Appendix C-1

Summary of Water Limits, Guidelines, and Standards

Collecting a Sample at a WVDP Stream Sampling Location

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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, etc.) 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-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
SU - Standard units
[a] *Source: 6 NYCRR Parts 701–704; The most stringent applicable pathway (e.g., wildlife, aquatic, human health, etc.) 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	2	1
Beryllium, Total	mg/L	0.004	0.004	--
Cadmium, Total	mg/L	0.005	0.005	0.01
Chromium, Total	mg/L	0.1	0.1	--
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
NTU - Nephelometric turbidity units
SU - Standard units
[a] *MCL - Listed is NYSDOH or EPA Maximum Contaminant Levels. 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 non-detectable. 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 2003

Isotope	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Total
Gross Alpha	**7.62±0.74E-04**	2.27±0.35E-04	**7.18±2.96E-05**	4.99±0.55E-04	1.56±0.10E-03
Gross Beta	**5.43±0.14E-03**	3.00±0.09E-03	**1.30±0.07E-03**	3.30±0.10E-03	1.30±0.02E-02
H-3	4.62±0.14E-02	**9.55±0.26E-02**	**3.16±0.14E-02**	5.65±0.19E-02	2.30±0.04E-01
C-14	2.64±1.40E-04	2.28±1.95E-04	0.23±2.11E-04	**5.62±3.97E-04**	1.08±0.51E-03
K-40	7.74±7.46E-04	-2.65±5.44E-04	-2.49±3.44E-04	**1.01±0.51E-03**	1.27±1.11E-03
Co-60	2.08±2.54E-05	0.44±2.23E-05	0.72±1.41E-05	4.29±5.02E-05	7.53±6.22E-05
Sr-90	**2.01±0.10E-03**	1.04±0.07E-03	**4.75±0.25E-04**	1.15±0.06E-03	4.66±0.14E-03
Tc-99	**6.65±0.47E-04**	6.58±0.29E-04	**2.40±0.27E-04**	5.72±0.38E-04	2.13±0.07E-03
I-129	1.00±1.22E-05	2.65±2.03E-05	0.00±1.42E-05	**8.28±2.85E-05**	1.19±0.40E-04
Cs-137	**1.44±0.08E-03**	7.02±0.58E-04	**3.94±0.43E-04**	7.46±1.03E-04	3.28±0.15E-03
U-232	**2.92±0.06E-04**	9.95±0.37E-05	**4.69±0.41E-05**	2.02±0.06E-04	6.41±0.10E-04
U-233/234	**1.76±0.14E-04**	6.43±0.41E-05	**2.70±0.31E-05**	1.21±0.05E-04	3.88±0.16E-04
U-235/236	4.00±1.82E-06	3.65±1.12E-06	**1.93±0.86E-06**	**7.48±1.32E-06**	1.71±0.27E-05
U-238	**9.46±1.01E-05**	4.33±0.34E-05	**1.76±0.25E-05**	7.61±0.39E-05	2.32±0.12E-04
Total U (g)	2.32±0.08E+02	1.39±0.02E+02	**5.60±0.09E+01**	**2.46±0.09E+02**	6.73±0.12E+02
Pu-238	**2.50±0.16E-05**	**1.74±0.61E-06**	2.42±1.04E-06	5.59±1.28E-06	3.47±0.24E-05
Pu-239/240	**2.09±0.15E-05**	**2.74±0.77E-06**	2.75±1.07E-06	1.06±0.16E-05	3.70±0.25E-05
Am-241	**1.46±0.12E-05**	**1.46±0.61E-06**	1.82±0.84E-06	5.32±1.35E-06	2.32±0.21E-05

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

Table C-2B
Comparison of 2003 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)	
Alpha	1.56±0.10E-03	5.77±0.38E+07	2.75±0.18E-08	NA[d]	NA
Beta	1.30±0.02E-02	4.82±0.08E+08	2.30±0.04E-07	NA[d]	NA
H-3	2.30±0.04E-01	8.51±0.14E+09	4.05±0.07E-06	2.00E-03	0.20
C-14	1.08±0.51E-03	3.99±1.89E+07	1.90±0.90E-08	7.00E-05	0.03
K-40	1.27±1.11E-03	4.71±4.11E+07	2.24±1.96E-08	NA[e]	NA
Co-60	7.53±6.22E-05	2.79±2.30E+06	1.33±1.10E-09	5E-06	0.03
Sr-90	4.66±0.14E-03	1.73±0.05E+08	8.22±0.24E-08	1E-06	8.22
Tc-99	2.13±0.07E-03	7.90±0.27E+07	3.76±0.13E-08	1E-04	0.04
I-129	1.19±0.40E-04	4.41±1.47E+06	2.10±0.70E-09	5E-07	0.42
Cs-137	3.28±0.15E-03	1.21±0.05E+08	5.79±0.26E-08	3E-06	1.93
U-232[f]	6.41±0.10E-04	2.37±0.04E+07	1.13±0.02E-08	1E-07	11.29
U-233/234[f]	3.88±0.16E-04	1.44±0.06E+07	6.85±0.28E-09	5E-07	1.37
U-235/236[f]	1.71±0.27E-05	6.31±0.98E+05	3.01±0.47E-10	5E-07[g]	0.06
U-238[f]	2.32±0.12E-04	8.57±0.43E+06	4.08±0.20E-09	6E-07	0.68
Pu-238	3.47±0.24E-05	1.29±0.09E+06	6.12±0.42E-10	4E-08	1.53
Pu-239/240	3.70±0.25E-05	1.37±0.09E+06	6.51±0.45E-10	3E-08	2.17
Am-241	2.32±0.21E-05	8.58±0.78E+05	4.09±0.37E-10	3E-08	1.36
Total % of DCGs					29.33

[a] *Half-lives are listed in Table K-1C.*
[b] *Total volume released: 5.67E+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) = 6.73±0.12E+02; Average U (µg/mL) = 1.19±0.02E-02*
[g] *DCG for U-236 is used for this comparison.*

Table C-2C
2003 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	0.23	0.29	<2.0	<2.0	<0.010	<0.010	0.282	0.485
February [a]	--	--	--	--	--	--	--	--
March	0.29	0.29	<2.0	<2.0	<0.010	<0.010	0.305	0.726
April	<0.012	<0.012	<2.0	<2.0	<0.010	<0.010	0.302	0.775
May [a]	--	--	--	--	--	--	--	--
June	<0.07	0.091	<2.1	2.1	<0.010	<0.010	0.308	0.736
July [a]	--	--	--	--	--	--	--	--
August	<0.050	<0.050	<2.6	3.2	<0.010	<0.010	0.163	0.189
September [a]	--	--	--	--	--	--	--	--
October	<0.050	<0.050	<2.3	2.5	<0.010	<0.010	0.174	0.206
November [a]	--	--	--	--	--	--	--	--
December	<0.067	0.084	<2.0	<2.0	<0.010	<0.010	0.397	0.422

	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	1.0	1.0	<0.05	<0.05	<5.0	<5.0
February [a]	--	--	--	--	--	--
March	0.99	1.1	<0.05	<0.05	<5.0	<5.0
April	0.69	0.75	<0.05	<0.05	<5.0	<5.0
May [a]	--	--	--	--	--	--
June	0.21	0.23	<0.05	<0.05	<5.0	<5.0
July [a]	--	--	--	--	--	--
August	<0.05	<0.05	<0.05	<0.05	<5.0	<5.0
September [a]	--	--	--	--	--	--
October	<0.05	<0.05	<0.05	<0.05	<5.0	<5.0
November [a]	--	--	--	--	--	--
December	0.50	0.55	<0.05	<0.05	<5.0	<5.0

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

Table C-2C (concluded)
2003 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	7.3	7.8	<0.1	<0.1	823	839	<2.0	<2.0
February [a]	--	--	--	--	–	--	--	--
March	7.9	7.9	<0.1	<0.1	789	820	<2.0	<2.0
April	7.6	7.9	<0.1	<0.1	817	824	13.0	17.0
May [a]	--	--	--	--	–	--	--	--
June	8.0	8.4	<0.1	<0.1	757	761	<2.0	<2.0
July [a]	--	--	--	--	–	--	--	--
August	7.5	8.1	<0.1	<0.1	836	855	<2.0	<2.0
September [a]	--	--	--	--	–	--	--	--
October	7.7	8.2	<0.1	<0.1	798	808	<2.0	<2.0
November [a]	--	--	--	--	–	--	--	--
December	7.7	7.8	<0.1	<0.1	728	735	<3.0	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	47	53	<0.2	<0.2	<0.1	<0.1
February [a]	--	--	--	--	–	--
March	53	55	<0.2	<0.2	<0.1	<0.1
April	54	55	<0.2	<0.2	<0.1	<0.1
May [a]	--	--	--	--	–	--
June	56	59	<0.2	<0.2	>0.1	>0.1
July [a]	--	--	--	--	–	--
August	48	53	<0.2	<0.2	<0.1	<0.1
September [a]	--	--	--	--	–	--
October	44	49	<0.2	0.3	<0.1	<0.1
November [a]	--	--	--	--	–	--
December	35	46	<0.2	<0.2	<0.1	<0.1

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

Table C-2D
2003 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	<0.200	<0.200	<0.002	<0.002	<0.001	<0.001	<0.004	<0.004
February [a]	--	--	--	--	--	--	--	--
March	0.275	0.344	0.002	0.002	<0.001	<0.001	<0.004	<0.004
April	0.260	0.278	0.0016	0.0016	<0.001	<0.001	<0.004	<0.004
May [a]	--	--	--	--	--	--	--	--
June	<0.254	0.307	0.0017	0.0018	<0.001	<0.001	<0.004	<0.004
July [a]	--	--	--	--	--	--	--	--
August	<0.200	<0.200	0.0035	0.0039	<0.001	<0.001	<0.004	<0.004
September [a]	--	--	--	--	--	--	--	--
October	<0.200	<0.200	0.003	0.003	<0.001	<0.001	<0.004	<0.004
November [a]	--	--	--	--	--	--	--	--
December	<0.258	0.316	0.0022	0.0027	<0.001	<0.001	<0.004	<0.004

	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 [a]	--	--	--	--	--	--	--	--
June	<0.002	<0.002	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
July [a]	--	--	--	--	--	--	--	--
August	<0.002	<0.002	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
September [a]	--	--	--	--	--	--	--	--
October	<0.002	<0.002	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
November [a]	--	--	--	--	--	--	--	--
December	<0.002	<0.002	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

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

Table C-2D (concluded)
2003 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	0.236	0.342	0.0007	0.0007	0.096	0.14	<0.0002	<0.0002	0.0455	0.0567
February[a]	–	–	--	--	–	–	–	–	–	–
March	0.235	0.254	0.0009	0.001	0.069	0.11	<0.0002	<0.0002	0.0224	0.0274
April	0.177	0.228	<0.0005	<0.0005	0.013	0.016	<0.0002	<0.0002	0.0145	0.0170
May[a]	–	–	--	--	–	–	–	–	–	–
June	0.222	0.281	<0.0005	<0.0005	0.038	0.038	<0.0002	<0.0002	0.00475	0.00554
July[a]	–	–	--	--	–	–	–	–	–	–
August	0.0727	0.0861	<0.0005	<0.0005	0.027	0.037	<0.0002	<0.0002	0.00619	0.00715
September[a]	–	–	--	--	–	–	–	–	–	–
October	0.139	0.169	<0.0005	<0.0005	0.014	0.016	<0.0002	<0.0002	0.0135	0.0159
November[a]	–	–	--	--	–	–	–	–	–	–
December	0.197	0.235	0.0005	0.0006	0.019	0.022	<0.0002	<0.0002	0.00836	0.00881

	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	0.003	0.003	<0.010	<0.010	<0.027	0.041
April	<0.010	<0.010	0.003	0.003	<0.010	<0.010	<0.010	<0.010
May[a]	–	–	--	--	–	–	–	–
June	<0.010	<0.010	0.003	0.003	<0.010	<0.010	<0.010	<0.010
July[a]	–	–	--	--	–	–	–	–
August	<0.010	<0.010	0.003	0.003	<0.010	<0.010	<0.010	<0.010
September[a]	–	–	--	--	–	–	–	–
October	<0.010	<0.010	0.003	0.003	<0.010	<0.010	<0.010	<0.010
November[a]	–	–	--	--	–	–	–	–
December	<0.010	<0.010	<0.003	0.004	<0.010	<0.010	<0.010	<0.010

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

Table C-2E
2003 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	<0.000009	<0.000009	<0.010	<0.010
May[a]	--	--	--	--	--	--	--	--
June	<0.0099	<0.0099	<0.01	<0.01	<0.000009	<0.000009	<0.010	<0.010
July[a]	--	--	--	--	--	--	--	--
August	<0.0099	<0.0099	<0.01	<0.01	<0.000009	<0.000009	<0.010	<0.010
September[a]	--	--	--	--	--	--	--	--
October	<0.0099	<0.0099	<0.01	<0.01	<0.000009	<0.000009	<0.010	<0.010
November[a]	--	--	--	--	--	--	--	--
December	<0.0099	<0.0099	<0.01	<0.01	<0.000009	<0.000009	<0.010	<0.010

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	<0.005	<0.005	<0.000009	<0.000009
February[a]	--	--	--	--	--	--
March	<0.01	<0.01	<0.005	<0.005	<0.000009	<0.000009
April	<0.01	<0.01	<0.005	<0.005	<0.000009	<0.000009
May[a]	--	--	--	--	--	--
June	<0.01	<0.01	<0.005	<0.005	<0.000009	<0.000009
July[a]	--	--	--	--	--	--
August	<0.01	<0.01	<0.01	<0.01	<0.000009	<0.000009
September[a]	--	--	--	--	--	--
October	<0.01	<0.01	<0.01	<0.01	<0.000009	<0.000009
November[a]	--	--	--	--	--	--
December	<0.01	<0.01	<0.01	<0.01	<0.000009	<0.000009

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

Table C-2F
2003 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	<0.012	<0.012	<2.0	<2.0	0.02	0.03	0.025	0.044	0.147	0.201
February	<0.016	0.022	<2.0	<2.0	0.03	0.04	0.031	0.035	<0.166	0.253
March	0.029	0.049	<2.1	2.3	0.03	0.05	0.029	0.038	0.138	0.198
April	<0.017	0.028	3.0	4.1	0.03	0.04	0.026	0.017	<0.049	0.065
May	<0.035	0.062	<2.2	2.6	0.01	0.03	0.021	0.042	0.124	0.169
June	<0.050	<0.066	>2.0	>2.0	0.02	0.04	0.022	0.022	0.079	0.092
July	<0.050	<0.050	3.6	4.0	0.01	0.02	0.020	0.032	<0.051	0.0521
August	<0.050	<0.050	2.6	3.0	0.02	0.02	0.018	0.020	<0.068	0.0782
September	<0.050	<0.050	<2.3	2.8	0.01	0.02	0.020	0.031	<0.050	<0.050
October	<0.050	<0.050	<2.0	<2.0	0.02	0.04	0.026	0.045	<0.088	0.112
November	<0.050	<0.050	<2.2	2.5	0.02	0.03	0.038	0.048	0.112	0.141
December	<0.087	0.16	<2.1	2.2	0.03	0.04	0.041	0.043	0.0975	0.144

	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	7.7	7.9	<0.1	<0.1	<2.0	<2.0
February	<0.05	<0.05	<5.0	<5.0	7.5	7.7	<0.2	<0.3	<2.7	3.0
March	<0.05	<0.05	<5.0	<5.0	7.5	7.8	<0.1	<0.1	<2.3	3.0
April	<0.05	<0.05	<5.0	<5.0	7.3	7.7	<0.1	<0.1	<3.3	6.0
May	<0.05	<0.05	<5.0	<5.0	7.1	7.7	<0.1	<0.1	<2.7	4.0
June	<0.05	<0.05	<5.0	<5.0	7.5	7.6	<0.1	<0.1	>2.0	>2.0
July	<0.05	<0.05	<5.0	<5.0	7.3	7.6	<0.1	<0.1	<2.0	<2.0
August	<0.05	<0.05	<5.0	<5.0	7.4	7.5	<0.2	<0.3	<4.7	10.0
September	<0.05	<0.05	<5.0	<5.0	7.4	7.8	<0.2	<0.3	<2.0	2.0
October	<0.05	<0.05	<5.0	<5.0	7.0	8.0	<0.1	<0.2	<3.0	5.0
November	<0.05	<0.05	<5.0	<5.0	7.7	7.9	<0.1	<0.1	<2.0	<2.0
December	<0.05	<0.05	<5.0	<5.0	7.5	7.8	<0.1	<0.1	<3.0	5.0

Note: No results exceeded the permit limits.

Table C-2G
2003 SPDES Results for Outfall 008 (WNSP008): Water Quality

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

Table C-2H
2003 SPDES Results for Sums of Outfalls 001, 007, 008, and 116: Water Quality

2003 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	<0.14	<0.27	<2.0	<2.0	0.00
February[b]	<0.016	0.022	<2.0	<2.0	0.00
March	0.19	0.28	<2.0	<2.0	0.00
April	<0.012	<0.012	<2.2	2.4	0.00
May[b]	<0.035	0.062	<2.2	2.6	0.00
June	<0.058	<0.088	>2.1	>2.1	0.00
July[b]	<0.050	<0.050	3.6	4.0	0.00
August	<0.050	<0.050	<2.5	3.2	0.00
September[b]	<0.050	<0.050	<2.3	2.8	0.00
October	<0.050	<0.050	<2.1	<2.4	0.00
November[b]	<0.050	<0.050	<2.2	2.5	0.00
December	<0.063	0.089	<2.1	2.2	0.00

2003 Results for Outfall 116

	Total Dissolved Solids (mg/L)	
Permit limit	500 mg/L daily maximum	
Month	**Avg**	**Max**
January	365	399
February[b]	--	--
March	321	388
April	364	367
May[b]	--	--
June	351	364
July[b]	--	--
August	326	336
September[b]	--	--
October	320	339
November[b]	--	--
December	329	412

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

Table C-2I
2003 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 2003 June 2003 August 2003 December 2003	0.038 0.051 0.051 0.042
Bromide, Total (mg/L)	5.0 mg/L daily maximum	Quarterly	March 2003 June 2003 August 2003 December 2003	1.1 <0.5 0.95 0.88
Titanium, Total (mg/L)	0.65 mg/L daily maximum	Semiannual	March 2003 August 2003	<0.005 <0.005
Bis(2-ethylhexyl)phthalate (mg/L)	1.6 mg/L daily maximum	Semiannual	March 2003 August 2003	<0.010 <0.010
4-dodecene (mg/L)	0.6 mg/L daily maximum	Semiannual	March 2003 August 2003	<0.060 <0.060
Chloroform (mg/L)	0.3 mg/L daily maximum	Annual	March 2003	<0.005
Antimony, Total (mg/L)	1.0 mg/L daily maximum	Annual	March 2003	<0.02
Barium, Total (mg/L)	0.5 mg/L daily maximum	Annual	March 2003	0.04
Dichlorodifluoromethane (mg/L)	0.01 mg/L daily maximum	Annual	March 2003	<0.005
Trichlorofluoromethane (mg/L)	0.01 mg/L daily maximum	Annual	March 2003	<0.005

Note: No results exceeded the permit limits.

Table C-2J
2003 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	January 2004	<0.005

Table C-2K
2003 Annual SPDES Results for Outfall 008 (WNSP008): Water Quality

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

Table C-2L
2003 SPDES Results for Outfall 01B (WNSP01B): Water Quality

	Discharge Rate (GPD)		N	Mercury, Total (per EPA Method 245.1) (µg/L)		Mercury, Total (per EPA Method 1631) (µg/L)	
Permit limit	Monitor			10.0 µg/L daily maximum		No Limit	
Month	**Avg**	**Max**		**Avg**	**Max**	**Avg**	**Max**
January	6,846	7,663	2	<0.2	<0.2	0.00682	0.00734
February	7,811	9,395	2	<0.2	<0.2	0.0110	0.0129
March	--	--	--	--	--	--	--
April	--	--	--	--	--	--	--
May	--	--	--	--	--	--	--
June	--	--	--	--	--	--	--
July	--	--	--	--	--	--	--
August	--	--	--	--	--	--	--
September	--	--	--	--	--	--	--
October	--	--	--	--	--	--	--
November	--	--	--	--	--	--	--
December	--	--	--	--	--	--	--

Note: No results exceeded the permit limits.
N - Number of samples
-- No discharge through the internal monitoring location during this month

Table C-2M
2003 Results at Sewage Treatment Outfall (WNSP007)

Analyte	Units	N	WNSP007 Concentrations			Guideline[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	36	<1.52E-09	0.23±3.24E-09	3.78E-09	3E-08[b]
Gross Beta	µCi/mL	36	5.88E-09	1.65±0.50E-08	2.76E-08	1E-06[c]
Tritium	µCi/mL	36	<5.90E-08	3.78±8.11E-08	1.46E-07	2E-03
Sr-90	µCi/mL	3	3.13E-09	6.93±2.74E-09	1.17E-08	1E-06
Cs-137	µCi/mL	4	<2.01E-09	1.97±2.83E-09	4.09E-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

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Appendix C-3

Site Surface Drainage, Subsurface Drainage, and Contained Water

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Table C-3A
2003 Results 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	<1.08E-09	1.77±2.95E-09	8.48E-09	3E-08[c]
Gross Beta	µCi/mL	12	2.50E-08	1.99±0.10E-07	4.53E-07	1E-06[d]
Tritium	µCi/mL	12	<5.93E-08	3.60±8.13E-08	1.26E-07	2E-03
Sr-90	µCi/mL	3	4.99E-08	7.37±0.56E-08	1.07E-07	1E-06
Cs-137	µCi/mL	3	<1.90E-09	2.06±2.57E-09	<3.54E-09	3E-06
pH	SU	12	6.63	7.18	7.85	6.0–9.5

N - Number of samples
SU - Standard units
[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
2003 Results in Surface Water at French Drain (WNSP008)

NO DISCHARGE FROM THE
FRENCH DRAIN DURING CY 2003

Table C-3C
2003 Results in 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	52	-0.17±3.19E-09	3.26E-09	12	<5.80E-10–1.08E-09	3E-08[c]
Gross Beta	µCi/mL	52	1.38±0.50E-08	2.87E-08	12	<1.23E-09–4.76E-09	1E-06[d]
Tritium	µCi/mL	52	3.15±8.32E-08	2.80E-07	12	<8.06E-08–2.29E-07	2E-03
C-14	µCi/mL	4	-0.59±1.89E-08	<2.65E-08	4	<1.34E-08–<2.66E-08	7E-05
Sr-90	µCi/mL	12	6.13±2.20E-09	8.69E-09	4	<9.20E-10–1.76E-09	1E-06
I-129	µCi/mL	4	5.44±6.80E-10	1.31E-09	4	<5.25E-10–1.42E-09	5E-07
Cs-137	µCi/mL	12	1.16±8.51E-09	1.18E-08	4	<1.84E-09–<3.33E-09	3E-06
U-232	µCi/mL	4	1.35±4.53E-11	<4.89E-11	4	<3.14E-11–<5.23E-11	1E-07
U-233/234	µCi/mL	4	1.61±0.82E-10	2.35E-10	4	<6.60E-11–1.20E-10	5E-07
U-235/236	µCi/mL	4	3.48±4.41E-11	3.85E-11	4	<1.76E-11–2.88E-11	5E-07[e]
U-238	µCi/mL	4	1.06±0.63E-10	1.29E-10	4	<1.57E-11–5.63E-11	6E-07
Total U	µg/mL	4	2.96±0.11E-04	3.63E-04	4	2.18E-04–4.61E-04	--
Pu-238	µCi/mL	4	0.82±2.22E-11	1.47E-11	4	<1.74E-11–<3.11E-11	4E-08
Pu-239/240	µCi/mL	4	0.47±2.08E-11	<2.78E-11	4	<2.24E-11–1.98E-10	3E-08
Am-241	µCi/mL	4	0.77±2.74E-11	<3.14E-11	4	<2.19E-11–3.23E-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)
2003 Results in 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	<0.20	0.29	0	NA	--
Ammonia-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	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	<0.50	<0.50	2	<0.50–<0.50	--
Cadmium, Total	mg/L	2	<0.001	<0.001	0	NA	--
Calcium, Total	mg/L	2	101	117	9	21.9–43.2	--
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]
Conductivity	µmhos/cm@25°C	22	1,679	2,470	22	145–279	--
Copper, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.044[d]
Copper, Total	mg/L	2	<0.005	<0.005	0	NA	--
Fluoride	mg/L	2	<0.12	0.13	2	<0.10–<0.10	33.5[d]
Hardness	mg/L	2	306	356	9	69–132	--
Iron, Total	mg/L	2	0.27	0.39	2	0.23–3.28	0.30
Lead, Total	mg/L	2	<0.0005	<0.0005	0	NA	--
Magnesium, Total	mg/L	2	13.0	15.4	9	3.51–5.94	--
Manganese, Total	mg/L	2	0.07	0.08	2	0.02–0.10	--
Mercury, Total, Method 1631	mg/L	2	0.000001	0.000002	0	NA	--
Nickel, Total	mg/L	2	<0.04	<0.04	0	NA	--
Nitrate-N	mg/L	2	0.52	0.52	2	<0.05–0.16	--
Nitrite-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	--
NPOC	mg/L	2	2.6	3.3	2	2.0–2.4	--
Oil & Grease	mg/L	2	<5	<5	2	<5–<5	--
pH	SU	24	7.17	8.81	24	6.56–8.24	6.0–9.5
Selenium, Total	mg/L	2	<0.001	<0.001	0	NA	--
Solids, Total Dissolved	mg/L	2	812	1,050	2	125–176	--
Solids, Total Suspended	mg/L	2	<82	160	2	<4–<4	--

N - Number of samples
NA - No data available
SU - Standard units
-- 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 stream at WNSW74A*

Table C-3C (concluded)
2003 Results in 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	61.7	68.0	2	15.8–21.4	--
Sulfide	mg/L	2	<0.04	<0.04	2	<0.04–0.62	--
Surfactants	mg/L	2	<0.05	0.08	2	0.04–0.04	--
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	0.04	0.04	2	0.01–0.02	--
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
2003 Results in 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	52	0.20±2.11E-09	2.67E-09	12	<5.80E-10–1.08E-09	3E-08[c]
Gross Beta	µCi/mL	52	1.44±0.02E-06	3.83E-06	12	<1.23E-09–4.76E-09	1E-06[d]
Tritium	µCi/mL	52	1.05±0.83E-07	2.92E-07	12	<8.06E-08–2.29E-07	2E-03
C-14	µCi/mL	4	-0.18±2.04E-08	<2.63E-08	4	<1.34E-08–<2.66E-08	7E-05
Sr-90	µCi/mL	12	7.08±0.24E-07	1.58E-06	4	<9.20E-10–1.76E-09	1E-06
I-129	µCi/mL	4	9.33±9.71E-10	1.29E-09	4	<5.25E-10–1.42E-09	5E-07
Cs-137	µCi/mL	12	0.99±2.43E-09	2.12E-09	4	<1.84E-09–<3.33E-09	3E-06
U-232	µCi/mL	4	0.23±7.42E-11	<8.84E-11	4	<3.14E-11–<5.23E-11	1E-07
U-233/234	µCi/mL	4	2.31±1.32E-10	2.67E-10	4	<6.60E-11–1.20E-10	5E-07
U-235/236	µCi/mL	4	3.75±6.42E-11	<9.51E-11	4	<1.76E-11–2.88E-11	5E-07[e]
U-238	µCi/mL	4	1.36±0.94E-10	1.63E-10	4	<1.57E-11–5.63E-11	6E-07
Total U	µCi/mL	4	4.02±0.15E-04	6.51E-04	4	2.18E-04–4.61E-04	--
Pu-238	µCi/mL	4	1.07±2.96E-11	<4.58E-11	4	<1.74E-11–<3.11E-11	4E-08
Pu-239/240	µCi/mL	4	0.69±2.44E-11	2.99E-11	4	<2.24E-11–1.98E-10	3E-08
Am-241	µCi/mL	4	1.54±3.33E-11	<5.47E-11	4	<2.19E-11–3.23E-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)
2003 Results in 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	<0.000007	<0.000009	2	<0.000009–<0.000009	0.000002
Aluminum, Total	mg/L	2	0.06	0.06	0	NA	--
Ammonia-N	mg/L	2	<0.10	<0.10	2	<0.05–<0.05	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	0.05	0.05	2	0.01–0.02	--
Bromide	mg/L	2	0.80	0.90	2	<0.50–<0.50	--
Cadmium, Total	mg/L	2	<0.0004	<0.0004	0	NA	--
Calcium, Total	mg/L	2	112	118	9	21.9–43.2	--
Chloride	mg/L	1	130	130	2	10–16	--
Chromium, Total	mg/L	2	<0.001	<0.001	0	NA	--
Cobalt, Total	mg/L	2	<0.001	<0.001	2	<0.005–<0.005	0.110[c]
Conductivity	µmhos/cm@25°C	22	1,187	1,390	22	145–279	--
Copper, Dissolved	mg/L	2	<0.001	<0.001	2	<0.005–<0.005	0.045[d]
Copper, Total	mg/L	2	0.002	0.002	0	NA	--
Fluoride	mg/L	2	<0.10	<0.10	2	<0.10–<0.10	33.6[d]
Hardness	mg/L	2	341	357	9	69–132	--
Iron, Total	mg/L	2	0.12	0.19	2	0.23–3.28	0.30
Lead, Total	mg/L	2	<0.002	<0.002	0	NA	--
Magnesium, Total	mg/L	2	14.6	15.1	9	3.51–5.94	--
Manganese, Total	mg/L	2	0.17	0.23	2	0.02–0.10	--
Mercury, Total, Method 1631	mg/L	2	0.000005	0.000009	0	NA	--
Nickel, Total	mg/L	2	<0.002	<0.002	0	NA	--
Nitrate-N	mg/L	2	0.10	0.16	2	<0.05–0.16	--
Nitrite-N	mg/L	2	<0.02	<0.02	2	<0.05–<0.05	--
NPOC	mg/L	2	5.4	5.5	2	2.0–2.4	--
Oil & Grease	mg/L	2	<1	<1	2	<5–<5	--
pH	SU	24	7.01	7.39	24	6.56–8.24	6.0–9.5

N - Number of samples
NA - No data available
SU - Standard units
-- 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 stream at WNSWAMP*

Table C-3D (concluded)
2003 Results in 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	770	833	2	125–176	--
Solids, Total Suspended	mg/L	2	<5	<5	2	<4–<4	--
Sulfate	mg/L	2	22.1	23.4	2	15.8–21.4	--
Sulfide	mg/L	2	<1.20	1.40	2	<0.04–0.62	--
Surfactants	mg/L	2	<0.10	<0.10	2	0.04–0.04	--
Thallium, Total	mg/L	2	<0.005	0.006	2	<0.008–<0.008	0.020[c]
Titanium, Total	mg/L	2	<0.001	0.003	2	<0.050–<0.050	--
TOX	mg/L	2	<0.02	0.04	2	0.01–0.02	--
Vanadium, Total	mg/L	2	<0.001	<0.001	2	<0.010–<0.010	0.190[c]
Zinc, Total	mg/L	2	0.01	0.01	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
2003 Results at Storage and Disposal Area Drainage (WNNDADR)

Analyte	Units	N	WNNDADR Concentrations			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<9.16E-10	0.86±1.34E-09	1.24E-09	--
Gross Beta	µCi/mL	12	1.50E-07	1.83±0.06E-07	2.26E-07	--
Tritium	µCi/mL	12	4.39E-07	1.00±0.10E-06	1.60E-06	--
Sr-90	µCi/mL	4	7.92E-08	9.10±0.63E-08	9.69E-08	--
I-129	µCi/mL	4	<8.46E-10	0.55±1.17E-09	<1.49E-09	--
Cs-137	µCi/mL	12	<4.41E-09	0.51±7.79E-09	<1.25E-08	--
NPOC	mg/L	52	2.1	<6.7	14.9	--
pH	SU	52	5.97	7.06	7.98	6.0–9.5
TOX	mg/L	50	<0.005	<0.022	0.074	--

N - Number of samples
SU - Standard units
-- 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
2003 Results in Subsurface Water at the NDA Interceptor Trench (WNNDATR)

Analyte	Units	N	WNNDATR Concentrations		
			Minimum	Average	Maximum
Gross Alpha	µCi/mL	12	<1.17E-09	2.17±2.11E-09	4.26E-09
Gross Beta	µCi/mL	12	9.74E-08	1.38±0.06E-07	1.68E-07
Tritium	µCi/mL	12	1.32E-06	4.83±0.21E-06	1.00E-05
I-129	µCi/mL	4	6.64E-10	1.30±1.05E-09	2.58E-09
Cs-137	µCi/mL	12	<5.35E-09	0.39±1.05E-08	1.50E-08
NPOC	mg/L	12	2.5	4.9	7.0
TOX	mg/L	12	0.012	0.022	0.030

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
2003 Results at SDA Drainage (WNSDADR)

Analyte	Units	N	WNSDADR Concentrations			Guideline or Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<3.33E-10	5.68±4.46E-10	1.26E-09	--
Gross Beta	µCi/mL	12	8.69E-10	5.91±1.11E-09	3.80E-08	--
Tritium	µCi/mL	12	<8.64E-08	2.89±0.84E-07	4.68E-07	--
Cs-137	µCi/mL	12	<3.65E-09	-0.33±6.79E-09	<1.16E-08	--
pH	SU	12	6.93	7.32	7.90	6.5–8.5

N - Number of samples
SU - Standard units
-- 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
2003 Results in Surface Water at Cooling Tower Basin (WNCOOLW)

Analyte	Units	N	WNCOOLW Concentrations		
			Minimum	Average	Maximum
Gross Alpha	µCi/mL	6	<1.00E-09	0.77±1.50E-09	2.57E-09
Gross Beta	µCi/mL	6	<3.57E-09	5.71±2.94E-09	9.70E-09
Tritium	µCi/mL	6	<8.10E-08	0.08±8.43E-08	1.60E-07
Sr-90	µCi/mL	3	1.50E-09	2.95±1.78E-09	4.68E-09
Cs-137	µCi/mL	4	<4.15E-09	1.42±6.93E-09	<1.08E-08
pH	SU	6	7.80	8.07	8.55

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
SU - Standard units

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Appendix C-4

Ambient Surface Water Data

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Table C-4A
2003 Results 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	0.92±1.17E-09	2.55E-09	12	<7.06E-10–1.29E-09	3E-08[d]
Gross Beta	µCi/mL	12	3.77±1.78E-09	7.10E-09	12	<1.24E-09–6.00E-09	1E-06[e]
Tritium	µCi/mL	12	2.10±8.58E-08	<9.06E-08	12	<5.75E-08–2.65E-07	2E-03
Sr-90	µCi/mL	12	2.05±1.75E-09	3.74E-09	12	<1.23E-09–1.10E-08	1E-06
Tc-99	µCi/mL	3	1.36±2.64E-09	5.78E-09	0	NA	1E-04
Cs-137	µCi/mL	12	1.22±2.48E-09	3.94E-09	12	<1.34E-09–5.29E-09	3E-06
pH	SU	52	7.17	8.27	12	6.49–8.15	6.5–8.5

N - Number of samples
NA - Data not available
SU - Standard units
[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
2003 Results in 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	5.75±7.62E-10	1.44E-09	12	<5.80E-10–1.08E-09	3E-08[c]
Gross Beta	µCi/mL	12	7.84±1.53E-09	9.98E-09	12	<1.23E-09–4.76E-09	1E-06[d]
Tritium	µCi/mL	12	6.61±8.50E-08	1.65E-07	12	<8.06E-08–2.29E-07	2E-03
Sr-90	µCi/mL	4	3.77±1.81E-09	4.45E-09	4	<9.20E-10–1.76E-09	1E-06
Tc-99	µCi/mL	3	5.24±2.63E-09	1.04E-08	4	<9.90E-10–7.25E-09	1E-04
Cs-137	µCi/mL	4	2.11±2.02E-09	3.04E-09	4	<1.84E-09–<3.33E-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)
2003 Results in 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	<0.25	0.4	2	<0.10–<0.10	0.10
Ammonia-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	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	0.06	2	0.07–0.10	--
Boron, Total	mg/L	2	0.03	0.04	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	9	38.9	50.9	9	21.9–43.2	--
Chloride	mg/L	2	23	25	2	10–16	--
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]
Conductivity	µmhos/cm@25°C	22	266	326	22	145–279	--
Copper, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.014[c]
Dissolved, Oxygen	mg/L	2	11	12	2	9–12	4.0 (min)
Fluoride	mg/L	4	<0.10	<0.10	4	<0.10–<0.10	3.4[c]
Hardness	mg/L	9	123	168	9	69–132	--
Iron, Total	mg/L	2	0.30	0.32	2	0.23–3.28	0.30
Lead, Dissolved	mg/L	2	<0.0005	<0.0005	2	<0.0005–<0.0005	0.007[c]
Magnesium, Total	mg/L	9	6.39	10.0	9	3.51–5.94	--
Manganese, Total	mg/L	2	0.01	0.01	2	0.02–0.10	--
Mercury, Dissolved, Method 1631	mg/L	2	0.000001	0.000001	2	0.000001	--
Nickel, Dissolved	mg/L	2	<0.04	<0.04	2	<0.04–<0.04	0.081[c]
Nitrate-N	mg/L	2	0.26	0.34	2	<0.05–0.16	--
Nitrite-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	0.10
NPOC	mg/L	2	3.1	3.6	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)
2003 Results in 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	24	7.10	8.19	24	6.56–8.24	6.5–8.5
Selenium, Dissolved	mg/L	2	<0.001	<0.001	2	<0.001–0.002	0.0046
Sodium, Total	mg/L	2	15.6	15.7	2	8.53–8.55	--
Solids, Total Dissolved	mg/L	2	176	206	2	125–176	500
Solids, Total Suspended	mg/L	2	<4	<4	2	<4–<4	--
Sulfate	mg/L	2	23.1	26.2	2	15.8–21.4	--
Sulfide	mg/L	2	<0.04	<0.04	2	<0.04–0.62	0.002
Surfactants	mg/L	2	0.04	0.05	2	0.04–0.04	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	0.01	0.02	2	0.01–0.02	--
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	0.129[c]

N - Number of samples
SU - Standard units
-- 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
2003 Results in 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	52	0.94±1.44E-09	8.05E-09	12	<5.80E-10–1.08E-09	3E-08[c]
Gross Beta	µCi/mL	52	3.82±0.38E-08	1.08E-07	12	<1.23E-09–4.76E-09	1E-06[d]
Tritium	µCi/mL	52	1.89±0.84E-07	1.51E-06	12	<8.06E-08–2.29E-07	2E-03
C-14	µCi/mL	4	-0.18±1.92E-08	<2.64E-08	4	<1.34E-08–<2.66E-08	7E-05
Sr-90	µCi/mL	12	1.84±0.34E-08	2.93E-08	4	<9.20E-10–1.76E-09	1E-06
Tc-99	µCi/mL	4	6.51±2.65E-09	1.19E-08	4	<9.90E-10–7.25E-09	1E-04
I-129	µCi/mL	4	2.10±9.75E-10	1.11E-09	4	<5.25E-10–1.42E-09	5E-07
Cs-137	µCi/mL	12	5.74±8.98E-09	1.53E-08	4	<1.84E-09–<3.33E-09	3E-06
U-232	µCi/mL	4	4.56±1.31E-10	5.86E-10	4	<3.14E-11–<5.23E-11	1E-07
U-233/234	µCi/mL	4	3.88±1.50E-10	4.82E-10	4	<6.60E-11–1.20E-10	5E-07
U-235/236	µCi/mL	4	1.96±4.77E-11	<6.69E-11	4	<1.76E-11–2.88E-11	5E-07[e]
U-238	µCi/mL	4	2.56±1.24E-10	3.47E-10	4	<1.57E-11–5.63E-11	6E-07
Total U	µg/mL	4	8.08±0.20E-04	1.00E-03	4	2.18E-04–4.61E-04	--
Pu-238	µCi/mL	4	3.21±3.43E-11	5.20E-11	4	<1.74E-11–<3.11E-11	4E-08
Pu-239/240	µCi/mL	4	2.02±3.83E-11	<4.85E-11	4	<2.24E-11–1.98E-10	3E-08
Am-241	µCi/mL	4	4.87±4.37E-11	6.67E-11	4	<2.19E-11–3.23E-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)
2003 Results in 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	0.6	0.68	2	<0.10–<0.10	0.10
Ammonia-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	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	0.07–0.11	--
Boron, Total	mg/L	2	0.03	0.04	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	0.004[c]
Calcium, Total	mg/L	9	47.1	71.1	9	21.9–43.2	--
Chloride	mg/L	2	114	127	2	10–16	--
Chromium, Dissolved	mg/L	2	<0.01	<0.01	2	<0.01–<0.01	0.143[c]
Cobalt, Total	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.005[d]
Conductivity	µmhos/cm@25°C	47	614	1,520	22	145–279	--
Copper, Dissolved	mg/L	2	<0.005	<0.005	2	<0.005–<0.005	0.018[c]
Dissolved Oxygen	mg/L	2	13	18	2	9–12	4.0 (min)
Fluoride	mg/L	2	<0.10	<0.10	2	<0.10–<0.10	4.38[c]
Hardness	mg/L	9	150	223	9	69–132	--
Iron, Total	mg/L	2	5.52	7.59	2	0.23–3.28	0.30
Lead, Dissolved	mg/L	2	<0.0005	<0.0005	2	<0.0005–<0.0005	0.009[c]
Magnesium, Total	mg/L	9	7.77	11	9	3.51–5.94	--
Manganese, Total	mg/L	2	0.17	0.22	2	0.02–0.10	--
Mercury, Dissolved, Method 1631	mg/L	2	0.000008	0.000015	2	0.000001	--
Nickel, Dissolved	mg/L	2	<0.04	<0.04	2	<0.04–<0.04	0.10[c]
Nitrate-N	mg/L	2	0.72	0.77	2	<0.05–0.16	--
Nitrite-N	mg/L	2	<0.05	<0.05	2	<0.05–<0.05	0.10
NPOC	mg/L	2	3.8	3.9	2	2.0–2.4	--
Oil & Grease	mg/L	3	<5	<5	2	<5–<5	--
pH	SU	24	7.17	8.26	24	6.56–8.24	6.5–8.5

N - Number of samples
SU - Standard units
-- 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)
2003 Results in 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	0.002	0.002	2	<0.001–0.002	0.0046
Sodium, Total	mg/L	2	100	106	2	8.53–8.55	--
Solids, Total Dissolved	mg/L	35	321	436	2	125–176	500
Solids, Total Suspended	mg/L	2	112	175	2	<4–<4	--
Sulfate	mg/L	2	65.8	79.4	2	15.8–21.4	--
Sulfide	mg/L	2	<0.04	<0.04	2	<0.04–0.62	0.002
Surfactants	mg/L	2	<0.02	<0.02	2	0.04–0.04	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	0.03	0.03	2	0.01–0.02	--
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	0.16[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 waterse 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
2003 Results From Outfall WNSP116

Month	Units	N	Total Dissolved Solids		Daily Maximum[a] Limit
			Average	Maximum	
January	mg/L	2	365	399	500
February[b]	mg/L	0	--	--	500
March	mg/L	2	321	388	500
April	mg/L	2	364	367	500
May[b]	mg/L	0	--	--	500
June	mg/L	2	351	364	500
July[b]	mg/L	0	--	--	500
August	mg/L	2	326	336	500
September[b]	mg/L	0	--	--	500
October	mg/L	2	320	339	500
November[b]	mg/L	0	--	--	500
December	mg/L	2	329	412	500

N - Number of samples
[a] SPDES Permit limit; 500 mg/L daily maximum
[b] No discharge this month

Table C-4E
2003 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	50	<8.14E-10	0.26±1.77E-09	2.42E-09	3E-08[c]
Gross Beta	µCi/mL	50	9.14E-09	2.09±0.31E-08	4.37E-08	1E-06[d]
Tritium	µCi/mL	52	<6.14E-08	6.19±8.21E-08	3.74E-07	2E-03
Sr-90	µCi/mL	3	9.30E-09	9.70±2.75E-09	9.91E-09	1E-06
Cs-137	µCi/mL	3	<1.77E-09	-0.50±2.08E-09	<2.38E-09	3E-06
pH	SU	52	6.23	7.14	8.04	6.0–9.5

N - Number of samples
SU - Standard units
[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
2003 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	<5.06E-10	5.45±7.07E-10	3.89E-09	3E-08[c]
Gross Beta	µCi/mL	12	1.42E-09	3.22±1.22E-09	8.88E-09	1E-06[d]
Tritium	µCi/mL	12	<5.80E-08	4.35±8.40E-08	2.59E-07	2E-03
Sr-90	µCi/mL	3	<1.42E-09	0.95±1.52E-09	3.42E-09	1E-06
Cs-137	µCi/mL	3	<1.97E-09	1.00±2.55E-09	<3.40E-09	3E-06
pH	SU	12	6.22	7.02	7.98	6.5–8.5

N - Number of samples
SU - Standard units
[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
2003 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	<4.66E-10	2.53±6.43E-10	1.20E-09	3E-08[c]
Gross Beta	µCi/mL	12	<1.13E-09	2.46±1.19E-09	6.88E-09	1E-06[d]
Tritium	µCi/mL	4	<7.74E-08	5.53±8.46E-08	1.04E-07	2E-03
Sr-90	µCi/mL	4	<1.59E-09	1.39±1.70E-09	1.85E-09	1E-06
I-129	µCi/mL	4	<3.81E-10	3.93±8.38E-10	1.68E-09	5E-07
Cs-137	µCi/mL	4	<4.27E-09	3.61±6.96E-09	<1.06E-08	3E-06
pH	SU	12	6.45	6.98	7.97	6.5–8.5

N - Number of samples
SU - Standard units
[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
2003 Results in 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	4.26±3.29E-10	2.89±2.86E-10	4.68±6.80E-10	3E-08[d]
Gross Beta	µCi/mL	1	3.37±0.98E-09	2.30±0.92E-09	2.78±1.03E-09	1E-06[e]
Tritium	µCi/mL	1	1.14±0.85E-07	-1.30±5.94E-08	-1.01±0.82E-07	2E-03
Sr-90	µCi/mL	1	0.49±1.19E-09	9.80±8.78E-10	1.22±1.26E-09	1E-06
Cs-137	µCi/mL	1	-0.06±4.46E-09	-0.69±5.11E-09	3.05±6.11E-09	3E-06
Chloride	mg/L	1	8	<1	39	--
Conductivity	µmhos/cm@25°C	1	81	52	359	--
Iron, Total	mg/L	1	0.14	0.62	0.19	0.3
Manganese, Total	mg/L	1	0.02	0.15	0.07	--
Nitrate+Nitrite	mg/L	1	<0.05	<0.05	<0.05	--
pH	SU	1	7.77	7.38	7.37	6.0–9.5
Sodium, Total	mg/L	1	4.5	1.0	20.6	--
Sulfate	mg/L	1	7.3	5.6	13.3	--

Analyte	Units	N	WNSTAW6	Reference Values	
				WNSTAWB[a] Background Location	Guideline[b] or Standard[c]
Gross Alpha	µCi/mL	1	3.46±6.20E-10	4.68±6.80E-10	3E-08[d]
Gross Beta	µCi/mL	1	4.22±1.07E-09	2.78±1.03E-09	1E-06[e]
Tritium	µCi/mL	1	0.33±8.33E-08	-1.01±0.82E-07	2E-03
Sr-90	µCi/mL	1	1.28±1.19E-09	1.22±1.26E-09	1E-06
Cs-137	µCi/mL	1	-0.79±8.90E-09	3.05±6.11E-09	3E-06
Chloride	mg/L	1	2	39	--
Conductivity	µmhos/cm@25°C	1	190	359	--
Iron, Total	mg/L	1	<0.10	0.19	0.3
Manganese, Total	mg/L	1	<0.02	0.07	--
Nitrate+Nitrite	mg/L	1	<0.05	<0.05	--
pH	SU	1	7.43	7.37	6.0–9.5
Sodium, Total	mg/L	1	<1.0	20.6	--
Sulfate	mg/L	1	8.9	13.3	--

N - Number of samples
SU - Standard units
-- 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)
2003 Results in 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	4.74±5.76E-10	4.68±6.80E-10	3E-08[d]
Gross Beta	µCi/mL	1	2.72±0.96E-09	2.78±1.03E-09	1E-06[e]
Tritium	µCi/mL	1	8.18±8.44E-08	-1.01±0.82E-07	2E-03
K-40	µCi/mL	1	-9.79±9.72E-08	-0.54±1.04E-07	7E-06
Co-60	µCi/mL	1	3.61±4.17E-09	-1.01±5.21E-09	5E-06
Sr-90	µCi/mL	1	1.02±0.82E-09	1.22±1.26E-09	1E-06
Cs-137	µCi/mL	1	2.39±6.28E-09	3.05±6.11E-09	3E-06
Chloride	mg/L	1	8	39	--
Conductivity	µmhos/cm@25°C	1	236	359	--
Iron, Total	mg/L	1	0.22	0.19	0.3
Manganese, Total	mg/L	1	0.12	0.07	--
Nitrate+Nitrite	mg/L	1	<0.05	<0.05	--
pH	SU	1	7.52	7.37	6.5–8.5
Sodium, Total	mg/L	1	5.2	20.6	--
Sulfate	mg/L	1	15.9	13.3	--

N - Number of samples
SU - Standard units
-- 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
2003 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	8.68±7.76E-10	4.26±8.00E-10	1.16±0.92E-09	-0.92±5.84E-10	1.5E-08[d]
Gross Beta	µCi/mL	1	2.24±1.26E-09	1.13±1.44E-09	1.92±1.47E-09	5.25±8.00E-10	1E-06[e]
Tritium	µCi/mL	1	0.03±8.23E-08	-4.57±8.15E-08	-4.75±5.64E-08	-8.11±5.65E-08	--
Sr-90	µCi/mL	1	2.41±2.89E-09	1.53±1.52E-09	1.23±1.24E-09	-0.36±1.33E-09	--
Cs-137	µCi/mL	1	1.61±7.55E-09	0.75±6.42E-09	0.10±1.10E-08	1.54±4.63E-09	--
Conductivity	µmhos/cm@25°C	1	432	469	425	273	--
pH	SU	1	7.81	7.20	8.12	8.08	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	0.95±1.80E-09	1.08±5.57E-10	8.53±6.75E-10	-0.92±5.84E-10	1.5E-08[d]
Gross Beta	µCi/mL	1	2.98±2.59E-09	2.84±1.03E-09	-3.71±8.43E-10	5.25±8.00E-10	1E-06[e]
Tritium	µCi/mL	1	3.65±5.85E-08	0.56±7.94E-08	2.19±8.20E-08	-8.11±5.65E-08	--
Sr-90	µCi/mL	1	0.10±1.37E-09	1.30±1.31E-09	2.27±2.92E-09	-0.36±1.33E-09	--
Cs-137	µCi/mL	1	3.02±7.58E-09	2.14±7.37E-09	-0.27±1.15E-08	1.54±4.63E-09	--
Conductivity	µmhos/cm@25°C	1	1,424	266	297	273	--
pH	SU	1	8.11	6.42	7.80	8.08	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	1.29±0.92E-09	2.03±1.30E-09	-0.43±1.33E-09	-0.92±5.84E-10	1.5E-08[d]
Gross Beta	µCi/mL	1	2.46±1.51E-09	2.07±1.52E-09	1.85±1.40E-09	5.25±8.00E-10	1E-06[e]
Tritium	µCi/mL	1	0.21±8.33E-08	3.88±8.05E-08	-5.63±7.99E-08	-8.11±5.65E-08	--
Sr-90	µCi/mL	1	2.61±1.43E-09	1.16±1.85E-09	0.09±1.51E-09	-0.36±1.33E-09	--
Cs-137	µCi/mL	1	1.97±7.36E-09	3.08±6.12E-09	6.42±6.60E-09	1.54±4.63E-09	--
Conductivity	µmhos/cm@25°C	1	381	560	589	273	--
pH	SU	1	7.92	8.05	7.55	8.08	6.5–8.5

N - Number of samples
SU - Standard units
-- 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, however, the WVDP results include these isotopes.*

Table C-5B
2003 Results in Main Plant Potable Water (WNDNKMP)

Analyte	Units	N	Annual Concentration			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	6	<3.33E-10	0.27±4.19E-10	<5.74E-10	1.5E-08
Gross Beta	µCi/mL	6	7.81E-10	1.59±0.74E-09	1.98E-09	5E-08
Tritium	µCi/mL	6	<8.16E-08	-1.94±8.46E-08	1.21E-07	2E-05
Conductivity	µmhos/cm@25°C	6	158	212	244	--
pH	SU	6	7.21	7.62	8.01	--

2003 Results in Environmental Laboratory Potable Water (WNDNKEL)

Analyte	Units	N	Annual Concentration			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	6	<3.38E-10	-0.06±4.23E-10	<5.54E-10	1.5E-08
Gross Beta	µCi/mL	6	9.98E-10	1.69±0.75E-09	2.88E-09	5E-08
Tritium	µCi/mL	6	<8.01E-08	3.45±8.33E-08	1.74E-07	2E-05
Conductivity	µmhos/cm@25°C	6	195	208	232	--
HAA5	mg/L	4	<0.013	<0.023	<0.038	0.06
pH	SU	6	6.79	7.21	8.00	--
TTHM	mg/L	4	<0.017	<0.029	<0.046	0.08

2003 Results in Maintenance Shop Potable Water (WNDNKMS)

Analyte	Units	N	Annual Concentration			Standard[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	6	<3.59E-10	0.64±4.03E-10	<4.77E-10	1.5E-08
Gross Beta	µCi/mL	6	1.04E-09	1.45±0.76E-09	1.80E-09	5E-08
Tritium	µCi/mL	6	<5.80E-08	1.29±8.00E-08	1.04E-07	2E-05
Conductivity	µmhos/cm@25°C	6	198	229	315	--
pH	SU	6	7.25	7.62	8.57	--

N - Number of samples
SU - Standard units
-- 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
2003 Results in Utility Room Potable Water (WNDNKUR)

Analyte	Units	N	WNDNKUR Concentrations			Standard or Guideline[a]
			Minimum	Average	Maximum	
Gross Alpha	µCi/mL	12	<3.33E-10	1.07±4.55E-10	<6.17E-10	1.5E-08
Gross Beta	µCi/mL	12	7.71E-10	1.64±0.75E-09	2.65E-09	5E-08
Tritium	µCi/mL	12	<4.32E-08	0.83±7.95E-08	1.18E-07	2E-05
Antimony, Total	mg/L	1	NA	NA	<0.001	0.006
Arsenic, Total	mg/L	1	NA	NA	<0.001	0.05
Barium, Total	mg/L	1	NA	NA	<0.20	2
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	<0.010	0.1
Conductivity	µmhos/cm@25°C	12	107	198	248	--
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	1,095	0.45	NA	2.20	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	7.35	7.82	8.56	--
POC[b]	mg/L	52	NA	NA	<0.0005	<0.0005
Selenium, Total	mg/L	1	NA	NA	<0.002	0.050
Thallium, Total	mg/L	1	NA	NA	<0.001	0.0005
Turbidity	NTU	2,190	0.08	NA	0.46	1.0[c]

N - Number of samples
NA - Not available, constituents sampled annually
NTU - Nephelometric turbidity units
SU - Standard units
-- 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] *Principal organic contaminant*
[c] *A treatment standard of 0.3 NTU applies to the 95th percentile on a monthly basis.*

Table C-5D
2003 Results in Utility Room Raw (Untreated) Water (WNURRAW)

Analyte	Units	N	WNURRAW Concentrations		
			Minimum	Average	Maximum
Iron, Total	mg/L	53	0.11	0.60	6.85
Solids, Total Dissolved	mg/L	21	82	106	162

N - Number of samples
-- No guideline applicable to this location

Table C-5E
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	12	Range: 0.04–1.16 mg/L	0.02 (min)–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
Tap Water Sample 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	3/11/03	1.01	10

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