US Army Corps of Engineers ®
Buffalo District

NIAGARA FALLS STORAGE SITE
Formerly Utilized Sites Remedial Action Program

2009
(December 17, 2008 to December 17, 2009)
ENVIRONMENTAL SURVEILLANCE TECHNICAL MEMORANDUM

November 2010

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ACRONYMS

AEC	Atomic Energy Commission
ALARA	as low as reasonably achievable
ANL	Argonne National Laboratory
ARAR	applicable or relevant and appropriate requirement
ASTM	American Society for Testing and Materials
CAP88-PC	Clean Air Act Assessment Package – 1988 (USEPA)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CY	Calendar Year
DCG	derived concentration guide
DOH	Department of Health
EML	Environmental Measurements Laboratory
ESP	environmental surveillance plan
FFA	federal facility agreement
ft	feet
FS	feasibility study
FSRD	Former Sites Restoration Division
FUSRAP	Formerly Utilized Sites Remedial Action Program
IG	instruction guide
IWCS	interim waste containment structure
km	kilometers
LWBZ	Lower Water Bearing Zone
MCL	maximum contaminant level
MDA	Minimal Detectable Activity
MED	Manhattan Engineer District
MEI	Maximally Exposed off-site Individual
m	meters
m^3	cubic meter
µg/g	micrograms per gram
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
mg/g	milligrams per gram
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants (USEPA)
NFSS	Niagara Falls Storage Site
NIST	National Institute for Standards and Technology
NPDES	National Pollutant Discharge Elimination System
NYSDEC	New York State Department of Environmental Conservation
OSL	optically stimulated luminescence
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyls
pCi/g	picocuries per gram
pCi/l	picocuries per liter
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RI	remedial investigation

ACRONYMS (continued)

ROD	Record of Decision
RPD	relative percent difference
SDWA	Safe Drinking Water Act
SMCLS	secondary maximum contaminant levels
TDS	total dissolved solids
TETLD	tissue-equivalent thermo luminescent dosimeter
TLD	thermo luminescent dosimeter
U	Lab Qualifier – non-detect
USACE	United States Army Corps of Engineers
USAEC	United States Atomic Energy Commission
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
USNRC	United States Nuclear Regulatory Commission
UWBZ	Upper Water Bearing Zone
VOC	Volatile Organic Compound
yd^3	cubic yard

EXECUTIVE SUMMARY

Purpose: The purpose of this Technical Memorandum is to document the scientific methods, criteria, data, and findings of the Environmental Surveillance Program (ESP) at the Niagara Falls Storage Site (NFSS). The ESP quantifies and evaluates radiological, chemical, and water quality data from the environment at the NFSS. This program is executed by the U.S. Army Corps of Engineers (USACE) Buffalo District in support of our mission to protect human health and the environment at the NFSS. This Technical Memorandum is published annually by the Buffalo District.

Key Findings: This Technical Memorandum documents the evaluation of environmental data collected at the NFSS throughout the calendar year 2009. The Corps evaluation of this data indicates that measured parameters were within U.S. Department of Energy (USDOE) guidelines and calculated exposure rates to the general public were well within regulatory limits. The 2009 data confirm that site controls are continuing to perform as designed and are fully protective of human health and the environment.

Site Description: The NFSS is located at 1397 Pletcher Road in the Town of Lewiston, NY, approximately 19 miles north of Buffalo, NY. The NFSS is a Federally owned property that is 191 acres in size. The NFSS was originally part of a World War II explosives plant called the Lake Ontario Ordnance Works (LOOW) which was approximately 7,500 acres in size. Between 1944 and 1954 the Manhattan Engineer District (MED) and the Atomic Energy Commission (AEC) brought radioactive wastes and residues to the LOOW Site. Through the 1970s the AEC gradually consolidated its operations and sold excess property to the public. In the 1980s the USDOE constructed a 10-acre Interim Waste Containment Structure (IWCS) on the NFSS to contain the radioactive wastes and residues.

Background: In 1974, the AEC, a predecessor to the USDOE, instituted the Formerly Utilized Sites Remedial Action Program (FUSRAP). This program is now managed by the USACE to identify, investigate, and clean up or control sites throughout the United States that were part of the Nation's early atomic weapons and energy programs or from commercial nuclear operations that Congress has authorized to be remediated under FUSRAP. In October 1997, Congress transferred the management of FUSRAP from the USDOE to the USACE. In addition to investigating and remediating site contaminants at the NFSS, the USACE has been given responsibility for maintaining the site and conducting the ESP.

The ESP at the NFSS was initiated by the USDOE in 1981 to monitor radioactive waste and residues stored on site in the IWCS. The program included the sampling of air, water, and sediments for radiological and chemical parameters with the purpose of ensuring that the NFSS did not pose a threat to human health and the environment. The USACE has continued to follow the USDOE program with some revisions over the years. Modification of the program in 2008 reflects the findings of completed Remedial Investigation (RI) Report for NFSS (December 2007).

Prior to transfer of the FUSRAP to the USACE in 1997, the USDOE prepared reports based on USDOE Orders and guidance. USDOE Orders are not applicable to the activities of the USACE as the USACE is not under the authority or direction of the USDOE. However, the surveillance data continues to follow a format similar to that of the previous USDOE reports to provide the reader with consistent presentation of

data and to facilitate historical comparison between reports.

In December 2007, the USACE Buffalo District completed a RI Report for NFSS that defined the nature and extent of contaminants on the NFSS and assessed their potential long-term risks. Based upon findings from this investigation and public input, the USACE further enhanced the ESP to monitor those protective engineered controls that are in place to ensure that it is functioning properly with regards to human health and the environment (Section 1.2 ESP Enhancements for 2008).

Additional information about the site and the ESP is available on the USACE Buffalo District website: http://www.lrb.usace.army.mil/fusrap/nfss/index.htm

Scope: The 2009 Environmental Surveillance Technical Memorandum presents the results of data obtained from samples collected during the 2009 monitoring program. To assess the data, the report compares the surveillance data with local background conditions and regulatory criteria. The structure of the report follows the format of previous USDOE reports to provide the reader with a consistent presentation of the data and to facilitate the interpretation of historical trends.

The Technical Memorandum provides a comparative analysis of local background conditions and regulatory criteria to results reported for external gamma radiation and for samples from the media investigated (including airborne radon gas, airborne particulates, surface waters, sediments, and groundwater). Data tables and figures referenced in the text are included at the end of the Technical Memorandum.

Evaluation of Data: The USDOE and U.S. Environmental Protection Agency (USEPA) guidelines are cited throughout this report to aid in the evaluation of environmental data. This memorandum compares data with USDOE guidelines because the USDOE has "property accountability" for the site. The guideline values do not represent cleanup criteria of a long-term remedy for the contaminants at the NFSS.

Results of the 2009 surveillance program at NFSS continue to show that measured parameters of the surveillance program did not exceed USDOE guidelines and, dose rates of potential off-site radiation exposure to the public did not exceed USDOE or USEPA limits.

Radiological parameters including uranium, thorium, and radon isotopes in air, surface water, and sediments were all within USDOE limits, and radon flux measurements from the IWCS were within USEPA standards. Groundwater concentrations of radiological parameters were also well below USDOE guidelines.

As in the past, findings for total uranium levels in groundwater on site continue to exceed the USEPA safe drinking water concentration limits per their Safe Drinking Water Act (SDWA) maximum contaminant levels (MCLs) at several groundwater monitoring well locations. These wells consist of two monitoring wells from the original surveillance program and five wells added to the program in 2008 based on elevated findings from the Remedial Investigation (NFSS Remedial Investigation Report, December 2007). Since the NFSS is not a source of drinking water, MCLs are presented for comparative purposes only. Analytical

results for sodium and sulfates, as observed in previous reports, were found to be consistently above New York State Department of Environmental Conservation (NYSDEC) groundwater standards in on-site wells and background samples indicating that water quality is not suitable for drinking.

Long-Term Remedy: In addition to executing the ESP at the NFSS, the USACE Buffalo District is executing an environmental investigation to determine the long-term remedy for the contaminants at the NFSS. This investigation is being conducted in accordance with the Federal cleanup process created by Congress and developed by the USEPA. This process was authorized under the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The nature and extent of contamination and an assessment of associated risks are documented in the RI Report for NFSS which was published in December 2007. The results of this investigation are being used to enhance the ESP to ensure the site is continually and fully protective of human health and the environment surrounding the NFSS.

-Addition of groundwater wells, surface water and sediment locations have been added for the 2008 ESP based on findings from the RI for NFSS to further evaluate areas affected by past storage and handling of materials at NFSS.

- Further revisions to the ESP are planned for 2010 to include monitoring of lower water bearing zone wells

- An Addendum to the RI Report for NFSS is being prepared in response to comments received on the report.

- A Feasibility Study is being performed for the IWCS to identify, define the scope, and evaluate a wide range of long-term remedies to address the FUSRAP-related material in the structure.

- The USACE will identify and document a preferred long-term remedy (the Proposed Plan) for the IWCS.

- Additional Feasibility Studies and Proposed Plans for the site soils and infrastructure, and groundwater will follow.

- After public comment on the Proposed Plans, the USACE will select a long-term remedy for the IWCS, site soils and infrastructure, and groundwater and document this decision in their respective Record of Decisions (RODS).

- Following completion of the RODS, the USACE will implement the long-term remedy through remedial design, construction, operations, and any required long-term monitoring.

1.0 INTRODUCTION

The Niagara Falls Storage Site (NFSS) is located in the Town of Lewiston in northwestern New York State, northeast of Niagara Falls and south of Lake Ontario (Figure 1, Appendix A). NFSS is approximately 191 acres (77 hectares) in size which includes: one former process building (Building 401) which is in the process of being deconstructed at the time of this report, one office building (Building 429), an equipment shed (Hitman Building), a new storage shed for maintenance equipment, and a 9.9 acre (4 hectares) interim waste containment structure (IWCS). The property is fenced, and public access is restricted.

Land use in the region is primarily rural residential; however, the site is bordered by a state and Federally regulated chemical waste disposal facility to the north, a solid waste disposal facility to the east and south, and a National Grid Power Corporation right-of-way to the west. A commercial greenhouse is operated just south of the site and a recreational campground is located southwest of the site. The nearest residential areas are approximately 3,281 feet (ft) (1-km) west, southwest of the site; the residences are primarily single-family dwellings.

Beginning in 1944, the NFSS was used as a storage facility for radioactive residues and wastes. The residues and wastes are the process by-products of uranium extraction from pitchblende (uranium ore). The residues originated at other sites and were transferred to the NFSS for storage in buildings, on-site pits, and surface piles.

Since 1971, activities at NFSS have been confined to residue and waste storage and remediation. On-site and off-site areas with residual radioactivity exceeding U.S. Department of Energy (USDOE) guidelines, were remediated by the USDOE, or one of its predecessors, between 1955 and 1992; materials generated during remedial actions (approximately 255,050 yd^3 or 195,000 m^3) are encapsulated in the IWCS, which is specifically designed to provide interim storage of the material.

Through the Environmental Surveillance Program (ESP), the U.S. Army Corps of Engineers (USACE) monitors the air, water, and sediment at the site to ensure the protection of human health and the environment. The purpose of this ESP Technical Memorandum is to present the details of the ESP and the analytical results for 2009.

The tables in Appendix A (Table A.1 and A.2, Page T-1) list the units of measurement and appropriate abbreviations used in this document. Conventional units for radioactivity are used because the regulatory guidelines are generally provided in these terms.

1.1 Measured Parameters

The key elements of the 2009 ESP at NFSS were:

- measurement of external gamma radiation and the calculation of external gamma dose to off-site receptors from radiation originating at the site (Appendix B);

- measurement of radon gas concentrations in air (combined contributions from radon-220 and radon-222);
- monitoring of radon-222 flux (rate of radon-222 emission from the IWCS);
- calculation of dose to off-site receptors from airborne emissions of site soils using annual weather data from Niagara Falls International Airport (Appendix C);
- sampling and analysis of surface water and streambed sediments for isotopic uranium (U-234, U-235, U-238) and total uranium (sum of these three isotopes), isotopic thorium (Th-228, Th- 230, Th-232) and total thorium (sum of these three isotopes), and isotopic radium (Ra-226, Ra-228) (referred to collectively as radioactive constituents), as well as metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pesticides, and volatile organic compounds (VOCs);
- sampling and analysis of groundwater for radioactive constituents, metals, VOCs (limited to two wells), and water quality parameters.

1.2 ESP Enhancements for 2008

Enhancements to the 2008 ESP based on Remedial Investigation (RI) findings are as follows:

- the addition of ten groundwater-monitoring well locations for radiological, and water quality parameters for the purpose of monitoring those wells impacted by past activities(Appendix A: Table 1b, pg T-8 and Figure 2a, pg. F-2a);

- the addition of five streambed surface water and sediment locations to monitor locations were surface water comes on to the site and exits the site (three of which are located in the West Drainage Ditch) for radiological, metal and chemical parameters(Appendix A: Table 1c , pg. T-9 and Figure 2b, pg. F-2b) this conducted for the purpose of monitoring of potential constituents of concern coming on and/or leaving the site ; and

- the addition of a fall round of groundwater, and streambed surface water and sediment sampling for effects of seasonal fluctuations of groundwater and surface water.

1.3 ESP Enhancements for 2009

Enhancements to the 2009 ESP include the addition of five radiological monitoring locations along the site perimeter fence: four on the eastern fence and one on the northern fence. A radiological monitoring location also was added to the southeast corner of the perimeter fence surrounding the IWCS .

2.0 REGULATORY GUIDELINES

The primary regulatory guidelines that affect activities at FUSRAP sites are found in Federal statutes and in Federal, State, and local regulations. Regulatory criteria that were used to evaluate the results of the 2009 ESP at NFSS are summarized below, categorized by media and parameters. In several cases USDOE guidelines continue to be identified in the technical memorandum for comparison purposes of historical data collected by USDOE or their contractors. The USACE is not under the authority of the USDOE orders or directives and can rely on other applicable Federal or State regulations in relation to surveillance of the IWCS. The values are for comparison only.

2.1 External Gamma Radiation and Air (Radon Gas and Airborne Particulate)

The regulatory guideline criteria used in evaluation of the calculated maximum doses from external gamma radiation and inhalation of radioactive particulate and the measured concentrations of radon gas include USDOE guidelines, United States Environmental Protection Agency (USEPA) standards, and USEPA guidance.

2.1.1 USDOE Order 5400.5 (January 1993)

Dose limits for members of the public from USDOE operations at USDOE-owned and USDOE-operated facilities are presented in USDOE Order 5400.5. The primary dose limit is expressed as an effective dose equivalent. The limit of 100-mrem total effective dose equivalent above background in a year from all sources (excluding radon) is specified in this Order; external gamma radiation dose and the calculated doses from airborne particulate releases are included in the calculation of the effective dose equivalent total. Also, this calculation includes contributions from other pathways, such as ingestion.

USDOE limits for radon concentrations in air from USDOE operations at USDOE-owned and USDOE-operated facilities are also presented in Order 5400.5. Based on the radioactive constituents in the wastes contained in the IWCS, it is unlikely that radon-220 would be emitted from the IWCS since the radon-220 half-life is approximately 55.6 seconds and this isotope would decay prior to permeating through the IWCS cap. It is, however, possible that radon-222 with a half-life of 3.8 days could be emitted. The USDOE limits for radon-222 concentrations in the atmosphere above facility surfaces or openings in addition to background levels are: 100 pCi/L at any given point; an annual average concentration of 30 pCi/L over the facility site; and an annual average concentration of 3.0 pCi/L at or above any location outside the facility site. To provide a conservative basis for comparison, on-site radon concentrations are evaluated against the off-site limit of 3.0 pCi/L.

2.1.2 USEPA Standards and USEPA Guidance

Radon

The USEPA also has a guidance action level of 4.0 pCi/L for radon concentrations for indoor air (homes and buildings), providing another conservative basis for comparison. Although these limits are specific to indoor air, they provide a conservative basis for comparison to the outdoor air results obtained during

environmental surveillance activities, see Appendix C for details. For further comparison, the average radon level in U.S. homes is about 1.25 pCi/L and the average outdoor value is 0.4 pCi/L (USEPA 1993).

Clean Air Act

Section 112 of the Clean Air Act authorized the USEPA to promulgate the National Emission Standards for Hazardous Air Pollutants (NESHAPs) which are given in 40 CFR 61. Compliance with Subpart H (for non-radon, radioactive constituents) is verified by applying the USEPA-approved CAP88-PC model. Compliance with Subpart Q is verified by annual monitoring of the IWCS for radon-222 flux (Appendix A, Table B, Page T-1).

2.2 Sediment, Surface Water, and Groundwater - Radioactive and Chemical Constituents

Federal regulatory criteria (Appendix A, Table C and D, Page T-2 -6) for evaluating the measured concentrations of radionuclides and chemicals in sediment, surface water, and groundwater at NFSS are provided in the following sections.

2.2.1 USDOE Order 5400.5 (January 1993)

USDOE Order 5400.5 provides guideline limits for radioactive contaminants in water and soil at USDOE-owned and USDOE-operated facilities. These limits are known as the USDOE derived concentration guide (DCG). The USDOE DCG for drinking water is used to compare against those radiological findings for surface water and groundwater. USDOE historically applied the residual soil cleanup guideline criteria specified in USDOE Order 5400.5 to sediments. However, those values are provided for comparative purposes only. Applicable or relevant and appropriate requirement ARARs and media-specific cleanup goals will be evaluated independently and presented in future CERCLA decision documents that will be available for public comment.

Section 5.5 presents the data for this 2009 Technical Memorandum and describes the basis for comparisons with USDOE Order 5400.5 limits in detail.

2.2.2 Safe Drinking Water Act (SDWA)

The Safe Drinking Water Act (SDWA) is the primary Federal law applicable to the operation of a public water system and the development of drinking water quality standards [*USEPA Drinking Water Regulations and Health Advisories* (*USEPA* 1996)]. The regulations in 40 CFR Part 141 (National Primary Drinking Water Regulations) set maximum permissible levels for organic, inorganic, radionuclides (including uranium and combined radium) and microbial contaminants in drinking water by specifying the maximum contaminant level (MCL) for each. In some cases, secondary maximum contaminant levels (SMCLs), which are not federally enforceable (40 CFR 143.1), are provided as guidelines for the states. SMCLs are provided for a conservative comparison of analytical results and to provide consistency with previous reports and facilitate trend analysis.

The established (promulgated) MCL for combined concentrations of radium-226 and radium-228 is 5 pCi/L. The USEPA National Primary Drinking Water Regulation for Radionuclides (Final Rule – effective 2003) states a MCL of 30 µg/L for total uranium. Thorium 228, 230 and 232 utilize an adjusted gross alpha MCL of 15 pCi/L excluding radon and uranium (National Primary Drinking Water Regulations; Radionuclide; Final Rule (Federal Register December 7, 2000). The appropriate standard for thorium isotopes is the gross alpha MCL of 15 pCi/L; this MCL includes the concentration of radium-226 but excludes radon and uranium isotopes. The adjusted gross alpha MCL for thorium is used for comparison as it is more conservative than the individual USDOE DCGs for thorium-228 (400 pCi/L), thorium-230 (300 pCi/L) and thorium-232 (50 pCi/L)

Although groundwater at NFSS is not used as a public drinking water supply due to its poor water quality and the availability of public water, MCLs for drinking water are used as a conservative basis for evaluation of analytical results, maintaining consistency with previous reports and facilitating trend analysis (Table C and D in Appendix A, TABLES section, pages T-2 - 6).

2.2.3 Groundwater – Water Quality

Shallow groundwater resources at NFSS demonstrate uniformly poor groundwater quality and availability in the general region. Regional studies and studies conducted near the site (La Sala 1968, Wehran 1977, and Acres American 1981) conclude that groundwater quality is poor near the site because of high mineralization (see Section 5.6.2.2 Water Quality Parameters). Additionally, local studies (Wehran, 1977 and Acres American, 1981) indicate that the permeabilities of the shallow groundwater systems are sufficiently low that it is not practicable to obtain groundwater from these systems for water supply. On-site permeability testing at NFSS confirms the low permeabilities.

The USDOE conducted a well survey in 1988 and inventoried eight wells within 4.8 km of the site, none of which were reported as being used for drinking water but mainly for irrigation (USDOE 1994b). In 2007, the Niagara County Department of Health (DOH) updated its well inventory to include 9 potable wells (two of which were a sole source for drinking water), 8 non-potable wells, 20 abandoned wells and 77 idle wells within the survey area. Based on the USDOE report and the recent Niagara County DOH inventory, groundwater is not the main source of drinking water; however the NYSDEC Class GA groundwater standards were conservatively used to compare analytical results. Groundwater at NFSS consistently exceeds sodium and sulfate Class GA standards. Both the shallow and deep groundwater units at the NFSS exhibit over 1000 mg/L Total Dissolved Solids (TDS) and the deep groundwater commonly over 100 mg/L Chloride, which indicates that the site groundwater can be classified as saline or Class GSA (NYCRR 701.16).

Although groundwater at NFSS is not a public drinking water supply, State and Federal standards (Appendix A, Table D, pg. T-3) are used as a basis for evaluation of chemical analytical results.

2.2.4 New York State Department of Environmental Conservation (NYSDEC) Water Quality Criteria for Groundwater

NYSDEC has adopted the Federal SDWA standards into its own regulations in Title 6 New York Codes of Rules and Regulations (NYCRR) Parts 700-705, "Water Quality Regulations for Surface and Groundwater" (NYSDEC 1996). In addition, NYSDEC has independently established standards for some constituents. To apply established standards, the State of New York categorizes groundwater resources by groundwater quality and use.

The Division of Water Technical and Operational Guidance Series (TOGS) specifically address source drinking water standards (NYSDEC –6 NYCRR Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (August 1999)). These standards have been used to establish additional Class GA (related, conservative case) state water quality standards for comparison of analytical results.

2.2.5 New York State Department of Environmental Conservation (NYSDEC) Sediment Chemical Criteria

New York State has published sediment screening guidance values which are designed to protect aquatic life from exposure to contamination that may exist in surface water bodies such as creeks, streams, and rivers. However, as noted in the Baseline Risk Assessment for the RI, surface water and moist sediments may only be present during part of the year for some areas, which limits the numbers and types of aquatic biota that survive in the ditches. Therefore, sediment sample results are compared to values developed for protection of human health for soil exposure, i.e., New York State regulatory criteria found in Title 6 of the Office Compilation of New York Codes, Rules and Regulations Part 375 (6 NYCRR 375) unrestricted and restricted use (industrial) soil clean up objectives (Appendix A, Table D, Page T-3). Unrestricted use values from 6 NYCRR 375 for certain metal and polycyclic aromatic hydrocarbons constituents are based on a survey of soil background concentrations. It should be noted that sediment background concentrations would differ from soil background in many instances.

3.0 SAMPLING LOCATIONS AND RATIONALE

Radioactive materials that exceed USDOE cleanup guidelines at NFSS are stored in the IWCS. Exposure of members of the public to this radioactively contaminated material at NFSS is unlikely because of site access restrictions (e.g., fences) and engineering controls (e.g., pile covers/clay cap). However, potential pathways to residual radioactivity that may exist outside the IWCS include direct exposure to external gamma radiation and inhalation of air containing radon or radioactively contaminated particulates from site soils; and contact with, or ingestion of, contaminated surface water, streambed sediments, or groundwater. The ESP at NFSS has been developed to provide surveillance of these exposure routes through periodic sampling and analysis for radioactive and chemical constituents. Figures 2a, 2b and 2c (Appendix A, pg. F-2a, 2b and 2c) presents sampling locations and media associated with the ESP at NFSS. Figure 1 (Appendix A, pg. F-1) shows those background locations for external gamma, radon gas and radon flux (radon-222) monitoring. A summary of the ESP at NFSS for external gamma radiation, radon gas, radon flux, surface water, sediment, and groundwater can be found in Appendix A, Tables 1a-c, pages T-7 thru T-9.

External gamma radiation monitoring and radon gas measurements occur at fence line locations surrounding the NFSS as well as interior portions of the site, including the perimeter of the IWCS, to assess potential exposures to the public and site workers. Measurement of radon-222 flux is conducted annually at discrete grid intersections on the IWCS. See Appendix A, Figure 2c, pg. F-2c for radiological monitoring (gamma and radon) locations at the site and radon-222 sample locations on the IWCS.

Groundwater monitoring wells have been selected to assess groundwater quality in areas representing background, potential source-areas (e.g., near the IWCS and past radiological material storage areas), and down gradient (on-site) areas in the upper water-bearing zone (Appendix A, Figure 2a, page F-2a). Groundwater monitoring includes analysis for radioactive constituents, water quality parameters, and metals. With one exception, the monitoring wells in the ESP are screened in the upper water-bearing zone (Appendix A, Figure 7, page F-7) and provide the earliest indication of an unlikely breach of the IWCS. The glacio-lacustrine clay aquitard that hydraulically separates the upper and lower water-bearing zones mitigates potential contaminant transport into the lower zone. The lower groundwater system had not been monitored in the past because historical analytical results and recent RI results indicate there are no groundwater contaminant plumes, or constituents in excess of MCLs, in the lower water-bearing zone. However, to ensure that RI findings represent baseline conditions in the lower water-bearing zone, well OW04A was included in the environmental surveillance program in 2008 as a down-gradient monitoring point for the IWCS.

Surface water and streambed sediment sampling of radioactive , metal, and chemical constituents is conducted along the drainage ditch system in upstream, on site, and downstream locations (Appendix A, Figure 2b, page F-2b) to assess the migration of constituents in these media should any occur.

4.0 SURVEILLANCE METHODOLOGY

Under the NFSS ESP, standard analytical methods approved and published by USEPA and the American Society for Testing and Materials (ASTM) are used for chemical (i.e., all non-radiological) analyses. The laboratories conducting the radiological analyses adhere to USEPA-approved methods and to procedures developed by the Environmental Measurements Laboratory (EML) and ASTM. A detailed listing of the specific procedures and the data quality objectives for the surveillance program are provided in the *Environmental Surveillance Plan* (USACE, June 2008).

All 2009 environmental surveillance activities at NFSS were conducted in accordance with the *Environmental Surveillance Plan* (USACE 2008) and surveillance methodology listed in Appendix A (Table E, page T-6).

5.0 ANALYTICAL DATA AND INTERPRETATION OF RESULTS

The analytical data for the 2009 ESP are presented in Tables 2 through 11 in Appendix A. Trend graphs that show analytical results for air, streambed sediment (spring collection data), surface water (spring collection data) and groundwater (spring collection data) between 1997 and 2009 are presented in Figures 9 through 26 in Appendix A.

As shown in the data tables, some of the analytical results for radioactive constituents may be expressed as negative numbers. Negative numbers can occur in the results when the average background activity of the laboratory counting instrument exceeds the measured sample activity. A negative result is generated when the instrument background activity is subtracted from the sample activity. For the purposes of interpretation, all values below the minimum detectable activity (MDA) are interpreted as having an unknown value between zero and the MDA. Therefore, a result below the MDA is referred to as non-detect in the text discussion.

Historical ranges in background concentrations for each radioactive analyte are determined from background sampling results from 1992 to 2009, unless otherwise noted. For gamma dose rates subtracting the calculated background from the sampling results for 2009 then gives an estimate of the above-background dose rate at each location; see Table 2 External Gamma Radiation Dose Rates (Appendix A, page T-7). When background is subtracted from the sampling result, it is possible that a negative number will be obtained much the same as a negative value may be obtained when the laboratory subtracts instrument background from a sample measurement.

Well B02W20S was selected to represent on-site background because it is upstream from site impacted groundwater. Additional background groundwater was sampled in 2003 from wells hydraulically up-gradient from operations at the adjacent property of Modern Landfill. Since these data, compiled for the RI, were comparable to historic groundwater concentrations from B02W20S, this well was verified to be representative of on-site background conditions.

Some of the historical data from NFSS used a method for analysis of total uranium, which yields results in micrograms per liter (µg/L), or parts per billion for water samples and micrograms per gram (µg/kg) or parts per billion for sediment samples. To allow direct comparison of results to the DCGs and soil guidelines, the data was converted to pCi/L and pCi/g, as appropriate. The specific activity for total uranium in drinking water sources has been estimated to be about 0.9 pCi/µg (USEPA 2000), which is the factor used in this report to convert groundwater data from µg/L to pCi/L. The specific activity for total uranium in soil sources is estimated to be 0.67 pCi/µg (USEPA 2000).

5.1 External Gamma Radiation

In 2009, external gamma radiation dose rates were measured continuously for the year using optically stimulated luminescence (OSL) dosimeters, which was discontinued, thermo luminescent dosimeters (TLDs) that had been used previously at the site. The OSL dosimeters are comparable to that of the previous TLDs used and has the advantage of allowing for multiple readouts and is used routinely to re-confirm reported radiation doses. The external gamma radiation dose results for 2009, including both raw

data and data corrected for background, are presented in Table 2 (Appendix A, Tables, External Gamma Radiation at NFSS).

The data are used to calculate the external gamma radiation dose rate at both the nearest residence and the nearest commercial/industrial facility to determine the hypothetical maximally exposed off-site individual (MEI). The dose rate is a function of the site fence line dose, the distance of the individual from the fence line, and the amount of time the individual spends at that location. Results of this calculation are expressed as a dose to the individual in mrem for the year.

Distances to off-site receptors are based on the findings of a year 2005 canvas of areas near the site. Based on external gamma radiation results, the hypothetical MEI is a resident located 500 ft (152.4 meters) from the western perimeter fence, southwest of the site that received a dose of 0.007 mrem for calendar 2009. The hypothetical dose to the nearest off-site worker located 1,020 ft (310.9 meters) east of the site is 0.00036 mrem for calendar year 2009. Appendix B, Calendar Year (CY) 2009 Calculation of External Gamma Radiation Dose Rates for NFSS, Section 4.1 contains all pertinent calculations. External gamma dose rates from the NFSS and IWCS perimeters from 1998 thru 2009 are presented in Figures 9 and 10 of Appendix A. Both doses are well below the USDOE guideline of 100 mrem/year (excluding radon) for all pathways.

5.2 Radon Gas

Radon monitoring at NFSS is performed at a height that is representative of the human breathing zone (5.6 ft or 1.7 meters above ground level). Radon concentration diminishes significantly as distance from the ground increases and mixing with ambient air takes place.

Based on the radioactive constituents in the wastes contained in the IWCS, it is unlikely that radon-220 would be emitted from the IWCS; however, it is possible that radon-222 would be emitted. Air surveillance is conducted to determine the concentration of radon gas at NFSS using Radtrak® detectors that are designed to measure alpha particle emissions from both isotopes of radon (radon-220 and radon-222) and to collect passive, integrated data throughout the period of exposure. Because radon-220 is not a contaminant of concern at NFSS (due to the relatively low concentrations of radium-228 and the short half-life of radon-220), all concentrations are conservatively assumed to be radon-222. Results of semiannual monitoring for 2009 are presented in Appendix A, Table 3, pg. T-11. The corresponding surveillance locations are shown in Appendix A, Figure 2c, pg. F-2c.

Consistent with results from previous years, all site radon-222 results from the 2009 ESP were well below the USDOE off-site limit of 3.0 pCi/L above background. Results presented are without background subtracted and ranged from non-detect (less than 0.2 pCi/L) to 0.3 pCi/L. The background locations results were all non-detect (less than 0.2 pCi/L). Site average of 0.204 pCi/L (non-detects included in average) is comparable to that of the background average of less than 0.2 pCi/L and to that of the average outdoor value of 0.4 pCi/L (USEPA 1993). Radon concentrations at the NFSS perimeter for the first and second halves of the year are presented in Figures 11 and 12, respectively. Radon concentrations at the IWCS perimeter for the first half and second half of the year are presented by Figures 13 and 14, respectively.

5.3 Radon-222 Flux

Measurement of radon-222 flux provides an indication of the rate of radon-222 emission from a surface. Radon-222 flux is measured with activated charcoal canisters placed on a grid spaced 49.2 ft (15-meters) on center across the surface of the IWCS for a 24-hour exposure period. Measurements for 2009 are presented in Table 4; measurement locations are shown in Figure 2c, Appendix A.

Measured results for 2009 ranged from non-detect to 0.10520 pCi/m^2/s, with an average (of detects and non-detects) result of 0.02645 pCi/m^2/s (Appendix A, Table 4). Background measured results were all non-detect findings at -0.02982, 0.01657 and 0.07535 pCi/m^2/s. As in previous years, these results are well below the 20.0 pCi/m^2/s standard specified in 40 CFR Part 61, Subpart Q, as well as comparable to background and demonstrate the effectiveness of the containment cell design and construction in mitigating radon-222 migration.

5.4 Airborne Particulate Dose

To determine the dose from airborne particulates potentially released from NFSS during 2009, airborne particulate release rates were calculated using NFSS RI soil data (collected between 1999 and 2004), and weather data for the year 2009 from the National Weather Service (Niagara Falls International Airport). Contributions from radon gas, which is not a particulate, are not considered in this calculation. The total airborne particulate release rate is input into the USEPA's CAP88-PC (Version 3.0) computer model to perform two calculations:

1. The first calculation estimates resultant doses from airborne particulates to hypothetical individuals at the distances to the nearest residences and to the nearest commercial/industrial facilities as measured from a central location on site. Hypothetical doses are then corrected for commercial/industrial facility occupancy at an assumed rate of 40 hours/week for 50 weeks/year. Residential occupancy is assumed to be full-time (i.e., 24 hours/day and 365 days/year [366 days for a leap year]). The hypothetical individual receiving the higher of these calculated doses is then identified as the hypothetical MEI for airborne particulate dose.

2. The second calculation estimates the hypothetical airborne particulate collective dose to the population within 50 miles (80 km) of the site using a population file (2000 census data for New York State and 2001 census data for the Province of Ontario) to determine the number of people in circular grid sections radiating to 50 miles (80 km) from the center of site.

The first calculation (Appendix C) indicates that the 2009 airborne particulate dose to the hypothetical MEI, a home resident, 2,999 ft (914 meters) south-southwest of the site, was 0.00027 mrem. These values are well below the 10 mrem per year standard, individual dose, specified in 40 CFR, Part 61, Subpart H, and the USDOE Order 5400.5. The second calculation indicates that the hypothetical airborne particulate collective dose to the population within 50 miles (80 km) of the site was 0.0079 person-rem. This compares to a yearly background dose to the same population of 5,425,000 person-rem, (see Figure 8, Appendix A, and note that the US per capita dose from background radiation has been increased to 620 mrem/person mainly due to increased use of nuclear medical imaging). Details of the calculations,

including methodology are presented in Appendix C (FUSRAP CY 2009 NESHAP ANNUAL REPORT FOR NIAGARA FALLS STORAGE SITE).

5.5 Surface Water and Sediment

As indicated in Section 1.2, ESP enhancements for surface water and sediment sampling in 2008 included the addition of a fall sampling event, which increased the sampling frequency from annual to semi-annual (spring and fall). In addition to semi-annual sampling, five new locations (SWSD023, SWSD024, WDD1, WDD2, and WDD3) were added, bringing the total number of surface water and sediment sampling locations to 10.

Samples are currently collected from the following locations:

- SWSD009, SWSD021, SWSD023 and SWSD024 along the upstream fence line
- SWSD010, SWSD011, and SWSD022 along the central drainage ditch
- WDD1, WDD2 and WDD3 along the west drainage ditch (outside of the site perimeter fence)

Sampling locations are presented in Figure 2b, Appendix A, pg. F-2b.

Surface water and sediment sampling locations SWSD009 and SWSD021 were selected as background locations because they are located at the site boundary where surface water flows on to NFSS from offsite: SWSD009 it is situated at the upstream boundary of the South 31 drainage ditch, which eventually joins the central drainage ditch; and, SWSD021 is located upstream, along the NFSS fence line, where the central drainage ditch first enters the property.

Surface water and sediment samples were analyzed for radioactive constituents (radium-226, radium-228, thorium-228 (added in 2008) thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238), metals, VOCs, PAHs, PCBs, and pesticides. The 2009 spring and fall environmental surveillance analytical results for surface water and sediment samples are presented in Appendix A, Tables 6 thru 9.

Analytical results for surface water in 2009 are compared with the USDOE DCGs, Federal Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs) (drinking water regulations), and New York State (NYS) Water Quality Criteria, as well as the 2009 analytical results from background sample locations SWSD009 and SWSD021.

Because there are no limits established for radionuclides in sediments, USDOE historically used the surface soil criterion of 5 pCi/g as a basis of comparison to radium-226, radium-228, thorium-230 and thorium-232 analytical results, and the derived site-specific criterion of 90 pCi/g for total uranium in surface soil. Analytical results for organics (VOCs, PAHs and pesticides) and inorganics (metals) in sediment are compared to New York State soil cleanup objectives specified in 6 NYCRR PART 375, Tables 375-6.8 a and b for unrestricted use and restricted (industrial) use. The 2009 analytical results from background sample locations SWSD009 and SWSD021 are also used for comparison purposes.

5.5.1 Surface Water

5.5.1.1 Surface Water Radiological Findings

The 2009 surface water radiological analytical results are presented in Appendix A on Tables 6 and 7. In general, the radiological analytical results were:

- consistently less than the USDOE DCGs
- indistinguishable from historical spring sampling background (upstream) concentrations
- less than the SDWA MCLs
- slightly lower or comparable to past results (spring sampling findings) with the exception of 2004 results for sampling location SWSD010 which were elevated due to the turbidity of the sample

- The 2009 analytical results for radium-226 concentrations in surface water are consistent with historical spring sampling results and are indistinguishable from on-site background. Radium-226 results from upstream (on-site background) locations were:

Ra-226 Background Findings (pCi/L) in 2009

Location	Spring	Fall
SWSD009	0.966	Non-detect (U)
SWSD021	0.928	Non-detect (U)
SWSD021	0.928	Non-detect (U)

The findings compare favorably with the historical spring sampling (1997 to present) background. The 2009 spring and fall results of analysis for radium-226 in samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023 and SWSD024 were:

2009 Spring Ranges: non-detect to 1.560 pCi/L
2009 Fall Ranges: non-detect to 0.881 pCi/L

The radium-226 USDOE DCG is 100 pCi/L. Total radium (Ra-226 and Ra-228) concentrations in surface water are below the SDWA limit (5 pCi/L) and the USDOE DCG (100 pCi/L), as shown in Figure 15 from 1997 to 2009 (spring collection data trended).

- The 2009 on-site analytical results for radium-228 concentrations in surface water are consistent with historical spring sampling results and are indistinguishable from on-site background. Radium-228 results from on-site background locations SWSD009 and SWSD021 were:

Ra-228 Background Findings (pCi/L) in 2009

Location	Spring	Fall
SWSD009	Non-detect (U)	Non-detect (U)
SWSD021	Non-detect (U)	1.127

The findings compare favorably with historical spring sampling (1997 to present) findings for on-site background that range of non-detect to 1.02 pCi/L. The 2009 results for radium-228 in samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023 and SWSD024 were:

2009 Spring Ranges: non-detect to 1.070 pCi/L
2009 Fall Ranges: non-detect to 1.235 pCi/L

The radium-228 USDOE DCG is 100 pCi/L. Total radium (Ra-226 and Ra-228) concentrations in surface water are below the SDWA limit (5 pCi/L) and the USDOE DCG (100 pCi/L), as shown in Figure 15 from 1997 to 2009 (spring collection data trended).

- Thorium-228 (added in 2009) results from on-site background locations SWSD009 and SWSD021 for spring and fall sampling events were both non-detect, as were samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023 and SWSD024. Thorium-228 concentrations in surface water are below the adjusted gross alpha MCL SDWA limit of 15 pCi/L. The thorium-228 USDOE DCG is 400 pCi/L.

- Thorium-230 results from on-site background locations SWSD009 and SWSD021 for spring and fall sampling events compared favorably with historical spring sampling (1997 to present) findings for on-site background that range from non-detect to 1.20 pCi/L from both background locations. Spring historical values for surface water SWSD009 are non-detect to 0.60 pCi/L which is considered to be more representative of on-site background. Thorium-230 results from on-site background locations SWSD009 and SWSD021 were:

Thorium-230Background Findings (pCi/L) in 2009

Location	Spring	Fall
SWSD009	Non-detect (U)	0.343
SWSD021	0.271	0.599

The 2009 results for thorium-230 in on-site samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were:

2009 Spring Ranges: non-detect to 1.183 pCi/L
2009 Fall Ranges: non-detect to 0.150 pCi/L

As shown in Figure 16, thorium-230 concentrations in surface water from 1997 to 2009 (spring collection data trended) are below the adjusted gross alpha MCL SDWA limit of 15 pCi/L and the USDOE DCG of 300 pCi/L.

- Thorium-232 results from on-site background locations SWSD009 and SWSD021 were non-detect for spring and fall sampling events comparing favorably with the historical spring sampling (1997 to present) findings for on-site background that range from non-detect to 0.613 pCi/L. The 2009 results

for thorium-232 on-site samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were all non-detect for spring and fall sampling events.

As shown in Figure 17, thorium-232 concentrations in surface water from 1997 to 2009 (spring collection data trended) are below the adjusted gross alpha MCL SDWA limit (15 pCi/L) and the USDOE DCG (50 pCi/L).

- Total uranium on-site analytical results for 2009 in surface water are consistent with the historical spring sampling results and are indistinguishable from on-site background. Total uranium from on-site background locations SWSD009 and SWSD021 were:

Total Uranium Background Findings (pCi/L) in 2009

Location	Spring	Fall
SWSD009	3.406	3.089
SWSD021	13.272	5.440

The 2009 on-site analytical results for total uranium in surface water, ranged from:

2009 Spring Ranges: 1.598 to 13.662 pCi/L
2009 Fall Ranges: 0.857 to 8.414 pCi/L

Findings compare favorably against the on-site background results. The historical spring sampling (1997 to present) findings for on-site background concentration for total uranium range from 1.8 to 25.56 pCi/L from both background locations or 1.8 to 8.67 pCi/L from surface water location SWSD009, which is considered to be more representative of background. As shown in Figure 18, concentrations of total uranium (spring sampling findings) in surface water demonstrate a trend that is below the SDWA limit of 30 µg/L (27pCi/L), with the exception of SWSD010 in April 2004. That single anomaly was attributed to greater turbidity in that surface water sample.

5.5.1.2 Surface Water Chemical Findings

Surface water samples collected for organic and inorganic analysis are compared to Federal SDWA MCLs and NYS Water Quality Criteria. However, it should be noted that these standards apply to drinking water and site surface water is not a source of drinking water.

- The analytical results for metals from background samples SWSD009 and SWSD021 were in exceedance of one or both of the following: the Federal SDWA MCLs and/or NYS Water Quality Criteria for aluminum, antimony, chromium, iron, manganese, and sodium. Similar findings for site samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were in exceedance of the criteria for aluminum, antimony, iron, manganese and sodium for both the spring and fall sampling events.

- Background samples (SWSD009 and SWSD021) and samples collected at locations WDD 1, 2 and 3 and

SWSD 010, 011, 022, 023 and 024 were within SDWA and State MCLs for VOCs.

- Since PAHs have only one established MCL, the analytical results are evaluated by utilizing individual values and as a total value. Spring and fall background sample (SWSD009 and SWSD021) polycyclic aromatic hydrocarbon compound findings were either non-detect or below 0.5 µg/L individually or below 0.7 µg/L total PAHs. Samples collected (spring and fall) at locations WDD 1, 2 and 3, and SWSD 010, 011, 022, 023 and 024 were all non-detect.

- The analytical results for PCBs from background samples SWSD009 and SWSD021 were non-detect for the spring and fall. Samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 also were non-detect for the spring and fall.

- The analytical results for pesticides from background samples SWSD009 and SWSD021were non-detect for spring and fall. Samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 also were non-detect for the spring and fall.

5.5.2 Sediment

5.5.2.1 Sediment Radiological Findings

Concentrations of radium-226, radium-228, thorium-228 (added in 2008), thorium-230, thorium-232, and total uranium in shallow sediment were less than the USDOE surface soil guidelines and were generally indistinguishable from on-site background conditions. At all on-site sampled locations, results were less than the USDOE guideline for mixtures of radionuclides (using the sum-of-the-ratios method). Figure 2b (Appendix A, pg. F-2b) shows those locations sampled for sediment. Measured results are presented (Appendix A, Tables 8 and 9), and discussed below:

- The 2009 analytical results for radium-226 in sediment are consistent with historical spring sampling analytical results. Radium-226 results from on-site background locations were:

Ra-226 Background Findings (pCi/g) in 2009

Location	Spring	Fall
SWSD009	0.914	0.374
SWSD021	0.429	0.721

Findings compare favorably with the historical spring sampling (from 1997 to present) for on-site background that range from non-detect to 2.0 pCi/g. The 2009 analytical results for radium-226 in samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were:

2009 Spring Ranges: 0.284 to 1.222 pCi/g
2009 Fall Ranges: 0.368 to 0.970 pCi/g

The combined radium-226 and radium-228 USDOE DCG is 5 pCi/g above background for surface soil. Historically, the concentration of radium-226 has ranged from non-detect to 3.40 pCi/g. The combined radium-226 and radium-228 background in surface soil from the NFSS RI Report (December, 2007) is 2.18 pCi/g. Therefore, the USDOE limit for residual radioactivity in surface soil is interpreted as 7.18 pCi/g. As shown in Figure 19, the historical spring sampling concentrations of total radium (radium-226 and radium-228) in sediment from 1997 to 2009 also were below this criterion.

- The 2009 analytical results for radium-228 in sediment are consistent with historical spring sampling analytical results. Radium-228 results from on-site background locations were:

Ra-228 Background Findings (pCi/g) in 2009

Location	Spring	Fall
SWSD009	0.960	1.393
SWSD021	2.129	1.005

Historical spring sampling (from 1997 to present) findings for the on-site background concentration of radium-228 has ranged from non-detect to 2.5 pCi/g from both on-site background locations. The 2009 results for radium-228 in samples collected at locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were:

2009 Spring Ranges: non-detect to 1.640 pCi/g
2009 Fall Ranges: non-detect to 1.404 pCi/g

Combined radium-226 and radium-228 concentrations in sediment were less than the USDOE guideline limit for residual radioactivity in surface soil criterion of 5 pCi/g above background (or 7.18 pCi/g as discussed above). As shown in Figure 19, the historical spring sampling concentrations of total radium (radium-226 and radium-228) in sediment from 1997 to 2009 also were below this criterion.

- The 2009 thorium-228 (added in 2009 to the ESP) results from on-site background locations were:

Th-228 Background Findings (pCi/g) in 2009

Location	Spring	Fall
SWSD009	1.096	1.277
SWSD021	1.671	1.447

The 2009 results for thorium-228 in samples collected at on-site locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were:

2009 Spring Ranges: 1.043 to 2.249 pCi/g
2009 Fall Ranges: 0.878 to 1.621 pCi/g

All thorium-228 concentrations in sediment were less than the USDOE surface soil criterion of 5 pCi/g

above on-site background.

- The 2009 analytical results for thorium-230 in sediment are consistent with historical spring sampling analytical results. Thorium-230 results from on-site background locations were:

Th-230 Background Findings (pCi/g) in 2009

Location	Spring	Fall
SWSD009	1.218	1.000
SWSD021	1.602	1.136

The 2009 results for thorium-230 in samples collected at on-site locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were:

2009 Spring Ranges: 0.800 to 1.689 pCi/g
2009 Fall Ranges: 0.827 to 1.599 pCi/g

Historical spring sampling (from 1997 to present) findings for the on-site background concentration of thorium-230 has ranged from 0.10 to 3.34 pCi/g. All thorium-230 concentrations in sediment were less than the USDOE surface soil criterion of 5 pCi/g above on-site background. as shown in Figure 20, The historic concentrations of thorium-230 in sediment from 1997 to 2009 ALSO were below this criterion.

- The 2009 analytical results for thorium-232 in sediment are consistent with historical spring sampling analytical results. Thorium-232 results from on-site background locations:

Th-232 Background Findings (pCi/g) in 2009

Location	Spring	Fall
SWSD009	1.209	1.017
SWSD021	1.803	1.156

The 2009 results for thorium-232 in samples collected at on-site locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were:

2009 Spring Ranges: 0.822 to 1.813 pCi/g
2009 Fall Ranges: 0.961 to 1.665 pCi/g

Historical spring sampling (from 1997 to present) findings for the on-site background concentration of thorium-232 has ranged from non-detect to 1.78 pCi/g. All thorium-232 concentrations in sediment were less than the USDOE surface soil cleanup criterion of 5 pCi/g above on-site background. As shown in Figure 21, historic spring sampling concentrations of thorium-232 in sediment from 1997 to 2009 also were below this criterion.

- The 2009 analytical results for total uranium (sum of isotopes) in sediment are consistent with

historical spring sampling analytical results. Total uranium results from on-site background locations were:

Total –U Background Findings (pCi/g) in 2009

Location	Spring	Fall
SWSD009	2.084	2.705
SWSD021	2.492	2.720

The 2009 results for total uranium in samples collected at on-site locations WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were:

2009 Spring Ranges: 2.277 to 5.930 pCi/g
2009 Fall Ranges: 1.896 to 6.483 pCi/g

Historical spring sampling (from 1997 to present) findings for on-site background concentration of total uranium has ranged from 1.8 to 10.10 pCi/g from both on-site background locations or 1.8 to 5.97 pCi/g from sediment location SWSD009, which is considered to be more representative of background. All uranium concentrations in sediment were less that the USDOE derived surface soil cleanup criterion of 90 pCi/g above on-site background. As shown in Figure 22, the historic (spring sampling) concentrations of total uranium (uranium-234, uranium-235 and uranium-238) in sediment from 1997 to 2009 also were below this criterion.

5.5.2.2 Sediment Chemical Findings

Sediment samples collected for organic and inorganic analysis, these analytical parameters were added in 2008 to the ESP, are compared against those of New York State unrestricted and restricted (industrial) use of soil cleanup objectives (6 NYCRR Part 375, Subpart 375-6, Tables 6.8 [a and b]). Spring and fall 2009 sediment findings are posted in Appendix-A in Tables 8 and 9.

- Metals in background samples (SWSD009 and SWSD021) exceeded the NYS unrestricted use of soil cleanup objectives, based on rural soil, for copper, nickel and zinc. Similar findings were observed for those site samples collected at WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 that exceeded the NYS unrestricted use soil cleanup objectives, based on rural soil, for copper, lead, manganese, nickel and zinc at several locations for the spring and fall sampling. The following sampling locations equaled and/or exceeded the NYS unrestricted use soil cleanup objectives for mercury for the spring and/or fall sampling event : SWSD010, SWSD011, SWSD023, and SWSD024 with concentrations ranging from 0.18-0.26 mg/kg. All sampling findings for mercury were below the NY State- Restricted Use –Industrial criteria.

- VOCs in background samples (SWSD009 and SWSD021) were non-detect with the exception of acetone, 2-butanone, methylene chloride and toluene. It should be noted that these compounds are common laboratory contaminants used as solvents in the laboratory and may be considered false positives. Several acetone (fall sampling event) findings were rejected based on potential laboratory

contamination. All site collected VOC samples located at WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 were below the NYS unrestricted use soil cleanup objective, with the exception of several findings for methylene chloride which are below the NY State-Restricted Use –Industrial criteria.

- The spring and fall analytical results for PAH from background samples SWSD009 and SWSD021were either non-detect and/or below the NYS unrestricted use soil cleanup objective. As were those site samples located at WDD1, WDD2, WDD3, SWSD010, SWSD011, SWSD022, SWSD023, and SWSD024 with exception of benzo(a)pyrene (spring) and indeno(1,2,3-cd)pyrene (fall) at location SWSD023.

- No PCBs were detected in any of the sediment samples.

- No pesticides were detected in any of the sediments samples

5.6 Groundwater

The locations of environmental surveillance groundwater monitoring wells at NFSS are shown in Figure 2a. On-site background information, descriptions of activities performed under the groundwater surveillance program, and surveillance results are discussed below.

5.6.1 Groundwater Flow System

5.6.1.1 Natural System

Four unconsolidated geologic units and one bedrock unit are identified in the subsurface at the site. These units are consolidated into the following three principle hydrostratigraphic zones (listed top to bottom): the Upper Water Bearing Zone (surface fill and an Upper Brown Clay Till Unit that contains sand lenses), an aquitard or confining unit (Glacio-Lacustrine Clay and Middle Silt Till Units), and the Lower Water Bearing Zone (Alluvial Sand and Gravel, Basal Red Till, and Upper Queenston Formation). *See Figure-7: Schematic of Conceptualized Hydrostratigraphy in Appendix A, page F-7.* Groundwater at the NFSS primarily flows in two deposits: the upper water-bearing zone in the surficial brown clay till unit and the lower water-bearing zone in the combined sand and gravel unit, red till unit, and weathered portion of the Queenston Shale bedrock. As stated in Section 3.0, the glacio-lacustrine clay aquitard that hydraulically separates the upper and lower water-bearing zones also minimizes transport between the two zones. Regional groundwater flow in both the upper and lower groundwater systems is to the northwest towards Lake Ontario, although flow in the upper zone is interrupted by surface-water drainage ditches of significant depth and vegetative growth.

Surface drainage from the site originally entered Four Mile, Six Mile, and Twelve Mile Creeks, which all flow northward to Lake Ontario. However during the 1940s, drainage modifications routed surface water to a series of ditches that eventually coalesce into the central drainage ditch north of the site. These ditches have variable depths that seasonally influence groundwater flow in the upper water-bearing zone on the site. The current discharge from the central drainage ditch is routed to Four Mile Creek.

5.6.1.2 Water Level Measurements

Groundwater levels were measured in ninety-one (91) NFSS wells with an electronic depth-to-water meter. Potentiometric data were recorded from forty-nine (49) wells in the upper ground water system and forty-two (42) wells in the lower groundwater system (including 6 bedrock wells).

Figures 3 through 6 in Appendix-A show the piezometric surfaces and groundwater flow directions in the upper and lower units during seasonally high and low groundwater conditions. Groundwater contours initially are hand drawn to account for site features (e.g., the IWCS and drainage ditches) and then digitized using ArcGIS® to present the groundwater flow directions and gradients in report-quality graphics.

The screened intervals for wells completed in the upper groundwater zone range from 4.7 to 27.6 ft (1.4 to 8.4 meters) below ground surface, while screened intervals for wells completed in the lower groundwater zone range from 22.4 to 104.5 ft (6.8 to 31.9 meters) below ground surface. The ninety-one groundwater monitoring wells are located throughout the NFSS and provide significant areal coverage for groundwater flow characterization. The monitored (sampled) subset of eighteen (18) wells provide adequate data to assess the IWCS performance and monitor specific areas of concern identified by the RI (Appendix A, Figure 2b).

In the upper water-bearing zone, the depth to water ranged from 0.10 to 19.94 ft (0.03 to 6.08 meters) below ground surface during 2009. The quarterly water level fluctuations in the upper water-bearing zone averaged 1.20 ft (0.37 meters) and showed high and low elevations during the February and October measurements, respectively. In the lower groundwater system, the depth to water ranged from 2.28 to 9.44 ft (0.70 to 2.89 meters) below ground surface during 2009. Quarterly water-level fluctuations in the lower groundwater system averaged 0.17 m (0.57 ft) and showed high and low elevations during the May and February measurements respectively.

Groundwater elevations measured quarterly during 2009 in the upper water-bearing zone show a high condition occurred on February 17, 2009, and a low condition on October 20, 2009. The high-water elevations in the upper system ranged from 305.18 to 319 ft (93.04 to 97.26 meters) above mean sea level, whereas the low-water condition ranged from 297.33 to 318.14 ft (90.95 to 97 meters). Groundwater elevations in the lower water-bearing zone indicate a seasonal high occurred on May 19, 2009, and a seasonal low occurred on February 17, 2009. The high-water elevation in the lower system ranged from 311.02 to 316.83 ft (94.82 to 96.59 meters) above mean sea level, whereas the low-water condition ranged from 308.65 to 316.02 ft (94.10 to 96.35 meters). See Figures 3 through 6 in Appendix A for a graphical representation of these data, interpreted groundwater flow directions, and conditions evident from local clay mining west of the NFSS.

Water level fluctuations in both the upper and lower water-bearing zones were less in 2009 than 2008 due to abundant summer rains that lessened summer-season soil-moisture stresses on the upper zone groundwater. Precipitation data recorded at the Niagara Falls International Airport indicate that from May 2009 through October 2009 precipitation was 21.24 inches or 3.13 inches greater than the norm for this period. Similar trends are likely for the NFSS, as evident in the water level data. Even though 2009 was a

wetter summer than 2008, several wells appeared dry or reflected local dryness during the sounding (water depth measurement) periods: 314 (February) and 422 (February/October). Wells 314 and 422 indicate that they were screened too high (within the vadose zone) and are routinely dry. Water-level data indicate that the upper water-bearing zone responds more rapidly to the recharge and discharge seasons (wet and dry periods) than the lower confined groundwater system due to the intervening Glacio-Lacustrine Clay and Middle Silt Till Units (as a regional aquitard). The two water-bearing zones demonstrate hydraulic separation through independent water-level responses, as exemplified by the temporally different seasonal high and low conditions. The high-stress (dry) summer conditions lower water levels in the upper water-bearing zone (i.e., October was the low-water period in the upper water-bearing), although the lower water-bearing zone lags by several months due to the separation (i.e., February was the low-water period for the lower water-bearing zone). The three-month time lag between water level extremes in 2008 was nearly six months in 2009, which indicates the aquitard restricts vertical flow between the units, even where thin (e.g., a 2.5-foot thickness at wells OW10A and OW10B still produces up to 5.59 ft (1.7 meters) of water level differential).

Vertical gradients derived from water levels in monitoring well pairs vary with seasonality. Flow from the upper zone to the lower zone was dominant during the first and second quarterly measurements. However, during the third and fourth quarters, the majority of elevations in the lower system were greater than those measured in the upper system, albeit very slight in some cases. This seasonal variation in the direction and magnitude of vertical gradients will affect vertical flow between water-bearing zones and potentially long-term transport of contaminants between water-bearing zones, thereby maintaining the upper zone as the primary transport pathway at the NFSS. While groundwater flow is primarily horizontal in these upper and lower zones, the upward vertical gradients help impede the potential for downward migration of contaminants into the lower zone from possible contaminant sources in the upper zone.

5.6.1.3 Groundwater Flow

Water-bearing hydrostratigraphic zones in the layered glacial sediments underlying the NFSS include the upper surficial clay till unit, the lower alluvial sand and gravel, and the weathered bedrock unit (i.e., approximated as the upper 10 ft or 3 meters of bedrock). Groundwater-level data indicate that the intervening glaciolacustrine clay unit hydraulically separates the upper clay till unit from the lower sand and gravel unit; this glaciolacustrine clay is present across the entire site. The average horizontal gradients in the upper system range between 0.0026 and 0.01 ft/ft and are dependent on seasonality and regional to local flow conditions (i.e., flow across the site versus along the IWCS to the central drainage ditch).

Local groundwater flow in the upper water-bearing zone is interrupted by the central drainage ditch throughout the year, whereas smaller tributary ditches appear to have a lesser influence on site-wide groundwater flow. The northwesterly regional flow gradient across the site is presented to illustrate the potential for long-term (and larger scale) flow and transport directions from the site.

Localized on-site flow towards the central drainage ditch east of the IWCS is consistently apparent due to the unique flow boundary conditions in this area (i.e., IWCS cut-off wall, low recharge due to a sloped [well drained] land surface, and proximate ditch). Other site ditches show various degrees of influence on groundwater levels, which are accounted for on the potentiometric map, where data allow. The drainage

ditches at the NFSS have accumulated sediment and organic matter since their original installation (up to 10-ft or 3 meters deep); consequently they do not fully penetrate the upper water-bearing zone and some groundwater is assumed to pass beneath the ditches during high-water periods. Water-level contours may be drawn through the ditches to reflect some groundwater flow beneath them (where data allow). During the summer, vegetation within the ditches will evapotranspire groundwater and promote lower local water levels near site ditches.

The lower groundwater system generally shows a northerly to northwesterly flow under gradients of 0.0022 to 0.003 ft/ft. This flow vector has been affected by the excavation of a clay borrow operation west of the site (mining the Glaciolacustrine Clay), where local surface-water recharges the lower water-bearing zone in the spring, which has caused the normally northwestern gradients to have a northerly component during the high-water period (May 2009). The local groundwater level underlying the IWCS is likely a combined artifact of impressed water levels to the west, variations in the thickness of the gray clay aquitard and underlying hydrostratigraphic layers, and topography of the Queenston Shale. The October potentiometry in Figure 5 shows an alleviation of the impressed water levels to the west and a return to normal flow westerly directions, which may be due to lower rainfall and evaporative losses at the nearby clay pit.

A groundwater flow velocity of 15 in/y (38 cm/y) was estimated at NFSS in 1994 (USDOE 1994b). More recent RI modeling estimated an average flow velocity of 11 in/yr (28 cm/y) in off-site areas; this value is based upon the regional gradients and variable hydraulic conductivities presented in USACE (2008). Such velocities will vary based on local conditions (i.e., the spatial scale of hydraulic conductivity and gradient estimations used). These velocity values do not represent contaminant migration rates since contaminant-soil partitioning retards (or slows) the rate of contaminant flow (transport) with respect to groundwater flow. This partitioning causes contaminants to adsorb, or bind, to local fine-grained soils in the upper water-bearing zone and aquitard sediments.

5.6.2 Groundwater Analytical Results

5.6.2.1 Field Parameters

Table 5, Appendix A summarizes field measurements (temperature, pH, specific conductance, oxidation-reduction potential, and turbidity) for 2009 environmental surveillance sampling, including those wells added to the ESP for 2008. These measurements represent water conditions at the time of sampling.

5.6.2.2 Water Quality Parameters

At NFSS, water quality in the upper water-bearing zone is indicative of low recharge to a hydraulically slow flow system, which produces poor-quality (near-saline) groundwater containing high total dissolved solids and calcium/magnesium sulfates. Water quality in the lower water-bearing zone is poor due to high total dissolved solids. It is likely that the lower groundwater system receives recharge along the base of the Niagara Escarpment, situated approximately 2 miles (3.2 km) south of the site (USDOE 1994b) and, to a lesser extent, via downward flow from the upper unit during spring recharge. Water quality parameter data for 2009 spring and fall groundwater are provided in Tables 10 and 11, Appendix A.

Analytical spring and fall results for sodium and sulfate were consistently above the drinking water standards in both the up-gradient (background) and down-gradient samples. These values indicate that groundwater in the area is naturally saline and confirm the findings of regional to local studies that state groundwater quality is poor near the site because of high mineralization (La Sala 1968; Wehran 1977; Acres American 1981). Groundwater at NFSS is not used as a public water supply, although the comparison to the drinking water standard will continue to be used to provide a conservative evaluation of groundwater analytical results.

For comparative purposes, the NYSDEC Class GA water quality standards are utilized when primary Federal standards are not available.

Samples collected at the original surveillance seven wells (A45, A50, BO2W20S, OW04B, OW06B, OW13B, OW15B and OW17B) had detects for sodium in all seven, including the background well, with all concentrations consistently greater than the NYSDEC Class GA groundwater quality standard of 20,000 µ/L for sodium.

Sodium concentration ranges in GW for 2009

Spring	47,000 - 92,000 µg/L
Fall	47,000 - 83,000 µg/L

- Samples collected at the eighteen surveillance wells had detects for sulfate in all with concentrations greater than the NYSDEC Class GA groundwater quality standard for sulfate of 250 mg/L with exception of surveillance well 313 (fall).

Sulfate concentration ranges in GW for 2009

Spring	270 – 2,200 mg/L
Fall	17 – 5,500 mg/L

- Samples collected at all eighteen surveillance wells had several detects for fluoride with all being below the NYSDEC Class GA groundwater quality standard of 1.5 mg/L for fluoride with the exception of GW wells 415A (spring) at 1.6 mg/L and 201A (fall) at 3.2 mg/L.

Fluoride concentration ranges in GW for 2009

Spring	Non-detect (0.03) – 1.60 mg/L
Fall	Non-detect (0.17) – 3.20 mg/L

5.6.2.3 Groundwater - Radioactive Constituents

In 2009, as mentioned in Section 1.2, ESP Enhancements for 2008, the fall sampling event was added in 2008 making sampling semi-annual (spring and fall) for groundwater. In 2009, unfiltered groundwater samples collected for the spring and fall sampling events from 17 groundwater monitoring wells (16 upper water-bearing zone and one lower water-bearing zone) were analyzed for uranium-234, uranium-235, and uranium-238. Uranium was chosen as it is the most mobile in groundwater of those known radiological

contaminants on site. Several of those selected wells from the NFSS RI had exceedances of SWDA for total uranium 30 µg/L. Eight wells in the upper water-bearing zone, from the previous surveillance program (1997-2009), were analyzed for radium-226, radium-228, thorium-230, thorium-228 and thorium-232. See Table 1b (Appendix A, page T-8) radiological parameters for those ESP groundwater wells, including those wells added to the ESP added in 2008. Environmental surveillance analytical results for radioactive constituents in groundwater are presented in Appendix A, Table 10 and 11. See Figures 23 through 26 for trended data collected during spring sampling from the years 1997 to 2009.

Combined concentrations of radium-226 and radium-228 at NFSS are below the SDWA MCL of 5 pCi/L. Thorium-230 and thorium-232 concentrations are below USDOE DCGs (100 pCi/L and 50 pCi/L, respectively) and the SDWA MCL of 15 pCi/L, adjusted gross alpha MCL, for combined thorium-230 and thorium-232 in drinking water. The 2009 total uranium analytical results are consistent with the historical spring sampling results.

Spring findings for total uranium concentrations below the SDWA MCL 30 µg/L or 27 pCi/L were exhibited in wells BO2W20S, A50, OW13B, OW06B, OW15B, 505, OW17B, BH49A, OW04A, OW18B, and 415A. The following wells for the spring exceeded the SDWA MCL of 30 µg/L or 27 pCi/L: A45, OW04B, 313, 302A, A42, OW11B.

Fall findings for total uranium concentrations below the SDWA MCL 30 µg/L or 27 pCi/L were exhibited in wells BO2W20S, A45, A50, OW13B, OW06B, OW15B, 505, OW17B, BH49A, OW04A, OW18B, and 415A. The following wells for the fall exceeded the SDWA MCL of 30 µg/L or 27 pCi/L: OW04B, 313, 505, 302A, A42, OW11B.

The 2009 groundwater analytical results for radioactive contaminants are consistent with historical (for spring sampling) Technical Memorandum results and indicate that groundwater is contaminated from legacy residue/waste handling and/or surface-storage practices. Declining to dynamic steady-state (i.e., annually fluctuating about a mean) uranium trends in wells surrounding the IWCS also are indicative of attenuating legacy sources (i.e., surface stored wastes) that impacted soil and groundwater prior to the IWCS construction. Since 1992, total uranium concentrations in all sampled wells have been less than (background not subtracted) the USDOE DCG of 600 pCi/L for water.

All analytical results for radium-226, radium-228, thorium-230, thorium-232, and total uranium in groundwater were well below the USDOE DCGs. At all sampled locations, results were less than the USDOE guideline for mixtures of radionuclides (using the sum-of-the-ratios method). Current analytical results (background not subtracted) are summarized below.

Note: Groundwater at NFSS is not a drinking water source. Samples from all 17 wells have unfiltered results for comparison purposes.

- The 2009 total (unfiltered) analytical results for radium-226 were:

Ra-226 Findings (pCi/L) in 2009

Location	Spring	Fall
BO2W20S (Background)	Non-detect (U)	0.765
Range of 7 wells sampled	Non-detect (U) - 0.663	Non-detect (U) - 1.468

The USDOE DCG for radium-226 is 100 pCi/L above background and the SDWA MCL for combined radium-226 and radium-228 is 5 pCi/L. Total radium (Ra-226 and Ra-228) concentrations in groundwater are below the SDWA limit of 5 pCi/L and the USDOE DCG of 100 pCi/L, as shown in Figure 23 from 1997 to 2009 (spring sampling results).

- The 2009 total (unfiltered) analytical results for radium-228 were:

Ra-228 Findings (pCi/L) in 2009

Location	Spring	Fall
BO2W20S (Background)	1.502	Non-detect (U)
Range of 7 wells sampled	Non-detect (U) – 0.909	Non-detect (U) – 1.166

The USDOE DCG for radium-228 is 100 pCi/L above background and the SDWA MCL for combined radium-226 and radium-228 is 5 pCi/L. Total radium (Ra-226 and Ra-228) concentrations in groundwater are below the SDWA limit (5 pCi/L) and the USDOE DCG (100 pCi/L), as shown in Figure 23 from 1997 to 2009 (spring sampling results).

- The 2009 total (unfiltered) analytical results for thorium-228 were:

Th-228 Findings (pCi/L) in 2009

Location	Spring	Fall
BO2W20S (Background)	Non-detect (U)	Non-detect (U)
Range of 7 wells sampled	All Non-detect (U)	All Non-detect (U)

The USDOE DCG for thorium-228 is 400 pCi/L above background and the SDWA MCL for thorium-228, thorium-230 and thorium-232 is 15 pCi/L. Thorium-228 concentrations in groundwater are below the SDWA limit of 15 pCi/L and the USDOE DCG of 400 pCi/L

- The 2009 total (unfiltered) analytical results for thorium-230 were:

Th-230 Background Findings (pCi/L) in 2009

Location	Spring	Fall
BO2W20S (Background)	Non-detect (U)	Non-detect (U)
Range of 7 wells sampled	Non-detect (U) - 0.777	Non-detect (U)– 0.128

The USDOE DCG for thorium-230 is 300 pCi/L above background and the SDWA MCL thorium-228,

thorium-230 and thorium-232 is 15 pCi/L, adjusted gross alpha MCL (2009 background levels was non-detect). Thorium-230 concentrations in groundwater are below the SDWA limit of 15 pCi/L and the USDOE DCG of 300 pCi/L, as shown in Figure 24 from 1997 to 2009 (spring sampling results).

- The 2009 total (unfiltered) analytical results for thorium-232 were:

Th-232 Findings (pCi/L) *in* 2009

Location	Spring	Fall
BO2W20S (Background)	Non-detect (U)	Non-detect (U)
Range of 7 wells sampled	Non-detect - 0.206	All Non-detect

The USDOE DCG for thorium-232 is 50 pCi/L above background and the SDWA MCL for thorium-230 and thorium-232 is 15 pCi/L, adjusted gross alpha MCL. Thorium-232 concentrations in groundwater are below the SDWA limit of 15 pCi/L and the USDOE DCG of 50 pCi/L, as shown in Figure 25 from 1997 to 2009 (spring sampling results).

- The 2009 total (unfiltered) analytical results for total uranium were:

Total Uranium Findings (pCi/L) in 2009

Location	Spring	Fall
BO2W20S (Background)	9.746	9.831
Range of 15 wells sampled in upper water-bearing zone	5.700 – 274.000	5.610 – 247.421
Lower water-bearing zone sample (OW04A)	1.298	1.514

The USDOE DCG for total uranium is 600 pCi/L above background. The USEPA National Primary Drinking Water Regulation for Radionuclides (Final Rule – effective 2003) states the SDWA MCL for total uranium is 30 µg/L or 27 pCi/L. As shown below, seven wells exceed this limit for unfiltered groundwater samples.

Total Uranium SWDA Exceedances of 30 µg/L or 27 pCi/L in 2009

Location	Spring		Fall	
	pCi/L	µg/L	pCi/L	µg/L
A45	30.956	34.396	21.543	23.937
OW04B	47.741	53.046	34.731	38.590
313*	42.803	47.559	46.470	51.633
505*	27.206	30.229	31.915	35.461
302A*	122.413	136.017	102.495	113.883
A42*	74.617	82.908	84.455	93.839
OW11B*	274.000	304.444	247.421	268.444

**Added to the ESP in 2008.*

As discussed previously, the above wells are in areas that have been affected by past storage and

handling of materials at NFSS. Total uranium concentrations in groundwater are below the USDOE DCG of 600 pCi/L, as shown in Figure 26. *Note: The total uranium MCL of 30 µg/L is for comparative purposes only and includes background.*

5.6.2.4 Groundwater - Chemical Constituents

Groundwater at NFSS is not used as a public drinking water supply, although sampling results are compared to the SDWA MCLs and NYS Water Quality Regulation Class GA standards as a conservative baseline. Table 1b (Appendix A, page T-8) presents ESP groundwater wells and the respective analytical parameters for 2009. The 2009 environmental surveillance analytical results for metals and VOCs in groundwater are presented in Tables 10 and 11, Appendix A, and discussed below.

5.6.2.4.1 Metals

Metals that exceed the above mentioned comparison criteria, with the exception of sodium that was covered in Section 5.6.2.2 of this report, are discussed below. For sampling year 2009 only those wells from the original surveillance program were sampled for metals this was expanded in 2010 to all wells in the NFSS ESP, as it is utilized as a indicator for contamination in groundwaters.

- Samples collected from several of the original seven surveillance wells A45, A50, BO2W20S, OW04B, OW06B, OW13B, OW15B, and OW17B exhibited exceedances as follows:

  spring: A45, OW04B and OW06B
  fall: A45, OW13B and OW15B

Those exceedances were greater than the SDWA (secondary) MCL and NYSDEC Class GA groundwater quality standard of 300 µg/L for iron in wells: 45, OW04B, OW13B and OW15B. Those exceedances greater than the SDWA MCL (50 µg/L) for manganese were in wells: A45, OW04B and OW06B, and those that exceeded the NYSDEC Class GA groundwater quality standard of 300 µg/L were in well A45.

5.6.2.4.2 VOCs

The 2009 environmental surveillance analytical results for VOCs in groundwater were taken for the purpose of monitoring two wells that had detections in the RI. The two wells, added to the ESP in 2008, are in areas that have been affected by past processing and handling of materials at NFSS. Analytical results for VOCs are presented in Tables 10 and 11, Appendix A, and discussed below.

- Well 201A findings had two detects for VOCs for the spring and three detects for fall sampling rounds.

Well 201A VOC exceedances (µg/L) in 2009

VOC Compound	Spring	Fall	Federal Regulations MCLs	NY State Water Quality Stds.
Tetrachloroethylene	20	38	5	5

- Well 415 had exceedances of SDWA MCLs and New York State Water Quality Regulation Class GA standards for the spring and fall sampling rounds.

Well 415 VOC exceedances (µg/L) in 2009

VOC Compound	Spring	Fall	Federal Regulations MCLs	NY State Water Quality Stds.
cis-1,2-Dichloroethylene	7,000	7,700	70	5
Benzene	2	Non-detect (U)	5	1
Methylene chloride	Non-detect (U)	670	5	5
Tetrachloroethylene	120,000	79,000	5	5
trans-1,2-Dichloroethylene	110	139	100	5
Trichloroethylene	18,000	11,000	5	5
Vinyl chloride	280	460	2	2

6.0 CONCLUSIONS

6.1 External Gamma Radiation

For 2009 the calculated hypothetical doses from external gamma radiation are 0.007 mrem for the nearest resident and 0.00036 mrem for the nearest off-site worker.

6.2 Radon Gas

Results of the 2009 radon gas surveillance program indicate radon gas emissions are comparable to background. The radon gas concentrations at the site were consistently low (non-detect to 0.3 pCi/L, including background [Appendix A, Table 3]). All radon gas concentration analytical results at NFSS were well below the USDOE limit for radon-222 of 3.0 pCi/L above background (Appendix A, Table 3).

6.3 Radon-222 Flux

The 2009 radon-222 flux measurements were indistinguishable from background. Results ranged from non-detect to 0.10520 pCi/m^2/s, with an average (of detects and non-detects) result of 0.02645 pCi/m^2/s (Appendix A, Table 4). The average value is less than one percent of the standard of 20 pCi/m^2/s specified in 40 CFR Part 61, Subpart Q of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), demonstrating the effectiveness of the containment cell design and construction in mitigating radon-222 migration.

6.4 Airborne Particulate Dose

The 2009 airborne particulate annual dose from the wind erosion of soil to a hypothetical maximally exposed individual is calculated at 0.00027 mrem (Appendix C, FUSRAP CY2009 NESHAP Annual Report for Niagara Falls Storage Site (NFSS), section 4.3). The hypothetical annual dose to the individual can be compared to the 10 mrem/year dose standard in 40 CFR Part 61, Subpart H of NESHAPs. The 2009 hypothetical airborne particulate annual collective dose to the population within an 50 miles (80 km) radius of the site is calculated at 0.0079 person-rem (Appendix C, FUSRAP CY2009 NESHAP Annual Report for Niagara Falls Storage Site (NFSS), section 5.1).

6.5 Cumulative Dose from External Gamma Radiation and Airborne Particulates

The 2009 maximum annual total external gamma radiation and airborne particulate dose to a hypothetical individual is 0.00727 mrem [0.007 + 0.00027 (assumes same individual receives both maximum doses from external and airborne dose pathways)], Appendix B, CY2009 Calculation Of External Gamma Radiation Dose Rates For Niagara Falls Storage Site (NFSS), Section 4.2 and Appendix C, FUSRAP CY2009 NESHAP ANNUAL REPORT FOR NIAGARA FALLS STORAGE SITE (NFSS), Section 4.3, respectively. This value can be compared to the USDOE limit of 100 mrem/year and the US average per capita background dose of approximately 620 mrem/year.

6.6 Surface Water

In 2009, on-site radionuclide concentrations in surface water samples were consistent with radiological historical results that indicate no evidence of a release.

6.7 Sediment

In 2009, on-site radionuclide concentrations in sediment samples were consistent with historical radiological results that are comparable to background and indicate no evidence of a release. Metals (copper, lead, mercury, nickel and zinc) had exceedances of the NYS unrestricted use of soil cleanup objective at several locations, but not that of the NYS restricted use soil cleanup objectives (industrial). All VOC samples were below the NYS unrestricted use of soil cleanup objective, with the exception of several findings for methylene chloride which are below the NY State- Restricted Use –Industrial criteria. One sample location had an exceedance of the NYS unrestricted use of soil cleanup objective for the PAHs benzo(a)pyrene (spring sampling event) and indeno(1,2,3-cd)pyrene (fall sampling event). That benzo(a)pyrene finding also exceeded the NYS restricted use soil cleanup objectives (industrial).

6.8 Groundwater

Current and past on-site radionuclide concentrations in groundwater samples from the upper water-bearing zone indicate total uranium levels in excess of background; total uranium levels in several wells exceed the SDWA MCL. Wells with the most elevated uranium levels, as identified during the RI, were selected for inclusion into the environmental surveillance program, beginning in 2008, in addition to those historically sampled as part of the program. Historic and NFSS RI findings indicate that the most likely source of these elevated uranium levels is past radioactive waste storage practices. Wells that are used to demonstrate IWCS integrity do not indicate a continuously increasing trend (see Figure 26), and are generally coincident with historical use areas. Uranium levels in groundwater will continue to be monitored as part of the environmental surveillance program and the on-going CERCLA process will evaluate the extent of uranium in groundwater in excess of background levels and applicable regulatory limits throughout NFSS.

7.0 REFERENCES

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APPENDIX A

NFSS 2009 ENVIRONMENTAL SUREVELLANCE TECHNICAL MEMORANDUM TABLES AND FIGURES

Environmental Monitoring at NFSS

This appendix documents the results of environmental monitoring activities conducted in 2009 and supplements the environmental surveillance information included in the body of this technical memorandum. These activities are described to present a more complete picture of the site activities during the year and to provide technical reviewers with sufficient information to determine how much these activities influenced site conditions and ultimately the environmental surveillance program.

Two distinct activities compose the FUSRAP monitoring program at NFSS: environmental monitoring and environmental surveillance. Environmental monitoring consists of measuring the quantities and concentrations of pollutants in solid wastes, liquid effluents, and air that are discharged directly to the environment from on-site activities. Environmental surveillance documents the effects, if any, of USACE activities on on-site and off-site environmental and natural resources. At FUSRAP sites, because there are typically no on-site waste treatment facilities with routine point discharges, the monitoring program consists primarily of environmental surveillance (USACE 2008). The Environmental Surveillance Technical Memorandum specifically reports the results of routine environmental surveillance sampling and, at applicable sites, includes information about routine environmental monitoring (storm water discharges and radon flux measurement).

From 1999 to 2010, surface water, sediment, soil, groundwater, and other media was sampled to support a three-phased Remedial Investigation (RI) and Addendum at NFSS.

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US Army Corps of Engineers ®
Buffalo District

FUSRAP NIAGARA FALLS STORAGE SITE

2009

TABLES

ENVIRONMENTAL SURVEILLANCE TECHNICAL MEMORANDUM

Table A.1

(Section 1.2 Unit Conversions)

Units of Measurement and Conversion Factors – Dose and Radioactivity

Parameter	Conventional	SI Units	Conversion Factor
Dose	millirem (mrem)	milliSievert (mSv)	1 mrem = 0.01 mSv
Activity	picoCurie (pCi)	becquerel (Bq)	1 pCi = 0.037 Bq

Table A.2

Units of Measurement and Conversion Factors - Mass, Length, Area, and Volume			
Parameter	**SI Units**	**English Units**	**Conversion Factor**
Mass	gram (g)	Ounce (oz)	1 g = 0.035 oz
	Kilogram (kg)	Pound (lb)	1 kg = 2.2046 lb
Length	centimeter (cm)	Inch (in.)	1 cm = 0.394 in.
	meter (m)	foot (ft)	1 m = 3.281 ft
	kilometer (km)	mile (mi.)	1 km = 0.621 mi.
Area	hectare (ha)	Acre	1 ha = 2.47 acres
Volume	Milliliter (mL)	Fluid ounce (fl. oz.)	1 mL = 0.0338 fl. oz.
	liter (L)	gallon (gal)	1 L = 0.264 gal
	cubic meter (m^3)	Cubic yard (yd^3)	1 m^3 = 1.307 yd^3

Table B

(Section: 2.1 External Gamma Radiations and Air (Radon Gas and Airborne Particulates))

Summary of Radiological Standards and Guidelines for External Gamma Radiation and Air

Parameter	**USDOE Order 5400.5** [a]	**Other Federal Standard or Guidelines**
Radon-222 flux	20 pCi/m^2/s	20 pCi/m^2/s [b]
Radon-222	3.0 pCi/L [e]	-
Radionuclide emissions (airborne particulates and radioactive gases excluding radon-220 and radon-222)	10 mrem/y	10 mrem/y [b]
Effective dose equivalent (total contribution from all sources[c])	100 mrem/y	100 mrem/y [d]

a. *Guidelines provided in the USDOE Order are above background concentrations or exposure rates.*

b. *Federal (USEPA) Standard from 40 CFR, Part 61, subparts H (radionuclide emissions) and Q (radon-222 flux).*

c. *Contributing sources at NFSS consist of external gamma radiation exposure, radionuclide emissions listed above, and ingested radionuclides in water and soil/sediment (listed in the following table).*

d. Federal (USNRC) Standard 10 CFR 20

e. The guideline of 3.0 pCi/L is based on an annual average value at or above any location outside of the facility site.

Table C
(Section: 2.2.2 Safe Drinking Water Act (SDWA))
Summary of Radiological Standards and Guidelines for Water and Sediment

Parameter	USDOE DCG [a] for Water [b]	Other Federal Standards	USDOE Guideline Limit for Residual Radioactivity in Surface Soil [c,d]
Total uranium	600 pCi/L	30 µg/L [e]	90 pCi/g
Thorium-228	400 pCi/L	15 pCi/L [f]	5 pCi/g
Thorium-232	50 pCi/L	15 pCi/L [f]	5 pCi/g
Thorium-230	300 pCi/L	15 pCi/L [f]	5 pCi/g
Combined Radium-226&228	100 pCi/L	5 pCi/L [e]	5 pCi/g

a. USDOE derived concentration guide USDOE Order 5400.5) for drinking water. Groundwater at NFSS is not a drinking water source. The above concentration is for comparative purposes only.

b. Surface water and groundwater (non-drinking water values); criteria represent concentrations above background. If a mixture of radionuclides is present, the sum of the ratios of each isotope to its respective DCG must be less than one.

c. *Above -background concentrations in* soil, *averaged over the topmost 15-cm of soil.*

d. There are no standards for sediment; therefore, the USDOE residual (radium and thorium) and site-specific (uranium) surface soil cleanup guideline criteria are used as a basis for evaluating analytical results for sediment. If a mixture of the radionuclides is present in soil, then the sum of the ratios of the concentration of each isotope to the allowable limit must be less than one. This guideline applies for total uranium in natural isotopic abundance.

e. This regulation for *uranium of 30 µg/L became effective December 8, 2003 –National Primary Drinking Water Regulations; Radionuclides; Final Rule (Federal Register- December 7, 2000. Current SDWA MCL for the combined concentration of radium-226 and radium -228 in drinking water is 5pCi/L (40CFR141.1) Groundwater at NFSS is not a drinking water source. The above concentration is for comparative purposes only.*

f. "Adjusted" gross alpha MCL of 15 pCi/L, including Thorium isotopes, excluding radon and uranium –National Primary Drinking Water Regulations; Radionuclide; Final Rule (Federal Register- December 7,2000)

Table D

State and Federal Comparison Values for Groundwater, Surface Water and Sediment

		Water[a]			Sediment[b]		
Parameter[c]	**Analyte**	**Units[d]**	**Federal Regualitons MCLs***	**NY State Water Quality Stds.***	**Units[d]**	**NY State-Unrestricted Use****	**NY State-Restricted Use - Industrial****
Water Quality	Alkalinity, Total as CaCO3	MG/L	500[1]	500		NA	NA
Water Quality	Total Dissolved Solids	MG/L	NE	NE		NA	NA
						NA	NA
Anion	Chloride	MG/L	250[1]	250		NA	NA
Anion	Fluoride	MG/L	4.00	1.50		NA	NA
Anion	Nitrate	MG/L	10.00	10.00		NA	NA
Anion	Nitrite	MG/L	1.00	1.00		NA	NA
Anion	Ortho-phosphate	MG/L	NE	NE		NA	NA
Anion	Sulfate	MG/L	250[1]	250.00		NA	NA
Metal	Aluminum	UG/L	50-200[1]	NE	MG/KG	NE	NE
Metal	Antimony	UG/L	6.00	3.00	MG/KG	NE	NE
Metal	Arsenic	UG/L	10.00	25.00	MG/KG	13	16
Metal	Barium	UG/L	2000.00	1000.00	MG/KG	350	10000
Metal	Beryllium	UG/L	4.00	11.00	MG/KG	7	2700
Metal	Boron	UG/L	NE	1000.00	MG/KG	NE	NE
Metal	Cadmium	UG/L	5.00	5.00	MG/KG	3	60
Metal	Calcium	UG/L	NE	NE	MG/KG	NE	NE
Metal	Chromium	UG/L	100.00	50.00	MG/KG	NE	NE
Metal	Cobalt	UG/L	NE	NE	MG/KG	NE	NE
Metal	Copper	UG/L	1300.00	200.00	MG/KG	50	10000
Metal	Iron	UG/L	300[1]	300.00	MG/KG	NE	NE
Metal	Lead	UG/L	15.00	25.00	MG/KG	63	3900
Metal	Lithium	UG/L	NE	NE	MG/KG	NE	NE
Metal	Magnesium	UG/L	NE	NE	MG/KG	NE	NE
Metal	Manganese	UG/L	50[1]	300.00	MG/KG	1600	10000
Metal	Mercury	UG/L	2.00	0.70	UG/KG	180[4]	5700[4]
Metal	Nickel	UG/L	NE	100.00	MG/KG	30	10000
Metal	Potassium	UG/L	NE	NE	MG/KG	NE	NE
Metal	Selenium	UG/L	50.00	10.00	MG/KG	4	6800
Metal	Silver	UG/L	100[1]	50.00	MG/KG	2	6800
Metal	Sodium	UG/L	NE	20000.00	MG/KG	NE	NE
Metal	Thallium	UG/L	2.00	NE	MG/KG	NE	NE
Metal	Vanadium	UG/L	NE	14.00	MG/KG	NE	NE
Metal	Zinc	UG/L	5000[1]	NE	MG/KG	109	10000

Table D

State and Federal Comparison Values for Groundwater, Surface Water and Sediment

		Water[a]			Sediment[b]		
Parameter[c]	**Analyte**	**Units[d]**	**Federal Regualitons MCLs***	**NY State Water Quality Stds.***	**Units[d]**	**NY State-Unrestricted Use****	**NY State-Restricted Use - Industrial****
VOC	1,1,1-Trichloroethane	UG/L	200.00	5.00	UG/KG	680	1000000
VOC	1,1,2,2-Tetrachloroethane	UG/L	NE	5.00	UG/KG	NE	NE
VOC	1,1,2-Trichloroethane	UG/L	5.00	1.00	UG/KG	NE	NE
VOC	1,1-Dichloroethane	UG/L	NE	5.00	UG/KG	270	480000
VOC	1,1-Dichloroethylene	UG/L	7.00	5.00	UG/KG	330	1000000
VOC	1,2-Dichloroethane	UG/L	5.00	0.60	UG/KG	20	60000
VOC	1,2-Dichloropropane	UG/L	5.00	1.00	UG/KG	NE	NE
VOC	2-Butanone	UG/L	NE	NE	UG/KG	120	1000000
VOC	2-Hexanone	UG/L	NE	NE	UG/KG	NE	NE
VOC	4-Methyl-2-pentanone	UG/L	NE	NE	UG/KG	NE	NE
VOC	Acetone	UG/L	NE	NE	UG/KG	50	1000000
VOC	Benzene	UG/L	5.00	1.00	UG/KG	60	89000
VOC	Bromodichloromethane	UG/L	NE	NE	UG/KG	NE	NE
VOC	Bromoform	UG/L	NE	NE	UG/KG	NE	NE
VOC	Bromomethane	UG/L	NE	5.00	UG/KG	NE	NE
VOC	Carbon disulfide	UG/L	NE	60.00	UG/KG	NE	NE
VOC	Carbon tetrachloride	UG/L	5.00	5.00	UG/KG	760	44000
VOC	Chlorobenzene	UG/L	100.00	5.00	UG/KG	1100	1000000
VOC	Chloroethane	UG/L	NE	5.00	UG/KG	NE	NE
VOC	Chloroform	UG/L	NE	7.00	UG/KG	370	700000
VOC	Chloromethane	UG/L	NE	5.00	UG/KG	NE	NE
VOC	cis-1,2-Dichloroethylene	UG/L	70.00	5.00	UG/KG	250	1000000
VOC	cis-1,3-Dichloropropylene	UG/L	NE	0.4[2]	UG/KG	NE	NE
VOC	Ethylbenzene	UG/L	700.00	5.00	UG/KG	1000	780000
VOC	Methylene chloride	UG/L	5.00	5.00	UG/KG	50	1000000
VOC	Styrene	UG/L	100.00	5.00	UG/KG	NE	NE
VOC	Tetrachloroethylene	UG/L	5.00	5.00	UG/KG	1300	300000
VOC	Toluene	UG/L	1000.00	5.00	UG/KG	700	1000000
VOC	trans-1,2-Dichloroethylene	UG/L	100.00	5.00	UG/KG	190	1000000
VOC	trans-1,3-Dichloropropylene	UG/L	NE	0.4[2]	UG/KG	NE	NE
VOC	Trichloroethylene	UG/L	5.00	5.00	UG/KG	470	400000
VOC	Vinyl chloride	UG/L	2.00	2.00	UG/KG	20	27000
VOC	Xylenes (total)	UG/L	1000.00	5[3]	UG/KG	260	1000000

Table D

State and Federal Comparison Values for Groundwater, Surface Water and Sediment

		Water[a]			Sediment[b]		
Parameter[c]	**Analyte**	**Units[d]**	**Federal Regualitons MCLs***	**NY State Water Quality Stds.***	**Units[d]**	**NY State- Unrestricted Use****	**NY State- Restricted Use - Industrial****
PAH	Acenaphthene	UG/L	NE	NE	UG/KG	20000	1000000
PAH	Acenaphthylene	UG/L	NE	NE	UG/KG	100000	1000000
PAH	Anthracene	UG/L	NE	NE	UG/KG	100000	1000000
PAH	Benzo(a)anthracene	UG/L	NE	NE	UG/KG	1000	11000
PAH	Benzo(a)pyrene	UG/L	0.20	ND	UG/KG	1000	1100
PAH	Benzo(b)fluoranthene	UG/L	NE	NE	UG/KG	1000	11000
PAH	Benzo(ghi)perylene	UG/L	NE	NE	UG/KG	100000	1000000
PAH	Benzo(k)fluoranthene	UG/L	NE	NE	UG/KG	800000	110000
PAH	Chrysene	UG/L	NE	NE	UG/KG	1000	110000
PAH	Dibenzo(a,h)anthracene	UG/L	NE	NE	UG/KG	330	1100
PAH	Fluoranthene	UG/L	NE	NE	UG/KG	100000	1000000
PAH	Fluorene	UG/L	NE	NE	UG/KG	30000	1000000
PAH	Indeno(1,2,3-cd)pyrene	UG/L	NE	NE	UG/KG	500	11000
PAH	Naphthalene	UG/L	NE	NE	UG/KG	12000	1000000
PAH	Phenanthrene	UG/L	NE	NE	UG/KG	100000	1000000
PAH	Pyrene	UG/L	NE	NE	UG/KG	100000	1000000
PCB	Aroclor-1016	UG/L	0.50	0.09[4]	UG/KG	100	25000
PCB	Aroclor-1221	UG/L	0.50	0.09[4]	UG/KG	100	25000
PCB	Aroclor-1232	UG/L	0.50	0.09[4]	UG/KG	100	25000
PCB	Aroclor-1242	UG/L	0.50	0.09[4]	UG/KG	100	25000
PCB	Aroclor-1248	UG/L	0.50	0.09[4]	UG/KG	100	25000
PCB	Aroclor-1254	UG/L	0.50	0.09[4]	UG/KG	100	25000
PCB	Aroclor-1260	UG/L	0.50	0.09[4]	UG/KG	100	25000
Pesticide	4,4'-DDD	UG/L	NE	0.30	UG/KG	3	180000
Pesticide	4,4'-DDE	UG/L	NE	0.30	UG/KG	3	120000
Pesticide	4,4'-DDT	UG/L	NE	0.20	UG/KG	3	94000
Pesticide	Aldrin	UG/L	NE	ND	UG/KG	5	1400
Pesticide	alpha-BHC	UG/L	NE	0.01	UG/KG	20	6800
Pesticide	alpha-Chlordane	UG/L	NE	NE	UG/KG	94	47000
Pesticide	beta-BHC	UG/L	NE	0.04	UG/KG	36	14000
Pesticide	delta-BHC	UG/L	NE	0.40	UG/KG	40	1000000
Pesticide	Dieldrin	UG/L	NE	0.00	UG/KG	5	2800
Pesticide	Endosulfan I	UG/L	NE	NE	UG/KG	2,400[5]	920,000[5]
Pesticide	Endosulfan II	UG/L	NE	NE	UG/KG	2,400[5]	920,000[5]
Pesticide	Endosulfan sulfate	UG/L	NE	NE	UG/KG	2,400[5]	920,000[5]
Pesticide	Endrin	UG/L	2.00	ND	UG/KG	14	410000
Pesticide	Endrin aldehyde	UG/L	NE	5.00	UG/KG	NE	NE
Pesticide	Endrin ketone	UG/L	NE	5.00	UG/KG	NE	NE
Pesticide	gamma-BHC (Lindane)	UG/L	0.20	0.50	UG/KG	100	23000
Pesticide	gamma-Chlordane	UG/L	NE	NE	UG/KG	NE	NE
Pesticide	Heptachlor	UG/L	0.40	0.40	UG/KG	42	29000
Pesticide	Heptachlor epoxide	UG/L	0.20	0.30	UG/KG	NE	NE
Pesticide	Methoxychlor	UG/L	40.00	35.00	UG/KG	NE	NE
Pesticide	Toxaphene	UG/L	3.00	0.06	UG/KG	NE	NE

Table D

State and Federal Comparison Values for Groundwater, Surface Water and Sediment

		Water[a]			Sediment[b]		
Parameter[c]	**Analyte**	**Units[d]**	**Federal Regualitons MCLs***	**NY State Water Quality Stds.***	**Units[d]**	**NY State- Unrestricted Use****	**NY State- Restricted Use - Industrial****

a. Surface Water and Groundwater comparison criteria.
Surface Water and Groundwater at NFSS is not a drinking water source.
The above federal and state regulation concentrations are for comparative purposes only.

*Federal Regulations:
National Primary Drinking Water Regulations 40CFR141.62&63

*New York State:
New York State Statndatds -Water Quality Criteria (class GA) per 6 NYCRR, Part 703.
NE - Not Established

Note:
NA - Not applicable
1. National Secondary Drinking Water Regulations (40CFR143.3)
2. Applies to the sum of cis- and trans-1,3-dichloropropene, CAS Nos. 10061-01-5 and 10061-02-6, respectively.
3. Not a sum total for Dimethyl Benzene (Xylene) , applies to 1,2--Xylene, 1,3-Xylene and 1,4-Xylene individually.

b. Sediment comparison criteria:
Values are provided for comparative purposes only. ARARs and media-specific cleanup
goals will be evaluated independently and presented in future CERCLA decision documents that wil
be available for public comment.

**New York State:
6 NYCRR PART 375
NY State- Unrestricted Use Soil Cleanup Objectives Table 375-6.8(a)
NY State- Restricted Use Soil Cleanup Objectives Table 375-6.8(b) -Industrial
NE - Not Established

Note:
NA - Not applicable
4. Total Mercury
5. Sum of endosulfan I, endosulfan II, and endosulfan sulfate

c. PARAMETER
VOC - Volatile Organic Compound
PAH - Polynuclear Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

d. UNITS
PCI/G - picocuries per gram
MG/KG - milligrams per kilograms (ppm)
UG/KG - micrograms per kilogram (ppb)

Table E

(Section: 4.0 SI SURVEILLANCE METHODOLOGIES)

FUSRAP Instruction Guides Used for Environmental Surveillance Activities

Document Number	Document Title
191-IG-007	Groundwater Level and Meteorological Measurements (BNI 1996b)
191-IG-011	Decontamination of Field Sampling Equipment at FUSRAP Sites (BNI 1996c)
191-IG-028	Surface Water and Sediment Sampling Activities (BNI 1993a)
191-IG-029	Radon/Thoron and TETLD Exchange (BNI 1993b)
EPA/540/S-95/504	EPA Ground Water Issue Low-Flow(Minimal Drawdown) Ground-Water Sampling Procedures.

Table 1a
Environmental Surveillance Summary
External Radiation, Radon Gas and Radon-222 Flux
Niagara Falls Storage Site

TABLE 1a		Number of Analyses or Measurements																Total Analyses per Year
		No. of Sample Locations				Sample Duplicate				Control				Contingency Sample				
		CY Quarter				CY Quarter				CY Quarter				CY Quarter				
Measured Parameter	Station Identification	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
External gamma radiation (TLDs)[a]	1, 7, 8, 10, 11, 12, 13, 15, 18, 21, 23	26		26		1		1		1		1		26		26		108
	24, 28, 29, 36, 40, 45, 50, 55, 60																	
Radon gas	65, 105, 116, 120, 122, 123	26		26		1		1										54
Radon-222 flux	Waste Containment Structure			183														183

a. TLD = Thermo Luminescent Dosimeter

Table 1b
Environmental Surveillance Summary
Spring and Fall Groundwater Sampling
Niagara Falls Storage Site

Well Location	*Laboratory Analytical Parameters									**Field Paramters
	Iso Uranium	Iso Thorium	Radium -226	Radium -228	Metals	VOAs	Alkalinity	TDS	Anions	
A45	X	X	X	X	X		X	X	X	X
A50	X	X	X	X	X		X	X	X	X
BO2W20S	X	X	X	X	X		X	X	X	X
OW04B	X	X	X	X	X		X	X	X	X
OW06B	X	X	X	X	X		X	X	X	X
OW13B	X	X	X	X	X		X	X	X	X
OW15B	X	X	X	X	X		X	X	X	X
OW17B	X	X	X	X	X		X	X	X	X
OW18B	X						X	X	X	X
313	X						X	X	X	X
505	X						X	X	X	X
302A	X						X	X	X	X
A42	X						X	X	X	X
BH49A	X						X	X	X	X
OW04A	X						X	X	X	X
OW11B	X						X	X	X	X
415A	X					X	X	X	X	X
201A						X	X	X	X	X
Field Duplicate	X	X	X	X	X		X	X	X	X

***Laboratory Analytical Parameters**

VOA - Volatile Organic Aromatic
TDS - Total Dissolved Solids
Anions: Chloride
Fluroide
Nitrate
Nitrite
Phosphate
Sulfate

****Field Parameters:**

pH
Temperature
Specific conductivity
Oxidation-Reduction Potential
Dissolved oxygen
Turbidity

Table 1c
Environmental Surveillance
Spring and Fall
Surface Water and Sediment Sampling
Niagara Falls Storage Site

	*Laboratory Analytical Parameters									**Field
Sample Location	**Iso Uranium**	**Iso Thorium**	**Radium -226**	**Radium -228**	**Metals**	**PAHs**	**PCBs**	**Pesticides**	**VOAs**	**Paramters**
SWSD009	X	X	X	X	X	X	X	X	X	X
SWSD010	X	X	X	X	X	X	X	X	X	X
SWSD011	X	X	X	X	X	X	X	X	X	X
SWSD021	X	X	X	X	X	X	X	X	X	X
SWSD022	X	X	X	X	X	X	X	X	X	X
SWSD023	X	X	X	X	X	X	X	X	X	X
SWSD024	X	X	X	X	X	X	X	X	X	X
WDD1	X	X	X	X	X	X	X	X	X	X
WDD2	X	X	X	X	X	X	X	X	X	X
WDD3	X	X	X	X	X	X	X	X	X	X
Field Duplicate	X	X	X	X	X	X	X	X	X	X

***Laboratory Analytical Parameters**

PAH -Poly Aromatic Hydrocarbons
PCB - Polycyclical Biphenyls
VOA - Volatile Organic Aromatic
TDS - Total Dissolved Solids

****Field Parameters:**

pH
Temperature
Specific conductivity
Oxidation-Reduction Potential
Dissolved oxygen
Turbidity

Table 2
2009 External Gamma Radiation Dose Rates
Niagara Falls Storage Site

Monitoring Location	Monitoring Station	Gross OSLa Data[b] (mrem) (12/17/08 - 07/01/09)[c]	Gross OSLa Data[b] (mrem) (07/01/09 - 12/17/09)[c]	Normalized Gross TLD Data[d] (mrem/yr)	CY2009 Net OSL[a] Data (mrem/yr)
NFSS Perimeter	1	15	17	32	7.5
	1*	16	17	33	8.5
	7	14	12	26	1.5
	7	13	11	24	-0.5
	11	12	9	21	-3.5
	11	10	11	21	-3.5
	12	14	10	24	-0.5
	12	11	13	24	-0.5
	13	13	12	25	0.5
	13	13	12	25	0.5
	15	16	16	32	7.5
	15	15	14	29	4.5
	28	18	14	32	7.5
	28	17	14	31	6.5
	29	13	16	29	4.5
	29	16	15	31	6.5
	36	16	13	29	4.5
	36	13	13	26	1.5
	45	10	11	21	-3.5
	45	14	12	26	1.5
	50	14	16	30	5.5
	50	13	13	26	1.5
	55	15	13	28	3.5
	55	15	13	28	3.5
	60	15	15	30	5.5
	60	13	16	29	4.5
	65	20	19	39	14.5
	65	20	20	40	15.5
	122	13	20	33	8.5
	122	14	19	33	8.5
	123	14	11	25	0.5
	123	9	9	18	-6.5
IWCS Perimeter	8	11	11	22	-2.5
	8**	11	10	21	-3.5
	10	15	14	29	4.5
	10	13	11	24	-0.5
	18	11	11	22	-2.5
	18	13	11	24	-0.5
	21	12	9	21	-3.5
	21	11	15	26	1.5
	23	13	13	26	1.5
	23	12	13	25	0.5
	24	10	12	22	-2.5
	24	15	10	25	0.5
	40	12	11	23	-1.5
	40	13	10	23	-1.5
Background[f]	105	13	11	24	
	105	12	16	28	
	116	10	10	20	
	116	9	12	21	
	120	15	15	30	
	120	13	11	24	
Average Background		12.0	12.5	24.5	

a OSL - Optically Stimulated Luminescence dosimeters

b All data reported from the vendor are gross results in mrem per monitoring period.

c Exposure period date format mm/dd/yy.

d Gross data for each period are normalized to a daily dose rate, averaged, and then normalized for the length of the year (365 days).

e Net data are corrected by subtracting the average normalized background value.

f Background Locations: 105-Lewiston-Porter School, 116-Balmer Road and 120-Lewiston Water Pollution Control Center

* Monitor lost in field for 07/01/09 - 12/17/09 , co-located badge value used.

** Monitor result at location not reported by Landauer Inc. for 12/17/08 - 07/01/09 , co-located badge value used.

Table 3
2009 Radon Gas Concentrations[a]

Average Daily Concentration (pCi/L)[b]

Monitoring		Start Dates[d]:	12/17/2008			7/1/2009		
Location[c]	**Station**	**End Dates[d]:**	**7/1/2009**			**12/17/2009**		
NFSS Perimeter[g]	1		0.2	±	0.02	<0.2	±	0.02
	7		<0.2	±	0.02	<0.2	±	0.02
	11		<0.2	±	0.02	<0.2	±	0.02
	12		<0.2	±	0.02	<0.2	±	0.02
	12 (dup[e])		<0.2	±	0.02	<0.2	±	0.02
	13		<0.2	±	0.02	<0.2	±	0.02
	15		<0.2	±	0.02	<0.2	±	0.02
	28		<0.2	±	0.02	<0.2	±	0.02
	29		<0.2	±	0.02	<0.2	±	0.02
	36		<0.2	±	0.02	<0.2	±	0.02
	45		<0.2	±	0.02	<0.2	±	0.02
	50		<0.2	±	0.02	<0.2	±	0.02
	55		<0.2	±	0.02	<0.2	±	0.02
	60		<0.2	±	0.02	<0.2	±	0.02
	65		<0.2	±	0.02	<0.2	±	0.02
	122		0.3	±	0.03	<0.2	±	0.02
	123		0.3	±	0.03	<0.2	±	0.02
IWCS[f] Perimeter	8		<0.2	±	0.02	<0.2	±	0.02
	10		<0.2	±	0.02	<0.2	±	0.02
	18		<0.2	±	0.02	0.2	±	0.02
	21		<0.2	±	0.02	0.2	±	0.02
	23		0.2	±	0.02	<0.2	±	0.02
	24		<0.2	±	0.02	<0.2	±	0.02
	40		<0.2	±	0.02	<0.2	±	0.02
Background	105		<0.2	±	0.02	<0.2	±	0.02
	116		<0.2	±	0.02	<0.2	±	0.02
	120		<0.2	±	0.02	<0.2	±	0.02

a. Radon gas concentrations were measured with RadTrak® detectors.
These detectors measure the combined concentration of radon-220 and radon-222 in air.
b. pCi/L - picocuries per liter.
c. Monitoring locations are shown on site map.
d. Detectors were installed (start date) and removed (end date) on the dates listed.
e. A quality control duplicate is collected at the same time and location and is analyzed by the same method for evaluating precision in sampling and analysis.
f. Monitoring locations are at the perimeter of the interim waste containment structure (IWCS).
g. Monitoring locations are at the perimeter of the site with exception of monitoring location 123.

Note: DOE off-site limit for radon-222 concentration is 3.00 pCi/L above background.
(<0.2) Indicates detection limit is reported. Actual result is less than this value.
1 pCi = 0.037 becquerel

Table 4
2009 Radon Flux Monitoring Results[a]
Niagara Falls Storage Site

NFSS Sample ID	Qualifier[d]	Radon-222 Flux (pCi/m^2/s)			MDA	NFSS Sample ID	Qualifier[d]	Radon-222 Flux (pCi/m^2/s)			MDA
1	U	0.06134	±	0.02721	0.07189	51	U	0.01431	±	0.02463	0.06002
2	U	0.00289	±	0.01759	0.04202	52	U	0.01962	±	0.03819	0.09932
3	U	0.03381	±	0.02360	0.05885	53	U	0.04103	±	0.02231	0.06052
4	U	0.01730	±	0.04478	0.10600	54	U	0.03047	±	0.02126	0.05634
5	U	0.01332	±	0.01867	0.04756	55	U	0.00165	±	0.01333	0.03672
6	U	0.08743	±	0.04097	0.09593	56	U	0.00188	±	0.03906	0.08855
7	U	0.04180	±	0.03095	0.07343	57	U	0.00601	±	0.01608	0.04069
8	U	0.02880	±	0.03305	0.09903	58	U	0.00899	±	0.01598	0.04309
9	U	0.02128	±	0.01772	0.04990	59	U	0.01359	±	0.01935	0.05248
10	U	0.04786	±	0.03674	0.08044	60	U	-0.02582	±	0.04483	0.07701
10-DUP[b]	U	0.06636	±	0.03440	0.08159	60-DUP[b]	U	-0.00645	±	0.03597	0.07755
11	U	0.00821	±	0.02264	0.05450	61	U	0.03390	±	0.02607	0.05723
12	U	0.08916	±	0.06439	0.15580	62	U	0.05159	±	0.02934	0.06050
13		0.04425	±	0.01892	0.03351	63	U	0.02756	±	0.04214	0.10980
14		0.05574	±	0.01690	0.01081	64	U	0.00683	±	0.01124	0.03479
15	U	0.04287	±	0.05373	0.13060	65	U	0.04954	±	0.03657	0.07878
16	U	0.09260	±	0.04309	0.09751	66	U	0.00971	±	0.01765	0.04818
17	U	0.05088	±	0.03669	0.07242	67	U	0.02682	±	0.04880	0.11710
18	U	0.03620	±	0.02649	0.06550	68	U	0.00953	±	0.01942	0.04715
19	U	0.00304	±	0.02983	0.07590	69	U	0.03200	±	0.02186	0.05652
20	U	0.00384	±	0.01255	0.03443	70	U	-0.00110	±	0.02393	0.05182
20-DUP[b]		0.06764	±	0.02126	0.05446	70-DUP[b]	U	-0.00494	±	0.02265	0.04767
21	U	0.02049	±	0.02856	0.08852	71	U	0.01832	±	0.04541	0.10770
22	U	0.04678	±	0.03595	0.07485	72	U	0.05772	±	0.03683	0.07334
23	U	0.02405	±	0.01591	0.04570	73	U	0.06437	±	0.03208	0.08211
24	U	0.02447	±	0.02476	0.05717	74	U	-0.02286	±	0.02676	0.02230
25	U	0.01353	±	0.01941	0.05266	75	U	0.02759	±	0.02897	0.05787
26	U	0.01152	±	0.03494	0.09036	76	U	0.00529	±	0.02401	0.05307
27	U	0.04050	±	0.03281	0.06771	77	U	0.02887	±	0.02446	0.06016
28	U	0.00641	±	0.01949	0.04702	78	U	0.01259	±	0.02365	0.07721
29	U	0.03760	±	0.02844	0.07068	79	U	0.01066	±	0.01795	0.04566
30	U	0.00460	±	0.06650	0.13210	80	U	0.03396	±	0.02453	0.06164
30-DUP[b]	U	0.03574	±	0.04506	0.11730	80-DUP[b]	U	0.03163	±	0.02368	0.05950
31	U	0.00978	±	0.01291	0.03878	81	U	0.01889	±	0.03816	0.09922
32	U	0.03167	±	0.02691	0.06392	82	U	0.03941	±	0.02428	0.05291
33	U	0.04017	±	0.02552	0.07008	83	U	0.01237	±	0.02405	0.05843
34	U	0.01857	±	0.04603	0.10920	84	U	-0.01473	±	0.03168	0.06113
35	U	0.01026	±	0.01777	0.04520	85	U	0.03522	±	0.02150	0.05869
36	U	0.03712	±	0.02600	0.06530	86	U	0.00386	±	0.01839	0.04405
37	U	-0.00465	±	0.02474	0.05130	87	U	0.01749	±	0.02091	0.05637
38	U	0.03574	±	0.04425	0.11520	88	U	0.02905	±	0.03316	0.09926
39	U	0.00645	±	0.02176	0.04916	89	U	-0.00112	±	0.02132	0.04532
40	U	0.05204	±	0.02478	0.06471	90		0.07557	±	0.02218	0.02313
40-DUP[b]	U	0.01735	±	0.02078	0.05284	90-DUP[b]		0.06258	±	0.01953	0.02911
41	U	0.02691	±	0.04114	0.10720	91	U	0.03018	±	0.02752	0.07017
42	U	0.00172	±	0.02220	0.04801	92	U	0.03501	±	0.05171	0.12500
43	U	0.01337	±	0.02193	0.05582	93	U	0.02612	±	0.02686	0.05544
44	U	0.00280	±	0.03019	0.07674	94	U	0.01398	±	0.02220	0.05654
45	U	0.03798	±	0.02158	0.05891	95	U	0.00072	±	0.04681	0.09974
46	U	0.01045	±	0.02561	0.05750	96	U	0.01901	±	0.01685	0.04786
47	U	0.04277	±	0.02430	0.06705	97	U	0.02557	±	0.02046	0.05621
48	U	0.07054	±	0.06714	0.15590	98	U	-0.00913	±	0.02129	0.04277
49	U	0.05097	±	0.02755	0.06638	99	U	-0.00759	±	0.04373	0.08932
50	U	0.00815	±	0.01569	0.04239	100	U	0.03511	±	0.02184	0.05962
50-DUP[b]	U	0.00799	±	0.01564	0.04225	100-DUP[b]	U	0.01433	±	0.02301	0.05452

Table 4

2009 Radon Flux Monitoring Results[a]

Niagara Falls Storage Site

NFSS Sample ID	Qualifier[d]	Radon-222 Flux (pCi/m²/s)			MDA
101	U	0.06886	±	0.02831	0.07652
102	U	-0.00140	±	0.05342	0.10900
103	U	0.00090	±	0.01965	0.04480
104	U	0.01382	±	0.01968	0.05337
105	U	0.00193	±	0.04002	0.09073
106	U	0.03543	±	0.01994	0.05077
107	U	0.00522	±	0.01692	0.04273
108	U	0.01773	±	0.02110	0.05687
109	U	0.01151	±	0.03493	0.09033
110	U	0.03656	±	0.02293	0.05603
110-DUP[b]	U	0.00683	±	0.01425	0.03886
111	U	0.05032	±	0.02862	0.07534
112	U	0.04565	±	0.03668	0.07918
113	U	0.03254	±	0.06382	0.14060
114	U	0.03729	±	0.03459	0.06458
115	U	0.00196	±	0.01769	0.04408
116	U	0.04550	±	0.04910	0.12770
117	U	0.00951	±	0.01785	0.04536
118	U	0.02592	±	0.02127	0.05144
119	U	0.02163	±	0.02016	0.05802
120	U	0.03756	±	0.04652	0.12110
120-DUP[b]	U	0.00319	±	0.03138	0.07983
121	U	0.01574	±	0.01679	0.04795
122	U	0.00958	±	0.01431	0.04434
123	U	0.00097	±	0.01439	0.03579
124	U	0.00741	±	0.02188	0.05111
125	U	0.03409	±	0.02969	0.07136
126	U	0.04459	±	0.04859	0.12640
127	U	0.03552	±	0.02528	0.06295
128	U	0.05312	±	0.03916	0.07829
129	U	0.01687	±	0.02628	0.06421
130	U	0.08628	±	0.04909	0.13740
130-DUP[b]	U	0.08572	±	0.04597	0.13020
131	U	0.00837	±	0.02177	0.05082
132	U	0.03486	±	0.03323	0.06489
133	U	0.00122	±	0.00835	0.03067
134	U	0.02290	±	0.02167	0.05035
135	U	0.02348	±	0.02522	0.06209
136	U	0.00441	±	0.02227	0.05292
137	U	0.01104	±	0.03597	0.09293
138	U	0.02933	±	0.02824	0.06124
139	U	0.00938	±	0.01683	0.04541
140	U	0.01048	±	0.02178	0.05529
140-DUP[b]	U	0.00995	±	0.01850	0.05051
141	U	0.06261	±	0.03206	0.07980
142	U	0.03812	±	0.03854	0.11300
143	U	0.04988	±	0.02661	0.07297
144	U	-0.00917	±	0.05281	0.10430
145	U	-0.00016	±	0.01821	0.04246
146	U	0.00511	±	0.02028	0.04850
147	U	0.00496	±	0.02428	0.05775
148	U	0.02055	±	0.02729	0.06506
149	U	0.01845	±	0.02642	0.06733
150	U	-0.01906	±	0.04653	0.08802
150-DUP[b]	U	-0.00985	±	0.05023	0.10200

NFSS Sample ID	Qualifier[d]	Radon-222 Flux (pCi/m²/s)			MDA
151	U	0.03305	±	0.02853	0.06400
152	U	0.00921	±	0.02301	0.05827
153	U	0.01080	±	0.01461	0.04405
154	U	0.04402	±	0.02687	0.08051
155	U	0.02190	±	0.04480	0.11650
156	U	0.01844	±	0.02727	0.06480
157	U	0.00672	±	0.01857	0.05101
158	U	0.11000	±	0.08774	0.18370
159	U	0.05645	±	0.03239	0.07655
160	U	0.00672	±	0.01856	0.05097
160-DUP[b]	U	0.00807	±	0.02892	0.06684
161	U	0.01048	±	0.02036	0.05172
162	U	0.11390	±	0.06486	0.17710
163		0.07389	±	0.02640	0.07102
164	U	0.02315	±	0.02561	0.06884
165	U	0.00116	±	0.04623	0.10440
166	U	0.02871	±	0.03009	0.07228
167	U	0.08379	±	0.05051	0.10520
168	U	0.01354	±	0.04108	0.10620
169		0.10520	±	0.04651	0.09158
170	U	0.01379	±	0.02200	0.05985
170-DUP[b]	U	0.05268	±	0.03959	0.08461
171	U	0.02345	±	0.04565	0.11870
172	U	0.06347	±	0.03367	0.08634
173	U	0.02493	±	0.03447	0.10670
174	U	0.00909	±	0.02467	0.05752
175	U	0.05311	±	0.03463	0.08119
176	U	-0.02037	±	0.05687	0.10660
177	U	0.05748	±	0.02887	0.07648
178	U	0.05404	±	0.03019	0.08291
179	U	0.09135	±	0.05222	0.14790
180	U	0.01639	±	0.02249	0.05730
180-DUP[b]	U	0.00562	±	0.02335	0.05386
181[c]	U	-0.02982	±	0.05251	0.09054
182[c]	U	0.01657	±	0.02611	0.06649
183[c]	U	0.07535	±	0.05717	0.15440
Average background	U	0.02070	(pCi/m²/s)		

IWCS	Value	Units
Average[e]	0.02645	(pCi/m²/s)
High[f]	0.10520	(pCi/m²/s)
Low	-0.02582	(pCi/m²/s)

NOTE: The EPA Standard for Radon-222 Flux is 20 pCi/m²/sec

a. Radon-222 flux was performed on August 17-18, 2009

b. Every 10th canister is counted twice as a quality control (QC) duplicate to evaluate analytical precision.

c. Background:
181-Lewiston-Porter Central School
182-Balmer Rd. (CWM Secondary Gate)
183-Lewiston Water Pollution Control Center

d. Validated Qualifier: **U** - indicates that no analyte was detected (Non-Detect).

e. Average of all values (detects and non-detects)

f. Highest detectable finding.

Table 5a
2009 Field Parameter Summary
Niagara Falls Storage Site

GROUNDWATER

Well ID	Date	Temperature (°F[a])	pH	Spec. Cond.[b] (uS/cm[c])	DO[d] (mg/L[e])	ORP[f] (mV[g])	Turbidity (NTU[h])	Volume Purged (Liters[i])	Discharge milliter PM[j]
A45	5/19/2009	57.6	7.00	2118	1.08	12.2	21.8	3.3	110
A50	5/21/2009	60.9	7.38	1624	3.70	158.8	1.9	5.3	175
OW04B	5/20/2009	50.3	7.06	1753	0.26	48.2	20.6	9.4	375
OW06B	5/21/2009	63.7	7.03	1661	0.18	-4.0	0.4	2.6	130
OW13B	5/21/2009	59.5	6.98	2473	1.13	133.0	15.6	5.8	194
OW15B	5/20/2009	61.7	7.49	1162	3.53	84.0	*	3.8	150
OW17B	5/20/2009	58.6	7.37	1342	3.19	86.2	6.7	3.8	152
B02W20S	5/21/2009	60.3	7.34	1313	0.99	128.3	12.7	3.8	115
OW18B	5/20/2009	55.8	7.64	2263	0.72	102.0-	0.6	4.3	143
313	5/19/2009	60.3	6.06	3877	0.21	116.0	8.8	3.0	121
505	5/19/2009	62.3	6.39	4410	2.90	149.0	1.0	**	**
302A	5/19/2009	53.4	6.93	7985	0.49	125.3	6.7	4.8	136
A42	5/21/2009	56.5	6.99	1184	1.39	160.8	0.1	4.4	145
BH49A	5/20/2009	55.0	7.41	1618	0.46	-68	NA	3.6	120
OW04A	5/20/2009	57.3	8.82	1100	2.26	87.6	6.2	3.5	141
OW11B	5/20/2009	62.1	7.14	1469	0.22	75.0	10.5	2.4	118
415A	5/19/2009	61.6	7.19	2742	7.09	39.0	34.0	5.4	154
201A	5/20/2009	60.9	7.27	1656	2.56	115.0	6.2	3.0	120
A45	10/28/2009	54.1	6.93	2260	0.51	-288	4.2	7.6	253
A50	10/26/2009	60.7	7.33	1830	0.93	194-	4.7	4.4	146
OW04B	10/26/2009	56.0	8.07	1716	*	25	9.2	5.4	180
OW06B	10/26/2009	61.0	7.38	1.77	1.35	54	0.2	4.7	155
OW13B	10/27/2009	58.1	7.02	2462	0.64	37	9.5	4.7	158
OW15B	10/27/2009	58.0	7.30	1300	4.70	155	6.3	6.1	164
OW17B	10/27/2009	57.4	7.16	1448	0.88	-55	0.5	3.8	128
B02W20S	10/28/2009	57.0	7.72	1390	2.31	52	4.0	4.5	150
OW18B	10/27/2009	57.7	7.32	2335	0.57	158-	0.6	3.4	112
313	10/29/2009	55.0	6.66	4275	1.10	50	3.9	4.5	100
505	10/27/2009	59.2	6.84	4399	5.39	33-	11.8	**	**
302A	10/28/2009	54.9	6.61	8230	0.87	83	5.8	4.3	122
A42	10/27/2009	56.4	6.98	1230	0.27	103-	0.0	8.1	203
BH49A	10/26/2009	64.0	7.35	1640	0.28	-336	2.1	4.0	132
OW04A	10/26/2009	59.6	8.69	1260	0.26	-75	5.7	5.7	142
OW11B	10/27/2009	59.6	7.64	1540	0.42	36	0.4	5.9	148
415A	10/28/2009	55.6	6.85	2850	0.92	90	10.7	3.5	147
201A	10/28/2009	58.9	7.07	1850	0.83	103	11.7	4.2	174

Table 5a
2009 Field Parameter Summary
Niagara Falls Storage Site

SURFACE WATER

Surace Water	Date	Temperature (°F[a])	pH	Spec. Cond.[b] (uS/cm[c])	DO[d] (mg/L[e])	ORP[f] (mV[g])	Turbidity (NTU[h])	Volume Purged (Liters[i])	Discharge milliter PM[j]
SWSD009	5/19/2009	67.0	7.13	2093	8.45	139	84.6	NA	NA
SWSD010	5/19/2009	66.4	7.12	1532	11.15	133	113.8	NA	NA
SWSD011	5/18/2009	57.6	6.76	1134	9.72	179	158.8	NA	NA
SWSD021	5/19/2009	64.4	6.99	898	9.19	114	185.4	NA	NA
SWSD022	5/18/2009	58.5	7.07	1613	6.90	102	19.2	NA	NA
SWSD023	5/19/2009	66.3	7.32	923.1	10.7	120	79.6	NA	NA
SWSD024	5/18/2009	*	*	*	*	*	*	NA	NA
WDD1	5/18/2009	63.7	7.01	1335	8.83	123	57.1	NA	NA
WDD2	5/18/2009	56.7	7.17	1268	10.24	176	34.3	NA	NA
WDD3	5/18/2009	57.9	6.55	1230	9.71	188	52.4	NA	NA
SWSD009	10/27/2009	59.1	7.45	2179	8.42	21.1	22.0	NA	NA
SWSD010	10/27/2009	59.6	7.45	1645	8.42	83	24.0	NA	NA
SWSD011	10/26/2009	56.4	8.26	1717	6.52	170	10.6	NA	NA
SWSD021	10/27/2009	59.4	7.57	590	9.52	520	22.5	NA	NA
SWSD022	10/26/2009	68.6	8.03	1728	5.30	145.9	16.6	NA	NA
SWSD023	10/27/2009	59.5	7.28	1123	8.85	171.9	7.1	NA	NA
SWSD024	10/27/2009	59.0	7.53	877	6.85	24.9	11.5	NA	NA
WDD1	10/26/2009	67.5	8.07	1671	6.36	152.1	19.7	NA	NA
WDD2	10/26/2009	55.8	7.91	1711	7.21	161.7	14.9	NA	NA
WDD3	10/26/2009	54.5	8.28	1740	7.30	175.7	19.0	NA	NA

a. °F - Degrees Fahrenheit.
b. Spec. Cond. - Specific conductance.
c. uS/cm - microSiemens/centimeter.
d. DO - Dissolved oxygen.
e. mg/L - milligrams per liter.
f. ORP - Oxidation-Reduction potential.
g. mV - milliVolts.
h. NTU - Nephelometric turbidity units.
i. 1-Liter = 0.26 gallons
j. Milliter PM = milliter per minute (1000ml = 1.0 liter) -averaged rate
NA - Not applicable
* - parameters not taken/meter malfunction
**-Grab sample due to low recharge and purging dry

NFSS 2009 Quarterly Water Level Measurements

First Quarter 2009 (February 17, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
A23A	321.90	9.54	312.36
A42	319.70	5.30	314.40
A43	320.50	6.49	314.01
A45	321.70	9.14	312.56
A50	321.30	9.67	311.63
A51	321.20	6.99	314.21
A52	321.10	6.51	314.59
A54	320.70	7.95	312.75
A55	320.60	7.65	312.95
A56	322.30	11.05	311.25
A57	321.40	11.44	309.96
BH5	321.32	9.61	311.71
BH12	320.85	7.57	313.28
BH15	320.16	6.73	313.43
BH48	322.04	7.82	314.22
BH49	320.23	9.01	311.22
BH49A	320.65	2.25	318.40
BH50	319.25	8.49	310.76
BH51	321.24	7.63	313.61
BH57	322.84	8.08	314.76
BH59	321.45	8.05	313.40
BH60	322.32	6.51	315.81
BH61	318.50	9.74	308.76
BH62	318.60	9.95	308.65
BH63	323.01	7.91	315.10
BH64	319.32	3.30	316.02
BH70	321.29	8.59	312.70
B02W19D	319.90	4.78	315.12
B02W20D	322.00	6.60	315.40
B02W20S	322.00	3.00	319.00
OW01A	321.95	Decommissioned	
OW01B	321.49	3.28	318.21
OW02A	321.50	9.64	311.86
OW02B	321.55	3.54	318.01
OW03A	321.67	9.30	312.37
OW03B	321.38	4.31	317.07
OW04A	320.52	8.50	312.02
OW04B	320.17	3.54	316.63
OW05A	319.59	7.58	312.01
OW05B	319.68	3.35	316.33
OW06A	322.34	9.13	313.21
OW06B	322.28	4.06	318.22

Second Quarter 2009 (May 19, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
A23A	321.90	8.41	313.49
A42	319.70	6.64	313.06
A43	320.50	5.92	314.58
A45	321.70	10.00	311.70
A50	321.30	11.20	310.10
A51	321.20	10.16	311.04
A52	321.10	7.21	313.89
A54	320.70	6.40	314.30
A55	320.60	6.20	314.40
A56	322.30	9.73	312.57
A57	321.40	10.38	311.02
BH5	321.32	7.79	313.53
BH12	320.85	6.34	314.51
BH15	320.16	5.35	314.81
BH48	322.04	8.43	313.61
BH49	320.23	7.32	312.91
BH49A	320.65	4.10	316.55
BH50	319.25	6.20	313.05
BH51	321.24	5.98	315.26
BH57	322.84	6.81	316.03
BH59	321.45	7.14	314.31
BH60	322.32	5.49	316.83
BH61	318.50	7.22	311.28
BH62	318.60	7.47	311.13
BH63	323.01	6.75	316.26
BH64	319.32	4.97	314.35
BH70	321.29	7.33	313.96
B02W19D	319.90	4.31	315.59
B02W20D	322.00	5.55	316.45
B02W20S	322.00	3.57	318.43
OW01A	321.95	Decommissioned	
OW01B	321.49	3.98	317.51
OW02A	321.50	7.89	313.61
OW02B	321.55	4.44	317.11
OW03A	321.67	7.75	313.92
OW03B	321.38	5.14	316.24
OW04A	320.52	6.81	313.71
OW04B	320.17	4.98	315.19
OW05A	319.59	5.87	313.72
OW05B	319.68	4.85	314.83
OW06A	322.34	7.91	314.43
OW06B	322.28	7.03	315.25

Third Quarter 2009 (August 18, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
A23A	321.90	8.96	312.94
A42	319.70	5.93	313.77
A43	320.50	5.77	314.73
A45	321.70	9.17	312.53
A50	321.30	10.81	310.49
A51	321.20	8.60	312.60
A52	321.10	6.93	314.17
A54	320.70	6.51	314.19
A55	320.60	6.41	314.19
A56	322.30	10.00	312.30
A57	321.40	10.94	310.46
BH5	321.32	7.97	313.35
BH12	320.85	7.28	313.57
BH15	320.16	5.78	314.38
BH48	322.04	8.69	313.35
BH49	320.23	7.45	312.78
BH49A	320.65	3.17	317.48
BH50	319.25	6.54	312.71
BH51	321.24	6.21	315.03
BH57	322.84	7.00	315.84
BH59	321.45	7.44	314.01
BH60	322.32	5.70	316.62
BH61	318.50	7.59	310.91
BH62	318.60	7.62	310.98
BH63	323.01	6.93	316.08
BH64	319.32	5.28	314.04
BH70	321.29	7.57	313.72
B02W19D	319.90	4.55	315.35
B02W20D	322.00	5.74	316.26
B02W20S	322.00	3.50	318.50
OW01A	321.95	Decommissioned	
OW01B	321.49	4.05	317.44
OW02A	321.50	8.02	313.48
OW02B	321.55	3.78	317.77
OW03A	321.67	7.79	313.88
OW03B	321.38	4.51	316.87
OW04A	320.52	6.93	313.59
OW04B	320.17	4.27	315.90
OW05A	319.59	6.04	313.55
OW05B	319.68	4.58	315.10
OW06A	322.34	8.22	314.12
OW06B	322.28	5.25	317.03

Fourth Quarter 2009 (October 20, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
A23A	321.90	9.28	312.62
A42	319.70	7.54	312.16
A43	320.50	7.18	313.32
A45	321.70	11.13	310.57
A50	321.30	12.64	308.66
A51	321.20	11.74	309.46
A52	321.10	8.92	312.18
A54	320.70	7.09	313.61
A55	320.60	6.96	313.64
A56	322.30	10.53	311.77
A57	321.40	11.31	310.09
BH5	321.32	8.52	312.80
BH12	320.85	7.39	313.46
BH15	320.16	6.09	314.07
BH48	322.04	8.25	313.79
BH49	320.23	8.14	312.09
BH49A	320.65	4.15	316.50
BH50	319.25	7.92	311.33
BH51	321.24	6.65	314.59
BH57	322.84	7.35	315.49
BH59	321.45	7.71	313.74
BH60	322.32	5.85	316.47
BH61	318.50	8.84	309.66
BH62	318.60	8.41	310.19
BH63	323.01	7.18	315.83
BH64	319.32	7.90	311.42
BH70	321.29	8.03	313.26
B02W19D	319.90	4.61	315.29
B02W20D	322.00	5.85	316.15
B02W20S	322.00	3.86	318.14
OW01A	321.95	Decommissioned	
OW01B	321.49	5.73	315.76
OW02A	321.50	5.34	316.16
OW02B	321.55	8.68	312.87
OW03A	321.67	8.46	313.21
OW03B	321.38	5.67	315.71
OW04A	320.52	7.59	312.93
OW04B	320.17	5.41	314.76
OW05A	319.59	6.72	312.87
OW05B	319.68	6.66	313.02
OW06A	322.34	8.71	313.63
OW06B	322.28	6.53	315.75

NFSS 2009 Quarterly Water Level Measurements

First Quarter 2009 (February 17, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
OW07A	319.77	6.60	313.17
OW07B	319.69	4.11	315.58
OW08A	318.91	6.48	312.43
OW08B	318.97	3.32	315.65
OW09A	318.66	5.75	312.91
OW09B	318.82	2.62	316.20
OW10A	320.01	6.87	313.14
OW10B	320.13	2.58	317.55
OW11A	319.05	5.52	313.53
OW11B	319.09	2.42	316.67
OW12A	320.42	6.94	313.48
OW12B	319.09	3.94	315.15
OW13A	321.54	8.39	313.15
OW13B	321.09	2.99	318.10
OW14A	320.52	8.85	311.67
OW14B	320.73	2.77	317.96
OW15A	320.30	8.97	311.33
OW15B	320.12	2.59	317.53
OW16A	320.63	8.62	312.01
OW16B	320.06	2.87	317.19
OW17A	320.31	7.80	312.51
OW17B	320.29	2.51	317.78
OW18A	321.09	7.78	313.31
OW18B	320.76	3.45	317.31
NEW WELLS - 2000			
Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
201A	321.47	4.13	317.34
203A	321.87	4.47	317.40
213A	321.37	6.15	315.22
215A	320.26	4.13	316.13
302A	320.53	4.39	316.14
303A	321.83	3.57	318.26
404A	323.73	6.13	317.60
411A	322.05	4.18	317.87
415A	321.27	3.35	317.92
505	317.80	12.62	305.18
603A	320.57	2.31	318.26
606	321.49	3.56	317.93
808A	319.27	3.78	315.49
810A	318.44	3.65	314.79
816	320.62	2.24	318.38
NEW WELLS - 2003			
Well No.	Reference Elevation (ft)		Groundwater Elevation (ft)
MW228	320.85	4.52	316.33
MW229	320.61	6.83	313.78
MW313	320.88	4.59	316.29
MW314	318.94	DRY	
MW423	322.39	6.11	316.28
MW424	320.93	3.12	317.81
MW860	320.06	6.47	313.59
MW861	319.92	8.13	311.79
MW862	319.62	4.47	315.15
MW863	319.61	6.97	312.64
MW422	321.36	DRY	

Second Quarter 2009 (May 19, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
OW07A	319.77	5.45	314.32
OW07B	319.69	5.43	314.26
OW08A	318.91	4.86	314.05
OW08B	318.97	5.39	313.58
OW09A	318.66	4.35	314.31
OW09B	318.82	4.40	314.42
OW10A	320.01	5.60	314.41
OW10B	320.13	4.66	315.47
OW11A	319.05	4.44	314.61
OW11B	319.09	4.54	314.55
OW12A	320.42	5.82	314.60
OW12B	319.09	6.85	312.24
OW13A	321.54	7.10	314.44
OW13B	321.09	4.29	316.80
OW14A	320.52	7.06	313.46
OW14B	320.73	4.97	315.76
OW15A	320.30	7.12	313.18
OW15B	320.12	4.97	315.15
OW16A	320.63	6.97	313.66
OW16B	320.06	4.93	315.13
OW17A	320.31	6.25	314.06
OW17B	320.29	4.00	316.29
OW18A	321.09	6.26	314.83
OW18B	320.76	4.92	315.84
NEW WELLS - 2000			
Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
201A	321.47	5.15	316.32
203A	321.87	4.81	317.06
213A	321.37	9.83	311.54
215A	320.26	4.93	315.33
302A	320.53	4.75	315.78
303A	321.83	4.38	317.45
404A	323.73	6.33	317.40
411A	322.05	4.79	317.26
415A	321.27	4.30	316.97
505	317.80	3.92	313.88
603A	320.57	2.84	317.73
606	321.49	4.32	317.17
808A	319.27	2.49	316.78
810A	318.44	4.79	313.65
816	320.62	3.10	317.52
NEW WELLS - 2003			
Well No.	Reference Elevation (ft)		Groundwater Elevation (ft)
MW228	320.85	4.62	316.23
MW229	320.61	6.13	314.48
MW313	320.88	4.05	316.83
MW314	318.94	11.31	307.63
MW423	322.39	4.68	317.71
MW424	320.93	4.05	316.88
MW860	320.06	8.74	311.32
MW861	319.92	6.49	313.43
MW862	319.62	7.14	312.48
MW863	319.61	6.73	312.88
MW422	321.36	18.38	302.98

Third Quarter 2009 (August 18, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
OW07A	319.77	5.77	314.00
OW07B	319.69	5.91	313.78
OW08A	318.91	5.07	313.84
OW08B	318.97	5.14	313.83
OW09A	318.66	4.59	314.07
OW09B	318.82	4.29	314.53
OW10A	320.01	5.81	314.20
OW10B	320.13	4.08	316.05
OW11A	319.05	4.72	314.33
OW11B	319.09	3.98	315.11
OW12A	320.42	6.18	314.24
OW12B	319.09	7.75	311.34
OW13A	321.54	7.40	314.14
OW13B	321.09	5.22	315.87
OW14A	320.52	7.16	313.36
OW14B	320.73	4.35	316.38
OW15A	320.30	7.17	313.13
OW15B	320.12	4.13	315.99
OW16A	320.63	7.05	313.58
OW16B	320.06	4.11	315.95
OW17A	320.31	6.34	313.97
OW17B	320.29	3.11	317.18
OW18A	321.09	6.39	314.70
OW18B	320.76	4.46	316.30
NEW WELLS - 2000			
Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
201A	321.47	4.69	316.78
203A	321.87	4.55	317.32
213A	321.37	7.02	314.35
215A	320.26	11.03	309.23
302A	320.53	4.73	315.80
303A	321.83	4.80	317.03
404A	323.73	6.49	317.24
411A	322.05	4.99	317.06
415A	321.27	5.60	315.67
505	317.80	9.49	308.31
603A	320.57	2.35	318.22
606	321.49	4.51	316.98
808A	319.27	3.81	315.46
810A	318.44	5.43	313.01
816	320.62	2.92	317.70
NEW WELLS - 2003			
Well No.	Reference Elevation (ft)		Groundwater Elevation (ft)
MW228	320.85	4.50	316.35
MW229	320.61	6.41	314.20
MW313	320.88	4.8	316.08
MW314	318.94	16.4	302.54
MW423	322.39	7.63	314.76
MW424	320.93	4.57	316.36
MW860	320.06	7.68	312.38
MW861	319.92	6.76	313.16
MW862	319.62	6.68	312.94
MW863	319.61	6.00	313.61
MW422	321.36	18.62	302.74

Fourth Quarter 2009 (October 20, 2009)

Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
OW07A	319.77	6.24	313.53
OW07B	319.69	7.96	311.73
OW08A	318.91	5.63	313.28
OW08B	318.97	6.87	312.10
OW09A	318.66	5.05	313.61
OW09B	318.82	7.29	311.53
OW10A	320.01	6.31	313.70
OW10B	320.13	6.51	313.62
OW11A	319.05	5.12	313.93
OW11B	319.09	5.06	314.03
OW12A	320.42	6.54	313.88
OW12B	319.09	10.42	308.67
OW13A	321.54	7.94	313.60
OW13B	321.09	7.71	313.38
OW14A	320.52	7.82	312.70
OW14B	320.73	5.44	315.29
OW15A	320.30	7.84	312.46
OW15B	320.12	5.66	314.46
OW16A	320.63	7.63	313.00
OW16B	320.06	5.01	315.05
OW17A	320.31	6.92	313.39
OW17B	320.29	4.64	315.65
OW18A	321.09	6.95	314.14
OW18B	320.76	5.71	315.05
NEW WELLS - 2000			
Well No.	Reference Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
201A	321.47	4.97	316.50
203A	321.87	4.81	317.06
213A	321.37	9.22	312.15
215A	320.26	12.72	307.54
302A	320.53	5.93	314.60
303A	321.83	6.44	315.39
404A	323.73	8.45	315.28
411A	322.05	5.54	316.51
415A	321.27	8.09	313.18
505	317.80	12.16	305.64
603A	320.57	2.97	317.60
606	321.49	5.52	315.97
808A	319.27	8.23	311.04
810A	318.44	9.47	308.97
816	320.62	2.72	317.90
NEW WELLS - 2003			
Well No.	Reference Elevation (ft)		Groundwater Elevation (ft)
MW228	320.85	6.55	314.30
MW229	320.61	6.31	314.30
MW313	320.88	7.78	313.10
MW314	318.94	21.61	297.33
MW423	322.39	11.98	310.41
MW424	320.93	6.49	314.44
MW860	320.06	9.75	310.31
MW861	319.92	7.33	312.59
MW862	319.62	8.29	311.33
MW863	319.61	6.41	313.20
MW422	321.36	DRY	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/19/2009											
SWSD009	Radiological	13982-63-3	Radium-226	0.966	pCi/l	J	0.562	±	0.457	5[a]	5[a]	100[a]
SWSD009	Radiological	15262-20-1	Radium-228	0.634	pCi/l	U	0.997	±	0.499	5[a]	5[a]	100[a]
			Total Radium [a]	*0.966*	*pCi/l*					5[a]	5[a]	100[a]
SWSD009	Radiological	14274-82-9	Thorium-228	0.167	pCi/l	U	0.363	±	0.219	15[b]	NE	400
SWSD009	Radiological	14269-63-7	Thorium-230	0.121	pCi/l	U	0.340	±	0.186	15[b]	NE	300
SWSD009	Radiological	7440-29-1	Thorium-232	-0.009	pCi/l	U	0.240	±	0.018	15[b]	NE	50
			Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
SWSD009	Radiological	13966-29-5	Uranium-234	1.931	pCi/l		0.368	±	0.684	27[c]	NE	600[c]
SWSD009	Radiological	15117-96-1	Uranium-235	-0.010	pCi/l	U	0.270	±	0.020	27[c]	NE	600[c]
SWSD009	Radiological	7440-61-1	Uranium-238	1.475	pCi/l		0.308	±	0.581	27[c]	NE	600[c]
			Total Uranium [c]	*3.406*	*pCi/l*					27[c]	NE	600[c]
SWSD009	Metal	7429-90-5	Aluminum	280	µg/L		0.21	10		50-200[d]	NE	
SWSD009	Metal	7440-36-0	Antimony	2	µg/L		0.13	0.4		6	3	
SWSD009	Metal	7440-38-2	Arsenic	3.7	µg/L		0.18	0.4		10	25	
SWSD009	Metal	7440-39-3	Barium	71	µg/L		0.13	4		2000	1000	
SWSD009	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD009	Metal	7440-42-8	Boron	500	µg/L	U	500	500		NE	1000	
SWSD009	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD009	Metal	7440-70-2	Calcium	160000	µg/L		2200	5000		NE	NE	
SWSD009	Metal	7440-47-3	Chromium	2.4	µg/L		0.13	2		100	50	
SWSD009	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
SWSD009	Metal	7440-50-8	Copper	5.6	µg/L		0.14	0.4		1300	200	
SWSD009	Metal	7439-89-6	Iron	1200	µg/L		20	80		300[d]	300	
SWSD009	Metal	7439-92-1	Lead	1.4	µg/L		0.13	1.2		15	25	
SWSD009	Metal	7439-93-2	Lithium	67	µg/L		5	5		NE	NE	
SWSD009	Metal	7439-95-4	Magnesium	95000	µg/L		270	1000		NE	NE	
SWSD009	Metal	7439-96-5	Manganese	310	µg/L		0.11	2		50[d]	300	
SWSD009	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD009	Metal	7440-02-0	Nickel	8.2	µg/L		0.11	2		NE	100	
SWSD009	Metal	7440-09-7	Potassium	12000	µg/L		450	1000		NE	NE	
SWSD009	Metal	7782-49-2	Selenium	6.7	µg/L		0.45	2		50	10	
SWSD009	Metal	7440-22-4	Silver	0.078	µg/L	**U**	0.078	0.4		100[d]	50	
SWSD009	Metal	7440-23-5	Sodium	170000	µg/L		2700	7500		NE	20000	
SWSD009	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD009	Metal	7440-62-2	Vanadium	1.1	µg/L		0.14	0.4		NE	14	
SWSD009	Metal	7440-66-6	Zinc	36	µg/L		0.38	2		5000[d]	NE	
SWSD009	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD009	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD009	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD009	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD009	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD009	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD009	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD009	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD009	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD009	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD009	VOC	67-64-1	Acetone[h]	4.3	µg/L	J	0.44	5		NE	NE	
SWSD009	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD009	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD009	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD009	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD009	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD009	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD009	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD009	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD009	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD009	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD009	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD009	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD009	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD009	VOC	75-09-2	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD009	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD009	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD009	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD009	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD009	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD009	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD009	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD009	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
SWSD009	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD009	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
SWSD009	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
SWSD009	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD009	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	NE	
SWSD009	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD009	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
SWSD009	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD009	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
SWSD009	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD009	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD009	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD009	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD009	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD009	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD009	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
SWSD009	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD009	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD009	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD009	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD009	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD009	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD009	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD009	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
SWSD009	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
SWSD009	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
SWSD009	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
SWSD009	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
SWSD009	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD009	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
SWSD009	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
SWSD009	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
SWSD009	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD009	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
SWSD009	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD009	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
SWSD009	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD009	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD009	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
SWSD009	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD009	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
SWSD009	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
SWSD009	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
SWSD009	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/19/2009											
SWSD021	Radiological	13982-63-3	Radium-226	0.928	pCi/l	J	0.310	±	0.348	5[a]	5[a]	100[a]
SWSD021	Radiological	15262-20-1	Radium-228	0.266	pCi/l	U	1.269	±	0.609	5[a]	5[a]	100[a]
			Total Radium [a]	*0.928*	*pCi/l*					5[a]	5[a]	100[a]
SWSD021	Radiological	14274-82-9	Thorium-228	0.024	pCi/l	U	0.294	±	0.110	15[b]	NE	400
SWSD021	Radiological	14269-63-7	Thorium-230	0.271	pCi/l		0.218	±	0.214	15[b]	NE	300
SWSD021	Radiological	7440-29-1	Thorium-232	0.102	pCi/l	U	0.167	±	0.128	15[b]	NE	50
			Total Thorium [b]	*0.271*	*pCi/l*					15[b]	NE	NE
SWSD021	Radiological	13966-29-5	Uranium-234	7.214	pCi/l		0.297	±	1.635	27[c]	NE	600[c]
SWSD021	Radiological	15117-96-1	Uranium-235	0.867	pCi/l		0.313	±	0.504	27[c]	NE	600[c]
SWSD021	Radiological	7440-61-1	Uranium-238	5.191	pCi/l		0.382	±	1.307	27[c]	NE	600[c]
			Total Uranium [c]	*13.272*	*pCi/l*					27[c]	NE	600[c]
SWSD021	Metal	7429-90-5	Aluminum	920	µg/L		0.21	10		50-200[d]	NE	
SWSD021	Metal	7440-36-0	Antimony	0.45	µg/L		0.13	0.4		6	3	
SWSD021	Metal	7440-38-2	Arsenic	2	µg/L		0.18	0.4		10	25	
SWSD021	Metal	7440-39-3	Barium	64	µg/L		0.13	4		2000	1000	
SWSD021	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD021	Metal	7440-42-8	Boron	100	µg/L	U	500	500		NE	1000	
SWSD021	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD021	Metal	7440-70-2	Calcium	96,000	µg/L		2200	5000		NE	NE	
SWSD021	Metal	7440-47-3	Chromium	41	µg/L		0.13	2		100	50	
SWSD021	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
SWSD021	Metal	7440-50-8	Copper	4.2	µg/L		0.14	0.4		1300	200	
SWSD021	Metal	7439-89-6	Iron	1,200	µg/L		20	80		300[d]	300	
SWSD021	Metal	7439-92-1	Lead	0.13	µg/L	U	0.13	1.2		15	25	
SWSD021	Metal	7439-93-2	Lithium	9.4	µg/L		5	5		NE	NE	
SWSD021	Metal	7439-95-4	Magnesium	40,000	µg/L		270	1000		NE	NE	
SWSD021	Metal	7439-96-5	Manganese	40	µg/L		0.11	2		50[d]	300	
SWSD021	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD021	Metal	7440-02-0	Nickel	3.9	µg/L		0.11	2		NE	100	
SWSD021	Metal	7440-09-7	Potassium	1,300	µg/L		450	1000		NE	NE	
SWSD021	Metal	7782-49-2	Selenium	0.45	µg/L		0.45	2		50	10	
SWSD021	Metal	7440-22-4	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
SWSD021	Metal	7440-23-5	Sodium	24,000	µg/L		2700	7500		NE	20000	
SWSD021	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD021	Metal	7440-62-2	Vanadium	1.7	µg/L		0.14	0.4		NE	14	
SWSD021	Metal	7440-66-6	Zinc	4.1	µg/L		0.38	2		5000[d]	NE	
SWSD021	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD021	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD021	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD021	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD021	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD021	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD021	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD021	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD021	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD021	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD021	VOC	67-64-1	Acetone[h]	5.0	µg/L	U	0.44	5		NE	NE	
SWSD021	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD021	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD021	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD021	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD021	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD021	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD021	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD021	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD021	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD021	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD021	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD021	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD021	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD021	VOC	75-09-2	Methylene chloride[h]	5.0	µg/L	U	0.2	5		5	5	
SWSD021	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD021	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD021	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD021	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD021	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD021	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD021	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD021	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
SWSD021	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.04		NE	NE	
SWSD021	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.036		NE	NE	
SWSD021	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.039		NE	NE	
SWSD021	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.02		NE	NE	
SWSD021	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.024		0.2	ND	
SWSD021	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.023		NE	NE	
SWSD021	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.024		NE	NE	
SWSD021	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.035		NE	NE	
SWSD021	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.03		NE	NE	
SWSD021	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.023		NE	NE	
SWSD021	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.035		NE	NE	
SWSD021	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.038		NE	NE	
SWSD021	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.02		NE	NE	
SWSD021	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.038		NE	NE	
SWSD021	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.04		NE	NE	
SWSD021	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.026		NE	NE	
SWSD021	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD021	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD021	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD021	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD021	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD021	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD021	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD021	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.003		NE	0.3	
SWSD021	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.002		NE	0.3	
SWSD021	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.002		NE	0.2	
SWSD021	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.003		NE	ND	
SWSD021	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.002		NE	0.01	
SWSD021	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.002		NE	NE	
SWSD021	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.003		NE	0.04	
SWSD021	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.002		NE	0.4	
SWSD021	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.002		NE	0.001	
SWSD021	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.002		NE	NE	
SWSD021	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.003		NE	NE	
SWSD021	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.002		NE	NE	
SWSD021	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.002		2	ND	
SWSD021	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.002		NE	5	
SWSD021	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.002		NE	5	
SWSD021	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.002		0.2	0.5	
SWSD021	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.002		NE	NE	
SWSD021	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.002		0.4	0.4	
SWSD021	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.002		0.2	0.3	
SWSD021	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.003		40	35	
SWSD021	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.038		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/19/2009											
SWSD010	Radiological	13982-63-3	Radium-226	1.450	pCi/l	J	0.259	±	0.434	5[a]	5[a]	100[a]
SWSD010	Radiological	15262-20-1	Radium-228	0.928	pCi/l	U	0.934	±	0.488	5[a]	5[a]	100[a]
			Total Radium [a]	*1.450*	*pCi/l*					5[a]	5[a]	100[a]
SWSD010	Radiological	14274-82-9	Thorium-228	0.112	pCi/l	U	0.310	±	0.173	15[b]	NE	400
SWSD010	Radiological	14269-63-7	Thorium-230	0.173	pCi/l	U	0.257	±	0.195	15[b]	NE	300
SWSD010	Radiological	7440-29-1	Thorium-232	0.173	pCi/l	U	0.256	±	0.195	15[b]	NE	50
			Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
SWSD010	Radiological	13966-29-5	Uranium-234	7.121	pCi/l		0.394	±	1.605	27[c]	NE	600[c]
SWSD010	Radiological	15117-96-1	Uranium-235	0.852	pCi/l		0.178	±	0.488	27[c]	NE	600[c]
SWSD010	Radiological	7440-61-1	Uranium-238	5.689	pCi/l		0.319	±	1.371	27[c]	NE	600[c]
			Total Uranium [c]	*13.662*	*pCi/l*					27[c]	NE	600[c]
SWSD010	Metal	7429-90-5	Aluminum	570	µg/L		0.21	10		50-200[d]	NE	
SWSD010	Metal	7440-36-0	Antimony	1.2	µg/L		0.13	0.4		6	3	
SWSD010	Metal	7440-38-2	Arsenic	2.1	µg/L		0.18	0.4		10	25	
SWSD010	Metal	7440-39-3	Barium	81	µg/L		0.13	4		2000	1000	
SWSD010	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD010	Metal	7440-42-8	Boron	590	µg/L		500	500		NE	1000	
SWSD010	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD010	Metal	7440-70-2	Calcium	160000	µg/L		430	1000		NE	NE	
SWSD010	Metal	7440-47-3	Chromium	4.5	µg/L		0.13	2		100	50	
SWSD010	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
SWSD010	Metal	7440-50-8	Copper	4.9	µg/L		0.14	0.4		1300	200	
SWSD010	Metal	7439-89-6	Iron	1200	µg/L		20	80		300[d]	300	
SWSD010	Metal	7439-92-1	Lead	2.8	µg/L		0.13	1.2		15	25	
SWSD010	Metal	7439-93-2	Lithium	38	µg/L		5	5		NE	NE	
SWSD010	Metal	7439-95-4	Magnesium	66000	µg/L		270	1000		NE	NE	
SWSD010	Metal	7439-96-5	Manganese	240	µg/L		0.11	2		50[d]	300	
SWSD010	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD010	Metal	7440-02-0	Nickel	6.8	µg/L		0.11	2		NE	100	
SWSD010	Metal	7440-09-7	Potassium	8900	µg/L		450	1000		NE	NE	
SWSD010	Metal	7782-49-2	Selenium	4.4	µg/L		0.45	2		50	10	
SWSD010	Metal	7440-22-4	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
SWSD010	Metal	7440-23-5	Sodium	120000	µg/L		540	1500		NE	20000	
SWSD010	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD010	Metal	7440-62-2	Vanadium	2	µg/L		0.14	0.4		NE	14	
SWSD010	Metal	7440-66-6	Zinc	16	µg/L		0.38	2		5000[d]	NE	
SWSD010	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD010	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD010	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD010	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD010	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD010	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD010	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD010	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD010	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD010	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD010	VOC	67-64-1	Acetone[h]	3.8	µg/L	J	0.44	5		NE	NE	
SWSD010	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD010	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD010	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD010	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD010	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD010	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD010	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD010	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD010	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD010	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD010	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD010	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD010	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD010	VOC	75-09-2	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD010	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD010	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD010	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD010	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD010	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD010	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD010	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD010	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
SWSD010	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD010	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
SWSD010	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
SWSD010	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD010	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
SWSD010	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD010	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
SWSD010	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD010	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
SWSD010	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD010	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD010	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD010	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD010	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD010	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD010	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
SWSD010	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD010	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD010	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD010	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD010	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD010	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD010	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD010	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
SWSD010	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
SWSD010	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
SWSD010	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
SWSD010	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
SWSD010	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD010	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
SWSD010	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
SWSD010	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
SWSD010	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD010	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
SWSD010	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD010	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
SWSD010	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD010	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD010	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
SWSD010	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD010	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
SWSD010	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
SWSD010	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
SWSD010	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/18/2009											
SWSD011	Radiological	13982-63-3	Radium-226	0.519	pCi/l	U	0.916	±	0.557	5[a]	5[a]	100[a]
SWSD011	Radiological	15262-20-1	Radium-228	0.454	pCi/l	U	1.014	±	0.498	5[a]	5[a]	100[a]
			Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
SWSD011	Radiological	14274-82-9	Thorium-228	0.203	pCi/l	U	0.286	±	0.198	15[b]	NE	400
SWSD011	Radiological	14269-63-7	Thorium-230	0.287	pCi/l		0.246	±	0.221	15[b]	NE	300
SWSD011	Radiological	7440-29-1	Thorium-232	0.087	pCi/l	U	0.212	±	0.125	15[b]	NE	50
			Total Thorium [b]	*0.287*	*pCi/l*					15[b]	NE	NE
SWSD011	Radiological	13966-29-5	Uranium-234	4.850	pCi/l		0.146	±	1.238	27[c]	NE	600[c]
SWSD011	Radiological	15117-96-1	Uranium-235	0.199	pCi/l		0.180	±	0.232	27[c]	NE	600[c]
SWSD011	Radiological	7440-61-1	Uranium-238	4.597	pCi/l		0.291	±	1.195	27[c]	NE	600[c]
			Total Uranium [c]	*9.646*	*pCi/l*					27[c]	NE	600[c]
SWSD011	Metal	7429-90-5	Aluminum	540	µg/L		0.21	10		50-200[d]	NE	
SWSD011	Metal	7440-36-0	Antimony	1.7	µg/L	J	0.13	0.4		6	3	
SWSD011	Metal	7440-38-2	Arsenic	1.1	µg/L		0.18	0.4		10	25	
SWSD011	Metal	7440-39-3	Barium	63	µg/L		0.13	4		2000	1000	
SWSD011	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD011	Metal	7440-42-8	Boron	350	µg/L		5.8	60		NE	1000	
SWSD011	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD011	Metal	7440-70-2	Calcium	140000	µg/L		430	1000		NE	NE	
SWSD011	Metal	7440-47-3	Chromium	4.7	µg/L		0.13	2		100	50	
SWSD011	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
SWSD011	Metal	7440-50-8	Copper	7	µg/L		0.14	0.4		1300	200	
SWSD011	Metal	7439-89-6	Iron	820	µg/L		20	80		300[d]	300	
SWSD011	Metal	7439-92-1	Lead	0.13	µg/L	U	0.13	1.2		15	25	
SWSD011	Metal	7439-93-2	Lithium	19	µg/L		5	5		NE	NE	
SWSD011	Metal	7439-95-4	Magnesium	52000	µg/L		270	1000		NE	NE	
SWSD011	Metal	7439-96-5	Manganese	260	µg/L		0.11	2		50[d]	300	
SWSD011	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD011	Metal	7440-02-0	Nickel	5	µg/L		0.11	2		NE	100	
SWSD011	Metal	7440-09-7	Potassium	5100	µg/L		450	1000		NE	NE	
SWSD011	Metal	7782-49-2	Selenium	2.6	µg/L		0.45	2		50	10	
SWSD011	Metal	7440-22-4	Silver	0.47	µg/L	J	0.078	0.4		100[d]	50	
SWSD011	Metal	7440-23-5	Sodium	53000	µg/L		540	1500		NE	20000	
SWSD011	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD011	Metal	7440-62-2	Vanadium	1.5	µg/L		0.14	0.4		NE	14	
SWSD011	Metal	7440-66-6	Zinc	14	µg/L		0.38	2		5000[d]	NE	
SWSD011	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD011	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD011	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD011	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD011	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD011	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD011	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD011	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD011	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD011	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD011	VOC	67-64-1	Acetone[h]	5	µg/L	U	0.44	5		NE	NE	
SWSD011	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD011	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD011	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD011	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD011	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD011	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD011	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD011	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD011	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD011	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD011	VOC	156-59-2	cis-1,2-Dichloroethylene	0.47	µg/L	J	0.17	1		70	5	
SWSD011	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD011	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD011	VOC	75-09-2	Methylene chloride[h]	5	µg/L	U	0.2	5		5	5	
SWSD011	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD011	VOC	127-18-4	Tetrachloroethylene	0.7	µg/L	J	0.26	1		5	5	
SWSD011	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD011	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD011	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD011	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD011	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD011	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
SWSD011	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD011	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
SWSD011	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
SWSD011	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD011	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
SWSD011	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD011	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
SWSD011	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD011	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
SWSD011	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD011	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD011	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD011	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD011	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD011	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD011	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
SWSD011	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD011	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD011	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD011	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD011	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD011	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD011	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD011	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
SWSD011	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
SWSD011	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
SWSD011	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
SWSD011	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
SWSD011	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD011	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
SWSD011	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
SWSD011	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
SWSD011	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD011	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
SWSD011	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD011	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
SWSD011	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD011	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD011	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
SWSD011	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD011	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
SWSD011	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
SWSD011	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
SWSD011	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/18/2009											
*SW-DUP(SWSD011)	Radiological	13982-63-3	Radium-226	0.520	pCi/l	U	0.710	±	0.449	5[a]	5[a]	100[a]
*SW-DUP(SWSD011)	Radiological	15262-20-1	Radium-228	1.043	pCi/l		0.772	±	0.424	5[a]	5[a]	100[a]
			Total Radium [a]	*1.043*	*pCi/l*					5[a]	5[a]	100[a]
*SW-DUP(SWSD011)	Radiological	14274-82-9	Thorium-228	0.053	pCi/l	U	0.317	±	0.136	15[b]	NE	400
*SW-DUP(SWSD011)	Radiological	14269-63-7	Thorium-230	0.324	pCi/l		0.317	±	0.269	15[b]	NE	300
*SW-DUP(SWSD011)	Radiological	7440-29-1	Thorium-232	-0.038	pCi/l	U	0.317	±	0.036	15[b]	NE	50
			Total Thorium [b]	*0.324*	*pCi/l*					15[b]	NE	NE
*SW-DUP(SWSD011)	Radiological	13966-29-5	Uranium-234	4.918	pCi/l		0.470	±	1.273	27[c]	NE	600[c]
*SW-DUP(SWSD011)	Radiological	15117-96-1	Uranium-235	0.239	pCi/l	U	0.414	±	0.279	27[c]	NE	600[c]
*SW-DUP(SWSD011)	Radiological	7440-61-1	Uranium-238	4.299	pCi/l		0.300	±	1.159	27[c]	NE	600[c]
			Total Uranium [c]	*9.217*	*pCi/l*					27[c]	NE	600[c]
*SW-DUP(SWSD011)	Metal	7429-90-5	Aluminum	470	µg/L		0.21	10		50-200[d]	NE	
*SW-DUP(SWSD011)	Metal	7440-36-0	Antimony	0.62	µg/L	J	0.13	0.4		6	3	
*SW-DUP(SWSD011)	Metal	7440-38-2	Arsenic	1.3	µg/L		0.18	0.4		10	25	
*SW-DUP(SWSD011)	Metal	7440-39-3	Barium	64	µg/L		0.13	4		2000	1000	
*SW-DUP(SWSD011)	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
*SW-DUP(SWSD011)	Metal	7440-42-8	Boron	350	µg/L		5.8	60		NE	1000	
*SW-DUP(SWSD011)	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
*SW-DUP(SWSD011)	Metal	7440-70-2	Calcium	150000	µg/L		430	1000		NE	NE	
*SW-DUP(SWSD011)	Metal	7440-47-3	Chromium	4.7	µg/L		0.13	2		100	50	
*SW-DUP(SWSD011)	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
*SW-DUP(SWSD011)	Metal	7440-50-8	Copper	3.2	µg/L		0.14	0.4		1300	200	
*SW-DUP(SWSD011)	Metal	7439-89-6	Iron	810	µg/L		20	80		300[d]	300	
*SW-DUP(SWSD011)	Metal	7439-92-1	Lead	0.13	µg/L	U	0.13	1.2		15	25	
*SW-DUP(SWSD011)	Metal	7439-93-2	Lithium	20	µg/L		5	5		NE	NE	
*SW-DUP(SWSD011)	Metal	7439-95-4	Magnesium	53000	µg/L		270	1000		NE	NE	
*SW-DUP(SWSD011)	Metal	7439-96-5	Manganese	270	µg/L		0.11	2		50[d]	300	
*SW-DUP(SWSD011)	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
*SW-DUP(SWSD011)	Metal	7440-02-0	Nickel	5.2	µg/L		0.11	2		NE	100	
*SW-DUP(SWSD011)	Metal	7440-09-7	Potassium	5400	µg/L		450	1000		NE	NE	
*SW-DUP(SWSD011)	Metal	7782-49-2	Selenium	2.9	µg/L		0.45	2		50	10	
*SW-DUP(SWSD011)	Metal	7440-22-4	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
*SW-DUP(SWSD011)	Metal	7440-23-5	Sodium	55000	µg/L		540	1500		NE	20000	
*SW-DUP(SWSD011)	Metal	7440-28-0	Thallium	0.16	µg/L		0.16	2		2	NE	
*SW-DUP(SWSD011)	Metal	7440-62-2	Vanadium	1.4	µg/L		0.14	0.4		NE	14	
*SW-DUP(SWSD011)	Metal	7440-66-6	Zinc	13	µg/L		0.38	2		5000[d]	NE	
*SW-DUP(SWSD011)	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
*SW-DUP(SWSD011)	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
*SW-DUP(SWSD011)	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
*SW-DUP(SWSD011)	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
*SW-DUP(SWSD011)	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
*SW-DUP(SWSD011)	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
*SW-DUP(SWSD011)	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
*SW-DUP(SWSD011)	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
*SW-DUP(SWSD011)	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
*SW-DUP(SWSD011)	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
*SW-DUP(SWSD011)	VOC	67-64-1	Acetone[h]	5	µg/L	U	0.44	5		NE	NE	
*SW-DUP(SWSD011)	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
*SW-DUP(SWSD011)	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
*SW-DUP(SWSD011)	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
*SW-DUP(SWSD011)	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
*SW-DUP(SWSD011)	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
*SW-DUP(SWSD011)	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
*SW-DUP(SWSD011)	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
*SW-DUP(SWSD011)	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
*SW-DUP(SWSD011)	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
*SW-DUP(SWSD011)	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
*SW-DUP(SWSD011)	VOC	156-59-2	cis-1,2-Dichloroethylene	0.46	µg/L	J	0.17	1		70	5	
*SW-DUP(SWSD011)	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
*SW-DUP(SWSD011)	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
*SW-DUP(SWSD011)	VOC	75-09-2	Methylene chloride[h]	5	µg/L	U	0.2	5		5	5	
*SW-DUP(SWSD011)	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
*SW-DUP(SWSD011)	VOC	127-18-4	Tetrachloroethylene	0.64	µg/L	J	0.26	1		5	5	
*SW-DUP(SWSD011)	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
*SW-DUP(SWSD011)	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
*SW-DUP(SWSD011)	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
*SW-DUP(SWSD011)	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
*SW-DUP(SWSD011)	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
*SW-DUP(SWSD011)	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
*SW-DUP(SWSD011)	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
*SW-DUP(SWSD011)	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
*SW-DUP(SWSD011)	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
*SW-DUP(SWSD011)	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
*SW-DUP(SWSD011)	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
*SW-DUP(SWSD011)	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
*SW-DUP(SWSD011)	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
*SW-DUP(SWSD011)	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
*SW-DUP(SWSD011)	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
*SW-DUP(SWSD011)	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
*SW-DUP(SWSD011)	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
*SW-DUP(SWSD011)	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
*SW-DUP(SWSD011)	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
*SW-DUP(SWSD011)	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
*SW-DUP(SWSD011)	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
*SW-DUP(SWSD011)	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
*SW-DUP(SWSD011)	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
*SW-DUP(SWSD011)	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
*SW-DUP(SWSD011)	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
*SW-DUP(SWSD011)	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
*SW-DUP(SWSD011)	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
*SW-DUP(SWSD011)	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
*SW-DUP(SWSD011)	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
*SW-DUP(SWSD011)	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
*SW-DUP(SWSD011)	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
*SW-DUP(SWSD011)	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
*SW-DUP(SWSD011)	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
*SW-DUP(SWSD011)	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
*SW-DUP(SWSD011)	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
*SW-DUP(SWSD011)	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
*SW-DUP(SWSD011)	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/18/2009											
SWSD022	Radiological	13982-63-3	Radium-226	0.867	pCi/l	U	1.021	±	0.664	5[a]	5[a]	100[a]
SWSD022	Radiological	15262-20-1	Radium-228	0.328	pCi/l	U	0.978	±	0.474	5[a]	5[a]	100[a]
			Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
SWSD022	Radiological	14274-82-9	Thorium-228	0.212	pCi/l	U	0.536	±	0.287	15[b]	NE	400
SWSD022	Radiological	14269-63-7	Thorium-230	0.194	pCi/l	U	0.234	±	0.208	15[b]	NE	300
SWSD022	Radiological	7440-29-1	Thorium-232	-0.009	pCi/l	U	0.233	±	0.017	15[b]	NE	50
			Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
SWSD022	Radiological	13966-29-5	Uranium-234	3.641	pCi/l		0.448	±	1.011	27[c]	NE	600[c]
SWSD022	Radiological	15117-96-1	Uranium-235	0.546	pCi/l		0.342	±	0.387	27[c]	NE	600[c]
SWSD022	Radiological	7440-61-1	Uranium-238	3.398	pCi/l		0.235	±	0.958	27[c]	NE	600[c]
			Total Uranium [c]	*7.585*	*pCi/l*					27[c]	NE	600[c]
SWSD022	Metal	7429-90-5	Aluminum	38	µg/L		0.21	10		50-200[d]	NE	
SWSD022	Metal	7440-36-0	Antimony	0.56	µg/L		0.13	0.4		6	3	
SWSD022	Metal	7440-38-2	Arsenic	1.6	µg/L		0.18	0.4		10	25	
SWSD022	Metal	7440-39-3	Barium	66	µg/L		0.13	4		2000	1000	
SWSD022	Metal	7440-41-7	Beryllium	0.3	µg/L	U	0.3	1		4	11	
SWSD022	Metal	7440-42-8	Boron	510	µg/L		5.8	60		NE	1000	
SWSD022	Metal	7440-43-9	Cadmium	2	µg/L	U	0.12	2		5	5	
SWSD022	Metal	7440-70-2	Calcium	190000	µg/L		430	1000		NE	NE	
SWSD022	Metal	7440-47-3	Chromium	0.13	µg/L	U	0.13	2		100	50	
SWSD022	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
SWSD022	Metal	7440-50-8	Copper	3.3	µg/L		0.14	0.4		1300	200	
SWSD022	Metal	7439-89-6	Iron	320	µg/L		20	80		300[d]	300	
SWSD022	Metal	7439-92-1	Lead	0.13	µg/L	U	0.13	1.2		15	25	
SWSD022	Metal	7439-93-2	Lithium	35	µg/L		5	5		NE	NE	
SWSD022	Metal	7439-95-4	Magnesium	72000	µg/L		270	1000		NE	NE	
SWSD022	Metal	7439-96-5	Manganese	460	µg/L		0.11	2		50[d]	300	
SWSD022	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD022	Metal	7440-02-0	Nickel	6.7	µg/L		0.11	2		NE	100	
SWSD022	Metal	7440-09-7	Potassium	9200	µg/L		450	1000		NE	NE	
SWSD022	Metal	7782-49-2	Selenium	5.9	µg/L		0.45	2		50	10	
SWSD022	Metal	7440-22-4	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
SWSD022	Metal	7440-23-5	Sodium	130000	µg/L		540	1500		NE	20000	
SWSD022	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD022	Metal	7440-62-2	Vanadium	0.14	µg/L	U	0.14	0.4		NE	14	
SWSD022	Metal	7440-66-6	Zinc	15	µg/L		0.38	2		5000[d]	NE	
SWSD022	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD022	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD022	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD022	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD022	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD022	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD022	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD022	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD022	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD022	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD022	VOC	67-64-1	Acetone[h]	5.0	µg/L	U	0.44	5		NE	NE	
SWSD022	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD022	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD022	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD022	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD022	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD022	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD022	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD022	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD022	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD022	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD022	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD022	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD022	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD022	VOC	75-09-2	Methylene chloride[h]	5.0	µg/L	U	0.2	5		5	5	
SWSD022	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD022	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD022	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD022	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD022	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD022	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD022	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD022	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
SWSD022	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD022	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
SWSD022	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
SWSD022	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD022	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
SWSD022	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD022	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
SWSD022	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD022	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
SWSD022	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD022	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD022	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD022	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD022	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD022	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD022	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
SWSD022	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD022	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD022	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD022	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD022	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD022	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD022	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD022	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
SWSD022	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
SWSD022	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
SWSD022	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
SWSD022	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
SWSD022	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD022	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
SWSD022	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
SWSD022	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
SWSD022	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD022	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
SWSD022	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD022	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
SWSD022	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD022	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD022	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
SWSD022	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD022	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
SWSD022	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
SWSD022	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
SWSD022	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/19/2009											
SWSD023	Radiological	13982-63-3	Radium-226	0.183	pCi/l	U	0.644	±	0.367	5[a]	5[a]	100[a]
SWSD023	Radiological	15262-20-1	Radium-228	1.022	pCi/l	U	1.058	±	0.550	5[a]	5[a]	100[a]
			Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
SWSD023	Radiological	14274-82-9	Thorium-228	0.023	pCi/l	U	0.276	±	0.098	15[b]	NE	400
SWSD023	Radiological	14269-63-7	Thorium-230	1.183	pCi/l		0.212	±	0.541	15[b]	NE	300
SWSD023	Radiological	7440-29-1	Thorium-232	0.114	pCi/l	U	0.276	±	0.163	15[b]	NE	50
			Total Thorium [b]	*1.183*	*pCi/l*					15[b]	NE	NE
SWSD023	Radiological	13966-29-5	Uranium-234	0.986	pCi/l	J	0.385	±	0.488	27[c]	NE	600[c]
SWSD023	Radiological	15117-96-1	Uranium-235	-0.022	pCi/l	U	0.348	±	0.031	27[c]	NE	600[c]
SWSD023	Radiological	7440-61-1	Uranium-238	0.612	pCi/l		0.239	±	0.369	27[c]	NE	600[c]
			Total Uranium [c]	*1.598*	*pCi/l*					27[c]	NE	600[c]
SWSD023	Metal	7429-90-5	Aluminum	340	µg/L		0.21	10		50-200[d]	NE	
SWSD023	Metal	7440-36-0	Antimony	2.5	µg/L		0.13	0.4		6	3	
SWSD023	Metal	7440-38-2	Arsenic	3.6	µg/L		0.18	0.4		10	25	
SWSD023	Metal	7440-39-3	Barium	97	µg/L		0.13	4		2000	1000	
SWSD023	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD023	Metal	7440-42-8	Boron	210	µg/L		100	100		NE	1000	
SWSD023	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD023	Metal	7440-70-2	Calcium	84000	µg/L		430	1000		NE	NE	
SWSD023	Metal	7440-47-3	Chromium	0.13	µg/L	U	0.13	2		100	50	
SWSD023	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
SWSD023	Metal	7440-50-8	Copper	4.2	µg/L		0.14	0.4		1300	200	
SWSD023	Metal	7439-89-6	Iron	840	µg/L		20	80		300[d]	300	
SWSD023	Metal	7439-92-1	Lead	3.6	µg/L		0.13	1.2		15	25	
SWSD023	Metal	7439-93-2	Lithium	13	µg/L		5	5		NE	NE	
SWSD023	Metal	7439-95-4	Magnesium	48000	µg/L		270	1000		NE	NE	
SWSD023	Metal	7439-96-5	Manganese	78	µg/L		0.11	2		50[d]	300	
SWSD023	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD023	Metal	7440-02-0	Nickel	6.7	µg/L		0.11	2		NE	100	
SWSD023	Metal	7440-09-7	Potassium	5700	µg/L		450	1000		NE	NE	
SWSD023	Metal	7782-49-2	Selenium	0.45	µg/L	U	0.45	2		50	10	
SWSD023	Metal	7440-22-4	Silver	ND	µg/L		0.078	0.4		100[d]	50	
SWSD023	Metal	7440-23-5	Sodium	75000	µg/L		540	1500		NE	20000	
SWSD023	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD023	Metal	7440-62-2	Vanadium	1.6	µg/L		0.14	0.4		NE	14	
SWSD023	Metal	7440-66-6	Zinc	24	µg/L		0.38	2		5000[d]	NE	
SWSD023	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD023	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD023	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD023	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD023	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD023	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD023	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD023	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD023	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD023	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD023	VOC	67-64-1	Acetone[h]	7.3	µg/L	J	0.44	5		NE	NE	
SWSD023	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD023	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD023	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD023	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD023	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD023	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD023	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD023	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD023	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD023	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD023	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD023	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD023	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD023	VOC	75-09-2	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD023	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD023	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD023	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD023	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD023	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD023	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD023	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD023	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
SWSD023	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD023	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
SWSD023	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
SWSD023	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD023	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
SWSD023	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD023	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
SWSD023	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD023	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
SWSD023	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD023	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD023	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD023	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD023	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD023	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD023	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
SWSD023	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD023	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD023	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD023	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD023	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD023	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD023	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD023	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
SWSD023	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
SWSD023	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
SWSD023	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
SWSD023	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
SWSD023	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD023	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
SWSD023	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
SWSD023	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
SWSD023	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD023	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
SWSD023	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD023	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
SWSD023	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD023	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD023	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
SWSD023	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD023	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
SWSD023	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
SWSD023	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
SWSD023	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/18/2009											
SWSD024	Radiological	13982-63-3	Radium-226	1.560	pCi/l	J	0.708	±	0.643	5[a]	5[a]	100[a]
SWSD024	Radiological	15262-20-1	Radium-228	0.523	pCi/l	U	1.136	±	0.558	5[a]	5[a]	100[a]
			Total Radium [a]	*1.560*	*pCi/l*					5[a]	5[a]	100[a]
SWSD024	Radiological	14274-82-9	Thorium-228	0.088	pCi/l	U	0.208	±	0.125	15[b]	NE	400
SWSD024	Radiological	14269-63-7	Thorium-230	0.120	pCi/l	U	0.208	±	0.142	15[b]	NE	300
SWSD024	Radiological	7440-29-1	Thorium-232	0.000	pCi/l	U	0.093	±	0.009	15[b]	NE	50
			Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
SWSD024	Radiological	13966-29-5	Uranium-234	3.710	pCi/l		0.559	±	1.040	27[c]	NE	600[c]
SWSD024	Radiological	15117-96-1	Uranium-235	0.540	pCi/l		0.384	±	0.391	27[c]	NE	600[c]
SWSD024	Radiological	7440-61-1	Uranium-238	3.928	pCi/l		0.310	±	1.061	27[c]	NE	600[c]
			Total Uranium [c]	*8.178*	*pCi/l*					27[c]	NE	600[c]
SWSD024	Metal	7429-90-5	Aluminum	410	µg/L		0.21	10		50-200[d]	NE	
SWSD024	Metal	7440-36-0	Antimony	11	µg/L		0.13	0.4		6	3	
SWSD024	Metal	7440-38-2	Arsenic	2.2	µg/L		0.18	0.4		10	25	
SWSD024	Metal	7440-39-3	Barium	36	µg/L		0.13	4		2000	1000	
SWSD024	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD024	Metal	7440-42-8	Boron	170	µg/L		5.8	60		NE	1000	
SWSD024	Metal	7440-43-9	Cadmium	0.12	µg/L		0.12	2		5	5	
SWSD024	Metal	7440-70-2	Calcium	140000	µg/L		430	1000		NE	NE	
SWSD024	Metal	7440-47-3	Chromium	0.13	µg/L	U	0.13	2		100	50	
SWSD024	Metal	7440-48-4	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
SWSD024	Metal	7440-50-8	Copper	3.4	µg/L		0.14	0.4		1300	200	
SWSD024	Metal	7439-89-6	Iron	1300	µg/L		20	80		300[d]	300	
SWSD024	Metal	7439-92-1	Lead	0.13	µg/L	U	0.13	1.2		15	25	
SWSD024	Metal	7439-93-2	Lithium	12	µg/L		5	5		NE	NE	
SWSD024	Metal	7439-95-4	Magnesium	51000	µg/L		270	1000		NE	NE	
SWSD024	Metal	7439-96-5	Manganese	640	µg/L		0.11	2		50[d]	300	
SWSD024	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD024	Metal	7440-02-0	Nickel	5.7	µg/L		0.11	2		NE	100	
SWSD024	Metal	7440-09-7	Potassium	7000	µg/L		450	1000		NE	NE	
SWSD024	Metal	7782-49-2	Selenium	2.9	µg/L		0.45	2		50	10	
SWSD024	Metal	7440-22-4	Silver	0.84	µg/L		0.078	0.4		100[d]	50	
SWSD024	Metal	7440-23-5	Sodium	16000	µg/L		540	1500		NE	20000	
SWSD024	Metal	7440-28-0	Thallium	0.16	µg/L		0.16	2		2	NE	
SWSD024	Metal	7440-62-2	Vanadium	1.1	µg/L		0.14	0.4		NE	14	
SWSD024	Metal	7440-66-6	Zinc	23	µg/L		0.38	2		5000[d]	NE	
SWSD024	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD024	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD024	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD024	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD024	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD024	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD024	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD024	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD024	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD024	VOC	108-10-1	4-Methyl-2-pentanone	2.7	µg/L	J	0.4	5		NE	NE	
SWSD024	VOC	67-64-1	Acetone[h]	5	µg/L	U	0.44	5		NE	NE	
SWSD024	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD024	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD024	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD024	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD024	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD024	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD024	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD024	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD024	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD024	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD024	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD024	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD024	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD024	VOC	75-09-2	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD024	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD024	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD024	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD024	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD024	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD024	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD024	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD024	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
SWSD024	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD024	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
SWSD024	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
SWSD024	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD024	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
SWSD024	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD024	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
SWSD024	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD024	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
SWSD024	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
SWSD024	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
SWSD024	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD024	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
SWSD024	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
SWSD024	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
SWSD024	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
SWSD024	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD024	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD024	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD024	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD024	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
SWSD024	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD024	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
SWSD024	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
SWSD024	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
SWSD024	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
SWSD024	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
SWSD024	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
SWSD024	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD024	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
SWSD024	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
SWSD024	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
SWSD024	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD024	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
SWSD024	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD024	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
SWSD024	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD024	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
SWSD024	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
SWSD024	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
SWSD024	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
SWSD024	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
SWSD024	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
SWSD024	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/18/2009											
WDD1	Radiological	13982-63-3	Radium-226	1.219	pCi/l	J	0.881	±	0.632	5[a]	5[a]	100[a]
WDD1	Radiological	15262-20-1	Radium-228	1.070	pCi/l		0.805	±	0.440	5[a]	5[a]	100[a]
			Total Radium [a]	*2.289*	*pCi/l*					5[a]	5[a]	100[a]
WDD1	Radiological	14274-82-9	Thorium-228	0.105	pCi/l	U	0.353	±	0.177	15[b]	NE	400
WDD1	Radiological	14269-63-7	Thorium-230	0.083	pCi/l	U	0.309	±	0.150	15[b]	NE	300
WDD1	Radiological	7440-29-1	Thorium-232	-0.014	pCi/l	U	0.226	±	0.020	15[b]	NE	50
			Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
WDD1	Radiological	13966-29-5	Uranium-234	1.013	pCi/l	J	0.279	±	0.483	27[c]	NE	600[c]
WDD1	Radiological	15117-96-1	Uranium-235	0.053	pCi/l	U	0.294	±	0.129	27[c]	NE	600[c]
WDD1	Radiological	7440-61-1	Uranium-238	1.102	pCi/l		0.309	±	0.507	27[c]	NE	600[c]
			Total Uranium [c]	*2.115*	*pCi/l*					27[c]	NE	600[c]
WDD1	Metal	7429-90-5	Aluminum	260	µg/L		0.21	10		50-200[d]	NE	
WDD1	Metal	7440-36-0	Antimony	0.52	µg/L		0.13	0.4		6	3	
WDD1	Metal	7440-38-2	Arsenic	2	µg/L		0.18	0.4		10	25	
WDD1	Metal	7440-39-3	Barium	60	µg/L		0.13	4		2000	1000	
WDD1	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
WDD1	Metal	7440-42-8	Boron	200	µg/L		5.8	60		NE	1000	
WDD1	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
WDD1	Metal	7440-70-2	Calcium	140000	µg/L		430	1000		NE	NE	
WDD1	Metal	7440-47-3	Chromium	0.13	µg/L	U	0.13	2		100	50	
WDD1	Metal	7440-48-4	Cobalt	2.1	µg/L		0.12	2		NE	NE	
WDD1	Metal	7440-50-8	Copper	34	µg/L		0.14	0.4		1300	200	
WDD1	Metal	7439-89-6	Iron	500	µg/L		20	80		300[d]	300	
WDD1	Metal	7439-92-1	Lead	1.7	µg/L		0.13	1.2		15	25	
WDD1	Metal	7439-93-2	Lithium	13	µg/L		5	5		NE	NE	
WDD1	Metal	7439-95-4	Magnesium	47000	µg/L		270	1000		NE	NE	
WDD1	Metal	7439-96-5	Manganese	140	µg/L		0.11	2		50[d]	300	
WDD1	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
WDD1	Metal	7440-02-0	Nickel	8.8	µg/L		0.11	2		NE	100	
WDD1	Metal	7440-09-7	Potassium	100000	µg/L		450	1000		NE	NE	
WDD1	Metal	7782-49-2	Selenium	0.45	µg/L	U	0.45	2		50	10	
WDD1	Metal	7440-22-4	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
WDD1	Metal	7440-23-5	Sodium	52000	µg/L		540	1500		NE	20000	
WDD1	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
WDD1	Metal	7440-62-2	Vanadium	1.5	µg/L		0.14	0.4		NE	14	
WDD1	Metal	7440-66-6	Zinc	230	µg/L		0.38	2		5000[d]	NE	
WDD1	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
WDD1	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
WDD1	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
WDD1	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
WDD1	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
WDD1	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
WDD1	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
WDD1	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
WDD1	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
WDD1	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
WDD1	VOC	67-64-1	Acetone[h]	5	µg/L	U	0.44	5		NE	NE	
WDD1	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
WDD1	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
WDD1	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
WDD1	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
WDD1	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
WDD1	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
WDD1	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
WDD1	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
WDD1	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
WDD1	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
WDD1	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
WDD1	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
WDD1	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
WDD1	VOC	75-09-2	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
WDD1	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
WDD1	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
WDD1	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
WDD1	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
WDD1	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
WDD1	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
WDD1	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
WDD1	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
WDD1	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
WDD1	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
WDD1	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
WDD1	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
WDD1	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
WDD1	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
WDD1	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
WDD1	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
WDD1	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
WDD1	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
WDD1	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
WDD1	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
WDD1	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
WDD1	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
WDD1	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
WDD1	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
WDD1	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD1	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD1	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD1	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
WDD1	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD1	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD1	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
WDD1	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
WDD1	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
WDD1	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
WDD1	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
WDD1	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
WDD1	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD1	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
WDD1	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
WDD1	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
WDD1	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD1	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
WDD1	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD1	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
WDD1	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
WDD1	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
WDD1	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
WDD1	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD1	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
WDD1	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
WDD1	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
WDD1	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/18/2009											
WDD2	Radiological	13982-63-3	Radium-226	0.183	pCi/l	U	0.576	±	0.329	5[a]	5[a]	100[a]
WDD2	Radiological	15262-20-1	Radium-228	1.035	pCi/l		0.896	±	0.478	5[a]	5[a]	100[a]
			Total Radium [a]	*1.035*	*pCi/l*					5[a]	5[a]	100[a]
WDD2	Radiological	14274-82-9	Thorium-228	0.110	pCi/l	U	0.410	±	0.199	15[b]	NE	400
WDD2	Radiological	14269-63-7	Thorium-230	0.334	pCi/l		0.327	±	0.278	15[b]	NE	300
WDD2	Radiological	7440-29-1	Thorium-232	0.077	pCi/l	U	0.253	±	0.135	15[b]	NE	50
			Total Thorium [b]	*0.334*	*pCi/l*					15[b]	NE	NE
WDD2	Radiological	13966-29-5	Uranium-234	1.612	pCi/l	J	0.250	±	0.637	27[c]	NE	600[c]
WDD2	Radiological	15117-96-1	Uranium-235	0.255	pCi/l	U	0.309	±	0.270	27[c]	NE	600[c]
WDD2	Radiological	7440-61-1	Uranium-238	0.915	pCi/l		0.146	±	0.463	27[c]	NE	600[c]
			Total Uranium [c]	*2.527*	*pCi/l*					27[c]	NE	600[c]
WDD2	Metal	7429-90-5	Aluminum	480	µg/L		0.21	10		50-200[d]	NE	
WDD2	Metal	7440-36-0	Antimony	0.13	µg/L	U	0.13	0.4		6	3	
WDD2	Metal	7440-38-2	Arsenic	2.2	µg/L		0.18	0.4		10	25	
WDD2	Metal	7440-39-3	Barium	63	µg/L		0.13	4		2000	1000	
WDD2	Metal	7440-41-7	Beryllium	0.16	µg/L	U	0.16	0.4		4	11	
WDD2	Metal	7440-42-8	Boron	160	µg/L		5.8	60		NE	1000	
WDD2	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
WDD2	Metal	7440-70-2	Calcium	130000	µg/L		430	1000		NE	NE	
WDD2	Metal	7440-47-3	Chromium	0.13	µg/L	U	0.13	2		100	50	
WDD2	Metal	7440-48-4	Cobalt	2.4	µg/L		0.12	2		NE	NE	
WDD2	Metal	7440-50-8	Copper	26	µg/L		0.14	0.4		1300	200	
WDD2	Metal	7439-89-6	Iron	760	µg/L		20	80		300[d]	300	
WDD2	Metal	7439-92-1	Lead	1.5	µg/L		0.13	1.2		15	25	
WDD2	Metal	7439-93-2	Lithium	12	µg/L		5	5		NE	NE	
WDD2	Metal	7439-95-4	Magnesium	45000	µg/L		270	1000		NE	NE	
WDD2	Metal	7439-96-5	Manganese	120	µg/L		0.11	2		50[d]	300	
WDD2	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
WDD2	Metal	7440-02-0	Nickel	10	µg/L		0.11	2		NE	100	
WDD2	Metal	7440-09-7	Potassium	79000	µg/L		450	1000		NE	NE	
WDD2	Metal	7782-49-2	Selenium	0.45	µg/L	U	0.45	2		50	10	
WDD2	Metal	7440-22-4	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
WDD2	Metal	7440-23-5	Sodium	44000	µg/L		540	1500		NE	20000	
WDD2	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
WDD2	Metal	7440-62-2	Vanadium	1.5	µg/L		0.14	0.4		NE	14	
WDD2	Metal	7440-66-6	Zinc	220	µg/L		0.38	2		5000[d]	NE	
WDD2	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
WDD2	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
WDD2	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
WDD2	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
WDD2	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
WDD2	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
WDD2	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
WDD2	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
WDD2	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
WDD2	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
WDD2	VOC	67-64-1	Acetone[h]	5	µg/L	U	0.44	5		NE	NE	
WDD2	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
WDD2	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
WDD2	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
WDD2	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
WDD2	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
WDD2	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
WDD2	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
WDD2	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
WDD2	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
WDD2	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
WDD2	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
WDD2	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
WDD2	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
WDD2	VOC	75-09-2	Methylene chloride[h]	5	µg/L	U	0.2	5		5	5	
WDD2	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
WDD2	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
WDD2	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
WDD2	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
WDD2	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
WDD2	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
WDD2	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
WDD2	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
WDD2	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
WDD2	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
WDD2	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
WDD2	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
WDD2	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
WDD2	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
WDD2	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
WDD2	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
WDD2	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
WDD2	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
WDD2	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
WDD2	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
WDD2	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
WDD2	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
WDD2	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
WDD2	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
WDD2	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD2	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD2	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD2	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
WDD2	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD2	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD2	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
WDD2	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
WDD2	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
WDD2	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
WDD2	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
WDD2	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
WDD2	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD2	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
WDD2	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
WDD2	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
WDD2	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD2	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
WDD2	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD2	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
WDD2	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
WDD2	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
WDD2	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
WDD2	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD2	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
WDD2	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
WDD2	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
WDD2	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
Sample Date:	5/18/2009											
WDD3	Radiological	13982-63-3	Radium-226	0.290	pCi/l	U	0.512	±	0.317	5[a]	5[a]	100[a]
WDD3	Radiological	15262-20-1	Radium-228	0.446	pCi/l	U	1.106	±	0.541	5[a]	5[a]	100[a]
			Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
WDD3	Radiological	14274-82-9	Thorium-228	0.264	pCi/l	U	0.427	±	0.276	15[b]	NE	400
WDD3	Radiological	14269-63-7	Thorium-230	0.227	pCi/l	U	0.264	±	0.226	15[b]	NE	300
WDD3	Radiological	7440-29-1	Thorium-232	0.073	pCi/l	U	0.294	±	0.142	15[b]	NE	50
			Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
WDD3	Radiological	13966-29-5	Uranium-234	1.553	pCi/l	J	0.361	±	0.616	27[c]	NE	600[c]
WDD3	Radiological	15117-96-1	Uranium-235	0.095	pCi/l	U	0.383	±	0.184	27[c]	NE	600[c]
WDD3	Radiological	7440-61-1	Uranium-238	0.675	pCi/l		0.359	±	0.398	27[c]	NE	600[c]
			Total Uranium [c]	*2.228*	*pCi/l*					27[c]	NE	600[c]
WDD3	Metal	7429-90-5	Aluminum	140	µg/L		0.21	10		50-200[d]	NE	
WDD3	Metal	7440-36-0	Antimony	0.13	µg/L	U	0.13	0.4		6	3	
WDD3	Metal	7440-38-2	Arsenic	2.1	µg/L		0.18	0.4		10	25	
WDD3	Metal	7440-39-3	Barium	60	µg/L		0.13	4		2000	1000	
WDD3	Metal	7440-41-7	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
WDD3	Metal	7440-42-8	Boron	170	µg/L		5.8	60		NE	1000	
WDD3	Metal	7440-43-9	Cadmium	0.12	µg/L	U	0.12	2		5	5	
WDD3	Metal	7440-70-2	Calcium	130000	µg/L		430	1000		NE	NE	
WDD3	Metal	7440-47-3	Chromium	0.13	µg/L	U	0.13	2		100	50	
WDD3	Metal	7440-48-4	Cobalt	2.2	µg/L		0.12	2		NE	NE	
WDD3	Metal	7440-50-8	Copper	25	µg/L		0.14	0.4		1300	200	
WDD3	Metal	7439-89-6	Iron	270	µg/L		20	80		300[d]	300	
WDD3	Metal	7439-92-1	Lead	0.13	µg/L	U	0.13	1.2		15	25	
WDD3	Metal	7439-93-2	Lithium	11	µg/L		5	5		NE	NE	
WDD3	Metal	7439-95-4	Magnesium	46000	µg/L		270	1000		NE	NE	
WDD3	Metal	7439-96-5	Manganese	80	µg/L		0.11	2		50[d]	300	
WDD3	Metal	7439-97-6	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
WDD3	Metal	7440-02-0	Nickel	9.4	µg/L		0.11	2		NE	100	
WDD3	Metal	7440-09-7	Potassium	84000	µg/L		450	1000		NE	NE	
WDD3	Metal	7782-49-2	Selenium	0.45	µg/L	U	0.45	2		50	10	
WDD3	Metal	7440-22-4	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
WDD3	Metal	7440-23-5	Sodium	48000	µg/L		540	1500		NE	20000	
WDD3	Metal	7440-28-0	Thallium	0.16	µg/L	U	0.16	2		2	NE	
WDD3	Metal	7440-62-2	Vanadium	0.89	µg/L		0.14	0.4		NE	14	
WDD3	Metal	7440-66-6	Zinc	210	µg/L		0.38	2		5000[d]	NE	
WDD3	VOC	71-55-6	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
WDD3	VOC	79-34-5	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
WDD3	VOC	79-00-5	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
WDD3	VOC	75-34-3	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
WDD3	VOC	75-35-4	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
WDD3	VOC	107-06-2	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
WDD3	VOC	78-87-5	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
WDD3	VOC	78-93-3	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
WDD3	VOC	591-78-6	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
WDD3	VOC	108-10-1	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
WDD3	VOC	67-64-1	Acetone[h]	5	µg/L	U	0.44	5		NE	NE	
WDD3	VOC	71-43-2	Benzene	0.2	µg/L	U	0.2	1		5	1	
WDD3	VOC	75-27-4	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
WDD3	VOC	75-25-2	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
WDD3	VOC	74-83-9	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
WDD3	VOC	75-15-0	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
WDD3	VOC	56-23-5	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
WDD3	VOC	108-90-7	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
WDD3	VOC	75-00-3	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
WDD3	VOC	67-66-3	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
WDD3	VOC	74-87-3	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
WDD3	VOC	156-59-2	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
WDD3	VOC	10061-01-5	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
WDD3	VOC	100-41-4	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
WDD3	VOC	75-09-2	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
WDD3	VOC	100-42-5	Styrene	0.2	µg/L	U	0.2	1		100	5	
WDD3	VOC	127-18-4	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
WDD3	VOC	108-88-3	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
WDD3	VOC	156-60-5	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
WDD3	VOC	10061-02-6	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
WDD3	VOC	79-01-6	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
WDD3	VOC	75-01-4	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
WDD3	VOC	1330-20-7	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**
WDD3	PAH	83-32-9	Acenaphthene	0.04	µg/L	U	0.04	0.2		NE	NE	
WDD3	PAH	208-96-8	Acenaphthylene	0.036	µg/L	U	0.036	0.2		NE	NE	
WDD3	PAH	120-12-7	Anthracene	0.039	µg/L	U	0.039	0.2		NE	NE	
WDD3	PAH	56-55-3	Benzo(a)anthracene	0.02	µg/L	U	0.02	0.2		NE	NE	
WDD3	PAH	50-32-8	Benzo(a)pyrene	0.024	µg/L	U	0.024	0.2		0.2	ND	
WDD3	PAH	205-99-2	Benzo(b)fluoranthene	0.023	µg/L	U	0.023	0.2		NE	NE	
WDD3	PAH	191-24-2	Benzo(ghi)perylene	0.024	µg/L	U	0.024	0.2		NE	NE	
WDD3	PAH	207-08-9	Benzo(k)fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
WDD3	PAH	218-01-9	Chrysene	0.03	µg/L	U	0.03	0.2		NE	NE	
WDD3	PAH	53-70-3	Dibenzo(a,h)anthracene	0.023	µg/L	U	0.023	0.2		NE	NE	
WDD3	PAH	206-44-0	Fluoranthene	0.035	µg/L	U	0.035	0.2		NE	NE	
WDD3	PAH	86-73-7	Fluorene	0.038	µg/L	U	0.038	0.2		NE	NE	
WDD3	PAH	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	µg/L	U	0.02	0.2		NE	NE	
WDD3	PAH	91-20-3	Naphthalene	0.038	µg/L	U	0.038	0.2		NE	NE	
WDD3	PAH	85-01-8	Phenanthrene	0.04	µg/L	U	0.04	0.2		NE	NE	
WDD3	PAH	129-00-0	Pyrene	0.026	µg/L	U	0.026	0.2		NE	NE	
WDD3	PCB	12674-11-2	Aroclor-1016	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD3	PCB	11104-28-2	Aroclor-1221	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD3	PCB	11141-16-5	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD3	PCB	53469-21-9	Aroclor-1242	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
WDD3	PCB	12672-29-6	Aroclor-1248	0.03	µg/L	U	0.03	0.09		0.5	0.09[g]	
WDD3	PCB	11097-69-1	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD3	PCB	11096-82-5	Aroclor-1260	0.03	µg/L	U	0.03	0.2		0.5	0.09[g]	
WDD3	Pesticide	72-54-8	4,4'-DDD	0.0028	µg/L	U	0.0028	0.009		NE	0.3	
WDD3	Pesticide	72-55-9	4,4'-DDE	0.0019	µg/L	U	0.0019	0.009		NE	0.3	
WDD3	Pesticide	50-29-3	4,4'-DDT	0.0019	µg/L	U	0.0019	0.009		NE	0.2	
WDD3	Pesticide	309-00-2	Aldrin	0.0028	µg/L	U	0.0028	0.009		NE	ND	
WDD3	Pesticide	319-84-6	alpha-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.01	
WDD3	Pesticide	5103-71-9	alpha-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD3	Pesticide	319-85-7	beta-BHC	0.0028	µg/L	U	0.0028	0.009		NE	0.04	
WDD3	Pesticide	319-86-8	delta-BHC	0.0019	µg/L	U	0.0019	0.009		NE	0.4	
WDD3	Pesticide	60-57-1	Dieldrin	0.0019	µg/L	U	0.0019	0.009		NE	0.001	
WDD3	Pesticide	959-98-8	Endosulfan I	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD3	Pesticide	33213-65-9	Endosulfan II	0.0028	µg/L	U	0.0028	0.009		NE	NE	
WDD3	Pesticide	1031-07-8	Endosulfan sulfate	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD3	Pesticide	72-20-8	Endrin	0.0019	µg/L	U	0.0019	0.009		2	ND	
WDD3	Pesticide	7421-93-4	Endrin aldehyde	0.0019	µg/L	U	0.0019	0.009		NE	5	
WDD3	Pesticide	53494-70-5	Endrin ketone	0.0019	µg/L	U	0.0019	0.009		NE	5	
WDD3	Pesticide	58-89-9	gamma-BHC (Lindane)	0.0019	µg/L	U	0.0019	0.009		0.2	0.5	
WDD3	Pesticide	5103-74-2	gamma-Chlordane	0.0019	µg/L	U	0.0019	0.009		NE	NE	
WDD3	Pesticide	76-44-8	Heptachlor	0.0019	µg/L	U	0.0019	0.009		0.4	0.4	
WDD3	Pesticide	1024-57-3	Heptachlor epoxide	0.0019	µg/L	U	0.0019	0.009		0.2	0.3	
WDD3	Pesticide	72-43-5	Methoxychlor	0.0028	µg/L	U	0.0028	0.009		40	35	
WDD3	Pesticide	8001-35-2	Toxaphene	0.038	µg/L	U	0.038	0.19		3	0.06	

Surface Water Location*	PARAMETER*	CAS_NUM	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs**

*Surface Water Location
SWSD009 and SWSD021 - Site Background
SW-DUP (SWSD011) - Field Duplicate of surface water and sediment location SWSD011

*PARAMETER
VOC - Volatile Organic Compound
PAH - Polynuclear Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

*UNITS
PCI/L - picocuries per liter
UG/L - micrograms per liter (ppb)

*QUALIFIER
Validated Qualifier: J - indicates an estimated value.
Validated Qualifier: U - indicates that no analyte was detected (Non-Detect).

**** Surface Water at NFSS is not a drinking water source.**
The above federal and state regulation concentrations are for comparative purposes only.

Federal Regulations:
National Primary Drinking Water Regulations 40CFR141.62&63

US Dept of Energy:
USDOE derived concentration guide (USDOE Order 5400.5) for drinking water.

New York State:
New York State Standards -Water Quality Criteria (class GA) per 6 NYCRR, Part 703.
NE - Not Established

a. Applies to the sum of Ra-226 and Ra-228
b. "Adjusted" gross alpha MCL of 15 pCi/L, including Thorium isotopes, excluding radon and uranium
-National Primary Drinking Water Regulations; Radionuclide; Final Rule (Federal Register -December 7, 2000)
c. Sum of Uranium Isotopes (27 PCI/L or 30 UG/L).
d. National Secondary Drinking Water Regulations (40CFR143.3)
e. Applies to the sum of cis- and trans-1,3-dichloropropene, CAS Nos. 10061-01-5 and 10061-02-6, respectively.
f. Not a sum total for Dimethyl Benzene (Xylene) , applies to 1,2--Xylene, 1,3-Xylene and 1,4-Xylene individually.
g. Sum of Aroclors (polychlorinated biphenyls)
h. Common laboratory contaminant.

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/27/2009										
SWSD009	Radiological	Radium-226	0.316	pCi/l	U	0.360	±	0.234	5[a]	5[a]	100[a]
SWSD009	Radiological	Radium-228	0.494	pCi/l	U	0.993	±	0.491	5[a]	5[a]	100[a]
		Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
SWSD009	Radiological	Thorium-228	0.122	pCi/l	U	0.208	±	0.144	15[b]	NE	400
SWSD009	Radiological	Thorium-230	0.343	pCi/l	J	0.323	±	0.253	15[b]	NE	300
SWSD009	Radiological	Thorium-232	0.062	pCi/l	U	0.268	±	0.124	15[b]	NE	50
		Total Thorium [b]	*0.343*	*pCi/l*					15[b]	NE	NE
SWSD009	Radiological	Uranium-234	1.441	pCi/l		0.151	±	0.453	27[c]	NE	600[c]
SWSD009	Radiological	Uranium-235	0.264	pCi/l		0.187	±	0.199	27[c]	NE	600[c]
SWSD009	Radiological	Uranium-238	1.384	pCi/l		0.129	±	0.441	27[c]	NE	600[c]
		Total Uranium [c]	*3.089*	*pCi/l*					27[c]	NE	600[c]
SWSD009	Metal	Aluminum	570	µg/L		0.21	10		50-200[d]	NE	
SWSD009	Metal	Antimony	0.97	µg/L		0.66	2		6	3	
SWSD009	Metal	Arsenic	5.1	µg/L		0.18	0.4		10	25	
SWSD009	Metal	Barium	64	µg/L		0.13	4		2000	1000	
SWSD009	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD009	Metal	Boron	NA	µg/L					NE	1000	
SWSD009	Metal	Cadmium	0.37	µg/L	J	0.12	2		5	5	
SWSD009	Metal	Calcium	190000	µg/L		430	1000		NE	NE	
SWSD009	Metal	Chromium	3.2	µg/L		0.13	2		100	50	
SWSD009	Metal	Cobalt	1.3	µg/L	J	0.12	2		NE	NE	
SWSD009	Metal	Copper	12	µg/L		0.14	0.4		1300	200	
SWSD009	Metal	Iron	1100	µg/L		20	80		300[d]	300	
SWSD009	Metal	Lead	3.6	µg/L		0.13	1.2		15	25	
SWSD009	Metal	Lithium	NA	µg/L					NE	NE	
SWSD009	Metal	Magnesium	84000	µg/L		270	1000		NE	NE	
SWSD009	Metal	Manganese	230	µg/L		0.11	2		50[d]	300	
SWSD009	Metal	Mercury	0.042	µg/L	U	0.042	0.2		2	0.7	
SWSD009	Metal	Nickel	14	µg/L		0.11	2		NE	100	
SWSD009	Metal	Potassium	14000	µg/L		450	1000		NE	NE	
SWSD009	Metal	Selenium	12	µg/L		0.45	2		50	10	
SWSD009	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SWSD009	Metal	Sodium	160000	µg/L		540	1500		NE	20000	
SWSD009	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD009	Metal	Vanadium	4.1	µg/L		0.14	0.4		NE	14	
SWSD009	Metal	Zinc	45	µg/L		0.38	2		5000[d]	NE	
SWSD009	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD009	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD009	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD009	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD009	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD009	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD009	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD009	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD009	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD009	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD009	VOC	Acetone[h]	3.2	µg/L	J	0.44	5		NE	NE	
SWSD009	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD009	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD009	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD009	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD009	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD009	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD009	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD009	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD009	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD009	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD009	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD009	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD009	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD009	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD009	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD009	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD009	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD009	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD009	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD009	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD009	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD009	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SWSD009	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD009	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD009	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD009	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD009	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	NE	
SWSD009	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD009	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD009	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD009	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SWSD009	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD009	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD009	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD009	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD009	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD009	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD009	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SWSD009	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD009	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD009	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD009	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD009	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD009	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD009	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD009	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SWSD009	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.3	
SWSD009	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD009	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD009	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SWSD009	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD009	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SWSD009	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SWSD009	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SWSD009	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD009	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD009	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD009	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SWSD009	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD009	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD009	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SWSD009	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD009	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SWSD009	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SWSD009	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SWSD009	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/27/2009										
SWSD021	Radiological	Radium-226	0.366	pCi/l	U	0.423	±	0.273	5[a]	5[a]	100[a]
SWSD021	Radiological	Radium-228	1.127	pCi/l		1.124	±	0.591	5[a]	5[a]	100[a]
		Total Radium [a]	*1.127*	*pCi/l*					5[a]	5[a]	100[a]
SWSD021	Radiological	Thorium-228	0.117	pCi/l	U	0.278	±	0.059	15[b]	NE	400
SWSD021	Radiological	Thorium-230	0.599	pCi/l	J	0.342	±	0.077	15[b]	NE	300
SWSD021	Radiological	Thorium-232	-0.023	pCi/l	U	0.278	±	0.045	15[b]	NE	50
		Total Thorium [b]	*0.599*	*pCi/l*					15[b]	NE	NE
SWSD021	Radiological	Uranium-234	2.310	pCi/l		0.255	±	0.644	27[c]	NE	600[c]
SWSD021	Radiological	Uranium-235	0.303	pCi/l		0.179	±	0.224	27[c]	NE	600[c]
SWSD021	Radiological	Uranium-238	2.827	pCi/l		0.188	±	0.730	27[c]	NE	600[c]
		Total Uranium [c]	*5.440*	*pCi/l*					27[c]	NE	600[c]
SWSD021	Metal	Aluminum	560	µg/L		0.21	10		50-200[d]	NE	
SWSD021	Metal	Antimony	0.87	µg/L		0.66	2		6	3	
SWSD021	Metal	Arsenic	0.87	µg/L		0.18	0.4		10	25	
SWSD021	Metal	Barium	58	µg/L		0.13	4		2000	1000	
SWSD021	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD021	Metal	Boron	NA	µg/L					NE	1000	
SWSD021	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD021	Metal	Calcium	73000	µg/L		430	1000		NE	NE	
SWSD021	Metal	Chromium	120	µg/L		0.13	2		100	50	
SWSD021	Metal	Cobalt	0.51	µg/L	J	0.12	2		NE	NE	
SWSD021	Metal	Copper	4.7	µg/L		0.14	0.4		1300	200	
SWSD021	Metal	Iron	1100	µg/L		20	80		300[d]	300	
SWSD021	Metal	Lead	0.28	µg/L	J	0.13	1.2		15	25	
SWSD021	Metal	Lithium	NA	µg/L					NE	NE	
SWSD021	Metal	Magnesium	21000	µg/L		270	1000		NE	NE	
SWSD021	Metal	Manganese	54	µg/L		0.11	2		50[d]	300	
SWSD021	Metal	Mercury	0.042	µg/L	U	0.042	0.2		2	0.7	
SWSD021	Metal	Nickel	4.6	µg/L		0.11	2		NE	100	
SWSD021	Metal	Potassium	6400	µg/L		450	1000		NE	NE	
SWSD021	Metal	Selenium	1.7	µg/L	J	0.45	2		50	10	
SWSD021	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SWSD021	Metal	Sodium	13000	µg/L		540	1500		NE	20000	
SWSD021	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD021	Metal	Vanadium	0.14	µg/L	U	0.14	0.4		NE	14	
SWSD021	Metal	Zinc	15	µg/L		0.38	2		5000[d]	NE	
SWSD021	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD021	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD021	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD021	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD021	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD021	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD021	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD021	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD021	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD021	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD021	VOC	Acetone[h]	4.5	µg/L	J	0.44	5		NE	NE	
SWSD021	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD021	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD021	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD021	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD021	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD021	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD021	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD021	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD021	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD021	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD021	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD021	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD021	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD021	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD021	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD021	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD021	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD021	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD021	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD021	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD021	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD021	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SWSD021	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD021	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD021	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD021	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD021	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	NE	
SWSD021	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD021	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD021	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD021	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SWSD021	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD021	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD021	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD021	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD021	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD021	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD021	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SWSD021	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD021	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD021	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD021	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD021	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD021	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD021	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD021	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SWSD021	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.3	
SWSD021	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD021	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
SWSD021	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SWSD021	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD021	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SWSD021	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SWSD021	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SWSD021	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD021	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD021	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD021	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SWSD021	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD021	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD021	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SWSD021	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD021	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SWSD021	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SWSD021	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SWSD021	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/27/2009										
SWSD010	Radiological	Radium-226	0.352	pCi/l	U	0.376	±	0.248	5[a]	5[a]	100[a]
SWSD010	Radiological	Radium-228	0.705	pCi/l	U	0.897	±	0.459	5[a]	5[a]	100[a]
		Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
SWSD010	Radiological	Thorium-228	0.025	pCi/l	U	0.300	±	0.117	15[b]	NE	400
SWSD010	Radiological	Thorium-230	0.266	pCi/l	U	0.169	±	0.184	15[b]	NE	300
SWSD010	Radiological	Thorium-232	0.026	pCi/l	U	0.144	±	0.063	15[b]	NE	50
		Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
SWSD010	Radiological	Uranium-234	2.226	pCi/l		0.259	±	0.645	27[c]	NE	600[c]
SWSD010	Radiological	Uranium-235	0.075	pCi/l	U	0.190	±	0.118	27[c]	NE	600[c]
SWSD010	Radiological	Uranium-238	1.985	pCi/l		0.154	±	0.595	27[c]	NE	600[c]
		Total Uranium [c]	*4.211*	*pCi/l*					27[c]	NE	600[c]
SWSD010	Metal	Aluminum	690	µg/L		0.21	10		50-200[d]	NE	
SWSD010	Metal	Antimony	2.5	µg/L		0.66	2		6	3	
SWSD010	Metal	Arsenic	3.7	µg/L		0.18	0.4		10	25	
SWSD010	Metal	Barium	98	µg/L		0.13	4		2000	1000	
SWSD010	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD010	Metal	Boron	NA	µg/L					NE	1000	
SWSD010	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD010	Metal	Calcium	160000	µg/L		430	1000		NE	NE	
SWSD010	Metal	Chromium	5.8	µg/L		0.13	2		100	50	
SWSD010	Metal	Cobalt	1	µg/L	J	0.12	2		NE	NE	
SWSD010	Metal	Copper	4.7	µg/L		0.14	0.4		1300	200	
SWSD010	Metal	Iron	1600	µg/L		20	80		300[d]	300	
SWSD010	Metal	Lead	2.3	µg/L		0.13	1.2		15	25	
SWSD010	Metal	Lithium	NA	µg/L					NE	NE	
SWSD010	Metal	Magnesium	63000	µg/L		270	1000		NE	NE	
SWSD010	Metal	Manganese	240	µg/L		0.11	2		50[d]	300	
SWSD010	Metal	Mercury	0.042	µg/L	U	0.042	0.2		2	0.7	
SWSD010	Metal	Nickel	11	µg/L		0.11	2		NE	100	
SWSD010	Metal	Potassium	10000	µg/L		450	1000		NE	NE	
SWSD010	Metal	Selenium	11	µg/L		0.45	2		50	10	
SWSD010	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SWSD010	Metal	Sodium	120000	µg/L		540	1500		NE	20000	
SWSD010	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD010	Metal	Vanadium	3.6	µg/L		0.14	0.4		NE	14	
SWSD010	Metal	Zinc	29	µg/L		0.38	2		5000[d]	NE	
SWSD010	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD010	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD010	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD010	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD010	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD010	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD010	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD010	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD010	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD010	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD010	VOC	Acetone[h]	2.6	µg/L	J	0.44	5		NE	NE	
SWSD010	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD010	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD010	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD010	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD010	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD010	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD010	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD010	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD010	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD010	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD010	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD010	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD010	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD010	VOC	Methylene chloride[h]	0.88	µg/L	U	0.88	5		5	5	
SWSD010	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD010	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD010	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD010	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD010	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD010	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD010	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD010	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SWSD010	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD010	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD010	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD010	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD010	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	NE	
SWSD010	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD010	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD010	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD010	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SWSD010	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD010	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD010	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD010	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD010	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD010	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD010	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SWSD010	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD010	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD010	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD010	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD010	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD010	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD010	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD010	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SWSD010	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.3	
SWSD010	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD010	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
SWSD010	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SWSD010	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD010	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SWSD010	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SWSD010	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SWSD010	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD010	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD010	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD010	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SWSD010	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD010	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD010	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SWSD010	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD010	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SWSD010	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SWSD010	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SWSD010	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/26/2009										
SWSD011	Radiological	Radium-226	0.407	pCi/l	U	0.432	±	0.275	5[a]	5[a]	100[a]
SWSD011	Radiological	Radium-228	0.557	pCi/l	U	1.230	±	0.605	5[a]	5[a]	100[a]
		Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
SWSD011	Radiological	Thorium-228	0.016	pCi/l	U	0.203	±	0.076	15[b]	NE	400
SWSD011	Radiological	Thorium-230	0.095	pCi/l	U	0.194	±	0.115	15[b]	NE	300
SWSD011	Radiological	Thorium-232	0.058	pCi/l	U	0.163	±	0.089	15[b]	NE	50
		Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
SWSD011	Radiological	Uranium-234	2.613	pCi/l		0.155	±	0.665	27[c]	NE	600[c]
SWSD011	Radiological	Uranium-235	0.170	pCi/l		0.163	±	0.160	27[c]	NE	600[c]
SWSD011	Radiological	Uranium-238	1.953	pCi/l		0.131	±	0.550	27[c]	NE	600[c]
		Total Uranium [c]	*4.736*	*pCi/l*					27[c]	NE	600[c]
SWSD011	Metal	Aluminum	190	µg/L		0.21	10		50-200[d]	NE	
SWSD011	Metal	Antimony	1.4	µg/L		0.66	2		6	3	
SWSD011	Metal	Arsenic	3.4	µg/L		0.18	0.4		10	25	
SWSD011	Metal	Barium	94	µg/L		0.13	4		2000	1000	
SWSD011	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD011	Metal	Boron	730	µg/L		12	120		NE	1000	
SWSD011	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD011	Metal	Calcium	160000	µg/L		430	1000		NE	NE	
SWSD011	Metal	Chromium	2.3	µg/L		0.13	2		100	50	
SWSD011	Metal	Cobalt	0.58	µg/L	J	0.12	2		NE	NE	
SWSD011	Metal	Copper	3.8	µg/L		0.14	0.4		1300	200	
SWSD011	Metal	Iron	650	µg/L		20	80		300[d]	300	
SWSD011	Metal	Lead	0.83	µg/L	J	0.13	1.2		15	25	
SWSD011	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
SWSD011	Metal	Magnesium	66000	µg/L		270	1000		NE	NE	
SWSD011	Metal	Manganese	180	µg/L		0.11	2		50[d]	300	
SWSD011	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD011	Metal	Nickel	10	µg/L		0.11	2		NE	100	
SWSD011	Metal	Potassium	10000	µg/L		450	1000		NE	NE	
SWSD011	Metal	Selenium	12	µg/L		0.45	2		50	10	
SWSD011	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SWSD011	Metal	Sodium	120000	µg/L		540	1500		NE	20000	
SWSD011	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD011	Metal	Vanadium	2.8	µg/L		0.14	0.4		NE	14	
SWSD011	Metal	Zinc	26	µg/L		0.38	2		5000[d]	NE	
SWSD011	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD011	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD011	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD011	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD011	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD011	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD011	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD011	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD011	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD011	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD011	VOC	Acetone[h]	0.44	µg/L	U	0.44	5		NE	NE	
SWSD011	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD011	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD011	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD011	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD011	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD011	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD011	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD011	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD011	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD011	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD011	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD011	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD011	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD011	VOC	Methylene chloride[h]	0.88	µg/L	U	0.88	5		5	5	
SWSD011	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD011	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD011	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD011	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD011	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD011	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD011	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD011	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SWSD011	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD011	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD011	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD011	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD011	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
SWSD011	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD011	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD011	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD011	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SWSD011	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD011	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD011	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD011	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD011	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD011	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD011	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SWSD011	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD011	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD011	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD011	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD011	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD011	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD011	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD011	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SWSD011	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.3	
SWSD011	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD011	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
SWSD011	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SWSD011	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD011	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SWSD011	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SWSD011	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SWSD011	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD011	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD011	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD011	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SWSD011	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD011	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD011	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SWSD011	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD011	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SWSD011	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SWSD011	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SWSD011	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/26/2009										
SW-DUP(SWSD011)	Radiological	Radium-226	0.793	pCi/l		0.373	±	0.295	5[a]	5[a]	100[a]
SW-DUP(SWSD011)	Radiological	Radium-228	0.602	pCi/l	U	1.113	±	0.552	5[a]	5[a]	100[a]
		Total Radium [a]	*0.793*	*pCi/l*					5[a]	5[a]	100[a]
SW-DUP(SWSD011)	Radiological	Thorium-228	-0.009	pCi/l	U	0.139	±	0.013	15[b]	NE	400
SW-DUP(SWSD011)	Radiological	Thorium-230	0.077	pCi/l		0.070	±	0.090	15[b]	NE	300
SW-DUP(SWSD011)	Radiological	Thorium-232	0.047	pCi/l	U	0.119	±	0.074	15[b]	NE	50
		Total Thorium [b]	*0.077*	*pCi/l*					15[b]	NE	NE
SW-DUP(SWSD011)	Radiological	Uranium-234	3.655	pCi/l		0.342	±	1.060	27[c]	NE	600[c]
SW-DUP(SWSD011)	Radiological	Uranium-235	0.408	pCi/l		0.324	±	0.349	27[c]	NE	600[c]
SW-DUP(SWSD011)	Radiological	Uranium-238	3.103	pCi/l		0.153	±	0.953	27[c]	NE	600[c]
		Total Uranium [c]	*7.166*	*pCi/l*					27[c]	NE	600[c]
SW-DUP(SWSD011)	Metal	Aluminum	170	µg/L		0.21	10		50-200[d]	NE	
SW-DUP(SWSD011)	Metal	Antimony	3.6	µg/L		0.66	2		6	3	
SW-DUP(SWSD011)	Metal	Arsenic	3.3	µg/L		0.18	0.4		10	25	
SW-DUP(SWSD011)	Metal	Barium	89	µg/L		0.13	4		2000	1000	
SW-DUP(SWSD011)	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SW-DUP(SWSD011)	Metal	Boron	720	µg/L		12	120		NE	1000	
SW-DUP(SWSD011)	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SW-DUP(SWSD011)	Metal	Calcium	160000	µg/L		430	1000		NE	NE	
SW-DUP(SWSD011)	Metal	Chromium	2.2	µg/L		0.13	2		100	50	
SW-DUP(SWSD011)	Metal	Cobalt	0.58	µg/L	J	0.12	2		NE	NE	
SW-DUP(SWSD011)	Metal	Copper	3.8	µg/L		0.14	0.4		1300	200	
SW-DUP(SWSD011)	Metal	Iron	610	µg/L		20	80		300[d]	300	
SW-DUP(SWSD011)	Metal	Lead	0.78	µg/L	J	0.13	1.2		15	25	
SW-DUP(SWSD011)	Metal	Lithium	100	µg/L		100	100		NE	NE	
SW-DUP(SWSD011)	Metal	Magnesium	64000	µg/L		270	1000		NE	NE	
SW-DUP(SWSD011)	Metal	Manganese	180	µg/L		0.11	2		50[d]	300	
SW-DUP(SWSD011)	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SW-DUP(SWSD011)	Metal	Nickel	9.5	µg/L		0.11	2		NE	100	
SW-DUP(SWSD011)	Metal	Potassium	10000	µg/L		450	1000		NE	NE	
SW-DUP(SWSD011)	Metal	Selenium	11	µg/L		0.45	2		50	10	
SW-DUP(SWSD011)	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SW-DUP(SWSD011)	Metal	Sodium	110000	µg/L		540	1500		NE	20000	
SW-DUP(SWSD011)	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SW-DUP(SWSD011)	Metal	Vanadium	2.5	µg/L		0.14	0.4		NE	14	
SW-DUP(SWSD011)	Metal	Zinc	24	µg/L		0.38	2		5000[d]	NE	
SW-DUP(SWSD011)	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SW-DUP(SWSD011)	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SW-DUP(SWSD011)	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SW-DUP(SWSD011)	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SW-DUP(SWSD011)	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SW-DUP(SWSD011)	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SW-DUP(SWSD011)	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SW-DUP(SWSD011)	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SW-DUP(SWSD011)	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SW-DUP(SWSD011)	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SW-DUP(SWSD011)	VOC	Acetone[h]	0.44	µg/L	U	0.44	5		NE	NE	
SW-DUP(SWSD011)	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SW-DUP(SWSD011)	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SW-DUP(SWSD011)	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SW-DUP(SWSD011)	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SW-DUP(SWSD011)	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SW-DUP(SWSD011)	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SW-DUP(SWSD011)	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SW-DUP(SWSD011)	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SW-DUP(SWSD011)	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SW-DUP(SWSD011)	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SW-DUP(SWSD011)	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SW-DUP(SWSD011)	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SW-DUP(SWSD011)	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SW-DUP(SWSD011)	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SW-DUP(SWSD011)	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SW-DUP(SWSD011)	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SW-DUP(SWSD011)	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SW-DUP(SWSD011)	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SW-DUP(SWSD011)	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SW-DUP(SWSD011)	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SW-DUP(SWSD011)	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SW-DUP(SWSD011)	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SW-DUP(SWSD011)	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
SW-DUP(SWSD011)	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SW-DUP(SWSD011)	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SW-DUP(SWSD011)	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[f]	
SW-DUP(SWSD011)	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[f]	
SW-DUP(SWSD011)	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[f]	
SW-DUP(SWSD011)	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[f]	
SW-DUP(SWSD011)	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[f]	
SW-DUP(SWSD011)	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[f]	
SW-DUP(SWSD011)	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[f]	
SW-DUP(SWSD011)	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SW-DUP(SWSD011)	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.3	
SW-DUP(SWSD011)	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SW-DUP(SWSD011)	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
SW-DUP(SWSD011)	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SW-DUP(SWSD011)	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SW-DUP(SWSD011)	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SW-DUP(SWSD011)	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SW-DUP(SWSD011)	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SW-DUP(SWSD011)	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SW-DUP(SWSD011)	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SW-DUP(SWSD011)	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SW-DUP(SWSD011)	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SW-DUP(SWSD011)	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SW-DUP(SWSD011)	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SW-DUP(SWSD011)	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SW-DUP(SWSD011)	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SW-DUP(SWSD011)	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SW-DUP(SWSD011)	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SW-DUP(SWSD011)	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SW-DUP(SWSD011)	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/26/2009										
SWSD022	Radiological	Radium-226	0.268	pCi/l	U	0.455	±	0.277	5[a]	5[a]	100[a]
SWSD022	Radiological	Radium-228	1.235	pCi/l		1.223	±	0.638	5[a]	5[a]	100[a]
		Total Radium [a]	*1.235*	*pCi/l*					5[a]	5[a]	100[a]
SWSD022	Radiological	Thorium-228	-0.086	pCi/l	U	0.384	±	0.053	15[b]	NE	400
SWSD022	Radiological	Thorium-230	0.143	pCi/l	U	0.248	±	0.169	15[b]	NE	300
SWSD022	Radiological	Thorium-232	-0.028	pCi/l	U	0.268	±	0.029	15[b]	NE	50
		Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
SWSD022	Radiological	Uranium-234	2.639	pCi/l		0.151	±	0.664	27[c]	NE	600[c]
SWSD022	Radiological	Uranium-235	0.126	pCi/l	U	0.187	±	0.140	27[c]	NE	600[c]
SWSD022	Radiological	Uranium-238	2.258	pCi/l		0.182	±	0.599	27[c]	NE	600[c]
		Total Uranium [c]	*4.897*	*pCi/l*					27[c]	NE	600[c]
SWSD022	Metal	Aluminum	420	µg/L		0.21	10		50-200[d]	NE	
SWSD022	Metal	Antimony	0.95	µg/L		0.66	2		6	3	
SWSD022	Metal	Arsenic	3.2	µg/L		0.18	0.4		10	25	
SWSD022	Metal	Barium	94	µg/L		0.13	4		2000	1000	
SWSD022	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD022	Metal	Boron	750	µg/L		12	120		NE	1000	
SWSD022	Metal	Cadmium	0.16	µg/L	J	0.12	2		5	5	
SWSD022	Metal	Calcium	170000	µg/L		430	1000		NE	NE	
SWSD022	Metal	Chromium	2.5	µg/L		0.13	2		100	50	
SWSD022	Metal	Cobalt	0.54	µg/L	J	0.12	2		NE	NE	
SWSD022	Metal	Copper	11	µg/L		0.14	0.4		1300	200	
SWSD022	Metal	Iron	470	µg/L		20	80		300[d]	300	
SWSD022	Metal	Lead	1.4	µg/L		0.13	1.2		15	25	
SWSD022	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
SWSD022	Metal	Magnesium	66000	µg/L		270	1000		NE	NE	
SWSD022	Metal	Manganese	77	µg/L		0.11	2		50[d]	300	
SWSD022	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD022	Metal	Nickel	9.5	µg/L		0.11	2		NE	100	
SWSD022	Metal	Potassium	10000	µg/L		450	1000		NE	NE	
SWSD022	Metal	Selenium	10	µg/L		0.45	2		50	10	
SWSD022	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SWSD022	Metal	Sodium	120000	µg/L		540	1500		NE	20000	
SWSD022	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD022	Metal	Vanadium	2.3	µg/L		0.14	0.4		NE	14	
SWSD022	Metal	Zinc	23	µg/L		0.38	2		5000[d]	NE	
SWSD022	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD022	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD022	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD022	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD022	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD022	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD022	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD022	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD022	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD022	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD022	VOC	Acetone[h]	0.44	µg/L	U	0.44	5		NE	NE	
SWSD022	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD022	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD022	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD022	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD022	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD022	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD022	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD022	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD022	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD022	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD022	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD022	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD022	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD022	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD022	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD022	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD022	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD022	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD022	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD022	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD022	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD022	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SWSD022	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD022	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD022	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD022	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD022	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
SWSD022	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD022	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD022	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD022	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SWSD022	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD022	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD022	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD022	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD022	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD022	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD022	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SWSD022	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD022	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD022	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD022	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD022	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD022	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD022	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD022	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SWSD022	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD022	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD022	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
SWSD022	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SWSD022	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD022	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SWSD022	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SWSD022	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SWSD022	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD022	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD022	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD022	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SWSD022	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD022	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD022	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SWSD022	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD022	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SWSD022	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SWSD022	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SWSD022	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/27/2009										
SWSD023	Radiological	Radium-226	0.881	pCi/l		0.390	±	0.363	5[a]	5[a]	100[a]
SWSD023	Radiological	Radium-228	0.454	pCi/l	U	0.973	±	0.479	5[a]	5[a]	100[a]
		Total Radium [a]	*0.881*	*pCi/l*					5[a]	5[a]	100[a]
SWSD023	Radiological	Thorium-228	0.017	pCi/l	U	0.209	±	0.073	15[b]	NE	400
SWSD023	Radiological	Thorium-230	0.276	pCi/l	J	0.256	±	0.217	15[b]	NE	300
SWSD023	Radiological	Thorium-232	0.035	pCi/l	U	0.094	±	0.069	15[b]	NE	50
		Total Thorium [b]	*0.276*	*pCi/l*					15[b]	NE	NE
SWSD023	Radiological	Uranium-234	1.806	pCi/l		0.142	±	0.542	27[c]	NE	600[c]
SWSD023	Radiological	Uranium-235	0.063	pCi/l	U	0.205	±	0.109	27[c]	NE	600[c]
SWSD023	Radiological	Uranium-238	1.100	pCi/l		0.083	±	0.401	27[c]	NE	600[c]
		Total Uranium [c]	*2.906*	*pCi/l*					27[c]	NE	600[c]
SWSD023	Metal	Aluminum	69	µg/L		0.21	10		50-200[d]	NE	
SWSD023	Metal	Antimony	2.2	µg/L		0.66	2		6	3	
SWSD023	Metal	Arsenic	0.85	µg/L		0.18	0.4		10	25	
SWSD023	Metal	Barium	70	µg/L		0.13	4		2000	1000	
SWSD023	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD023	Metal	Boron	NA	UG/L					NE	1000	
SWSD023	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD023	Metal	Calcium	150000	µg/L		430	1000		NE	NE	
SWSD023	Metal	Chromium	0.8	µg/L	J	0.13	2		100	50	
SWSD023	Metal	Cobalt	0.3	µg/L	J	0.12	2		NE	NE	
SWSD023	Metal	Copper	4.7	µg/L		0.14	0.4		1000	200	
SWSD023	Metal	Iron	230	µg/L		20	80		300[d]	300	
SWSD023	Metal	Lead	1.1	µg/L	J	0.13	1.2		15	25	
SWSD023	Metal	Lithium	NA	UG/L					NE	NE	
SWSD023	Metal	Magnesium	41000	µg/L		270	1000		NE	NE	
SWSD023	Metal	Manganese	33	µg/L		0.11	2		50[d]	300	
SWSD023	Metal	Mercury	0.042	µg/L	U	0.042	0.2		2	0.7	
SWSD023	Metal	Nickel	6.9	µg/L		0.11	2		NE	100	
SWSD023	Metal	Potassium	5900	µg/L		450	1000		NE	NE	
SWSD023	Metal	Selenium	1.3	µg/L	J	0.45	2		50	10	
SWSD023	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SWSD023	Metal	Sodium	44000	µg/L		540	1500		NE	20000	
SWSD023	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD023	Metal	Vanadium	0.26	µg/L	J	0.14	0.4		NE	14	
SWSD023	Metal	Zinc	41	µg/L		0.38	2		5000[d]	NE	
SWSD023	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD023	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD023	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD023	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD023	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD023	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD023	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD023	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD023	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD023	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD023	VOC	Acetone[h]	0.44	µg/L	U	0.44	5		NE	NE	
SWSD023	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD023	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD023	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD023	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD023	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD023	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD023	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD023	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD023	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD023	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD023	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD023	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD023	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD023	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD023	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD023	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD023	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD023	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD023	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD023	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD023	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD023	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SWSD023	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD023	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD023	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD023	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD023	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
SWSD023	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD023	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD023	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD023	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SWSD023	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD023	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD023	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD023	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD023	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD023	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD023	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SWSD023	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD023	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD023	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD023	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD023	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD023	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD023	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD023	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SWSD023	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD023	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD023	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
SWSD023	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SWSD023	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD023	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SWSD023	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SWSD023	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SWSD023	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD023	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD023	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD023	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SWSD023	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD023	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD023	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SWSD023	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD023	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SWSD023	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SWSD023	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SWSD023	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/27/2009										
SWSD024	Radiological	Radium-226	0.189	pCi/l	U	0.470	±	0.277	5[a]	5[a]	100[a]
SWSD024	Radiological	Radium-228	0.781	pCi/l	U	0.863	±	0.447	5[a]	5[a]	100[a]
		Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
SWSD024	Radiological	Thorium-228	0.041	pCi/l	U	0.234	±	0.102	15[b]	NE	400
SWSD024	Radiological	Thorium-230	0.548	pCi/l	J	0.215	±	0.276	15[b]	NE	300
SWSD024	Radiological	Thorium-232	0.023	pCi/l	U	0.128	±	0.056	15[b]	NE	50
		Total Thorium [b]	*0.548*	*pCi/l*					15[b]	NE	NE
SWSD024	Radiological	Uranium-234	4.165	pCi/l		0.307	±	0.974	27[c]	NE	600[c]
SWSD024	Radiological	Uranium-235	0.236	pCi/l		0.187	±	0.202	27[c]	NE	600[c]
SWSD024	Radiological	Uranium-238	4.013	pCi/l		0.151	±	0.943	27[c]	NE	600[c]
		Total Uranium [c]	*8.414*	*pCi/l*					27[c]	NE	600[c]
SWSD024	Metal	Aluminum	120	µg/L		0.21	10		50-200[d]	NE	
SWSD024	Metal	Antimony	1.6	µg/L		0.66	2		6	3	
SWSD024	Metal	Arsenic	1.5	µg/L		0.18	0.4		10	25	
SWSD024	Metal	Barium	54	µg/L		0.13	4		2000	1000	
SWSD024	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
SWSD024	Metal	Boron	NA	UG/L					NE	1000	
SWSD024	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
SWSD024	Metal	Calcium	110000	µg/L		430	1000		NE	NE	
SWSD024	Metal	Chromium	1.3	µg/L	J	0.13	2		100	50	
SWSD024	Metal	Cobalt	0.58	µg/L	J	0.12	2		NE	NE	
SWSD024	Metal	Copper	2.6	µg/L		0.14	0.4		1000	200	
SWSD024	Metal	Iron	700	µg/L		20	80		300[d]	300	
SWSD024	Metal	Lead	0.15	µg/L	J	0.13	1.2		15	25	
SWSD024	Metal	Lithium	NA	UG/L					NE	NE	
SWSD024	Metal	Magnesium	32000	µg/L		270	1000		NE	NE	
SWSD024	Metal	Manganese	250	µg/L		0.11	2		50[d]	300	
SWSD024	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
SWSD024	Metal	Nickel	6.5	µg/L		0.11	2		NE	100	
SWSD024	Metal	Potassium	6400	µg/L		450	1000		NE	NE	
SWSD024	Metal	Selenium	3.2	µg/L		0.45	2		50	10	
SWSD024	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
SWSD024	Metal	Sodium	10000	µg/L		540	1500		NE	20000	
SWSD024	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
SWSD024	Metal	Vanadium	0.53	µg/L		0.14	0.4		NE	14	
SWSD024	Metal	Zinc	30	µg/L		0.38	2		5000[d]	NE	
SWSD024	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
SWSD024	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
SWSD024	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
SWSD024	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
SWSD024	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
SWSD024	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
SWSD024	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
SWSD024	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
SWSD024	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
SWSD024	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
SWSD024	VOC	Acetone[h]	3.8	µg/L	J	0.44	5		NE	NE	
SWSD024	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
SWSD024	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
SWSD024	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
SWSD024	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
SWSD024	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
SWSD024	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
SWSD024	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
SWSD024	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
SWSD024	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
SWSD024	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
SWSD024	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
SWSD024	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
SWSD024	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
SWSD024	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
SWSD024	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
SWSD024	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
SWSD024	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
SWSD024	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
SWSD024	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
SWSD024	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
SWSD024	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
SWSD024	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
SWSD024	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD024	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD024	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD024	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD024	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
SWSD024	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD024	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD024	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD024	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
SWSD024	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
SWSD024	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
SWSD024	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD024	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
SWSD024	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
SWSD024	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
SWSD024	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
SWSD024	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD024	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD024	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD024	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD024	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
SWSD024	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD024	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
SWSD024	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
SWSD024	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD024	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
SWSD024	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
SWSD024	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
SWSD024	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD024	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
SWSD024	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
SWSD024	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
SWSD024	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD024	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
SWSD024	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD024	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
SWSD024	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD024	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
SWSD024	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
SWSD024	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
SWSD024	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
SWSD024	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
SWSD024	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
SWSD024	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date:	10/26/2009										
WDD1	Radiological	Radium-226	0.128	pCi/l	U	0.435	±	0.251	5[a]	5[a]	100[a]
WDD1	Radiological	Radium-228	0.760	pCi/l	U	1.262	±	0.630	5[a]	5[a]	100[a]
		Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
WDD1	Radiological	Thorium-228	0.004	pCi/l	U	0.290	±	0.099	15[b]	NE	400
WDD1	Radiological	Thorium-230	0.368	pCi/l	J	0.193	±	0.235	15[b]	NE	300
WDD1	Radiological	Thorium-232	-0.005	pCi/l	U	0.148	±	0.011	15[b]	NE	50
		Total Thorium [b]	*0.368*	*pCi/l*					15[b]	NE	NE
WDD1	Radiological	Uranium-234	0.641	pCi/l		0.212	±	0.301	27[c]	NE	600[c]
WDD1	Radiological	Uranium-235	0.106	pCi/l	U	0.173	±	0.131	27[c]	NE	600[c]
WDD1	Radiological	Uranium-238	0.216	pCi/l		0.211	±	0.175	27[c]	NE	600[c]
		Total Uranium [c]	*0.857*	*pCi/l*					27[c]	NE	600[c]
WDD1	Metal	Aluminum	520	µg/L		0.21	10		50-200[d]	NE	
WDD1	Metal	Antimony	9	µg/L		0.66	2		6	3	
WDD1	Metal	Arsenic	4.9	µg/L		0.18	0.4		10	25	
WDD1	Metal	Barium	49	µg/L		0.13	4		2000	1000	
WDD1	Metal	Beryllium	2.4	µg/L		0.12	0.4		4	11	
WDD1	Metal	Boron	320	µg/L		12	120		NE	1000	
WDD1	Metal	Cadmium	2.9	µg/L		0.12	2		5	5	
WDD1	Metal	Calcium	150000	µg/L		430	1000		NE	NE	
WDD1	Metal	Chromium	4.8	µg/L		0.13	2		100	50	
WDD1	Metal	Cobalt	5.5	µg/L		0.12	2		NE	NE	
WDD1	Metal	Copper	36	µg/L		0.14	0.4		1000	200	
WDD1	Metal	Iron	1200	µg/L		20	80		300[d]	300	
WDD1	Metal	Lead	4.5	µg/L		0.13	1.2		15	25	
WDD1	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
WDD1	Metal	Magnesium	42000	µg/L		270	1000		NE	NE	
WDD1	Metal	Manganese	110	µg/L		0.11	2		50[d]	300	
WDD1	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
WDD1	Metal	Nickel	14	µg/L		0.11	2		NE	100	
WDD1	Metal	Potassium	120000	µg/L		450	1000		NE	NE	
WDD1	Metal	Selenium	4.6	µg/L		0.45	2		50	10	
WDD1	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
WDD1	Metal	Sodium	45000	µg/L		540	1500		NE	20000	
WDD1	Metal	Thallium	2.6	µg/L		0.16	2		2	NE	
WDD1	Metal	Vanadium	3.6	µg/L		0.14	0.4		NE	14	
WDD1	Metal	Zinc	230	µg/L		0.38	2		5000[d]	NE	
WDD1	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
WDD1	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
WDD1	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
WDD1	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
WDD1	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
WDD1	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
WDD1	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
WDD1	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
WDD1	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
WDD1	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
WDD1	VOC	Acetone[h]	2.6	µg/L	J	0.44	5		NE	NE	
WDD1	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
WDD1	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
WDD1	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
WDD1	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
WDD1	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
WDD1	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
WDD1	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
WDD1	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
WDD1	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
WDD1	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
WDD1	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
WDD1	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
WDD1	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
WDD1	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
WDD1	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
WDD1	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
WDD1	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
WDD1	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
WDD1	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
WDD1	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
WDD1	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
WDD1	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
WDD1	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD1	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD1	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD1	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
WDD1	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
WDD1	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD1	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD1	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD1	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
WDD1	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD1	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD1	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
WDD1	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
WDD1	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
WDD1	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD1	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
WDD1	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD1	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD1	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD1	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD1	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD1	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD1	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD1	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
WDD1	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.2	
WDD1	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
WDD1	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
WDD1	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
WDD1	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD1	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
WDD1	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
WDD1	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
WDD1	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD1	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
WDD1	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD1	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
WDD1	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
WDD1	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
WDD1	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
WDD1	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD1	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
WDD1	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
WDD1	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
WDD1	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date: 10/26/2009											
WDD2	Radiological	Radium-226	0.064	pCi/l	U	0.494	±	0.279	5[a]	5[a]	100[a]
WDD2	Radiological	Radium-228	0.885	pCi/l	U	0.991	±	0.510	5[a]	5[a]	100[a]
		Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
WDD2	Radiological	Thorium-228	0.056	pCi/l	U	0.235	±	0.110	15[b]	NE	400
WDD2	Radiological	Thorium-230	0.150	pCi/l	U	0.202	±	0.142	15[b]	NE	300
WDD2	Radiological	Thorium-232	0.008	pCi/l	U	0.169	±	0.055	15[b]	NE	50
		Total Thorium [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
WDD2	Radiological	Uranium-234	0.991	pCi/l		0.169	±	0.353	27[c]	NE	600[c]
WDD2	Radiological	Uranium-235	-0.011	pCi/l	U	0.173	±	0.015	27[c]	NE	600[c]
WDD2	Radiological	Uranium-238	0.876	pCi/l		0.070	±	0.325	27[c]	NE	600[c]
		Total Uranium [c]	*1.867*	*pCi/l*					27[c]	NE	600[c]
WDD2	Metal	Aluminum	330	µg/L		0.21	10		50-200[d]	NE	
WDD2	Metal	Antimony	0.74	µg/L		0.66	2		6	3	
WDD2	Metal	Arsenic	3.1	µg/L		0.18	0.4		10	25	
WDD2	Metal	Barium	57	µg/L		0.13	4		2000	1000	
WDD2	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
WDD2	Metal	Boron	300	µg/L		12	120		NE	1000	
WDD2	Metal	Cadmium	0.3	µg/L	J	0.12	2		5	5	
WDD2	Metal	Calcium	150000	µg/L		430	1000		NE	NE	
WDD2	Metal	Chromium	1.7	µg/L	J	0.13	2		100	50	
WDD2	Metal	Cobalt	3.1	µg/L		0.12	2		NE	NE	
WDD2	Metal	Copper	33	µg/L		0.14	0.4		1000	200	
WDD2	Metal	Iron	820	µg/L		20	80		300[d]	300	
WDD2	Metal	Lead	1.8	µg/L		0.13	1.2		15	25	
WDD2	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
WDD2	Metal	Magnesium	47000	µg/L		270	1000		NE	NE	
WDD2	Metal	Manganese	55	µg/L		0.11	2		50[d]	300	
WDD2	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
WDD2	Metal	Nickel	14	µg/L		0.11	2		NE	100	
WDD2	Metal	Potassium	130000	µg/L		450	1000		NE	NE	
WDD2	Metal	Selenium	1.4	µg/L	J	0.45	2		50	10	
WDD2	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
WDD2	Metal	Sodium	46000	µg/L		540	1500		NE	20000	
WDD2	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
WDD2	Metal	Vanadium	1.1	µg/L		0.14	0.4		NE	14	
WDD2	Metal	Zinc	240	µg/L		0.38	2		5000[d]	NE	
WDD2	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
WDD2	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
WDD2	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
WDD2	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
WDD2	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
WDD2	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
WDD2	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
WDD2	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
WDD2	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
WDD2	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
WDD2	VOC	Acetone[h]	3	µg/L	J	0.44	5		NE	NE	
WDD2	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
WDD2	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
WDD2	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
WDD2	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
WDD2	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
WDD2	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
WDD2	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
WDD2	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
WDD2	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
WDD2	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
WDD2	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
WDD2	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
WDD2	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
WDD2	VOC	Methylene chloride[h]	0.2	µg/L	U	0.2	5		5	5	
WDD2	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
WDD2	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
WDD2	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
WDD2	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
WDD2	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
WDD2	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
WDD2	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
WDD2	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
WDD2	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD2	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD2	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD2	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
WDD2	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
WDD2	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD2	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD2	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD2	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
WDD2	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD2	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD2	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
WDD2	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
WDD2	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
WDD2	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD2	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
WDD2	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD2	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD2	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD2	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD2	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD2	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD2	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD2	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
WDD2	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.2	
WDD2	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
WDD2	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
WDD2	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
WDD2	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD2	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
WDD2	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
WDD2	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
WDD2	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD2	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
WDD2	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD2	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
WDD2	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
WDD2	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
WDD2	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
WDD2	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD2	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
WDD2	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
WDD2	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
WDD2	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
Sample Date: 10/26/2009											
WDD3	Radiological	Radium-226	0.131	pCi/l	U	0.490	±	0.282	5[a]	5[a]	100[a]
WDD3	Radiological	Radium-228	0.698	pCi/l	U	0.857	±	0.441	5[a]	5[a]	100[a]
		Total Radium [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
WDD3	Radiological	Thorium-228	0.125	pCi/l	U	0.246	±	0.144	15[b]	NE	400
WDD3	Radiological	Thorium-230	0.150	pCi/l		0.119	±	0.129	15[b]	NE	300
WDD3	Radiological	Thorium-232	0.047	pCi/l	U	0.118	±	0.073	15[b]	NE	50
		Total Thorium [b]	*0.150*	*pCi/l*					15[b]	NE	NE
WDD3	Radiological	Uranium-234	1.020	pCi/l		0.155	±	0.374	27[c]	NE	600[c]
WDD3	Radiological	Uranium-235	0.023	pCi/l	U	0.191	±	0.073	27[c]	NE	600[c]
WDD3	Radiological	Uranium-238	0.678	pCi/l		0.132	±	0.296	27[c]	NE	600[c]
		Total Uranium [c]	*1.698*	*pCi/l*					27[c]	NE	600[c]
WDD3	Metal	Aluminum	540	µg/L		0.21	10		50-200[d]	NE	
WDD3	Metal	Antimony	4.6	µg/L		0.66	2		6	3	
WDD3	Metal	Arsenic	2.9	µg/L		0.18	0.4		10	25	
WDD3	Metal	Barium	60	µg/L		0.13	4		2000	1000	
WDD3	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
WDD3	Metal	Boron	300	µg/L		12	120		NE	1000	
WDD3	Metal	Cadmium	0.24	µg/L	J	0.12	2		5	5	
WDD3	Metal	Calcium	150000	µg/L		430	1000		NE	NE	
WDD3	Metal	Chromium	2.1	µg/L		0.13	2		100	50	
WDD3	Metal	Cobalt	3.2	µg/L		0.12	2		NE	NE	
WDD3	Metal	Copper	33	µg/L		0.14	0.4		1000	200	
WDD3	Metal	Iron	1200	µg/L		20	80		300[d]	300	
WDD3	Metal	Lead	2	µg/L		0.13	1.2		15	25	
WDD3	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
WDD3	Metal	Magnesium	48000	µg/L		270	1000		NE	NE	
WDD3	Metal	Manganese	65	µg/L		0.11	2		50[d]	300	
WDD3	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
WDD3	Metal	Nickel	14	µg/L		0.11	2		NE	100	
WDD3	Metal	Potassium	120000	µg/L		450	1000		NE	NE	
WDD3	Metal	Selenium	3.1	µg/L		0.45	2		50	10	
WDD3	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
WDD3	Metal	Sodium	45000	µg/L		540	1500		NE	20000	
WDD3	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
WDD3	Metal	Vanadium	0.99	µg/L		0.14	0.4		NE	14	
WDD3	Metal	Zinc	240	µg/L		0.38	2		5000[d]	NE	
WDD3	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
WDD3	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
WDD3	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
WDD3	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
WDD3	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
WDD3	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
WDD3	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
WDD3	VOC	2-Butanone[h]	0.28	µg/L	U	0.28	10		NE	NE	
WDD3	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
WDD3	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
WDD3	VOC	Acetone[h]	5	µg/L	J	5	5		NE	NE	
WDD3	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
WDD3	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
WDD3	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
WDD3	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
WDD3	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
WDD3	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
WDD3	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
WDD3	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
WDD3	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
WDD3	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
WDD3	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
WDD3	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
WDD3	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
WDD3	VOC	Methylene chloride[h]	0.88	µg/L	U	0.88	5		5	5	
WDD3	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
WDD3	VOC	Tetrachloroethylene	0.26	µg/L	U	0.26	1		5	5	
WDD3	VOC	Toluene[h]	0.2	µg/L	U	0.2	1		1000	5	
WDD3	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
WDD3	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
WDD3	VOC	Trichloroethylene	0.27	µg/L	U	0.27	1		5	5	
WDD3	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
WDD3	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**
WDD3	PAH	Acenaphthene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD3	PAH	Acenaphthylene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD3	PAH	Anthracene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD3	PAH	Benzo(a)anthracene	0.01	µg/L	U	0.01	0.1		NE	NE	
WDD3	PAH	Benzo(a)pyrene	0.012	µg/L	U	0.012	0.1		0.2	ND	
WDD3	PAH	Benzo(b)fluoranthene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD3	PAH	Benzo(ghi)perylene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD3	PAH	Benzo(k)fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD3	PAH	Chrysene	0.015	µg/L	U	0.015	0.1		NE	NE	
WDD3	PAH	Dibenzo(a,h)anthracene	0.012	µg/L	U	0.012	0.1		NE	NE	
WDD3	PAH	Fluoranthene	0.018	µg/L	U	0.018	0.1		NE	NE	
WDD3	PAH	Fluorene	0.019	µg/L	U	0.019	0.1		NE	NE	
WDD3	PAH	Indeno(1,2,3-cd)pyrene	0.01	µg/L	U	0.01	0.1		NE	NE	
WDD3	PAH	Naphthalene	0.019	µg/L	U	0.019	0.1		NE	NE	
WDD3	PAH	Phenanthrene	0.02	µg/L	U	0.02	0.1		NE	NE	
WDD3	PAH	Pyrene	0.013	µg/L	U	0.013	0.1		NE	NE	
WDD3	PCB	Aroclor-1016	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD3	PCB	Aroclor-1221	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD3	PCB	Aroclor-1232	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD3	PCB	Aroclor-1242	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD3	PCB	Aroclor-1248	0.03	µg/L	U	0.03	0.1		0.5	0.09[g]	
WDD3	PCB	Aroclor-1254	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD3	PCB	Aroclor-1260	0.04	µg/L	U	0.04	0.2		0.5	0.09[g]	
WDD3	Pesticide	4,4'-DDD	0.003	µg/L	U	0.003	0.01		NE	0.3	
WDD3	Pesticide	4,4'-DDE	0.002	µg/L	U	0.002	0.01		NE	0.2	
WDD3	Pesticide	4,4'-DDT	0.002	µg/L	U	0.002	0.01		NE	0.2	
WDD3	Pesticide	Aldrin	0.003	µg/L	U	0.003	0.01		NE	ND	
WDD3	Pesticide	alpha-BHC	0.002	µg/L	U	0.002	0.01		NE	0.01	
WDD3	Pesticide	alpha-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD3	Pesticide	beta-BHC	0.003	µg/L	U	0.003	0.01		NE	0.04	
WDD3	Pesticide	delta-BHC	0.002	µg/L	U	0.002	0.01		NE	0.4	
WDD3	Pesticide	Dieldrin	0.002	µg/L	U	0.002	0.01		NE	0.001	
WDD3	Pesticide	Endosulfan I	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD3	Pesticide	Endosulfan II	0.003	µg/L	U	0.003	0.01		NE	NE	
WDD3	Pesticide	Endosulfan sulfate	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD3	Pesticide	Endrin	0.002	µg/L	U	0.002	0.01		2	ND	
WDD3	Pesticide	Endrin aldehyde	0.002	µg/L	U	0.002	0.01		NE	5	
WDD3	Pesticide	Endrin ketone	0.002	µg/L	U	0.002	0.01		NE	5	
WDD3	Pesticide	gamma-BHC (Lindane)	0.002	µg/L	U	0.002	0.01		0.2	0.5	
WDD3	Pesticide	gamma-Chlordane	0.002	µg/L	U	0.002	0.01		NE	NE	
WDD3	Pesticide	Heptachlor	0.002	µg/L	U	0.002	0.01		0.4	0.4	
WDD3	Pesticide	Heptachlor epoxide	0.002	µg/L	U	0.002	0.01		0.2	0.3	
WDD3	Pesticide	Methoxychlor	0.003	µg/L	U	0.003	0.01		40	35	
WDD3	Pesticide	Toxaphene	0.04	µg/L	U	0.04	0.2		3	0.06	

Surface Water Location*	PARAMETER *	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds. **	DOE DCGs**

*Surface Water Location
SWSD009 - Site Background
SWSD021 - Site Background
SW-DUP (SWSD011) - Field Duplicate of surface water and sediment location SWSD011

*PARAMETER
VOC - Volatile Organic Compound
PAH - Polynuclear Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

*UNITS
PCI/L - picocuries per liter
UG/L - micrograms per liter (ppb)

*QUALIFIER
Validated Qualifier: J - indicates an estimated value.
Validated Qualifier: U - indicates that no analyte was detected (Non-Detect).

*DETECTION LIMIT
Radiological - Minimum Detectable Activity (MDA)
Organic and Inorganic - Method Detection Limit

**** Surfacewater at NFSS is not a drinking water source.**
The above federal and state regulation concentrations are for comparative purposes only.

Federal Regulations:
National Primary Drinking Water Regulations 40CFR141.62&63

US Dept of Energy:
USDOE derived concentration guide (USDOE Order 5400.5) for drinking water.

New York State:
New York State Standards -Water Quality Criteria (class GA) per 6 NYCRR, Part 703.
NE - Not Established

*DETECTION LIMIT
Radiological - Minimum Detectable Activity (MDA)
Organic and Inorganic - Method Detection Limit

a. Applies to the sum of Ra-226 and Ra-228
b. "Adjusted" gross alpha MCL of 15 pCi/, including Thorium isotopes, excluding radon and uranium
-National Primary Drinking Water Regulations; Radionuclide; Final Rule (Federal Register -December 7, 2000)
c. Sum of Uranium Isotopes (27 PCI/L or 30 UG/L).
d. National Secondary Drinking Water Regulations (40CFR143.3)
e. Applies to the sum of cis- and trans-1,3-dichloropropene, CAS Nos. 10061-01-5 and 10061-02-6, respectively.
f. Not a sum total for Dimethyl Benzene (Xylene) , applies to 1,2--Xylene, 1,3-Xylene and 1,4-Xylene individually.
g. Sum of Aroclors (polychlorinated biphenyls)
h. Common laboratory contaminant.

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/19/2009										
SWSD009	Radiological	Radium-226	0.914	pCi/g		0.379	±	0.313	NE	NE	5[a]
SWSD009	Radiological	Radium-228	0.960	pCi/g	U	1.191	±	0.606	NE	NE	5[a]
		Total Radium [a]	*0.914*	*pCi/g*							5[a]
SWSD009	Radiological	Thorium-228	1.096	pCi/g		0.162	±	0.413	NE	NE	5
SWSD009	Radiological	Thorium-230	1.218	pCi/g		0.188	±	0.442	NE	NE	5
SWSD009	Radiological	Thorium-232	1.209	pCi/g		0.151	±	0.438	NE	NE	5
SWSD009	Radiological	Uranium-234	1.135	pCi/g		0.093	±	0.303	NE	NE	90[b]
SWSD009	Radiological	Uranium-235	0.081	pCi/g		0.095	±	0.079	NE	NE	90[b]
SWSD009	Radiological	Uranium-238	0.868	pCi/g		0.076	±	0.255	NE	NE	90[b]
		Total Uranium [b]	*2.084*	*pCi/g*							90[b]
SWSD009	Metal	Aluminum	21000	mg/kg		11	51		NE	NE	
SWSD009	Metal	Antimony	0.31	mg/kg		0.03	0.092		NE	NE	
SWSD009	Metal	Arsenic	5.2	mg/kg		0.045	0.1		13	16	
SWSD009	Metal	Barium	110	mg/kg		0.033	0.1		350	10,000	
SWSD009	Metal	Beryllium	0.64	mg/kg		0.03	0.1		7	2,700	
SWSD009	Metal	Boron	NA	mg/kg					NE	NE	
SWSD009	Metal	Cadmium	1.6	mg/kg		0.032	0.1		3	60	
SWSD009	Metal	Calcium	60000	mg/kg		440	810		NE	NE	
SWSD009	Metal	Chromium	44	mg/kg		0.032	1		NE	NE	
SWSD009	Metal	Cobalt	11	mg/kg		0.029	0.1		NE	NE	
SWSD009	Metal	Copper	60	mg/kg		0.035	0.1		50	10,000	
SWSD009	Metal	Iron	23000	mg/kg		100	200		NE	NE	
SWSD009	Metal	Lead	41	mg/kg		0.034	0.1		63	3,900	
SWSD009	Metal	Lithium	NA	mg/kg					NE	NE	
SWSD009	Metal	Magnesium	16000	mg/kg		270	610		NE	NE	
SWSD009	Metal	Manganese	640	mg/kg		0.56	1		1,600	10,000	
SWSD009	Metal	Mercury	0.17	mg/kg		0.0029	0.058		0.18[c]	5.7[c]	
SWSD009	Metal	Nickel	28	mg/kg		0.028	0.1		30	10,000	
SWSD009	Metal	Potassium	3800	mg/kg		46	100		NE	NE	
SWSD009	Metal	Selenium	0.83	mg/kg		0.11	0.2		4	6,800	
SWSD009	Metal	Silver	0.56	mg/kg		0.018	0.046		2	6,800	
SWSD009	Metal	Sodium	410	mg/kg		55	100		NE	NE	
SWSD009	Metal	Thallium	0.15	mg/kg		0.04	0.1		NE	NE	
SWSD009	Metal	Vanadium	32	mg/kg		0.035	1		NE	NE	
SWSD009	Metal	Zinc	410	mg/kg		1.9	4.1		109	10,000	
SWSD009	VOC	1,1,1-Trichloroethane	17	µg/kg	U	17	100		680	1,000,000	
SWSD009	VOC	1,1,2,2-Tetrachloroethane	32	µg/kg	U	32	100		NE	NE	
SWSD009	VOC	1,1,2-Trichloroethane	22	µg/kg	U	22	100		NE	NE	
SWSD009	VOC	1,1-Dichloroethane	22	µg/kg	U	22	100		270	480,000	
SWSD009	VOC	1,1-Dichloroethylene	22	µg/kg	U	22	100		330	1,000,000	
SWSD009	VOC	1,2-Dichloroethane	19	µg/kg	U	19	100		20	60,000	
SWSD009	VOC	1,2-Dichloropropane	28	µg/kg	U	28	100		NE	NE	
SWSD009	VOC	2-Butanone[e]	71	µg/kg	U	71	520		120	1,000,000	
SWSD009	VOC	2-Hexanone	36	µg/kg	U	36	520		NE	NE	
SWSD009	VOC	4-Methyl-2-pentanone	27	µg/kg	U	27	520		NE	NE	
SWSD009	VOC	Acetone[e]	57	µg/kg	U	57	1000		50	1,000,000	
SWSD009	VOC	Benzene	17	µg/kg	U	17	63		60	89,000	
SWSD009	VOC	Bromodichloromethane	17	µg/kg	U	17	100		NE	NE	
SWSD009	VOC	Bromoform	22	µg/kg	U	22	100		NE	NE	
SWSD009	VOC	Bromomethane	170	µg/kg	U	170	420		NE	NE	
SWSD009	VOC	Carbon disulfide	48	µg/kg	U	48	520		NE	NE	
SWSD009	VOC	Carbon tetrachloride	20	µg/kg	U	20	100		760	44,000	
SWSD009	VOC	Chlorobenzene	18	µg/kg	U	18	100		1,100	1,000,000	
SWSD009	VOC	Chloroethane	190	µg/kg	U	190	520		NE	NE	
SWSD009	VOC	Chloroform	17	µg/kg	U	17	100		370	700,000	
SWSD009	VOC	Chloromethane	23	µg/kg	U	23	210		NE	NE	
SWSD009	VOC	cis-1,2-Dichloroethylene	22	µg/kg	U	22	100		250	1,000,000	
SWSD009	VOC	cis-1,3-Dichloropropylene	15	µg/kg	U	15	100		NE	NE	
SWSD009	VOC	Ethylbenzene	22	µg/kg	U	22	100		1,000	780,000	
SWSD009	VOC	Methylene chloride[e]	67	µg/kg	J	46	210		50	1,000,000	
SWSD009	VOC	Styrene	17	µg/kg	U	17	100		NE	NE	
SWSD009	VOC	Tetrachloroethylene	25	µg/kg	U	25	100		1,300	300,000	
SWSD009	VOC	Toluene[e]	22	µg/kg	U	22	100		700	1,000,000	
SWSD009	VOC	trans-1,2-Dichloroethylene	17	µg/kg	U	17	100		190	1,000,000	
SWSD009	VOC	trans-1,3-Dichloropropylene	21	µg/kg	U	21	100		NE	NE	
SWSD009	VOC	Trichloroethylene	40	µg/kg	U	40	100		470	400,000	
SWSD009	VOC	Vinyl chloride	21	µg/kg	U	21	84		20	27,000	
SWSD009	VOC	Xylenes (total)	64	µg/kg	U	64	310		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SWSD009	PAH	Acenaphthene	150	µg/kg	J	8.3	60		20,000	1,000,000	
SWSD009	PAH	Acenaphthylene	9.3	µg/kg	U	9.3	60		100,000	1,000,000	
SWSD009	PAH	Anthracene	74	µg/kg	J	0.49	60		100,000	1,000,000	
SWSD009	PAH	Benzo(a)anthracene	290	µg/kg	J	2.2	60		1,000	11,000	
SWSD009	PAH	Benzo(a)pyrene	540	µg/kg	J	2.3	60		1,000	1,100	
SWSD009	PAH	Benzo(b)fluoranthene	410	µg/kg	J	1.6	60		1,000	11,000	
SWSD009	PAH	Benzo(ghi)perylene	420	µg/kg	J	7.4	60		100,000	1,000,000	
SWSD009	PAH	Benzo(k)fluoranthene	150	µg/kg	J	1.6	60		8,000	110,000	
SWSD009	PAH	Chrysene	270	µg/kg	J	1.4	60		1,000	110,000	
SWSD009	PAH	Dibenzo(a,h)anthracene	66	µg/kg	J	13	60		330	1,100	
SWSD009	PAH	Fluoranthene	1400	µg/kg	J	2.1	60		100,000	1,000,000	
SWSD009	PAH	Fluorene	63	µg/kg	J	3.2	60		30,000	1,000,000	
SWSD009	PAH	Indeno(1,2,3-cd)pyrene	170	µg/kg	J	3.5	60		500	11,000	
SWSD009	PAH	Naphthalene	6.5	µg/kg	U	6.5	60		12,000	1,000,000	
SWSD009	PAH	Phenanthrene	340	µg/kg	J	1.4	60		100,000	1,000,000	
SWSD009	PAH	Pyrene	770	µg/kg	J	10	60		100,000	1,000,000	
SWSD009	PCB	Aroclor-1016	7.2	µg/kg	U	7.2	79		100	25,000	
SWSD009	PCB	Aroclor-1221	7.1	µg/kg	U	7.1	79		100	25,000	
SWSD009	PCB	Aroclor-1232	11	µg/kg	U	11	79		100	25,000	
SWSD009	PCB	Aroclor-1242	8.9	µg/kg	U	8.9	79		100	25,000	
SWSD009	PCB	Aroclor-1248	8.4	µg/kg	U	8.4	79		100	25,000	
SWSD009	PCB	Aroclor-1254	10	µg/kg	U	10	79		100	25,000	
SWSD009	PCB	Aroclor-1260	7	µg/kg	U	7	79		100	25,000	
SWSD009	Pesticide	4,4'-DDD	1.1	µg/kg	U	1.1	3.3		3.3	180,000	
SWSD009	Pesticide	4,4'-DDE	0.39	µg/kg	U	0.39	1.6		3.3	120,000	
SWSD009	Pesticide	4,4'-DDT	0.4	µg/kg	U	0.4	1.6		3.3	94,000	
SWSD009	Pesticide	Aldrin	0.37	µg/kg	U	0.37	1.6		5	1,400	
SWSD009	Pesticide	alpha-BHC	0.31	µg/kg	U	0.31	1.6		20	6,800	
SWSD009	Pesticide	alpha-Chlordane	0.37	µg/kg	U	0.37	1.6		94	47,000	
SWSD009	Pesticide	beta-BHC	7.6	µg/kg	U	7.6	33		36	14,000	
SWSD009	Pesticide	delta-BHC	6.1	µg/kg	U	6.1	33		40	1,000,000	
SWSD009	Pesticide	Dieldrin	0.36	µg/kg	U	0.36	1.6		5	2,800	
SWSD009	Pesticide	Endosulfan I	0.36	µg/kg	U	0.36	1.6		2,400[d]	920,000[d]	
SWSD009	Pesticide	Endosulfan II	0.45	µg/kg	U	0.45	1.6		2,400[d]	920,000[d]	
SWSD009	Pesticide	Endosulfan sulfate	0.45	µg/kg	U	0.45	1.6		2,400[d]	920,000[d]	
SWSD009	Pesticide	Endrin	0.5	µg/kg	U	0.5	1.6		14	410,000	
SWSD009	Pesticide	Endrin aldehyde	0.43	µg/kg	U	0.43	1.6		NE	NE	
SWSD009	Pesticide	Endrin ketone	0.41	µg/kg	U	0.41	1.6		NE	NE	
SWSD009	Pesticide	gamma-BHC (Lindane)	7	µg/kg	U	7	33		100	23,000	
SWSD009	Pesticide	gamma-Chlordane	0.48	µg/kg	U	0.48	1.6		NE	NE	
SWSD009	Pesticide	Heptachlor	7.8	µg/kg	U	7.8	33		42	29,000	
SWSD009	Pesticide	Heptachlor epoxide	7.6	µg/kg	U	7.6	33		NE	NE	
SWSD009	Pesticide	Methoxychlor	0.52	µg/kg	U	0.52	1.6		NE	NE	
SWSD009	Pesticide	Toxaphene	9.8	µg/kg	U	9.8	33		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/19/2009										
SWSD021	Radiological	Radium-226	0.429	pCi/g		0.299	±	0.214	NE	NE	5[a]
SWSD021	Radiological	Radium-228	2.129	pCi/g	J	1.030	±	0.603	NE	NE	5[a]
		Total Radium [a]	*2.558*	*pCi/g*							5[a]
SWSD021	Radiological	Thorium-228	1.671	pCi/g		0.157	±	0.585	NE	NE	5
SWSD021	Radiological	Thorium-230	1.602	pCi/g		0.157	±	0.564	NE	NE	5
SWSD021	Radiological	Thorium-232	1.803	pCi/g		0.170	±	0.615	NE	NE	5
SWSD021	Radiological	Uranium-234	1.200	pCi/g		0.100	±	0.298	NE	NE	90[b]
SWSD021	Radiological	Uranium-235	0.119	pCi/g		0.070	±	0.088	NE	NE	90[b]
SWSD021	Radiological	Uranium-238	1.173	pCi/g		0.057	±	0.291	NE	NE	90[b]
		Total Uranium [b]	*2.492*	*pCi/g*							90[b]
SWSD021	Metal	Aluminum	28000	mg/kg		11	52		NE	NE	
SWSD021	Metal	Antimony	0.24	mg/kg		0.03	0.091		NE	NE	
SWSD021	Metal	Arsenic	4.1	mg/kg		0.046	0.1		13	16	
SWSD021	Metal	Barium	110	mg/kg		0.034	0.1		350	10,000	
SWSD021	Metal	Beryllium	0.89	mg/kg		0.031	0.1		7	2,700	
SWSD021	Metal	Boron	16	mg/kg		3	5.2		NE	NE	
SWSD021	Metal	Cadmium	0.85	mg/kg		0.032	0.1		3	60	
SWSD021	Metal	Calcium	54000	mg/kg		450	820		NE	NE	
SWSD021	Metal	Chromium	46	mg/kg		0.033	1		NE	NE	
SWSD021	Metal	Cobalt	13	mg/kg		0.03	0.1		NE	NE	
SWSD021	Metal	Copper	29	mg/kg		0.036	0.1		50	10,000	
SWSD021	Metal	Iron	32000	mg/kg		100	210		NE	NE	
SWSD021	Metal	Lead	9.3	mg/kg		0.034	0.1		63	3,900	
SWSD021	Metal	Lithium	56	mg/kg		0.1	0.1		NE	NE	
SWSD021	Metal	Magnesium	15000	mg/kg		280	620		NE	NE	
SWSD021	Metal	Manganese	700	mg/kg		0.57	1		1,600	10,000	
SWSD021	Metal	Mercury	0.0031	mg/kg	U	0.0031	0.062		0.18[c]	5.7[c]	
SWSD021	Metal	Nickel	32	mg/kg		0.029	0.1		30	10,000	
SWSD021	Metal	Potassium	5500	mg/kg		46	100		NE	NE	
SWSD021	Metal	Selenium	0.35	mg/kg		0.12	0.21		4	6,800	
SWSD021	Metal	Silver	0.1	mg/kg		0.018	0.045		2	6,800	
SWSD021	Metal	Sodium	230	mg/kg		55	100		NE	NE	
SWSD021	Metal	Thallium	0.15	mg/kg		0.04	0.1		NE	NE	
SWSD021	Metal	Vanadium	39	mg/kg		0.035	1		NE	NE	
SWSD021	Metal	Zinc	160	mg/kg		2	4.1		109	10,000	
SWSD021	VOC	1,1,1-Trichloroethane	16	µg/kg	U	16	100		680	1,000,000	
SWSD021	VOC	1,1,2,2-Tetrachloroethane	30	µg/kg	U	30	100		NE	NE	
SWSD021	VOC	1,1,2-Trichloroethane	21	µg/kg	U	21	100		NE	NE	
SWSD021	VOC	1,1-Dichloroethane	21	µg/kg	U	21	100		270	480,000	
SWSD021	VOC	1,1-Dichloroethylene	21	µg/kg	U	21	100		330	1,000,000	
SWSD021	VOC	1,2-Dichloroethane	18	µg/kg	U	18	100		20	60,000	
SWSD021	VOC	1,2-Dichloropropane	27	µg/kg	U	27	100		NE	NE	
SWSD021	VOC	2-Butanone[e]	68	µg/kg	U	68	500		120	1,000,000	
SWSD021	VOC	2-Hexanone	34	µg/kg	U	34	500		NE	NE	
SWSD021	VOC	4-Methyl-2-pentanone	26	µg/kg	U	26	500		NE	NE	
SWSD021	VOC	Acetone[e]	54	µg/kg	U	54	1000		50	1,000,000	
SWSD021	VOC	Benzene	16	µg/kg	U	16	60		60	89,000	
SWSD021	VOC	Bromodichloromethane	16	µg/kg	U	16	100		NE	NE	
SWSD021	VOC	Bromoform	21	µg/kg	U	21	100		NE	NE	
SWSD021	VOC	Bromomethane	160	µg/kg	U	160	400		NE	NE	
SWSD021	VOC	Carbon disulfide	45	µg/kg	U	45	500		NE	NE	
SWSD021	VOC	Carbon tetrachloride	19	µg/kg	U	19	100		760	44,000	
SWSD021	VOC	Chlorobenzene	17	µg/kg	U	17	100		1,100	1,000,000	
SWSD021	VOC	Chloroethane	180	µg/kg	U	180	500		NE	NE	
SWSD021	VOC	Chloroform	16	µg/kg	U	16	100		370	700,000	
SWSD021	VOC	Chloromethane	22	µg/kg	U	22	200		NE	NE	
SWSD021	VOC	cis-1,2-Dichloroethylene	21	µg/kg	U	21	100		250	1,000,000	
SWSD021	VOC	cis-1,3-Dichloropropylene	14	µg/kg	U	14	100		NE	NE	
SWSD021	VOC	Ethylbenzene	21	µg/kg	U	21	100		1,000	780,000	
SWSD021	VOC	Methylene chloride[e]	64	µg/kg	J	43	200		50	1,000,000	
SWSD021	VOC	Styrene	16	µg/kg	U	16	100		NE	NE	
SWSD021	VOC	Tetrachloroethylene	23	µg/kg	U	23	100		1,300	300,000	
SWSD021	VOC	Toluene[e]	21	µg/kg	U	21	100		700	1,000,000	
SWSD021	VOC	trans-1,2-Dichloroethylene	16	µg/kg	U	16	100		190	1,000,000	
SWSD021	VOC	trans-1,3-Dichloropropylene	20	µg/kg	U	20	100		NE	NE	
SWSD021	VOC	Trichloroethylene	38	µg/kg	U	38	100		470	400,000	
SWSD021	VOC	Vinyl chloride	20	µg/kg	U	20	80		20	27,000	
SWSD021	VOC	Xylenes (total)	61	µg/kg	U	61	300		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SWSD021	PAH	Acenaphthene	7.5	µg/kg	U	7.5	54		20,000	1,000,000	
SWSD021	PAH	Acenaphthylene	8.4	µg/kg	U	8.4	54		100,000	1,000,000	
SWSD021	PAH	Anthracene	0.44	µg/kg	U	0.44	54		100,000	1,000,000	
SWSD021	PAH	Benzo(a)anthracene	2	µg/kg	U	2	54		1,000	11,000	
SWSD021	PAH	Benzo(a)pyrene	80	µg/kg		2.1	54		1,000	1,100	
SWSD021	PAH	Benzo(b)fluoranthene	27	µg/kg	J	1.5	54		1,000	11,000	
SWSD021	PAH	Benzo(ghi)perylene	6.7	µg/kg	U	6.7	54		100,000	1,000,000	
SWSD021	PAH	Benzo(k)fluoranthene	1.4	µg/kg	U	1.4	54		8,000	110,000	
SWSD021	PAH	Chrysene	24	µg/kg	J	1.3	54		1,000	110,000	
SWSD021	PAH	Dibenzo(a,h)anthracene	12	µg/kg	U	12	54		330	1,100	
SWSD021	PAH	Fluoranthene	200	µg/kg		1.9	54		100,000	1,000,000	
SWSD021	PAH	Fluorene	2.9	µg/kg	U	2.9	54		30,000	1,000,000	
SWSD021	PAH	Indeno(1,2,3-cd)pyrene	3.2	µg/kg	U	3.2	54		500	11,000	
SWSD021	PAH	Naphthalene	5.8	µg/kg	U	5.8	54		12,000	1,000,000	
SWSD021	PAH	Phenanthrene	40	µg/kg	J	1.3	54		100,000	1,000,000	
SWSD021	PAH	Pyrene	9.3	µg/kg	U	9.3	54		100,000	1,000,000	
SWSD021	PCB	Aroclor-1016	6.5	µg/kg	U	6.5	71		100	25,000	
SWSD021	PCB	Aroclor-1221	6.5	µg/kg	U	6.5	71		100	25,000	
SWSD021	PCB	Aroclor-1232	9.7	µg/kg	U	9.7	71		100	25,000	
SWSD021	PCB	Aroclor-1242	8	µg/kg	U	8	71		100	25,000	
SWSD021	PCB	Aroclor-1248	7.6	µg/kg	U	7.6	71		100	25,000	
SWSD021	PCB	Aroclor-1254	9.1	µg/kg	U	9.1	71		100	25,000	
SWSD021	PCB	Aroclor-1260	6.3	µg/kg	U	6.3	71		100	25,000	
SWSD021	Pesticide	4,4'-DDD	1.2	µg/kg	U	1.2	3.7		3.3	180,000	
SWSD021	Pesticide	4,4'-DDE	0.43	µg/kg	U	0.43	1.8		3.3	120,000	
SWSD021	Pesticide	4,4'-DDT	0.44	µg/kg	U	0.44	1.8		3.3	94,000	
SWSD021	Pesticide	Aldrin	0.41	µg/kg	U	0.41	1.8		5	1,400	
SWSD021	Pesticide	alpha-BHC	0.34	µg/kg	U	0.34	1.8		20	6,800	
SWSD021	Pesticide	alpha-Chlordane	0.41	µg/kg	U	0.41	1.8		94	47,000	
SWSD021	Pesticide	beta-BHC	0.42	µg/kg	U	0.42	1.8		36	14,000	
SWSD021	Pesticide	delta-BHC	0.33	µg/kg	U	0.33	1.8		40	1,000,000	
SWSD021	Pesticide	Dieldrin	0.39	µg/kg	U	0.39	1.8		5	2,800	
SWSD021	Pesticide	Endosulfan I	0.39	µg/kg	U	0.39	1.8		2,400[d]	920,000[d]	
SWSD021	Pesticide	Endosulfan II	0.5	µg/kg	U	0.5	1.8		2,400[d]	920,000[d]	
SWSD021	Pesticide	Endosulfan sulfate	0.5	µg/kg	U	0.5	1.8		2,400[d]	920,000[d]	
SWSD021	Pesticide	Endrin	0.55	µg/kg	U	0.55	1.8		14	410,000	
SWSD021	Pesticide	Endrin aldehyde	0.47	µg/kg	U	0.47	1.8		NE	NE	
SWSD021	Pesticide	Endrin ketone	0.45	µg/kg	U	0.45	1.8		NE	NE	
SWSD021	Pesticide	gamma-BHC (Lindane)	0.39	µg/kg	U	0.39	1.8		100	23,000	
SWSD021	Pesticide	gamma-Chlordane	0.52	µg/kg	U	0.52	1.8		NE	NE	
SWSD021	Pesticide	Heptachlor	0.43	µg/kg	U	0.43	1.8		42	29,000	
SWSD021	Pesticide	Heptachlor epoxide	0.42	µg/kg	U	0.42	1.8		NE	NE	
SWSD021	Pesticide	Methoxychlor	0.57	µg/kg	U	0.57	1.8		NE	NE	
SWSD021	Pesticide	Toxaphene	11	µg/kg	U	11	36		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/19/2009										
SWSD010	Radiological	Radium-226	0.778	pCi/g		0.471	±	0.345	NE	NE	5[a]
SWSD010	Radiological	Radium-228	0.968	pCi/g	U	1.238	±	0.630	NE	NE	5[a]
		Total Radium [a]	*0.778*	pCi/g							5[a]
SWSD010	Radiological	Thorium-228	1.572	pCi/g		0.126	±	0.512	NE	NE	5
SWSD010	Radiological	Thorium-230	1.393	pCi/g		0.096	±	0.464	NE	NE	5
SWSD010	Radiological	Thorium-232	1.207	pCi/g		0.056	±	0.418	NE	NE	5
SWSD010	Radiological	Uranium-234	2.439	pCi/g		0.131	±	0.560	NE	NE	90[b]
SWSD010	Radiological	Uranium-235	0.181	pCi/g		0.143	±	0.135	NE	NE	90[b]
SWSD010	Radiological	Uranium-238	2.282	pCi/g		0.095	±	0.533	NE	NE	90[b]
		Total Uranium [b]	*4.902*	*pCi/g*							90[b]
SWSD010	Metal	Aluminum	21000	mg/kg		14	65		NE	NE	
SWSD010	Metal	Antimony	1.3	mg/kg		0.051	0.15		NE	NE	
SWSD010	Metal	Arsenic	6.7	mg/kg		0.058	0.13		13	16	
SWSD010	Metal	Barium	99	mg/kg		0.043	0.13		350	10,000	
SWSD010	Metal	Beryllium	0.68	mg/kg		0.039	0.13		7	2,700	
SWSD010	Metal	Boron	25	mg/kg		3.8	6.5		NE	NE	
SWSD010	Metal	Cadmium	1.3	mg/kg		0.041	0.13		3	60	
SWSD010	Metal	Calcium	46000	mg/kg		560	1000		NE	NE	
SWSD010	Metal	Chromium	65	mg/kg		0.041	1.3		NE	NE	
SWSD010	Metal	Cobalt	12	mg/kg		0.038	0.13		NE	NE	
SWSD010	Metal	Copper	73	mg/kg		0.045	0.13		50	10,000	
SWSD010	Metal	Iron	25000	mg/kg		130	260		NE	NE	
SWSD010	Metal	Lead	55	mg/kg		0.044	0.13		63	3,900	
SWSD010	Metal	Lithium	44	mg/kg		0.13	0.13		NE	NE	
SWSD010	Metal	Magnesium	16000	mg/kg		350	780		NE	NE	
SWSD010	Metal	Manganese	650	mg/kg		0.72	1.3		1,600	10,000	
SWSD010	Metal	Mercury	0.26	mg/kg		0.005	0.1		0.18[c]	5.7[c]	
SWSD010	Metal	Nickel	30	mg/kg		0.036	0.13		30	10,000	
SWSD010	Metal	Potassium	4500	mg/kg		58	130		NE	NE	
SWSD010	Metal	Selenium	1.1	mg/kg		0.15	0.26		4	6,800	
SWSD010	Metal	Silver	0.32	mg/kg		0.03	0.077		2	6,800	
SWSD010	Metal	Sodium	460	mg/kg		70	130		NE	NE	
SWSD010	Metal	Thallium	0.18	mg/kg		0.051	0.13		NE	NE	
SWSD010	Metal	Vanadium	35	mg/kg		0.044	1.3		NE	NE	
SWSD010	Metal	Zinc	460	mg/kg		2.5	5.2		109	10,000	
SWSD010	VOC	1,1,1-Trichloroethane	24	µg/kg	U	24	150		680	1,000,000	
SWSD010	VOC	1,1,2,2-Tetrachloroethane	45	µg/kg	U	45	150		NE	NE	
SWSD010	VOC	1,1,2-Trichloroethane	31	µg/kg	U	31	150		NE	NE	
SWSD010	VOC	1,1-Dichloroethane	30	µg/kg	U	30	150		270	480,000	
SWSD010	VOC	1,1-Dichloroethylene	31	µg/kg	U	31	150		330	1,000,000	
SWSD010	VOC	1,2-Dichloroethane	27	µg/kg	U	27	150		20	60,000	
SWSD010	VOC	1,2-Dichloropropane	40	µg/kg	U	40	150		NE	NE	
SWSD010	VOC	2-Butanone[e]	99	µg/kg	U	99	730		120	1,000,000	
SWSD010	VOC	2-Hexanone	50	µg/kg	U	50	730		NE	NE	
SWSD010	VOC	4-Methyl-2-pentanone	38	µg/kg	U	38	730		NE	NE	
SWSD010	VOC	Acetone[e]	80	µg/kg	U	80	1500		50	1,000,000	
SWSD010	VOC	Benzene	24	µg/kg	U	24	88		60	89,000	
SWSD010	VOC	Bromodichloromethane	23	µg/kg	U	23	150		NE	NE	
SWSD010	VOC	Bromoform	31	µg/kg	U	31	150		NE	NE	
SWSD010	VOC	Bromomethane	240	µg/kg	U	240	590		NE	NE	
SWSD010	VOC	Carbon disulfide	67	µg/kg	U	67	730		NE	NE	
SWSD010	VOC	Carbon tetrachloride	28	µg/kg	U	28	150		760	44,000	
SWSD010	VOC	Chlorobenzene	25	µg/kg	U	25	150		1,100	1,000,000	
SWSD010	VOC	Chloroethane	260	µg/kg	U	260	730		NE	NE	
SWSD010	VOC	Chloroform	24	µg/kg	U	24	150		370	700,000	
SWSD010	VOC	Chloromethane	33	µg/kg	U	33	290		NE	NE	
SWSD010	VOC	cis-1,2-Dichloroethylene	31	µg/kg	U	31	150		250	1,000,000	
SWSD010	VOC	cis-1,3-Dichloropropylene	21	µg/kg	U	21	150		NE	NE	
SWSD010	VOC	Ethylbenzene	30	µg/kg	U	30	150		1,000	780,000	
SWSD010	VOC	Methylene chloride[e]	100	µg/kg	J	64	290		50	1,000,000	
SWSD010	VOC	Styrene	23	µg/kg	U	23	150		NE	NE	
SWSD010	VOC	Tetrachloroethylene	34	µg/kg	U	34	150		1,300	300,000	
SWSD010	VOC	Toluene[e]	30	µg/kg	U	30	150		700	1,000,000	
SWSD010	VOC	trans-1,2-Dichloroethylene	24	µg/kg	U	24	150		190	1,000,000	
SWSD010	VOC	trans-1,3-Dichloropropylene	30	µg/kg	U	30	150		NE	NE	
SWSD010	VOC	Trichloroethylene	56	µg/kg	U	56	150		470	400,000	
SWSD010	VOC	Vinyl chloride	29	µg/kg	U	29	120		20	27,000	
SWSD010	VOC	Xylenes (total)	90	µg/kg	U	90	440		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SWSD010	PAH	Acenaphthene	110	µg/kg		11	79		20,000	1,000,000	
SWSD010	PAH	Acenaphthylene	12	µg/kg	U	12	79		100,000	1,000,000	
SWSD010	PAH	Anthracene	46	µg/kg	J	0.64	79		100,000	1,000,000	
SWSD010	PAH	Benzo(a)anthracene	270	µg/kg		2.9	79		1,000	11,000	
SWSD010	PAH	Benzo(a)pyrene	670	µg/kg		3.1	79		1,000	1,100	
SWSD010	PAH	Benzo(b)fluoranthene	570	µg/kg		2.1	79		1,000	11,000	
SWSD010	PAH	Benzo(ghi)perylene	710	µg/kg		9.8	79		100,000	1,000,000	
SWSD010	PAH	Benzo(k)fluoranthene	260	µg/kg		2.1	79		8,000	110,000	
SWSD010	PAH	Chrysene	230	µg/kg		1.8	79		1,000	110,000	
SWSD010	PAH	Dibenzo(a,h)anthracene	18	µg/kg	U	18	79		330	1,100	
SWSD010	PAH	Fluoranthene	1300	µg/kg		2.7	79		100,000	1,000,000	
SWSD010	PAH	Fluorene	23	µg/kg	J	4.2	79		30,000	1,000,000	
SWSD010	PAH	Indeno(1,2,3-cd)pyrene	270	µg/kg		4.7	79		500	11,000	
SWSD010	PAH	Naphthalene	8.5	µg/kg	U	8.5	79		12,000	1,000,000	
SWSD010	PAH	Phenanthrene	280	µg/kg		1.8	79		100,000	1,000,000	
SWSD010	PAH	Pyrene	830	µg/kg		14	79		100,000	1,000,000	
SWSD010	PCB	Aroclor-1016	9.5	µg/kg	U	9.5	100		100	25,000	
SWSD010	PCB	Aroclor-1221	9.4	µg/kg	U	9.4	100		100	25,000	
SWSD010	PCB	Aroclor-1232	14	µg/kg	U	14	100		100	25,000	
SWSD010	PCB	Aroclor-1242	12	µg/kg	U	12	100		100	25,000	
SWSD010	PCB	Aroclor-1248	11	µg/kg	U	11	100		100	25,000	
SWSD010	PCB	Aroclor-1254	13	µg/kg	U	13	100		100	25,000	
SWSD010	PCB	Aroclor-1260	9.2	µg/kg	U	9.2	100		100	25,000	
SWSD010	Pesticide	4,4'-DDD	1.7	µg/kg	U	1.7	5.3		3.3	180,000	
SWSD010	Pesticide	4,4'-DDE	0.63	µg/kg	U	0.63	2.6		3.3	120,000	
SWSD010	Pesticide	4,4'-DDT	0.64	µg/kg	U	0.64	2.6		3.3	94,000	
SWSD010	Pesticide	Aldrin	0.59	µg/kg	U	0.59	2.6		5	1,400	
SWSD010	Pesticide	alpha-BHC	0.5	µg/kg	U	0.5	2.6		20	6,800	
SWSD010	Pesticide	alpha-Chlordane	0.6	µg/kg	U	0.6	2.6		94	47,000	
SWSD010	Pesticide	beta-BHC	0.61	µg/kg	U	0.61	2.6		36	14,000	
SWSD010	Pesticide	delta-BHC	0.49	µg/kg	U	0.49	2.6		40	1,000,000	
SWSD010	Pesticide	Dieldrin	0.58	µg/kg	U	0.58	2.6		5	2,800	
SWSD010	Pesticide	Endosulfan I	0.57	µg/kg	U	0.57	2.6		2,400[d]	920,000[d]	
SWSD010	Pesticide	Endosulfan II	0.73	µg/kg	U	0.73	2.6		2,400[d]	920,000[d]	
SWSD010	Pesticide	Endosulfan sulfate	0.73	µg/kg	U	0.73	2.6		2,400[d]	920,000[d]	
SWSD010	Pesticide	Endrin	0.8	µg/kg	U	0.8	2.6		14	410,000	
SWSD010	Pesticide	Endrin aldehyde	0.68	µg/kg	U	0.68	2.6		NE	NE	
SWSD010	Pesticide	Endrin ketone	0.66	µg/kg	U	0.66	2.6		NE	NE	
SWSD010	Pesticide	gamma-BHC (Lindane)	0.56	µg/kg	U	0.56	2.6		100	23,000	
SWSD010	Pesticide	gamma-Chlordane	0.76	µg/kg	U	0.76	2.6		NE	NE	
SWSD010	Pesticide	Heptachlor	0.63	µg/kg	U	0.63	2.6		42	29,000	
SWSD010	Pesticide	Heptachlor epoxide	0.61	µg/kg	U	0.61	2.6		NE	NE	
SWSD010	Pesticide	Methoxychlor	0.83	µg/kg	U	0.83	2.6		NE	NE	
SWSD010	Pesticide	Toxaphene	16	µg/kg	U	16	53		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/18/2009										
SWSD011	Radiological	Radium-226	0.943	pCi/g		0.408	±	0.337	NE	NE	5[a]
SWSD011	Radiological	Radium-228	1.356	pCi/g	J	1.195	±	0.626	NE	NE	5[a]
		Total Radium [a]	*2.299*	PCI/G							5[a]
SWSD011	Radiological	Thorium-228	1.516	pCi/g		0.180	±	0.502	NE	NE	5
SWSD011	Radiological	Thorium-230	1.550	pCi/g		0.157	±	0.506	NE	NE	5
SWSD011	Radiological	Thorium-232	1.223	pCi/g		0.115	±	0.425	NE	NE	5
SWSD011	Radiological	Uranium-234	1.467	pCi/g		0.037	±	0.352	NE	NE	90[b]
SWSD011	Radiological	Uranium-235	0.103	pCi/g		0.117	±	0.091	NE	NE	90[b]
SWSD011	Radiological	Uranium-238	1.248	pCi/g		0.088	±	0.317	NE	NE	90[b]
		Total Uranium [b]	2.818	*pCi/g*							90[b]
SWSD011	Metal	Aluminum	24000	mg/kg		14	65		NE	NE	
SWSD011	Metal	Antimony	0.47	mg/kg		0.049	0.15		NE	NE	
SWSD011	Metal	Arsenic	5.1	mg/kg		0.058	0.13		13	16	
SWSD011	Metal	Barium	120	mg/kg		0.043	0.13		350	10,000	
SWSD011	Metal	Beryllium	0.96	mg/kg		0.045	0.15		7	2,700	
SWSD011	Metal	Boron	31	mg/kg		3.8	6.5		NE	NE	
SWSD011	Metal	Cadmium	1.2	mg/kg		0.041	0.13		3	60	
SWSD011	Metal	Calcium	60000	mg/kg		570	1000		NE	NE	
SWSD011	Metal	Chromium	53	mg/kg		0.041	1.3		NE	NE	
SWSD011	Metal	Cobalt	12	mg/kg		0.038	0.13		NE	NE	
SWSD011	Metal	Copper	50	mg/kg		0.046	0.13		50	10,000	
SWSD011	Metal	Iron	30000	mg/kg		130	260		NE	NE	
SWSD011	Metal	Lead	33	mg/kg		0.044	0.13		63	3,900	
SWSD011	Metal	Lithium	54	mg/kg		0.13	0.13		NE	NE	
SWSD011	Metal	Magnesium	15000	mg/kg		350	790		NE	NE	
SWSD011	Metal	Manganese	1200	mg/kg		0.72	1.3		1,600	10,000	
SWSD011	Metal	Mercury	0.15	mg/kg		0.0055	0.11		0.18[c]	5.7[c]	
SWSD011	Metal	Nickel	31	mg/kg		0.036	0.13		30	10,000	
SWSD011	Metal	Potassium	5000	mg/kg		29	65		NE	NE	
SWSD011	Metal	Selenium	0.88	mg/kg		0.15	0.26		4	6,800	
SWSD011	Metal	Silver	0.22	mg/kg		0.029	0.075		2	6,800	
SWSD011	Metal	Sodium	330	mg/kg		35	65		NE	NE	
SWSD011	Metal	Thallium	0.22	mg/kg		0.058	0.15		NE	NE	
SWSD011	Metal	Vanadium	38	mg/kg		0.044	1.3		NE	NE	
SWSD011	Metal	Zinc	370	mg/kg		2.5	5.2		109	10,000	
SWSD011	VOC	1,1,1-Trichloroethane	24	µg/kg	U	24	150		680	1,000,000	
SWSD011	VOC	1,1,2,2-Tetrachloroethane	45	µg/kg	U	45	150		NE	NE	
SWSD011	VOC	1,1,2-Trichloroethane	31	µg/kg	U	31	150		NE	NE	
SWSD011	VOC	1,1-Dichloroethane	30	µg/kg	U	30	150		270	480,000	
SWSD011	VOC	1,1-Dichloroethylene	31	µg/kg	U	31	150		330	1,000,000	
SWSD011	VOC	1,2-Dichloroethane	27	µg/kg	U	27	150		20	60,000	
SWSD011	VOC	1,2-Dichloropropane	40	µg/kg	U	40	150		NE	NE	
SWSD011	VOC	2-Butanone[e]	99	µg/kg	U	99	730		120	1,000,000	
SWSD011	VOC	2-Hexanone	50	µg/kg	U	50	730		NE	NE	
SWSD011	VOC	4-Methyl-2-pentanone	38	µg/kg	U	38	730		NE	NE	
SWSD011	VOC	Acetone[e]	80	µg/kg	U	80	1500		50	1,000,000	
SWSD011	VOC	Benzene	24	µg/kg	U	24	88		60	89,000	
SWSD011	VOC	Bromodichloromethane	23	µg/kg	U	23	150		NE	NE	
SWSD011	VOC	Bromoform	31	µg/kg	U	31	150		NE	NE	
SWSD011	VOC	Bromomethane	240	µg/kg	U	240	590		NE	NE	
SWSD011	VOC	Carbon disulfide	67	µg/kg	U	67	730		NE	NE	
SWSD011	VOC	Carbon tetrachloride	28	µg/kg	U	28	150		760	44,000	
SWSD011	VOC	Chlorobenzene	25	µg/kg	U	25	150		1,100	1,000,000	
SWSD011	VOC	Chloroethane	260	µg/kg	U	260	730		NE	NE	
SWSD011	VOC	Chloroform	24	µg/kg	U	24	150		370	700,000	
SWSD011	VOC	Chloromethane	33	µg/kg	U	33	290		NE	NE	
SWSD011	VOC	cis-1,2-Dichloroethylene	31	µg/kg	U	31	150		250	1,000,000	
SWSD011	VOC	cis-1,3-Dichloropropylene	21	µg/kg	U	21	150		NE	NE	
SWSD011	VOC	Ethylbenzene	30	µg/kg	U	30	150		1,000	780,000	
SWSD011	VOC	Methylene chloride[e]	100	µg/kg	J	64	290		50	1,000,000	
SWSD011	VOC	Styrene	23	µg/kg	U	23	150		NE	NE	
SWSD011	VOC	Tetrachloroethylene	34	µg/kg	U	34	150		1,300	300,000	
SWSD011	VOC	Toluene[e]	30	µg/kg	U	30	150		700	1,000,000	
SWSD011	VOC	trans-1,2-Dichloroethylene	24	µg/kg	U	24	150		190	1,000,000	
SWSD011	VOC	trans-1,3-Dichloropropylene	30	µg/kg	U	30	150		NE	NE	
SWSD011	VOC	Trichloroethylene	56	µg/kg	U	56	150		470	400,000	
SWSD011	VOC	Vinyl chloride	29	µg/kg	U	29	120		20	27,000	
SWSD011	VOC	Xylenes (total)	90	µg/kg	U	90	440		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SWSD011	PAH	Acenaphthene	11	µg/kg		11	76		20,000	1,000,000	
SWSD011	PAH	Acenaphthylene	12	µg/kg		12	76		100,000	1,000,000	
SWSD011	PAH	Anthracene	23	µg/kg	J	0.62	76		100,000	1,000,000	
SWSD011	PAH	Benzo(a)anthracene	140	µg/kg		2.8	76		1,000	11,000	
SWSD011	PAH	Benzo(a)pyrene	270	µg/kg		3	76		1,000	1,100	
SWSD011	PAH	Benzo(b)fluoranthene	270	µg/kg		2.1	76		1,000	11,000	
SWSD011	PAH	Benzo(ghi)perylene	320	µg/kg		9.5	76		100,000	1,000,000	
SWSD011	PAH	Benzo(k)fluoranthene	110	µg/kg		2	76		8,000	110,000	
SWSD011	PAH	Chrysene	110	µg/kg		1.8	76		1,000	110,000	
SWSD011	PAH	Dibenzo(a,h)anthracene	17	µg/kg	U	17	76		330	1,100	
SWSD011	PAH	Fluoranthene	710	µg/kg		2.7	76		100,000	1,000,000	
SWSD011	PAH	Fluorene	82	µg/kg		4.1	76		30,000	1,000,000	
SWSD011	PAH	Indeno(1,2,3-cd)pyrene	310	µg/kg		4.5	76		500	11,000	
SWSD011	PAH	Naphthalene	8.3	µg/kg	U	8.3	76		12,000	1,000,000	
SWSD011	PAH	Phenanthrene	170	µg/kg		1.8	76		100,000	1,000,000	
SWSD011	PAH	Pyrene	350	µg/kg		13	76		100,000	1,000,000	
SWSD011	PCB	Aroclor-1016	9.2	µg/kg	U	9.2	100		100	25,000	
SWSD011	PCB	Aroclor-1221	9.1	µg/kg	U	9.1	100		100	25,000	
SWSD011	PCB	Aroclor-1232	14	µg/kg	U	14	100		100	25,000	
SWSD011	PCB	Aroclor-1242	11	µg/kg	U	11	100		100	25,000	
SWSD011	PCB	Aroclor-1248	11	µg/kg	U	11	100		100	25,000	
SWSD011	PCB	Aroclor-1254	13	µg/kg	U	13	100		100	25,000	
SWSD011	PCB	Aroclor-1260	8.9	µg/kg	U	8.9	100		100	25,000	
SWSD011	Pesticide	4,4'-DDD	1.7	µg/kg	U	1.7	5.2		3.3	180,000	
SWSD011	Pesticide	4,4'-DDE	0.61	µg/kg	U	0.61	2.5		3.3	120,000	
SWSD011	Pesticide	4,4'-DDT	0.62	µg/kg	U	0.62	2.5		3.3	94,000	
SWSD011	Pesticide	Aldrin	5.7	µg/kg	U	5.7	25		5	1,400	
SWSD011	Pesticide	alpha-BHC	4.8	µg/kg	U	4.8	25		20	6,800	
SWSD011	Pesticide	alpha-Chlordane	0.58	µg/kg	U	0.58	2.5		94	47,000	
SWSD011	Pesticide	beta-BHC	5.9	µg/kg	U	5.9	25		36	14,000	
SWSD011	Pesticide	delta-BHC	4.7	µg/kg	U	4.7	25		40	1,000,000	
SWSD011	Pesticide	Dieldrin	0.56	µg/kg	U	0.56	2.5		5	2,800	
SWSD011	Pesticide	Endosulfan I	0.55	µg/kg	U	0.55	2.5		2,400[d]	920,000[d]	
SWSD011	Pesticide	Endosulfan II	0.71	µg/kg	U	0.71	2.5		2,400[d]	920,000[d]	
SWSD011	Pesticide	Endosulfan sulfate	0.71	µg/kg	U	0.71	2.5		2,400[d]	920,000[d]	
SWSD011	Pesticide	Endrin	0.77	µg/kg	U	0.77	2.5		14	410,000	
SWSD011	Pesticide	Endrin aldehyde	0.66	µg/kg	U	0.66	2.5		NE	NE	
SWSD011	Pesticide	Endrin ketone	0.64	µg/kg	U	0.64	2.5		NE	NE	
SWSD011	Pesticide	gamma-BHC (Lindane)	5.5	µg/kg	U	5.5	25		100	23,000	
SWSD011	Pesticide	gamma-Chlordane	0.74	µg/kg	U	0.74	2.5		NE	NE	
SWSD011	Pesticide	Heptachlor	6.1	µg/kg	U	6.1	25		42	29,000	
SWSD011	Pesticide	Heptachlor epoxide	5.9	µg/kg	U	5.9	25		NE	NE	
SWSD011	Pesticide	Methoxychlor	0.8	µg/kg	U	0.8	2.5		NE	NE	
SWSD011	Pesticide	Toxaphene	15	µg/kg	U	15	51		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/18/2009										
SED-DUP(SWSD011)	Radiological	Radium-226	0.853	pCi/g		0.491	±	0.366	NE	NE	5[a]
SED-DUP(SWSD011)	Radiological	Radium-228	0.965	pCi/g	U	1.199	±	0.609	NE	NE	5[a]
		Total Radium [a]	*0.853*	*pCi/g*							5[a]
SED-DUP(SWSD011)	Radiological	Thorium-228	1.199	pCi/g		0.151	±	0.430	NE	NE	5
SED-DUP(SWSD011)	Radiological	Thorium-230	1.383	pCi/g		0.151	±	0.472	NE	NE	5
SED-DUP(SWSD011)	Radiological	Thorium-232	0.929	pCi/g		0.151	±	0.357	NE	NE	5
SED-DUP(SWSD011)	Radiological	Uranium-234	1.373	pCi/g		0.033	±	0.324	NE	NE	90[b]
SED-DUP(SWSD011)	Radiological	Uranium-235	0.118	pCi/g		0.070	±	0.087	NE	NE	90[b]
SED-DUP(SWSD011)	Radiological	Uranium-238	1.633	pCi/g		0.056	±	0.365	NE	NE	90[b]
		Total Uranium [b]	*3.124*	*pCi/g*							90[b]
SED-DUP(SWSD011)	Metal	Aluminum	32000	mg/kg		16	76		NE	NE	
SED-DUP(SWSD011)	Metal	Antimony	0.47	mg/kg		0.055	0.17		NE	NE	
SED-DUP(SWSD011)	Metal	Arsenic	6.3	mg/kg		0.067	0.15		13	16	
SED-DUP(SWSD011)	Metal	Barium	150	mg/kg		0.05	0.15		350	10,000	
SED-DUP(SWSD011)	Metal	Beryllium	1.1	mg/kg		0.045	0.15		7	2,700	
SED-DUP(SWSD011)	Metal	Boron	33	mg/kg		4.4	7.6		NE	NE	
SED-DUP(SWSD011)	Metal	Cadmium	1.8	mg/kg		0.047	0.15		3	60	
SED-DUP(SWSD011)	Metal	Calcium	73000	mg/kg		650	1200		NE	NE	
SED-DUP(SWSD011)	Metal	Chromium	69	mg/kg		0.048	1.5		NE	NE	
SED-DUP(SWSD011)	Metal	Cobalt	17	mg/kg		0.044	0.15		NE	NE	
SED-DUP(SWSD011)	Metal	Copper	68	mg/kg		0.053	0.15		50	10,000	
SED-DUP(SWSD011)	Metal	Iron	36000	mg/kg		150	300		NE	NE	
SED-DUP(SWSD011)	Metal	Lead	44	mg/kg		0.051	0.15		63	3,900	
SED-DUP(SWSD011)	Metal	Lithium	81	mg/kg		0.15	0.15		NE	NE	
SED-DUP(SWSD011)	Metal	Magnesium	19000	mg/kg		410	910		NE	NE	
SED-DUP(SWSD011)	Metal	Manganese	1500	mg/kg		0.84	1.5		1,600	10,000	
SED-DUP(SWSD011)	Metal	Mercury	0.18	mg/kg		0.0055	0.11		0.18[c]	5.7[c]	
SED-DUP(SWSD011)	Metal	Nickel	44	mg/kg		0.042	0.15		30	10,000	
SED-DUP(SWSD011)	Metal	Potassium	6000	mg/kg		68	150		NE	NE	
SED-DUP(SWSD011)	Metal	Selenium	1.2	mg/kg		0.17	0.3		4	6,800	
SED-DUP(SWSD011)	Metal	Silver	0.31	mg/kg		0.032	0.083		2	6,800	
SED-DUP(SWSD011)	Metal	Sodium	530	mg/kg		81	150		NE	NE	
SED-DUP(SWSD011)	Metal	Thallium	0.22	mg/kg		0.059	0.15		NE	NE	
SED-DUP(SWSD011)	Metal	Vanadium	47	mg/kg		0.051	1.5		NE	NE	
SED-DUP(SWSD011)	Metal	Zinc	590	mg/kg		2.9	6.1		109	10,000	
SED-DUP(SWSD011)	VOC	1,1,1-Trichloroethane	29	µg/kg	U	29	180		680	1,000,000	
SED-DUP(SWSD011)	VOC	1,1,2,2-Tetrachloroethane	55	µg/kg	U	55	180		NE	NE	
SED-DUP(SWSD011)	VOC	1,1,2-Trichloroethane	38	µg/kg	U	38	180		NE	NE	
SED-DUP(SWSD011)	VOC	1,1-Dichloroethane	37	µg/kg	U	37	180		270	480,000	
SED-DUP(SWSD011)	VOC	1,1-Dichloroethylene	38	µg/kg	U	38	180		330	1,000,000	
SED-DUP(SWSD011)	VOC	1,2-Dichloroethane	33	µg/kg	U	33	180		20	60,000	
SED-DUP(SWSD011)	VOC	1,2-Dichloropropane	49	µg/kg	U	49	180		NE	NE	
SED-DUP(SWSD011)	VOC	2-Butanone[e]	120	µg/kg	U	120	900		120	1,000,000	
SED-DUP(SWSD011)	VOC	2-Hexanone	61	µg/kg	U	61	900		NE	NE	
SED-DUP(SWSD011)	VOC	4-Methyl-2-pentanone	47	µg/kg	U	47	900		NE	NE	
SED-DUP(SWSD011)	VOC	Acetone[e]	97	µg/kg	U	97	1800		50	1,000,000	
SED-DUP(SWSD011)	VOC	Benzene	29	µg/kg	U	29	110		60	89,000	
SED-DUP(SWSD011)	VOC	Bromodichloromethane	28	µg/kg	U	28	180		NE	NE	
SED-DUP(SWSD011)	VOC	Bromoform	38	µg/kg	U	38	180		NE	NE	
SED-DUP(SWSD011)	VOC	Bromomethane	290	µg/kg	U	290	720		NE	NE	
SED-DUP(SWSD011)	VOC	Carbon disulfide	81	µg/kg	U	81	900		NE	NE	
SED-DUP(SWSD011)	VOC	Carbon tetrachloride	35	µg/kg	U	35	180		760	44,000	
SED-DUP(SWSD011)	VOC	Chlorobenzene	31	µg/kg	U	31	180		1,100	1,000,000	
SED-DUP(SWSD011)	VOC	Chloroethane	320	µg/kg	U	320	900		NE	NE	
SED-DUP(SWSD011)	VOC	Chloroform	29	µg/kg	U	29	180		370	700,000	
SED-DUP(SWSD011)	VOC	Chloromethane	40	µg/kg	U	40	360		NE	NE	
SED-DUP(SWSD011)	VOC	cis-1,2-Dichloroethylene	38	µg/kg	U	38	180		250	1,000,000	
SED-DUP(SWSD011)	VOC	cis-1,3-Dichloropropylene	26	µg/kg	U	26	180		NE	NE	
SED-DUP(SWSD011)	VOC	Ethylbenzene	37	µg/kg	U	37	180		1,000	780,000	
SED-DUP(SWSD011)	VOC	Methylene chloride[e]	140	µg/kg	J	78	360		50	1,000,000	
SED-DUP(SWSD011)	VOC	Styrene	28	µg/kg	U	28	180		NE	NE	
SED-DUP(SWSD011)	VOC	Tetrachloroethylene	42	µg/kg	U	42	180		1,300	300,000	
SED-DUP(SWSD011)	VOC	Toluene[e]	37	µg/kg	U	37	180		700	1,000,000	
SED-DUP(SWSD011)	VOC	trans-1,2-Dichloroethylene	29	µg/kg	U	29	180		190	1,000,000	
SED-DUP(SWSD011)	VOC	trans-1,3-Dichloropropylene	36	µg/kg	U	36	180		NE	NE	
SED-DUP(SWSD011)	VOC	Trichloroethylene	69	µg/kg	U	69	180		470	400,000	
SED-DUP(SWSD011)	VOC	Vinyl chloride	35	µg/kg	U	35	140		20	27,000	
SED-DUP(SWSD011)	VOC	Xylenes (total)	110	µg/kg	U	110	540		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SED-DUP(SWSD011)	PAH	Acenaphthene	13	µg/kg	U	13	92		20,000	1,000,000	
SED-DUP(SWSD011)	PAH	Acenaphthylene	14	µg/kg	U	14	92		100,000	1,000,000	
SED-DUP(SWSD011)	PAH	Anthracene	29	µg/kg	J	0.75	92		100,000	1,000,000	
SED-DUP(SWSD011)	PAH	Benzo(a)anthracene	170	µg/kg		3.3	92		1,000	11,000	
SED-DUP(SWSD011)	PAH	Benzo(a)pyrene	290	µg/kg		3.6	92		1,000	1,100	
SED-DUP(SWSD011)	PAH	Benzo(b)fluoranthene	370	µg/kg		2.5	92		1,000	11,000	
SED-DUP(SWSD011)	PAH	Benzo(ghi)perylene	310	µg/kg		11	92		100,000	1,000,000	
SED-DUP(SWSD011)	PAH	Benzo(k)fluoranthene	110	µg/kg		2.5	92		8,000	110,000	
SED-DUP(SWSD011)	PAH	Chrysene	150	µg/kg		2.2	92		1,000	110,000	
SED-DUP(SWSD011)	PAH	Dibenzo(a,h)anthracene	21	µg/kg	U	21	92		330	1,100	
SED-DUP(SWSD011)	PAH	Fluoranthene	820	µg/kg		3.2	92		100,000	1,000,000	
SED-DUP(SWSD011)	PAH	Fluorene	120	µg/kg		4.9	92		30,000	1,000,000	
SED-DUP(SWSD011)	PAH	Indeno(1,2,3-cd)pyrene	160	µg/kg		5.4	92		500	11,000	
SED-DUP(SWSD011)	PAH	Naphthalene	9.9	µg/kg	U	9.9	92		12,000	1,000,000	
SED-DUP(SWSD011)	PAH	Phenanthrene	220	µg/kg		2.2	92		100,000	1,000,000	
SED-DUP(SWSD011)	PAH	Pyrene	390	µg/kg		16	92		100,000	1,000,000	
SED-DUP(SWSD011)	PCB	Aroclor-1016	11	µg/kg	U	11	120		100	25,000	
SED-DUP(SWSD011)	PCB	Aroclor-1221	11	µg/kg	U	11	120		100	25,000	
SED-DUP(SWSD011)	PCB	Aroclor-1232	16	µg/kg	U	16	120		100	25,000	
SED-DUP(SWSD011)	PCB	Aroclor-1242	14	µg/kg	U	14	120		100	25,000	
SED-DUP(SWSD011)	PCB	Aroclor-1248	13	µg/kg	U	13	120		100	25,000	
SED-DUP(SWSD011)	PCB	Aroclor-1254	15	µg/kg	U	15	120		100	25,000	
SED-DUP(SWSD011)	PCB	Aroclor-1260	11	µg/kg	U	11	120		100	25,000	
SED-DUP(SWSD011)	Pesticide	4,4'-DDD	2	µg/kg	U	2	6.2		3.3	180,000	
SED-DUP(SWSD011)	Pesticide	4,4'-DDE	0.73	µg/kg	U	0.73	3		3.3	120,000	
SED-DUP(SWSD011)	Pesticide	4,4'-DDT	0.74	µg/kg	U	0.74	3		3.3	94,000	
SED-DUP(SWSD011)	Pesticide	Aldrin	0.69	µg/kg	U	0.69	3		5	1,400	
SED-DUP(SWSD011)	Pesticide	alpha-BHC	0.58	µg/kg	U	0.58	3		20	6,800	
SED-DUP(SWSD011)	Pesticide	alpha-Chlordane	0.7	µg/kg	U	0.7	3		94	47,000	
SED-DUP(SWSD011)	Pesticide	beta-BHC	0.71	µg/kg	U	0.71	3		36	14,000	
SED-DUP(SWSD011)	Pesticide	delta-BHC	0.57	µg/kg	U	0.57	3		40	1,000,000	
SED-DUP(SWSD011)	Pesticide	Dieldrin	0.67	µg/kg	U	0.67	3		5	2,800	
SED-DUP(SWSD011)	Pesticide	Endosulfan I	0.66	µg/kg	U	0.66	3		2,400[d]	920,000[d]	
SED-DUP(SWSD011)	Pesticide	Endosulfan II	0.85	µg/kg	U	0.85	3		2,400[d]	920,000[d]	
SED-DUP(SWSD011)	Pesticide	Endosulfan sulfate	0.85	µg/kg	U	0.85	3		2,400[d]	920,000[d]	
SED-DUP(SWSD011)	Pesticide	Endrin	0.93	µg/kg	U	0.93	3		14	410,000	
SED-DUP(SWSD011)	Pesticide	Endrin aldehyde	0.79	µg/kg	U	0.79	3		NE	NE	
SED-DUP(SWSD011)	Pesticide	Endrin ketone	0.77	µg/kg	U	0.77	3		NE	NE	
SED-DUP(SWSD011)	Pesticide	gamma-BHC (Lindane)	0.66	µg/kg	U	0.66	3		100	23,000	
SED-DUP(SWSD011)	Pesticide	gamma-Chlordane	0.89	µg/kg	U	0.89	3		NE	NE	
SED-DUP(SWSD011)	Pesticide	Heptachlor	0.73	µg/kg	U	0.73	3		42	29,000	
SED-DUP(SWSD011)	Pesticide	Heptachlor epoxide	0.71	µg/kg	U	0.71	3		NE	NE	
SED-DUP(SWSD011)	Pesticide	Methoxychlor	0.96	µg/kg	U	0.96	3		NE	NE	
SED-DUP(SWSD011)	Pesticide	Toxaphene	18	µg/kg	U	18	61		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/18/2009										
SWSD022	Radiological	Radium-226	1.078	pCi/g		0.393	±	0.345	NE	NE	5[a]
SWSD022	Radiological	Radium-228	1.404	pCi/g	J	1.016	±	0.552	NE	NE	5[a]
		Total Radium [a]	*2.483*	*pCi/g*							5[a]
SWSD022	Radiological	Thorium-228	2.127	pCi/g		0.138	±	0.660	NE	NE	5
SWSD022	Radiological	Thorium-230	1.689	pCi/g		0.106	±	0.550	NE	NE	5
SWSD022	Radiological	Thorium-232	1.024	pCi/g		0.106	±	0.385	NE	NE	5
SWSD022	Radiological	Uranium-234	2.152	pCi/g		0.103	±	0.476	NE	NE	90[b]
SWSD022	Radiological	Uranium-235	0.209	pCi/g		0.110	±	0.130	NE	NE	90[b]
SWSD022	Radiological	Uranium-238	2.123	pCi/g		0.068	±	0.471	NE	NE	90[b]
		Total Uranium [b]	*4.484*	*pCi/g*							90[b]
SWSD022	Metal	Aluminum	20000	mg/kg		15	73		NE	NE	
SWSD022	Metal	Antimony	0.76	mg/kg		0.052	0.16		NE	NE	
SWSD022	Metal	Arsenic	7.2	mg/kg		0.065	0.15		13	16	
SWSD022	Metal	Barium	150	mg/kg		0.048	0.15		350	10,000	
SWSD022	Metal	Beryllium	0.73	mg/kg		0.044	0.15		7	2,700	
SWSD022	Metal	Boron	23	mg/kg		4.2	7.3		NE	NE	
SWSD022	Metal	Cadmium	1.2	mg/kg		0.046	0.15		3	60	
SWSD022	Metal	Calcium	42000	mg/kg		630	1200		NE	NE	
SWSD022	Metal	Chromium	45	mg/kg		0.046	1.5		NE	NE	
SWSD022	Metal	Cobalt	14	mg/kg		0.042	0.15		NE	NE	
SWSD022	Metal	Copper	49	mg/kg		0.051	0.15		50	10,000	
SWSD022	Metal	Iron	26000	mg/kg		150	290		NE	NE	
SWSD022	Metal	Lead	33	mg/kg		0.049	0.15		63	3,900	
SWSD022	Metal	Lithium	47	mg/kg		0.15	0.15		NE	NE	
SWSD022	Metal	Magnesium	13000	mg/kg		390	880		NE	NE	
SWSD022	Metal	Manganese	1600	mg/kg		0.81	1.5		1,600	10,000	
SWSD022	Metal	Mercury	0.17	mg/kg		0.0057	0.11		0.18[c]	5.7[c]	
SWSD022	Metal	Nickel	32	mg/kg		0.041	0.15		30	10,000	
SWSD022	Metal	Potassium	3600	mg/kg		33	73		NE	NE	
SWSD022	Metal	Selenium	1.1	mg/kg		0.16	0.29		4	6,800	
SWSD022	Metal	Silver	0.24	mg/kg		0.031	0.078		2	6,800	
SWSD022	Metal	Sodium	230	mg/kg		39	73		NE	NE	
SWSD022	Metal	Thallium	0.15	mg/kg		0.057	0.15		NE	NE	
SWSD022	Metal	Vanadium	34	mg/kg		0.05	1.5		NE	NE	
SWSD022	Metal	Zinc	450	mg/kg		2.8	5.9		109	10,000	
SWSD022	VOC	1,1,1-Trichloroethane	26	µg/kg	U	26	160		680	1,000,000	
SWSD022	VOC	1,1,2,2-Tetrachloroethane	48	µg/kg	U	48	160		NE	NE	
SWSD022	VOC	1,1,2-Trichloroethane	33	µg/kg	U	33	160		NE	NE	
SWSD022	VOC	1,1-Dichloroethane	33	µg/kg	U	33	160		270	480,000	
SWSD022	VOC	1,1-Dichloroethylene	34	µg/kg	U	34	160		330	1,000,000	
SWSD022	VOC	1,2-Dichloroethane	29	µg/kg	U	29	160		20	60,000	
SWSD022	VOC	1,2-Dichloropropane	43	µg/kg	U	43	160		NE	NE	
SWSD022	VOC	2-Butanone[e]	110	µg/kg	U	110	790		120	1,000,000	
SWSD022	VOC	2-Hexanone	54	µg/kg	U	54	790		NE	NE	
SWSD022	VOC	4-Methyl-2-pentanone	41	µg/kg	U	41	790		NE	NE	
SWSD022	VOC	Acetone[e]	86	µg/kg	U	86	1600		50	1,000,000	
SWSD022	VOC	Benzene	26	µg/kg	U	26	95		60	89,000	
SWSD022	VOC	Bromodichloromethane	25	µg/kg	U	25	160		NE	NE	
SWSD022	VOC	Bromoform	33	µg/kg	U	33	160		NE	NE	
SWSD022	VOC	Bromomethane	250	µg/kg	U	250	630		NE	NE	
SWSD022	VOC	Carbon disulfide	72	µg/kg	U	72	790		NE	NE	
SWSD022	VOC	Carbon tetrachloride	30	µg/kg	U	30	160		760	44,000	
SWSD022	VOC	Chlorobenzene	27	µg/kg	U	27	160		1,100	1,000,000	
SWSD022	VOC	Chloroethane	280	µg/kg	U	280	790		NE	NE	
SWSD022	VOC	Chloroform	26	µg/kg	U	26	160		370	700,000	
SWSD022	VOC	Chloromethane	35	µg/kg	U	35	320		NE	NE	
SWSD022	VOC	cis-1,2-Dichloroethylene	34	µg/kg	U	34	160		250	1,000,000	
SWSD022	VOC	cis-1,3-Dichloropropylene	23	µg/kg	U	23	160		NE	NE	
SWSD022	VOC	Ethylbenzene	33	µg/kg	U	33	160		1,000	780,000	
SWSD022	VOC	Methylene chloride[e]	120	µg/kg	J	69	320		50	1,000,000	
SWSD022	VOC	Styrene	25	µg/kg	U	25	160		NE	NE	
SWSD022	VOC	Tetrachloroethylene	37	µg/kg	U	37	160		1,300	300,000	
SWSD022	VOC	Toluene[e]	33	µg/kg	U	33	160		700	1,000,000	
SWSD022	VOC	trans-1,2-Dichloroethylene	25	µg/kg	U	25	160		190	1,000,000	
SWSD022	VOC	trans-1,3-Dichloropropylene	32	µg/kg	U	32	160		NE	NE	
SWSD022	VOC	Trichloroethylene	60	µg/kg	U	60	160		470	400,000	
SWSD022	VOC	Vinyl chloride	31	µg/kg	U	31	130		20	27,000	
SWSD022	VOC	Xylenes (total)	96	µg/kg	U	96	470		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SWSD022	PAH	Acenaphthene	12	µg/kg	U	12	83		20,000	1,000,000	
SWSD022	PAH	Acenaphthylene	13	µg/kg	U	13	83		100,000	1,000,000	
SWSD022	PAH	Anthracene	25	µg/kg	J	0.68	83		100,000	1,000,000	
SWSD022	PAH	Benzo(a)anthracene	140	µg/kg	J	3	83		1,000	11,000	
SWSD022	PAH	Benzo(a)pyrene	480	µg/kg	J	3.3	83		1,000	1,100	
SWSD022	PAH	Benzo(b)fluoranthene	280	µg/kg	J	2.3	83		1,000	11,000	
SWSD022	PAH	Benzo(ghi)perylene	410	µg/kg	J	10	83		100,000	1,000,000	
SWSD022	PAH	Benzo(k)fluoranthene	85	µg/kg	J	2.2	83		8,000	110,000	
SWSD022	PAH	Chrysene	130	µg/kg	J	2	83		1,000	110,000	
SWSD022	PAH	Dibenzo(a,h)anthracene	19	µg/kg	U	19	83		330	1,100	
SWSD022	PAH	Fluoranthene	670	µg/kg	J	2.9	83		100,000	1,000,000	
SWSD022	PAH	Fluorene	100	µg/kg	J	4.5	83		30,000	1,000,000	
SWSD022	PAH	Indeno(1,2,3-cd)pyrene	320	µg/kg	J	4.9	83		500	11,000	
SWSD022	PAH	Naphthalene	9	µg/kg	U	9	83		12,000	1,000,000	
SWSD022	PAH	Phenanthrene	190	µg/kg	J	2	83		100,000	1,000,000	
SWSD022	PAH	Pyrene	330	µg/kg	J	14	83		100,000	1,000,000	
SWSD022	PCB	Aroclor-1016	10	µg/kg	U	10	110		100	25,000	
SWSD022	PCB	Aroclor-1221	9.9	µg/kg	U	9.9	110		100	25,000	
SWSD022	PCB	Aroclor-1232	15	µg/kg	U	15	110		100	25,000	
SWSD022	PCB	Aroclor-1242	12	µg/kg	U	12	110		100	25,000	
SWSD022	PCB	Aroclor-1248	12	µg/kg	U	12	110		100	25,000	
SWSD022	PCB	Aroclor-1254	14	µg/kg	U	14	110		100	25,000	
SWSD022	PCB	Aroclor-1260	9.7	µg/kg	U	9.7	110		100	25,000	
SWSD022	Pesticide	4,4'-DDD	1.8	µg/kg	U	1.8	5.6		3.3	180,000	
SWSD022	Pesticide	4,4'-DDE	0.66	µg/kg	U	0.66	2.8		3.3	120,000	
SWSD022	Pesticide	4,4'-DDT	0.67	µg/kg	U	0.67	2.8		3.3	94,000	
SWSD022	Pesticide	Aldrin	0.62	µg/kg	U	0.62	2.8		5	1,400	
SWSD022	Pesticide	alpha-BHC	0.52	µg/kg	U	0.52	2.8		20	6,800	
SWSD022	Pesticide	alpha-Chlordane	0.63	µg/kg	U	0.63	2.8		94	47,000	
SWSD022	Pesticide	beta-BHC	0.64	µg/kg	U	0.64	2.8		36	14,000	
SWSD022	Pesticide	delta-BHC	0.51	µg/kg	U	0.51	2.8		40	1,000,000	
SWSD022	Pesticide	Dieldrin	0.61	µg/kg	U	0.61	2.8		5	2,800	
SWSD022	Pesticide	Endosulfan I	0.6	µg/kg	U	0.6	2.8		2,400[d]	920,000[d]	
SWSD022	Pesticide	Endosulfan II	0.77	µg/kg	U	0.77	2.8		2,400[d]	920,000[d]	
SWSD022	Pesticide	Endosulfan sulfate	0.77	µg/kg	U	0.77	2.8		2,400[d]	920,000[d]	
SWSD022	Pesticide	Endrin	0.84	µg/kg	U	0.84	2.8		14	410,000	
SWSD022	Pesticide	Endrin aldehyde	0.72	µg/kg	U	0.72	2.8		NE	NE	
SWSD022	Pesticide	Endrin ketone	0.7	µg/kg	U	0.7	2.8		NE	NE	
SWSD022	Pesticide	gamma-BHC (Lindane)	0.59	µg/kg	U	0.59	2.8		100	23,000	
SWSD022	Pesticide	gamma-Chlordane	0.81	µg/kg	U	0.81	2.8		NE	NE	
SWSD022	Pesticide	Heptachlor	0.66	µg/kg	U	0.66	2.8		42	29,000	
SWSD022	Pesticide	Heptachlor epoxide	0.64	µg/kg	U	0.64	2.8		NE	NE	
SWSD022	Pesticide	Methoxychlor	0.87	µg/kg	U	0.87	2.8		NE	NE	
SWSD022	Pesticide	Toxaphene	17	µg/kg	U	17	55		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/19/2009										
SWSD023	Radiological	Radium-226	0.284	pCi/g	U	0.290	±	0.194	NE	NE	5[a]
SWSD023	Radiological	Radium-228	0.864	pCi/g	U	0.900	±	0.467	NE	NE	5[a]
		Total Radium [a]	*Non-detect*	*pCi/g*							5[a]
SWSD023	Radiological	Thorium-228	1.043	pCi/g		0.091	±	0.370	NE	NE	5
SWSD023	Radiological	Thorium-230	0.899	pCi/g		0.091	±	0.332	NE	NE	5
SWSD023	Radiological	Thorium-232	0.822	pCi/g		0.053	±	0.312	NE	NE	5
SWSD023	Radiological	Uranium-234	1.100	pCi/g		0.138	±	0.302	NE	NE	90[b]
SWSD023	Radiological	Uranium-235	0.100	pCi/g		0.096	±	0.088	NE	NE	90[b]
SWSD023	Radiological	Uranium-238	1.179	pCi/g		0.077	±	0.312	NE	NE	90[b]
		Total Uranium [b]	2.379	*pCi/g*							90[b]
SWSD023	Metal	Aluminum	21000	mg/kg		11	55		NE	NE	
SWSD023	Metal	Antimony	1.2	mg/kg		0.042	0.13		NE	NE	
SWSD023	Metal	Arsenic	7.7	mg/kg		0.048	0.11		13	16	
SWSD023	Metal	Barium	150	mg/kg		0.036	0.11		350	10,000	
SWSD023	Metal	Beryllium	0.6	mg/kg		0.033	0.11		7	2,700	
SWSD023	Metal	Boron	18	mg/kg		3.1	5.5		NE	NE	
SWSD023	Metal	Cadmium	1.5	mg/kg		0.034	0.11		3	60	
SWSD023	Metal	Calcium	83000	mg/kg		470	870		NE	NE	
SWSD023	Metal	Chromium	32	mg/kg		0.034	1.1		NE	NE	
SWSD023	Metal	Cobalt	11	mg/kg		0.032	0.11		NE	NE	
SWSD023	Metal	Copper	81	mg/kg		0.038	0.11		50	10,000	
SWSD023	Metal	Iron	25000	mg/kg		110	220		NE	NE	
SWSD023	Metal	Lead	130	mg/kg		0.037	0.11		63	3,900	
SWSD023	Metal	Lithium	40	mg/kg		0.11	0.11		NE	NE	
SWSD023	Metal	Magnesium	32000	mg/kg		290	660		NE	NE	
SWSD023	Metal	Manganese	810	mg/kg		0.6	1.1		1,600	10,000	
SWSD023	Metal	Mercury	0.26	mg/kg		0.0037	0.073		0.18[c]	5.7[c]	
SWSD023	Metal	Nickel	33	mg/kg		0.03	0.11		30	10,000	
SWSD023	Metal	Potassium	3800	mg/kg		49	110		NE	NE	
SWSD023	Metal	Selenium	0.4	mg/kg		0.12	0.22		4	6,800	
SWSD023	Metal	Silver	0.57	mg/kg		0.025	0.064		2	6,800	
SWSD023	Metal	Sodium	380	mg/kg		58	110		NE	NE	
SWSD023	Metal	Thallium	0.16	mg/kg		0.043	0.11		NE	NE	
SWSD023	Metal	Vanadium	33	mg/kg		0.037	1.1		NE	NE	
SWSD023	Metal	Zinc	780	mg/kg		2.1	4.4		109	10,000	
SWSD023	VOC	1,1,1-Trichloroethane	21	µg/kg	U	21	130		680	1,000,000	
SWSD023	VOC	1,1,2,2-Tetrachloroethane	39	µg/kg	U	39	130		NE	NE	
SWSD023	VOC	1,1,2-Trichloroethane	27	µg/kg	U	27	130		NE	NE	
SWSD023	VOC	1,1-Dichloroethane	27	µg/kg	U	27	130		270	480,000	
SWSD023	VOC	1,1-Dichloroethylene	27	µg/kg	U	27	130		330	1,000,000	
SWSD023	VOC	1,2-Dichloroethane	24	µg/kg	U	24	130		20	60,000	
SWSD023	VOC	1,2-Dichloropropane	35	µg/kg	U	35	130		NE	NE	
SWSD023	VOC	2-Butanone[e]	87	µg/kg	U	87	640		120	1,000,000	
SWSD023	VOC	2-Hexanone	43	µg/kg	U	43	640		NE	NE	
SWSD023	VOC	4-Methyl-2-pentanone	34	µg/kg	U	34	640		NE	NE	
SWSD023	VOC	Acetone[e]	69	µg/kg	U	69	1300		50	1,000,000	
SWSD023	VOC	Benzene	21	µg/kg	U	21	77		60	89,000	
SWSD023	VOC	Bromodichloromethane	20	µg/kg	U	20	130		NE	NE	
SWSD023	VOC	Bromoform	27	µg/kg	U	27	130		NE	NE	
SWSD023	VOC	Bromomethane	210	µg/kg	U	210	510		NE	NE	
SWSD023	VOC	Carbon disulfide	58	µg/kg	U	58	640		NE	NE	
SWSD023	VOC	Carbon tetrachloride	25	µg/kg	U	25	130		760	44,000	
SWSD023	VOC	Chlorobenzene	22	µg/kg	U	22	130		1,100	1,000,000	
SWSD023	VOC	Chloroethane	230	µg/kg	U	230	640		NE	NE	
SWSD023	VOC	Chloroform	21	µg/kg	U	21	130		370	700,000	
SWSD023	VOC	Chloromethane	29	µg/kg	U	29	260		NE	NE	
SWSD023	VOC	cis-1,2-Dichloroethylene	27	µg/kg	U	27	130		250	1,000,000	
SWSD023	VOC	cis-1,3-Dichloropropylene	18	µg/kg	U	18	130		NE	NE	
SWSD023	VOC	Ethylbenzene	27	µg/kg	U	27	130		1,000	780,000	
SWSD023	VOC	Methylene chloride[e]	74	µg/kg	J	56	260		50	1,000,000	
SWSD023	VOC	Styrene	20	µg/kg	U	20	130		NE	NE	
SWSD023	VOC	Tetrachloroethylene	30	µg/kg	U	30	130		1,300	300,000	
SWSD023	VOC	Toluene[e]	26	µg/kg	U	26	130		700	1,000,000	
SWSD023	VOC	trans-1,2-Dichloroethylene	21	µg/kg	U	21	130		190	1,000,000	
SWSD023	VOC	trans-1,3-Dichloropropylene	26	µg/kg	U	26	130		NE	NE	
SWSD023	VOC	Trichloroethylene	49	µg/kg	U	49	130		470	400,000	
SWSD023	VOC	Vinyl chloride	25	µg/kg	U	25	100		20	27,000	
SWSD023	VOC	Xylenes (total)	78	µg/kg	U	78	380		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SWSD023	PAH	Acenaphthene	350	µg/kg	J	9	65		20,000	1,000,000	
SWSD023	PAH	Acenaphthylene	10	µg/kg	U	10	65		100,000	1,000,000	
SWSD023	PAH	Anthracene	93	µg/kg	J	0.53	65		100,000	1,000,000	
SWSD023	PAH	Benzo(a)anthracene	530	µg/kg	J	2.4	65		1,000	11,000	
SWSD023	PAH	Benzo(a)pyrene	1400	µg/kg	J	2.6	65		1,000	1,100	
SWSD023	PAH	Benzo(b)fluoranthene	860	µg/kg	J	1.8	65		1,000	11,000	
SWSD023	PAH	Benzo(ghi)perylene	1300	µg/kg	J	8.1	65		100,000	1,000,000	
SWSD023	PAH	Benzo(k)fluoranthene	430	µg/kg	J	1.8	65		8,000	110,000	
SWSD023	PAH	Chrysene	510	µg/kg	J	1.5	65		1,000	110,000	
SWSD023	PAH	Dibenzo(a,h)anthracene	65	µg/kg	J	15	65		330	1,100	
SWSD023	PAH	Fluoranthene	2300	µg/kg	J	2.3	65		100,000	1,000,000	
SWSD023	PAH	Fluorene	210	µg/kg	J	3.5	65		30,000	1,000,000	
SWSD023	PAH	Indeno(1,2,3-cd)pyrene	430	µg/kg	J	3.9	65		500	11,000	
SWSD023	PAH	Naphthalene	7.1	µg/kg	U	7.1	65		12,000	1,000,000	
SWSD023	PAH	Phenanthrene	570	µg/kg	J	1.5	65		100,000	1,000,000	
SWSD023	PAH	Pyrene	1100	µg/kg	J	11	65		100,000	1,000,000	
SWSD023	PCB	Aroclor-1016	7.9	µg/kg	U	7.9	86		100	25,000	
SWSD023	PCB	Aroclor-1221	7.8	µg/kg	U	7.8	86		100	25,000	
SWSD023	PCB	Aroclor-1232	12	µg/kg	U	12	86		100	25,000	
SWSD023	PCB	Aroclor-1242	9.7	µg/kg	U	9.7	86		100	25,000	
SWSD023	PCB	Aroclor-1248	9.2	µg/kg	U	9.2	86		100	25,000	
SWSD023	PCB	Aroclor-1254	11	µg/kg	U	11	86		100	25,000	
SWSD023	PCB	Aroclor-1260	7.6	µg/kg	U	7.6	86		100	25,000	
SWSD023	Pesticide	4,4'-DDD	1.4	µg/kg	U	1.4	4.4		3.3	180,000	
SWSD023	Pesticide	4,4'-DDE	0.52	µg/kg	U	0.52	2.2		3.3	120,000	
SWSD023	Pesticide	4,4'-DDT	0.53	µg/kg	U	0.53	2.2		3.3	94,000	
SWSD023	Pesticide	Aldrin	0.49	µg/kg	U	0.49	2.2		5	1,400	
SWSD023	Pesticide	alpha-BHC	0.41	µg/kg	U	0.41	2.2		20	6,800	
SWSD023	Pesticide	alpha-Chlordane	0.5	µg/kg	U	0.5	2.2		94	47,000	
SWSD023	Pesticide	beta-BHC	0.5	µg/kg	U	0.5	2.2		36	14,000	
SWSD023	Pesticide	delta-BHC	0.4	µg/kg	U	0.4	2.2		40	1,000,000	
SWSD023	Pesticide	Dieldrin	0.48	µg/kg	U	0.48	2.2		5	2,800	
SWSD023	Pesticide	Endosulfan I	0.47	µg/kg	U	0.47	2.2		2,400[d]	920,000[d]	
SWSD023	Pesticide	Endosulfan II	0.6	µg/kg	U	0.6	2.2		2,400[d]	920,000[d]	
SWSD023	Pesticide	Endosulfan sulfate	0.6	µg/kg	U	0.6	2.2		2,400[d]	920,000[d]	
SWSD023	Pesticide	Endrin	0.66	µg/kg	U	0.66	2.2		14	410,000	
SWSD023	Pesticide	Endrin aldehyde	0.57	µg/kg	U	0.57	2.2		NE	NE	
SWSD023	Pesticide	Endrin ketone	0.55	µg/kg	U	0.55	2.2		NE	NE	
SWSD023	Pesticide	gamma-BHC (Lindane)	0.47	µg/kg	U	0.47	2.2		100	23,000	
SWSD023	Pesticide	gamma-Chlordane	0.63	µg/kg	U	0.63	2.2		NE	NE	
SWSD023	Pesticide	Heptachlor	0.52	µg/kg	U	0.52	2.2		42	29,000	
SWSD023	Pesticide	Heptachlor epoxide	0.51	µg/kg	U	0.51	2.2		NE	NE	
SWSD023	Pesticide	Methoxychlor	0.69	µg/kg	U	0.69	2.2		NE	NE	
SWSD023	Pesticide	Toxaphene	13	µg/kg	U	13	44		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/18/2009										
SWSD024	Radiological	Radium-226	0.612	pCi/g		0.384	±	0.280	NE	NE	5[a]
SWSD024	Radiological	Radium-228	0.521	pCi/g	U	1.033	±	0.510	NE	NE	5[a]
		Total Radium [a]	*0.612*	*pCi/g*							5[a]
SWSD024	Radiological	Thorium-228	1.688	pCi/g		0.199	±	0.560	NE	NE	5
SWSD024	Radiological	Thorium-230	1.284	pCi/g		0.137	±	0.454	NE	NE	5
SWSD024	Radiological	Thorium-232	1.834	pCi/g		0.105	±	0.588	NE	NE	5
SWSD024	Radiological	Uranium-234	2.973	pCi/g		0.036	±	0.585	NE	NE	90[b]
SWSD024	Radiological	Uranium-235	0.277	pCi/g		0.044	±	0.140	NE	NE	90[b]
SWSD024	Radiological	Uranium-238	2.680	pCi/g		0.071	±	0.540	NE	NE	90[b]
		Total Uranium [b]	5.930	*pCi/g*							90[b]
SWSD024	Metal	Aluminum	26000	mg/kg		15	73		NE	NE	
SWSD024	Metal	Antimony	0.85	mg/kg		0.042	0.13		NE	NE	
SWSD024	Metal	Arsenic	5.2	mg/kg		0.065	0.15		13	16	
SWSD024	Metal	Barium	110	mg/kg		0.048	0.15		350	10,000	
SWSD024	Metal	Beryllium	0.82	mg/kg		0.044	0.15		7	2,700	
SWSD024	Metal	Boron	26	mg/kg		4.2	7.3		NE	NE	
SWSD024	Metal	Cadmium	1.4	mg/kg		0.046	0.15		3	60	
SWSD024	Metal	Calcium	38000	mg/kg		630	1200		NE	NE	
SWSD024	Metal	Chromium	29	mg/kg		0.046	1.5		NE	NE	
SWSD024	Metal	Cobalt	13	mg/kg		0.042	0.15		NE	NE	
SWSD024	Metal	Copper	65	mg/kg		0.051	0.15		50	10,000	
SWSD024	Metal	Iron	29000	mg/kg		150	290		NE	NE	
SWSD024	Metal	Lead	30	mg/kg		0.049	0.15		63	3,900	
SWSD024	Metal	Lithium	53	mg/kg		0.15	0.15		NE	NE	
SWSD024	Metal	Magnesium	17000	mg/kg		390	880		NE	NE	
SWSD024	Metal	Manganese	550	mg/kg		0.81	1.5		1,600	10,000	
SWSD024	Metal	Mercury	0.25	mg/kg		0.0044	0.089		0.18[c]	5.7[c]	
SWSD024	Metal	Nickel	34	mg/kg		0.041	0.15		30	10,000	
SWSD024	Metal	Potassium	4800	mg/kg		65	150		NE	NE	
SWSD024	Metal	Selenium	1	mg/kg		0.16	0.29		4	6,800	
SWSD024	Metal	Silver	0.26	mg/kg		0.025	0.065		2	6,800	
SWSD024	Metal	Sodium	290	mg/kg		78	150		NE	NE	
SWSD024	Metal	Thallium	0.2	mg/kg		0.057	0.15		NE	NE	
SWSD024	Metal	Vanadium	37	mg/kg		0.05	1.5		NE	NE	
SWSD024	Metal	Zinc	600	mg/kg		2.8	5.8		109	10,000	
SWSD024	VOC	1,1,1-Trichloroethane	25	µg/kg	U	25	150		680	1,000,000	
SWSD024	VOC	1,1,2,2-Tetrachloroethane	47	µg/kg	U	47	150		NE	NE	
SWSD024	VOC	1,1,2-Trichloroethane	33	µg/kg	U	33	150		NE	NE	
SWSD024	VOC	1,1-Dichloroethane	32	µg/kg	U	32	150		270	480,000	
SWSD024	VOC	1,1-Dichloroethylene	33	µg/kg	U	33	150		330	1,000,000	
SWSD024	VOC	1,2-Dichloroethane	29	µg/kg	U	29	150		20	60,000	
SWSD024	VOC	1,2-Dichloropropane	42	µg/kg	U	42	150		NE	NE	
SWSD024	VOC	2-Butanone[e]	110	µg/kg	U	110	770		120	1,000,000	
SWSD024	VOC	2-Hexanone	53	µg/kg	U	53	770		NE	NE	
SWSD024	VOC	4-Methyl-2-pentanone	41	µg/kg	U	41	770		NE	NE	
SWSD024	VOC	Acetone[e]	84	µg/kg	U	84	1500		50	1,000,000	
SWSD024	VOC	Benzene	25	µg/kg	U	25	93		60	89,000	
SWSD024	VOC	Bromodichloromethane	24	µg/kg	U	24	150		NE	NE	
SWSD024	VOC	Bromoform	33	µg/kg	U	33	150		NE	NE	
SWSD024	VOC	Bromomethane	250	µg/kg	U	250	620		NE	NE	
SWSD024	VOC	Carbon disulfide	70	µg/kg	U	70	770		NE	NE	
SWSD024	VOC	Carbon tetrachloride	30	µg/kg	U	30	150		760	44,000	
SWSD024	VOC	Chlorobenzene	27	µg/kg	U	27	150		1,100	1,000,000	
SWSD024	VOC	Chloroethane	280	µg/kg	U	280	770		NE	NE	
SWSD024	VOC	Chloroform	25	µg/kg	U	25	150		370	700,000	
SWSD024	VOC	Chloromethane	35	µg/kg	U	35	310		NE	NE	
SWSD024	VOC	cis-1,2-Dichloroethylene	33	µg/kg	U	33	150		250	1,000,000	
SWSD024	VOC	cis-1,3-Dichloropropylene	22	µg/kg	U	22	150		NE	NE	
SWSD024	VOC	Ethylbenzene	32	µg/kg	U	32	150		1,000	780,000	
SWSD024	VOC	Methylene chloride[e]	90	µg/kg	J	67	310		50	1,000,000	
SWSD024	VOC	Styrene	25	µg/kg	U	25	150		NE	NE	
SWSD024	VOC	Tetrachloroethylene	36	µg/kg	U	36	150		1,300	300,000	
SWSD024	VOC	Toluene[e]	32	µg/kg	U	32	150		700	1,000,000	
SWSD024	VOC	trans-1,2-Dichloroethylene	25	µg/kg	U	25	150		190	1,000,000	
SWSD024	VOC	trans-1,3-Dichloropropylene	31	µg/kg	U	31	150		NE	NE	
SWSD024	VOC	Trichloroethylene	59	µg/kg	U	59	150		470	400,000	
SWSD024	VOC	Vinyl chloride	30	µg/kg	U	30	120		20	27,000	
SWSD024	VOC	Xylenes (total)	95	µg/kg	U	95	460		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
SWSD024	PAH	Acenaphthene	1300	µg/kg		11	80		20,000	1,000,000	
SWSD024	PAH	Acenaphthylene	13	µg/kg	U	13	80		100,000	1,000,000	
SWSD024	PAH	Anthracene	29	µg/kg	J	0.66	80		100,000	1,000,000	
SWSD024	PAH	Benzo(a)anthracene	140	µg/kg		2.9	80		1,000	11,000	
SWSD024	PAH	Benzo(a)pyrene	400	µg/kg		3.1	80		1,000	1,100	
SWSD024	PAH	Benzo(b)fluoranthene	220	µg/kg		2.2	80		1,000	11,000	
SWSD024	PAH	Benzo(ghi)perylene	150	µg/kg		10	80		100,000	1,000,000	
SWSD024	PAH	Benzo(k)fluoranthene	54	µg/kg	J	2.2	80		8,000	110,000	
SWSD024	PAH	Chrysene	170	µg/kg		1.9	80		1,000	110,000	
SWSD024	PAH	Dibenzo(a,h)anthracene	18	µg/kg	U	18	80		330	1,100	
SWSD024	PAH	Fluoranthene	780	µg/kg		2.8	80		100,000	1,000,000	
SWSD024	PAH	Fluorene	4.3	µg/kg	U	4.3	80		30,000	1,000,000	
SWSD024	PAH	Indeno(1,2,3-cd)pyrene	55	µg/kg	J	4.8	80		500	11,000	
SWSD024	PAH	Naphthalene	8.7	µg/kg	U	8.7	80		12,000	1,000,000	
SWSD024	PAH	Phenanthrene	190	µg/kg		1.9	80		100,000	1,000,000	
SWSD024	PAH	Pyrene	330	µg/kg		14	80		100,000	1,000,000	
SWSD024	PCB	Aroclor-1016	9.7	µg/kg	U	9.7	110		100	25,000	
SWSD024	PCB	Aroclor-1221	9.6	µg/kg	U	9.6	110		100	25,000	
SWSD024	PCB	Aroclor-1232	14	µg/kg	U	14	110		100	25,000	
SWSD024	PCB	Aroclor-1242	12	µg/kg	U	12	110		100	25,000	
SWSD024	PCB	Aroclor-1248	11	µg/kg	U	11	110		100	25,000	
SWSD024	PCB	Aroclor-1254	14	µg/kg	U	14	110		100	25,000	
SWSD024	PCB	Aroclor-1260	9.4	µg/kg	U	9.4	110		100	25,000	
SWSD024	Pesticide	4,4'-DDD	1.7	µg/kg	U	1.7	5.5		3.3	180,000	
SWSD024	Pesticide	4,4'-DDE	0.64	µg/kg	U	0.64	2.7		3.3	120,000	
SWSD024	Pesticide	4,4'-DDT	0.65	µg/kg	U	0.65	2.7		3.3	94,000	
SWSD024	Pesticide	Aldrin	0.6	µg/kg	U	0.6	2.7		5	1,400	
SWSD024	Pesticide	alpha-BHC	0.51	µg/kg	U	0.51	2.7		20	6,800	
SWSD024	Pesticide	alpha-Chlordane	0.61	µg/kg	U	0.61	2.7		94	47,000	
SWSD024	Pesticide	beta-BHC	12	µg/kg	U	12	53		36	14,000	
SWSD024	Pesticide	delta-BHC	10	µg/kg	U	10	53		40	1,000,000	
SWSD024	Pesticide	Dieldrin	0.59	µg/kg	U	0.59	2.7		5	2,800	
SWSD024	Pesticide	Endosulfan I	0.58	µg/kg	U	0.58	2.7		2,400[d]	920,000[d]	
SWSD024	Pesticide	Endosulfan II	0.74	µg/kg	U	0.74	2.7		2,400[d]	920,000[d]	
SWSD024	Pesticide	Endosulfan sulfate	0.74	µg/kg	U	0.74	2.7		2,400[d]	920,000[d]	
SWSD024	Pesticide	Endrin	0.81	µg/kg	U	0.81	2.7		14	410,000	
SWSD024	Pesticide	Endrin aldehyde	0.7	µg/kg	U	0.7	2.7		NE	NE	
SWSD024	Pesticide	Endrin ketone	0.68	µg/kg	U	0.68	2.7		NE	NE	
SWSD024	Pesticide	gamma-BHC (Lindane)	12	µg/kg	U	12	53		100	23,000	
SWSD024	Pesticide	gamma-Chlordane	0.78	µg/kg	U	0.78	2.7		NE	NE	
SWSD024	Pesticide	Heptachlor	13	µg/kg	U	13	53		42	29,000	
SWSD024	Pesticide	Heptachlor epoxide	12	µg/kg	U	12	53		NE	NE	
SWSD024	Pesticide	Methoxychlor	0.85	µg/kg	U	0.85	2.7		NE	NE	
SWSD024	Pesticide	Toxaphene	16	µg/kg	U	16	54		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
Sample Date:	5/18/2009										
WDD1	Radiological	Radium-226	0.477	pCi/g		0.281	±	0.224	NE	NE	5[a]
WDD1	Radiological	Radium-228	0.820	pCi/g	U	1.016	±	0.518	NE	NE	5[a]
		Total Radium [a]	*0.477*	*pCi/g*							5[a]
WDD1	Radiological	Thorium-228	1.721	pCi/g		0.176	±	0.523	NE	NE	5
WDD1	Radiological	Thorium-230	1.460	pCi/g		0.114	±	0.457	NE	NE	5
WDD1	Radiological	Thorium-232	1.557	pCi/g		0.087	±	0.479	NE	NE	5
WDD1	Radiological	Uranium-234	1.259	pCi/g		0.063	±	0.320	NE	NE	90[b]
WDD1	Radiological	Uranium-235	0.065	pCi/g		0.078	±	0.069	NE	NE	90[b]
WDD1	Radiological	Uranium-238	1.169	pCi/g		0.074	±	0.304	NE	NE	90[b]
		Total Uranium [b]	2.493	*pCi/g*							90[b]
WDD1	Metal	Aluminum	57000	mg/kg		44	210		NE	NE	
WDD1	Metal	Antimony	0.071	mg/kg	U	0.071	0.21		NE	NE	
WDD1	Metal	Arsenic	7.5	mg/kg		0.19	0.42		13	16	
WDD1	Metal	Barium	340	mg/kg		0.14	0.42		350	10,000	
WDD1	Metal	Beryllium	2	mg/kg		0.13	0.42		7	2,700	
WDD1	Metal	Boron	66	mg/kg		12	21		NE	NE	
WDD1	Metal	Cadmium	1.6	mg/kg		0.13	0.42		3	60	
WDD1	Metal	Calcium	75000	mg/kg		1800	3400		NE	NE	
WDD1	Metal	Chromium	72	mg/kg		0.13	4.2		NE	NE	
WDD1	Metal	Cobalt	27	mg/kg		0.12	0.42		NE	NE	
WDD1	Metal	Copper	78	mg/kg		0.15	0.42		50	10,000	
WDD1	Metal	Iron	67000	mg/kg		430	840		NE	NE	
WDD1	Metal	Lead	37	mg/kg		0.14	0.42		63	3,900	
WDD1	Metal	Lithium	130	mg/kg		0.42	0.42		NE	NE	
WDD1	Metal	Magnesium	23000	mg/kg		1100	2500		NE	NE	
WDD1	Metal	Manganese	3000	mg/kg		2.3	4.2		1,600	10,000	
WDD1	Metal	Mercury	0.0068	mg/kg	U	0.0068	0.14		0.18[c]	5.7[c]	
WDD1	Metal	Nickel	71	mg/kg		0.12	0.42		30	10,000	
WDD1	Metal	Potassium	12000	mg/kg		94	210		NE	NE	
WDD1	Metal	Selenium	1.2	mg/kg		0.47	0.84		4	6,800	
WDD1	Metal	Silver	0.34	mg/kg		0.042	0.11		2	6,800	
WDD1	Metal	Sodium	720	mg/kg		110	210		NE	NE	
WDD1	Metal	Thallium	0.16	mg/kg	U	0.16	0.42		NE	NE	
WDD1	Metal	Vanadium	83	mg/kg		0.14	4.2		NE	NE	
WDD1	Metal	Zinc	930	mg/kg		8	17		109	10,000	
WDD1	VOC	1,1,1-Trichloroethane	36	µg/kg	U	36	220		680	1,000,000	
WDD1	VOC	1,1,2,2-Tetrachloroethane	67	µg/kg	U	67	220		NE	NE	
WDD1	VOC	1,1,2-Trichloroethane	47	µg/kg	U	47	220		NE	NE	
WDD1	VOC	1,1-Dichloroethane	46	µg/kg	U	46	220		270	480,000	
WDD1	VOC	1,1-Dichloroethylene	47	µg/kg	U	47	220		330	1,000,000	
WDD1	VOC	1,2-Dichloroethane	41	µg/kg	U	41	220		20	60,000	
WDD1	VOC	1,2-Dichloropropane	60	µg/kg	U	60	220		NE	NE	
WDD1	VOC	2-Butanone[e]	150	µg/kg	U	150	1100		120	1,000,000	
WDD1	VOC	2-Hexanone	75	µg/kg	U	75	1100		NE	NE	
WDD1	VOC	4-Methyl-2-pentanone	58	µg/kg	U	58	1100		NE	NE	
WDD1	VOC	Acetone[e]	120	µg/kg	U	120	2200		50	1,000,000	
WDD1	VOC	Benzene	36	µg/kg	U	36	130		60	89,000	
WDD1	VOC	Bromodichloromethane	35	µg/kg	U	35	220		NE	NE	
WDD1	VOC	Bromoform	46	µg/kg	U	46	220		NE	NE	
WDD1	VOC	Bromomethane	360	µg/kg	U	360	880		NE	NE	
WDD1	VOC	Carbon disulfide	100	µg/kg	U	100	1100		NE	NE	
WDD1	VOC	Carbon tetrachloride	43	µg/kg	U	43	220		760	44,000	
WDD1	VOC	Chlorobenzene	38	µg/kg	U	38	220		1,100	1,000,000	
WDD1	VOC	Chloroethane	390	µg/kg	U	390	1100		NE	NE	
WDD1	VOC	Chloroform	36	µg/kg	U	36	220		370	700,000	
WDD1	VOC	Chloromethane	49	µg/kg	U	49	440		NE	NE	
WDD1	VOC	cis-1,2-Dichloroethylene	47	µg/kg	U	47	220		250	1,000,000	
WDD1	VOC	cis-1,3-Dichloropropylene	32	µg/kg	U	32	220		NE	NE	
WDD1	VOC	Ethylbenzene	46	µg/kg	U	46	220		1,000	780,000	
WDD1	VOC	Methylene chloride[e]	96	µg/kg	U	96	440		50	1,000,000	
WDD1	VOC	Styrene	35	µg/kg	U	35	220		NE	NE	
WDD1	VOC	Tetrachloroethylene	52	µg/kg	U	52	220		1,300	300,000	
WDD1	VOC	Toluene[e]	88	µg/kg	J	46	220		700	1,000,000	
WDD1	VOC	trans-1,2-Dichloroethylene	36	µg/kg	U	36	220		190	1,000,000	
WDD1	VOC	trans-1,3-Dichloropropylene	45	µg/kg	U	45	220		NE	NE	
WDD1	VOC	Trichloroethylene	84	µg/kg	U	84	220		470	400,000	
WDD1	VOC	Vinyl chloride	43	µg/kg	U	43	180		20	27,000	
WDD1	VOC	Xylenes (total)	130	µg/kg	U	130	660		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
WDD1	PAH	Acenaphthene	16	µg/kg	U	16	120		20,000	1,000,000	
WDD1	PAH	Acenaphthylene	18	µg/kg	U	18	120		100,000	1,000,000	
WDD1	PAH	Anthracene	0.96	µg/kg	U	0.96	120		100,000	1,000,000	
WDD1	PAH	Benzo(a)anthracene	40	µg/kg	J	4.3	120		1,000	11,000	
WDD1	PAH	Benzo(a)pyrene	290	µg/kg		4.6	120		1,000	1,100	
WDD1	PAH	Benzo(b)fluoranthene	3.2	µg/kg	U	3.2	120		1,000	11,000	
WDD1	PAH	Benzo(ghi)perylene	150	µg/kg		15	120		100,000	1,000,000	
WDD1	PAH	Benzo(k)fluoranthene	33	µg/kg	J	3.2	120		8,000	110,000	
WDD1	PAH	Chrysene	59	µg/kg	J	2.8	120		1,000	110,000	
WDD1	PAH	Dibenzo(a,h)anthracene	26	µg/kg	U	26	120		330	1,100	
WDD1	PAH	Fluoranthene	330	µg/kg		4.1	120		100,000	1,000,000	
WDD1	PAH	Fluorene	6.3	µg/kg	U	6.3	120		30,000	1,000,000	
WDD1	PAH	Indeno(1,2,3-cd)pyrene	7	µg/kg	U	7	120		500	11,000	
WDD1	PAH	Naphthalene	13	µg/kg	U	13	120		12,000	1,000,000	
WDD1	PAH	Phenanthrene	99	µg/kg	J	2.8	120		100,000	1,000,000	
WDD1	PAH	Pyrene	170	µg/kg		20	120		100,000	1,000,000	
WDD1	PCB	Aroclor-1016	14	µg/kg	U	14	160		100	25,000	
WDD1	PCB	Aroclor-1221	14	µg/kg	U	14	160		100	25,000	
WDD1	PCB	Aroclor-1232	21	µg/kg	U	21	160		100	25,000	
WDD1	PCB	Aroclor-1242	18	µg/kg	U	18	160		100	25,000	
WDD1	PCB	Aroclor-1248	17	µg/kg	U	17	160		100	25,000	
WDD1	PCB	Aroclor-1254	20	µg/kg	U	20	160		100	25,000	
WDD1	PCB	Aroclor-1260	14	µg/kg	U	14	160		100	25,000	
WDD1	Pesticide	4,4'-DDD	2.6	µg/kg	U	2.6	8		3.3	180,000	
WDD1	Pesticide	4,4'-DDE	0.94	µg/kg	U	0.94	3.9		3.3	120,000	
WDD1	Pesticide	4,4'-DDT	0.95	µg/kg	U	0.95	3.9		3.3	94,000	
WDD1	Pesticide	Aldrin	0.88	µg/kg	U	0.88	3.9		5	1,400	
WDD1	Pesticide	alpha-BHC	0.74	µg/kg	U	0.74	3.9		20	6,800	
WDD1	Pesticide	alpha-Chlordane	0.9	µg/kg	U	0.9	3.9		94	47,000	
WDD1	Pesticide	beta-BHC	0.91	µg/kg	U	0.91	3.9		36	14,000	
WDD1	Pesticide	delta-BHC	0.73	µg/kg	U	0.73	3.9		40	1,000,000	
WDD1	Pesticide	Dieldrin	0.86	µg/kg	U	0.86	3.9		5	2,800	
WDD1	Pesticide	Endosulfan I	0.85	µg/kg	U	0.85	3.9		2,400[d]	920,000[d]	
WDD1	Pesticide	Endosulfan II	1.1	µg/kg	U	1.1	3.9		2,400[d]	920,000[d]	
WDD1	Pesticide	Endosulfan sulfate	1.1	µg/kg	U	1.1	3.9		2,400[d]	920,000[d]	
WDD1	Pesticide	Endrin	1.2	µg/kg	U	1.2	3.9		14	410,000	
WDD1	Pesticide	Endrin aldehyde	1	µg/kg	U	1	3.9		NE	NE	
WDD1	Pesticide	Endrin ketone	0.99	µg/kg	U	0.99	3.9		NE	NE	
WDD1	Pesticide	gamma-BHC (Lindane)	0.84	µg/kg	U	0.84	3.9		100	23,000	
WDD1	Pesticide	gamma-Chlordane	1.1	µg/kg	U	1.1	3.9		NE	NE	
WDD1	Pesticide	Heptachlor	0.94	µg/kg	U	0.94	3.9		42	29,000	
WDD1	Pesticide	Heptachlor epoxide	0.91	µg/kg	U	0.91	3.9		NE	NE	
WDD1	Pesticide	Methoxychlor	1.2	µg/kg	U	1.2	3.9		NE	NE	
WDD1	Pesticide	Toxaphene	24	µg/kg	U	24	79		NE	NE	

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Sample Date:	5/18/2009										
WDD2	Radiological	Radium-226	1.222	pCi/g		0.339	±	0.347	NE	NE	5[a]
WDD2	Radiological	Radium-228	0.873	pCi/g	U	1.068	±	0.543	NE	NE	5[a]
		Total Radium [a]	*1.222*	*pCi/g*							5[a]
WDD2	Radiological	Thorium-228	2.249	pCi/g		0.264	±	0.773	NE	NE	5
WDD2	Radiological	Thorium-230	1.617	pCi/g		0.176	±	0.597	NE	NE	5
WDD2	Radiological	Thorium-232	1.813	pCi/g		0.190	±	0.650	NE	NE	5
WDD2	Radiological	Uranium-234	1.152	pCi/g		0.040	±	0.309	NE	NE	90[b]
WDD2	Radiological	Uranium-235	0.144	pCi/g		0.049	±	0.104	NE	NE	90[b]
WDD2	Radiological	Uranium-238	1.219	pCi/g		0.039	±	0.320	NE	NE	90[b]
		Total Uranium [b]	*2.515*	*pCi/g*							90[b]
WDD2	Metal	Aluminum	20000	mg/kg		12	56		NE	NE	
WDD2	Metal	Antimony	0.048	mg/kg	U	0.048	0.15		NE	NE	
WDD2	Metal	Arsenic	3.6	mg/kg		0.05	0.11		13	16	
WDD2	Metal	Barium	130	mg/kg		0.037	0.11		350	10,000	
WDD2	Metal	Beryllium	0.63	mg/kg		0.033	0.11		7	2,700	
WDD2	Metal	Boron	16	mg/kg		3.2	5.6		NE	NE	
WDD2	Metal	Cadmium	0.83	mg/kg		0.035	0.11		3	60	
WDD2	Metal	Calcium	32000	mg/kg		480	900		NE	NE	
WDD2	Metal	Chromium	23	mg/kg		0.035	1.1		NE	NE	
WDD2	Metal	Cobalt	9	mg/kg		0.032	0.11		NE	NE	
WDD2	Metal	Copper	32	mg/kg		0.039	0.11		50	10,000	
WDD2	Metal	Iron	21000	mg/kg		110	220		NE	NE	
WDD2	Metal	Lead	12	mg/kg		0.037	0.11		63	3,900	
WDD2	Metal	Lithium	44	mg/kg		0.11	0.11		NE	NE	
WDD2	Metal	Magnesium	6300	mg/kg		300	670		NE	NE	
WDD2	Metal	Manganese	960	mg/kg		0.62	1.1		1,600	10,000	
WDD2	Metal	Mercury	0.004	mg/kg	U	0.004	0.08		0.18[c]	5.7[c]	
WDD2	Metal	Nickel	21	mg/kg		0.031	0.11		30	10,000	
WDD2	Metal	Potassium	4400	mg/kg		50	110		NE	NE	
WDD2	Metal	Selenium	0.82	mg/kg		0.13	0.22		4	6,800	
WDD2	Metal	Silver	0.11	mg/kg		0.028	0.073		2	6,800	
WDD2	Metal	Sodium	340	mg/kg		60	110		NE	NE	
WDD2	Metal	Thallium	0.11	mg/kg		0.044	0.11		NE	NE	
WDD2	Metal	Vanadium	27	mg/kg		0.038	1.1		NE	NE	
WDD2	Metal	Zinc	280	mg/kg		2.1	4.5		109	10,000	
WDD2	VOC	1,1,1-Trichloroethane	24	µg/kg	U	24	150		680	1,000,000	
WDD2	VOC	1,1,2,2-Tetrachloroethane	45	µg/kg	U	45	150		NE	NE	
WDD2	VOC	1,1,2-Trichloroethane	31	µg/kg	U	31	150		NE	NE	
WDD2	VOC	1,1-Dichloroethane	30	µg/kg	U	30	150		270	480,000	
WDD2	VOC	1,1-Dichloroethylene	31	µg/kg	U	31	150		330	1,000,000	
WDD2	VOC	1,2-Dichloroethane	27	µg/kg	U	27	150		20	60,000	
WDD2	VOC	1,2-Dichloropropane	40	µg/kg	U	40	150		NE	NE	
WDD2	VOC	2-Butanone[e]	99	µg/kg	U	99	730		120	1,000,000	
WDD2	VOC	2-Hexanone	50	µg/kg	U	50	730		NE	NE	
WDD2	VOC	4-Methyl-2-pentanone	38	µg/kg	U	38	730		NE	NE	
WDD2	VOC	Acetone[e]	80	µg/kg	U	80	1500		50	1,000,000	
WDD2	VOC	Benzene	24	µg/kg	U	24	88		60	89,000	
WDD2	VOC	Bromodichloromethane	23	µg/kg	U	23	150		NE	NE	
WDD2	VOC	Bromoform	31	µg/kg	U	31	150		NE	NE	
WDD2	VOC	Bromomethane	240	µg/kg	U	240	590		NE	NE	
WDD2	VOC	Carbon disulfide	67	µg/kg	U	67	730		NE	NE	
WDD2	VOC	Carbon tetrachloride	28	µg/kg	U	28	150		760	44,000	
WDD2	VOC	Chlorobenzene	25	µg/kg	U	25	150		1,100	1,000,000	
WDD2	VOC	Chloroethane	260	µg/kg	U	260	730		NE	NE	
WDD2	VOC	Chloroform	24	µg/kg	U	24	150		370	700,000	
WDD2	VOC	Chloromethane	33	µg/kg	U	33	290		NE	NE	
WDD2	VOC	cis-1,2-Dichloroethylene	31	µg/kg	U	31	150		250	1,000,000	
WDD2	VOC	cis-1,3-Dichloropropylene	21	µg/kg	U	21	150		NE	NE	
WDD2	VOC	Ethylbenzene	30	µg/kg	U	30	150		1,000	780,000	
WDD2	VOC	Methylene chloride[e]	64	µg/kg	U	64	290		50	1,000,000	
WDD2	VOC	Styrene	23	µg/kg	U	23	150		NE	NE	
WDD2	VOC	Tetrachloroethylene	34	µg/kg	U	34	150		1,300	300,000	
WDD2	VOC	Toluene[e]	30	µg/kg	U	30	150		700	1,000,000	
WDD2	VOC	trans-1,2-Dichloroethylene	24	µg/kg	U	24	150		190	1,000,000	
WDD2	VOC	trans-1,3-Dichloropropylene	30	µg/kg	U	30	150		NE	NE	
WDD2	VOC	Trichloroethylene	56	µg/kg	U	56	150		470	400,000	
WDD2	VOC	Vinyl chloride	29	µg/kg	U	29	120		20	27,000	
WDD2	VOC	Xylenes (total)	90	µg/kg	U	90	440		260	1,000,000	

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WDD2	PAH	Acenaphthene	10	µg/kg	U	10	74		20,000	1,000,000	
WDD2	PAH	Acenaphthylene	12	µg/kg	U	12	74		100,000	1,000,000	
WDD2	PAH	Anthracene	0.61	µg/kg	U	0.61	74		100,000	1,000,000	
WDD2	PAH	Benzo(a)anthracene	48	µg/kg	J	2.7	74		1,000	11,000	
WDD2	PAH	Benzo(a)pyrene	45	µg/kg	J	2.9	74		1,000	1,100	
WDD2	PAH	Benzo(b)fluoranthene	46	µg/kg	J	2	74		1,000	11,000	
WDD2	PAH	Benzo(ghi)perylene	35	µg/kg	J	9.2	74		100,000	1,000,000	
WDD2	PAH	Benzo(k)fluoranthene	2	µg/kg	U	2	74		8,000	110,000	
WDD2	PAH	Chrysene	20	µg/kg	J	1.8	74		1,000	110,000	
WDD2	PAH	Dibenzo(a,h)anthracene	17	µg/kg	U	17	74		330	1,100	
WDD2	PAH	Fluoranthene	55	µg/kg	J	2.6	74		100,000	1,000,000	
WDD2	PAH	Fluorene	4	µg/kg	U	4	74		30,000	1,000,000	
WDD2	PAH	Indeno(1,2,3-cd)pyrene	4.4	µg/kg	U	4.4	74		500	11,000	
WDD2	PAH	Naphthalene	8.1	µg/kg	U	8.1	74		12,000	1,000,000	
WDD2	PAH	Phenanthrene	47	µg/kg	J	1.8	74		100,000	1,000,000	
WDD2	PAH	Pyrene	13	µg/kg	U	13	74		100,000	1,000,000	
WDD2	PCB	Aroclor-1016	9	µg/kg	U	9	98		100	25,000	
WDD2	PCB	Aroclor-1221	8.9	µg/kg	U	8.9	98		100	25,000	
WDD2	PCB	Aroclor-1232	13	µg/kg	U	13	98		100	25,000	
WDD2	PCB	Aroclor-1242	11	µg/kg	U	11	98		100	25,000	
WDD2	PCB	Aroclor-1248	10	µg/kg	U	10	98		100	25,000	
WDD2	PCB	Aroclor-1254	13	µg/kg	U	13	98		100	25,000	
WDD2	PCB	Aroclor-1260	8.7	µg/kg	U	8.7	98		100	25,000	
WDD2	Pesticide	4,4'-DDD	1.6	µg/kg	U	1.6	5.1		3.3	180,000	
WDD2	Pesticide	4,4'-DDE	0.6	µg/kg	U	0.6	2.5		3.3	120,000	
WDD2	Pesticide	4,4'-DDT	0.6	µg/kg	U	0.6	2.5		3.3	94,000	
WDD2	Pesticide	Aldrin	0.56	µg/kg	U	0.56	2.5		5	1,400	
WDD2	Pesticide	alpha-BHC	0.47	µg/kg	U	0.47	2.5		20	6,800	
WDD2	Pesticide	alpha-Chlordane	0.57	µg/kg	U	0.57	2.5		94	47,000	
WDD2	Pesticide	beta-BHC	0.57	µg/kg	U	0.57	2.5		36	14,000	
WDD2	Pesticide	delta-BHC	0.46	µg/kg	U	0.46	2.5		40	1,000,000	
WDD2	Pesticide	Dieldrin	0.54	µg/kg	U	0.54	2.5		5	2,800	
WDD2	Pesticide	Endosulfan I	0.54	µg/kg	U	0.54	2.5		2,400[d]	920,000[d]	
WDD2	Pesticide	Endosulfan II	0.69	µg/kg	U	0.69	2.5		2,400[d]	920,000[d]	
WDD2	Pesticide	Endosulfan sulfate	0.69	µg/kg	U	0.69	2.5		2,400[d]	920,000[d]	
WDD2	Pesticide	Endrin	0.75	µg/kg	U	0.75	2.5		14	410,000	
WDD2	Pesticide	Endrin aldehyde	0.65	µg/kg	U	0.65	2.5		NE	NE	
WDD2	Pesticide	Endrin ketone	0.63	µg/kg	U	0.63	2.5		NE	NE	
WDD2	Pesticide	gamma-BHC (Lindane)	0.53	µg/kg	U	0.53	2.5		100	23,000	
WDD2	Pesticide	gamma-Chlordane	0.72	µg/kg	U	0.72	2.5		NE	NE	
WDD2	Pesticide	Heptachlor	0.6	µg/kg	U	0.6	2.5		42	29,000	
WDD2	Pesticide	Heptachlor epoxide	0.58	µg/kg	U	0.58	2.5		NE	NE	
WDD2	Pesticide	Methoxychlor	0.78	µg/kg	U	0.78	2.5		NE	NE	
WDD2	Pesticide	Toxaphene	15	µg/kg	U	15	50		NE	NE	

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Sample Date:	5/18/2009										
WDD3	Radiological	Radium-226	0.351	pCi/g	U	0.427	±	0.275	NE	NE	5[a]
WDD3	Radiological	Radium-228	0.751	pCi/g	U	0.989	±	0.502	NE	NE	5[a]
		Total Radium [a]	*Non-detect*	*pCi/g*							5[a]
WDD3	Radiological	Thorium-228	1.296	pCi/g		0.164	±	0.411	NE	NE	5
WDD3	Radiological	Thorium-230	0.800	pCi/g		0.095	±	0.290	NE	NE	5
WDD3	Radiological	Thorium-232	0.878	pCi/g		0.122	±	0.310	NE	NE	5
WDD3	Radiological	Uranium-234	1.064	pCi/g		0.058	±	0.276	NE	NE	90[b]
WDD3	Radiological	Uranium-235	0.139	pCi/g		0.042	±	0.095	NE	NE	90[b]
WDD3	Radiological	Uranium-238	1.074	pCi/g		0.034	±	0.277	NE	NE	90[b]
		Total Uranium [b]	*2.277*	*pCi/g*							90[b]
WDD3	Metal	Aluminum	19000	mg/kg		12	58		NE	NE	
WDD3	Metal	Antimony	0.15	mg/kg		0.038	0.12		NE	NE	
WDD3	Metal	Arsenic	4.2	mg/kg		0.052	0.12		13	16	
WDD3	Metal	Barium	110	mg/kg		0.038	0.12		350	10,000	
WDD3	Metal	Beryllium	0.61	mg/kg		0.035	0.12		7	2,700	
WDD3	Metal	Boron	14	mg/kg		3.4	5.8		NE	NE	
WDD3	Metal	Cadmium	0.72	mg/kg		0.036	0.12		3	60	
WDD3	Metal	Calcium	33000	mg/kg		510	930		NE	NE	
WDD3	Metal	Chromium	26	mg/kg		0.037	1.2		NE	NE	
WDD3	Metal	Cobalt	9.7	mg/kg		0.034	0.12		NE	NE	
WDD3	Metal	Copper	40	mg/kg		0.041	0.12		50	10,000	
WDD3	Metal	Iron	23000	mg/kg		120	230		NE	NE	
WDD3	Metal	Lead	12	mg/kg		0.039	0.12		63	3,900	
WDD3	Metal	Lithium	45	mg/kg		0.12	0.12		NE	NE	
WDD3	Metal	Magnesium	6900	mg/kg		310	700		NE	NE	
WDD3	Metal	Manganese	1000	mg/kg		0.65	1.2		1,600	10,000	
WDD3	Metal	Mercury	0.0039	mg/kg	U	0.0039	0.078		0.18[c]	5.7[c]	
WDD3	Metal	Nickel	25	mg/kg		0.033	0.12		30	10,000	
WDD3	Metal	Potassium	3900	mg/kg		52	120		NE	NE	
WDD3	Metal	Selenium	0.46	mg/kg		0.13	0.23		4	6,800	
WDD3	Metal	Silver	0.38	mg/kg		0.023	0.058		2	6,800	
WDD3	Metal	Sodium	430	mg/kg		63	120		NE	NE	
WDD3	Metal	Thallium	0.046	mg/kg	U	0.046	0.12		NE	NE	
WDD3	Metal	Vanadium	28	mg/kg		0.04	1.2		NE	NE	
WDD3	Metal	Zinc	380	mg/kg		2.2	4.7		109	10,000	
WDD3	VOC	1,1,1-Trichloroethane	22	µg/kg	U	22	130		680	1,000,000	
WDD3	VOC	1,1,2,2-Tetrachloroethane	40	µg/kg	U	40	130		NE	NE	
WDD3	VOC	1,1,2-Trichloroethane	28	µg/kg	U	28	130		NE	NE	
WDD3	VOC	1,1-Dichloroethane	27	µg/kg	U	27	130		270	480,000	
WDD3	VOC	1,1-Dichloroethylene	28	µg/kg	U	28	130		330	1,000,000	
WDD3	VOC	1,2-Dichloroethane	24	µg/kg	U	24	130		20	60,000	
WDD3	VOC	1,2-Dichloropropane	36	µg/kg	U	36	130		NE	NE	
WDD3	VOC	2-Butanone[e]	89	µg/kg	U	89	660		120	1,000,000	
WDD3	VOC	2-Hexanone	45	µg/kg	U	45	660		NE	NE	
WDD3	VOC	4-Methyl-2-pentanone	34	µg/kg	U	34	660		NE	NE	
WDD3	VOC	Acetone[e]	71	µg/kg	U	71	1300		50	1,000,000	
WDD3	VOC	Benzene	21	µg/kg	U	21	79		60	89,000	
WDD3	VOC	Bromodichloromethane	21	µg/kg	U	21	130		NE	NE	
WDD3	VOC	Bromoform	28	µg/kg	U	28	130		NE	NE	
WDD3	VOC	Bromomethane	210	µg/kg	U	210	530		NE	NE	
WDD3	VOC	Carbon disulfide	60	µg/kg	U	60	660		NE	NE	
WDD3	VOC	Carbon tetrachloride	25	µg/kg	U	25	130		760	44,000	
WDD3	VOC	Chlorobenzene	23	µg/kg	U	23	130		1,100	1,000,000	
WDD3	VOC	Chloroethane	240	µg/kg	U	240	660		NE	NE	
WDD3	VOC	Chloroform	22	µg/kg	U	22	130		370	700,000	
WDD3	VOC	Chloromethane	29	µg/kg	U	29	260		NE	NE	
WDD3	VOC	cis-1,2-Dichloroethylene	28	µg/kg	U	28	130		250	1,000,000	
WDD3	VOC	cis-1,3-Dichloropropylene	19	µg/kg	U	19	130		NE	NE	
WDD3	VOC	Ethylbenzene	27	µg/kg	U	27	130		1,000	780,000	
WDD3	VOC	Methylene chloride[e]	57	µg/kg	J	57	260		50	1,000,000	
WDD3	VOC	Styrene	21	µg/kg	U	21	130		NE	NE	
WDD3	VOC	Tetrachloroethylene	31	µg/kg	U	31	130		1,300	300,000	
WDD3	VOC	Toluene[e]	27	µg/kg	U	27	130		700	1,000,000	
WDD3	VOC	trans-1,2-Dichloroethylene	21	µg/kg	U	21	130		190	1,000,000	
WDD3	VOC	trans-1,3-Dichloropropylene	27	µg/kg	U	27	130		NE	NE	
WDD3	VOC	Trichloroethylene	50	µg/kg	U	50	130		470	400,000	
WDD3	VOC	Vinyl chloride	26	µg/kg	U	26	110		20	27,000	
WDD3	VOC	Xylenes (total)	80	µg/kg	U	80	390		260	1,000,000	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**
WDD3	PAH	Acenaphthene	290	µg/kg		9.9	71		20,000	1,000,000	
WDD3	PAH	Acenaphthylene	11	µg/kg	U	11	71		100,000	1,000,000	
WDD3	PAH	Anthracene	6.6	µg/kg	J	0.58	71		100,000	1,000,000	
WDD3	PAH	Benzo(a)anthracene	130	µg/kg		2.6	71		1,000	11,000	
WDD3	PAH	Benzo(a)pyrene	210	µg/kg		2.8	71		1,000	1,100	
WDD3	PAH	Benzo(b)fluoranthene	200	µg/kg		1.9	71		1,000	11,000	
WDD3	PAH	Benzo(ghi)perylene	120	µg/kg		8.8	71		100,000	1,000,000	
WDD3	PAH	Benzo(k)fluoranthene	75	µg/kg		1.9	71		8,000	110,000	
WDD3	PAH	Chrysene	200	µg/kg		1.7	71		1,000	110,000	
WDD3	PAH	Dibenzo(a,h)anthracene	16	µg/kg	U	16	71		330	1,100	
WDD3	PAH	Fluoranthene	430	µg/kg		2.5	71		100,000	1,000,000	
WDD3	PAH	Fluorene	3.8	µg/kg	U	3.8	71		30,000	1,000,000	
WDD3	PAH	Indeno(1,2,3-cd)pyrene	140	µg/kg		4.2	71		500	11,000	
WDD3	PAH	Naphthalene	7.7	µg/kg	U	7.7	71		12,000	1,000,000	
WDD3	PAH	Phenanthrene	72	µg/kg		1.7	71		100,000	1,000,000	
WDD3	PAH	Pyrene	270	µg/kg		12	71		100,000	1,000,000	
WDD3	PCB	Aroclor-1016	8.6	µg/kg	U	8.6	94		100	25,000	
WDD3	PCB	Aroclor-1221	8.5	µg/kg	U	8.5	94		100	25,000	
WDD3	PCB	Aroclor-1232	13	µg/kg	U	13	94		100	25,000	
WDD3	PCB	Aroclor-1242	11	µg/kg	U	11	94		100	25,000	
WDD3	PCB	Aroclor-1248	10	µg/kg	U	10	94		100	25,000	
WDD3	PCB	Aroclor-1254	12	µg/kg	U	12	94		100	25,000	
WDD3	PCB	Aroclor-1260	8.3	µg/kg	U	8.3	94		100	25,000	
WDD3	Pesticide	4,4'-DDD	1.5	µg/kg	U	1.5	4.8		3.3	180,000	
WDD3	Pesticide	4,4'-DDE	0.57	µg/kg	U	0.57	2.4		3.3	120,000	
WDD3	Pesticide	4,4'-DDT	0.58	µg/kg	U	0.58	2.4		3.3	94,000	
WDD3	Pesticide	Aldrin	0.54	µg/kg	U	0.54	2.4		5	1,400	
WDD3	Pesticide	alpha-BHC	0.45	µg/kg	U	0.45	2.4		20	6,800	
WDD3	Pesticide	alpha-Chlordane	0.54	µg/kg	U	0.54	2.4		94	47,000	
WDD3	Pesticide	beta-BHC	0.55	µg/kg	U	0.55	2.4		36	14,000	
WDD3	Pesticide	delta-BHC	0.44	µg/kg	U	0.44	2.4		40	1,000,000	
WDD3	Pesticide	Dieldrin	0.52	µg/kg	U	0.52	2.4		5	2,800	
WDD3	Pesticide	Endosulfan I	0.52	µg/kg	U	0.52	2.4		2,400[d]	920,000[d]	
WDD3	Pesticide	Endosulfan II	0.66	µg/kg	U	0.66	2.4		2,400[d]	920,000[d]	
WDD3	Pesticide	Endosulfan sulfate	0.66	µg/kg	U	0.66	2.4		2,400[d]	920,000[d]	
WDD3	Pesticide	Endrin	0.72	µg/kg	U	0.72	2.4		14	410,000	
WDD3	Pesticide	Endrin aldehyde	0.62	µg/kg	U	0.62	2.4		NE	NE	
WDD3	Pesticide	Endrin ketone	0.6	µg/kg	U	0.6	2.4		NE	NE	
WDD3	Pesticide	gamma-BHC (Lindane)	0.51	µg/kg	U	0.51	2.4		100	23,000	
WDD3	Pesticide	gamma-Chlordane	0.69	µg/kg	U	0.69	2.4		NE	NE	
WDD3	Pesticide	Heptachlor	0.57	µg/kg	U	0.57	2.4		42	29,000	
WDD3	Pesticide	Heptachlor epoxide	0.55	µg/kg	U	0.55	2.4		NE	NE	
WDD3	Pesticide	Methoxychlor	0.75	µg/kg	U	0.75	2.4		NE	NE	
WDD3	Pesticide	Toxaphene	14	µg/kg	U	14	48		NE	NE	

SEDIMENT LOCATION*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use - Industrial**	DOE Cleanup Criteria**

* SEDIMENT LOCATION
SWSD009 - Site Background
SW-DUP (SWSD011) - Field Duplicate of surface water and sediment location SWSD011

*PARAMETER
VOC - Volatile Organic Compound
PAH - Polynuclear Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

*UNITS
PCI/G - picocuries per gram
MG/KG - milligrams per kilograms (ppm)
UG/KG - micrograms per kilogram (ppb)

*QUALIFIER
Validated Qualifier: J - indicates an estimated value.
Validated Qualifier: U - indicates that no analyte was detected (Non-Detect).

** Values are provided for comparative purposes only.
Applicable or Relevant and Appropriate Requirements (ARARs) and media-specific cleanup goals will be evaluated independently future CERCLA and presented in deci
documents that will be available for public comment.

**US Dept of Energy:
DOE above-background surface soil cleanup criteria, averaged over topmost 6 in. (15 cm) of soil. Because there are no standards for radioactive constituents in sediment, these soil values (without background added) are used as a basis for comparison of sediment results.

**New York State:
6 NYCRR PART 375
NY State- Unrestricted Use Soil Cleanup Objectives Table 375-6.8(a)
NY State- Restricted Use Soil Cleanup Objectives Table 375-6.8(b) -Industrial
NE - Not Established

a. Applies to the sum of Ra-226 and Ra-228 concentrations
b. Sum of uranium isotope concentrations (pCi/g).
c. Total Mercury
d. Sum of endosulfan I, endosulfan II, and endosulfan sulfate

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/27/2009											
SWSD009	Sediment	Radiological	Radium-226	0.374	pCi/g	J	0.128	±	0.105	NE	NE	5[a]
SWSD009	Sediment	Radiological	Radium-228	1.393	pCi/g		0.679	±	0.382	NE	NE	5[a]
			Total Radium[a]	*1.766*	*pCi/g*							5[a]
SWSD009	Sediment	Radiological	Thorium-228	1.277	pCi/g		0.125	±	0.389	NE	NE	5
SWSD009	Sediment	Radiological	Thorium-230	1.000	pCi/g	J	0.146	±	0.327	NE	NE	5
SWSD009	Sediment	Radiological	Thorium-232	1.017	pCi/g		0.105	±	0.329	NE	NE	5
SWSD009	Sediment	Radiological	Uranium-234	1.277	pCi/g		0.035	±	0.314	NE	NE	90[b]
SWSD009	Sediment	Radiological	Uranium-235	0.108	pCi/g		0.073	±	0.085	NE	NE	90[b]
SWSD009	Sediment	Radiological	Uranium-238	1.320	pCi/g		0.059	±	0.320	NE	NE	90[b]
			Total Uranium[b]	*2.705*	*pCi/g*							90[b]
SWSD009	Sediment	Metal	Aluminum	18000	mg/kg		42	200		NE	NE	
SWSD009	Sediment	Metal	Antimony	1.40	mg/kg		0.029	0.089		NE	NE	
SWSD009	Sediment	Metal	Arsenic	4.80	mg/kg		0.036	0.081		13	16	
SWSD009	Sediment	Metal	Barium	130.0	mg/kg		0.053	0.160		350	10000	
SWSD009	Sediment	Metal	Beryllium	1.10	mg/kg		0.048	0.160		7	2700	
SWSD009	Sediment	Metal	Boron	NA	mg/kg					NE	NE	
SWSD009	Sediment	Metal	Cadmium	0.99	mg/kg		0.050	0.160		3	60	
SWSD009	Sediment	Metal	Calcium	52000	mg/kg		350	650		NE	NE	
SWSD009	Sediment	Metal	Chromium	44.0	mg/kg		0.051	1.600		NE	NE	
SWSD009	Sediment	Metal	Cobalt	12.0	mg/kg		0.047	0.160		NE	NE	
SWSD009	Sediment	Metal	Copper	65.0	mg/kg		0.056	0.160		50	10000	
SWSD009	Sediment	Metal	Iron	23000	mg/kg		82	160		NE	NE	
SWSD009	Sediment	Metal	Lead	44.0	mg/kg		0.054	0.160		63	3900	
SWSD009	Sediment	Metal	Lithium	NA	mg/kg					NE	NE	
SWSD009	Sediment	Metal	Magnesium	15000.00	mg/kg		220.00	490.00		NE	NE	
SWSD009	Sediment	Metal	Manganese	600.00	mg/kg		0.45	0.81		1,600	10000	
SWSD009	Sediment	Metal	Mercury	0.110	mg/kg		0.003	0.064		0.18[c]	5.7[c]	
SWSD009	Sediment	Metal	Nickel	30.00	mg/kg		0.045	0.160		30	10000	
SWSD009	Sediment	Metal	Potassium	3400	mg/kg		36	81		NE	NE	
SWSD009	Sediment	Metal	Selenium	0.74	mg/kg		0.180	0.320		4	6800	
SWSD009	Sediment	Metal	Silver	0.24	mg/kg		0.017	0.044		2	6800	
SWSD009	Sediment	Metal	Sodium	620.00	mg/kg		43.00	81.00		NE	NE	
SWSD009	Sediment	Metal	Thallium	0.18	mg/kg		0.063	0.160		NE	NE	
SWSD009	Sediment	Metal	Vanadium	22.0	mg/kg		0.027	0.810		NE	NE	
SWSD009	Sediment	Metal	Zinc	280.00	mg/kg		1.50	3.20		109	10000	
SWSD009	Sediment	VOC	1,1,1-Trichloroethane	0.33	µg/kg	U	0.33	2.0		680	1000000	
SWSD009	Sediment	VOC	1,1,2,2-Tetrachloroethane	0.61	µg/kg	U	0.61	2.0		NE	NE	
SWSD009	Sediment	VOC	1,1,2-Trichloroethane	0.42	µg/kg	U	0.42	2.0		NE	NE	
SWSD009	Sediment	VOC	1,1-Dichloroethane	0.42	µg/kg	U	0.42	2.0		270	480000	
SWSD009	Sediment	VOC	1,1-Dichloroethylene	0.43	µg/kg	U	0.43	2.0		330	1000000	
SWSD009	Sediment	VOC	1,2-Dichloroethane	0.37	µg/kg	U	0.37	2.0		20	60000	
SWSD009	Sediment	VOC	1,2-Dichloropropane	0.54	µg/kg	U	0.54	2.0		NE	NE	
SWSD009	Sediment	VOC	2-Butanone[e]	1.40	µg/kg	U	1.40	10.0		120	1000000	
SWSD009	Sediment	VOC	2-Hexanone	0.68	µg/kg	U	0.68	10.0		NE	NE	
SWSD009	Sediment	VOC	4-Methyl-2-pentanone	0.53	µg/kg	U	0.53	10.0		NE	NE	
SWSD009	Sediment	VOC	Acetone[e]	140.0	µg/kg	R	1.10	20.0		50	1000000	
SWSD009	Sediment	VOC	Benzene	0.33	µg/kg	U	0.33	1.2		60	89000	
SWSD009	Sediment	VOC	Bromodichloromethane	0.32	µg/kg	U	0.32	2.0		NE	NE	
SWSD009	Sediment	VOC	Bromoform	0.42	µg/kg	U	0.42	2.0		NE	NE	
SWSD009	Sediment	VOC	Bromomethane	3.20	µg/kg	U	3.20	8.0		NE	NE	
SWSD009	Sediment	VOC	Carbon disulfide	0.91	µg/kg	U	0.91	10.0		NE	NE	
SWSD009	Sediment	VOC	Carbon tetrachloride	0.39	µg/kg	U	0.39	2.0		760	44000	
SWSD009	Sediment	VOC	Chlorobenzene	0.34	µg/kg	U	0.34	2.0		1,100	1000000	
SWSD009	Sediment	VOC	Chloroethane	3.60	µg/kg	U	3.60	10.0		NE	NE	
SWSD009	Sediment	VOC	Chloroform	0.33	µg/kg	U	0.33	2.0		370	700000	
SWSD009	Sediment	VOC	Chloromethane	0.45	µg/kg	U	0.45	4.0		NE	NE	
SWSD009	Sediment	VOC	cis-1,2-Dichloroethylene	0.43	µg/kg	U	0.43	2.0		250	1000000	
SWSD009	Sediment	VOC	cis-1,3-Dichloropropylene	0.29	µg/kg	U	0.29	2.0		NE	NE	
SWSD009	Sediment	VOC	Ethylbenzene	0.42	µg/kg	U	0.42	2.0		1,000	780000	
SWSD009	Sediment	VOC	Methylene chloride[e]	11.00	µg/kg	J	0.87	4.0		50	1000000	
SWSD009	Sediment	VOC	Styrene	0.32	µg/kg	U	0.32	2.0		NE	NE	
SWSD009	Sediment	VOC	Tetrachloroethylene	0.47	µg/kg	U	0.47	2.0		1,300	300000	
SWSD009	Sediment	VOC	Toluene[e]	0.41	µg/kg	U	0.41	2.0		700	1000000	
SWSD009	Sediment	VOC	trans-1,2-Dichloroethylene	0.32	µg/kg	U	0.32	2.0		190	1000000	
SWSD009	Sediment	VOC	trans-1,3-Dichloropropylene	0.41	µg/kg	U	0.41	2.0		NE	NE	
SWSD009	Sediment	VOC	Trichloroethylene	0.77	µg/kg	U	0.77	2.0		470	400000	
SWSD009	Sediment	VOC	Vinyl chloride	0.39	µg/kg	U	0.39	1.6		20	27000	
SWSD009	Sediment	VOC	Xylenes (total)	1.20	µg/kg	U	1.20	6.0		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SWSD009	Sediment	PAH	Acenaphthene	320	µg/kg		6.90	50		20,000	1,000,000	
SWSD009	Sediment	PAH	Acenaphthylene	7.70	µg/kg	U	7.70	50		100,000	1,000,000	
SWSD009	Sediment	PAH	Anthracene	67.00	µg/kg		0.40	50		100,000	1,000,000	
SWSD009	Sediment	PAH	Benzo(a)anthracene	490.00	µg/kg		1.80	50		1,000	11,000	
SWSD009	Sediment	PAH	Benzo(a)pyrene	510.00	µg/kg		1.90	50		1,000	1,100	
SWSD009	Sediment	PAH	Benzo(b)fluoranthene	460.00	µg/kg		2.70	99		1,000	11,000	
SWSD009	Sediment	PAH	Benzo(ghi)perylene	350.00	µg/kg		6.20	50		100,000	1,000,000	
SWSD009	Sediment	PAH	Benzo(k)fluoranthene	190.00	µg/kg		1.30	50		8,000	110,000	
SWSD009	Sediment	PAH	Chrysene	410.00	µg/kg		1.20	50		1,000	110,000	
SWSD009	Sediment	PAH	Dibenzo(a,h)anthracene	11.00	µg/kg	U	11.00	50		330	1,100	
SWSD009	Sediment	PAH	Fluoranthene	1300.00	µg/kg		3.50	99		100,000	1,000,000	
SWSD009	Sediment	PAH	Fluorene	2.70	µg/kg	U	2.70	50		30,000	1,000,000	
SWSD009	Sediment	PAH	Indeno(1,2,3-cd)pyrene	5.40	µg/kg		2.90	50		500	11,000	
SWSD009	Sediment	PAH	Naphthalene	5.40	µg/kg	U	5.40	50		12,000	1,000,000	
SWSD009	Sediment	PAH	Phenanthrene	310.00	µg/kg		1.20	50		100,000	1,000,000	
SWSD009	Sediment	PAH	Pyrene	630.00	µg/kg		8.60	50		100,000	1,000,000	
SWSD009	Sediment	PCB	Aroclor-1016	6.00	µg/kg	U	6.00	65		100	25,000	
SWSD009	Sediment	PCB	Aroclor-1221	5.90	µg/kg	U	5.90	65		100	25,000	
SWSD009	Sediment	PCB	Aroclor-1232	8.90	µg/kg	U	8.90	65		100	25,000	
SWSD009	Sediment	PCB	Aroclor-1242	7.40	µg/kg	U	7.40	65		100	25,000	
SWSD009	Sediment	PCB	Aroclor-1248	7.00	µg/kg	U	7.00	65		100	25,000	
SWSD009	Sediment	PCB	Aroclor-1254	8.40	µg/kg	U	8.40	65		100	25,000	
SWSD009	Sediment	PCB	Aroclor-1260	5.80	µg/kg	U	5.80	65		100	25,000	
SWSD009	Sediment	Pesticide	4,4'-DDD	1.10	µg/kg	U	1.10	3.4		3.3	180000	
SWSD009	Sediment	Pesticide	4,4'-DDE	0.40	µg/kg	U	0.40	1.6		3.3	120000	
SWSD009	Sediment	Pesticide	4,4'-DDT	0.40	µg/kg	U	0.40	1.6		3.3	94000	
SWSD009	Sediment	Pesticide	Aldrin	0.37	µg/kg	U	0.37	1.6		5	1400	
SWSD009	Sediment	Pesticide	alpha-BHC	0.31	µg/kg	U	0.31	1.6		20	6800	
SWSD009	Sediment	Pesticide	alpha-Chlordane	0.38	µg/kg	U	0.38	1.6		94	47000	
SWSD009	Sediment	Pesticide	beta-BHC	0.38	µg/kg	U	0.38	1.6		36	14000	
SWSD009	Sediment	Pesticide	delta-BHC	0.31	µg/kg	U	0.31	1.6		40	1000000	
SWSD009	Sediment	Pesticide	Dieldrin	0.36	µg/kg	U	0.36	1.6		5	2800	
SWSD009	Sediment	Pesticide	Endosulfan I	0.36	µg/kg	U	0.36	1.6		2,400[d]	920,000[d]	
SWSD009	Sediment	Pesticide	Endosulfan II	0.46	µg/kg	U	0.46	1.6		2,400[d]	920,000[d]	
SWSD009	Sediment	Pesticide	Endosulfan sulfate	0.46	µg/kg	U	0.46	1.6		2,400[d]	920,000[d]	
SWSD009	Sediment	Pesticide	Endrin	0.50	µg/kg	U	0.50	1.6		14	410000	
SWSD009	Sediment	Pesticide	Endrin aldehyde	0.43	µg/kg	U	0.43	1.6		NE	NE	
SWSD009	Sediment	Pesticide	Endrin ketone	0.42	µg/kg	U	0.42	1.6		NE	NE	
SWSD009	Sediment	Pesticide	gamma-BHC (Lindane)	0.36	µg/kg	U	0.36	1.6		100	23000	
SWSD009	Sediment	Pesticide	gamma-Chlordane	0.48	µg/kg	U	0.48	1.6		NE	NE	
SWSD009	Sediment	Pesticide	Heptachlor	0.40	µg/kg	U	0.40	1.6		42	29000	
SWSD009	Sediment	Pesticide	Heptachlor epoxide	0.38	µg/kg	U	0.38	1.6		NE	NE	
SWSD009	Sediment	Pesticide	Methoxychlor	0.52	µg/kg	U	0.52	1.6		NE	NE	
SWSD009	Sediment	Pesticide	Toxaphene	10.00	µg/kg	U	10.00	33.0		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/27/2009											
SWSD021	Sediment	Radiological	Radium-226	0.721	pCi/g		0.145	±	0.147	NE	NE	5[a]
SWSD021	Sediment	Radiological	Radium-228	1.005	pCi/g		0.547	±	0.304	NE	NE	5[a]
			Total Radium[a]	*1.726*	*pCi/g*							5[a]
SWSD021	Sediment	Radiological	Thorium-228	1.447	pCi/g		0.160	±	0.429	NE	NE	5
SWSD021	Sediment	Radiological	Thorium-230	1.136	pCi/g		0.113	±	0.357	NE	NE	5
SWSD021	Sediment	Radiological	Thorium-232	1.156	pCi/g		0.098	±	0.360	NE	NE	5
SWSD021	Sediment	Radiological	Uranium-234	1.382	pCi/g		0.100	±	0.298	NE	NE	90[b]
SWSD021	Sediment	Radiological	Uranium-235	0.032	pCi/g	U	0.070	±	0.088	NE	NE	90[b]
SWSD021	Sediment	Radiological	Uranium-238	1.338	pCi/g		0.057	±	0.291	NE	NE	90[b]
			Total Uranium[b]	*2.720*	*pCi/g*							90[b]
SWSD021	Sediment	Metal	Aluminum	26000	mg/kg		58	280		NE	NE	
SWSD021	Sediment	Metal	Antimony	0.16	mg/kg		0.033	0.100		NE	NE	
SWSD021	Sediment	Metal	Arsenic	3.90	mg/kg		0.050	0.110		13	16	
SWSD021	Sediment	Metal	Barium	150.0	mg/kg		0.073	0.220		350	10000	
SWSD021	Sediment	Metal	Beryllium	1.30	mg/kg		0.067	0.220		7	2700	
SWSD021	Sediment	Metal	Boron	NA	mg/kg					NE	NE	
SWSD021	Sediment	Metal	Cadmium	0.18	mg/kg	J	0.070	0.220		3	60	
SWSD021	Sediment	Metal	Calcium	47000	mg/kg		480	890		NE	NE	
SWSD021	Sediment	Metal	Chromium	94.0	mg/kg		0.070	2.200		NE	NE	
SWSD021	Sediment	Metal	Cobalt	15.0	mg/kg		0.065	0.220		NE	NE	
SWSD021	Sediment	Metal	Copper	38.0	mg/kg		0.078	0.220		50	10000	
SWSD021	Sediment	Metal	Iron	32000	mg/kg		110	220		NE	NE	
SWSD021	Sediment	Metal	Lead	12.0	mg/kg		0.075	0.220		63	3900	
SWSD021	Sediment	Metal	Lithium	NA	mg/kg					NE	NE	
SWSD021	Sediment	Metal	Magnesium	14000.00	mg/kg		300.00	670.00		NE	NE	
SWSD021	Sediment	Metal	Manganese	540.00	mg/kg		0.62	1.10		1,600	10000	
SWSD021	Sediment	Metal	Mercury	0.022	mg/kg	J	0.004	0.086		0.18[c]	5.7[c]	
SWSD021	Sediment	Metal	Nickel	38.00	mg/kg		0.062	0.220		30	10000	
SWSD021	Sediment	Metal	Potassium	5400	mg/kg		50	110		NE	NE	
SWSD021	Sediment	Metal	Selenium	0.43	mg/kg	J	0.250	0.450		4	6800	
SWSD021	Sediment	Metal	Silver	0.07	mg/kg		0.020	0.050		2	6800	
SWSD021	Sediment	Metal	Sodium	570.00	mg/kg		60.00	110.00		NE	NE	
SWSD021	Sediment	Metal	Thallium	0.23	mg/kg		0.087	0.220		NE	NE	
SWSD021	Sediment	Metal	Vanadium	29.0	mg/kg		0.038	1.100		NE	NE	
SWSD021	Sediment	Metal	Zinc	100.00	mg/kg		2.10	4.50		109	10000	
SWSD021	Sediment	VOC	1,1,1-Trichloroethane	0.41	µg/kg	U	0.41	2.5		680	1000000	
SWSD021	Sediment	VOC	1,1,2,2-Tetrachloroethane	0.77	µg/kg	U	0.77	2.5		NE	NE	
SWSD021	Sediment	VOC	1,1,2-Trichloroethane	0.53	µg/kg	U	0.53	2.5		NE	NE	
SWSD021	Sediment	VOC	1,1-Dichloroethane	0.52	µg/kg	U	0.52	2.5		270	480000	
SWSD021	Sediment	VOC	1,1-Dichloroethylene	0.53	µg/kg	U	0.53	2.5		330	1000000	
SWSD021	Sediment	VOC	1,2-Dichloroethane	0.46	µg/kg	U	0.46	2.5		20	60000	
SWSD021	Sediment	VOC	1,2-Dichloropropane	0.68	µg/kg	U	0.68	2.5		NE	NE	
SWSD021	Sediment	VOC	2-Butanone[e]	13	µg/kg		1.7	13		120	1000000	
SWSD021	Sediment	VOC	2-Hexanone	0.85	µg/kg	U	0.85	13		NE	NE	
SWSD021	Sediment	VOC	4-Methyl-2-pentanone	0.66	µg/kg	U	0.66	13		NE	NE	
SWSD021	Sediment	VOC	Acetone[e]	400	µg/kg	R	1.4	25		50	1000000	
SWSD021	Sediment	VOC	Benzene	0.41	µg/kg	U	0.41	1.5		60	89000	
SWSD021	Sediment	VOC	Bromodichloromethane	0.4	µg/kg	U	0.4	2.5		NE	NE	
SWSD021	Sediment	VOC	Bromoform	0.53	µg/kg	U	0.53	2.5		NE	NE	
SWSD021	Sediment	VOC	Bromomethane	4	µg/kg	U	4	10		NE	NE	
SWSD021	Sediment	VOC	Carbon disulfide	1.1	µg/kg	U	1.1	13		NE	NE	
SWSD021	Sediment	VOC	Carbon tetrachloride	0.48	µg/kg	U	0.48	2.5		760	44000	
SWSD021	Sediment	VOC	Chlorobenzene	0.43	µg/kg	U	0.43	2.5		1,100	1000000	
SWSD021	Sediment	VOC	Chloroethane	4.5	µg/kg	U	4.5	13		NE	NE	
SWSD021	Sediment	VOC	Chloroform	0.41	µg/kg	U	0.41	2.5		370	700000	
SWSD021	Sediment	VOC	Chloromethane	0.56	µg/kg	U	0.56	5		NE	NE	
SWSD021	Sediment	VOC	cis-1,2-Dichloroethylene	0.54	µg/kg	U	0.54	2.5		250	1000000	
SWSD021	Sediment	VOC	cis-1,3-Dichloropropylene	0.36	µg/kg	U	0.36	2.5		NE	NE	
SWSD021	Sediment	VOC	Ethylbenzene	0.52	µg/kg	U	0.52	2.5		1,000	780000	
SWSD021	Sediment	VOC	Methylene chloride[e]	19	µg/kg	J	1.1	5		50	1000000	
SWSD021	Sediment	VOC	Styrene	0.4	µg/kg	U	0.4	2.5		NE	NE	
SWSD021	Sediment	VOC	Tetrachloroethylene	0.59	µg/kg	U	0.59	2.5		1,300	300000	
SWSD021	Sediment	VOC	Toluene[e]	0.52	µg/kg	U	0.52	2.5		700	1000000	
SWSD021	Sediment	VOC	trans-1,2-Dichloroethylene	0.4	µg/kg	U	0.4	2.5		190	1000000	
SWSD021	Sediment	VOC	trans-1,3-Dichloropropylene	0.51	µg/kg	U	0.51	2.5		NE	NE	
SWSD021	Sediment	VOC	Trichloroethylene	0.96	µg/kg	U	0.96	2.5		470	400000	
SWSD021	Sediment	VOC	Vinyl chloride	0.49	µg/kg	U	0.49	2		260	1000000	
SWSD021	Sediment	VOC	Xylenes (total)	1.5	µg/kg	U	1.5	7.5		20,000	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SWSD021	Sediment	PAH	Acenaphthene	8.4	µg/kg	U	8.4	61		20,000	1,000,000	
SWSD021	Sediment	PAH	Acenaphthylene	9.5	µg/kg	U	9.5	61		100,000	1,000,000	
SWSD021	Sediment	PAH	Anthracene	0.5	µg/kg	U	0.5	61		100,000	1,000,000	
SWSD021	Sediment	PAH	Benzo(a)anthracene	36	µg/kg	J	2.2	61		1,000	11,000	
SWSD021	Sediment	PAH	Benzo(a)pyrene	76	µg/kg		2.4	61		1,000	1,100	
SWSD021	Sediment	PAH	Benzo(b)fluoranthene	48	µg/kg	J	1.7	61		1,000	11,000	
SWSD021	Sediment	PAH	Benzo(ghi)perylene	190	µg/kg		7.6	61		100,000	1,000,000	
SWSD021	Sediment	PAH	Benzo(k)fluoranthene	1.6	µg/kg	U	1.6	61		8,000	110,000	
SWSD021	Sediment	PAH	Chrysene	37	µg/kg	J	1.4	61		1,000	110,000	
SWSD021	Sediment	PAH	Dibenzo(a,h)anthracene	14	µg/kg	U	14	61		330	1,100	
SWSD021	Sediment	PAH	Fluoranthene	170	µg/kg		2.1	61		100,000	1,000,000	
SWSD021	Sediment	PAH	Fluorene	3.3	µg/kg	U	3.3	61		30,000	1,000,000	
SWSD021	Sediment	PAH	Indeno(1,2,3-cd)pyrene	3.6	µg/kg	U	3.6	61		500	11,000	
SWSD021	Sediment	PAH	Naphthalene	6.6	µg/kg	U	6.6	61		12,000	1,000,000	
SWSD021	Sediment	PAH	Phenanthrene	57	µg/kg	J	1.4	61		100,000	1,000,000	
SWSD021	Sediment	PAH	Pyrene	11	µg/kg	U	11	61		100,000	1,000,000	
SWSD021	Sediment	PCB	Aroclor-1016	7.3	µg/kg	U	7.3	80		100	25,000	
SWSD021	Sediment	PCB	Aroclor-1221	7.3	µg/kg	U	7.3	80		100	25,000	
SWSD021	Sediment	PCB	Aroclor-1232	11	µg/kg	U	11	80		100	25,000	
SWSD021	Sediment	PCB	Aroclor-1242	9.1	µg/kg	U	9.1	80		100	25,000	
SWSD021	Sediment	PCB	Aroclor-1248	8.6	µg/kg	U	8.6	80		100	25,000	
SWSD021	Sediment	PCB	Aroclor-1254	10	µg/kg	U	10	80		100	25,000	
SWSD021	Sediment	PCB	Aroclor-1260	7.1	µg/kg	U	7.1	80		100	25,000	
SWSD021	Sediment	Pesticide	4,4'-DDD	1.3	µg/kg	U	1.3	4.1		3.3	120000	
SWSD021	Sediment	Pesticide	4,4'-DDE	0.49	µg/kg	U	0.49	2		3.3	94000	
SWSD021	Sediment	Pesticide	4,4'-DDT	0.49	µg/kg	U	0.49	2		5	1400	
SWSD021	Sediment	Pesticide	Aldrin	0.46	µg/kg	U	0.46	2		20	6800	
SWSD021	Sediment	Pesticide	alpha-BHC	0.38	µg/kg	U	0.38	2		94	47000	
SWSD021	Sediment	Pesticide	alpha-Chlordane	0.47	µg/kg	U	0.47	2		36	14000	
SWSD021	Sediment	Pesticide	beta-BHC	0.47	µg/kg	U	0.47	2		40	1000000	
SWSD021	Sediment	Pesticide	delta-BHC	0.38	µg/kg	U	0.38	2		5	2800	
SWSD021	Sediment	Pesticide	Dieldrin	0.45	µg/kg	U	0.45	2		2,400[d]	920,000[d]	
SWSD021	Sediment	Pesticide	Endosulfan I	0.44	µg/kg	U	0.44	2		2,400[d]	920,000[d]	
SWSD021	Sediment	Pesticide	Endosulfan II	0.56	µg/kg	U	0.56	2		2,400[d]	920,000[d]	
SWSD021	Sediment	Pesticide	Endosulfan sulfate	0.56	µg/kg	U	0.56	2		14	410000	
SWSD021	Sediment	Pesticide	Endrin	0.62	µg/kg	U	0.62	2		NE	NE	
SWSD021	Sediment	Pesticide	Endrin aldehyde	0.53	µg/kg	U	0.53	2		NE	NE	
SWSD021	Sediment	Pesticide	Endrin ketone	0.51	µg/kg	U	0.51	2		100	23000	
SWSD021	Sediment	Pesticide	gamma-BHC (Lindane)	0.44	µg/kg	U	0.44	2		NE	NE	
SWSD021	Sediment	Pesticide	gamma-Chlordane	0.59	µg/kg	U	0.59	2		42	29000	
SWSD021	Sediment	Pesticide	Heptachlor	0.49	µg/kg	U	0.49	2		NE	NE	
SWSD021	Sediment	Pesticide	Heptachlor epoxide	0.47	µg/kg	U	0.47	2		NE	NE	
SWSD021	Sediment	Pesticide	Methoxychlor	0.64	µg/kg	U	0.64	2		NE	NE	
SWSD021	Sediment	Pesticide	Toxaphene	12	µg/kg	U	12	41		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/27/2009											
SWSD010	Sediment	Radiological	Radium-226	0.442	pCi/g	J	0.122	±	0.109	NE	NE	5[a]
SWSD010	Sediment	Radiological	Radium-228	1.195	pCi/g		0.569	±	0.335	NE	NE	5[a]
			Total Radium[a]	*1.636*	*pCi/g*							5[a]
SWSD010	Sediment	Radiological	Thorium-228	1.127	pCi/g	J	0.156	±	0.369	NE	NE	5
SWSD010	Sediment	Radiological	Thorium-230	1.287	pCi/g		0.140	±	0.402	NE	NE	5
SWSD010	Sediment	Radiological	Thorium-232	1.084	pCi/g		0.128	±	0.355	NE	NE	5
SWSD010	Sediment	Radiological	Uranium-234	3.402	pCi/g		0.145	±	0.700	NE	NE	90[b]
SWSD010	Sediment	Radiological	Uranium-235	0.140	pCi/g		0.095	±	0.110	NE	NE	90[b]
SWSD010	Sediment	Radiological	Uranium-238	2.623	pCi/g		0.122	±	0.575	NE	NE	90[b]
			Total Uranium[b]	*6.165*	*pCi/g*							90[b]
SWSD010	Sediment	Metal	Aluminum	27000	mg/kg		93	440		NE	NE	
SWSD010	Sediment	Metal	Antimony	3.40	mg/kg		0.072	0.220		NE	NE	
SWSD010	Sediment	Metal	Arsenic	12.00	mg/kg		0.079	0.180		13	16	
SWSD010	Sediment	Metal	Barium	150.0	mg/kg		0.120	0.360		350	10000	
SWSD010	Sediment	Metal	Beryllium	1.40	mg/kg		0.110	0.360		7	2700	
SWSD010	Sediment	Metal	Boron	NA	mg/kg					NE	NE	
SWSD010	Sediment	Metal	Cadmium	1.40	mg/kg		0.110	0.360		3	60	
SWSD010	Sediment	Metal	Calcium	56000	mg/kg		770	1400		NE	NE	
SWSD010	Sediment	Metal	Chromium	120.0	mg/kg		0.110	3.600		NE	NE	
SWSD010	Sediment	Metal	Cobalt	19.0	mg/kg		0.100	0.360		NE	NE	
SWSD010	Sediment	Metal	Copper	110.0	mg/kg		0.120	0.360		50	10000	
SWSD010	Sediment	Metal	Iron	38000	mg/kg		180	360		NE	NE	
SWSD010	Sediment	Metal	Lead	88.0	mg/kg		0.120	0.360		63	3900	
SWSD010	Sediment	Metal	Lithium	NA	mg/kg					NE	NE	
SWSD010	Sediment	Metal	Magnesium	20000	mg/kg		480	1100		NE	NE	
SWSD010	Sediment	Metal	Manganese	860	mg/kg		0.98	1.8		1,600	10000	
SWSD010	Sediment	Metal	Mercury	0.24	mg/kg		0.0058	0.12		0.18[c]	5.7[c]	
SWSD010	Sediment	Metal	Nickel	46	mg/kg		0.099	0.36		30	10000	
SWSD010	Sediment	Metal	Potassium	5200	mg/kg		80	180		NE	NE	
SWSD010	Sediment	Metal	Selenium	2.3	mg/kg		0.4	0.71		4	6800	
SWSD010	Sediment	Metal	Silver	0.36	mg/kg		0.043	0.11		2	6800	
SWSD010	Sediment	Metal	Sodium	890	mg/kg		95	180		NE	NE	
SWSD010	Sediment	Metal	Thallium	0.3	mg/kg	J	0.14	0.36		NE	NE	
SWSD010	Sediment	Metal	Vanadium	33	mg/kg		0.06	1.8		NE	NE	
SWSD010	Sediment	Metal	Zinc	470	mg/kg		3.4	7.1		109	10000	
SWSD010	Sediment	VOC	1,1,1-Trichloroethane	0.75	µg/kg	U	0.75	4.6		680	1000000	
SWSD010	Sediment	VOC	1,1,2,2-Tetrachloroethane	1.4	µg/kg	U	1.4	4.6		NE	NE	
SWSD010	Sediment	VOC	1,1,2-Trichloroethane	0.97	µg/kg	U	0.97	4.6		NE	NE	
SWSD010	Sediment	VOC	1,1-Dichloroethane	0.96	µg/kg	U	0.96	4.6		270	480000	
SWSD010	Sediment	VOC	1,1-Dichloroethylene	0.98	µg/kg	U	0.98	4.6		330	1000000	
SWSD010	Sediment	VOC	1,2-Dichloroethane	0.85	µg/kg	U	0.85	4.6		20	60000	
SWSD010	Sediment	VOC	1,2-Dichloropropane	1.2	µg/kg	U	1.2	4.6		NE	NE	
SWSD010	Sediment	VOC	2-Butanone[e]	19	µg/kg	J	3.1	23		120	1000000	
SWSD010	Sediment	VOC	2-Hexanone	1.6	µg/kg	U	1.6	23		NE	NE	
SWSD010	Sediment	VOC	4-Methyl-2-pentanone	1.2	µg/kg	U	1.2	23		NE	NE	
SWSD010	Sediment	VOC	Acetone[e]	2.5	µg/kg	U	2.5	47		50	1000000	
SWSD010	Sediment	VOC	Benzene	0.75	µg/kg	U	0.75	2.8		60	89000	
SWSD010	Sediment	VOC	Bromodichloromethane	0.73	µg/kg	U	0.73	4.6		NE	NE	
SWSD010	Sediment	VOC	Bromoform	0.97	µg/kg	U	0.97	4.6		NE	NE	
SWSD010	Sediment	VOC	Bromomethane	7.4	µg/kg	U	7.4	18		NE	NE	
SWSD010	Sediment	VOC	Carbon disulfide	2.1	µg/kg	U	2.1	23		NE	NE	
SWSD010	Sediment	VOC	Carbon tetrachloride	0.89	µg/kg	U	0.89	4.6		760	44000	
SWSD010	Sediment	VOC	Chlorobenzene	0.79	µg/kg	U	0.79	4.6		1,100	1000000	
SWSD010	Sediment	VOC	Chloroethane	8.2	µg/kg	U	8.2	23		NE	NE	
SWSD010	Sediment	VOC	Chloroform	0.75	µg/kg	U	0.75	4.6		370	700000	
SWSD010	Sediment	VOC	Chloromethane	1	µg/kg	U	1	9.2		NE	NE	
SWSD010	Sediment	VOC	cis-1,2-Dichloroethylene	0.98	µg/kg	U	0.98	4.6		250	1000000	
SWSD010	Sediment	VOC	cis-1,3-Dichloropropylene	0.66	µg/kg	U	0.66	4.6		NE	NE	
SWSD010	Sediment	VOC	Ethylbenzene	0.96	µg/kg	U	0.96	4.6		1,000	780000	
SWSD010	Sediment	VOC	Methylene chloride[e]	21	µg/kg	J	2	9.2		50	1000000	
SWSD010	Sediment	VOC	Styrene	0.73	µg/kg	U	0.73	4.6		NE	NE	
SWSD010	Sediment	VOC	Tetrachloroethylene	1.1	µg/kg	U	1.1	4.6		1,300	300000	
SWSD010	Sediment	VOC	Toluene[e]	0.95	µg/kg	U	0.95	4.6		700	1000000	
SWSD010	Sediment	VOC	trans-1,2-Dichloroethylene	0.74	µg/kg	U	0.74	4.6		190	1000000	
SWSD010	Sediment	VOC	trans-1,3-Dichloropropylene	0.93	µg/kg	U	0.93	4.6		NE	NE	
SWSD010	Sediment	VOC	Trichloroethylene	1.8	µg/kg	U	1.8	4.6		470	400000	
SWSD010	Sediment	VOC	Vinyl chloride	0.9	µg/kg	U	0.9	3.7		20	27000	
SWSD010	Sediment	VOC	Xylenes (total)	2.8	µg/kg	U	2.8	14		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SWSD010	Sediment	PAH	Acenaphthene	15	µg/kg	U	15	110		20,000	1,000,000	
SWSD010	Sediment	PAH	Acenaphthylene	17	µg/kg	U	17	110		100,000	1,000,000	
SWSD010	Sediment	PAH	Anthracene	41	µg/kg	J	0.91	110		100,000	1,000,000	
SWSD010	Sediment	PAH	Benzo(a)anthracene	430	µg/kg		4.1	110		1,000	11,000	
SWSD010	Sediment	PAH	Benzo(a)pyrene	710	µg/kg		4.4	110		1,000	1,100	
SWSD010	Sediment	PAH	Benzo(b)fluoranthene	610	µg/kg		3	110		1,000	11,000	
SWSD010	Sediment	PAH	Benzo(ghi)perylene	520	µg/kg		14	110		100,000	1,000,000	
SWSD010	Sediment	PAH	Benzo(k)fluoranthene	290	µg/kg		3	110		8,000	110,000	
SWSD010	Sediment	PAH	Chrysene	380	µg/kg		2.6	110		1,000	110,000	
SWSD010	Sediment	PAH	Dibenzo(a,h)anthracene	25	µg/kg	U	25	110		330	1,100	
SWSD010	Sediment	PAH	Fluoranthene	1300	µg/kg		3.9	110		100,000	1,000,000	
SWSD010	Sediment	PAH	Fluorene	6	µg/kg	U	6	110		30,000	1,000,000	
SWSD010	Sediment	PAH	Indeno(1,2,3-cd)pyrene	430	µg/kg		6.6	110		500	11,000	
SWSD010	Sediment	PAH	Naphthalene	12	µg/kg	U	12	110		12,000	1,000,000	
SWSD010	Sediment	PAH	Phenanthrene	260	µg/kg		2.6	110		100,000	1,000,000	
SWSD010	Sediment	PAH	Pyrene	590	µg/kg		19	110		100,000	1,000,000	
SWSD010	Sediment	PCB	Aroclor-1016	13	µg/kg	U	13	150		100	25,000	
SWSD010	Sediment	PCB	Aroclor-1221	13	µg/kg	U	13	150		100	25,000	
SWSD010	Sediment	PCB	Aroclor-1232	20	µg/kg	U	20	150		100	25,000	
SWSD010	Sediment	PCB	Aroclor-1242	17	µg/kg	U	17	150		100	25,000	
SWSD010	Sediment	PCB	Aroclor-1248	16	µg/kg	U	16	150		100	25,000	
SWSD010	Sediment	PCB	Aroclor-1254	19	µg/kg	U	19	150		100	25,000	
SWSD010	Sediment	PCB	Aroclor-1260	13	µg/kg	U	13	150		100	25,000	
SWSD010	Sediment	Pesticide	4,4'-DDD	2.4	µg/kg	U	2.4	7.6		3.3	180000	
SWSD010	Sediment	Pesticide	4,4'-DDE	0.89	µg/kg	U	0.89	3.7		3.3	120000	
SWSD010	Sediment	Pesticide	4,4'-DDT	0.9	µg/kg	U	0.9	3.7		3.3	94000	
SWSD010	Sediment	Pesticide	Aldrin	0.84	µg/kg	U	0.84	3.7		5	1400	
SWSD010	Sediment	Pesticide	alpha-BHC	0.71	µg/kg	U	0.71	3.7		20	6800	
SWSD010	Sediment	Pesticide	alpha-Chlordane	0.85	µg/kg	U	0.85	3.7		94	47000	
SWSD010	Sediment	Pesticide	beta-BHC	0.86	µg/kg	U	0.86	3.7		36	14000	
SWSD010	Sediment	Pesticide	delta-BHC	0.69	µg/kg	U	0.69	3.7		40	1000000	
SWSD010	Sediment	Pesticide	Dieldrin	0.82	µg/kg	U	0.82	3.7		5	2800	
SWSD010	Sediment	Pesticide	Endosulfan I	0.81	µg/kg	U	0.81	3.7		2,400[d]	920,000[d]	
SWSD010	Sediment	Pesticide	Endosulfan II	1	µg/kg	U	1	3.7		2,400[d]	920,000[d]	
SWSD010	Sediment	Pesticide	Endosulfan sulfate	1	µg/kg	U	1	3.7		2,400[d]	920,000[d]	
SWSD010	Sediment	Pesticide	Endrin	1.1	µg/kg	U	1.1	3.7		14	410000	
SWSD010	Sediment	Pesticide	Endrin aldehyde	0.97	µg/kg	U	0.97	3.7		NE	NE	
SWSD010	Sediment	Pesticide	Endrin ketone	0.94	µg/kg	U	0.94	3.7		NE	NE	
SWSD010	Sediment	Pesticide	gamma-BHC (Lindane)	0.8	µg/kg	U	0.8	3.7		100	23000	
SWSD010	Sediment	Pesticide	gamma-Chlordane	1.1	µg/kg	U	1.1	3.7		NE	NE	
SWSD010	Sediment	Pesticide	Heptachlor	0.89	µg/kg	U	0.89	3.7		42	29000	
SWSD010	Sediment	Pesticide	Heptachlor epoxide	0.87	µg/kg	U	0.87	3.7		NE	NE	
SWSD010	Sediment	Pesticide	Methoxychlor	1.2	µg/kg	U	1.2	3.7		NE	NE	
SWSD010	Sediment	Pesticide	Toxaphene	22	µg/kg	U	22	75		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/26/2009											
SWSD011	Sediment	Radiological	Radium-226	0.515	pCi/g	J	0.081	±	0.099	NE	NE	5[a]
SWSD011	Sediment	Radiological	Radium-228	1.496	pCi/g		0.809	±	0.463	NE	NE	5[a]
			Total Radium[a]	2.011	*pCi/g*							5[a]
SWSD011	Sediment	Radiological	Thorium-228	1.412	pCi/g		0.120	±	0.411	NE	NE	5
SWSD011	Sediment	Radiological	Thorium-230	1.599	pCi/g		0.120	±	0.448	NE	NE	5
SWSD011	Sediment	Radiological	Thorium-232	0.961	pCi/g		0.093	±	0.310	NE	NE	5
SWSD011	Sediment	Radiological	Uranium-234	1.269	pCi/g		0.072	±	0.317	NE	NE	90[b]
SWSD011	Sediment	Radiological	Uranium-235	0.076	pCi/g	U	0.089	±	0.074	NE	NE	90[b]
SWSD011	Sediment	Radiological	Uranium-238	1.200	pCi/g		0.061	±	0.305	NE	NE	90[b]
			Total Uranium[b]	*2.469*	*pCi/g*							90[b]
SWSD011	Sediment	Metal	Aluminum	19000	mg/kg		70	330		NE	NE	
SWSD011	Sediment	Metal	Antimony	1	mg/kg		0.043	0.13		NE	NE	
SWSD011	Sediment	Metal	Arsenic	5.2	mg/kg		0.059	0.13		13	16	
SWSD011	Sediment	Metal	Barium	120	mg/kg		0.087	0.27		350	10000	
SWSD011	Sediment	Metal	Beryllium	0.86	mg/kg		0.079	0.27		7	2700	
SWSD011	Sediment	Metal	Boron	36	mg/kg		7.7	13		NE	NE	
SWSD011	Sediment	Metal	Cadmium	0.66	mg/kg		0.083	0.27		3	60	
SWSD011	Sediment	Metal	Calcium	51000	mg/kg		580	1100		NE	NE	
SWSD011	Sediment	Metal	Chromium	53	mg/kg		0.084	2.7		NE	NE	
SWSD011	Sediment	Metal	Cobalt	13	mg/kg		0.077	0.27		NE	NE	
SWSD011	Sediment	Metal	Copper	52	mg/kg		0.093	0.27		50	10000	
SWSD011	Sediment	Metal	Iron	27000	mg/kg		130	270		NE	NE	
SWSD011	Sediment	Metal	Lead	33	mg/kg		0.089	0.27		63	3900	
SWSD011	Sediment	Metal	Lithium	34	mg/kg		2.7	2.7		NE	NE	
SWSD011	Sediment	Metal	Magnesium	12000	mg/kg		360	800		NE	NE	
SWSD011	Sediment	Metal	Manganese	950	mg/kg		0.73	1.3		1,600	10000	
SWSD011	Sediment	Metal	Mercury	0.19	mg/kg		0.0049	0.098		0.18[c]	5.7[c]	
SWSD011	Sediment	Metal	Nickel	30	mg/kg		0.074	0.27		30	10000	
SWSD011	Sediment	Metal	Potassium	3600	mg/kg		59	130		NE	NE	
SWSD011	Sediment	Metal	Selenium	0.92	mg/kg		0.3	0.53		4	6800	
SWSD011	Sediment	Metal	Silver	0.21	mg/kg		0.025	0.065		2	6800	
SWSD011	Sediment	Metal	Sodium	560	mg/kg		71	130		NE	NE	
SWSD011	Sediment	Metal	Thallium	0.2	mg/kg	J	0.1	0.27		NE	NE	
SWSD011	Sediment	Metal	Vanadium	23	mg/kg		0.045	1.3		NE	NE	
SWSD011	Sediment	Metal	Zinc	320	mg/kg		2.5	5.3		109	10000	
SWSD011	Sediment	VOC	1,1,1-Trichloroethane	0.57	µg/kg	U	0.57	3.5		680	1000000	
SWSD011	Sediment	VOC	1,1,2,2-Tetrachloroethane	1.1	µg/kg	U	1.1	3.5		NE	NE	
SWSD011	Sediment	VOC	1,1,2-Trichloroethane	0.73	µg/kg	U	0.73	3.5		NE	NE	
SWSD011	Sediment	VOC	1,1-Dichloroethane	0.72	µg/kg	U	0.72	3.5		270	480000	
SWSD011	Sediment	VOC	1,1-Dichloroethylene	0.74	µg/kg	U	0.74	3.5		330	1000000	
SWSD011	Sediment	VOC	1,2-Dichloroethane	0.64	µg/kg	U	0.64	3.5		20	60000	
SWSD011	Sediment	VOC	1,2-Dichloropropane	0.94	µg/kg	U	0.94	3.5		NE	NE	
SWSD011	Sediment	VOC	2-Butanone[e]	2.4	µg/kg	U	2.4	17		120	1000000	
SWSD011	Sediment	VOC	2-Hexanone	1.2	µg/kg	U	1.2	17		NE	NE	
SWSD011	Sediment	VOC	4-Methyl-2-pentanone	0.91	µg/kg	U	0.91	17		NE	NE	
SWSD011	Sediment	VOC	Acetone[e]	95	µg/kg	R	1.9	35		50	1000000	
SWSD011	Sediment	VOC	Benzene	0.57	µg/kg	U	0.57	2.1		60	89000	
SWSD011	Sediment	VOC	Bromodichloromethane	0.55	µg/kg	U	0.55	3.5		NE	NE	
SWSD011	Sediment	VOC	Bromoform	0.73	µg/kg	U	0.73	3.5		NE	NE	
SWSD011	Sediment	VOC	Bromomethane	5.6	µg/kg	U	5.6	14		NE	NE	
SWSD011	Sediment	VOC	Carbon disulfide	1.6	µg/kg	U	1.6	17		NE	NE	
SWSD011	Sediment	VOC	Carbon tetrachloride	0.67	µg/kg	U	0.67	3.5		760	44000	
SWSD011	Sediment	VOC	Chlorobenzene	0.6	µg/kg	U	0.6	3.5		1,100	1000000	
SWSD011	Sediment	VOC	Chloroethane	6.2	µg/kg	U	6.2	17		NE	NE	
SWSD011	Sediment	VOC	Chloroform	0.57	µg/kg	U	0.57	3.5		370	700000	
SWSD011	Sediment	VOC	Chloromethane	0.78	µg/kg	U	0.78	7		NE	NE	
SWSD011	Sediment	VOC	cis-1,2-Dichloroethylene	0.74	µg/kg	U	0.74	3.5		250	1000000	
SWSD011	Sediment	VOC	cis-1,3-Dichloropropylene	0.5	µg/kg	U	0.5	3.5		NE	NE	
SWSD011	Sediment	VOC	Ethylbenzene	0.72	µg/kg	U	0.72	3.5		1,000	780000	
SWSD011	Sediment	VOC	Methylene chloride[e]	19	µg/kg	J	1.5	7		50	1000000	
SWSD011	Sediment	VOC	Styrene	0.55	µg/kg	U	0.55	3.5		NE	NE	
SWSD011	Sediment	VOC	Tetrachloroethylene	0.81	µg/kg	U	0.81	3.5		1,300	300000	
SWSD011	Sediment	VOC	Toluene[e]	0.72	µg/kg	U	0.72	3.5		700	1000000	
SWSD011	Sediment	VOC	trans-1,2-Dichloroethylene	0.56	µg/kg	U	0.56	3.5		190	1000000	
SWSD011	Sediment	VOC	trans-1,3-Dichloropropylene	0.71	µg/kg	U	0.71	3.5		NE	NE	
SWSD011	Sediment	VOC	Trichloroethylene	1.3	µg/kg	U	1.3	3.5		470	400000	
SWSD011	Sediment	VOC	Vinyl chloride	0.68	µg/kg	U	0.68	2.8		20	27000	
SWSD011	Sediment	VOC	Xylenes (total)	2.1	µg/kg	U	2.1	10		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SWSD011	Sediment	PAH	Acenaphthene	11	µg/kg	U	11	83		20,000	1,000,000	
SWSD011	Sediment	PAH	Acenaphthylene	13	µg/kg	U	13	83		100,000	1,000,000	
SWSD011	Sediment	PAH	Anthracene	22	µg/kg	J	0.68	83		100,000	1,000,000	
SWSD011	Sediment	PAH	Benzo(a)anthracene	220	µg/kg		3	83		1,000	11,000	
SWSD011	Sediment	PAH	Benzo(a)pyrene	340	µg/kg		3.2	83		1,000	1,100	
SWSD011	Sediment	PAH	Benzo(b)fluoranthene	320	µg/kg		2.3	83		1,000	11,000	
SWSD011	Sediment	PAH	Benzo(ghi)perylene	260	µg/kg		10	83		100,000	1,000,000	
SWSD011	Sediment	PAH	Benzo(k)fluoranthene	120	µg/kg		2.2	83		8,000	110,000	
SWSD011	Sediment	PAH	Chrysene	210	µg/kg		1.9	83		1,000	110,000	
SWSD011	Sediment	PAH	Dibenzo(a,h)anthracene	19	µg/kg	U	19	83		330	1,100	
SWSD011	Sediment	PAH	Fluoranthene	700	µg/kg		2.9	83		100,000	1,000,000	
SWSD011	Sediment	PAH	Fluorene	4.5	µg/kg	U	4.5	83		30,000	1,000,000	
SWSD011	Sediment	PAH	Indeno(1,2,3-cd)pyrene	190	µg/kg		4.9	83		500	11,000	
SWSD011	Sediment	PAH	Naphthalene	9	µg/kg	U	9	83		12,000	1,000,000	
SWSD011	Sediment	PAH	Phenanthrene	160	µg/kg		1.9	83		100,000	1,000,000	
SWSD011	Sediment	PAH	Pyrene	290	µg/kg		14	83		100,000	1,000,000	
SWSD011	Sediment	PCB	Aroclor-1016	10	µg/kg	U	10	110		100	25,000	
SWSD011	Sediment	PCB	Aroclor-1221	9.9	µg/kg	U	9.9	110		100	25,000	
SWSD011	Sediment	PCB	Aroclor-1232	15	µg/kg	U	15	110		100	25,000	
SWSD011	Sediment	PCB	Aroclor-1242	12	µg/kg	U	12	110		100	25,000	
SWSD011	Sediment	PCB	Aroclor-1248	12	µg/kg	U	12	110		100	25,000	
SWSD011	Sediment	PCB	Aroclor-1254	14	µg/kg	U	14	110		100	25,000	
SWSD011	Sediment	PCB	Aroclor-1260	9.7	µg/kg	U	9.7	110		100	25,000	
SWSD011	Sediment	Pesticide	4,4'-DDD	1.8	µg/kg	U	1.8	5.6		3.3	180000	
SWSD011	Sediment	Pesticide	4,4'-DDE	0.66	µg/kg	U	0.66	2.7		3.3	120000	
SWSD011	Sediment	Pesticide	4,4'-DDT	0.67	µg/kg	U	0.67	2.7		3.3	94000	
SWSD011	Sediment	Pesticide	Aldrin	0.62	µg/kg	U	0.62	2.7		5	1400	
SWSD011	Sediment	Pesticide	alpha-BHC	0.52	µg/kg	U	0.52	2.7		20	6800	
SWSD011	Sediment	Pesticide	alpha-Chlordane	0.63	µg/kg	U	0.63	2.7		94	47000	
SWSD011	Sediment	Pesticide	beta-BHC	0.64	µg/kg	U	0.64	2.7		36	14000	
SWSD011	Sediment	Pesticide	delta-BHC	0.51	µg/kg	U	0.51	2.7		40	1000000	
SWSD011	Sediment	Pesticide	Dieldrin	0.61	µg/kg	U	0.61	2.7		5	2800	
SWSD011	Sediment	Pesticide	Endosulfan I	0.6	µg/kg	U	0.6	2.7		2,400[d]	920,000[d]	
SWSD011	Sediment	Pesticide	Endosulfan II	0.76	µg/kg	U	0.76	2.7		2,400[d]	920,000[d]	
SWSD011	Sediment	Pesticide	Endosulfan sulfate	0.76	µg/kg	U	0.76	2.7		2,400[d]	920,000[d]	
SWSD011	Sediment	Pesticide	Endrin	0.84	µg/kg	U	0.84	2.7		14	410000	
SWSD011	Sediment	Pesticide	Endrin aldehyde	0.72	µg/kg	U	0.72	2.7		NE	NE	
SWSD011	Sediment	Pesticide	Endrin ketone	0.7	µg/kg	U	0.7	2.7		NE	NE	
SWSD011	Sediment	Pesticide	gamma-BHC (Lindane)	0.59	µg/kg	U	0.59	2.7		100	23000	
SWSD011	Sediment	Pesticide	gamma-Chlordane	0.8	µg/kg	U	0.8	2.7		NE	NE	
SWSD011	Sediment	Pesticide	Heptachlor	0.66	µg/kg	U	0.66	2.7		42	29000	
SWSD011	Sediment	Pesticide	Heptachlor epoxide	0.64	µg/kg	U	0.64	2.7		NE	NE	
SWSD011	Sediment	Pesticide	Methoxychlor	0.87	µg/kg	U	0.87	2.7		NE	NE	
SWSD011	Sediment	Pesticide	Toxaphene	17	µg/kg	U	17	55		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/26/2009											
SED-DUP(SWSD011)	Sediment	Radiological	Radium-226	0.368	pCi/g	J	0.075	±	0.084	NE	NE	5[a]
SED-DUP(SWSD011)	Sediment	Radiological	Radium-228	0.728	pCi/g		0.613	±	0.326	NE	NE	5[a]
			Total Radium[a]	*1.096*	*pCi/g*							5[a]
SED-DUP(SWSD011)	Sediment	Radiological	Thorium-228	1.621	pCi/g		0.199	±	0.475	NE	NE	5
SED-DUP(SWSD011)	Sediment	Radiological	Thorium-230	1.375	pCi/g		0.109	±	0.414	NE	NE	5
SED-DUP(SWSD011)	Sediment	Radiological	Thorium-232	1.665	pCi/g		0.077	±	0.476	NE	NE	5
SED-DUP(SWSD011)	Sediment	Radiological	Uranium-234	1.496	pCi/g		0.130	±	0.384	NE	NE	90[b]
SED-DUP(SWSD011)	Sediment	Radiological	Uranium-235	0.059	pCi/g		0.053	±	0.069	NE	NE	90[b]
SED-DUP(SWSD011)	Sediment	Radiological	Uranium-238	1.151	pCi/g		0.104	±	0.322	NE	NE	90[b]
			Total Uranium[b]	*2.706*	*pCi/g*							90[b]
SED-DUP(SWSD011)	Sediment	Metal	Aluminum	23000	mg/kg		82	390		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Antimony	0.57	mg/kg		0.044	0.13		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Arsenic	5.5	mg/kg		0.07	0.16		13	16	
SED-DUP(SWSD011)	Sediment	Metal	Barium	130	mg/kg		0.1	0.31		350	10000	
SED-DUP(SWSD011)	Sediment	Metal	Beryllium	1	mg/kg		0.093	0.31		7	2700	
SED-DUP(SWSD011)	Sediment	Metal	Boron	30	mg/kg		9	16		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Cadmium	0.73	mg/kg		0.098	0.31		3	60	
SED-DUP(SWSD011)	Sediment	Metal	Calcium	56000	mg/kg		680	1300		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Chromium	60	mg/kg		0.099	3.1		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Cobalt	14	mg/kg		0.091	0.31		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Copper	59	mg/kg		0.11	0.31		50	10000	
SED-DUP(SWSD011)	Sediment	Metal	Iron	30000	mg/kg		160	310		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Lead	38	mg/kg		0.1	0.31		63	3900	
SED-DUP(SWSD011)	Sediment	Metal	Lithium	39	mg/kg		3.1	3.1		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Magnesium	15000	mg/kg		420	940		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Manganese	1100	mg/kg		0.87	1.6		1,600	10000	
SED-DUP(SWSD011)	Sediment	Metal	Mercury	0.11	mg/kg		0.0047	0.094		0.18[c]	5.7[c]	
SED-DUP(SWSD011)	Sediment	Metal	Nickel	37	mg/kg		0.087	0.31		30	10000	
SED-DUP(SWSD011)	Sediment	Metal	Potassium	4600	mg/kg		70	160		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Selenium	1.2	mg/kg		0.35	0.63		4	6800	
SED-DUP(SWSD011)	Sediment	Metal	Silver	0.2	mg/kg		0.026	0.067		2	6800	
SED-DUP(SWSD011)	Sediment	Metal	Sodium	1600	mg/kg		84	160		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Thallium	0.24	mg/kg	J	0.12	0.31		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Vanadium	25	mg/kg		0.053	1.6		NE	NE	
SED-DUP(SWSD011)	Sediment	Metal	Zinc	330	mg/kg		3	6.3		109	10000	
SED-DUP(SWSD011)	Sediment	VOC	1,1,1-Trichloroethane	0.59	µg/kg	U	0.59	3.6		680	1000000	
SED-DUP(SWSD011)	Sediment	VOC	1,1,2,2-Tetrachloroethane	1.1	µg/kg	U	1.1	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	1,1,2-Trichloroethane	0.76	µg/kg	U	0.76	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	1,1-Dichloroethane	0.75	µg/kg	U	0.75	3.6		270	480000	
SED-DUP(SWSD011)	Sediment	VOC	1,1-Dichloroethylene	0.77	µg/kg	U	0.77	3.6		330	1000000	
SED-DUP(SWSD011)	Sediment	VOC	1,2-Dichloroethane	0.67	µg/kg	U	0.67	3.6		20	60000	
SED-DUP(SWSD011)	Sediment	VOC	1,2-Dichloropropane	0.98	µg/kg	U	0.98	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	2-Butanone[e]	2.5	µg/kg	U	2.5	18		120	1000000	
SED-DUP(SWSD011)	Sediment	VOC	2-Hexanone	1.2	µg/kg	U	1.2	18		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	4-Methyl-2-pentanone	0.95	µg/kg	U	0.95	18		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Acetone[e]	87	µg/kg	R	2	36		50	1000000	
SED-DUP(SWSD011)	Sediment	VOC	Benzene	0.59	µg/kg	U	0.59	2.2		60	89000	
SED-DUP(SWSD011)	Sediment	VOC	Bromodichloromethane	0.57	µg/kg	U	0.57	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Bromoform	0.76	µg/kg	U	0.76	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Bromomethane	5.8	µg/kg	U	5.8	14		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Carbon disulfide	1.6	µg/kg	U	1.6	18		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Carbon tetrachloride	0.7	µg/kg	U	0.7	3.6		760	44000	
SED-DUP(SWSD011)	Sediment	VOC	Chlorobenzene	0.62	µg/kg	U	0.62	3.6		1,100	1000000	
SED-DUP(SWSD011)	Sediment	VOC	Chloroethane	6.5	µg/kg	U	6.5	18		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Chloroform	0.59	µg/kg	U	0.59	3.6		370	700000	
SED-DUP(SWSD011)	Sediment	VOC	Chloromethane	0.81	µg/kg	U	0.81	7.2		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	cis-1,2-Dichloroethylene	0.78	µg/kg	U	0.78	3.6		250	1000000	
SED-DUP(SWSD011)	Sediment	VOC	cis-1,3-Dichloropropylene	0.52	µg/kg	U	0.52	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Ethylbenzene	0.75	µg/kg	U	0.75	3.6		1,000	780000	
SED-DUP(SWSD011)	Sediment	VOC	Methylene chloride[e]	24	µg/kg	J	1.6	7.2		50	1000000	
SED-DUP(SWSD011)	Sediment	VOC	Styrene	0.58	µg/kg	U	0.58	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Tetrachloroethylene	0.85	µg/kg	U	0.85	3.6		1,300	300000	
SED-DUP(SWSD011)	Sediment	VOC	Toluene[e]	0.75	µg/kg	U	0.75	3.6		700	1000000	
SED-DUP(SWSD011)	Sediment	VOC	trans-1,2-Dichloroethylene	0.58	µg/kg	U	0.58	3.6		190	1000000	
SED-DUP(SWSD011)	Sediment	VOC	trans-1,3-Dichloropropylene	0.74	µg/kg	U	0.74	3.6		NE	NE	
SED-DUP(SWSD011)	Sediment	VOC	Trichloroethylene	1.4	µg/kg	U	1.4	3.6		470	400000	
SED-DUP(SWSD011)	Sediment	VOC	Vinyl chloride	0.71	µg/kg	U	0.71	2.9		20	27000	
SED-DUP(SWSD011)	Sediment	VOC	Xylenes (total)	2.2	µg/kg	U	2.2	11		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SED-DUP(SWSD011)	Sediment	PAH	Acenaphthene	12	µg/kg	U	12	86		20,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Acenaphthylene	13	µg/kg	U	13	86		100,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Anthracene	16	µg/kg	J	0.7	86		100,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Benzo(a)anthracene	160	µg/kg		3.1	86		1,000	11,000	
SED-DUP(SWSD011)	Sediment	PAH	Benzo(a)pyrene	260	µg/kg		3.4	86		1,000	1,100	
SED-DUP(SWSD011)	Sediment	PAH	Benzo(b)fluoranthene	270	µg/kg		2.4	86		1,000	11,000	
SED-DUP(SWSD011)	Sediment	PAH	Benzo(ghi)perylene	190	µg/kg		11	86		100,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Benzo(k)fluoranthene	99	µg/kg		2.3	86		8,000	110,000	
SED-DUP(SWSD011)	Sediment	PAH	Chrysene	160	µg/kg		2	86		1,000	110,000	
SED-DUP(SWSD011)	Sediment	PAH	Dibenzo(a,h)anthracene	19	µg/kg	U	19	86		330	1,100	
SED-DUP(SWSD011)	Sediment	PAH	Fluoranthene	620	µg/kg		3	86		100,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Fluorene	4.6	µg/kg	U	4.6	86		30,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Indeno(1,2,3-cd)pyrene	170	µg/kg		5.1	86		500	11,000	
SED-DUP(SWSD011)	Sediment	PAH	Naphthalene	9.4	µg/kg	U	9.4	86		12,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Phenanthrene	130	µg/kg		2	86		100,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PAH	Pyrene	200	µg/kg		15	86		100,000	1,000,000	
SED-DUP(SWSD011)	Sediment	PCB	Aroclor-1016	10	µg/kg	U	10	110		100	25,000	
SED-DUP(SWSD011)	Sediment	PCB	Aroclor-1221	10	µg/kg	U	10	110		100	25,000	
SED-DUP(SWSD011)	Sediment	PCB	Aroclor-1232	15	µg/kg	U	15	110		100	25,000	
SED-DUP(SWSD011)	Sediment	PCB	Aroclor-1242	13	µg/kg	U	13	110		100	25,000	
SED-DUP(SWSD011)	Sediment	PCB	Aroclor-1248	12	µg/kg	U	12	110		100	25,000	
SED-DUP(SWSD011)	Sediment	PCB	Aroclor-1254	15	µg/kg	U	15	110		100	25,000	
SED-DUP(SWSD011)	Sediment	PCB	Aroclor-1260	10	µg/kg	U	10	110		100	25,000	
SED-DUP(SWSD011)	Sediment	Pesticide	4,4'-DDD	1.9	µg/kg	U	1.9	5.9		3.3	180000	
SED-DUP(SWSD011)	Sediment	Pesticide	4,4'-DDE	0.69	µg/kg	U	0.69	2.9		3.3	120000	
SED-DUP(SWSD011)	Sediment	Pesticide	4,4'-DDT	0.7	µg/kg	U	0.7	2.9		3.3	94000	
SED-DUP(SWSD011)	Sediment	Pesticide	Aldrin	0.65	µg/kg	U	0.65	2.9		5	1400	
SED-DUP(SWSD011)	Sediment	Pesticide	alpha-BHC	0.55	µg/kg	U	0.55	2.9		20	6800	
SED-DUP(SWSD011)	Sediment	Pesticide	alpha-Chlordane	0.66	µg/kg	U	0.66	2.9		94	47000	
SED-DUP(SWSD011)	Sediment	Pesticide	beta-BHC	0.67	µg/kg	U	0.67	2.9		36	14000	
SED-DUP(SWSD011)	Sediment	Pesticide	delta-BHC	0.53	µg/kg	U	0.53	2.9		40	1000000	
SED-DUP(SWSD011)	Sediment	Pesticide	Dieldrin	0.63	µg/kg	U	0.63	2.9		5	2800	
SED-DUP(SWSD011)	Sediment	Pesticide	Endosulfan I	0.62	µg/kg	U	0.62	2.9		2,400[d]	920,000[d]	
SED-DUP(SWSD011)	Sediment	Pesticide	Endosulfan II	0.8	µg/kg	U	0.8	2.9		2,400[d]	920,000[d]	
SED-DUP(SWSD011)	Sediment	Pesticide	Endosulfan sulfate	0.8	µg/kg	U	0.8	2.9		2,400[d]	920,000[d]	
SED-DUP(SWSD011)	Sediment	Pesticide	Endrin	0.87	µg/kg	U	0.87	2.9		14	410000	
SED-DUP(SWSD011)	Sediment	Pesticide	Endrin aldehyde	0.75	µg/kg	U	0.75	2.9		NE	NE	
SED-DUP(SWSD011)	Sediment	Pesticide	Endrin ketone	0.73	µg/kg	U	0.73	2.9		NE	NE	
SED-DUP(SWSD011)	Sediment	Pesticide	gamma-BHC (Lindane)	0.62	µg/kg	U	0.62	2.9		100	23000	
SED-DUP(SWSD011)	Sediment	Pesticide	gamma-Chlordane	0.84	µg/kg	U	0.84	2.9		NE	NE	
SED-DUP(SWSD011)	Sediment	Pesticide	Heptachlor	0.69	µg/kg	U	0.69	2.9		42	29000	
SED-DUP(SWSD011)	Sediment	Pesticide	Heptachlor epoxide	0.67	µg/kg	U	0.67	2.9		NE	NE	
SED-DUP(SWSD011)	Sediment	Pesticide	Methoxychlor	0.91	µg/kg	U	0.91	2.9		NE	NE	
SED-DUP(SWSD011)	Sediment	Pesticide	Toxaphene	17	µg/kg	U	17	58		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/27/2009											
SWSD022	Sediment	Radiological	Radium-226	0.970	pCi/g		0.131	±	0.162	NE	NE	5[a]
SWSD022	Sediment	Radiological	Radium-228	1.694	pCi/g		0.624	±	0.378	NE	NE	5[a]
			Total Radium[a]	*2.664*	*pCi/g*							5[a]
SWSD022	Sediment	Radiological	Thorium-228	1.579	pCi/g		0.080	±	0.418	NE	NE	5
SWSD022	Sediment	Radiological	Thorium-230	1.180	pCi/g		0.061	±	0.335	NE	NE	5
SWSD022	Sediment	Radiological	Thorium-232	1.021	pCi/g		0.036	±	0.302	NE	NE	5
SWSD022	Sediment	Radiological	Uranium-234	3.113	pCi/g		0.074	±	0.649	NE	NE	90[b]
SWSD022	Sediment	Radiological	Uranium-235	0.315	pCi/g		0.053	±	0.165	NE	NE	90[b]
SWSD022	Sediment	Radiological	Uranium-238	3.055	pCi/g		0.043	±	0.638	NE	NE	90[b]
			Total Uranium[b]	*6.483*	*pCi/g*							90[b]
SWSD022	Sediment	Metal	Aluminum	22000	mg/kg		95	450		NE	NE	
SWSD022	Sediment	Metal	Antimony	1.9	mg/kg		0.066	0.2		NE	NE	
SWSD022	Sediment	Metal	Arsenic	11	mg/kg		0.072	0.18		13	16	
SWSD022	Sediment	Metal	Barium	160	mg/kg		0.12	0.36		350	10000	
SWSD022	Sediment	Metal	Beryllium	1.2	mg/kg		0.11	0.36		7	2700	
SWSD022	Sediment	Metal	Boron	38	mg/kg		10	18		NE	NE	
SWSD022	Sediment	Metal	Cadmium	1.1	mg/kg		0.11	0.36		3	60	
SWSD022	Sediment	Metal	Calcium	34000	mg/kg		780	1500		NE	NE	
SWSD022	Sediment	Metal	Chromium	74	mg/kg		0.11	3.6		NE	NE	
SWSD022	Sediment	Metal	Cobalt	16	mg/kg		0.1	0.36		NE	NE	
SWSD022	Sediment	Metal	Copper	80	mg/kg		0.13	0.36		50	10000	
SWSD022	Sediment	Metal	Iron	32000	mg/kg		180	360		NE	NE	
SWSD022	Sediment	Metal	Lead	63	mg/kg		0.12	0.36		63	3900	
SWSD022	Sediment	Metal	Lithium	42	mg/kg		3.6	3.6		NE	NE	
SWSD022	Sediment	Metal	Magnesium	14000	mg/kg		490	1100		NE	NE	
SWSD022	Sediment	Metal	Manganese	870	mg/kg		1	1.8		1,600	10000	
SWSD022	Sediment	Metal	Mercury	0.25	mg/kg		0.0072	0.15		0.18[c]	5.7[c]	
SWSD022	Sediment	Metal	Nickel	37	mg/kg		0.1	0.36		30	10000	
SWSD022	Sediment	Metal	Potassium	4300	mg/kg		81	180		NE	NE	
SWSD022	Sediment	Metal	Selenium	2	mg/kg		0.41	0.73		4	6800	
SWSD022	Sediment	Metal	Silver	0.24	mg/kg		0.039	0.1		2	6800	
SWSD022	Sediment	Metal	Sodium	950	mg/kg		97	180		NE	NE	
SWSD022	Sediment	Metal	Thallium	0.26	mg/kg	J	0.14	0.36		NE	NE	
SWSD022	Sediment	Metal	Vanadium	29	mg/kg		0.088	1.8		NE	NE	
SWSD022	Sediment	Metal	Zinc	340	mg/kg		3.4	7.3		109	10000	
SWSD022	Sediment	VOC	1,1,1-Trichloroethane	0.7	µg/kg	U	0.7	4.2		680	1000000	
SWSD022	Sediment	VOC	1,1,2,2-Tetrachloroethane	1.3	µg/kg	U	1.3	4.2		NE	NE	
SWSD022	Sediment	VOC	1,1,2-Trichloroethane	0.9	µg/kg	U	0.9	4.2		NE	NE	
SWSD022	Sediment	VOC	1,1-Dichloroethane	0.88	µg/kg	U	0.88	4.2		270	480000	
SWSD022	Sediment	VOC	1,1-Dichloroethylene	0.9	µg/kg	U	0.9	4.2		330	1000000	
SWSD022	Sediment	VOC	1,2-Dichloroethane	0.78	µg/kg	U	0.78	4.2		20	60000	
SWSD022	Sediment	VOC	1,2-Dichloropropane	1.2	µg/kg	U	1.2	4.2		NE	NE	
SWSD022	Sediment	VOC	2-Butanone[e]	30	µg/kg		2.9	21		120	1000000	
SWSD022	Sediment	VOC	2-Hexanone	1.4	µg/kg	U	1.4	21		NE	NE	
SWSD022	Sediment	VOC	4-Methyl-2-pentanone	1.1	µg/kg	U	1.1	21		NE	NE	
SWSD022	Sediment	VOC	Acetone[e]	66000	µg/kg	R	1100	20000		50	1000000	
SWSD022	Sediment	VOC	Benzene	0.69	µg/kg	U	0.69	2.5		60	89000	
SWSD022	Sediment	VOC	Bromodichloromethane	0.67	µg/kg	U	0.67	4.2		NE	NE	
SWSD022	Sediment	VOC	Bromoform	0.89	µg/kg	U	0.89	4.2		NE	NE	
SWSD022	Sediment	VOC	Bromomethane	6.9	µg/kg	U	6.9	17		NE	NE	
SWSD022	Sediment	VOC	Carbon disulfide	1.9	µg/kg	U	1.9	21		NE	NE	
SWSD022	Sediment	VOC	Carbon tetrachloride	0.82	µg/kg	U	0.82	4.2		760	44000	
SWSD022	Sediment	VOC	Chlorobenzene	0.73	µg/kg	U	0.73	4.2		1,100	1000000	
SWSD022	Sediment	VOC	Chloroethane	7.6	µg/kg	U	7.6	21		NE	NE	
SWSD022	Sediment	VOC	Chloroform	0.7	µg/kg	U	0.7	4.2		370	700000	
SWSD022	Sediment	VOC	Chloromethane	0.95	µg/kg	U	0.95	8.5		NE	NE	
SWSD022	Sediment	VOC	cis-1,2-Dichloroethylene	0.91	µg/kg	U	0.91	4.2		250	1000000	
SWSD022	Sediment	VOC	cis-1,3-Dichloropropylene	0.61	µg/kg	U	0.61	4.2		NE	NE	
SWSD022	Sediment	VOC	Ethylbenzene	0.88	µg/kg	U	0.88	4.2		1,000	780000	
SWSD022	Sediment	VOC	Methylene chloride[e]	27	µg/kg	J	1.8	8.5		50	1000000	
SWSD022	Sediment	VOC	Styrene	0.68	µg/kg	U	0.68	4.2		NE	NE	
SWSD022	Sediment	VOC	Tetrachloroethylene	0.99	µg/kg	U	0.99	4.2		1,300	300000	
SWSD022	Sediment	VOC	Toluene[e]	0.88	µg/kg	U	0.88	4.2		700	1000000	
SWSD022	Sediment	VOC	trans-1,2-Dichloroethylene	0.68	µg/kg	U	0.68	4.2		190	1000000	
SWSD022	Sediment	VOC	trans-1,3-Dichloropropylene	0.86	µg/kg	U	0.86	4.2		NE	NE	
SWSD022	Sediment	VOC	Trichloroethylene	1.6	µg/kg	U	1.6	4.2		470	400000	
SWSD022	Sediment	VOC	Vinyl chloride	0.83	µg/kg	U	0.83	3.4		20	27000	
SWSD022	Sediment	VOC	Xylenes (total)	2.6	µg/kg	U	2.6	13		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SWSD022	Sediment	PAH	Acenaphthene	14	µg/kg	U	14	100		20,000	1,000,000	
SWSD022	Sediment	PAH	Acenaphthylene	16	µg/kg	U	16	100		100,000	1,000,000	
SWSD022	Sediment	PAH	Anthracene	33	µg/kg	J	0.83	100		100,000	1,000,000	
SWSD022	Sediment	PAH	Benzo(a)anthracene	390	µg/kg		3.7	100		1,000	11,000	
SWSD022	Sediment	PAH	Benzo(a)pyrene	710	µg/kg		4	100		1,000	1,100	
SWSD022	Sediment	PAH	Benzo(b)fluoranthene	630	µg/kg		2.8	100		1,000	11,000	
SWSD022	Sediment	PAH	Benzo(ghi)perylene	450	µg/kg		13	100		100,000	1,000,000	
SWSD022	Sediment	PAH	Benzo(k)fluoranthene	310	µg/kg		2.7	100		8,000	110,000	
SWSD022	Sediment	PAH	Chrysene	360	µg/kg		2.4	100		1,000	110,000	
SWSD022	Sediment	PAH	Dibenzo(a,h)anthracene	23	µg/kg	U	23	100		330	1,100	
SWSD022	Sediment	PAH	Fluoranthene	1300	µg/kg		3.5	100		100,000	1,000,000	
SWSD022	Sediment	PAH	Fluorene	5.4	µg/kg	U	5.4	100		30,000	1,000,000	
SWSD022	Sediment	PAH	Indeno(1,2,3-cd)pyrene	470	µg/kg		6	100		500	11,000	
SWSD022	Sediment	PAH	Naphthalene	11	µg/kg	U	11	100		12,000	1,000,000	
SWSD022	Sediment	PAH	Phenanthrene	220	µg/kg		2.4	100		100,000	1,000,000	
SWSD022	Sediment	PAH	Pyrene	470	µg/kg		18	100		100,000	1,000,000	
SWSD022	Sediment	PCB	Aroclor-1016	12	µg/kg	U	12	130		100	25,000	
SWSD022	Sediment	PCB	Aroclor-1221	12	µg/kg	U	12	130		100	25,000	
SWSD022	Sediment	PCB	Aroclor-1232	18	µg/kg	U	18	130		100	25,000	
SWSD022	Sediment	PCB	Aroclor-1242	15	µg/kg	U	15	130		100	25,000	
SWSD022	Sediment	PCB	Aroclor-1248	14	µg/kg	U	14	130		100	25,000	
SWSD022	Sediment	PCB	Aroclor-1254	17	µg/kg	U	17	130		100	25,000	
SWSD022	Sediment	PCB	Aroclor-1260	12	µg/kg	U	12	130		100	25,000	
SWSD022	Sediment	Pesticide	4,4'-DDD	2.2	µg/kg	U	2.2	6.9		3.3	180000	
SWSD022	Sediment	Pesticide	4,4'-DDE	0.81	µg/kg	U	0.81	3.4		3.3	120000	
SWSD022	Sediment	Pesticide	4,4'-DDT	0.82	µg/kg	U	0.82	3.4		3.3	94000	
SWSD022	Sediment	Pesticide	Aldrin	0.76	µg/kg	U	0.76	3.4		5	1400	
SWSD022	Sediment	Pesticide	alpha-BHC	0.64	µg/kg	U	0.64	3.4		20	6800	
SWSD022	Sediment	Pesticide	alpha-Chlordane	0.77	µg/kg	U	0.77	3.4		94	47000	
SWSD022	Sediment	Pesticide	beta-BHC	0.78	µg/kg	U	0.78	3.4		36	14000	
SWSD022	Sediment	Pesticide	delta-BHC	0.63	µg/kg	U	0.63	3.4		40	1000000	
SWSD022	Sediment	Pesticide	Dieldrin	0.74	µg/kg	U	0.74	3.4		5	2800	
SWSD022	Sediment	Pesticide	Endosulfan I	0.73	µg/kg	U	0.73	3.4		2,400[d]	920,000[d]	
SWSD022	Sediment	Pesticide	Endosulfan II	0.93	µg/kg	U	0.93	3.4		2,400[d]	920,000[d]	
SWSD022	Sediment	Pesticide	Endosulfan sulfate	0.93	µg/kg	U	0.93	3.4		2,400[d]	920,000[d]	
SWSD022	Sediment	Pesticide	Endrin	1	µg/kg	U	1	3.4		14	410000	
SWSD022	Sediment	Pesticide	Endrin aldehyde	0.88	µg/kg	U	0.88	3.4		NE	NE	
SWSD022	Sediment	Pesticide	Endrin ketone	0.85	µg/kg	U	0.85	3.4		NE	NE	
SWSD022	Sediment	Pesticide	gamma-BHC (Lindane)	0.72	µg/kg	U	0.72	3.4		100	23000	
SWSD022	Sediment	Pesticide	gamma-Chlordane	0.98	µg/kg	U	0.98	3.4		NE	NE	
SWSD022	Sediment	Pesticide	Heptachlor	0.81	µg/kg	U	0.81	3.4		42	29000	
SWSD022	Sediment	Pesticide	Heptachlor epoxide	0.78	µg/kg	U	0.78	3.4		NE	NE	
SWSD022	Sediment	Pesticide	Methoxychlor	1.1	µg/kg	U	1.1	3.4		NE	NE	
SWSD022	Sediment	Pesticide	Toxaphene	20	µg/kg	U	20	68		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/27/2009											
SWSD023	Sediment	Radiological	Radium-226	0.527	pCi/g	J	0.119	±	0.117	NE	NE	5[a]
SWSD023	Sediment	Radiological	Radium-228	0.537	pCi/g	U	0.566	±	0.293	NE	NE	5[a]
			Total Radium[a]	*1.063*	*pCi/g*							5[a]
SWSD023	Sediment	Radiological	Thorium-228	1.198	pCi/g	J	0.141	±	0.385	NE	NE	5
SWSD023	Sediment	Radiological	Thorium-230	1.187	pCi/g		0.114	±	0.379	NE	NE	5
SWSD023	Sediment	Radiological	Thorium-232	1.179	pCi/g		0.047	±	0.376	NE	NE	5
SWSD023	Sediment	Radiological	Uranium-234	1.089	pCi/g		0.100	±	0.297	NE	NE	90[b]
SWSD023	Sediment	Radiological	Uranium-235	0.071	pCi/g		0.048	±	0.071	NE	NE	90[b]
SWSD023	Sediment	Radiological	Uranium-238	0.794	pCi/g		0.111	±	0.244	NE	NE	90[b]
			Total Uranium[b]	*1.954*	*pCi/g*							90[b]
SWSD023	Sediment	Metal	Aluminum	15000	mg/kg		40	280		NE	NE	
SWSD023	Sediment	Metal	Antimony	0.84	mg/kg		0.024	0.1		NE	NE	
SWSD023	Sediment	Metal	Arsenic	5.1	mg/kg		0.034	0.11		13	16	
SWSD023	Sediment	Metal	Barium	120	mg/kg		0.05	0.22		350	10000	
SWSD023	Sediment	Metal	Beryllium	0.77	mg/kg		0.045	0.22		7	2700	
SWSD023	Sediment	Metal	Boron	NA	mg/kg					NE	NE	
SWSD023	Sediment	Metal	Cadmium	0.76	mg/kg		0.047	0.15		3	60	
SWSD023	Sediment	Metal	Calcium	60000	mg/kg		330	600		NE	NE	
SWSD023	Sediment	Metal	Chromium	24	mg/kg		0.048	1.5		NE	NE	
SWSD023	Sediment	Metal	Cobalt	9.4	mg/kg		0.044	0.15		NE	NE	
SWSD023	Sediment	Metal	Copper	64	mg/kg		0.053	0.15		50	10000	
SWSD023	Sediment	Metal	Iron	20000	mg/kg		77	150		NE	NE	
SWSD023	Sediment	Metal	Lead	71	mg/kg		0.051	0.15		63	3900	
SWSD023	Sediment	Metal	Lithium	NA	mg/kg					NE	NE	
SWSD023	Sediment	Metal	Magnesium	23000	mg/kg		200	450		NE	NE	
SWSD023	Sediment	Metal	Manganese	530	mg/kg		0.42	0.76		1,600	10000	
SWSD023	Sediment	Metal	Mercury	0.21	mg/kg		0.0027	0.054		0.18[c]	5.7[c]	
SWSD023	Sediment	Metal	Nickel	26	mg/kg		0.042	0.15		30	10000	
SWSD023	Sediment	Metal	Potassium	2600	mg/kg		34	76		NE	NE	
SWSD023	Sediment	Metal	Selenium	0.8	mg/kg		0.17	0.3		4	6800	
SWSD023	Sediment	Metal	Silver	0.28	mg/kg		0.014	0.037		2	6800	
SWSD023	Sediment	Metal	Sodium	370	mg/kg		40	76		NE	NE	
SWSD023	Sediment	Metal	Thallium	0.15	mg/kg	J	0.059	0.15		NE	NE	
SWSD023	Sediment	Metal	Vanadium	20	mg/kg		0.026	0.76		NE	NE	
SWSD023	Sediment	Metal	Zinc	430	mg/kg		1.4	3		109	10000	
SWSD023	Sediment	VOC	1,1,1-Trichloroethane	0.31	µg/kg	U	0.31	1.9		680	1000000	
SWSD023	Sediment	VOC	1,1,2,2-Tetrachloroethane	0.57	µg/kg	U	0.57	1.9		NE	NE	
SWSD023	Sediment	VOC	1,1,2-Trichloroethane	0.39	µg/kg	U	0.39	1.9		NE	NE	
SWSD023	Sediment	VOC	1,1-Dichloroethane	0.39	µg/kg	U	0.39	1.9		270	480000	
SWSD023	Sediment	VOC	1,1-Dichloroethylene	0.4	µg/kg	U	0.4	1.9		330	1000000	
SWSD023	Sediment	VOC	1,2-Dichloroethane	0.34	µg/kg	U	0.34	1.9		20	60000	
SWSD023	Sediment	VOC	1,2-Dichloropropane	0.5	µg/kg	U	0.5	1.9		NE	NE	
SWSD023	Sediment	VOC	2-Butanone[e]	16	µg/kg	U	1.3	9.3		120	1000000	
SWSD023	Sediment	VOC	2-Hexanone	0.63	µg/kg	U	0.63	9.3		NE	NE	
SWSD023	Sediment	VOC	4-Methyl-2-pentanone	0.49	µg/kg	U	0.49	9.3		NE	NE	
SWSD023	Sediment	VOC	Acetone[e]	3500	µg/kg	R	45	830		50	1000000	
SWSD023	Sediment	VOC	Benzene	0.3	µg/kg	U	0.3	1.1		60	89000	
SWSD023	Sediment	VOC	Bromodichloromethane	0.29	µg/kg	U	0.29	1.9		NE	NE	
SWSD023	Sediment	VOC	Bromoform	0.39	µg/kg	U	0.39	1.9		NE	NE	
SWSD023	Sediment	VOC	Bromomethane	3	µg/kg	U	3	7.4		NE	NE	
SWSD023	Sediment	VOC	Carbon disulfide	0.84	µg/kg	U	0.84	9.3		NE	NE	
SWSD023	Sediment	VOC	Carbon tetrachloride	0.36	µg/kg	U	0.36	1.9		760	44000	
SWSD023	Sediment	VOC	Chlorobenzene	0.32	µg/kg	U	0.32	1.9		1,100	1000000	
SWSD023	Sediment	VOC	Chloroethane	3.3	µg/kg	U	3.3	9.3		NE	NE	
SWSD023	Sediment	VOC	Chloroform	0.31	µg/kg	U	0.31	1.9		370	700000	
SWSD023	Sediment	VOC	Chloromethane	0.42	µg/kg	U	0.42	3.7		NE	NE	
SWSD023	Sediment	VOC	cis-1,2-Dichloroethylene	0.4	µg/kg	U	0.4	1.9		250	1000000	
SWSD023	Sediment	VOC	cis-1,3-Dichloropropylene	0.27	µg/kg	U	0.27	1.9		NE	NE	
SWSD023	Sediment	VOC	Ethylbenzene	0.39	µg/kg	U	0.39	1.9		1,000	780000	
SWSD023	Sediment	VOC	Methylene chloride[e]	13	µg/kg	J	0.81	3.7		50	1000000	
SWSD023	Sediment	VOC	Styrene	0.3	µg/kg	U	0.3	1.9		NE	NE	
SWSD023	Sediment	VOC	Tetrachloroethylene	0.44	µg/kg	U	0.44	1.9		1,300	300000	
SWSD023	Sediment	VOC	Toluene[e]	0.39	µg/kg	U	0.39	1.9		700	1000000	
SWSD023	Sediment	VOC	trans-1,2-Dichloroethylene	0.3	µg/kg	U	0.3	1.9		190	1000000	
SWSD023	Sediment	VOC	trans-1,3-Dichloropropylene	0.38	µg/kg	U	0.38	1.9		NE	NE	
SWSD023	Sediment	VOC	Trichloroethylene	0.71	µg/kg	U	0.71	1.9		470	400000	
SWSD023	Sediment	VOC	Vinyl chloride	0.36	µg/kg	U	0.36	1.5		20	27000	
SWSD023	Sediment	VOC	Xylenes (total)	1.1	µg/kg	U	1.1	5.6		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SWSD023	Sediment	PAH	Acenaphthene	340	µg/kg		6	43		20,000	1,000,000	
SWSD023	Sediment	PAH	Acenaphthylene	6.8	µg/kg	U	6.8	43		100,000	1,000,000	
SWSD023	Sediment	PAH	Anthracene	41	µg/kg	J	0.35	43		100,000	1,000,000	
SWSD023	Sediment	PAH	Benzo(a)anthracene	360	µg/kg		1.6	43		1,000	11,000	
SWSD023	Sediment	PAH	Benzo(a)pyrene	530	µg/kg		1.7	43		1,000	1,100	
SWSD023	Sediment	PAH	Benzo(b)fluoranthene	490	µg/kg		2.4	87		1,000	11,000	
SWSD023	Sediment	PAH	Benzo(ghi)perylene	460	µg/kg		5.4	43		100,000	1,000,000	
SWSD023	Sediment	PAH	Benzo(k)fluoranthene	260	µg/kg		1.2	43		8,000	110,000	
SWSD023	Sediment	PAH	Chrysene	390	µg/kg		1	43		1,000	110,000	
SWSD023	Sediment	PAH	Dibenzo(a,h)anthracene	130	µg/kg		9.8	43		330	1,100	
SWSD023	Sediment	PAH	Fluoranthene	1100	µg/kg		3	87		100,000	1,000,000	
SWSD023	Sediment	PAH	Fluorene	92	µg/kg		2.3	43		30,000	1,000,000	
SWSD023	Sediment	PAH	Indeno(1,2,3-cd)pyrene	530	µg/kg		2.6	43		500	11,000	
SWSD023	Sediment	PAH	Naphthalene	4.7	µg/kg	U	4.7	43		12,000	1,000,000	
SWSD023	Sediment	PAH	Phenanthrene	260	µg/kg		1	43		100,000	1,000,000	
SWSD023	Sediment	PAH	Pyrene	490	µg/kg		7.5	43		100,000	1,000,000	
SWSD023	Sediment	PCB	Aroclor-1016	5.2	µg/kg	U	5.2	57		100	25,000	
SWSD023	Sediment	PCB	Aroclor-1221	5.2	µg/kg	U	5.2	57		100	25,000	
SWSD023	Sediment	PCB	Aroclor-1232	7.8	µg/kg	U	7.8	57		100	25,000	
SWSD023	Sediment	PCB	Aroclor-1242	6.5	µg/kg	U	6.5	57		100	25,000	
SWSD023	Sediment	PCB	Aroclor-1248	6.1	µg/kg	U	6.1	57		100	25,000	
SWSD023	Sediment	PCB	Aroclor-1254	7.3	µg/kg	U	7.3	57		100	25,000	
SWSD023	Sediment	PCB	Aroclor-1260	5.1	µg/kg	U	5.1	57		100	25,000	
SWSD023	Sediment	Pesticide	4,4'-DDD	0.94	µg/kg	U	0.94	3		3.3	180000	
SWSD023	Sediment	Pesticide	4,4'-DDE	0.35	µg/kg	U	0.35	1.4		3.3	120000	
SWSD023	Sediment	Pesticide	4,4'-DDT	0.35	µg/kg	U	0.35	1.4		3.3	94000	
SWSD023	Sediment	Pesticide	Aldrin	0.33	µg/kg	U	0.33	1.4		5	1400	
SWSD023	Sediment	Pesticide	alpha-BHC	0.27	µg/kg	U	0.27	1.4		20	6800	
SWSD023	Sediment	Pesticide	alpha-Chlordane	0.33	µg/kg	U	0.33	1.4		94	47000	
SWSD023	Sediment	Pesticide	beta-BHC	0.34	µg/kg	U	0.34	1.4		36	14000	
SWSD023	Sediment	Pesticide	delta-BHC	0.27	µg/kg	U	0.27	1.4		40	1000000	
SWSD023	Sediment	Pesticide	Dieldrin	0.32	µg/kg	U	0.32	1.4		5	2800	
SWSD023	Sediment	Pesticide	Endosulfan I	0.31	µg/kg	U	0.31	1.4		2,400[d]	920,000[d]	
SWSD023	Sediment	Pesticide	Endosulfan II	0.4	µg/kg	U	0.4	1.4		2,400[d]	920,000[d]	
SWSD023	Sediment	Pesticide	Endosulfan sulfate	0.4	µg/kg	U	0.4	1.4		2,400[d]	920,000[d]	
SWSD023	Sediment	Pesticide	Endrin	0.44	µg/kg	U	0.44	1.4		14	410000	
SWSD023	Sediment	Pesticide	Endrin aldehyde	0.38	µg/kg	U	0.38	1.4		NE	NE	
SWSD023	Sediment	Pesticide	Endrin ketone	0.37	µg/kg	U	0.37	1.4		NE	NE	
SWSD023	Sediment	Pesticide	gamma-BHC (Lindane)	0.31	µg/kg	U	0.31	1.4		100	23000	
SWSD023	Sediment	Pesticide	gamma-Chlordane	0.42	µg/kg	U	0.42	1.4		NE	NE	
SWSD023	Sediment	Pesticide	Heptachlor	0.35	µg/kg	U	0.35	1.4		42	29000	
SWSD023	Sediment	Pesticide	Heptachlor epoxide	0.34	µg/kg	U	0.34	1.4		NE	NE	
SWSD023	Sediment	Pesticide	Methoxychlor	0.46	µg/kg	U	0.46	1.4		NE	NE	
SWSD023	Sediment	Pesticide	Toxaphene	8.7	µg/kg	U	8.7	29		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/27/2009											
SWSD024	Sediment	Radiological	Radium-226	0.501	pCi/g	J	0.130	±	0.112	NE	NE	5[a]
SWSD024	Sediment	Radiological	Radium-228	0.921	pCi/g		0.607	±	0.330	NE	NE	5[a]
			Total Radium[a]	*1.423*	*pCi/g*							5[a]
SWSD024	Sediment	Radiological	Thorium-228	1.090	pCi/g		0.113	±	0.327	NE	NE	5
SWSD024	Sediment	Radiological	Thorium-230	1.209	pCi/g		0.114	±	0.350	NE	NE	5
SWSD024	Sediment	Radiological	Thorium-232	1.239	pCi/g		0.103	±	0.356	NE	NE	5
SWSD024	Sediment	Radiological	Uranium-234	2.332	pCi/g		0.073	±	0.487	NE	NE	90[b]
SWSD024	Sediment	Radiological	Uranium-235	0.099	pCi/g		0.045	±	0.082	NE	NE	90[b]
SWSD024	Sediment	Radiological	Uranium-238	1.805	pCi/g		0.036	±	0.404	NE	NE	90[b]
			Total Uranium[b]	*4.236*	*pCi/g*							90[b]
SWSD024	Sediment	Metal	Aluminum	22000	mg/kg		51	240		NE	NE	
SWSD024	Sediment	Metal	Antimony	0.9	mg/kg		0.035	0.11		NE	NE	
SWSD024	Sediment	Metal	Arsenic	5.8	mg/kg		0.043	0.098		13	16	
SWSD024	Sediment	Metal	Barium	130	mg/kg		0.064	0.2		350	10000	
SWSD024	Sediment	Metal	Beryllium	0.98	mg/kg		0.058	0.2		7	2700	
SWSD024	Sediment	Metal	Boron	NA	mg/kg					NE	NE	
SWSD024	Sediment	Metal	Cadmium	0.47	mg/kg		0.061	0.2		3	60	
SWSD024	Sediment	Metal	Calcium	32000	mg/kg		420	780		NE	NE	
SWSD024	Sediment	Metal	Chromium	28	mg/kg		0.062	2		NE	NE	
SWSD024	Sediment	Metal	Cobalt	14	mg/kg		0.057	0.2		NE	NE	
SWSD024	Sediment	Metal	Copper	52	mg/kg		0.068	0.2		50	10000	
SWSD024	Sediment	Metal	Iron	28000	mg/kg		99	200		NE	NE	
SWSD024	Sediment	Metal	Lead	27	mg/kg		0.065	0.2		63	3900	
SWSD024	Sediment	Metal	Lithium	NA	mg/kg					NE	NE	
SWSD024	Sediment	Metal	Magnesium	14000	mg/kg		260	590		NE	NE	
SWSD024	Sediment	Metal	Manganese	540	mg/kg		0.54	0.98		1,600	10000	
SWSD024	Sediment	Metal	Mercury	0.23	mg/kg		0.0037	0.074		0.18[c]	5.7[c]	
SWSD024	Sediment	Metal	Nickel	32	mg/kg		0.055	0.2		30	10000	
SWSD024	Sediment	Metal	Potassium	3600	mg/kg		44	98		NE	NE	
SWSD024	Sediment	Metal	Selenium	0.8	mg/kg		0.22	0.39		4	6800	
SWSD024	Sediment	Metal	Silver	0.18	mg/kg		0.02	0.053		2	6800	
SWSD024	Sediment	Metal	Sodium	280	mg/kg		52	98		NE	NE	
SWSD024	Sediment	Metal	Thallium	0.23	mg/kg		0.076	0.2		NE	NE	
SWSD024	Sediment	Metal	Vanadium	26	mg/kg		0.033	0.98		NE	NE	
SWSD024	Sediment	Metal	Zinc	330	mg/kg		1.9	3.9		109	10000	
SWSD024	Sediment	VOC	1,1,1-Trichloroethane	0.4	µg/kg	U	0.4	2.4		680	1000000	
SWSD024	Sediment	VOC	1,1,2,2-Tetrachloroethane	0.75	µg/kg	U	0.75	2.4		NE	NE	
SWSD024	Sediment	VOC	1,1,2-Trichloroethane	0.52	µg/kg	U	0.52	2.4		NE	NE	
SWSD024	Sediment	VOC	1,1-Dichloroethane	0.51	µg/kg	U	0.51	2.4		270	480000	
SWSD024	Sediment	VOC	1,1-Dichloroethylene	0.52	µg/kg	U	0.52	2.4		330	1000000	
SWSD024	Sediment	VOC	1,2-Dichloroethane	0.45	µg/kg	U	0.45	2.4		20	60000	
SWSD024	Sediment	VOC	1,2-Dichloropropane	0.66	µg/kg	U	0.66	2.4		NE	NE	
SWSD024	Sediment	VOC	2-Butanone[e]	1.7	µg/kg	U	1.7	12		120	1000000	
SWSD024	Sediment	VOC	2-Hexanone	0.83	µg/kg	U	0.83	12		NE	NE	
SWSD024	Sediment	VOC	4-Methyl-2-pentanone	0.64	µg/kg	U	0.64	12		NE	NE	
SWSD024	Sediment	VOC	Acetone[e]	310	µg/kg	R	65	1200		50	1000000	
SWSD024	Sediment	VOC	Benzene	0.4	µg/kg	U	0.4	1.5		60	89000	
SWSD024	Sediment	VOC	Bromodichloromethane	0.39	µg/kg	U	0.39	2.4		NE	NE	
SWSD024	Sediment	VOC	Bromoform	0.51	µg/kg	U	0.51	2.4		NE	NE	
SWSD024	Sediment	VOC	Bromomethane	3.9	µg/kg	U	3.9	9.8		NE	NE	
SWSD024	Sediment	VOC	Carbon disulfide	1.1	µg/kg	U	1.1	12		NE	NE	
SWSD024	Sediment	VOC	Carbon tetrachloride	0.47	µg/kg	U	0.47	2.4		760	44000	
SWSD024	Sediment	VOC	Chlorobenzene	0.42	µg/kg	U	0.42	2.4		1,100	1000000	
SWSD024	Sediment	VOC	Chloroethane	4.4	µg/kg	U	4.4	12		NE	NE	
SWSD024	Sediment	VOC	Chloroform	0.4	µg/kg	U	0.4	2.4		370	700000	
SWSD024	Sediment	VOC	Chloromethane	0.55	µg/kg	U	0.55	4.9		NE	NE	
SWSD024	Sediment	VOC	cis-1,2-Dichloroethylene	0.52	µg/kg	U	0.52	2.4		250	1000000	
SWSD024	Sediment	VOC	cis-1,3-Dichloropropylene	0.35	µg/kg	U	0.35	2.4		NE	NE	
SWSD024	Sediment	VOC	Ethylbenzene	0.51	µg/kg	U	0.51	2.4		1,000	780000	
SWSD024	Sediment	VOC	Methylene chloride[e]	15	µg/kg	J	1.1	4.9		50	1000000	
SWSD024	Sediment	VOC	Styrene	0.39	µg/kg	U	0.39	2.4		NE	NE	
SWSD024	Sediment	VOC	Tetrachloroethylene	0.57	µg/kg	U	0.57	2.4		1,300	300000	
SWSD024	Sediment	VOC	Toluene[e]	0.51	µg/kg	U	0.51	2.4		700	1000000	
SWSD024	Sediment	VOC	trans-1,2-Dichloroethylene	0.39	µg/kg	U	0.39	2.4		190	1000000	
SWSD024	Sediment	VOC	trans-1,3-Dichloropropylene	0.5	µg/kg	U	0.5	2.4		NE	NE	
SWSD024	Sediment	VOC	Trichloroethylene	0.94	µg/kg	U	0.94	2.4		470	400000	
SWSD024	Sediment	VOC	Vinyl chloride	0.48	µg/kg	U	0.48	2		20	27000	
SWSD024	Sediment	VOC	Xylenes (total)	1.5	µg/kg	U	1.5	7.3		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
SWSD024	Sediment	PAH	Acenaphthene	8.4	µg/kg	U	8.4	60		20,000	1,000,000	
SWSD024	Sediment	PAH	Acenaphthylene	9.4	µg/kg	U	9.4	60		100,000	1,000,000	
SWSD024	Sediment	PAH	Anthracene	14	µg/kg	J	0.49	60		100,000	1,000,000	
SWSD024	Sediment	PAH	Benzo(a)anthracene	78	µg/kg		2.2	60		1,000	11,000	
SWSD024	Sediment	PAH	Benzo(a)pyrene	120	µg/kg		2.4	60		1,000	1,100	
SWSD024	Sediment	PAH	Benzo(b)fluoranthene	130	µg/kg		1.6	60		1,000	11,000	
SWSD024	Sediment	PAH	Benzo(ghi)perylene	100	µg/kg		7.5	60		100,000	1,000,000	
SWSD024	Sediment	PAH	Benzo(k)fluoranthene	42	µg/kg	J	1.6	60		8,000	110,000	
SWSD024	Sediment	PAH	Chrysene	97	µg/kg		1.4	60		1,000	110,000	
SWSD024	Sediment	PAH	Dibenzo(a,h)anthracene	14	µg/kg	U	14	60		330	1,100	
SWSD024	Sediment	PAH	Fluoranthene	480	µg/kg		2.1	60		100,000	1,000,000	
SWSD024	Sediment	PAH	Fluorene	3.3	µg/kg	U	3.3	60		30,000	1,000,000	
SWSD024	Sediment	PAH	Indeno(1,2,3-cd)pyrene	61	µg/kg		3.6	60		500	11,000	
SWSD024	Sediment	PAH	Naphthalene	6.6	µg/kg	U	6.6	60		12,000	1,000,000	
SWSD024	Sediment	PAH	Phenanthrene	86	µg/kg		1.4	60		100,000	1,000,000	
SWSD024	Sediment	PAH	Pyrene	96	µg/kg		10	60		100,000	1,000,000	
SWSD024	Sediment	PCB	Aroclor-1016	7.3	µg/kg	U	7.3	80		100	25,000	
SWSD024	Sediment	PCB	Aroclor-1221	7.2	µg/kg	U	7.2	80		100	25,000	
SWSD024	Sediment	PCB	Aroclor-1232	11	µg/kg	U	11	80		100	25,000	
SWSD024	Sediment	PCB	Aroclor-1242	9	µg/kg	U	9	80		100	25,000	
SWSD024	Sediment	PCB	Aroclor-1248	8.5	µg/kg	U	8.5	80		100	25,000	
SWSD024	Sediment	PCB	Aroclor-1254	10	µg/kg	U	10	80		100	25,000	
SWSD024	Sediment	PCB	Aroclor-1260	7.1	µg/kg	U	7.1	80		100	25,000	
SWSD024	Sediment	Pesticide	4,4'-DDD	1.3	µg/kg	U	1.3	4.1		3.3	180000	
SWSD024	Sediment	Pesticide	4,4'-DDE	0.48	µg/kg	U	0.48	2		3.3	120000	
SWSD024	Sediment	Pesticide	4,4'-DDT	0.49	µg/kg	U	0.49	2		3.3	94000	
SWSD024	Sediment	Pesticide	Aldrin	0.45	µg/kg	U	0.45	2		5	1400	
SWSD024	Sediment	Pesticide	alpha-BHC	0.38	µg/kg	U	0.38	2		20	6800	
SWSD024	Sediment	Pesticide	alpha-Chlordane	0.46	µg/kg	U	0.46	2		94	47000	
SWSD024	Sediment	Pesticide	beta-BHC	0.47	µg/kg	U	0.47	2		36	14000	
SWSD024	Sediment	Pesticide	delta-BHC	0.37	µg/kg	U	0.37	2		40	1000000	
SWSD024	Sediment	Pesticide	Dieldrin	0.44	µg/kg	U	0.44	2		5	2800	
SWSD024	Sediment	Pesticide	Endosulfan I	0.44	µg/kg	U	0.44	2		2,400[d]	920,000[d]	
SWSD024	Sediment	Pesticide	Endosulfan II	0.56	µg/kg	U	0.56	2		2,400[d]	920,000[d]	
SWSD024	Sediment	Pesticide	Endosulfan sulfate	0.56	µg/kg	U	0.56	2		2,400[d]	920,000[d]	
SWSD024	Sediment	Pesticide	Endrin	0.61	µg/kg	U	0.61	2		14	410000	
SWSD024	Sediment	Pesticide	Endrin aldehyde	0.52	µg/kg	U	0.52	2		NE	NE	
SWSD024	Sediment	Pesticide	Endrin ketone	0.51	µg/kg	U	0.51	2		NE	NE	
SWSD024	Sediment	Pesticide	gamma-BHC (Lindane)	0.43	µg/kg	U	0.43	2		100	23000	
SWSD024	Sediment	Pesticide	gamma-Chlordane	0.59	µg/kg	U	0.59	2		NE	NE	
SWSD024	Sediment	Pesticide	Heptachlor	0.48	µg/kg	U	0.48	2		42	29000	
SWSD024	Sediment	Pesticide	Heptachlor epoxide	0.47	µg/kg	U	0.47	2		NE	NE	
SWSD024	Sediment	Pesticide	Methoxychlor	0.64	µg/kg	U	0.64	2		NE	NE	
SWSD024	Sediment	Pesticide	Toxaphene	12	µg/kg	U	12	40		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/26/2009											
WDD1	Sediment	Radiological	Radium-226	0.806	pCi/g		0.137	±	0.152	NE	NE	5[a]
WDD1	Sediment	Radiological	Radium-228	0.930	pCi/g		0.550	±	0.303	NE	NE	5[a]
			Total Radium[a]	*1.736*	*pCi/g*							5[a]
WDD1	Sediment	Radiological	Thorium-228	1.301	pCi/g		0.101	±	0.376	NE	NE	5
WDD1	Sediment	Radiological	Thorium-230	1.293	pCi/g		0.095	±	0.372	NE	NE	5
WDD1	Sediment	Radiological	Thorium-232	1.353	pCi/g		0.078	±	0.384	NE	NE	5
WDD1	Sediment	Radiological	Uranium-234	1.413	pCi/g		0.102	±	0.354	NE	NE	90[b]
WDD1	Sediment	Radiological	Uranium-235	0.110	pCi/g	U	0.126	±	0.097	NE	NE	90[b]
WDD1	Sediment	Radiological	Uranium-238	1.453	pCi/g		0.095	±	0.360	NE	NE	90[b]
			Total Uranium[b]	*2.976*	*pCi/g*							90[b]
WDD1	Sediment	Metal	Aluminum	26000	mg/kg		71	340		NE	NE	
WDD1	Sediment	Metal	Antimony	0.52	mg/kg		0.049	0.15		NE	NE	
WDD1	Sediment	Metal	Arsenic	3.4	mg/kg		0.06	0.14		13	16	
WDD1	Sediment	Metal	Barium	160	mg/kg		0.089	0.27		350	10000	
WDD1	Sediment	Metal	Beryllium	1.2	mg/kg		0.081	0.27		7	2700	
WDD1	Sediment	Metal	Boron	NA	mg/kg					NE	NE	
WDD1	Sediment	Metal	Cadmium	0.31	mg/kg		0.085	0.27		3	60	
WDD1	Sediment	Metal	Calcium	28000	mg/kg		590	1100		NE	NE	
WDD1	Sediment	Metal	Chromium	42	mg/kg		0.086	2.7		NE	NE	
WDD1	Sediment	Metal	Cobalt	14	mg/kg		0.079	0.27		NE	NE	
WDD1	Sediment	Metal	Copper	44	mg/kg		0.095	0.27		50	10000	
WDD1	Sediment	Metal	Iron	30000	mg/kg		140	270		NE	NE	
WDD1	Sediment	Metal	Lead	18	mg/kg		0.091	0.27		63	3900	
WDD1	Sediment	Metal	Lithium	NA	mg/kg					NE	NE	
WDD1	Sediment	Metal	Magnesium	12000	mg/kg		360	820		NE	NE	
WDD1	Sediment	Metal	Manganese	880	mg/kg		0.75	1.4		1,600	10000	
WDD1	Sediment	Metal	Mercury	0.062	mg/kg	J	0.0055	0.11		0.18[c]	5.7[c]	
WDD1	Sediment	Metal	Nickel	34	mg/kg		0.076	0.27		30	10000	
WDD1	Sediment	Metal	Potassium	5800	mg/kg		61	140		NE	NE	
WDD1	Sediment	Metal	Selenium	1.2	mg/kg		0.3	0.54		4	6800	
WDD1	Sediment	Metal	Silver	0.2	mg/kg		0.029	0.074		2	6800	
WDD1	Sediment	Metal	Sodium	630	mg/kg		73	140		NE	NE	
WDD1	Sediment	Metal	Thallium	0.21	mg/kg	J	0.11	0.27		NE	NE	
WDD1	Sediment	Metal	Vanadium	29	mg/kg		0.046	1.4		NE	NE	
WDD1	Sediment	Metal	Zinc	210	mg/kg		2.6	5.4		109	10000	
WDD1	Sediment	VOC	1,1,1-Trichloroethane	0.54	µg/kg	U	0.54	3.3		680	1000000	
WDD1	Sediment	VOC	1,1,2,2-Tetrachloroethane	1	µg/kg	U	1	3.3		NE	NE	
WDD1	Sediment	VOC	1,1,2-Trichloroethane	0.69	µg/kg	U	0.69	3.3		NE	NE	
WDD1	Sediment	VOC	1,1-Dichloroethane	0.68	µg/kg	U	0.68	3.3		270	480000	
WDD1	Sediment	VOC	1,1-Dichloroethylene	0.7	µg/kg	U	0.7	3.3		330	1000000	
WDD1	Sediment	VOC	1,2-Dichloroethane	0.6	µg/kg	U	0.6	3.3		20	60000	
WDD1	Sediment	VOC	1,2-Dichloropropane	0.89	µg/kg	U	0.89	3.3		NE	NE	
WDD1	Sediment	VOC	2-Butanone[e]	2.2	µg/kg	U	2.2	16		120	1000000	
WDD1	Sediment	VOC	2-Hexanone	1.1	µg/kg	U	1.1	16		NE	NE	
WDD1	Sediment	VOC	4-Methyl-2-pentanone	0.86	µg/kg	U	0.86	16		NE	NE	
WDD1	Sediment	VOC	Acetone[e]	61	µg/kg	R	1.8	33		50	1000000	
WDD1	Sediment	VOC	Benzene	0.53	µg/kg	U	0.53	2		60	89000	
WDD1	Sediment	VOC	Bromodichloromethane	0.52	µg/kg	U	0.52	3.3		NE	NE	
WDD1	Sediment	VOC	Bromoform	0.69	µg/kg	U	0.69	3.3		NE	NE	
WDD1	Sediment	VOC	Bromomethane	5.3	µg/kg	U	5.3	13		NE	NE	
WDD1	Sediment	VOC	Carbon disulfide	1.5	µg/kg	U	1.5	16		NE	NE	
WDD1	Sediment	VOC	Carbon tetrachloride	0.63	µg/kg	U	0.63	3.3		760	44000	
WDD1	Sediment	VOC	Chlorobenzene	0.56	µg/kg	U	0.56	3.3		1,100	1000000	
WDD1	Sediment	VOC	Chloroethane	5.9	µg/kg	U	5.9	16		NE	NE	
WDD1	Sediment	VOC	Chloroform	0.54	µg/kg	U	0.54	3.3		370	700000	
WDD1	Sediment	VOC	Chloromethane	0.73	µg/kg	U	0.73	6.5		NE	NE	
WDD1	Sediment	VOC	cis-1,2-Dichloroethylene	0.7	µg/kg	U	0.7	3.3		250	1000000	
WDD1	Sediment	VOC	cis-1,3-Dichloropropylene	0.47	µg/kg	U	0.47	3.3		NE	NE	
WDD1	Sediment	VOC	Ethylbenzene	0.68	µg/kg	U	0.68	3.3		1,000	780000	
WDD1	Sediment	VOC	Methylene chloride[e]	17	µg/kg	J	1.4	6.5		50	1000000	
WDD1	Sediment	VOC	Styrene	0.52	µg/kg	U	0.52	3.3		NE	NE	
WDD1	Sediment	VOC	Tetrachloroethylene	0.77	µg/kg	U	0.77	3.3		1,300	300000	
WDD1	Sediment	VOC	Toluene[e]	0.68	µg/kg	U	0.68	3.3		700	1000000	
WDD1	Sediment	VOC	trans-1,2-Dichloroethylene	0.53	µg/kg	U	0.53	3.3		190	1000000	
WDD1	Sediment	VOC	trans-1,3-Dichloropropylene	0.66	µg/kg	U	0.66	3.3		NE	NE	
WDD1	Sediment	VOC	Trichloroethylene	1.3	µg/kg	U	1.3	3.3		470	400000	
WDD1	Sediment	VOC	Vinyl chloride	0.64	µg/kg	U	0.64	2.6		20	27000	
WDD1	Sediment	VOC	Xylenes (total)	2	µg/kg	U	2	9.8		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
WDD1	Sediment	PAH	Acenaphthene	11	µg/kg	U	11	81		20,000	1,000,000	
WDD1	Sediment	PAH	Acenaphthylene	13	µg/kg	U	13	81		100,000	1,000,000	
WDD1	Sediment	PAH	Anthracene	2.8	µg/kg	J	0.66	81		100,000	1,000,000	
WDD1	Sediment	PAH	Benzo(a)anthracene	82	µg/kg		2.9	81		1,000	11,000	
WDD1	Sediment	PAH	Benzo(a)pyrene	110	µg/kg		3.2	81		1,000	1,100	
WDD1	Sediment	PAH	Benzo(b)fluoranthene	120	µg/kg		2.2	81		1,000	11,000	
WDD1	Sediment	PAH	Benzo(ghi)perylene	140	µg/kg		10	81		100,000	1,000,000	
WDD1	Sediment	PAH	Benzo(k)fluoranthene	34	µg/kg	J	2.2	81		8,000	110,000	
WDD1	Sediment	PAH	Chrysene	79	µg/kg	J	1.9	81		1,000	110,000	
WDD1	Sediment	PAH	Dibenzo(a,h)anthracene	18	µg/kg	U	18	81		330	1,100	
WDD1	Sediment	PAH	Fluoranthene	370	µg/kg		2.8	81		100,000	1,000,000	
WDD1	Sediment	PAH	Fluorene	4.4	µg/kg	U	4.4	81		30,000	1,000,000	
WDD1	Sediment	PAH	Indeno(1,2,3-cd)pyrene	64	µg/kg	J	4.8	81		500	11,000	
WDD1	Sediment	PAH	Naphthalene	8.8	µg/kg	U	8.8	81		12,000	1,000,000	
WDD1	Sediment	PAH	Phenanthrene	100	µg/kg		1.9	81		100,000	1,000,000	
WDD1	Sediment	PAH	Pyrene	350	µg/kg		14	81		100,000	1,000,000	
WDD1	Sediment	PCB	Aroclor-1016	9.7	µg/kg	U	9.7	110		100	25,000	
WDD1	Sediment	PCB	Aroclor-1221	9.7	µg/kg	U	9.7	110		100	25,000	
WDD1	Sediment	PCB	Aroclor-1232	15	µg/kg	U	15	110		100	25,000	
WDD1	Sediment	PCB	Aroclor-1242	12	µg/kg	U	12	110		100	25,000	
WDD1	Sediment	PCB	Aroclor-1248	11	µg/kg	U	11	110		100	25,000	
WDD1	Sediment	PCB	Aroclor-1254	14	µg/kg	U	14	110		100	25,000	
WDD1	Sediment	PCB	Aroclor-1260	9.5	µg/kg	U	9.5	110		100	25,000	
WDD1	Sediment	Pesticide	4,4'-DDD	1.8	µg/kg	U	1.8	5.5		3.3	180000	
WDD1	Sediment	Pesticide	4,4'-DDE	0.65	µg/kg	U	0.65	2.7		3.3	120000	
WDD1	Sediment	Pesticide	4,4'-DDT	0.65	µg/kg	U	0.65	2.7		3.3	94000	
WDD1	Sediment	Pesticide	Aldrin	0.61	µg/kg	U	0.61	2.7		5	1400	
WDD1	Sediment	Pesticide	alpha-BHC	0.51	µg/kg	U	0.51	2.7		20	6800	
WDD1	Sediment	Pesticide	alpha-Chlordane	0.62	µg/kg	U	0.62	2.7		94	47000	
WDD1	Sediment	Pesticide	beta-BHC	0.62	µg/kg	U	0.62	2.7		36	14000	
WDD1	Sediment	Pesticide	delta-BHC	0.5	µg/kg	U	0.5	2.7		40	1000000	
WDD1	Sediment	Pesticide	Dieldrin	0.59	µg/kg	U	0.59	2.7		5	2800	
WDD1	Sediment	Pesticide	Endosulfan I	0.59	µg/kg	U	0.59	2.7		2,400[d]	920,000[d]	
WDD1	Sediment	Pesticide	Endosulfan II	0.75	µg/kg	U	0.75	2.7		2,400[d]	920,000[d]	
WDD1	Sediment	Pesticide	Endosulfan sulfate	0.75	µg/kg	U	0.75	2.7		2,400[d]	920,000[d]	
WDD1	Sediment	Pesticide	Endrin	0.82	µg/kg	U	0.82	2.7		14	410000	
WDD1	Sediment	Pesticide	Endrin aldehyde	0.7	µg/kg	U	0.7	2.7		NE	NE	
WDD1	Sediment	Pesticide	Endrin ketone	0.68	µg/kg	U	0.68	2.7		NE	NE	
WDD1	Sediment	Pesticide	gamma-BHC (Lindane)	0.58	µg/kg	U	0.58	2.7		100	23000	
WDD1	Sediment	Pesticide	gamma-Chlordane	0.79	µg/kg	U	0.79	2.7		NE	NE	
WDD1	Sediment	Pesticide	Heptachlor	0.65	µg/kg	U	0.65	2.7		42	29000	
WDD1	Sediment	Pesticide	Heptachlor epoxide	0.63	µg/kg	U	0.63	2.7		NE	NE	
WDD1	Sediment	Pesticide	Methoxychlor	0.85	µg/kg	U	0.85	2.7		NE	NE	
WDD1	Sediment	Pesticide	Toxaphene	16	µg/kg	U	16	54		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/26/2009											
WDD2	Sediment	Radiological	Radium-226	0.422	pCi/g	J	0.121	±	0.104	NE	NE	5[a]
WDD2	Sediment	Radiological	Radium-228	0.702	pCi/g		0.500	±	0.271	NE	NE	5[a]
			Total Radium[a]	*1.125*	*pCi/g*							5[a]
WDD2	Sediment	Radiological	Thorium-228	0.878	pCi/g	J	0.086	±	0.284	NE	NE	5
WDD2	Sediment	Radiological	Thorium-230	0.827	pCi/g	J	0.100	±	0.272	NE	NE	5
WDD2	Sediment	Radiological	Thorium-232	0.980	pCi/g		0.038	±	0.304	NE	NE	5
WDD2	Sediment	Radiological	Uranium-234	0.980	pCi/g		0.141	±	0.287	NE	NE	90[b]
WDD2	Sediment	Radiological	Uranium-235	0.071	pCi/g	U	0.086	±	0.075	NE	NE	90[b]
WDD2	Sediment	Radiological	Uranium-238	0.916	pCi/g		0.111	±	0.273	NE	NE	90[b]
			Total Uranium[b]	*1.896*	*pCi/g*							90[b]
WDD2	Sediment	Metal	Aluminum	24000	mg/kg		72	340		NE	NE	
WDD2	Sediment	Metal	Antimony	0.35	mg/kg		0.042	0.13		NE	NE	
WDD2	Sediment	Metal	Arsenic	5.1	mg/kg		0.061	0.14		13	16	
WDD2	Sediment	Metal	Barium	180	mg/kg		0.09	0.28		350	10000	
WDD2	Sediment	Metal	Beryllium	1.4	mg/kg		0.082	0.28		7	2700	
WDD2	Sediment	Metal	Boron	27	mg/kg		7.9	14		NE	NE	
WDD2	Sediment	Metal	Cadmium	0.26	mg/kg		0.086	0.28		3	60	
WDD2	Sediment	Metal	Calcium	38000	mg/kg		600	1100		NE	NE	
WDD2	Sediment	Metal	Chromium	37	mg/kg		0.087	2.8		NE	NE	
WDD2	Sediment	Metal	Cobalt	16	mg/kg		0.079	0.28		NE	NE	
WDD2	Sediment	Metal	Copper	56	mg/kg		0.096	0.28		50	10000	
WDD2	Sediment	Metal	Iron	33000	mg/kg		140	280		NE	NE	
WDD2	Sediment	Metal	Lead	19	mg/kg		0.092	0.28		63	3900	
WDD2	Sediment	Metal	Lithium	45	mg/kg		2.8	2.8		NE	NE	
WDD2	Sediment	Metal	Magnesium	12000	mg/kg		370	830		NE	NE	
WDD2	Sediment	Metal	Manganese	2200	mg/kg		0.76	1.4		1,600	10000	
WDD2	Sediment	Metal	Mercury	0.057	mg/kg		0.0045	0.091		0.18[c]	5.7[c]	
WDD2	Sediment	Metal	Nickel	37	mg/kg		0.077	0.28		30	10000	
WDD2	Sediment	Metal	Potassium	5400	mg/kg		62	140		NE	NE	
WDD2	Sediment	Metal	Selenium	1.3	mg/kg		0.31	0.55		4	6800	
WDD2	Sediment	Metal	Silver	0.32	mg/kg		0.025	0.064		2	6800	
WDD2	Sediment	Metal	Sodium	630	mg/kg		74	140		NE	NE	
WDD2	Sediment	Metal	Thallium	0.19	mg/kg	J	0.11	0.28		NE	NE	
WDD2	Sediment	Metal	Vanadium	29	mg/kg		0.047	1.4		NE	NE	
WDD2	Sediment	Metal	Zinc	230	mg/kg		2.6	5.5		109	10000	
WDD2	Sediment	VOC	1,1,1-Trichloroethane	0.49	µg/kg	U	0.49	3		680	1000000	
WDD2	Sediment	VOC	1,1,2,2-Tetrachloroethane	0.92	µg/kg	U	0.92	3		NE	NE	
WDD2	Sediment	VOC	1,1,2-Trichloroethane	0.63	µg/kg	U	0.63	3		NE	NE	
WDD2	Sediment	VOC	1,1-Dichloroethane	0.62	µg/kg	U	0.62	3		270	480000	
WDD2	Sediment	VOC	1,1-Dichloroethylene	0.64	µg/kg	U	0.64	3		330	1000000	
WDD2	Sediment	VOC	1,2-Dichloroethane	0.55	µg/kg	U	0.55	3		20	60000	
WDD2	Sediment	VOC	1,2-Dichloropropane	0.81	µg/kg	U	0.81	3		NE	NE	
WDD2	Sediment	VOC	2-Butanone[e]	2	µg/kg	U	2	15		120	1000000	
WDD2	Sediment	VOC	2-Hexanone	1	µg/kg	U	1	15		NE	NE	
WDD2	Sediment	VOC	4-Methyl-2-pentanone	0.79	µg/kg	U	0.79	15		NE	NE	
WDD2	Sediment	VOC	Acetone[e]	31	µg/kg	R	1.6	30		50	1000000	
WDD2	Sediment	VOC	Benzene	0.49	µg/kg	U	0.49	1.8		60	89000	
WDD2	Sediment	VOC	Bromodichloromethane	0.47	µg/kg	U	0.47	3		NE	NE	
WDD2	Sediment	VOC	Bromoform	0.63	µg/kg	U	0.63	3		NE	NE	
WDD2	Sediment	VOC	Bromomethane	4.8	µg/kg	U	4.8	12		NE	NE	
WDD2	Sediment	VOC	Carbon disulfide	1.4	µg/kg	U	1.4	15		NE	NE	
WDD2	Sediment	VOC	Carbon tetrachloride	0.58	µg/kg	U	0.58	3		760	44000	
WDD2	Sediment	VOC	Chlorobenzene	0.52	µg/kg	U	0.52	3		1,100	1000000	
WDD2	Sediment	VOC	Chloroethane	5.4	µg/kg	U	5.4	15		NE	NE	
WDD2	Sediment	VOC	Chloroform	0.49	µg/kg	U	0.49	3		370	700000	
WDD2	Sediment	VOC	Chloromethane	0.67	µg/kg	U	0.67	6		NE	NE	
WDD2	Sediment	VOC	cis-1,2-Dichloroethylene	0.64	µg/kg	U	0.64	3		250	1000000	
WDD2	Sediment	VOC	cis-1,3-Dichloropropylene	0.43	µg/kg	U	0.43	3		NE	NE	
WDD2	Sediment	VOC	Ethylbenzene	0.62	µg/kg	U	0.62	3		1,000	780000	
WDD2	Sediment	VOC	Methylene chloride[e]	11	µg/kg	J	1.3	6		50	1000000	
WDD2	Sediment	VOC	Styrene	0.48	µg/kg	U	0.48	3		NE	NE	
WDD2	Sediment	VOC	Tetrachloroethylene	0.7	µg/kg	U	0.7	3		1,300	300000	
WDD2	Sediment	VOC	Toluene[e]	0.62	µg/kg	U	0.62	3		700	1000000	
WDD2	Sediment	VOC	trans-1,2-Dichloroethylene	0.48	µg/kg	U	0.48	3		190	1000000	
WDD2	Sediment	VOC	trans-1,3-Dichloropropylene	0.61	µg/kg	U	0.61	3		NE	NE	
WDD2	Sediment	VOC	Trichloroethylene	1.2	µg/kg	U	1.2	3		470	400000	
WDD2	Sediment	VOC	Vinyl chloride	0.59	µg/kg	U	0.59	2.4		20	27000	
WDD2	Sediment	VOC	Xylenes (total)	1.8	µg/kg	U	1.8	9		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
WDD2	Sediment	PAH	Acenaphthene	10	µg/kg	U	10	72		20,000	1,000,000	
WDD2	Sediment	PAH	Acenaphthylene	11	µg/kg	U	11	72		100,000	1,000,000	
WDD2	Sediment	PAH	Anthracene	0.59	µg/kg	U	0.59	72		100,000	1,000,000	
WDD2	Sediment	PAH	Benzo(a)anthracene	120	µg/kg		2.6	72		1,000	11,000	
WDD2	Sediment	PAH	Benzo(a)pyrene	120	µg/kg		2.8	72		1,000	1,100	
WDD2	Sediment	PAH	Benzo(b)fluoranthene	140	µg/kg		2	72		1,000	11,000	
WDD2	Sediment	PAH	Benzo(ghi)perylene	240	µg/kg		9	72		100,000	1,000,000	
WDD2	Sediment	PAH	Benzo(k)fluoranthene	40	µg/kg	J	1.9	72		8,000	110,000	
WDD2	Sediment	PAH	Chrysene	140	µg/kg		1.7	72		1,000	110,000	
WDD2	Sediment	PAH	Dibenzo(a,h)anthracene	78	µg/kg		16	72		330	1,100	
WDD2	Sediment	PAH	Fluoranthene	350	µg/kg		2.5	72		100,000	1,000,000	
WDD2	Sediment	PAH	Fluorene	3.9	µg/kg	U	3.9	72		30,000	1,000,000	
WDD2	Sediment	PAH	Indeno(1,2,3-cd)pyrene	130	µg/kg		4.3	72		500	11,000	
WDD2	Sediment	PAH	Naphthalene	7.8	µg/kg	U	7.8	72		12,000	1,000,000	
WDD2	Sediment	PAH	Phenanthrene	48	µg/kg	J	1.7	72		100,000	1,000,000	
WDD2	Sediment	PAH	Pyrene	140	µg/kg		13	72		100,000	1,000,000	
WDD2	Sediment	PCB	Aroclor-1016	8.7	µg/kg	U	8.7	95		100	25,000	
WDD2	Sediment	PCB	Aroclor-1221	8.6	µg/kg	U	8.6	95		100	25,000	
WDD2	Sediment	PCB	Aroclor-1232	13	µg/kg	U	13	95		100	25,000	
WDD2	Sediment	PCB	Aroclor-1242	11	µg/kg	U	11	95		100	25,000	
WDD2	Sediment	PCB	Aroclor-1248	10	µg/kg	U	10	95		100	25,000	
WDD2	Sediment	PCB	Aroclor-1254	12	µg/kg	U	12	95		100	25,000	
WDD2	Sediment	PCB	Aroclor-1260	8.4	µg/kg	U	8.4	95		100	25,000	
WDD2	Sediment	Pesticide	4,4'-DDD	1.6	µg/kg	U	1.6	4.9		3.3	180000	
WDD2	Sediment	Pesticide	4,4'-DDE	0.58	µg/kg	U	0.58	2.4		3.3	120000	
WDD2	Sediment	Pesticide	4,4'-DDT	0.58	µg/kg	U	0.58	2.4		3.3	94000	
WDD2	Sediment	Pesticide	Aldrin	0.54	µg/kg	U	0.54	2.4		5	1400	
WDD2	Sediment	Pesticide	alpha-BHC	0.46	µg/kg	U	0.46	2.4		20	6800	
WDD2	Sediment	Pesticide	alpha-Chlordane	0.55	µg/kg	U	0.55	2.4		94	47000	
WDD2	Sediment	Pesticide	beta-BHC	0.56	µg/kg	U	0.56	2.4		36	14000	
WDD2	Sediment	Pesticide	delta-BHC	0.45	µg/kg	U	0.45	2.4		40	1000000	
WDD2	Sediment	Pesticide	Dieldrin	0.53	µg/kg	U	0.53	2.4		5	2800	
WDD2	Sediment	Pesticide	Endosulfan I	0.52	µg/kg	U	0.52	2.4		2,400[d]	920,000[d]	
WDD2	Sediment	Pesticide	Endosulfan II	0.67	µg/kg	U	0.67	2.4		2,400[d]	920,000[d]	
WDD2	Sediment	Pesticide	Endosulfan sulfate	0.67	µg/kg	U	0.67	2.4		2,400[d]	920,000[d]	
WDD2	Sediment	Pesticide	Endrin	0.73	µg/kg	U	0.73	2.4		14	410000	
WDD2	Sediment	Pesticide	Endrin aldehyde	0.63	µg/kg	U	0.63	2.4		NE	NE	
WDD2	Sediment	Pesticide	Endrin ketone	0.61	µg/kg	U	0.61	2.4		NE	NE	
WDD2	Sediment	Pesticide	gamma-BHC (Lindane)	0.52	µg/kg	U	0.52	2.4		100	23000	
WDD2	Sediment	Pesticide	gamma-Chlordane	0.7	µg/kg	U	0.7	2.4		NE	NE	
WDD2	Sediment	Pesticide	Heptachlor	0.58	µg/kg	U	0.58	2.4		42	29000	
WDD2	Sediment	Pesticide	Heptachlor epoxide	0.56	µg/kg	U	0.56	2.4		NE	NE	
WDD2	Sediment	Pesticide	Methoxychlor	0.76	µg/kg	U	0.76	2.4		NE	NE	
WDD2	Sediment	Pesticide	Toxaphene	14	µg/kg	U	14	48		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER*	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
Sample Date:	10/26/2009											
WDD3	Sediment	Radiological	Radium-226	0.567	pCi/g	J	0.160	±	0.134	NE	NE	5[a]
WDD3	Sediment	Radiological	Radium-228	1.332	pCi/g	U	1.590	±	0.816	NE	NE	5[a]
			Total Radium[a]	*0.567*	*pCi/g*							5[a]
WDD3	Sediment	Radiological	Thorium-228	1.591	pCi/g		0.102	±	0.451	NE	NE	5
WDD3	Sediment	Radiological	Thorium-230	1.209	pCi/g		0.121	±	0.368	NE	NE	5
WDD3	Sediment	Radiological	Thorium-232	1.383	pCi/g		0.109	±	0.405	NE	NE	5
WDD3	Sediment	Radiological	Uranium-234	1.289	pCi/g		0.104	±	0.337	NE	NE	90[b]
WDD3	Sediment	Radiological	Uranium-235	-0.006	pCi/g	U	0.099	±	0.009	NE	NE	90[b]
WDD3	Sediment	Radiological	Uranium-238	1.147	pCi/g		0.068	±	0.311	NE	NE	90[b]
			Total Uranium[b]	*2.436*	*pCi/g*							90[b]
WDD3	Sediment	Metal	Aluminum	19000	mg/kg		45	210		NE	NE	
WDD3	Sediment	Metal	Antimony	0.2	mg/kg		0.033	0.1		NE	NE	
WDD3	Sediment	Metal	Arsenic	2.4	mg/kg		0.038	0.086		13	16	
WDD3	Sediment	Metal	Barium	99	mg/kg		0.056	0.17		350	10000	
WDD3	Sediment	Metal	Beryllium	0.97	mg/kg		0.051	0.17		7	2700	
WDD3	Sediment	Metal	Boron	22	mg/kg		4.9	8.6		NE	NE	
WDD3	Sediment	Metal	Cadmium	0.13	mg/kg		0.053	0.17		3	60	
WDD3	Sediment	Metal	Calcium	17000	mg/kg		370	680		NE	NE	
WDD3	Sediment	Metal	Chromium	30	mg/kg		0.054	1.7		NE	NE	
WDD3	Sediment	Metal	Cobalt	10	mg/kg		0.049	0.17		NE	NE	
WDD3	Sediment	Metal	Copper	25	mg/kg		0.06	0.17		50	10000	
WDD3	Sediment	Metal	Iron	21000	mg/kg		87	170		NE	NE	
WDD3	Sediment	Metal	Lead	13	mg/kg		0.057	0.17		63	3900	
WDD3	Sediment	Metal	Lithium	37	mg/kg		1.7	1.7		NE	NE	
WDD3	Sediment	Metal	Magnesium	7600	mg/kg		230	510		NE	NE	
WDD3	Sediment	Metal	Manganese	660	mg/kg		0.47	0.86		1,600	10000	
WDD3	Sediment	Metal	Mercury	0.025	mg/kg		0.0025	0.05		0.18[c]	5.7[c]	
WDD3	Sediment	Metal	Nickel	23	mg/kg		0.048	0.17		30	10000	
WDD3	Sediment	Metal	Potassium	4700	mg/kg		38	86		NE	NE	
WDD3	Sediment	Metal	Selenium	0.43	mg/kg		0.19	0.34		4	6800	
WDD3	Sediment	Metal	Silver	0.071	mg/kg		0.02	0.051		2	6800	
WDD3	Sediment	Metal	Sodium	390	mg/kg		46	86		NE	NE	
WDD3	Sediment	Metal	Thallium	0.16	mg/kg	J	0.067	0.17		NE	NE	
WDD3	Sediment	Metal	Vanadium	20	mg/kg		0.029	0.86		NE	NE	
WDD3	Sediment	Metal	Zinc	130	mg/kg		1.6	3.4		109	10000	
WDD3	Sediment	VOC	1,1,1-Trichloroethane	0.35	µg/kg	U	0.35	2.1		680	1000000	
WDD3	Sediment	VOC	1,1,2,2-Tetrachloroethane	0.65	µg/kg	U	0.65	2.1		NE	NE	
WDD3	Sediment	VOC	1,1,2-Trichloroethane	0.45	µg/kg	U	0.45	2.1		NE	NE	
WDD3	Sediment	VOC	1,1-Dichloroethane	0.44	µg/kg	U	0.44	2.1		270	480000	
WDD3	Sediment	VOC	1,1-Dichloroethylene	0.45	µg/kg	U	0.45	2.1		330	1000000	
WDD3	Sediment	VOC	1,2-Dichloroethane	0.39	µg/kg	U	0.39	2.1		20	60000	
WDD3	Sediment	VOC	1,2-Dichloropropane	0.58	µg/kg	U	0.58	2.1		NE	NE	
WDD3	Sediment	VOC	2-Butanone[e]	1.4	µg/kg	U	1.4	11		120	1000000	
WDD3	Sediment	VOC	2-Hexanone	0.72	µg/kg	U	0.72	11		NE	NE	
WDD3	Sediment	VOC	4-Methyl-2-pentanone	0.56	µg/kg	U	0.56	11		NE	NE	
WDD3	Sediment	VOC	Acetone[e]	1.2	µg/kg	U	1.2	21		50	1000000	
WDD3	Sediment	VOC	Benzene	0.35	µg/kg	U	0.35	1.3		60	89000	
WDD3	Sediment	VOC	Bromodichloromethane	0.34	µg/kg	U	0.34	2.1		NE	NE	
WDD3	Sediment	VOC	Bromoform	0.45	µg/kg	U	0.45	2.1		NE	NE	
WDD3	Sediment	VOC	Bromomethane	3.4	µg/kg	U	3.4	8.5		NE	NE	
WDD3	Sediment	VOC	Carbon disulfide	0.97	µg/kg	U	0.97	11		NE	NE	
WDD3	Sediment	VOC	Carbon tetrachloride	0.41	µg/kg	U	0.41	2.1		760	44000	
WDD3	Sediment	VOC	Chlorobenzene	0.37	µg/kg	U	0.37	2.1		1,100	1000000	
WDD3	Sediment	VOC	Chloroethane	3.8	µg/kg	U	3.8	11		NE	NE	
WDD3	Sediment	VOC	Chloroform	0.35	µg/kg	U	0.35	2.1		370	700000	
WDD3	Sediment	VOC	Chloromethane	0.48	µg/kg	U	0.48	4.3		NE	NE	
WDD3	Sediment	VOC	cis-1,2-Dichloroethylene	0.45	µg/kg	U	0.45	2.1		250	1000000	
WDD3	Sediment	VOC	cis-1,3-Dichloropropylene	0.3	µg/kg	U	0.3	2.1		NE	NE	
WDD3	Sediment	VOC	Ethylbenzene	0.44	µg/kg	U	0.44	2.1		1,000	780000	
WDD3	Sediment	VOC	Methylene chloride[e]	14	µg/kg	J	0.92	4.3		50	1000000	
WDD3	Sediment	VOC	Styrene	0.34	µg/kg	U	0.34	2.1		NE	NE	
WDD3	Sediment	VOC	Tetrachloroethylene	0.5	µg/kg	U	0.5	2.1		1,300	300000	
WDD3	Sediment	VOC	Toluene[e]	0.44	µg/kg	U	0.44	2.1		700	1000000	
WDD3	Sediment	VOC	trans-1,2-Dichloroethylene	0.34	µg/kg	U	0.34	2.1		190	1000000	
WDD3	Sediment	VOC	trans-1,3-Dichloropropylene	0.43	µg/kg	U	0.43	2.1		NE	NE	
WDD3	Sediment	VOC	Trichloroethylene	0.81	µg/kg	U	0.81	2.1		470	400000	
WDD3	Sediment	VOC	Vinyl chloride	0.42	µg/kg	U	0.42	1.7		20	27000	
WDD3	Sediment	VOC	Xylenes (total)	1.3	µg/kg	U	1.3	6.4		260	1000000	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**
WDD3	Sediment	PAH	Acenaphthene	7.1	µg/kg	U	7.1	51		20,000	1,000,000	
WDD3	Sediment	PAH	Acenaphthylene	8	µg/kg	U	8	51		100,000	1,000,000	
WDD3	Sediment	PAH	Anthracene	0.42	µg/kg	U	0.42	51		100,000	1,000,000	
WDD3	Sediment	PAH	Benzo(a)anthracene	1.9	µg/kg	U	1.9	51		1,000	11,000	
WDD3	Sediment	PAH	Benzo(a)pyrene	17	µg/kg	J	2	51		1,000	1,100	
WDD3	Sediment	PAH	Benzo(b)fluoranthene	19	µg/kg	J	1.4	51		1,000	11,000	
WDD3	Sediment	PAH	Benzo(ghi)perylene	6.3	µg/kg	U	6.3	51		100,000	1,000,000	
WDD3	Sediment	PAH	Benzo(k)fluoranthene	1.4	µg/kg	U	1.4	51		8,000	110,000	
WDD3	Sediment	PAH	Chrysene	8.4	µg/kg	J	1.2	51		1,000	110,000	
WDD3	Sediment	PAH	Dibenzo(a,h)anthracene	11	µg/kg	U	11	51		330	1,100	
WDD3	Sediment	PAH	Fluoranthene	1.8	µg/kg	U	1.8	51		100,000	1,000,000	
WDD3	Sediment	PAH	Fluorene	2.8	µg/kg	U	2.8	51		30,000	1,000,000	
WDD3	Sediment	PAH	Indeno(1,2,3-cd)pyrene	3	µg/kg	U	3	51		500	11,000	
WDD3	Sediment	PAH	Naphthalene	5.5	µg/kg	U	5.5	51		12,000	1,000,000	
WDD3	Sediment	PAH	Phenanthrene	1.2	µg/kg	U	1.2	51		100,000	1,000,000	
WDD3	Sediment	PAH	Pyrene	8.9	µg/kg	U	8.9	51		100,000	1,000,000	
WDD3	Sediment	PCB	Aroclor-1016	6.1	µg/kg	U	6.1	67		100	25,000	
WDD3	Sediment	PCB	Aroclor-1221	6.1	µg/kg	U	6.1	67		100	25,000	
WDD3	Sediment	PCB	Aroclor-1232	9.2	µg/kg	U	9.2	67		100	25,000	
WDD3	Sediment	PCB	Aroclor-1242	7.6	µg/kg	U	7.6	67		100	25,000	
WDD3	Sediment	PCB	Aroclor-1248	7.2	µg/kg	U	7.2	67		100	25,000	
WDD3	Sediment	PCB	Aroclor-1254	8.6	µg/kg	U	8.6	67		100	25,000	
WDD3	Sediment	PCB	Aroclor-1260	6	µg/kg	U	6	67		100	25,000	
WDD3	Sediment	Pesticide	4,4'-DDD	1.1	µg/kg	U	1.1	3.5		3.3	180000	
WDD3	Sediment	Pesticide	4,4'-DDE	0.41	µg/kg	U	0.41	1.7		3.3	120000	
WDD3	Sediment	Pesticide	4,4'-DDT	0.41	µg/kg	U	0.41	1.7		3.3	94000	
WDD3	Sediment	Pesticide	Aldrin	0.38	µg/kg	U	0.38	1.7		5	1400	
WDD3	Sediment	Pesticide	alpha-BHC	0.32	µg/kg	U	0.32	1.7		20	6800	
WDD3	Sediment	Pesticide	alpha-Chlordane	0.39	µg/kg	U	0.39	1.7		94	47000	
WDD3	Sediment	Pesticide	beta-BHC	0.39	µg/kg	U	0.39	1.7		36	14000	
WDD3	Sediment	Pesticide	delta-BHC	0.32	µg/kg	U	0.32	1.7		40	1000000	
WDD3	Sediment	Pesticide	Dieldrin	0.37	µg/kg	U	0.37	1.7		5	2800	
WDD3	Sediment	Pesticide	Endosulfan I	0.37	µg/kg	U	0.37	1.7		2,400[d]	920,000[d]	
WDD3	Sediment	Pesticide	Endosulfan II	0.47	µg/kg	U	0.47	1.7		2,400[d]	920,000[d]	
WDD3	Sediment	Pesticide	Endosulfan sulfate	0.47	µg/kg	U	0.47	1.7		2,400[d]	920,000[d]	
WDD3	Sediment	Pesticide	Endrin	0.52	µg/kg	U	0.52	1.7		14	410000	
WDD3	Sediment	Pesticide	Endrin aldehyde	0.44	µg/kg	U	0.44	1.7		NE	NE	
WDD3	Sediment	Pesticide	Endrin ketone	0.43	µg/kg	U	0.43	1.7		NE	NE	
WDD3	Sediment	Pesticide	gamma-BHC (Lindane)	0.37	µg/kg	U	0.37	1.7		100	23000	
WDD3	Sediment	Pesticide	gamma-Chlordane	0.5	µg/kg	U	0.5	1.7		NE	NE	
WDD3	Sediment	Pesticide	Heptachlor	0.41	µg/kg	U	0.41	1.7		42	29000	
WDD3	Sediment	Pesticide	Heptachlor epoxide	0.4	µg/kg	U	0.4	1.7		NE	NE	
WDD3	Sediment	Pesticide	Methoxychlor	0.54	µg/kg	U	0.54	1.7		NE	NE	
WDD3	Sediment	Pesticide	Toxaphene	10	µg/kg	U	10	34		NE	NE	

SEDIMENT LOCATION*	MATRIX	PARAMETER *	ANALYTE	RESULTS	UNITS*	QUALIFIER*	Detection Limit*	Reporting Limit	Radiological Uncertainity (±)	NY State- Unrestricted Use**	NY State- Restricted Use -Industrial**	DOE Cleanup Criteria**

*SEDIMENT LOCATION
SWSD009 - Site Background
SW-DUP (SWSD011) - Field Duplicate of surface water and sediment location SWSD011

*PARAMETER
VOC - Volatile Organic Compound
PAH - Polynuclear Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

*UNITS
PCI/G - picocuries per gram
MG/KG - milligrams per kilograms (ppm)
UG/KG - micrograms per kilogram (ppb)

*QUALIFIER
Validated Qualifier: J - indicates an estimated value.
Validated Qualifier: U - indicates that no analyte was detected (Non-Detect).

** Values are provided for comparative purposes only.
Applicable or Relevant and Appropriate Requirements (ARARs) and media-specific cleanup goals will be evaluated independently future CERCLA and presented in decision documents that will be available for public comment.

**US Dept of Energy:
DOE above-background surface soil cleanup criteria, averaged over topmost 6 in. (15 cm) of soil. Because there are no standards for radioactive constituents in sediment, these soil values (without background added) are used as a basis for comparison of sediment results.

**New York State:
6 NYCRR PART 375
NY State- Unrestricted Use Soil Cleanup Objectives Table 375-6.8(a)
NY State- Restricted Use Soil Cleanup Objectives Table 375-6.8(b) -Industrial
NE - Not Established

a. Applies to the sum of Ra-226 and Ra-228 concentrations
b. Sum of uranium isotope concentrations (pCi/g).
c. Total Mercury
d. Sum of endosulfan I, endosulfan II, and endosulfan sulfate
e. Common laboratory contaminant.

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/19/2009										
BO2W20S	Radiological	Radium-226	0.387	pCi/l	U	0.725	±	0.440	5[a]	5[a]	100[a]
BO2W20S	Radiological	Radium-228	1.502	pCi/l	J	0.947	±	0.522	5[a]	5[a]	100[a]
BO2W20S		*Total Radium [a]*	*1.502*	*pCi/l*					5[a]	5[a]	100[a]
BO2W20S	Radiological	Thorium-228	0.043	pCi/l	U	0.319	±	0.130	15[b]	NE	400
BO2W20S	Radiological	Thorium-230	0.107	pCi/l	U	0.260	±	0.153	15[b]	NE	300
BO2W20S	Radiological	Thorium-232	0.086	pCi/l	U	0.117	±	0.123	15[b]	NE	50
BO2W20S		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]	NE	NE
BO2W20S	Radiological	Uranium-234	5.742	pCi/l		0.274	±	1.439	27[c]	NE	600[c]
BO2W20S	Radiological	Uranium-235	0.353	pCi/l		0.339	±	0.332	27[c]	NE	600[c]
BO2W20S	Radiological	Uranium-238	3.651	pCi/l		0.273	±	1.072	27[c]	NE	600[c]
BO2W20S		*Total Uranium [c]*	*9.746*	*pCi/l*	=	*10.829*	*µg/L*		27[c]	NE	600[c]
BO2W20S	Water Quality	Total Dissolved Solids	930	mg/L		5	5		500[d]	500	
BO2W20S	Water Quality	Alkalinity, Total as CaCO3	450	mg/L		4.5	20		NE	NE	
BO2W20S	Anion	Chloride	13	mg/L		0.066	0.6		250[d]	250	
BO2W20S	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
BO2W20S	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
BO2W20S	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
BO2W20S	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
BO2W20S	Anion	Sulfate	360	mg/L		0.6	6		250[d]	250	
BO2W20S	Metal	Aluminum	85	µg/L		0.21	10		50-200[d]	NE	
BO2W20S	Metal	Antimony	0.13	µg/L	U	0.13	0.4		6	3	
BO2W20S	Metal	Arsenic	0.18	µg/L	U	0.18	0.4		10	25	
BO2W20S	Metal	Barium	17	µg/L		0.13	4		2000	1000	
BO2W20S	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
BO2W20S	Metal	Boron	500	µg/L		500	500		NE	1000	
BO2W20S	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
BO2W20S	Metal	Calcium	83000	µg/L		430	1000		NE	NE	
BO2W20S	Metal	Chromium	0.13	µg/L	U	0.13	2		100	50	
BO2W20S	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
BO2W20S	Metal	Copper	2.5	µg/L		0.14	0.4		1300	200	
BO2W20S	Metal	Iron	180	µg/L		20	80		300[d]	300	
BO2W20S	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
BO2W20S	Metal	Lithium	49	µg/L		5	5		NE	NE	
BO2W20S	Metal	Magnesium	140000	µg/L		270	1000		NE	NE	
BO2W20S	Metal	Manganese	20	µg/L		0.11	2		50[d]	300	
BO2W20S	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
BO2W20S	Metal	Nickel	4	µg/L		0.11	2		NE	100	
BO2W20S	Metal	Potassium	2200	µg/L		450	1000		NE	NE	
BO2W20S	Metal	Selenium	0.45	µg/L	U	0.45	2		50	10	
BO2W20S	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
BO2W20S	Metal	Sodium	70000	µg/L		540	1500		NE	20000	
BO2W20S	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
BO2W20S	Metal	Vanadium	0.92	µg/L		0.14	0.4		NE	14	
BO2W20S	Metal	Zinc	7.6	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/19/2009										
A45	Radiological	Radium-226	0.663	pCi/l	J	0.380	±	0.340	5[a]	5[a]	100[a]
A45	Radiological	Radium-228	0.409	pCi/l	U	0.978	±	0.479	5[a]	5[a]	100[a]
A45		*Total Radium [a]*	*0.663*	pCi/l					5[a]	5[a]	100[a]
A45	Radiological	Thorium-228	-0.073	pCi/l	U	0.428	±	0.055	15[b]	NE	400
A45	Radiological	Thorium-230	0.316	pCi/l		0.143	±	0.269	15[b]	NE	300
A45	Radiological	Thorium-232	0.053	pCi/l	U	0.143	±	0.106	15[b]	NE	50
A45		*Total Thorium [b]*	*0.316*	*PCI/L*					15[b]	NE	NE
A45	Radiological	Uranium-234	17.820	pCi/l		0.360	±	3.290	27[c]	NE	600[c]
A45	Radiological	Uranium-235	1.196	pCi/l		0.294	±	0.582	27[c]	NE	600[c]
A45	Radiological	Uranium-238	11.940	pCi/l		0.237	±	2.378	27[c]	NE	600[c]
A45		*Total Uranium [c]*	*30.956*	*pCi/l*	=	*34.396*	*µg/L*		27[c]	NE	600[c]
A45	Water Quality	Total Dissolved Solids	1800	mg/L		5	5		500[d]	500	
A45	Water Quality	Alkalinity, Total as CaCO3	490	mg/L		4.5	20		NE	NE	
A45	Anion	Chloride	59	mg/L		0.066	0.6		250[d]	250	
A45	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
A45	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
A45	Anion	Nitrite	0.35	mg/L		0.024	0.3		1	1	
A45	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
A45	Anion	Sulfate	810	mg/L		0.6	6		250[d]	250	
A45	Metal	Aluminum	0.21	µg/L	U	0.21	10		50-200[d]	NE	
A45	Metal	Antimony	1.5	µg/L	J	0.13	0.4		6	3	
A45	Metal	Arsenic	0.78	µg/L		0.18	0.4		10	25	
A45	Metal	Barium	8.6	µg/L		0.13	4		2000	1000	
A45	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
A45	Metal	Boron	500	µg/L		500	500		NE	1000	
A45	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
A45	Metal	Calcium	240000	µg/L		2200	5000		NE	NE	
A45	Metal	Chromium	0.13	µg/L	U	0.13	2		100	50	
A45	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
A45	Metal	Copper	9.7	µg/L		0.14	0.4		1300	200	
A45	Metal	Iron	960	µg/L		20	80		300[d]	300	
A45	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
A45	Metal	Lithium	65	µg/L		5	5		NE	NE	
A45	Metal	Magnesium	140000	µg/L		1300	5000		NE	NE	
A45	Metal	Manganese	250	µg/L		0.11	2		50[d]	300	
A45	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
A45	Metal	Nickel	17	µg/L		0.11	2		NE	100	
A45	Metal	Potassium	4600	µg/L		450	1000		NE	NE	
A45	Metal	Selenium	0.45	µg/L	U	0.45	2		50	10	
A45	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
A45	Metal	Sodium	55000	µg/L		540	1500		NE	20000	
A45	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
A45	Metal	Vanadium	0.14	µg/L	U	0.14	0.4		NE	14	
A45	Metal	Zinc	130	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/19/2009										
GW-DUP(A45)	Radiological	Radium-226	0.548	pCi/l	U	0.609	±	0.397	5[a]	5[a]	100[a]
GW-DUP(A45)	Radiological	Radium-228	0.904	pCi/l	U	0.967	±	0.502	5[a]	5[a]	100[a]
GW-DUP(A45)		*Total Radium* [a]	*Non-detect*	pCi/l					5[a]	5[a]	100[a]
GW-DUP(A45)	Radiological	Thorium-228	0.165	pCi/l	U	0.264	±	0.207	15[b]	NE	400
GW-DUP(A45)	Radiological	Thorium-230	0.057	pCi/l	U	0.155	±	0.115	15[b]	NE	300
GW-DUP(A45)	Radiological	Thorium-232	0.114	pCi/l	U	0.154	±	0.164	15[b]	NE	50
GW-DUP(A45)		*Total Thorium* [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
GW-DUP(A45)	Radiological	Uranium-234	19.150	pCi/l		0.291	±	3.325	27[c]	NE	600[c]
GW-DUP(A45)	Radiological	Uranium-235	0.894	pCi/l		0.162	±	0.479	27[c]	NE	600[c]
GW-DUP(A45)	Radiological	Uranium-238	12.970	pCi/l		0.261	±	2.423	27[c]	NE	600[c]
GW-DUP(A45)		*Total Uranium* [c]	*33.014*	*pCi/l*	=	*36.682*	*µg/L*		27[c]	NE	600[c]
GW-DUP(A45)	Water Quality	Total Dissolved Solids	1800	mg/L		5	5		500[d]	500	
GW-DUP(A45)	Water Quality	Alkalinity, Total as CaCO3	480	mg/L		4.5	20		NE	NE	
GW-DUP(A45)	Anion	Chloride	59	mg/L		0.066	0.6		250[d]	250	
GW-DUP(A45)	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
GW-DUP(A45)	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
GW-DUP(A45)	Anion	Nitrite	0.32	mg/L		0.024	0.3		1	1	
GW-DUP(A45)	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
GW-DUP(A45)	Anion	Sulfate	790	mg/L		0.6	6		250[d]	250	
GW-DUP(A45)	Metal	Aluminum	0.21	µg/L	U	0.21	10		50-200[d]	NE	
GW-DUP(A45)	Metal	Antimony	0.13	µg/L		0.13	0.4		6	3	
GW-DUP(A45)	Metal	Arsenic	0.91	µg/L		0.18	0.4		10	25	
GW-DUP(A45)	Metal	Barium	9.1	µg/L		0.13	4		2000	1000	
GW-DUP(A45)	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
GW-DUP(A45)	Metal	Boron	500	µg/L		500	500		NE	1000	
GW-DUP(A45)	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
GW-DUP(A45)	Metal	Calcium	250000	µg/L		2200	5000		NE	NE	
GW-DUP(A45)	Metal	Chromium	0.3	µg/L	U	0.13	2		100	50	
GW-DUP(A45)	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
GW-DUP(A45)	Metal	Copper	9.2	µg/L		0.14	0.4		1300	200	
GW-DUP(A45)	Metal	Iron	980	µg/L		20	80		300[d]	300	
GW-DUP(A45)	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
GW-DUP(A45)	Metal	Lithium	64	µg/L		5	5		NE	NE	
GW-DUP(A45)	Metal	Magnesium	150000	µg/L		1300	5000		NE	NE	
GW-DUP(A45)	Metal	Manganese	300	µg/L		0.11	2		50[d]	300	
GW-DUP(A45)	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
GW-DUP(A45)	Metal	Nickel	16	µg/L		0.11	2		NE	100	
GW-DUP(A45)	Metal	Potassium	3700	µg/L		450	1000		NE	NE	
GW-DUP(A45)	Metal	Selenium	2	µg/L		0.45	2		50	10	
GW-DUP(A45)	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
GW-DUP(A45)	Metal	Sodium	47000	µg/L		540	1500		NE	20000	
GW-DUP(A45)	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
GW-DUP(A45)	Metal	Vanadium	0.14	µg/L	U	0.14	0.4		NE	14	
GW-DUP(A45)	Metal	Zinc	120	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/21/2009										
A50	Radiological	Radium-226	0.159	pCi/l	U	1.090	±	0.605	5[a]	5[a]	100[a]
A50	Radiological	Radium-228	0.668	pCi/l	U	0.844	±	0.431	5[a]	5[a]	100[a]
A50		*Total Radium* [a]	*Non-detect*	pCi/l					5[a]	5[a]	100[a]
A50	Radiological	Thorium-228	0.034	pCi/l	U	0.958	±	0.339	15[b]	NE	400
A50	Radiological	Thorium-230	-0.042	pCi/l	U	1.080	±	0.339	15[b]	NE	300
A50	Radiological	Thorium-232	0.163	pCi/l	U	0.658	±	0.320	15[b]	NE	50
A50		*Total Thorium* [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
A50	Radiological	Uranium-234	7.924	pCi/l		0.557	±	1.829	27[c]	NE	600[c]
A50	Radiological	Uranium-235	0.554	pCi/l		0.495	±	0.439	27[c]	NE	600[c]
A50	Radiological	Uranium-238	6.822	pCi/l		0.331	±	1.639	27[c]	NE	600[c]
A50		*Total Uranium* [c]	*15.300*	*pCi/l*	=	*17.000*	*µg/L*		27[c]	NE	600[c]
A50	Water Quality	Total Dissolved Solids	1300	mg/L		5	5		500[d]	500	
A50	Water Quality	Alkalinity, Total as CaCO3	430	mg/L		4.5	20		NE	NE	
A50	Anion	Chloride	20	mg/L		0.066	0.6		250[d]	250	
A50	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
A50	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
A50	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
A50	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
A50	Anion	Sulfate	570	mg/L		0.6	6		250[d]	250	
A50	Metal	Aluminum	0.21	µg/L	U	0.21	10		50-200[d]	NE	
A50	Metal	Antimony	0.13	µg/L	U	0.13	0.4		6	3	
A50	Metal	Arsenic	1.2	µg/L		0.18	0.4		10	25	
A50	Metal	Barium	11	µg/L		0.13	4		2000	1000	
A50	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
A50	Metal	Boron	500	µg/L		500	500		NE	1000	
A50	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
A50	Metal	Calcium	130000	µg/L		430	1000		NE	NE	
A50	Metal	Chromium	0.13	µg/L	U	0.13	2		100	50	
A50	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
A50	Metal	Copper	5.3	µg/L		0.14	0.4		1300	200	
A50	Metal	Iron	20	µg/L	U	20	80		300[d]	300	
A50	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
A50	Metal	Lithium	46	µg/L		5	5		NE	NE	
A50	Metal	Magnesium	160000	µg/L		270	1000		NE	NE	
A50	Metal	Manganese	43	µg/L		0.11	2		50[d]	300	
A50	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
A50	Metal	Nickel	3.4	µg/L		0.11	2		NE	100	
A50	Metal	Potassium	2200	µg/L		450	1000		NE	NE	
A50	Metal	Selenium	0.45	µg/L	U	0.45	2		50	10	
A50	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
A50	Metal	Sodium	83000	µg/L		540	1500		NE	20000	
A50	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
A50	Metal	Vanadium	0.55	µg/L		0.14	0.4		NE	14	
A50	Metal	Zinc	5.9	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/20/2009										
OW04B	Radiological	Radium-226	0.729	pCi/l	U	0.757	±	0.495	5[a]	5[a]	100[a]
OW04B	Radiological	Radium-228	0.569	pCi/l	U	0.911	±	0.456	5[a]	5[a]	100[a]
OW04B		*Total Radium* [a]	*Non-detect*	pCi/l					5[a]	5[a]	100[a]
OW04B	Radiological	Thorium-228	0.005	pCi/l	U	0.438	±	0.158	15[b]	NE	400
OW04B	Radiological	Thorium-230	0.193	pCi/l	U	0.224	±	0.191	15[b]	NE	300
OW04B	Radiological	Thorium-232	0.206	pCi/l		0.112	±	0.190	15[b]	NE	50
OW04B		*Total Thorium* [b]	*0.206*	*pCi/l*					15[b]	NE	NE
OW04B	Radiological	Uranium-234	22.310	pCi/l		0.275	±	3.998	27[c]	NE	600[c]
OW04B	Radiological	Uranium-235	1.811	pCi/l		0.398	±	0.781	27[c]	NE	600[c]
OW04B	Radiological	Uranium-238	23.620	pCi/l		0.321	±	4.192	27[c]	NE	600[c]
OW04B		*Total Uranium* [c]	*47.741*	*pCi/l*	=	*53.046*	*µg/L*		27[c]	NE	600[c]
OW04B	Water Quality	Total Dissolved Solids	1500	mg/L		5	5		500[d]	500000	
OW04B	Water Quality	Alkalinity, Total as CaCO3	330	mg/L		4.5	20		NE	NE	
OW04B	Anion	Chloride	120	mg/L		0.066	0.6		250[d]	500	
OW04B	Anion	Fluoride	0.37	mg/L		0.03	0.3		4	NE	
OW04B	Anion	Nitrate	0.037	mg/L		0.024	0.3		10	250	
OW04B	Anion	Nitrite	0.34	mg/L		0.024	0.3		1	1.5	
OW04B	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	10	
OW04B	Anion	Sulfate	660	mg/L		0.6	6		250[d]	1	
OW04B	Metal	Aluminum	430	µg/L		0.21	10		50-200[d]	NE	
OW04B	Metal	Antimony	0.13	µg/L	U	0.13	0.4		6	250	
OW04B	Metal	Arsenic	1	µg/L		0.18	0.4		10	25	
OW04B	Metal	Barium	18	µg/L		0.13	4		2000	1000	
OW04B	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
OW04B	Metal	Boron	500	µg/L		500	500		NE	1000	
OW04B	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
OW04B	Metal	Calcium	180000	µg/L		2200	5000		NE	NE	
OW04B	Metal	Chromium	2.8	µg/L		0.13	2		100	50	
OW04B	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
OW04B	Metal	Copper	6.2	µg/L		0.14	0.4		1300	200	
OW04B	Metal	Iron	1000	µg/L		20	80		300[d]	300	
OW04B	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
OW04B	Metal	Lithium	31	µg/L		5	5		NE	NE	
OW04B	Metal	Magnesium	150000	µg/L		270	1000		NE	NE	
OW04B	Metal	Manganese	150	µg/L		0.11	2		50[d]	300	
OW04B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW04B	Metal	Nickel	6.7	µg/L		0.11	2		NE	100	
OW04B	Metal	Potassium	2500	µg/L		450	1000		NE	NE	
OW04B	Metal	Selenium	3.7	µg/L		0.45	2		50	10	
OW04B	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
OW04B	Metal	Sodium	70000	µg/L		540	1500		NE	20000	
OW04B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW04B	Metal	Vanadium	1.3	µg/L		0.14	0.4		NE	14	
OW04B	Metal	Zinc	7	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/21/2009										
OW06B	Radiological	Radium-226	0.096	pCi/l	U	0.931	±	0.514	5[a]	5[a]	100[a]
OW06B	Radiological	Radium-228	0.291	pCi/l	U	0.833	±	0.405	5[a]	5[a]	100[a]
OW06B		*Total Radium* [a]	*Non-detect*	pCi/l					5[a]	5[a]	100[a]
OW06B	Radiological	Thorium-228	0.083	pCi/l	U	0.347	±	0.165	15[b]	NE	400
OW06B	Radiological	Thorium-230	0.044	pCi/l	U	0.331	±	0.132	15[b]	NE	300
OW06B	Radiological	Thorium-232	-0.008	pCi/l	U	0.206	±	0.015	15[b]	NE	50
OW06B		*Total Thorium* [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
OW06B	Radiological	Uranium-234	9.415	pCi/l		0.451	±	1.987	27[c]	NE	600[c]
OW06B	Radiological	Uranium-235	0.251	pCi/l	U	0.371	±	0.278	27[c]	NE	600[c]
OW06B	Radiological	Uranium-238	7.055	pCi/l		0.300	±	1.611	27[c]	NE	600[c]
OW06B		*Total Uranium* [c]	*16.470*	*pCi/l*	=	*18.300*	*µg/L*		27[c]	NE	600[c]
OW06B	Water Quality	Total Dissolved Solids	1300	mg/L		5	5		500[d]	500	
OW06B	Water Quality	Alkalinity, Total as CaCO3	330	mg/L		4.5	20		NE	NE	
OW06B	Anion	Chloride	35	mg/L		0.066	0.6		250[d]	250	
OW06B	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
OW06B	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
OW06B	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
OW06B	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
OW06B	Anion	Sulfate	540	mg/L		0.6	6		250[d]	250	
OW06B	Metal	Aluminum	0.21	µg/L	U	0.21	10		50-200[d]	NE	
OW06B	Metal	Antimony	0.13	µg/L	U	0.13	0.4		6	3	
OW06B	Metal	Arsenic	0.95	µg/L		0.18	0.4		10	25	
OW06B	Metal	Barium	12	µg/L		0.13	4		2000	1000	
OW06B	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
OW06B	Metal	Boron	500	µg/L		500	500		NE	1000	
OW06B	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
OW06B	Metal	Calcium	130000	µg/L		430	1000		NE	NE	
OW06B	Metal	Chromium	2.2	µg/L		0.13	2		100	50	
OW06B	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
OW06B	Metal	Copper	2.2	µg/L		0.14	0.4		1300	200	
OW06B	Metal	Iron	150	µg/L		20	80		300[d]	300	
OW06B	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
OW06B	Metal	Lithium	84	µg/L		5	5		NE	NE	
OW06B	Metal	Magnesium	190000	µg/L		270	1000		NE	NE	
OW06B	Metal	Manganese	250	µg/L		0.11	2		50[d]	300	
OW06B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW06B	Metal	Nickel	26	µg/L		0.11	2		NE	100	
OW06B	Metal	Potassium	3100	µg/L		450	1000		NE	NE	
OW06B	Metal	Selenium	0.45	µg/L	U	0.45	2		50	10	
OW06B	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
OW06B	Metal	Sodium	73000	µg/L		540	1500		NE	20000	
OW06B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW06B	Metal	Vanadium	0.48	µg/L		0.14	0.4		NE	14	
OW06B	Metal	Zinc	12	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/21/2009										
OW13B	Radiological	Radium-226	0.800	pCi/l	U	0.941	±	0.604	5[a]	5[a]	100[a]
OW13B	Radiological	Radium-228	0.909	pCi/l	J	0.750	±	0.403	5[a]	5[a]	100[a]
OW13B		*Total Radium* [a]	*0.909*	pCi/l					5[a]	5[a]	100[a]
OW13B	Radiological	Thorium-228	-0.011	pCi/l	U	0.448	±	0.130	15[b]	NE	400
OW13B	Radiological	Thorium-230	0.777	pCi/l		0.348	±	0.474	15[b]	NE	300
OW13B	Radiological	Thorium-232	0.000	pCi/l	U	0.156	±	0.015	15[b]	NE	50
OW13B		*Total Thorium* [b]	*0.777*	*pCi/l*					15[b]	NE	NE
OW13B	Radiological	Uranium-234	14.100	pCi/l		0.430	±	2.740	27[c]	NE	600[c]
OW13B	Radiological	Uranium-235	0.632	pCi/l		0.331	±	0.440	27[c]	NE	600[c]
OW13B	Radiological	Uranium-238	11.900	pCi/l		0.267	±	2.399	27[c]	NE	600[c]
OW13B		*Total Uranium* [c]	*26.632*	*pCi/l*	=	*29.591*	*µg/L*		27[c]	NE	600[c]
OW13B	Water Quality	Total Dissolved Solids	2300	mg/L		5	5		500[d]	500	
OW13B	Water Quality	Alkalinity, Total as CaCO3	510	mg/L		4.5	20		NE	NE	
OW13B	Anion	Chloride	39	mg/L		0.066	0.6		250[d]	250	
OW13B	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
OW13B	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
OW13B	Anion	Nitrite	0.35	mg/L		0.024	0.3		1	1	
OW13B	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
OW13B	Anion	Sulfate	1200	mg/L		2	20		250[d]	250	
OW13B	Metal	Aluminum	41	µg/L		0.21	10		50-200[d]	NE	
OW13B	Metal	Antimony	0.13	µg/L	U	0.13	0.4		6	3	
OW13B	Metal	Arsenic	0.51	µg/L		0.18	0.4		10	25	
OW13B	Metal	Barium	9.3	µg/L		0.13	4		2000	1000	
OW13B	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
OW13B	Metal	Boron	500	µg/L		500	500		NE	1000	
OW13B	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
OW13B	Metal	Calcium	170000	µg/L		2200	5000		NE	NE	
OW13B	Metal	Chromium	4.7	µg/L		0.13	2		100	50	
OW13B	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
OW13B	Metal	Copper	2.3	µg/L		0.14	0.4		1300	200	
OW13B	Metal	Iron	120	µg/L		20	80		300[d]	300	
OW13B	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
OW13B	Metal	Lithium	80	µg/L		5	5		NE	NE	
OW13B	Metal	Magnesium	290000	µg/L		1300	5000		NE	NE	
OW13B	Metal	Manganese	3.2	µg/L		0.11	2		50[d]	300	
OW13B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW13B	Metal	Nickel	6.9	µg/L		0.11	2		NE	100	
OW13B	Metal	Potassium	2200	µg/L		450	1000		NE	NE	
OW13B	Metal	Selenium	0.45	µg/L	U	0.45	2		50	10	
OW13B	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
OW13B	Metal	Sodium	92000	µg/L		540	1500		NE	20000	
OW13B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW13B	Metal	Vanadium	0.7	µg/L		0.14	0.4		NE	14	
OW13B	Metal	Zinc	5	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/20/2009										
OW15B	Radiological	Radium-226	0.188	pCi/l	U	0.633	±	0.359	5[a]	5[a]	100[a]
OW15B	Radiological	Radium-228	-0.329	pCi/l	U	0.929	±	0.419	5[a]	5[a]	100[a]
OW15B		*Total Radium [a]*	*Non-detect*	pCi/l					5[a]	5[a]	100[a]
OW15B	Radiological	Thorium-228	0.067	pCi/l	U	0.496	±	0.204	15[b]	NE	400
OW15B	Radiological	Thorium-230	0.401	pCi/l	U	0.497	±	0.375	15[b]	NE	300
OW15B	Radiological	Thorium-232	0.067	pCi/l	U	0.181	±	0.135	15[b]	NE	50
OW15B		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]	NE	NE
OW15B	Radiological	Uranium-234	5.513	pCi/l		0.364	±	1.416	27[c]	NE	600[c]
OW15B	Radiological	Uranium-235	0.421	pCi/l		0.403	±	0.371	27[c]	NE	600[c]
OW15B	Radiological	Uranium-238	3.509	pCi/l		0.362	±	1.059	27[c]	NE	600[c]
OW15B		*Total Uranium [c]*	*9.443*	*pCi/l*	=	*10.492*	*µg/L*		27[c]	NE	600[c]
OW15B	Water Quality	Total Dissolved Solids	840	mg/L		5	5		500[d]	500	
OW15B	Water Quality	Alkalinity, Total as CaCO3	380	mg/L		4.5	20		NE	NE	
OW15B	Anion	Chloride	5.6	mg/L		0.066	0.6		250[d]	250	
OW15B	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
OW15B	Anion	Nitrate	1.3	mg/L		0.024	0.3		10	10	
OW15B	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
OW15B	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
OW15B	Anion	Sulfate	650	mg/L		0.6	6		250[d]	250	
OW15B	Metal	Aluminum	19	µg/L		0.21	10		50-200[d]	NE	
OW15B	Metal	Antimony	0.94	µg/L		0.13	0.4		6	3	
OW15B	Metal	Arsenic	0.18	µg/L	U	0.18	0.4		10	25	
OW15B	Metal	Barium	21	µg/L		0.13	4		2000	1000	
OW15B	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
OW15B	Metal	Boron	500	µg/L		500	500		NE	1000	
OW15B	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
OW15B	Metal	Calcium	110000	µg/L		430	1000		NE	NE	
OW15B	Metal	Chromium	5.1	µg/L		0.13	2		100	50	
OW15B	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
OW15B	Metal	Copper	4.6	µg/L		0.14	0.4		1300	200	
OW15B	Metal	Iron	20	µg/L	U	20	80		300[d]	300	
OW15B	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
OW15B	Metal	Lithium	41	µg/L		5	5		NE	NE	
OW15B	Metal	Magnesium	120000	µg/L		270	1000		NE	NE	
OW15B	Metal	Manganese	0.11	µg/L	U	0.11	2		50[d]	300	
OW15B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW15B	Metal	Nickel	5.4	µg/L		0.11	2		NE	100	
OW15B	Metal	Potassium	1700	µg/L		450	1000		NE	NE	
OW15B	Metal	Selenium	0.45	µg/L	U	0.45	2		50	10	
OW15B	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
OW15B	Metal	Sodium	53000	µg/L		540	1500		NE	20000	
OW15B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW15B	Metal	Vanadium	0.68	µg/L		0.14	0.4		NE	14	
OW15B	Metal	Zinc	6.3	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/20/2009										
OW17B	Radiological	Radium-226	0.402	pCi/l	U	0.597	±	0.376	5[a]	5[a]	100[a]
OW17B	Radiological	Radium-228	0.085	pCi/l	U	0.910	±	0.429	5[a]	5[a]	100[a]
OW17B		*Total Radium* [a]	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
OW17B	Radiological	Thorium-228	0.056	pCi/l	U	0.410	±	0.168	15[b]	NE	400
OW17B	Radiological	Thorium-230	0.148	pCi/l	U	0.301	±	0.197	15[b]	NE	300
OW17B	Radiological	Thorium-232	0.037	pCi/l	U	0.300	±	0.114	15[b]	NE	50
OW17B		*Total Thorium* [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
OW17B	Radiological	Uranium-234	3.186	pCi/l		0.406	±	1.018	27[c]	NE	600[c]
OW17B	Radiological	Uranium-235	0.064	pCi/l	U	0.354	±	0.156	27[c]	NE	600[c]
OW17B	Radiological	Uranium-238	2.514	pCi/l		0.335	±	0.879	27[c]	NE	600[c]
OW17B		*Total Uranium* [c]	*5.700*	*pCi/l*	=	*6.333*	*µg/L*		27[c]	NE	600[c]
OW17B	Water Quality	Total Dissolved Solids	980	mg/L		5	5		500[d]	500	
OW17B	Water Quality	Alkalinity, Total as CaCO3	420	mg/L		4.5	20		NE	NE	
OW17B	Anion	Chloride	9.4	mg/L		0.066	0.6		250[d]	250	
OW17B	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
OW17B	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
OW17B	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
OW17B	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
OW17B	Anion	Sulfate	440	mg/L		0.6	6		250[d]	250	
OW17B	Metal	Aluminum	0.21	µg/L	U	0.21	10		50-200[d]	NE	
OW17B	Metal	Antimony	0.5	µg/L		0.13	0.4		6	3	
OW17B	Metal	Arsenic	0.46	µg/L		0.18	0.4		10	25	
OW17B	Metal	Barium	10	µg/L		0.13	4		2000	1000	
OW17B	Metal	Beryllium	0.3	µg/L	U	0.3	1		4	11	
OW17B	Metal	Boron	500	µg/L		500	500		NE	1000	
OW17B	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
OW17B	Metal	Calcium	80000	µg/L		430	1000		NE	NE	
OW17B	Metal	Chromium	3.6	µg/L		0.13	2		100	50	
OW17B	Metal	Cobalt	0.12	µg/L	U	0.12	2		NE	NE	
OW17B	Metal	Copper	2.2	µg/L		0.14	0.4		1300	200	
OW17B	Metal	Iron	20	µg/L	U	20	80		300[d]	300	
OW17B	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
OW17B	Metal	Lithium	53	µg/L		5	5		NE	NE	
OW17B	Metal	Magnesium	150000	µg/L		270	1000		NE	NE	
OW17B	Metal	Manganese	6.6	µg/L		0.11	2		50[d]	300	
OW17B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW17B	Metal	Nickel	5.6	µg/L		0.11	2		NE	100	
OW17B	Metal	Potassium	2400	µg/L		450	1000		NE	NE	
OW17B	Metal	Selenium	0.45	µg/L	U	0.45	2		50	10	
OW17B	Metal	Silver	0.078	µg/L	U	0.078	0.4		100[d]	50	
OW17B	Metal	Sodium	74000	µg/L		540	1500		NE	20000	
OW17B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW17B	Metal	Vanadium	0.71	µg/L		0.14	0.4		NE	14	
OW17B	Metal	Zinc	8.1	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/19/2009										
313	Radiological	Uranium-234	24.300	pCi/l		0.413	±	4.329	27[c]	NE	600[c]
313	Radiological	Uranium-235	1.143	pCi/l		0.658	±	0.700	27[c]	NE	600[c]
313	Radiological	Uranium-238	17.360	pCi/l		0.412	±	3.326	27[c]	NE	600[c]
313		*Total Uranium [c]*	*42.803*	*pCi/l*	=	*47.559*	*µg/L*		27[c]	NE	600[c]
313	Water Quality	Total Dissolved Solids	4700	mg/L		5	5		500[d]	500	
313	Water Quality	Alkalinity, Total as CaCO3	540	mg/L		4.5	20		NE	NE	
313	Anion	Chloride	34	mg/L		0.066	0.6		250[d]	250	
313	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
313	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
313	Anion	Nitrite	0.46	mg/L		0.024	0.3		1	1	
313	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
313	Anion	Sulfate	270	mg/L		1	10		250[d]	250	
Sample Date:	5/19/2009										
505	Radiological	Uranium-234	14.830	pCi/l		0.238	±	2.747	27[c]	NE	600[c]
505	Radiological	Uranium-235	0.890	pCi/l		0.172	±	0.492	27[c]	NE	600[c]
505	Radiological	Uranium-238	10.950	pCi/l		0.309	±	2.167	27[c]	NE	600[c]
505		*Total Uranium [c]*	*26.670*	*pCi/l*	=	*29.633*	*µg/L*		27[c]	NE	600[c]
505	Water Quality	Total Dissolved Solids	4300	mg/L		5	5		500[d]	500	
505	Water Quality	Alkalinity, Total as CaCO3	780	mg/L		4.5	20		NE	NE	
505	Anion	Chloride	160	mg/L		2.2	20		250[d]	250	
505	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
505	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
505	Anion	Nitrite	0.81	mg/L		0.024	0.3		1	1	
505	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
505	Anion	Sulfate	2200	mg/L		2	20		250[d]	250	
Sample Date:	5/19/2009										
302A	Radiological	Uranium-234	69.690	pCi/l		0.160	±	10.974	27[c]	NE	600[c]
302A	Radiological	Uranium-235	3.615	pCi/l		0.395	±	1.158	27[c]	NE	600[c]
302A	Radiological	Uranium-238	49.110	pCi/l		0.272	±	7.952	27[c]	NE	600[c]
302A		*Total Uranium [c]*	*122.415*	*pCi/l*	=	*136.017*	*µg/L*		27[c]	NE	600[c]
302A	Water Quality	Total Dissolved Solids	9100	mg/L		5	5		500[d]	500	
302A	Water Quality	Alkalinity, Total as CaCO3	550	mg/L		4.5	20		NE	NE	
302A	Anion	Chloride	49	mg/L		1.1	10		250[d]	250	
302A	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
302A	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
302A	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
302A	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
302A	Anion	Sulfate	530	mg/L		1	10		250[d]	250	
Sample Date:	5/21/2009										
A42	Radiological	Uranium-234	36.810	pCi/l		0.829	±	7.213	27[c]	NE	600[c]
A42	Radiological	Uranium-235	2.987	pCi/l		0.873	±	1.574	27[c]	NE	600[c]
A42	Radiological	Uranium-238	34.820	pCi/l		0.826	±	6.901	27[c]	NE	600[c]
A42		*Total Uranium [c]*	*74.617*	*pCi/l*	=	*82.908*	*µg/L*		27[c]	NE	600[c]
A42	Water Quality	Total Dissolved Solids	880	mg/L		5	5		500[d]	500	
A42	Water Quality	Alkalinity, Total as CaCO3	460	mg/L		4.5	20		NE	NE	
A42	Anion	Chloride	14	mg/L		0.066	0.6		250[d]	250	
A42	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
A42	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
A42	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
A42	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
A42	Anion	Sulfate	300	mg/L		0.6	6		250[d]	250	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/20/2009										
BH49A	Radiological	Uranium-234	7.665	pCi/l		0.313	±	1.737	27[c]	NE	600[c]
BH49A	Radiological	Uranium-235	0.605	pCi/l		0.430	±	0.439	27[c]	NE	600[c]
BH49A	Radiological	Uranium-238	6.586	pCi/l		0.347	±	1.562	27[c]	NE	600[c]
BH49A		*Total Uranium [c]*	*14.856*	*pCi/l*	=	*16.507*	*µg/L*		27[c]	NE	600[c]
BH49A	Water Quality	Total Dissolved Solids	1200	mg/L		5	5		500[d]	500	
BH49A	Water Quality	Alkalinity, Total as CaCO3	400	mg/L		4.5	20		NE	NE	
BH49A	Anion	Chloride	40	mg/L		0.066	0.6		250[d]	250	
BH49A	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
BH49A	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
BH49A	Anion	Nitrite	0.38	mg/L		0.024	0.3		1	1	
BH49A	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
BH49A	Anion	Sulfate	520	mg/L		0.6	6		250[d]	250	
Sample Date:	5/19/2009										
OW04A	Radiological	Uranium-234	0.725	pCi/l		0.180	±	0.297	27[c]	NE	600[c]
OW04A	Radiological	Uranium-235	0.053	pCi/l	U	0.172	±	0.091	27[c]	NE	600[c]
OW04A	Radiological	Uranium-238	0.573	pCi/l		0.168	±	0.260	27[c]	NE	600[c]
OW04A		*Total Uranium [c]*	*1.298*	*pCi/l*	=	*1.442*	*µg/L*		27[c]	NE	600[c]
OW04A	Water Quality	Total Dissolved Solids	850	mg/L		5	5		500[d]	500	
OW04A	Water Quality	Alkalinity, Total as CaCO3	150	mg/L		4.5	20		NE	NE	
OW04A	Anion	Chloride	28	mg/L		0.066	0.6		250[d]	250	
OW04A	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
OW04A	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
OW04A	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
OW04A	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
OW04A	Anion	Sulfate	430	mg/L		0.6	6		250[d]	250	
Sample Date:	5/21/2009										
OW11B	Radiological	Uranium-234	137.900	pCi/l		2.765	±	27.166	27[c]	NE	600[c]
OW11B	Radiological	Uranium-235	12.400	pCi/l		3.411	±	6.348	27[c]	NE	600[c]
OW11B	Radiological	Uranium-238	123.700	pCi/l		1.612	±	24.965	27[c]	NE	600[c]
OW11B		*Total Uranium [c]*	*274.000*	*pCi/l*	=	*304.444*	*µg/L*		27[c]	NE	600[c]
OW11B	Water Quality	Total Dissolved Solids	1200	mg/L		5	5		500[d]	500	
OW11B	Water Quality	Alkalinity, Total as CaCO3	330	mg/L		4.5	20		NE	NE	
OW11B	Anion	Chloride	14	mg/L		0.066	0.6		250[d]	250	
OW11B	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
OW11B	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
OW11B	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
OW11B	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
OW11B	Anion	Sulfate	570	mg/L		0.6	6		250[d]	250	
Sample Date:	5/20/2009										
OW18B	Radiological	Uranium-234	6.934	pCi/l		0.404	±	1.665	27[c]	NE	600[c]
OW18B	Radiological	Uranium-235	1.014	pCi/l		0.498	±	0.592	27[c]	NE	600[c]
OW18B	Radiological	Uranium-238	6.126	pCi/l		0.333	±	1.527	27[c]	NE	600[c]
OW18B		*Total Uranium [c]*	*14.074*	*pCi/l*	=	*15.638*	*µg/L*		27[c]	NE	600[c]
OW18B	Water Quality	Total Dissolved Solids	1700	mg/L		5	5		500[d]	500	
OW18B	Water Quality	Alkalinity, Total as CaCO3	530	mg/L		4.5	20		NE	NE	
OW18B	Anion	Chloride	22	mg/L		0.066	0.6		250[d]	250	
OW18B	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
OW18B	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
OW18B	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
OW18B	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
OW18B	Anion	Sulfate	900	mg/L		0.6	6		250[d]	250	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/19/2009										
415A	Radiological	Uranium-234	7.962	pCi/l		0.311	±	1.661	27[c]	NE	600[c]
415A	Radiological	Uranium-235	0.508	pCi/l		0.318	±	0.360	27[c]	NE	600[c]
415A	Radiological	Uranium-238	7.375	pCi/l		0.257	±	1.569	27[c]	NE	600[c]
415A		*Total Uranium* [c]	*15.845*	*pCi/l*	=	*17.606*	*µg/L*		27[c]	NE	600[c]
415A	Water Quality	Total Dissolved Solids	2400	mg/L		5	5		500[d]	500	
415A	Water Quality	Alkalinity, Total as CaCO3	570	mg/L		4.5	20		NE	NE	
415A	Anion	Chloride	NA	mg/L					250[d]	250	
415A	Anion	Fluoride	1.60	mg/L		0.03	0.3		4	1.5	
415A	Anion	Nitrate	NA	mg/L					10	10	
415A	Anion	Nitrite	NA	mg/L					1	1	
415A	Anion	Ortho-phosphate	NA	mg/L					NE	NE	
415A	Anion	Sulfate	NA	mg/L					250[d]	250	
415A	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
415A	VOC	1,1,2,2-Tetrachloroethane	0.16	µg/L	U	0.16	1		NE	5	
415A	VOC	1,1,2-Trichloroethane	0.29	µg/L	U	0.29	1		5	1	
415A	VOC	1,1-Dichloroethane	0.26	µg/L	U	0.26	1		NE	5	
415A	VOC	1,1-Dichloroethylene	0.27	µg/L	U	0.27	1		7	5	
415A	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
415A	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
415A	VOC	2-Butanone[g]	0.28	µg/L	U	0.28	10		NE	NE	
415A	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
415A	VOC	4-Methyl-2-pentanone	3.1	µg/L	J	0.4	5		NE	NE	
415A	VOC	Acetone[g]	64	µg/L	J	0.44	5		NE	NE	
415A	VOC	Benzene	2	µg/L		0.2	1		5	1	
415A	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
415A	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
415A	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
415A	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
415A	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
415A	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
415A	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
415A	VOC	Chloroform	1	µg/L		0.19	1		NE	7	
415A	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
415A	VOC	cis-1,2-Dichloroethylene	7000	µg/L		17	100		70	5	
415A	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
415A	VOC	Ethylbenzene	0.62	µg/L	J	0.2	1		700	5	
415A	VOC	Methylene chloride[g]	5	µg/L	U	0.2	5		5	5	
415A	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
415A	VOC	Tetrachloroethylene	120000	µg/L	J	26	100		5	5	
415A	VOC	Toluene[g]	1.3	µg/L		0.2	1		1000	5	
415A	VOC	trans-1,2-Dichloroethylene	110	µg/L		0.18	1		100	5	
415A	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
415A	VOC	Trichloroethylene	18000	µg/L		27	100		5	5	
415A	VOC	Vinyl chloride	280	µg/L		24	100		2	2	
415A	VOC	Xylenes (total)	3.8	µg/L		0.66	3		10000	5[f]	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	5/20/2009										
201A	Water Quality	Total Dissolved Solids	1300	mg/L		5	5		500[d]	500	
201A	Water Quality	Alkalinity, Total as CaCO3	490	mg/L		4.5	20		NE	NE	
201A	Anion	Chloride	6.2	mg/L		0.066	0.6		250[d]	250	
201A	Anion	Fluoride	0.03	mg/L	U	0.03	0.3		4	1.5	
201A	Anion	Nitrate	0.024	mg/L	U	0.024	0.3		10	10	
201A	Anion	Nitrite	0.024	mg/L	U	0.024	0.3		1	1	
201A	Anion	Ortho-phosphate	0.06	mg/L	U	0.06	0.3		NE	NE	
201A	Anion	Sulfate	600	mg/L		0.6	6		250[d]	250	
201A	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
201A	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
201A	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
201A	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
201A	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
201A	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
201A	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
201A	VOC	2-Butanone[g]	0.28	µg/L	U	0.28	10		NE	NE	
201A	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
201A	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
201A	VOC	Acetone[g]	0.44	µg/L	U	0.44	5		NE	NE	
201A	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
201A	VOC	Bromodichloromethane	0.2	µg/L	U	0.2	1		NE	NE	
201A	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
201A	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
201A	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
201A	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
201A	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
201A	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
201A	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
201A	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
201A	VOC	cis-1,2-Dichloroethylene	0.17	µg/L	U	0.17	1		70	5	
201A	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
201A	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
201A	VOC	Methylene chloride[g]	0.2	µg/L	U	0.2	5		5	5	
201A	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
201A	VOC	Tetrachloroethylene	20	µg/L		0.26	1		5	5	
201A	VOC	Toluene[g]	0.2	µg/L	U	0.2	1		1000	5	
201A	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	2		100	5	
201A	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
201A	VOC	Trichloroethylene	1.6	µg/L		0.27	1		5	5	
201A	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
201A	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L

*NFSS WELL ID
BO2W20S - Background
GW-DUP(A50) - Field Duplicate of well location A50

*PARAMETER
VOC - Volatile Organic Compound
PAH - Polynuclear Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

*UNITS
PCI/L - picocuries per liter
UG/L - micrograms per liter (ppb)

*QUALIFIER
Validated Qualifier: J - indicates an estimated value.
Validated Qualifier: U - indicates that no analyte was detected (Non-Detect).

*DETECTION LIMIT
Radiological - Minimum Detectable Activity (MDA)
Organic and Inorganic - Method Detection Limit

**** Groundwater at NFSS is not a drinking water source.**
The above federal and state regulation concentrations are for comparative purposes only.

Federal Regulations:
National Primary Drinking Water Regulations 40CFR141.62&63

US Dept of Energy:
USDOE derived concentration guide (USDOE Order 5400.5) for drinking water.

New York State:
New York State Standards -Water Quality Criteria (class GA) per 6 NYCRR, Part 703.
NE - Not Established

a. Applies to the sum of Ra-226 and Ra-228
b. "Adjusted" gross alpha MCL of 15 pCi/, including Thorium isotopes, excluding radon and uranium
-National Primary Drinking Water Regulations; Radionuclide; Final Rule (Federal Register -December 7, 2000)
c. Sum of Uranium Isotopes (27 PCI/L or 30 UG/L).
d. National Secondary Drinking Water Regulations (40CFR143.3)
e. Applies to the sum of cis- and trans-1,3-dichloropropene, CAS Nos. 10061-01-5 and 10061-02-6, respectively.
f. Not a sum total for Dimethyl Benzene (Xylene) , applies to 1,2--Xylene, 1,3-Xylene and 1,4-Xylene individually.
g. Common laboratory contaminant.

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/28/2009										
B02W20S	Radiological	Radium-226	0.765	pCi/l		0.427	±	0.329	5[a]	5[a]	100[a]
B02W20S	Radiological	Radium-228	0.457	pCi/l	U	0.978	±	0.481	5[a]	5[a]	100[a]
BO2W20S		*Total Radium* [a]	*0.765*	*pCi/l*					5[a]	5[a]	100[a]
B02W20S	Radiological	Thorium-228	0.028	pCi/l	U	0.260	±	0.101	15[b]	NE	400
B02W20S	Radiological	Thorium-230	0.150	pCi/l	U	0.283	±	0.170	15[b]	NE	300
B02W20S	Radiological	Thorium-232	-0.017	pCi/l	U	0.201	±	0.020	15[b]	NE	50
BO2W20S		*Total Thorium* [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
B02W20S	Radiological	Uranium-233/234	5.214	pCi/l		0.182	±	1.047	27[c]	NE	600[c]
B02W20S	Radiological	Uranium-235/236	0.445	pCi/l		0.149	±	0.249	27[c]	NE	600[c]
B02W20S	Radiological	Uranium-238	4.172	pCi/l		0.120	±	0.886	27[c]	NE	600[c]
BO2W20S		*Total Uranium* [c]	*9.831*	*pCi/l*	=	*10.923*	*µg/L*		27[c]	NE	600[c]
B02W20S	Water Quality	Alkalinity, Total as CaCO3	460	mg/L		4.5	20		500[d]	500	
B02W20S	Water Quality	Total Dissolved Solids	900	mg/L		5	5		NE	NE	
B02W20S	Anion	Chloride	13	mg/L		0.11	0.6		250[d]	250	
B02W20S	Anion	Fluoride	0.71	mg/L		0.17	0.6		4	1.5	
B02W20S	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
B02W20S	Anion	Nitrite	0.072	mg/L	U	0.072	0.3		1	1	
B02W20S	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
B02W20S	Anion	Sulfate	430	mg/L		3	10		250[d]	250	
B02W20S	Metal	Aluminum	6.3	µg/L	J	0.21	10		50-200[d]	NE	
B02W20S	Metal	Antimony	1	µg/L	J	0.66	2		6	3	
B02W20S	Metal	Arsenic	0.56	µg/L		0.18	0.4		10	25	
B02W20S	Metal	Barium	16	µg/L		0.13	4		2000	1000	
B02W20S	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
B02W20S	Metal	Boron	NA	µg/L					NE	1000	
B02W20S	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
B02W20S	Metal	Calcium	71000	µg/L		430	1000		NE	NE	
B02W20S	Metal	Chromium	3.2	µg/L		0.13	2		100	50	
B02W20S	Metal	Cobalt	0.13	µg/L	J	0.12	2		NE	NE	
B02W20S	Metal	Copper	1.2	µg/L		0.14	0.4		1300	200	
B02W20S	Metal	Iron	81	µg/L		20	80		300[d]	300	
B02W20S	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
B02W20S	Metal	Lithium	NA	µg/L					NE	NE	
B02W20S	Metal	Magnesium	130000	µg/L		270	1000		NE	NE	
B02W20S	Metal	Manganese	4.9	µg/L		0.11	2		50[d]	300	
B02W20S	Metal	Mercury	0.042	µg/L	U	0.042	0.2		2	0.7	
B02W20S	Metal	Nickel	4	µg/L		0.11	2		NE	100	
B02W20S	Metal	Potassium	1900	µg/L		450	1000		NE	NE	
B02W20S	Metal	Selenium	0.9	µg/L	J	0.45	2		50	10	
B02W20S	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
B02W20S	Metal	Sodium	62000	µg/L		540	1500		NE	20000	
B02W20S	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
B02W20S	Metal	Vanadium	0.28	µg/L	J	0.14	0.4		NE	14	
B02W20S	Metal	Zinc	65	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/26/2009										
A45	Radiological	Radium-226	0.970	pCi/l		0.444	±	0.333	5[a]	5[a]	100[a]
A45	Radiological	Radium-228	1.065	pCi/l		0.923	±	0.491	5[a]	5[a]	100[a]
A45		*Total Radium [a]*	*2.035*	*pCi/l*					5[a]	5[a]	100[a]
A45	Radiological	Thorium-228	0.031	pCi/l	U	0.206	±	0.087	15[b]	NE	400
A45	Radiological	Thorium-230	0.094	pCi/l	U	0.064	±	0.096	15[b]	NE	300
A45	Radiological	Thorium-232	-0.004	pCi/l	U	0.109	±	0.008	15[b]	NE	50
A45		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]	NE	NE
A45	Radiological	Uranium-233/234	11.860	pCi/l		0.179	±	2.050	27[c]	NE	600[c]
A45	Radiological	Uranium-235/236	0.527	pCi/l		0.183	±	0.280	27[c]	NE	600[c]
A45	Radiological	Uranium-238	9.156	pCi/l		0.126	±	1.651	27[c]	NE	600[c]
A45		*Total Uranium [c]*	*21.543*	*pCi/l*	=	*23.937*	*µg/L*		27[c]	NE	600[c]
A45	Water Quality	Alkalinity, Total as CaCO3	490	mg/L		4.5	20		500[d]	500	
A45	Water Quality	Total Dissolved Solids	1800	mg/L		5	5		NE	NE	
A45	Anion	Chloride	64	mg/L		0.11	0.6		250[d]	250	
A45	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
A45	Anion	Nitrate	0.078	mg/L	J	0.078	0.3		10	10	
A45	Anion	Nitrite	0.61	mg/L	J	0.072	0.3		1	1	
A45	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
A45	Anion	Sulfate	850	mg/L		3	10		250[d]	250	
A45	Metal	Aluminum	2.4	µg/L	J	0.21	10		50-200[d]	NE	
A45	Metal	Antimony	1.7	µg/L		0.66	2		6	3	
A45	Metal	Arsenic	1.3	µg/L		0.18	0.4		10	25	
A45	Metal	Barium	9.5	µg/L		0.13	4		2000	1000	
A45	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
A45	Metal	Boron	75	µg/L	J	12	120		NE	1000	
A45	Metal	Cadmium	0.13	µg/L	J	0.12	2		5	5	
A45	Metal	Calcium	240000	µg/L		430	1000		NE	NE	
A45	Metal	Chromium	0.6	µg/L	J	0.13	2		100	50	
A45	Metal	Cobalt	0.91	µg/L	J	0.12	2		NE	NE	
A45	Metal	Copper	0.47	µg/L		0.14	0.4		1300	200	
A45	Metal	Iron	1300	µg/L		20	80		300[d]	300	
A45	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
A45	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
A45	Metal	Magnesium	130000	µg/L		270	1000		NE	NE	
A45	Metal	Manganese	390	µg/L		0.11	2		50[d]	300	
A45	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
A45	Metal	Nickel	8.3	µg/L		0.11	2		NE	100	
A45	Metal	Potassium	3100	µg/L		450	1000		NE	NE	
A45	Metal	Selenium	2.2	µg/L		0.45	2		50	10	
A45	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
A45	Metal	Sodium	47000	µg/L		540	1500		NE	20000	
A45	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
A45	Metal	Vanadium	0.54	µg/L		0.14	0.4		NE	14	
A45	Metal	Zinc	13	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/26/2009										
GW-DUP (A45)	Radiological	Radium-226	1.468	pCi/l		0.354	±	0.339	5[a]	5[a]	100[a]
GW-DUP (A45)	Radiological	Radium-228	1.166	pCi/l		1.021	±	0.543	5[a]	5[a]	100[a]
GW-DUP(A45)		*Total Radium* [a]	*2.633*	*pCi/l*					5[a]	5[a]	100[a]
GW-DUP (A45)	Radiological	Thorium-228	0.065	pCi/l	U	0.314	±	0.142	15[b]	NE	400
GW-DUP (A45)	Radiological	Thorium-230	0.128	pCi/l	U	0.253	±	0.159	15[b]	NE	300
GW-DUP (A45)	Radiological	Thorium-232	-0.013	pCi/l	U	0.209	±	0.019	15[b]	NE	50
GW-DUP(A45)		*Total Thorium* [b]	*Non-detect*	*pCi/l*					15[b]	NE	NE
GW-DUP (A45)	Radiological	Uranium-233/234	12.270	pCi/l		0.071	±	2.099	27[c]	NE	600[c]
GW-DUP (A45)	Radiological	Uranium-235/236	0.804	pCi/l		0.149	±	0.342	27[c]	NE	600[c]
GW-DUP (A45)	Radiological	Uranium-238	8.748	pCi/l		0.070	±	1.579	27[c]	NE	600[c]
GW-DUP(A45)		*Total Uranium* [c]	*21.822*	*pCi/l*	=	*24.247*	*µg/L*		27[c]	NE	600[c]
GW-DUP (A45)	Water Quality	Alkalinity, Total as CaCO3	500	mg/L		4.5	20		500[d]	500	
GW-DUP (A45)	Water Quality	Total Dissolved Solids	1800	mg/L		5	5		NE	NE	
GW-DUP (A45)	Anion	Chloride	61	mg/L		0.11	0.6		250[d]	250	
GW-DUP (A45)	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
GW-DUP (A45)	Anion	Nitrate	0.078	mg/L	J	0.078	0.3		10	10	
GW-DUP (A45)	Anion	Nitrite	0.49	mg/L	J	0.072	0.3		1	1	
GW-DUP (A45)	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
GW-DUP (A45)	Anion	Sulfate	850	mg/L		3	10		250[d]	250	
GW-DUP (A45)	Metal	Aluminum	4.2	µg/L	J	0.21	10		50-200[d]	NE	
GW-DUP (A45)	Metal	Antimony	1.2	µg/L		0.66	2		6	3	
GW-DUP (A45)	Metal	Arsenic	1.7	µg/L		0.18	0.4		10	25	
GW-DUP (A45)	Metal	Barium	9.9	µg/L		0.13	4		2000	1000	
GW-DUP (A45)	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
GW-DUP (A45)	Metal	Boron	71	µg/L	J	12	120		NE	1000	
GW-DUP (A45)	Metal	Cadmium	0.19	µg/L	J	0.12	2		5	5	
GW-DUP (A45)	Metal	Calcium	260000	µg/L		430	1000		NE	NE	
GW-DUP (A45)	Metal	Chromium	1.2	µg/L	J	0.13	2		100	50	
GW-DUP (A45)	Metal	Cobalt	1.1	µg/L	J	0.12	2		NE	NE	
GW-DUP (A45)	Metal	Copper	0.75	µg/L		0.14	0.4		1300	200	
GW-DUP (A45)	Metal	Iron	1400	µg/L		20	80		300[d]	300	
GW-DUP (A45)	Metal	Lead	0.18	µg/L	J	0.13	1.2		15	25	
GW-DUP (A45)	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
GW-DUP (A45)	Metal	Magnesium	150000	µg/L		270	1000		NE	NE	
GW-DUP (A45)	Metal	Manganese	420	µg/L		0.11	2		50[d]	300	
GW-DUP (A45)	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
GW-DUP (A45)	Metal	Nickel	10	µg/L		0.11	2		NE	100	
GW-DUP (A45)	Metal	Potassium	3600	µg/L		450	1000		NE	NE	
GW-DUP (A45)	Metal	Selenium	2.4	µg/L		0.45	2		50	10	
GW-DUP (A45)	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
GW-DUP (A45)	Metal	Sodium	52000	µg/L		540	1500		NE	20000	
GW-DUP (A45)	Metal	Thallium	0.16	µg/L		0.16	2		2	NE	
GW-DUP (A45)	Metal	Vanadium	0.67	µg/L		0.14	0.4		NE	14	
GW-DUP (A45)	Metal	Zinc	16	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/26/2009										
A50	Radiological	Radium-226	0.335	pCi/l	U	0.378	±	0.245	5[a]	5[a]	100[a]
A50	Radiological	Radium-228	0.535	pCi/l	U	0.832	±	0.418	5[a]	5[a]	100[a]
A50		*Total Radium [a]*	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
A50	Radiological	Thorium-228	0.106	pCi/l	U	0.192	±	0.122	15[b]	NE	400
A50	Radiological	Thorium-230	0.052	pCi/l	U	0.070	±	0.074	15[b]	NE	300
A50	Radiological	Thorium-232	0.022	pCi/l	U	0.120	±	0.053	15[b]	NE	50
A50		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]	NE	NE
A50	Radiological	Uranium-233/234	6.071	pCi/l		0.127	±	1.131	27[c]	NE	600[c]
A50	Radiological	Uranium-235/236	0.216	pCi/l		0.174	±	0.167	27[c]	NE	600[c]
A50	Radiological	Uranium-238	5.133	pCi/l		0.140	±	0.994	27[c]	NE	600[c]
A50		*Total Uranium [c]*	*11.420*	*pCi/l*	=	*12.689*	*µg/L*		27[c]	NE	600[c]
A50	Water Quality	Alkalinity, Total as CaCO3	420	mg/L		4.5	20		500[d]	500	
A50	Water Quality	Total Dissolved Solids	1400	mg/L		5	5		NE	NE	
A50	Anion	Chloride	22	mg/L		0.11	0.6		250[d]	250	
A50	Anion	Fluoride	0.63	mg/L		0.17	0.6		4	1.5	
A50	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
A50	Anion	Nitrite	0.32	mg/L	J	0.072	0.3		1	1	
A50	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
A50	Anion	Sulfate	670	mg/L		3	10		250[d]	250	
A50	Metal	Aluminum	4.2	µg/L	J	0.21	10		50-200[d]	NE	
A50	Metal	Antimony	0.99	µg/L		0.66	2		6	3	
A50	Metal	Arsenic	1.4	µg/L		0.18	0.4		10	25	
A50	Metal	Barium	12	µg/L		0.13	4		2000	1000	
A50	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
A50	Metal	Boron	220	µg/L		12	120		NE	1000	
A50	Metal	Cadmium	0.16	µg/L	J	0.12	2		5	5	
A50	Metal	Calcium	110000	µg/L		430	1000		NE	NE	
A50	Metal	Chromium	1.5	µg/L	J	0.13	2		100	50	
A50	Metal	Cobalt	0.77	µg/L	J	0.12	2		NE	NE	
A50	Metal	Copper	3.9	µg/L		0.14	0.4		1300	200	
A50	Metal	Iron	66	µg/L	J	20	80		300[d]	300	
A50	Metal	Lead	0.15	µg/L	J	0.13	1.2		15	25	
A50	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
A50	Metal	Magnesium	150000	µg/L		270	1000		NE	NE	
A50	Metal	Manganese	130	µg/L		0.11	2		50[d]	300	
A50	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
A50	Metal	Nickel	7.9	µg/L		0.11	2		NE	100	
A50	Metal	Potassium	2100	µg/L		450	1000		NE	NE	
A50	Metal	Selenium	2.6	µg/L		0.45	2		50	10	
A50	Metal	Silver	0.72	µg/L		0.39	2		100[d]	50	
A50	Metal	Sodium	80000	µg/L		540	1500		NE	20000	
A50	Metal	Thallium	2	µg/L		0.16	2		2	NE	
A50	Metal	Vanadium	0.51	µg/L		0.14	0.4		NE	14	
A50	Metal	Zinc	22	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/26/2009										
OW04B	Radiological	Radium-226	0.558	pCi/l		0.415	±	0.290	5[a]	5[a]	100[a]
OW04B	Radiological	Radium-228	0.978	pCi/l	U	1.525	±	0.764	5[a]	5[a]	100[a]
OW04B		*Total Radium [a]*	*0.558*	*pCi/l*					5[a]	5[a]	100[a]
OW04B	Radiological	Thorium-228	0.076	pCi/l	U	0.210	±	0.117	15[b]	NE	400
OW04B	Radiological	Thorium-230	0.128	pCi/l		0.087	±	0.131	15[b]	NE	300
OW04B	Radiological	Thorium-232	0.064	pCi/l	U	0.087	±	0.092	15[b]	NE	50
OW04B		*Total Thorium [b]*	*0.128*	*pCi/l*					15[b]		
OW04B	Radiological	Uranium-233/234	17.640	pCi/l		0.130	±	2.787	27[c]	NE	600[c]
OW04B	Radiological	Uranium-235/236	0.741	pCi/l		0.080	±	0.314	27[c]	NE	600[c]
OW04B	Radiological	Uranium-238	16.350	pCi/l		0.111	±	2.604	27[c]	NE	600[c]
OW04B		*Total Uranium [c]*	*34.731*	*pCi/l*	=	*38.590*	*µg/L*		27[c]	NE	600[c]
OW04B	Water Quality	Alkalinity, Total as CaCO3	330	mg/L		4.5	20		500[d]	500	
OW04B	Water Quality	Total Dissolved Solids	1400	mg/L		5	5		NE	NE	
OW04B	Anion	Chloride	89	mg/L		0.11	0.6		250[d]	250	
OW04B	Anion	Fluoride	0.97	mg/L		0.17	0.6		4	1.5	
OW04B	Anion	Nitrate	0.078	mg/L	J	0.078	0.3		10	10	
OW04B	Anion	Nitrite	0.072	mg/L	J	0.072	0.3		1	1	
OW04B	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
OW04B	Anion	Sulfate	630	mg/L		3	10		250[d]	250	
OW04B	Metal	Aluminum	5.6	µg/L	J	0.21	10		50-200[d]	NE	
OW04B	Metal	Antimony	0.72	µg/L		0.66	2		6	3	
OW04B	Metal	Arsenic	0.76	µg/L		0.18	0.4		10	25	
OW04B	Metal	Barium	17	µg/L		0.13	4		2000	1000	
OW04B	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
OW04B	Metal	Boron	320	µg/L		12	120		NE	1000	
OW04B	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
OW04B	Metal	Calcium	150000	µg/L		430	1000		NE	NE	
OW04B	Metal	Chromium	1.7	µg/L	J	0.13	2		100	50	
OW04B	Metal	Cobalt	0.27	µg/L	J	0.12	2		NE	NE	
OW04B	Metal	Copper	2.9	µg/L		0.14	0.4		1300	200	
OW04B	Metal	Iron	60	µg/L	J	20	80		300[d]	300	
OW04B	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
OW04B	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
OW04B	Metal	Magnesium	110000	µg/L		270	1000		NE	NE	
OW04B	Metal	Manganese	23	µg/L		0.11	2		50[d]	300	
OW04B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW04B	Metal	Nickel	8	µg/L		0.11	2		NE	100	
OW04B	Metal	Potassium	1900	µg/L		450	1000		NE	NE	
OW04B	Metal	Selenium	2.3	µg/L		0.45	2		50	10	
OW04B	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
OW04B	Metal	Sodium	54000	µg/L		540	1500		NE	20000	
OW04B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW04B	Metal	Vanadium	1	µg/L		0.14	0.4		NE	14	
OW04B	Metal	Zinc	13	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/26/2009										
OW06B	Radiological	Radium-226	0.810	pCi/l		0.434	±	0.323	5[a]	5[a]	100[a]
OW06B	Radiological	Radium-228	0.334	pCi/l	U	0.929	±	0.452	5[a]	5[a]	100[a]
OW06B		*Total Radium [a]*	*0.810*	*pCi/l*					5[a]	5[a]	100[a]
OW06B	Radiological	Thorium-228	0.004	pCi/l	U	0.266	±	0.091	15[b]	NE	400
OW06B	Radiological	Thorium-230	0.093	pCi/l	U	0.206	±	0.121	15[b]	NE	300
OW06B	Radiological	Thorium-232	-0.005	pCi/l	U	0.136	±	0.010	15[b]	NE	50
OW06B		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]		
OW06B	Radiological	Uranium-233/234	9.487	pCi/l		0.174	±	1.731	27[c]	NE	600[c]
OW06B	Radiological	Uranium-235/236	0.627	pCi/l		0.193	±	0.315	27[c]	NE	600[c]
OW06B	Radiological	Uranium-238	6.847	pCi/l		0.133	±	1.333	27[c]	NE	600[c]
OW06B		*Total Uranium [c]*	*16.961*	*pCi/l*	=	*18.846*	*µg/L*		27[c]	NE	600[c]
OW06B	Water Quality	Alkalinity, Total as CaCO3	550	mg/L		4.5	20		500[d]	500	
OW06B	Water Quality	Total Dissolved Solids	1300	mg/L		5	5		NE	NE	
OW06B	Anion	Chloride	41	mg/L		0.11	0.6		250[d]	250	
OW06B	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
OW06B	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
OW06B	Anion	Nitrite	0.62	mg/L	J	0.072	0.3		1	1	
OW06B	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
OW06B	Anion	Sulfate	540	mg/L		3	10		250[d]	250	
OW06B	Metal	Aluminum	7.2	µg/L	J	0.21	10		50-200[d]	NE	
OW06B	Metal	Antimony	0.89	µg/L		0.66	2		6	3	
OW06B	Metal	Arsenic	0.44	µg/L		0.18	0.4		10	25	
OW06B	Metal	Barium	11	µg/L		0.13	4		2000	1000	
OW06B	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
OW06B	Metal	Boron	83	µg/L	J	12	120		NE	1000	
OW06B	Metal	Cadmium	0.12	µg/L	U	0.12	2		5	5	
OW06B	Metal	Calcium	110000	µg/L		430	1000		NE	NE	
OW06B	Metal	Chromium	4.4	µg/L		0.13	2		100	50	
OW06B	Metal	Cobalt	0.54	µg/L	J	0.12	2		NE	NE	
OW06B	Metal	Copper	1.2	µg/L		0.14	0.4		1300	200	
OW06B	Metal	Iron	88	µg/L		20	80		300[d]	300	
OW06B	Metal	Lead	0.29	µg/L	J	0.13	1.2		15	25	
OW06B	Metal	Lithium	100	µg/L	U	100	100		NE	NE	
OW06B	Metal	Magnesium	170000	µg/L		270	1000		NE	NE	
OW06B	Metal	Manganese	57	µg/L		0.11	2		50[d]	300	
OW06B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW06B	Metal	Nickel	13	µg/L		0.11	2		NE	100	
OW06B	Metal	Potassium	2800	µg/L		450	1000		NE	NE	
OW06B	Metal	Selenium	0.67	µg/L	J	0.45	2		50	10	
OW06B	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
OW06B	Metal	Sodium	69000	µg/L		540	1500		NE	20000	
OW06B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW06B	Metal	Vanadium	0.43	µg/L		0.14	0.4		NE	14	
OW06B	Metal	Zinc	18	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/27/2009										
OW13B	Radiological	Radium-226	0.519	pCi/l		0.337	±	0.247	5[a]	5[a]	100[a]
OW13B	Radiological	Radium-228	0.572	pCi/l	U	0.985	±	0.491	5[a]	5[a]	100[a]
OW13B		*Total Radium [a]*	*0.519*	*pCi/l*					5[a]	5[a]	100[a]
OW13B	Radiological	Thorium-228	0.099	pCi/l	U	0.150	±	0.116	15[b]	NE	400
OW13B	Radiological	Thorium-230	0.119	pCi/l	U	0.177	±	0.133	15[b]	NE	300
OW13B	Radiological	Thorium-232	0.000	pCi/l	U	0.213	±	0.007	15[b]	NE	50
OW13B		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]	NE	NE
OW13B	Radiological	Uranium-233/234	10.440	pCi/l		0.138	±	1.802	27[c]	NE	600[c]
OW13B	Radiological	Uranium-235/236	0.518	pCi/l		0.190	±	0.270	27[c]	NE	600[c]
OW13B	Radiological	Uranium-238	8.815	pCi/l		0.153	±	1.565	27[c]	NE	600[c]
OW13B		*Total Uranium [c]*	*19.773*	*pCi/l*	=	*21.970*	*µg/L*		27[c]	NE	600[c]
OW13B	Water Quality	Alkalinity, Total as CaCO3	490	mg/L		4.5	20		500[d]	500	
OW13B	Water Quality	Total Dissolved Solids	2200	mg/L		5	5		NE	NE	
OW13B	Anion	Chloride	41	mg/L		0.11	0.6		250[d]	250	
OW13B	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
OW13B	Anion	Nitrate	0.31	mg/L	J	0.078	0.3		10	10	
OW13B	Anion	Nitrite	0.54	mg/L	J	0.072	0.3		1	1	
OW13B	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
OW13B	Anion	Sulfate	1200	mg/L		3	10		250[d]	250	
OW13B	Metal	Aluminum	64	µg/L		0.21	10		50-200[d]	NE	
OW13B	Metal	Antimony	5.2	µg/L		0.66	2		6	3	
OW13B	Metal	Arsenic	0.93	µg/L		0.18	0.4		10	25	
OW13B	Metal	Barium	9.6	µg/L		0.13	4		2000	1000	
OW13B	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
OW13B	Metal	Boron	NA	UG/L					NE	1000	
OW13B	Metal	Cadmium	0.14	µg/L	J	0.12	2		5	5	
OW13B	Metal	Calcium	170000	µg/L		430	1000		NE	NE	
OW13B	Metal	Chromium	2.1	µg/L		0.13	2		100	50	
OW13B	Metal	Cobalt	2.4	µg/L		0.12	2		NE	NE	
OW13B	Metal	Copper	1.2	µg/L		0.14	0.4		1300	200	
OW13B	Metal	Iron	330	µg/L		20	80		300[d]	300	
OW13B	Metal	Lead	0.13	µg/L	U	0.13	1.2		15	25	
OW13B	Metal	Lithium	NA	UG/L					NE	NE	
OW13B	Metal	Magnesium	270000	µg/L		270	1000		NE	NE	
OW13B	Metal	Manganese	180	µg/L		0.11	2		50[d]	300	
OW13B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW13B	Metal	Nickel	34	µg/L		0.11	2		NE	100	
OW13B	Metal	Potassium	1800	µg/L		450	1000		NE	NE	
OW13B	Metal	Selenium	2.7	µg/L		0.45	2		50	10	
OW13B	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
OW13B	Metal	Sodium	83000	µg/L		540	1500		NE	20000	
OW13B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW13B	Metal	Vanadium	0.65	µg/L		0.14	0.4		NE	14	
OW13B	Metal	Zinc	16	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/27/2009										
OW15B	Radiological	Radium-226	0.729	pCi/l		0.476	±	0.325	5[a]	5[a]	100[a]
OW15B	Radiological	Radium-228	0.509	pCi/l	U	0.896	±	0.446	5[a]	5[a]	100[a]
OW15B		*Total Radium [a]*	*Non-detect*	*pCi/l*					5[a]	5[a]	100[a]
OW15B	Radiological	Thorium-228	0.010	pCi/l	U	0.206	±	0.068	15[b]	NE	400
OW15B	Radiological	Thorium-230	0.115	pCi/l	U	0.171	±	0.129	15[b]	NE	300
OW15B	Radiological	Thorium-232	0.000	pCi/l	U	0.085	±	0.008	15[b]	NE	50
OW15B		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]	NE	NE
OW15B	Radiological	Uranium-233/234	5.628	pCi/l		0.072	±	1.122	27[c]	NE	600[c]
OW15B	Radiological	Uranium-235/236	0.147	pCi/l	U	0.198	±	0.149	27[c]	NE	600[c]
OW15B	Radiological	Uranium-238	4.013	pCi/l		0.122	±	0.873	27[c]	NE	600[c]
OW15B		*Total Uranium [c]*	*9.641*	*pCi/l*	=	*10.712*	*µg/L*		27[c]	NE	600[c]
OW15B	Water Quality	Alkalinity, Total as CaCO3	410	mg/L		4.5	20		500[d]	500	
OW15B	Water Quality	Total Dissolved Solids	900	mg/L		5	5		NE	NE	
OW15B	Anion	Chloride	5.8	mg/L		0.11	0.6		250[d]	250	
OW15B	Anion	Fluoride	0.96	mg/L		0.17	0.6		4	1.5	
OW15B	Anion	Nitrate	0.59	mg/L	J	0.078	0.3		10	10	
OW15B	Anion	Nitrite	0.072	mg/L	J	0.072	0.3		1	1	
OW15B	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
OW15B	Anion	Sulfate	400	mg/L		3	10		250[d]	250	
OW15B	Metal	Aluminum	290	µg/L		0.21	10		50-200[d]	NE	
OW15B	Metal	Antimony	0.97	µg/L		0.66	2		6	3	
OW15B	Metal	Arsenic	0.79	µg/L		0.18	0.4		10	25	
OW15B	Metal	Barium	26	µg/L		0.13	4		2000	1000	
OW15B	Metal	Beryllium	0.12	µg/L	U	0.12	0.4		4	11	
OW15B	Metal	Boron	NA	UG/L					NE	1000	
OW15B	Metal	Cadmium	0.17	µg/L	J	0.12	2		5	5	
OW15B	Metal	Calcium	97000	µg/L		430	1000		NE	NE	
OW15B	Metal	Chromium	15	µg/L		0.13	2		100	50	
OW15B	Metal	Cobalt	0.33	µg/L	J	0.12	2		NE	NE	
OW15B	Metal	Copper	7.4	µg/L		0.14	0.4		1300	200	
OW15B	Metal	Iron	520	µg/L		20	80		300[d]	300	
OW15B	Metal	Lead	1.5	µg/L		0.13	1.2		15	25	
OW15B	Metal	Lithium	NA	UG/L					NE	NE	
OW15B	Metal	Magnesium	110000	µg/L		270	1000		NE	NE	
OW15B	Metal	Manganese	11	µg/L		0.11	2		50[d]	300	
OW15B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW15B	Metal	Nickel	10	µg/L		0.11	2		NE	100	
OW15B	Metal	Potassium	1300	µg/L		450	1000		NE	NE	
OW15B	Metal	Selenium	3.4	µg/L		0.45	2		50	10	
OW15B	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
OW15B	Metal	Sodium	52000	µg/L		540	1500		NE	20000	
OW15B	Metal	Thallium	0.16	µg/L	U	0.16	2		2	NE	
OW15B	Metal	Vanadium	0.18	µg/L	J	0.14	0.4		NE	14	
OW15B	Metal	Zinc	21	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/27/2009										
OW17B	Radiological	Radium-226	0.981	pCi/l		0.454	±	0.338	5[a]	5[a]	100[a]
OW17B	Radiological	Radium-228	0.468	pCi/l	U	1.005	±	0.494	5[a]	5[a]	100[a]
OW17B		*Total Radium [a]*	*0.981*	*pCi/l*					5[a]	5[a]	100[a]
OW17B	Radiological	Thorium-228	0.017	pCi/l	U	0.214	±	0.080	15[b]	NE	400
OW17B	Radiological	Thorium-230	0.087	pCi/l	U	0.172	±	0.108	15[b]	NE	300
OW17B	Radiological	Thorium-232	0.070	pCi/l	U	0.142	±	0.093	15[b]	NE	50
OW17B		*Total Thorium [b]*	*Non-detect*	*pCi/l*					15[b]	NE	NE
OW17B	Radiological	Uranium-233/234	3.075	pCi/l		0.154	±	0.710	27[c]	NE	600[c]
OW17B	Radiological	Uranium-235/236	0.236	pCi/l		0.190	±	0.182	27[c]	NE	600[c]
OW17B	Radiological	Uranium-238	2.299	pCi/l		0.153	±	0.584	27[c]	NE	600[c]
OW17B		*Total Uranium [c]*	*5.610*	*pCi/l*	=	*6.233*	*µg/L*		27[c]	NE	600[c]
OW17B	Water Quality	Alkalinity, Total as CaCO3	430	mg/L		4.5	20		500[d]	500	
OW17B	Water Quality	Total Dissolved Solids	960	mg/L		5	5		NE	NE	
OW17B	Anion	Chloride	9.2	mg/L		0.11	0.6		250[d]	250	
OW17B	Anion	Fluoride	0.84	mg/L		0.17	0.6		4	1.5	
OW17B	Anion	Nitrate	1	mg/L	J	0.078	0.3		10	10	
OW17B	Anion	Nitrite	0.37	mg/L	J	0.072	0.3		1	1	
OW17B	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
OW17B	Anion	Sulfate	420	mg/L		3	10		250[d]	250	
OW17B	Metal	Aluminum	9	µg/L	J	0.21	10		50-200[d]	NE	
OW17B	Metal	Antimony	1.5	µg/L		0.66	2		6	3	
OW17B	Metal	Arsenic	1.3	µg/L		0.18	0.4		10	25	
OW17B	Metal	Barium	11	µg/L		0.13	4		2000	1000	
OW17B	Metal	Beryllium	0.21	µg/L	J	0.12	0.4		4	11	
OW17B	Metal	Boron	NA	UG/L					NE	1000	
OW17B	Metal	Cadmium	0.51	µg/L	J	0.12	2		5	5	
OW17B	Metal	Calcium	67000	µg/L		430	1000		NE	NE	
OW17B	Metal	Chromium	3.7	µg/L		0.13	2		100	50	
OW17B	Metal	Cobalt	0.66	µg/L	J	0.12	2		NE	NE	
OW17B	Metal	Copper	3.9	µg/L		0.14	0.4		1300	200	
OW17B	Metal	Iron	130	µg/L		20	80		300[d]	300	
OW17B	Metal	Lead	0.35	µg/L	J	0.13	1.2		15	25	
OW17B	Metal	Lithium	NA	UG/L					NE	NE	
OW17B	Metal	Magnesium	130000	µg/L		270	1000		NE	NE	
OW17B	Metal	Manganese	5.9	µg/L		0.11	2		50[d]	300	
OW17B	Metal	Mercury	0.027	µg/L	U	0.027	0.2		2	0.7	
OW17B	Metal	Nickel	15	µg/L		0.11	2		NE	100	
OW17B	Metal	Potassium	2200	µg/L		450	1000		NE	NE	
OW17B	Metal	Selenium	3.7	µg/L		0.45	2		50	10	
OW17B	Metal	Silver	0.39	µg/L	U	0.39	2		100[d]	50	
OW17B	Metal	Sodium	60000	µg/L		540	1500		NE	20000	
OW17B	Metal	Thallium	0.3	µg/L	J	0.16	2		2	NE	
OW17B	Metal	Vanadium	1	µg/L		0.14	0.4		NE	14	
OW17B	Metal	Zinc	20	µg/L		0.38	2		5000[d]	NE	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/29/2009										
313	Radiological	Uranium-233/234	24.740	pCi/l		0.171	±	3.877	27[c]	NE	600[c]
313	Radiological	Uranium-235/236	1.540	pCi/l		0.175	±	0.499	27[c]	NE	600[c]
313	Radiological	Uranium-238	20.190	pCi/l		0.071	±	3.223	27[c]	NE	600[c]
313		*Total Uranium[c]*	*46.470*	*pCi/l*	=	*51.633*	*µg/L*		27[c]	NE	600[c]
313	Water Quality	Alkalinity, Total as CaCO3	550	mg/L		4.5	20		500[d]	500	
313	Water Quality	Total Dissolved Solids	4700	mg/L		5	5		NE	NE	
313	Anion	Chloride	0.66	mg/L		0.11	0.6		250[d]	250	
313	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
313	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
313	Anion	Nitrite	0.072	mg/L	U	0.072	0.3		1	1	
313	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
313	Anion	Sulfate	17	mg/L		0.18	0.6		250[d]	250	
Sample Date:	10/29/2009										
505	Radiological	Uranium-233/234	17.950	pCi/l		0.081	±	3.013	27[c]	NE	600[c]
505	Radiological	Uranium-235/236	0.775	pCi/l		0.100	±	0.357	27[c]	NE	600[c]
505	Radiological	Uranium-238	13.190	pCi/l		0.138	±	2.306	27[c]	NE	600[c]
505		*Total Uranium[c]*	*31.915*	*pCi/l*	=	*35.461*	*µg/L*		27[c]	NE	600[c]
505	Water Quality	Alkalinity, Total as CaCO3	740	mg/L		4.5	20		500[d]	500	
505	Water Quality	Total Dissolved Solids	4300	mg/L		5	5		NE	NE	
505	Anion	Chloride	6.2	mg/L		0.11	0.6		250[d]	250	
505	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
505	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
505	Anion	Nitrite	0.32	mg/L	J	0.072	0.3		1	1	
505	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
505	Anion	Sulfate	2100	mg/L		3	10		250[d]	250	
Sample Date:	10/28/2009										
302A	Radiological	Uranium-233/234	57.740	pCi/l		0.201	±	9.144	27[c]	NE	600[c]
302A	Radiological	Uranium-235/236	3.145	pCi/l		0.222	±	0.863	27[c]	NE	600[c]
302A	Radiological	Uranium-238	41.610	pCi/l		0.153	±	6.704	27[c]	NE	600[c]
302A		*Total Uranium[c]*	*102.495*	*pCi/l*	=	*113.883*	*µg/L*		27[c]	NE	600[c]
302A	Water Quality	Alkalinity, Total as CaCO3	540	mg/L		4.5	20		500[d]	500	
302A	Water Quality	Total Dissolved Solids	9100	mg/L		5	5		NE	NE	
302A	Anion	Chloride	38	mg/L		0.11	0.6		250[d]	250	
302A	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
302A	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
302A	Anion	Nitrite	0.51	mg/L	J	0.072	0.3		1	1	
302A	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
302A	Anion	Sulfate	5500	mg/L		30	100		250[d]	250	
Sample Date:	10/27/2009										
A42	Radiological	Uranium-233/234	42.870	pCi/l		0.679	±	7.115	27[c]	NE	600[c]
A42	Radiological	Uranium-235/236	2.255	pCi/l		0.952	±	1.047	27[c]	NE	600[c]
A42	Radiological	Uranium-238	39.330	pCi/l		0.676	±	6.603	27[c]	NE	600[c]
A42		*Total Uranium[c]*	*84.455*	*pCi/l*	=	*93.839*	*µg/L*		27[c]	NE	600[c]
A42	Water Quality	Alkalinity, Total as CaCO3	470	mg/L		4.5	20		500[d]	500	
A42	Water Quality	Total Dissolved Solids	910	mg/L		5	5		NE	NE	
A42	Anion	Chloride	14	mg/L		0.11	0.6		250[d]	250	
A42	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
A42	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
A42	Anion	Nitrite	0.072	mg/L	U	0.072	0.3		1	1	
A42	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
A42	Anion	Sulfate	310	mg/L		3	10		250[d]	250	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/26/2009										
BH49A	Radiological	Uranium-233/234	6.382	pCi/l		0.164	±	1.177	27[c]	NE	600[c]
BH49A	Radiological	Uranium-235/236	0.342	pCi/l		0.134	±	0.206	27[c]	NE	600[c]
BH49A	Radiological	Uranium-238	4.923	pCi/l		0.108	±	0.963	27[c]	NE	600[c]
BH49A		*Total Uranium* [c]	*11.647*	*pCi/l*	=	*12.941*	*µg/L*		27[c]	NE	600[c]
BH49A	Water Quality	Alkalinity, Total as CaCO3	410	mg/L		4.5	20		500[d]	500	
BH49A	Water Quality	Total Dissolved Solids	1300	mg/L		5	5		NE	NE	
BH49A	Anion	Chloride	44	mg/L		0.11	0.6		250[d]	250	
BH49A	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
BH49A	Anion	Nitrate	1	mg/L	J	0.078	0.3		10	10	
BH49A	Anion	Nitrite	0.53	mg/L	J	0.072	0.3		1	1	
BH49A	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
BH49A	Anion	Sulfate	540	mg/L		3	10		250[d]	250	
Sample Date:	10/26/2009										
OW04A	Radiological	Uranium-233/234	1.093	pCi/l		0.139	±	0.370	27[c]	NE	600[c]
OW04A	Radiological	Uranium-235/236	0.100	pCi/l	U	0.221	±	0.130	27[c]	NE	600[c]
OW04A	Radiological	Uranium-238	0.421	pCi/l		0.154	±	0.219	27[c]	NE	600[c]
OW04A		*Total Uranium* [c]	*1.514*	*pCi/l*	=	*1.682*	*µg/L*		27[c]	NE	600[c]
OW04A	Water Quality	Alkalinity, Total as CaCO3	160	mg/L		4.5	20		500[d]	500	
OW04A	Water Quality	Total Dissolved Solids	1000	mg/L		5	5		NE	NE	
OW04A	Anion	Chloride	35	mg/L		0.11	0.6		250[d]	250	
OW04A	Anion	Fluoride	1.00	mg/L		0.17	0.6		4	1.5	
OW04A	Anion	Nitrate	0.078	mg/L	J	0.078	0.3		10	10	
OW04A	Anion	Nitrite	0.072	mg/L	J	0.072	0.3		1	1	
OW04A	Anion	Ortho-phosphate	0.13	mg/L	J	0.13	0.6		NE	NE	
OW04A	Anion	Sulfate	530	mg/L		3	10		250[d]	250	
Sample Date:	10/27/2009										
OW11B	Radiological	Uranium-233/234	123.000	pCi/l		1.238	±	20.057	27[c]	NE	600[c]
OW11B	Radiological	Uranium-235/236	5.821	pCi/l		1.528	±	2.708	27[c]	NE	600[c]
OW11B	Radiological	Uranium-238	118.600	pCi/l		1.488	±	19.426	27[c]	NE	600[c]
OW11B		*Total Uranium* [c]	*247.421*	*pCi/l*	=	*274.912*	*µg/L*		27[c]	NE	600[c]
OW11B	Water Quality	Alkalinity, Total as CaCO3	340	mg/L		4.5	20		500[d]	500	
OW11B	Water Quality	Total Dissolved Solids	1200	mg/L		5	5		NE	NE	
OW11B	Anion	Chloride	15	mg/L		0.11	0.6		250[d]	250	
OW11B	Anion	Fluoride	0.77	mg/L		0.17	0.6		4	1.5	
OW11B	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
OW11B	Anion	Nitrite	0.31	mg/L	J	0.072	0.3		1	1	
OW11B	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
OW11B	Anion	Sulfate	570	mg/L		3	10		250[d]	250	
Sample Date:	10/27/2009										
OW18B	Radiological	Uranium-233/234	6.529	pCi/l		0.138	±	1.233	27[c]	NE	600[c]
OW18B	Radiological	Uranium-235/236	0.413	pCi/l		0.220	±	0.243	27[c]	NE	600[c]
OW18B	Radiological	Uranium-238	5.610	pCi/l		0.153	±	1.096	27[c]	NE	600[c]
OW18B		*Total Uranium* [c]	*12.552*	*pCi/l*	=	*13.946*	*µg/L*		27[c]	NE	600[c]
OW18B	Water Quality	Alkalinity, Total as CaCO3	560	mg/L		4.5	20		500[d]	500	
OW18B	Water Quality	Total Dissolved Solids	1800	mg/L		5	5		NE	NE	
OW18B	Anion	Chloride	25	mg/L		0.11	0.6		250[d]	250	
OW18B	Anion	Fluoride	0.71	mg/L		0.17	0.6		4	1.5	
OW18B	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
OW18B	Anion	Nitrite	0.49	mg/L	J	0.072	0.3		1	1	
OW18B	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
OW18B	Anion	Sulfate	890	mg/L		3	10		250[d]	250	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/28/2009										
415A	Radiological	Uranium-233/234	8.037	pCi/l		0.134	±	1.440	27[c]	NE	600[c]
415A	Radiological	Uranium-235/236	0.270	pCi/l		0.141	±	0.187	27[c]	NE	600[c]
415A	Radiological	Uranium-238	6.478	pCi/l		0.114	±	1.212	27[c]	NE	600[c]
415A		*Total Uranium* [c]	*14.785*	*pCi/l*	=	*16.427*	*µg/L*		27[c]	NE	600[c]
415A	Water Quality	Total Dissolved Solids	580.0	mg/L		4.5	20.0		500[d]	500	
415A	Water Quality	Alkalinity, Total as CaCO3	42000.0	mg/L		5.0	5.0		NE	NE	
415A	Anion	Chloride	190	mg/L		18	100		250[d]	250	
415A	Anion	Fluoride	0.17	mg/L	U	0.17	0.6		4	1.5	
415A	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
415A	Anion	Nitrite	0.072	mg/L	U	0.072	0.3		1	1	
415A	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
415A	Anion	Sulfate	880	mg/L		30	100		250[d]	250	
415A	VOC	1,1,1-Trichloroethane	160	µg/L	U	160	1000		200	5	
415A	VOC	1,1,2,2-Tetrachloroethane	290	µg/L	U	290	1000		NE	5	
415A	VOC	1,1,2-Trichloroethane	270	µg/L	U	270	1000		5	1	
415A	VOC	1,1-Dichloroethane	250	µg/L	U	250	1000		NE	5	
415A	VOC	1,1-Dichloroethylene	190	µg/L	U	190	1000		7	5	
415A	VOC	1,2-Dichloroethane	190	µg/L	U	190	1000		5	0.6	
415A	VOC	1,2-Dichloropropane	350	µg/L	U	350	1000		5	1	
415A	VOC	2-Butanone[g]	280	µg/L	U	280	10000		NE	NE	
415A	VOC	2-Hexanone	210	µg/L	U	210	5000		NE	NE	
415A	VOC	4-Methyl-2-pentanone	400	µg/L	U	400	5000		NE	NE	
415A	VOC	Acetone[g]	440	µg/L	U	440	5000		NE	NE	
415A	VOC	Benzene	200	µg/L	U	200	1000		5	1	
415A	VOC	Bromodichloromethane	180	µg/L	U	180	1000		NE	NE	
415A	VOC	Bromoform	330	µg/L	U	330	1000		NE	NE	
415A	VOC	Bromomethane	1200	µg/L	U	1200	5000		NE	5	
415A	VOC	Carbon disulfide	150	µg/L	U	150	1000		NE	60	
415A	VOC	Carbon tetrachloride	360	µg/L	U	360	1000		5	5	
415A	VOC	Chlorobenzene	220	µg/L	U	220	1000		100	5	
415A	VOC	Chloroethane	420	µg/L	U	420	2000		NE	5	
415A	VOC	Chloroform	190	µg/L	U	190	1000		NE	7	
415A	VOC	Chloromethane	220	µg/L	U	220	1000		NE	5	
415A	VOC	cis-1,2-Dichloroethylene	7700	µg/L		170	1000		70	5	
415A	VOC	cis-1,3-Dichloropropylene	170	µg/L	U	170	1000		NE	0.4[e]	
415A	VOC	Ethylbenzene	200	µg/L	U	200	1000		700	5	
415A	VOC	Methylene chloride[g]	670	µg/L	J	200	5000		5	5	
415A	VOC	Styrene	200	µg/L	U	200	1000		100	5	
415A	VOC	Tetrachloroethylene	79000	µg/L		260	1000		5	5	
415A	VOC	Toluene[g]	200	µg/L	U	200	1000		1000	5	
415A	VOC	trans-1,2-Dichloroethylene	180	µg/L	U	180	1000		100	5	
415A	VOC	trans-1,3-Dichloropropylene	200	µg/L	U	200	1000		NE	0.4[e]	
415A	VOC	Trichloroethylene	11000	µg/L		270	1000		5	5	
415A	VOC	Vinyl chloride	460	µg/L	J	240	1000		2	2	
415A	VOC	Xylenes (total)	660	µg/L	U	660	3000		10000	5[f]	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L
Sample Date:	10/28/2009										
201A	Water Quality	Total Dissolved Solids	1300	mg/L		5	5		500[d]	500	
201A	Water Quality	Alkalinity, Total as CaCO3	480	mg/L		4.5	20		NE	NE	
201A	Anion	Chloride	140	mg/L		0.11	0.6		250[d]	250	
201A	Anion	Fluoride	3.2	mg/L		0.17	0.6		4	1.5	
201A	Anion	Nitrate	0.078	mg/L	U	0.078	0.3		10	10	
201A	Anion	Nitrite	0.072	mg/L	U	0.072	0.3		1	1	
201A	Anion	Ortho-phosphate	0.13	mg/L	U	0.13	0.6		NE	NE	
201A	Anion	Sulfate	620	mg/L		3	10		250[d]	250	
201A	VOC	1,1,1-Trichloroethane	0.16	µg/L	U	0.16	1		200	5	
201A	VOC	1,1,2,2-Tetrachloroethane	0.29	µg/L	U	0.29	1		NE	5	
201A	VOC	1,1,2-Trichloroethane	0.27	µg/L	U	0.27	1		5	1	
201A	VOC	1,1-Dichloroethane	0.25	µg/L	U	0.25	1		NE	5	
201A	VOC	1,1-Dichloroethylene	0.19	µg/L	U	0.19	1		7	5	
201A	VOC	1,2-Dichloroethane	0.19	µg/L	U	0.19	1		5	0.6	
201A	VOC	1,2-Dichloropropane	0.35	µg/L	U	0.35	1		5	1	
201A	VOC	2-Butanone[g]	0.28	µg/L	U	0.28	10		NE	NE	
201A	VOC	2-Hexanone	0.21	µg/L	U	0.21	5		NE	NE	
201A	VOC	4-Methyl-2-pentanone	0.4	µg/L	U	0.4	5		NE	NE	
201A	VOC	Acetone[g]	0.44	µg/L	U	0.44	5		NE	NE	
201A	VOC	Benzene	0.2	µg/L	U	0.2	1		5	1	
201A	VOC	Bromodichloromethane	0.18	µg/L	U	0.18	1		NE	NE	
201A	VOC	Bromoform	0.33	µg/L	U	0.33	1		NE	NE	
201A	VOC	Bromomethane	1.2	µg/L	U	1.2	5		NE	5	
201A	VOC	Carbon disulfide	0.15	µg/L	U	0.15	1		NE	60	
201A	VOC	Carbon tetrachloride	0.36	µg/L	U	0.36	1		5	5	
201A	VOC	Chlorobenzene	0.22	µg/L	U	0.22	1		100	5	
201A	VOC	Chloroethane	0.42	µg/L	U	0.42	2		NE	5	
201A	VOC	Chloroform	0.19	µg/L	U	0.19	1		NE	7	
201A	VOC	Chloromethane	0.22	µg/L	U	0.22	1		NE	5	
201A	VOC	cis-1,2-Dichloroethylene	1.6	µg/L		0.17	1		70	5	
201A	VOC	cis-1,3-Dichloropropylene	0.17	µg/L	U	0.17	1		NE	0.4[e]	
201A	VOC	Ethylbenzene	0.2	µg/L	U	0.2	1		700	5	
201A	VOC	Methylene chloride[g]	0.2	µg/L	U	0.2	5		5	5	
201A	VOC	Styrene	0.2	µg/L	U	0.2	1		100	5	
201A	VOC	Tetrachloroethylene	38	µg/L		0.26	1		5	5	
201A	VOC	Toluene[g]	0.2	µg/L	U	0.2	1		1000	5	
201A	VOC	trans-1,2-Dichloroethylene	0.18	µg/L	U	0.18	1		100	5	
201A	VOC	trans-1,3-Dichloropropylene	0.2	µg/L	U	0.2	1		NE	0.4[e]	
201A	VOC	Trichloroethylene	3.9	µg/L		0.27	1		5	5	
201A	VOC	Vinyl chloride	0.24	µg/L	U	0.24	1		2	2	
201A	VOC	Xylenes (total)	0.66	µg/L	U	0.66	3		10000	5[f]	

NFSS WELL ID*	PARAMETER*	ANALYTE	RESULT	UNITS*	QUALIFIER*	Detection Limit	Reporting Limit	Radiological Uncertainity (±)	Federal Regualitons MCLs**	NY State Water Quality Stds.**	DOE DCGs** pCi/L

*NFSS WELL ID
BO2W20S - Background
GW-DUP(OW04B) - Field Duplicate of well location OW04B

*PARAMETER
VOC - Volatile Organic Compound
PAH - Polynuclear Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl

*UNITS
PCI/L - picocuries per liter
UG/L - micrograms per liter (ppb)

*QUALIFIER
Validated Qualifier: J - indicates an estimated value.
Validated Qualifier: U - indicates that no analyte was detected (Non-Detect).

*DETECTION LIMIT
Radiological - Minimum Detectable Activity (MDA)
Organic and Inorganic - Method Detection Limit

**** Groundwater at NFSS is not a drinking water source.**
The above federal and state regulation concentrations are for comparative purposes only.

Federal Regulations:
National Primary Drinking Water Regulations 40CFR141.62&63

US Dept of Energy:
USDOE derived concentration guide (USDOE Order 5400.5) for drinking water.

New York State:
New York State Standards -Water Quality Criteria (class GA) per 6 NYCRR, Part 703.
NE - Not Established

a. Applies to the sum of Ra-226 and Ra-228
b. "Adjusted" gross alpha MCL of 15 pCi/, including Thorium isotopes, excluding radon and uranium
-National Primary Drinking Water Regulations; Radionuclide; Final Rule (Federal Register -December 7, 2000)
c. Sum of Uranium Isotopes (27 PCI/L or 30 UG/L).
d. National Secondary Drinking Water Regulations (40CFR143.3)
e. Applies to the sum of cis- and trans-1,3-dichloropropene, CAS Nos. 10061-01-5 and 10061-02-6, respectively.
f. Not a sum total for Dimethyl Benzene (Xylene) , applies to 1,2--Xylene, 1,3-Xylene and 1,4-Xylene individually.
g. Common laboratory contaminant.

US Army Corps of Engineers ®
Buffalo District

FUSRAP NIAGARA FALLS STORAGE SITE

2009

FIGURES

ENVIRONMENTAL SURVEILLANCE TECHNICAL MEMORANDUM

NFSS SITE LOCATION **Figure 1**

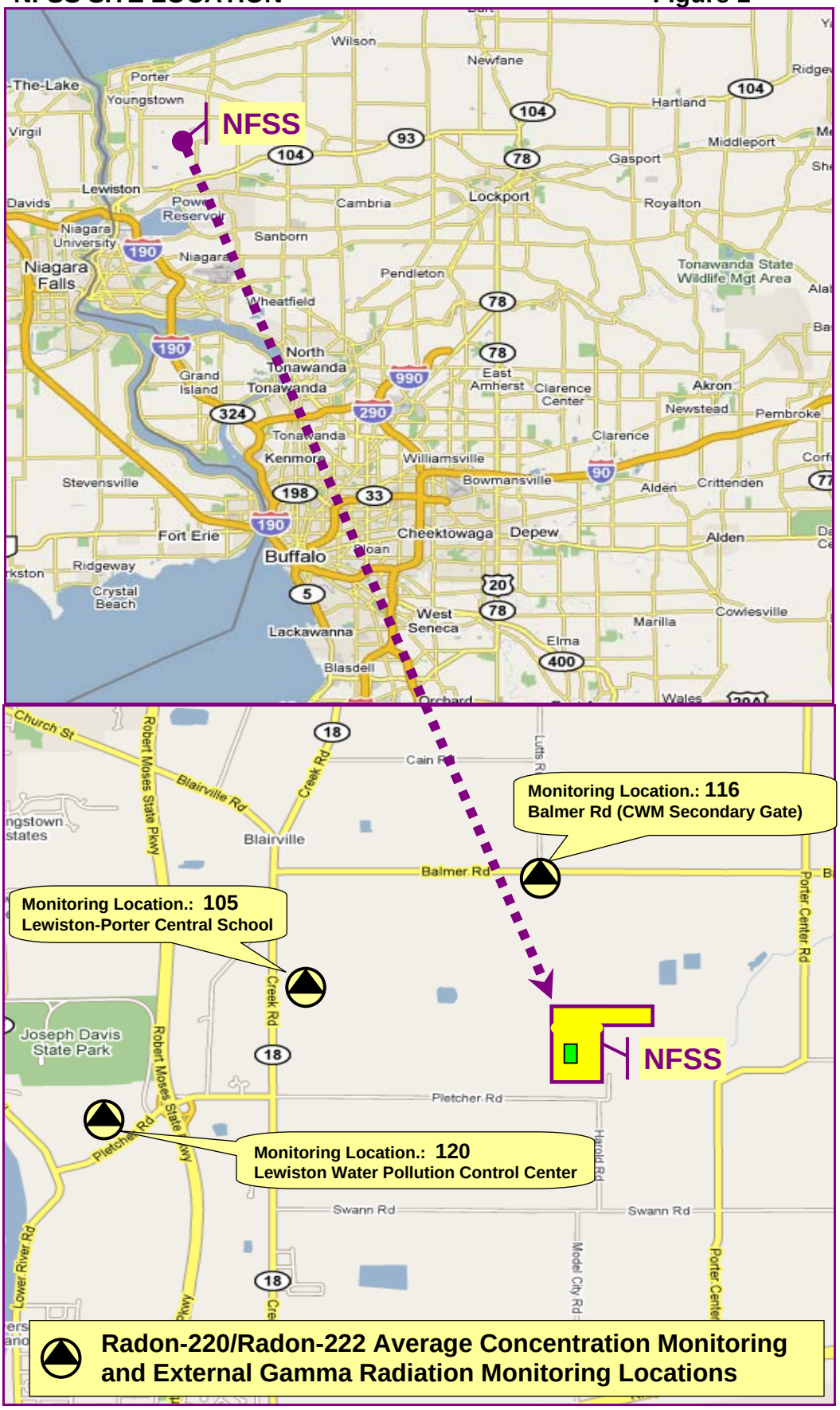


Figure 2a NFSS Environmental Surveillance Program Groundwater Wells

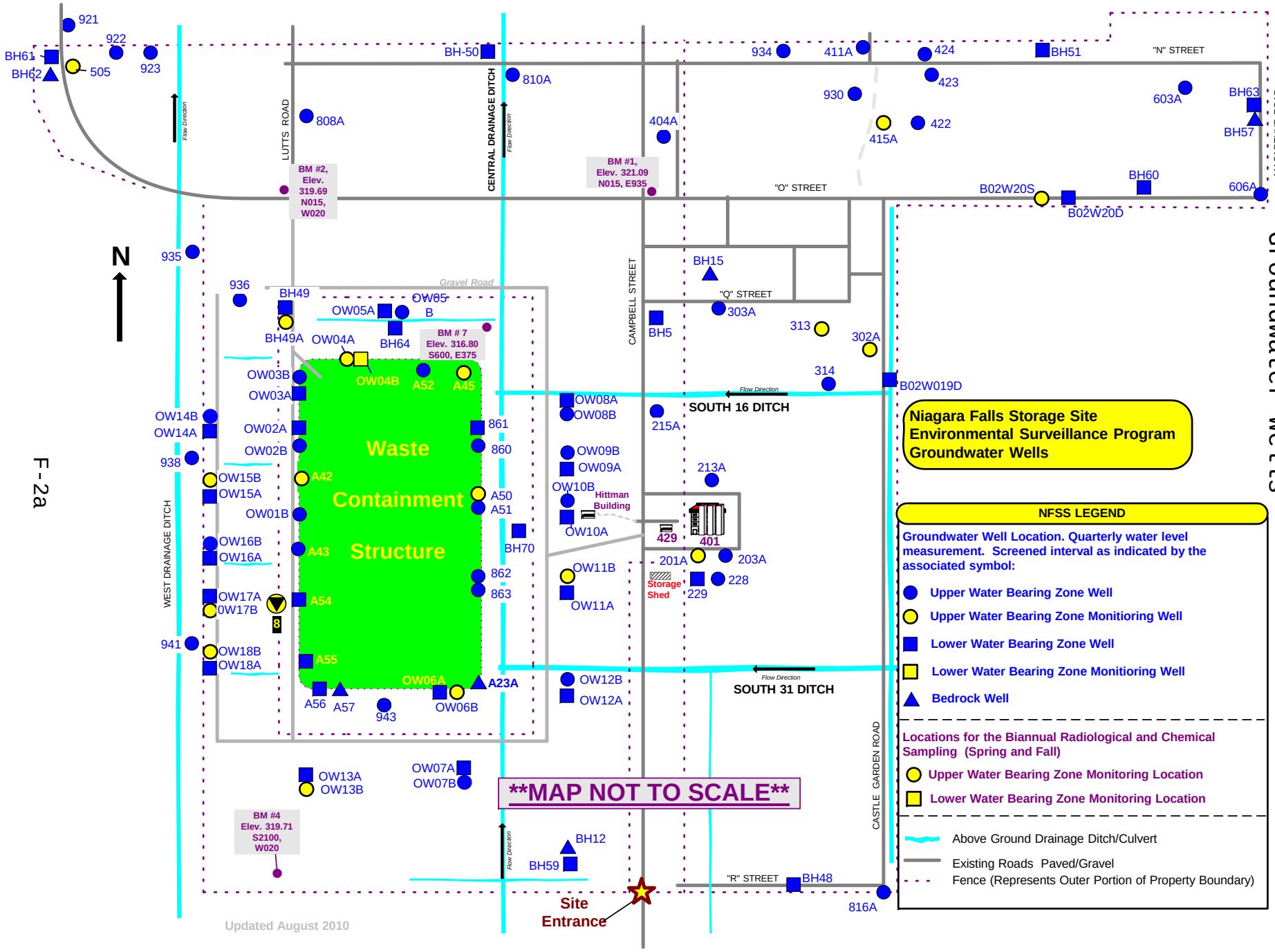


Figure 2b NFSS Environmental Surveillance Surface Water and Sediment Sampling Locations

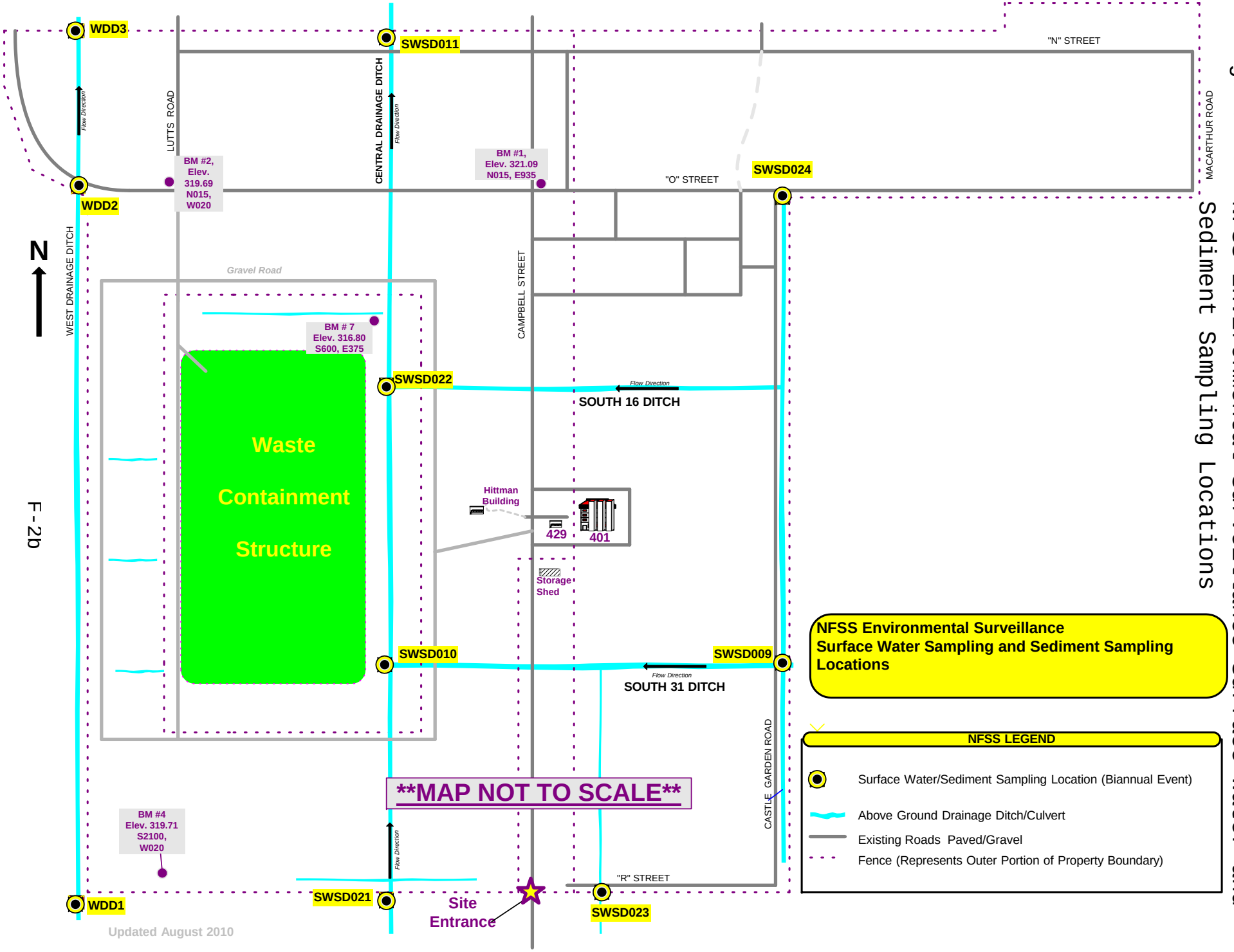
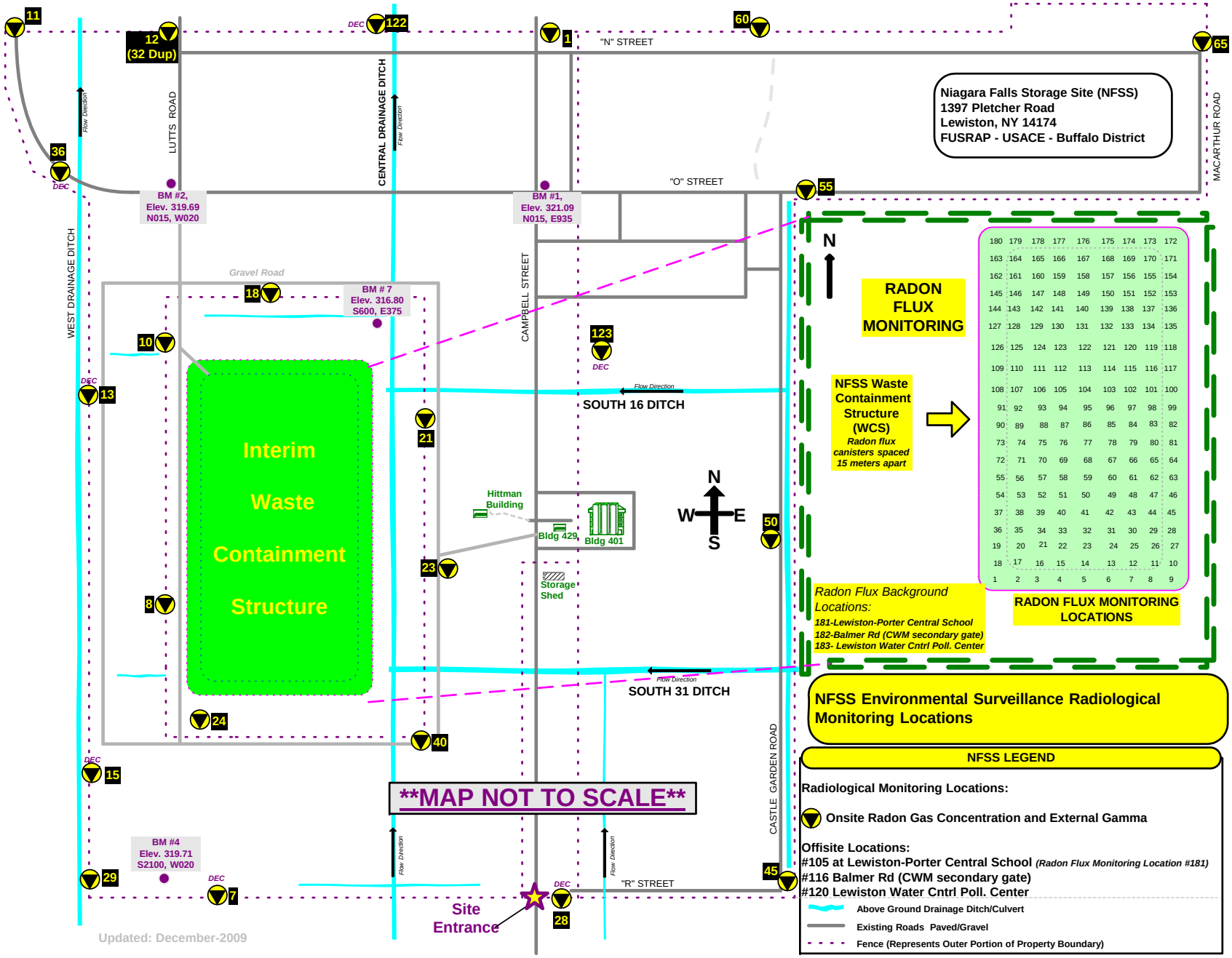


Figure 2c NFSS Environmental Surveillance Radiological Monitoring Locations



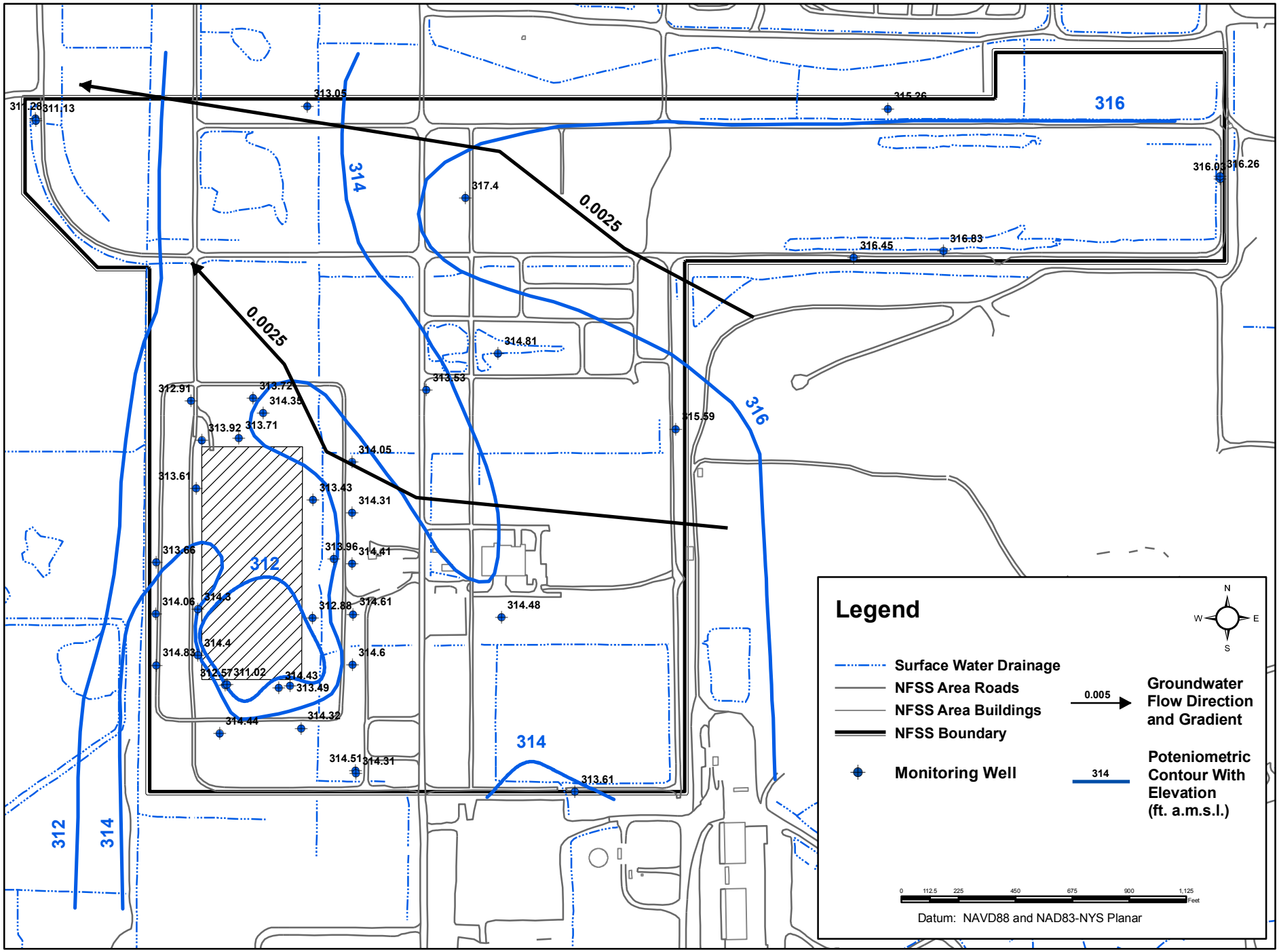


Figure 3
Seasonal High Potentiometric Surface Map (May 19, 2009)
Lower Groundwater System

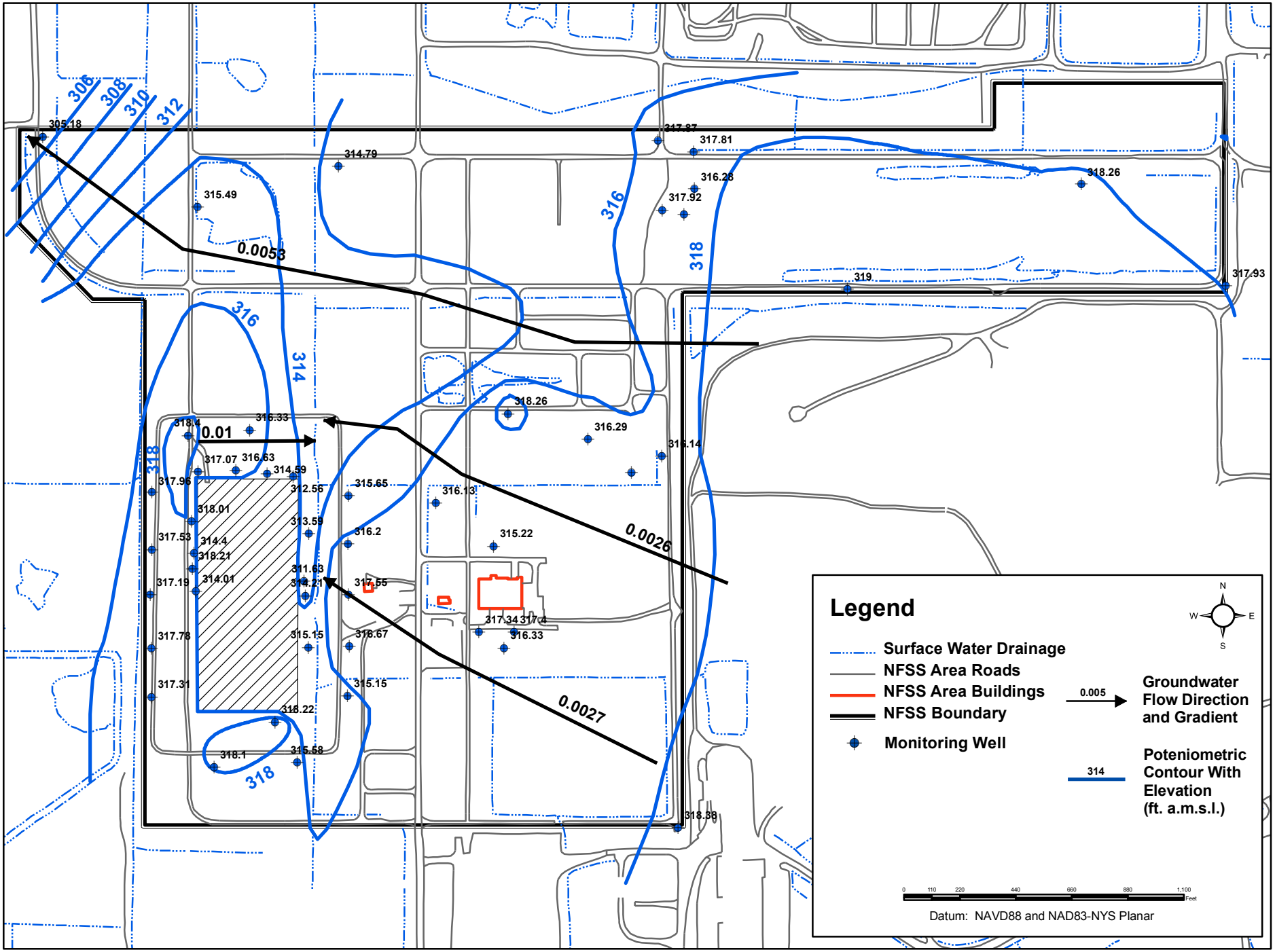


Figure 4
Seasonal High Potentiometric Surface Map (February 17, 2009)
Upper Groundwater System

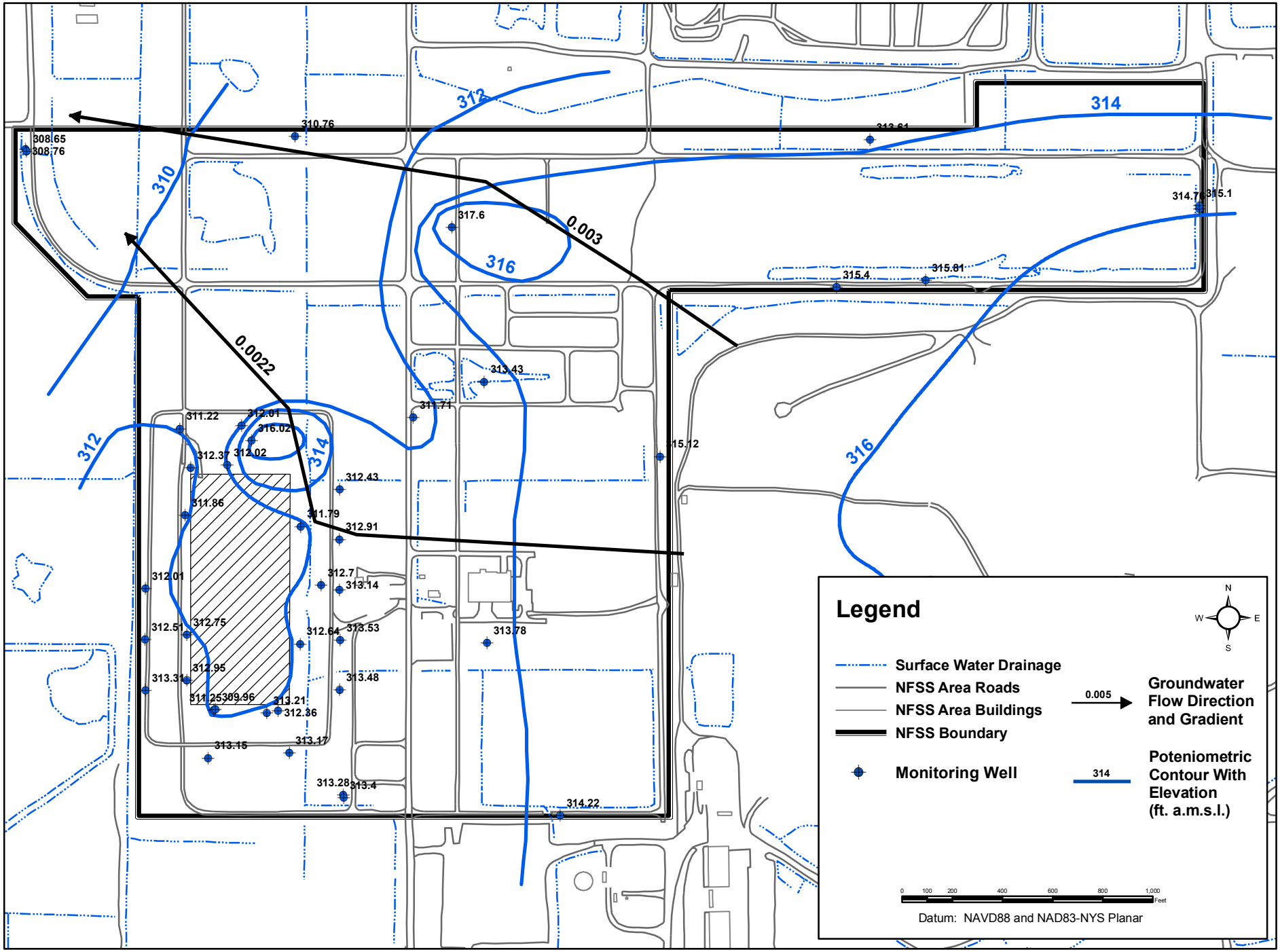


Figure 5
Seasonal Low Potentiometric Surface Map (February 17, 2009)
Lower Groundwater System

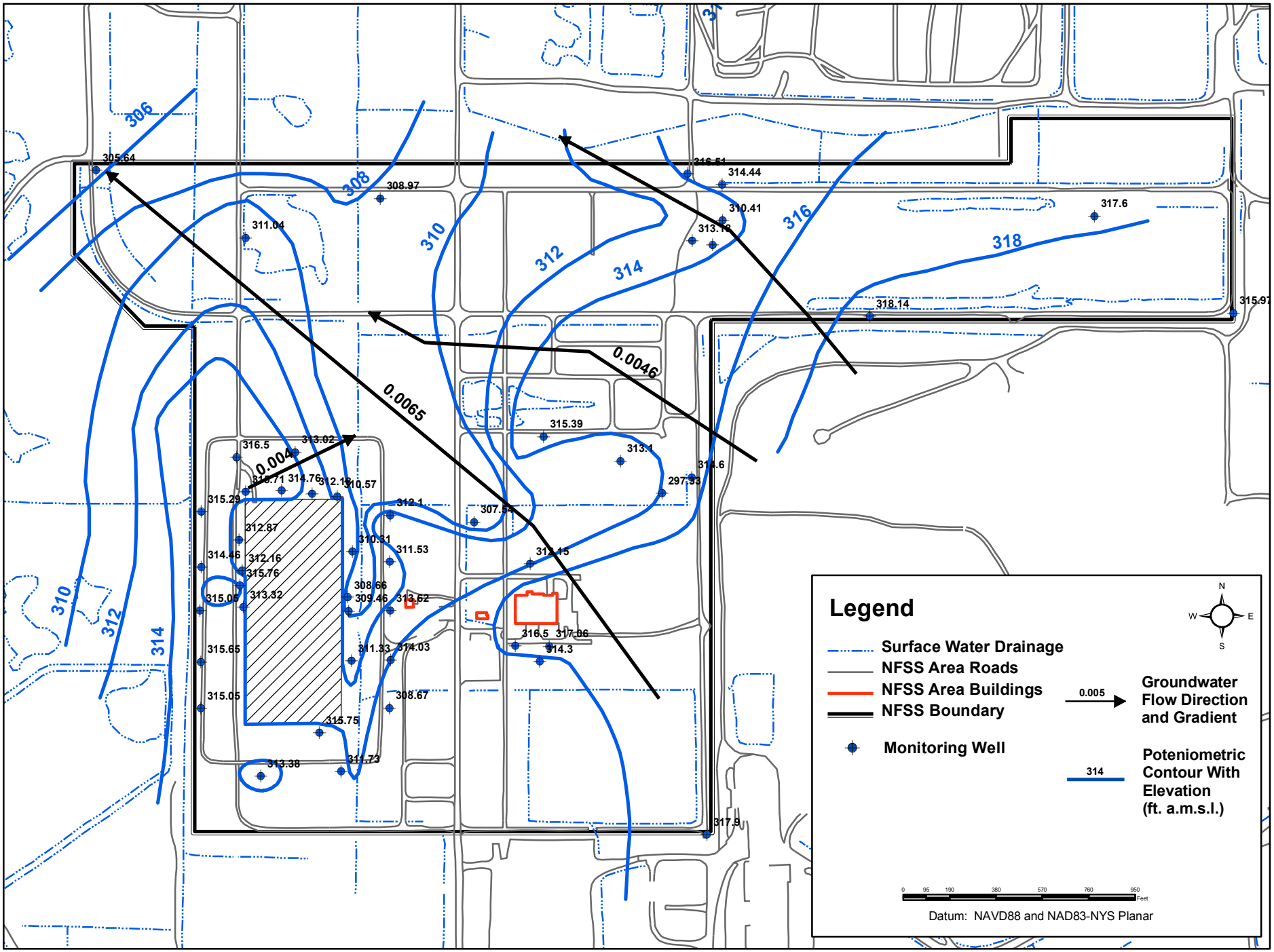
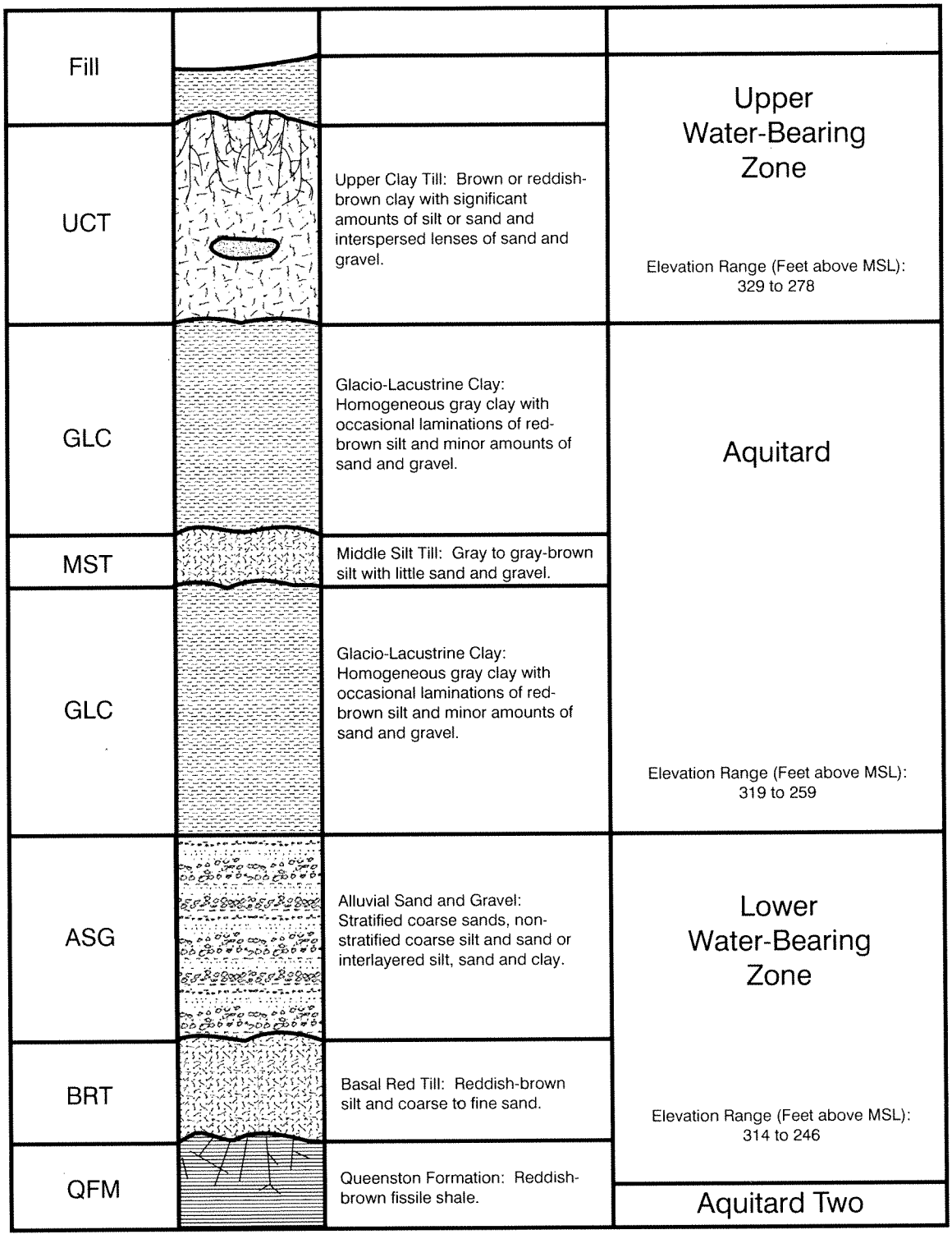


Figure 6
Seasonal Low Potentiometric Surface Map (October 20, 2009)
Upper Groundwater System



Filename: S:\Buf001\ArcView\Flow Calibration Tech Memo\hydrostratigraphy.cdr
Project: BUF001-004-05-03
Created by: apassarelli 03/26/02
Revised: 04/17/02 asp
Source: HydroGeoLogic, Inc., 2002

HYDRO GeoLogic INC.

Figure 7

Schematic of Conceptualized Hydrostratigraphy

Figure 8: Census Data

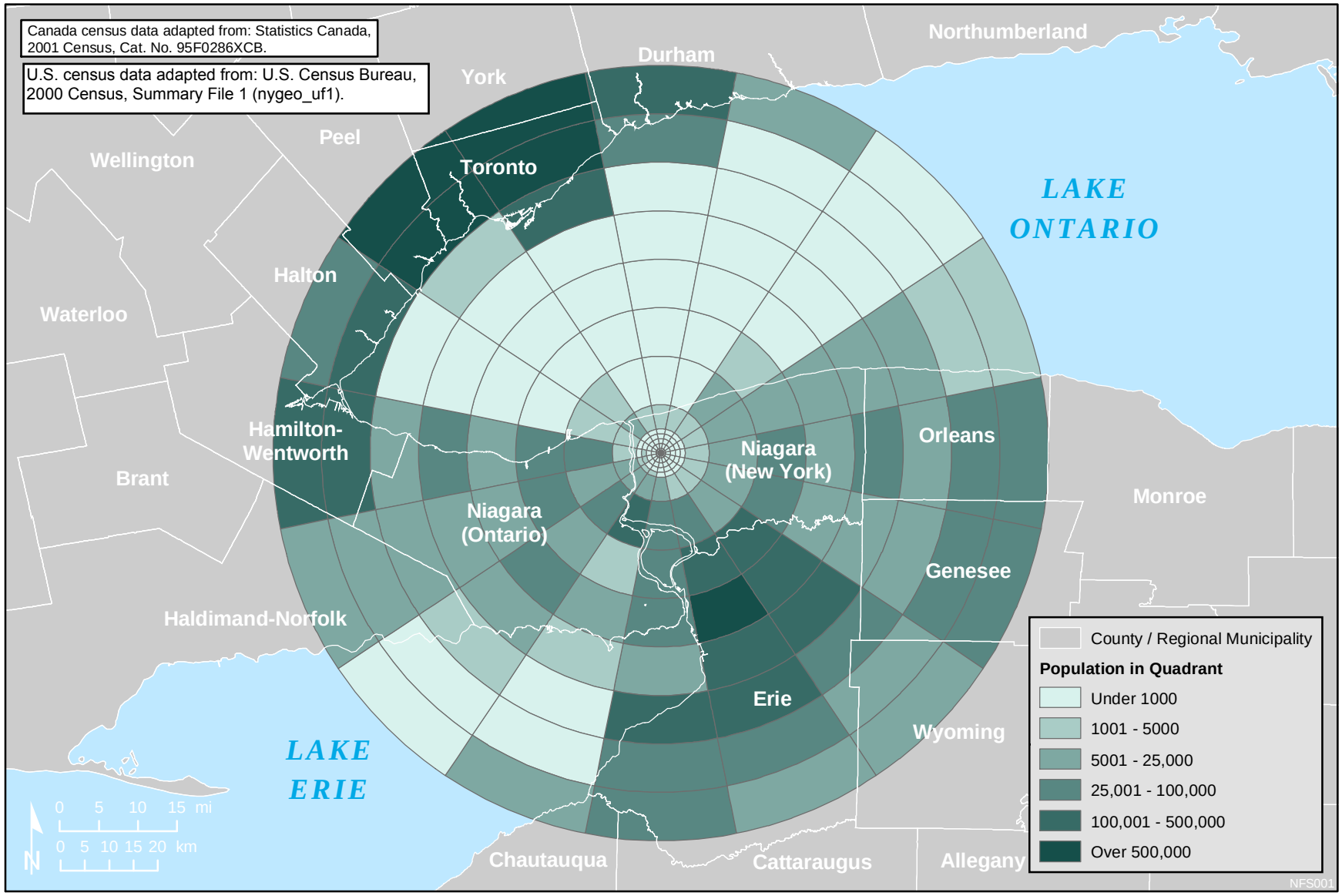
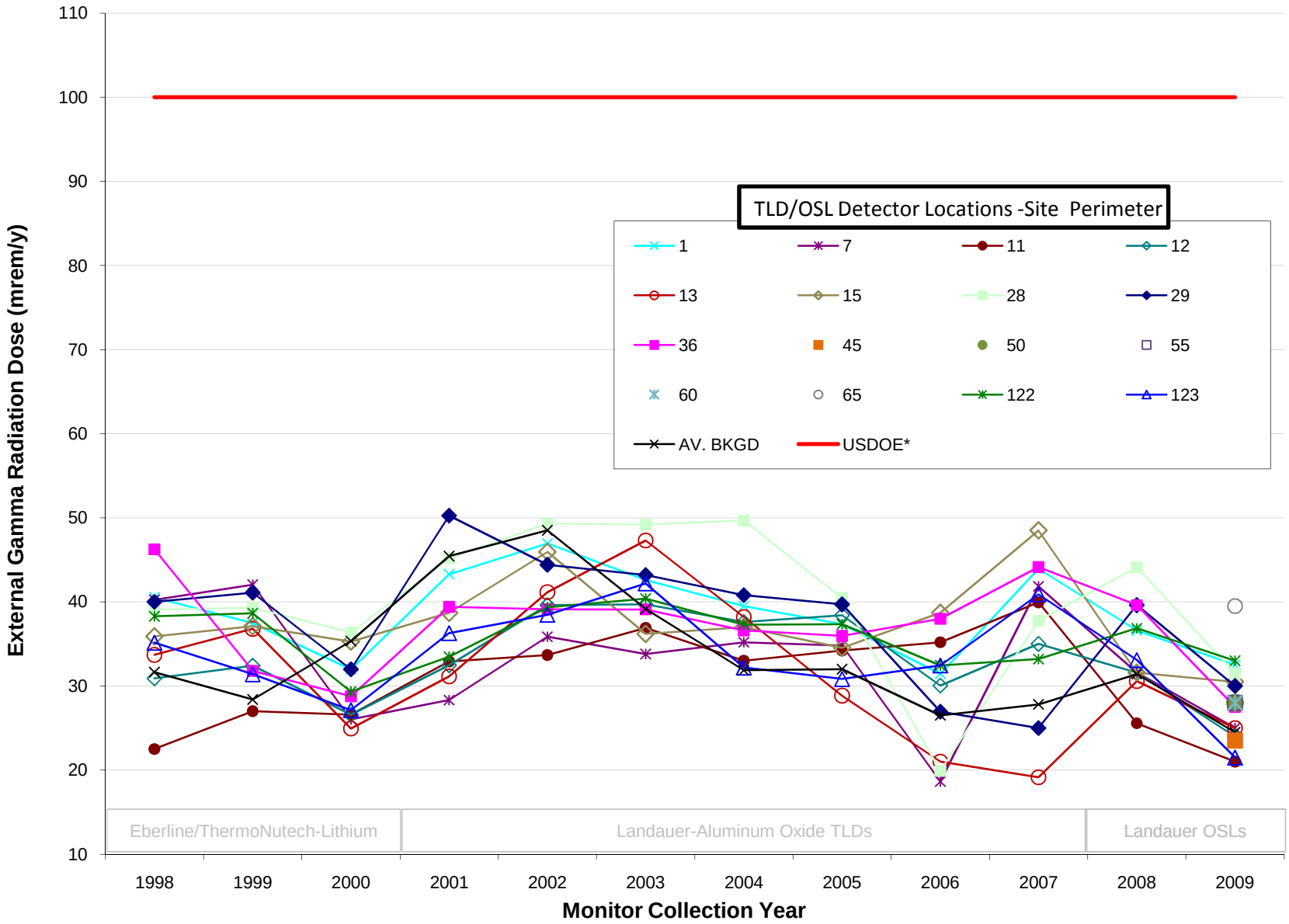
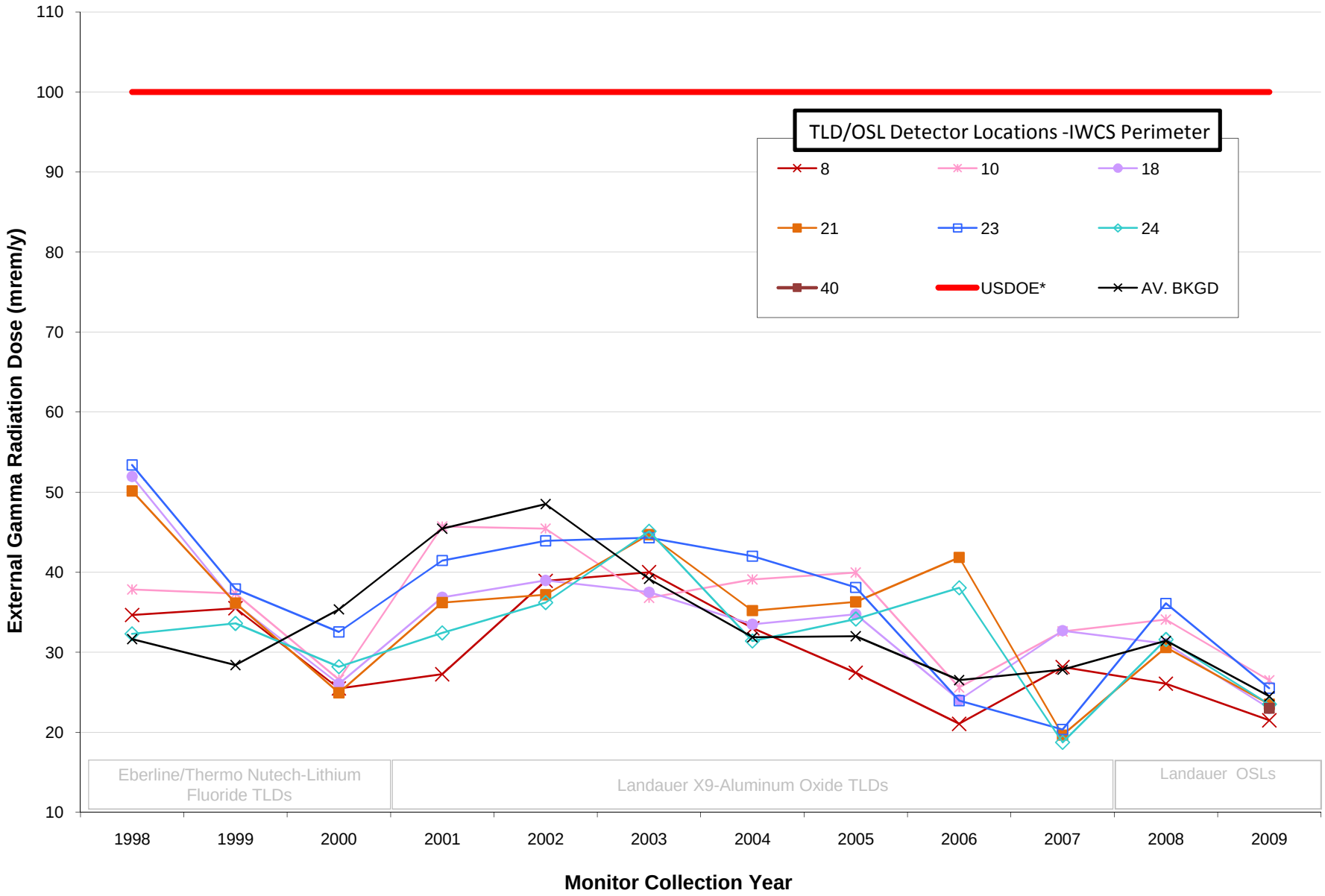


FIGURE 9: EXTERNAL GAMMA RADIATION DOSE RATES AT NFSS PERIMETER



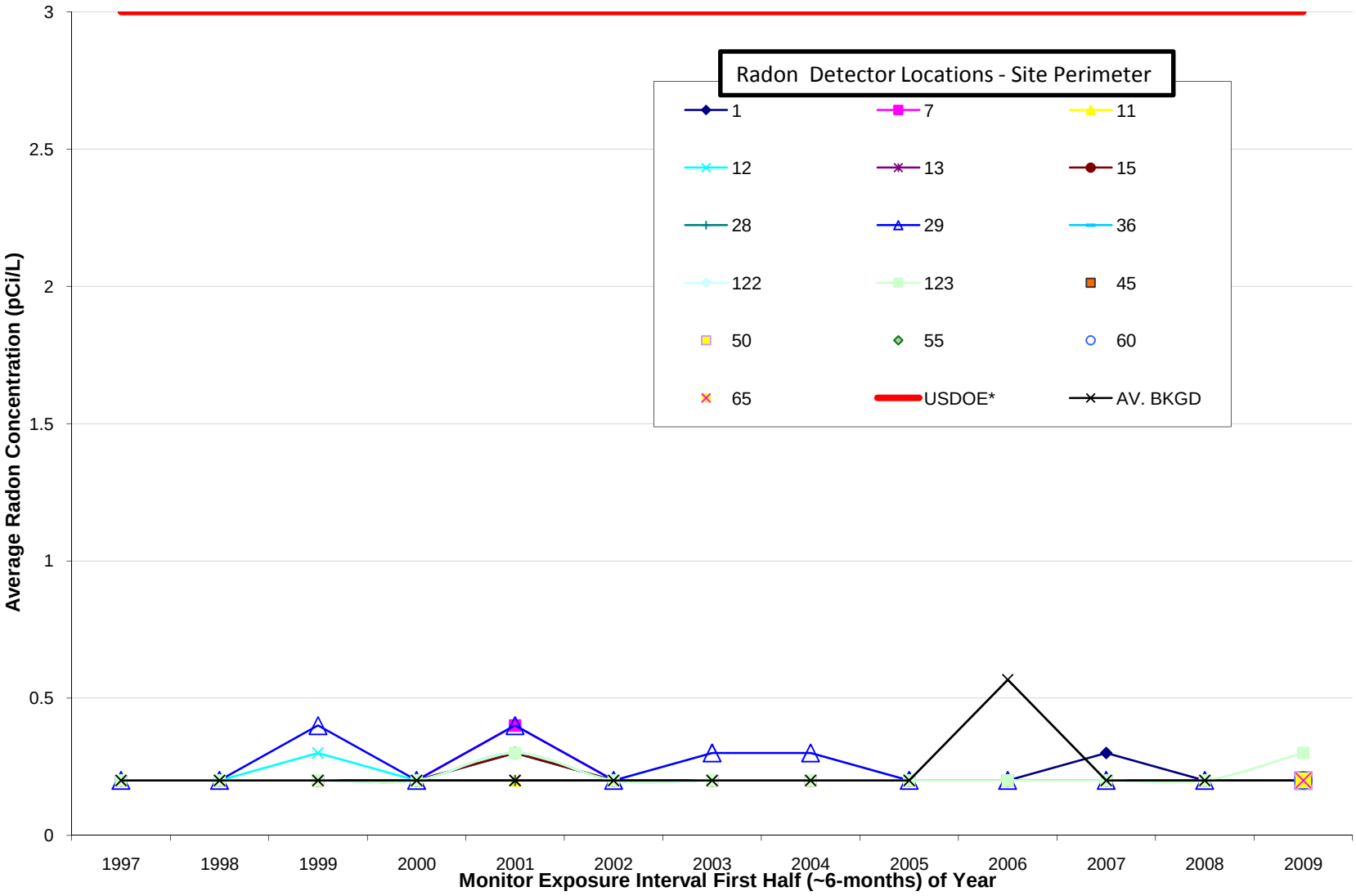
*The United States Department of Energy (USDOE) limit for external gamma radiation is 100 mrem/year above background.
**Locations added in 2009: 45, 50, 55, 60 and 65

FIGURE 10: EXTERNAL GAMMA RADIATION DOSE RATES AT IWCS PERIMETER



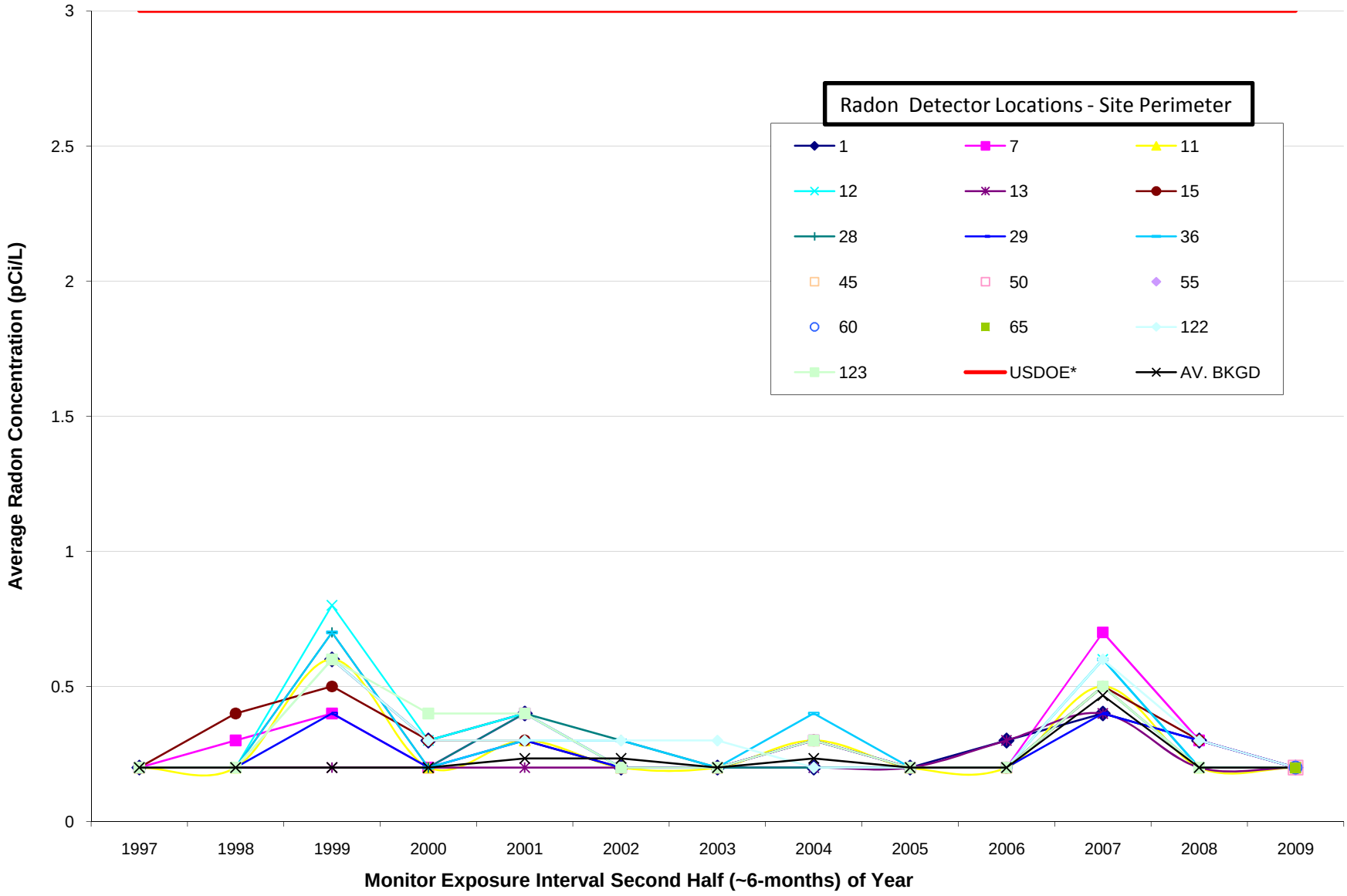
*The United States Department of Energy (USDOE) limit for external gamma radiation is 100 mrem/year above background.
**Location added in 2009: 40

FIGURE 11: RADON GAS CONCENTRATION AT NFSS PERIMETER (JAN-JULY INTERVAL)



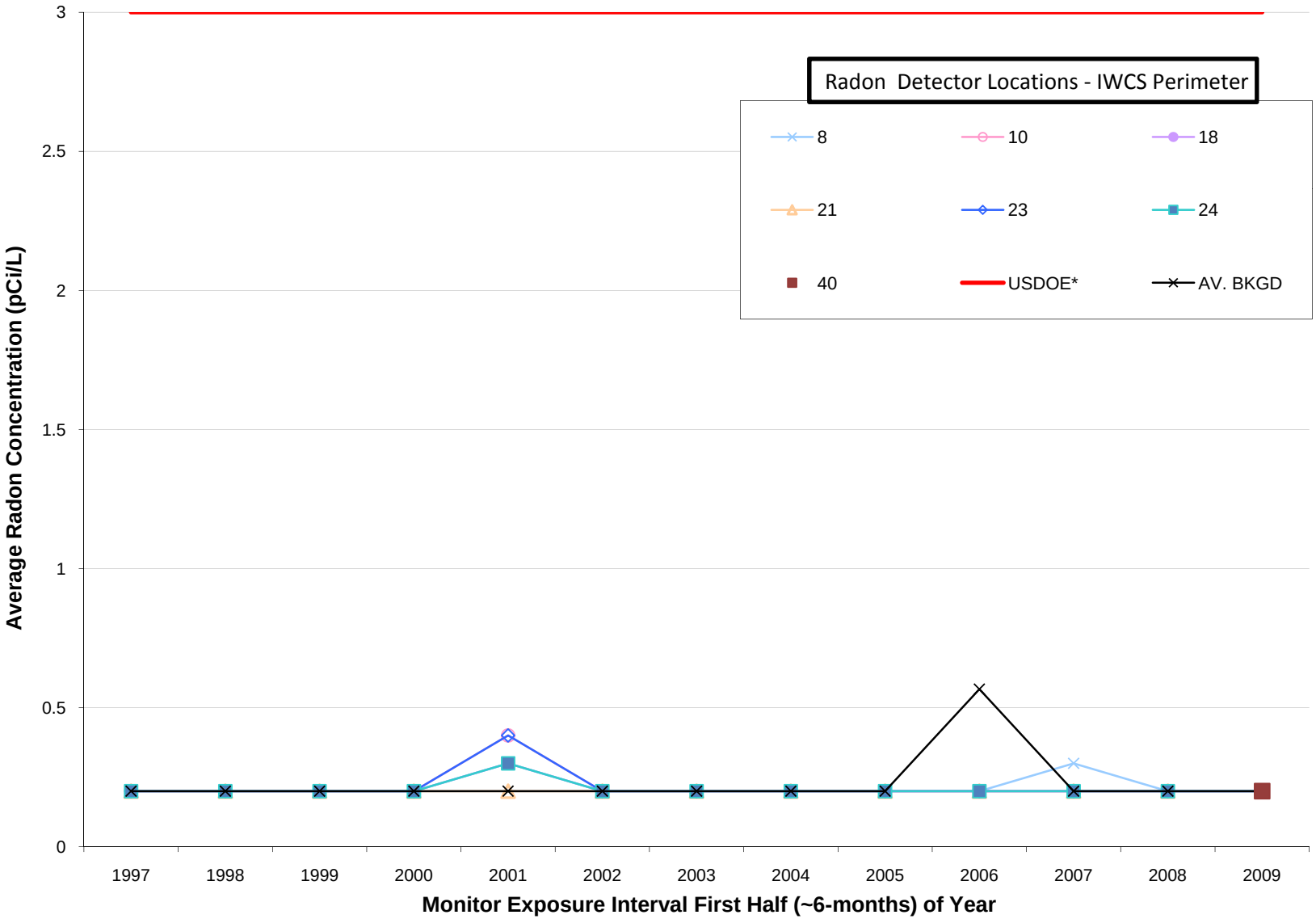
*The United States Department of Energy (USDOE) off-site limit for radon gas is 3.0 pCi/L above background.
**Locations added in 2009: 45, 50, 55, 60 and 65
Note: Above values contain detects and non-detects (detection limit is 0.2 pCi/L).

FIGURE 12: RADON GAS CONCENTRATION AT NFSS PERIMETER (JUL-JAN INTERVAL)



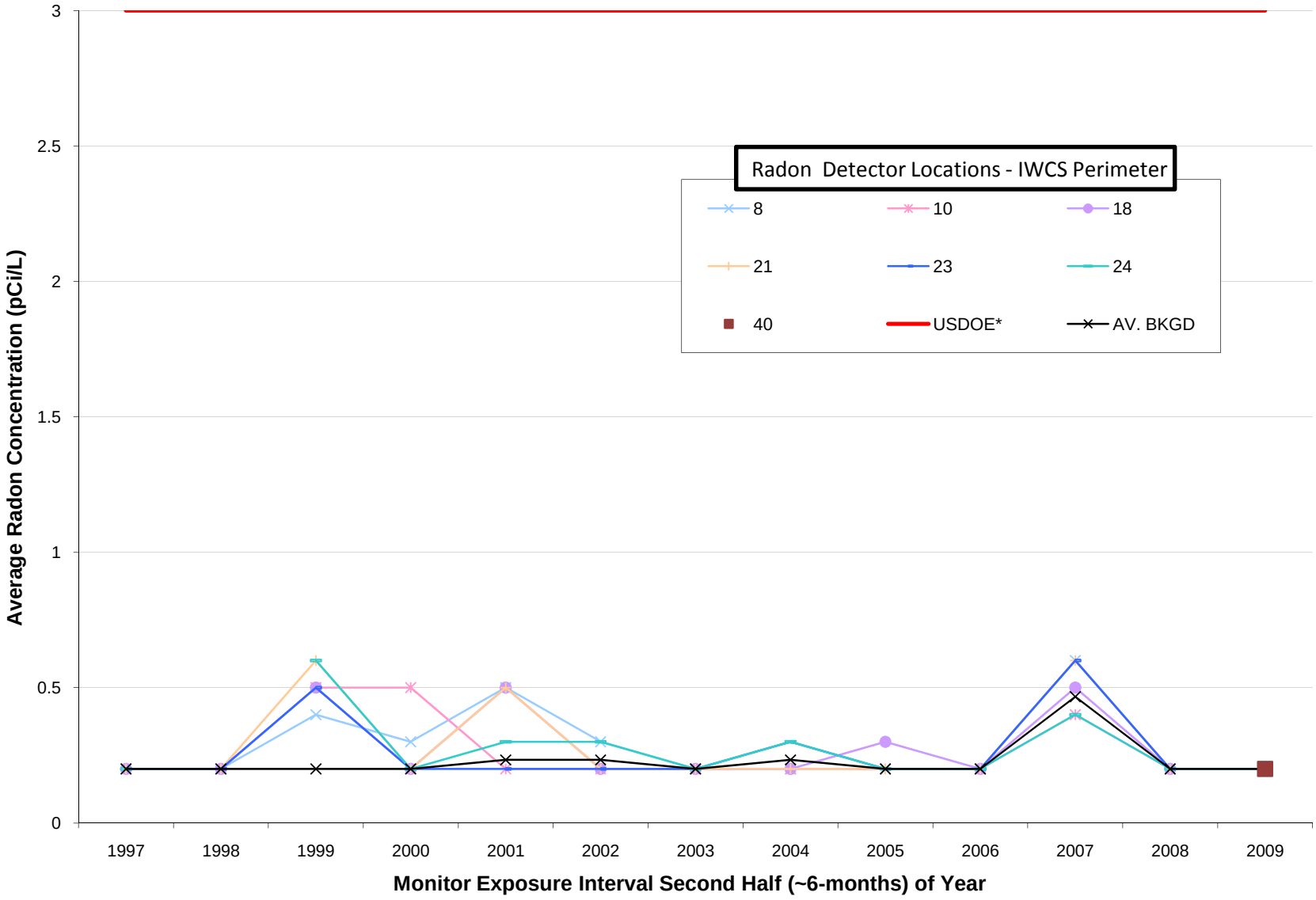
*The United States Department of Energy (USDOE) off-site limit for radon gas is 3.0 pCi/L above background.
**Locations added in 2009: 45, 50, 55, 60 and 65
Note: Above values contain detects and non-detects (detection limit is 0.2 pCi/L).

FIGURE 13: RADON GAS CONCENTRATION AT IWCS PERIMETER (JAN-JULY INTERVAL)



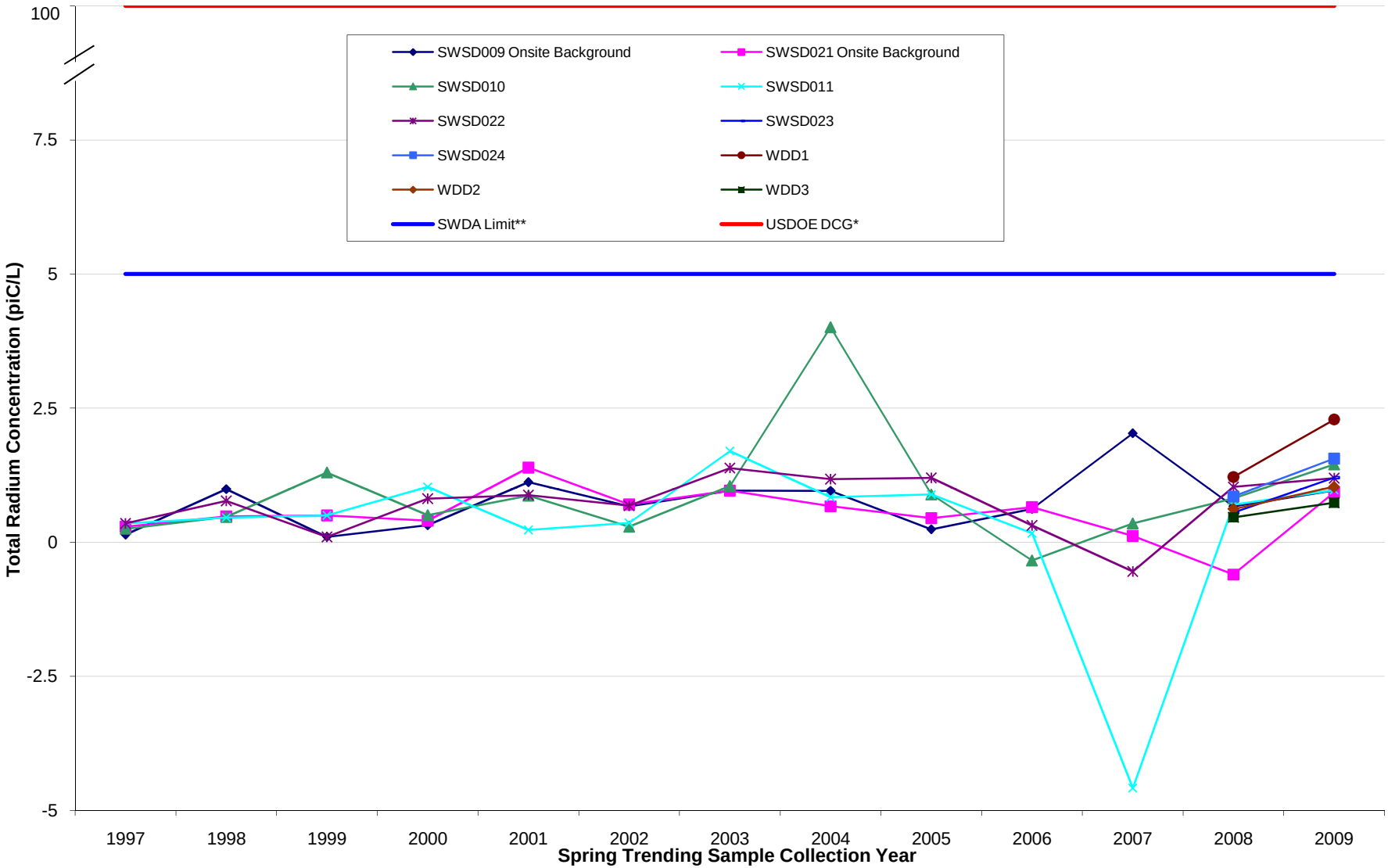
*The United States Department of Energy (USDOE) off-site limit for radon gas is 3.0 pCi/L above background.
**Location added in 2009: 40

FIGURE 14: RADON GAS CONCENTRATION AT IWCS PERIMETER (JULY-JAN INTERVAL)



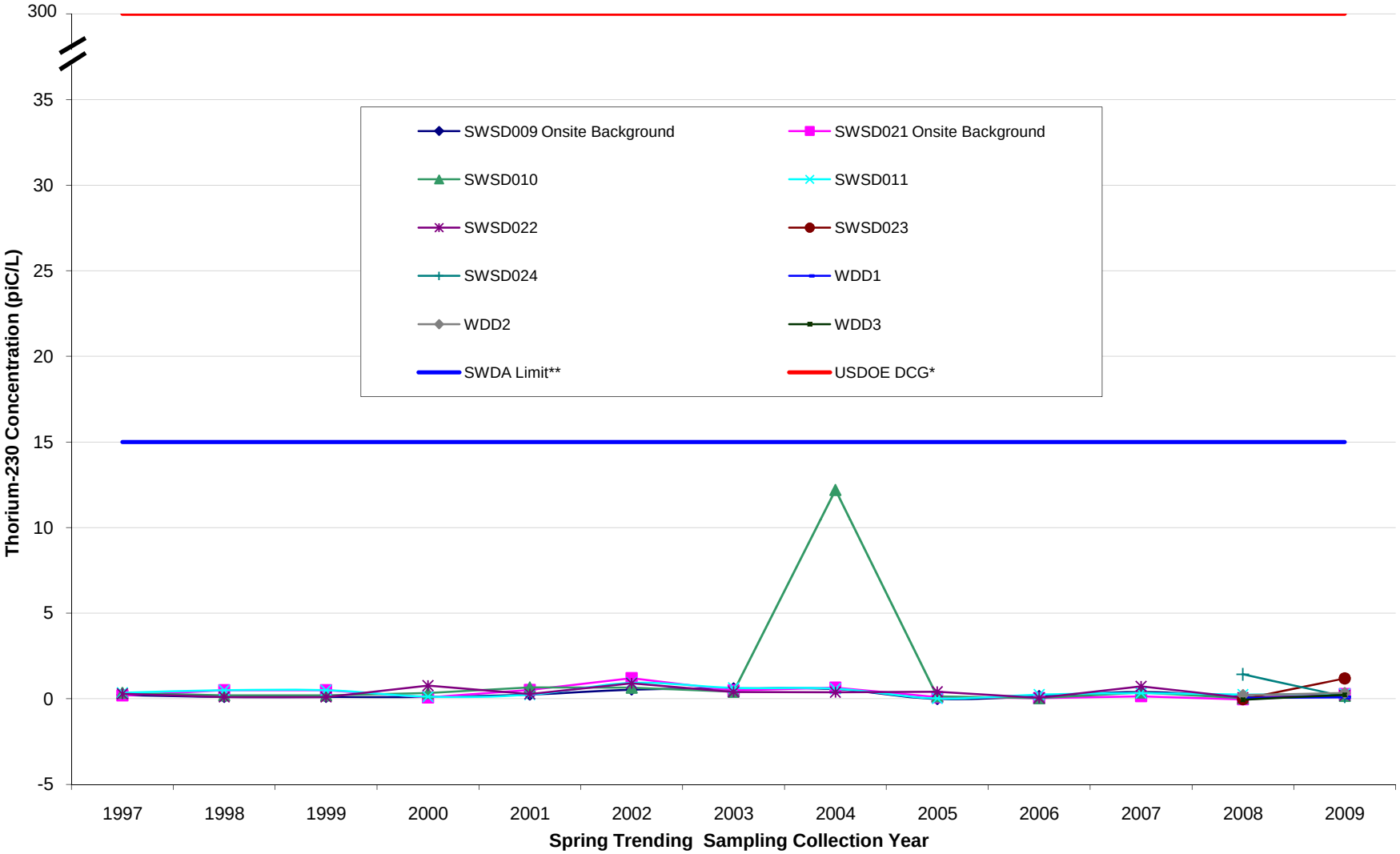
*The United States Department of Energy (USDOE) off-site limit for radon gas is 3.0 pCi/L above background.
**Location added in 2009: 40
Note: Above values contain detects and non-detects (detection limit is 0.2 pCi/L).

FIGURE 15: TOTAL RADIUM (RADIUM-226 AND RADIUM-228) CONCENTRATION IN SURFACE WATER
Spring Sample Collection



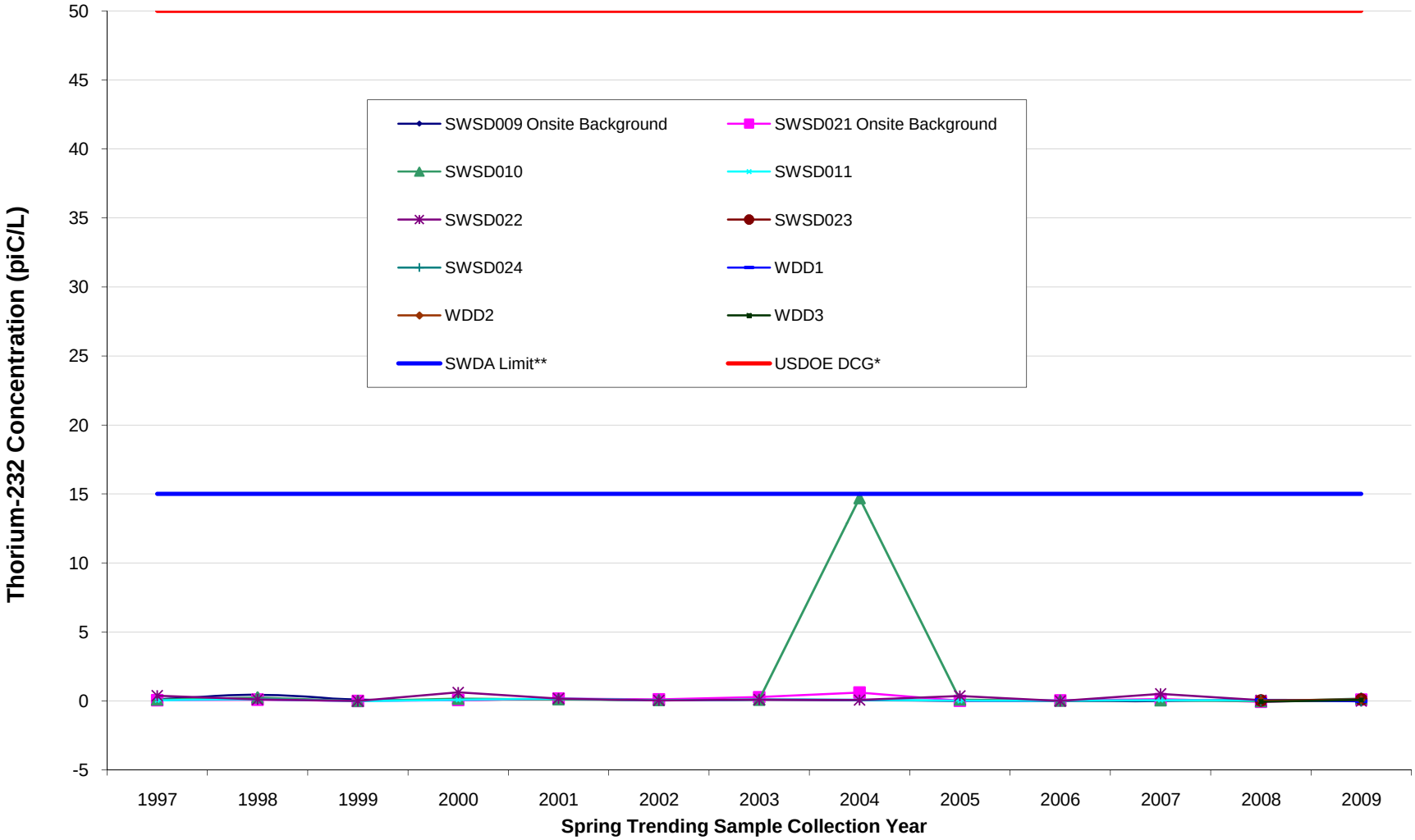
* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for Total Radium is 100 pCi/L.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Total Radium is 5 pCi/L. Surface water at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: 2004 findings for sample SWSD010 was attributed to excess turbidity of the sample.
Note 2: Above combined radium values include both detect and non-detect values.
Note 3: New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 16: THORIUM-230 CONCENTRATION IN SURFACE WATER
Spring Sample Collection



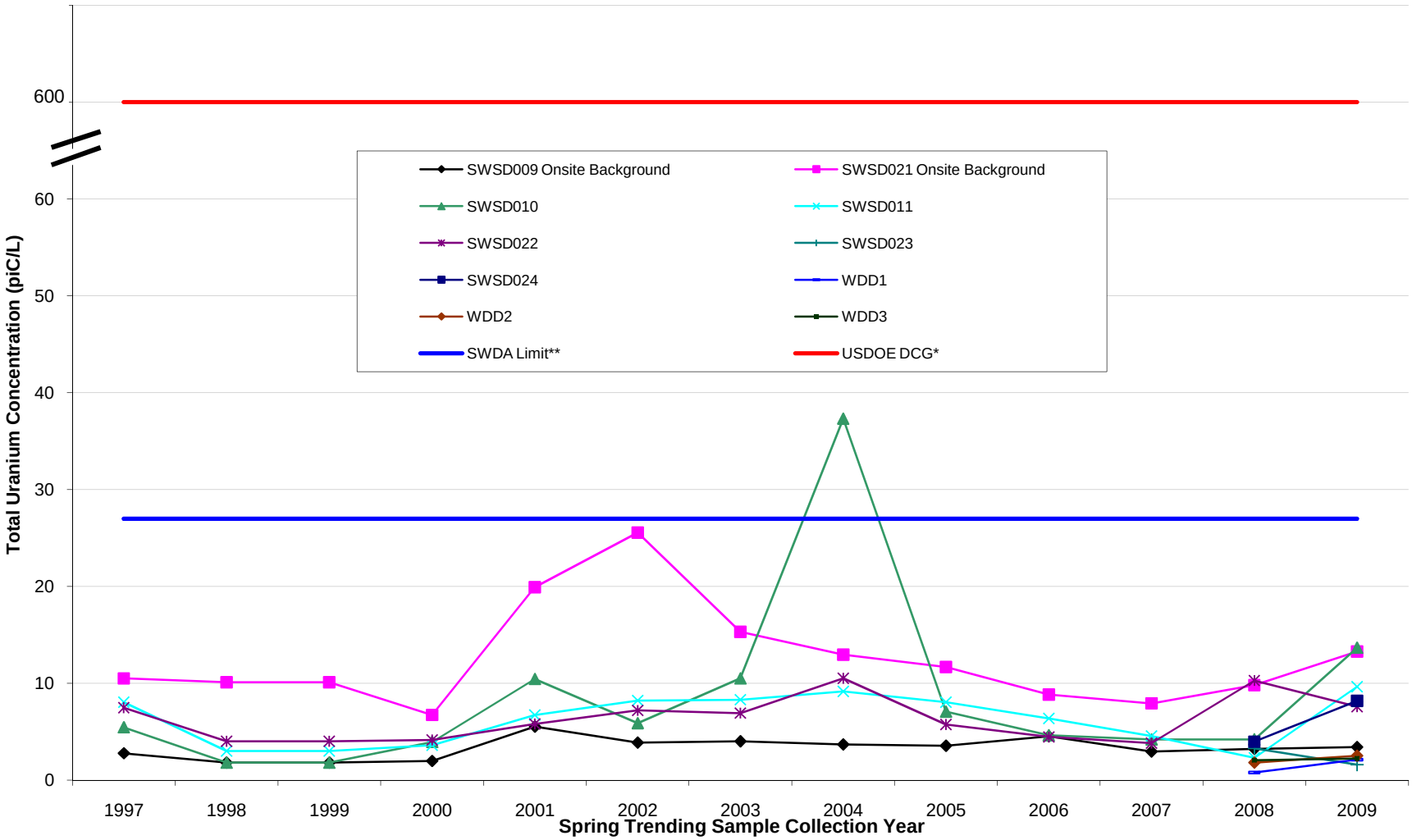
* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for Thorium-230 is 300 pCi/L.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Thorium-230 is 15 pCi/L. Surface water at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2: 2004 findings for sample SWSD010 was attributed to excess turbidity of the sample.
Note 3: Above thorium-230 values contain detect and non-detect results.
Note 4: New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 17: THORIUM-232 CONCENTRATION IN SURFACE WATER
Spring Sample Collection



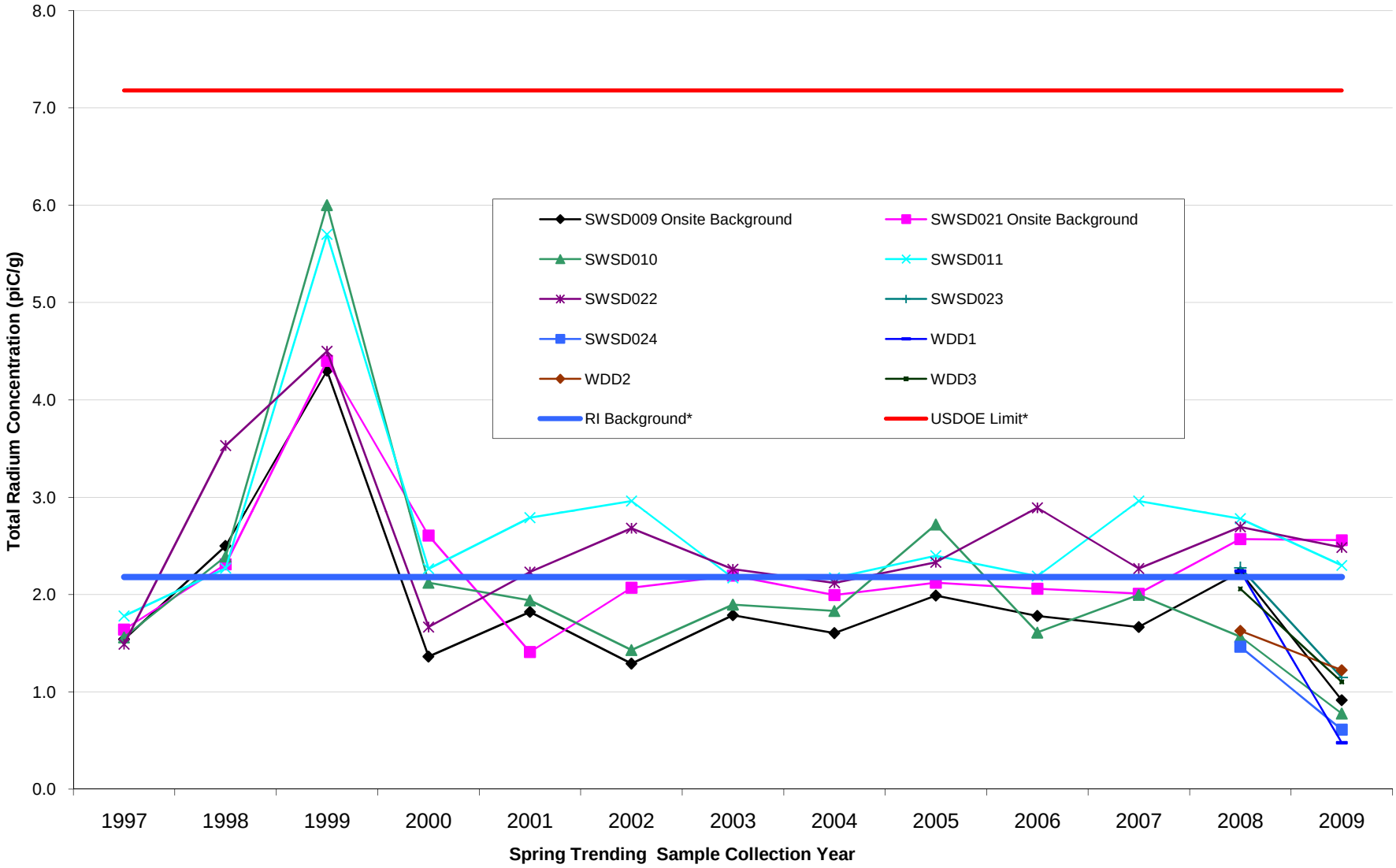
* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for Thorium-232 is 50 pCi/L.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Thorium-232 is 15 pCi/L. Surface water at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2: 2004 findings for sample SWSD010 was attributed to excess turbidity of the sample.
Note 3: Above thorium-232 values contain detect and non-detect results.
Note 4: New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 18: TOTAL URANIUM CONCENTRATION IN SURFACE WATER
Spring Sample Collection



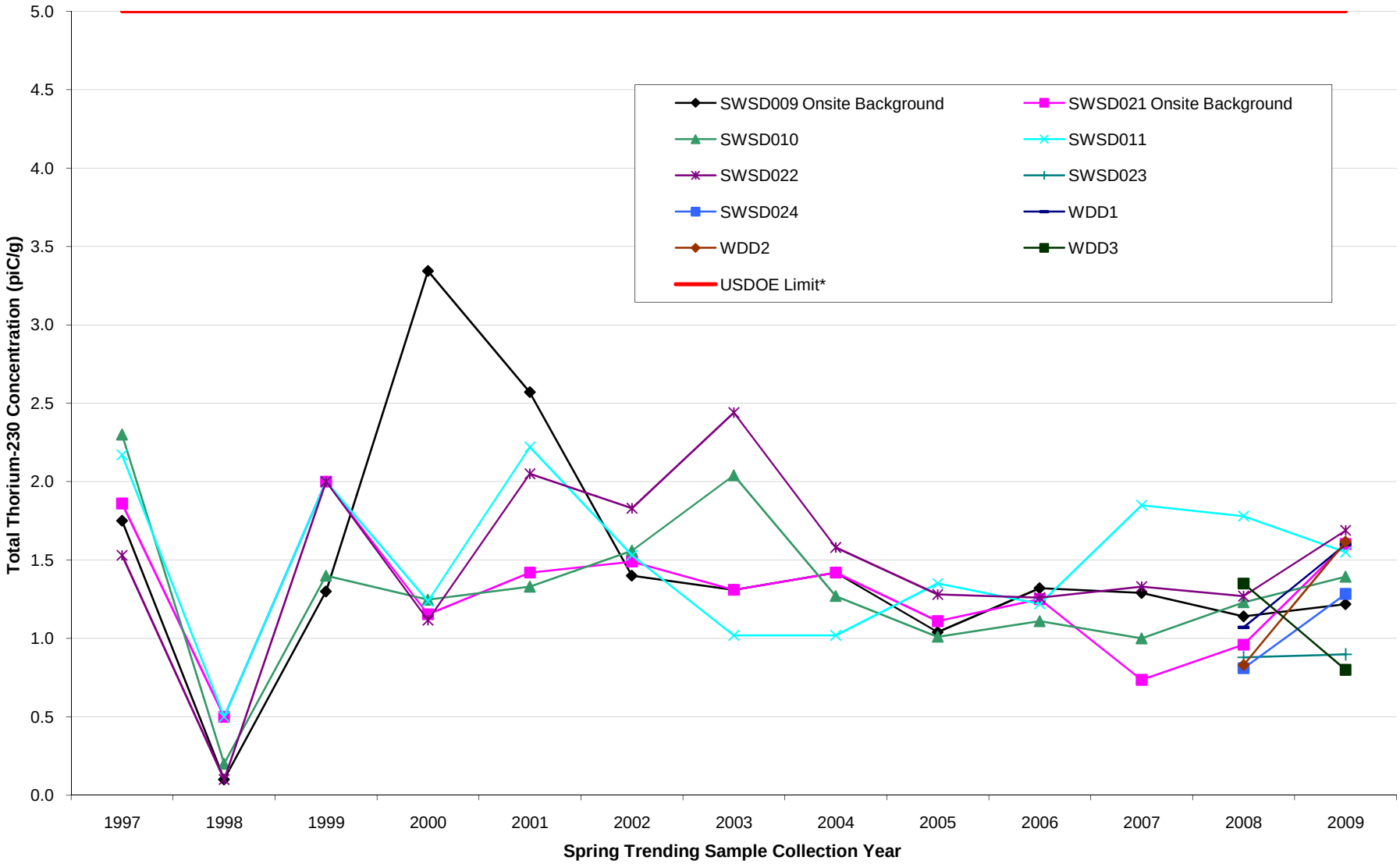
* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for Total Uranium is 600 pCi/L over background.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Total Uranium is 27 pCi/L. Surface water at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2: 2004 findings for sample SWSD010 was attributed to excess turbidity of the sample.
Note 3: Note: Above combined total uranium (sum of isotopic urnaium) values include both detect and non-detect values.
Note 4: New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 19: TOTAL RADIUM (RADIUM-226 AND RADIUM-228) CONCENTRATION IN SEDIMENT
Spring Sample Collection



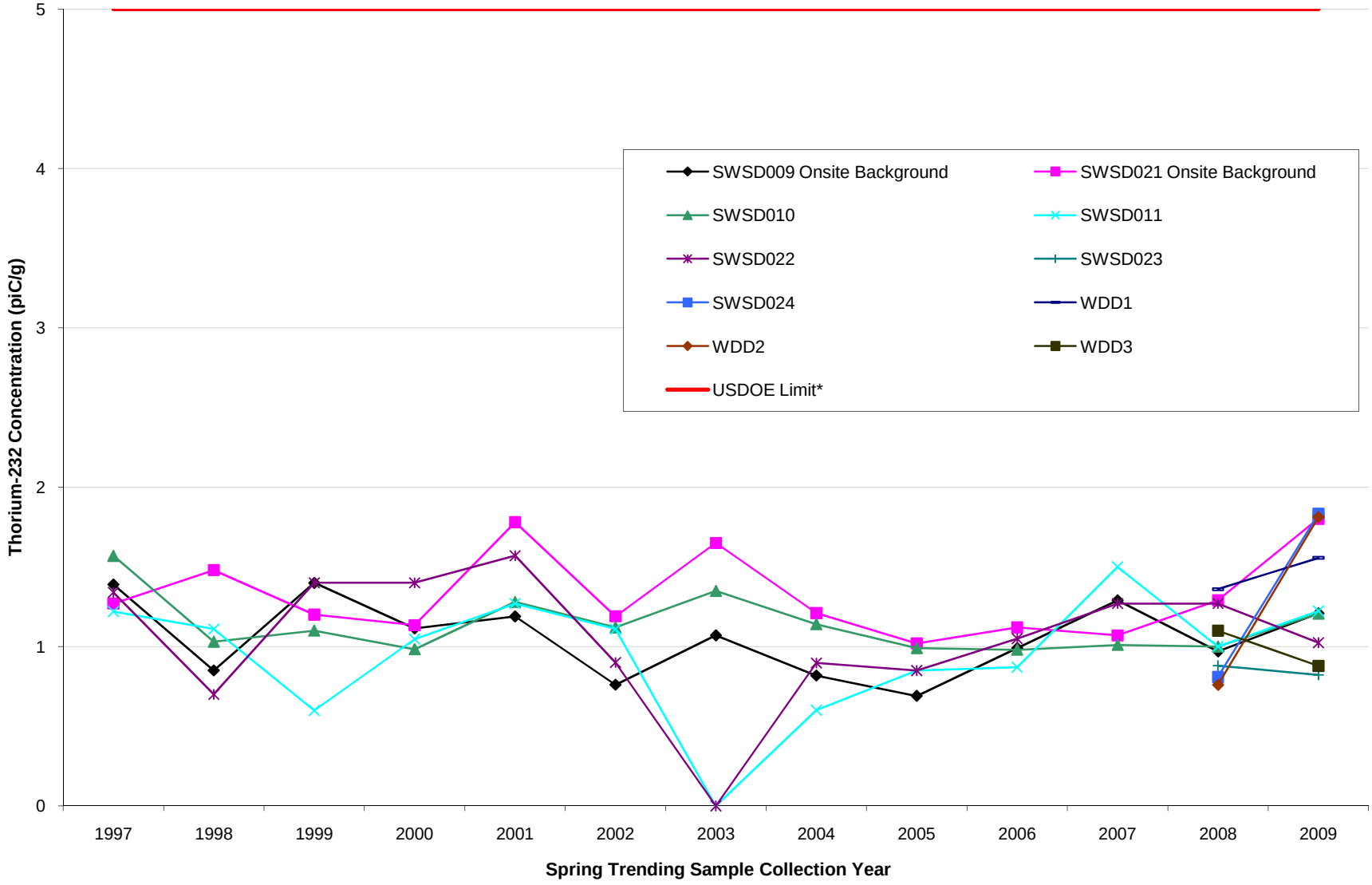
*The United States Department of Energy (USDOE) surface soil cleanup criterion for total radium is 5 pCi/g above background. Above Background value of 7.18 pCi/g is obtained when 5 pCi/g is added to the NFSS surface soil RI background value of 2.18 pCi/g taken from the NFSS Remedial Investigation Report (December, 2007).
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2: Above combined radium values include both detect and non-detect values.
Note 3: New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 20: THORIUM-230 CONCENTRATION IN SEDIMENT
Spring Sample Collection



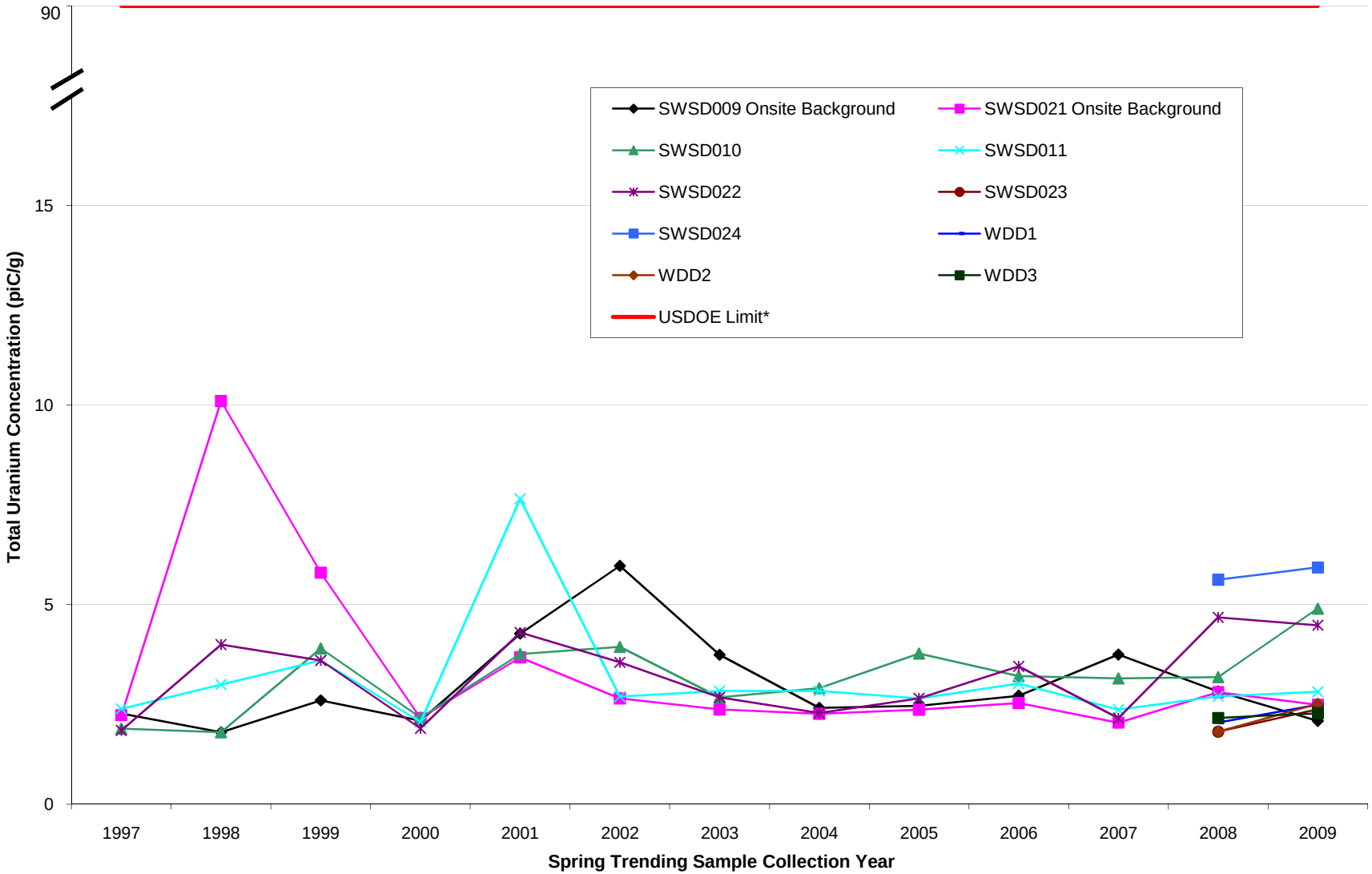
*The United States Department of Energy (USDOE) surface soil cleanup criterion for total thorium is 5 pCi/g above background.
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2: Above values include both detect and non-detect values.
Note 3: New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 21: THORIUM-232 CONCENTRATION IN SEDIMENT
- Spring Sample Collection



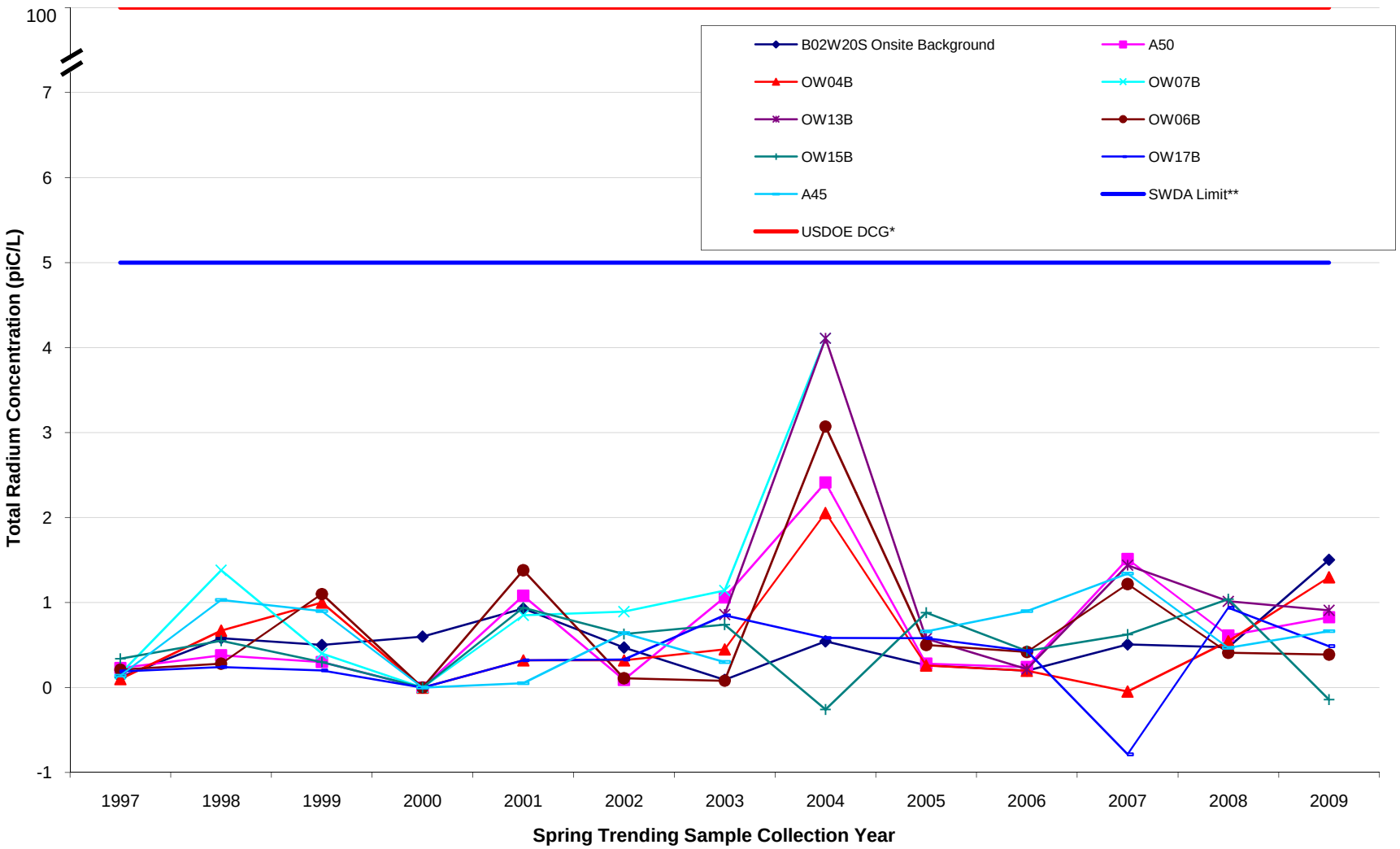
*The United States Department of Energy (USDOE) surface soil cleanup criterion for total thorium is 5 pCi/g above background.
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2: Above values include both detect and non-detect values
Note 3 : New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 22: TOTAL URANIUM CONCENTRATION IN SEDIMENT
Spring Sample Collection



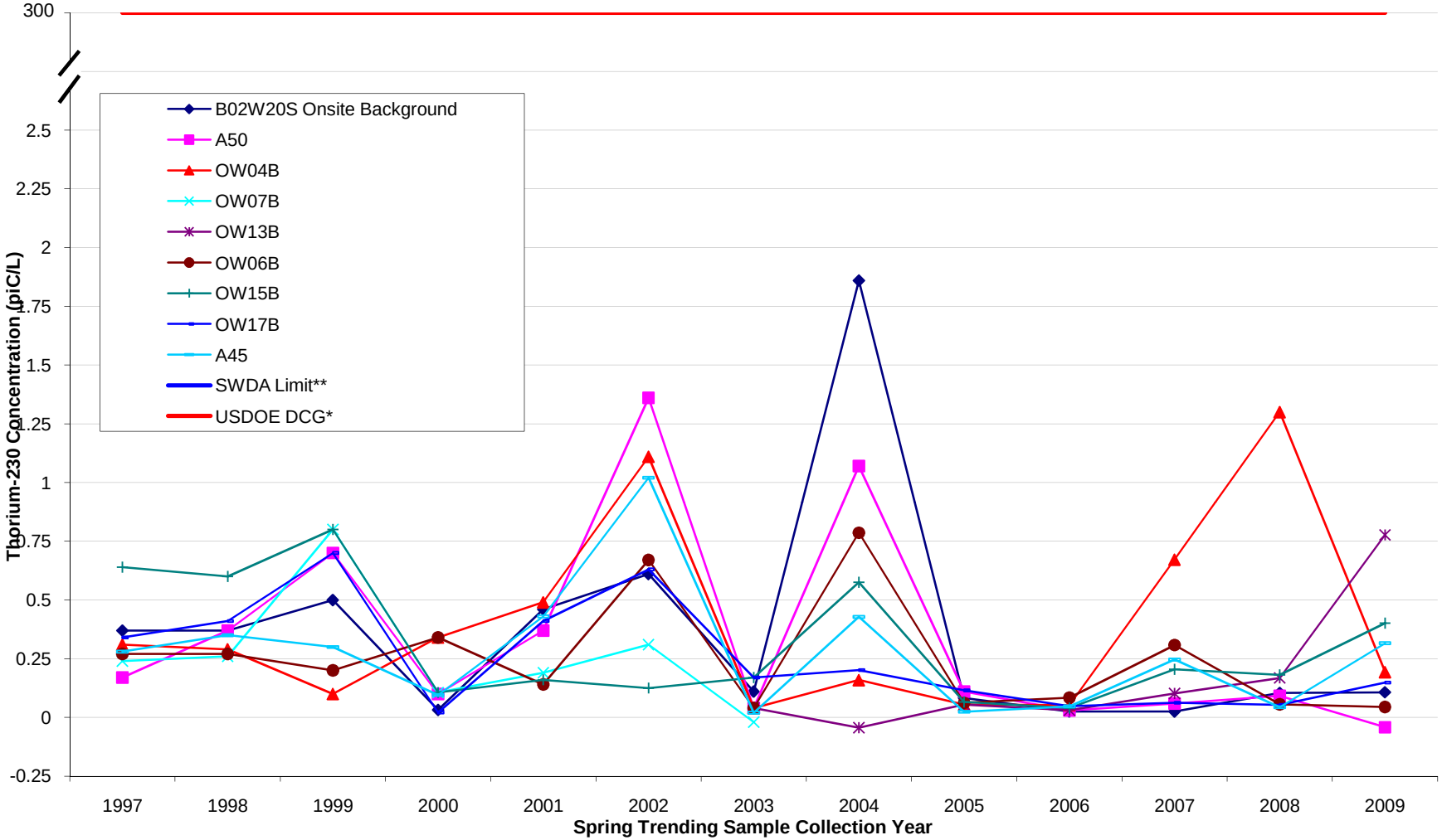
*The United States Department of Energy (USDOE) surface soil cleanup criterion for total uranium is 90 pCi/g above background.
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2: New sampling locations began in the year 2008: SWSD023, SWSD024, WDD1, WDD2 and WDD3

FIGURE 23: TOTAL RADIUM (RADIUM-226 AND RADIUM-228) CONCENTRATION IN GROUNDWATER AT NFSS
Spring Sample Collection



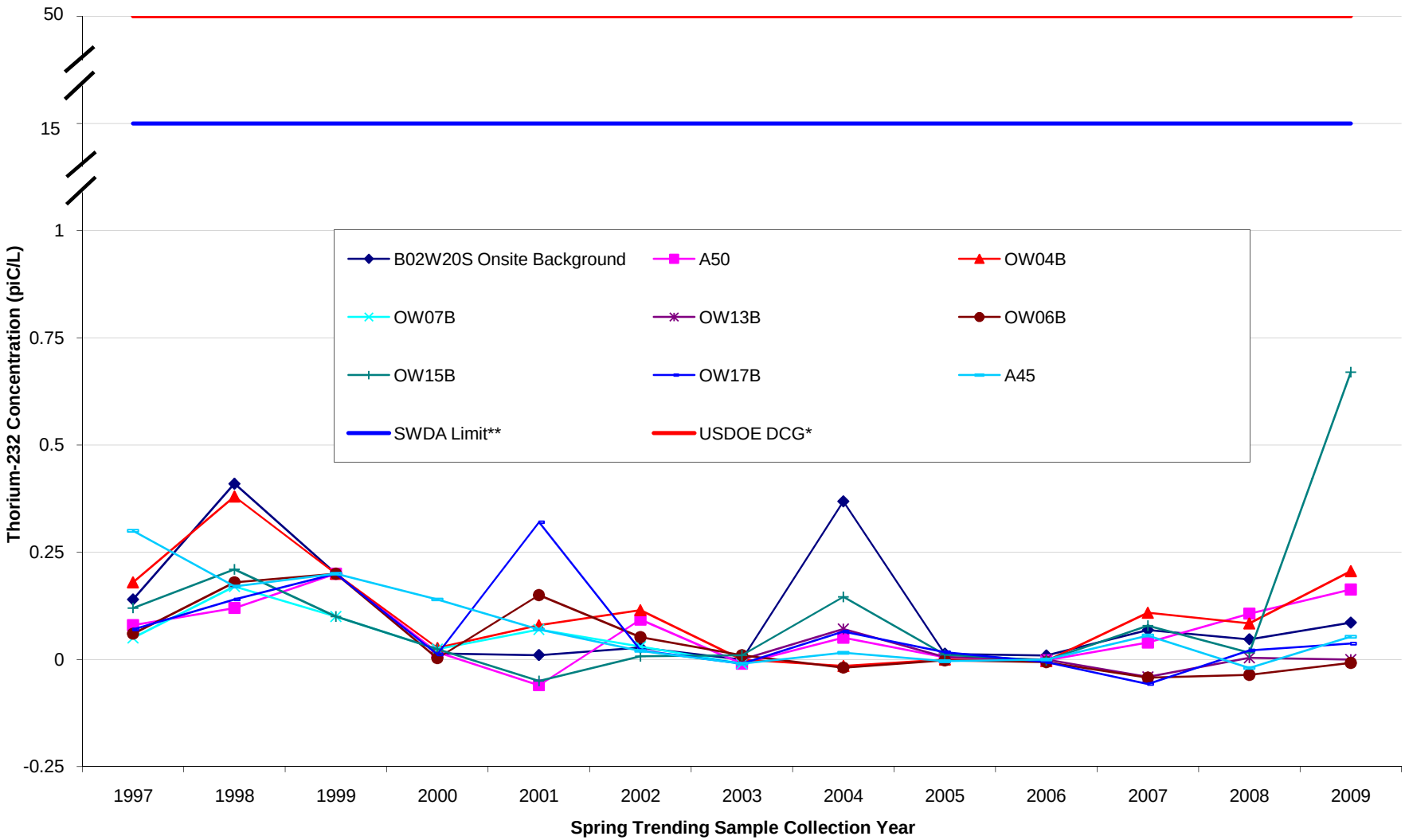
* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for combined Radium-226 & 228 is 100 pCi/L.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Total Radium is 5 pCi/L. Groundwater at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: Above combined radium values include both detect and non-detect values.
Note 2: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.

FIGURE 24: THORIUM-230 CONCENTRATION IN GROUNDWATER AT NFSS
Spring Sample Collection



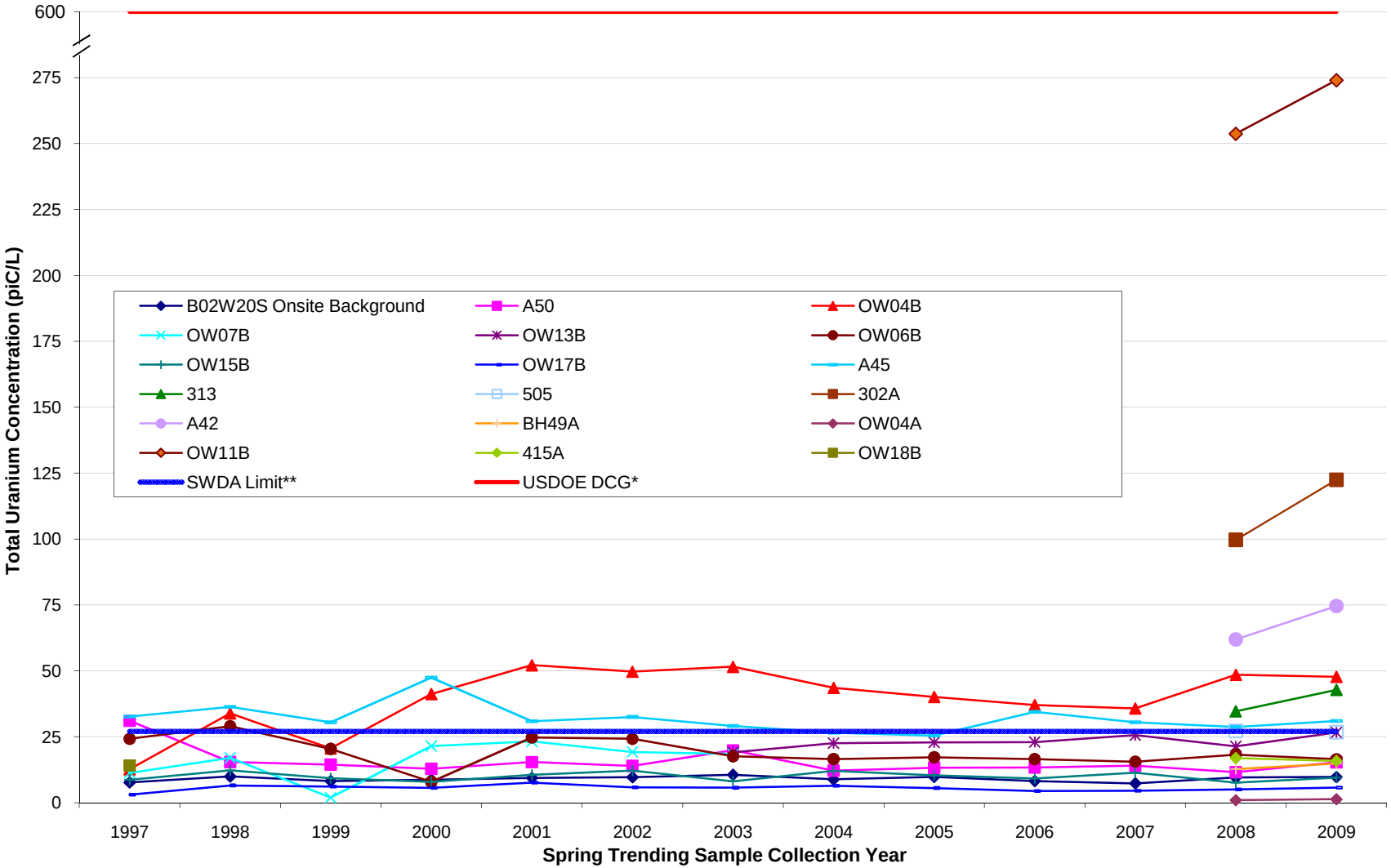
* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for Thorium-230 is 300 pCi/L.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Thorium-230 is 15 pCi/L. Groundwater at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: Above values contain detect and non-detect results.
Note 2: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.

FIGURE 25: THORIUM-232 CONCENTRATION IN GROUNDWATER AT NFSS - Spring Sample Collection



* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for Thorium-232 is 50 pCi/L.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Thorium-232 is 15 pCi/L. Groundwater at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: Above values contain detect and non-detect results.
Note 2: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.

FIGURE 26: TOTAL URANIUM CONCENTRATION IN GROUNDWATER AT NFSS - Spring Sample Collection



* The United States Department of Energy Derived Concentration Guide (USDOE DCG) for Total Uranium is 600 pCi/L.
**The Safe Drinking Water Act Maximum Containment Level (SDWA MCL) for Total Uranium is 27 pCi/L. Groundwater at NFSS is not a drinking water source. The above concentrations are for comparative purposes only.
Note 1: It should be noted that the above trending data is taken from the spring (April-June) sampling events at NFSS.
Note 2 : New sampling locations are represented by two plotiting oints starting in 2008.

APPENDIX B: NFSS CY2009 ENVIRONMENTAL SURVEILLANCE TECHNICAL MEMORANDUM

CY2009 CALCULATION OF EXTERNAL GAMMA RADIATION DOSE RATES FOR NIAGARA FALLS STORAGE SITE (NFSS)

LEWISTON, NEW YORK

August 2010

U.S. Army Corps of Engineers
Buffalo District Office
Formerly Utilized Sites Remedial Action Program

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2.0 ASSUMPTIONS 1

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4.0 ASSESSMENT METHODOLOGY AND RESULTS 2
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5.0 REFERENCES 3

1.0 PURPOSE

This calculation estimates the external gamma radiation dose from the Niagara Falls Storage Site (NFSS), Lewiston, New York (see Figure 1, Appendix A), during calendar year 2009 (CY2009). Hypothetical doses from external gamma radiation to members of the public are calculated from dose measurements using Landauer "Luxel" Optically Stimulated Luminescence dosimeters (OSLs) located at the perimeters of the NFSS and the Interim Waste Containment Structure (IWCS) (see Figure 2, Appendix A). OSLs replaced Thermoluminescent dosimeters (TLDs) in the environmental program beginning in 2008. In addition several OSL locations were added for CY2009. They are locations 40, 45, 50, 55, 60, and 65.

2.0 ASSUMPTIONS

Doses were calculated for off-site receptors based on these locations from a canvas of receptors in CY2006. The hypothetical doses for the nearest resident and off-site worker are reported. The modeling approach described below is considered to be protective of human health (conservative) in calculating hypothetical dose to receptors. The shielding effect of the air has not been included in the calculations. Calculations for the hypothetical annual external gamma radiation doses to the nearest resident and nearest off-site worker used the following assumptions:

Distance from each OSL above the source (the ground) is 3 feet (ft),
Distance from the OSLs to the nearest resident is 500 ft (perpendicular to the western OSL line),
Distance from the OSLs to the nearest off-site worker is 1,020 ft (perpendicular to the eastern OSL line),
Length of the western OSL monitoring line (western perimeter fence) is 2,766 ft,
Length of the eastern OSL monitoring line (east of Campbell Street) is 2,700 ft.

3.0 OSL DATA

At NFSS, OSLs are used to measure gamma radiation from the site and from sources of background radiation. Natural sources of background radiation include cosmic radiation and terrestrial radiation sources. In the United States, the annual average (per capita) cosmic and terrestrial radiation doses are 34 millirem per year (mrem/yr) and 22 mrem/yr, respectively (NCRP Report 160). Annual doses due to background at NFSS are measured at background locations using OSLs. Background dose for the same period of exposure is subtracted from site dose values to estimate the net dose from NFSS. OSLs are located at the facility perimeter and at the perimeter of the IWCS. The OSLs are placed at approximately 3 ft [0.91 meters (m)] above the ground surface. The OSLs measure approximately six-month intervals and are analyzed at an off-site vendor.

Sixteen locations around the perimeter of the site and seven locations around the IWCS were monitored in CY2009 (see Figure 2, Appendix A). In addition to these locations, there were three background locations (Figure 1, Appendix A). Two environmental OSLs were placed at each monitoring location. The environmental program utilizes two OSLs at each monitoring location for each monitoring period as a quality control check. In addition, if a measurement result is rejected or a OSL is lost, the duplicate reading is assumed for that monitoring period. For CY2009 two OSL co-located badge results were used.

OSL monitoring data for CY2009 are presented in Table 2 in the Tables section. A time-weighted or normalized annual dose is calculated that accounts for exposure periods having different integration times (a different number of measurement days). Negative net values, when they occur, are retained for calculation purposes.

4.0 ASSESSMENT METHODOLOGY AND RESULTS

Gamma radiation measured at the perimeter fence line represents the dose for full-time occupancy i.e. 24 hours/day and 365 days/year (366 days for a leap year). Dose to an off-site receptor is significantly affected by proximity to the source and the amount of time spent at the receptor location. The estimate of dose to an off-site worker therefore uses a correction factor for occupancy assuming 2000 hours worked per year. The estimate of dose to an off-site resident assumes a full-time occupancy at home. The average net dose rate for CY 2009 at the site perimeter by direction is calculated to be:

Direction	OSL Locations	Calculated Average Net Dose Rate (mrem/year)
North Perimeter	1, 11, 12, 60, 65, 122	5.43
East Perimeter	1,28,123	4.01
South Perimeter	7, 28, 29, 45	3.01
West Perimeter	8, 10, 11,13,15,29,36	1.50

4.1 NEAREST RESIDENT

The dose calculation for the nearest resident uses the line of OSLs along the western perimeter fence. The OSLs along this side of the facility include NFSS perimeter fence monitoring locations 11, 13, 15, 29, and 36, and WCS perimeter fence monitoring locations 8 and 10. The two WCS locations are located close to the western NFSS perimeter fence. These OSL locations are shown in Appendix A, Figure 2. Net dose rates (corrected for background) for these OSLs are summed and divided by the total number of observations (14 for CY2009). This average value represents the annual dose at the site perimeter (D1 = 1.50 mrem for CY2009). The dose contribution to this resident from the southern exposure is insignificant compared to the exposure from the western line source. The western site perimeter dose is then used in the following equation for a line source:

$$D_2 = D_1 * h_1/h_2 * (\text{Arc Tan } (L/h_2) / \text{Arc Tan } (L/h_1))$$

Where:

D_2 = dose calculated at the receptor location from the line source
D_1 = dose at the site perimeter as described above
h_1 = the distance of the OSLs from the source (3 ft)
h_2 = the distance of the resident from the fence line (500 ft)
L = half the length of line of OSLs measuring the line source (1,383 ft)

Nearest Resident Dose Calculation (Resident southwest of NFSS)

NFSS Perimeter Monitoring Locations 11, 13, 15, 29, and 36 and IWCS Perimeter Monitoring Locations 8 and 10

Where:

h_1 = 3 feet distance of OSL from the source
h_2 = 500 feet distance of resident from the OSLs
L = 1,383 feet half the length of the western line source
D_1 = 1.50 mrem average annual dose at the OSL monitoring locations
D_2 = 0.007 mrem resident annual dose at 500 feet from the OSL

The hypothetical dose to the nearest resident is 7.0 E-03 (or 0.007) mrem for calendar year 2009.

4.2 NEAREST OFF-SITE WORKER

The dose to the nearest off-site worker uses, the line of OSLs, closest to the eastern perimeter fence (Castle Garden Road). The OSLs used include monitoring locations 1, 28, and 123. These OSLs are located along an interior fence east of Campbell Street. Their locations are shown in Figure 2, Appendix A. There are no WCS perimeter fence monitoring locations close to those along the line east of Campbell Street; therefore, none are included in the dose calculations. Net dose rates (corrected for background) for OSL monitoring locations 1, 28, and 123 are summed and divided by the total number observations (6 for CY2009). This average represents the annual dose at the site perimeter (D1 = 4.01 mrem for CY2009).

Nearest Off-Site Worker Dose Calculations (Worker east of NFSS)

NFSS Perimeter Monitoring Locations 1, 28, 123
h_1 = 3 feet distance of OSL from the source
h_2 = 1,020 feet distance of off-site worker from the OSLs
L = 1,350 feet half the length of the eastern line source
D_1 = 4.01 mrem average annual dose at the OSL monitoring locations
D_2 = 0.002 mrem off-site worker annual dose at 1,020 feet from the OSL location

Using the equation above and a correction factor for off-site worker occupancy of 2000/8760 hours the hypothetical dose to the nearest off-site worker is 3.6 E-04 (or 0.00036) mrem for calendar year 2009.

5.0 REFERENCES

Bechtel National, Inc. (BNI), 1997. "1996 Public External Gamma Dose," 14501-158-CV-031, Rev. 0, Oak Ridge, TN.

National Council on Radiation Protection and Measurements (NCRP), 2009. “NCRP Report No. 160, Ionizing Radiation Exposure of the Population of the United States,” ISBN-13: 978-0-929600-98-7, Bethesda, MD.

APPENDIX C: NFSS CY2009 ENVIRONMENTAL SURVEILLANCE TECHNICAL MEMORANDUM

FUSRAP CY2009 NESHAP ANNUAL REPORT FOR NIAGARA FALLS STORAGE SITE (NFSS)

LEWISTON, NEW YORK

JUNE 2010

U.S. Army Corps of Engineers
Buffalo District Office
Formerly Utilized Sites Remedial Action Program

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ACRONYMS AND ABBREVIATIONS

BNI	Bechtel National, Inc.
CAP88-PC Ver 3	Clean Air Act Assessment Package-1988, Version 3.0
CFR	Code of Federal Regulations
E_w	annual wind erosion emission
FUSRAP	Formerly Utilized Sites Remedial Action Program
ICRP	International Commission on Radiological Protection
IWCS	Interim Waste Containment Structure
m^2	square meter(s)
MEI	maximally exposed individual
ML	Modern Landfill
mph	miles per hour
NOAA	National Oceanic and Atmospheric Administration
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIA	Niagara Falls International Airport
NFSS	Niagara Falls Storage Site
USAEC	United States Atomic Energy Commission
USACE	United States Army Corps of Engineers
UCL	upper confidence limit
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

In 1974, the United States Atomic Energy Commission (USAEC), a predecessor to the United States Department of Energy (USDOE), instituted the Formerly Utilized Sites Remedial Action Program (FUSRAP). This program is now managed by United States Army Corps of Engineers (USACE) to identify and clean up, or otherwise control sites where residual radioactivity remains from the early years of the nation's atomic energy program or from commercial operations causing conditions that Congress has authorized USACE to remedy under FUSRAP. The Niagara Falls Storage Site (NFSS) is a federally-owned storage site managed under FUSRAP. In October 1997, Congress transferred the responsibility for FUSRAP from USDOE to USACE.

1.1 SITE DESCRIPTION

The Niagara Falls Storage Site (NFSS) is located in the Town of Lewiston in northwestern New York State, northeast of Niagara Falls and south of Lake Ontario (Figure 1 (Appendix A, pg. F-1). NFSS is approximately 77 hectare (~191 acre) site which includes: one former process building (Building 401), one office building (Building 429), an equipment shed, and a 4 hectare (9.9 acre) interim waste containment structure (IWCS). The property is fenced, and public access is restricted.

Land use in the region is primarily rural; however, the site is bordered by a chemical waste disposal facility on the north, a solid waste disposal facility on the east and south, and a Niagara Mohawk Power Corporation right-of-way on the west. The nearest residential areas are approximately 1.1-km southwest of the site; the residences are primarily single-family dwellings.

1.2 SOURCE DESCRIPTION

Beginning in 1944, NFSS was used as a storage facility for radioactive residues and wastes. The residues and wastes are the process by-products of uranium extraction from pitchblende (uranium ore). Waste was also generated from remediation of buildings and process equipment used in the uranium extraction process. The residues originated at other sites and were transferred to NFSS for storage in buildings, on-site pits, and surface piles. Table 1 includes a brief history and description of the major radioactive residues and wastes transferred to NFSS. From 1953 to 1959 and 1965 to 1971, Building 401 was used as a boron-10 isotope separation plant.

Table 1. History and Description of Wastes Transferred to NFSS

Material	Description	Transferred to NFSS
L-50	Low-activity radioactive residues from the processing of low-grade uranium ores at Linde Air Products, Tonawanda, New York.	1944
R-10	Low-activity radioactive residues from the processing of low-grade uranium ores at Linde Air Products, Tonawanda, New York.	1944
F-32	Low-activity radioactive residues from the processing of high-grade uranium ores at Middlesex, New Jersey.	1944 to early 1950
L-30	Low-activity radioactive residues from the processing of low-grade uranium ores at Linde Air Products, Tonawanda, New York.	1945
K-65	High-activity radioactive residues from the processing of high-grade uranium ores at Mallinckrodt Chemical Works, St. Louis, Missouri.	1949
Middlesex Sands	Sand and abraded material from the sandblasting of buildings and process equipment where the F-32 residue was generated at Middlesex Metal Refinement Plant, Middlesex, New Jersey.	1950

Since 1971, activities at NFSS have been confined to residue and waste storage and remediation. On-site and off-site areas with residual radioactivity exceeding USDOE guidelines were remediated between 1981 and 1992. The materials generated during remedial actions (approximately 195,000 m^3) are encapsulated in the IWCS (See Appendix A, Figure 2), which is specifically designed to provide interim storage of the materials. Remedial investigation began at the end of 1999 to determine if any areas of the site contained radioactive or chemical contaminants at levels that could pose an unacceptable risk to human health and the environment. Initial results show that isolated areas of elevated activity do exist.

2.0 REGULATORY STANDARDS

The United States Environmental Protection Agency's (USEPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) are compliance standards that require annual reporting of emissions of radionuclides and radon gas from operations at nuclear facilities.

2.1 40 CFR 61, SUBPART H

40 CFR 61, Subpart H provides standards for reporting emissions of radionuclides (excluding radon-222 and radon-220) into the air from USDOE facilities. Although control and maintenance of the site currently rests with USACE, responsibility for NFSS will return to USDOE following completion of remedial actions. This regulation therefore provides an appropriate standard for NFSS. Compliance with Subpart H is verified by applying the USEPA approved code, CAP88-PC. CAP88-PC Version 3.0 (USEPA 2006) was used for this year's calculation. The applicable regulation, 40 CFR 61.92 limits exposure of the public to an annual effective dose equivalent of 10 mrem from radioactive emissions.

2.2 40 CFR 61, SUBPART Q

40 CFR 61, Subpart Q applies to storage and disposal facilities for radium-containing material that emits radon-222 into air. NFSS is specifically identified as one such facility in this subpart (in 40 CFR 61.190). Compliance with Subpart Q is verified by annual monitoring of the IWCS for radon-222 flux. Subpart Q limits radon-222 emission to 20 $pCi/m^2/s$.

3.0 AIR EMISSION DATA

Table 2 summarizes the sources of air emissions. Attachment A contains the annual wind erosion emission (E_w) calculation. Attachment B contains the radioactive source term calculations and annual air releases.

These calculations use the USEPA air pollution emission factor methodology (AP-42) to estimate the radioactive release from wind erosion, which is then used as the source term in the Clean Air Act Assessment Package (CAP88-PC) model to estimate airborne doses to hypothetically exposed individuals. The annual wind erosion emission estimate uses the most current soil data from the NFSS RI sampling Phases I, II, and III. A 95% upper confidence limit (UCL) without the subtraction of background radioactivity, was calculated for each soil nuclide of concern and used for the source term estimate. The area of the entire NFSS was assumed to be uniformly contaminated and to contribute to the source term.

Table 2. Air Emission Data - NFSS

Point Sources	Type Control	Efficiency	Distance to Hypothetical Exposed Individual
none	not applicable	not applicable	not applicable
Non-Point Sources	**Type Control**	**Efficiency**	**Distance and Direction from Center of Site to Hypothetical Exposed Individual**
in situ soil –area source	vegetative cover	90 percent[a]	533 m SE Modern Scale-house Worker 783 m S Greenhouse Worker 914 m SSW Resident 1105 m S Resident (farm) 1250 m WSW Resident 1486 m ESE Resident 2499 m W School 2629 m WNW School
Group Sources	**Type Control**	**Efficiency**	**Distance to Hypothetical Exposed Individual**
none	not applicable	not applicable	not applicable

[a] This is the fraction of vegetative cover used to correct emissions (Attachments A,B).

4.0 DOSE ASSESSMENTS

4.1 MODEL SOURCE DESCRIPTION

To determine the dose from airborne particulates potentially released from NFSS during CY2009, the annual wind erosion emission, E_w (Attachment A) is calculated using local climatological data (Attachment E) from the National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center for the Niagara Falls International Airport (NFIA) in Niagara Falls, NY. E_w is calculated using the USEPA AP-42 methodology for "fugitive emissions" from an "area source" that uses the "fastest mile" wind speed data from local climatological data reports. E_w, in grams emitted, is then applied to the soil nuclide concentration to estimate the source term or annual emissions for each radionuclide. The soil concentration was developed from sample data compiled during Phases I, II, and III of the Remedial Investigation for soil contamination (Attachment B). Contributions from radon gas, in accordance with regulatory guidance, are not considered in this calculation. Annual estimated emissions for each radionuclide were input into the USEPA's CAP88-PC, Version 3.0 code to calculate hypothetical receptor doses. The model estimates resultant doses from airborne particulates to hypothetical individuals at the distances to the nearest residence, commercial/industrial facility, school, and farm as measured from a central location on-site. Hypothetical doses are then corrected for occupancy. Commercial/industrial facility and school occupancy is assumed to be 40 hr/week for 50 weeks/yr). Residential and farm occupancy is assumed to be full-time for 24 hr/day for 365 days/yr. The hypothetical individual receiving the higher of these calculated doses is then identified as the maximally exposed individual (MEI) for airborne particulate dose.

4.2 DESCRIPTION OF DOSE MODEL

4.2.1 CAP88-PC Computer Program

The CAP88-PC model is a set of computer programs, databases, and associated utility programs that estimate the dose and risk from airborne radioactivity emissions. The USEPA NESHAP compliance procedures for airborne radioactivity emissions at USDOE facilities (40 CFR 61.93(a)) require the use of the CAP88-PC model, or other approved procedures to calculate effective dose equivalents to members of the public.

CAP88-PC uses a modified Gaussian plume equation to estimate the average dispersion of radionuclides released from a site. Assessments are performed for a circular grid of distances and directions for a radius of 80 km (50 miles) around the facility. Agricultural arrays of milk cattle, beef cattle and agricultural crop area are generated automatically, requiring the user to supply only the State name or agricultural productivity values. Dose and risk factors for CAP88-PC, Version 3.0 are from Federal Guidance Report 13 and are based on the methods detailed in International Commission on Radiological Protection (ICRP) 72 (ICRP72). The dose calculations presented in this document used the default values for nuclide lung clearance type. These defaults correspond to the recommended values from FGR 13. Deposition velocity and scavenging coefficient are calculated by the code in accordance with USEPA policy. In the CAP88 model nuclides are depleted from the plume by precipitation scavenging, dry deposition and radioactive decay. The default scavenging coefficient is calculated as a function of annual precipitation. The program calculates the effective dose equivalents received by receptors by combining the inhalation and ingestion intake rates and the air and ground surface concentrations using the appropriate dose conversion factors.

4.2.2 CAP88-PC Input

Input parameters for CAP88 include:

Radionuclide emissions (Attachment B),
Weather data (average annual temperature, total annual precipitation) (Attachment E),
Emission source height and area (Section 4.3), and
Distance to nearest resident, off-site worker, school, and farm (Section 4.3).

4.2.3 CAP88-PC Output

The "Dose and Risk Equivalent Summaries" from CAP88-PC contains the resulting effective dose equivalents for each modeled scenario. The effective dose equivalent summary contains results for 16 compass directions around the facility for the nearest resident, off-site worker, school, and farm. CAP88-PC individual receptor and population output summaries are located in Attachment C and D, respectively.

4.3 COMPLIANCE ASSESSMENT

The released activity data from Attachment B is entered into the CAP88-PC modeling program to derive the hypothetical dose to the defined receptors. To derive the dose to the MEI, the CAP88-PC model must have weather data for the appropriate year, information on the emission source, and the distances and directions to the nearest residence, off-site worker, school, and farm. The following CY2009 meteorological data were entered into CAP88-PC (see Attachment E):

Average temperature	8.4 °C (47.1 °F) NFIA,
Precipitation,	96.1 cm (37.8 inches) ML, and
Mixing height	1,000 m

The following emission source and nearest receptor distances and direction information were also entered into the program:

Source height	0 m,
Source area	780,000 m^2,
Resident	914 m SSW
Resident (farm)	1105 m S
Resident	1250 m WSW
Resident	1486 m ESE,
Off-site worker	533 m SE,
Off-site worker	783 m S
School (building)	2499 m W
School (building)	2629 m WNW

The CAP88-PC annual hypothetical dose to the nearest resident, off-site worker, school, and farm at the corresponding directions and distances taken from page six of the "Dose and Risk Equivalent Summaries" document for individual modeling (Attachment C) are:

Resident	2.7 E-04 mrem, SSW @ 914 m,
Off-site worker	1.1 E-03 mrem, SE @ 533 m
School	1.1 E-04 mrem, W @ 2499 m and
Farm	2.1 E-04 mrem, S @ 1105 m.

The hypothetical doses to the nearest off-site worker and school corrected for 2,000 hr of exposure per year are:

Off-site worker	2.5 E-04 mrem and
School	2.5 E-05 mrem.

5.0 SUPPLEMENTAL INFORMATION

5.1 POPULATION DOSE

The CAP88-PC model was also used to estimate the hypothetical airborne particulate dose to the population within 80 km of the site. Population data taken from year 2000 census data for New York State and 2001 census data for Ontario, Canada was used to create a population file for CAP88-PC. The effective dose equivalent for the collective population in person-rem/yr is from the CAP88-PC "Dose and Risk Equivalent Summaries" report.

The CAP88-PC annual effective dose for the population within 80 km of the facility (Attachment D) is:

Population:	7.9 E-03 person-rem

5.2 RADON-222 FLUX

Measurement of radon-222 flux provides an indication of the rate of radon-222 emission from a surface. Radon-222 flux is measured with activated charcoal canisters placed at 15-m intervals across the surface of the IWCS for a 24-hr exposure period. Measurements for 2009 are presented in Table 4; measurement locations are shown in Figure 2c, Appendix A.

Measured results for 2009 ranged from non-detect to 0.10520 pCi/m^2/s, with an average (of detects and non-detects) result of 0.02645 pCi/m^2/s. As in previous years, these results are well below the 20 pCi/m^2/s standard specified in 40 CFR Part 61, Subpart Q, and demonstrate the effectiveness of the containment cell design and construction in mitigating radon-222 migration.

5.3 NON-APPLICABILITY

Requirements from section 61.93(b) of 40 CFR for continuous monitoring from point sources (stacks or vents) are not applicable to NFSS.

6.0 REFERENCES

ANL 2003. CAP88-PC Population Files for NFSS, Argonne National Laboratory, Chicago, Illinois.

Bechtel National, Inc. (BNI), 1997. "1996 Public Inhalation Dose" 14501-158-CV-030, Rev. 0, Oak Ridge, TN.

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40 CFR 61, Subpart H. *National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities.*

40 CFR 61, Subpart Q. *National Emission Standards for Radon Emissions from Department of Energy Facilities.*

ATTACHMENT A

ANNUAL WIND EROSION EMISSION CALCULATION

A.1 ANNUAL WIND EROSION

In 2009, the potential source of airborne emissions from NFSS is assumed to be from wind erosion of in-situ soil from the entire NFSS. The AP-42 model for industrial wind erosion for limited flat sources is used. In this model the potential airborne emissions are a function of the number of disturbances of contaminated soil. The following assumptions and calculations are made:

The air release source is wind erosion of in-situ soil from an area (A) of 780,000 m^2 of vegetation covered soil.

$A = 780{,}000\ m^2$

The calculation assumes that 90% of this area is covered by grass or vegetation (V).

$V = 0.90$

Weekly grass cutting is assumed for half the year, occurring May through October and in an April spring thaw. The number of estimated disturbances (N) is therefore:

$N = 27$

The threshold velocity (U_t) for overburden (USEPA 1995 Table 13.2.5-2) is:

$U_t = 1.02$ m/s

Anemometer height adjustment is not necessary.

Z_r = reference anemometer height = 10 m

Z_a = actual anemometer height = 10 m

The roughness height for overburden is 0.3 cm (USEPA 1995 Table 13.2.5-2).

$Z_o = 0.3$ cm

The corrected wind speed (U_{rN}) for each period (N) between disturbances (USEPA 1995 Equation 5) is:

$U_{rN} = U_{aN}\ [\ln(Z_{r/}\ Z_o) / \ln(Z_{a/}\ Z_o)]$, therefore $U_{rN} = U_{aN}$

The equivalent friction velocity (U_N) for each period between disturbances (USEPA 1995 Equation 4) is:

$U_N = 0.053\ U_{rN}$

The fastest mile speeds (maximum 2-minute wind speeds[a]) from Local Climatological Data reports from NOAA for Niagara Falls International Airport (NFIA) in mph for the period between each disturbance are:

$U_{a1} = 37$	$U_{a2} = 31$	$U_{a3} = 46$	$U_{a4} = 29$	$U_{a5} = 18$	$U_{a6} = 35$
$U_{a7} = 22$	$U_{a8} = 20$	$U_{a9} = 16$	$U_{a10} = 22$	$U_{a11} = 24$	$U_{a12} = 24$
$U_{a13} = 24$	$U_{a14} = 25$	$U_{a15} = 25$	$U_{a16} = 32$	$U_{a17} = 31$	$U_{a18} = 23$
$U_{a19} = 22$	$U_{a20} = 15$	$U_{a21} = 20$	$U_{a22} = 23$	$U_{a23} = 37$	$U_{a24} = 33$
$U_{a25} = 23$	$U_{a26} = 29$	$U_{a27} = 30$			

[a]Maximum 2-minute wind speeds can be used to approximate fastest mile wind speeds (USEPA 2004 Table 7-4), however, this calculation applies an uncertainty correction factor, protective of human health, of 1.3 in order to approximate the fastest mile wind speeds.

The equivalent friction velocity in m/s for each period is:

U_1 = 1.14 E+00	U_2 = 9.55 E-01	U_3 = 1.42 E+00	U_4 = 8.93 E-01	U_5 = 5.54 E-01	U_6 = 1.08 E+00
U_7 = 6.78 E-01	U_8 = 6.16E-01	U_9 = 4.93 E-01	U_{10} = 6.78 E-01	U_{11} = 7.39 E-01	U_{12} = 7.39 E-01
U_{13} = 7.39 E-01	U_{14} = 7.70 E-01	U_{15} = 7.70E-01	U_{16} = 9.86 E-01	U_{17} = 9.55 E-01	U_{18} = 7.08 E-01
U_{19} = 6.78 E-01	U_{20} = 4.62 E-01	U_{21} = 6.16 E-01	U_{22} = 7.08 E-01	U_{23} = 1.14 E+00	U_{24} = 1.02 E+00
U_{25} = 7.08 E-01	U_{26} = 8.93 E-01	U_{27} = 9.24 E-01			

The erosion potential (P_N) for a dry exposed surface (USEPA 1985 Figure 4-2) is:

$$P_N = 58\ (U^*-U_t)^2 + 25(U^*-U_t) = 7.64\ g/m^2$$

The erosion potentials (P_N) for each period between disturbances are all less than or equal to the threshold friction velocity except for U_1, U_3, U_6, , and U_{23}.

The particle size multiplier (k) for 10 μ particles (USEPA 1995 Equation 2) is:

$$k = 0.5$$

The emission factor (P) for dry bare soil for 10 μ particles (USEPA 1995 Equation 2) is:

$$P = k \sum P_N = \text{is } 3.82\ g/m^2$$

Thornthwaite's Precipitation Evaporation Index (PE), used as a measure of average soil moisture, is:

$$PE = 110$$

The corrected emission factor (PM_{10}) for 10 μ particles (USEPA 1985 Equation 4-1) is:

$$PM_{10} = P(1-V) / (PE/50)^2 = 0.08\ g/m^2/yr$$

The annual wind erosion emission (E) is calculated to be:

$$E = A\ (PM_{10}) = 61{,}581\ g\ soil$$

A.2 REFERENCES

EPA 2004. *Methods for Estimating Fugitive Air Emissions of Radionuclides from Diffuse Sources at USDOE Facilities*, Final Report, September 3, 2004.

EPA 1995. *AP 42 Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, 1995.

M. J. Changery, *National Wind Data Index Final Report*, HCO/T1041-01 UC-60, National Climatic Center, Asheville, NC, December 1978.

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ATTACHMENT B

SOURCE TERM DEVELOPMENTAND ANNUAL AIR EMISSIONS

B.1 SOURCE TERM DEVELOPMENT

The source term for NFSS NESHAPS calculations was developed considering the radionuclides in the uranium, thorium, and actinium decay series as shown in Table B-1. Concentration data for these radioisotopes were taken from Phases I, II, and III of the Remedial Investigation and are listed in Table B-2. The Phase I sampling was performed from November 1999 through January 2000. The Phase II was performed from August 2000 through October 2000. The Phase III sampling was performed from May 2001 through October 2003. The dataset has been verified to ensure data quality and includes the analysis of soils from biased high locations (i.e., locations that had elevated gamma survey readings). The dataset used for CY 2009 uses higher soil concentrations than in years before CY2004 and more conservatively estimates (biased high) the site concentration values.

The IWCS, completed in 1986 and added to in 1991, is surrounded by sufficient topsoil and compacted clay to consider radionuclide emissions negligible. In 1986, the entire IWCS was covered with 0.9 meters (3 feet) of low-permeability, compacted clay, a 0.3 meter (12 inch)-thick layer of loosely compacted soil, 0.15 meter (6 inches) of topsoil and covered with shallow-rooted grass. A clay cutoff wall and dike measuring 3.35 to 8.84 meters (11 to 29 feet) in thickness formed the perimeter. In 1991 additional soil with residual radioactivity from a vicinity property, along with 60 drums containing radioactive material, were placed over the existing IWCS. Six inches of clay was placed over the waste material and two feet of compacted clay was added on top along with 0.46 meter (1.5 feet) of topsoil material. However, the area of the cap was included in the site area estimate.

Radium-226 was detected at an elevated concentration of 1,140 pCi/g in one area during the Phase I remedial investigation. This was analyzed and determined to come from a stone in the sample. Although release rates are based on dust erosion and not buried stones, this detection was used in the source term calculation.

Soil concentration data, listed in Table B-3, are not available for all the radionuclides in Table B-1. If explicit results for a radionuclide were not available, it was assumed that the radionuclide was present in equilibrium with (i.e., at the same concentration as) the nearest long-lived parent. Branching ratios were used to estimate source term concentrations. Table B-3 lists the source term values used in the CAP-88 modeled scenarios.

Table B-1. Radionuclides Considered in NESHAPS Evaluation

Uranium Series	Thorium Series	Actinium Series
U-238	Th-232	U-235
Th-234	Ra-228	Th-231
Pa-234m	Ac-228	Pa-231
Pa-234 (0.13%)	Th-228	Ac-227
U-234	Ra-224	Th-227 (98.62%)
Th-230	*Rn-220 (thoron)	Fr-223 (1.38%)
Ra-226	Po-216	Ra-223
*Rn-222 (radon)	Pb-212	*Rn-219 (actinon)
Po-218	Bi-212	Po-215
Pb-214 (99.98%)	Po-212 (64.07%)	Pb-211 (≈ 100%)
At-218 (0.02%)	Tl-208 (35.93%)	At-215 (0.00023%)
Bi-214	*Pb-208 (stable)	Bi-211
Po-214 (99.979%)		Po-211 (0.273%)
Tl-210 (0.021%)		Tl-207 (99.73%)
Pb-210		*Pb-207 (stable)
Bi-210		
Po-210 (≈ 100%)		
Tl-206 (0.00013%)		
*Pb-206 (stable)		

Nuclides with asterisks (*) were excluded from dose calculations for the following reasons: 1) Radon isotopes including thoron and actinon are specifically excluded per the regulation or 2) nuclides of low abundance and stable nuclides do not contribute significantly to radiological dose.

Nuclides are presented from top to bottom in order of decay starting from the parent radionuclides. Branching fractions are shown, as appropriate, for consideration in source term development. Fractions taken from Shleien, 1992.

Table B-2. Summary of Phases I, II, and III Characterization Data Used in NESHAP Dose Calculations

Analyte	Units	Results	Minimum Detect	Maximum Detect	Average Result	95% UCL of the Mean	Input Exposure Concentration
Radium-226 [a]	(pCi/g)	552	0.0607	1140	10.23	26.09	26.09
Thorium-228	(pCi/g)	552	0.0481	2.38	1.06	1.08	1.08
Thorium-230	(pCi/g)	552	0.0906	978	8.68	22.74	22.74
Thorium-232	(pCi/g)	551	0.0149	2.07	0.88	0.89	0.89
Uranium-234	(pCi/g)	552	0.0416	8340	20.57	87.4	87.4
Uranium-235	(pCi/g)	553	-0.16	886	1.94	8.97	8.97
Uranium-238	(pCi/g)	551	0.049	8830	21.59	92.38	92.38

[a] Includes previous outlier 1,140 pCi/g (NiagAir1 on 25JUL00 at 15:36 using dataset allradnq)

Table B-3. Soil Concentration and Estimated Emission of Radionuclides from NFSS for CY 2009

Soil Concentration and CAPP88 Input Source Term								
Uranium Series			Thorium Series			Actinium Series		
Nuclide	pCi/g	Ci/y	Nuclide	pCi/g	Ci/y	Nuclide	pCi/g	Ci/y
U-238	92.38	5.69E-06	Th-232	0.89	5.48E-08	U-235	8.97	5.52E-07
Th-234	92.38	5.69E-06	Ra-228	0.89	5.48E-08	Th-231	8.97	5.52E-07
Pa-234m	92.38	5.69E-06	Ac-228	0.89	5.48E-08	Pa-231	8.97	5.52E-07
Pa-234	92.38	7.40E-09	Th-228	1.08	6.65E-08	Ac-227	8.97	5.52E-07
U-234	87.4	5.38E-06	Ra-224	1.08	6.65E-08	Th-227	8.97	5.45E-07
Th-230	22.74	1.40E-06	Rn-220	1.08	0.00E-00	Fr-223	8.97	7.62E-09
Ra-226	26.09	1.61E-06	Po-216	1.08	6.65E-08	Ra-223	8.97	5.52E-07
Rn-222	26.09	0.00E-00	Pb-212	1.08	6.65E-08	Rn-219	8.97	0.00E-00
Po-218	26.09	1.61E-06	Bi-212	1.08	6.65E-08	Po-215	8.97	5.52E-07
Pb-214	26.09	1.61E-06	Po-212	1.08	4.26E-08	Pb-211	8.97	5.52E-07
At-218	26.09	3.21E-10	Tl-208	1.08	2.39E-08	At-215	8.97	1.27E-12
Bi-214	26.09	1.61E-06	Pb-208 (stable)	1.08	0.00E-00	Bi-211	8.97	5.52E-07
Po-214	26.09	1.61E-06				Po-211	8.97	1.51E-09
Tl-210	26.09	3.37E-10				Tl-207	8.97	5.51E-07
Pb-210	26.09	1.61E-06				Pb-207 (stable)	8.97	0.00E-00
Bi-210	26.09	1.61E-06						
Po-210	26.09	1.61E-06						
Tl-206	26.09	2.09E-12						
Pb-206 (stable)	26.09	0.00E-00						

B.2 REFERENCES

Shleien, 1992. *The Health Physics and Radiological Health Handbook*, Scinta, Inc., Silver Spring, MD.

ATTACHMENT C

CAPP88-PC REPORTS – INDIVIDUAL

C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

D O S E A N D R I S K E Q U I V A L E N T S U M M A R I E S

Non-Radon Individual Assessment
May 21, 2010 03:32 pm

Facility: Niagara Falls Storage Site
Address: 1397 Pletcher Road
City: Lewiston
State: NY Zip: 14174

Source Category: Area Source
Source Type: Area
Emission Year: 2009

Comments: NFSS Tech Memo 2009
Individual Dose

Dataset Name: NFSS 2009 Ind
Dataset Date: 5/21/2010 3:09:00 PM
Wind File: . C:\Program Files\CAP88-PC30\WindLib\IAG0905.WND

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	4.31E-05
INHALATION	1.42E-03
AIR IMMERSION	5.20E-09
GROUND SURFACE	1.70E-06
INTERNAL	1.46E-03
EXTERNAL	1.70E-06
TOTAL	1.47E-03

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-238	1.35E-04
Th-234	4.64E-07
Pa-234m	2.83E-07
Pa-234	4.40E-11
U-234	1.55E-04
Th-230	1.62E-04
Ra-226	5.69E-05
Rn-222	1.02E-15
Po-218	6.22E-12
Pb-214	3.31E-07
Bi-214	1.23E-06
Po-214	5.71E-11
Pb-210	2.72E-05
Bi-210	1.25E-06
Po-210	4.71E-05
At-218	0.00E+00
Th-232	1.10E-05
Ra-228	1.17E-06
Ac-228	5.37E-09
Th-228	2.14E-05
Ra-224	1.61E-06
Rn-220	3.88E-14
Po-216	1.64E-15
Pb-212	9.26E-08
Bi-212	1.67E-08
Po-212	0.00E+00
Tl-208	1.29E-10
U-235	1.41E-05
Th-231	5.48E-09
Pa-231	4.22E-04
Ac-227	3.28E-04
Th-227	4.60E-05
Ra-223	3.38E-05
Rn-219	4.62E-11
Po-215	4.23E-11
Pb-211	7.34E-08
Bi-211	1.11E-08
Tl-207	1.39E-08
Po-211	1.75E-14
Fr-223	6.44E-10
TOTAL	1.47E-03

CANCER RISK SUMMARY

Cancer	Selected Individual Total Lifetime Fatal Cancer Risk
Esophagu	8.18E-13
Stomach	2.00E-12
Colon	6.82E-12
Liver	2.93E-11
LUNG	5.68E-10
Bone	1.99E-11
Skin	9.15E-14
Breast	1.17E-12
Ovary	3.48E-12
Bladder	1.93E-12
Kidneys	3.62E-12
Thyroid	1.61E-13
Leukemia	3.79E-12
Residual	8.07E-12
Total	6.49E-10
TOTAL	1.30E-09

PATHWAY RISK SUMMARY

Pathway	Selected Individual Total Lifetime Fatal Cancer Risk
INGESTION	1.32E-11
INHALATION	6.35E-10
AIR IMMERSION	2.78E-15
GROUND SURFACE	7.77E-13
INTERNAL	6.48E-10
EXTERNAL	7.79E-13
TOTAL	6.49E-10

NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk
U-238	1.11E-10
Th-234	4.71E-13
Pa-234m	4.54E-14
Pa-234	2.81E-17
U-234	1.28E-10
Th-230	8.25E-11
Ra-226	4.23E-11
Rn-222	5.55E-22
Po-218	3.41E-18
Pb-214	2.01E-13
Bi-214	6.49E-13
Po-214	3.13E-17
Pb-210	1.32E-11
Bi-210	1.08E-12
Po-210	3.77E-11
At-218	0.00E+00
Th-232	4.89E-12
Ra-228	5.61E-13
Ac-228	3.42E-15
Th-228	1.84E-11
Ra-224	1.38E-12
Rn-220	2.12E-20
Po-216	8.96E-22
Pb-212	7.98E-14
Bi-212	1.08E-14
Po-212	0.00E+00
Tl-208	7.10E-17
U-235	1.16E-11
Th-231	3.25E-15
Pa-231	3.99E-11
Ac-227	8.63E-11
Th-227	3.99E-11
Ra-223	2.90E-11
Rn-219	2.50E-17
Po-215	2.32E-17
Pb-211	5.05E-14
Bi-211	6.07E-15
Tl-207	1.78E-15
Po-211	9.58E-21
Fr-223	5.45E-16
TOTAL	6.49E-10

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	533	783	914	1105	1250	1486	2499
N	1.1E-03	4.4E-04	3.4E-04	2.5E-04	2.1E-04	1.7E-04	9.6E-05
NNW	8.4E-04	3.4E-04	2.5E-04	1.7E-04	1.4E-04	1.0E-04	5.2E-05
NW	8.4E-04	3.0E-04	2.3E-04	1.7E-04	1.4E-04	1.2E-04	6.7E-05
WNW	9.0E-04	4.6E-04	3.4E-04	2.4E-04	2.0E-04	1.5E-04	7.7E-05
W	9.9E-04	4.9E-04	3.8E-04	2.9E-04	2.5E-04	2.0E-04	1.1E-04
WSW	9.7E-04	4.9E-04	3.6E-04	2.6E-04	2.1E-04	1.6E-04	7.9E-05
SW	9.0E-04	3.6E-04	2.8E-04	2.1E-04	1.7E-04	1.4E-04	7.9E-05
SSW	8.1E-04	3.7E-04	2.7E-04	1.9E-04	1.6E-04	1.2E-04	6.3E-05
S	8.7E-04	3.6E-04	2.8E-04	2.1E-04	1.8E-04	1.4E-04	8.2E-05
SSE	9.8E-04	4.7E-04	3.5E-04	2.5E-04	2.0E-04	1.5E-04	7.6E-05
SE	1.1E-03	5.1E-04	3.9E-04	2.9E-04	2.4E-04	1.9E-04	1.0E-04
ESE	1.2E-03	5.9E-04	4.4E-04	3.1E-04	2.6E-04	2.0E-04	9.6E-05
E	1.4E-03	5.9E-04	4.5E-04	3.3E-04	2.7E-04	2.1E-04	1.1E-04
ENE	1.5E-03	7.0E-04	5.2E-04	3.7E-04	3.0E-04	2.3E-04	1.0E-04
NE	1.5E-03	6.9E-04	5.3E-04	3.9E-04	3.3E-04	2.6E-04	1.4E-04
NNE	1.3E-03	6.6E-04	4.9E-04	3.5E-04	2.9E-04	2.2E-04	1.0E-04

Distance (m)

Direction	2629
N	9.0E-05
NNW	5.0E-05
NW	6.4E-05
WNW	7.4E-05
W	1.1E-04
WSW	7.5E-05
SW	7.5E-05
SSW	6.0E-05
S	7.8E-05
SSE	7.3E-05
SE	9.7E-05
ESE	9.1E-05
E	1.0E-04
ENE	9.9E-05
NE	1.3E-04
NNE	9.7E-05

INDIVIDUAL LIFETIME RISK (deaths)
(All Radionuclides and Pathways)

Distance (m)

Direction	533	783	914	1105	1250	1486	2499
N	4.6E-10	1.9E-10	1.5E-10	1.1E-10	9.1E-11	7.2E-11	3.8E-11
NNW	3.7E-10	1.5E-10	1.1E-10	7.3E-11	5.8E-11	4.2E-11	1.9E-11
NW	3.7E-10	1.3E-10	9.7E-11	7.2E-11	6.0E-11	4.7E-11	2.5E-11
WNW	4.0E-10	2.0E-10	1.5E-10	1.0E-10	8.5E-11	6.4E-11	3.0E-11
W	4.3E-10	2.1E-10	1.7E-10	1.2E-10	1.1E-10	8.4E-11	4.5E-11
WSW	4.3E-10	2.1E-10	1.6E-10	1.1E-10	8.9E-11	6.7E-11	3.1E-11
SW	4.0E-10	1.6E-10	1.2E-10	8.7E-11	7.3E-11	5.8E-11	3.1E-11
SSW	3.6E-10	1.6E-10	1.2E-10	8.2E-11	6.7E-11	5.0E-11	2.3E-11
S	3.8E-10	1.6E-10	1.2E-10	9.0E-11	7.5E-11	6.0E-11	3.2E-11
SSE	4.3E-10	2.0E-10	1.5E-10	1.1E-10	8.6E-11	6.4E-11	3.0E-11
SE	5.0E-10	2.2E-10	1.7E-10	1.2E-10	1.0E-10	8.1E-11	4.1E-11
ESE	5.5E-10	2.6E-10	1.9E-10	1.4E-10	1.1E-10	8.3E-11	3.8E-11
E	6.2E-10	2.6E-10	2.0E-10	1.4E-10	1.2E-10	9.1E-11	4.4E-11
ENE	6.5E-10	3.1E-10	2.3E-10	1.6E-10	1.3E-10	9.6E-11	4.2E-11
NE	6.4E-10	3.0E-10	2.3E-10	1.7E-10	1.4E-10	1.1E-10	5.8E-11
NNE	5.7E-10	2.9E-10	2.1E-10	1.5E-10	1.2E-10	9.2E-11	4.1E-11

Distance (m)

Direction	2629
N	3.6E-11
NNW	1.8E-11
NW	2.4E-11
WNW	2.8E-11
W	4.2E-11
WSW	2.9E-11
SW	2.9E-11
SSW	2.2E-11
S	3.0E-11
SSE	2.8E-11
SE	3.9E-11
ESE	3.6E-11
E	4.1E-11
ENE	4.0E-11
NE	5.4E-11
NNE	3.9E-11

ATTACHMENT D

CAP88-PC REPORTS – POPULATION

C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

D O S E A N D R I S K E Q U I V A L E N T S U M M A R I E S

Non-Radon Population Assessment
May 21, 2010 04:27 pm

Facility: Niagara Falls Storage Site
Address: 1397 Pletcher Road
City: Lewiston
State: NY Zip: 14174

Source Category: Area Source
Source Type: Area
Emission Year: 2009

Comments: NFSS Tech Memo 2009
Population Dose

Dataset Name: NFSS 2009 Pop
Dataset Date: 5/21/2010 4:01:00 PM
Wind File: . C:\Program Files\CAP88-PC30\WindLib\IAG0905.WND
Population File: C:\Program Files\CAP88-PC30\Poplib\NFSS2003.POP

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	6.40E-06	2.80E-04
INHALATION	5.66E-03	7.59E-03
AIR IMMERSION	2.07E-08	2.79E-08
GROUND SURFACE	6.39E-06	1.56E-05
INTERNAL	5.67E-03	7.87E-03
EXTERNAL	6.41E-06	1.57E-05
TOTAL	5.68E-03	7.88E-03

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-238	5.27E-04	7.24E-04
Th-234	1.51E-06	2.61E-06
Pa-234m	1.06E-06	2.61E-06
Pa-234	1.75E-10	2.35E-10
U-234	6.06E-04	8.31E-04
Th-230	6.34E-04	8.66E-04
Ra-226	1.82E-04	3.24E-04
Rn-222	4.01E-15	8.77E-15
Po-218	2.34E-11	5.73E-11
Pb-214	1.28E-06	2.43E-06
Bi-214	4.66E-06	1.06E-05
Po-214	2.15E-10	5.25E-10
Pb-210	5.94E-05	1.60E-04
Bi-210	4.95E-06	6.82E-06
Po-210	1.71E-04	2.53E-04
At-218	0.00E+00	0.00E+00
Th-232	4.40E-05	5.89E-05
Ra-228	4.68E-06	6.27E-06
Ac-228	2.14E-08	2.87E-08
Th-228	8.54E-05	1.14E-04
Ra-224	6.40E-06	8.57E-06
Rn-220	1.52E-13	3.33E-13
Po-216	6.53E-15	8.75E-15
Pb-212	3.69E-07	4.94E-07
Bi-212	6.64E-08	8.90E-08
Po-212	0.00E+00	0.00E+00
Tl-208	5.12E-10	6.86E-10
U-235	5.53E-05	7.61E-05
Th-231	2.09E-08	4.46E-08
Pa-231	1.67E-03	2.26E-03
Ac-227	1.30E-03	1.75E-03
Th-227	1.83E-04	2.46E-04
Ra-223	1.33E-04	1.81E-04
Rn-219	1.81E-10	3.96E-10
Po-215	1.59E-10	3.89E-10
Pb-211	2.87E-07	4.84E-07
Bi-211	4.16E-08	1.02E-07
Tl-207	5.23E-08	1.28E-07
Po-211	6.97E-14	9.34E-14
Fr-223	2.57E-09	3.44E-09
TOTAL	5.68E-03	7.88E-03

CANCER RISK SUMMARY

Cancer	Selected Individual Total Lifetime Fatal Cancer Risk	Total Collective Population Fatal Cancer Risk (Deaths/y)
Esophagu	2.85E-12	5.89E-11
Stomach	6.38E-12	1.47E-10
Colon	1.65E-11	5.23E-10
Liver	1.09E-10	2.05E-09
LUNG	2.26E-09	3.93E-08
Bone	7.19E-11	1.41E-09
Skin	3.19E-13	8.31E-12
Breast	3.74E-12	8.76E-11
Ovary	1.33E-11	2.44E-10
Bladder	6.78E-12	1.39E-10
Kidneys	9.83E-12	2.67E-10
Thyroid	5.19E-13	1.18E-11
Leukemia	1.29E-11	2.75E-10
Residual	2.26E-11	6.12E-10
Total	2.53E-09	4.51E-08

PATHWAY RISK SUMMARY

Pathway	Selected Individual Total Lifetime Fatal Cancer Risk	Total Collective Population Fatal Cancer Risk (Deaths/y)
INGESTION	1.93E-12	1.12E-09
INHALATION	2.53E-09	4.39E-08
AIR IMMERSION	1.11E-14	1.94E-13
GROUND SURFACE	2.92E-12	9.26E-11
INTERNAL	2.53E-09	4.50E-08
EXTERNAL	2.93E-12	9.28E-11
TOTAL	2.53E-09	4.51E-08

NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk	Total Collective Population Fatal Cancer Risk (Deaths/y)
U-238	4.38E-10	7.69E-09
Th-234	1.37E-12	3.41E-11
Pa-234m	1.71E-13	5.41E-12
Pa-234	1.12E-16	1.94E-15
U-234	5.05E-10	8.85E-09
Th-230	3.28E-10	5.71E-09
Ra-226	1.53E-10	3.01E-09
Rn-222	2.18E-21	6.17E-20
Po-218	1.28E-17	4.07E-16
Pb-214	7.79E-13	1.85E-11
Bi-214	2.46E-12	7.24E-11
Po-214	1.18E-16	3.73E-15
Pb-210	3.63E-11	9.74E-10
Bi-210	4.23E-12	7.51E-11
Po-210	1.44E-10	2.62E-09
At-218	0.00E+00	0.00E+00
Th-232	1.95E-11	3.39E-10
Ra-228	2.23E-12	3.88E-11
Ac-228	1.36E-14	2.37E-13
Th-228	7.32E-11	1.27E-09
Ra-224	5.51E-12	9.56E-11
Rn-220	8.32E-20	2.36E-18
Po-216	3.57E-21	6.20E-20
Pb-212	3.18E-13	5.52E-12
Bi-212	4.28E-14	7.44E-13
Po-212	0.00E+00	0.00E+00
Tl-208	2.83E-16	4.91E-15
U-235	4.60E-11	8.08E-10
Th-231	1.25E-14	3.15E-13
Pa-231	1.58E-10	2.76E-09
Ac-227	3.43E-10	5.97E-09
Th-227	1.59E-10	2.76E-09
Ra-223	1.15E-10	2.01E-09
Rn-219	9.79E-17	2.78E-15
Po-215	8.72E-17	2.76E-15
Pb-211	1.99E-13	3.89E-12
Bi-211	2.28E-14	7.23E-13
Tl-207	6.68E-15	2.12E-13
Po-211	3.82E-20	6.63E-19
Fr-223	2.17E-15	3.77E-14
TOTAL	2.53E-09	4.51E-08

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	250	750	1500	2500	3500	4500	7500
N	5.7E-03	4.4E-04	1.4E-04	6.3E-05	3.6E-05	2.5E-05	1.1E-05
NNW	5.7E-03	3.4E-04	7.0E-05	1.9E-05	1.1E-05	7.5E-06	3.4E-06
NW	5.6E-03	2.9E-04	8.2E-05	3.5E-05	2.0E-05	1.3E-05	6.0E-06
WNW	5.6E-03	4.6E-04	1.2E-04	4.5E-05	2.6E-05	1.7E-05	7.7E-06
W	5.6E-03	4.9E-04	1.6E-04	7.9E-05	4.5E-05	3.1E-05	1.4E-05
WSW	5.6E-03	5.0E-04	1.2E-04	4.6E-05	2.7E-05	1.8E-05	8.1E-06
SW	5.6E-03	3.5E-04	1.0E-04	4.6E-05	2.7E-05	1.8E-05	8.1E-06
SSW	5.6E-03	3.7E-04	8.7E-05	3.0E-05	1.7E-05	1.2E-05	5.3E-06
S	5.6E-03	3.6E-04	1.1E-04	4.9E-05	2.8E-05	1.9E-05	8.6E-06
SSE	5.7E-03	4.7E-04	1.2E-04	4.4E-05	2.5E-05	1.7E-05	7.7E-06
SE	5.7E-03	5.1E-04	1.6E-04	6.9E-05	4.0E-05	2.7E-05	1.2E-05
ESE	5.7E-03	6.0E-04	1.6E-04	6.3E-05	3.6E-05	2.5E-05	1.1E-05
E	5.6E-03	6.1E-04	1.8E-04	7.6E-05	4.4E-05	3.0E-05	1.4E-05
ENE	5.7E-03	7.3E-04	1.9E-04	7.2E-05	4.2E-05	2.8E-05	1.3E-05
NE	5.7E-03	7.1E-04	2.3E-04	1.1E-04	6.1E-05	4.2E-05	1.9E-05
NNE	5.7E-03	6.9E-04	1.8E-04	6.9E-05	4.0E-05	2.7E-05	1.2E-05

Distance (m)

Direction	15000	25000	35000	45000	55000	65000	75000
N	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.6E-07	2.8E-07
NNW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-07	1.3E-07	1.0E-07
NW	2.1E-06	0.0E+00	0.0E+00	0.0E+00	2.7E-07	1.9E-07	1.5E-07
WNW	2.8E-06	0.0E+00	0.0E+00	0.0E+00	3.3E-07	2.2E-07	1.7E-07
W	5.0E-06	2.2E-06	1.3E-06	8.8E-07	5.9E-07	4.0E-07	3.1E-07
WSW	2.9E-06	1.3E-06	8.1E-07	5.5E-07	3.8E-07	2.6E-07	2.1E-07
SW	2.9E-06	1.3E-06	8.1E-07	5.4E-07	3.8E-07	2.6E-07	0.0E+00
SSW	1.9E-06	8.6E-07	5.3E-07	3.6E-07	0.0E+00	1.8E-07	1.5E-07
S	3.1E-06	1.4E-06	8.5E-07	5.7E-07	3.9E-07	2.7E-07	2.2E-07
SSE	2.8E-06	1.2E-06	7.6E-07	5.2E-07	3.6E-07	2.6E-07	2.0E-07
SE	4.4E-06	2.0E-06	1.2E-06	8.1E-07	5.6E-07	3.9E-07	3.1E-07
ESE	4.0E-06	1.8E-06	1.1E-06	7.5E-07	5.3E-07	3.7E-07	2.9E-07
E	4.9E-06	2.2E-06	1.4E-06	9.2E-07	6.4E-07	4.5E-07	3.5E-07
ENE	4.7E-06	2.1E-06	1.3E-06	8.9E-07	6.3E-07	4.5E-07	3.6E-07
NE	6.9E-06	3.2E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NNE	4.5E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.4E-07

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	250	750	1500	2500	3500	4500	7500
N	5.1E-05	1.2E-05	1.3E-05	8.4E-06	6.8E-06	5.8E-06	1.5E-05
NNW	5.1E-05	9.5E-06	7.1E-06	2.6E-06	2.1E-06	1.7E-06	5.2E-06
NW	5.1E-05	8.1E-06	9.1E-06	5.2E-06	3.7E-06	3.5E-06	5.0E-05
WNW	5.1E-05	1.3E-05	1.3E-05	8.2E-06	6.2E-06	1.0E-05	2.9E-05
W	5.1E-05	1.4E-05	1.8E-05	1.5E-05	7.3E-05	1.0E-05	1.6E-05
WSW	5.1E-05	1.4E-05	1.4E-05	8.5E-06	4.1E-05	3.5E-05	5.4E-05
SW	5.1E-05	9.9E-06	1.2E-05	8.5E-06	8.5E-06	3.8E-05	9.8E-05
SSW	5.1E-05	1.0E-05	9.7E-06	5.6E-06	5.0E-06	1.8E-05	5.8E-05
S	5.1E-05	1.0E-05	1.2E-05	9.1E-06	6.3E-06	5.6E-06	8.9E-05
SSE	5.1E-05	1.3E-05	1.3E-05	8.1E-06	5.6E-06	4.8E-06	3.5E-05
SE	5.1E-05	1.4E-05	1.7E-05	1.3E-05	9.6E-06	7.7E-06	3.8E-05
ESE	5.1E-05	1.7E-05	1.8E-05	1.2E-05	9.4E-06	8.1E-06	2.8E-05
E	5.1E-05	1.7E-05	2.0E-05	1.4E-05	1.1E-05	9.9E-06	3.2E-05
ENE	5.1E-05	2.0E-05	2.1E-05	1.3E-05	8.1E-06	5.9E-06	4.1E-05
NE	5.1E-05	2.0E-05	2.5E-05	1.3E-05	7.1E-06	6.0E-06	5.1E-05
NNE	5.1E-05	1.9E-05	1.8E-05	9.3E-06	7.3E-06	5.7E-06	1.9E-05

Distance (m)

Direction	15000	25000	35000	45000	55000	65000	75000
N	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.7E-05	8.0E-05
NNW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.6E-05	1.4E-04	7.3E-05
NW	2.2E-06	0.0E+00	0.0E+00	0.0E+00	1.3E-06	1.5E-04	7.9E-05
WNW	9.7E-06	0.0E+00	0.0E+00	0.0E+00	3.3E-10	5.6E-05	1.5E-05
W	1.3E-04	1.4E-04	1.3E-05	2.4E-05	1.2E-05	6.6E-05	7.6E-05
WSW	4.3E-05	6.2E-05	6.5E-06	3.7E-06	2.1E-06	2.6E-06	1.2E-06
SW	2.1E-04	7.4E-06	4.6E-05	7.5E-06	7.1E-07	1.8E-07	0.0E+00
SSW	2.2E-04	2.0E-06	4.0E-06	1.5E-06	0.0E+00	2.6E-08	2.2E-06
S	2.8E-04	7.5E-05	8.1E-05	3.3E-06	4.2E-05	1.7E-05	8.0E-06
SSE	2.1E-04	5.8E-04	6.8E-04	2.4E-04	5.8E-05	1.1E-05	5.0E-06
SE	7.9E-05	2.3E-04	2.2E-04	8.7E-05	2.6E-05	9.3E-06	6.8E-06
ESE	4.5E-05	1.5E-04	1.8E-05	1.8E-05	1.2E-05	2.5E-05	9.4E-06
E	4.7E-05	1.2E-04	2.2E-05	3.5E-05	9.8E-06	1.7E-05	1.4E-05
ENE	2.7E-05	4.6E-05	1.3E-05	6.0E-06	3.7E-06	1.5E-06	6.9E-07
NE	5.7E-05	3.7E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NNE	2.4E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.1E-06

INDIVIDUAL LIFETIME RISK (deaths)
(All Radionuclides and Pathways)

Distance (m)

Direction	250	750	1500	2500	3500	4500	7500
N	2.5E-09	1.9E-10	6.1E-11	2.8E-11	1.6E-11	1.1E-11	4.9E-12
NNW	2.5E-09	1.5E-10	3.1E-11	8.6E-12	4.9E-12	3.4E-12	1.5E-12
NW	2.5E-09	1.3E-10	3.7E-11	1.5E-11	8.9E-12	6.0E-12	2.7E-12
WNW	2.5E-09	2.1E-10	5.3E-11	2.0E-11	1.1E-11	7.7E-12	3.4E-12
W	2.5E-09	2.2E-10	7.3E-11	3.5E-11	2.0E-11	1.4E-11	6.2E-12
WSW	2.5E-09	2.2E-10	5.6E-11	2.1E-11	1.2E-11	8.0E-12	3.6E-12
SW	2.5E-09	1.6E-10	4.7E-11	2.1E-11	1.2E-11	8.0E-12	3.6E-12
SSW	2.5E-09	1.6E-10	3.9E-11	1.3E-11	7.7E-12	5.2E-12	2.3E-12
S	2.5E-09	1.6E-10	4.9E-11	2.2E-11	1.3E-11	8.6E-12	3.8E-12
SSE	2.5E-09	2.1E-10	5.3E-11	1.9E-11	1.1E-11	7.6E-12	3.4E-12
SE	2.5E-09	2.3E-10	6.9E-11	3.1E-11	1.8E-11	1.2E-11	5.4E-12
ESE	2.5E-09	2.7E-10	7.2E-11	2.8E-11	1.6E-11	1.1E-11	5.0E-12
E	2.5E-09	2.7E-10	7.9E-11	3.4E-11	2.0E-11	1.3E-11	6.1E-12
ENE	2.5E-09	3.3E-10	8.4E-11	3.2E-11	1.9E-11	1.3E-11	5.7E-12
NE	2.5E-09	3.2E-10	1.0E-10	4.7E-11	2.7E-11	1.9E-11	8.5E-12
NNE	2.5E-09	3.1E-10	8.0E-11	3.1E-11	1.8E-11	1.2E-11	5.5E-12

Distance (m)

Direction	15000	25000	35000	45000	55000	65000	75000
N	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.6E-13	1.2E-13
NNW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.3E-14	5.2E-14	4.2E-14
NW	9.5E-13	0.0E+00	0.0E+00	0.0E+00	1.1E-13	7.9E-14	6.2E-14
WNW	1.2E-12	0.0E+00	0.0E+00	0.0E+00	1.4E-13	9.4E-14	7.3E-14
W	2.2E-12	9.8E-13	5.9E-13	3.9E-13	2.6E-13	1.7E-13	1.3E-13
WSW	1.3E-12	5.9E-13	3.6E-13	2.4E-13	1.6E-13	1.1E-13	8.8E-14
SW	1.3E-12	5.8E-13	3.6E-13	2.4E-13	1.6E-13	1.1E-13	0.0E+00
SSW	8.4E-13	3.8E-13	2.3E-13	1.6E-13	0.0E+00	7.7E-14	6.1E-14
S	1.4E-12	6.2E-13	3.8E-13	2.5E-13	1.7E-13	1.2E-13	9.2E-14
SSE	1.2E-12	5.5E-13	3.4E-13	2.3E-13	1.6E-13	1.1E-13	8.7E-14
SE	2.0E-12	8.8E-13	5.3E-13	3.6E-13	2.5E-13	1.7E-13	1.3E-13
ESE	1.8E-12	8.1E-13	4.9E-13	3.3E-13	2.3E-13	1.6E-13	1.3E-13
E	2.2E-12	9.9E-13	6.0E-13	4.0E-13	2.8E-13	2.0E-13	1.5E-13
ENE	2.1E-12	9.5E-13	5.8E-13	4.0E-13	2.8E-13	2.0E-13	1.5E-13
NE	3.1E-12	1.4E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NNE	2.0E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E-13

COLLECTIVE FATAL CANCER RATE (deaths/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	250	750	1500	2500	3500	4500	7500
N	2.9E-10	7.1E-11	7.5E-11	4.9E-11	3.9E-11	3.3E-11	8.7E-11
NNW	2.9E-10	5.5E-11	4.1E-11	1.5E-11	1.2E-11	9.7E-12	3.0E-11
NW	2.9E-10	4.7E-11	5.3E-11	3.0E-11	2.2E-11	2.0E-11	2.9E-10
WNW	2.9E-10	7.5E-11	7.6E-11	4.8E-11	3.6E-11	5.8E-11	1.7E-10
W	2.9E-10	8.0E-11	1.1E-10	8.4E-11	4.2E-10	5.9E-11	9.0E-11
WSW	2.9E-10	8.0E-11	8.0E-11	4.9E-11	2.3E-10	2.0E-10	3.1E-10
SW	2.9E-10	5.7E-11	6.7E-11	4.9E-11	4.9E-11	2.2E-10	5.7E-10
SSW	2.9E-10	5.9E-11	5.6E-11	3.2E-11	2.9E-11	1.0E-10	3.4E-10
S	2.9E-10	5.8E-11	7.0E-11	5.3E-11	3.7E-11	3.3E-11	5.2E-10
SSE	3.0E-10	7.7E-11	7.6E-11	4.7E-11	3.2E-11	2.8E-11	2.0E-10
SE	2.9E-10	8.3E-11	1.0E-10	7.4E-11	5.6E-11	4.4E-11	2.2E-10
ESE	2.9E-10	9.8E-11	1.0E-10	6.8E-11	5.4E-11	4.7E-11	1.6E-10
E	2.9E-10	9.9E-11	1.1E-10	8.2E-11	6.6E-11	5.8E-11	1.9E-10
ENE	2.9E-10	1.2E-10	1.2E-10	7.5E-11	4.7E-11	3.4E-11	2.4E-10
NE	2.9E-10	1.1E-10	1.4E-10	7.5E-11	4.1E-11	3.5E-11	3.0E-10
NNE	3.0E-10	1.1E-10	1.0E-10	5.4E-11	4.2E-11	3.3E-11	1.1E-10

Distance (m)

Direction	15000	25000	35000	45000	55000	65000	75000
N	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E-10	4.5E-10
NNW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-10	7.2E-10	3.8E-10
NW	1.2E-11	0.0E+00	0.0E+00	0.0E+00	7.4E-12	8.4E-10	4.3E-10
WNW	5.6E-11	0.0E+00	0.0E+00	0.0E+00	1.8E-15	3.1E-10	8.3E-11
W	7.6E-10	8.1E-10	7.2E-11	1.4E-10	7.0E-11	3.7E-10	4.3E-10
WSW	2.5E-10	3.6E-10	3.7E-11	2.1E-11	1.2E-11	1.4E-11	6.5E-12
SW	1.2E-09	4.2E-11	2.6E-10	4.3E-11	4.0E-12	1.0E-12	0.0E+00
SSW	1.3E-09	1.1E-11	2.3E-11	8.7E-12	0.0E+00	1.4E-13	1.2E-11
S	1.6E-09	4.3E-10	4.6E-10	1.9E-11	2.4E-10	9.5E-11	4.4E-11
SSE	1.2E-09	3.3E-09	3.9E-09	1.4E-09	3.3E-10	6.2E-11	2.7E-11
SE	4.5E-10	1.4E-09	1.3E-09	5.0E-10	1.5E-10	5.2E-11	3.8E-11
ESE	2.6E-10	8.6E-10	1.0E-10	1.0E-10	6.7E-11	1.4E-10	5.3E-11
E	2.7E-10	6.7E-10	1.2E-10	2.0E-10	5.6E-11	9.7E-11	7.7E-11
ENE	1.5E-10	2.7E-10	7.2E-11	3.4E-11	2.1E-11	8.4E-12	3.9E-12
NE	3.3E-10	2.1E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NNE	1.4E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.0E-11

ATTACHMENT E

NATIONAL CLIMATIC DATA CENTER, NIAGARA FALLS, NEW YORK

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 01/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	22	4	13	M	6	12	52	0	-	-	SN	6	M	0.2s	T	29.61	30.28	3.5	16	6.1	16	100	13	110	01
02	35	22	29	M	21	27	36	0	-	-	SN BR	M	M	M	T	29.09	29.77	17.3	24	18.7	36	260	29	260	02
03	27	7	17	M	15	20	48	0	-	-	SN	M	M	M	T	29.48	30.16	9.1	28	10.4	25	250	22	250	03
04	31	5	18	M	13	18	47	0	-	-	FZRA FZDZ	M	M	M	0.01	29.37	30.10	1.5	05	6.4	18	260	16	260	04
05	34	17	26	M	18	23	39	0	-	-		M	M	M	0.00	29.38	30.07	14.5	25	14.9	28	240	24	250	05
06	30	8	19	M	16	20	46	0	-	-	FZRA SN	M	M	M	0.08	29.17	29.91	5.2	10	6.0	20	990	16	080	06
07	34	29	32	M	29	31	33	0	-	-	RA DZ FZRA SN PL BR UP	M	M	M	0.47	28.56	29.21	7.7	22	14.3	37	240	30	240	07
08	30	19	25	M	18	23	40	0	-	-	SN FG+ FZFG BR BLSN	M	M	M	T	28.77	29.53	17.3	27	17.9	31	250	28	260	08
09	24	11	18	M	14	18	47	0	-	-	SN BR	M	M	M	T	29.44	30.12	2.7	29	4.1	13	260	12	260	09
10	22	8	15	M	13	16	50	0	-	-	SN BR	M	M	M	0.08	29.39	30.15	10.9	06	11.1	25	060	20	050	10
11	23	12	18	M	12	18	47	0	-	-	SN BR	M	M	M	0.01	29.37	30.07	6.0	30	8.3	25	040	21	010	11
12	26	11	19	M	15	19	46	0	-	-	SN BR	M	M	M	T	29.48	30.17	8.2	23	9.3	21	230	18	230	12
13	34	11	23	M	20	24	42	0	-	-	SN BR BLSN	M	M	M	0.01	29.16	29.88	12.4	23	18.4	36	280	31	290	13
14	12	1	7	M	1	6	58	0	-	-	SN BR	M	M	M	T	29.47	30.17	2.7	07	6.1	23	280	20	280	14
15	13	0	7	M	1	7	58	0	-	-	SN FZFG BR	M	M	M	0.02	29.61	30.34	6.4	26	8.1	26	260	22	250	15
16	9	1	5*	M	-3	4	60	0	-	-		M	M	M	0.00	29.78	30.50	18.0	24	18.1	33	240	28	250	16
17	15	4	10	M	2	9	55	0	-	-	SN BR	M	M	M	0.01	29.52	30.27	10.5	18	13.7	26	240	22	240	17
18	27	15	21	M	17	21	44	0	-	-	SN BR	M	M	M	0.05	29.07	29.75	7.6	18	10.3	20	220	17	230	18
19	21	11	16	M	13	16	49	0	-	-	SN FZFG BR	M	M	M	0.01	29.01	29.70	7.2	20	8.8	18	200	16	200	19
20	21	9	15	M	11	15	50	0	-	-	SN BR	M	M	M	T	29.20	29.89	7.7	30	8.7	20	340	17	330	20
21	23	0*	12	M	10	14	53	0	-	-	SN BR BLSN	11	M	0.1	0.01	29.27	29.97	17.4	23	17.6	36	230	30	230	21
22	28	20	24	M	21	24	41	0	-	-	SN BR	10	M	0.2s	T	29.25	29.94	13.0	23	13.3	32	240	26	230	22
23	41*	26	34*	M	25	30	31	0	-	-	BR	8	M	T	T	29.13	29.81	12.7	23	15.4	40	250	32	280	23
24	28	9	19	M	2	11	46	0	-	-	SN	5	M	0.8s	T	29.52	30.26	11.6	29	13.8	31	310	26	300	24
25	18	7	13	M	3	10	52	0	-	-		5	M	0.0	0.00	29.59	30.32	14.4	25	14.5	32	240	26	240	25
26	18	4	11	M	4	11	54	0	-	-		5	M	0.0	0.00	29.70	30.43	11.1	24	11.5	24	230	21	230	26
27	23	9	16	M	8	16	49	0	-	-	SN BR	M	M	M	T	29.75	30.44	2.1	19	7.3	20	250	16	250	27
28	66s	17	M	M	19	21	M	M	-	-	SN FZFG BR	M	M	M	0.42	29.15	29.82	2.6	26	12.2	32	280	25	250	28
29	26	15	21	M	15	19	44	0	-	-	SN BR UP BLSN	12	M	T	T	29.23	29.93	19.2	22	19.4	35	210	30	210	29
30	26	13	20	M	16	20	45	0	-	-	SN BR	12	M	0.5	0.02	29.18	29.87	16.7	24	17.6	30	230	25	220	30
31	24	6	15	M	8	13	50	0	-	-	SN BLSN	11	M	0.5s	T	29.28	29.96	14.2	22	15.7	33	220	30	210	31
	26.2	10.7	18.5		12.4	17.3	47.1	0.0	<-----Monthly Averages | Totals----->				M	M	1.17s	29.33	30.02	7.6	24	12.2	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	1412	M	M	M
Cooling:	0	M		

Greatest 24-hr Precipitation: 0.55s Date: 06-07
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure		Date	Time (LST)
Maximum	30.56	27	0843
Minimum	29.07	07	1446

Number of Days with -------->
Max Temp >=90: 0
Max Temp <=32: 25
Thunderstorms : 0

Min Temp <=32: 31
Min Temp <=0 : 2
Heavy Fog : 1

Precipitation >=.01 inch: 11s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 02/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	38	25	31	M	26	31	34	0	-	-		11	M	0.0	0.00	29.68	29.77	20.5	22	20.7	40	210	31	210	01
02	37	12	25	M	19	24	40	0	-	-		8	M	0.0	0.00	29.31	30.01	4.0	22	4.7	14	240	13	230	02
03	29	11	20	M	17	20	45	0	-	-	SN BR	8	M	0.3	0.01	29.29	29.98	5.1	06	5.7	17	050	14	050	03
04	19	7	13	M	7	12	52	0	-	-	SN BR	9	M	1.2	0.02	29.50	30.24	6.7	33	8.0	20	320	16	320	04
05	14	-7*	4*	M	1	6	61	0	-	-	SN BR	9	M	0.5s	T	29.74	30.47	9.3	23	10.8	24	220	20	230	05
06	26	14	20	M	10	17	45	0	-	-		9	M	0.0	0.00	29.62	30.31	8.3	21	9.0	21	200	17	200	06
07	48	12	30	M	31	36	35	0	-	-		8	M	0.0	0.00	29.32	29.96	17.0	21	18.3	46	210	35	230	07
08	43	27	35	M	28	32	30	0	-	-		1	M	0.0	T	29.47	30.18	11.5	26	12.7	28	300	23	290	08
09	38	23	31	M	25	29	34	0	-	-		T	M	0.0	0.00	29.68	30.36	3.0	17	5.7	13	090	12	090	09
10	52	29	41	M	36	40	24	0	-	-	RA	T	M	0.0	T	29.35	29.99	7.1	20	8.8	23	220	18	220	10
11	52	43	48*	M	46	47	17	0	-	-	RA BR	T	M	0.0	0.65	29.06	29.64	9.5	18	10.9	25	210	21	210	11
12	49	32	41	M	34	36	24	0	-	-	RA DZ SN BR	T	M	1.3	0.54	28.80	29.52	23.0	25	24.8	56	260	44	260	12
13	32	22	27	M	18	24	38	0	-	-	SN	T	M	0.1	0.01	29.38	30.09	7.3	32	8.2	20	340	16	340	13
14	28	19	24	M	15	21	41	0	-	-		T	M	0.0	0.00	29.39	30.09	5.1	30	5.8	15	300	14	290	14
15	33	17	25	M	17	23	40	0	-	-		0	M	0.0	0.00	29.52	30.22	5.0	26	6.6	17	200	15	210	15
16	30	19	25	M	15	23	40	0	-	-		0	M	0.0	0.00	29.62	30.32	5.2	31	7.5	18	330	15	320	16
17	34	18	26	M	18	23	39	0	-	-		0	M	0.0	0.00	29.56	30.21	6.4	19	8.1	23	220	20	200	17
18	37	24	31	M	26	31	34	0	-	-	RA SN BR	0	M	T	0.26	28.93	29.54	6.2	14	7.7	24	170	21	170	18
19	37	18	28	M	18	23	37	0	-	-	RA SN	T	M	0.4	0.02	28.84	29.55	19.6	26	20.0	39	240	31	250	19
20	27	18	23	M	14	20	42	0	-	-	SN BLSN	T	M	0.1s	T	29.14	29.87	22.3	26	22.4	39	240	32	250	20
21	34	19	27	M	20	25	38	0	-	-	SN BR BLSN	T	M	0.9	0.03	29.41	30.09	4.6	19	9.9	25	140	21	140	21
22	33	22	28	M	18	23	37	0	-	-	SN BR BLSN	1	M	1.3	0.04	29.30	30.00	19.0	23	20.5	38	200	31	210	22
23	24	17	21	M	9	17	44	0	-	-	SN	T	M	T	T	29.62	30.35	17.9	30	18.2	35	300	26	290	23
24	26	8	17	M	10	16	48	0	-	-	HZ	M	M	M	T	29.79	30.49	5.3	25	7.7	17	210	15	330	24
25	42	19	31	M	16	27	34	0	-	-	RA	M	M	M	0.04	29.62	30.28	6.5	18	7.8	39	240	30	240	25
26	44	35	40	M	33	37	25	0	-	-	RA BR	0	M	0.0	T	29.47	30.11	5.0	21	9.5	24	190	20	180	26
27	52*	18	35	M	32	36	30	0	-	-	RA DZ SN BR	0	M	T	0.43	29.11	29.81	6.7	24	17.5	33	190	26	190	27
28	21	12	17	M	9	14	48	0	-	-	SN BR	T	M	0.6	0.01	29.70	30.41	8.4	02	10.3	23	320	20	330	28
	35.0	19.0	27.0		20.3	25.5	37.7	0.0	<-----Monthly Averages | Totals----->				M	M	1.97s	29.38	30.06	6.8	24	11.7	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	1056	M	M	M
Cooling:	0	M		

Greatest 24-hr Precipitation: 1.10s Date: 11-12
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.56	24	1020
Minimum 29.15	12	0523

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 11
Thunderstorms : 0

Min Temp <=32: 26
Min Temp <=0 : 1
Heavy Fog : 0

Precipitation >=.01 inch: 6s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 03/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	25	13	19	M	9	16	46	0	-	-	SN	T	M	T	T	29.60	30.31	9.9	36	11.5	28	320	23	350	01
02	18	12	15	M	3	11	50	0	-	-	SN	T	M	0.3s	T	29.66	30.38	16.1	35	16.7	31	010	25	010	02
03	22	8*	15*	M	3	12	50	0	-	-		T	M	0.0	0.00	29.75	30.47	8.2	30	11.4	22	290	18	220	03
04	30	12	21	M	12	19	44	0	-	-		0	M	0.0	0.00	29.74	30.44	7.9	22	8.4	24	240	17	220	04
05	52	16	34	M	17	30	31	0	-	-		0	M	0.0	0.00	29.55	30.19	8.6	17	8.9	26	180	22	180	05
06	58	38	48	M	41	47	17	0	-	-	RA	0	M	0.0	T	29.20	29.86	16.6	22	18.3	45	230	37	230	06
07	44	26	35	M	34	36	30	0	-	-	TSRA RA FG+ FZFG BR	0	M	0.0	1.48	29.34	30.00	4.2	03	6.9	23	040	20	010	07
08	41	35	38	M	36	38	27	0	-	-	RA FG+ BR	0	M	0.0	0.32	29.29	29.92	6.9	08	9.2	28	080	22	090	08
09	43	33	38	M	32	35	27	0	-	-	RA SN BR	0	M	T	0.02	29.29	30.04	6.3	28	11.0	29	210	24	220	09
10	45	33	39	M	35	37	26	0	-	-	RA BR	0	M	0.0	0.30	29.47	30.10	5.8	13	7.6	22	170	18	180	10
11	51	26	39	M	31	36	26	0	-	-	RA SN BR	0	M	T	0.41	29.28	30.00	18.2	24	21.7	44	240	36	230	11
12	28	19	24	M	11	21	41	0	-	-	SN	T	M	0.1s	T	29.86	30.57	11.2	29	11.6	24	290	21	300	12
13	33	18	26	M	14	21	39	0	-	-		0	M	T	T	29.82	30.49	1.2	05	4.6	15	220	13	220	13
14	45	22	34	M	20	28	31	0	-	-		0	M	0.0	0.00	29.59	30.27	7.2	21	7.4	18	240	16	210	14
15	53	22	38	M	23	32	27	0	-	-		0	M	0.0	0.00	29.54	30.21	2.6	03	3.1	14	010	12	360	15
16	58	23	41	M	29	37	24	0	-	-		0	M	0.0	0.00	29.57	30.24	4.9	05	5.6	17	090	15	090	16
17	55	28	42	M	33	38	23	0	-	-	BR	0	M	0.0	0.00	29.52	30.17	7.6	20	8.1	20	200	16	200	17
18	56	42	49*	M	38	44	16	0	-	-	RA HZ	0	M	0.0	T	29.36	30.01	11.3	22	11.8	30	210	23	200	18
19	43	27	35	M	23	31	30	0	-	-	SN	0	M	T	T	29.50	30.20	9.8	31	11.3	24	330	22	310	19
20	35	22	29	M	12	24	36	0	-	-		M	M	M	0.00	29.79	30.47	5.1	02	6.3	17	340	14	010	20
21	45	18	32	M	17	27	33	0	-	-		M	M	M	0.00	29.81	30.49	5.6	21	6.5	18	230	15	230	21
22	43	28	36	M	23	31	29	0	-	-	DZ	M	M	M	T	29.78	30.46	5.9	33	8.8	21	360	17	350	22
23	34	21	28	M	6	22	37	0	-	-		M	M	M	0.00	29.87	30.55	7.2	03	8.2	23	040	16	360	23
24	46	18	32	M	12	26	33	0	-	-		M	M	M	0.00	29.79	30.47	10.6	09	10.7	26	110	22	100	24
25	61*	27	44	M	26	37	21	0	-	-	RA DZ	0	M	0.0	0.02	29.44	30.07	8.0	15	10.4	28	180	22	170	25
26	53	36	45	M	43	45	20	0	-	-	RA BR	0	M	0.0	0.12	29.23	29.88	7.3	21	8.0	17	190	14	190	26
27	58	29	44	M	33	39	21	0	-	-	MIFG BR	0	M	0.0	0.00	29.34	29.99	2.7	19	5.3	18	230	13	230	27
28	59	33	46	M	34	41	19	0	-	-	BR	0	M	0.0	0.00	29.23	29.86	7.2	03	9.3	18	040	17	050	28
29	54	35	45	M	41	44	20	0	-	-	RA BR	0	M	0.0	0.34	28.77	29.38	9.0	21	13.4	35	240	28	240	29
30	40	27	34	M	28	32	31	0	-	-	SN BR	0	M	T	0.01	29.15	29.89	15.9	26	16.2	31	260	26	250	30
31	54	23	39	M	30	35	26	0	-	-	BR	0	M	0.0	0.00	29.46	30.10	8.0	08	8.5	25	090	20	070	31
	44.6	24.8	34.7		24.2	31.4	30.0	0.0	<-----Monthly Averages | Totals----->				M	0.4	3.02s	29.50	30.18	1.9	25	9.9	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	931	M	M	M
Cooling:	0	M		

Greatest 24-hr Precipitation: 1.55s Date: 07-08
Greatest 24-hr Snowfall: 0.0 Date: 02
Greatest Snow Depth: Ts Date: 03+

Sea Level Pressure		Date	Time (LST)
Maximum	30.64	12	1224
Minimum	29.27	29	1113

Number of Days with -------->
Max Temp >=90: 0
Max Temp <=32: 5
Thunderstorms : 1

Min Temp <=32: 23
Min Temp <=0 : 0
Heavy Fog : 2

Precipitation >=.01 inch: 9
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 04/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	53	41	47	M	37	43	18	0	-	-	RA BR	0	M	0.0	0.29	29.18	29.83	10.7	18	12.9	28	190	23	190	01
02	66	33	50	M	32	42	15	0	-	-	RA	0	M	0.0	0.00	29.24	29.86	4.2	13	8.3	20	040	16	050	02
03	60	36	48	M	47	49	17	0	-	-	RA SN PL BR	0	M	0.0s	1.50	28.63	29.22	6.3	19	14.0	43	250	32	250	03
04	41	35	38	M	31	35	27	0	-	-	RA SN BR	0	M	T	0.17	28.96	29.68	24.2	27	24.6	46	280	37	280	04
05	52	31	42	M	32	38	23	0	-	-	RA	0	M	0.0	0.02	29.21	29.85	2.8	28	8.5	20	050	17	050	05
06	45	29	37	M	35	36	28	0	-	-	RA DZ SN BR	0	M	0.7	0.32	28.72	29.35	6.1	35	17.4	32	300	28	050	06
07	32	26	29*	M	23	27	36	0	-	-	SN BR	1	M	0.2	0.01	28.82	29.50	16.8	27	17.6	31	280	26	280	07
08	44	29	37	M	26	32	28	0	-	-	SN BR	T	M	T	T	28.92	29.60	16.2	23	16.5	33	220	28	220	08
09	53	28	41	M	28	36	24	0	-	-		T	M	0.0	0.00	29.15	29.84	7.9	23	9.2	24	220	20	230	09
10	52	31	42	M	29	37	23	0	-	-		0	M	0.0	0.00	29.34	30.00	9.4	04	9.5	23	040	21	020	10
11	46	32	39	M	23	33	26	0	-	-		0	M	0.0	0.00	29.49	30.18	11.7	36	13.4	28	310	21	330	11
12	43	27	35	M	18	29	30	0	-	-		0	M	0.0	0.00	29.67	30.36	9.9	32	10.5	24	300	21	350	12
13	51	24*	38	M	19	32	27	0	-	-		0	M	0.0	0.00	29.54	30.19	6.2	06	7.8	20	040	17	040	13
14	56	37	47	M	22	37	18	0	-	-		0	M	0.0	0.00	29.31	29.96	14.3	07	14.6	29	090	24	050	14
15	60	36	48	M	24	38	17	0	-	-		0	M	0.0	0.00	29.44	30.13	10.6	05	11.0	25	040	22	030	15
16	60	31	46	M	24	38	19	0	-	-		0	M	0.0	0.00	29.70	30.38	3.5	02	4.6	20	340	17	360	16
17	64	34	49	M	30	40	16	0	-	-		0	M	0.0	0.00	29.65	30.29	8.5	21	9.0	25	220	21	210	17
18	67	45	56	M	36	46	9	0	-	-		0	M	0.0	0.00	29.39	30.03	6.3	21	12.4	32	220	26	230	18
19	57	41	49	M	29	41	16	0	-	-		0	M	0.0	0.00	29.42	30.06	14.9	06	15.1	29	050	25	050	19
20	51	44	48	M	40	44	17	0	-	-	RA BR	0	M	0.0	0.66	29.12	29.76	12.8	13	14.8	35	110	25	130	20
21	55	37	46	M	41	43	19	0	-	-	RA BR	0	M	0.0	0.07	29.02	29.67	7.6	19	9.0	28	250	22	240	21
22	46	38	42	M	37	39	23	0	-	-	RA	0	M	T	0.13	29.03	29.70	12.9	22	13.8	29	230	23	220	22
23	52	36	44	M	34	39	21	0	-	-	RA	0	M	0.0	0.01	29.34	30.04	12.0	26	15.0	30	220	25	220	23
24	78	36	57	M	42	51	8	0	-	-		0	M	0.0	T	29.39	30.02	10.4	19	12.0	29	210	25	220	24
25	82	60	71*	M	53	60	0	6	-	-	TSRA RA BR	0	M	0.0	0.27	29.39	30.03	16.4	23	18.2	45	280	36	290	25
26	72	51	62	M	53	56	3	0	-	-	RA BR	0	M	0.0	0.03	29.57	30.22	5.7	06	8.3	20	050	16	050	26
27	83*	47	65	M	50	57	0	0	-	-		0	M	0.0	0.00	29.53	30.16	9.1	23	10.0	36	240	29	240	27
28	62	42	52	M	47	49	13	0	-	-	RA BR	0	M	0.0	0.23	29.60	30.30	4.4	33	7.8	26	350	22	340	28
29	62	39	51	M	32	42	14	0	-	-		0	M	0.0	0.00	29.83	30.48	10.0	07	10.4	31	090	21	090	29
30	71	45	58	M	49	53	7	0	-	-	RA BR	0	M	0.0	0.52	29.47	30.05	10.1	17	11.3	33	180	25	190	30
	57.2	36.7	47.0		34.1	41.4	18.1	0.2	<-----Monthly Averages | Totals----->				M	M	4.23s	29.31	29.96	2.1	23	12.3	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	542	M	M	M
Cooling:	6	M		

Greatest 24-hr Precipitation: 1.60s Date: 03-04
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.60	29	0823
Minimum 29.00	03	1628

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 1
Thunderstorms : 1

Min Temp <=32: 10
Min Temp <=0 : 0
Heavy Fog : 0

Precipitation >=.01 inch: 14
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 05/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	69	46	58	M	51	54	7	0	-	-	RA DZ BR	0	M	0.0	0.13	29.13	29.80	13.0	24	15.5	39	210	31	230	01
02	60	38	49	M	35	43	16	0	-	-		0	M	0.0	0.00	29.29	29.94	11.5	22	12.2	35	220	28	220	02
03	66	42	54	M	36	46	11	0	-	-		0	M	0.0	0.00	29.29	29.95	8.6	21	8.9	24	230	21	210	03
04	63	44	54	M	32	44	11	0	-	-		0	M	0.0	0.00	29.43	30.10	5.4	02	5.9	17	010	16	330	04
05	68	41	55	M	39	48	10	0	-	-		0	M	0.0	0.00	29.44	30.07	5.8	04	6.8	21	050	18	020	05
06	69	49	59	M	49	54	6	0	-	-	RA BR	0	M	0.0	0.15	29.29	29.91	0.6	19	4.9	17	200	15	200	06
07	67	49	58	M	51	53	7	0	-	-	RA DZ FG+ FG BR	0	M	0.0	0.12	29.13	29.77	6.9	23	10.4	23	230	20	240	07
08	73	51	62	M	53	57	3	0	-	-	RA BR VCTS	0	M	0.0	0.02	29.11	29.73	9.8	20	10.3	28	210	23	210	08
09	71	46	59	M	51	56	6	0	-	-	RA BR	0	M	0.0	0.14	28.99	29.61	13.9	24	16.6	55	230	46	240	09
10	50	37	44*	M	37		21	0	-	-		0	M	0.0	0.00	29.39	M	13.0	27	13.5	26	280	22	290	10
11	59	32*	46	M	31	41	19	0	-	-		0	M	0.0	0.00	29.47	30.13	3.5	29	4.5	16	340	14	340	11
12	64	35	50	M	32	43	15	0	-	-		0	M	0.0	0.00	29.57	30.24	3.2	26	5.8	18	320	14	320	12
13	74	39	57	M	38	49	8	0	-	-	RA	0	M	0.0	T	29.54	30.15	11.8	17	12.3	31	170	26	180	13
14	71	47	59	M	48	55	6	0	-	-	RA	0	M	0.0	0.06	29.27	29.92	16.3	20	18.3	44	230	35	220	14
15	70	45	58	M	43	51	7	0	-	-		0	M	0.0	0.00	29.59	30.21	7.3	06	8.3	21	050	17	050	15
16	72	46	59	M	53	57	6	0	-	-	RA VCTS	0	M	0.0	0.14	29.23	29.87	9.2	25	15.2	36	260	29	240	16
17	57	36	47	M	26	38	18	0	-	-		0	M	0.0	0.00	29.52	30.20	12.8	28	13.3	31	300	25	300	17
18	59	33	46	M	25	38	19	0	-	-		0	M	0.0	0.00	29.68	30.36	3.6	25	6.4	21	300	16	210	18
19	70	40	55	M	33	46	10	0	-	-		0	M	0.0	0.00	29.68	30.33	12.8	21	13.5	32	240	26	230	19
20	80	51	66	M	38	52	0	1	-	-		0	M	0.0	0.00	29.64	30.25	9.2	21	9.5	28	230	21	220	20
21	81*	50	66	M	45	55	0	1	-	-		0	M	0.0	0.00	29.51	30.13	11.5	23	11.8	33	250	26	210	21
22	71	52	62	M	49	56	3	0	-	-		0	M	0.0	0.00	29.51	30.16	5.1	01	6.7	21	010	15	010	22
23	75	54	65	M	51	57	0	0	-	-		0	M	0.0	0.00	29.47	30.09	0.8	36	4.4	15	330	12	320	23
24	74	53	64	M	45	53	1	0	-	-	RA	0	M	0.0	0.06	29.39	30.03	4.0	34	4.5	16	350	13	320	24
25	68	44	56	M	39	49	9	0	-	-		0	M	0.0	0.00	29.49	30.14	7.3	05	8.7	23	030	17	030	25
26	69	47	58	M	42	49	7	0	-	-	RA	0	M	0.0	0.01	29.46	30.08	8.6	11	9.9	22	070	18	070	26
27	78	56	67	M	57	60	0	2	-	-	RA BR	0	M	0.0	0.17	29.20	29.81	1.8	18	6.1	17	200	13	220	27
28	77	57	67*	M	62	63	0	2	-	-	RA BR	0	M	0.0	0.61	29.07	29.67	3.9	20	5.8	18	210	14	210	28
29	71	56	64	M	56	58	1	0	-	-	RA BR	0	M	0.0	0.34	29.05	29.70	8.7	25	11.0	30	250	25	250	29
30	65	46	56	M	47	52	9	0	-	-	RA BR	0	M	0.0	0.34	29.13	29.77	10.0	24	11.4	45	290	35	290	30
31	57	44	51	M	34	43	14	0	-	-	RA	0	M	0.0	0.17	29.24	29.92	11.4	28	11.9	37	300	30	300	31
	68.3	45.4	56.9		42.8	50.7	8.1	0.2	<-----Monthly Averages | Totals----->				M	0.0	2.46s	29.36	30.00	4.6	23	9.8	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	250	M	M	M
Cooling:	6	M		

Greatest 24-hr Precipitation: 0.61 Date: 28
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.40	18	1146
Minimum 29.47	09	1337

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 0

Min Temp <=32: 1
Min Temp <=0 : 0
Heavy Fog : 1

Precipitation >=.01 inch: 14
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 06/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	70	43	57	M	46	52	8	0	-	-	RA	0	M	0.0	T	29.34	29.97	5.4	22	7.8	29	220	22	210	01
02	65	49	57	M	46	52	8	0	-	-	BR	0	M	0.0	0.00	29.40	30.06	4.2	33	5.4	16	320	14	320	02
03	67	49	58	M	44	50	7	0	-	-		0	M	0.0	0.00	29.42	30.06	2.6	31	4.5	16	230	12	240	03
04	68	41*	55*	M	42	49	10	0	-	-		0	M	0.0	0.00	29.41	30.05	3.4	04	4.3	18	330	14	030	04
05	75	44	60	M	43	51	5	0	-	-		0	M	0.0	0.00	29.28	29.91	2.8	03	4.4	18	010	15	360	05
06	74	52	63	M	48	55	2	0	-	-		0	M	0.0	0.00	29.29	29.94	3.4	28	6.9	17	320	14	320	06
07	71	55	63	M	43	51	2	0	-	-		0	M	0.0	T	29.38	30.01	6.0	06	7.0	17	030	14	060	07
08	68	51	60	M	51	54	5	0	-	-	TSRA RA BR	0	M	0.0	0.13	29.34	29.95	9.8	08	10.1	22	080	17	080	08
09	74	52	63	M	56	59	2	0	-	-	FG BR	0	M	0.0	0.04	29.20	29.85	6.6	29	9.0	25	300	22	290	09
10	71	48	60	M	51	55	5	0	-	-		0	M	0.0	0.00	29.31	29.94	1.9	02	3.1	14	010	12	360	10
11	71	55	63	M	56	58	2	0	-	-	RA BR	0	M	0.0	0.20	29.20	29.82	5.8	03	6.0	16	010	12	040	11
12	76	56	66	M	55	59	0	1	-	-		0	M	0.0	T	29.20	29.85	2.6	30	4.4	14	320	10	240	12
13	71	56	64	M	50	56	1	0	-	-		0	M	0.0	0.00	29.32	29.96	4.5	28	5.1	16	300	14	300	13
14	76	50	63	M	49	56	2	0	-	-		0	M	0.0	0.00	29.36	29.99	3.4	24	5.0	16	230	14	220	14
15	77	56	67	M	50	58	0	2	-	-		0	M	0.0	0.00	29.39	30.03	1.6	30	3.8	17	320	13	220	15
16	81	52	67	M	52	59	0	2	-	-		0	M	0.0	0.00	29.45	30.08	6.5	08	7.1	23	060	18	060	16
17	71	59	65	M	58	61	0	0	-	-	RA DZ BR HZ	0	M	0.0	0.36	29.34	29.94	8.4	12	9.2	24	120	20	120	17
18	63	54	59	M	58	58	6	0	-	-	RA DZ BR	0	M	0.0	0.63	29.17	29.81	1.6	34	6.6	17	360	15	320	18
19	76	59	68	M	59	62	0	3	-	-	BR HZ	0	M	0.0	0.00	29.21	29.83	0.9	10	3.8	14	140	9	050	19
20	66	58	62	M	61	61	3	0	-	-	RA DZ BR	0	M	0.0	0.54	29.00	29.62	3.6	01	5.1	17	120	14	110	20
21	79	58	69	M	61	63	0	4	-	-	BR	0	M	0.0	T	29.14	29.78	4.9	31	6.4	17	310	13	310	21
22	81	60	71	M	61	65	0	6	-	-		0	M	0.0	0.00	29.21	29.83	4.8	03	5.4	22	070	15	050	22
23	83	57	70	M	59	64	0	5	-	-		0	M	0.0	0.00	29.26	29.88	3.7	03	4.1	18	040	13	360	23
24	88*	61	75	M	61	66	0	10	-	-		0	M	0.0	0.00	29.24	29.85	2.6	29	4.9	16	020	13	360	24
25	87	66	77*	M	65	67	0	12	-	-	TS GR RA FG+ BR	0	M	T	1.02	29.18	29.77	7.0	21	7.9	24s	220	16s	220	25
26	M	M	M	M			M	M	-	-		M	M	M	M	M	M	M	M	M	M	M	M	M	26
27	80	60	70	M	57	62	0	5	-	-		0	M	0.0	0.00	29.21	29.84	4.3	31	6.3	20	350	13	220	27
28	71	61	66	M	62	64	0	1	-	-	TSRA RA DZ BR	0	M	0.0	0.25	29.04	29.64	4.3	19	6.1	28	270	20	250	28
29	79	58	69	M	58	62	0	4	-	-	TSRA RA BR	0	M	0.0	0.02	28.88	29.48	5.1	21	7.4	29	220	22	230	29
30	72	61	67	M	59	62	0	2	-	-	TSRA RA	0	M	0.0	0.13	28.84	29.48	9.1	21	9.5	25	210	20	230	30
	74.4	54.9	64.7		53.8	58.3	2.3	2.0	<-----Monthly Averages | Totals----->				M	M	3.46s	29.23	29.87	0.6	33	6.1	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	68	M	M	M
Cooling:	57	M		

Greatest 24-hr Precipitation: 1.06s Date: 25-26
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.14	16	0825
Minimum 29.40	30	0351

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 5

Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 1

Precipitation >=.01 inch: 11s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 07/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	76	59	68	M	59	62	0	3	-	-	RA	0	M	0.0	T	29.03	29.67	7.0	22	7.3	22	210	17	230	01
02	72	63	68	M	61	63	0	3	-	-	TS RA BR	0	M	0.0	0.01	29.14	29.77	4.2	26	6.6	18	250	15	250	02
03	75	59	67	M	58	61	0	2	-	-		0	M	0.0	0.00	29.26	29.89	10.9	29	11.1	29	290	23	290	03
04	73	55	64	M	50	56	1	0	-	-		0	M	0.0	0.00	29.31	29.95	9.7	29	10.4	31	300	23	280	04
05	75	50	63	M	51	57	2	0	-	-	RA BR	0	M	0.0	0.02	29.26	29.88	4.9	21	5.7	30	300	24	300	05
06	76	56	66	M	57	61	0	1	-	-	RA	0	M	0.0	0.04	29.15	29.77	3.8	23	6.3	23	200	18	200	06
07	67	55	61	M	54	57	4	0	-	-	RA	0	M	0.0	T	29.13	29.77	7.5	29	8.5	24	290	20	290	07
08	74	57	66	M	54	58	0	1	-	-		0	M	0.0	T	29.29	29.95	4.8	29	5.9	20	280	14	230	08
09	79	54	67	M	56	60	0	2	-	-		0	M	0.0	0.00	29.51	30.16	3.8	07	4.5	21	060	16	060	09
10	83	57	70	M	57	63	0	5	-	-		0	M	0.0	0.00	29.54	30.15	4.7	20	5.5	17	230	14	240	10
11	79	60	70	M	63	66	0	5	-	-	TS TSRA BR	0	M	0.0	0.43	29.31	29.93	8.3	23	11.5	30	340	24	340	11
12	72	49*	61*	M	47	54	4	0	-	-		0	M	0.0	0.00	29.36	29.99	7.0	26	8.0	21	230	17	240	12
13	75	50	63	M	46	55	2	0	-	-		0	M	0.0	0.00	29.31	29.96	8.9	29	9.2	33	280	24	290	13
14	74	53	64	M	48	56	1	0	-	-		0	M	0.0	0.00	29.44	30.09	7.1	27	9.3	23	220	18	230	14
15	79	51	65	M	53	60	0	0	-	-		0	M	0.0	T	29.41	30.01	3.9	19	4.7	18	030	13	190	15
16	81	65	73	M	63	67	0	8	-	-		0	M	0.0	0.00	29.14	29.75	10.5	24	11.2	29	230	23	240	16
17	70	59	65	M	59	61	0	0	-	-	TSRA RA BR	0	M	0.0	0.42	29.13	29.74	3.7	20	5.1	16	180	13	170	17
18	71	55	63	M	55	58	2	0	-	-		0	M	0.0	0.00	29.18	29.84	9.3	25	10.1	28	220	21	220	18
19	70	56	63	M	56	59	2	0	-	-	RA	0	M	0.0	T	29.41	30.07	6.2	26	7.3	18	280	16	280	19
20	77	52	65	M	57	60	0	0	-	-	BR	0	M	0.0	0.00	29.52	30.17	2.1	04	3.7	15	360	12	030	20
21	72	60	66	M	60	62	0	1	-	-	RA BR	0	M	0.0	0.35	29.52	30.14	2.5	05	3.8	15	330	12	330	21
22	79	57	68	M	63	65	0	3	-	-	RA FG+ BR	0	M	0.0	0.76	29.45	30.07	4.4	07	5.9	26	300	21	300	22
23	76	64	70	M	66	67	0	5	-	-	TSRA RA BR	0	M	0.0	1.72	29.24	29.84	1.8	18	6.3	33	220	24	220	23
24	76	62	69	M	63	65	0	4	-	-	TS BR	0	M	0.0	0.04	29.21	29.84	8.2	23	8.7	23	230	18	240	24
25	80	65	73	M	63	66	0	8	-	-	TSRA RA	0	M	0.0	1.07	29.13	29.74	8.3	19	9.1	29	220	23	210	25
26	78	64	71	M	64	67	0	6	-	-	BR	0	M	0.0	T	29.13	29.75	11.4	22	11.9	29	220	24	230	26
27	77	65	71	M	61	65	0	6	-	-		0	M	0.0	0.00	29.23	29.86	11.0	23	12.0	26	210	21	220	27
28	83*	67	75*	M	64	68	0	10	-	-		0	M	0.0	0.00	29.22	29.83	10.5	21	10.8	33	220	25	230	28
29	77	63	70	M	65	67	0	5	-	-	RA BR HZ	0	M	0.0	0.46	29.13	29.76	2.2	22	5.0	20	340	17	340	29
30	79	57	68	M	60	64	0	3	-	-	BR	0	M	0.0	0.00	29.23	29.86	5.9	22	6.3	21	220	16	210	30
31	80	65	73	M	61	65	0	8	-	-	RA	0	M	0.0	T	29.23	29.87	5.5	23	6.3	23	270	16	260	31
	76.0	58.2	67.1		57.9	61.8	0.6	2.9	<-----Monthly Averages | Totals----->				M	M	5.35s	29.28	29.90	4.7	24	7.7	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	18	M	M	M
Cooling:	89	M		

Greatest 24-hr Precipitation: 2.48s Date: 22-23
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level	Pressure	Date	Time (LST)
Maximum	30.21	10	0824
Minimum	29.57	01	0018

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 7

Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 1

Precipitation >=.01 inch: 12s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 08/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	82	59	71	M	60	64	0	6	-	-	BR	0	M	0.0	0.00	29.36	29.97	5.9	21	6.2	23	230	18	210	01
02	77	59	68	M	61	64	0	3	-	-	RA BR	0	M	0.0	0.29	29.21	29.84	6.9	24	8.6	24	200	20	210	02
03	79	56	68	M	58	62	0	3	-	-	RA	0	M	0.0	T	29.32	29.94	8.4	21	8.6	29	220	23	210	03
04	82	65	74	M	65	68	0	9	-	-	TSRA RA BR	0	M	0.0	0.05	29.23	29.83	12.4	22	14.1	33	210	25	220	04
05	75	54	65	M	53	59	0	0	-	-		0	M	0.0	0.00	29.34	29.98	6.7	28	8.3	20	220	16	230	05
06	75	55	65	M	54	59	0	0	-	-		0	M	0.0	0.00	29.38	30.02	6.8	29	7.7	22	290	17	290	06
07	73	56	65	M	52	58	0	0	-	-		0	M	0.0	0.00	29.48	30.13	3.9	30	5.2	17	220	15	320	07
08	74	55	65	M	58	61	0	0	-	-	RA BR	0	M	0.0	0.25	29.52	30.14	5.0	19	5.6	18	210	15	210	08
09	82	66	74	M	70	71	0	9	-	-	TS TSRA RA BR HZ	0	M	0.0	2.36	29.31	29.93	7.8	22	10.2	44	320	32	320	09
10	86	70	78	M	70	72	0	13	-	-	TSRA RA BR	0	M	0.0	0.22	29.26	29.87	7.0	23	8.3	29	200	21	320	10
11	83	64	74	M	64	67	0	9	-	-	FG+ BR	0	M	0.0	0.00	29.27	29.89	2.0	33	3.3	14	330	10	350	11
12	81	62	72	M	65	67	0	7	-	-	BR	0	M	0.0	0.00	29.37	30.00	2.0	35	2.8	20	330	10	020	12
13	83	61	72	M	64	67	0	7	-	-	FG+ BR	0	M	0.0	0.00	29.47	30.10	1.4	35	2.0	15	350	10	340	13
14	85	62	74	M	66	69	0	9	-	-	FG BR	0	M	0.0	0.00	29.52	30.15	0.6	01	2.4	21	270	12	010	14
15	86	65	76	M	66	69	0	11	-	-	BR HZ	0	M	0.0	0.00	29.49	30.11	2.1	23	2.9	14	240	10	230	15
16	87	66	77	M	66	70	0	12	-	-	BR HZ	0	M	0.0	0.00	29.50	30.11	4.1	21	4.5	24	210	15	240	16
17	88*	72	80*	M	69	73	0	15	-	-	HZ	0	M	0.0	0.00	29.46	30.06	8.2	21	8.6	24	220	17	230	17
18	84	74	79	M	70	73	0	14	-	-	HZ	0	M	0.0	0.00	29.33	29.93	12.7	22	13.0	31	230	23	220	18
19	81	65	73	M	60	65	0	8	-	-		0	M	0.0	0.00	29.33	29.94	1.6	01	4.5	16	230	13	230	19
20	87	65	76	M	68	71	0	11	-	-	TSRA RA HZ	0	M	0.0	0.71	29.17	29.77	9.9	20	10.9	37	250	31	250	20
21	81	69	75	M	66	69	0	10	-	-		0	M	0.0	0.02	29.14	29.76	10.2	22	11.2	30	230	23	200	21
22	80	65	73	M	64	66	0	8	-	-		0	M	0.0	0.06	29.20	29.83	0.9	21	4.9	23	270	20	270	22
23	71	61	66	M	63	64	0	1	-	-	RA BR	0	M	0.0	0.30	29.31	29.95	4.6	32	5.6	14	330	10	340	23
24	75	57	66	M	59	61	0	1	-	-		0	M	0.0	0.00s	29.48	30.12	4.2	27	5.2	16	300	13	230	24
25	76	56	66	M	60	63	0	1	-	-	BR	0	M	0.0	0.00	29.48	30.09	7.2	22	7.5	25	220	21	220	25
26	74	58	66	M	61	64	0	1	-	-	RA DZ BR	0	M	0.0	0.09	29.39	30.02	4.9	29	6.8	18	330	15	340	26
27	72	56	64	M	54	58	1	0	-	-		0	M	0.0	0.00	29.51	30.14	6.7	05	7.1	17	020	15	020	27
28	67	58	63	M	52	56	2	0	-	-	RA	0	M	0.0	0.01	29.42	30.03	9.5	09	9.6	24	070	20	070	28
29	74	59	67	M	62	64	0	2	-	-	RA BR	0	M	0.0	0.72	29.07	29.69	8.9	23	11.0	28	230	22	230	29
30	65	56	61	M	52	56	4	0	-	-	RA	0	M	0.0	T	29.25	29.92	8.7	29	10.7	23	290	20	290	30
31	69	48*	59*	M	48	53	6	0	-	-		0	M	0.0	0.00	29.57	30.22	1.4	30	2.5	14	310	10	330	31
	78.5	61.1	69.8		61.3	64.6	0.4	5.3	<-----Monthly Averages | Totals----->				M	M	5.08s	29.36	29.98	3.7	24	7.1	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	13	M	M	M
Cooling:	170	M		

Greatest 24-hr Precipitation: 2.57s Date: 09-10
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level	Pressure	Date	Time (LST)
Maximum	30.27	31	2359
Minimum	29.64	29	1050

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 5

Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 2

Precipitation >=.01 inch: 12
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 09/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	71	47	59	M	49	54	6	0	-	-		0	M	0.0	0.00	29.65	30.31	1.3	33	2.4	13	320	9	330	01
02	76	50	63	M	53	57	2	0	-	-		0	M	0.0	0.00	29.65	30.27	1.4	07	2.4	14	020	12	020	02
03	77	52	65	M	56	60	0	0	-	-	BR	0	M	0.0	0.00	29.52	30.15	1.5	01	1.9	13	330	9	040	03
04	76	53	65	M	54	59	0	0	-	-	BR	0	M	0.0	0.00	29.47	30.11	1.9	35	2.6	14	320	10	330	04
05	77	52	65	M	58	61	0	0	-	-	FG+ FG BR HZ	0	M	0.0	0.00	29.57	30.22	1.6	01	2.8	18	340	12	030	05
06	78	54	66	M	55	60	0	1	-	-	BR	0	M	0.0	0.00	29.65	30.28	4.8	09	5.2	15	070	13	060	06
07	75	57	66	M	61	63	0	1	-	-	BR	0	M	0.0	0.00	29.53	30.15	3.2	14	4.5	14	160	12	160	07
08	79	59	69	M	62	64	0	4	-	-	BR	0	M	0.0	0.00	29.47	30.11	3.6	06	4.0	16	050	13	040	08
09	79	57	68	M	59	62	0	3	-	-	BR	0	M	0.0	0.00	29.55	30.20	5.4	06	5.5	16	060	14	060	09
10	79	53	66	M	53	58	0	1	-	-		0	M	0.0	0.00	29.67	30.31	5.8	09	6.3	18	060	15	070	10
11	68	51	60	M	51	55	5	0	-	-		0	M	0.0	0.00	29.61	30.24	5.3	06	5.9	16	050	14	020	11
12	74	54	64	M	51	57	1	0	-	-		0	M	0.0	0.00	29.46	30.08	4.9	02	5.1	18	020	15	020	12
13	76	52	64	M	56	59	1	0	-	-		0	M	0.0	0.00	29.39	30.01	2.9	32	3.5	16	300	12	340	13
14	77	52	65	M	56	59	0	0	-	-	BR	0	M	0.0	0.00	29.34	29.96	6.0	27	6.2	23	260	17	260	14
15	74	53	64	M	54	58	1	0	-	-	BR	0	M	0.0	0.00s	29.36	30.02	4.1	02	6.9	16	350	14	020	15
16	67	52	60	M	49	53	5	0	-	-		0	M	0.0	0.00	29.60	30.26	8.9	06	9.0	24	070	20	080	16
17	69	50	60	M	50	53	5	0	-	-		0	M	0.0	0.00	29.56	30.18	2.6	03	3.3	15	020	12	020	17
18	70	49	60	M	49	53	5	0	-	-		0	M	0.0	0.00	29.44	30.11	6.0	29	8.9	24	320	18	330	18
19	65	39*	52	M	40	46	13	0	-	-		0	M	0.0	0.00	29.66	30.32	1.9	04	3.1	14	350	10	360	19
20	77	40	59	M	46	52	6	0	-	-		0	M	0.0	0.00	29.60	30.24	2.3	07	2.7	13	060	12	060	20
21	76	56	66	M	61	64	0	1	-	-	RA BR	0	M	0.0	0.04	29.49	30.12	4.4	18	5.2	18	200	14	190	21
22	77	67	72*	M	65	67	0	7	-	-	RA BR	0	M	0.0	T	29.49	30.11	7.5	20	7.7	16	190	14	190	22
23	80*	62	71	M	66	68	0	6	-	-	BR	0	M	0.0	0.02	29.41	30.02	7.7	23	10.5	29	300	23	310	23
24	74	56	65	M	55	59	0	0	-	-	BR	0	M	0.0	0.00	29.48	30.12	4.3	33	5.3	14	310	10	350	24
25	64	46	55	M	46	51	10	0	-	-		0	M	0.0	0.00	29.64	30.29	7.8	07	8.2	22	080	17	060	25
26	66	43	55	M	50	53	10	0	-	-	RA BR	0	M	0.0	0.59	29.42	30.01	6.3	16	7.3	21	170	16	160	26
27	69	58	64	M	58	59	1	0	-	-	RA BR	0	M	0.0	0.18	28.99	29.60	7.8	22	8.9	21	240	17	240	27
28	64	53	59	M	52	55	6	0	-	-	TSRA RA BR	0	M	0.0	0.70	28.73	29.33	13.4	22	15.4	58s	240	37	240	28
29	64	49	57	M	48	51	8	0	-	-	RA BR	0	M	0.0	0.29	28.85	29.53	14.5	29	17.6	36	290	28	300	29
30	53	46	50*	M	39	44	15	0	-	-	RA	0	M	0.0	T	29.29	29.96	11.2	32	11.6	28	340	21	340	30
	72.4	52.1	62.3		53.4	57.1	3.3	0.8	<-----Monthly Averages | Totals----->				M	M	1.89s	29.45	30.09	0.5	33	6.3	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	100	M	M	M
Cooling:	24	M		

Greatest 24-hr Precipitation: 0.96s Date: 28-29
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.37	19	1103
Minimum 29.19	28	1004

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 1

Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 1

Precipitation >=.01 inch: 12s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 10/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	52	43	48	M	38	43	17	0	-	-		0	M	0.0	0.00	29.37	30.02	5.1	29	6.5	18	300	15	270	01
02	57	39	48	M	45	46	17	0	-	-	RA BR	0	M	0.0	0.42	29.18	29.80	4.9	11	6.1	29	250	21	260	02
03	67*	47	57	M	47	51	8	0	-	-	RA BR	0	M	0.0	0.23	29.13	29.78	6.2	18	7.7	38	200	26	180	03
04	58	47	53	M	49	51	12	0	-	-	RA	0	M	0.0	0.05	29.24	29.90	7.4	22	8.3	22	190	17	200	04
05	60	45	53	M	45	49	12	0	-	-	RA	0	M	0.0	0.02	29.31	29.96	10.4	26	10.7	24	270	20	270	05
06	62	40	51	M	46	49	14	0	-	-	RA BR	0	M	0.0	0.22	29.22	29.80	3.9	18	5.3	38	230	26	230	06
07	62	46	54	M	44	49	11	0	-	-	RA	0	M	0.0	0.01	28.95	29.64	18.0	26	18.7	39s	280	33	280	07
08	62	39	51	M	44	49	14	0	-	-	RA	0	M	0.0	T	29.39	30.03	9.0	23	9.4	28	220	23	230	08
09	55	48	52	M	49	50	13	0	-	-	RA DZ BR	0	M	0.0	0.25	29.18	29.80	4.5	03	5.7	23	360	18	360	09
10	57	45	51	M	41	46	14	0	-	-	RA BR	0	M	0.0	0.08	29.34	30.03	6.3	28	9.2	23	030	18	020	10
11	50	32	41	M	29	37	24	0	-	-		0	M	0.0	0.00	29.58	30.27	10.7	28	11.4	29	310	22	300	11
12	48	29	39	M	33	37	26	0	-	-	RA	0	M	0.0	T	29.65	30.29	2.0	08	2.8	13	130	9	130	12
13	52	35	44	M	36	41	21	0	-	-	RA	0	M	0.0	0.01	29.51	30.19	8.0	32	8.5	30	300	23	310	13
14	46	30	38	M	30	35	27	0	-	-	RA	0	M	0.0	T	29.64	30.29	3.6	02	4.2	14	020	10	350	14
15	41	29	35*	M	28	34	30	0	-	-	RA	0	M	0.0	T	29.42	30.07	11.1	07	11.4	30	080	22	070	15
16	42	34	38	M	32	36	27	0	-	-	RA SN BR	0	M	T	0.03	29.38	30.06	6.1	04	6.7	20	060	16	030	16
17	46	34	40	M	29	36	25	0	-	-		0	M	0.0	0.00	29.51	30.19	5.8	02	6.5	17	030	14	050	17
18	50	29	40	M	27	34	25	0	-	-		0	M	0.0	0.00	29.59	30.26	3.2	36	3.5	17	010	13	350	18
19	56	27*	42	M	35	40	23	0	-	-		0	M	0.0	0.00	29.49	30.14	9.6	22	10.1	31	220	24	230	19
20	58	54	56	M	46	51	9	0	-	-		0	M	0.0	0.00	29.44	30.11	10.4	22	10.7	25	220	21	220	20
21	61	52	57	M	49	52	8	0	-	-	RA	0	M	0.0	T	29.47	30.10	5.0	20	5.3	15	210	12	200	21
22	62	42	52	M	45	49	13	0	-	-	RA	0	M	0.0	T	29.32	29.98	6.6	25	13.8	39	230	29	230	22
23	61	40	51	M	43	44	14	0	-	-	RA DZ BR	0	M	0.0	0.54	29.31	29.91	11.0	09	12.8	30	080	23	070	23
24	61	44	53	M	48	51	12	0	-	-	RA BR	0	M	0.0	0.12	28.96	29.63	13.3	24	14.4	37	240	30	240	24
25	58	38	48	M	38	43	17	0	-	-		0	M	0.0	0.00	29.41	30.11	7.9	25	8.9	25	240	20	250	25
26	64	35	50	M	39	44	15	0	-	-	BR	0	M	0.0	0.00	29.57	30.21	4.1	11	5.1	16	110	12	100	26
27	62	50	56	M	43	49	9	0	-	-		0	M	0.0	0.00	29.36	29.99	5.8	20	7.3	23	210	18	200	27
28	53	48	51	M	47	48	14	0	-	-	RA DZ BR	0	M	0.0	0.42	29.28	29.95	9.3	04	9.5	26	060	21	050	28
29	54	48	51	M	48	49	14	0	-	-	FG BR	0	M	0.0	0.00	29.59	30.25	3.3	09	3.5	14	100	9	090	29
30	66	48	57*	M	49	53	8	0	-	-	RA BR	0	M	0.0	0.01	29.30	29.89	9.2	17	10.4	30	190	22	180	30
31	64	46	55	M	44	49	10	0	-	-	RA BR	0	M	0.0	0.31	29.03	29.71	17.3	23	19.6	54	230	39	240	31
	56.4	40.7	48.6		40.8	45.0	16.2	0.0	<-----Monthly Averages | Totals----->				M	Ts	2.72s	29.36	30.01	2.6	24	8.8	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	503	M	M	M
Cooling:	0	M		

Greatest 24-hr Precipitation: 0.66s Date: 23-24
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level	Pressure	Date	Time (LST)
Maximum	30.42	12	0612
Minimum	29.33	07	0420

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 0

Min Temp <=32: 6
Min Temp <=0 : 0
Heavy Fog : 0

Precipitation >=.01 inch: 15
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 11/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	50	34	42	M	32	39	23	0	-	-		0	M	0.0	0.00	29.51	30.20	5.0	28	5.4	22	290	17	290	01
02	53	30	42	M	35	39	23	0	-	-	RA DZ	0	M	0.0	T	29.54	30.18	3.9	20	4.6	16	200	13	210	02
03	50	33	42	M	35	40	23	0	-	-	RA	0	M	0.0	T	29.46	30.14	9.4	29	10.4	25	300	21	300	03
04	45	29	37	M	32	35	28	0	-	-	RA DZ	0	M	0.0	0.10	29.62	30.29	1.6	18	3.3	10	120	9	150	04
05	46	35	41	M	34	37	24	0	-	-	RA DZ PL	0	M	T	0.13	29.47	30.14	7.9	28	9.4	35	280	28	300	05
06	42	28	35	M	25	31	30	0	-	-		0	M	0.0	0.00	29.65	30.33	2.2	33	5.8	18	320	14	330	06
07	62	30	46	M	36	45	19	0	-	-		0	M	0.0	0.00	29.34	29.98	11.4	21	12.6	38	220	29	230	07
08	67*	37	52	M	42	47	13	0	-	-	FG+ FG BR HZ	0	M	0.0	0.00	29.53	30.21	1.4	17	2.8	14	240	9	230	08
09	63	44	54*	M	47	52	11	0	-	-		0	M	0.0	0.00	29.57	30.23	10.3	23	11.2	36	230	28	240	09
10	54	41	48	M	40	45	17	0	-	-		0	M	0.0	0.00	29.73	30.41	5.0	36	5.1	13	010	10	360	10
11	50	30	40	M	33	37	25	0	-	-		0	M	0.0	0.00	29.81	30.47	7.4	05	7.9	21	070	16	070	11
12	53	26	40	M	28	34	25	0	-	-	BR	0	M	0.0	0.00	29.65	30.31	5.5	07	5.9	17	100	14	070	12
13	58	24*	41	M	27	36	24	0	-	-		0	M	0.0	0.00	29.46	30.11	4.3	08	4.6	13	100	9	080	13
14	65	39	52	M	40	46	13	0	-	-	RA BR	M	M	M	T	29.32	29.96	1.2	08	1.8	12	100	10	100	14
15	56	38	47	M	42	45	18	0	-	-	FG BR HZ	0	M	0.0	0.00	29.32	30.00	5.4	28	7.1	21	310	17	320	15
16	46	30	38	M	29	35	27	0	-	-		0	M	0.0	0.00	29.57	30.25	4.0	01	4.2	17	020	13	020	16
17	50	29	40	M	31	35	25	0	-	-		0	M	0.0	0.00	29.65	30.34	8.6	07	8.9	20	050	16	050	17
18	60	31	46	M	31	38	19	0	-	-		0	M	0.0	0.00	29.65	30.31	4.6	10	5.7	14	070	12	080	18
19	56	39	48	M	46	48	17	0	-	-	RA BR	0	M	0.0	0.81	29.49	30.13	3.3	18	5.8	28	250	21	260	19
20	50	42	46	M	40	43	19	0	-	-	RA BR	0	M	0.0	0.10	29.41	30.07	12.1	25	12.1	30	250	24	250	20
21	48	35	42	M	41	43	23	0	-	-	DZ FG+ BR HZ	0	M	0.0	T	29.51	30.19	1.4	26	1.6	10	270	9	260	21
22	54	37	46	M	39	43	19	0	-	-	BR HZ	0	M	0.0	0.00	29.66	30.33	3.5	08	4.3	16	060	14	060	22
23	53	31	42	M	37	40	23	0	-	-	RA BR	0	M	0.0	0.00	29.65	30.30	4.1	10	4.9	13	080	10	070	23
24	50	45	48	M	46	47	17	0	-	-	RA DZ BR	0	M	0.0	0.13	29.52	30.16	1.8	10	2.5	15	160	12	160	24
25	53	44	49	M	45	47	16	0	-	-	RA BR	0	M	0.0	0.14	29.24	29.87	5.7	19	7.2	33	250	26	250	25
26	51	36	44	M	38	42	21	0	-	-	RA	0	M	0.0	0.03	29.15	29.79	7.0	22	8.1	20	230	16	230	26
27	42	34	38	M	35	37	27	0	-	-	RA SN BR	0	M	T	0.28	29.03	29.70	7.4	29	10.1	31	290	24	300	27
28	41	29	35*	M	32	34	30	0	-	-	BR	0	M	0.0	0.00	29.20	29.88	10.0	27	10.5	29	290	22	300	28
29	51	28	40	M	37	39	25	0	-	-	RA BR	0	M	0.0	0.19	29.10	29.75	5.8	23	6.5	22	240	16	220	29
30	44	36	40	M	30	35	25	0	-	-	RA BR	0	M	0.0	0.26	29.11	29.79	9.1	29	10.8	23	320	20	290	30
	52.1	34.1	43.1		36.2	40.5	21.6	0.0	<-----Monthly Averages | Totals----->				M	0.0	2.17s	29.47	30.13	1.8	26	6.7	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	649	M	M	M
Cooling:	0	M		

Greatest 24-hr Precipitation: 0.91s Date: 19-20
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.53	11	1019
Minimum 29.63	29	2059

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 0

Min Temp <=32: 13
Min Temp <=0 : 0
Heavy Fog : 2

Precipitation >=.01 inch: 10
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 12/2009

Station Location: NIAGARA FALLS INTL AIRPORT (04724)
NIAGARA FALLS , NY
Lat. 43.107 Lon. -78.945
Elevation(Ground): 585 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	46	33	40	M	32	36	25	0	-	-	SN BR UP	T	M	0.8	0.08	29.21	29.89	11.6	25	12.7	33	270	26	270	01
02	53*	33	43	M	35	40	22	0	-	-	RA BR	0	M	0.0	0.62	29.23	29.81	5.4	14	7.8	22	070	17	070	02
03	52	34	43*	M	40	43	22	0	-	-	RA DZ BR	0	M	0.0	0.20	28.85	29.57	11.9	26	13.5	31	270	25	270	03
04	37	30	34	M	26	31	31	0	-	-	SN BR	0	M	0.3	0.03	29.39	30.10	10.2	25	10.6	31	250	24	240	04
05	35	25	30	M	20	27	35	0	-	-		0	M	0.0	0.00	29.49	30.16	2.6	28	3.3	14	300	12	300	05
06	37	24	31	M	20	28	34	0	-	-		0	M	0.0	0.00	29.55	30.25	12.8	24	13.2	28	230	21	240	06
07	34	27	31	M	25	29	34	0	-	-	SN BR	0	M	T	T	29.52	30.19	5.5	21	6.7	20	190	16	200	07
08	36	28	32	M	25	30	33	0	-	-	SN BR UP HZ	0	M	T	T	29.59	30.25	3.4	08	8.1	22	080	16	080	08
09	47	31	39	M	33	36	26	0	-	-	TS RA SN BR	T	M	1.0	0.78	28.66	29.26	11.2	21	19.6	58	240	43	240	09
10	34	16	25	M	15	22	40	0	-	-	SN BR VCTS	1	M	1.0	0.10	28.89	29.62	27.7	25	27.7	49s	250	38	240	10
11	22	16	19	M	7	16	46	0	-	-		T	M	T	T	29.40	30.14	22.1	26	22.2	43	260	33	260	11
12	37	17	27	M	16	24	38	0	-	-	SN	T	M	T	T	29.72	30.41	9.2	22	10.6	29	220	23	220	12
13	40	31	36	M	26	32	29	0	-	-	RA BR	T	M	0.0	0.18	29.34	30.00	6.5	22	9.4	21	200	16	280	13
14	44	34	39	M	35	37	26	0	-	-	RA DZ BR	T	M	0.0	0.04	29.29	29.94	4.5	18	6.6	22	160	18	160	14
15	43	26	35	M	30	33	30	0	-	-	SN BR	0	M	0.2	0.02	29.30	30.03	11.1	29	11.9	37	300	30	300	15
16	26	20	23	M	15	21	42	0	-	-	SN BR	T	M	T	T	29.65	30.36	16.7	26	16.8	30	260	24	280	16
17	23	12	18	M	11	16	47	0	-	-	SN BR	1	M	1.7	0.08	29.75	30.45	2.8	01	6.2	22	260	16	260	17
18	26	13	20	M	11	17	45	0	-	-		T	M	0.0	0.00	29.55	30.22	8.7	08	8.8	18	070	15	070	18
19	28	19	24	M	11	20	41	0	-	-		T	M	0.0	0.00	29.28	29.96	9.8	06	10.3	23	070	18	070	19
20	32	23	28	M	16	24	37	0	-	-	SN	T	M	T	T	29.33	30.02	5.5	31	6.1	18	300	15	300	20
21	31	25	28	M	23	27	37	0	-	-	SN BR	T	M	0.5	0.04	29.39	30.09	4.2	32	4.8	16	310	13	310	21
22	26	14	20	M	14	19	45	0	-	-	SN BR	T	M	0.2	0.01	29.57	30.29	5.2	34	6.4	18	360	14	360	22
23	26	18	22	M	16	21	43	0	-	-	SN UP	T	M	0.2s	T	29.68	30.39	9.5	32	10.1	25	320	20	310	23
24	30	22	26	M	21	24	39	0	-	-		T	M	0.0	0.00	29.73	30.42	8.9	09	9.2	24	100	17	090	24
25	39	26	33	M	29	32	32	0	-	-	RA BR	T	M	0.0	0.47	29.47	30.12	10.6	09	10.6	26	080	18	100	25
26	43	29	36	M	35	36	29	0	-	-	RA SN FG+ FZFG BR	0	M	T	0.40	29.29	29.97	1.5	12	3.3	17	110	14	110	26
27	32	26	29	M	27	29	36	0	-	-	SN FG+ FZFG BR	0	M	0.8	0.07	29.22	29.87	2.6	23	3.7	17	240	14	240	27
28	30	18	24	M	20	24	41	0	-	-	SN BR	3	M	3.0	0.20	29.02	29.72	15.7	27	17.2	44	310	33	300	28
29	20	9*	15*	M	7	13	50	0	-	-	SN BR UP	2	M	3.0	0.11	29.57	30.34	9.4	30	11.7	31	300	25	300	29
30	31	15	23	M	14	21	42	0	-	-		2	M	0.0	0.00	29.64	30.30	4.4	21	6.3	20	260	16	260	30
31	36	30	33	M	31	33	32	0	-	-	RA SN BR	T	M	T	0.07	29.33	29.99	7.2	21	7.6	15	190	12	190	31
	34.7	23.4	29.1		22.1	27.1	35.8	0.0	<-----Monthly Averages | Totals----->				M	13.2	3.48s	29.39	30.10	4.7	25	10.4	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->									M												

Degree Days:

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	1109	M	M	M
Cooling:	0	M		

Greatest 24-hr Precipitation: 0.82s Date: 02-03
Greatest 24-hr Snowfall: 0.2 Date: 03
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.54	17	1044
Minimum 28.97	09	1256

Number of Days with --------->
Max Temp >=90: 0
Max Temp <=32: 14
Thunderstorms : 1

Min Temp <=32: 27
Min Temp <=0 : 0
Heavy Fog : 2

Precipitation >=.01 inch: 18
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

U.S. Department of Commerce
National Oceanic & Atmospheric Administration

ANNUAL CLIMATOLOGICAL SUMMARY

(2009)

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801

Station: **305840/99999, NIAGARA FALLS INTL AP, New York** Elev. 519 ft. above sea level Lat. Unkown, Lon. 785°7 'W

Date	Temperature (° F)														Precipitation (inches)									
Elem->	MMXT	MMNT	MNTM	DPNT	HTDD	CLDD	EMXT		EMNP		DT90	DX32	DT32	DT00	TPCP	DPNP	EMXP		TSNW	MXSD		DP01	DP05	DP10
											Number of Days						Greatest Observed		Snow, Sleet			Number of Days		
2009 Month	Mean Max.	Mean Min.	Mean	Depart. from Normal	Heating Degree Days	Cooling Degree Days	Highest	High Date	Lowest	Low Date	Max >=90°	Max <=32°	Min <=32°	Min <=0°	Total	Depart. from Normal	Day	Date	Total Fall	Max Depth	Max Date	>=.10	>=.50	>=1.0
1	25.5	9.5	17.5	-6.7	1470	0	41	24	0	21	0	24	31	2	1.98	-0.57	0.38	7	32.9	12	30	8	0	0
2	36.2	18.4	27.3	2.0	1049	0	52	27	-3	6	0	9	24	2	2.08	-0.24	0.87	12	7.1	11	1	5	1	0
3	43.8	23.2	33.5	-0.3	970	0	61	26	8	4	0	6	25	0	3.02	0.39	1.55	8	0.5	0T	30	5	2	1
4	56.6	35.0	45.8	0.7	573	5	83	28	24	13	0	1	12	0	3.71	1.25	1.52	4	0.9	1	7	9	2	1
5	68.7	45.5	57.1	0.0	246	8	81	22	32	11	0	0	1	0	2.98	0.04	0.56	29	0.0	0		8	3	0
6	73.9	54.7	64.3	-1.5	80	65	88	25	41	4	0	0	0	0	3.45	0.19	1.15	26	0.0	0		7	3	1
7	75.7	57.8	66.8	-4.6	23	86	83	29	49	12	0	0	0	0	5.33	2.64	1.35	24	0.0	0		7	3	3
8	78.9	60.4	69.7	0.1	11	163	88	18	48	31	0	0	0	0	5.08	2.05	2.57	10	0.0	0		7	2	1
9	72.9	51.3	62.1	0.4	105	24	80	24	39	19	0	0	0	0	1.82	-1.70	0.96	29	0.0	0		2	2	0
10	56.0	39.9	48.0	-2.1	521	0	67	4	27	19	0	0	6	0	2.58	-0.09	0.64	24	0.0T	0T	16	7	1	0
11	52.5	33.8	43.2	3.3	648	0	67	9	24	14	0	0	14	0	2.31	-0.67	0.88	20	0.0T	0T	30	9	1	0
12	35.2	23.8	29.5	-0.2	1092	0	53	3	9	30	0	13	25	0	3.51	0.63	0.80	3	13.4	3	28	8	3	0
Annual	56.3	37.8	47.1	-0.7	6788	351	88	Aug	-3	Feb	0	53	138	4	37.85	3.92	2.57	Aug	54.8	12	Jan	82	23	7

Notes

(blank) Not reported.

+ Occurred on one or more previous dates during the month. The date in the Date field is the last day of occurrence. Used through December 1983 only.

A Accumulated amount. This value is a total that may include data from a previous month or months or year (for annual value).

B Adjusted Total. Monthly value totals based on proportional available data across the entire month.

E An estimated monthly or annual total.

X Monthly means or totals based on incomplete time series. 1 to 9 days are missing. Annual means or totals include one or more months which had 1 to 9 days that were missing.

M Used to indicate data element missing.

T Trace of precipitation, snowfall, or snowdepth. The precipitation data value will = zero.

Elem-> Element Types are included to provide cross-reference for users of the NCDC CDO System.

Station Station is identified by: CoopID/WBAN, Station Name, State.

S Precipitation amount is continuing to be accumulated. Total will be included in a subsequent monthly or yearly value. Example: Days 1-20 had 1.35 inches of precipitation, then a period of accumulation began. The element TPCP would then be 001358 and the total accumulated amount value appears in a subsequent monthly value. If TPCP = "M" there was no precipitation measured during the month. Flag is set to "S" and the total accumulated amount appears in a subsequent monthly value.

Dynamically generated Fri May 21 08:54:51 EDT 2010 via http://hurricane/ancsum/ACS
Data provided from the NCDC CDO System
Additional documentation can be found at http://cdo.ncdc.noaa.gov/cdo/3220doc.txt