Appendix C-1

Summary of Water Limits, Guidelines, and Standards

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Table C-1A
West Valley Demonstration Project State Pollutant Discharge Elimination System (SPDES) Sampling Program

Outfall	Parameter	Daily Maximum Limit*	Sample Frequency
001 (Process and Storm Wastewater)	Flow	Monitor	2 per discharge
	Aluminum, total	14.0 mg/L	2 per discharge
	Ammonia (NH_3)	Monitor	2 per discharge
	Arsenic, dissolved	0.15 mg/L	2 per discharge
	BOD_5	10.0 mg/L	2 per discharge
	Iron, total	Monitor	2 per discharge
	Zinc, total recoverable	0.48 mg/L	2 per discharge
	Suspended solids	45.0 mg/L	2 per discharge
	Cyanide, amenable to chlorination	0.022 mg/L	2 per discharge
	Settleable solids	0.30 mL/L	2 per discharge
	pH (range)	6.5–8.5	2 per discharge
	Oil and grease	15.0 mg/L	2 per discharge
	Sulfate (as S)	Monitor	2 per discharge
	Sulfide, dissolved	0.4 mg/L	2 per discharge
	Manganese, total	2.0 mg/L	2 per discharge
	Nitrate (as N)	Monitor	2 per discharge
	Nitrite (as N)	0.1 mg/L	2 per discharge
	Chromium, total recoverable	0.3 mg/L	2 per discharge
	Chromium, hexavalent, total recoverable	0.011 mg/L	2 per discharge
	Cadmium, total recoverable	0.002 mg/L	2 per discharge
	Copper, total recoverable	0.030 mg/L	2 per discharge
	Copper, dissolved	Monitor	2 per discharge
	Lead, total recoverable	0.006 mg/L	2 per discharge
	Nickel, total recoverable	0.14 mg/L	2 per discharge
	Dichlorodifluoromethane	0.01 mg/L	annual
	Trichlorofluoromethane	0.01 mg/L	annual
	3,3-dichlorobenzidine	0.01 mg/L	2 per discharge
	Tributyl phosphate	32 mg/L	2 per discharge
	Vanadium, total recoverable	0.014 mg/L	2 per discharge
	Cobalt, total recoverable	0.005 mg/L	2 per discharge
	Selenium, total recoverable	0.004 mg/L	2 per discharge
	Hexachlorobenzene	0.02 mg/L	2 per discharge
	Alpha - BHC	0.00001 mg/L	2 per discharge
	Heptachlor	0.00001 mg/L	2 per discharge
	Surfactants (as LAS)	0.4 mg/L	2 per discharge
	Xylene	0.05 mg/L	2 per discharge
	2-butanone	0.5 mg/L	2 per discharge
	Total dissolved solids	Monitor	2 per discharge
	Mercury, total	0.0002 mg/L	2 per discharge

** Daily average limitations are also identified in the permit but require only monitoring for all parameters except total aluminum (daily average limit - 7.0 mg/L); suspended solids (daily average limit - 30.0 mg/L); BOD_5 for the sum of outfalls 001, 007, and 008 (daily average limit - 5.0 mg/L); and ammonia for the sum of outfalls 001 and 007 (daily average limit - 1.49 mg/L).*

Table C-1A (concluded)
West Valley Demonstration Project State Pollutant Discharge Elimination System (SPDES) Sampling Program

Outfall	Parameter	Daily Maximum Limit*	Sample Frequency
001 ***(concluded)***	Barium	0.5 mg/L	annual
	Antimony	1.0 mg/L	annual
	Chloroform	0.3 mg/L	annual
	Bis(2-ethylhexyl)phthalate	1.6 mg/L	semiannual
	4-Dodecene	0.6 mg/L	semiannual
	Titanium	0.65 mg/L	semiannual
	Bromide	5.0 mg/L	quarterly
	Boron	2.0 mg/L	quarterly
01B (Internal Process Monitoring Point)	Flow	Monitor	weekly
	Mercury, total	10.0 µg/L	2 per month
007 (Sanitary and Utility Wastewater)	Flow	Monitor	3 per month
	Ammonia (as NH_3)	Monitor	3 per month
	BOD_5	10 mg/L	3 per month
	Iron, total	Monitor	3 per month
	Solids, suspended	45.0 mg/L	3 per month
	Solids, settleable	0.3 mL/L	weekly
	pH (range)	6.5–8.5	weekly
	Nitrite (as N)	0.1 mg/L	3 per month
	Oil and grease	15 mg/L	3 per month
	Chlorine, total residual	0.1 mg/L	weekly
	Chloroform	0.20 mg/L	annual
008 (French Drain Wastewater)	Flow	Monitor	3 per month
	BOD_5	5.0 mg/L	3 per month
	Iron, total	Monitor	3 per month
	pH (range)	6.5–8.5	3 per month
	Cadmium, total recoverable	0.002 mg/L	3 per month
	Lead, total recoverable	0.006 mg/L	3 per month
	Silver, total	0.008 mg/L	annual
	Zinc, total	0.100 mg/L	annual
	Arsenic	0.17 mg/L	annual
	Chromium	0.13 mg/L	annual
Sum of Outfalls 001, 007, and 008	Iron, total	0.30 mg/L	3 per month
	BOD_5	Monitor	3 per month
Sum of Outfalls 001 and 007	Ammonia (as NH_3)	2.1 mg/L	3 per month
Pseudo-monitoring point (116)	Solids, total dissolved	500 mg/L	2 per discharge

** Daily average limitations are also identified in the permit but require only monitoring for all parameters except total aluminum (daily average limit - 7.0 mg/L); suspended solids (daily average limit - 30.0 mg/L); BOD_5 for the sum of outfalls 001, 007, and 008 (daily average limit - 5.0 mg/L); and ammonia for the sum of outfalls 001 and 007 (daily average limit - 1.49 mg/L).*

Table C-1B
New York Water Quality Standards and Guidelines[a]

Parameter	Units	Class A	Class B	Class C	Class D	Class GA
Gross Alpha[b]	pCi/L (µCi/mL)	15 (1.5E-08)	--	--	--	15 (1.5E-08)
Gross Beta[c]	pCi/L (µCi/mL)	1,000 (1E-06)	--	--	--	1,000 (1E-06)
Tritium (H-3)	pCi/L (µCi/mL)	20,000 (2E-05)	--	--	--	--
Strontium-90	pCi/L (µCi/mL)	8 (8E-09)	--	--	--	--
Alpha BHC	mg/L	0.000002	0.000002	0.000002	0.000002	0.00001
Aluminum, Dissolved	mg/L	0.10	0.10	0.10	--	--
Aluminum, Total	mg/L	--	--	--	--	--
Ammonia, Total as N	mg/L	0.09-2.1	0.09-2.1	0.09-2.1	0.67-29	2.0
Antimony, Total	mg/L	0.003	--	--	--	0.003
Arsenic, Dissolved	mg/L	0.050	0.150	0.150	0.340	--
Arsenic, Total	mg/L	0.050	--	--	--	0.025
Barium, Total	mg/L	1.00	--	--	--	1.00
Beryllium, Total	mg/L	0.003	[d]	[d]	--	0.003
Bicarbonate Alkalinity (as $CaCO_3$)	mg/L	--	--	--	--	--
Boron, Total	mg/L	10.0	10.0	10.0	--	1.00
Bromide	mg/L	2.00	--	--	--	2.00
Cadmium, Dissolved[e]	mg/L	--	--	--	--	--
Cadmium, Total	mg/L	0.005	--	--	--	0.005
Calcium, Total	mg/L	--	--	--	--	--
Carbonate Alkalinity (as $CaCO_3$)	mg/L	--	--	--	--	--
Chloride	mg/L	250	--	--	--	250
Chromium, Dissolved[e]	mg/L	--	--	--	--	--
Chromium, Total	mg/L	0.05	--	--	--	0.05
Cobalt, Total[h]	mg/L	0.005	0.005	0.005	0.110	--
Conductivity	µmhos/cm@25°C	--	--	--	--	--
Copper, Dissolved[e]	mg/L	--	--	--	--	--
Copper, Total	mg/L	0.20	--	--	--	0.20
Cyanide	mg/L	0.0052	0.0052	0.0052	0.22	0.200
Dissolved Oxygen (minimum)	mg/L	4.0	4.0	4.0	3.0	--
Fluoride[e]	mg/L	--	--	--	--	1.5
Hardness	mg/L	--	--	--	--	--
Iron and Manganese (sum)	mg/L	--	--	--	--	0.500

-- No applicable guideline or reference standard available
Note: All water quality and metals standards are presented in mg/L (ppm) to provide consistency in comparisons.
[a] Source: 6 NYCRR Parts 701–704; The most stringent applicable pathway (e.g., wildlife, aquatic, human health) values are reported.
[b] Gross alpha standard includes radium-226, but excludes radon and uranium; however WVDP results include these isotopes.
[c] Gross beta standard excludes strontium-90 and alpha emitters, however WVDP results include these isotopes.
[d] Beryllium standard for classes "B" and "C" are based on stream hardness values.
[e] Standards for these constituents vary according to stream location hardness values.
[f] pH shall not be lower than 6.5 or the pH of natural groundwater, whichever is lower, nor shall pH be greater than 8.5 or the pH of the natural groundwater, whichever is greater.
[g] Applies to the sum of those organic substances which have individual human health water source standards listed at 0.100 mg/L or less in 6 NYCRR Part 703.5
[h] Standards for cobalt, thallium, and vanadium are acid-soluble.

Table C-1B (concluded)
New York Water Quality Standards and Guidelines[a]

Parameter	Units	Class A	Class B	Class C	Class D	Class GA
Iron, Total	mg/L	0.30	0.30	0.30	0.30	0.30
Lead, Dissolved[e]	mg/L	--	--	--	--	--
Lead, Total	mg/L	0.050	--	--	--	0.025
Magnesium, Total	mg/L	35.0	--	--	--	35.0
Manganese, Total	mg/L	0.30	--	--	--	0.30
Mercury, Dissolved	mg/L	0.0000007	0.0000007	0.0000007	0.0000007	--
Mercury, Total	mg/L	0.0007	--	--	--	0.0007
Nickel, Dissolved[e]	mg/L	--	--	--	--	--
Nickel, Total	mg/L	0.10	--	--	--	0.10
Nitrate-N	mg/L	10.0	--	--	--	10.0
Nitrate + Nitrite	mg/L	10.0	10.0	10.0	10.0	10.0
Nitrite-N	mg/L	0.10	0.10	0.10	--	1.00
NPOC[g]	mg/L	0.10	--	--	--	--
Oil & Grease	mg/L	--	--	--	--	--
pH	SU	6.5–8.5[f]	6.5–8.5[f]	6.5–8.5[f]	6.0–9.5	6.5–8.5[f]
Potassium, Total	mg/L	--	--	--	--	--
Selenium, Dissolved	mg/L	0.0046	0.0046	0.0046	--	--
Selenium, Total	mg/L	0.01	--	--	--	0.01
Silver, Total	mg/L	0.05	--	--	--	0.05
Sodium, Total	mg/L	--	--	--	--	20.0
Solids, Settleable	mg/L	--	--	--	--	--
Solids, Total Dissolved	mg/L	500	500	500	--	500
Solids, Total Suspended	mg/L	--	--	--	--	--
Sulfate	mg/L	250	--	--	--	250
Sulfide (undissociated form)	mg/L	0.002	0.002	0.002	--	0.050 (as HS)
Surfactants (as LAS)	mg/L	0.04	0.04	0.04	--	--
Thallium, Total[h]	mg/L	0.0005	0.008	0.008	0.020	0.0005
Titanium, Total	mg/L	--	--	--	--	--
TOX (total organic halides)[g]	mg/L	0.10	--	--	--	--
Vanadium, Total[h]	mg/L	0.014	0.014	0.014	0.190	--
Zinc, Dissolved[e]	mg/L	--	--	--	--	--
Zinc, Total	mg/L	2.00	--	--	--	2.00

-- No applicable guideline or reference standard available
Note: All water quality and metals standards are presented in mg/L (ppm) to provide consistency in comparisons.
HS - Hydrogen sulfide
[a] Source: 6 NYCRR Parts 701–704; The most stringent applicable pathway (e.g., wildlife, aquatic, human health) values are reported.
[b] Gross alpha standard includes radium-226, but excludes radon and uranium; however WVDP results include these isotopes.
[c] Gross beta standard excludes strontium-90 and alpha emitters, however WVDP results include these isotopes.
[d] Beryllium standard for classes "B" and "C" are based on stream hardness.
[e] Standards for these constituents vary according to stream location hardness values.
[f] pH shall not be lower than 6.5 or the pH of natural groundwater, whichever is lower, nor shall pH be greater than 8.5 or the pH of the natural groundwater, whichever is greater.
[g] Applies to the sum of those organic substances which have individual human health water source standards listed at 0.100 mg/L or less in 6 NYCRR Part 703.5
[h] Standards for cobalt, thallium, and vanadium are acid-soluble.

Table C-1C
New York State Department of Health/U.S. Environmental Protection Agency MCLs, MCLGs, and Raw Water Standards

Parameter	Units	NYSDOH or EPA MCL[a]	EPA MCLG[b]	NYSDOH Raw Water Standards[c]
Gross Alpha	pCi/L (µCi/mL)	15 (1.5E-08)[d]	0	--
Gross Beta	pCi/L (µCi/mL)	50 (5E-08)[e]	0	1,000 (1E-06)
Tritium (H-3)	pCi/L (µCi/mL)	20,000 (2E-05)	--	--
Strontium-90	pCi/L (µCi/mL)	8 (8E-09)	--	10 (1E-08)
Antimony, Total	mg/L	0.006	0.006	--
Arsenic, Total	mg/L	0.05	--	0.05
Barium, Total	mg/L	2.00	2.00	1
Beryllium, Total	mg/L	0.004	0.004	--
Cadmium, Total	mg/L	0.005	0.005	0.01
Chromium, Total	mg/L	0.10	0.10	--
Conductivity	µmhos/cm@25°C	--	--	--
Cyanide	mg/L	0.2	0.2	<0.1
E. Coli	NA	one positive sample	0	--
Fluoride	mg/L	2.2	--	1.5
Free Residual Chlorine	mg/L	0.02 (min) 4.0 (max)	--	--
Haloacetic Acids -Five (5)	mg/L	0.060	--	--
Iron, Total	mg/L	0.3	--	--
Mercury, Total	mg/L	0.002	0.002	0.005
Nickel, Total	mg/L	--	--	--
Nitrate-N	mg/L	10	10	--
pH	SU	--	--	6.5–8.5
POC[f]	mg/L	--	0.0005	--
Selenium, Total	mg/L	0.05	0.05	0.01
Solids, Total Dissolved	mg/L	--	--	500
Thallium, Total	mg/L	0.002	0.0005	--
Total Coliform	NA	2 or more positive samples	zero	--
Total Trihalomethanes	mg/L	0.080	--	--
Turbidity	NTU	1 (max)	--	--

-- No applicable guideline or reference standard available
Note: All water quality and metals standards are presented in mg/L (ppm) to provide consistency in comparisons.
NA - Not applicable
[a] MCL - Listed is NYSDOH or EPA Maximum Contaminant Level. Sources: 40 CFR 141 and/or 5 NYCRR 5-1.52, whichever is more stringent.
[b] MCLG - Maximum Contaminant Level Goal (non-enforceable) as listed in 40 CFR Part 141
[c] Source: 10 NYCRR Part 170.4
[d] Alpha guideline includes radium-226, but excludes uranium; however, WVDP results include these isotopes.
[e] Average annual concentration assumed to produce a total body organ dose of 4 mrem/year
[f] POC - Principle Organic Contaminant

Table C-1D
U.S. Department of Energy Derived Concentration Guides (DCGs)[a]

Radionuclide	Units	Concentration in Ingested Water
Gross Alpha (as Am-241)[b]	µCi/mL	3E-08
Gross Beta (as Sr-90)[b]	µCi/mL	1E-06
Tritium (H-3)	µCi/mL	2E-03
Carbon-14 (C-14)	µCi/mL	7E-05
Potassium-40 (K-40)	µCi/mL	7E-06
Cobalt-60 (Co-60)	µCi/mL	5E-06
Strontium-90 (Sr-90)	µCi/mL	1E-06
Technetium-99 (Tc-99)	µCi/mL	1E-04
Iodine-129 (I-129)	µCi/mL	5E-07
Cesium-137 (Cs-137)	µCi/mL	3E-06
Europium-154 (Eu-154)	µCi/mL	2E-05
Uranium-232 (U-232)	µCi/mL	1E-07
Uranium-233 (U-233)	µCi/mL	5E-07
Uranium-234 (U-234)	µCi/mL	5E-07
Uranium-235 (U-235)	µCi/mL	6E-07
Uranium-236 (U-236)	µCi/mL	5E-07
Uranium-238 (U-238)	µCi/mL	6E-07
Plutonium-238 (Pu-238)	µCi/mL	4E-08
Plutonium-239 (Pu-239)	µCi/mL	3E-08
Plutonium-240 (Pu-240)	µCi/mL	3E-08
Americium-241 (Am-241)	µCi/mL	3E-08

[a] *DCGs are established in DOE Order 5400.5 and are defined as the concentration of a radionuclide that, under conditions of continuous exposure for one year by one exposure mode, would result in an effective dose equivalent of 100 mrem (1mSv).*

[b] *Because there are no DCGs for gross alpha and gross beta concentrations, the DCGs for the most restrictive alpha and beta emitters at the WVDP, americium-241 and strontium-90 (3E-08 and 1E-06 µCi/mL, respectively) are used as a conservative basis for comparison at locations for which there are no radionuclide-specific data, in which case a more appropriate DCG may be applied.*

Appendix C-2

Process Effluent Data

Table C-2A contains a bolding convention devised to help the reader, when viewing the data, to quickly see the range of detectable measurements within a data series. A data series is a set of chemical or radionuclide measurements (e.g., gross alpha, gross beta, tritium) from a single location or from similar locations. Note that some tables contain data that should not be technically evaluated under this convention.

Key to bolding convention:

Results for each constituent constitute a single data series. If a radiological result is larger than the uncertainty term, the measurement is considered positive. Otherwise, a result is considered nondetectable. Chemical results preceded by"less than" (<) are considered nondetectable.

If all results in a data series are positive, the lowest and highest values are bolded.
If a data series contains some positive results, the highest value is bolded.
If all values in a data series are nondetectable, no values are bolded.

Table C-2A
Total Radioactivity (curies) of Liquid Effluents Released From Lagoon 3 (WNSP001) in 2004

Isotope	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Total
Gross Alpha	**4.10±0.54E-04**	1.82±0.40E-04	1.69±0.30E-04	**1.14±0.32E-04**	8.76±0.80E-04
Gross Beta	**4.35±0.13E-03**	3.60±0.10E-03	2.57±0.07E-03	**1.18±0.07E-03**	1.17±0.02E-02
H-3	**2.52±0.13E-02**	2.02±0.11E-02	2.14±0.11E-02	**1.59±0.10E-02**	8.27±0.22E-02
C-14	0.99±3.97E-04	-2.32±2.84E-04	**1.84±0.66E-04**	0.06±1.68E-04	0.58±5.20E-04
K-40	6.12±8.23E-04	-5.17±5.72E-04	0.95±4.59E-04	3.79±4.59E-04	0.57±1.19E-03
Co-60	-0.64±4.63E-05	-1.21±2.18E-05	-2.11±3.23E-05	0.41±1.74E-05	-3.54±6.30E-05
Sr-90	**1.58±0.07E-03**	1.39±0.05E-03	9.24±0.52E-04	**5.37±0.44E-04**	4.43±0.11E-03
Tc-99	2.80±0.28E-04	3.32±0.28E-04	**6.11±0.35E-04**	**2.35±0.27E-04**	1.46±0.06E-03
I-129	0.83±1.59E-05	1.30±1.56E-05	3.06±1.20E-05	**4.46±1.98E-05**	9.65±3.22E-05
Cs-137	**1.44±0.11E-03**	8.86±0.57E-04	5.35±0.67E-04	**2.42±0.41E-04**	3.11±0.14E-03
U-232	**1.73±0.08E-04**	1.05±0.06E-04	9.88±0.73E-05	**7.94±0.67E-05**	4.56±0.14E-04
U-233/234	**1.09±0.06E-04**	7.20±0.51E-05	6.19±0.55E-05	**5.52±0.56E-05**	2.99±0.11E-04
U-235/236	**6.61±1.53E-06**	5.55±1.44E-06	**3.33±1.37E-06**	3.34±1.42E-06	1.88±0.29E-05
U-238	**8.77±0.55E-05**	5.72±0.45E-05	4.40±0.47E-05	**3.91±0.47E-05**	2.28±0.10E-04
Total U (g)	**2.79±0.12E+02**	1.78±0.04E+02	1.35±0.03E+02	**1.05±0.03E+02**	6.98±0.13E+02
Pu-238	2.74±0.94E-06	9.56±5.11E-07	**8.54±6.34E-07**	**3.00±0.92E-06**	7.55±1.55E-06
Pu-239/240	1.70±0.75E-06	9.80±5.02E-07	**7.81±5.84E-07**	**2.68±0.88E-06**	6.14±1.39E-06
Am-241	2.38±0.93E-06	1.16±0.45E-06	**7.84±5.37E-07**	**4.11±1.04E-06**	8.44±1.56E-06

Note: Bolding convention applied to these data. See page C-10.

Table C-2B
Comparison of 2004 Lagoon 3 (WNSP001) Liquid Effluent Radioactivity Concentrations With U.S. Department of Energy Guidelines

Isotope[a]	Discharge Activity[b]	Radioactivity[c]	Concentration	DCG	% of DCG
	(Ci)	(Becquerels)	(µCi/mL)	(µCi/mL)	
Gross Alpha	8.76±0.80E-04	3.24±0.30E+07	1.55±0.14E-08	NA[d]	NA
Gross Beta	1.17±0.02E-02	4.33±0.07E+08	2.07±0.03E-07	NA[d]	NA
H-3	8.27±0.22E-02	3.06±0.08E+09	1.46±0.04E-06	2E-03	0.07
C-14	0.58±5.20E-04	0.21±1.92E+07	1.02±9.19E-09	7E-05	<0.01
K-40	0.57±1.19E-03	2.11±4.42E+07	1.01±2.11E-08	NA[e]	NA
Co-60	-3.54±6.30E-05	-1.31±2.33E+06	-0.63±1.11E-09	5E-06	<0.02
Sr-90	4.43±0.11E-03	1.64±0.04E+08	7.83±0.19E-08	1E-06	7.83
Tc-99	1.46±0.06E-03	5.39±0.22E+07	2.58±0.11E-08	1E-04	0.03
I-129	9.65±3.22E-05	3.57±1.19E+06	1.70±0.57E-09	5E-07	0.34
Cs-137	3.11±0.14E-03	1.15±0.05E+08	5.49±0.26E-08	3E-06	1.83
U-232[f]	4.56±0.14E-04	1.69±0.05E+07	8.06±0.25E-09	1E-07	8.06
U-233/234[f]	2.99±0.11E-04	1.10±0.04E+07	5.27±0.20E-09	5E-07	1.05
U-235/236[f]	1.88±0.29E-05	6.97±1.06E+05	3.33±0.51E-10	5E-07[g]	0.07
U-238[f]	2.28±0.10E-04	8.44±0.36E+06	4.03±0.17E-09	6E-07	0.67
Pu-238	7.55±1.55E-06	2.79±0.57E+05	1.33±0.27E-10	4E-08	0.33
Pu-239/240	6.14±1.39E-06	2.27±0.51E+05	1.08±0.25E-10	3E-08	0.36
Am-241	8.44±1.56E-06	3.12±0.58E+05	1.49±0.28E-10	3E-08	0.50
Total % of DCGs					21.18

NA - Not applicable
[a] Half-lives are listed in Table K-1
[b] Total volume released: 5.66E+10 mL (1.50E+07 gal)
[c] 1 curie (Ci) = 3.7E+10 becquerels (Bq); 1Bq = 2.7E-11 Ci
[d] DOE-derived concentration guides (DCGs) do not exist for indicator parameters gross alpha and gross beta.
[e] Potassium-40 activity is not applicable because of its natural origin.
[f] Total U (g) = 6.98±0.13E+02; Average U (µg/mL) = 1.23±0.02E-02
[g] DCG for U-236 is used for this comparison.

Table C-2C
2004 SPDES Results for Outfall 001 (WNSP001): Water Quality

	Ammonia (mg/L)		**BOD_5 day** (mg/L)		**Cyanide (amenable to chlorination)** (mg/L)		**Discharge Rate** (MGD)	
Permit limit	Monitor		10.0 mg/L daily maximum		0.022 mg/L daily maximum		Monitor	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	0.24	0.33	<2.4	2.8	<0.010	<0.010	0.317	0.349
February [a]	--	--	--	--	--	--	--	--
March	0.14	0.15	<2.0	<2.0	<0.010	<0.010	0.341	0.379
April	<0.05	<0.05	<2.0	<2.0	<0.010	<0.010	0.193	0.274
May	0.061	0.091	<1.3	2.1	<0.003	<0.003	0.176	0.288
June	0.12	0.17	<0.57	<0.57	<0.0030	<0.0030	0.262	0.335
July [a]	--	--	--	--	--	--	--	--
August	0.028	0.034	<2.0	<2.0	<0.003	<0.003	0.271	0.327
September	<0.019	0.025	<2.2	2.3	<0.003	<0.003	0.232	0.307
October [a]	--	--	--	--	--	--	--	--
November [a]	--	--	--	--	--	--	--	--
December	0.075	0.090	<2.0	<2.0	<0.003	<0.003	0.249	0.277

	Nitrate (as N) (mg/L)		**Nitrite (as N)** (mg/L)		**Oil & Grease** (mg/L)	
Permit limit	Monitor		0.1 mg/L daily maximum		15.0 mg/L daily maximum	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	0.92	1.0	<0.05	<0.05	<5.0	<5.0
February [a]	--	--	--	--	--	--
March	1.2	1.2	<0.05	<0.05	<5.0	<5.0
April	1.4	1.5	<0.05	<0.05	<5.0	<5.0
May	0.8	1.0	<0.05	0.06	<1.9	<1.9
June	0.46	0.49	<0.05	<0.05	<1.9	<1.9
July [a]	--	--	--	--	--	--
August	<0.036	<0.036	<0.05	<0.05	<1.9	<1.9
September	<0.036	<0.036	<0.05	<0.05	<1.9	1.9
October [a]	--	--	--	--	--	--
November [a]	--	--	--	--	--	--
December	0.10	0.10	<0.05	<0.05	<2.7	<2.7

Note: No results exceeded the permit limits.
[a] *No discharge this month*

Table C-2C (concluded)
2004 SPDES Results for Outfall 001 (WNSP001):
Water Quality

	pH (standard units)		**Solids Settleable** (mL/L)		**Solids Total Dissolved** (mg/L)		**Solids Total Suspended** (mg/L)	
Permit limit	6.5–8.5		0.30 mL/L daily maximum		Monitor		45.0 mg/L daily maximum; 30.0 daily average	
Month	**Min**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	7.1	7.7	<0.1	<0.1	740	746	<3.0	4.0
February[a]	--	--	--	--	--	--	--	--
March	7.3	7.3	<0.1	<0.1	728	740	<2.0	<2.0
April	7.6	8.2	<0.1	<0.1	768	789	<2.0	<2.0
May	7.4	8.1	<0.1	<0.1	713	733	43.8[b]	78.5[b]
June	7.5	7.8	<0.1	<0.1	698	717	<1.0	<1.0
July[a]	--	--	--	--	--	--	--	--
August	7.6	7.8	<0.1	<0.1	759	775	<6.5	9.0
September	7.8	8.0	<0.1	<0.1	738	741	10.5	14.0
October[a]	--	--	--	--	--	--	--	--
November[a]	--	--	--	--	--	--	--	--
December	7.5	7.7	<0.1	<0.1	758	762	<4.0	<4.0

	Sulfate (as S) (mg/L)		**Sulfide (as S) Dissolved** (mg/L)		**Surfactants as LAS** (mg/L)	
Permit limit	Monitor		0.4 mg/L daily maximum		0.4 mg/L daily maximum	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	40	57	<0.2	<0.2	<0.1	0.1
February[a]	--	--	--	--	--	--
March	34	34	<0.2	<0.2	<0.1	<0.1
April	36	36	<0.2	<0.2	<0.1	<0.1
May	28	30	0.08	0.1	<0.03	0.04
June	39	43	0.1	0.1	0.04	0.04
July[a]	--	--	--	--	--	--
August	58	63	<0.04	<0.04	0.07	0.08
September	57	58	<0.04	<0.04	0.04	0.05
October[a]	--	--	--	--	--	--
November[a]	--	--	--	--	--	--
December	66	69	<0.04	0.04	0.06	0.07

[a] *No discharge this month*
[b] *Exceedance of the permit limits for TSS in May 2004*

Table C-2D
2004 SPDES Results for Outfall 001 (WNSP001): Metals

	Aluminum Total (mg/L)		**Arsenic Dissolved** (mg/L)		**Cadmium Total Recoverable** (mg/L)		**Cobalt Total Recoverable** (mg/L)	
Permit limit	14.0 mg/L daily maximum; 7.0 mg/L daily average		0.15 mg/L daily maximum		0.002 mg/L daily maximum		0.005 mg/L daily maximum	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	<0.275	0.349	0.0020	0.0022	<0.001	<0.001	<0.004	<0.004
February[a]	--	--	--	--	--	--	--	--
March	0.302	0.314	0.0014	0.0015	<0.001	<0.001	<0.004	<0.004
April	<0.200	<0.200	0.0018	0.0018	<0.001	<0.001	<0.004	<0.004
May	2.3	4.2	0.0018	0.0018	<0.0006	<0.0006	<0.003	0.004
June	0.22	0.259	0.0021	0.0021	<0.0006	<0.0006	<0.002	<0.002
July[a]	--	--	--	--	--	--	--	--
August	0.112	0.139	0.0022	0.0022	<0.001	<0.001	<0.002	<0.002
September	0.174	0.199	0.002	0.002	<0.0006	<0.0006	<0.002	<0.002
October[a]	--	--	--	--	--	--	--	--
November[a]	--	--	--	--	--	--	--	--
December	0.253	0.294	0.0025	0.0026	<0.0006	<0.0006	<0.002	<0.002

	Chromium Total Recoverable (mg/L)		**Chromium VI Total Recoverable** (mg/L)		**Copper Dissolved** (mg/L)		**Copper Total Recoverable** (mg/L)	
Permit limit	0.3 mg/L daily maximum		0.011 mg/L daily maximum		Monitor		0.030 mg/L daily maximum	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	<0.002	<0.002	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
February[a]	--	--	--	--	--	--	--	--
March	<0.002	<0.002	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
April	<0.002	<0.002	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
May	<0.003	0.004	<0.009	<0.010	<0.0024	<0.0024	0.0035	0.0045
June	<0.0009	<0.0009	<0.008	<0.008	<0.0024	<0.0024	<0.0024	<0.0024
July[a]	--	--	--	--	--	--	--	--
August	<0.0009	<0.0009	<0.008	<0.008	0.0028	0.0028	0.0036	0.0040
September	<0.0009	<0.0009	<0.008	<0.008	0.0050	0.0068	<0.0036	0.0047
October[a]	--	--	--	--	--	--	--	--
November[a]	--	--	--	--	--	--	--	--
December	<0.001	0.001	<0.009	<0.010	<0.0043	<0.0043	0.0037	0.004

Note: No results exceeded the permit limits.
[a] *No discharge this month*

Table C-2D (concluded)
2004 SPDES Results for Outfall 001 (WNSP001):
Metals

	Iron Total (mg/L)		**Lead Total Recoverable** (mg/L)		**Manganese Total** (mg/L)		**Mercury, Total (per EPA Method 245.1)** (mg/L)		**Mercury, Total (per EPA Method 1631)** (µg/L)	
Permit limit	Monitor		0.006 mg/L daily maximum		2.0 mg/L daily maximum		0.0002 mg/L daily maximum		Monitor	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	0.138	0.164	<0.0005	0.0006	0.127	0.206	<0.0002	<0.0002	0.0374	0.0439
February[a]	–	–	--	--	–	–	–	–	–	–
March	0.263	0.264	<0.0005	<0.0005	0.029	0.030	<0.0002	<0.0002	0.0191	0.0203
April	0.118	0.143	<0.0005	<0.0005	0.013	0.017	<0.0002	<0.0002	0.00895	0.00961
May	2.43	4.61	<0.001	0.002	0.074	0.11	<0.0002	<0.0002	0.01045	0.0114
June	0.268	0.324	0.0004	0.0004	0.14	0.15	<0.0002	<0.0002	0.00576	0.00648
July[a]	–	–	--	--	–	–	–	–	–	–
August	0.116	0.141	<0.0003	0.0004	0.040	0.043	<0.0002	<0.0002	0.00470	0.00558
September	0.168	0.178	0.0005	0.0005	0.10	0.13	<0.0002	<0.0002	0.00571	0.00634
October[a]	–	–	--	--	–	–	–	–	–	–
November[a]	–	–	--	--	–	–	–	–	–	–
December	0.325	0.389	0.0008	0.0008	0.017	0.017	<0.0002	<0.0002	0.0152	0.0170

	Nickel Total Recoverable (mg/L)		**Selenium Total Recoverable** (mg/L)		**Vanadium Total Recoverable** (mg/L)		**Zinc Total Recoverable** (mg/L)	
Permit limit	0.14 mg/L daily maximum		0.004 mg/L daily maximum		0.014 mg/L daily maximum		0.48 mg/L daily maximum	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	<0.010	<0.010	<0.001	0.001	<0.010	<0.010	<0.010	<0.010
February[a]	–	–	--	--	–	–	–	–
March	<0.010	<0.010	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010
April	<0.010	<0.010	<0.001	<0.001	<0.010	<0.010	<0.010	<0.010
May	<0.0037	0.0058	<0.0004	<0.0004	0.006	0.011	0.012	0.018
June	<0.0016	<0.0016	<0.0004	<0.0004	<0.00098	<0.00098	<0.0069	0.0081
July[a]	–	–	--	--	–	–	–	–
August	0.002	0.002	<0.0004	<0.0004	<0.0011	<0.0011	<0.0064	0.0071
September	0.0024	0.0027	<0.0004	<0.0004	<0.0011	<0.0011	<0.0056	<0.0056
October[a]	–	–	--	--	–	–	–	–
November[a]	–	–	--	--	–	–	–	–
December	0.0026	0.0026	<0.0004	<0.0004	<0.0011	<0.0011	0.0071	0.0071

Note: No results exceeded the permit limits.
[a] *No discharge this month*

Table C-2E
2004 SPDES Results for Outfall 001 (WNSP001): Organics

SEMIVOLATILES

	3,3-Dichlorobenzidine (mg/L)		**Hexachlorobenzene** (mg/L)		**Heptachlor** (mg/L)		**Tributyl Phosphate** (mg/L)	
Permit limit	0.01 mg/L daily maximum		0.02 mg/L daily maximum		0.00001 mg/L daily maximum		32 mg/L daily maximum	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	<0.0099	<0.0099	<0.01	<0.01	<0.000009	<0.000009	<0.010	<0.010
February[a]	--	--	--	--	--	--	--	--
March	<0.0099	<0.0099	<0.01	<0.01	<0.000009	<0.000009	<0.010	<0.010
April	<0.0099	<0.0099	<0.01	<0.01	<0.000006	<0.000009	<0.010	<0.010
May	<0.007	<0.007	<0.007	<0.007	<0.000003	0.000003	<0.0014	<0.0014
June	<0.007	<0.007	<0.007	<0.007	<0.0000007	<0.0000008	<0.0014	<0.0014
July[a]	--	--	--	--	--	--	--	--
August	<0.007	<0.007	<0.007	<0.007	<0.0000008	<0.0000008	<0.0014	<0.0014
September	<0.007	<0.007	<0.007	<0.007	<0.000001	<0.000001	<0.0014	<0.0014
October[a]	--	--	--	--	--	--	--	--
November[a]	--	--	--	--	--	--	--	--
December	<0.007	<0.007	<0.007	<0.007	<0.0000008	<0.0000008	<0.0013	<0.0013

VOLATILES

	2-Butanone (mg/L)		**Xylene** (mg/L)		**Alpha-BHC** (mg/L)	
Permit limit	0.5 mg/L daily maximum		0.05 mg/L daily maximum		0.00001 mg/L daily maximum	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	<0.01	<0.01	<0.01	<0.01	<0.000009	<0.000009
February[a]	--	--	--	--	--	--
March	<0.01	<0.01	<0.01	<0.01	<0.000009	<0.000009
April	<0.01	<0.01	<0.01	<0.01	<0.000009	<0.000009
May	<0.005	<0.005	<0.007	<0.007	<0.000002	<0.000002
June	<0.005	<0.005	<0.007	<0.007	<0.000001	<0.000001
July[a]	--	--	--	--	--	--
August	<0.005	<0.005	<0.007	<0.007	<0.000001	<0.000001
September	<0.005	<0.005	<0.007	<0.007	<0.000002	<0.000002
October[a]	--	--	--	--	--	--
November[a]	--	--	--	--	--	--
December	<0.005	<0.005	<0.007	<0.007	<0.000001	<0.000001

Note: No results exceeded the permit limits.
[a] *No discharge this month*

Table C-2F
2004 SPDES Results for Outfall 007 (WNSP007): Water Quality and Iron

	Ammonia (as NH_3) (mg/L)		**BOD_5** (mg/L)		**Chlorine Total Residual** (mg/L)		**Discharge Rate** (MGD)		**Iron Total** (mg/L)	
Permit limit	Monitor		10 mg/L daily maximum		0.1 mg/L daily maximum		Monitor		Monitor	
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	<0.62	1.0	2.8	3.8	0.02	0.04	0.046	0.075	<0.189	0.317
February	<0.11	0.22	2.2	2.6	0.02	0.02	0.043	0.068	0.085	0.100
March	<0.050	<0.050	<2.0	<2.0	0.01	0.02	0.036	0.064	0.073	0.080
April	<0.050	<0.050	<2.0	<2.0	0.02	0.05	0.023	0.033	0.0997	0.118
May	<0.015	0.024	<1.6	2.3	0.01	0.02	0.018	0.028	0.163	0.216
June	<0.010	<0.010	<1.9	2.9	0.02	0.02	0.017	0.028	0.085	0.105
July	0.041	0.051	<2.8	4.3	0.02	0.02	0.016	0.025	<0.026	0.0332
August	0.044	0.061	<2.9	3.6	0.01	0.01	0.013	0.019	0.0579	0.0959
September	<0.025	0.032	<2.4	3.2	0.02	0.03	0.019	0.023	0.0732	0.0933
October	<0.025	0.032	<2.4	3.2	0.02	0.03	0.018	0.030	0.0581	0.110
November	0.075	0.16	<2.1	2.4	0.02	0.03	0.020	0.026	0.0750	0.0912
December	0.043	0.099	<2.0	<2.0	0.02	0.03	0.024	0.035	0.184	0.419

	Nitrite (as N) (mg/L)		**Oil & Grease** (mg/L)		**pH** (standard units)		**Solids Settleable** (mL/L)		**Solids Total Suspended** (mg/L)	
Permit limit	0.1 mg/L daily maximum		15 mg/L daily maximum		6.5 to 8.5		0.3 mL/L daily maximum		45.0 mg/L daily maximum; 30.0 daily average	
Month	**Avg**	**Max**	**Avg**	**Max**	**Min**	**Max**	**Avg**	**Max**	**Avg**	**Max**
January	<0.05	<0.05	<5.0	<5.0	7.3	8.0	<0.1	<0.1	<2.7	3.0
February	<0.08	0.1	<5.0	<5.0	7.0	7.5	<0.2	<0.3	<4.0	8.0
March	<0.05	<0.05	<5.0	<5.0	7.7	8.0	<0.2	<0.3	<2.0	<2.0
April	<0.05	<0.05	<5.0	<5.0	7.4	7.7	<0.1	<0.1	<2.0	<2.0
May	<0.05	<0.05	<1.9	<1.9	7.2	7.5	<0.1	<0.1	<1.3	2.0
June	<0.05	<0.05	<1.9	<1.9	7.4	7.7	<0.1	<0.1	<1.0	<1.0
July	<0.05	<0.05	<1.9	<1.9	7.6	7.9	<0.1	<0.1	<2.3	5.0
August	<0.05	<0.05	<1.9	<1.9	7.5	7.9	<0.1	<0.1	<4.0	<4.0
September	<0.05	<0.05	<1.9	<1.9	7.2	7.7	<0.1	<0.1	<7.0	12.0
October	<0.05	<0.05	<1.9	<1.9	7.7	7.9	<0.1	<0.1	<4.0	<4.0
November	<0.05	<0.05	<3.4	4.9	7.1	7.8	<0.1	<0.1	<4.0	<4.0
December	<0.05	<0.05	<2.7	<2.7	7.3	7.9	<0.1	<0.1	<4.0	<4.0

Note: No results exceeded the permit limits.

Table C-2G
2004 SPDES Results for Outfall 008 (WNSP008): Water Quality

NO DISCHARGE FROM THE
FRENCH DRAIN (WNSP008) SINCE MAY 2001

Table C-2H
2004 SPDES Results for Sums of Outfalls 001, 007, 008, and 116: Water Quality

2004 Results for Sums of Outfalls 001, 007 and 008

	Ammonia[a] Flow-Weighted Average (mg/L)		**BOD_5 day** (mg/L)		**Iron Flow-Weighted Average** (mg/L)
Permit limit	2.1 daily maximum; 1.49 daily average		5.0 daily average		0.30 daily average
Month	**Avg**	**Max**	**Avg**	**Max**	**Avg**
January	<0.44	0.80	<2.3	2.9	0.04
February[b]	<0.11	0.22	2.2	2.6	0.00
March	<0.102	<0.14	<2.0	<2.0	0.00
April	<0.05	<0.05	<2.0	<2.0	0.00
May	<0.040	<0.080	<1.5	<1.9	0.00
June	<0.074	<0.15	<1.4	2.9	0.00
July[b]	0.041	0.051	<2.8	4.3	0.00
August	0.032	0.038	<2.4	3.1	0.00
September	<0.017	0.025	<2.5	3.2	0.00
October[b]	<0.025	0.032	<2.4	3.2	0.00
November[b]	0.075	0.16	<2.1	2.4	0.00
December	0.054	0.091	<2.0	<2.0	0.00

2004 Results for Outfall 116

	Total Dissolved Solids (mg/L)	
Permit limit	500 mg/L daily maximum	
Month	**Avg**	**Max**
January	350	360
February[b]	--	--
March	281	320
April	288	297
May	253	347
June	343	372
July[b]	--	--
August	381	381
September	356	381
October[b]	--	--
November[b]	--	--
December	279	316

Note: No results exceeded the permit limits.
[a] *Sum of Outfalls 001 and 007 only*
[b] *No discharge this month*

Table C-2I
2004 Quarterly/Semiannual/Annual SPDES Results for Outfall 001 (WNSP001): Water Quality, Metals, and Organics

	Action Level	Monitoring Frequency	Collection Date	Maximum Measured
Boron, Total (mg/L)	2.0 mg/L daily maximum	Quarterly	March 2004 May 2004 August 2004 December 2004	0.035 0.040 0.049 0.038
Bromide, Total (mg/L)	5.0 mg/L daily maximum	Quarterly	March 2004 May 2004 August 2004 December 2004	1.4 1.8 2.0 1.9
Titanium, Total (mg/L)	0.65 mg/L daily maximum	Semiannual	March 2004 August 2004	0.0068 0.0037
Bis(2-ethylhexyl)phthalate (mg/L)	1.6 mg/L daily maximum	Semiannual	March 2004 August 2004	<0.010 <0.0051
4-dodecene (mg/L)	0.6 mg/L daily maximum	Semiannual	March 2004 August 2004	<0.06 <0.010
Chloroform (mg/L)	0.3 mg/L daily maximum	Annual	March 2004	<0.005
Antimony, Total (mg/L)	1.0 mg/L daily maximum	Annual	March 2004	<0.020
Barium, Total (mg/L)	0.5 mg/L daily maximum	Annual	March 2004	0.03
Dichlorodifluoromethane (mg/L)	0.01 mg/L daily maximum	Annual	March 2004	<0.005
Trichlorofluoromethane (mg/L)	0.01 mg/L daily maximum	Annual	March 2004	<0.005

Note: No results exceeded the permit limits.

Table C-2J
2004 Annual SPDES Results for Outfall 007 (WNSP007): Water Quality

	Action Level	Monitoring Frequency	Collection Date	Maximum Measured
Chloroform (mg/L)	0.20 mg/L daily maximum	Annual	February 2004	<0.005

Table C-2K
2004 Annual SPDES Results for Outfall 008 (WNSP008): Water Quality

NO DISCHARGE FROM THE FRENCH DRAIN (WNSP008) SINCE MAY 2001

Table C-2L
2004 Annual SPDES Results for Outfall 01B (WNSP01B): Water Quality

NO FLOW THROUGH INTERNAL MONITORING SYSTEM DURING 2004

Table C-2M
2004 Radioactivity for Sewage Treatment Outfall (WNSP007)

Analyte	Units	N	WNSP007 Concentrations			Guideline[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	36	<1.55E-09	-0.30±2.97E-09	2.99E-09	3E-08[b]
Gross Beta	µCi/mL	36	3.51E-09	1.35±0.47E-08	2.48E-08	1E-06[c]
Tritium	µCi/mL	36	<6.01E-08	1.96±8.06E-08	1.96E-07	2E-03
Sr-90	µCi/mL	4	2.33E-09	3.17±1.61E-09	4.47E-09	1E-06
Cs-137	µCi/mL	4	<1.96E-09	0.97±2.98E-09	1.99E-09	3E-06

N - Number of samples
[a] DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results.
[b] Alpha as Am-241
[c] Beta as Sr-90

Appendix C-3

Site Surface Drainage, Subsurface Drainage, and Contained Water

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Table C-3A
2004 Radioactivity and pH in Surface Water at Facility Yard Drainage (WNSP005)

Analyte	Units	N	WNSP005 Concentrations			Guideline[a] or Standard[b]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<1.66E-09	0.22±2.85E-09	<4.28E-09	3E-08[c]
Gross Beta	µCi/mL	12	4.06E-08	1.88±0.09E-07	4.42E-07	1E-06[d]
Tritium	µCi/mL	12	<7.88E-08	5.62±8.19E-08	1.66E-07	2E-03
Sr-90	µCi/mL	4	3.82E-08	8.82±0.56E-08	1.50E-07	1E-06
Cs-137	µCi/mL	4	<1.89E-09	0.79±1.99E-09	<2.08E-09	3E-06
pH	SU	12	6.85	7.42	7.99	6.0–9.5

N - Number of samples
[a] DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results.
[b] New York State Water Quality Standards for Class "D" as a comparative reference for nonradiological results
[c] Alpha as Am-241
[d] Beta as Sr-90

Table C-3B
2004 Radioactivity in Surface Water at French Drain (WNSP008)

NO DISCHARGE FROM THE
FRENCH DRAIN SINCE MAY 2001

Table C-3C
2004 Water Quality of Surface Water at the North Swamp (WNSW74A)

RADIOACTIVITY CONCENTRATIONS

Analyte	Units	N	WNSW74A Concentrations		N	Reference Values	
			Average	Maximum		Background Range WFBCBKG[a]	Guideline[b]
Gross Alpha	µCi/mL	53	-0.21±3.44E-09	7.89E-09	12	<4.53E-10–2.55E-09	3E-08[c]
Gross Beta	µCi/mL	53	1.25±0.43E-08	2.15E-08	12	<1.16E-09–3.64E-09	1E-06[d]
Tritium	µCi/mL	53	-0.45±7.75E-08	1.16E-07	12	<7.48E-08–1.35E-07	2E-03
C-14	µCi/mL	4	-0.42±2.40E-08	<2.95E-08	4	<5.38E-09–<3.03E-08	7E-05
Sr-90	µCi/mL	12	6.23±1.94E-09	8.39E-09	4	<1.13E-09–<1.30E-09	1E-06
I-129	µCi/mL	4	1.28±8.57E-10	<1.12E-09	4	<6.26E-10–1.21E-09	5E-07
Cs-137	µCi/mL	12	1.72±7.35E-09	<1.08E-08	4	<1.94E-09–<2.34E-09	3E-06
U-232	µCi/mL	4	-0.04±4.80E-11	<5.98E-11	4	<3.46E-11–<1.00E-10	1E-07
U-233/234	µCi/mL	4	2.28±1.12E-10	3.01E-10	4	8.19E-11–1.81E-10	5E-07
U-235/236	µCi/mL	4	3.49±5.67E-11	6.64E-11	4	<4.14E-11–5.25E-11	5E-07[e]
U-238	µCi/mL	4	1.01±0.76E-10	1.56E-10	4	<4.68E-11–8.50E-11	6E-07
Total U	µg/mL	4	3.13±0.09E-04	4.27E-04	4	3.32E-05–6.00E-04	--
Pu-238	µCi/mL	4	0.23±2.92E-11	<3.53E-11	4	<1.24E-11–<3.38E-11	4E-08
Pu-239/240	µCi/mL	4	0.84±2.43E-11	<2.90E-11	4	<1.25E-11–<3.85E-11	3E-08
Am-241	µCi/mL	4	0.66±2.88E-11	3.13E-11	4	<2.21E-11–<4.85E-11	3E-08

N - Number of samples
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *DOE ingestion-based DCGs for 100 mrem/yr dose limits are provided as a guideline for radiological results.*
[c] *Alpha as Am-241*
[d] *Beta as Sr-90*
[e] *DCG for U-236 is used for this comparison.*

Table C-3C (continued)
2004 Water Quality of Surface Water at the North Swamp (WNSW74A)

CHEMICAL CONSTITUENTS

Analyte	Units	N	WNSW74A Concentrations		N	Reference Values	
			Average	Maximum		Background Range WFBCBKG[a]	Standard[b]
Alpha-BHC	mg/L	2	<0.000009	<0.000009	2	<0.000009–<0.000009	0.000002
Aluminum, Total	mg/L	2	<0.10	<0.10	0	NA	--
Ammonia-N	mg/L	2	<0.05	<0.05	2	<0.05–0.07	0.67-29
Antimony, Total	mg/L	2	<0.003	<0.003	2	<0.003–<0.003	--
Arsenic, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.340
Boron, Total	mg/L	2	0.03	0.04	2	0.01–0.02	--
Bromide	mg/L	2	<0.72	0.94	2	<0.50–<0.50	--
Cadmium, Total	mg/L	2	<0.001	<0.001	0	NA	--
Calcium, Total	mg/L	2	89.3	96	12	23.1–46.9	--
Chromium, Total	mg/L	2	<0.01	<0.01	0	NA	--
Cobalt, Total	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.110[c]
Copper, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.037[d]
Copper, Total	mg/L	2	<0.005	<0.005	0	NA	--
Fluoride	mg/L	2	0.15	0.16	2	<0.10–<0.10	27.8[d]
Hardness	mg/L	2	271	290	12	73–144	--
Iron, Total	mg/L	2	0.14	0.2	2	0.51–2.16	0.30
Lead, Total	mg/L	2	<0.0005	<0.0005	0	NA	--
Magnesium, Total	mg/L	2	11.68	12.15	12	3.57–6.59	--
Manganese, Total	mg/L	2	0.08	0.09	2	0.04–0.04	--
Mercury, Total, Method 1631	mg/L	1	0.00000110	0.00000110	0	NA	--
Nickel, Total	mg/L	2	<0.04	<0.04	0	NA	--
Nitrate-N	mg/L	2	0.54	0.56	2	<0.05–0.61	--
Nitrite-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	--
NPOC	mg/L	2	4.4	4.6	2	2.0–2.4	--
Oil & Grease	mg/L	2	<5	<5	2	<5–<5	--
pH	SU	2	7.58	7.83	2	7.68–7.97	6.0–9.5
Selenium, Total	mg/L	2	<0.001	<0.001	0	NA	--
Solids, Total Dissolved	mg/L	2	744	890	2	117–188	--
Solids, Total Suspended	mg/L	2	<4	<5	2	<4–39	--

N - Number of samples
NA - No data available
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *New York State Water Quality Standards, Class "D" as a comparative reference for nonradiological results at WNSW74A*
[c] *Standards for cobalt, thallium, and vanadium are acid-soluble.*
[d] *Calculated from maximum measurement of hardness of surface water drainage at WNSW74A*

Table C-3C (concluded)
2004 Water Quality of Surface Water at the North Swamp (WNSW74A)

CHEMICAL CONSTITUENTS *(concluded)*

Analyte	Units	N	WNSW74A Concentrations		N	Reference Values	
			Average	Maximum		Background Range WFBCBKG[a]	Standard[b]
Sulfate	mg/L	2	45.9	50.3	2	14.4–20.7	--
Sulfide	mg/L	2	<0.07	0.1	2	<0.04–0.08	--
Surfactants	mg/L	2	<0.10	<0.10	2	<0.03–<0.10	--
Thallium, Total	mg/L	2	<0.008	<0.008	2	<0.008–<0.008	0.020[c]
Titanium, Total	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	--
TOX	mg/L	2	<0.03	<0.04	2	<0.005–<0.030	--
Vanadium, Total	mg/L	2	<0.01	<0.01	2	<0.01–<0.01	0.190[c]
Zinc, Total	mg/L	2	<0.02	<0.02	0	NA	--

N - Number of samples
NA - No data available
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *New York State Water Quality Standards, Class "D" as a comparative reference for nonradiological results at WNSW74A*
[c] *Standards for cobalt, thallium, and vanadium are acid-soluble.*

Table C-3D
2004 Water Quality of Surface Water at the Northeast Swamp (WNSWAMP)

RADIOACTIVITY CONCENTRATIONS

Analyte	Units	N	WNSWAMP Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Guideline[b]
Gross Alpha	µCi/mL	53	0.33±2.27E-09	3.91E-09	12	<4.53E-10–2.55E-09	3E-08[c]
Gross Beta	µCi/mL	53	2.51±0.03E-06	6.68E-06	12	<1.16E-09–3.64E-09	1E-06[d]
Tritium	µCi/mL	53	7.75±7.99E-08	1.96E-07	12	<7.48E-08–1.35E-07	2E-03
C-14	µCi/mL	4	0.03±2.09E-08	<2.78E-08	4	<5.38E-09–<3.03E-08	7E-05
Sr-90	µCi/mL	12	1.31±0.03E-06	2.48E-06	4	<1.13E-09–<1.30E-09	1E-06
I-129	µCi/mL	4	4.90±8.94E-10	<1.09E-09	4	<6.26E-10–1.21E-09	5E-07
Cs-137	µCi/mL	12	1.34±2.03E-09	2.56E-09	4	<1.94E-09–<2.34E-09	3E-06
U-232	µCi/mL	4	-0.82±4.37E-11	<5.87E-11	4	<3.46E-11–<1.00E-10	1E-07
U-233/234	µCi/mL	4	1.53±0.90E-10	2.18E-10	4	8.19E-11–1.81E-10	5E-07
U-235/236	µCi/mL	4	2.18±4.13E-11	<5.60E-11	4	<4.14E-11–5.25E-11	5E-07[e]
U-238	µCi/mL	4	1.38±0.83E-10	1.59E-10	4	<4.68E-11–8.50E-11	6E-07
Total U	µg/mL	4	4.51±1.09E-04	6.23E-04	4	3.32E-05–6.00E-04	--
Pu-238	µCi/mL	4	0.48±3.35E-11	<4.68E-11	4	<1.24E-11–<3.38E-11	4E-08
Pu-239/240	µCi/mL	4	0.73±2.82E-11	<4.00E-11	4	<1.25E-11–<3.85E-11	3E-08
Am-241	µCi/mL	4	1.04±4.09E-11	<5.04E-11	4	<2.21E-11–<4.85E-11	3E-08

N - Number of samples
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results.*
[c] *Alpha as Am-241*
[d] *Beta as Sr-90*
[e] *DCG for U-236 is used for this comparison*

Table C-3D (continued)
2004 Water Quality of Surface Water at the Northeast Swamp (WNSWAMP)

CHEMICAL CONSTITUENTS

Analyte	Units	N	WNSWAMP Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Standard[b]
Alpha-BHC	mg/L	2	<0.000015	<0.000021	2	<0.000009–<0.000009	0.000002
Aluminum, Total	mg/L	2	0.05	0.06	0	NA	--
Ammonia-N	mg/L	2	<0.10	<0.10	2	<0.05–0.07	0.67–29
Antimony, Total	mg/L	2	<0.003	<0.003	2	<0.003–<0.003	--
Arsenic, Dissolved	mg/L	2	<0.004	0.004	2	<0.005–<0.005	0.340
Boron, Total	mg/L	2	0.04	0.05	2	0.01–0.02	--
Bromide	mg/L	2	0.79	1	2	<0.50–<0.50	--
Cadmium, Total	mg/L	2	<0.0004	<0.0004	0	NA	--
Calcium, Total	mg/L	2	113.5	119	12	23.1–46.9	--
Chromium, Total	mg/L	2	<0.0012	<0.0012	0	NA	--
Cobalt, Total	mg/L	2	<0.001	<0.001	2	<0.005–<0.005	0.110[c]
Copper, Dissolved	mg/L	2	0.003	0.003	2	<0.005–<0.005	0.045[d]
Copper, Total	mg/L	2	0.002	0.003	0	NA	--
Fluoride	mg/L	2	<0.10	<0.10	2	<0.10–<0.10	34.1[d]
Hardness	mg/L	2	344	363	12	73–144	--
Iron, Total	mg/L	2	<0.05	0.06	2	0.51–2.16	0.30
Lead, Total	mg/L	2	<0.0031	<0.0031	0	NA	--
Magnesium, Total	mg/L	2	14.80	16	12	3.57–6.59	--
Manganese, Total	mg/L	2	0.10	0.12	2	0.04–0.04	--
Mercury, Total, Method 1631	mg/L	2	0.00000159	0.00000194	0	NA	--
Nickel, Total	mg/L	2	<0.0012	<0.0012	0	NA	--
Nitrate-N	mg/L	2	0.10	0.11	2	<0.05–0.61	--
Nitrite-N	mg/L	2	<0.03	0.03	2	<0.05–<0.05	--
NPOC	mg/L	2	5.1	5.6	2	2.0–2.4	--
Oil & Grease	mg/L	2	<1	<1	2	<5–<5	--
pH	SU	2	7.12	7.56	2	7.68–7.97	6.0–9.5

N - Number of samples
NA - No data available
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *New York State Water Quality Standards, Class "D" as a comparative reference for nonradiological results at WNSWAMP*
[c] *Standards for cobalt, thallium, and vanadium are acid-soluble.*
[d] *Calculated from maximum measurement of hardness of surface water drainage at WNSWAMP*

Table C-3D (concluded)
2004 Water Quality of Surface Water at the Northeast Swamp (WNSWAMP)

CHEMICAL CONSTITUENTS *(concluded)*

Analyte	Units	N	WNSWAMP Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Standard[b]
Selenium, Total	mg/L	2	<0.004	<0.004	0	NA	--
Solids, Total Dissolved	mg/L	2	742	776	2	117–188	--
Solids, Total Suspended	mg/L	2	<5	<5	2	<4–39	--
Sulfate	mg/L	2	21.6	22.4	2	14.4–20.7	--
Sulfide	mg/L	2	<1.00	<1.00	2	<0.04–0.08	--
Surfactants	mg/L	2	<0.10	<0.10	2	<0.03–<0.10	--
Thallium, Total	mg/L	2	<0.007	<0.007	2	<0.008–<0.008	0.020[c]
Titanium, Total	mg/L	2	<0.0004	<0.0004	2	<0.05–<0.05	--
TOX	mg/L	2	0.03	0.04	2	<0.005–<0.030	--
Vanadium, Total	mg/L	2	<0.0010	<0.0010	2	<0.01–<0.01	0.190[c]
Zinc, Total	mg/L	2	0.01	0.02	0	NA	--

N - Number of samples
NA - No data available
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *New York State Water Quality Standards, Class "D" as a comparative reference for nonradiological results at WNSWAMP*
[c] *Standards for cobalt, thallium, and vanadium are acid-soluble.*

Table C-3E
2004 Indicator Results at Storage and Disposal Area Drainage (WNNDADR)

Analyte	Units	N	WNNDADR Concentrations			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<9.65E-10	0.59±1.31E-09	2.11E-09	--
Gross Beta	µCi/mL	12	1.49E-07	1.97±0.06E-07	2.58E-07	--
Tritium	µCi/mL	12	4.04E-07	8.11±0.92E-07	1.30E-06	--
Sr-90	µCi/mL	4	8.49E-08	9.73±0.53E-08	1.05E-07	--
I-129	µCi/mL	4	<8.18E-10	-1.46±9.22E-10	<1.03E-09	--
Cs-137	µCi/mL	12	<1.90E-09	1.52±7.34E-09	<1.23E-08	--
NPOC	mg/L	53	1.1	5.7	11.8	--
pH	SU	53	6.54	7.39	8.08	6.0–9.5
TOX	mg/L	53	<0.005	<0.03	0.225	--

N - Number of samples
-- No applicable reference standard available
[a] New York State Water Quality Standards, Class "D" as a comparative reference for nonradiological results at WNNDADR

Table C-3F
2004 Indicator Results in Subsurface Water at the NDA Interceptor Trench (WNNDATR)

Analyte	Units	N	WNNDATR Concentrations		
			Minimum	Average	Maximum
Gross Alpha	µCi/mL	12	<1.50E-09	1.26±2.40E-09	4.51E-09
Gross Beta	µCi/mL	12	1.29E-07	1.76±0.07E-07	2.01E-07
Tritium	µCi/mL	12	2.49E-07	3.75±0.17E-06	6.36E-06
I-129	µCi/mL	4	<8.00E-10	0.55±1.33E-09	<1.78E-09
Cs-137	µCi/mL	12	<4.33E-09	1.59±6.50E-09	7.08E-09
NPOC	mg/L	12	2.3	4.3	6.4
TOX	mg/L	12	<0.006	<0.018	0.033

Note: No standards applicable for this location. These waters are pumped and treated at the LLWTF prior to discharge at outfall WNSP001.
N - Number of samples

Table C-3G
2004 Indicator Results at SDA Drainage (WNSDADR)

Analyte	Units	N	WNSDADR Concentrations			Guideline or Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<3.06E-10	7.58±6.72E-10	1.73E-09	--
Gross Beta	µCi/mL	12	1.71E-09	5.59±0.95E-09	2.18E-08	--
Tritium	µCi/mL	12	1.63E-07	5.23±0.83E-07	1.74E-06	--
Cs-137	µCi/mL	12	<4.91E-09	0.28±7.32E-09	<1.08E-08	--
pH	SU	12	6.61	7.22	7.9	6.5–8.5

N - Number of samples
-- No applicable reference standard available
[a] New York State Water Quality Standards, Class "C" as a comparative reference for nonradiological results at WNSDADR

Table C-3H
2004 Indicator Results in Surface Water at Cooling Tower Basin (WNCOOLW)

Analyte	Units	N	WNCOOLW Concentrations		
			Minimum	Average	Maximum
Gross Alpha	µCi/mL	4	<1.06E-09	0.17±1.39E-09	<1.91E-09
Gross Beta	µCi/mL	4	<2.45E-09	2.20±2.98E-09	3.69E-09
Tritium	µCi/mL	4	<5.61E-08	1.00±6.94E-08	8.47E-08
Sr-90	µCi/mL	4	<1.36E-09	1.07±1.36E-09	2.21E-09
Cs-137	µCi/mL	4	<3.99E-09	-2.39±7.40E-09	<1.05E-08
pH	SU	4	7.79	8.07	8.56

Note: No standards are applicable for this location. These waters are pumped and treated at the LLWTF prior to discharge at outfall WNSP001.
N - Number of samples

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Appendix C-4

Ambient Surface Water Data

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Table C-4A
2004 Radioactivity and pH in Surface Water Downstream of the WVDP in Cattaraugus Creek at Felton Bridge (WFFELBR)

Analyte	Units	N	WFFELBR Concentrations		N	Reference Values	
			Average	Maximum		WFBIGBR[a] Background Range	Guideline[b] or Standard[c]
Gross Alpha	µCi/mL	12	0.95±1.34E-09	3.51E-09	12	<8.71E-10–2.10E-09	3E-08[d]
Gross Beta	µCi/mL	12	3.61±1.69E-09	7.69E-09	12	<9.03E-10–4.16E-09	1E-06[e]
Tritium	µCi/mL	12	-2.10±8.10E-08	<8.94E-08	12	<5.52E-08–8.98E-08	2E-03
Sr-90	µCi/mL	12	1.81±1.46E-09	2.74E-09	12	<1.12E-09–2.24E-09	1E-06
Tc-99	µCi/mL	4	-1.94±2.22E-09	<2.61E-09	0	NA	1E-04
Cs-137	µCi/mL	12	0.75±2.35E-09	2.33E-09	12	<1.87E-09–1.97E-09	3E-06
pH	SU	53	7.01	8.28	12	7.30–8.34	6.5–8.5

N - Number of samples
NA - Data not available
[a] *Background location*
[b] *DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results in the absence of water quality standards.*
[c] *New York State Water Quality Standards, Class "B" as a comparative reference for nonradiological results*
[d] *Alpha as Am-241*
[e] *Beta as Sr-90*

Table C-4B
2004 Water Quality of Surface Water Downstream of the WVDP in Buttermilk Creek at Thomas Corners Bridge (WFBCTCB)

RADIOACTIVITY CONCENTRATIONS

Analyte	Units	N	WFBCTCB Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Guideline[b]
Gross Alpha	µCi/mL	12	6.90±9.30E-10	2.11E-09	12	<4.53E-10–2.55E-09	3E-08[c]
Gross Beta	µCi/mL	12	7.88±1.49E-09	1.18E-08	12	<1.16E-09–3.64E-09	1E-06[d]
Tritium	µCi/mL	12	1.49±8.09E-08	1.76E-07	12	<7.48E-08–1.35E-07	2E-03
Sr-90	µCi/mL	4	3.67±1.64E-09	4.89E-09	4	<1.13E-09–<1.30E-09	1E-06
Tc-99	µCi/mL	4	-2.10±2.08E-09	<2.39E-09	4	<1.44E-09–<2.27E-09	1E-04
Cs-137	µCi/mL	4	2.46±2.82E-09	4.23E-09	4	<1.94E-09–<2.34E-09	3E-06

N - Number of samples
[a] *Background location*
[b] *DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results in the absence of water quality standards.*
[c] *Alpha as Am-241*
[d] *Beta as Sr-90*

Table C-4B (continued)
2004 Water Quality of Surface Water Downstream of the WVDP in Buttermilk Creek at Thomas Corners Bridge (WFBCTCB)

CHEMICAL CONSTITUENTS

Analyte	Units	N	WFBCTCB Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Standard[b]
Alpha-BHC	mg/L	2	<0.000009	<0.000009	2	<0.000009–<0.000009	0.000002
Aluminum, Dissolved	mg/L	2	0.686	1.26	2	<0.100–0.328	0.10
Ammonia-N	mg/L	2	<0.16	0.28	2	<0.05–0.07	0.09–2.1
Antimony, Total	mg/L	2	<0.003	<0.003	2	<0.003–<0.003	--
Arsenic, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.150
Barium, Total	mg/L	2	<0.06	0.07	2	0.06–0.10	--
Boron, Total	mg/L	2	0.02	0.03	2	0.01–0.02	10.0
Bromide	mg/L	2	<0.50	<0.50	2	<0.50–<0.50	--
Cadmium, Dissolved	mg/L	2	<0.001	<0.001	2	<0.001–<0.001	0.003[c]
Calcium, Total	mg/L	12	38.1	54.4	12	23.1–46.9	--
Chloride	mg/L	2	20	23	2	12–13	--
Chromium, Dissolved	mg/L	2	<0.01	<0.01	2	<0.01–<0.01	0.114[c]
Cobalt, Total	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.005[d]
Copper, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.014[c]
Dissolved, Oxygen	mg/L	2	10.9	12.3	2	10.5–11.9	4.0 (min)
Fluoride	mg/L	2	<0.10	<0.10	2	<0.10–<0.10	3.43[c]
Hardness	mg/L	12	120	170	12	73–144	--
Iron, Total	mg/L	2	1.66	2.52	2	0.51–2.16	0.30
Lead, Dissolved	mg/L	2	<0.0005	<0.0005	2	<0.0005–<0.0005	0.007[c]
Magnesium, Total	mg/L	12	5.99	8.22	12	3.57–6.59	--
Manganese, Total	mg/L	2	0.03	0.04	2	0.04–0.04	--
Mercury, Dissolved, Method 1631	mg/L	2	<0.000000815	0.00000113	2	<0.000000500–0.00000113	--
Nickel, Dissolved	mg/L	2	<0.04	<0.04	2	<0.04–<0.04	0.081[c]
Nitrate-N	mg/L	2	0.58	0.62	2	<0.05–0.61	--
Nitrite-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	0.10
NPOC	mg/L	2	2.4	2.4	2	2.0–2.4	--

N - Number of samples
-- No reference standard available for this analyte
[a] *Background location*
[b] *New York State Water Quality Standards, Class "C" as a comparative reference for nonradiological results*
[c] *Calculated from maximum measurement of hardness of surface water stream at WFBCTCB*
[d] *Standards for cobalt, thallium, and vanadium are acid-soluble.*

Table C-4B (concluded)
2004 Water Quality of Surface Water Downstream of the WVDP in Buttermilk Creek at Thomas Corners Bridge (WFBCTCB)

CHEMICAL CONSTITUENTS *(concluded)*

Analyte	Units	N	WFBCTCB Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Standard[b]
Oil & Grease	mg/L	2	<5	<5	2	<5–<5	--
pH	SU	2	7.85	7.89	2	7.68–7.97	6.5–8.5
Selenium, Dissolved	mg/L	2	<0.001	<0.001	2	<0.001–<0.001	0.0046
Sodium, Total	mg/L	2	13	16.1	2	7.7–9.0	--
Solids, Total Dissolved	mg/L	2	178	229	2	117–188	500
Solids, Total Suspended	mg/L	2	<4	<4	2	<4–39	--
Sulfate	mg/L	2	20.2	24.7	2	14.4–20.7	--
Sulfide	mg/L	2	0.06	0.08	2	<0.04–0.08	0.002
Surfactants	mg/L	2	<0.10	<0.10	2	<0.03–<0.10	0.04
Thallium, Total	mg/L	2	<0.008	<0.008	2	<0.008–<0.008	0.008[d]
Titanium, Total	mg/L	2	<0.05	0.05	2	<0.05–<0.05	--
TOX	mg/L	2	<0.02	<0.03	2	<0.00–<0.03	--
Vanadium, Total	mg/L	2	<0.01	<0.01	2	<0.01–<0.01	0.014[d]
Zinc, Dissolved	mg/L	2	<0.02	<0.02	2	<0.02–<0.02	0.130[c]

N - Number of samples
-- No reference standard available for this analyte
[a] Background location
[b] New York State Water Quality Standards, Class "C" as a comparative reference for nonradiological results
[c] Calculated from maximum measurement of hardness of surface water stream at WFBCTCB
[d] Standards for cobalt, thallium, and vanadium are acid-soluble.

Table C-4C
2004 Water Quality of Surface Water Downstream of the WVDP at Frank's Creek (WNSP006)

RADIOACTIVITY CONCENTRATIONS

Analyte	Units	N	WNSP006 Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Guideline[b]
Gross Alpha	µCi/mL	53	0.62±1.72E-09	6.91E-09	12	<4.53E-10–2.55E-09	3E-08[c]
Gross Beta	µCi/mL	53	4.31±0.40E-08	8.28E-08	12	<1.16E-09–3.64E-09	1E-06[d]
Tritium	µCi/mL	53	7.53±8.00E-08	5.81E-07	12	<7.48E-08–1.35E-07	2E-03
C-14	µCi/mL	4	-0.32±2.36E-08	<2.86E-08	4	<5.38E-09–<3.03E-08	7E-05
Sr-90	µCi/mL	12	2.12±0.31E-08	3.52E-08	4	<1.13E-09–<1.30E-09	1E-06
Tc-99	µCi/mL	4	1.04±2.25E-09	3.55E-09	4	<1.44E-09–<2.27E-09	1E-04
I-129	µCi/mL	4	4.82±7.93E-10	1.05E-09	4	<6.26E-10–1.21E-09	5E-07
Cs-137	µCi/mL	12	2.41±7.57E-09	1.14E-08	4	<1.94E-09–<2.34E-09	3E-06
U-232	µCi/mL	4	2.92±1.35E-10	3.87E-10	4	<3.46E-11–<1.00E-10	1E-07
U-233/234	µCi/mL	4	3.90±1.46E-10	5.36E-10	4	8.19E-11–1.81E-10	5E-07
U-235/236	µCi/mL	4	6.40±6.00E-11	9.57E-11	4	<4.14E-11–5.25E-11	5E-07[e]
U-238	µCi/mL	4	4.18±1.47E-10	5.49E-10	4	<4.68E-11–8.50E-11	6E-07
Total U	µg/mL	4	9.60±0.19E-04	1.38E-03	4	3.32E-05–6.00E-04	--
Pu-238	µCi/mL	4	1.09±3.24E-11	3.28E-11	4	<1.24E-11–<3.38E-11	4E-08
Pu-239/240	µCi/mL	4	2.07±3.55E-11	6.62E-11	4	<1.25E-11–<3.85E-11	3E-08
Am-241	µCi/mL	4	2.32±3.47E-11	<4.68E-11	4	<2.21E-11–<4.85E-11	3E-08

N - Number of samples
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results.*
[c] *Alpha as Am-241*
[d] *Beta as Sr-90*
[e] *DCG for U-236 is used for this comparison.*

Table C-4C (continued)
2004 Water Quality of Surface Water Downstream of the WVDP at Frank's Creek (WNSP006)

CHEMICAL CONSTITUENTS

Analyte	Units	N	WNSP006 Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Standard[b]
Alpha-BHC	mg/L	2	<0.000009	<0.000009	2	<0.000009–<0.000009	0.000002
Aluminum, Dissolved	mg/L	2	0.508	0.598	2	<0.100–0.328	0.10
Ammonia-N	mg/L	2	<0.05	<0.05	2	<0.05–0.07	0.09–2.1
Antimony, Total	mg/L	2	<0.003	<0.003	2	<0.003–<0.003	--
Arsenic, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.150
Barium, Total	mg/L	2	0.07	0.09	2	0.06–0.10	--
Boron, Total	mg/L	2	0.03	0.03	2	0.01–0.02	10.0
Bromide	mg/L	2	<0.63	0.76	2	<0.50–<0.50	--
Cadmium, Dissolved	mg/L	2	<0.001	<0.001	2	<0.001–<0.001	0.004[c]
Calcium, Total	mg/L	12	52.2	76.6	12	23.1–46.9	--
Chloride	mg/L	2	110	125	2	12–13	--
Chromium, Dissolved	mg/L	2	<0.01	<0.01	2	<0.01–<0.01	0.153[c]
Cobalt, Total	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.005[d]
Conductivity	µmhos/cm@25°C	3	554	614	0	NA	--
Copper, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.019[c]
Dissolved Oxygen	mg/L	2	10.8	12.7	2	10.5–11.9	4.0 (min)
Fluoride	mg/L	2	<0.10	<0.10	2	<0.10–<0.10	4.72[c]
Hardness	mg/L	12	167	242	12	73–144	--
Iron, Total	mg/L	2	5.96	8.79	2	0.51–2.16	0.30
Lead, Dissolved	mg/L	2	<0.0005	<0.0005	2	<0.0005–<0.0005	0.010[c]
Magnesium, Total	mg/L	12	8.93	12.1	12	3.57–6.59	--
Manganese, Total	mg/L	2	0.17	0.26	2	0.04–0.04	--
Mercury, Dissolved, Method 1631	mg/L	2	<0.00000228	0.00000405	2	<0.000000500–0.00000405	--
Nickel, Dissolved	mg/L	2	<0.04	<0.04	2	<0.04–<0.04	0.11[c]
Nitrate-N	mg/L	2	0.58	0.58	2	<0.05–0.61	--
Nitrite-N	mg/L	2	<0.06	0.06	2	<0.05–<0.05	0.10
NPOC	mg/L	2	2.9	3.5	2	2.0–2.4	--
Oil & Grease	mg/L	2	<5	<5	2	<5–<5	--
pH	SU	2	6.88	7.83	2	7.68–7.97	6.5–8.5

N - Number of samples
NA - No data available
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *New York Water Quality Standards for Class "C" surface waters as a comparative reference for nonradiological results.*
[c] *Calculated from maximum measured hardness of surface water stream at WNSP006.*
[d] *Standards for cobalt, thallium, and vanadium are acid-soluble.*

Table C-4C (concluded)
2004 Water Quality of Surface Water Downstream of the WVDP at Frank's Creek (WNSP006)

CHEMICAL CONSTITUENTS *(concluded)*

Analyte	Units	N	WNSP006 Concentrations		N	Reference Values	
			Average	Maximum		WFBCBKG[a] Background Range	Standard[b]
Selenium, Dissolved	mg/L	2	<0.001	<0.001	2	<0.001–<0.001	0.0046
Sodium, Total	mg/L	2	87.4	93.1	2	7.7–9.0	--
Solids, Total Dissolved	mg/L	40	314	489	2	117–188	500
Solids, Total Suspended	mg/L	2	86	113	2	<4–39	--
Sulfate	mg/L	2	46.0	57.8	2	14.4–20.7	--
Sulfide	mg/L	2	<0.04	<0.04	2	<0.04–0.08	0.002
Surfactants	mg/L	2	<0.06	<0.10	2	<0.03–<0.10	0.40
Thallium, Total	mg/L	2	<0.008	<0.008	2	<0.008–<0.008	0.008[d]
Titanium, Total	mg/L	2	0.06	0.07	2	<0.05–<0.05	--
TOX	mg/L	2	0.01	0.01	2	<0.00–<0.03	--
Vanadium, Total	mg/L	2	<0.01	0.01	2	<0.01–<0.01	0.014[d]
Zinc, Dissolved	mg/L	2	<0.02	<0.02	2	<0.02–<0.02	0.18[c]

N - Number of samples
-- No guideline or standard available for these analytes
[a] *Background location*
[b] *New York Water Quality Standards for Class "C" surface waters as a comparative reference for nonradiological results.*
[c] *Calculated from maximum measured hardness of surface water stream at WNSP006.*
[d] *Standards for cobalt, thallium, and vanadium are acid-soluble.*

Table C-4D
2004 Total Dissolved Solids From Outfall WNSP116

Month	Units	N	Total Dissolved Solids		Daily Maximum Limit
			Average	Maximum	
January	mg/L	2	350	360	500
February[a]	mg/L	0	--	--	500
March	mg/L	2	281	320	500
April	mg/L	2	288	297	500
May	mg/L	2	253	347	500
June	mg/L	2	343	372	500
July[a]	mg/L	0	--	--	500
August	mg/L	2	381	381	500
September	mg/L	2	356	381	500
October[a]	mg/L	0	--	--	500
November[a]	mg/L	0	--	--	500
December	mg/L	2	279	316	500

N - Number of samples
[a] *No discharge this month*

Table C-4E
2004 Indicator Results in Surface Water at Erdman Brook (WNERB53)

Analyte	Units	N	WNERB53 Concentrations			Reference Guideline[a] or Standard[b]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	53	<9.33E-10	-0.13±1.89E-09	2.44E-09	3E-08[c]
Gross Beta	µCi/mL	53	1.00E-08	1.78±0.27E-08	3.32E-08	1E-06[d]
Tritium	µCi/mL	53	<5.54E-08	4.75±7.71E-08	1.77E-07	2E-03
Sr-90	µCi/mL	4	7.20E-09	7.96±2.03E-09	8.79E-09	1E-06
Cs-137	µCi/mL	4	<2.05E-09	0.44±5.63E-09	2.41E-09	3E-06
pH	SU	53	6.52	7.52	8.08	6.0–9.5

N - Number of samples
[a] *DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results.*
[b] *New York State Water Quality Standards, Class "D" for surface waters as a standard for nonradiological results*
[c] *Alpha as Am-241*
[d] *Beta as Sr-90*

Table C-4F
2004 Indicator Results in Surface Water at Frank's Creek East of the SDA (WNFRC67)

Analyte	Units	N	WNFRC67 Concentrations			Reference Guideline[a] or Standard[b]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<4.90E-10	-0.35±8.03E-10	<1.43E-09	3E-08[c]
Gross Beta	µCi/mL	12	<1.08E-09	1.90±1.19E-09	3.86E-09	1E-06[d]
Tritium	µCi/mL	12	<5.64E-08	4.84±8.35E-08	1.82E-07	2E-03
Sr-90	µCi/mL	4	<8.49E-10	0.62±1.19E-09	<1.47E-09	1E-06
Cs-137	µCi/mL	4	<1.98E-09	1.02±2.83E-09	<3.54E-09	3E-06
pH	SU	12	7.34	7.59	8.06	6.5–8.5

N - Number of samples
[a] DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results in the absence of water quality standards.
[b] New York State Water Quality Standards for Class "C" surface waters as a comparative reference for nonradiological results.
[c] Alpha as Am-241
[d] Beta as Sr-90

Table C-4G
2004 Indicator Results in Surface Water at Drum Cell Drainage (WNDCELD)

Analyte	Units	N	WNDCELD Concentrations			Reference Guideline[a] or Standard[b]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<4.84E-10	-0.94±8.74E-10	1.28E-09	3E-08[c]
Gross Beta	µCi/mL	12	<1.08E-09	1.89±1.21E-09	2.82E-09	1E-06[d]
Tritium	µCi/mL	4	<7.86E-08	5.50±8.21E-08	9.79E-08	2E-03
Sr-90	µCi/mL	4	<1.20E-09	1.76±1.63E-09	4.66E-09	1E-06
I-129	µCi/mL	4	<4.98E-10	2.15±8.41E-10	9.56E-10	5E-07
Cs-137	µCi/mL	4	4.54E-09	1.18±5.80E-09	4.54E-09	3E-06
pH	SU	12	6.94	7.48	7.85	6.5–8.5

N - Number of samples
[a] DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results in the absence of water quality standards.
[b] New York State Water Quality Standards for Class "C" surface waters as a comparative reference for nonradiological results.
[c] Alpha as Am-241
[d] Beta as Sr-90

Table C-4H
2004 Water Quality of Surface Water at the Standing Water (WNSTAW-Series) Locations

Analyte	Units	N	WNSTAW4	WNSTAW5	Reference Values	
					WNSTAWB[a] Background Location	Guideline[b] or Standard[c]
Gross Alpha	µCi/mL	1	-5.48±3.88E-10	-6.63±2.72E-10	0.57±8.09E-10	3E-08[d]
Gross Beta	µCi/mL	1	4.16±0.88E-09	1.92±0.64E-09	2.17±0.93E-09	1E-06[e]
Tritium	µCi/mL	1	-1.85±8.27E-08	1.76±5.77E-08	6.11±8.07E-08	2E-03
Sr-90	µCi/mL	1	1.93±1.55E-09	0.85±1.08E-09	1.72±0.97E-09	1E-06
Cs-137	µCi/mL	1	0.46±8.38E-09	1.15±6.79E-09	-0.01±1.21E-08	3E-06
Chloride	mg/L	1	6	<1	22	--
Conductivity	µmhos/cm@25°C	1	95	47	321	--
Iron, Total	mg/L	1	0.63	0.68	0.2	0.3
Manganese, Total	mg/L	1	0.04	0.08	0.1	--
Nitrate+Nitrite	mg/L	1	<0.05	<0.05	<0.05	--
pH	SU	1	7.88	8.19	7.97	6.0–9.5
Sodium, Total	mg/L	1	4.5	<1.0	13	--
Sulfate	mg/L	1	5.4	5.8	11	--

Analyte	Units	N	WNSTAW6	Reference Values	
				WNSTAWB[a] Background Location	Guideline[b] or Standard[c]
Gross Alpha	µCi/mL	1	-7.53±6.85E-10	0.57±8.09E-10	3E-08[d]
Gross Beta	µCi/mL	1	3.15±1.00E-09	2.17±0.93E-09	1E-06[e]
Tritium	µCi/mL	1	-5.51±7.93E-08	6.11±8.07E-08	2E-03
Sr-90	µCi/mL	1	0.10±1.52E-09	1.72±0.97E-09	1E-06
Cs-137	µCi/mL	1	4.36±5.05E-09	-0.01±1.21E-08	3E-06
Chloride	mg/L	1	3	22	--
Conductivity	µmhos/cm@25°C	1	200	321	--
Iron, Total	mg/L	1	<0.10	0.2	0.3
Manganese, Total	mg/L	1	<0.02	0.1	--
Nitrate+Nitrite	mg/L	1	<0.05	<0.05	--
pH	SU	1	8.26	7.97	6.0–9.5
Sodium, Total	mg/L	1	1.4	13	--
Sulfate	mg/L	1	6.6	11	--

N - Number of samples
-- No guideline or standard available for these analytes
[a] Background location
[b] DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results.
[c] New York State Water Quality Standards Class "D" surface waters as a comparative standard for nonradiological results
[d] Alpha as Am-241
[e] Beta as Sr-90

Table C-4H (concluded)
2004 Water Quality of Surface Water at the Standing Water (WNSTAW-Series) Locations

Analyte	Units	N	WNSTAW9	Reference Values	
				WNSTAWB[a] Background Location	Guideline[b] or Standard[c]
Gross Alpha	µCi/mL	1	-0.38±5.36E-10	0.57±8.09E-10	3E-08[d]
Gross Beta	µCi/mL	1	2.20±0.90E-09	2.17±0.93E-09	1E-06[e]
Tritium	µCi/mL	1	-5.20±8.07E-08	6.11±8.07E-08	2E-03
Sr-90	µCi/mL	1	0.41±1.21E-09	1.72±0.97E-09	1E-06
Cs-137	µCi/mL	1	6.38±6.30E-09	-0.01±1.21E-08	3E-06
Chloride	mg/L	1	6	22	--
Conductivity	µmhos/cm@25°C	1	185	321	--
Iron, Total	mg/L	1	0.48	0.2	0.3
Manganese, Total	mg/L	1	0.29	0.1	--
Nitrate+Nitrite	mg/L	1	<0.05	<0.05	--
pH	SU	1	7.86	7.97	6.5–8.5
Sodium, Total	mg/L	1	4.8	13	--
Sulfate	mg/L	1	13.2	11	--

N - Number of samples
-- No guideline or standard available for these analytes
[a] Background location
[b] DOE ingestion-based DCGs for 100 mrem/yr dose limit are provided as a guideline for radiological results.
[c] New York State Water Quality Standards Class "C" surface waters as a comparative standard for nonradiological results at WNSTAW9
[d] Alpha as Am-241
[e] Beta as Sr-90

Appendix C-5

Potable Water (Drinking Water) Data

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Table C-5A
2004 Indicator Results in Potable Well Water Around the WVDP

Analyte	Units	N	Annual Concentrations at Potable Wells			Reference Values	
			WFWEL01	WFWEL02	WFWEL03	Background[a] WFWEL06	Standard[b,c]
Gross Alpha	µCi/mL	1	0.22±1.06E-09	-0.36±1.39E-09	0.92±1.09E-09	-2.26±7.02E-10	1.5E-08[d]
Gross Beta	µCi/mL	1	4.24±1.31E-09	1.82±1.47E-09	1.22±1.41E-09	1.77±8.44E-10	1E-06[e]
Tritium	µCi/mL	1	5.46±8.37E-08	-2.54±7.72E-08	-2.76±7.74E-08	-8.11±7.99E-08	--
Sr-90	µCi/mL	1	1.59±1.52E-09	0.20±1.56E-09	0.28±1.38E-09	0.58±1.25E-09	--
Cs-137	µCi/mL	1	2.66±5.70E-09	0.32±1.28E-08	-0.10±6.66E-09	-3.34±6.39E-09	--
Conductivity	µmhos/cm@25°C	1	406	404	206	270	--
pH	SU	1	7.89	7.55	7.97	8.14	6.5–8.5

Analyte	Units	N	Annual Concentrations at Potable Wells			Reference Values	
			WFWEL04	WFWEL05	WFWEL07	Background[a] WFWEL06	Standard[b,c]
Gross Alpha	µCi/mL	1	7.76±4.25E-09	1.09±8.96E-10	-3.64±8.05E-10	-2.26±7.02E-10	1.5E-08[d]
Gross Beta	µCi/mL	1	2.46±3.33E-09	2.35±0.97E-09	1.22±0.88E-09	1.77±8.44E-10	1E-06[e]
Tritium	µCi/mL	1	6.65±8.36E-08	2.87±5.53E-08	-4.22±8.13E-08	-8.11±7.99E-08	--
Sr-90	µCi/mL	1	1.30±1.39E-09	2.77±1.31E-09	-1.69±8.35E-10	0.58±1.25E-09	--
Cs-137	µCi/mL	1	-1.97±6.23E-09	0.99±1.76E-08	4.39±7.60E-09	-3.34±6.39E-09	--
Conductivity	µmhos/cm@25°C	1	1,580	262	288	270	--
pH	SU	1	8.12	6.56	7.55	8.14	6.5–8.5

Analyte	Units	N	Annual Concentrations at Potable Wells			Reference Values	
			WFWEL08	WFWEL09	WFWEL10	Background[a] WFWEL06	Standard[b,c]
Gross Alpha	µCi/mL	1	1.92±1.38E-09	2.10±1.70E-09	-3.14±1.95E-09	-2.26±7.02E-10	1.5E-08[d]
Gross Beta	µCi/mL	1	2.23±1.50E-09	2.45±1.51E-09	2.42±1.54E-09	1.77±8.44E-10	1E-06[e]
Tritium	µCi/mL	1	-1.20±0.74E-07	-2.96±7.70E-08	4.35±8.11E-08	-8.11±7.99E-08	--
Sr-90	µCi/mL	1	1.15±1.53E-09	3.06±1.60E-09	1.30±1.39E-09	0.58±1.25E-09	--
Cs-137	µCi/mL	1	-3.82±4.19E-09	1.23±7.04E-09	-0.79±1.00E-08	-3.34±6.39E-09	--
Conductivity	µmhos/cm@25°C	1	429	501	724	270	--
pH	SU	1	7.05	8.14	7.38	8.14	6.5–8.5

N - Number of samples
-- No guideline or standard available for these analytes
[a] Background location
[b] New York State Water Quality Standard for Class "GA" for fresh groundwater
[c] NYSDOH raw water supply standards (10 NYCRR Part 170.4)
[d] Alpha standard excludes radon and uranium, however, the WVDP results include these isotopes.
[e] Beta standard excludes strontium and alpha emitters. The WVDP results include strontium and other beta emitters.

Table C-5B
2004 Indicator Results in Main Plant Potable Water (WNDNKMP)

Analyte	Units	N	Annual Concentration			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	4	<3.50E-10	1.06±5.83E-10	<8.74E-10	1.5E-08
Gross Beta	µCi/mL	4	9.51E-10	1.64±0.75E-09	2.55E-09	5E-08
Tritium	µCi/mL	4	<8.12E-08	3.25±8.15E-08	<8.22E-08	2E-05
Conductivity	µmhos/cm@25°C	4	153	184	207	--
pH	SU	4	7.65	7.99	8.5	--

2004 Indicator Results in Environmental Laboratory Potable Water (WNDNKEL)

Analyte	Units	N	Annual Concentration			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	4	<4.05E-10	-1.95±5.29E-10	<6.94E-10	1.5E-08
Gross Beta	µCi/mL	4	1.07E-09	1.29±0.74E-09	1.57E-09	5E-08
Tritium	µCi/mL	4	<5.43E-08	3.09±7.57E-08	1.01E-07	2E-05
Conductivity	µmhos/cm@25°C	4	161	200	259	--
Haloacetic Acids-Five (5)	mg/L	3	<0.013	<0.021	<0.033	0.06
pH	SU	4	7.87	7.99	8.12	--
Total Trihalomethanes	mg/L	3	<0.011	<0.026	<0.053	0.08

2004 Indicator Results in Maintenance Shop Potable Water (WNDNKMS)

Analyte	Units	N	Annual Concentration			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	4	<3.96E-10	-1.13±5.41E-10	7.27E-10	1.5E-08
Gross Beta	µCi/mL	4	1.44E-09	1.82±0.76E-09	2.30E-09	5E-08
Tritium	µCi/mL	4	<5.55E-08	4.01±8.43E-08	1.08E-07	2E-05
Conductivity	µmhos/cm@25°C	4	198	209	225	--
pH	SU	4	7.87	8.05	8.19	--

N - Number of samples
-- No guideline or standard available for these analytes
[a] New York State Department of Health MCLs for drinking water used as a comparative reference

Table C-5C
2004 Water Quality Results in Utility Room Potable Water (WNDNKUR)

Analyte	Units	N	WNDNKUR Concentrations			Standard or Guideline[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<3.16E-10	-0.72±5.30E-10	<8.96E-10	1.5E-08
Gross Beta	µCi/mL	12	1.09E-09	1.49±0.74E-09	1.96E-09	5E-08
Tritium	µCi/mL	12	<5.88E-08	3.27±7.85E-08	1.23E-07	2E-05
Antimony, Total	mg/L	1	NA	NA	<0.001	0.006
Arsenic, Total	mg/L	1	NA	NA	<0.025	0.05
Barium, Total	mg/L	1	NA	NA	<0.20	2.00
Beryllium, Total	mg/L	1	NA	NA	<0.0003	0.004
Cadmium, Total	mg/L	1	NA	NA	<0.002	0.005
Chromium, Total	mg/L	1	NA	NA	<0.01	0.10
Conductivity	µmhos/cm@25°C	12	144	194	263	--
Cyanide, Total	mg/L	1	NA	NA	<0.01	0.2
Fluoride	mg/L	1	NA	NA	<0.20	2.2
Free Residual Chlorine	mg/L	1,097	0.43	NA	2.95	0.2–4.0
Mercury, Total	mg/L	1	NA	NA	<0.0004	0.002
Nickel, Total	mg/L	1	NA	NA	<0.005	--
pH	SU	12	7.89	8.04	8.32	--
Selenium, Total	mg/L	1	NA	NA	<0.002	0.05
Thallium, Total	mg/L	1	NA	NA	<0.001	0.002
Turbidity	NTU	2,194	< 0.1	NA	1.6	1.0[b]

N - Number of samples
NA - Not available, constituents sampled annually
-- No guideline or standard available for these analytes
[a] *New York State Department of Health MCLs for drinking water or EPA MCLGs, whichever is more stringent*
[b] *A treatment standard of 0.3 NTU applies to the 95th percentile on a monthly basis.*

Table C-5D
2004 Water Quality Results in Utility Room Raw (Untreated) Water (WNURRAW)

Analyte	Units	N	WNURRAW Concentrations		
			Minimum	Average	Maximum
Iron, Total	mg/L	52	0.13	1.28	30.4
Solids, Total Dissolved	mg/L	24	61	110	148

N - Number of samples

Table C-5E
2004 Biological and Chlorine Results From Various Site Tap Water Locations (Analyzed by Cattaraugus County Department of Health)

Analyte	Units	N	Various Site Tap Water Locations Results	Standard[a]
E. coli	NA	12	Negative	one positive sample
Free Residual Chlorine	mg/L	11	Range: 0.08–1.78	4.0 (max)
Total Coliform	NA	12	Negative	two or more positive samples

N - Number of samples
NA - Not applicable
[a] New York State Department of Health MCLs for drinking water or EPA MCLGs, whichever is more stringent

Table C-5F
2004 Tap Water Nitrate Results From WVDP Restroom Sink (Analyzed by Cattaraugus County Department of Health)

Analyte	Units	N	Date Collected	Annual Concentration	Standard[a]
Nitrate-N	mg/L	1	3/17/04	0.700	10

N - Number of samples
[a] New York State Department of Health MCLs for drinking water or EPA MCLGs, whichever is more stringent