

**1995 Monitoring Program
On-site Effluent Monitoring:**

Air Effluents

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/Composite Frequency
ANSTACK Main Plant Ventilation Exhaust Stack ANSTSTK Supernatant Treatment System (STS) Ventilation Exhaust ANCSSTK 01-14 Building (Formerly Cement Solidification System (CSS)) Ventilation Exhaust ANCSRFK Contact Size-reduction Facility Exhaust ANVITSK** Vitrification HVAC Exhaust	Airborne radioactive effluent points, including LWTS and vitrification off-gas <u>Required by:</u> • OSR-GP-1 • 40 CFR 61 <u>Reported in:</u> • WESR • MTAR • QEMDR • ODIS • SER • Air Emissions Annual Report (NESHAP)	Continuous off-line air particulate monitors	→ Continuous measurement of fixed filter, replaced weekly	→ N/A	→ Real-time alpha and beta monitoring
		Continuous off-line air particulate filters	→ Weekly	→ 52 each location	→ Gross alpha/beta, gamma isotopic*
				Weekly filters composited to 4 each location	→ Quarterly composite for Sr-90, Pu/U isotopic, total U, Am-241, gamma isotopic
		Continuous off-line desiccant columns for water vapor collection	→ Weekly	→ 52 each at two locations	→ H-3 (ANSTACK and ANSTSTK only)
		Continuous off-line charcoal cartridges	→ Weekly	→ Weekly cartridges composited to 4 each location	→ Quarterly composite for I-129
ANSEISK** Seismic Sampler, Vitrification Backup	Airborne radioactive effluent point <u>Required by:</u> • OSR-GP-1 • 40 CFR 61 <u>Reported in:</u> • WESR • MTAR • QEMDR • ODIS • SER • Air Emissions Annual Report (NESHAP)	Continuous off-line air particulate filter	→ Weekly	→ 52	→ Filters for gross alpha/beta, gamma isotopic* upon collection

* Weekly gamma isotopic only if gross activity rises significantly.

** Samplers brought on line with cold operations in 1995.

Sampling Rationale

ANSTACK DOE/EH-0173T, 3.0; OSR-GP-1, 1.A, 2.B; and DOE/EP-0096, 3.3.

Monitors and samples HEPA-filtered ventilation from most process areas, including cell ventilation, vessel off-gas, FRS and head end ventilation, analytical area. Requires continuous effluent monitoring per Subpart H, Section 61.93(b) because potential emissions may exceed 0.1 mrem limit.

ANSTSTK DOE/EH-0173T, 3.0; OSR-GP-1, 1.B, 2.B; and DOE/EP-0096, 3.3.

Monitors and samples HEPA-filtered ventilation from building areas involved in treatment of high-level waste supernatant. Requires continuous effluent monitoring per Subpart H, Section 61.93(b) because potential emissions may exceed 0.1 mrem limit.

ANCSSTK DOE/EH-0173T, 3.0; OSR-GP-1, 1.B, 2.B; and DOE/EP-0096, 3.3.

Monitors and samples HEPA-filtered ventilation from 01-14 building, which houses equipment used to treat ceramic melter off-gas. Requires continuous effluent monitoring per Subpart H, Section 61.93(b) because potential emissions may exceed 0.1 mrem limit.

ANCSRFK DOE/EH-0173T, 3.0; OSR-GP-1, 1.B, 2.B; and DOE/EP-0096, 3.3.

Monitors and samples HEPA-filtered ventilation from process area where radioactive tanks, pipes, and other equipment are reduced in volume by cutting with a plasma torch.

ANVITSK DOE/EH-0173T, 3.0; OSR-GP-1; DOE/EP-0096, 3.3.

Vitrification facility heating, ventilation, and air conditioning effluent exhaust stack. Sampler expected to be brought on-line in late 1995 when cold operations began. Interim approval; permit pending.

ANSEISK DOE/EH-0173T, 3.0; OSR-GP-1; and DOE/EP-0096, 3.3.

Vitrification system back-up filter for catastrophic-event monitoring in case of primary vitrification HVAC stack failure.

**1995 Monitoring Program
On-site Effluent Monitoring:**

Air Effluents

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/ Composite Frequency
ANSUPCV Supercompactor Exhaust	Airborne radioactive effluent point <u>Required by:</u> • OSR-GP-1 • 40 CFR 61 <u>Reported in:</u> • WESR • MTAR • QEMDR • ODIS • SER • Air Emissions Annual Report (NESHAP)	Continuous off-line air particulate monitor during operation	→ Continuous measurement of fixed filter	→ N/A	→ Real-time beta monitoring
		Continuous off-line air particulate filter	→ Weekly	→ 52	→ Filters for gross alpha/beta, gamma isotopic* upon collection
OVes/PVUs Outdoor Ventilated Enclosures/ Portable Ventilation Units	Airborne radioactive effluent points <u>Required by:</u> • OSR-GP-1 • 40 CFR 61 <u>Reported in:</u> • WESR • MTAR • QEMDR • ODIS • SER • Air Emissions Annual Report (NESHAP)	Continuous off-line air particulate filter	→ As required	→ 1 each location	→ Filters for gross alpha/beta, gamma isotopic* upon collection
				Collected filters** composited to 4	→ Quarterly composites for Sr-90, Pu/U isotopic, total U, Am-241, gamma isotopic

* Gamma isotopic only if gross activity rises significantly.

** If, upon gross determination, individual filter is significantly higher than background, individual sample would be submitted immediately for isotopic analysis.

Sampling Rationale

ANSUPCV	DOE/EH-0173T, 3.0; OSR-GP-1, 1.B, 2.B; and DOE/EP-0096, 3.3. Monitors and samples HEPA-filtered ventilation from area where low-level radioactive waste volume is reduced by compaction.
OVES/PVUs	DOE/EH-0173T, 3.0; OSR-GP-1, 1.B, 2.B; and DOE/EP-0096, 3.3. Outdoor ventilated enclosures; portable ventilation units used for handling of radioactive materials or for decontamination in areas without containment ventilation.

**1995 Monitoring Program
Environmental Surveillance:**

Air Effluents and On-site Ambient Air

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/Composite Frequency
ANLLWTVC Low-level Waste Treatment Ventilation, "Cold" Side	Airborne radioactive effluent point <u>Required by:</u> • 40 CFR 61 <u>Reported in:</u> • WESR • MTAR • QEMDR • ODIS • SER • Air Emissions Annual Report (NESHAP)	Continuous off-line air particulate filter	→ Weekly (monthly at ANLAUNV)	→ 52 each location (12 at ANLAUNV)	→ Filters for gross alpha/beta, gamma isotopic* upon collection
ANLLWTVH Low-level Waste Treatment Ventilation, "Hot" Side					
ANLAUNV Laundry Change Room Ventilation					
ANLAGAM** Lag Storage Area Ambient Air	Ambient diffuse source air emissions <u>Reported in:</u> • MTAR • QEMDR • SER	Continuous air particulate filter	→ Weekly	→ 52 each location	→ Gross alpha/beta
ANNDAAM** NDA Area Ambient Air				→ Weekly filter composited to 4 each location	→ Quarterly composite for Sr-90, gamma isotopic, Pu/U isotopic, total U, Am-241
ANSDAT9*** SDA Trench 9 Ambient Air	Ambient diffuse source air emissions <u>Reported in:</u> • Quarterly reports to NYSDEC • MTAR • QEMDR • SER	Continuous air particulate filter	→ Weekly	→ 52	→ Gross alpha/beta
		Continuous off-line desiccant column for water vapor collection	→ Weekly	→ 52	→ Quarterly composite for gamma isotopic
		Continuous off-line charcoal cartridges	→ Monthly	→ Monthly cartridges composited to 4	→ H-3

* Gamma isotopic only if gross activity rises significantly.

** Added to the monitoring program in 1995.

*** Sampling frequency and analytical parameters as directed by NYSERDA.

Sampling Rationale

ANLLWTVC DOE/EH-0173T, 3.0; and DOE/EP-0096, 3.3.
ANLLWTVH

Sample "cold" and "hot" sides of ventilation exhaust from low-level waste treatment facility.

ANLAUNV DOE/EH-0173T, 3.0; and DOE/EP-0096, 3.3.

Samples ventilation from contaminated clothing laundry.

ANLAGAM DOE/EH-0173T, 3.3.2.

Monitors ambient air in lag storage area, a possible diffuse source of air emissions.

ANNDAAM DOE/EH-0173T, 3.3.2.

Monitors ambient air in NDA area, a possible diffuse source of air emissions.

ANSDAT9 DOE/EH-0173T, 3.3.2.

Monitors ambient air by SDA trench 9, a possible diffuse source of air emissions. WVDP support of NYSERDA.

**1995 Monitoring Program
On-site Effluent Monitoring:**

Liquid Effluents

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/ Composite Frequency
WNSP001 Lagoon 3 Discharge Weir	Primary point of liquid effluent batch release <u>Required by:</u> • OSR-GP-2 • SPDES Permit <u>Reported in:</u> • Monthly SPDES DMR • WESR • MTAR • QEMDR • SER	Grab liquid	→ Daily, during lagoon 3 discharge*	→ 40-80 7-12	→ Daily for gross beta, conductivity, flow → Every 6 days a sample is analyzed for gross alpha/beta, H-3, Sr-90, gamma isotopic
		Composite liquid	→ Twice during discharge, near start and near end	→ 8-16	→ Weighted composite for gross alpha/beta, H-3, C-14, Tc-99, Sr-90, I-129, gamma isotopic, Pu/U isotopic, total U, Am-241 for each month of discharge → Two 24-hour composites for BOD-5, suspended solids, SO ₄ , NO ₃ , NO ₂ , NH ₃ , total Al, Fe, and Mn, total recoverable Cd, Cr, Cu, Ni, Pb, and Zn, dissolved As and Cu, dissolved sulfide
		Grab liquid	→ Twice during discharge, near start and near end	→ 8-16	→ Composite of daily samples for each discharge, 4-8 → Settleable solids, total dissolved solids, pH, cyanide amenable to chlorination, oil & grease, surfactant (as LAS), total recoverable Co, Cr ⁺⁶ , Se, and V, dichlorodifluoromethane, trichlorofluoromethane, 3,3-dichlorobenzidine, tributyl phosphate, hexachlorobenzene, alpha-BHC, heptachlor, xylene, 2-butanone
		Composite liquid	→ Semiannual	→ 2	→ A 24-hour composite for titanium
		Composite liquid	→ Annual	→ 1	→ A 24-hour composite for Ba and Sb
		Grab liquid	→ Semiannual	→ 2	→ Bis(2-ethylhexyl) phthalate, 4-dodecene
		Grab liquid	→ Annual	→ 1	→ Chloroform

* Lagoon 3 is discharged between four and eight times per year, as necessary, averaging ten days per discharge.

Sampling Rationale

WNSP001 DOE 5400.5 and DOE/EH-0173T, 2.3.3.

By DOE Order all liquid effluent streams from DOE facilities shall be evaluated and their potential for release of radionuclides addressed.

New York State SPDES permit no. NY0000973.

These regulations are met for radiological parameters by daily grab sampling during periods of lagoon 3 discharge. Sampling for chemical constituents is performed near the beginning and end of each discharge period to meet the site SPDES permit. Both grab samples and 24-hour composite samples are collected.

**1995 Monitoring Program
On-site Effluent Monitoring:**

Liquid Effluents

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/Composite Frequency
WNSP006 Frank's Creek at Security Fence	Combined facility liquid discharge <u>Required by:</u> • OSR-GP-2 <u>Reported in:</u> • MTAR • QEMDR • SER	Timed continuous composite liquid	→ Weekly	→ 52	→ Gross alpha/beta, H-3, pH, conductivity
		Grab liquid	→ Semiannual	→ 2	→ NPOC, TOX, Ca, Mg, Na, K, Ba, Mn, Fe, Cl, SO ₄ , NO ₃ +NO ₂ -N, F, HCO ₃ , CO ₃
WNSP007 Sanitary Waste Discharge	Liquid effluent point for sanitary and utility plant combined discharge <u>Required by:</u> • SPDES Permit <u>Reported in:</u> • Monthly SPDES DMR • WESR • MTAR • QEMDR • ODIS • SER	24-hour composite liquid	→ 3 each month	→ 36	→ Gross alpha/beta, H-3, pH, suspended solids, NH ₃ , NO ₂ -N, BOD-5, total Fe
		Grab liquid	→ 3 each month	→ 36	→ Oil & grease
		Grab liquid	→ Weekly	→ 52	→ pH, settleable solids, total residual chlorine
		Grab liquid	→ Annual	→ 1	→ Chloroform
WNSDADR SDA Trench Run-off	Surface water run-off point from SDA trench 14 cover <u>Required by:</u> • Interim Measures Compliance <u>Reported in:</u> • Quarterly reports to NYSDEC • MTAR • QEMDR • SER	Grab liquid	→ Monthly	→ 12	→ pH, total suspended solids, oil & grease, flow, gross alpha/beta, H-3, gamma isotopic

Sampling Rationale

WNSP006 DOE/EH-0173T, 5.10.1.1.

By DOE Order all liquid effluent streams from DOE facilities shall be evaluated and their potential for release of radionuclides addressed.

Per WVDP SPDES Permit NY0000973, outfall 116 (pseudo monitoring point) uses flow data from WNSP006. Monitoring for flow augmentation parameters (flow and total dissolved solids [TDS]) is performed at location WNSP006; calculated TDS and flow data related to sample point WNSP006 are reported for pseudo monitoring point 116 on the monthly SPDES DMR.

WNSP007 DOE 5400.5 and DOE/EH-0173T, 2.3.3.

Sampling rationale is based on New York State SPDES permit no. NY0000973 and DOE 5400.5 criteria for discharge of radioactivity to and from the sewage treatment plant.

WNSDADR NYSERDA interim measures compliance.

WVDP support of NYSERDA.

Grab sample monitoring surface water runoff from SDA trench 14 membrane cover.

**1995 Monitoring Program
Environmental Surveillance:**

On-site Surface Water

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/ Composite Frequency
WNSWAMP NE Swamp Drainage	Site surface drainage <u>Reported in:</u> • WESR • MTAR • QEMDR • ODIS • SER	Timed continuous composite liquid	→ Weekly	→ 52 Weekly samples composited to 12 Weekly samples composited to 4	→ Gross alpha/beta, H-3, pH, conductivity → Monthly composite for gamma isotopic and Sr-90 (monthly composite shared with NYSDOH) → Quarterly composite for C-14, I-129, Pu/U isotopic, total U, Am-241
		Grab liquid	→ Semiannual	→ 2	→ NPOC, TOX, Ca, Mg, Na, K, Ba, Mn, Fe, Cl, SO ₄ , NO ₃ +NO ₂ -N, F, HCO ₃ , CO ₃
WNSW74A North Swamp Drainage	Site surface drainage <u>Reported in:</u> • WESR • MTAR • QEMDR • ODIS • SER	Timed continuous composite liquid	→ Weekly	→ 52 Weekly samples composited to 12 Weekly samples composited to 4	→ Gross alpha/beta, H-3, pH, conductivity → Monthly composite for gamma isotopic, Sr-90 → Quarterly composite for C-14, I-129, Pu/U isotopic, total U, Am-241
		Grab liquid	→ Semiannual	→ 2	→ NPOC, TOX, Ca, Mg, Na, K, Ba, Mn, Fe, Cl, SO ₄ , NO ₃ +NO ₂ -N, F, HCO ₃ , CO ₃
WNSD1DR High-level Waste Farm Underdrain	Drains subsurface water from HLW storage tank area <u>Reported in:</u> • MTAR	Grab liquid	→ Weekly	→ 52 Weekly samples composited to 12	→ Gross alpha/beta, H-3, pH → Monthly composite for gamma isotopic, Sr-90

Sampling Rationale

WNSWAMP DOE/EH-0173T, 5.10.1.1.

NE site surface water drainage; provides for the sampling of this discrete drainage path for uncontrolled surface waters just before they leave the site's controlled boundary. Waters represent surface and subsurface drainages from the construction and demolition debris landfill (CDDL), old hardstand areas, and other possible north plateau sources of radiological or nonradiological contamination.

WNSW74A DOE/EH-0173T, 5.10.1.1.

N site surface water drainage; provides for the sampling of this discrete drainage path for uncontrolled surface waters just before they leave the site's controlled boundary. Waters represent surface and subsurface drainages from lag storage areas and other possible north plateau sources of radiological or nonradiological contamination.

WN8D1DR DOE/EH-0173T, 5.10.1.3.

Monitors the potential influence on subsurface drainage surrounding the high-level waste tank farm.

**1995 Monitoring Program
Environmental Surveillance:**

On-site Surface Water

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/ Composite Frequency
WNSP008 French Drain	Drains subsurface water from LLWTF lagoon area <u>Required by:</u> • SPDES permit <u>Reported in:</u> • Monthly SPDES DMR • WESR • MTAR • QEMDR • ODIS • SER	Grab liquid	→ Monthly	→ 12	→ Gross alpha/beta, H-3
		Grab liquid	→ 3 each month	→ 36	→ Conductivity, pH, BOD-5, total Fe, total recoverable Cd and Pb
		Grab liquid	→ Annual	→ 1	→ As, Cr, total Ag, and Zn
WNSP005 Facility Yard Drainage	Combined drainage from facility yard area <u>Reported in:</u> • MTAR • QEMDR • SER	Grab liquid	→ Monthly	→ 12	→ Gross alpha/beta, H-3, pH
WNCoolW Cooling Tower Basin	Cools plant utility steam system water <u>Reported in:</u> • MTAR • QEMDR • SER	Grab liquid	→ Monthly	→ 12 Monthly samples composited to 4	→ Gross alpha/beta, H-3, pH → Quarterly composite for gamma isotopic

Sampling Rationale

WNSP008 DOE/EH-0173T, 5.10.1.3.

French drain of subsurface water from lagoon (LLWTF) area. NYSDEC SPDES permit no. NY0000973 also provides for the sampling of this discrete drainage path for uncontrolled subsurface waters before they flow into Erdman Brook. Waters represent subsurface drainages from downward infiltration around the LLWTF and lagoon systems. This point would also monitor any subsurface spillover from the overfilling of lagoons 2 and 3. Sampling of significance for both radiological and nonradiological contamination.

This site is also monitored as part of the groundwater program. (See SSWMU #1.)

WNSP005 Facility yard surface water drainage; generally in accordance with DOE/EH-0173T, 5.10.1.1. Formerly in accordance with NYSDEC SPDES permit no. NY0000973.

Provides for the sampling of this discrete drainage path for uncontrolled surface waters just after outfall 007 discharge into the drainage and before these surface waters flow to Erdman Brook. Waters represent surface and subsurface drainages primarily from the main plant yard area. Historically this point was used to monitor sludge pond(s) and utility room discharges to the drainage. These two sources have been rerouted. Migration of residual site contamination around the main plant dictates surveillance of this point primarily for radiological parameters.

WNCOOLW Facility cooling tower circulation water; generally in accordance with DOE/EH-0173T, 5.10.1.1.

Operational sampling carried out to confirm no migration of radiological contamination into the primary coolant loop of the HLWTF and/or plant utility steam systems. Migration from either source might indicate radiological control failure.

**1995 Monitoring Program
Environmental Surveillance:**

On-site Surface Water

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/Composite Frequency
WNFR67* Frank's Creek E of SDA	Drains NYS Low-level Waste Disposal Area <u>Reported in:</u> • Reported to NYSERDA • MTAR • QEMDR • SER	Grab liquid	→ Monthly	→ 12	→ Gross alpha/beta, H-3, pH
WNERB53* Erdman Brook N of Disposal Areas	Drains NYS and WVDP disposal areas <u>Reported in:</u> • Reported to NYSERDA • MTAR • QEMDR • SER	Grab liquid	→ Weekly	→ 52	→ Gross alpha/beta, H-3, pH
WNNDADR Drainage between NDA and SDA	Drains WVDP disposal and storage area <u>Reported in:</u> • MTAR • QEMDR • SER	Timed continuous composite liquid	→ Weekly	→ 52 Weekly samples composited to 12 Weekly samples composited to 4	→ pH → Monthly composite for gross alpha/beta, gamma isotopic, H-3 → Quarterly composite for Sr-90, I-129
		Grab liquid	→ Semiannual	→ 2	→ NPOC, TOX
WNDCELD Drainage S of Drum Cell	Drains WVDP storage area <u>Reported in:</u> • MTAR • QEMDR • SER	Grab liquid	→ Monthly	→ 12 Monthly samples composited to 4	→ pH, gross alpha/beta → Quarterly composite for Sr-90, I-129, gamma isotopic, H-3
WNNDATR** NDA Trench Interceptor Project	On-site groundwater interception <u>Reported in:</u> • MTAR • QEMDR • SER	Grab liquid	→ Monthly	→ 12 Monthly samples composited to 4	→ Gross alpha/beta, H-3, gamma isotopic, NPOC, TOX → Quarterly composite for I-129

* Monthly sample collected by NYSDOH

** Coordinated with Waste Management Operations

Sampling Rationale

WNFRC67 DOE/EH-0173T, 5.10.1.1.

Monitors the potential influence of both the SDA and drum cell drainage into Frank's Creek east of the SDA and upstream of the confluence with Erdman Brook.

WNERB53 DOE/EH-0173T, 5.10.1.1.

Monitors the potential influence of the drainages from the SDA and the WVDP disposal area into Erdman Brook upstream of the confluence with Frank's Creek.

WNNDADR DOE/EH-0173T, 5.10.1.1.

Monitors the potential influence of the WVDP storage and disposal area drainage into Lagoon Road Creek upstream from confluence with Erdman Brook.

WNDCELD DOE/EH-0173T, 5.10.1.1.

Monitors potential influence of drum cell drainage into Frank's Creek south of the SDA and upstream of WNFRC67.

WNNDATR DOE Order 5400.1, IV.9.

Monitors groundwater in vicinity of the NDA interceptor trench project. The grab sample is taken directly from the trench collection system.

**1995 Monitoring Program
Environmental Surveillance:**

On-site Surface Water

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/ Composite Frequency
<p>WNSTAW Series On-site standing water ponds not receiving effluent includes:</p> <p>WNSTAW4 Border pond SW of AFRT240</p> <p>WNSTAW5 Border pond SW of DFTLD13</p> <p>WNSTAW6 Borrow pit NE of Project facilities</p> <p>WNSTAW9 North reservoir near intake</p> <p>WNSTAWB Background pond at Sprague Brook maintenance building</p>	<p>Water within vicinity of plant airborne or water effluent</p> <p><u>Reported in:</u></p> <ul style="list-style-type: none"> • MTAR • QEMDR • SER 	<p>Grab liquid</p>	<p>→ Annual</p>	<p>→ 1 each location*</p>	<p>→ Gross alpha/beta, H-3, pH, conductivity, Cl, Fe, Mn, Na, NO₃+NO₂-N, SO₄</p>

*Sampling depends upon on-site ponding conditions during the year.

Sampling Rationale

WNSTAW Series DOE/EH-0173T, 5.10.1.1.

Monitoring of on- and off-site standing waters at locations listed below. Although none receive effluent directly, the potential for contamination is present except at the background location. Former collecting sites 1, 2, 3, 7, and 8 were deleted from the monitoring program because they were built over or are now dry.

WNSTAW4 Border pond located south of AFRT240. Chosen to be a location for obtaining high potential concentration based on meteorological data. Perimeter location adjacent to a working farm. Drainage extends through private property and is accessible by the public.

WNSTAW5 Border pond located west of Project facilities near the perimeter fence and DFTLD13. Chosen to be a location for obtaining high potential concentration based on meteorological data. Location is adjacent to private residence and potentially accessible by the general public.

WNSTAW6 Borrow pit northeast of Project facilities just outside of inner security fence. Considered to be the closest standing water to the main plant and high-level waste facilities (in lieu of the availability of WNSTAW1).

WNSTAW9 North reservoir near intake. Chosen to provide data in the event of potentially contaminated site potable water supply. Location is south of main plant facilities.

WNSTAWB Pond located near the Sprague Brook maintenance building. Considered a background location approximately 14 kilometers north of the WVDP.

Sampling Rationale

- WNDNK Series** Site drinking water; generally according to DOE/EH-0173T, 5.10.1.2.
Potable water sampling carried out to confirm no migration of radiological and/or nonradiological contamination into the site's drinking water supply.
- WNDNKMS** Site drinking water; generally according to DOE/EH-0173T, 5.10.1.2.
Potable water sampled at the maintenance shop in order to monitor a point that is at an intermediate distance from the point of potable water generation and that is used heavily by site personnel.
- WNDNKMP** Site drinking water; generally according to DOE/EH-0173T, 5.10.1.2.
Same rationale as WNDNKMS but sampled at the main plant water fountain.
- WNDNKEL** Site drinking water; generally according to DOE/EH-0173T, 5.10.1.2.
Potable water sampled at the Environmental Laboratory in order to monitor the point farthest away from the point of potable water generation.
- WNDNKUR** Site drinking water; generally according to DOE/EH-0173T, 5.10.1.2.
Sampled at the utility room potable water storage tank before the site drinking water distribution system.
Sample location is entry point EP-1.
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**1995 Monitoring Program
Environmental Surveillance:**

On-site Groundwater

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/ Composite Frequency			
Low-level Waste Treatment Facility (SSWMU #1)	Groundwater monitoring wells around site super solid waste management units (SSWMUs)* <u>Reported in:</u> • SER • Quarterly Groundwater Reports	Grab liquid	See Tables 3-1, 3-2, and Appendix E	See Tables 3-1, 3-2, and Appendix E	See Tables 3-1, 3-2, and 3-3			
WNW 0103 0104 U 0105 0106 0107 0108 0109 0110 0111 0114 0115 U 0116 U 8603 8604 U 8605		Direct field measurement of sample water						
Surface: WNSP008								
Miscellaneous Small Units (SSWMU #2)								
WNW 0201 U 0202 U 0203 0204 U 0205 0206 0207 0208 8606								

NOTE: "U" designates upgradient, "B" designates background, and "C" designates crossgradient wells; the remainder are downgradient.

* The groundwater monitoring program was revised in May 1995 after a review of results from previous years of sampling. The program in place at the end of 1995 is presented in the "Groundwater Monitoring Plan" (WVDP-239).

Sampling Rationale

On-site Groundwater	<p>DOE Order 5400.1, IV.9; DOE/EH-0173T, 5.10.1.3; RCRA 3008(h) Order on Consent.</p> <p>The on-site WVDP groundwater monitoring program focuses on radiological and chemical surveillance of both active and inactive super solid waste management units (SSWMUs). The program allows for the determination of water quality. In addition, using wells situated hydraulically upgradient (background) and downgradient of SSWMUs allows for both detection of groundwater contamination and evaluation of the effects associated with the individual SSWMUs.</p> <p>Groundwater protection is addressed in WVDP-091, "Groundwater Protection Management Program." Groundwater monitoring as detailed in WVDP-239, "Groundwater Monitoring Plan," is applicable to the 1996 program.</p>
SSWMU #1	<p>Low-level waste treatment facilities, including four active lagoons, lagoons 2, 3, 4 and 5, and an inactive, filled-in lagoon, lagoon 1.</p>
SSWMU #2	<p>Miscellaneous small units, including the sludge pond, the solvent dike, the paper incinerator, and the kerosene tank.</p>

**1995 Monitoring Program
Environmental Surveillance:**

On-site Groundwater

Sample Location Code	Monitoring/Reporting Requirements	Sampling Type/Medium	Collection Frequency	Total Annual Sample Collections	Analyses Performed/ Composite Frequency
Liquid Waste Treatment System (SSWMU #3)	Groundwater monitoring wells around site super solid waste management units (SSWMUs)* <u>Reported in:</u> • SER • Quarterly Groundwater Reports	Grab liquid	See Tables 3-1, 3-2, and Appendix E	See Tables 3-1, 3-2, and Appendix E	See Tables 3-1, 3-2, and 3-3
WNW 0301 U 0302 U 0305 xx0306 0307 NB1S B		Direct field measurement of sample discharge water			
HLW Storage and Processing Tank (SSWMU #4)					
WNW 0401 U 0402 U 0403 U 0404 U 0405 C 0406 0407 0408 0409 xx0410 U xx0411 U					

NOTE: "U" designates upgradient, "B" designates background, and "C" designates crossgradient wells; the remainder are downgradient.

xx- Wells that are dry and not used for groundwater monitoring.

* The groundwater monitoring program was revised in May 1995 after a review of results from previous years of sampling. The program in place at the end of 1995 is presented in the "Groundwater Monitoring Plan" (WVDP-239).

Sampling Rationale

On-site Groundwater	<p>DOE Order 5400.1, IV.9; DOE/EH-0173T, 5.10.1.3; RCRA 3008(h) Order on Consent.</p> <p>The on-site WVDP groundwater monitoring program focuses on radiological and chemical surveillance of both active and inactive super solid waste management units (SSWMUs). The program allows for the determination of water quality. In addition, using wells situated hydraulically upgradient (background) and downgradient of SSWMUs allows for both detection of groundwater contamination and evaluation of the effects associated with the individual SSWMUs.</p> <p>Groundwater protection is addressed in WVDP-091, "Groundwater Protection Management Program." Groundwater monitoring as detailed in WVDP-239, "Groundwater Monitoring Plan," is applicable to the 1996 program.</p>
SSWMU #3	Liquid waste treatment system containing effluent from the supernatant treatment system.
SSWMU #4	High-level waste storage and processing area, including the high-level radioactive waste tanks, the supernatant treatment system, and the vitrification facility.
