project, E
N515	100D	100-D Field Remediation Project, SE
N517	600	ERDF South
N518	600	ERDF North
N519	100-F	100-F West
N520	100-F	100-F North
N521	100-F	100-F East
N532	200-E	IDF, West
N534	100-K	118-K-1 (N)
N535	100-K	118-K-1 (S)
N548	600	618-10 D&D Project
N549	600	618-10 D&D Project

EDP CODE	AREA	LOCATION DESCRIPTION
N550	200W	200-UW-1
N551	200-W	U-Plant – Ancillary Bldg. Demolition South
N554	200-W	PFP, Northeast
N555	200-W	PFP, Southeast
N557	300	300 D&D, Southwest
N559	200E	IDF*
N563	600	200-N D&D, South of 212-P
N564	600	200-N D&D, Rt 4/RR Road
N567	600	200-North D&D Project
N568	600	200-North D&D Project
N572	600	BC Controlled Area Project
N573	600	BC Controlled Area Project
N574	100-H	100-H, Northeast
N575	100-K	100-K Area @ 1908-K
N576	100-K	100-K Area @ SE Fence Corner
N577	100-K	100-K Area East Side
N578	100-K	100-K Area Midway
N579	600	618-10 D&D Project
N580	600	618-10 D&D Project
N956	200W	East of 241-S/SX Tank Farm
N957	200E	216-BC Cribs, South of 200-E
N963	200W	Southeast of 202-S (REDOX)
N964	200W	West of 218-W-4B Burial Ground
N965	200W	Northeast of 200-W
N966	200W	Gate 612, East Side of 200-W
N967	200E	North of 241-BX/BY Tank Farm
N968	200E	Gate 814, 200-E West Gate
N969	200E	Southwest of 202-A (PUREX)
N970	200E	Northwest of 202-A (PUREX)
N972	200E	Northeast of 241-C Tank Farm
N973	200E	East of 241-B Tank Farm
N974	200W	North of 221-T
N975	200W	East of 234-5Z (PFP)
N976	200E	Southeast of 241-C Tank Farm
N977	200E	Southeast of 202-A (PUREX)
N978	200E	South of 202-A @ 200-E Fence line
N981	600	Wye Barricade*
N984	200E	Southeast of 241-C Tank Farm*
N985	200E	West of 272-AW
N987	200W	Northeast of 241-TY Tank Farm
N994	200W	Gate 609, 200-W Northwest
N999	200E	South of 200 Area LERF

*Co-Located with State of Washington, Department of Health.

Figures A-1 through A-15 show radiological survey locations.

Figure A-1. Hanford Site.



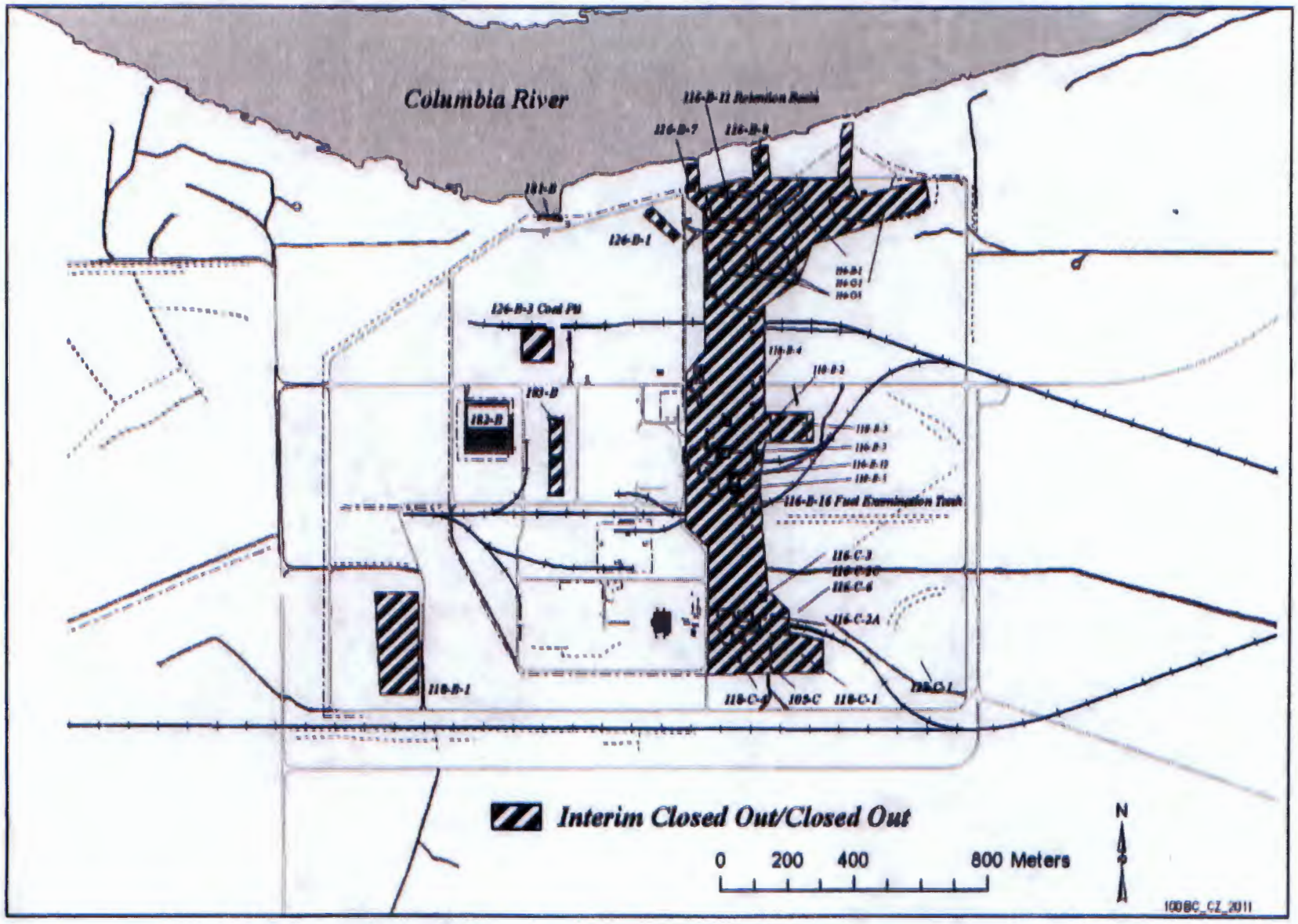
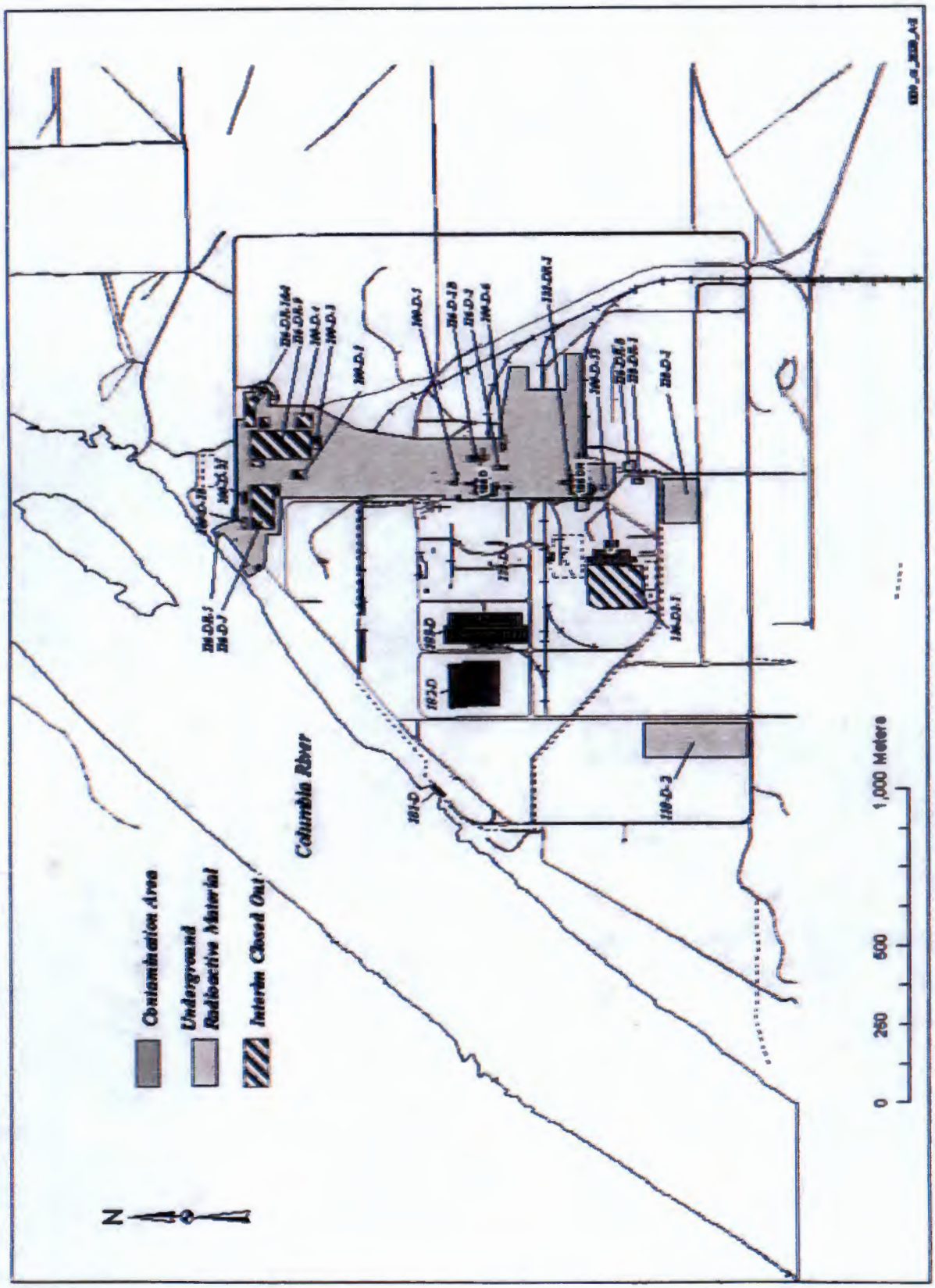


Figure A-2. 100-B and 100-C Waste Sites.

Figure A-3. 100-D and 100-DR Waste Sites.



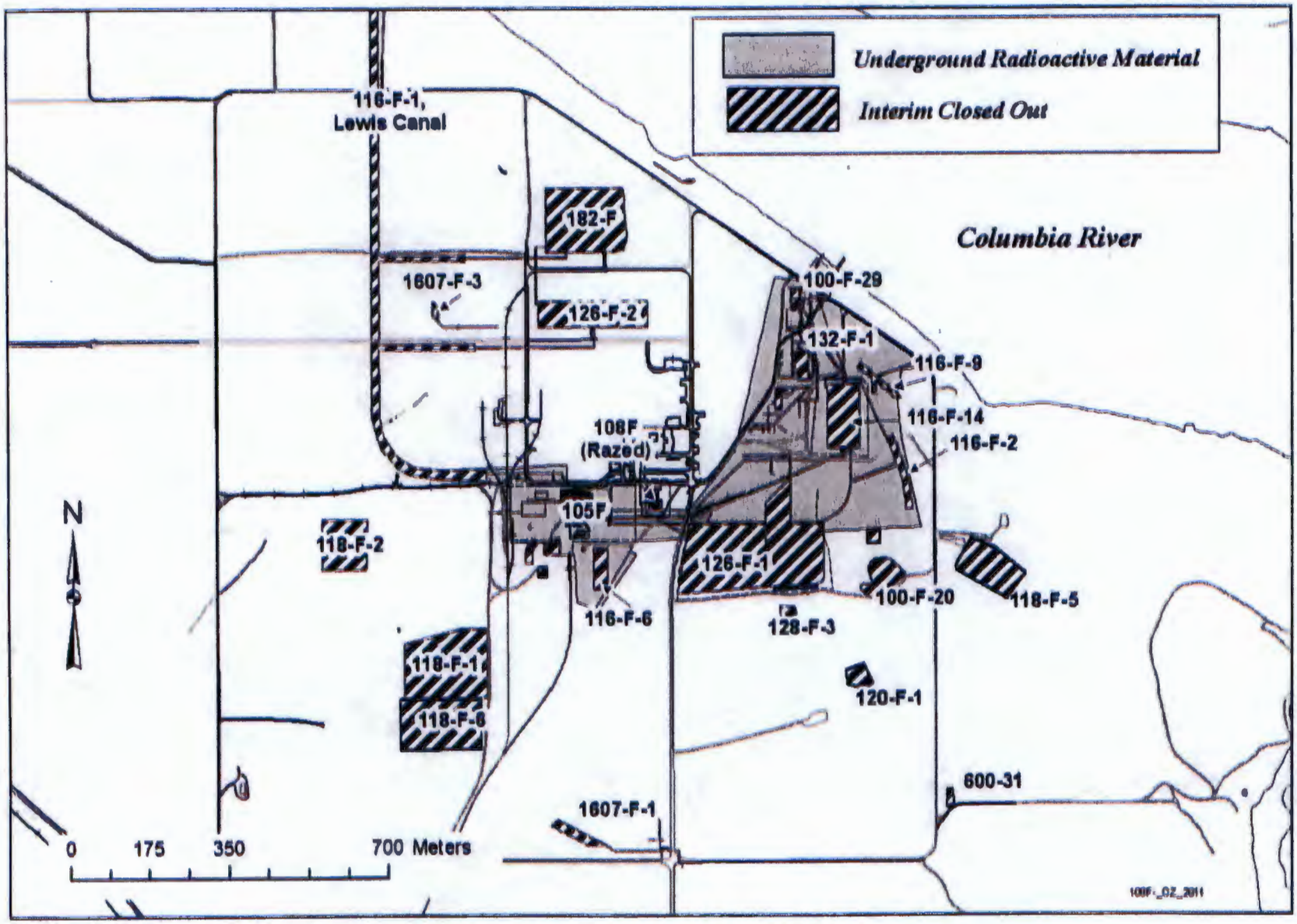


Figure A-4. 100-F Waste Sites.

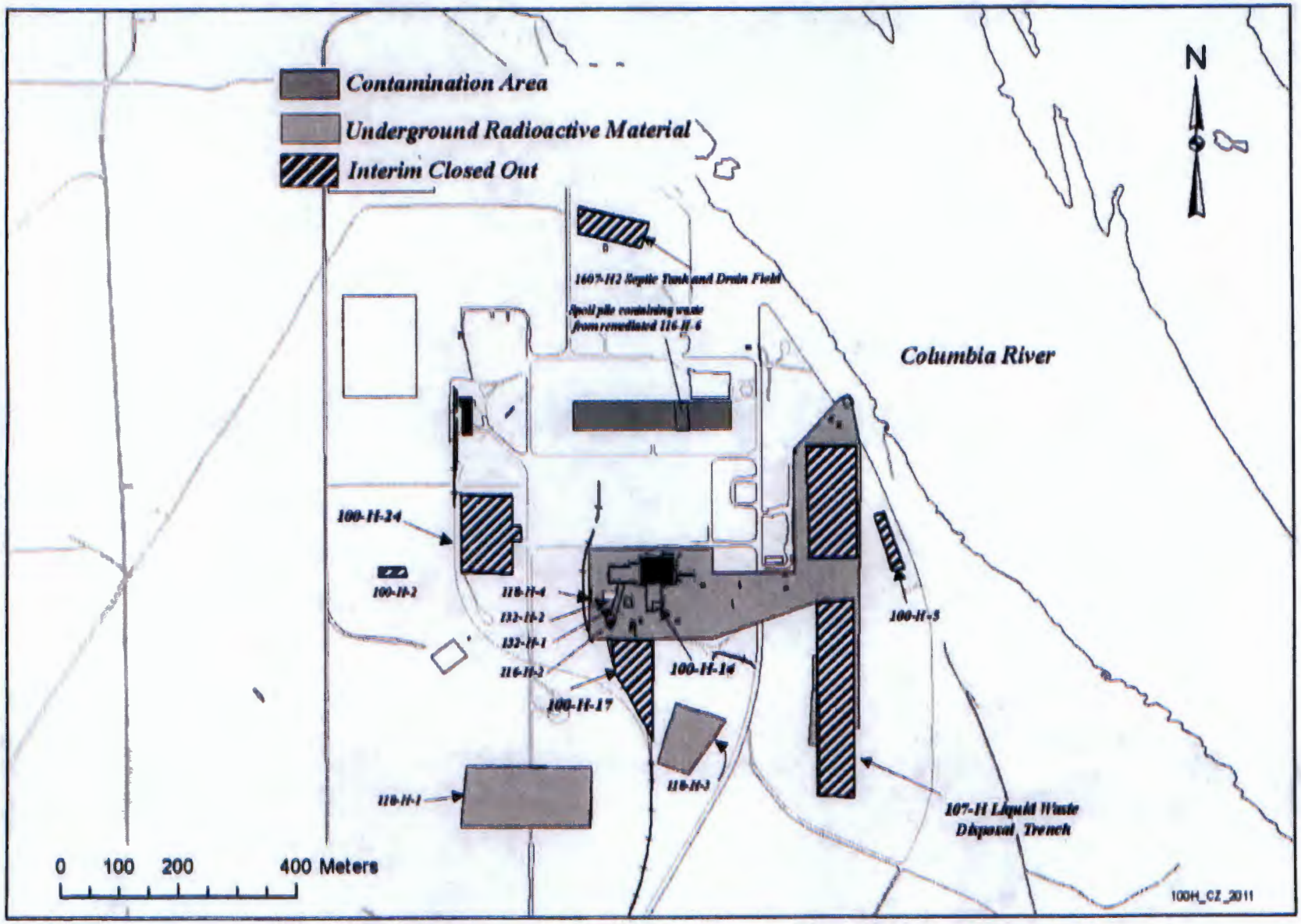


Figure A-5. 100-H Waste Sites.

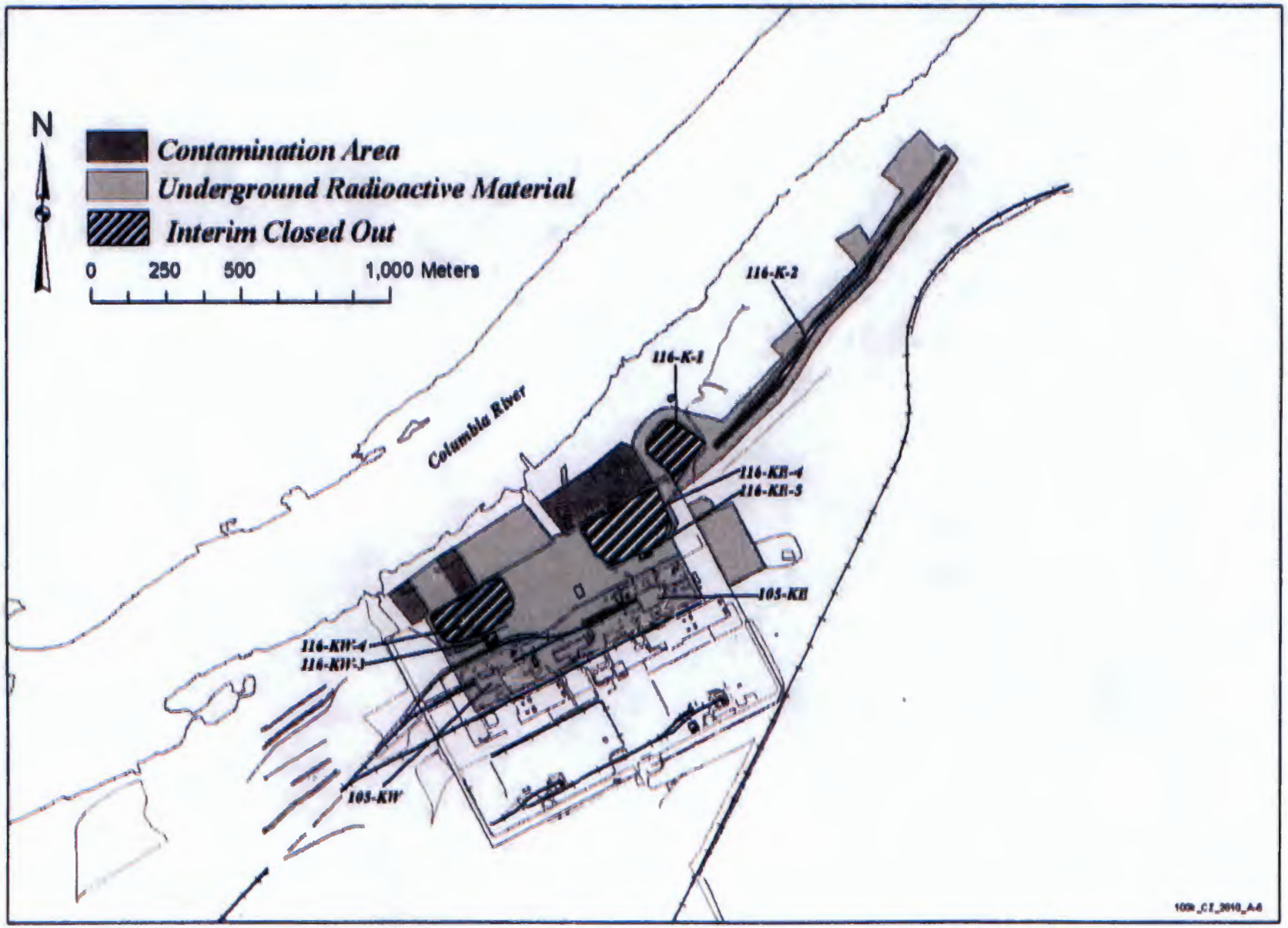


Figure A-6. 100-K Waste Sites.

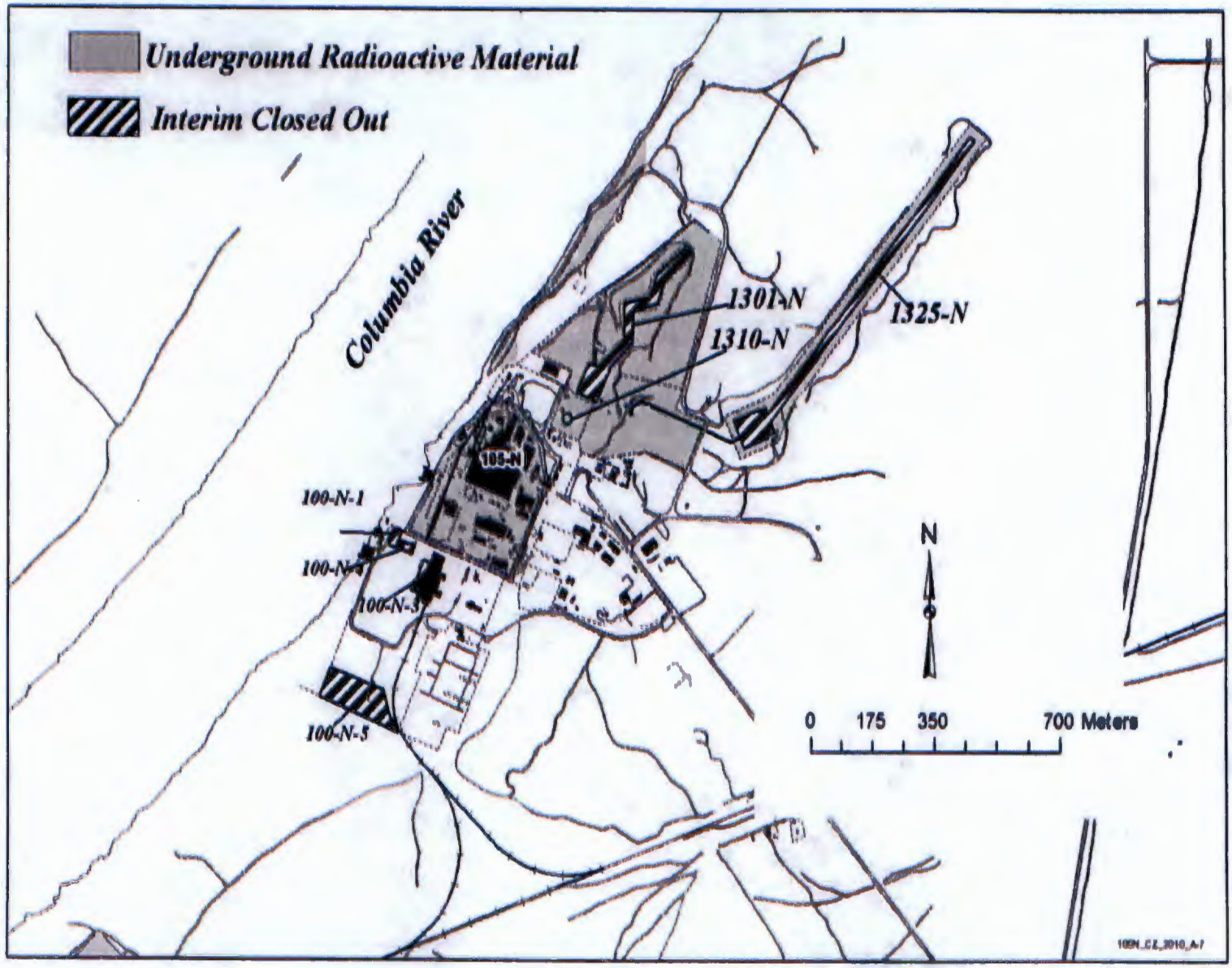
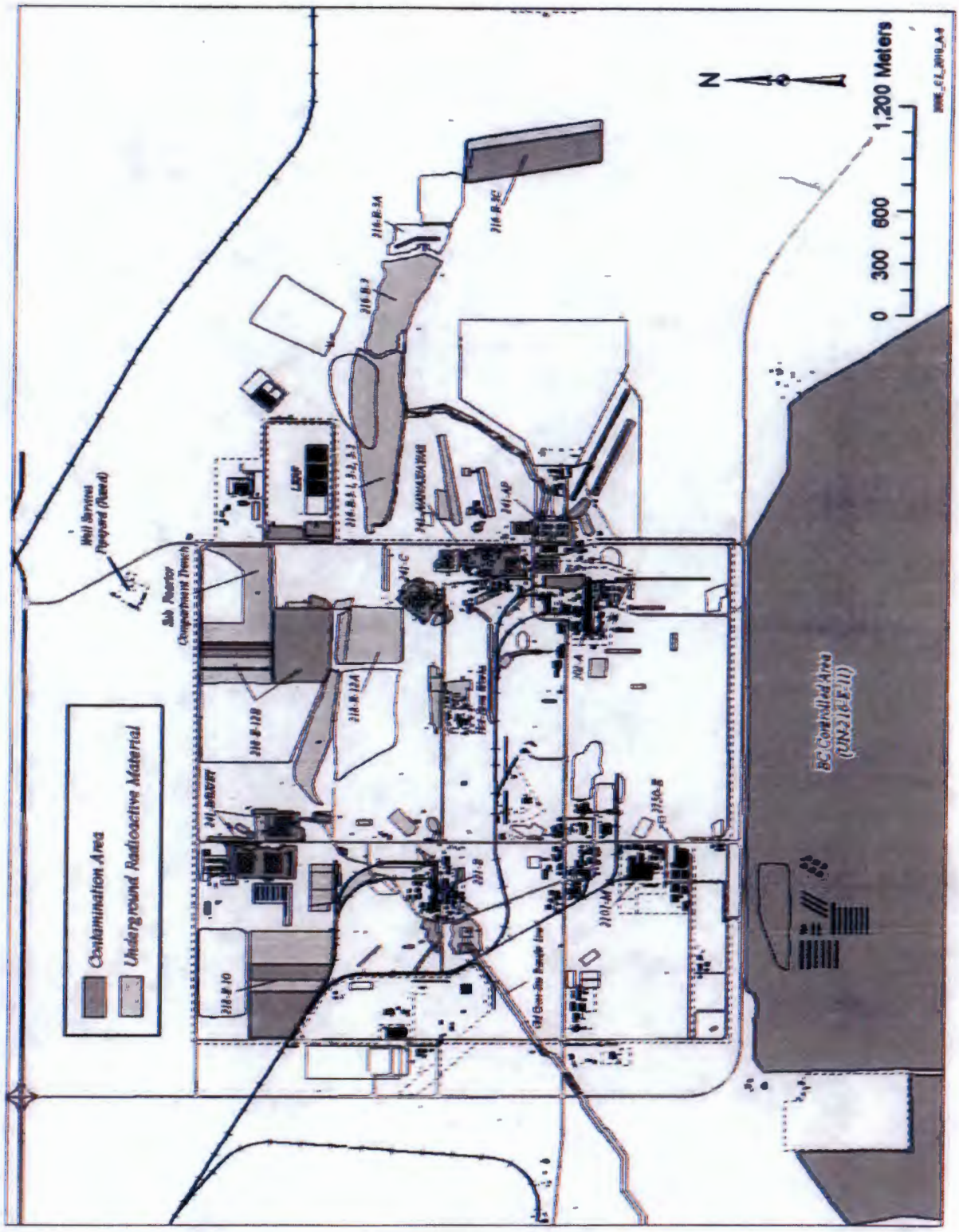


Figure A-7. 100-N Waste Sites.

Figure A-8. 200 East Waste Sites.



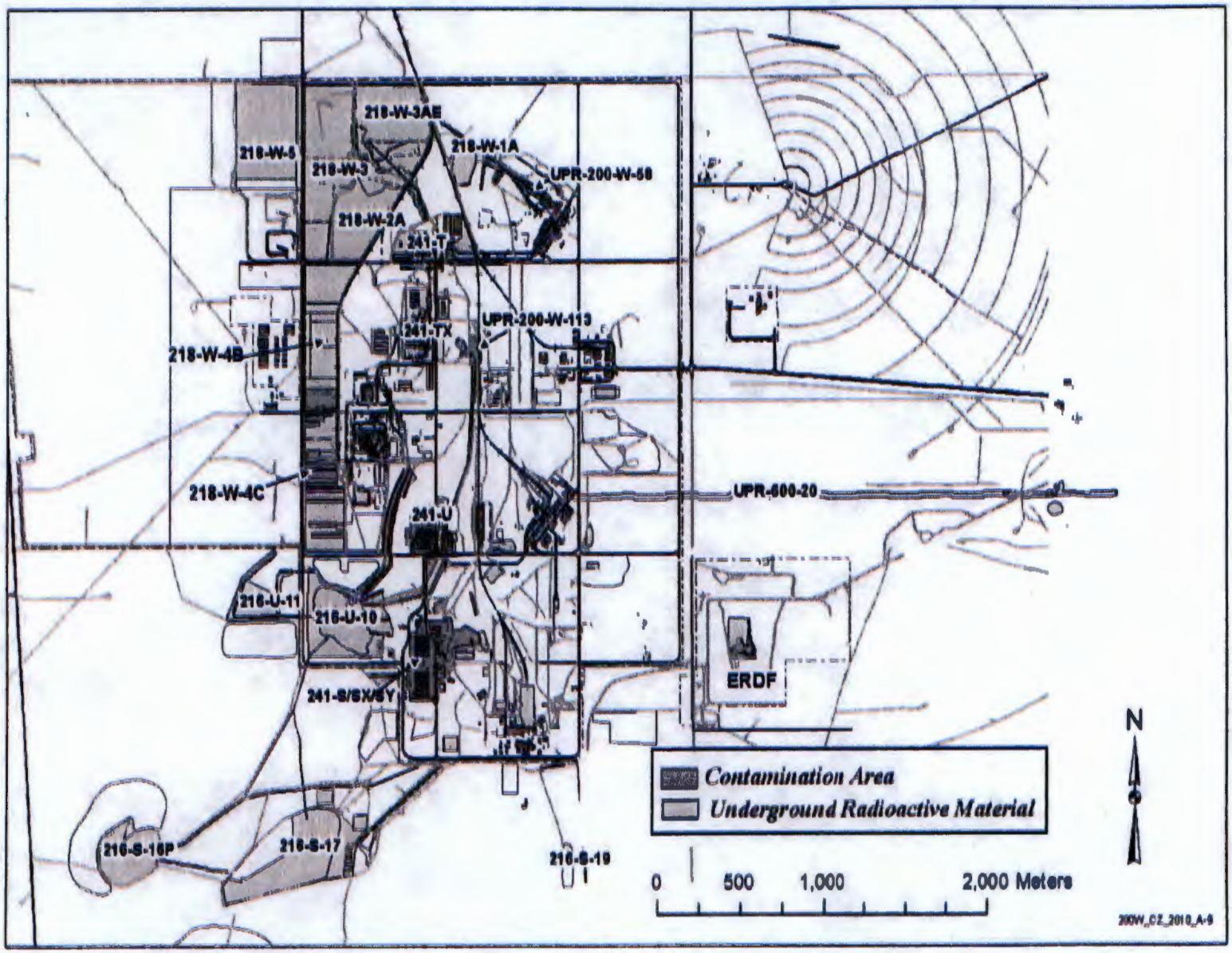


Figure A-9. 200 West Waste Sites.

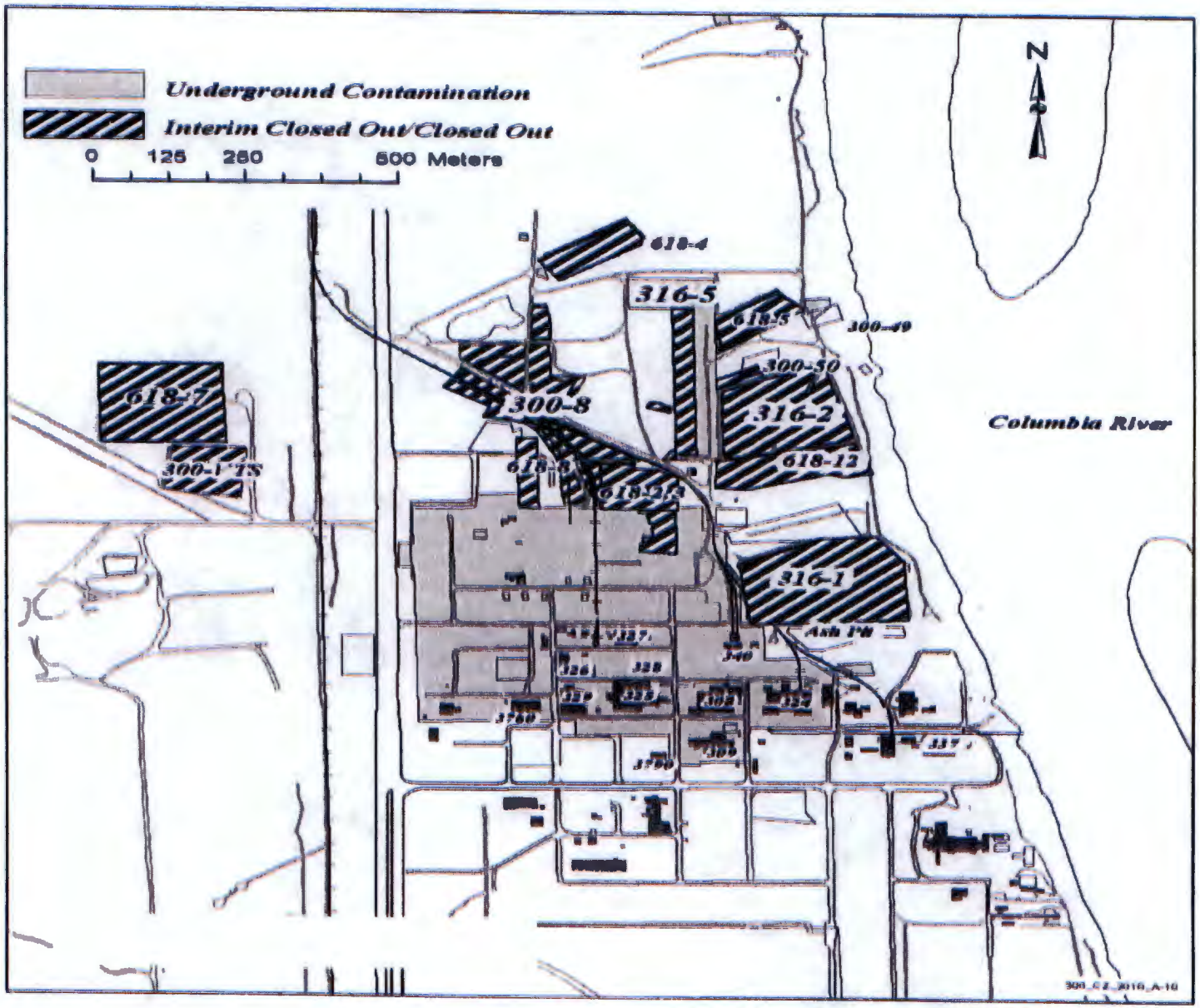
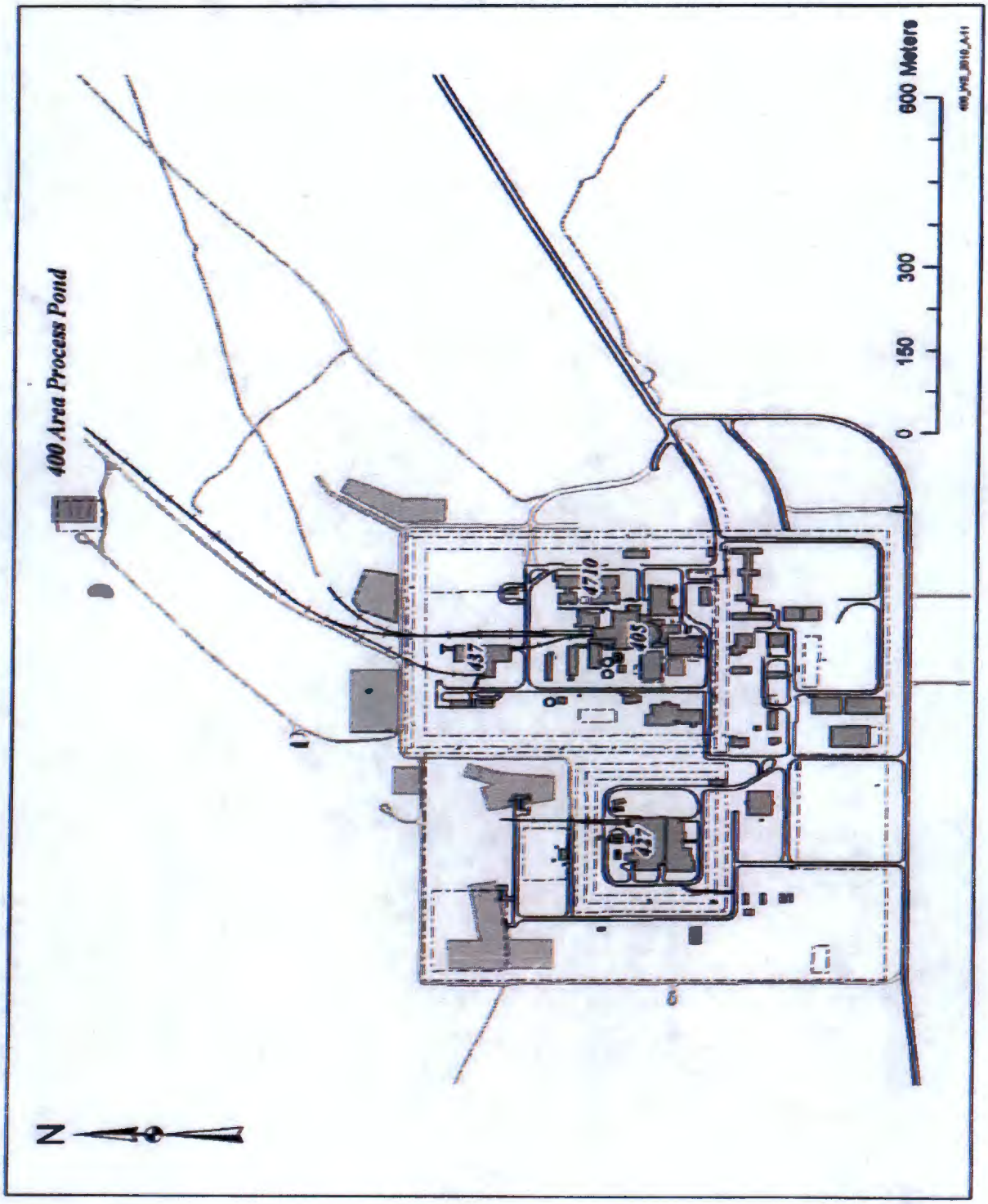


Figure A-10. 300 Area Waste Sites.

Figure A-11. 400 Area Waste Sites.



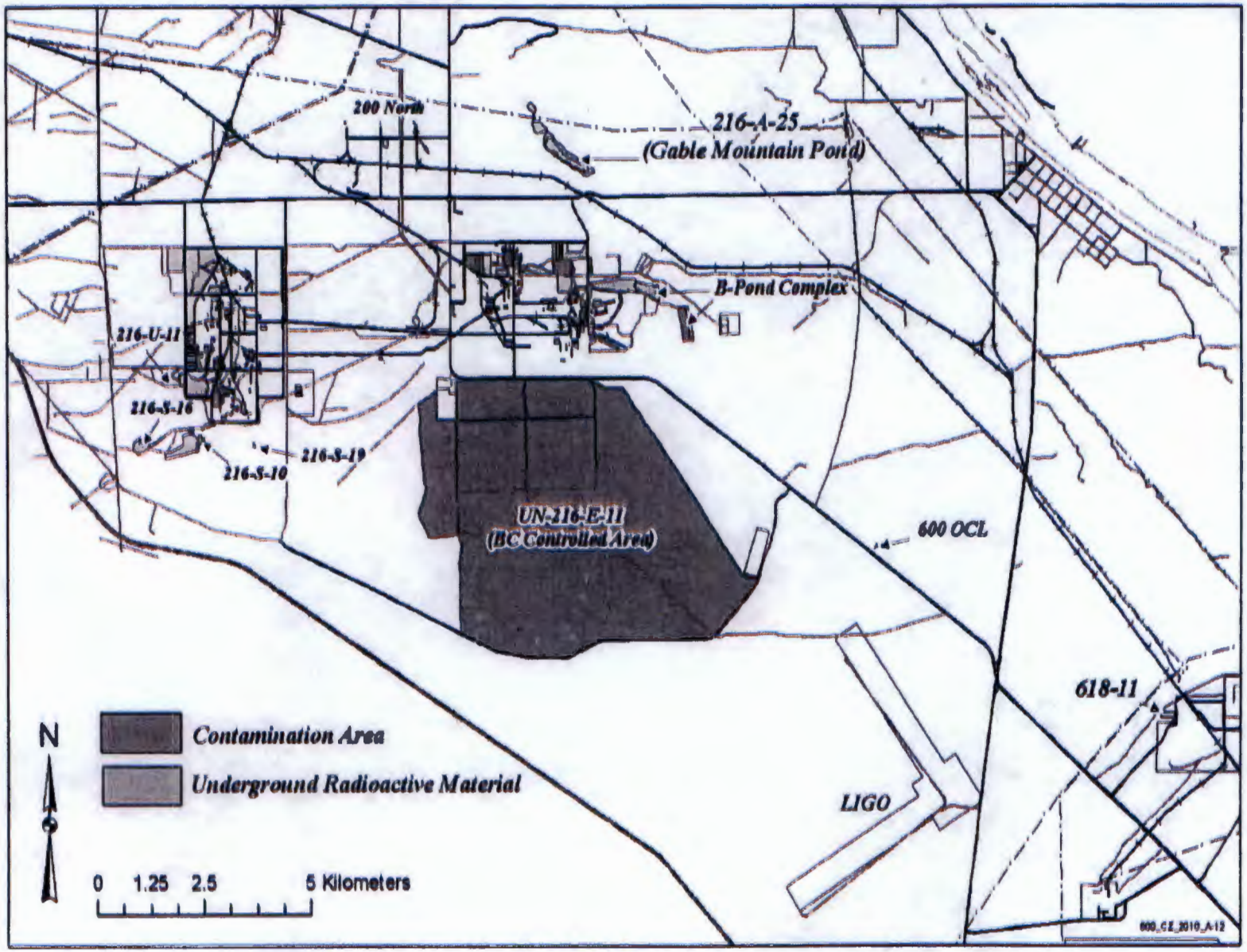


Figure A-12. 600 Area Waste Sites.

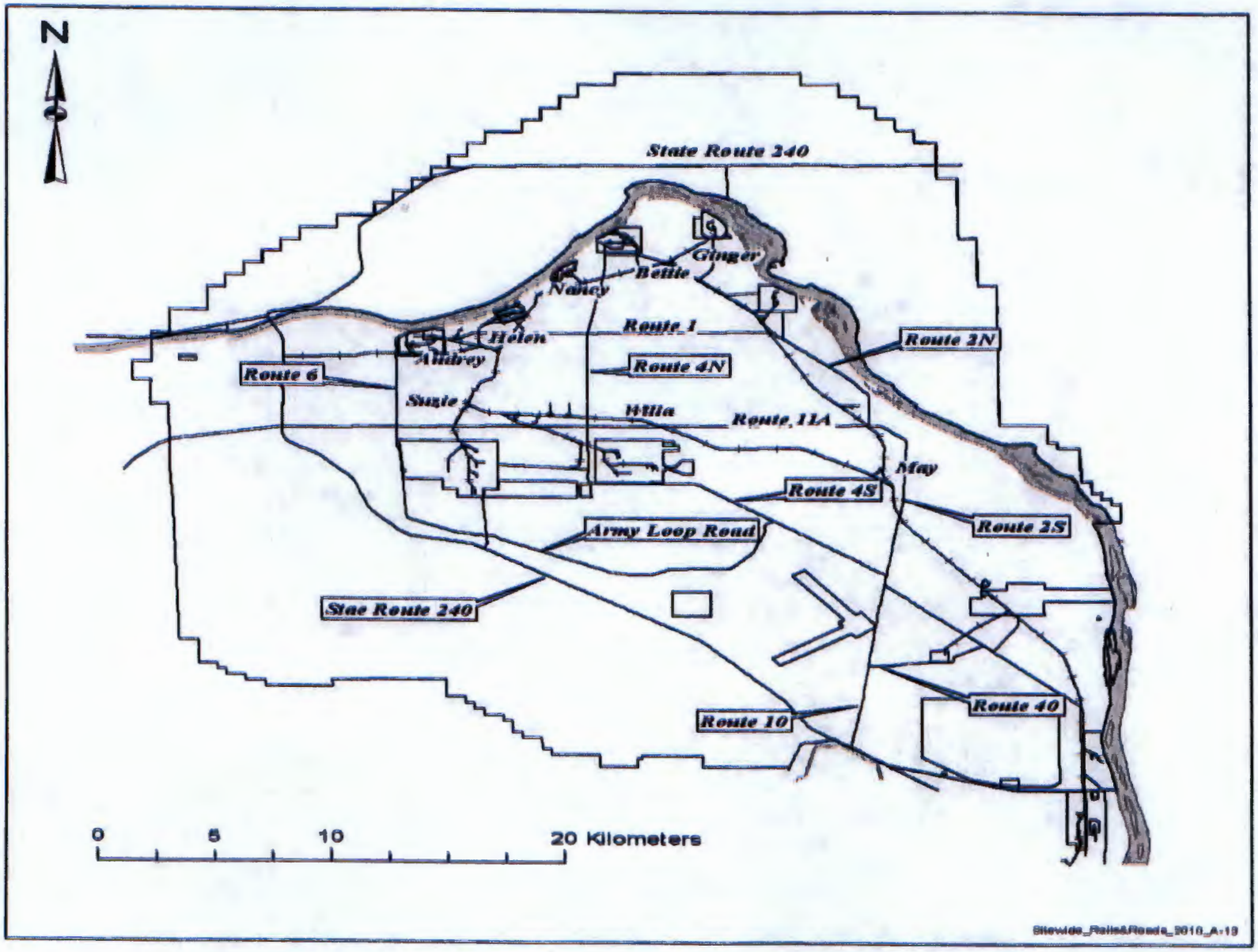


Figure A-13. Site Roads and Railways.

Figure A-14. 200 East Area Roads and Railways.

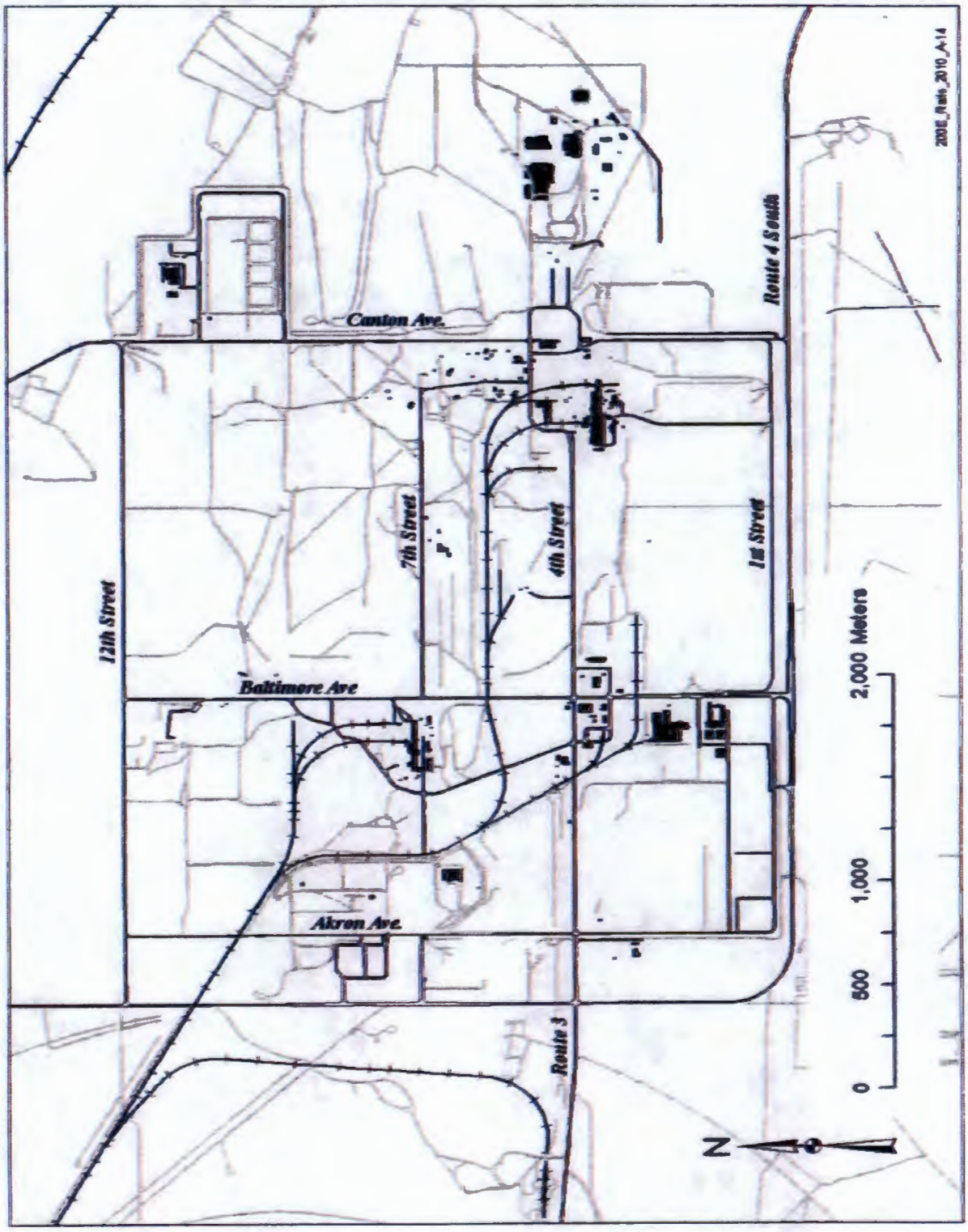
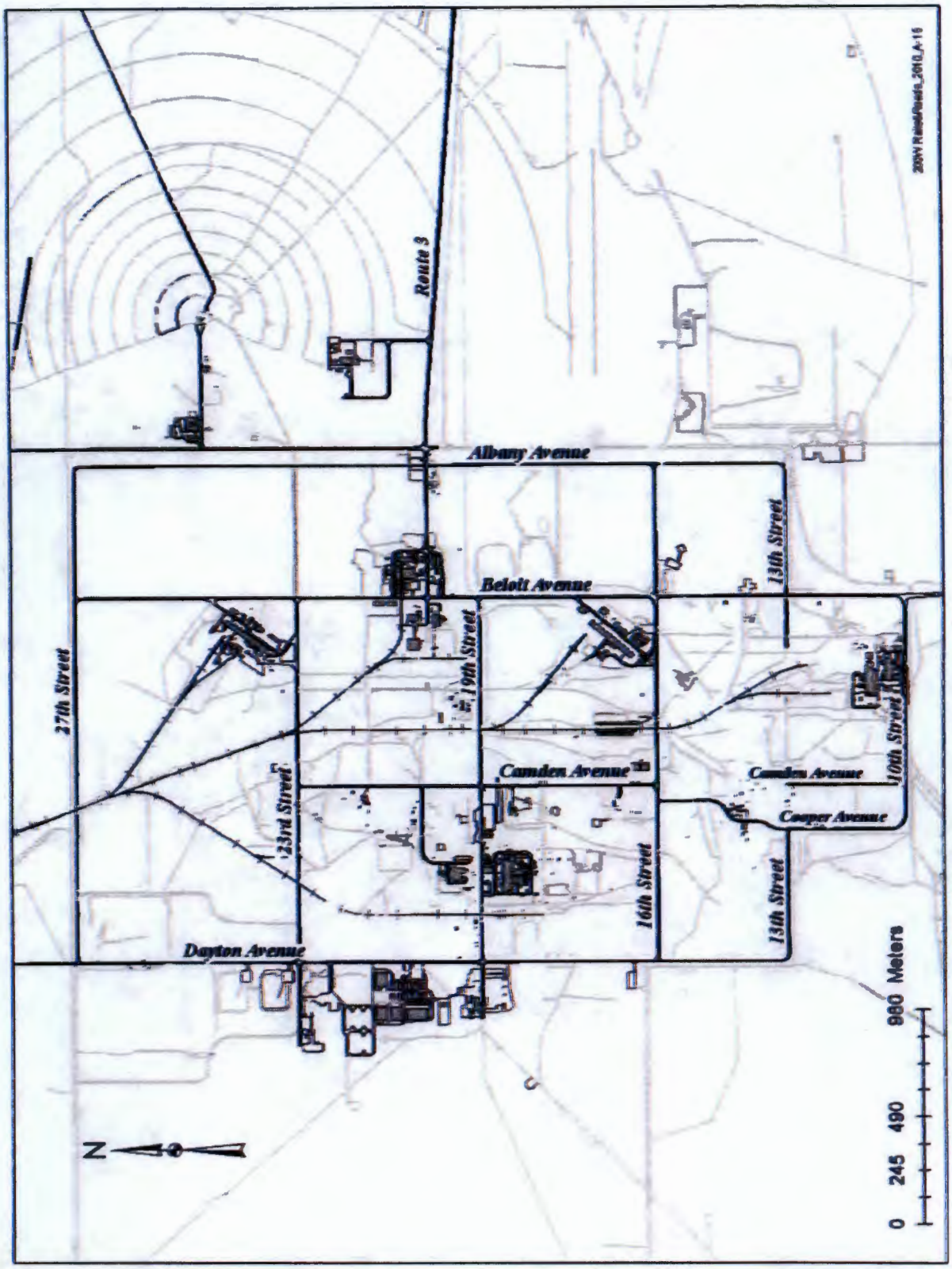


Figure A-15. 200 West Area Roads and Railways.



Figures A-16 through A-27 show air sample locations.

Figure A-16. 100-D/DR Ambient Air Sample Location.

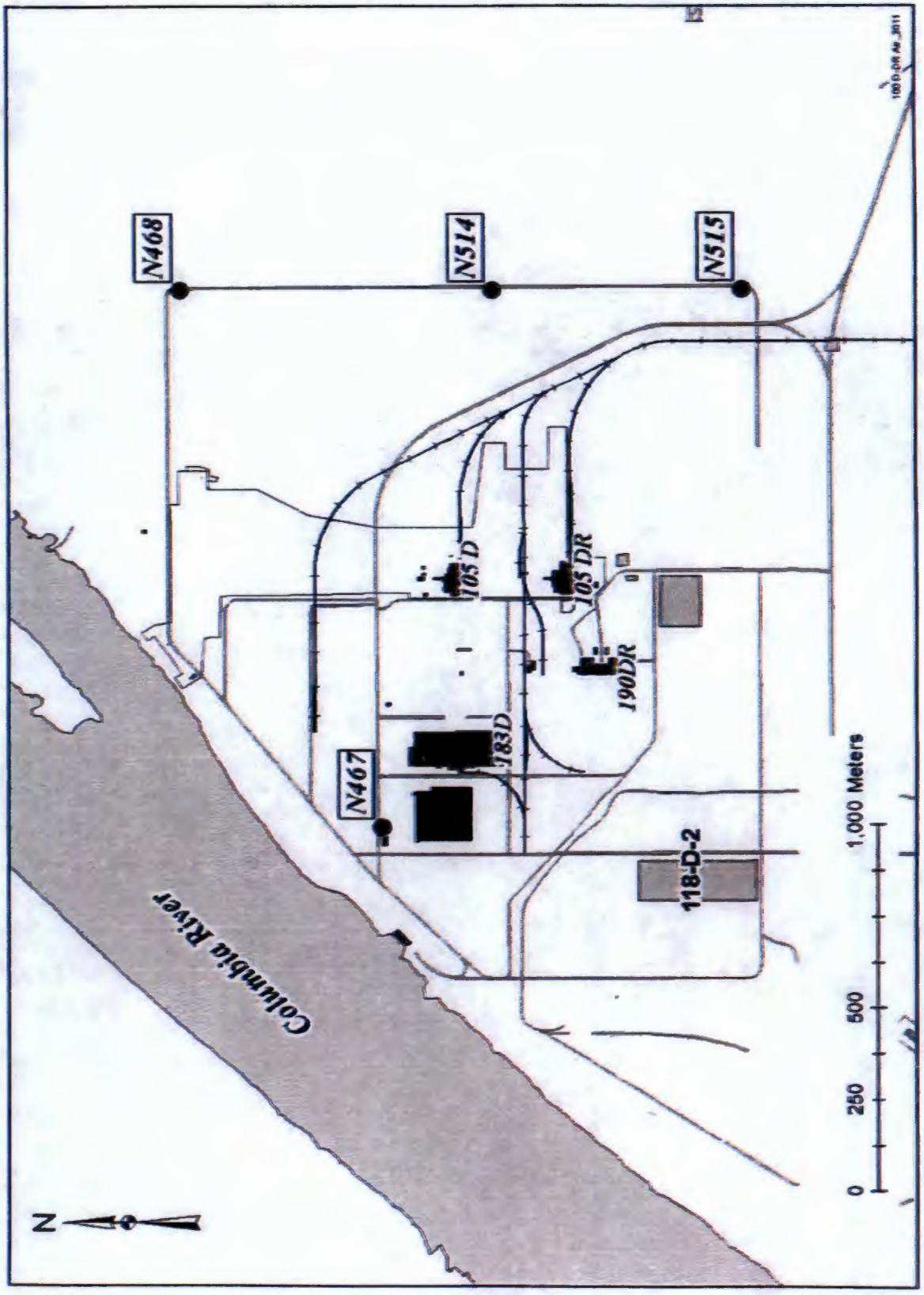


Figure A-17. 100-F Ambient Air Sample Locations.

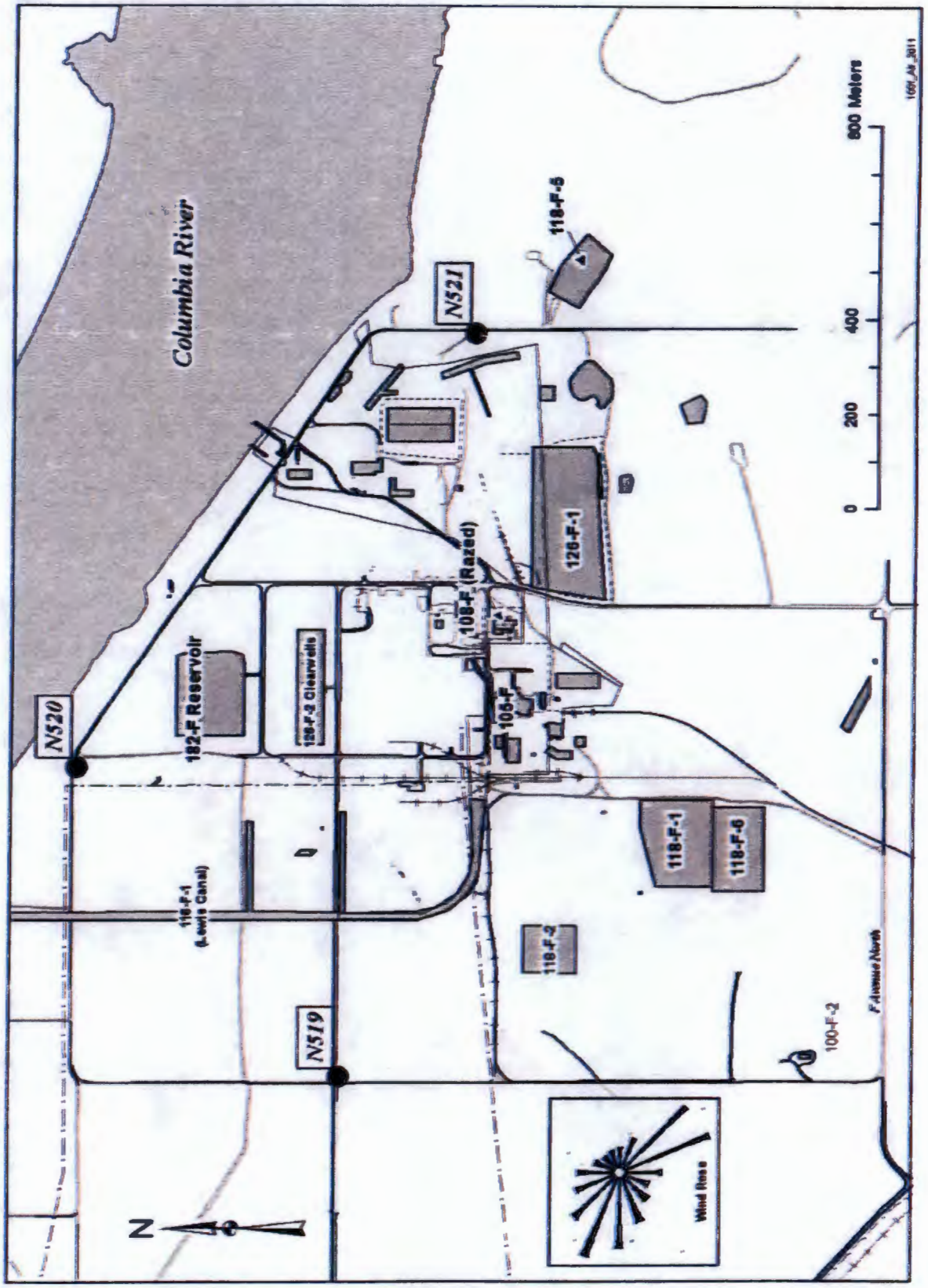
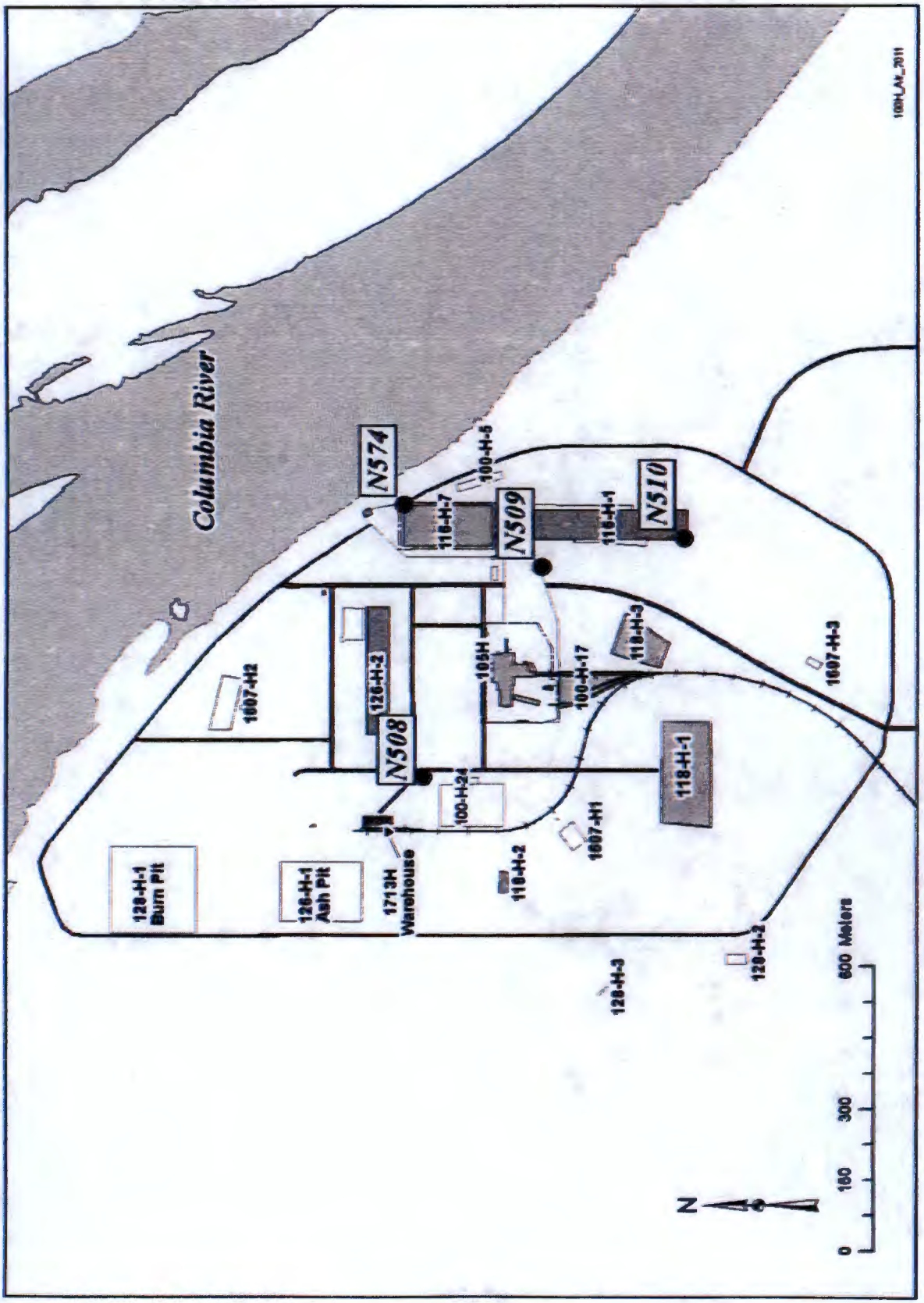


Figure A-18. 100-H Ambient Air Sample Location.



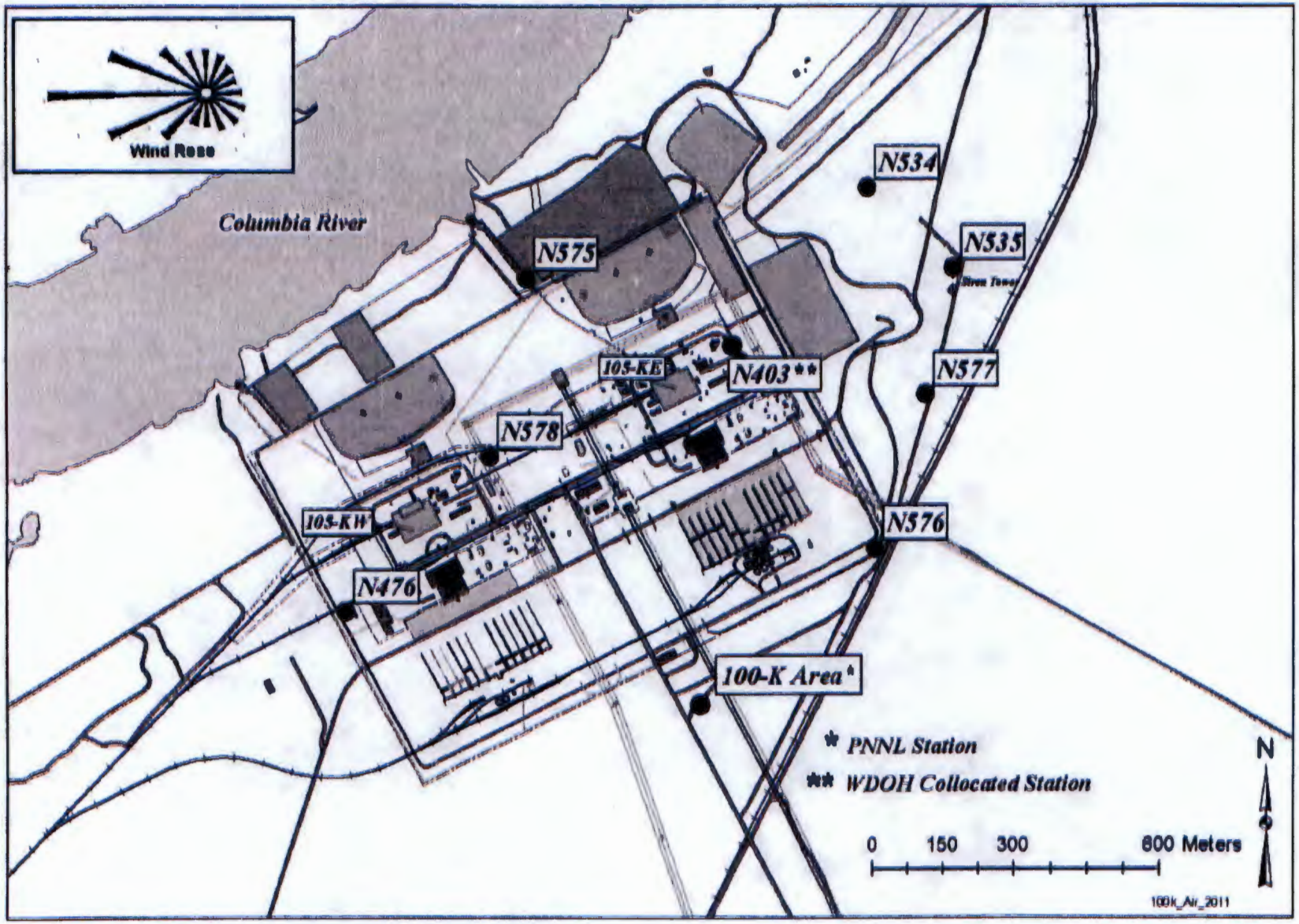
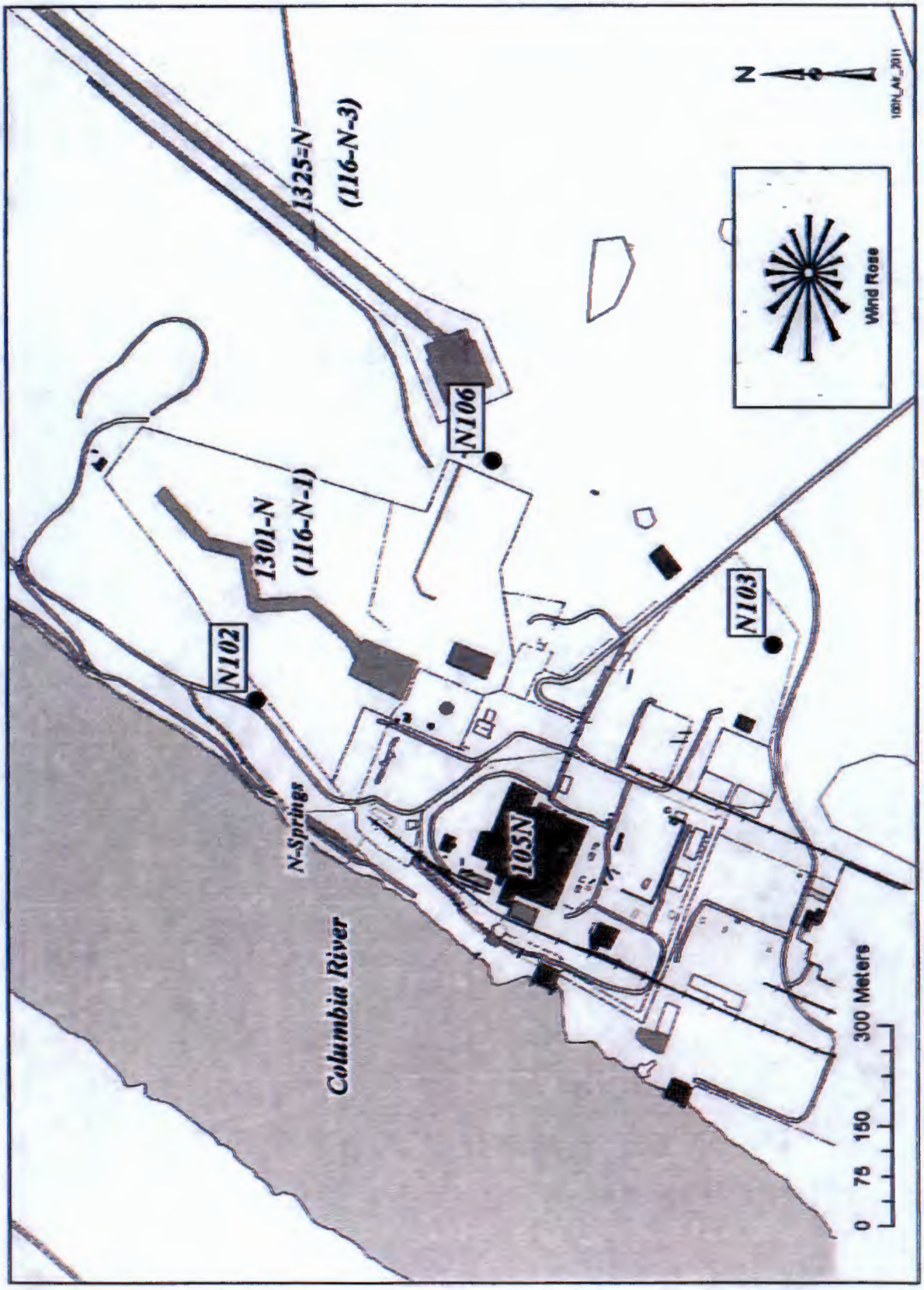


Figure A-19. 100-K Air Sample Locations.

Figure A-20. 100-N Air Sample Locations.



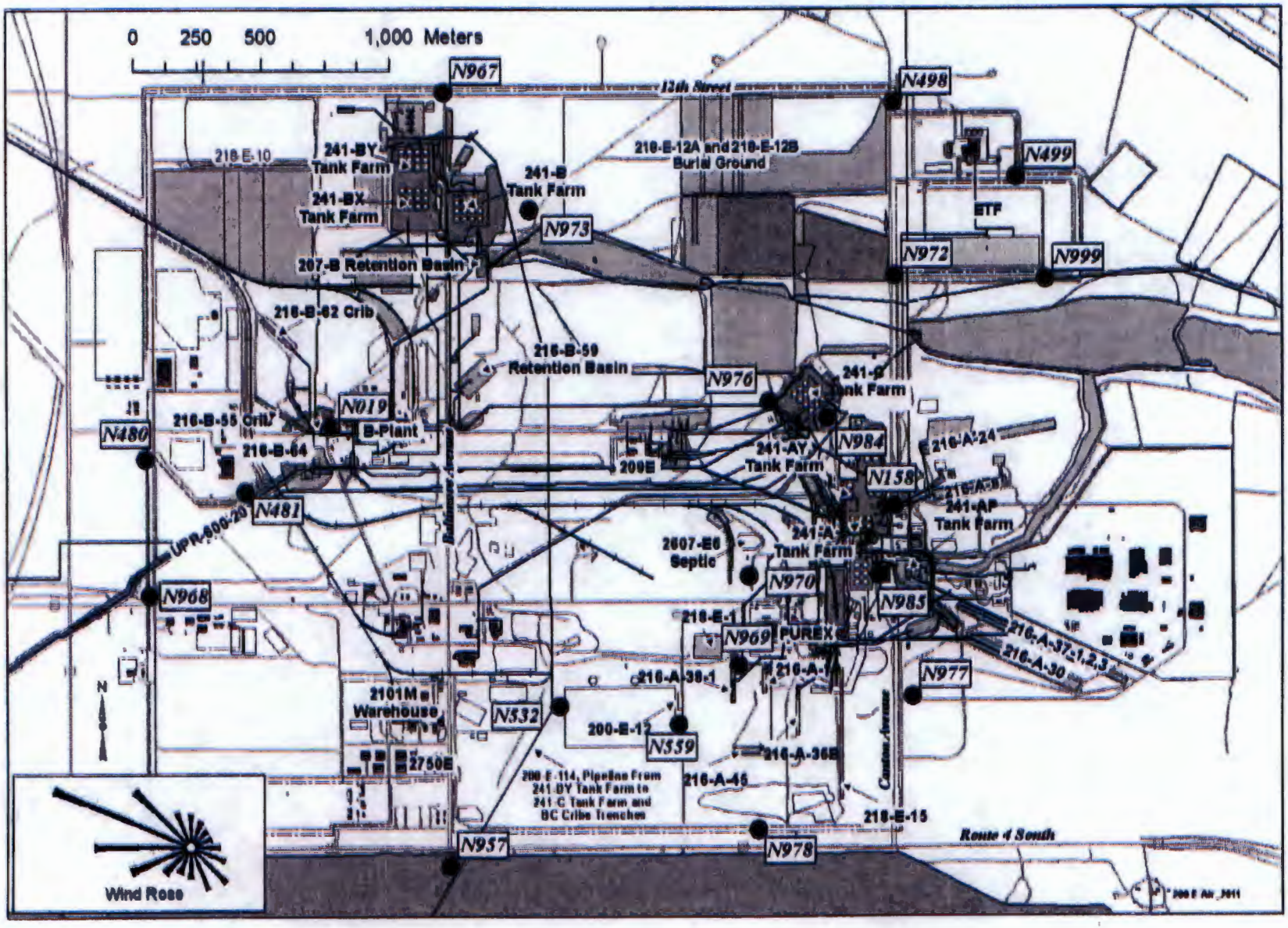
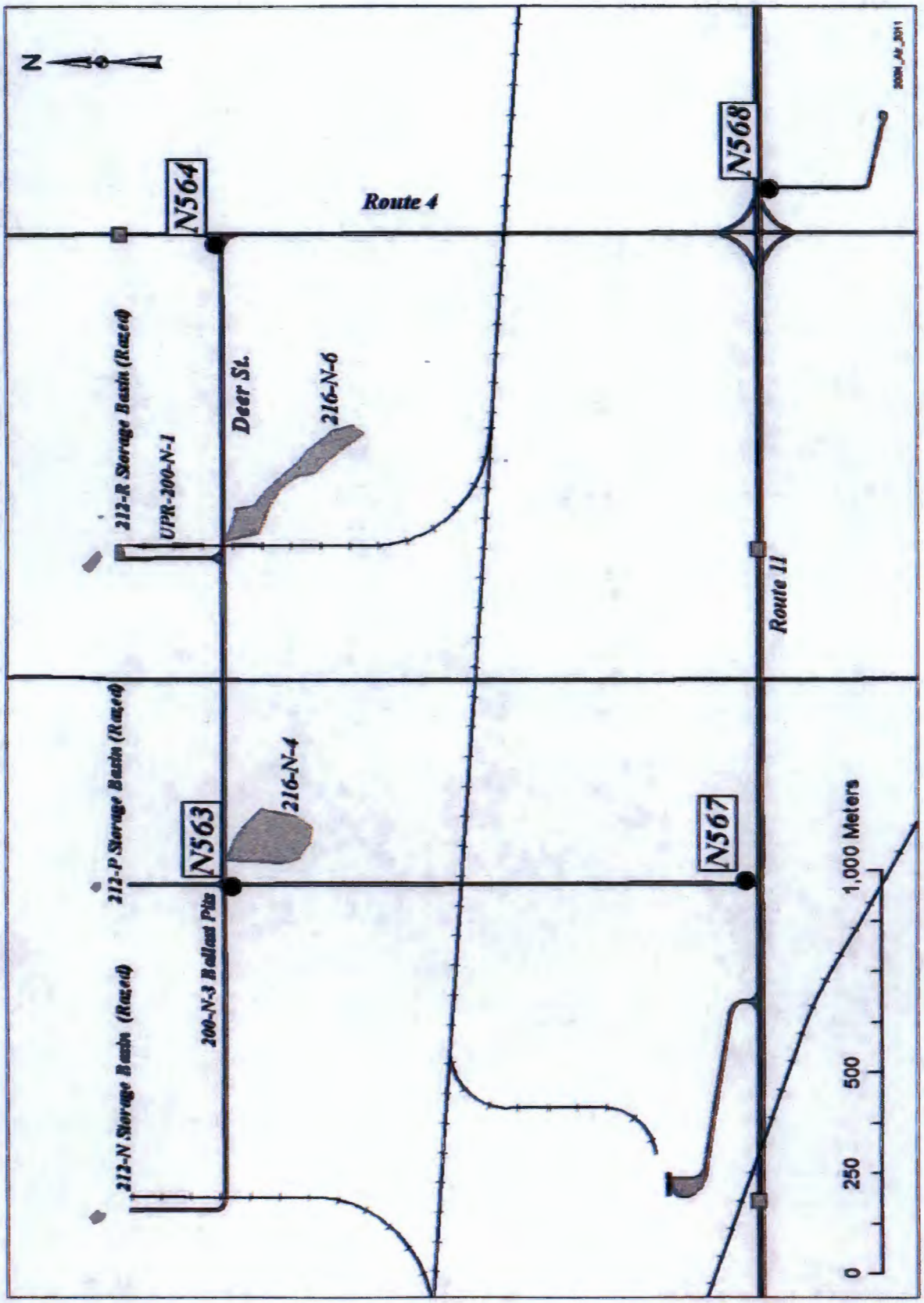


Figure A-21. 200 East Air Sample Locations.

Figure A-22. 200 North Air Sample Locations.



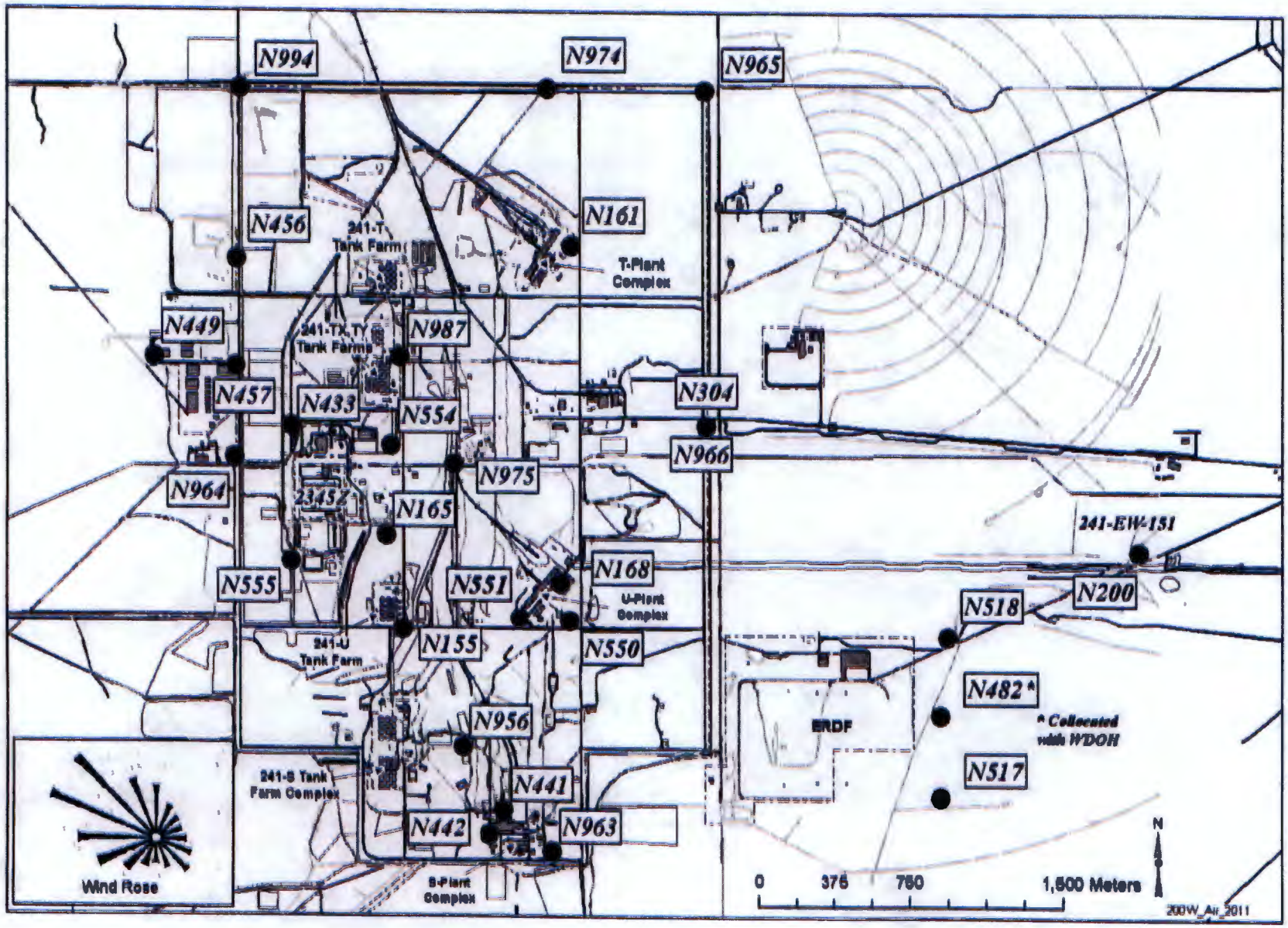


Figure A-23. 200 West Air Sample Locations.

Figure A-24. 300 Area Air Sample Locations.

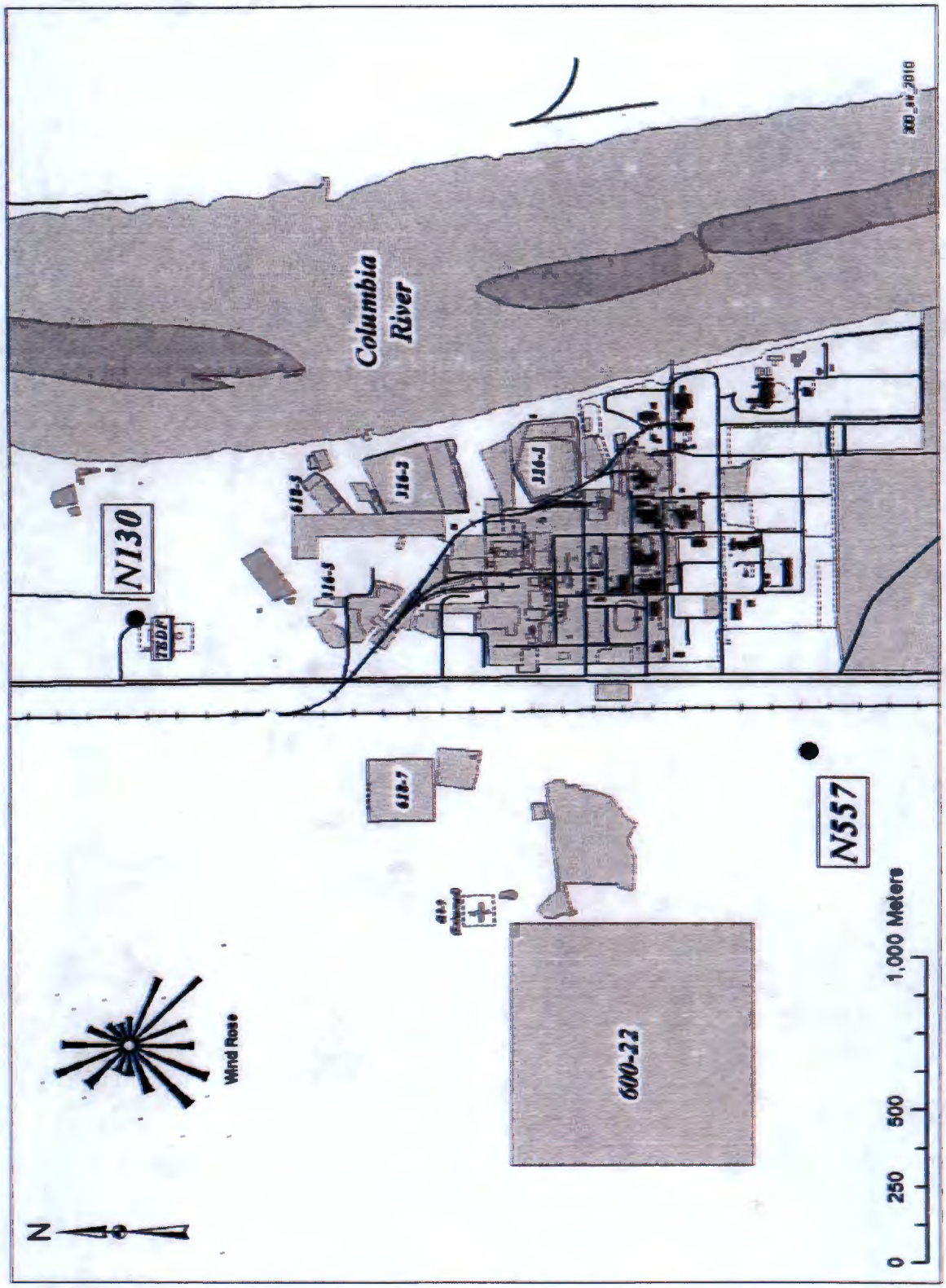


Figure A-25. 600 Area Air Sample Locations.

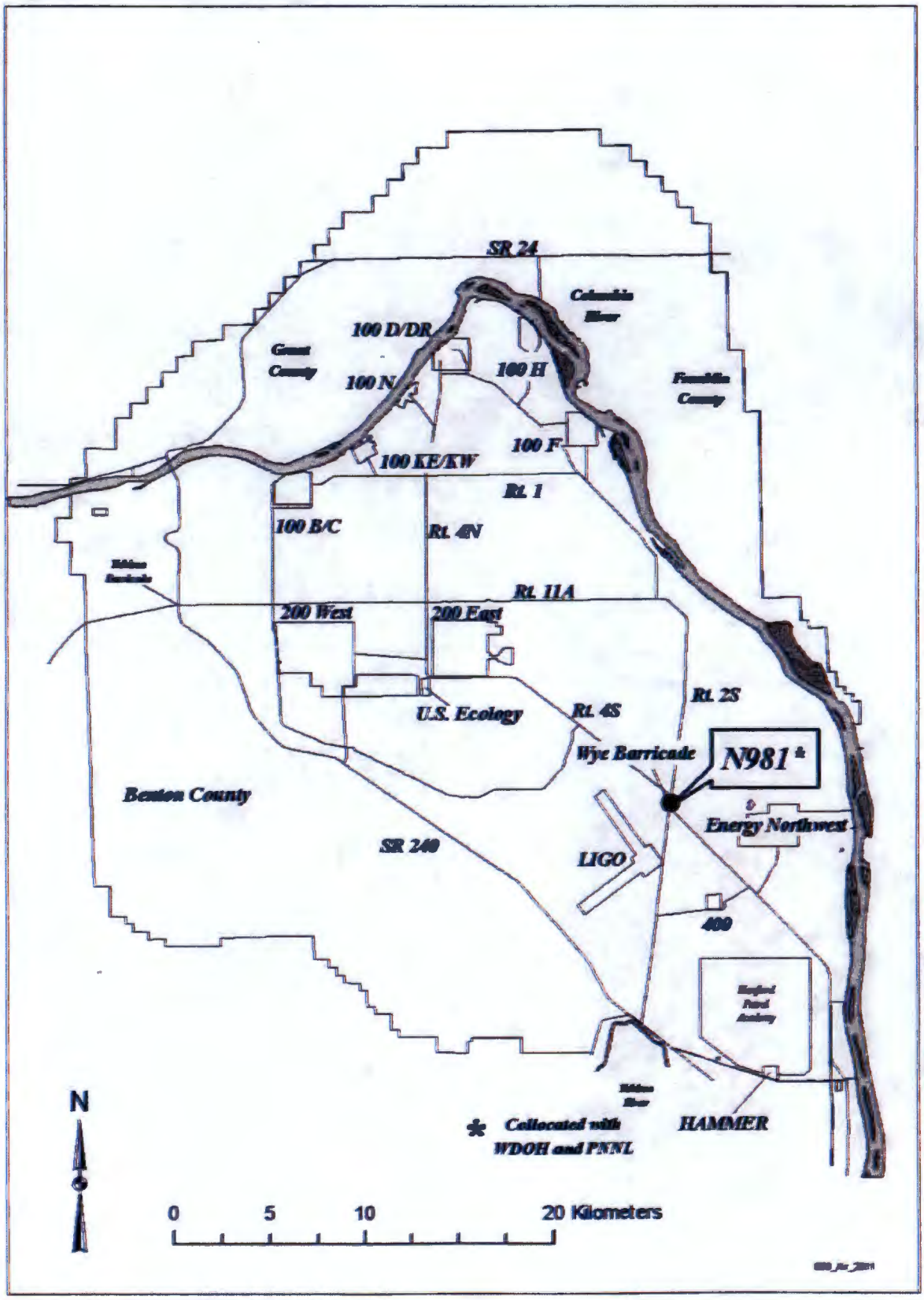
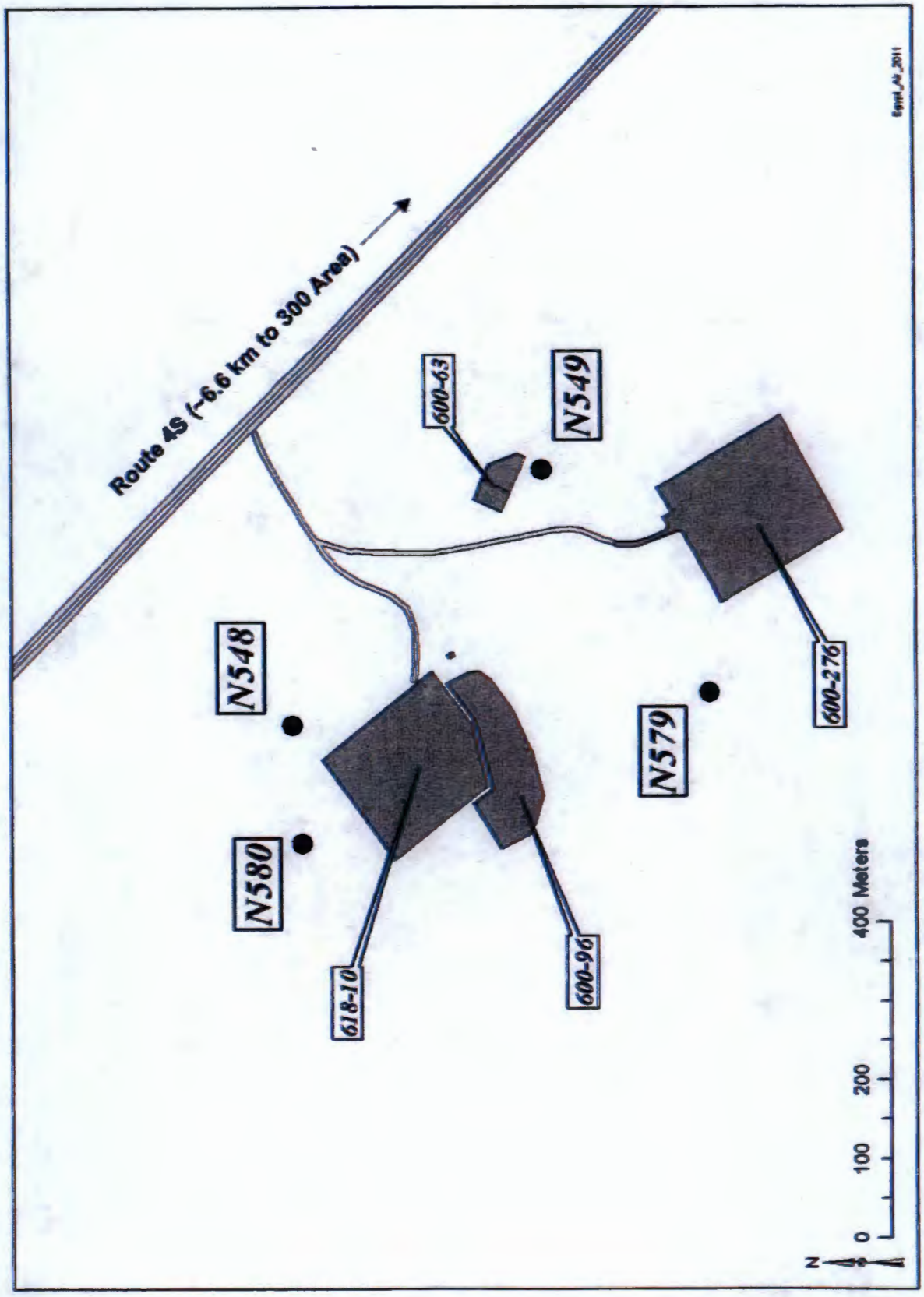


Figure A-26. 600 Area 618-10 Air Sample Locations.



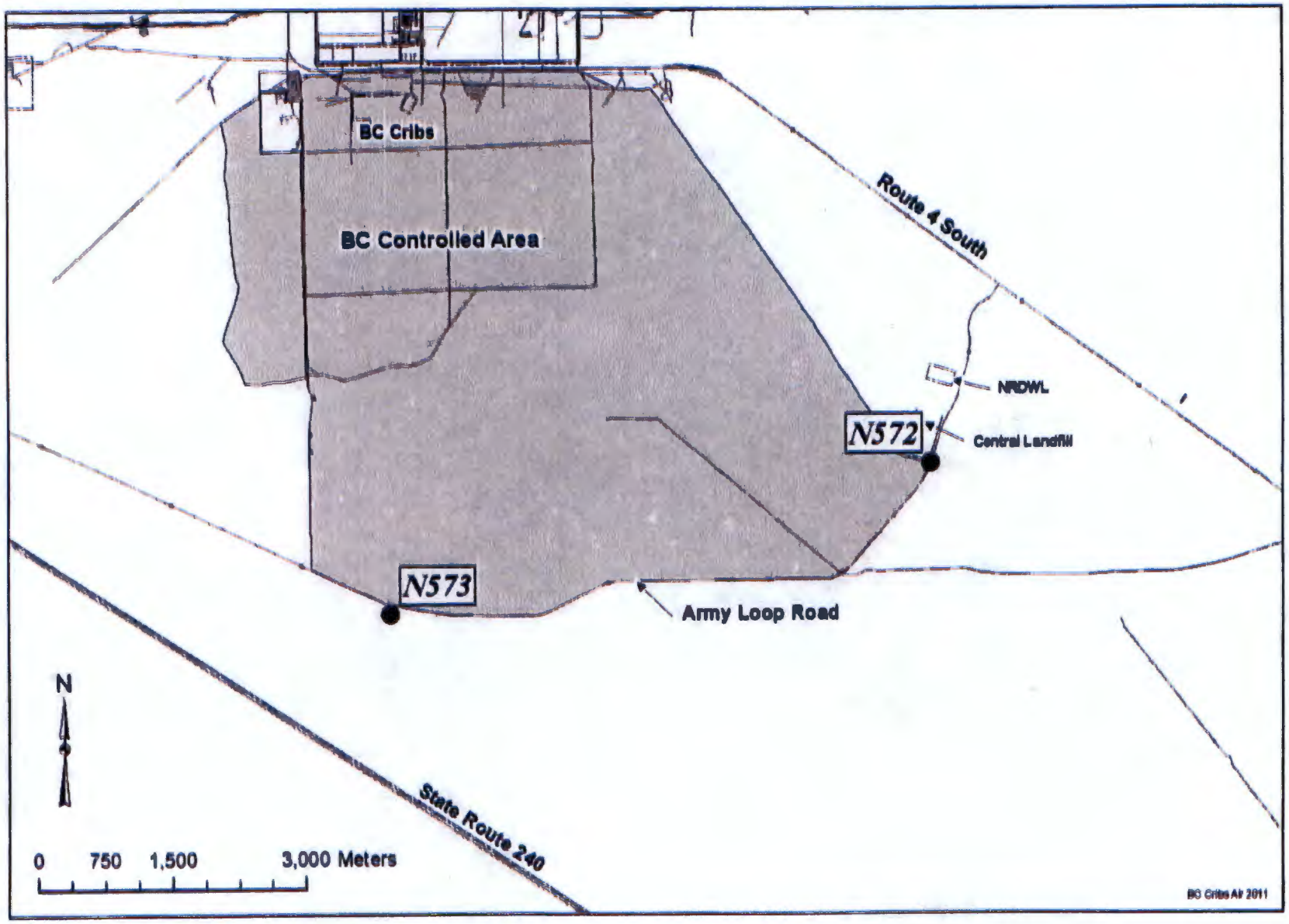


Figure A-27. 600-Area, B-C Cribs Ambient Air Sampler Locations.

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Figures A-28 through A-35 show thermoluminescent dosimeter and dose rate locations.

Figure A-28. 100-K Area Thermoluminescent Dosimeter Locations.

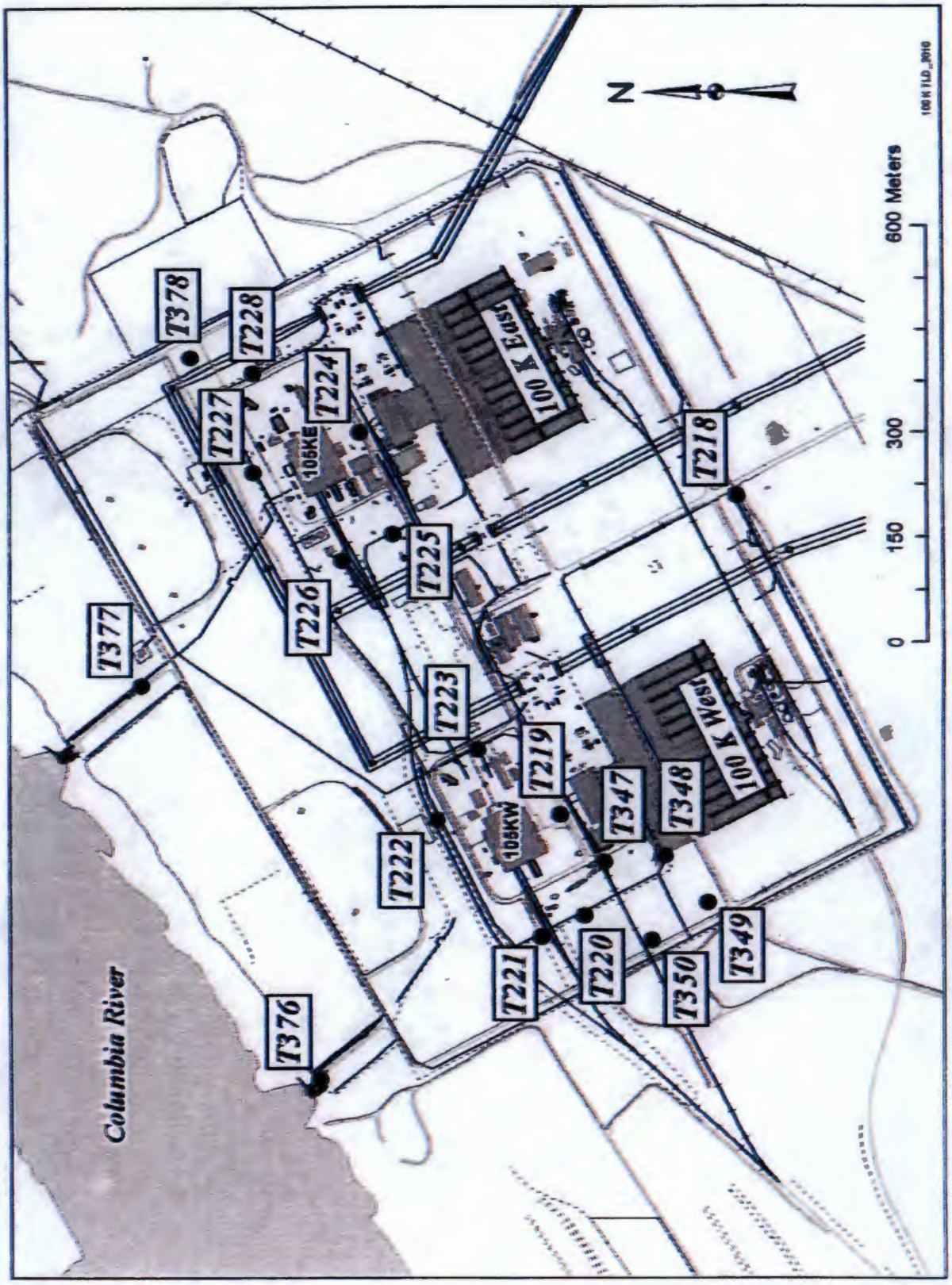
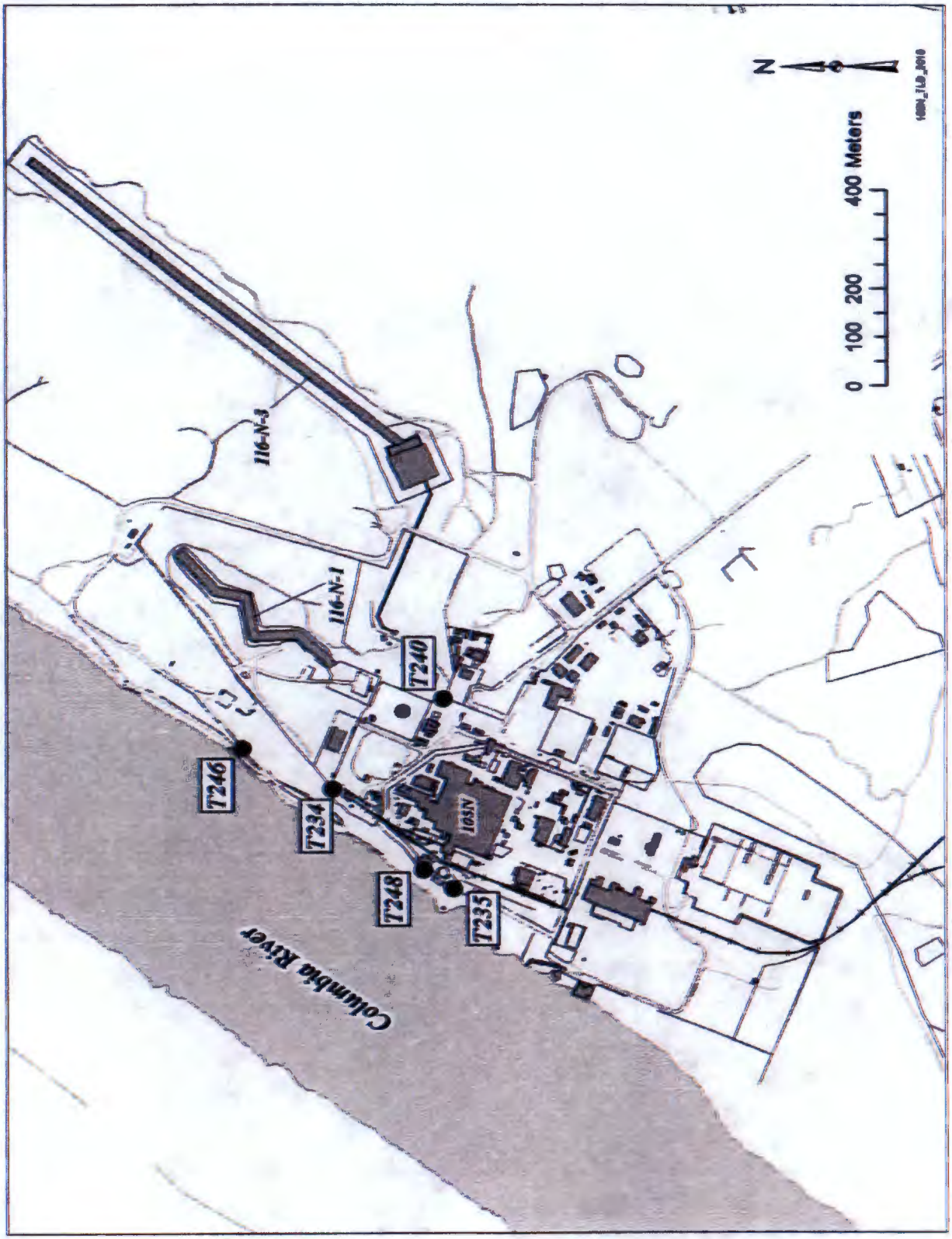


Figure A-29. 100-N Area Thermoluminescent Dosimeter Locations.



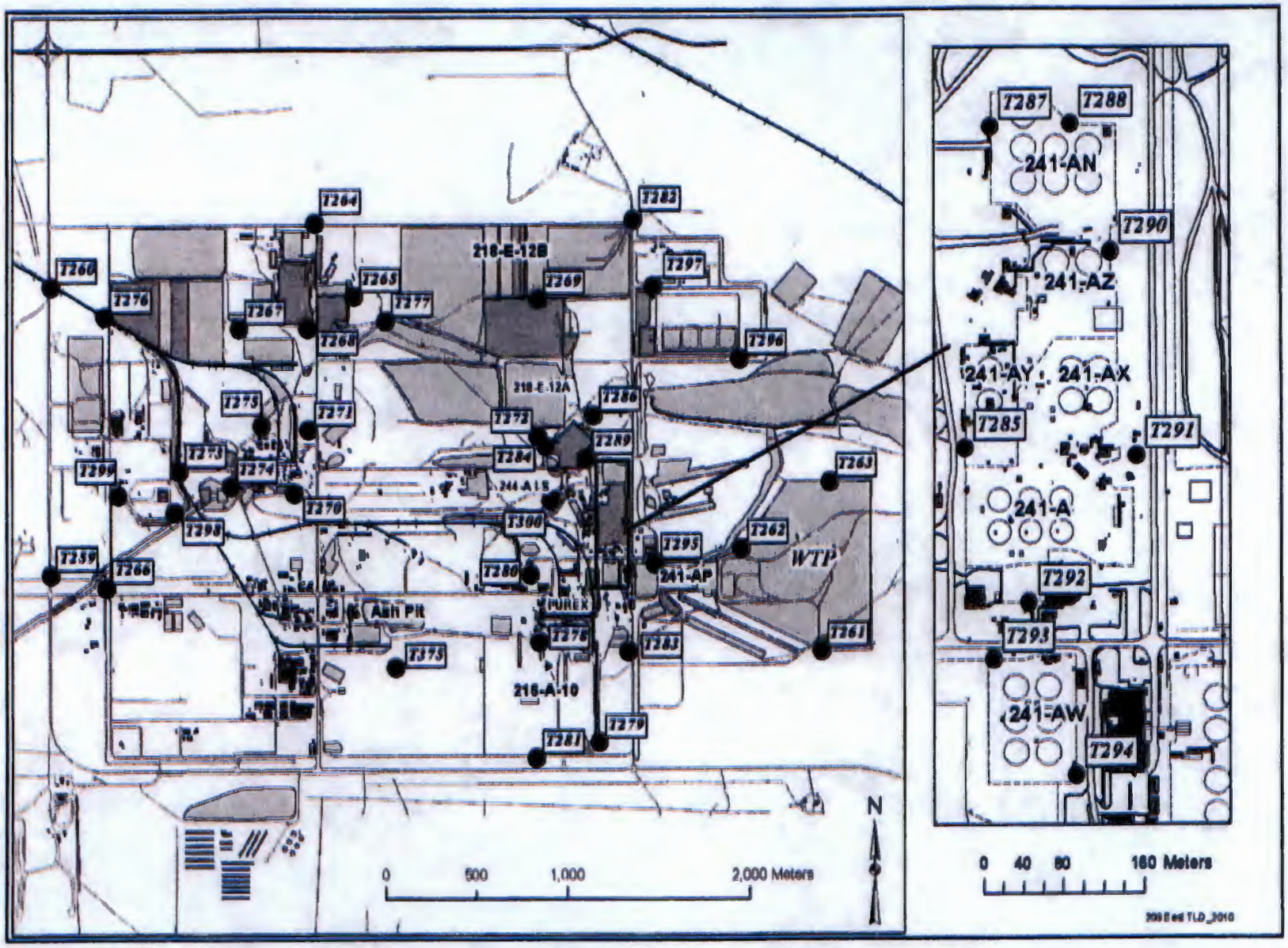
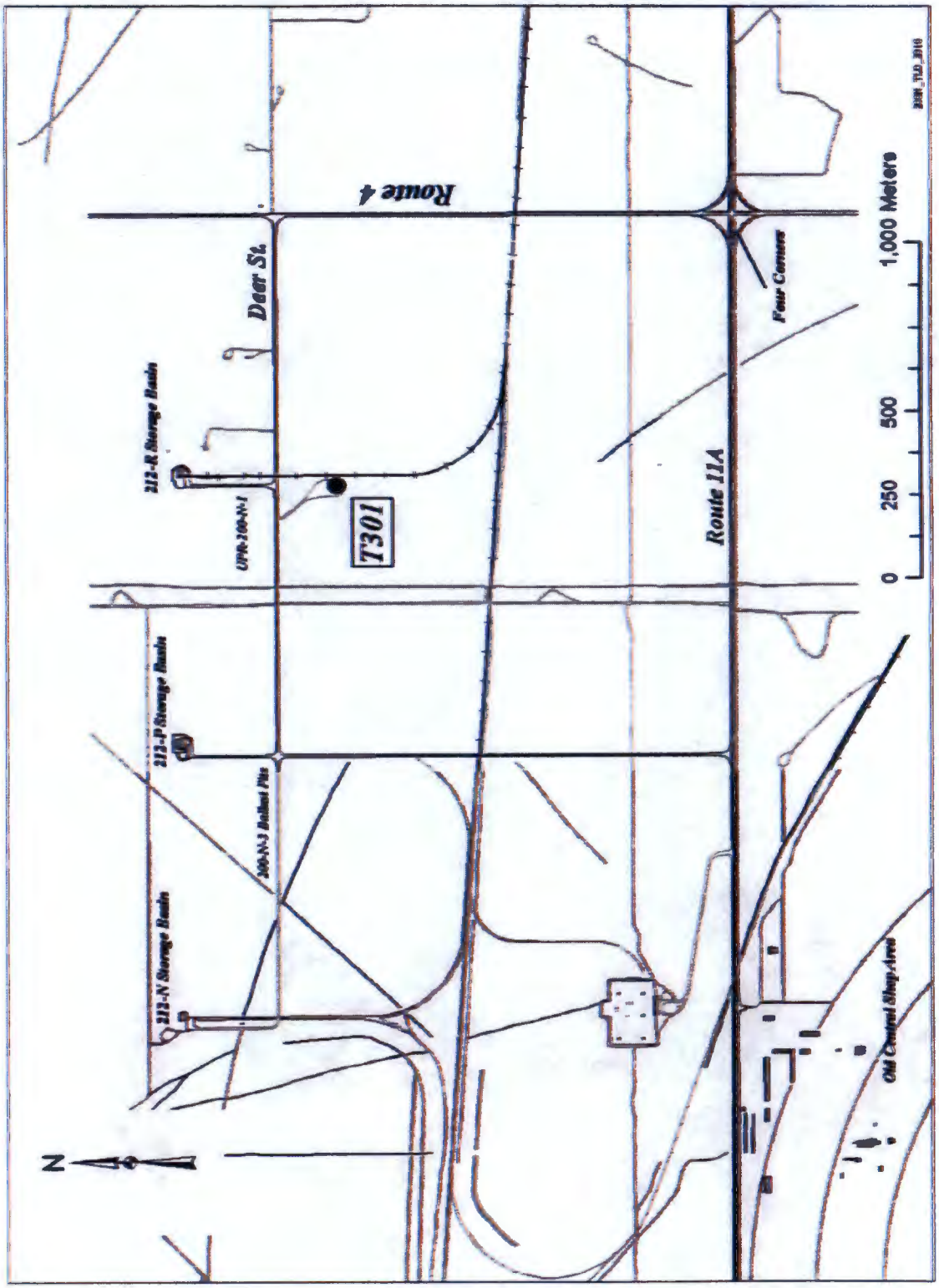


Figure A-30. 200 East Area Thermoluminescent Dosimeter Locations.

Figure A-31. 200 North Area Thermoluminescent Dosimeter Locations.



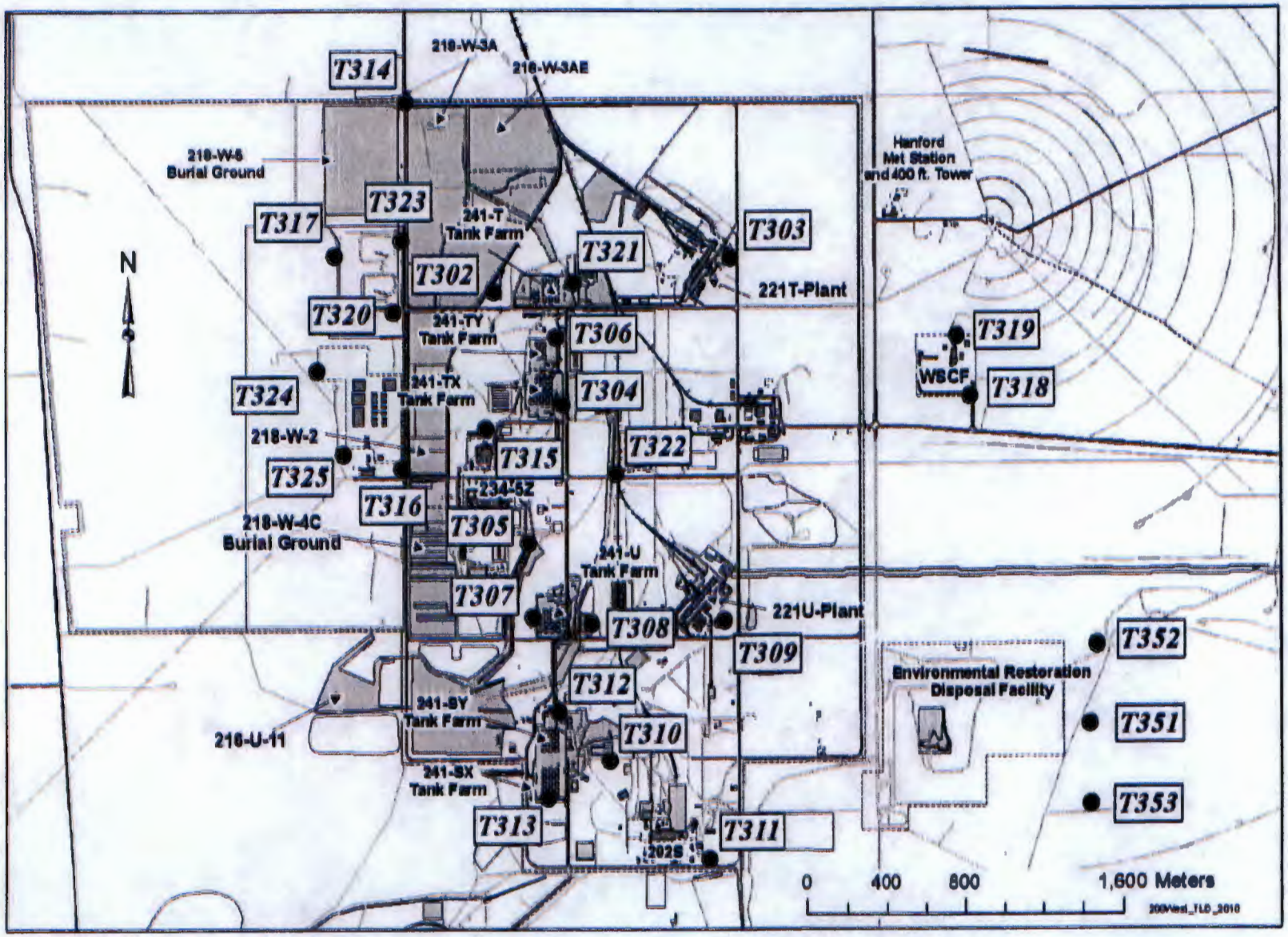


Figure A-32. 200 West Area Thermoluminescent Dosimeter Locations.

Figure A-33. 300 Area Thermoluminescent Dosimeter Locations.

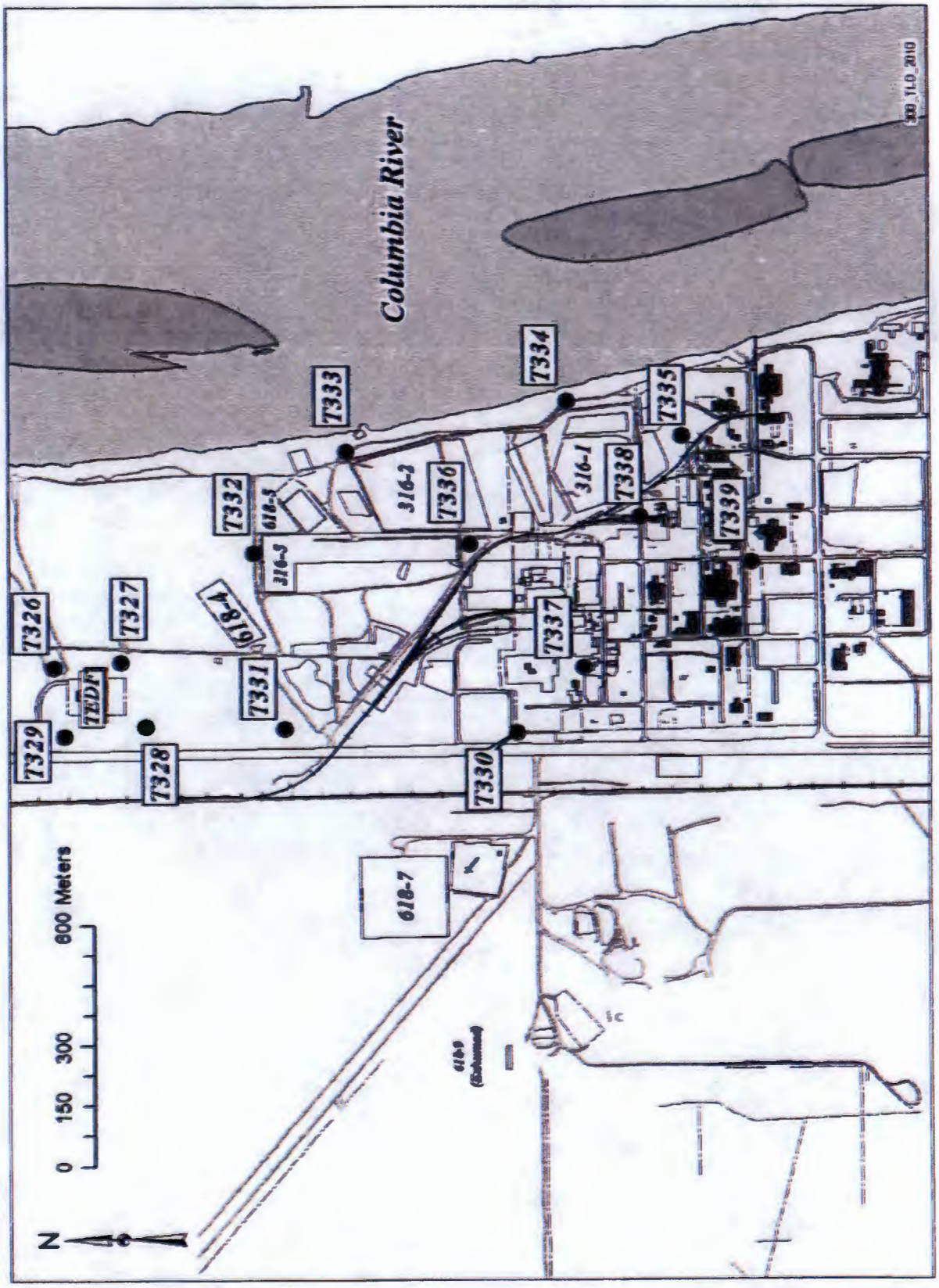


Figure A-34. 400 Area Thermoluminescent Dosimeter Locations.

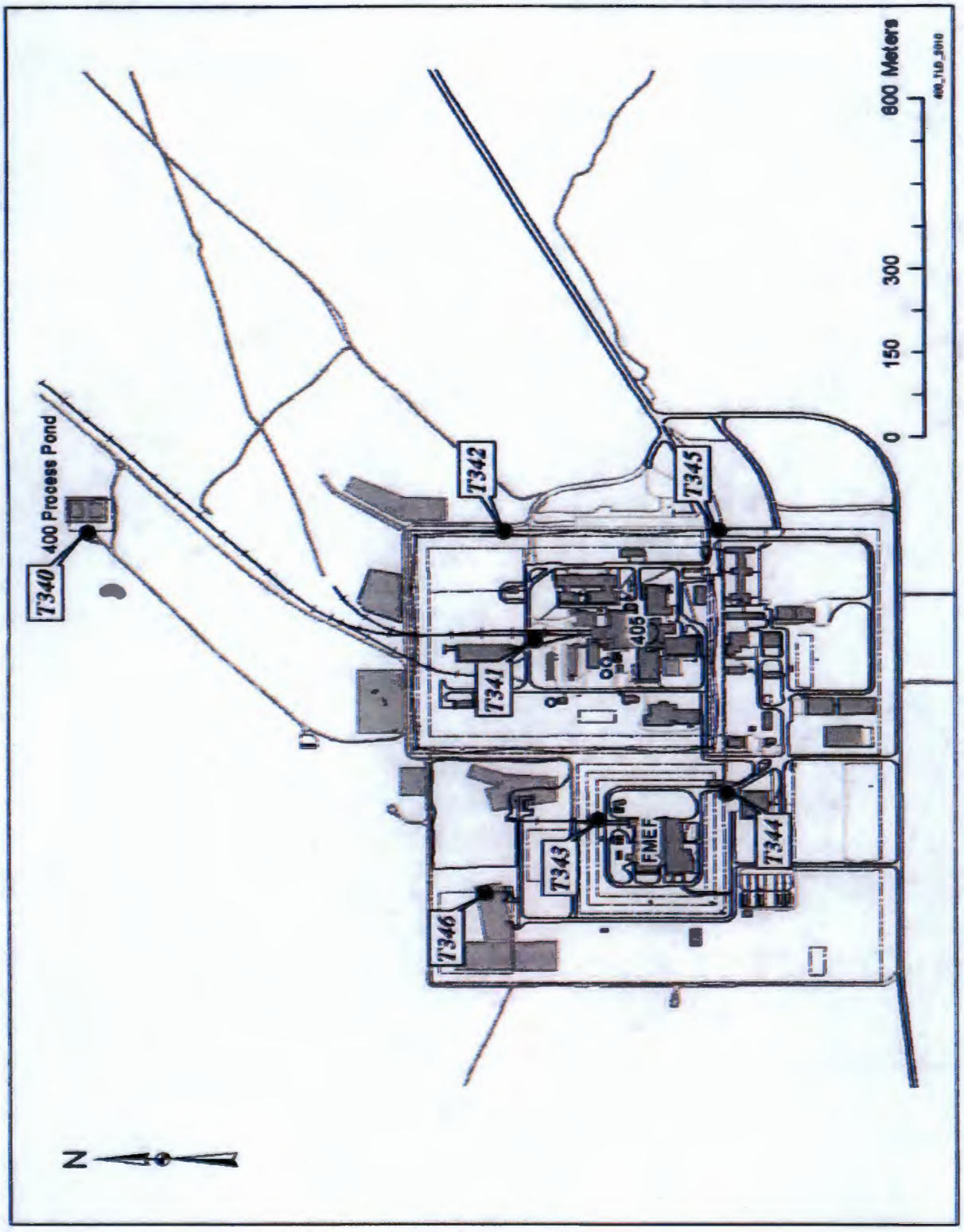
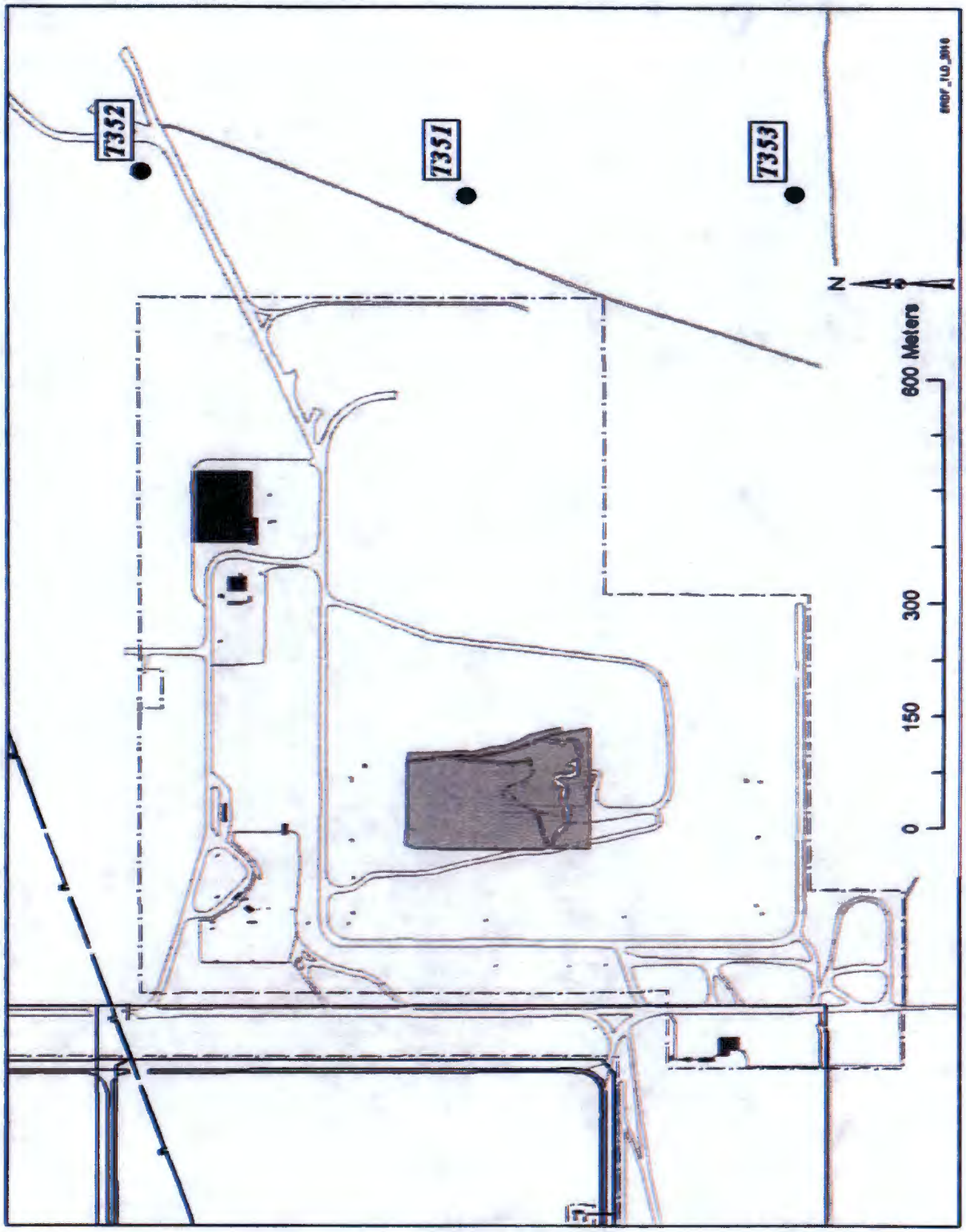


Figure A-35. Environmental Restoration Disposal Facility Thermoluminescent Dosimeter Locations.



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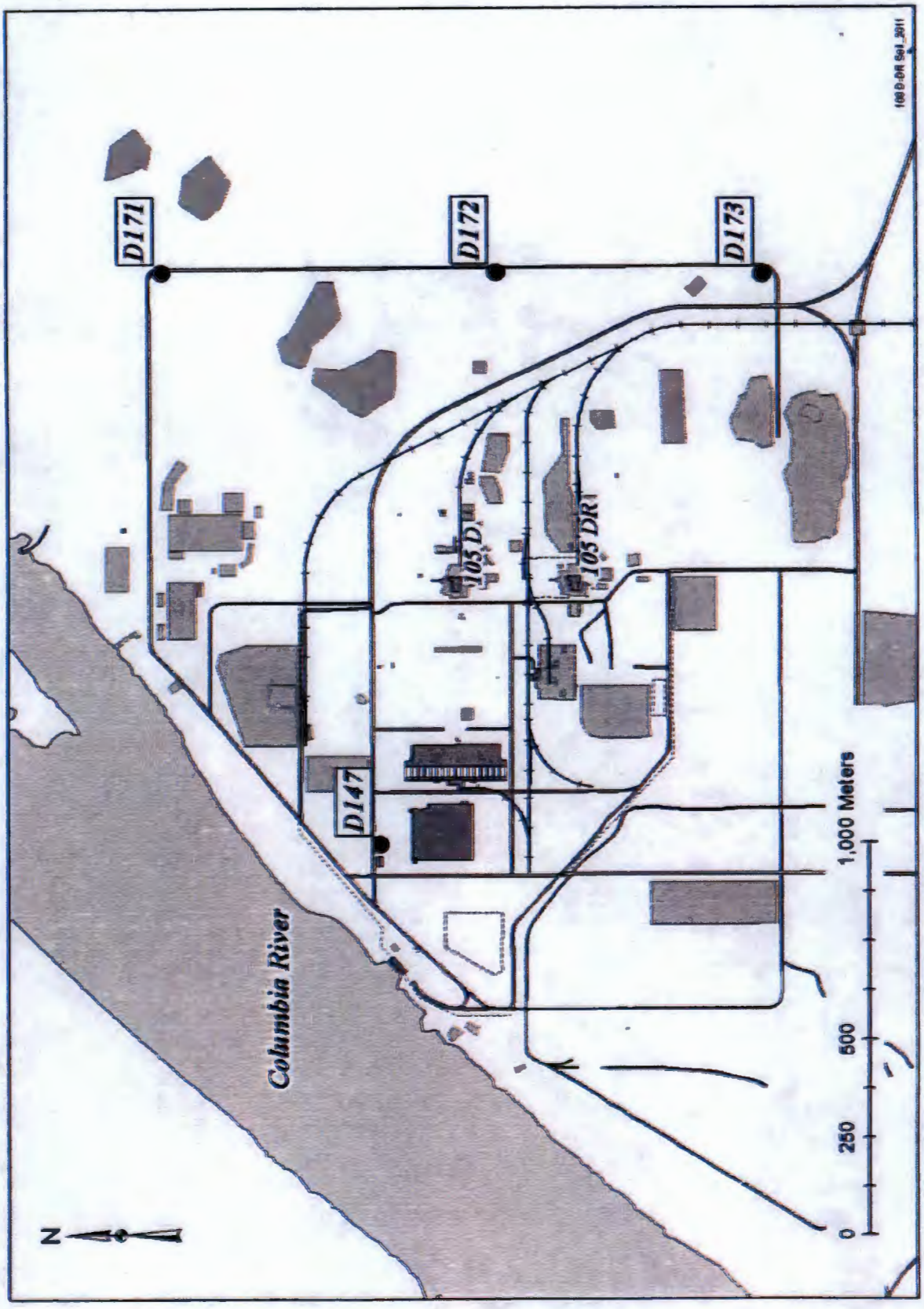
Figures A-36 through A-53 show soil and vegetation sample locations.

Figure A-36. 100 D/DR Soil Sample Locations.



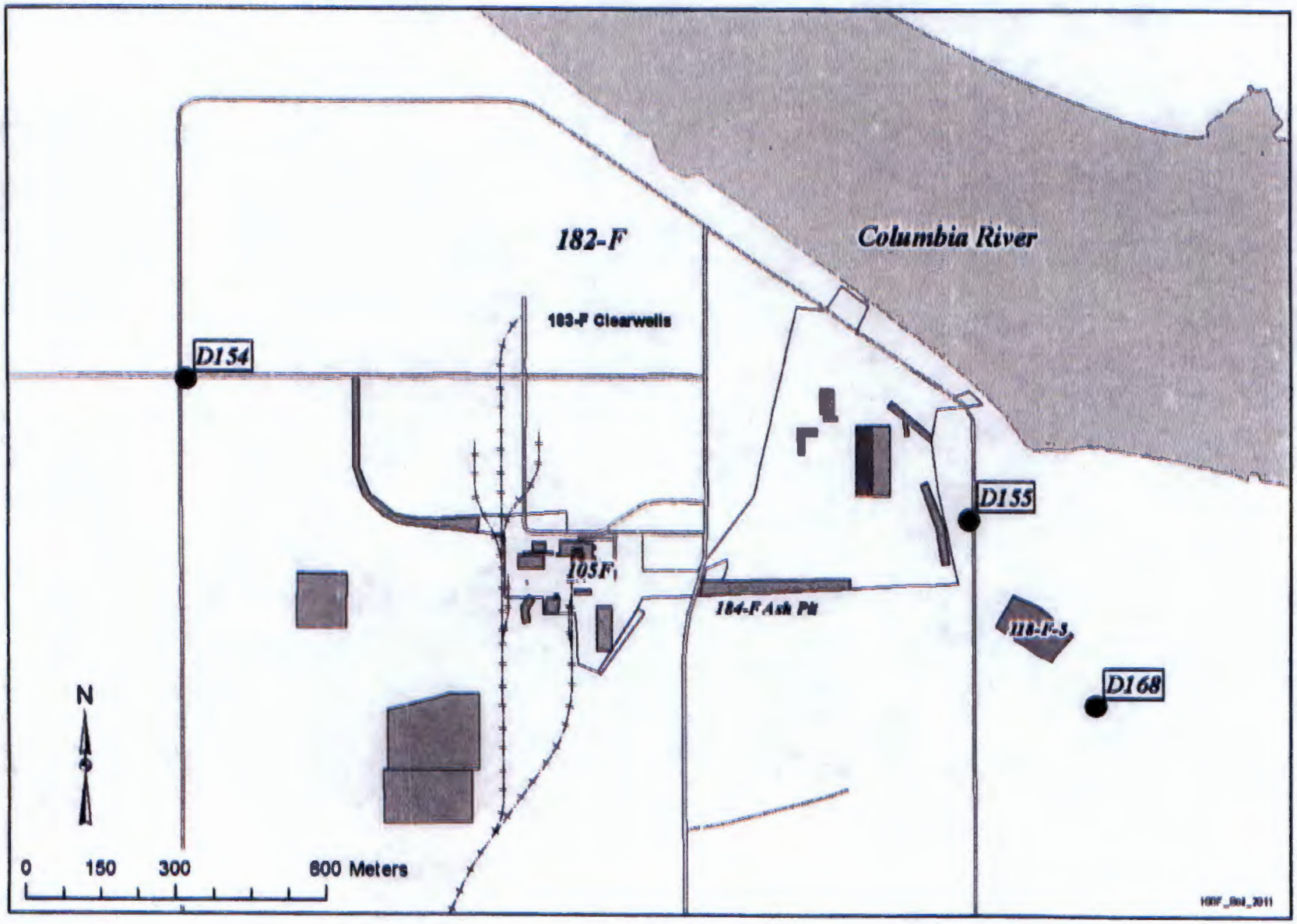


Figure A-37. 100-F Soil Sample Locations.

Figure A-38. 100-H Soil Sample Locations.

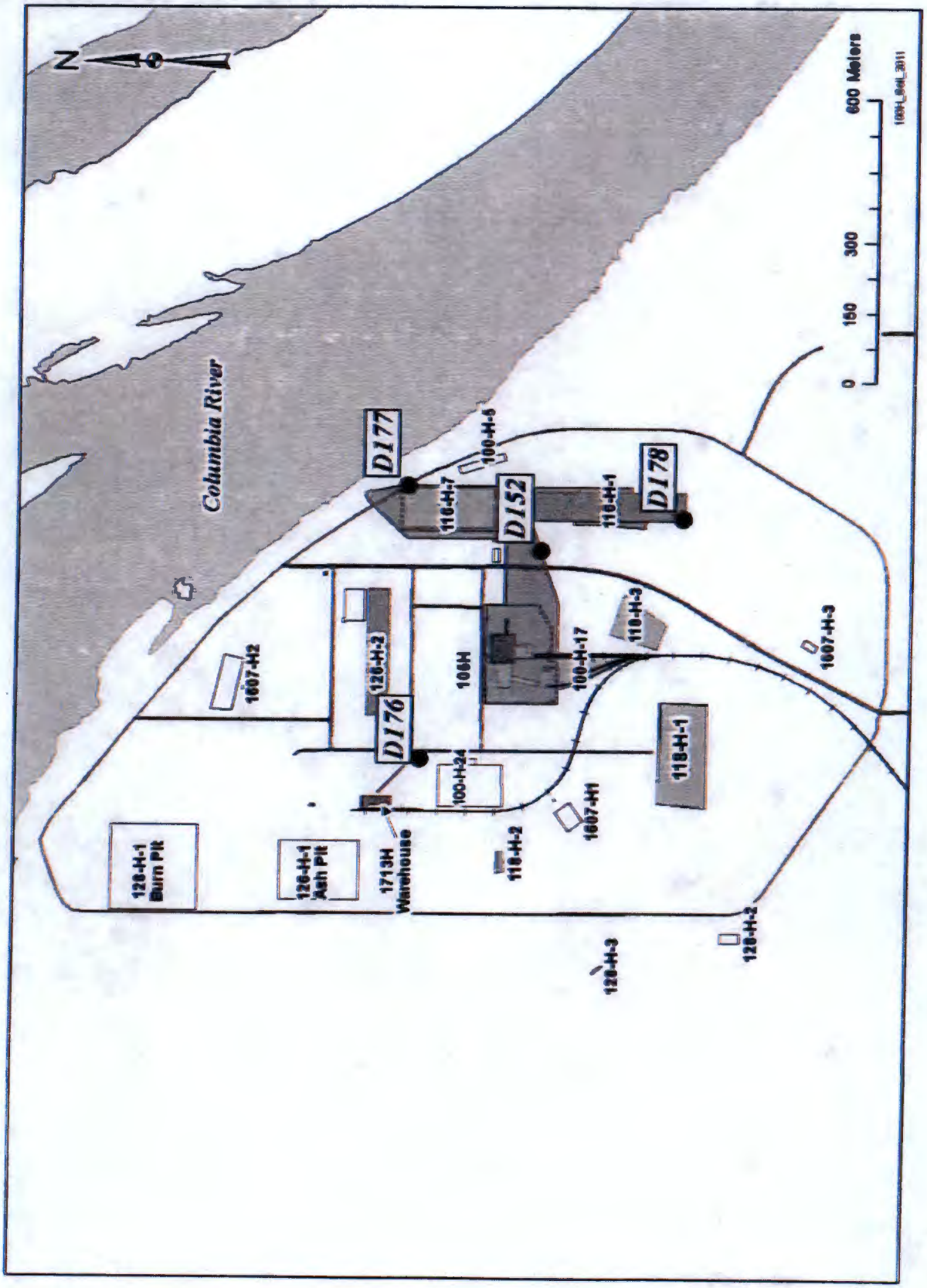
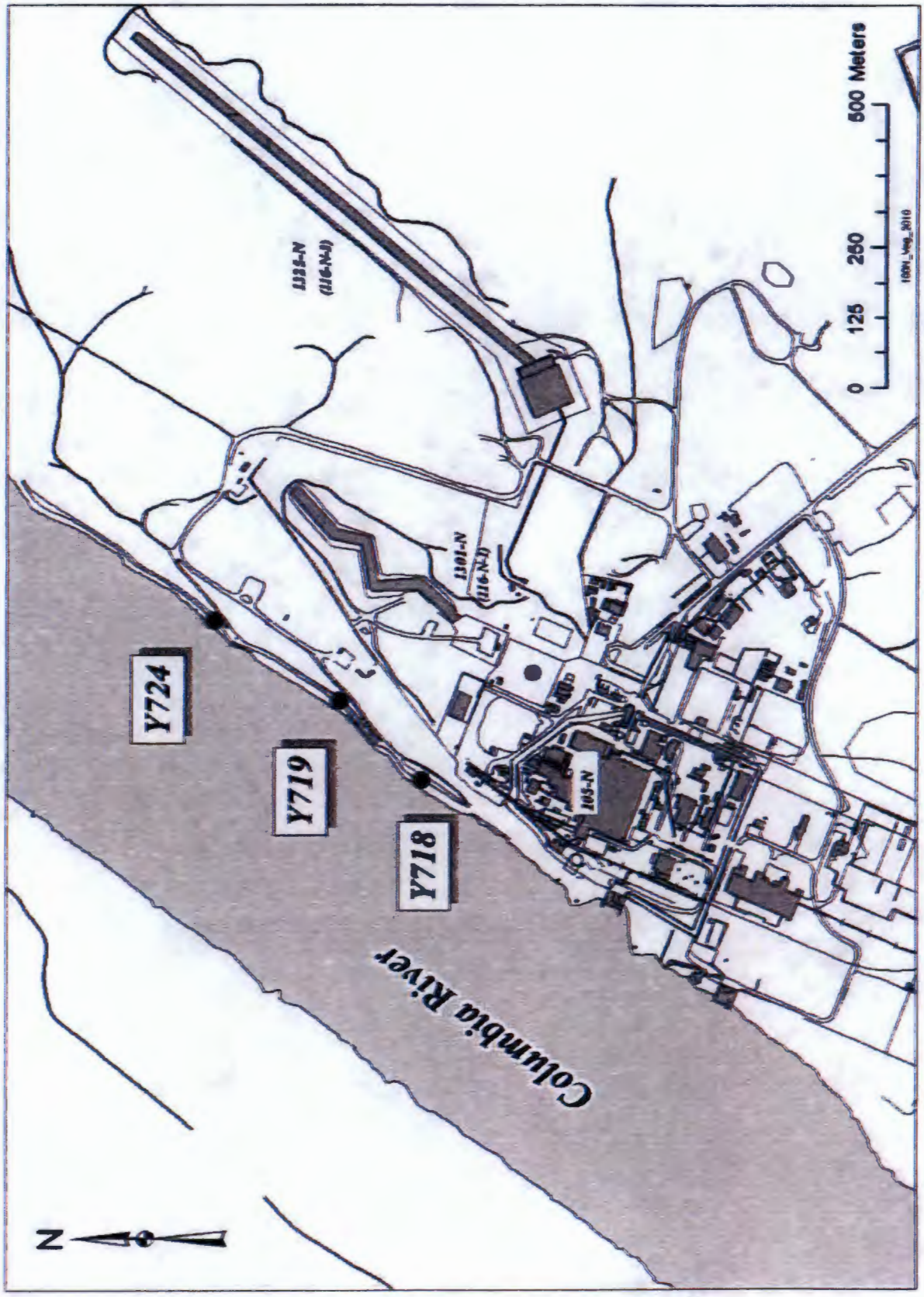


Figure A-39. 100-N Vegetation Sample Locations.



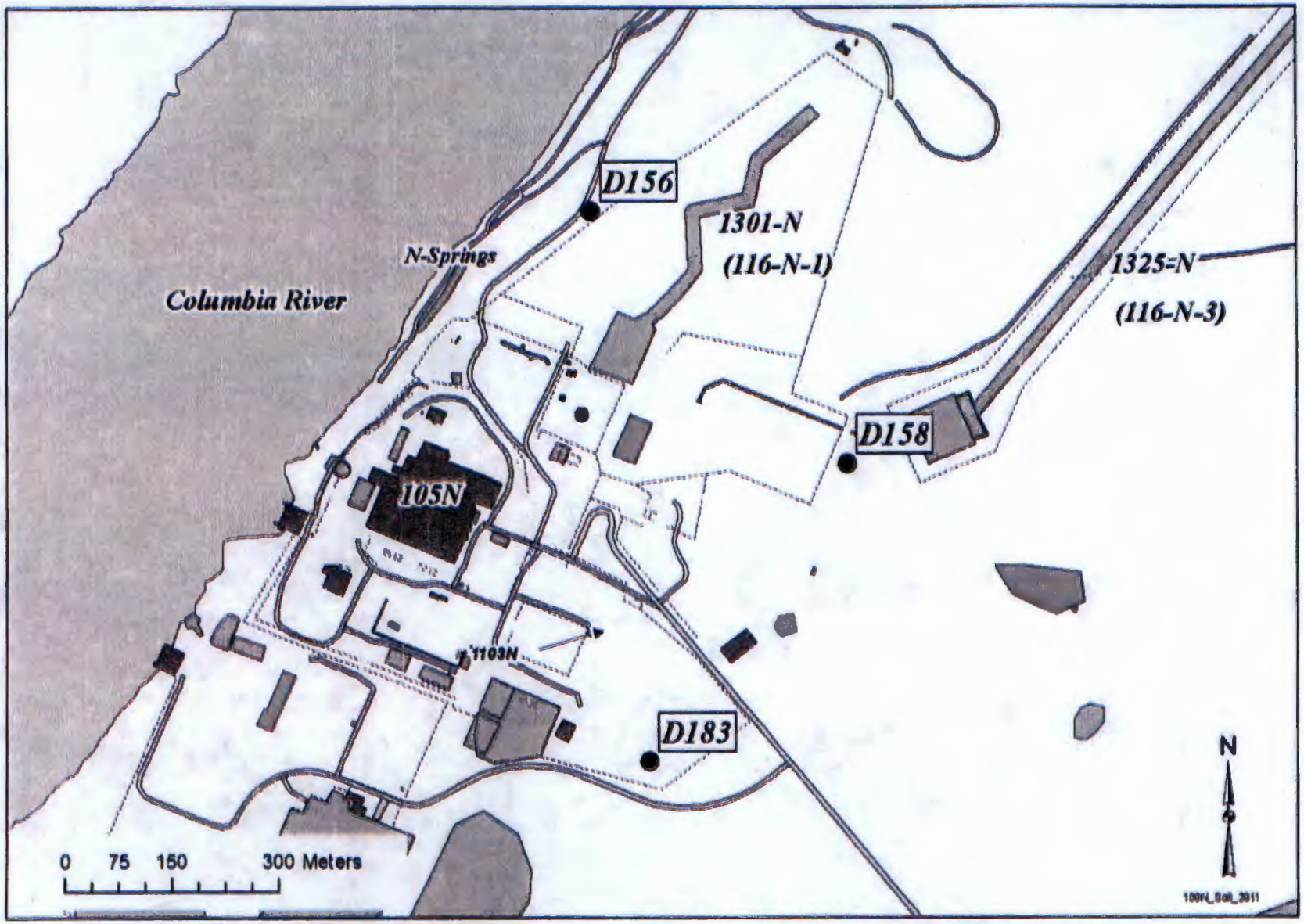
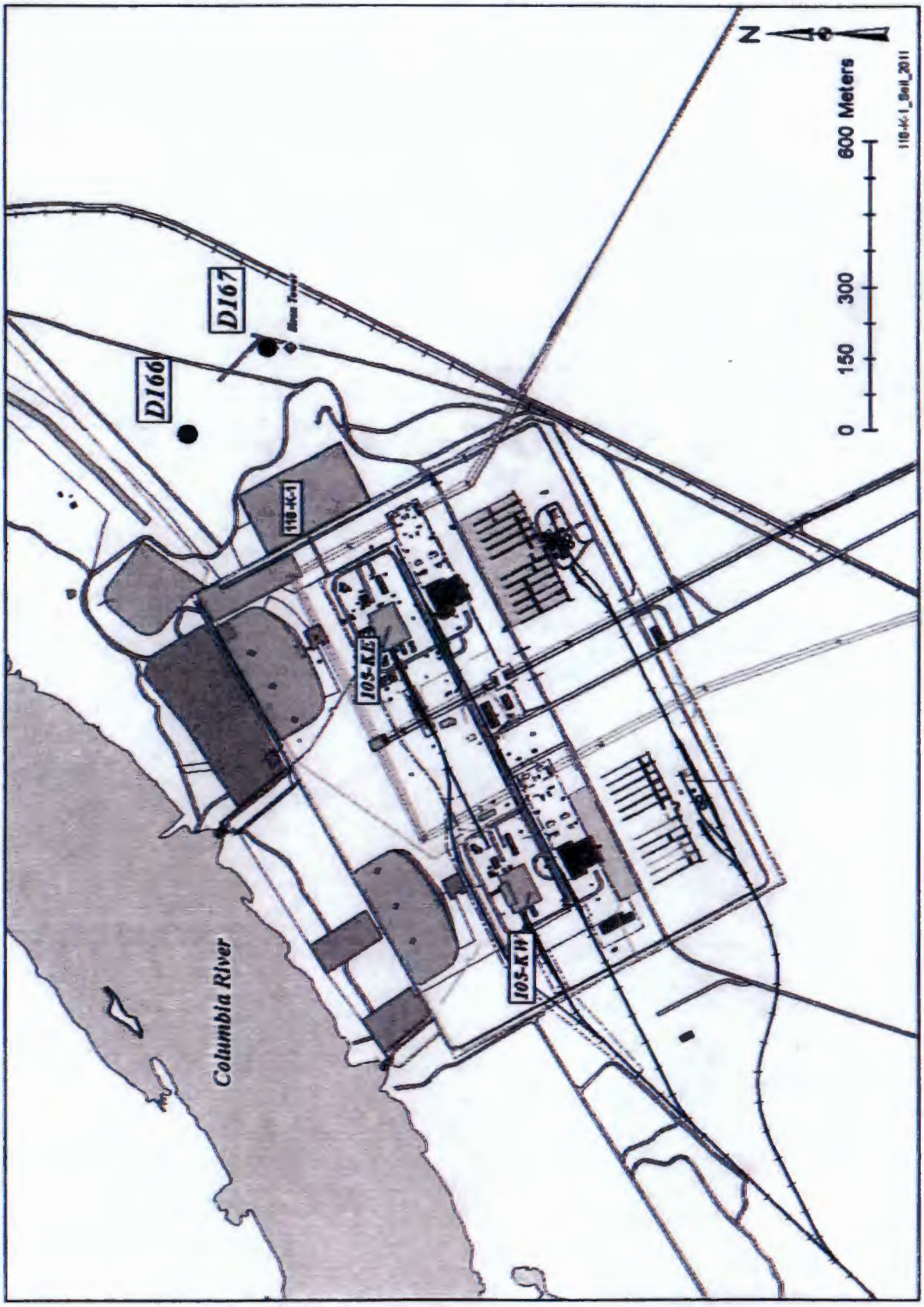


Figure A-40. 100-N Soil Sample Locations.

Figure A-41. 118-K-1 Soil Sample Locations.



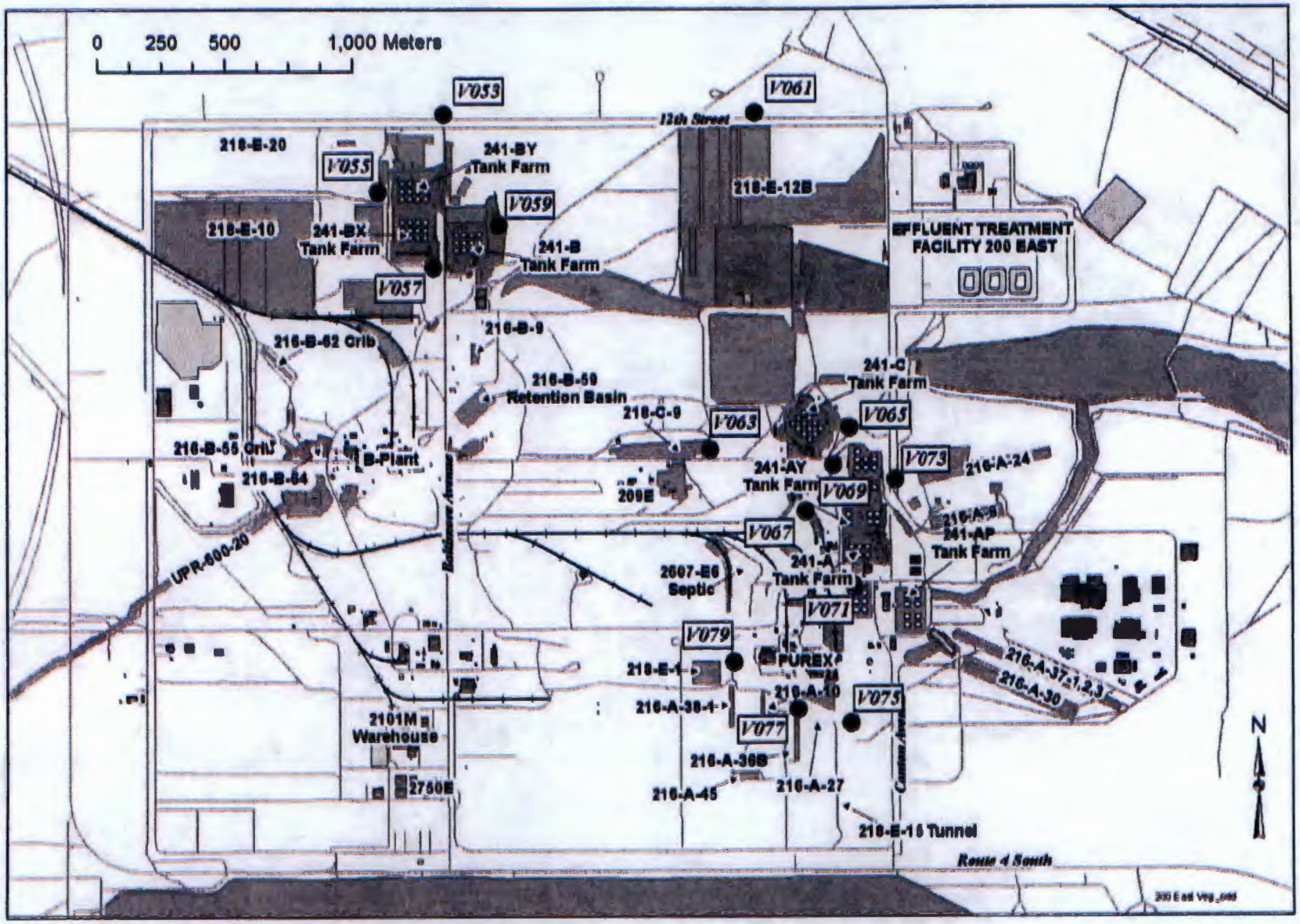


Figure A-42. 200 East Vegetation Sample Locations.

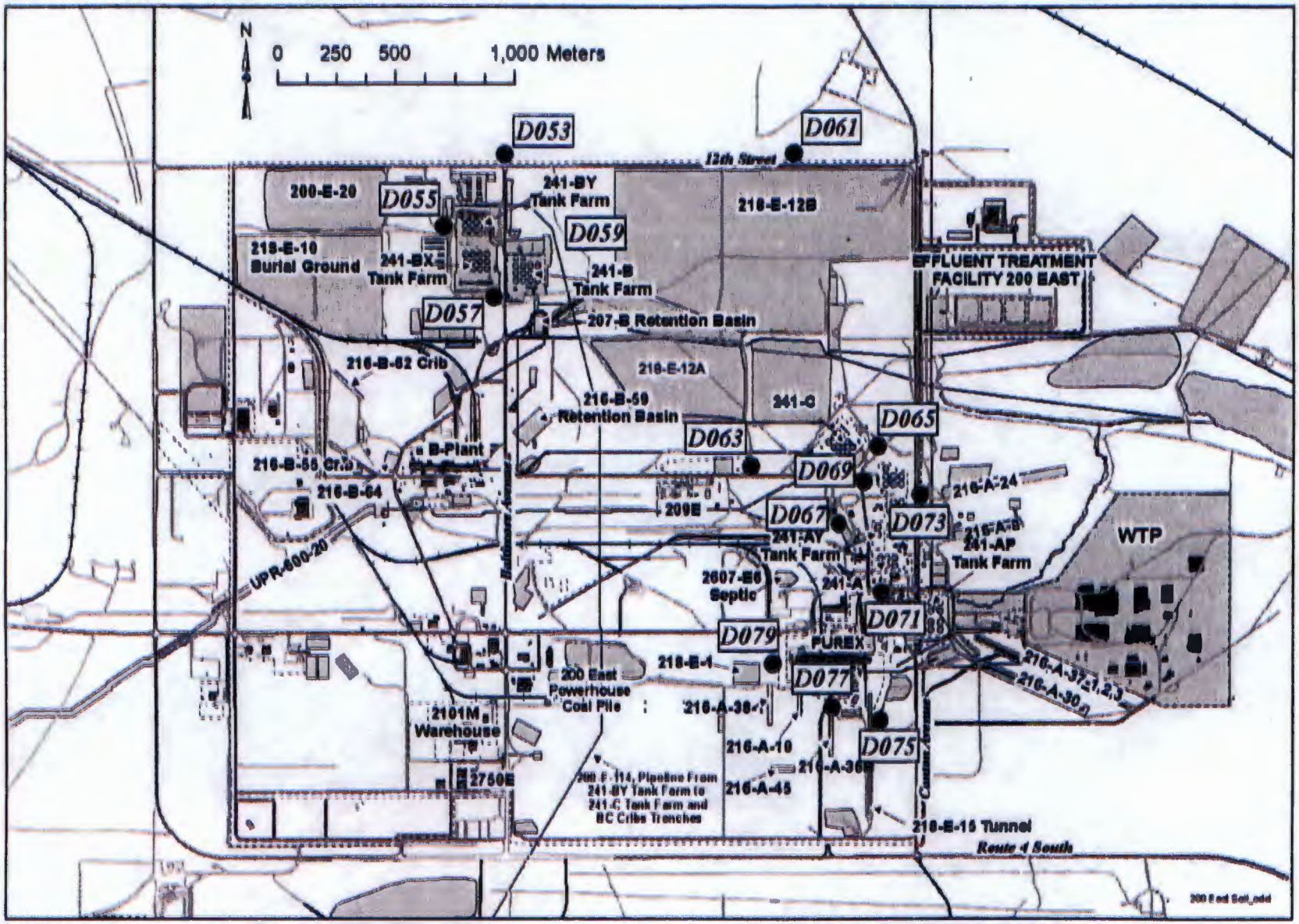


Figure A-43. 200 East Soil Sample Locations.

Figure A-44. 200 West Vegetation Sample Locations.

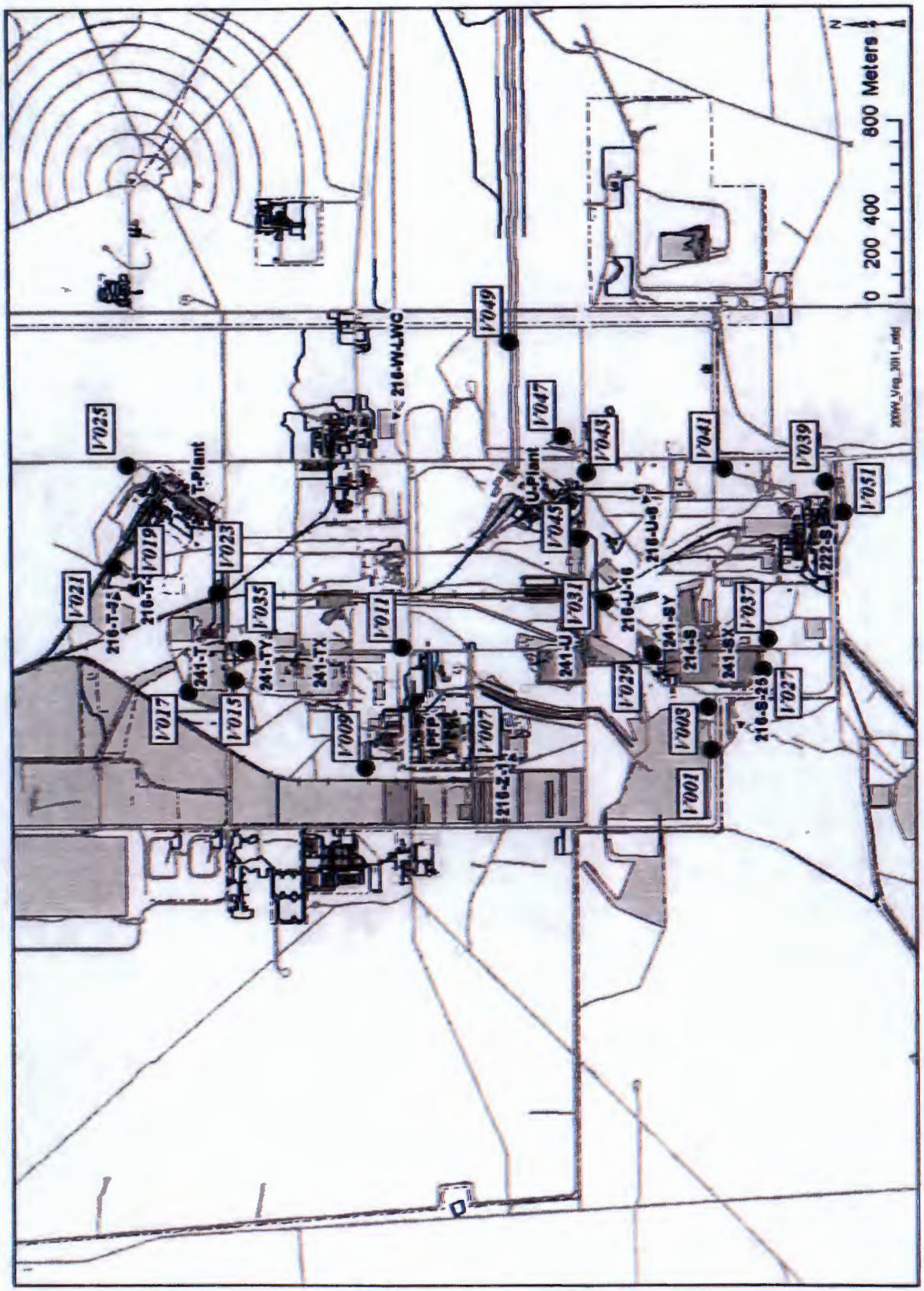


Figure A-45. 200 West Soil Sample Locations.

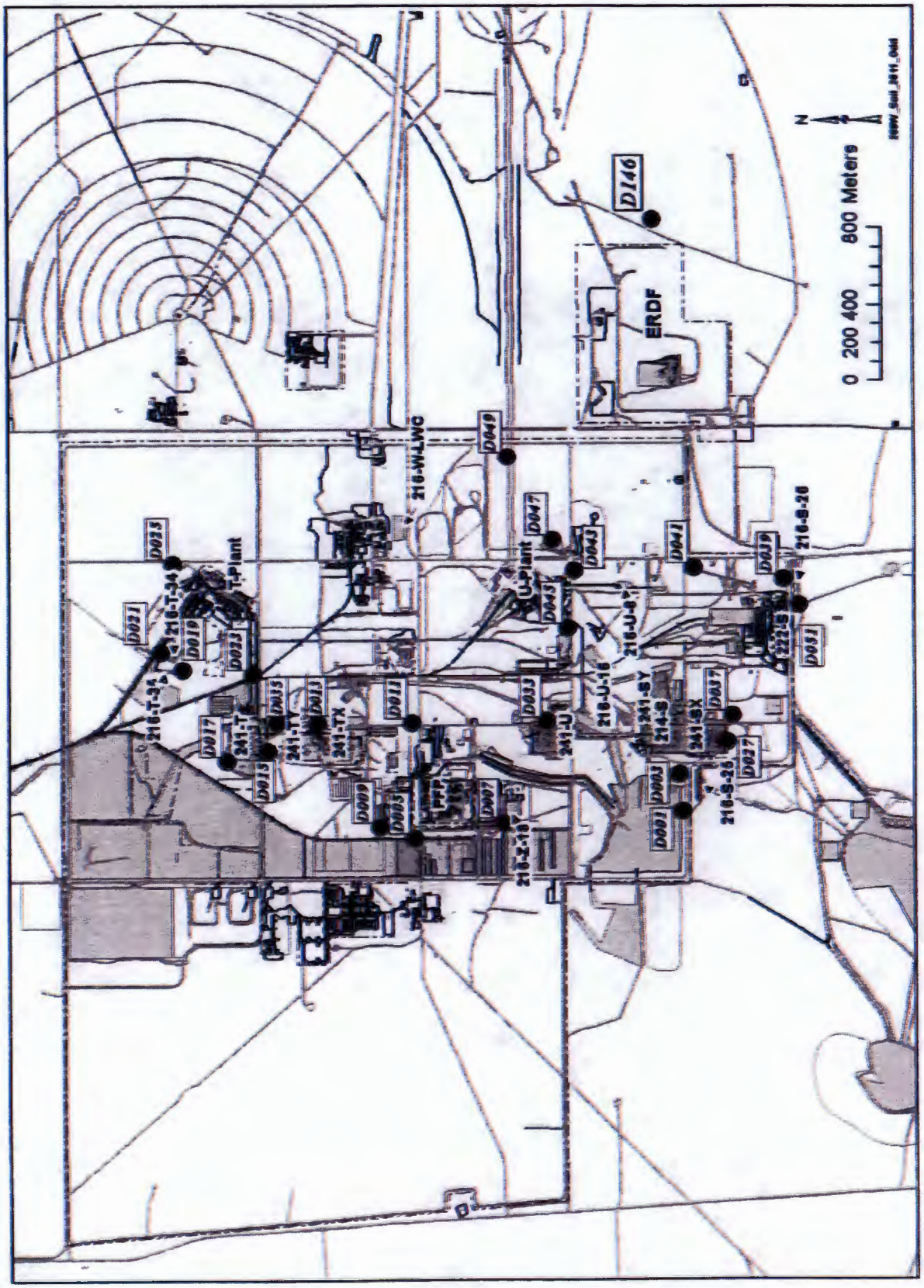


Figure A-46. 300 Area Vegetation Sample Locations.

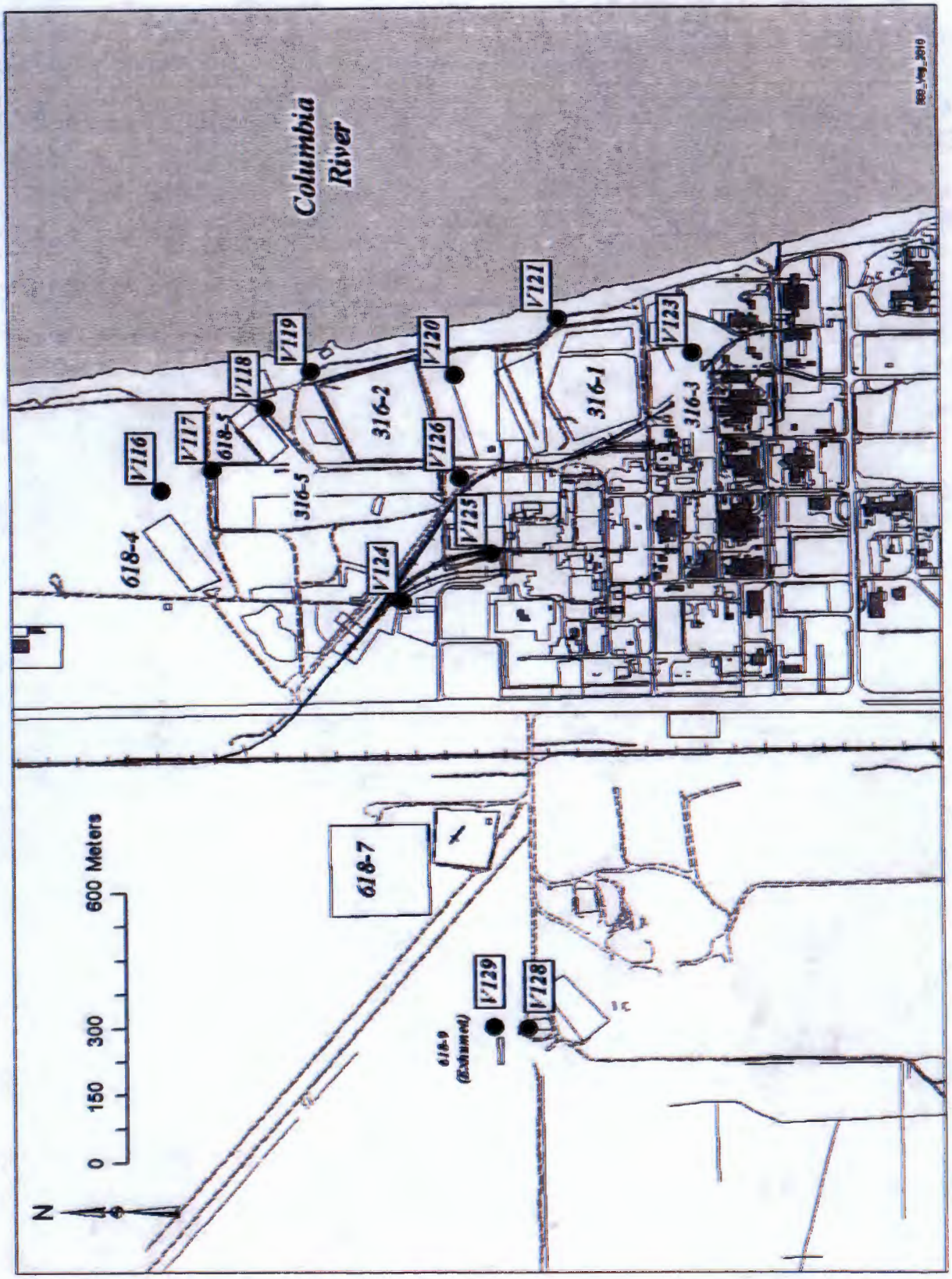


Figure A-47. 300 Area Soil Sample Locations.

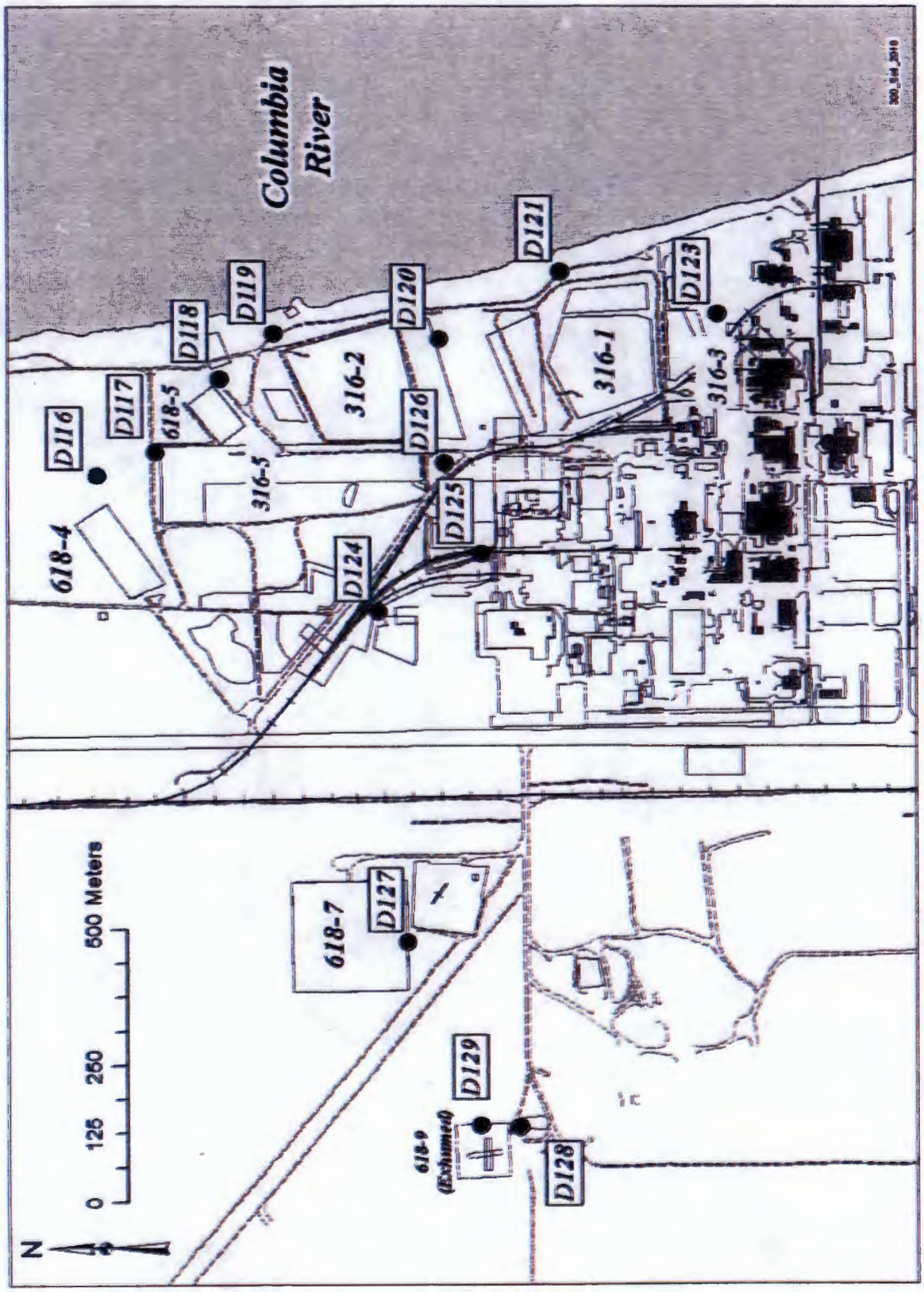


Figure A-48. 400 Area Vegetation Sample Locations.

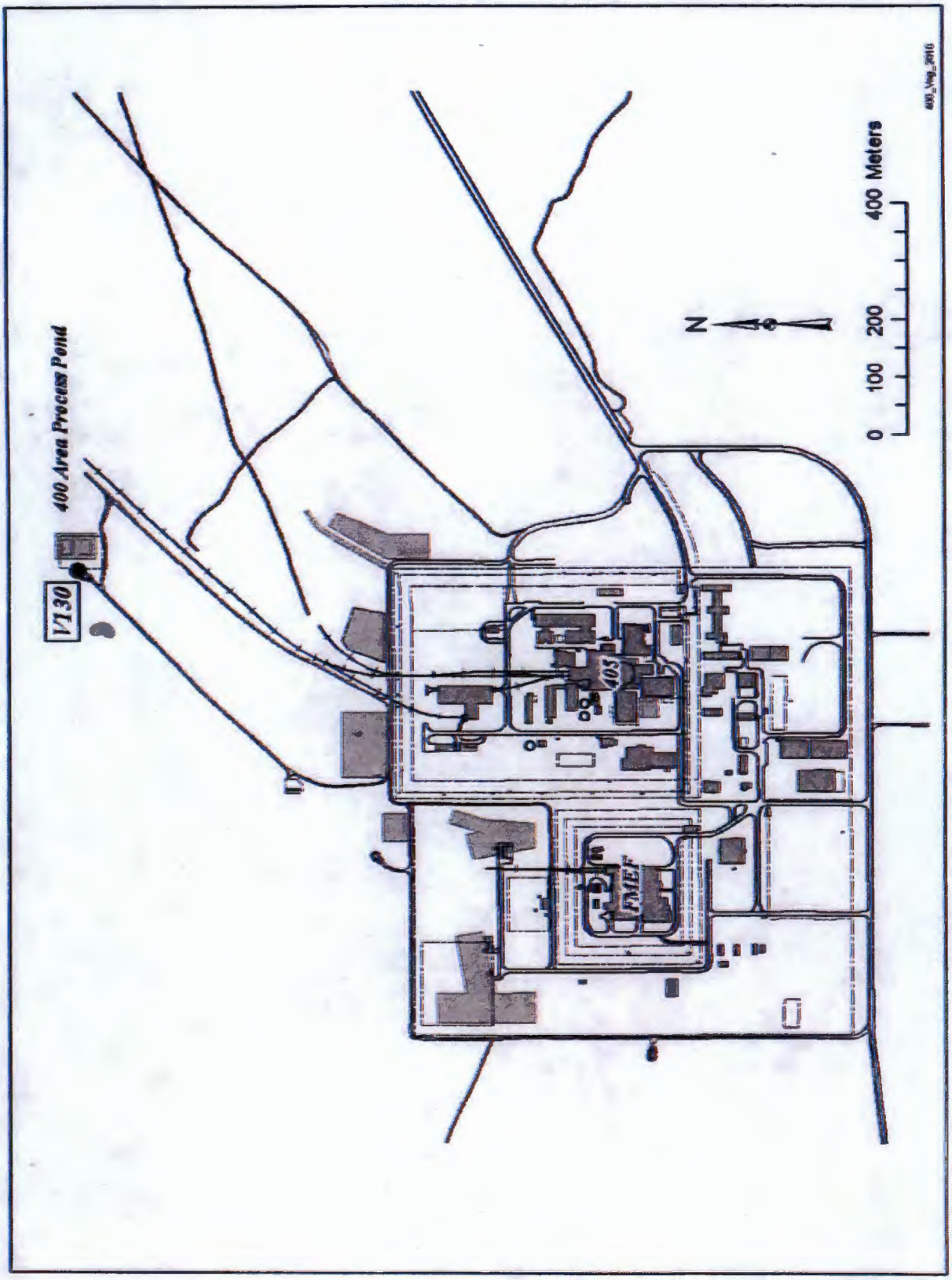


Figure A-49. 400 Area Soil Sample Locations.

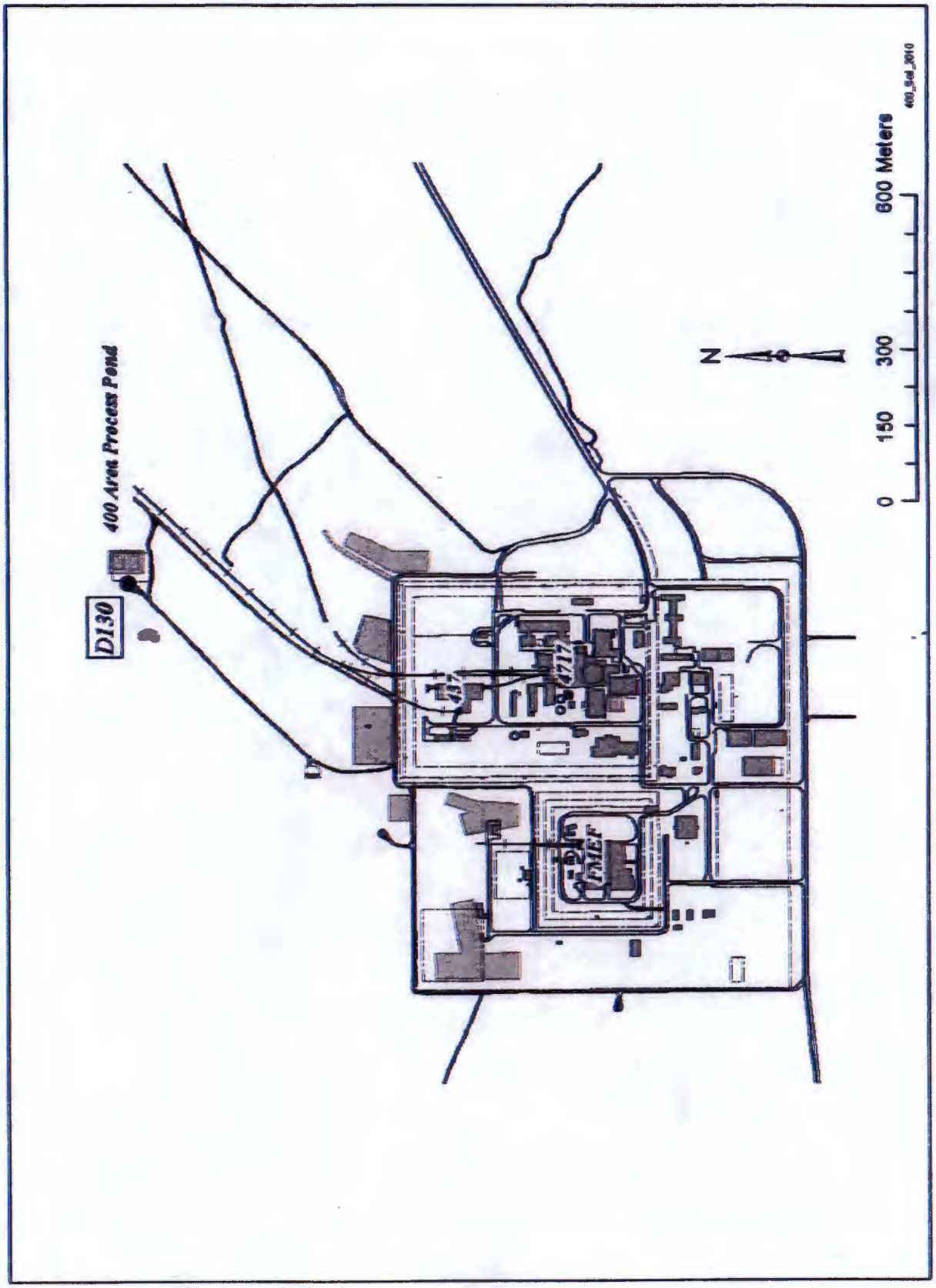


Figure A-50. 600 Area Vegetation Sample Locations.

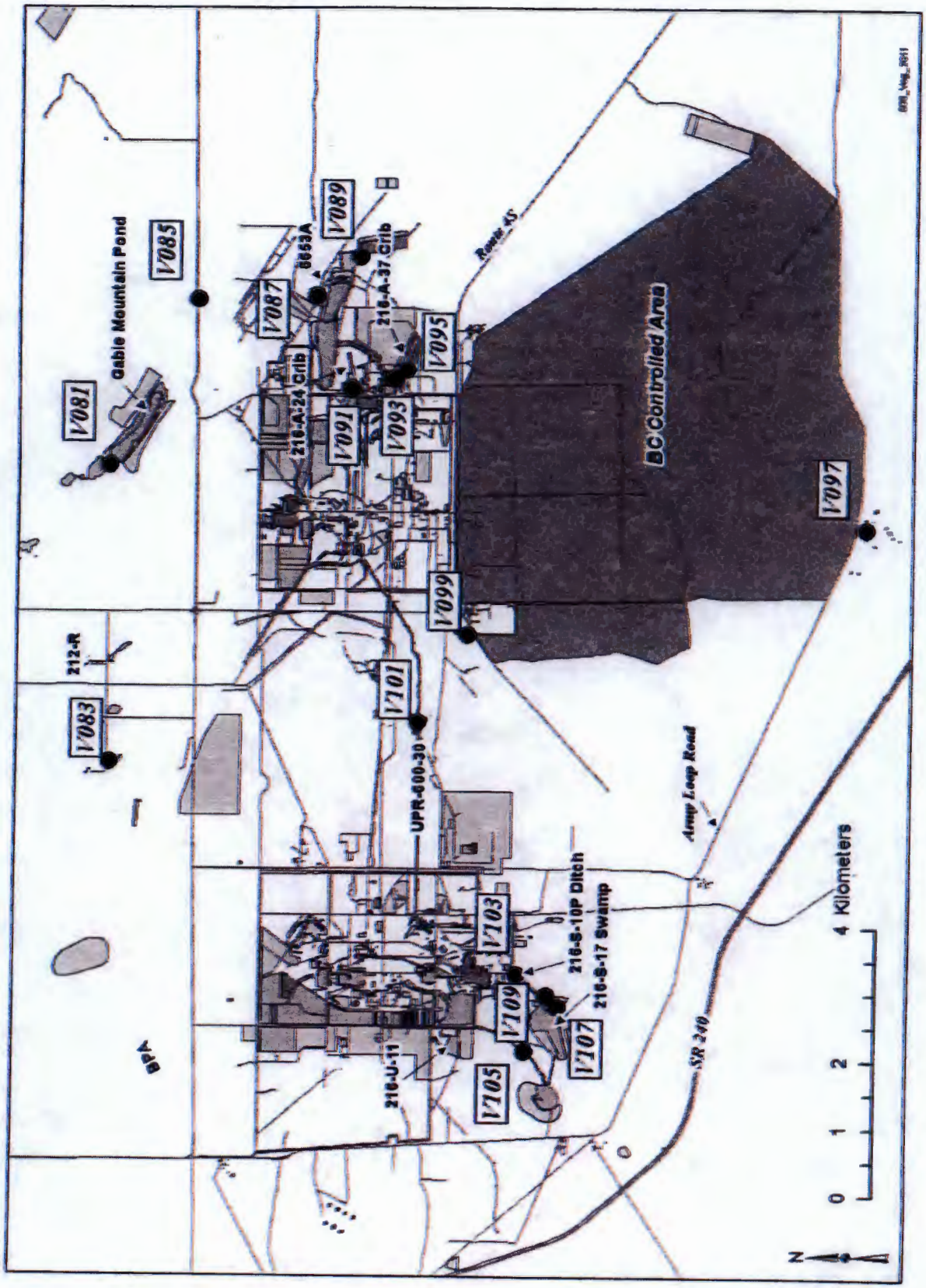


Figure A-51. 600 Area Soil Sample Locations.

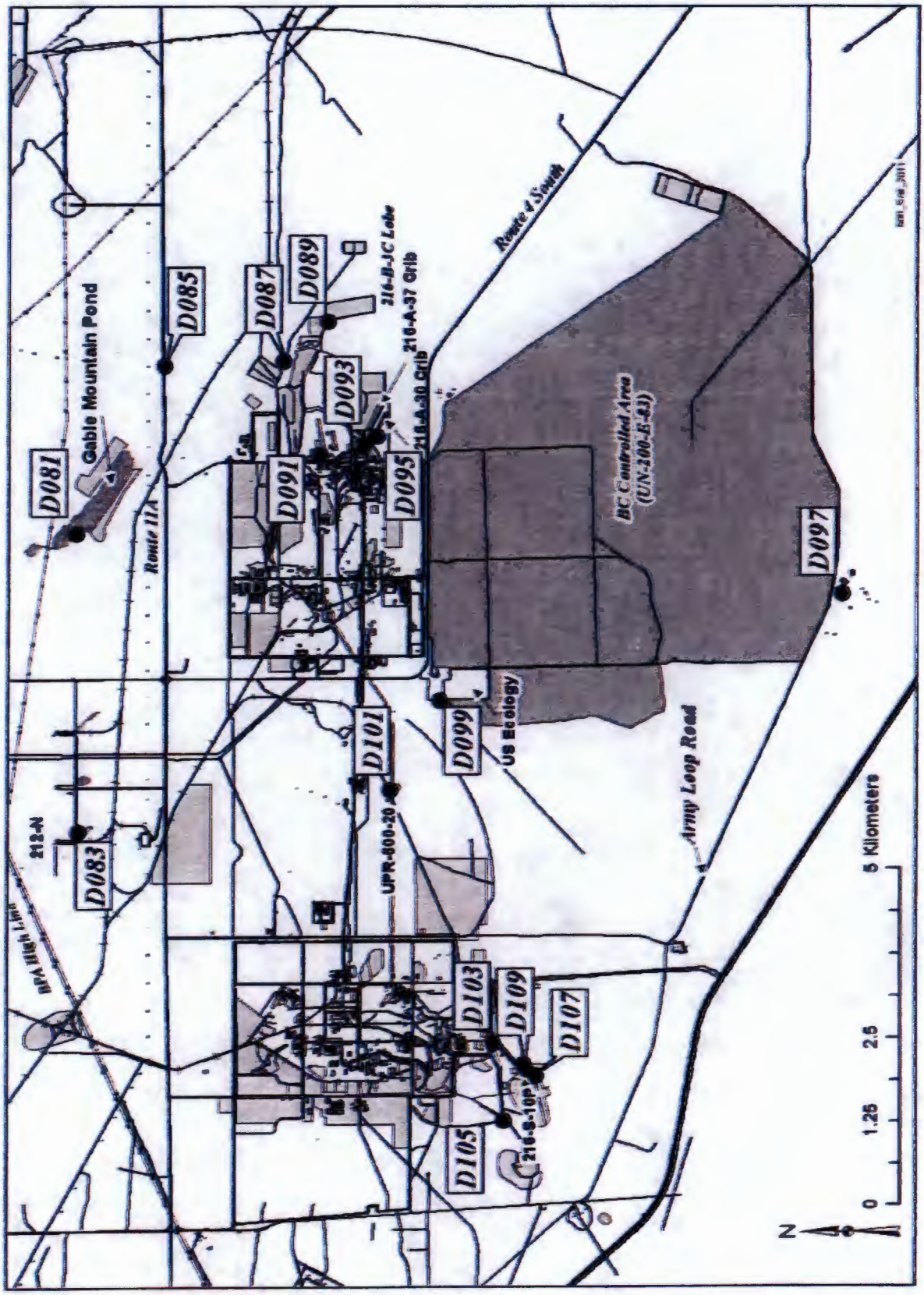


Figure A-52. 600 Area 618-10 Soil Sample Locations.

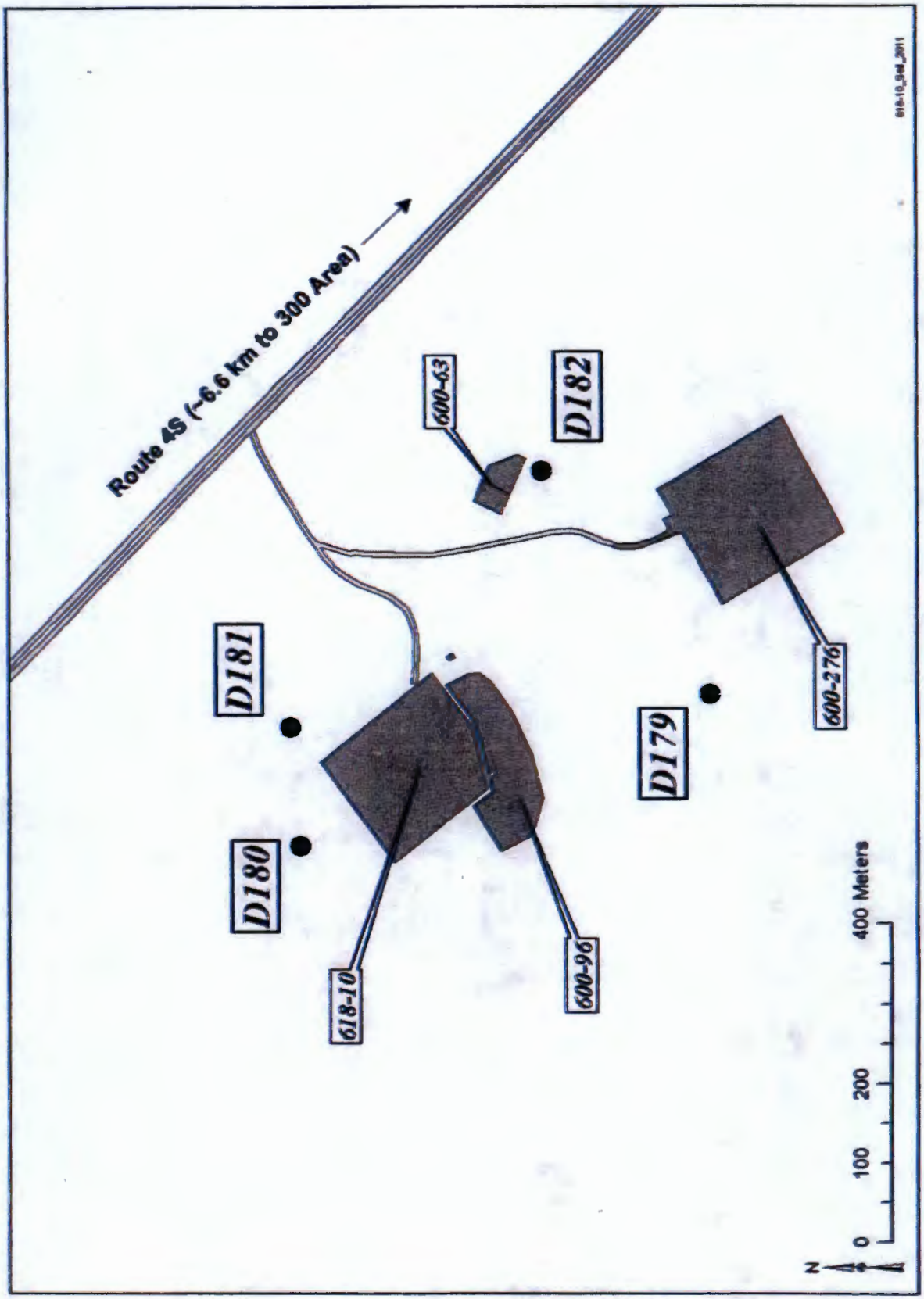
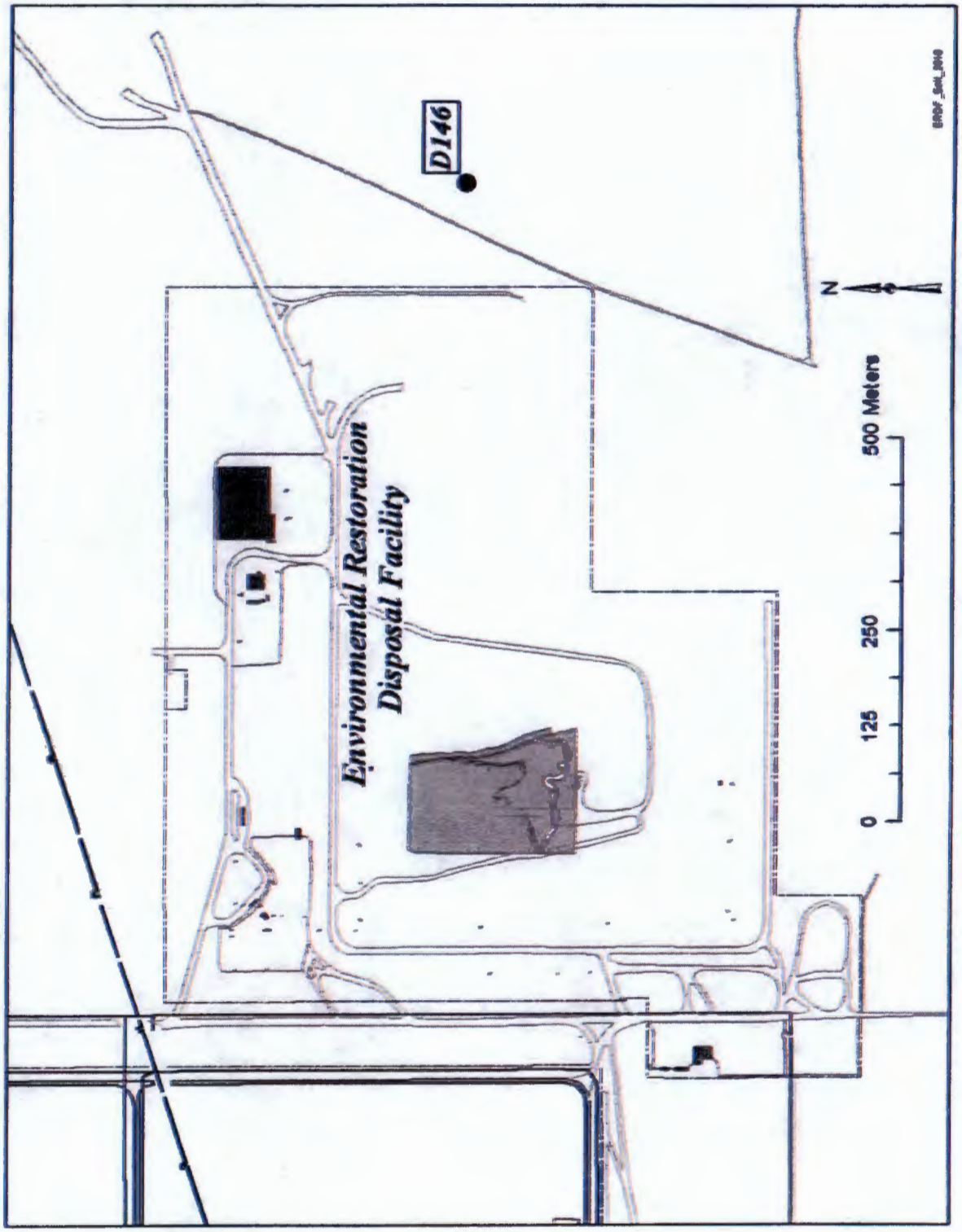


Figure A-53. Environmental Restoration Disposal Facility Soil Sample Locations.



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