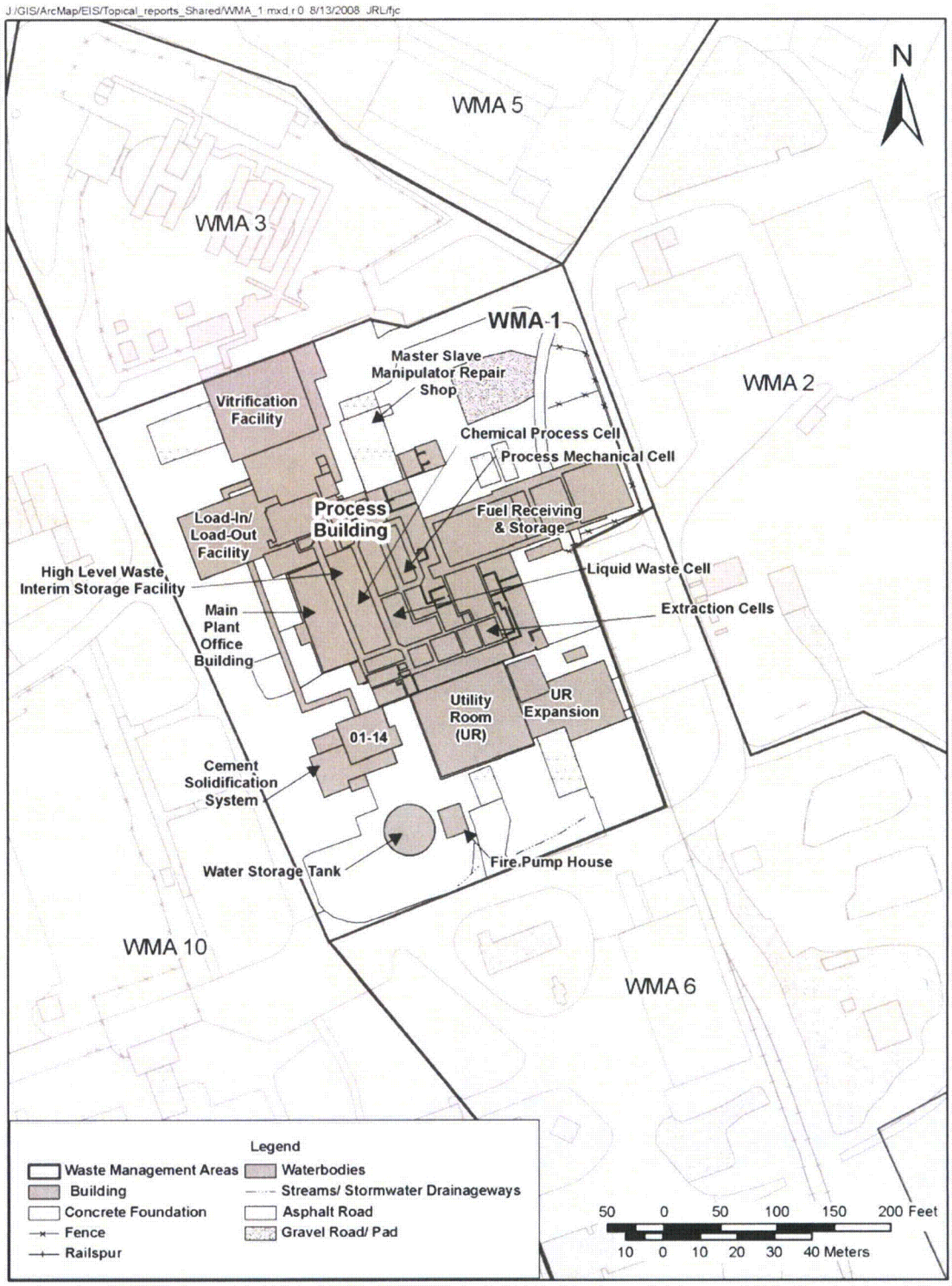



**Figure 3-10. WMA 1.** (The Phase 1 decommissioning activities will include removal of the facilities and the underlying north plateau groundwater plume source area.)

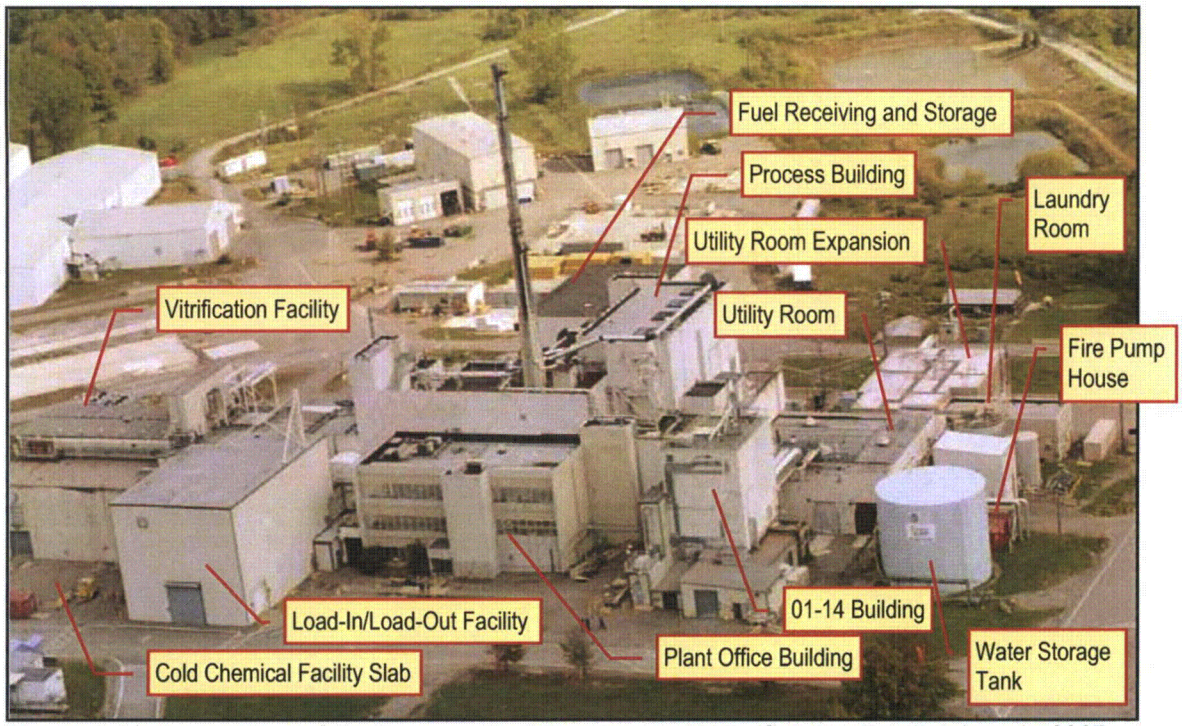



**Figure 3-11. Aerial View of the Process Building Area and Vitrification Facility Area in 2007.** (The Laundry Room will be removed before the Phase 1 of the decommissioning begins.)

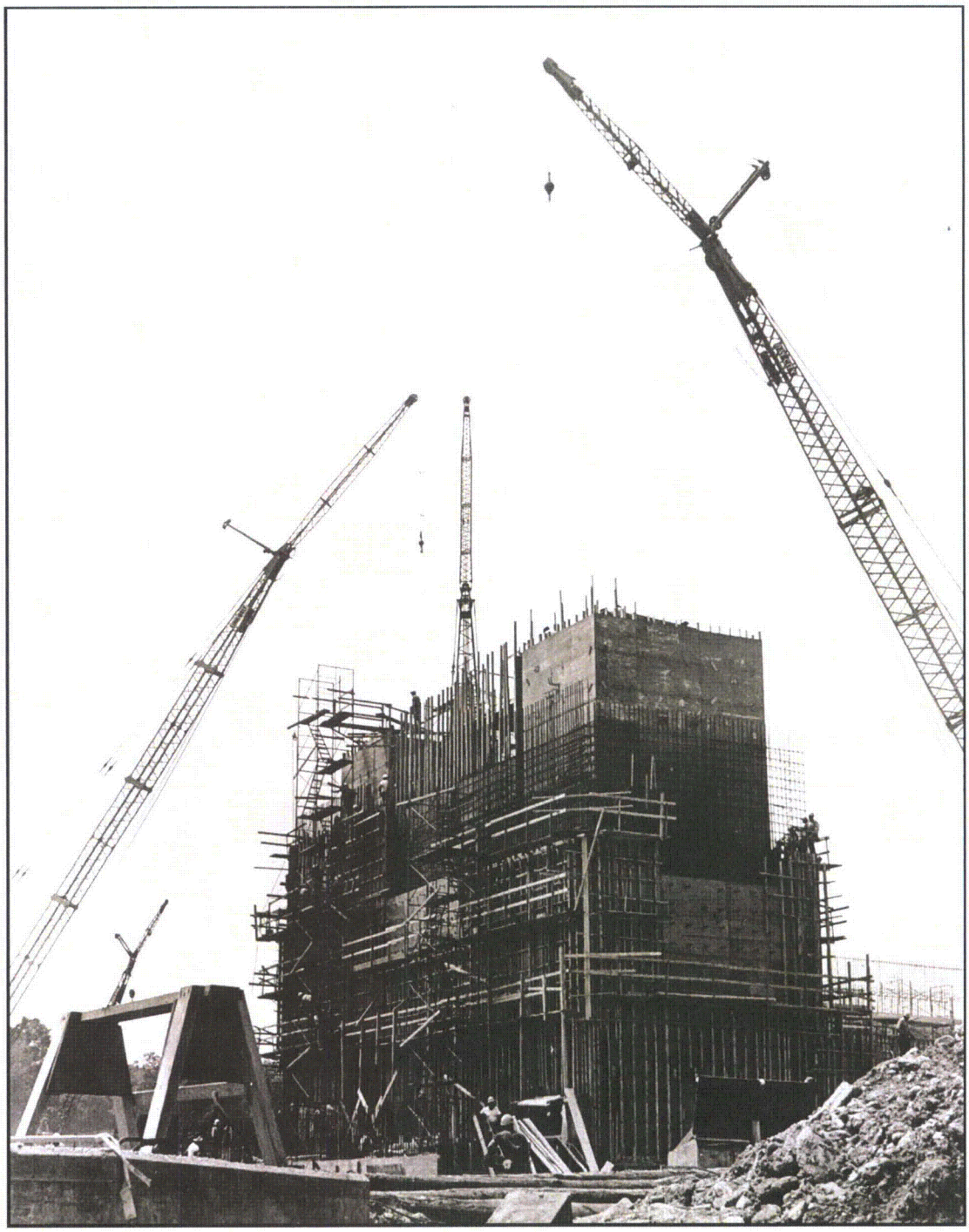
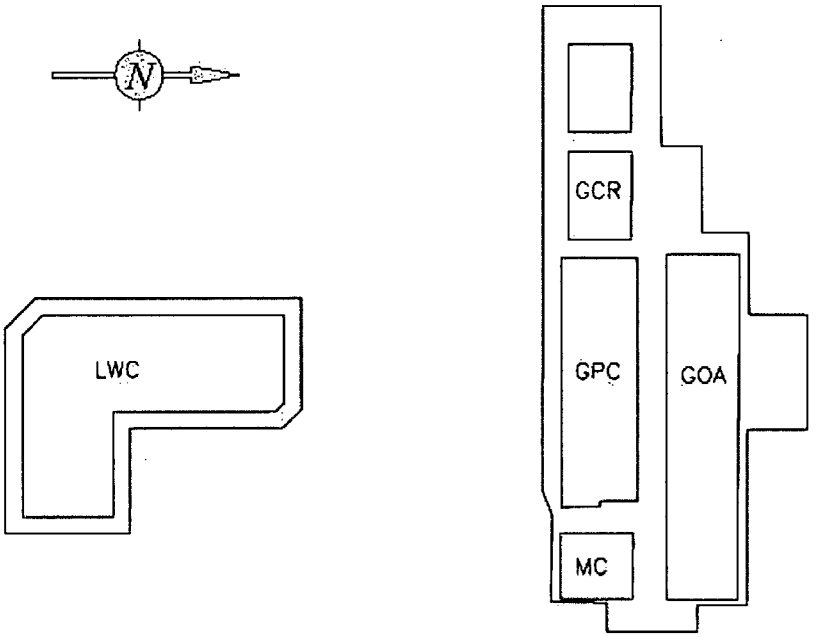


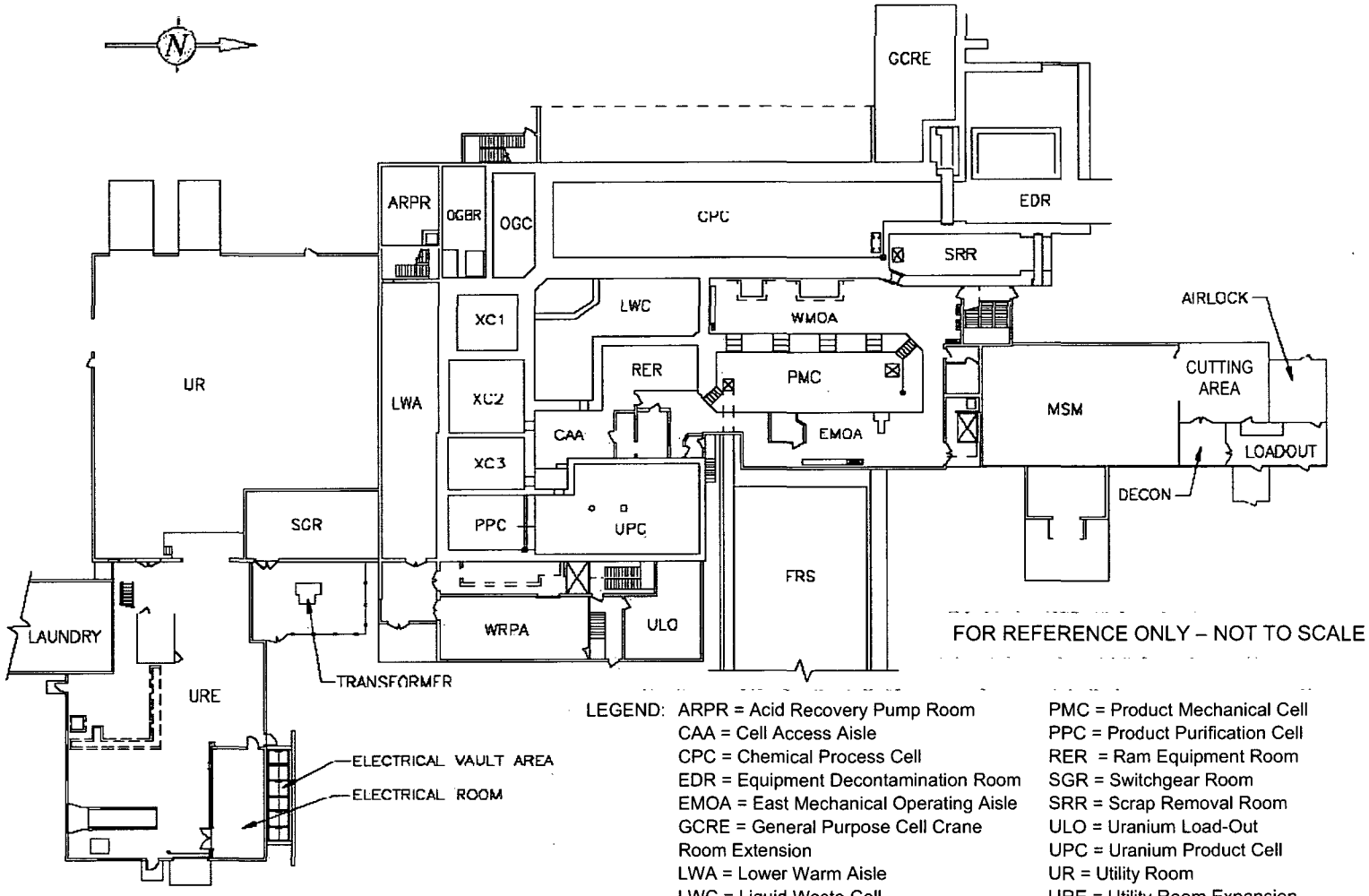
**Figure 3-12. Construction of the Process Building.**




FOR REFERENCE ONLY – NOT TO SCALE

LEGEND: GCR = General Purpose Cell Crane Room
GOA = General Purpose Cell Operating Aisle
GPC = General Purpose Cell
LWC = Liquid Waste Cell
MC = Miniature Cell

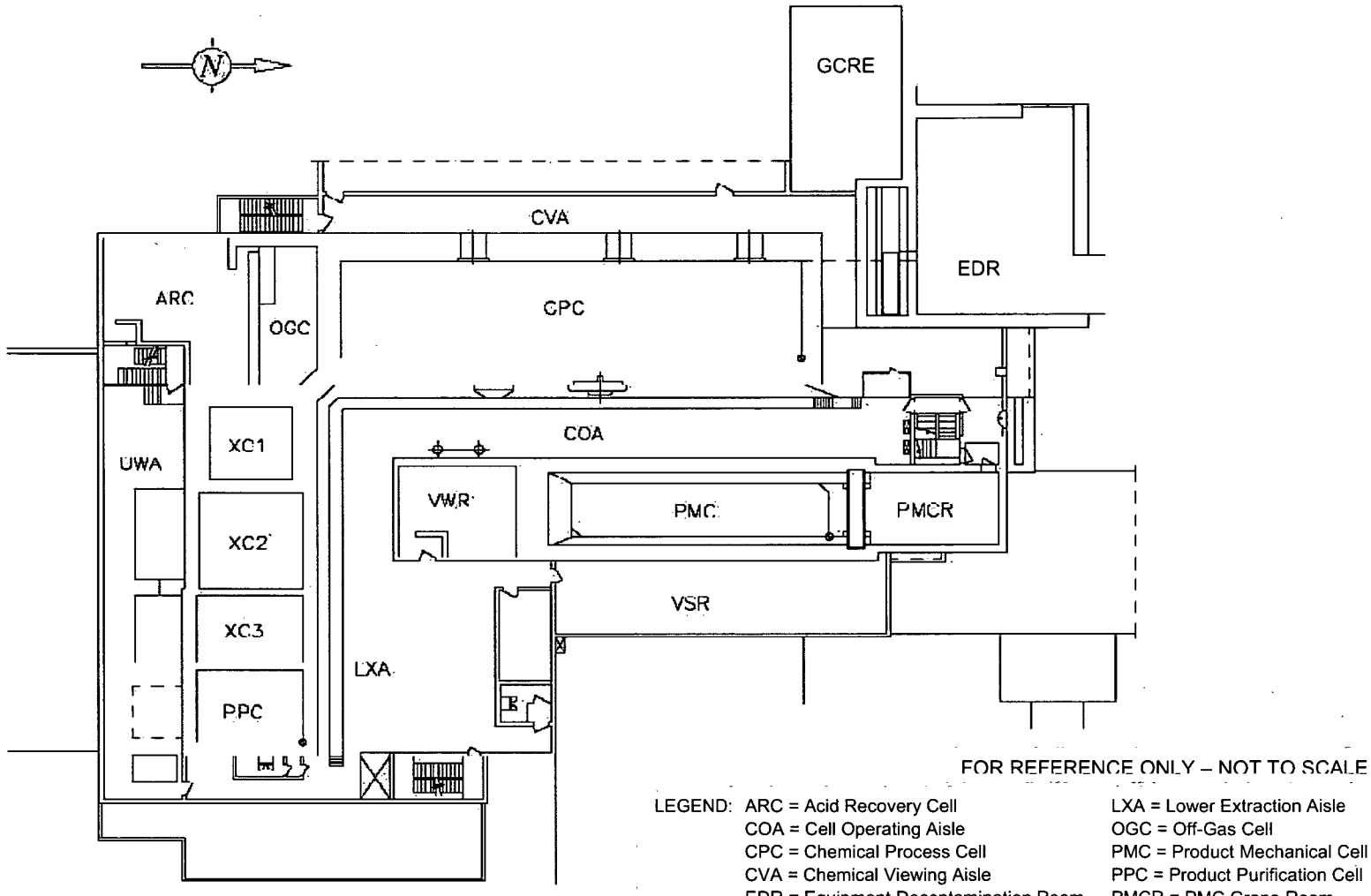
**Figure 3-13A. Process Building Layout – Below Grade**




FOR REFERENCE ONLY – NOT TO SCALE

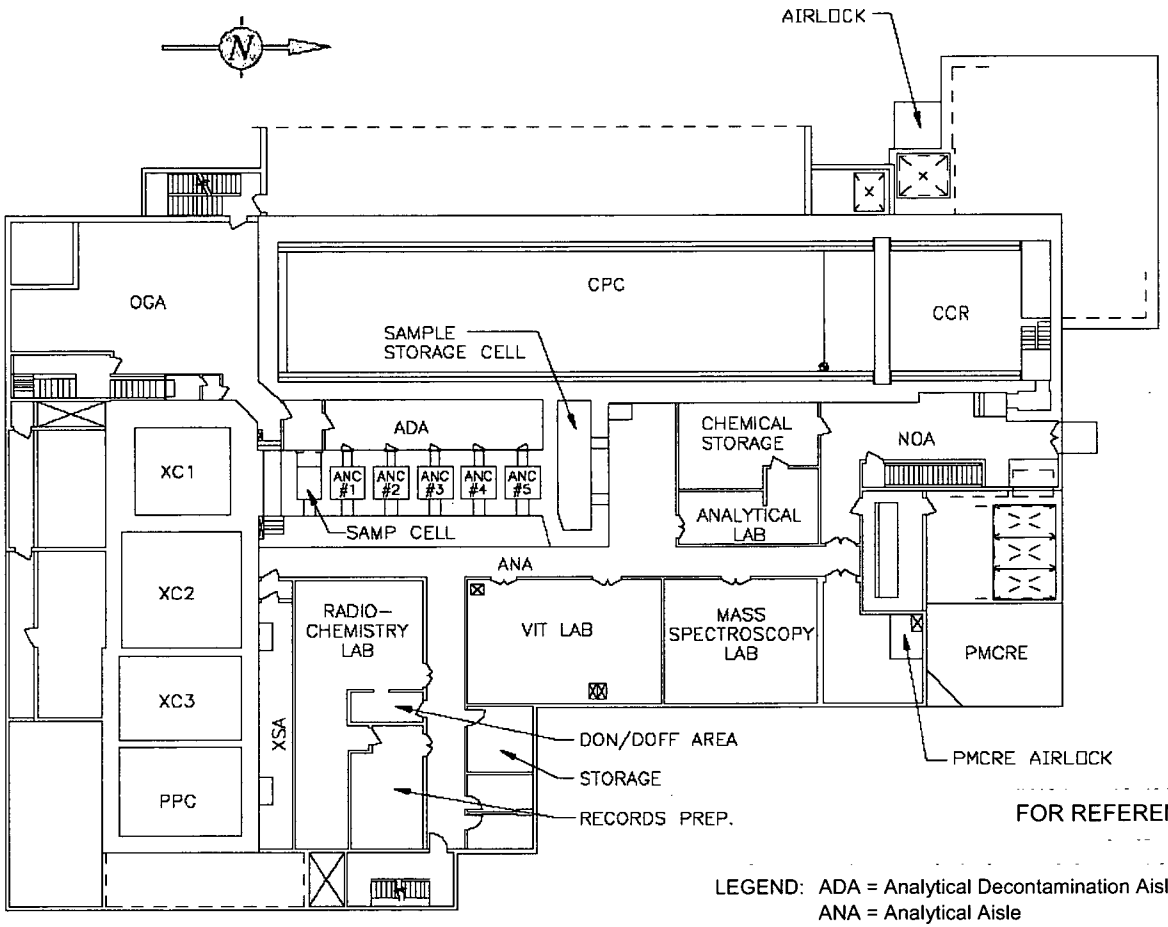
LEGEND:
ARPR = Acid Recovery Pump Room
CAA = Cell Access Aisle
CPC = Chemical Process Cell
EDR = Equipment Decontamination Room
EMOA = East Mechanical Operating Aisle
GCRE = General Purpose Cell Crane Room Extension
LWA = Lower Warm Aisle
LWC = Liquid Waste Cell
MSM = Manipulator Repair Shop
OGBR = Off-Gas Blower Room
OGC = Off-Gas Cell
PMC = Product Mechanical Cell
PPC = Product Purification Cell
RER = Ram Equipment Room
SGR = Switchgear Room
SRR = Scrap Removal Room
ULO = Uranium Load-Out
UPC = Uranium Product Cell
UR = Utility Room
URE = Utility Room Expansion
WMOA = West Mechanical Operating Aisle
WRPA = Waste Reduction & Packaging Area
XC = Extraction Cell

**Figure 3-13B. Process Building Layout at 100-Foot Elevation**




LEGEND:
ARC = Acid Recovery Cell
COA = Cell Operating Aisle
CPC = Chemical Process Cell
CVA = Chemical Viewing Aisle
EDR = Equipment Decontamination Room
GCRE = General Purpose Cell Crane Room Extension
LXA = Lower Extraction Aisle
OGC = Off-Gas Cell
PMC = Product Mechanical Cell
PPC = Product Purification Cell
PMCR = PMC Crane Room
VWR = Ventilation Wash Room
XC = Extraction Cell

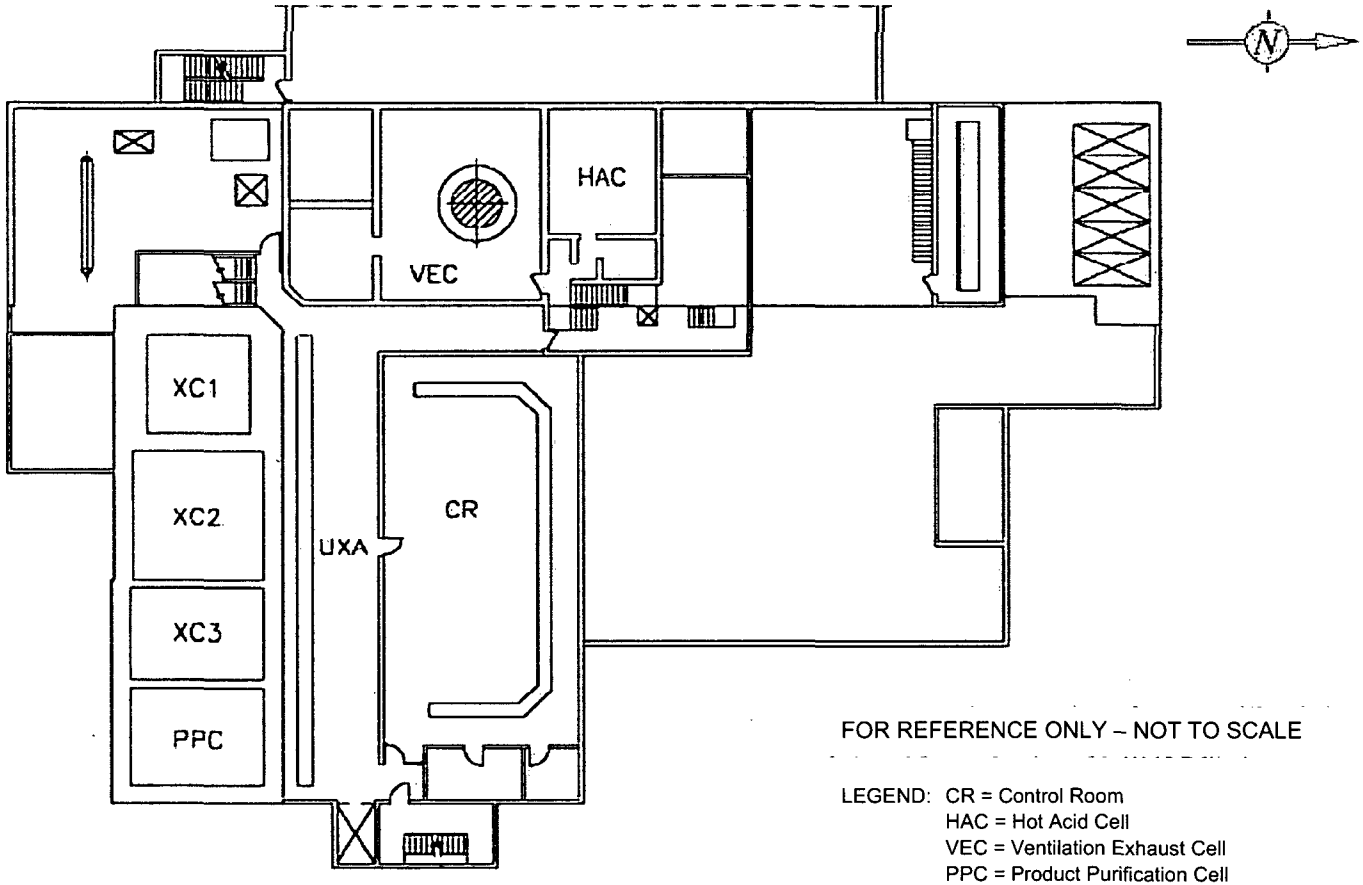
**Figure 3-13C. Process Building Layout at 114.5-Foot Elevation**




FOR REFERENCE ONLY – NOT TO SCALE

LEGEND:
ADA = Analytical Decontamination Aisle
ANA = Analytical Aisle
ANC = Analytical Sample Cell
CCR = CPC Crane Room
CPC = Chemical Process Cell
NOA = North Operating Aisle
OGA = Off-Gas-Acid Recovery Aisle
PMCRE = Process Mechanical Cell Crane Room Enclosure
PPC = Product Purification Cell
XC = Extraction Cell

**Figure 3-13D. Process Building Layout at 131-Foot Elevation**




FOR REFERENCE ONLY – NOT TO SCALE

LEGEND: CR = Control Room
HAC = Hot Acid Cell
VEC = Ventilation Exhaust Cell
PPC = Product Purification Cell
UXA = Upper Extraction Aisle
VEC = Ventilation Exhaust Cell
XC = Extraction Cell

**Figure 3-13E. Process Building Layout at 144-Foot Elevation**

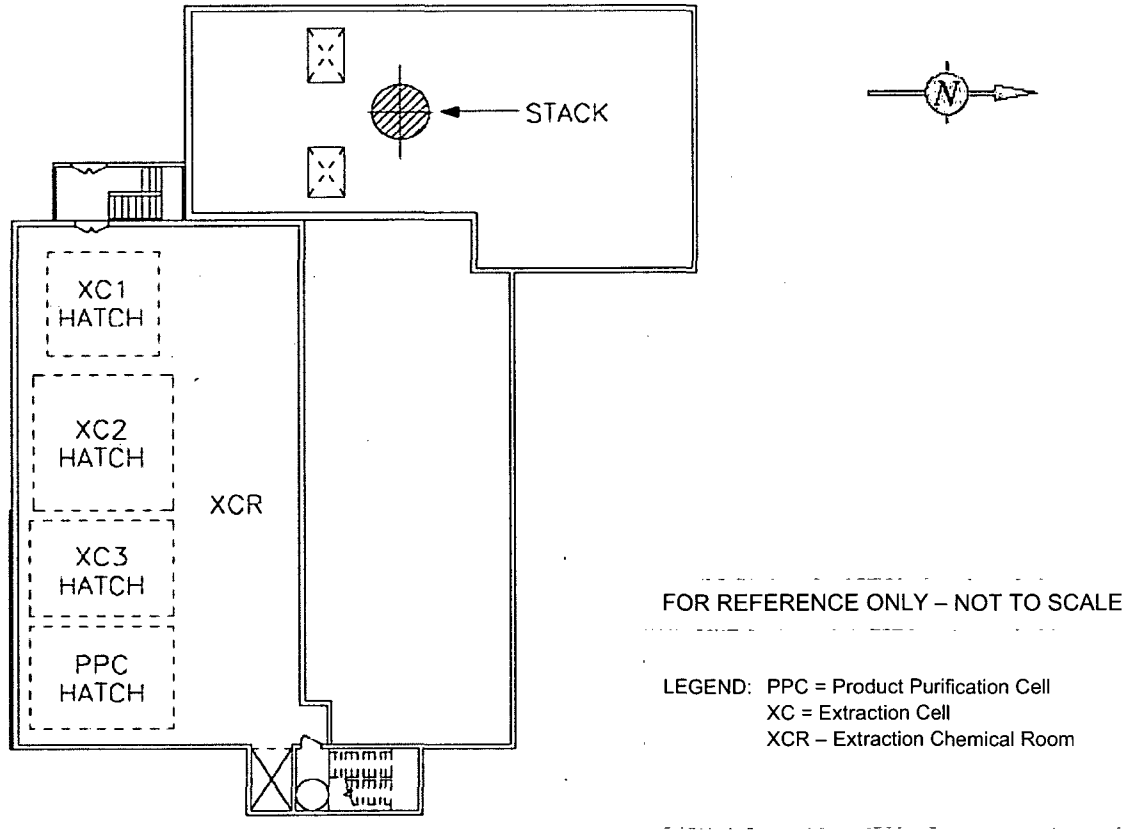



**Figure 3-13F. Process Building Layout at 160-Foot Elevation**

**Figure 3-14. West Side of the Process Building.** (The building with windows is actually the Plant Office Building. The plant part of the Process Building is behind the Office Building

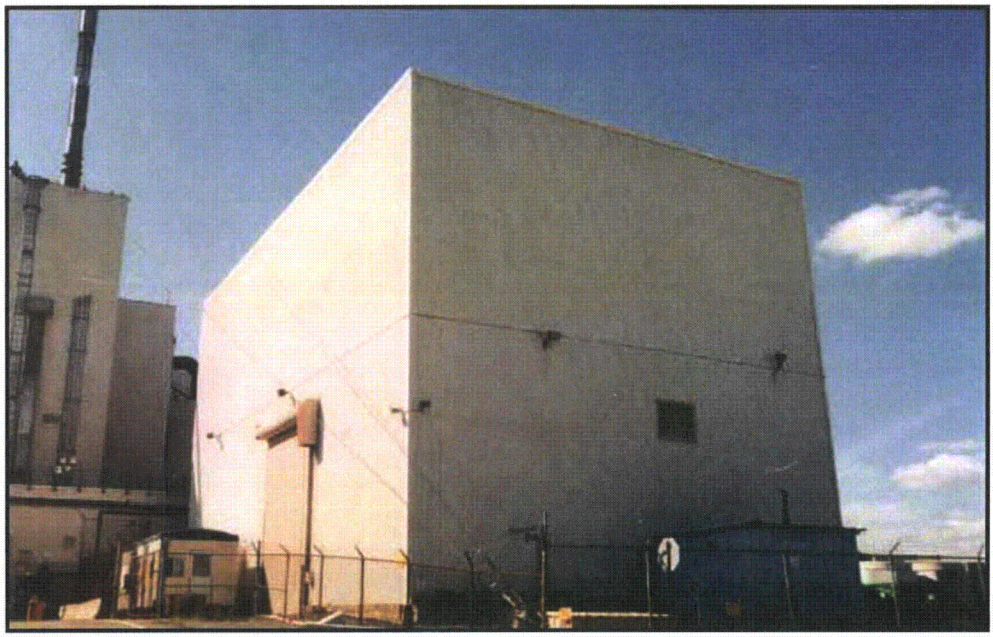


**Figure 3-15. Fuel Receiving and Storage Area.** (This facility is located on the east side of the Process Building.)

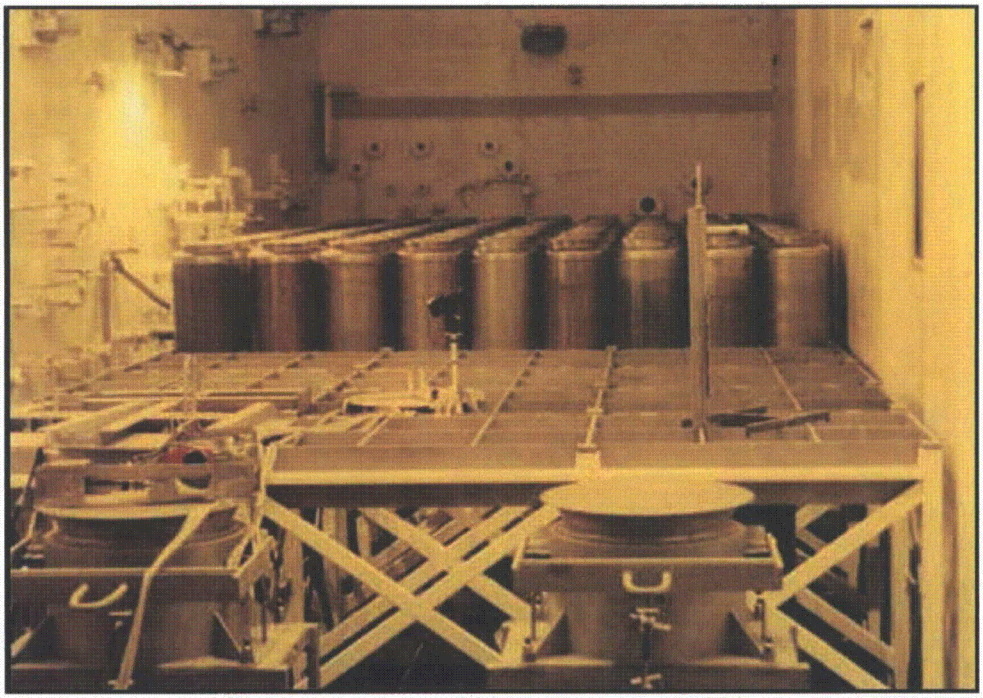


**Figure 3-16. HLW Canisters Stored in the HLW Interim Storage Area**

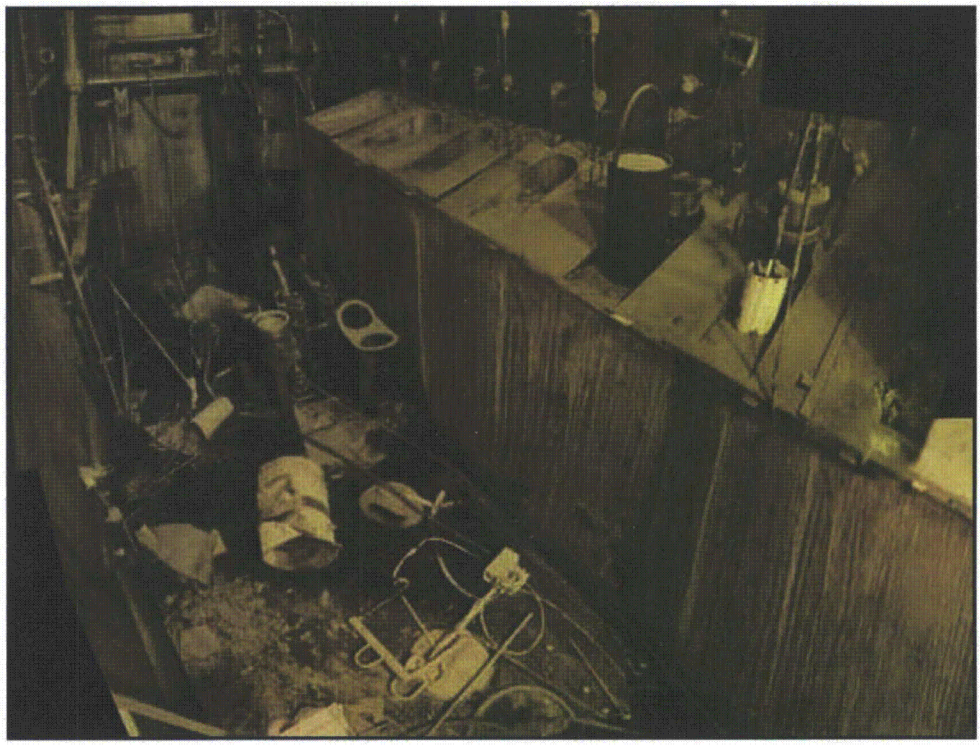


**Figure 3-17. Conditions in the General Purpose Cell in 1999.** (These were the conditions before the beginning of cleanup in connection with deactivation.)

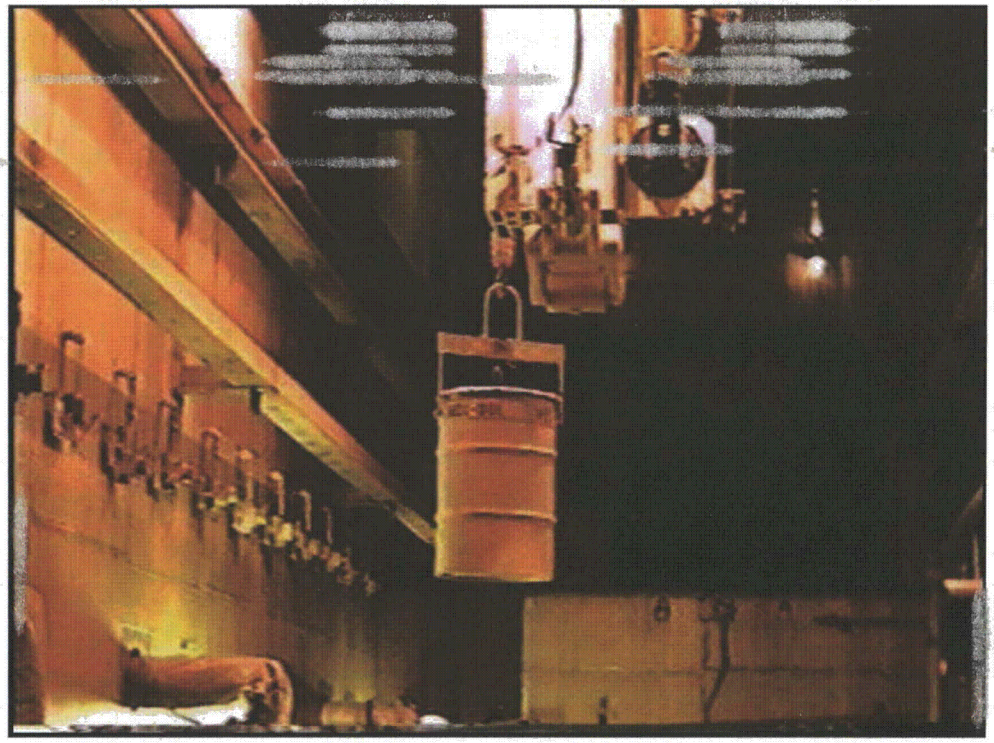


**Figure 3-18. Process Mechanical Cell During Deactivation**

**Figure 3-19. Extraction Cell 3** (After removal of processing equipment and before installation of the WVDP Liquid Waste Treatment System Equipment)

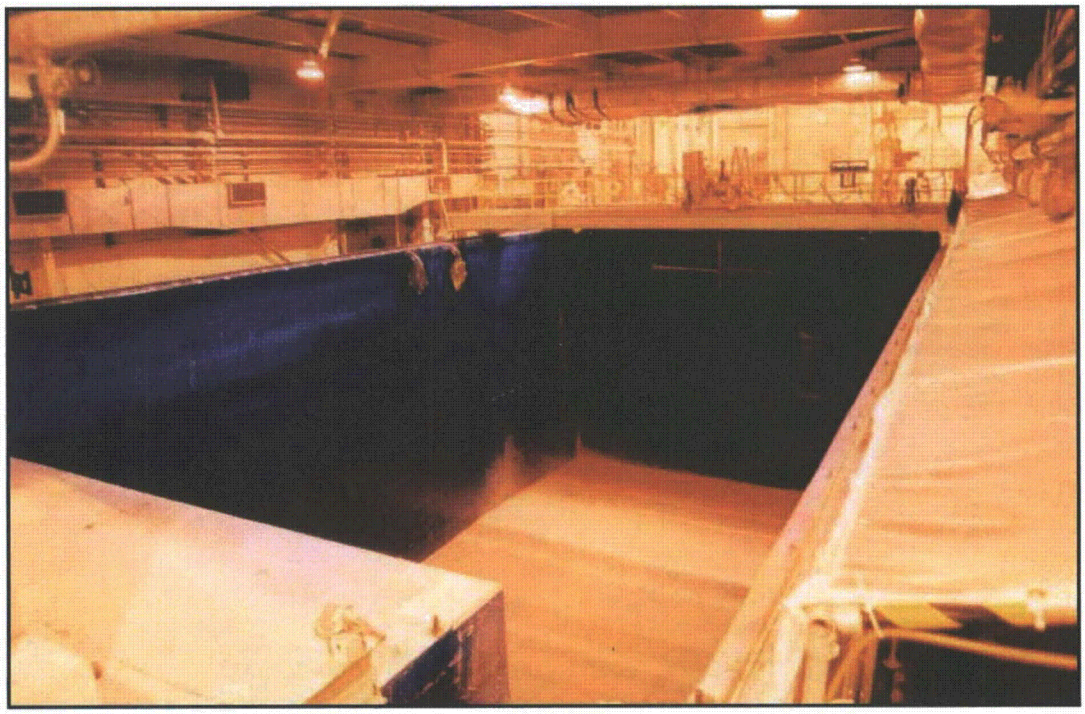


**Figure 3-20. The Spent Fuel Pool After Deactivation**

**Figure 3-21. Equipment Decontamination Room Before Cleanup**

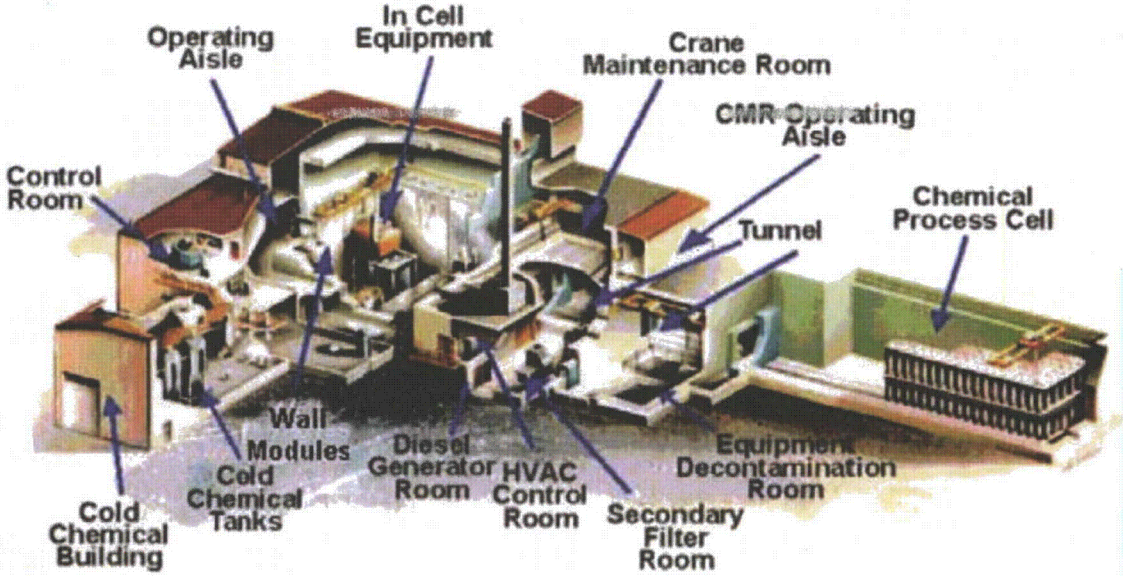



**Figure 3-22. Vitrification Facility General Arrangement**

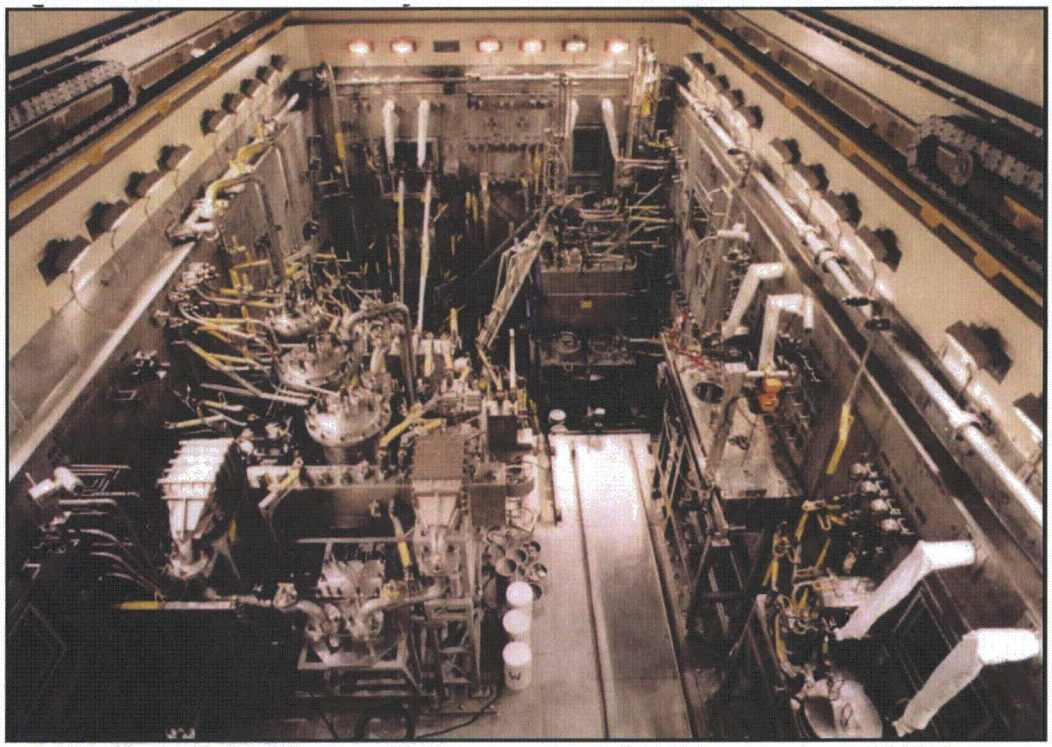


**Figure 3-23. Vitrification Cell at Time of Startup**

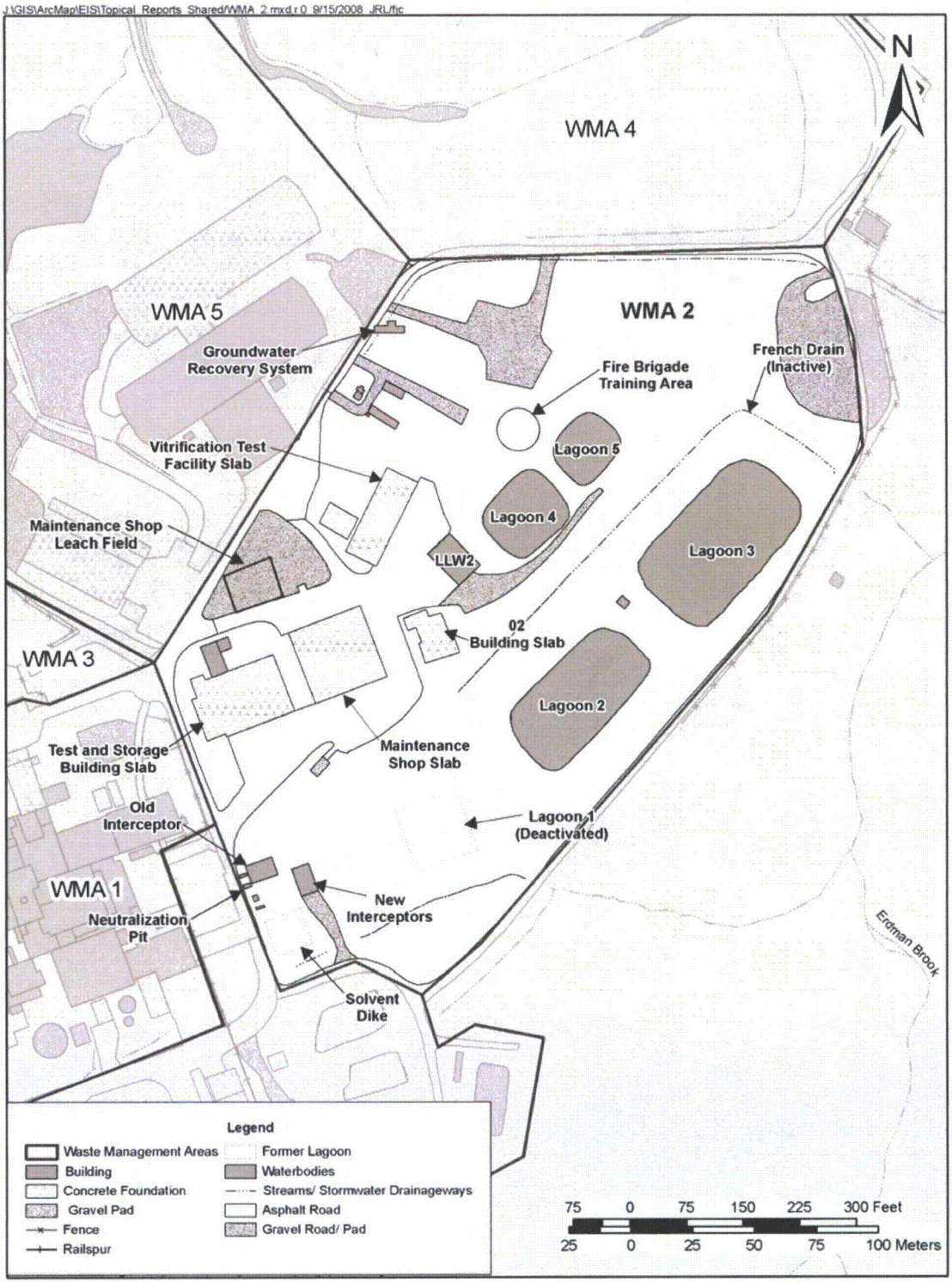



**Figure 3-24. WMA 2.** (The facilities to be removed during Phase 1 decommissioning activities include the Neutralization Pit, Interceptors, Lagoons, and remaining slabs.)

**Figure 3-25. The Low-Level Waste Treatment Facility.** (This photo shows the site in 1982, looking toward the southwest.)

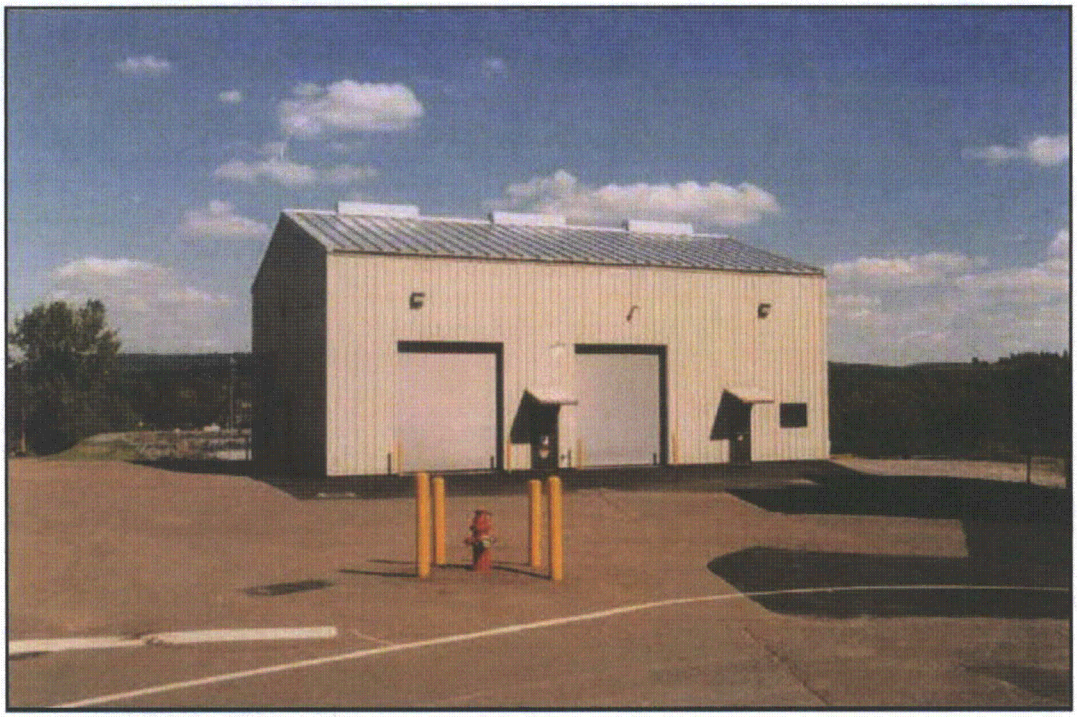


**Figure 3-26. The LLW2 Building that Replaced the O2 Building**

**Figure 3-27. The Lagoon 1 Area.** (Radioactive debris was placed in Lagoon 1 when it was closed in 1985.)

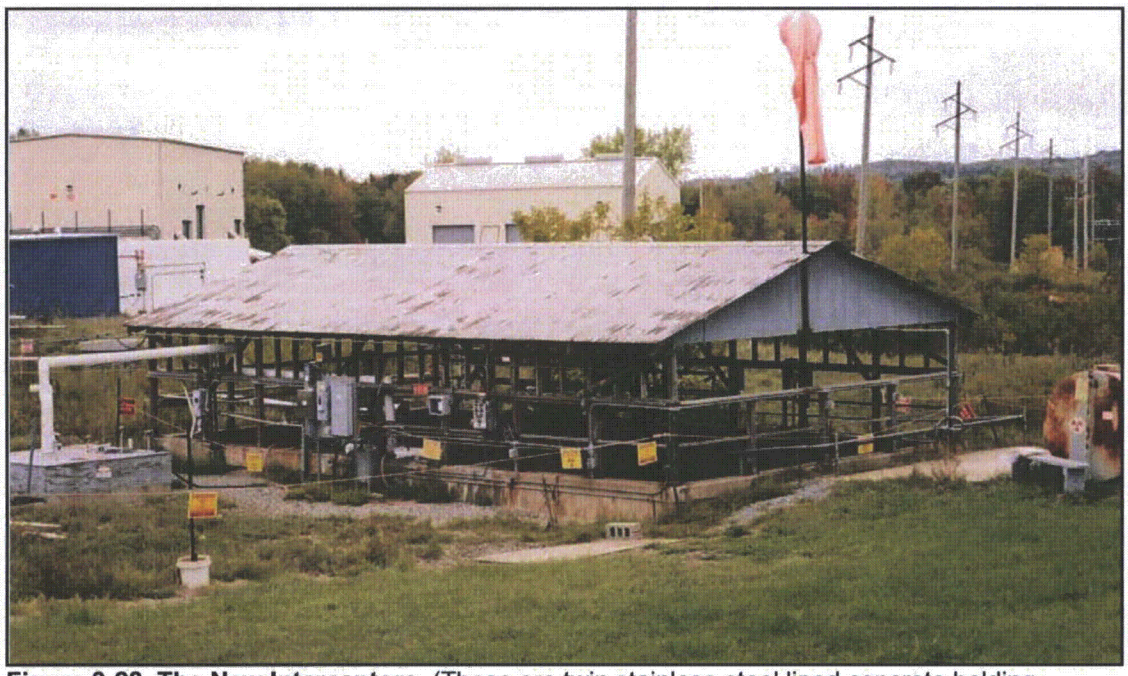


**Figure 3-28. The New Interceptors.** (These are twin stainless-steel lined concrete holding tanks.)

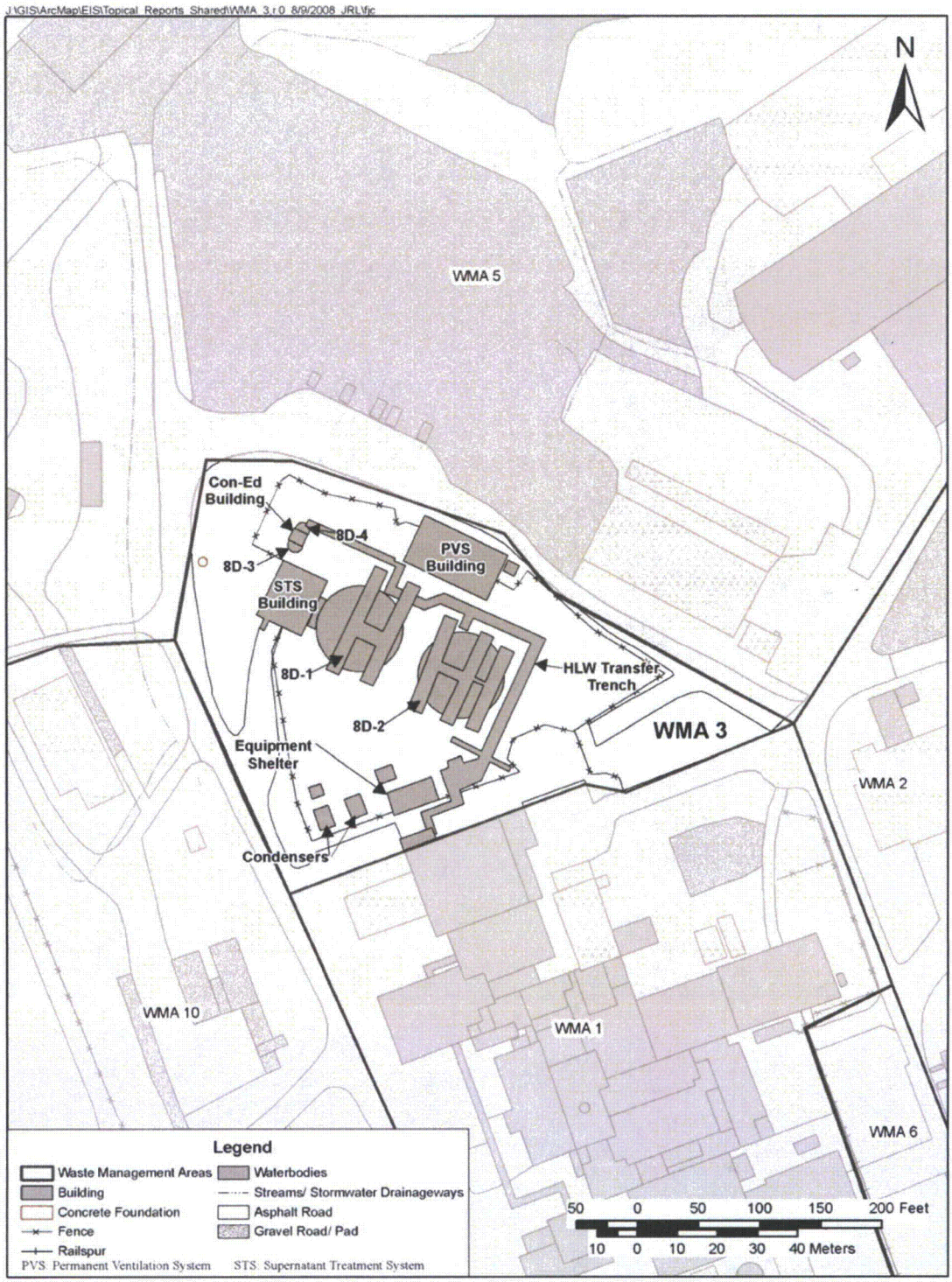



**Figure 3-29. WMA 3.** (Facilities to be removed during Phase 1 decommissioning activities include the Equipment Shelter, the condensers, the piping in the HLW transfer trench, and the Con-Ed Building.)

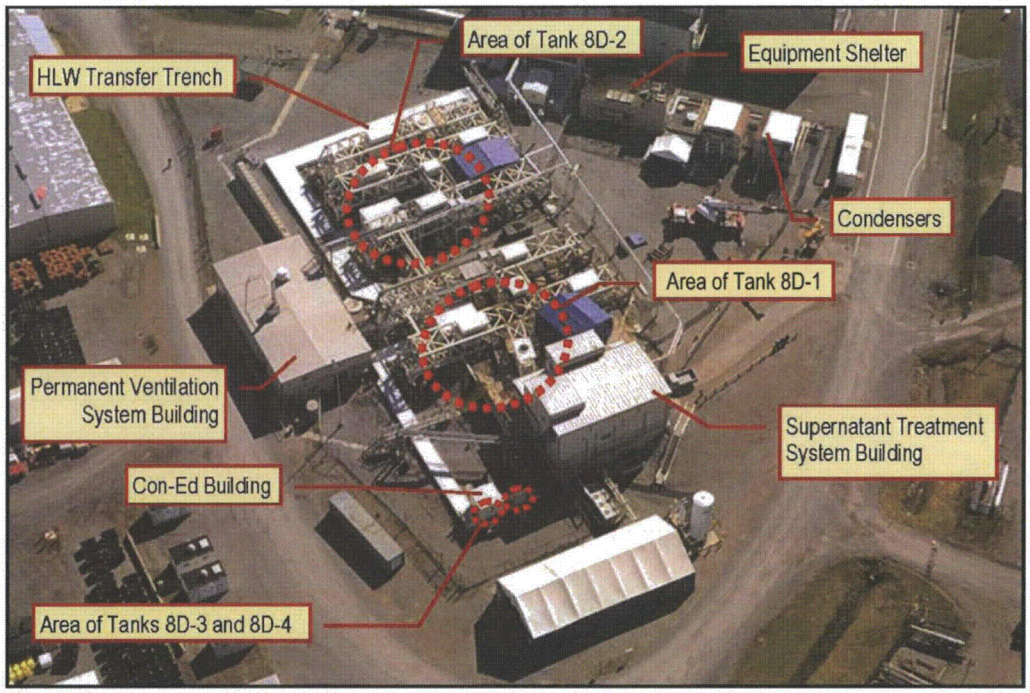



**Figure 3-30. Aerial View of WMA 3 Area**

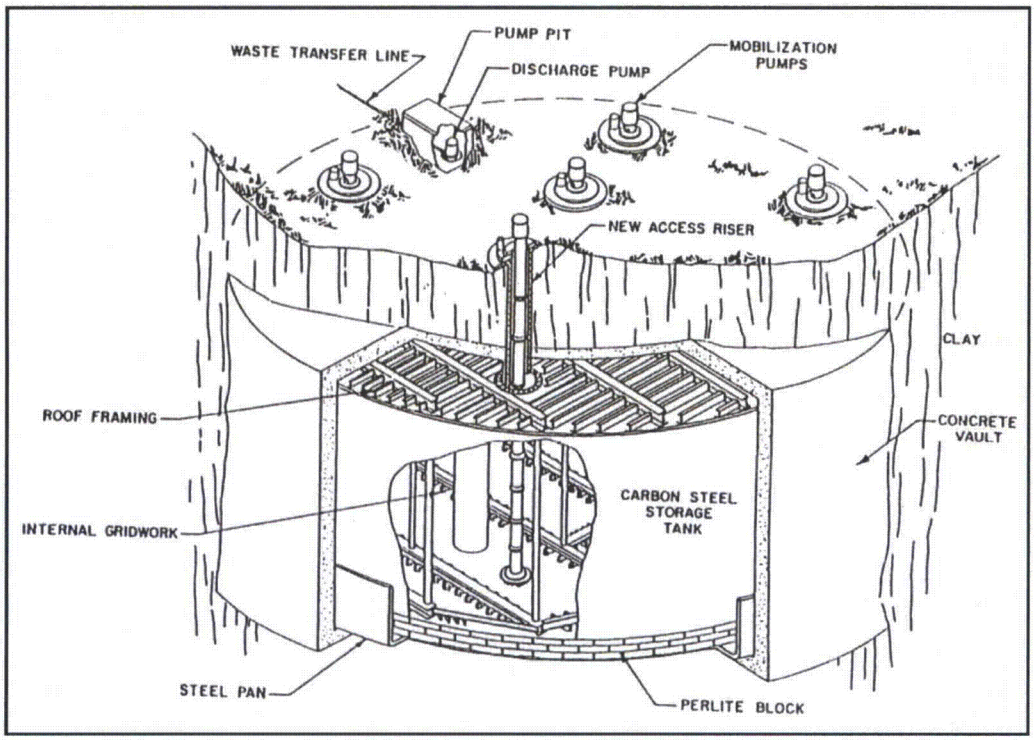



**Figure 3-31. Cutaway View of 750-Gallon Underground Waste Tank**

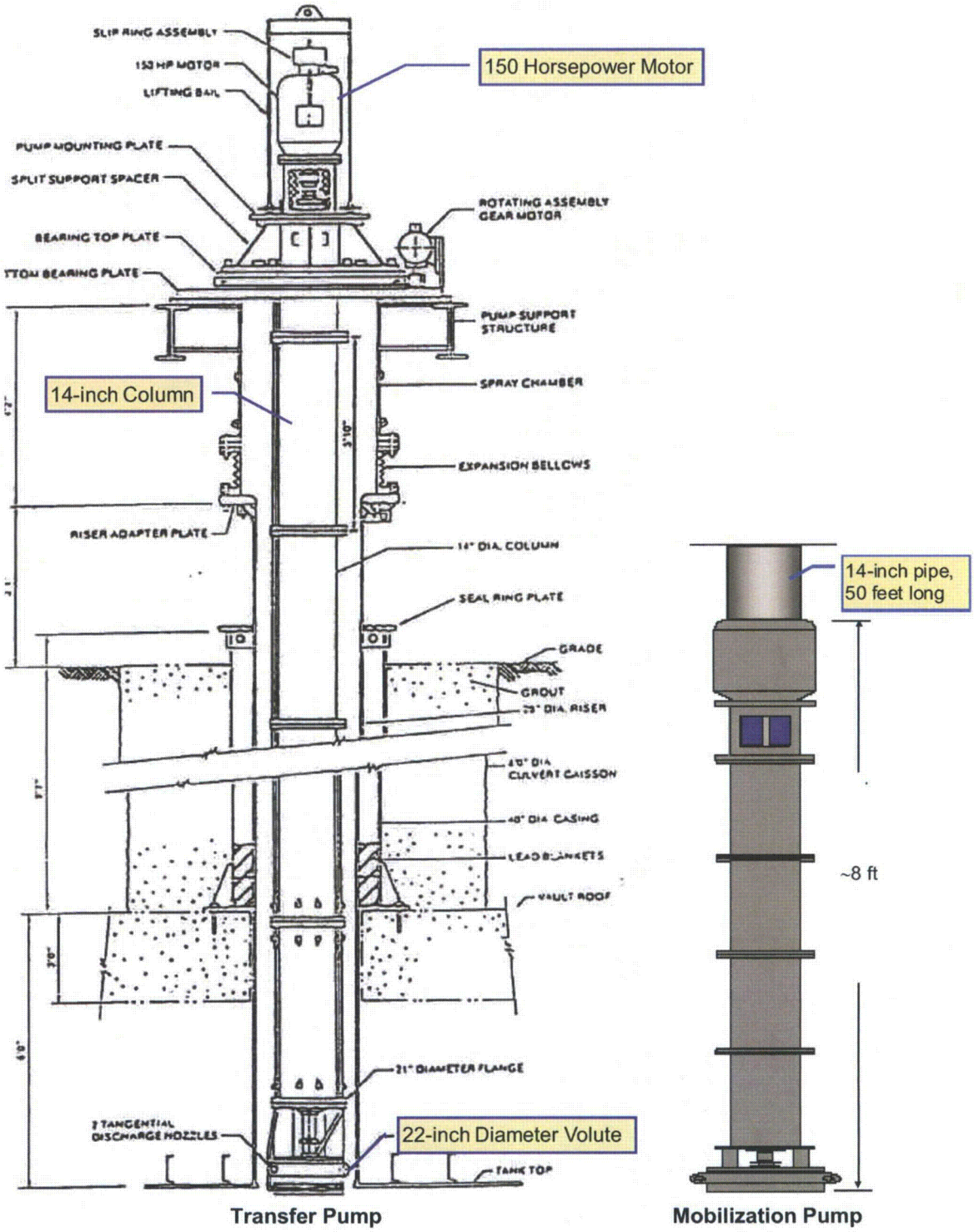



**Figure 3-32. HLW Transfer and Mobilization Pumps**

**Figure 3-33. HLW Transfer Trench Under Construction**

**Figure 3-34. Typical HLW Pump Pit**

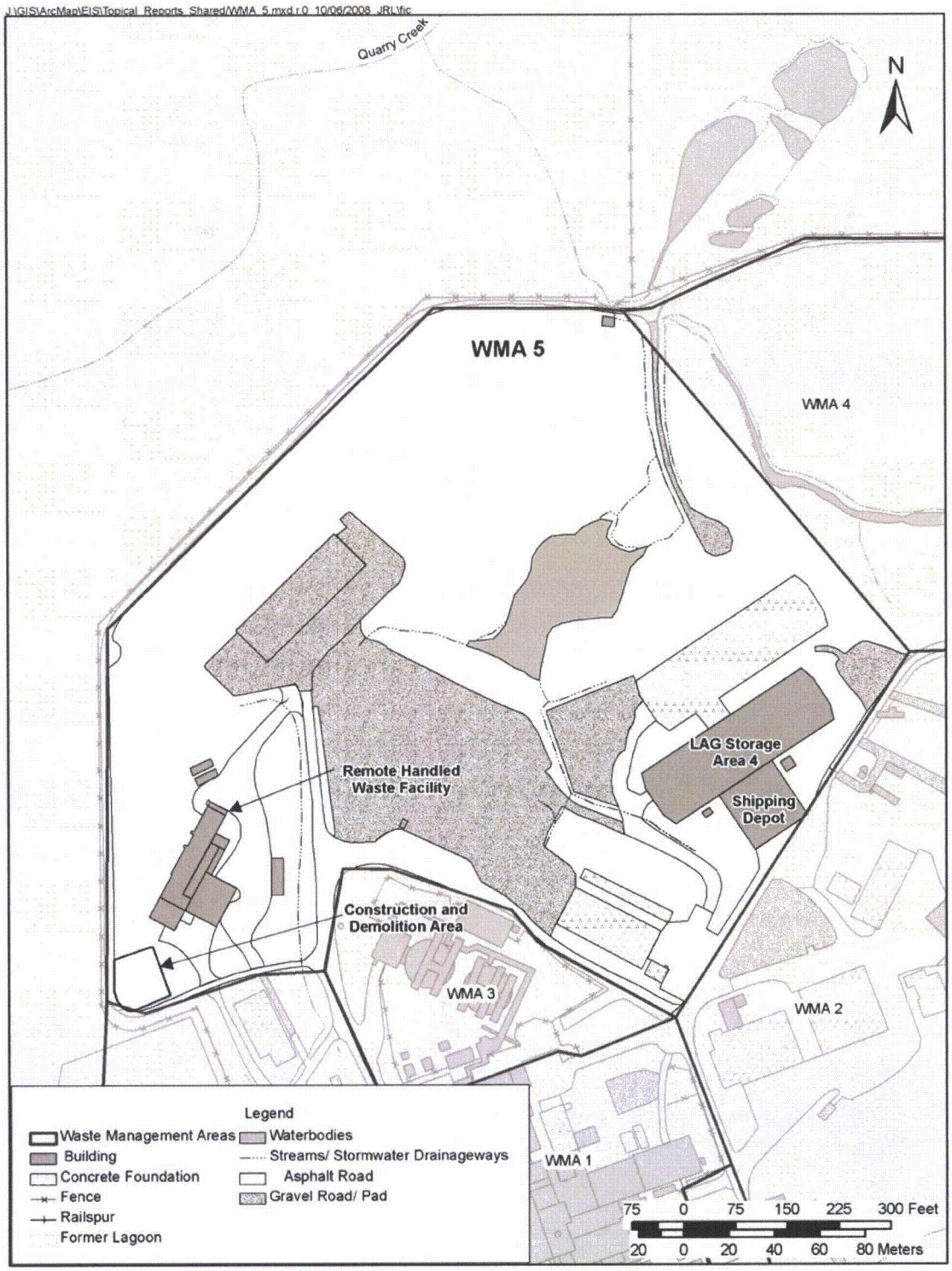



**Figure 3-35. WMA 5.** (Facilities to be removed during Phase 1 decommissioning include the Remote-Handled Waste Facility, Lag Storage Addition 4 and its Shipping Depot.)

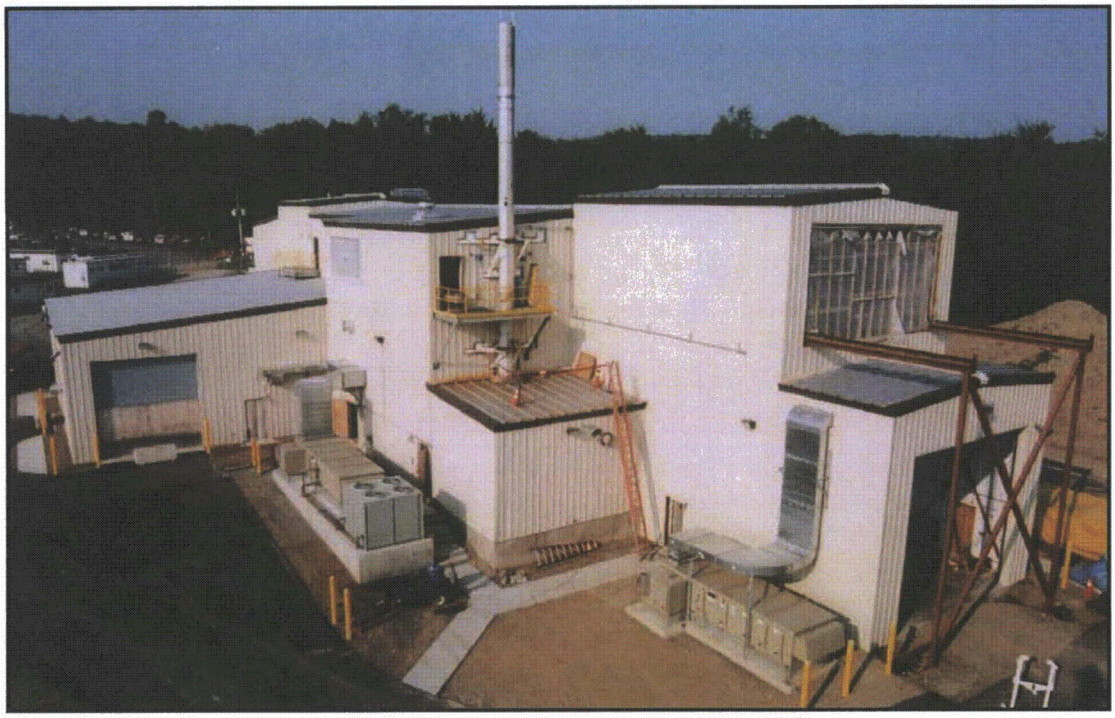


**Figure 3-36. The Remote-Handled Waste Facility.** (Placed into service in 2004, this new building may contain significant contamination at the time it is removed.)

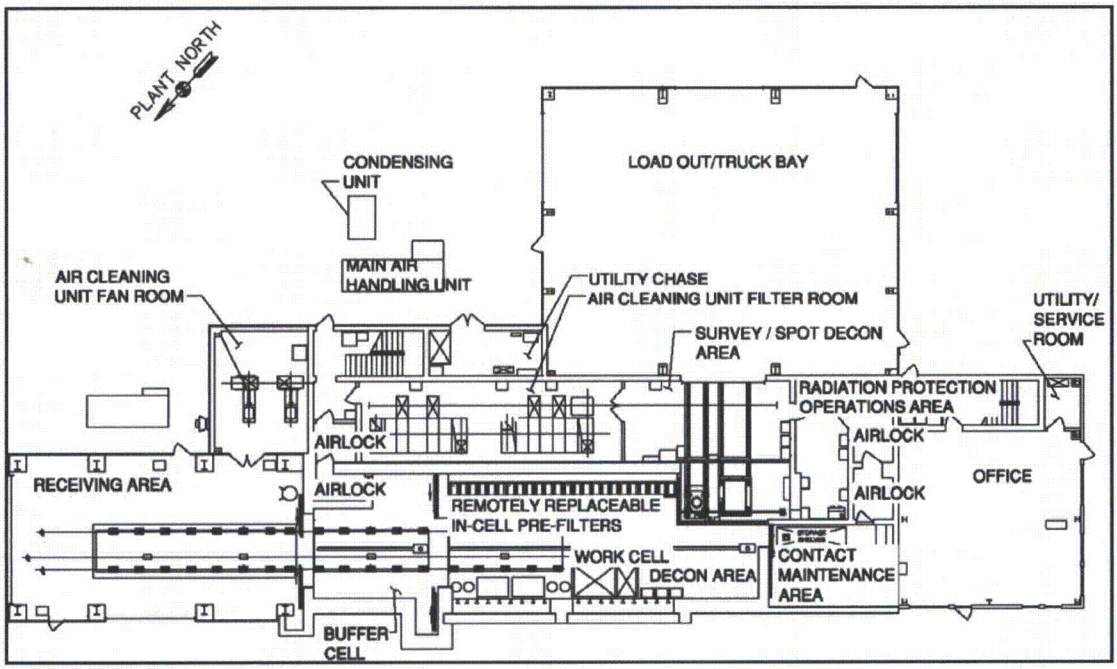



**Figure 3-37. The Remote-Handled Waste Facility First Floor Layout.**

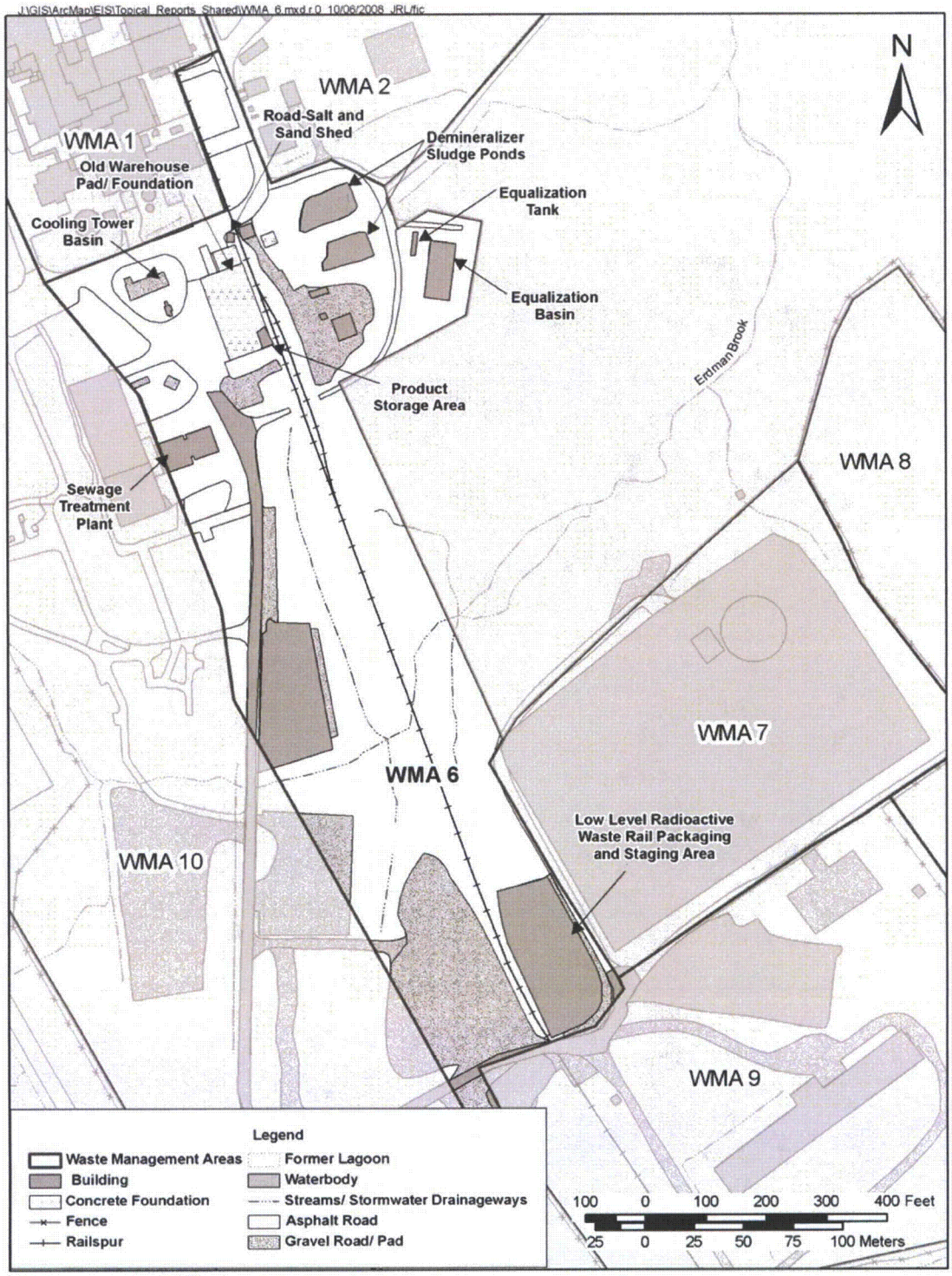



**Figure 3-38. WMA 6.** (Facilities to be removed during Phase 1 Decommissioning include the Demineralizer Sludge Ponds, the Sewage Treatment Plant, the Equalization Tank and Basin, the south Waste Tank Farm Training Platform, and the remaining slabs.)

**Figure 3-39. The Rail Spur.** (The rail spur leads to the Fuel Receiving and Storage Facility.)

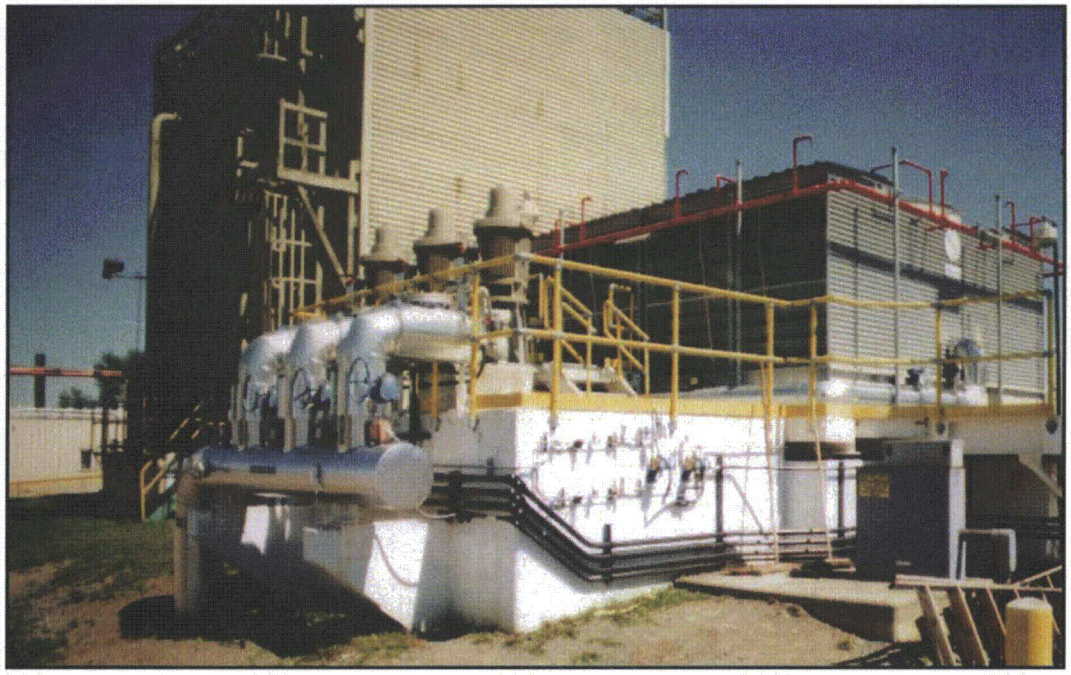


**Figure 3-40. The New Cooling Tower.** (The cooling tower will be removed, except for its concrete basin, before Phase 1 decommissioning activities begin.)

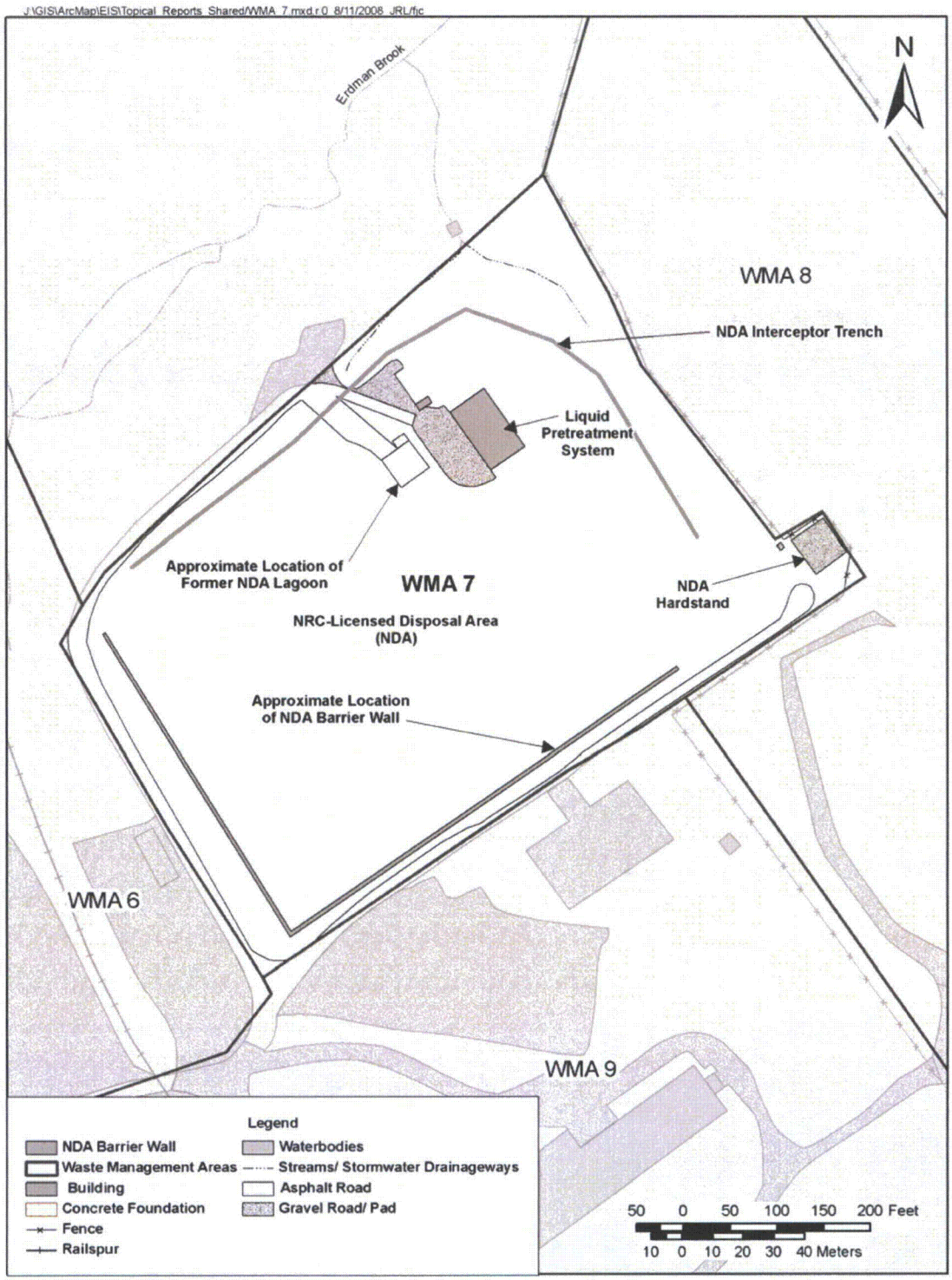



**Figure 3-41. WMA 7.** (The only facility to be removed during Phase 1 decommissioning is the NDA hardstand pad.)

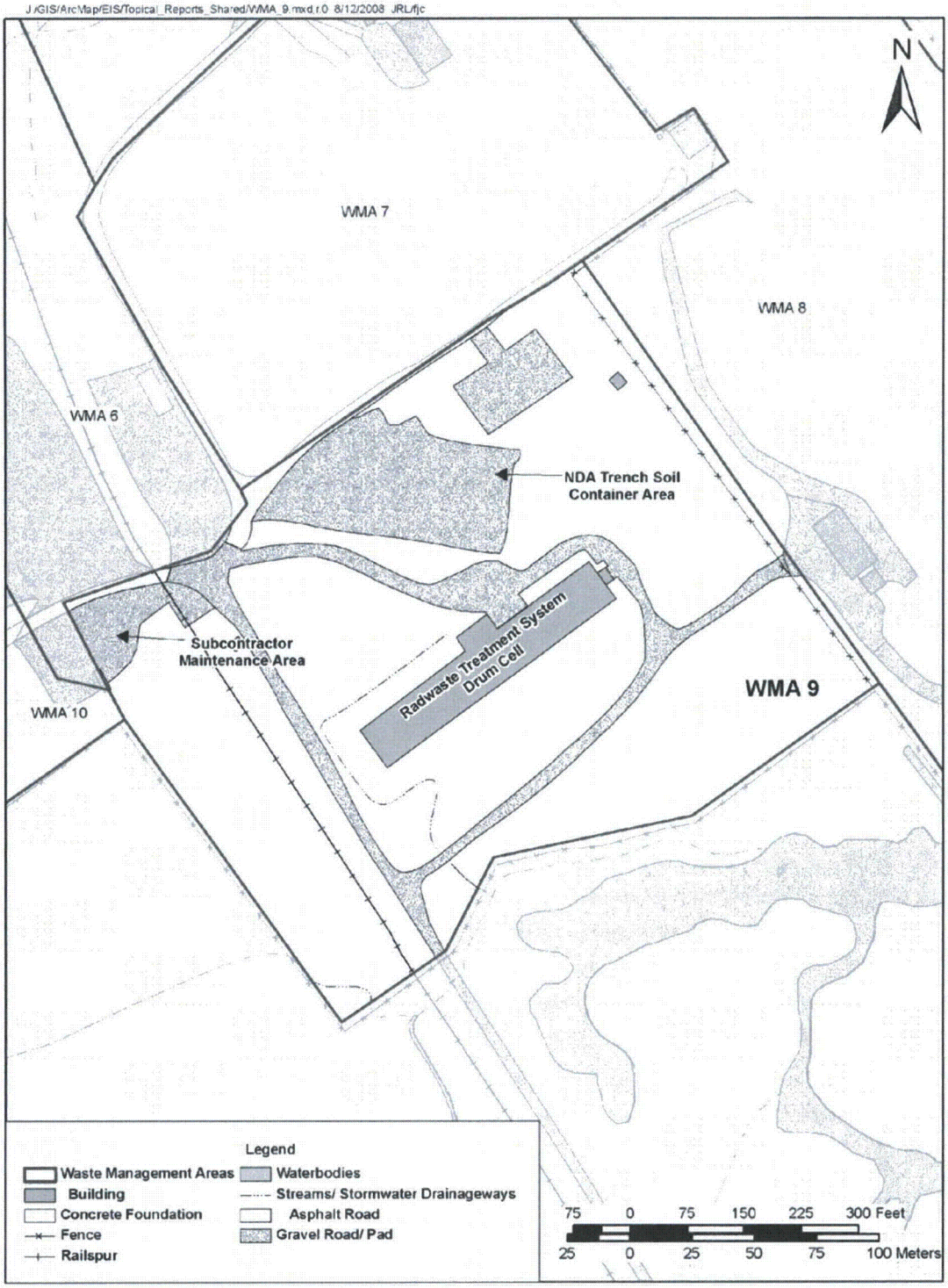



**Figure 3-42. WMA 9.** (The Drum Cell will be removed during Phase 1 decommissioning, along with NDA Trench Soil Container Area and the Subcontractor Maintenance Area.)

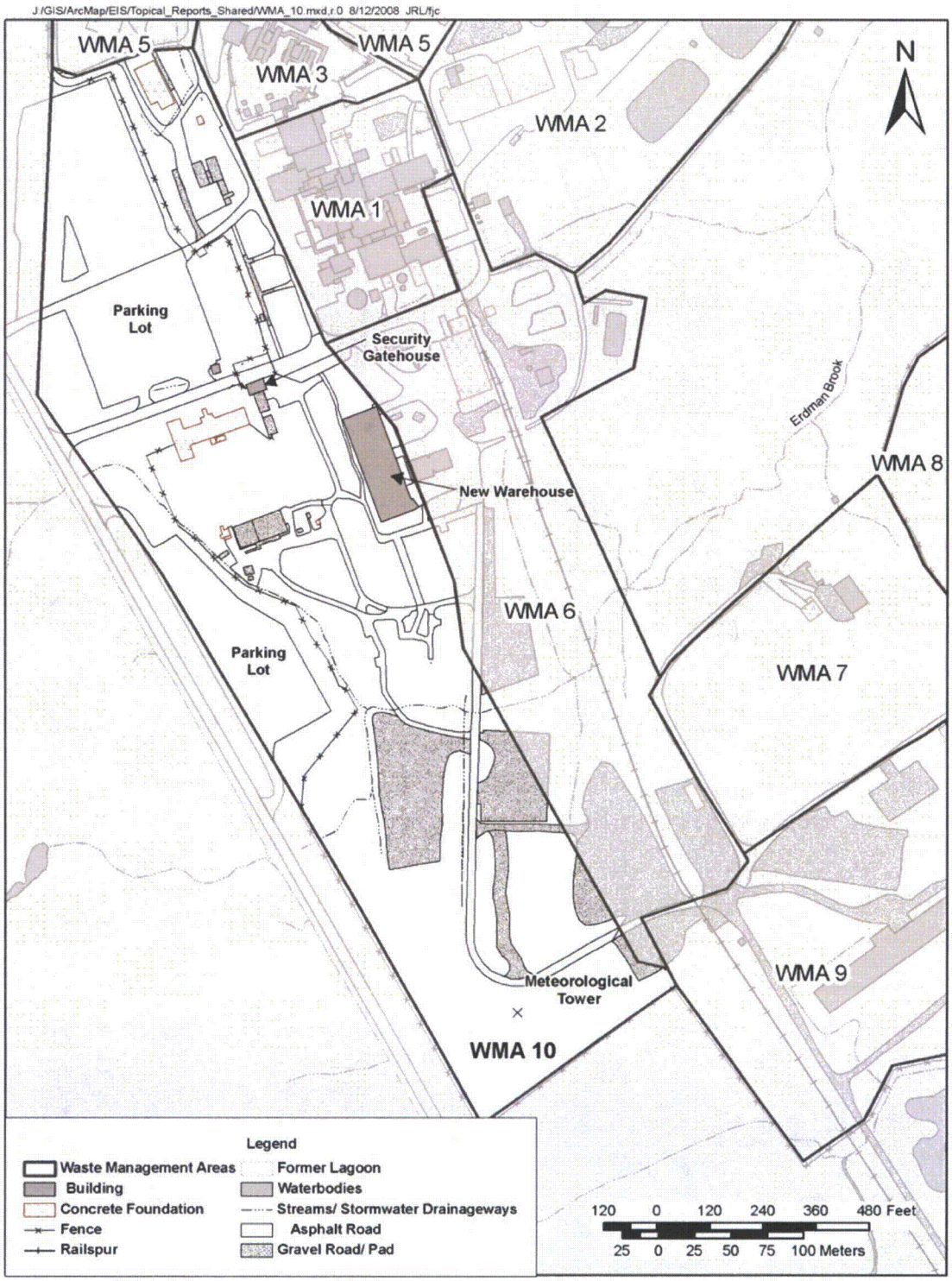



**Figure 3-43. WMA 10.** (Facilities to be removed during Phase 1 decommissioning include the New Warehouse and the remaining slabs and pads.)

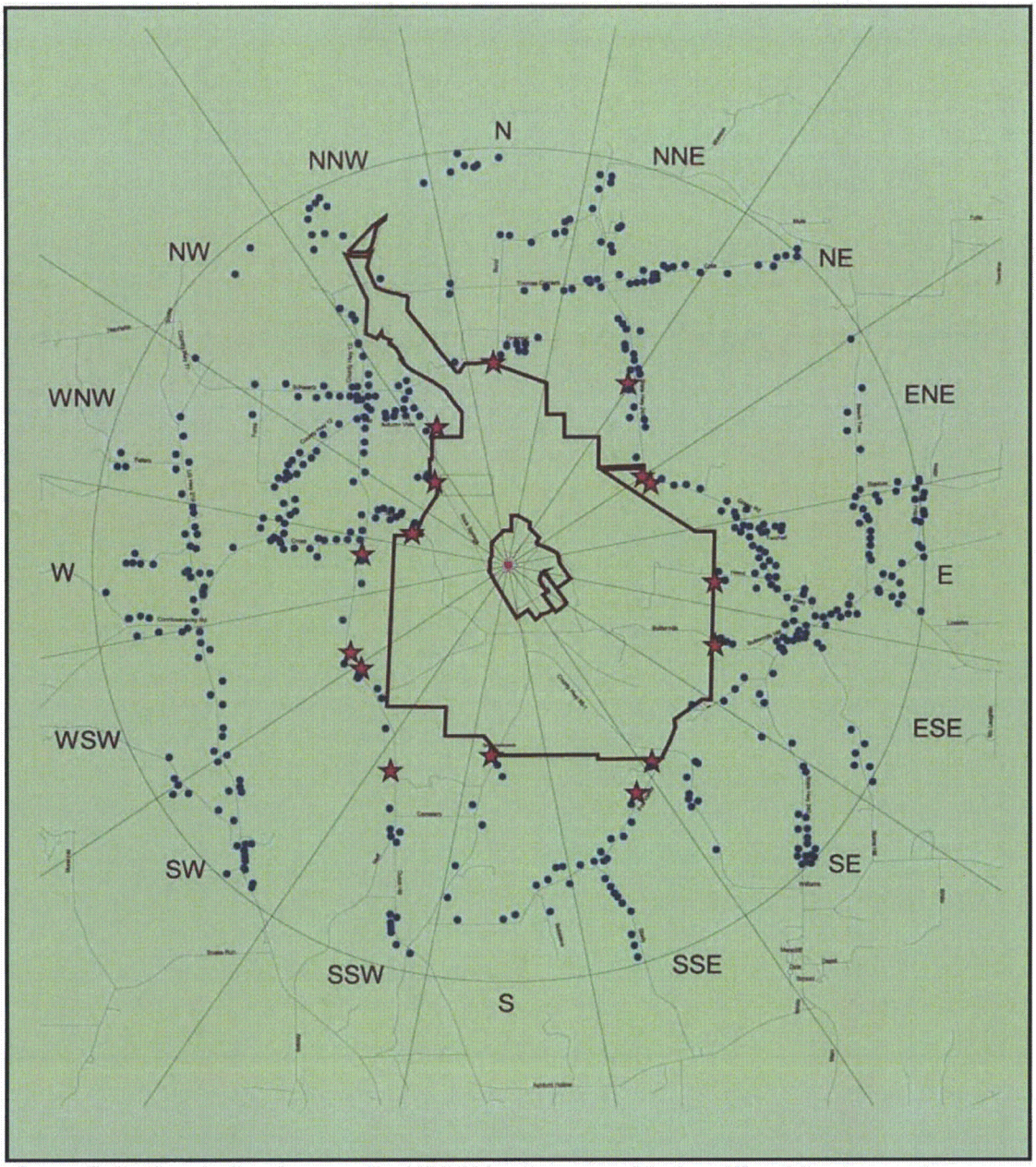



**Figure 3-44. Population Around the WVDP by Compass Vector**. (The dots represent residences. The stars show the nearest residences by compass vector.)

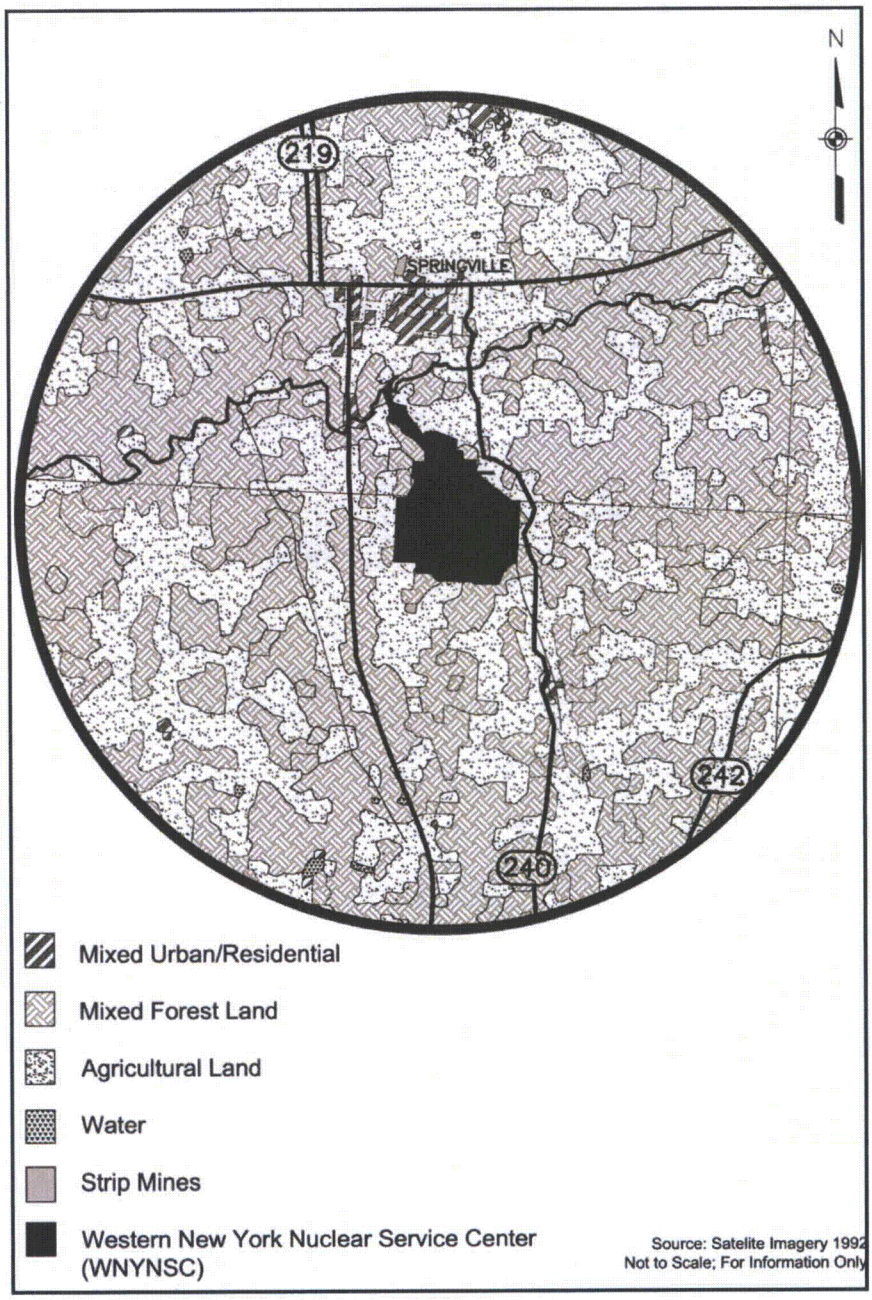



**Figure 3-45. Land Use in the Vicinity of the Center**

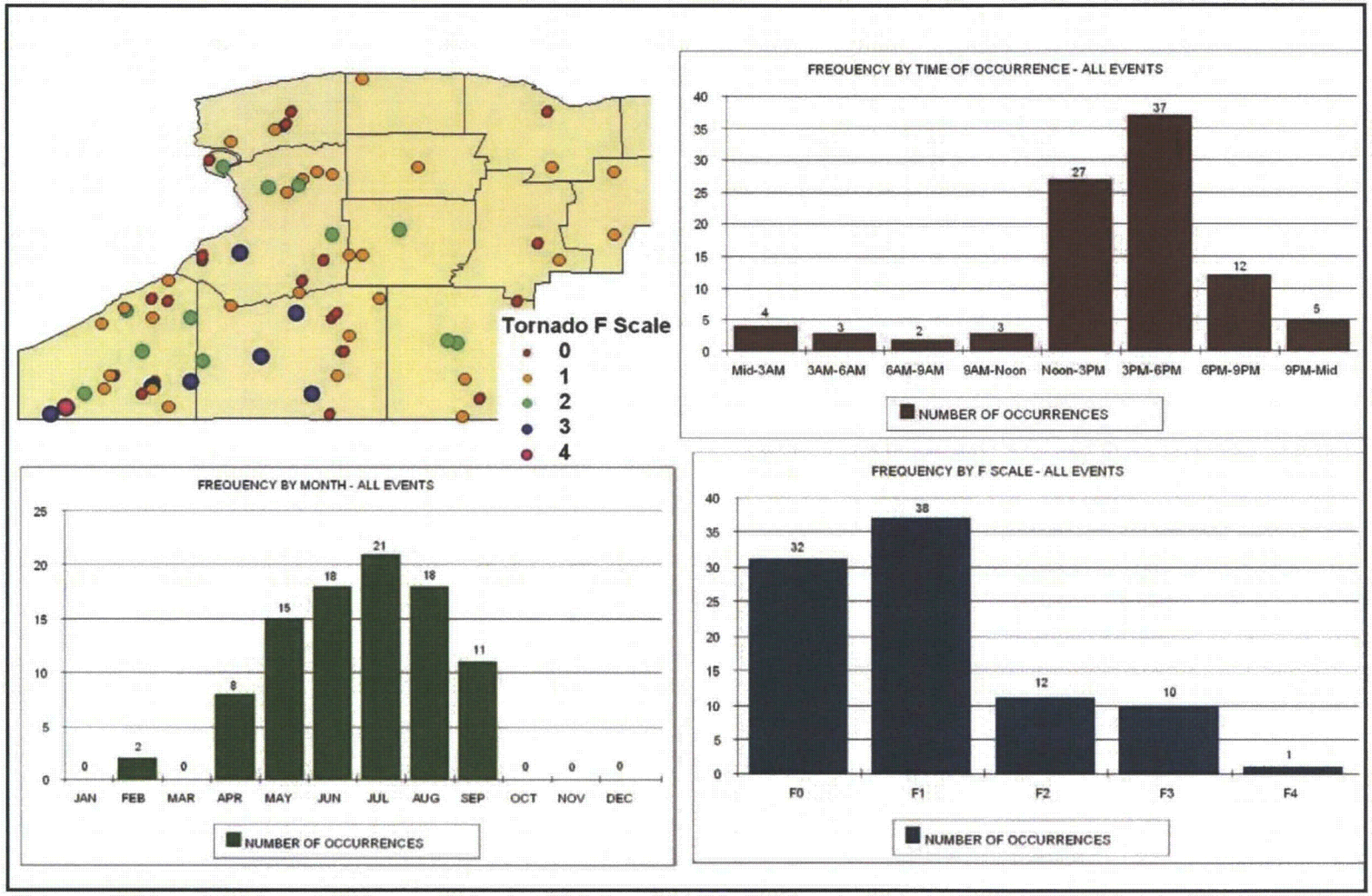



**Figure 3-46. Tornado Events in Western New York (1950 – 2002)** (From National Weather Service, Buffalo)

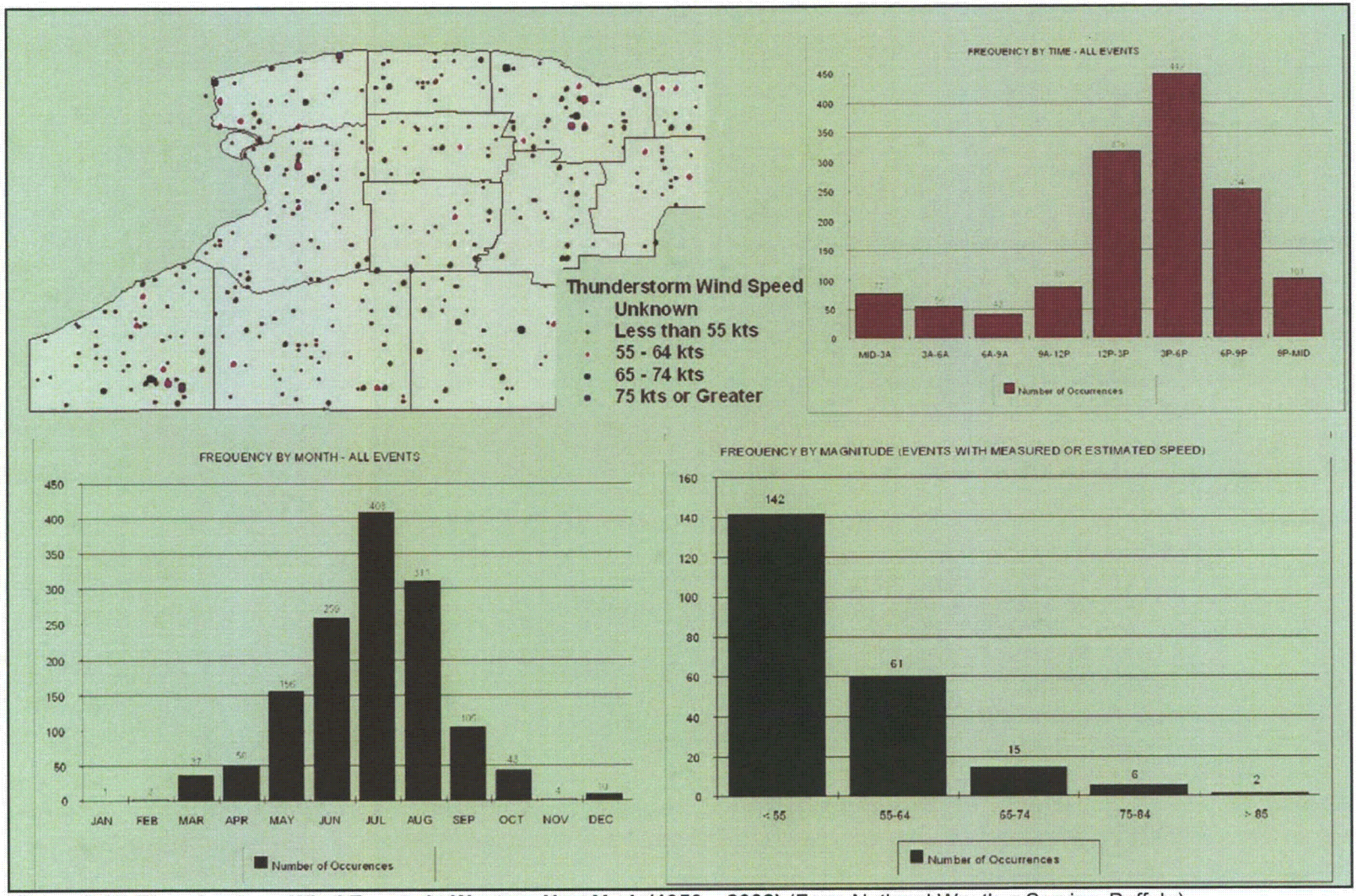



**Figure 3-47. Thunderstorm Wind Events in Western New York (1950 – 2002)** (From National Weather Service, Buffalo)

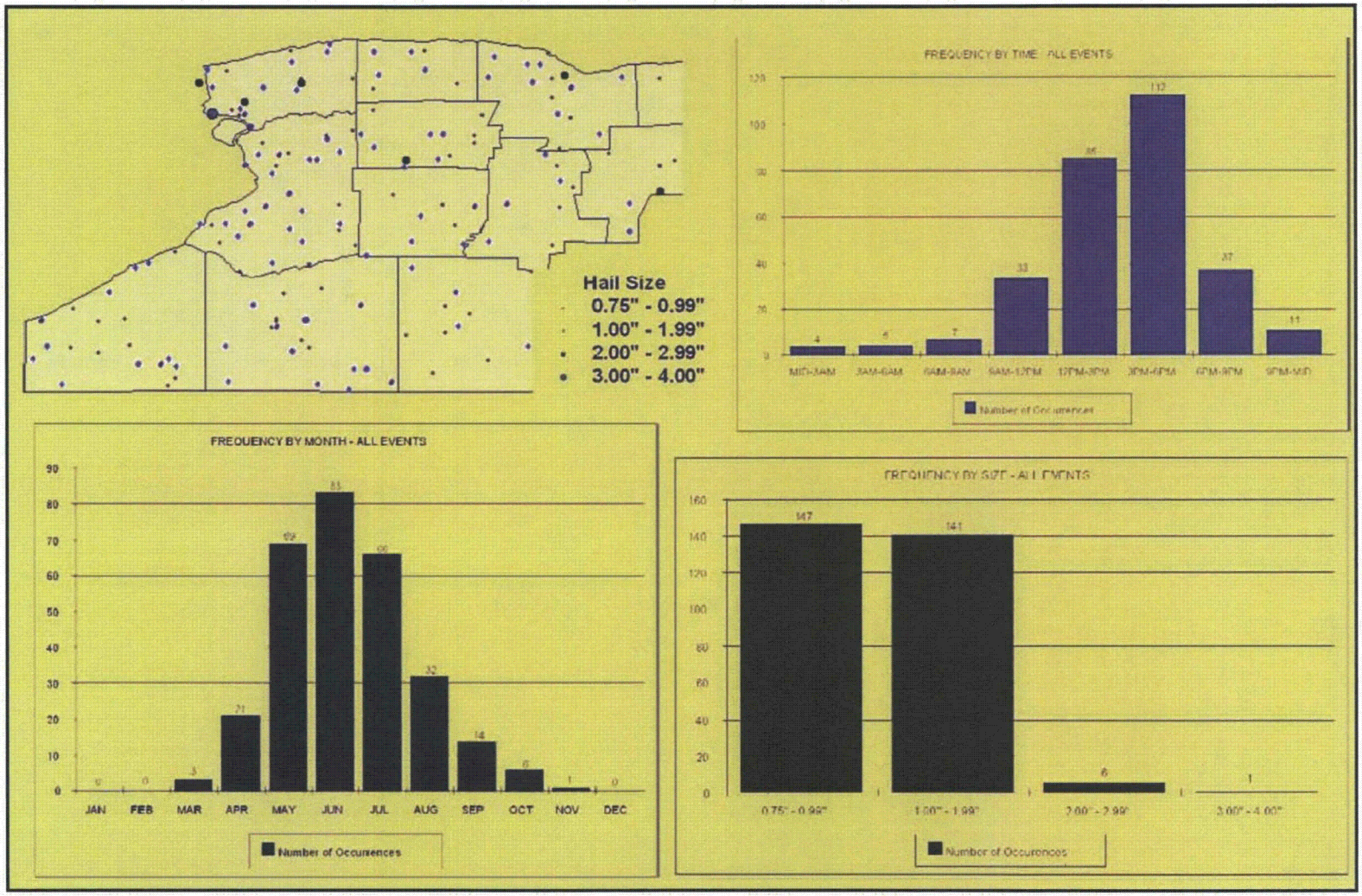



**Figure 3-48. Hail Events in Western New York (1950 – 2002)** (From National Weather Service, Buffalo)

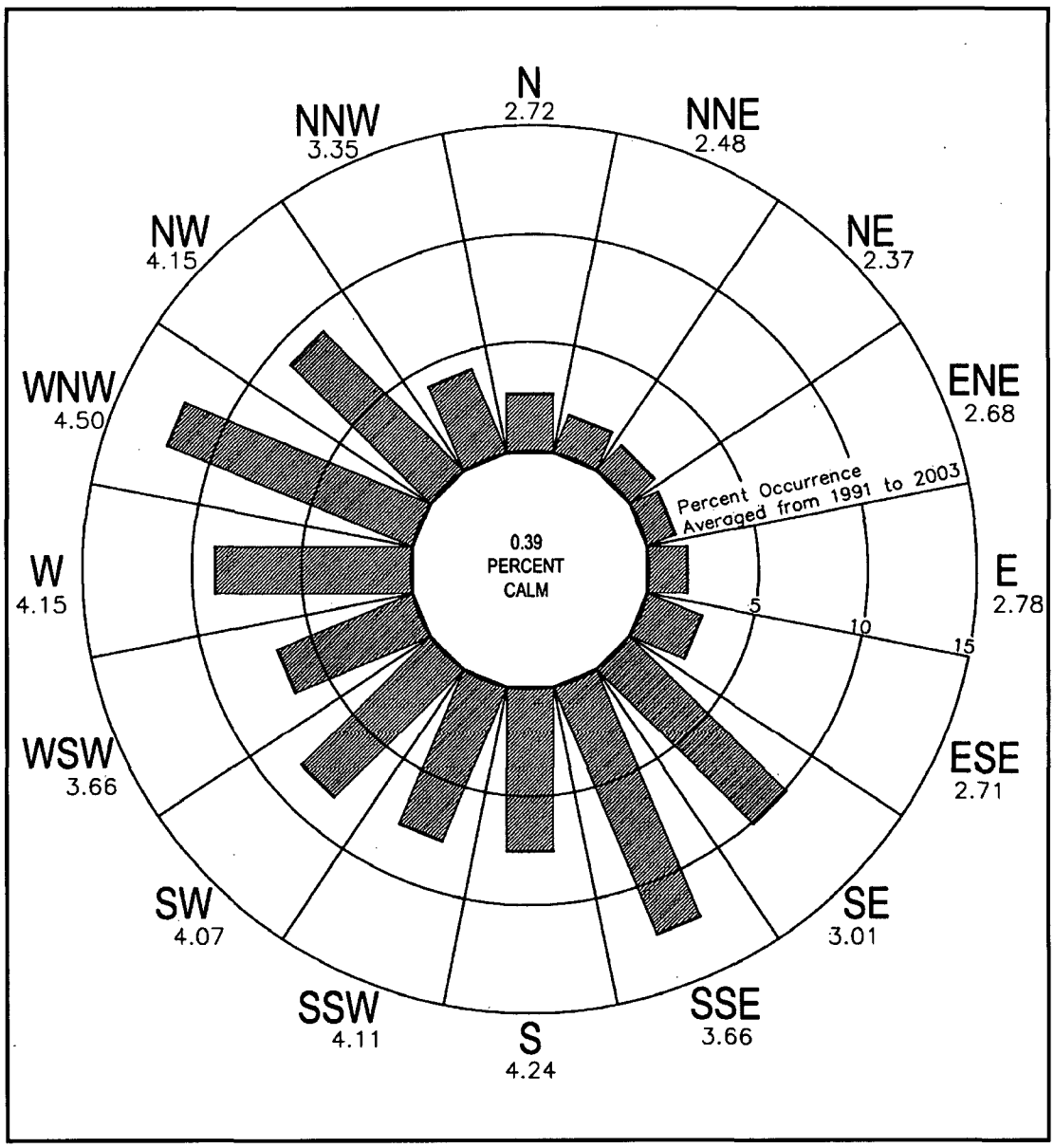



**Figure 3-49. Wind Rose Diagram.** (1991 – 2003 average head-wind direction and average wind speed in m/s)

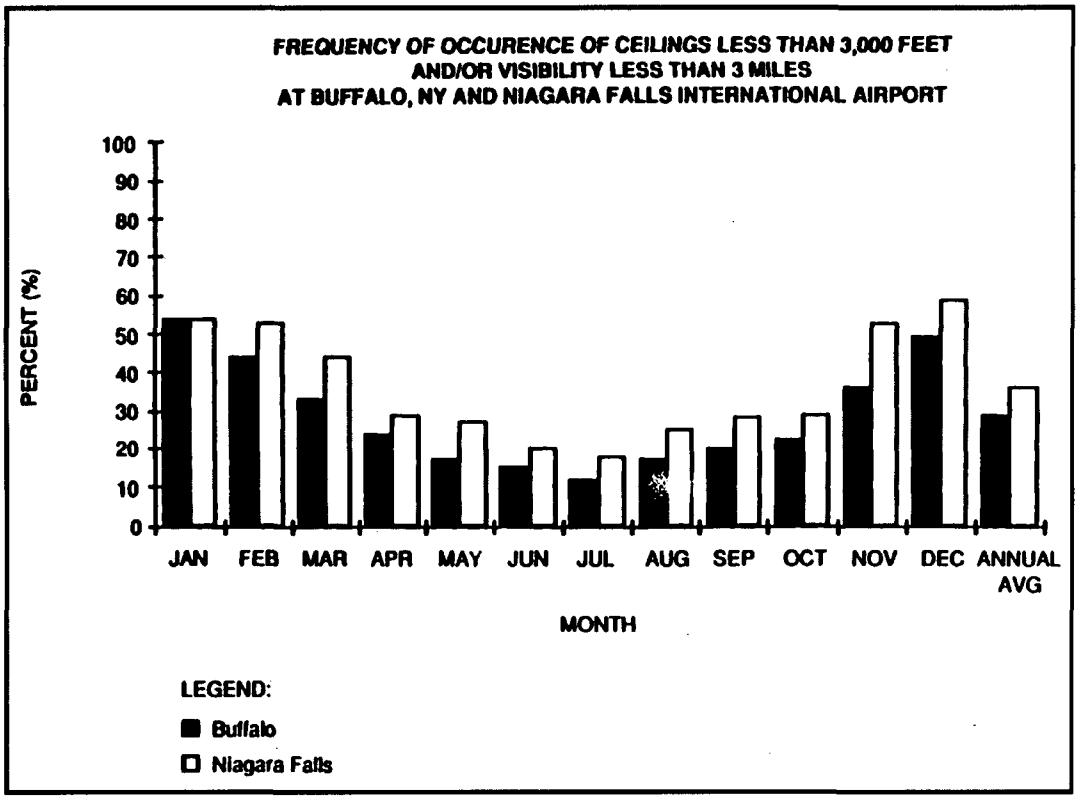



**Figure 3-50. Cloud Ceiling Information** (From reference 3-11)

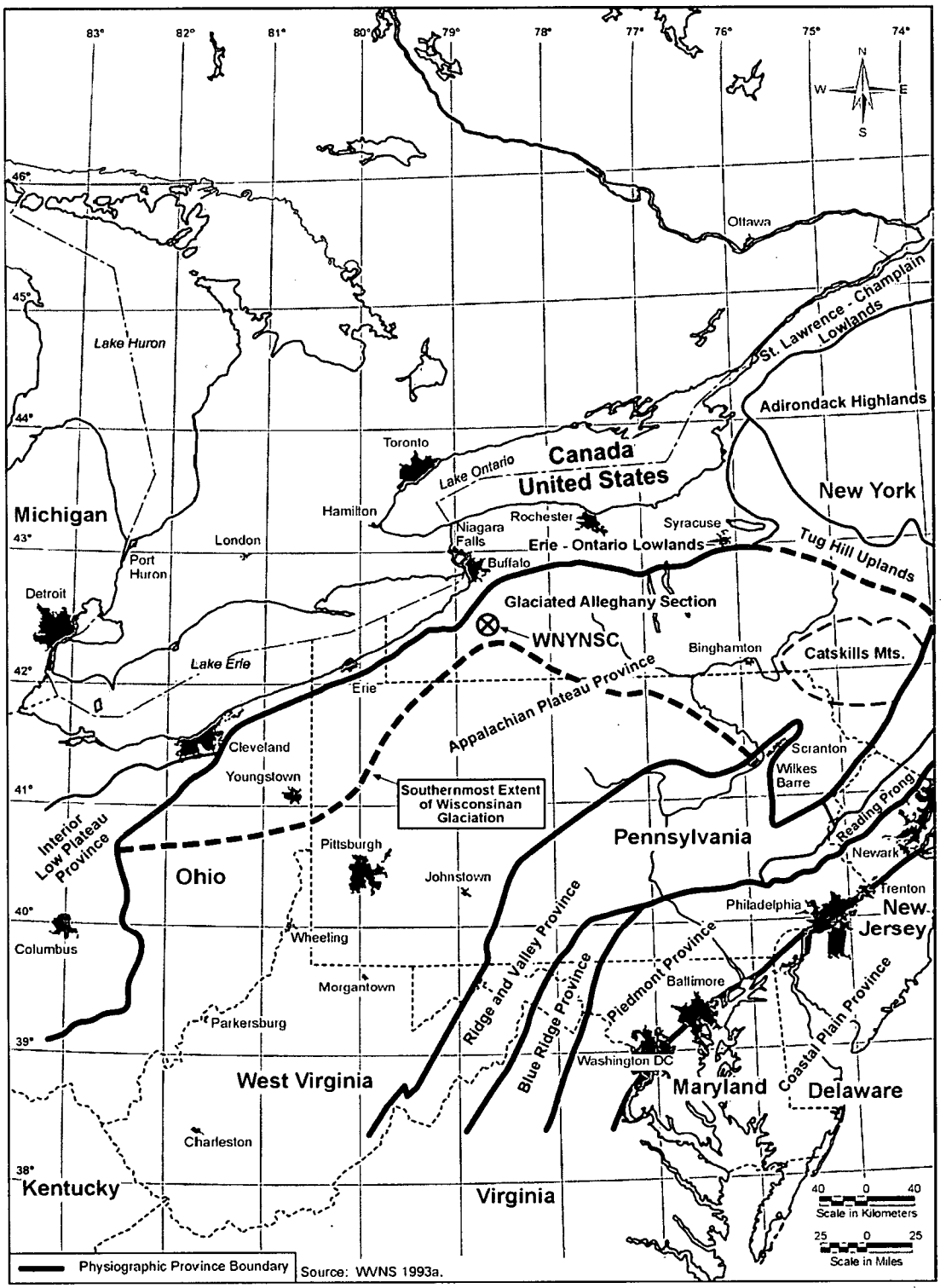



**Figure 3-51. Regional Physiographic Map**

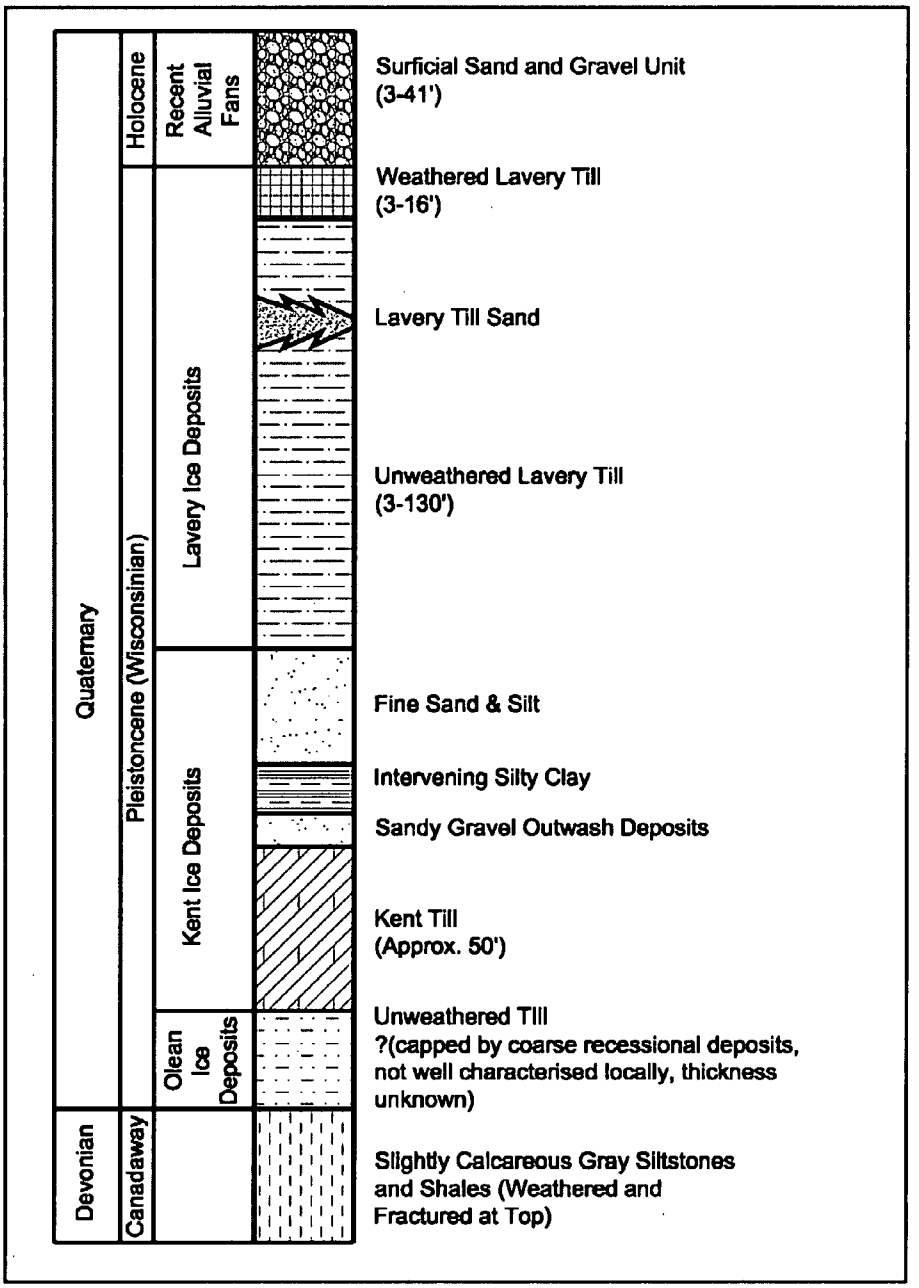



**Figure 3-52. Bedrock and Glacial Stratigraphy of the WVDP**

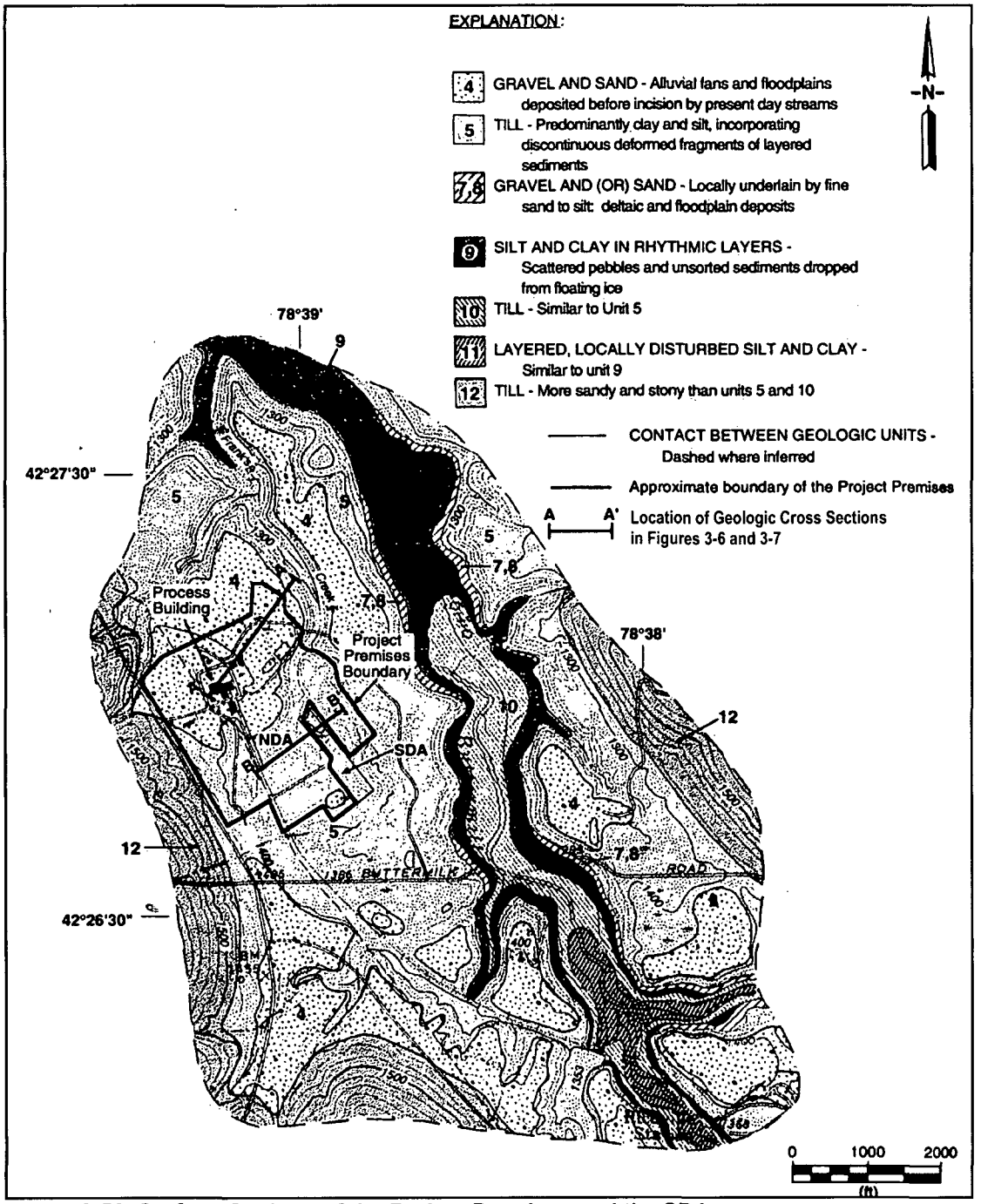



**Figure 3-53. Surface Geology of the Project Premises and the SDA**

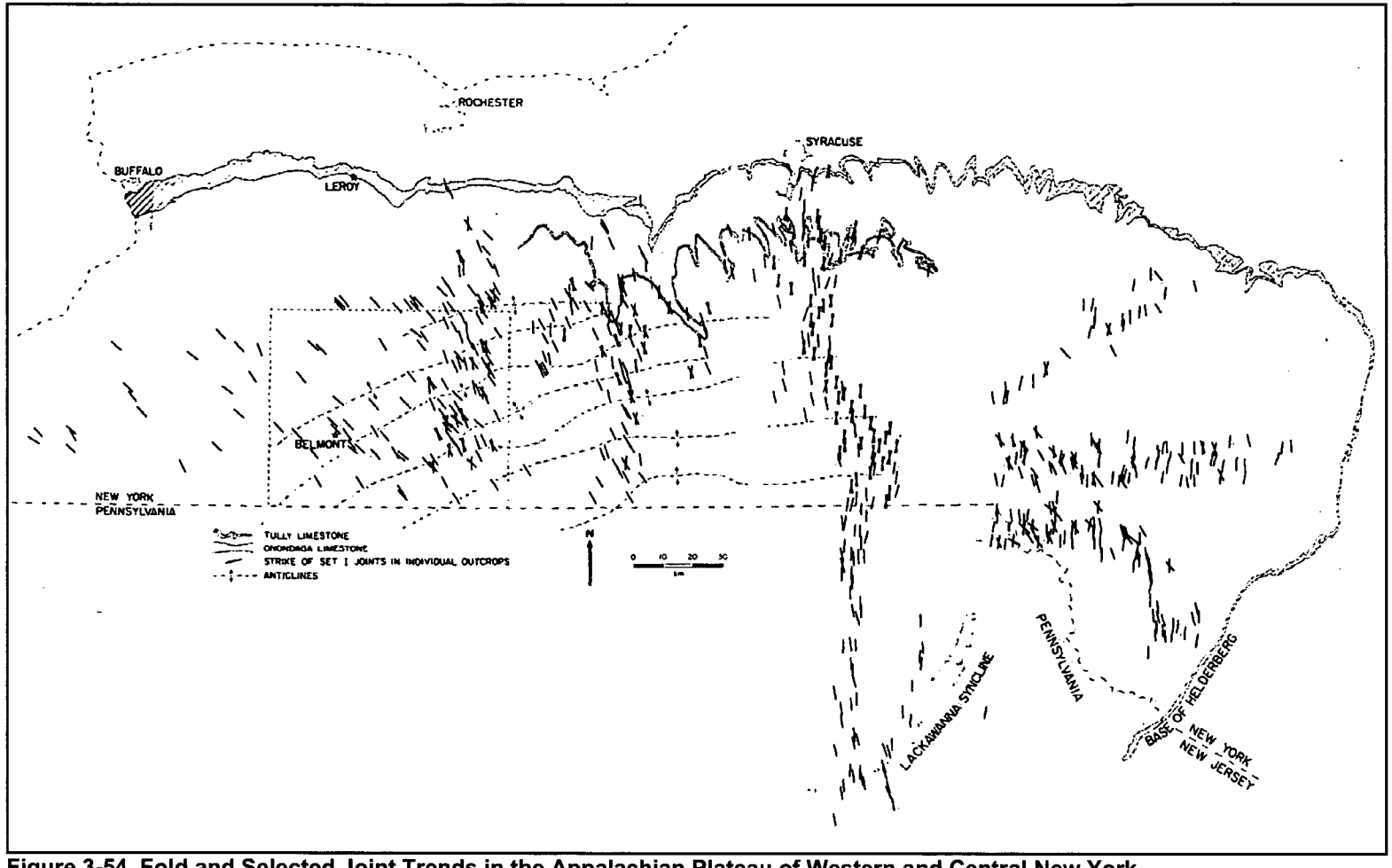



**Figure 3-54. Fold and Selected Joint Trends in the Appalachian Plateau of Western and Central New York**

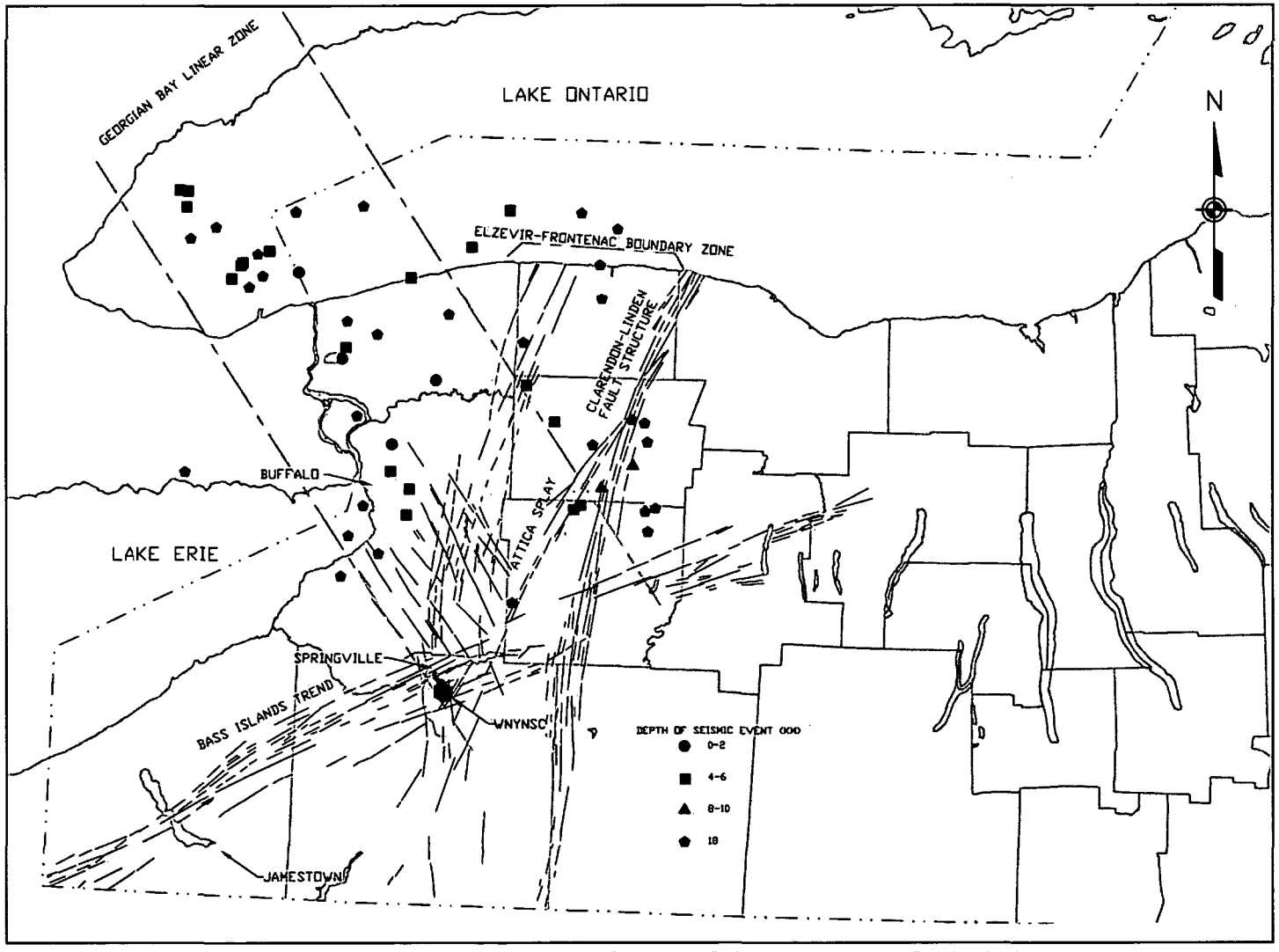



**Figure 3-55. Seismo-Tectonic Map of Western New York Showing Selected Regional Geologic Structures**

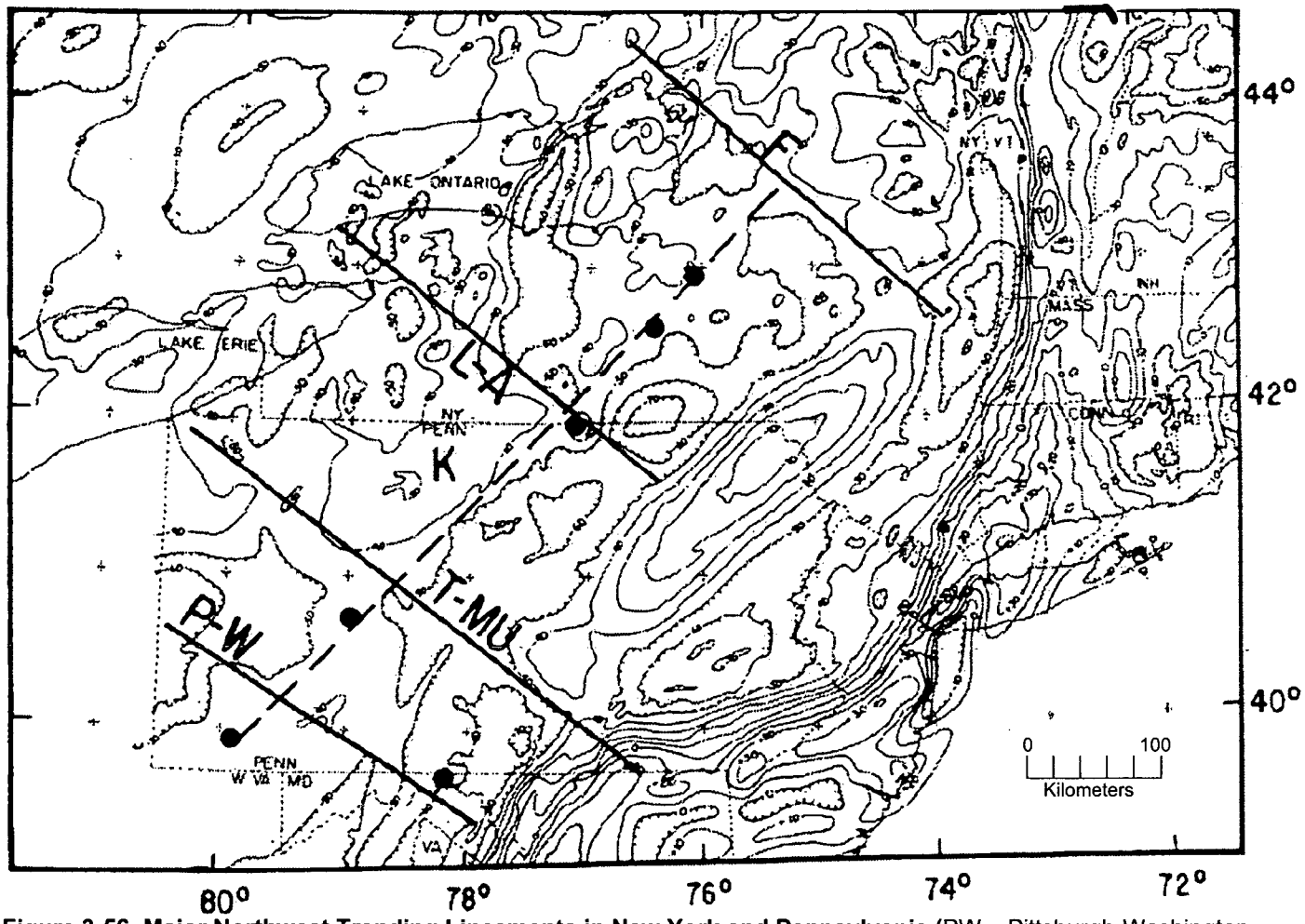



**Figure 3-56. Major Northwest Trending Lineaments in New York and Pennsylvania** (PW – Pittsburgh-Washington Lineament, T-MU – Tyrone-Mt. Union Lineament, L-A – Lawrenceville-Attica Lineament, F – F Lineament)

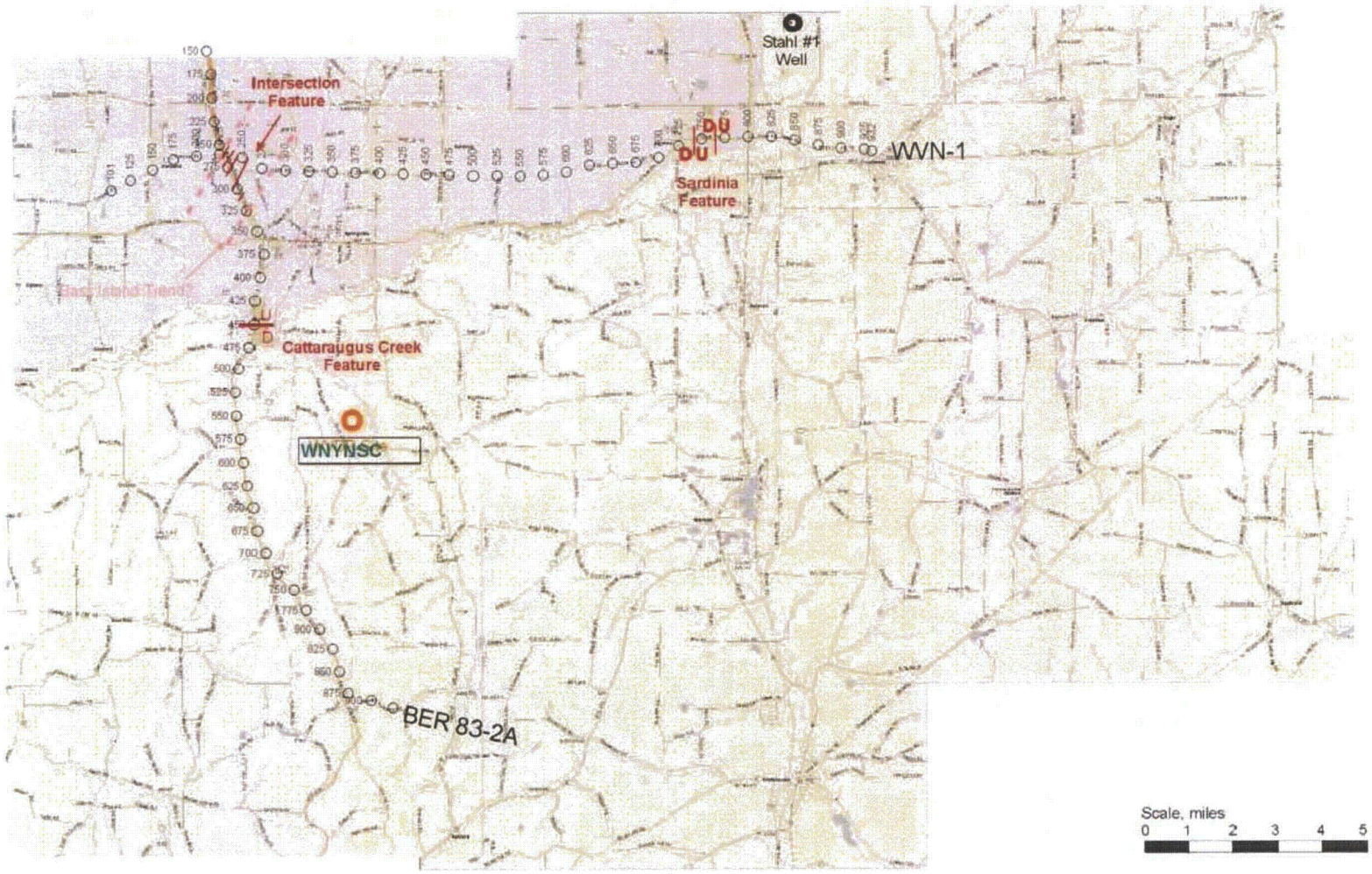



**Figure 3-57. Location of Seismic Lines WVN1 and BER 83-2A**

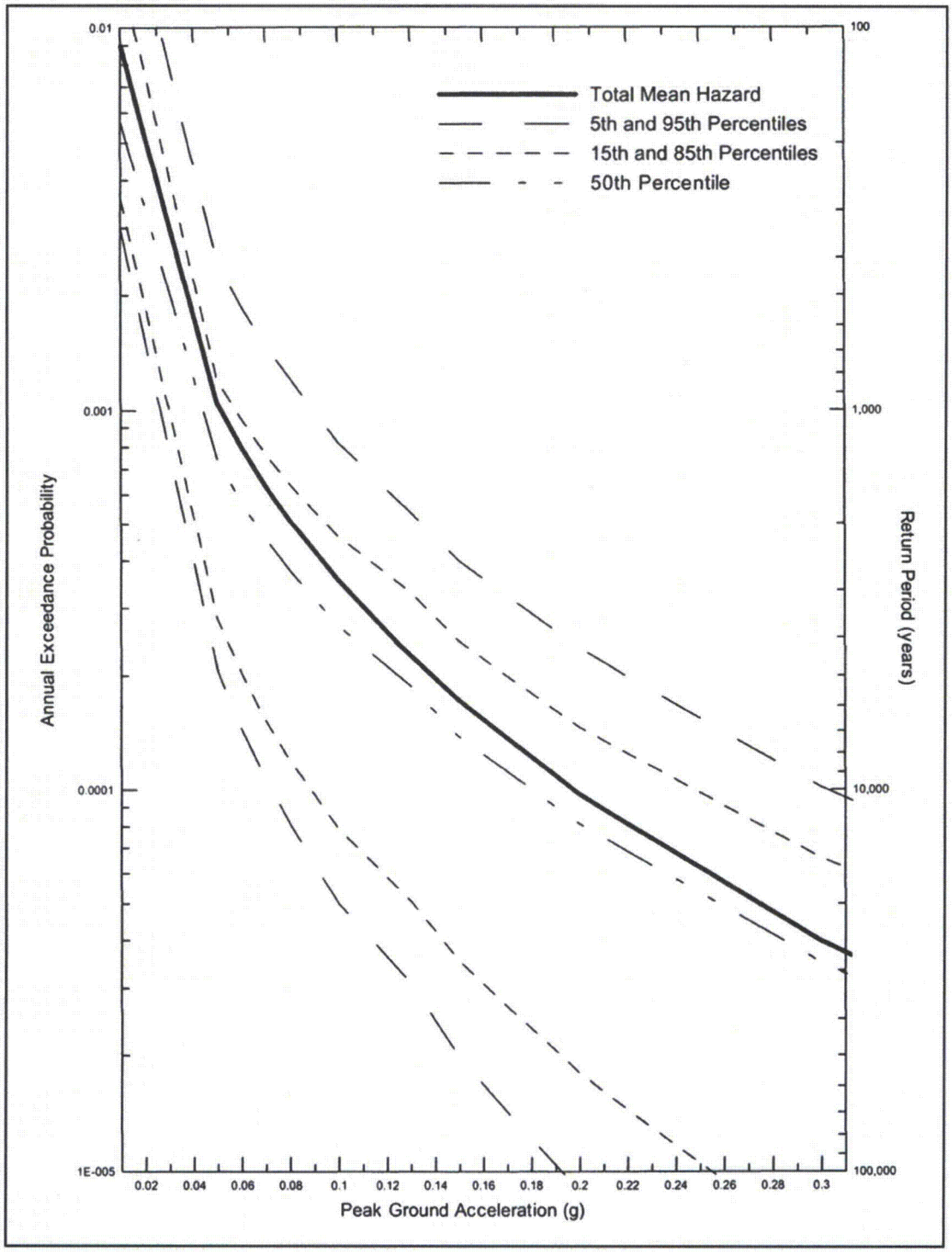



**Figure 3-58. Seismic Hazard Curves for Peak Horizontal Acceleration**

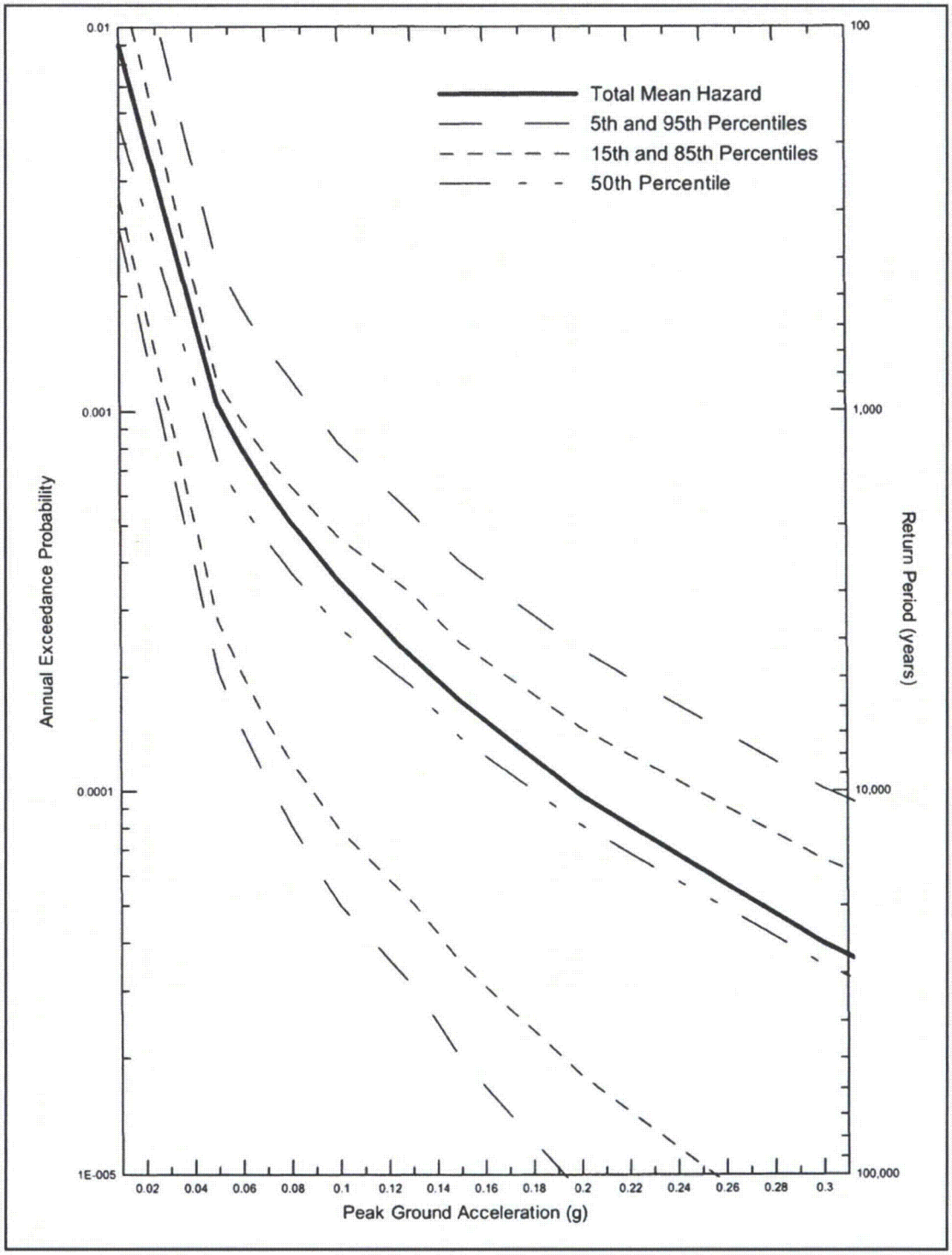



**Figure 3-59. Seismic Hazard Curves for 1.0 Second Horizontal Spectral Acceleration**

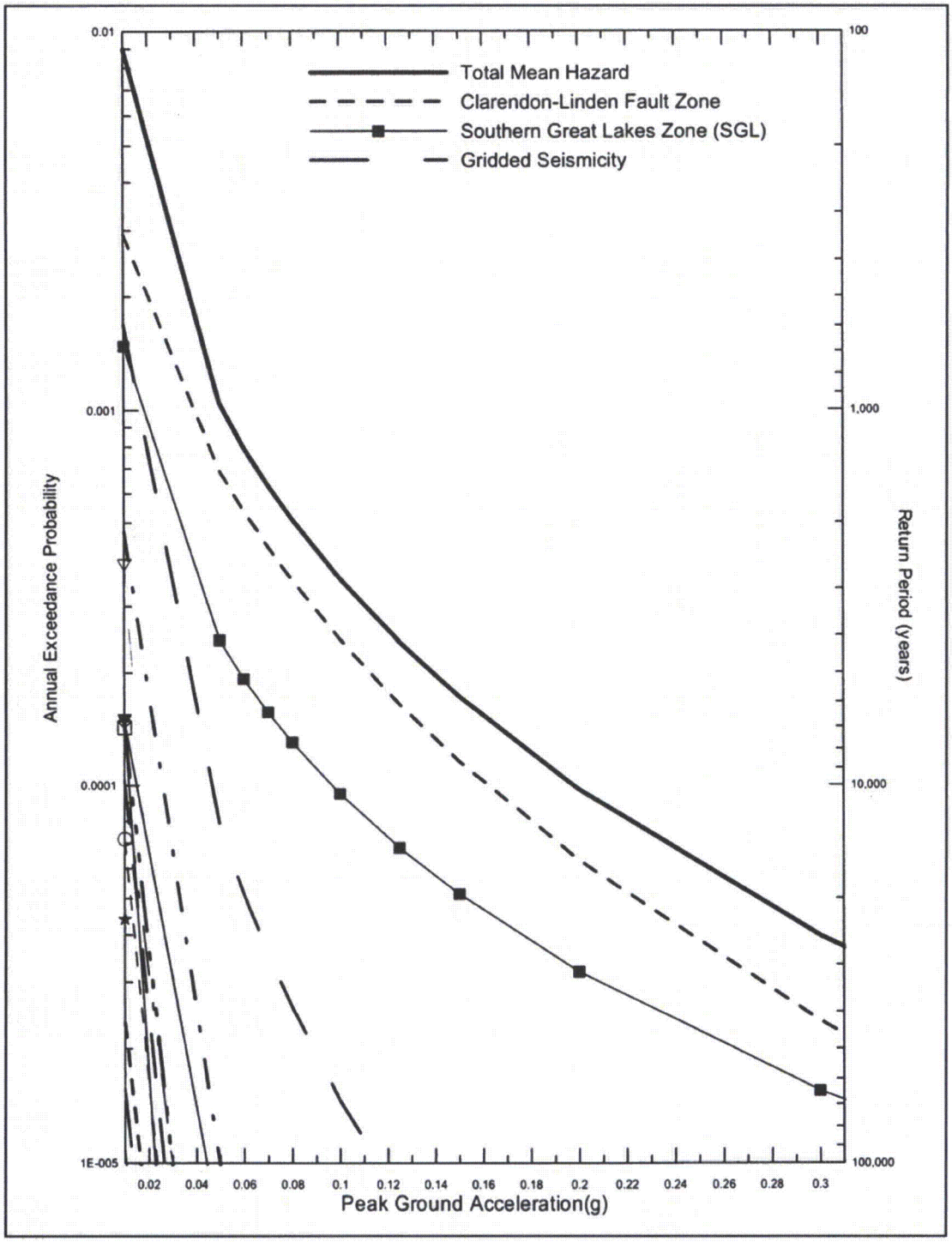



**Figure 3-60. Seismic Source Contributions to Mean Peak Horizontal Acceleration Hazard**

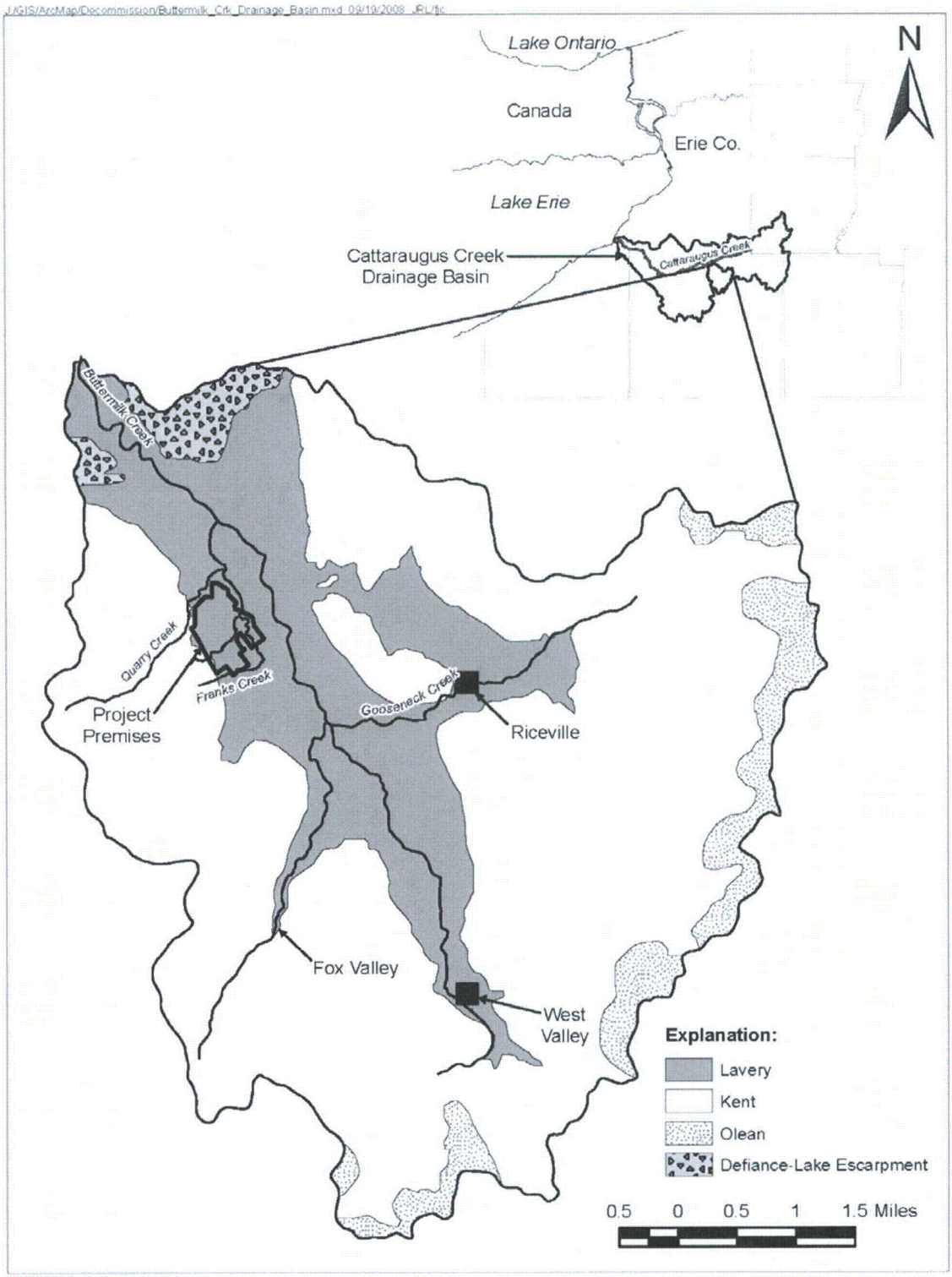



**Figure 3-61. Buttermilk Creek Drainage Basin**

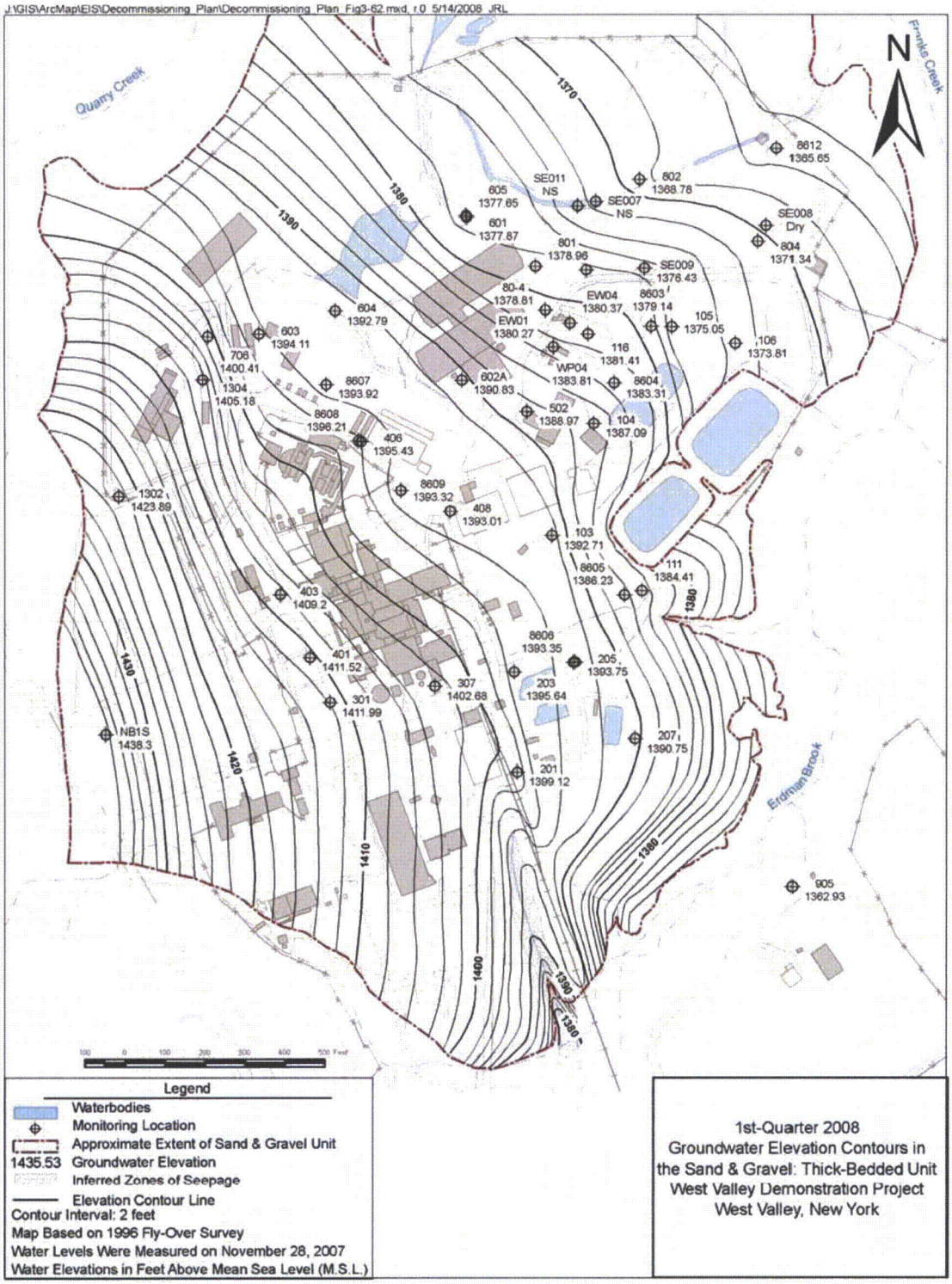



**Figure 3-62. Groundwater Elevation Contours of the Sand and Gravel Unit, First Quarter 2008**

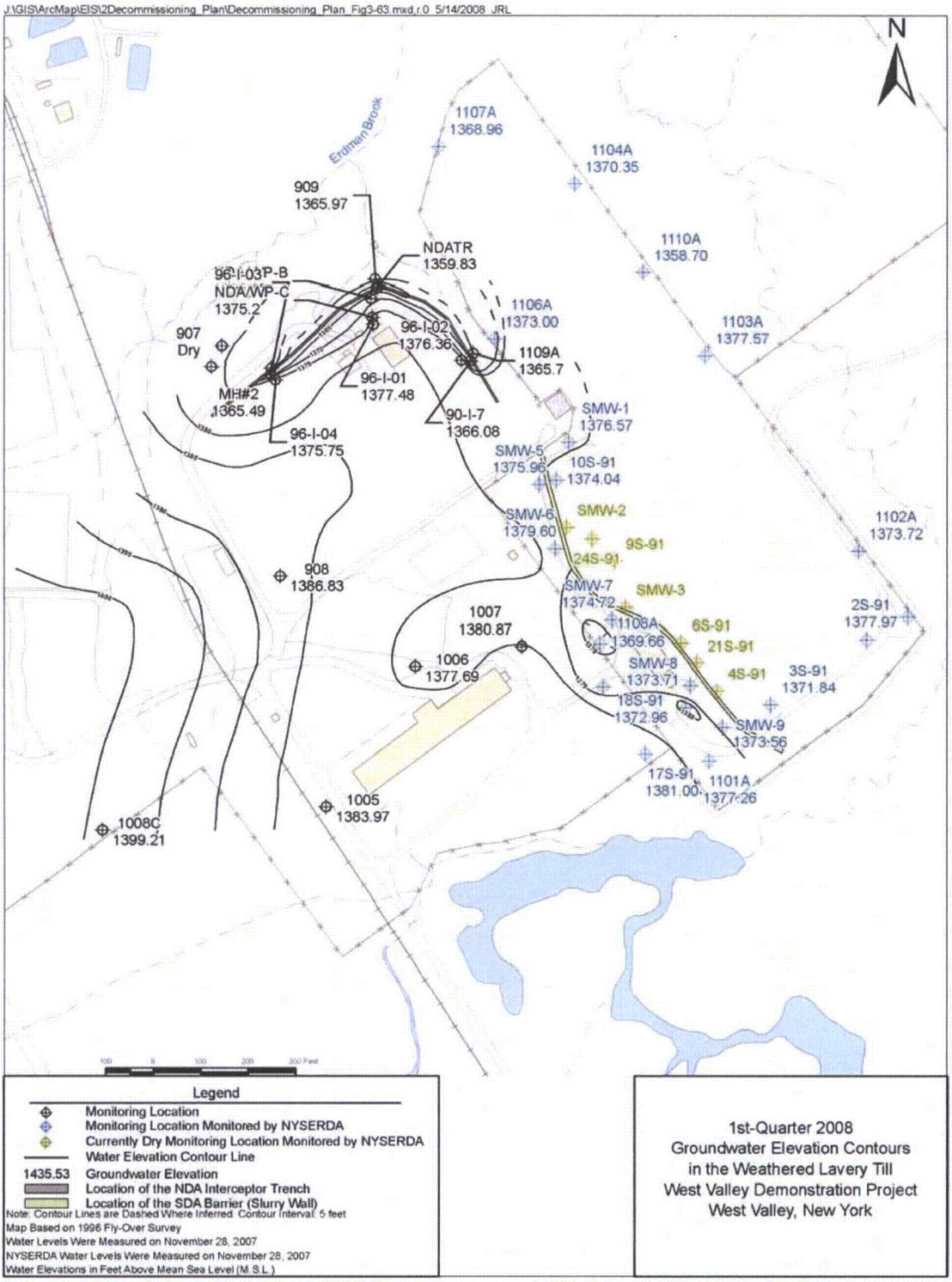



**Figure 3-63. Groundwater Elevation Contours of the Weathered Lavery Till, First Quarter 2008**

**Figure 3-64. Groundwater Elevation Contours of the Lavery Till Sand, First Quarter 2008**

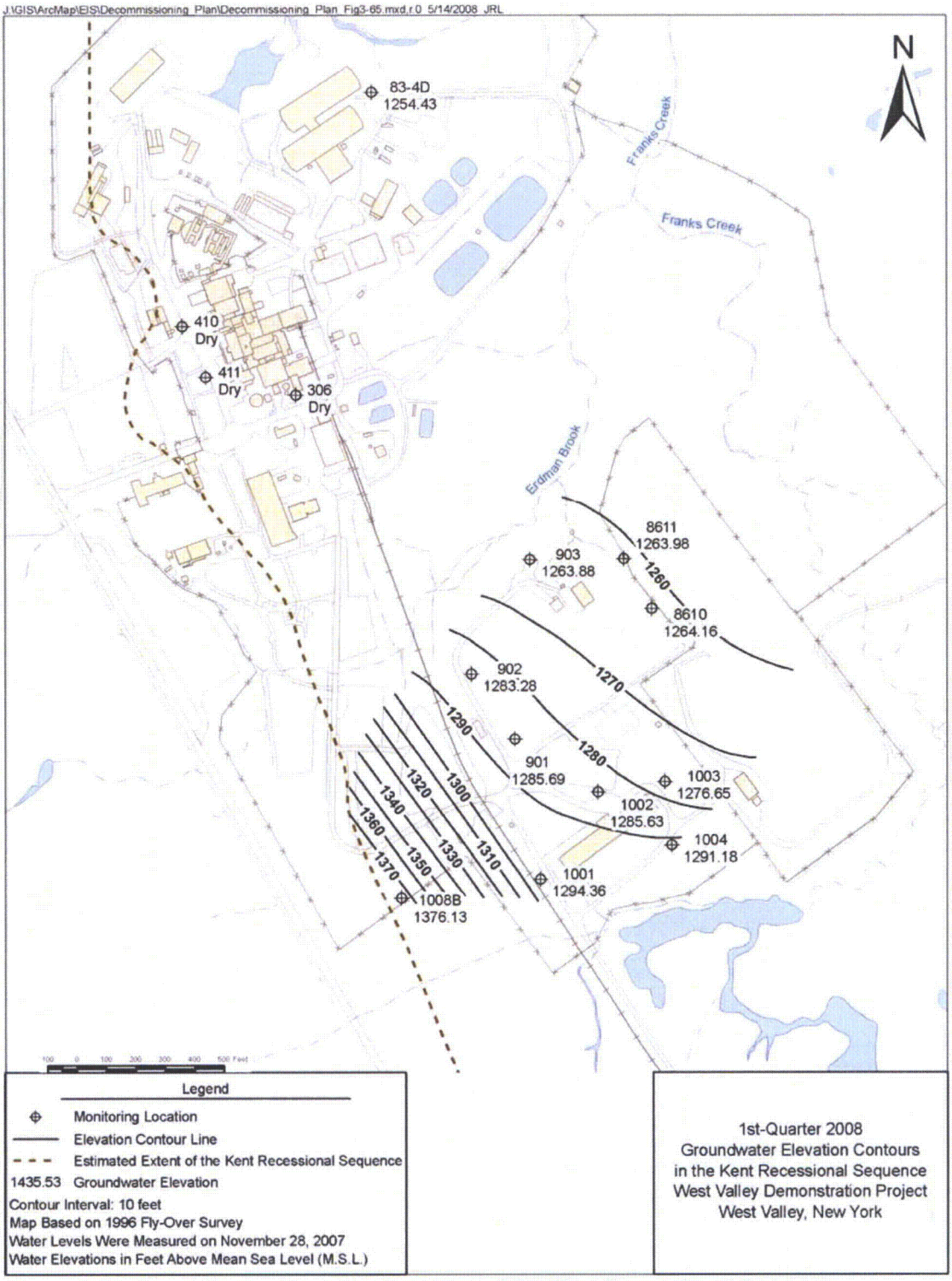



**Figure 3-65. Groundwater Elevation Contours of the Kent Recessional Sequence, First Quarter 2008**

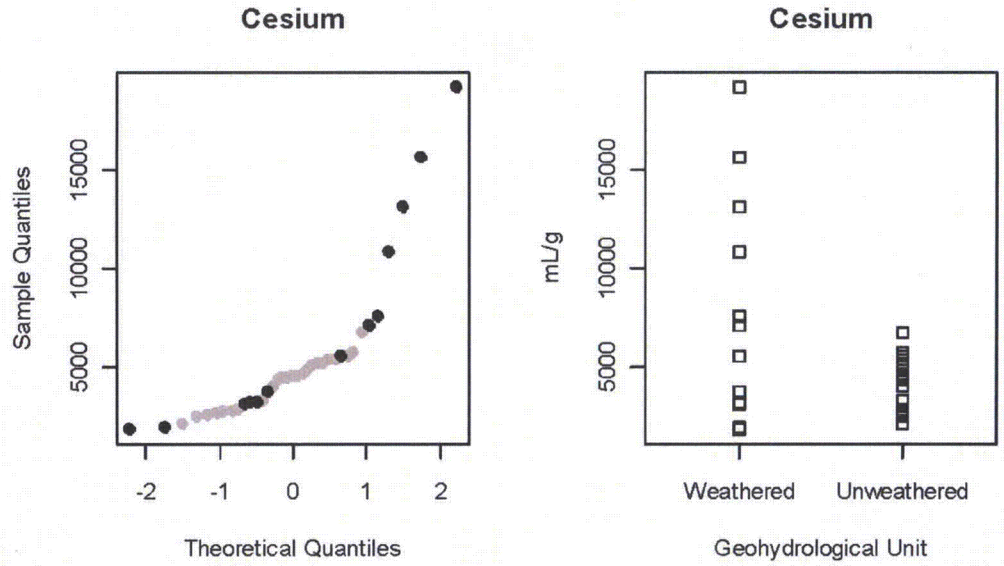



**Figure 3-66. Vertical Distribution of Cesium $K_d$ in the Weathered and Unweathered Tills** (WVNSCO 1993a)

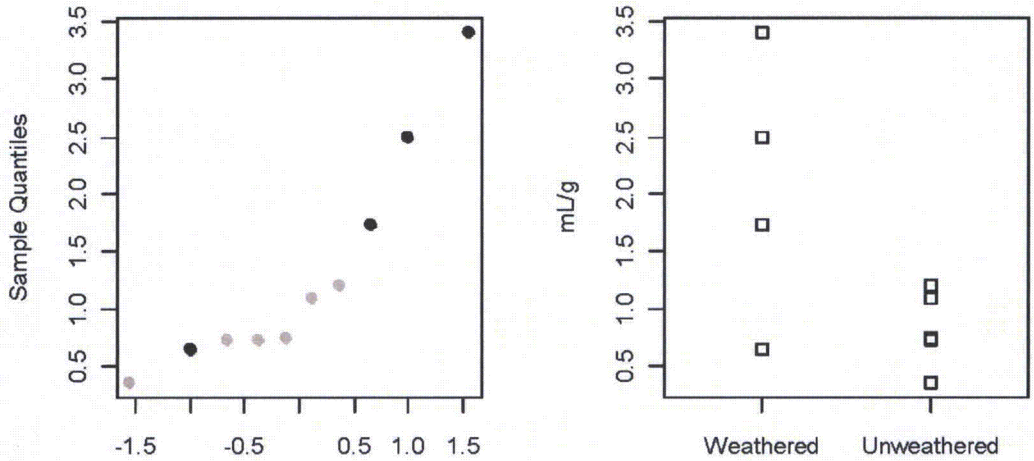



**Figure 3-67. Vertical Distribution of Iodine $K_d$ in the Weathered and Unweathered Tills** (WVNSCO 1993a)

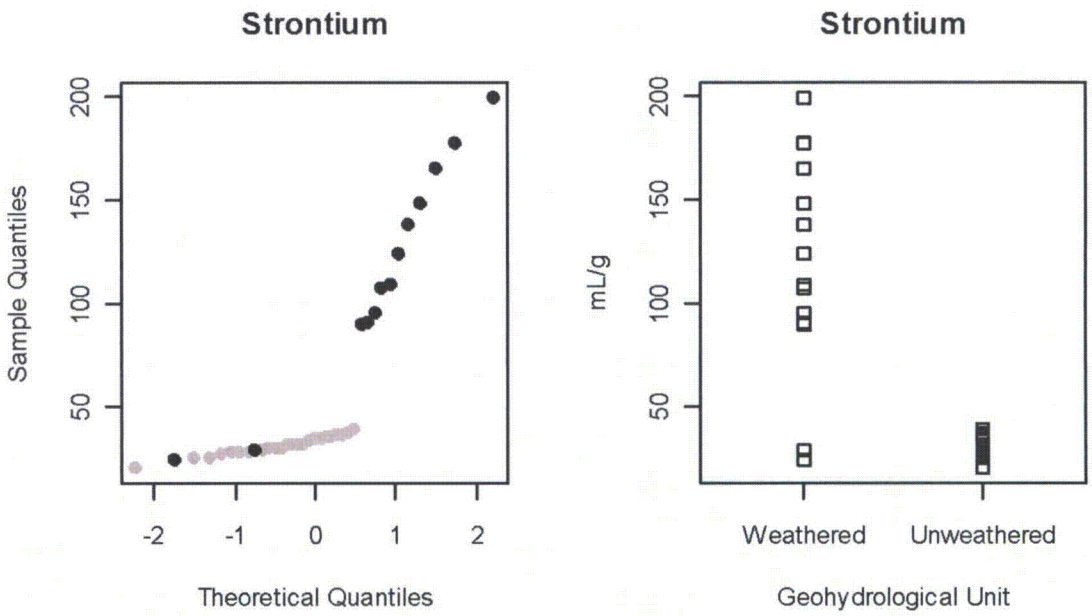



**Figure 3-68. Vertical Distribution of Strontium $K_d$ in the Weathered and Unweathered Tills** (WVNSCO 1993a)

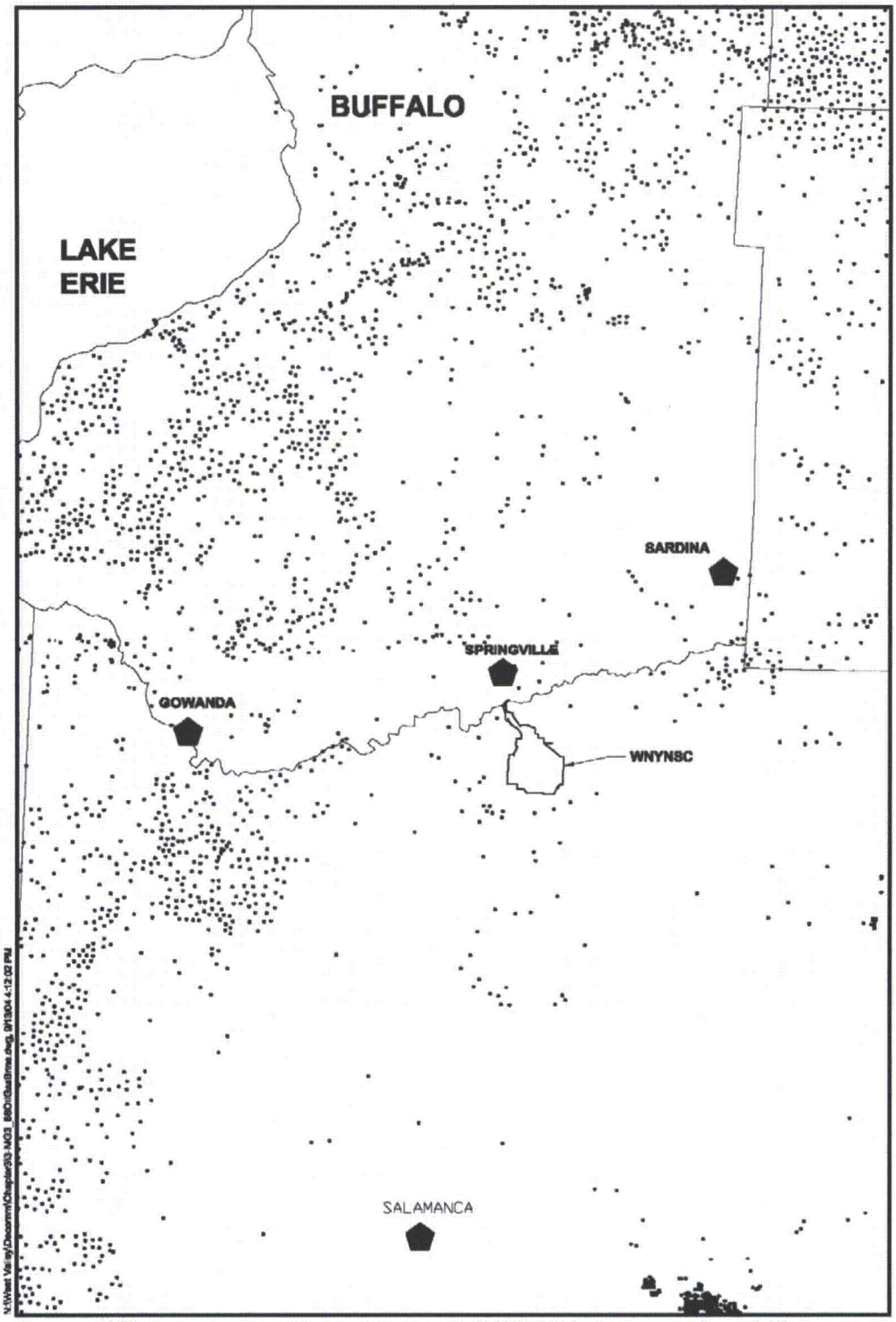



**Figure 3-69. Locations of Natural Gas and Oil Wells in Western New York**

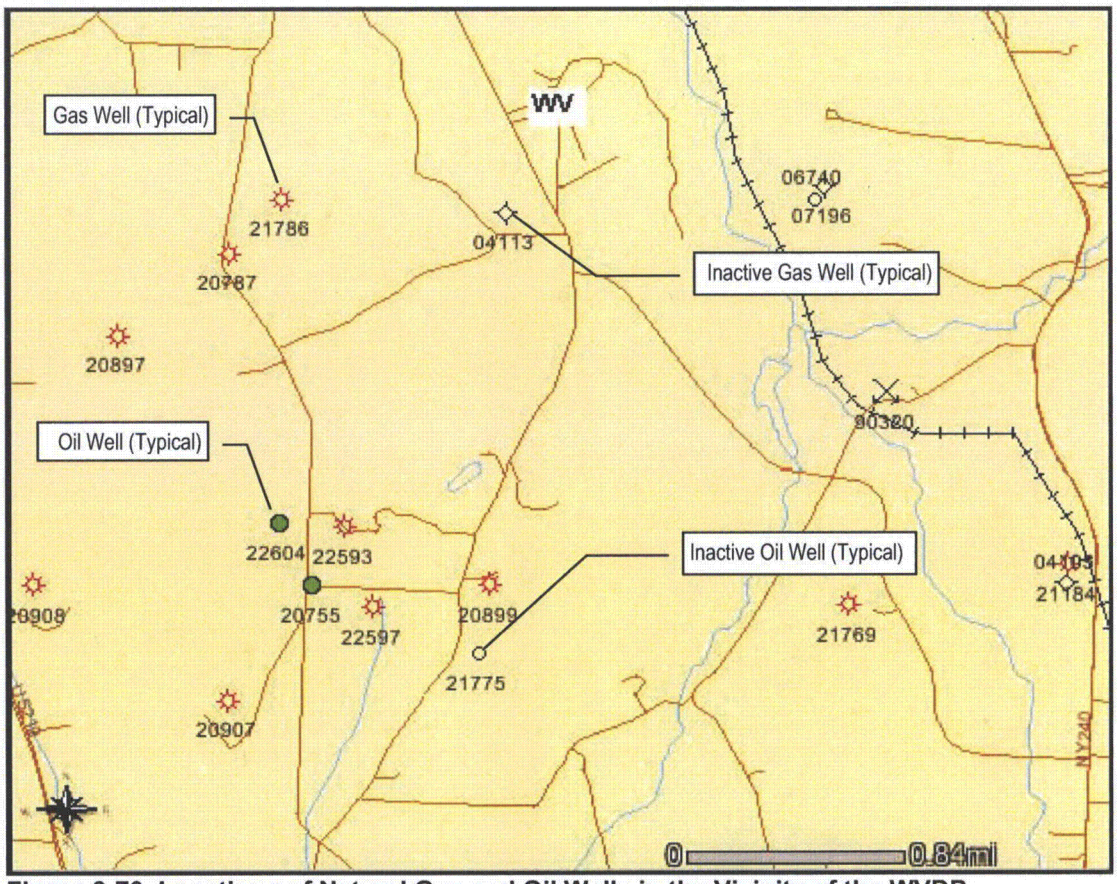



**Figure 3-70. Locations of Natural Gas and Oil Wells in the Vicinity of the WVDP**

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