US Army Corps of Engineers®
Buffalo District
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Field Investigation Report

Final

Balance of Plant Operable Unit

Investigation to Refine the Extent of Soil Contamination

Niagara Falls Storage Site
Lewiston, New York
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LIST OF ACRONYMS AND ABBREVIATIONS

Ac	actinium
AEC	Atomic Energy Commission
ALARA	as low as reasonably achievable
AOC	area of concern
APP	Accident Protection Plan
ASTM	American Society for Testing and Materials
BAASS	Bayesian Approaches to Adaptive Spatial Sampling
bkgd	background
BOP	Balance of Plant
bgs	below ground surface
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
cm	centimeter(s)
cm/sec	centimeters per second
cpm	counts per minute
COC	chemical of concern
CQC	contractor quality control
Cs	cesium
DCGL	derived concentration guideline level
DOT	Department of Transportation
DQCR	daily quality control report
EM	electromagnetic or engineering manual
EPA	Environmental Protection Agency
ERPIMS	Environmental Resources Program Information Management System
EU	exposure unit
EX	excavation (radiation survey code)
FS	feasibility study
FSP	Field Sampling Plan
ft	feet/foot
FUSRAP	Formerly Utilized Sites Remedial Action Program
GPS	global positioning system
GW	groundwater
GWS	gamma walkover survey
HWP	hazardous or hot work permit
IE	investigative excavation
in	inch(es)
IN	incoming (radiation survey code)
IWCS	Interim Waste Containment Structure
IDW	investigation-derived waste
LOOW	Lake Ontario Ordnance Works
LWBZ	lower water-bearing zone
LWTP	Lockport Wastewater Treatment Plant
m	meter(s)
MARLAP	Multi-Agency Radiological Laboratory Analytical Protocols Manual
MED	Manhattan Engineer District
MH	manhole
MD	matrix duplicate
MDL	method detection limit

LIST OF ACRONYMS AND ABBREVIATIONS (Cont'd)

MS	matrix spike
MSD	matrix spike duplicate
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
µR/h	microroentgen per hour
m	meter(s)
m^2	square meter
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mm	millimeter(s)
mrem	millirem
mmho/m	millisiemens per meter
mV	millivolt(s)
MW	monitoring well
NAD	North American Datum
NaI	sodium iodide
NGVD	National Geodetic Vertical Datum
NFSS	Niagara Falls Storage Site
NRC	Nuclear Regulatory Commission
NUREG	U. S. Nuclear Regulatory Commission
NYCRR	New York Codes, Rules, and Regulations
OT	outgoing (radiation survey code)
OU	operable unit
Pa	protactinium
pCi/g	picocuries per gram
pCi/L	picocuries per liter
PE	pipeline excavation
PCBs	polychlorinated biphenyls
PAHs	polycyclic aromatic hydrocarbons
PID	photoionization detector
PPE	personal protective equipment
PQL	practical quantitation limit
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
QCP	Quality Control Plan
QAPP	Quality Assurance Project Plan
Ra	radium
RCRA	Resource Conservation and Recovery Act
RI	remedial investigation
ROC	radionuclide of concern
RPP	Radiation Protection Plan
RSL	regional screening level
RT	routine (radiation survey code)
RWP	radiation work permit
SCO	soil cleanup objective
SAP	Sampling and Analysis Plan

LIST OF ACRONYMS AND ABBREVIATIONS (Cont'd)

SD	standard deviation
SMS	safety management standard
SOP	standard operating procedure
SOR	sum of the ratios
sq	square
SRSO	site radiation safety officer
SSHO	site safety and health officer
SSHP	site safety and health plan
SVOC	semi-volatile organic compound
TB	test boring
TED	total effective dose
Th	thorium
TN	trench (radiation survey code)
TNT	trinitrotoluene
U	uranium
U-235	uranium-235
U-238	uranium-238
URS	URS Group, Inc.
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USDOE	United States Department of Energy
UST	underground storage tank
UWBZ	upper water-bearing zone
VOC	volatile organic compound
WTS	Waste Technology Services, Inc.

1.0 INTRODUCTION

URS Group, Inc. (URS) has prepared this document under Contract 912QR-12-D-0023. As part of this contract, URS conducted an investigation to refine the extent of soil contamination at the balance of plant (BOP) operable unit (OU) at the Niagara Falls Storage Site (NFSS) in October through December 2013 and June and July 2014. This report presents a description of the methods, procedures, and findings of the investigation.

URS performed the investigation in accordance with the following planning documents prepared by URS, dated October 2013:

- *Sampling and Analysis Plan* (SAP)
  - Volume 1 – *Field Sampling Plan* (FSP)
  - Volume 2 – *Quality Assurance Project Plan* (QAPP)
- *Accident Prevention Plan* (APP)
- *Site Safety and Health Plan* (SSHP)
- *Radiation Protection Plan* (RPP)
- *Quality Control Plan* (QCP)

1.1 Site Description

The NFSS is located at 1397 Pletcher Road in the Town of Lewiston (Figure 1). The NFSS, approximately 191 acres in size, represents a portion of the Lake Ontario Ordnance Works (LOOW), a former trinitrotoluene (TNT) production plant which shut down in 1943. Portions of the LOOW site were used by the United States Army Corps of Engineers (USACE) Manhattan Engineer District (MED) and U.S. Atomic Energy Commission (AEC) to store radioactive residues and other materials beginning in 1944. Much of the radioactive residues sent to the NFSS originated from uranium processing activities conducted for MED and AEC at the Linde Air Products facility in Tonawanda, New York, the Mallinckrodt Chemical Works refinery in St. Louis, Missouri, and the Middlesex Sampling Plant in Middlesex, New Jersey.

Radiological constituents of concern at NFSS include isotopic uranium (U), isotopic thorium (Th), and radium (Ra)-226/228. Other constituents that occur on site in lesser amounts include daughter products of the uranium series (uranium-238 [U-238]) and, to some extent, the actinium (Ac) series (uranium-235 [U-235]). Some organic contaminants are also present at the NFSS.

Between 1982 and 1986, the United States Department of Energy (USDOE) consolidated radioactive materials from a portion of the LOOW into a 10-acre Interim Waste Containment Structure (IWCS) on the NFSS (see Figure 2). The IWCS is an engineered landfill designed to retard radon emissions, infiltration from precipitation, and migration of contamination to groundwater. The remainder of the site is referred to as the BOP.

1.2 Site Geology

The geology of the NFSS is presented below, from shallowest to deepest:

- Surficial Soils and Fill - The surficial soil at the NFSS consists of a loose to medium dense, brown to yellowish silt with organic matter. Gravel and sands are generally encountered and are

dispersed randomly throughout the unit. Thicknesses of surficial deposits vary from 0 to 1.5 meter (m) (0 to 5 feet [ft]), with an average range of 0.3 to 0.6 m (1 to 2 ft). The landscape in some areas of the NFSS is routinely maintained and contains several centimeters (cm) (inches [in]) of loamy topsoil and grass.

- Brown Clay Unit - The Brown Clay Unit, also known as the "Upper Clay Till" or the "Brown Clay Till," is a brownish or reddish, poorly sorted, brown silty clay till deposit indicative of a ground moraine. The thickness of the unit varies from 1.8 to 7 m (6 to 23 ft). The consistency of the upper clay till ranges from medium soft to hard with plasticity increasing with depth. Thin sand and silt seams, pockets, and lenses are more common in the basal portion of the unit.

  The sand and silt lenses in the basal portion of this unit range from thin partings (i.e., small joints in clay) up to 1.5 m (5 ft) in thickness. The lateral extent and thickness of these lenses vary abruptly. These intermittent sand lenses likely represent glaciofluvial deposits and are generally vertically and horizontally discontinuous. The sand and gravel in the lenses are usually moist to saturated and vary from loose to dense. Occasional extensive deposits of sand and gravel 5.3 to 6.1 m (17.5 to 20 ft) in thickness occur within the Brown Clay Unit.

- Gray Clay Unit - The Gray Clay Unit, also known as the "Glacio-Lacustrine Clay Unit," is of lacustrine origin. Coarse-grained sand and gravel lenses of the Brown Clay Unit are found intermittently along the top of the Gray Clay Unit and are not representative of a contiguous lithologic unit. The Gray Clay Unit occasionally grades vertically to a silt and sand mixture and lenses of fine to medium-grained sand are dispersed throughout the unit. A "Middle Silt Till Unit" is found occasionally off site where the lower portion of the Gray Clay Unit is absent. The overall consistency of the unit ranges from soft to medium soft, with clay portions being slightly to highly plastic. The clay is generally wet and sand lenses are wet to saturated.

  The thickness of the Gray Clay Unit varies from less than 1.5 to 9.1 m (5 to 30 ft) and it is the thickest unconsolidated unit at the NFSS.

- Sand and Gravel Unit - The Sand and Gravel Unit, also referred to as "Alluvial Sand and Gravel," consists of clean sand to mixtures of sand, gravel, and silt. The unit is glaciofluvial in origin, normally wet to saturated, and exhibits loose to medium relative density. In general, the thickest portions of the unit are present where depressions occur in the underlying bedrock.

  The Sand and Gravel Unit is approximately 0.9 to 2.1 m (3 to 7 ft) in thickness and occurs 4.6 to 8.5 m (15 to 28 ft) below ground surface (bgs).

- Red Silt Unit - The Red Silt Unit, referred to as the "Basal Red Till," consists of angular fragments of red shale bedrock in a sandy silt matrix that suggests that this is a lodgement till. The Red Silt Unit is composed of clayey, gravelly silt with lesser amounts of sand. Gravel is dispersed throughout the unit and consists of both rounded and angular fragments of bedrock. This unit is generally dry to moist, over-consolidated, and ranges from medium to very dense. The Red Silt Unit varies in thickness from 0 to 2.1 m (0 to 7 ft). The top of the Red Silt Unit varies across the NFSS from a minimum of 5.1 m (17 ft) bgs to a maximum of 13.7 m (45 ft) bgs. The base varies from 6.7 to 14.9 m (22 to 49 ft) bgs.

- Queenston Formation - The Queenston Formation is the uppermost bedrock unit beneath the NFSS and consists of brownish red shale, siltstone, and mudstone. The top 1.8 to 3.7 m (6 to 12 ft) of the Queenston Formation are moderately weathered, fractured and more permeable than

lower portions of the formation. The Queenston Formation is typically encountered 9.75 to 14.9 m (32 to 49 ft) bgs.

1.3 Site Hydrogeology

There are two water-bearing zones identified at the NFSS: the upper water-bearing zone (UWBZ) and the lower water-bearing zone (LWBZ).

The UWBZ is typified by clayey silt and silty clay with occasional sand and gravel lenses common in the Brown Clay Unit. Based on boring logs and recent statistical analysis, these sand seams, pockets, and lenses are intermittent and vertically and horizontally discontinuous. Coarse-grained, possibly channel fill deposits, are sporadically present in the basal portion of the zone on the undulating upper surface of the Gray Clay Unit. However, based on boring logs and recent statistical analysis, these sand seams, pockets, and lenses are intermittent and vertically and horizontally discontinuous. USACE performed a geostatistical analysis to assess the continuity of sand lenses in the UWBZ at the NFSS to evaluate whether the sand lenses act as preferential migration pathways for contamination. Lithologic information from boring logs was spatially analyzed using semivariogram calculations and models. The results suggest the sand lenses in the UWBZ are not horizontally continuous over distances greater than 4.6 to 6.1 m (15 to 20 ft).

Saturated conditions occur in the UWBZ in both the continuous, low-permeability clays and in the discontinuous lenses of sand and gravel. Throughout the UWBZ, the coarse-grained lenses, pockets and seams vary considerably in thickness and extent and range from dry to saturated. As a result, the occurrence of groundwater varies across the NFSS and localized flow paths are common within a regional, northwesterly gradient.

The underlying Gray Clay Unit (Unit 3) acts as an aquitard separating the UWBZ from the LWBZ. For purposes of classification, wells that terminate in the Gray Clay Unit are considered representative of the UWBZ.

The LWBZ extends from the bottom of the Gray Clay Unit to the bottom of the weathered zone of the Queenston Formation and consists of the stratified sands and gravels of the Sand and Gravel Unit, the dense silt and sands of the Red Silt Unit, and the weathered and fractured upper portions of the Queenston Formation. The thickness of the LWBZ varies from about 3.0 to about 11.7 m (10 ft to about 38.5 ft). The LWBZ has significantly higher permeability and more lateral continuity than the UWBZ.

The general direction of groundwater flow in the LWBZ is to the northwest. The highest gradients occur south of the NFSS and the Modern Landfill property to the south and east of the site.

1.4 Project Objectives

During development of a previous remedial investigation (RI), the NFSS was divided into exposure units (EU). An EU is defined as the geographic area in which a future receptor (for purposes of the baseline risk assessment) is assumed to work or live, and where a receptor may be exposed to site-related soil contaminants. Figure 2 presents the overall site layout showing the locations of the EUs.

The objective of the field investigation was to delineate the vertical and horizontal extent of contamination in surface and subsurface soils at locations across NFSS in support of the BOP OU

feasibility study (FS). The scope of work for the investigation included:

- Delineate soil contamination at 478 locations across the NFSS,
- Expose and evaluate the former LOOW sanitary sewer in EU10 and EU11,
- Perform a geophysical survey in the area south of the IWCS to identify the presence of buried structures, and
- Manage/sample/dispose of existing investigation-derived waste (IDW) and IDW generated during the field investigation.

1.5 Scope of BOP OU Investigation to Refine the Extent of Soil Contamination

The BOP OU investigation to refine the extent of soil contamination (herein also referred to as the delineation investigation) was performed at locations shown in Figure 3. The scope of the delineation investigation was presented in the FSP prepared by URS dated October 2013. The subsurface portion of the investigation included:

- Advancing soil borings at 380 locations across the NFSS to depths of approximately 0.9 m (3 ft), and
- Retaining soil samples from the 0- to 15-cm (0- to 0.5-ft) interval, 15- to 61-cm (0.5- to 2-ft) interval, and 61- to 91-cm (2- to 3-ft) interval for laboratory analysis of select radionuclides; some samples were also analyzed for polycyclic aromatic hydrocarbons (PAHs).

During the course of the investigation, USACE directed URS to perform additional work consisting of the following:

- Advancing additional soil borings at 98 locations, and
- Collecting additional soil samples from depths down to 2.1 m (7 ft) in select borings to bound the depth of contamination.

As stated in the BOP Operable Unit *Field Investigation Report*, dated August 2013, the groundwater analytical data shows that total uranium-impacted groundwater is present in areas where USDOE remedial activities were known to occur. Historical aerial photographs show land scarring in the OW11B area during the time of USDOE remediation activities. During the BOP OU field investigation, uranium impacts were detected in the groundwater collected from the area between the buried pipes and from along the top of the concrete-encased sanitary sewer in the OW11B area might be associated with those former remediation activities. Part of the scope of work for the current investigation was to further characterize the sanitary sewer in the OW-11B area. Specific activities included:

- Excavating six investigative trenches (referred to as Investigative Excavations 9 through 12 [IEMH06 and IE9 through IE12]), and
- Removing one manhole (MH06).

During the course of the investigation, URS performed additional work consisting of plugging manhole MH09, which is the next downgradient manhole from MH06.

Other activities performed during the investigation included:

- Global positioning system (GPS) gamma walkover surveys (GWSs),

- Soil and trench radiological surveys,
- Radiation support surveys,
- Geophysical survey,
- Investigation location coordinate and elevation surveys,
- Excavation dewatering,
- Health and safety monitoring,
- Laboratory analyses of soil and groundwater samples for radionuclides and some soil samples for PAHs,
- Laboratory analyses of IDW samples for radionuclides, metals, pesticides, herbicides, PAHs, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs), and
- IDW management including off-site disposal.

The investigation activities are briefly described below. Details of the field investigation are provided in Section 2.0.

1.6 Strategy for Delineation of Soil Contamination

The purpose of the delineation investigation was to delineate the vertical and horizontal extent of contamination in surface and subsurface soil at the NFSS. The data will support the BOP OU FS effort by reducing the uncertainty of the estimated volume of soil that may require excavation. The delineation investigation focused on radionuclides of concern (ROC) and chemicals of concern (COC).

Radionuclides

The RI and baseline risk assessment performed at the NFSS (USACE, 2007) identified the following ROCs for BOP soil for the construction worker receptor:

- Actinium-227 (Ac-227)
- Protactinium-231 (Pa-231)
- Lead-210 (Pb-210)
- Radium-226 (Ra-226)
- Thorium-230 (Th-230)
- Uranium-234 (U-234)
- Uranium-235 (U-235)
- Uranium-238 (U-238)

Given that multiple ROCs are identified for the BOP, the sampling strategy for the delineation investigation was designed to comply with the requirements in 10 Code of Federal Regulations (CFR) 40 Appendix A Criterion 6(6), which provides a clean-up goal for Ra-226 and a means to derive cleanup goals for radionuclides other than Ra-226.

In accordance with 10 CFR Part 40, Appendix A, Criterion 6(6), the concentration of Ra-226 is limited to 5 picocuries per gram (pCi/g) in the top 15 cm (6 in) of soil. If other radionuclides are present, their cleanup goals are the concentrations of the radionuclides that would produce the same dose as 5 pCi/g of Ra-226 in the top 15 cm (6 in). This dose for Ra-226 is called the 'benchmark' dose. The same process is used to establish a benchmark dose for subsurface soil (i.e., below the top 15 cm [6 in]), although the cleanup goals are the concentrations of the radionuclides that would produce the same dose as 15 pCi/g of

Ra-226.

Derived Concentration Guideline Limits

RESRAD is a computer model designed by the USDOE to estimate radiation doses and risks from RESidual RADioactive materials. The RESRAD computer code (version 6.5) is used to convert the benchmark dose to a derived concentration guideline level (DCGL) for each ROC (see Appendix A for details). The DGCLs apply to a 100-m^2 (1,076-ft^2) area. To simplify the presentation of DCGLs, as well as the resulting sampling and analysis plan for the BOP delineation investigation:

- The dose contributions from Ac-227 and Pa-231 were added to their parent radionuclide, U-235, in order to allow these daughter nuclides to be accounted for in the overall benchmark dose and DCGL without necessitating that these radionuclides be measured.
- The DCGL for combined total uranium was calculated from which the U-238 DCGL was determined and used as a surrogate for the total uranium DCGL.
- Although Pb-210 is listed as an ROC, and it could be considered to be present in equilibrium with its parent Ra-226, a separate DCGL for Pb-210 was not developed. This is because laboratory analysis for this radionuclide is not commonly performed. One way to account for its presence would be to add its dose to the dose of its parent Ra-226, however, this was not done because the dose contribution from Pb-210 is orders of magnitude smaller than the dose from Ra-226. Furthermore, adding the Pb-210 dose contribution to the Ra-226 dose would increase the benchmark dose used to calculate cleanup goals under 10 CFR 40 Appendix A Criterion 6(6), which would result in larger DCGLs for other radionuclides (i.e., it would not be conservative).

Therefore, the analytical schedule for radionuclides for the BOP delineation investigation was limited to Ra-226, Th-230, and U-238. The results of RESRAD showed that the DCGLs are as follows:

Parameter	DCGL Surface Soil[1] (top 15 cm [6 in]) (pCi/g)	DCGL Subsurface Soil[1] (below 15 cm [6 in]) (pCi/g)
Ra-226	5	15
Th-230	18	55
U-238	115	346

Notes:
[1] - DCGLs are limits above background concentrations.

Sum of the Ratios Calculations

If one or more residual radionuclide is present in a 100-square meter (m^2) area, the sum of the ratios (SOR) of the ROCs should not exceed "1" (unity); a SOR exceeding 1 indicates that at least one radionuclide is present at a concentration exceeding the benchmark dose. Because many of the ROCs are naturally occurring, the SOR takes background (bkgd) radionuclide concentrations into consideration. The average background concentrations, defined during the 2007 RI, are as follows:

Parameter	Background Concentrations (pCi/g)
Ra-226	0.79
Th-230	0.90
U-238	0.82

Refining the extent of contaminated soil for the BOP delineation investigation was first performed by conducting an office exercise where SOR scores were calculated using existing analytical data from the surface (i.e., top 15 cm) and subsurface (i.e., below the top 15 cm). Since there was typically more than one analytical result at depth (below the top 15 cm) per borehole, a conservative approach was employed whereby the maximum concentration below the top 15 cm from each borehole was chosen for the SOR calculation. SOR scores were calculated using the following equations:

$$SOR_{surface\ soil} = \frac{\text{Ra-226} - \text{bkgd}}{5\ \text{pCi/g}} + \frac{\text{Th-230} - \text{bkgd}}{18\ \text{pCi/g}} + \frac{\text{U-238} - \text{bkgd}}{115\ \text{pCi/g}}$$

$$SOR_{subsurface\ soil} = \frac{\text{Ra-226} - \text{bkgd}}{15\ \text{pCi/g}} + \frac{\text{Th-230} - \text{bkgd}}{55\ \text{pCi/g}} + \frac{\text{U-238} - \text{bkgd}}{346\ \text{pCi/g}}$$

Where:

Ra-226 bkgd = 0.79 pCi/g
Th-230 bkgd = 0.90 pCi/g
U-238 bkgd = 0.82 pCi/g

Delineation of ROC Soil Contamination and Identifying Areas of Concern

The delineation of the extent of soil contamination was performed in two phases. In the first phase, SOR scores were calculated for all existing surface and subsurface soil data. Sample locations that exhibited an SOR score greater than 1 were subject to further investigation, and proposed borings (typically four) were evenly spaced (within 5 to 10 m) around the subject borehole to refine the extent of contamination. Prior to drilling and sampling, all proposed boring locations were staked in the field and a gamma radiation walkover survey covering an approximate 3-m (10-ft) radius around each proposed borehole was performed to identify elevated surface radiation levels in the area. If elevated gamma radiation readings were identified, one or more of the borings was moved to the area of the higher gamma reading and/or additional borings were added, as appropriate. In either case, elevated gamma survey results outside the 100 m^2 area were generally investigated through sampling.

The second phase was initiated by overlaying a random-start 100 m^2 grid over the entire NFSS and re-calculating the average SOR scores for the set of data located within each 100 m^2 area, pursuant to 10 CFR 40 Appendix A Criterion 6(6). If the average SOR score within an area of 100 m^2 was greater than 1, a contaminated soil area of concern (AOC) was identified. The aerial extent of the contaminated soil AOC was estimated using Bayesian Approaches to Adaptive Spatial Sampling (BAASS) software, which is similar to kriging and considers the nearest "clean" data point (i.e., a sample location with an SOR score of less than 1). Following the application of BAASS, each AOC was evaluated to determine if existing data sufficiently delineated the extent of contamination. If not, additional borings were proposed and a second round of drilling and sampling was performed. Similar to the first round of sampling, all proposed boring locations were staked in the field, a gamma radiation walkover survey was performed, and BAASS software incorporated the new data to estimate the extent of the contaminated soil AOC.

A total of 461 borings were completed during this field investigation. Of those, 372 borings were completed during the first phase and 89 borings during the second phase of the investigation.

Chemicals

The RI and Baseline Risk Assessment performed at the NFSS (USACE, 2007) identified COCs in BOP soil for a variety of receptors. For this field investigation, COCs identified in the Baseline Risk

Assessment for the industrial, maintenance, and construction workers were selected and included PAHs and PCBs.

Based on the current and likely future site use, the analytical data for these COCs were compared to Industrial Use soil cleanup objectives (SCOs) presented in Title 6 New York Code of Rules and Regulations (NYCRR) Part 375 (Note: There are no SCOs for maintenance or construction workers). The result of this comparison showed that only PAHs exceeded their respective SCOs, so only PAHs were considered COCs and thus were included in this investigation.

Similar to the ROCs, two rounds of sampling were performed to refine the extent of soil contaminated with PAHs. A total of 34 borings were completed to delineate areas of COC contamination.

1.7 Investigation of Uranium Impacts in the OWB11 Area

Investigative Excavations in EU10 and EU11

Over the past several years, groundwater analytical data for well OW11B in EU10 has shown elevated concentrations of uranium (see OW11B location in insert in Figure 2). Based on USACE's review of soil and groundwater data collected near well OW11B, the source of the uranium has not been determined.

The historical placement of material storage piles appear to be the source of radionuclide and total uranium contamination in the area south of the IWCS. Previous remedial activities in and around the grit chamber, decontamination pad, and OW11B, and historical material storage piles discerned from photographic and video analysis, are likely sources of groundwater impacts in this area. Furthermore, the groundwater concentrations are consistent with the soil detections in the area south of the IWCS and near OW11B.

The water and sewer lines in the OW11B area were identified as possible conduits of uranium contaminated groundwater migration. The water supply and distribution pipelines in the OW11B area were investigated, cut, and plugged during the 2012 BOP investigation and eliminated as potential conduits of contamination. The sanitary sewer in this area was further investigated as part of the current delineation investigation.

To expose and evaluate the condition of the sanitary sewer, six locations (IETES-01, IEMH06, and IE9 through IE12) were excavated, visually inspected, and scanned for evidence of radioactive contamination. Samples of soil and groundwater were collected for laboratory analyses. Inspection of the sewer revealed that it was 46 cm (18 in) diameter clay tile and encased in concrete, similar construction as other LOOW sewers. The sewer was found to be structurally intact with no cracks or penetrations. The investigation found that the sewer had been previously cut and plugged with concrete just north of South 31 Ditch. The sewer was not encountered in excavation IETES01 on the south side of South 31 Ditch, indicating that previous remedial activities at the NFSS included the removal of the section of sewer extending from the cut and plugged location at IEMH06 to an undetermined point south of South 31 Ditch.

As part of the investigation to determine the possible presence of a uranium source in the OWB11 area, 35 of the delineation borings were sited in a grid system throughout this area. A source term was not identified in these delineation borings or in the investigative excavations.

Manhole MH06 Removal

Manhole MH06 was one of many of the LOOW manholes originally constructed to provide access to the sanitary sewer. Manhole MH06 was located in EU10, just north of South 31 Ditch. The manhole had been plugged with concrete during previous remedial efforts. The manhole was removed as part of the delineation investigation. Inspection of the removed manhole revealed that the previously installed concrete effectively plugged the manhole base and the underlying sewer. As part of the investigation, the sewer downgradient of the manhole was plugged with concrete following the manhole removal.

Geophysical Survey

A combination of geophysical survey methods was used to investigate subsurface utilities and structures in the area immediately south of the IWCS. The methods used were able to detect various metals and variances in the soil conductivity caused by the presence of materials, such as fill, which have properties that differ from naturally occurring materials on site. In addition to identifying known, existing structures, such as monitoring wells, fences, and underground utilities, the geophysical survey identified anomalies that are likely associated with LOOW-era structures including foundations of former freshwater water treatment plant buildings 409, 410, and 413; potable water lines; and a valve pit. Two areas of elevated conductivity on the south side of the IWCS appear to be associated with an access road and ramp installed to provide access into the IWCS during landfill construction, which likely produced a zone of greater compaction and thus a different conductivity signature.

The geophysical methods are not capable of detecting non-metallic materials and therefore, were not effective in identifying the presence of the concrete-encased sanitary sewer lateral, which, according to historical documents, extended northwest from manhole MH08 toward the freshwater treatment plant building 409.

2.0 FIELD INVESTIGATION ACTIVITIES

The BOP OU delineation investigation was conducted during the period of October 30, 2013, through December 23, 2013, and June 17 through July 1, 2014. This section presents a discussion of the specific field investigative activities performed.

All fieldwork was performed under the supervision of a URS geologist who functioned as the Site Supervisor and Contractor Quality Control (CQC) Manager. A copy of the Site Supervisor's field notebook is provided in Appendix B. Appendix C includes copies of the Daily Quality Control Reports. A USACE representative was also present during all field activities.

The URS Site Safety and Health Officer (SSHO) and radiation protection personnel were also present during all field activities. Appendix D contains copies of Tailgate Safety Meeting Minutes and Permits prepared by the SSHO.

2.1 Geophysical Survey

One of the first investigative field activities was the geophysical survey of the area to the south of the IWCS. A crew of two scientists from Hager-Richter Geoscience, Inc. (Hager-Richter) performed the survey on November 6 and 7, 2013. The purpose of the survey was to delineate the presence and extent of several LOOW-era structures (i.e., building foundations, water and sewer lines, etc.) located in the area south of the IWCS. Survey methods included electromagnetic (EM) and magnetometer.

Equipment

Hager-Richter used the following non-intrusive instruments during the survey:

- Geonics EM31
- Geonics EM61-MK2A
- Geometrics G858-G magnetometer

The EM31, EM61, and magnetometer survey methods detect buried metal. However, none of these methods can provide information on the type of objects causing an anomaly. The EM31 and EM61 methods detect all types of metals including copper, brass, and aluminum, while the magnetometer method detects only ferrous metal. The EM31 survey method can also detect variations in ground conductivity. These variations can be caused by different soil types.

EM31

The electromagnetic induction terrain conductivity survey was conducted using a Geonics Model EM31 terrain conductivity meter. This instrument provided measurement of both the quadrature-phase and in-phase components of terrain conductivity without ground electrodes or contact. The quadrature-phase data are useful for detecting the presence of anomalously conductive ground. The in-phase component data identify the presence of metal objects. A digital datalogger recorded data for both components.

The EM31 reads ground conductivity in millisiemens per meter (mmho/m) with a resolution of 2% of full scale and an accuracy of 1 mmho/m. The nominal depth of earth sampled by the EM31 in the vertical dipole mode is approximately 5.5 m (18 ft).

EM61

The EM61 survey was conducted using a Geonics EM61-MK2A time domain electromagnetic induction metal detector. The EM61-MK2A is capable of detecting buried metal objects such as utilities, underground storage tanks (USTs), and drums. A transmitter coil generates a pulsed primary magnetic field in the earth, thereby inducing eddy currents in nearby metal objects. The eddy current produces a secondary magnetic field that is sensed by two receiver coils; one coincident with the transmitter and the other positioned 40 cm (1.3 ft) above the main coil. The instrument responds to the secondary magnetic field produced by metal objects. A digital datalogger recorded the secondary responses in millivolts (mV).

Magnetometer

The magnetic survey was conducted using a Geometrics G858-G cesium (Cs) magnetometer equipped with two sensors. Total magnetic field and vertical magnetic gradient were measured. Data were acquired continuously in walking mode, effectively recording data at about 24-cm (10-in) intervals along each survey line. A base station location recorded the temporal variation of the earth's magnetic field.

Survey Procedures

Hager-Richter established a local survey grid in the area of interest, which was defined as being bound to the north by the top of the south slope of the IWCS, to the west by an imaginary line extending from the western edge of the IWCS, to the east by the Central Drainage Ditch, and to the south by an imaginary line running east-west approximately 12 m (40 ft) south of manhole MH08.

The EM61 data were acquired at approximately 20-cm (8-in) intervals along survey lines spaced 1.5 m (5 ft) apart.

The EM31 data were acquired at approximately 0.3-m (1-ft) intervals along survey lines spaced 3 m (10 ft) apart.

The magnetometer data were acquired at approximately 15-cm (6-in) intervals along survey lines spaced 3 m (10 ft) apart.

Survey Results

The geophysical survey identified anomalies that are likely associated with LOOW-era structures including foundations of freshwater treatment plant buildings 409, 410, and 413, and potable water lines. Two areas of elevated conductivity on the south side of the IWCS appear to be associated with an access road and ramp installed to provide access into the IWCS during landfill construction.

The geophysical methods are not capable of detecting non-metallic materials and therefore, were not effective in identifying the presence of the concrete-encased, clay tile sanitary sewer lateral, which, according to historical documents, extended northwest from manhole MH08 toward the freshwater treatment plant building 409.

2.2 Radiation Surveys

Two approaches were used to investigate potential radiation impacts at the NFSS: field radiation surveys and laboratory analyses of multimedia samples (e.g., soil and water). Radiation protection surveys were also conducted under the site radiation safety program. This section discusses the field radiation surveys and radiation protection surveys that were performed during field activities. Laboratory analytical results of multimedia samples are discussed in Section 3.

Scope

Radiation measurements were collected at the locations of, and during the advancement of, soil borings; the excavation of investigation trenches; and of waste generated during these field activities.

Field radiation (i.e., characterization) measurements included:

- GPS GWS – Prior to sampling, a GWS was conducted at each proposed sample location to identify the highest surface radiation level in the area. This information was provided to the USACE to support field adjustments of the sample locations, if warranted. A GWS was also conducted across the proposed excavation areas to document the pre-excavation radiation levels. After restoring the excavated areas, the GWS was repeated to document the final (post-excavation) radiological condition of the excavation areas.
- Excavation screening –
    - Unshielded gamma radiation measurements were collected on the excavated soils temporarily stockpiled during excavation.
    - Shielded gamma radiation surveys of walls, sides, and bottoms of the excavations were conducted to identify areas of elevated material.
- Alpha, beta, and gamma scanning was performed on soil cores.

Radiation safety measurements included:

- Personnel and equipment alpha, beta, and gamma scans.
- Incoming and outgoing alpha, beta, and gamma surveys.
- Alpha and beta smear counts.
- Waste storage dose rate surveys.
- Bioassay samples.
- Personnel dosimetry.

Personnel

All on-site URS and contractor personnel participated in site-specific radiation safety training and the project bioassay and dosimeter program. The site-specific, four-hour training met the requirements of USACE-accepted Assistant User requirements. URS Buffalo employees assigned to the NFSS underwent an additional four hours of radiation safety training to meet the USACE requirements for Authorized Users.

During the field effort, site visitors included the geophysical team, couriers from TestAmerica, and concrete truck drivers. These visitors were allowed on the NFSS under URS escort.

Instrumentation

Radiological constituents of concern at NFSS include isotopic uranium, isotopic thorium, radium-226/228, and their decay products. Other constituents that occur on NFSS in lesser amounts included daughter products of the uranium series (U-238) and, to some extent, the actinium series (U-235). Table 1 presents a listing of the radiation detection equipment used during this project.

All site instrumentation underwent an annual calibration prior to its arrival on site; Appendix E1 contains copies of the calibration certificates. Daily performance checks were performed to ensure instrumentation was functioning as calibrated. All portable field instruments used underwent a start- and end-of-day check. Stationary instrumentation (smear counter) underwent a start-of-day check. Satisfactory performance tests were conducted using a known radioactive source and results were within ±20% of the expected response. Instruments that did not meet performance test criteria, found to be defective or damaged, were removed from service. Routine maintenance activities, completed at the job site included replacing cables, batteries, and the Mylar faces on the Ludlum model 43-93 probes. Mylar replacement required the probe to dark correct prior to use; detectors sat for least 12 hours, and then underwent an instrument set up check to confirm it was still functioning as calibrated. The performance checks were documented in an electronic daily source check spreadsheet. Copies of the daily source check spreadsheets for each instrument/detector pairing are included in Appendix E2-1.

Routine Radiation Protection Activities

Routine radiation protection activities were performed in accordance with the RPP and were documented on various survey forms, logs, and electronic files. The Radiation Protection Daily Log provides a general summary of radiation protection activities, equipment, and identifies assignments of instruments to each on-site work activity by serial number. Appendix E2-2 contains the Radiation Protection Daily Logs.

All work was conducted under the URS Radiation Work Permit (RWP)/Hazardous Work Permit (HWP) program, as outlined in the RPP, and URS Safety Management Standard 52 (SMS-52AMER). The RWP/HWP permit identified radiological conditions, established worker protection and monitoring requirements, and contained specific approvals for radiological work activities. Radiological or hazardous work permits (RWP/HWP) were assigned a sequential number, and issued for each job task. Workers signed in and out of the job site RWP/HWP indicating that they understood the work requirements, and conducted personal frisks as applicable. Copies of the RWP/HWP issue log and completed permits are provided in Appendix E3.

Radiation surveys were assigned a unique survey number and documented in the Project Radiation Survey Log and on appropriate survey forms. The unique survey number includes a code to indicate the type of survey: Incoming (IN), Outgoing (OT), Routine (RT), and Excavation (EX). A total of 95 radiation safety surveys were conducted during the project as listed in the Survey Log provided in Appendix E4-1.

Prior to being brought on site, reusable equipment and items were surveyed for radiological contamination to verify IN conditions. Materials that arrived on site in new and unopened condition were assumed to be free of radioactive contamination and were not surveyed. Surveys included scans and collection of smear samples to identify removable contamination and were recorded on the appropriate survey forms. RT surveys were conducted to identify radiation exposure rates in areas where work occurred, and to support general work activities. Surveys to support the investigative excavation work

were documented as EX surveys, while the gamma walkover surveys and soil sample measurements were documented on separate data sheets and not assigned specific survey IDs.

To document compliance with the site release criteria identified in the RPP, and with United States Department of Transportation (DOT) requirements, all sample coolers underwent a survey that included collection of dose rates, along with a fixed and removable contamination survey, before leaving the NFSS (OT).

At the end of a specific work activity and before it left the NFSS, equipment that had the potential to come into contact with contaminated material was decontaminated and surveyed for release (OT). Copies of radiation surveys are provided in Appendix E4-2, and the results of smear samples are included in Appendix E4-3.

Gamma Walkover

The GWS was conducted with a high-efficiency gamma ray scintillation detector (2x2 NaI, Ludlum Model 44-10), coupled to a count rate meter/scaler (Ludlum Model 2221) with serial port (Ludlum 4261-148) that transferred gamma radiation count rates to the GPS unit every two seconds. The survey grade (±1 meter) GPS (Geo6000 XH) and external antenna (Zephyr) recorded the position and associated information at one-second intervals. The GPS units were configured to collect data using North American Datum (NAD) 1983 New York State Plane Coordinates. The GPS external antenna was positioned at a fixed distance above the detector to accurately determine the detector locations throughout the survey. The detector was mounted on a pole or wheel at a distance of 10 cm (4 in) from the ground. This change in detector height from the 30 cm (12 in), detailed in Standard Operating Procedure (SOP) RS-8.0 GPS Gamma Radiation Surveys, was done at the direction of the USACE. The change in the detector height reduces the detector field of view for each measurement from approximately 17000 cm^2 (18 ft^2) to approximately 1900 cm^2 (2 ft^2).

Photograph 1 - Gamma Walkover Survey Configuration

Background gamma radiation data were collected by walking serpentine transects approximately 1 m (3.3 ft) apart at a speed of approximately 0.5 m/sec (1.6 ft/sec), from the right-of-way along Pletcher Road, and the right-of-way and along the road entering the NFSS. Measurements were collected from both grassy/dirt areas and asphalt-paved areas. Initially, the background area was walked with a detector

placed at a height of 30 cm (12 in), but a second background survey was repeated at the end of the fieldwork with the detector at a height of 10 cm (4 in).

Prior to sampling, the area around each proposed soil sample location was cleared of large vegetation, debris, and obstructions and each location was flagged or staked. The survey flag/stake functioned as the center point for each GWS area. Documentation supporting the GWS is provided in Appendix E5.

Photograph 2 - Cleared and Flagged Sample Location

At most locations, the GWS area was larger than the minimum area of 9 m^2 (100 ft^2) specified in the FSP. In some areas, the proposed density of sample of locations made it more practical to establish a larger area that covered multiple sample locations. In these situations, the survey area extended 3 m (10 ft) beyond the proposed locations. Within each survey area, the GWS was conducted by walking serpentine transects approximately 1 m (3.3 ft) apart at a speed of approximately 0.5 m/sec (1.6 ft/sec).

Photograph 3 - Gamma Walkover Survey

Survey areas that included surface materials of both grass and asphalt were surveyed separately and assigned a unique file name (Appendix E5-3). A total of 293 data files, containing 74,219 valid measurements were collected during the GWS.

The GPS data files were downloaded to a computer using GPS Pathfinder, and exported to Microsoft Excel. Field posting plots were generated daily using Surfer®, and were routinely reviewed with the USACE's NFSS representative to identify adjustments to the proposed sample locations. Proposed locations that were based on prior GWS data were adjusted in the field to the marked highest gamma location. GWSs were completed at all of the proposed sampling locations with the exception of three locations (8F005) that were inaccessible because they were located inside the main drainage ditch, and two (8D016-8, 8D016-9) added at the end of the work. After consultation with the USACE, 12 locations were not sampled after completion of the GWS.

The final GWS position data were differentially corrected using GPS Pathfinder Office, based on the Lockport and Youngstown base stations. Data files were exported to Microsoft Excel, measurements were converted to microroentgen per hour (μR/h) using Ludlum's standard conversion factor, summary statistics, and Surfer® classed postings plots were generated. Appendix E5-4 is a table of all 74,219 measurements with the GPS positions.

Soil Borings

At each soil boring location, a timed surface gamma radiation measurement was collected prior to sampling. During sampling, the recovered soil core was laid out on a plastic-lined work surface for field screening. The soil was sectioned into the predetermined sample intervals (e.g., 0 to 15 cm (0 to 0.5 ft) below grade, 15 to 61 cm (0.5 to 2 ft) below grade, etc.). Each soil section was then screened, recording a time count with both a Ludlum Model 44-9 Geiger-Mueller pancake probe and a Ludlum Model 43-93 alpha/beta probe and the data recorded on Core Sample Log data sheets (Appendix E6-2).

During sampling, the results of the field screening were reviewed to evaluate the need to advance the sampler to a greater depth. Initially, the anticipated maximum boring depth was 1.5 m (5 ft) below grade; however, a few borings exhibited potential contamination below that depth, so those borings were advanced deeper. The actual maximum boring depth was 2.1 m (7 ft) below grade. For the borings advanced to a depth of 1.5 m (5 ft), the soils below 0.9 m (3 ft) were screened at 31-cm (1-ft) intervals. For the borings advanced to 2.1 m (7 ft), the soils below 0.9 m (3 ft) were screened at 0.61-cm (2-ft) intervals.

Borehole Sample Depth Intervals

Screening Interval	Total Boring Depth		
	0.9 m (3 ft)	**1.5 m (5 ft)**	**2.1 m (7 ft)**
1st Interval	0 to 15 cm (0 to 0.5 ft)	0 to 15 cm (0 to 0.5 ft)	0 to 15 cm (0 to 0.5 ft)
2nd Interval	15 to 61 cm (0.5 to 2 ft)	15 to 61 cm (0.5 to 2 ft)	15 to 61 cm (0.5 to 2 ft)
3rd interval	61 to 91 cm (2 to 3 ft)	61 to 91 cm (2 to 3 ft)	61 to 91 cm (2 to 3 ft)
4th Interval	NA	0.9 to 1.2 m (3 to 4 ft)	0.9 to 1.5 m (3 to 5 ft)
5th Interval	NA	1.2 to 1.5 m (4 to 5 ft)	1.5 to 2.1 m (5 to 7 ft)

Investigation Excavations

The Investigative Excavations (IEs) were completed to gather radiation data at depth to identify a possible radiological source term, investigate the presence and condition of the sanitary sewer, and to remove manhole MH06. During excavations, the excavated materials removed from the investigation trench were placed on plastic. The excavated soil was routinely scanned using an unshielded NaI detector to identify elevated material.

Excavations varied in area and/or depth. After completion of an excavation, radiological measurements were collected from the sidewalls and bottom using a shielded sodium iodide (NaI) detector. The detector was positioned to ensure the detector's bottom (i.e., open face) was positioned toward the location being measured. A timed count (30 seconds) was collected while the detector was slowly moved across an area of approximately of 0.46 sq m (5 sq ft) [0.3 m (1 ft) vertical, 1.5 m (5 ft) horizontal]. The presence of standing water in some excavations prevented the collection of data at certain locations. After the gamma data and soil samples were collected, the soil was returned to the excavation. Appendix E7 contains investigation trench data forms.

Investigation-Derived Waste (IDW) Surveys

Because there was a possibility that materials used during performance of the fieldwork could come into contact with potentially contaminated soil, plastic sheeting and other solid materials were placed, as applicable, in large garbage bags and then deposited in the IDW roll-off. Water pumped out of the excavations and generated during decontamination was placed into polyethylene storage tanks. The manhole from MH06 was also deposited in the roll-off. The exterior of the roll-off was surveyed for contamination and documented as part of the routine radiation surveys.

Routine Radiation Safety Activities

Work performed at the NFSS was in accordance with the RPP. No incidents of personal contamination occurred, and all personnel exposures were below the dosimeter detection limits. All equipment and general survey results were within the NFSS ambient radiation levels and met the requirements for release. Appendix E4 contains copies of the surveys.

Gamma Walkover Results

All gamma walkover measurements were collected using a Ludlum 2221 paired with a Ludlum 44-10 probe with the data converted to μR/h. Gamma radiation levels in the background area ranged from 5.9 μR/h to 20.7 μR/h with a mean of 11.9 μR/h and a standard deviation of 2.2 μR/h. The gamma radiation levels seen on site ranged from 4.8 μR/h to 89.5 μR/h. A summary of the GWS statistics by exposure unit is included as Table 2.

Locations with unexpected elevated radiation levels were labeled as SP, and under the direction of the USACE NFSS representative, an additional 13 borings were advanced to characterize those areas. The results of the field GWS surveys were reviewed with the USACE NFSS representative and sample locations were adjusted or added in the field. Five GWS (GWS-1, 10, 16, 17 and 25) locations identified based on the GWS performed during the RI were not sampled because they were in concrete, asphalt, or rock. Appendix E5-1 provides Surfer® count per minute posting plots of the GWS data. Summary statistics were generated for each area surveyed and are included in Appendix E5-2. Appendix E5-3 includes GWS field sheets.

Soil Core Logging Results

Appendix E6 provides tables that detail radiological screening results for each of the 478 soil boring locations.

Investigative Excavation Results

Gamma radiation levels from most of the excavated soils ranged from 11 µR/h to 16 µR/h with an average of 13 µR/h. Elevated readings of 24 µR/h and 34 µR/h were seen during the excavation activities at MH-06 but through further screening, it appeared to be small, less than 0.09 m^2 (1 ft^2), areas without a specifically identifiable source. Table 3 provides a summary of the minimum and maximum scan ranges, in counts per minute (cpm), for the investigative excavations.

Appendix E7 includes figures of each investigation excavation. Generally, the shielded measurements showed normal variations in the radiation count rates, however elevated radiation measurements were recorded along the north wall in IE9, which had a maximum reading of 8,126 cpm; the next highest maximum was 5,014 cpm measured in IE MH06.

After the excavation areas were restored a follow-up GWS survey was conducted with the results summarized below:

Summary of Pre- and Post-Excavation GWS Survey Data

GWS	Number of Points	Minimum (cpm)	Maximum (cpm)	Mean (cpm)	Median (cpm)	Standard Deviation (cpm)
Pre excavation	2106	4347	12449	8915	9201	1536
Post excavation	1364	5066	14092	9644	10014	1675

IDW Results

Radiation levels and smear samples from IDW were within the ambient radiation levels seen on the NFSS. Gamma radiation levels taken from the outside of the roll-off ranged from 4 µR/h to 6 µR/h (Appendix E4).

2.3 Drilling

A total of 478 soil borings were completed during the delineation investigation (see Figures 3 through 10 and Table 4). Russo Development, Inc. (Russo) provided drilling services for the delineation investigation. Drilling was performed during the period of November 5 through December 20, 2013, and June 17 through July 1, 2014. In addition to supervising drilling activities, the URS Site Supervisor inspected the soils for evidence of contamination, screened the soils for volatile organic vapors using a photoionization detector (PID), documented investigation activities, and prepared samples for shipment to the laboratory. A Radiation Technician was present during all drilling activities. The Radiation Technician measured radiation readings on the soil cores and assisted the Site Supervisor in preparing samples for shipment to the laboratory.

Borehole Drilling

Drilling was performed using an AMS direct-push drill rig. Soil sampling was accomplished using a 7.6-cm (3-in) diameter by 1.2-m (4-ft) long Macro core sampler with dedicated, per sample, acetate liners. For the borings where the target depth was 0.91 m (3 ft), the borings were advanced the full length of the Macro core sampler (i.e., to a 1.2-m (4-ft) depth). The borings were advanced this additional depth to allow for scanning below the 0.9 m (3 ft) target depth, should elevated readings be observed at the target depth.

Some borings were advanced deeper, to a maximum depth of 2.1 m (7 ft), based on elevated radiation readings or at the request of USACE. For those deeper borings, the boring was advanced to the target depth in the same borehole using a new acetate liner when sampling below the 1.2-m (4-ft) depth. Upon completion, each borehole was backfilled to grade with granular bentonite.

Decontamination

All down-hole equipment was decontaminated at the drill site by initially removing all loose soil followed by an Alconox and water wash and by a potable water rinse. Decontamination fluids were transferred from the drill sites and placed in polyethylene tanks. Miscellaneous solids, such as plastic sheeting, acetate liners, and personnel protective equipment (PPE), were placed in trash bags and subsequently into the on-site roll-off.

URS performed radiological scans of the drill rig and drilling equipment when the equipment first arrived on site, between each drilling location, and at the end of the field investigation (release survey), prior to the equipment leaving the NFSS. All radiological scans showed no indication of contamination.

Photograph 4 - Direct-push drill rig.

Soil Core Screening

Upon recovery, the acetate liner containing the soil core was sliced open lengthwise and the soil core was then divided into the pre-determined sample intervals. The soils were then scanned with the Ludlum Model 44-9 pancake detector (for alpha, beta, and gamma radiation), Ludlum Model 43-93 detector (for alpha and beta radiation), and MiniRae PID for volatile organic vapors.

Sample Selection

The target soil boring depth was 0.9 m (3 ft), unless radiation readings or USACE required deeper sampling. The soil sample selection depths were predetermined in accordance with the work plans. Three soil samples were to be collected from each boring, with each soil sample representing the following intervals:

- 0- to 15-cm (0- to 0.5-ft) below grade,
- 15- to 61-cm (0.5- to 2-ft) below grade, and
- 61- to 91-cm (2- to 3-ft) below grade.

If elevated radiation readings were observed, or as directed by the USACE NFSS representative, the soil boring was advanced to a maximum depth of 2.1 m (7 ft).

Photograph 5 - Screening soil core with PID (left) and radiation meter (right).

Samples were placed in laboratory-provided containers. Field duplicates, and matrix spike/matrix spike duplicate (MS/MSD) samples (for PAH analyses), were collected at frequencies of 10% and 5%, respectively.

The samples were analyzed by TestAmerica Laboratories, Inc. (TestAmerica) for Ra-226, Th-230, U-238, and/or PAHs following the analytical methods identified in Table 5. The TestAmerica Amherst, New York, facility does not perform radiological analyses. However, to facilitate sample tracking and shipment, a TestAmerica courier picked up the samples from the NFSS and transported them to the TestAmerica facility in Amherst, New York. Subsequently, TestAmerica shipped the samples to their facility in Earth City, Missouri. A USACE representative oversaw sample handling, preservation, and chain-of-custody procedures.

A boring log was prepared for each boring. Appendix F provides copies of the logs. Appendix B contains field notes recorded by the Site Supervisor.

2.4 Excavation Activities

Investigative Excavations (IEs) were advanced to remove manhole MH06, evaluate the presence and condition of the sanitary sewer in EU10 and EU11, and to enable the collection of subsurface soil and groundwater samples. Excavation activities were performed between November 19, and December 5, 2013. Six locations were excavated: IETES01, IEMH06, IE09, IE10, IE11, and IE12 (See Figure 11). The excavations were located along the alignment of the sanitary sewer extending from South 31 Ditch on the south to a site service road on the north.

Russo provided excavation services. Equipment used included a Komatsu 200 LC tracked excavator, support truck, flatbed trailer, and front-end loader along with miscellaneous tools and supplies. Russo provided a two-man crew, one of whom functioned as a competent person to inspect and confirm the safety aspects of the excavation.

An aluminum scaffolding stage with a guardrail was placed across the open excavations, as needed, to allow personnel to safely scan/inspect the excavation from grade.

Excavated soils were stockpiled on plastic sheeting next to each excavation, laid out in the order of removal. The excavated soils were routinely scanned for radiation using a sodium iodide (NaI) detector. At the completion of excavation activities, the soils were placed back into the excavations in the reverse order in which they were removed. The soils were placed in approximately 0.3- to 0.6-m (1- to 2-ft) lifts and compacted with the excavator bucket. The corners of each excavation were then staked for subsequent surveying. A final gamma radiation walkover survey was conducted to document the final radiological condition of each area.

The URS Geologist supervising the excavation activities recorded field activities and observations in a bound field logbook (a copy is provided in Appendix G). A log was prepared for each excavation. Information in the logs includes location and survey information, field observations, soil descriptions, radiological survey data, sample collection information, plan and cross-sectional sketches, and excavation photographs. Appendix H contains copies of the excavation logs.

The dimensions of the excavations were to be of sufficient size as to allow the inspection of each side and bottom of the sanitary sewer. However, the final excavation dimensions were adjusted in the field, as needed, to avoid damage to adjacent monitoring wells and active subsurface utilities.

Excavation Sampling

Radiological measurements were collected from the sidewalls and bottom of the trenches using a calibrated NaI detector Ludlum Model 44-10 with a Model 4260-076 shield. The detector was positioned to ensure the bottom open face was positioned toward the location being measured. A timed count (30 seconds) was collected while the detector was slowly moved across an area of approximately of 0.46 sq m (5 sq ft) [0.3 m (1ft) vertical, 1.5m (5 ft) horizontal].

Four soil samples were collected from each excavation with the exception of excavation IETES01 and IE12. One sample was collected from the top 15 cm (6 in), one from the bottom of the excavation, and two samples from the sidewalls of the excavation. The two sidewall samples were collected from the locations with the highest radiological readings – one representing each sidewall. The soil samples were collected using a hand auger or trowel.

In accordance with instructions provided by USACE in the field, no samples were collected from excavation IETES01. Because excavation IE12 was extended twice as long as its' originally intended length, the number of soil samples collected was doubled. Two soil samples were collected from the top 15 cm (6 in), two samples from the bottom of the excavation, and four samples from the sidewalls of the excavation. The four sidewall samples were collected from the locations with the highest radiological readings – two from each sidewall.

Where groundwater was encountered, one filtered groundwater sample was collected from each excavation. A total of four groundwater samples were collected: one each from the following excavations: IE09, IE10, IE11, and IE12. A peristaltic pump and new silicone and polyethylene tubing was used to collect each groundwater sample. The groundwater samples were filtered with new 0.45 micron filters and placed into clean laboratory-provided containers. The soil and groundwater samples were analyzed in accordance with the analytical schedule presented in Table 6.

Standard turnaround time (not to exceed 21 days) was requested for all samples collected from the field investigative activities. URS' subcontract laboratory provided the appropriate sample containers and coolers for the samples. URS prepared the coolers for pickup by a TestAmerica courier under the supervision of the Site Radiation Safety Officer (SRSO). The laboratory then shipped the samples to the TestAmerica – Earth City facility.

Excavation Observations

Soils encountered at the IEs generally consisted of fill/reworked soils composed of a thin layer of surficial brown loamy clay material underlain by brown to reddish brown silty clay with trace to some angular to subangular fine to coarse sand, and gravel (Brown Clay Unit). The deepest excavations encountered a brownish to pinkish gray silty clay (Gray Clay Unit). Observations specific to each investigative excavation are provided in the text below.

Excavation IETES01

Excavation IETES01 was located on the south side of South 31 Ditch. The excavation was performed after excavations IEMH06 and IE09 were completed and was in the same alignment of the sanitary sewer as observed in those two excavations. The dimension of IETES01 was approximately 1.8 m (6 ft) wide, by 2.7 m (9 ft) long, by 3.9 m (13 ft) deep, starting at the top of the bank of South 31 Ditch and advanced southward.

Fill, consisting of crushed stone, sand and silt, was encountered from ground surface to a depth of approximately 0.5 m (1.5 ft). The fill was underlain by reworked brown silty clay with trace fine to coarse gravel and cobbles (Brown Clay Unit) to an approximate depth of 3.7 m (12 ft). This unit was underlain by gray clay of the Gray Clay Unit. No groundwater was encountered in this excavation.

Excavation IEMH06 found that the sanitary sewer was previously cut and plugged on the north side of South 31 Ditch. Excavation IETES01 was performed to determine the absence/presence of the sanitary sewer on the south side of South 31 Ditch. The sewer was not encountered at this location, suggesting that the sewer was cut off at an undetermined location farther to the south.

Excavation IEMH06 and Manhole MH06 Removal

Sanitary sewer line manhole MH06 was located just north of South 31 Ditch. USACE informed URS that the manhole had been previously plugged with concrete, as evidenced by the presence of poured concrete on the ladder rungs in the manhole. Water was present in the manhole at a depth of approximately 1.8 m (6 ft) below grade.

Before beginning the excavation, Russo used sand bags to plug the culverts leading into and out of the section of South 31 Ditch directly south of MH06. A trash pump was then set up to lower the water level in this section of South 31 Ditch and, if needed, divert the flow from the upstream section to the downstream section.

Photograph 6 - View North across South 31 Ditch. MH06 exposed in excavation IEMH06 in background. Future Location of IETES01 delineated by white paint stripes in left foreground.

Excavation IEMH06 began on the northern bank of South 31 Ditch and proceeded in a northeasterly direction to approximately 1.5 m (5 ft) north of the manhole for a total excavation length of approximately 8.5 m (28 ft).

Fill or reworked soils consisting of silty clay with trace fine gravel was encountered from ground surface to a depth of approximately 1.4 m (4 ft) below grade. The fill was underlain by reworked brown silty clay with trace gravel to a depth of approximately 2.9 m (9.5 ft). The silty clay became more red-brown from 2.9 m (9.5 ft) to the bottom of the excavation at 4 m (13 ft).

The excavation revealed that the concrete-encased sanitary sewer had been previously cut and plugged with concrete at a point approximately 4.3 m (14 ft) south of MH06. The elevation of the top of the concrete-encased sewer was above the bottom of South 31 Ditch. Consequently, the absence of the sewer in South 31 Ditch indicated that the section that crossed the ditch had been removed.

The portion of the concrete-encased sewer exposed in IEMH06 was found to be structurally sound with no cracks or penetrations. The concrete-encased sanitary sewer was encountered at an approximate depth of 2.7 m (9 ft) below grade. The concrete encasement measured approximately 1.2 m (4 ft) wide by 0.9 m

(3 ft) deep. The top and sides of the concrete-encased sewer were smooth and squared off, while the bottom was somewhat rough and appeared to be underlain by a thin layer of gravel. Groundwater seeped into the excavation from this gravel layer at a flow rate of less that approximately 1.9 liter (l) (0.5 gallon (gal)) per minute.

Manhole MH06 was approximately 1.5 m (5 ft) in diameter at the base. The manhole was of brick construction with a cement skin several centimeters thick. The manhole was structurally intact. A 20-cm (8-in) opening for a lateral pipe was present on the west side of the manhole at a location approximately 0.9 m (3 ft) above the base. When exposed during the excavation, the opening was found to have been loosely blocked with a couple of bricks; there was no lateral pipe connected to the opening, nor was there evidence of a pipe observed in the excavation.

As the excavation exposed the base of manhole MH06, a breach occurred on the northern side where the manhole connected to the sewer. Water began releasing from the breach into the excavation. Excavated soil was placed on the breached area as a temporary plug and a temporary berm was constructed on the northern bank of South 31 Ditch to contain the water. It was noted that the water level inside the manhole did not fluctuate when the breach occurred.

Water continued to flow into the excavation from the breach until the water reached a static level at approximately 1.2 m (4 ft) below grade. At this point, the manhole was extracted from the excavation. The manhole was removed in one piece and placed in the roll-off container at the IDW temporary storage area.

Note water pouring out of lateral opening

Photograph 7 - View northeast of manhole MH06. Note lateral opening on left side and concrete plug in sewer at base.

Inspection of the manhole indicated that the concrete plug, which extended several tens of centimeters into the sewer, was effective as water remained present in the manhole at a level above the lateral opening as the manhole was being removed.

At this point, further excavation of IEMH06 was temporarily suspended and investigative excavation IE09 was started to expose the sewer at that location. This was done, in part, to enable access to the sewer so that it could be cored and plugged to prevent further flow of sewer water into the IEMH06

excavation. After two attempts, the sewer line was successfully plugged with concrete and the IEMH06 excavation was dewatered and backfilled with concrete. In accordance with the work plan, the IEMH06 excavation was backfilled with concrete to a level approximately 0.6 m (2 ft) above the top of the sewer. The excavation was left open overnight and the absence of water the following day confirmed that the sewer had been effectively plugged. The remainder of the excavation was then backfilled with soil to existing grade.

Plugging Manhole MH09

Manhole MH06 was located in the up-gradient portion of the LOOW sanitary sewer system. Sewage in the system would have flowed from the south to the north where the former LOOW wastewater treatment plant was located, a distance of over 900 m (2,950 ft) north of the MH06 area. Because of its up-gradient location, a pressure head was not expected in this portion of the sewer. To further isolate flow in the sanitary sewer in the EU10 and EU11 area, manhole MH09 (see Figure 3), the next manhole down-gradient of MH06, was plugged with concrete during the field investigation.

Excavation IE09

Excavation IE09 was completed approximately 4 m (13 ft) north of excavation IEMH06. The purpose of excavation IE09 was to expose and inspect the sanitary sewer, to collect soil and groundwater samples, and to cut a hole into the sewer and plug it with concrete in order to stop the flow of water into the IEMH06 excavation.

Excavation IE09 was approximately 7.6 m (25 ft) long by 6.1 m (20 ft) wide by 3.2 m (10.5 ft) deep. Fill, consisting of silt and clay with trace gravel was present from ground surface to a depth of approximately 0.5 m (1.5 ft) below grade. The fill was underlain by reworked brown silty clay with trace fine to coarse gravel and cobbles (Brown Clay Unit) to the bottom of the excavation at 3.2 m (10.5 ft) below grade.

The top of the concrete-encased sewer was found at a depth of approximately 2 m (6.5 ft) below grade. The sewer was observed to be structurally sound with no cracks or penetrations. A groundwater seep, flowing at less than 1.9 l (0.5 gal) per minute, was emanating from a sand layer on top of the sewer at the southern end of the excavation.

A 15-cm (6-in) diameter core drill was advanced in the approximate center of the sewer. Once the sewer was penetrated, a 15-cm (6-in) diameter polyvinyl chloride (PVC) pipe with a rubber gasket was inserted into the core hole to allow the water in the sewer to rise to a static head and enable the placement of concrete into the sewer. After an initial failed attempt, concrete was successfully placed into the sewer and stopped the flow of water to the IEMH06 excavation. Additional concrete was added to the excavation to a level approximately 0.6 m (2 ft) above the top of the sewer. The remainder of the sewer was backfilled with the excavated soil in the reverse order of which it was removed.

Photograph 8 - Coring concrete-encased sewer in IE-09. Note PVC standpipe in foreground and groundwater seep in background.

Excavation IE10

Excavation IE10 was located approximately 1.5 m (5 ft) north of excavation IE09. Former excavation IE08 was located between IE09 and IE10. The purpose of excavation IE10 was to expose and inspect the sanitary sewer and to collect soil and groundwater samples.

The excavation was approximately 4.9 m (16 ft) long by 4 m (13 ft) wide by 3.2 m (10.5 ft) deep. Fill, consisting of silt and clay with angular gravel, was present from ground surface to a depth of approximately 0.5 m (1.5 ft) below grade. The fill was underlain by red-brown silty clay with trace fine to coarse gravel and cobbles (Brown Clay Unit) to the bottom of the excavation at 3.2 m (10.5 ft) below grade.

The top of the concrete-encased sewer was found at a depth of approximately 2.1 m (7 ft) below grade. The concrete encasement measured approximately 0.9 m (3 ft) wide by 0.9 m (3 ft) deep. The sewer was structurally sound with no cracks or penetrations. A groundwater seep, flowing at less than 1.9 l (0.5 gal) per minute, was emanating from a thin sandy layer on top of the sewer.

Photograph 9 - Concrete-encased sewer in IE-10.

Excavation IE11

Excavation IE11 was located approximately 6.1 m (20 ft) north of excavation IE10. The area between the two excavations contained a buried utility line. The purpose of excavation IE11 was to expose and inspect the sanitary sewer and to collect soil and groundwater samples.

The excavation was approximately 4.6 m (15 ft) long by 3 m (10 ft) wide by 3.2 m (10.5 ft) deep. Fill, consisting of silt and clay with trace gravel, was present from ground surface to a depth of approximately 0.8 m (2.5 ft) below grade. The fill was underlain by reworked red-brown silty clay with trace to little fine to coarse gravel and cobbles (Brown Clay Unit) to the bottom of the excavation at 3.2 m (10.5 ft) below grade.

The top of the concrete-encased sewer was found at a depth of approximately 2 m (6.5 ft) below grade. The concrete encasement measured approximately 0.9 m (3 ft) wide by 0.9 m (3 ft) deep. The western side of the sewer was not exposed due to the presence of monitoring wells MW954 and MW953.

The sewer was observed to be structurally sound with no cracks or penetrations. A groundwater seep, flowing at less than 1.9 l (0.5 gal) per minute, was emanating from the excavation wall at the top of the sewer. It was noted that the sewer alignment diverged a few degrees to the north.

Note: sewer alignment was found to be redirected a few degrees to the north.

Photograph 10 - Excavation IE11

Excavation IE12

Excavation IE12 was located just south of a site service road. The excavation was separated from the IE11 excavation by approximately 8 m (26 ft). The area between IE11 and IE12 was the former IE07 excavation. The purpose of excavation IE12 was to expose and inspect the sanitary sewer and to collect soil and groundwater samples.

The excavation was approximately 7.6 m (25 ft) long by 4.9 m (16 ft) wide by 3.5 m (11.5 ft) deep. Fill, consisting of silt and clay with trace gravel, was present from ground surface to a depth of approximately 0.8 m (2.5 ft) below grade. The fill was underlain by reworked red-brown silty clay with trace fine to coarse gravel and cobbles (Brown Clay Unit) to a depth of approximately 3.2 m (10.5 ft) below grade.

This unit was underlain by gray clay (Gray Clay Unit). The walls of the excavation frequently sloughed along silt-filled desiccation cracks.

The top of the concrete-encased sewer was found at a depth of approximately 2.3 m (7.5 ft) below grade. The concrete encasement measured approximately 0.9 m (3 ft) wide by 0.9 m (3 ft) deep.

The sewer was structurally sound with no cracks or penetrations. A groundwater seep, flowing at less than 1.9 l (0.5 gal) per minute, was emanating from along the top of the sewer.

Photograph 11 – Excavation IE12. Note sidewall sloughing along silt-filled desiccation cracks.

2.5 Investigation-Derived Waste Management

Waste Streams

IDW includes waste solids and liquids generated during field investigation activities (e.g., drilling, excavation, decontamination, and sampling). URS coordinated the characterization, transportation, and disposal of all IDW. The following waste streams were generated during the investigation:

1. Decontamination liquids.
2. Excavation dewatering water.
3. PPE, plastic, and other disposable materials.
4. Manhole MH06.

Liquids from decontamination and excavation dewatering were placed in polyethylene tanks and a 21,000-gallon Baker tank. Materials such as PPE, plastic sheeting, disposable materials, and non-indigenous waste were placed in trash bags at the point of generation. The bags were then transferred to the IDW storage area and placed into the roll-off.

URS also coordinated the disposal of a scissor lift previously used at the site.

Waste Characterization

The solid IDW waste stream generated during the delineation investigation consisted of manhole MH06 and bagged PPE, plastic, etc. Representative samples of these materials were analyzed for parameters based on the requirements of the US Ecology, Inc. (US Ecology), Grandview, Idaho facility (see Table 7). URS retained Waste Technology Services, Inc. (WTS) of Lewiston, New York, to provide transportation and disposal services for the solid IDW. WTS is a certified waste shipping broker. Services provided by WTS included the preparation of waste profiles and coordination of transportation and disposal of the solid IDW.

The USACE surveyed the scissor lift for radiation levels and URS collected a sample of the lift's hydraulic fluid for PCB analysis and paint chip samples for lead analysis. The results were provided to WTS and included in the waste profile.

Because the groundwater in well OW11B has historically elevated uranium concentrations, the potential existed that the liquid IDW generated during excavation dewatering activities would require treatment at an appropriate radiation waste treatment facility. Therefore, the liquid IDW analytical parameter list was based on the requirements of the PermaFix Environmental Services facility in Knoxville, Tennessee. Table 7 presents the complete list of analytical parameters.

Waste Transportation and Disposal

Solid IDW

The solid IDW was disposed of at the US Ecology, Inc. facility in Grandview, Idaho. Appendix I contains copies of the waste profiles and waste manifests.

Liquid IDW

The analytical results for the liquid IDW was provided to the City of Lockport Wastewater Treatment Plant (LWTP) for their evaluation. LWTP issued URS a letter stating that they would accept the liquid IDW. URS retained Western New York Septic of Wilson, New York, to transport the liquid IDW from the NFSS to the LWTP. Appendix I contains copies of the LWTP acceptance letter and waste manifests.

2.6 Land Surveying

USACE surveyed the soil borings and the staked corners of each investigative excavation for location and ground elevation. The survey coordinates were geo-referenced to North American Datum (NAD) 1983 New York State Plane Coordinates and National Geodetic Vertical Datum (NGVD) 88 Datum. Appendix J contains a copy of the survey data.

3.0 ANALYTICAL RESULTS

3.1 Analytical Procedures

The analytical procedures performed on soil samples from the delineation borings are presented in Table 5. Table 6 presents the analytical procedures performed on the investigative excavation soils and groundwater. The samples were analyzed for radionuclides and PAHs by the TestAmerica Earth City facility and samples for total uranium were analyzed by the TestAmerica Richland, Washington facility. A copy of the laboratory analytical results is provided in Appendix K.

3.2 Data Validation/Qualification

In accordance with the QAPP, full deliverable data packages (Contract Laboratory Program (CLP)-like or equivalent) and Environmental Resources Program Information Management System (ERPIMS) electronic data deliverables were sent to USACE for validation. The USACE performed data validation (EPA Level IV or 100%) in accordance with the guidelines presented in the following documents:

- *USACE Kansas City and St. Louis District Radionuclide Data Quality Evaluation Guidance for Alpha and Gamma Spectroscopy,* 2002;
- U.S. Nuclear Regulatory Commission (NUREG), *Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP), NUREG-1576,* July 2004;
- USEPA, *National Functional Guidelines for Organic Data Review*, EPA 540-R-08-01, June 2008; and
- USEPA, *National Functional Guidelines for Inorganic Data Review*, EPA 540-R-10-011, January 2010.

The quality control (QC) indicator parameters reviewed during the data validation included holding times, field and lab blanks, laboratory control sample/MS/MSD accuracy and precision, field duplicate precision, surrogate/tracer accuracy, and raw data. The results of these indicator parameters were compared to their respective QC limits, whereupon, sample results associated with outliers were qualified accordingly. The qualifiers applied to the data during the validation included “J” (estimated value), and “U” (non-detect), and “R” (rejected).

3.3 Presentation of Analytical Data

Tables 8 through 21 present the delineation soil boring analytical results for radionuclides by EU and Tables 22 through 27 present the PAH analytical results by EU. Tables 28 through 36 present the soil and groundwater analytical results for the Investigative Excavation samples.

The soil analytical results are compared to the following criteria:

- Radionuclide results are compared to the DCGLs for Ra-226, Th-230, and U-238, and
- PAH results are compared to Industrial Use soil cleanup criteria presented in 6 NYCRR Part 375 and CP-51. Note that there are too many Industrial Use soil cleanup criteria values to present within the text of this report. The values are provided along with the analytical results in Tables 22 through 27.

The excavation soil analytical results for U-234, U-235, Th-228, and total U are presented in Appendix K. As explained in Section 1.6, DCGLs are calculated for site ROCs, which have been identified as Ra-226, Th-230, and U-238. The excavation water analytical results are compared to the following criteria:

- For organics and inorganics: 6 NYCRR Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations, February 16, 2008, Class GA. For the radionuclides, the Part 703 criterion for Ra-226 is 3 picocuries per liter (pCi/L); there are no Part 703 criteria for the other ROCs.

- For radionuclides: USEPA National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009.
    - Ra-226/228 (5 pCi/L),Total Uranium (30 micrograms per liter (µg/L)),
    - Thorium isotopes (15 pCi/L): (Note: USEPA has established a Maximum Contaminant Level (MCL) of 15 pCi/L for alpha particle activity, excluding radon and uranium, in drinking water; thorium would be covered under this MCL), and
    - Uranium isotopes (30 µg/L x 0.9 pCi/µg = 27 pCi/L).

3.4 Delineation Borehole Soil Analytical Results

A total of 1,569 samples were analyzed for radionuclides and 110 samples were analyzed for PAHs. The majority of delineation borehole soil samples were collected from the following intervals:

- 0 to 15 cm (0 to 0.5ft),
- 15 to 61cm (0.5 to 2 ft), and
- 61 to 91cm (2 to 3ft).

Select locations included samples down to the 2.1-m (7-ft) depth.

Tables 8 through 21 present the radionuclide analytical results per EU. A summary of the number of borings completed and the number of radionuclide samples per EU is presented below. The table below identifies the number of surface soil (0 to 15 cm [0 to 0.5 ft]) samples and subsurface soil (>15 cm [0.5 ft]) samples that exceeded the respective radionuclide DCGLs.

Summary of Delineation Soil Boring Samples Analyzed for Radionuclides

Radionuclides									
Exposure Unit	Areas*	Borings	Samples**	Exceedences					
				Surface Soil			Subsurface Soils		
				Ra-226	Th-230	U-238	Ra-226	Th-230	U-238
EU1	6	28	93	2		1			1
EU2	14	39	122	3					
EU3	9	33	107	3			1		
EU4	2	5	12						
EU5	2	10	34	1			2		
EU6	13	40	138	7			3		
EU7	12	59	224	7			20	2	
EU8	30	106	340	16		1	1		2
EU9	1	3	10						
EU10	1	4	13						
EU11	17	92***	294	9	1				
EU12	8	31	88	8					
EU13	4	13	41						
EU14	3	15	53	3			1		
Total:	122	478	1,569	59	1	2	28	2	3

Notes:
* An investigation "area" is where additional delineation was warranted based on radiation survey data or analytical results for a previous soil sample.
** Number of samples includes parent and field duplicates.
*** 35 of the 92 borings were set in a grid pattern in the MH06 area.

The analytical results are briefly discussed below.

Ra-226

A total of 59 surface soil samples and 28 subsurface soils had radionuclide concentrations above the DCGLs. In the EU7 area, 20 samples exceeded the subsurface DCGL criteria but did not exceed the surface DCGL criterion (i.e., Ra-226 impacts were present at depth).

Th-230

Only one surface soil sample, from EU11, contained Th-230 at a level above the DCGL. Two subsurface soil samples, both from EU7, contained Th-230 at levels above the DCGL.

U-238

Only two borings, SP-13 in EU1 and GWS-26 in EU8, contained U-238 at levels exceeding the DCGLs for both the surface and subsurface soils. In both borings, the DCGLs were not exceeded in the bottom samples (i.e., 61 to 91cm [2 to 3 ft] sample).

SOR Calculations

Since multiple radionuclides are present at the site, SOR calculations are performed to identify contaminated soil AOC. As explained in Section 1.6, an average SOR score is calculated for the set of data located within each 100 m^2 area, pursuant to 10 CFR 40 Appendix A Criterion 6(6). If the average SOR score within an area of 100 m^2 was greater than 1, a contaminated soil AOC was identified and BAASS software was used to define the aerial extent of the contamination by estimating the distance between the contamination and the nearest "clean" data point (i.e., a sample location with an SOR score of less than 1). Table 21A presents the results of the SOR calculations for each individual data point.

Tables 22 through 27 present the PAH analytical results per EU. A summary of the number of borings completed and the number PAH samples per EU is presented below. The table below identifies the number of surface soil (0 to 15 cm [0 to 0.5 ft]) samples and subsurface soil (>15 cm [0.5 ft]) samples that contained at least one PAH detected at a concentration above the Part 375 Industrial Use criteria.

Summary of Delineation Soil Boring Samples Analyzed for PAHs

PAHs					
Exposure Unit	Areas*	Borings	Samples**	Exceedences	
				Surface Soil (# of exceedences)	Subsurface Soils (# of exceedences)
EU2	4	7	24	1 (1)	
EU3	1	1	3		
EU4	1	1	3		
EU8	8	16	52	7 (11)	4 (12)
EU11	1	5	16	4 (13)	1 (1)
EU12	1	4	12		
Total:	16	34	110	12 (25)	5 (13)

Notes:
* An investigation "area" is where additional delineation was warranted based on analytical results for a previous soil sample.
** Number of samples includes parent and field duplicates.

The analytical results are briefly discussed below.

PAHs

A total of 110 soil samples from six exposure units were analyzed for PAHs. Review of the results indicates that 12 surface soil samples contained PAHs at levels exceeding the Industrial Use criteria and five subsurface soil samples contained PAHs at levels exceeding the Industrial Use criteria. The PAH exceedences were all limited to the 0 to 15 cm (0 to 0.5 ft) and/or 15 to 61 cm (0.5 to 2 ft) sample intervals; there were no exceedences below 61 cm (2 ft). The highest concentrations of PAHs were detected in borings 3C007 and 3D006 in EU8, and 2A003 in EU11.

3.5 Investigative Excavation Analytical Results

3.5.1 Investigative Excavation Soil Analytical Results

The soil samples collected from the five Investigative Excavations were analyzed for radionuclides. Filtered groundwater samples were analyzed for radionuclides (Ra-226, uranium isotopes, and thorium isotopes) and total uranium. Unfiltered groundwater samples were analyzed for anions, alkalinity, and total dissolved solids. The IE soil and groundwater analytical results are presented in Figures 12 and 13 and Tables 28 through 36. The figure and tables identify those parameters that were detected at concentrations above their respective criterion. The table below identifies the number of surface soil (0 to 15 cm [0 to 0.5 ft]) samples and subsurface soil (>15 cm [0.5 ft]) samples that exceeded the respective radionuclide DCGLs.

Summary of Investigative Excavation Soil Samples Analyzed for Radionuclides

Radionuclides in Soil									
IE Area	Samples*	Exceedences							
		Surface Soil				Subsurface Soils			
		Ra-226	Th-230	U-238	Total U	Ra-226	Th-230	U-238	Total U
IEMH06	7								
IE9	4								
IE10	4			1				1	
IE11	4							1	
IE12	8							1	
Total:	27	0	0	1	0	0	0	3	0

Notes:
* Number of samples includes parent and field duplicates.

Review of the soil analytical data indicates the following:

IEMH06

Five soil samples and two duplicate soil samples were collected from IEMH06. None of the soil samples contained radionuclides or total uranium at concentrations above the respective criteria (see Table 28).

IE9

Four soil samples were collected from IE9. None of the radionuclides were detected at concentrations exceeding their respective criteria (see Table 29).

IE10

Four soil samples were collected from IE10. U-234 was detected in the surface soil sample at 15.2 pCi/g and in the west wall soil sample at 15 pCi/g, compared to the criterion of 13 pCi/g (see Table 31). U-238 was detected at 14.9 pCi/g in the surface sample and at 15.1 pCi/g in the west wall sample compared to the criterion of 14 pCi/g.

IE11

Four soil samples were collected from IE11. U-234 and U-238 were present at concentrations above the respective criterion in the sample from the north wall. U-234 was detected at 16.7 pCi/g, compared to the criterion of 13 pCi/g and U-238 was detected at 17 pCi/g, compared to the criterion of 14 pCi/g (see Table 33).

IE12

Eight soil samples were collected from IE12. Only the sample from the southeast corner of the south wall contained radionuclides at concentrations above the criteria (see Table 35). U-234 was detected at 15.1 pCi/g, compared to the criterion of 13 pCi/g and U-238 was detected at 14.6 pCi/g, compared to the criterion of 14 pCi/g.

3.5.2 Investigative Excavation Groundwater Analytical Results

The table below identifies the number of groundwater samples that exceeded the respective radionuclide criteria.

Summary of Investigative Excavation Groundwater Samples Analyzed for Radionuclides and Water Quality Parameters

Radionuclides in Groundwater									
IE Area	Filtered Samples*	Exceedences				Unfiltered Samples*	Exceedences		
		Filtered Radionuclides					Unfiltered Water Quality Parameters		
		Ra-226	Th-230	U-238	Total U		Alkalinity	Anions	TDS
IE9	1			1	1	1			
IE10	2			2	2	2			
IE11	1			1	1	1			
IE12	1			1	1	1		1	
Total:	5	0	0	5	5	5	0	1	0

Notes:
* Number of samples includes parent and field duplicates.

Review of the groundwater analytical data indicates the following:

IEMH06

A groundwater sample was not collected from excavation IEMH06.

IE9

In the filtered groundwater sample, U-234 and U-238 were both present at 77.7 pCi/L, compared the criterion of 27 pCi/L for total uranium. Total uranium was detected at 1,240 µg/L compared to the criterion of 30 µg/L.

IE10

In the filtered groundwater sample and duplicate sample from IE10, U-234, U-238 and total uranium were detected at concentrations above their respective criteria (see Table 32). The primary sample contained U-234 at 379 pCi/L and U-238 at 369 pCi/L, compared to the criterion of 27 pCi/L for total uranium; and total uranium at 1,560 µg/L, compared to the criterion of 30 µg/L. The concentrations of these analytes were slightly lower in the duplicate sample.

IE11

In the filtered groundwater sample from IE11, U-234, U-235/236, U-238, and total uranium were detected at concentrations above their respective criteria (see Table 34). U-234 was detected at 888 pCi/L, U-235/236 at 42.6 pCi/L and U-238 was present at 901 pCi/L, compared to the criterion of 27 pCi/L for total uranium. Total uranium was detected at 2,180 µg/L compared to the criterion of 30 µg/L.

IE12

In the filtered groundwater sample from IE12, U-234, U-235/236, U-238, and total uranium were detected at concentrations above their respective criteria. U-234 was detected at 1,060 pCi/L, U-235/236 at 57.8 pCi/L and U-238 was present at 1,070 pCi/L. The criterion for these analytes is 27 pCi/L. Total uranium was detected at 3,050 µg/L compared to the criterion of 30 µg/L.

In the unfiltered groundwater from IE12, sulfate was detected at 290 milligrams per liter (mg/L) compared to the criterion of 250 mg/L (see Table 36).

3.6 Investigation-Derived Waste Analytical Results

Liquid IDW Analytical Results

Representative samples of the liquid IDW were analyzed for the parameters listed in Table 7. The analytical results are presented in Table 37. The results were provided to the LWTP, which provided URS a letter stating their acceptance of the material. A copy of the LWTP letter is provided in Appendix I.

Solid IDW Analytical Results

Representative samples of solid IDW waste streams were analyzed for the parameters listed in Table 7. The analytical results for the contents of the roll-off are presented in Table 38. Table 39 presents the analytical results for the scissor lift. The results and completed waste profiles were provided to US Ecology. Copies of the waste profiles are provided in Appendix I.

4.0 SUMMARY AND CONCLUSIONS

4.1 Radiation Surveys

Gamma Walkover Surveys

Background gamma radiation levels ranged from 5.9 µR/h to 20.7 µR/h with a mean of 11.9 µR/h and a standard deviation of 2.2 µR/h. The on-site gamma walkover radiation levels ranged from 4.8 µR/h to 89.5 µR/h. The highest gamma radiation level of 89.5 µR/h was recorded at boring GWS-11 located in EU11. The impacts at GWS-11 were delineated through other borings advanced in that area.

Soil Borings

The majority of soil boring locations were selected to delineate areas of previously identified radionuclide impacts. Therefore, it was anticipated that elevated radiation levels would be encountered during the radiation surveys in some of those areas. Locations with unexpected elevated radiation levels were found and an additional 13 borings, identified with the "SP" prefix, were advanced to characterize those locations.

Investigative Excavation Results

Gamma radiation levels from most of the excavated soils ranged from 11 µR/h to 16 µR/h with an average of 13 µR/h. Some slightly elevated readings (i.e., 24 µR/h and 34 µR/h) were recorded but through further screening it was determined that those readings were in areas without a specifically identifiable source.

Generally, the shielded measurements of the excavation sidewalls and bottoms showed normal variations in the radiation count rates, however slightly elevated radiation measurements were observed in IE9 along the north wall.

All equipment and general survey results were within the site ambient radiation levels and met the requirements for equipment/materials release.

4.2 Delineation Soil Borings

A significant amount of soil data has been collected at the NFSS, beginning with the initiation of the remedial investigation in 1999 through the end of this field investigation in 2014. All of this data is captured in the effort to estimate the extent of soil contamination, which is depicted in Figures 14 through 20. The results of this delineation will be used to support the BOP OU FS by reducing the uncertainty of the estimated volume of soil that may require excavation. Details of this field investigation are presented below.

A total of 478 borings were advanced during the investigation with 461 borings advanced to better delineate radionuclide areas of concern and 34 borings to better define PAH areas of concern; some borings were used to delineate both radionuclide and PAH areas of concern. Of the 1,569 samples analyzed for radionuclides, 87 samples contained Ra-226 at concentrations above the DCGLs, three samples contained Th-230 at concentrations above the DCGLs, and five samples contained U-238 at

concentrations above the DCGLs. While many of the radionuclide levels decreased with depth, some locations contained elevated radionuclide concentrations at depth but not at the surface.

A total of 110 soil samples were collected from 34 borings in six exposure units to further delineate PAH impacts. The results show that 12 surface soil samples contained PAHs at levels exceeding the Industrial Use criteria and five subsurface soil samples contained PAHs at levels exceeding the Industrial Use criteria. The highest concentrations of PAHs were detected in borings 3C007 and 3D006 in EU8, and 2A003 in EU11.

Based on the findings of this investigation, sufficient data is now available to reduce the uncertainty of the estimated volume uncertainty of soil requiring excavation.

4.3 Investigative Excavations

Observations and analytical results for the investigative excavations indicate that the interior of the sewer does not appear to be a conduit for contaminant migration. This is evidenced by the fact that the sewer had been previously cut and plugged just upgradient of manhole MH06; the manhole itself appeared to have been effectively plugged; and the sewer was found to be intact with no cracks or penetrations. Minor groundwater flow was found along the exterior of the concrete encasement.

Although some of the groundwater samples contained elevated levels of total uranium and uranium isotopes, a source term was not identified in the excavations.

The groundwater analytical data from the 2013 BOP Operable Unit *Field Investigation Report* and previous investigations and sampling events show that total uranium-impacted groundwater is present in areas where USDOE remedial activities were known to occur. Historical aerial photographs show land scarring in the OW11B area during the time of USDOE remediation activities. Also, video footage taken during IWCS construction show extensive activities, such as equipment decontamination and materials unloading, storage, and loading, occurred in this area. The uranium impacts detected in the groundwater collected from the area between the buried water supply pipes in excavation IE7 and from along the top of the concrete-encased sanitary sewer, as observed in excavation IE8 and during the current investigation, might be associated with those former remediation activities. In addition to advancing five investigative excavations along the sanitary sewer line, 35 delineation soil borings were advanced in the OW11B area. The fact that none of these investigation activities identified a source term in this area indicates that the source term, if previously present, had been removed and the current groundwater contamination is the result of the historical movement of residue material in this area. Although a source term was not identified, the USACE may perform addition investigations in the OW11B vicinity to obtain additional information on the hydraulic conductivity and groundwater flow in this area.

5.0 REFERENCES

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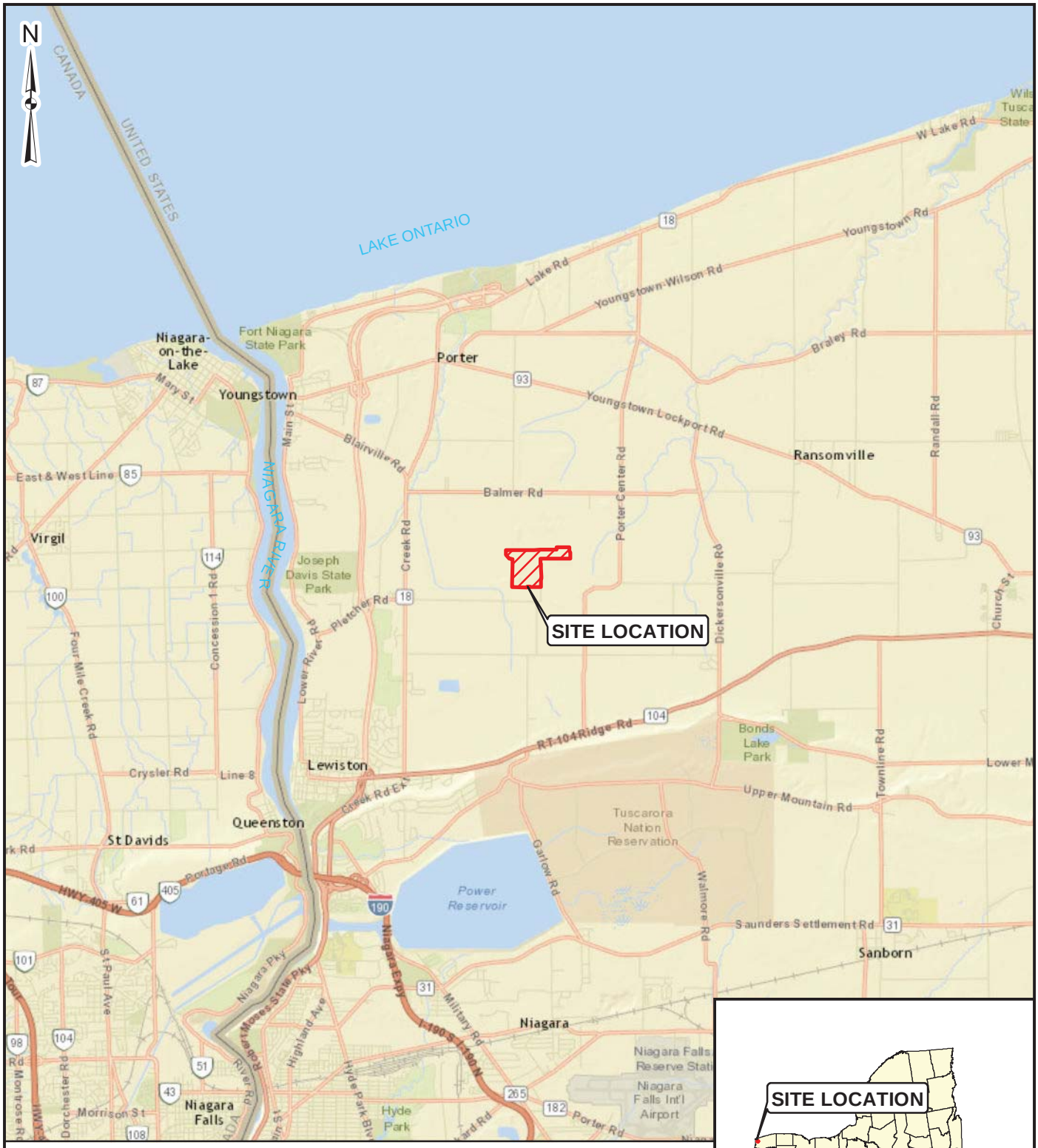

US Army Corps of Engineers
Buffalo District

SITE LOCATION
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 1

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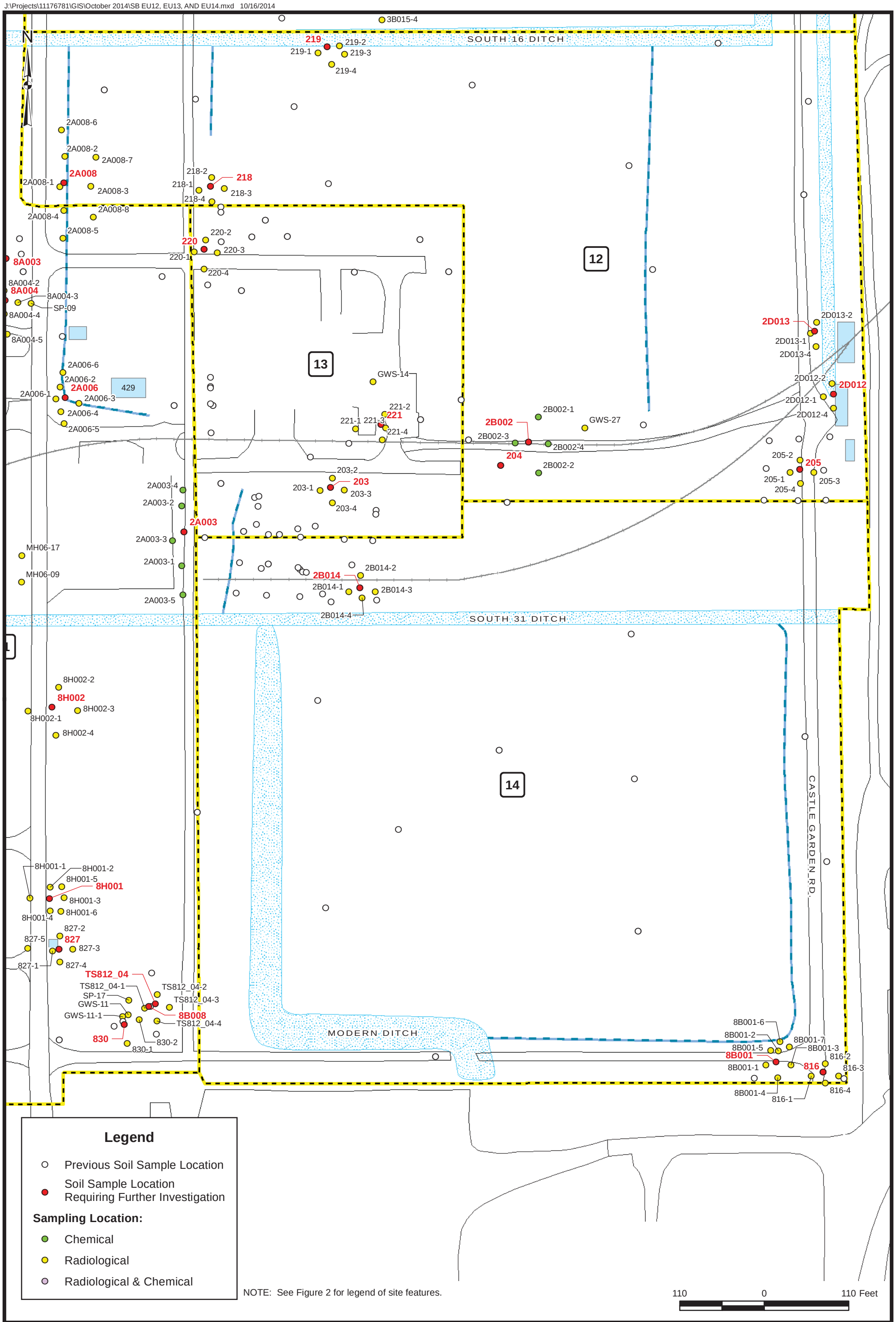
J:\Projects\11176781\GIS\October 2014\SB EU12, EU13, AND EU14.mxd 10/16/2014



Legend

- Previous Soil Sample Location
- Soil Sample Location Requiring Further Investigation

Sampling Location:

- Chemical
- Radiological
- Radiological & Chemical

NOTE: See Figure 2 for legend of site features.

110 0 110 Feet

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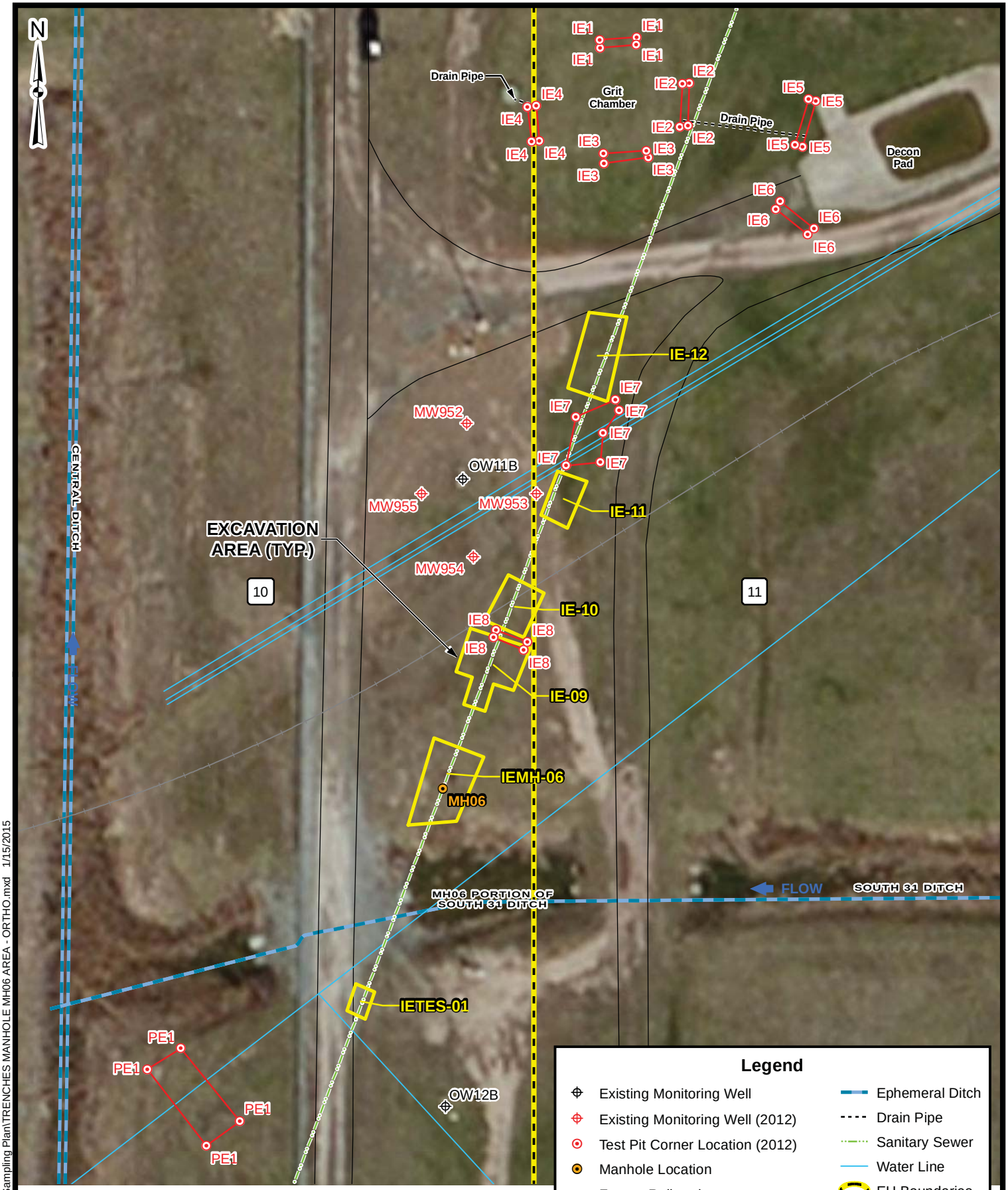
SOIL BORING LOCATIONS IN EU12, EU13, AND EU14
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 10



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Buffalo District

MANHOLE MH06 AREA
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 11

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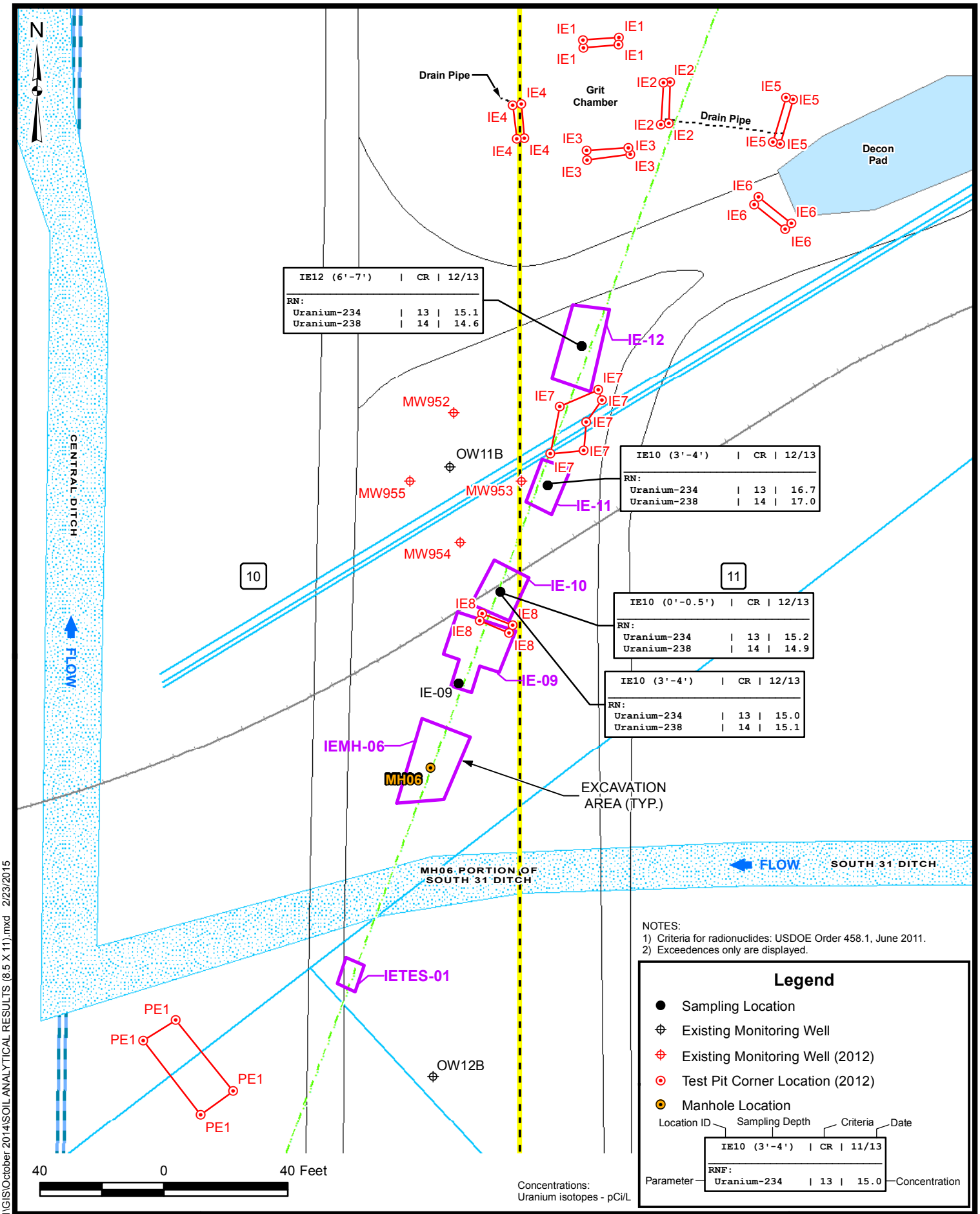

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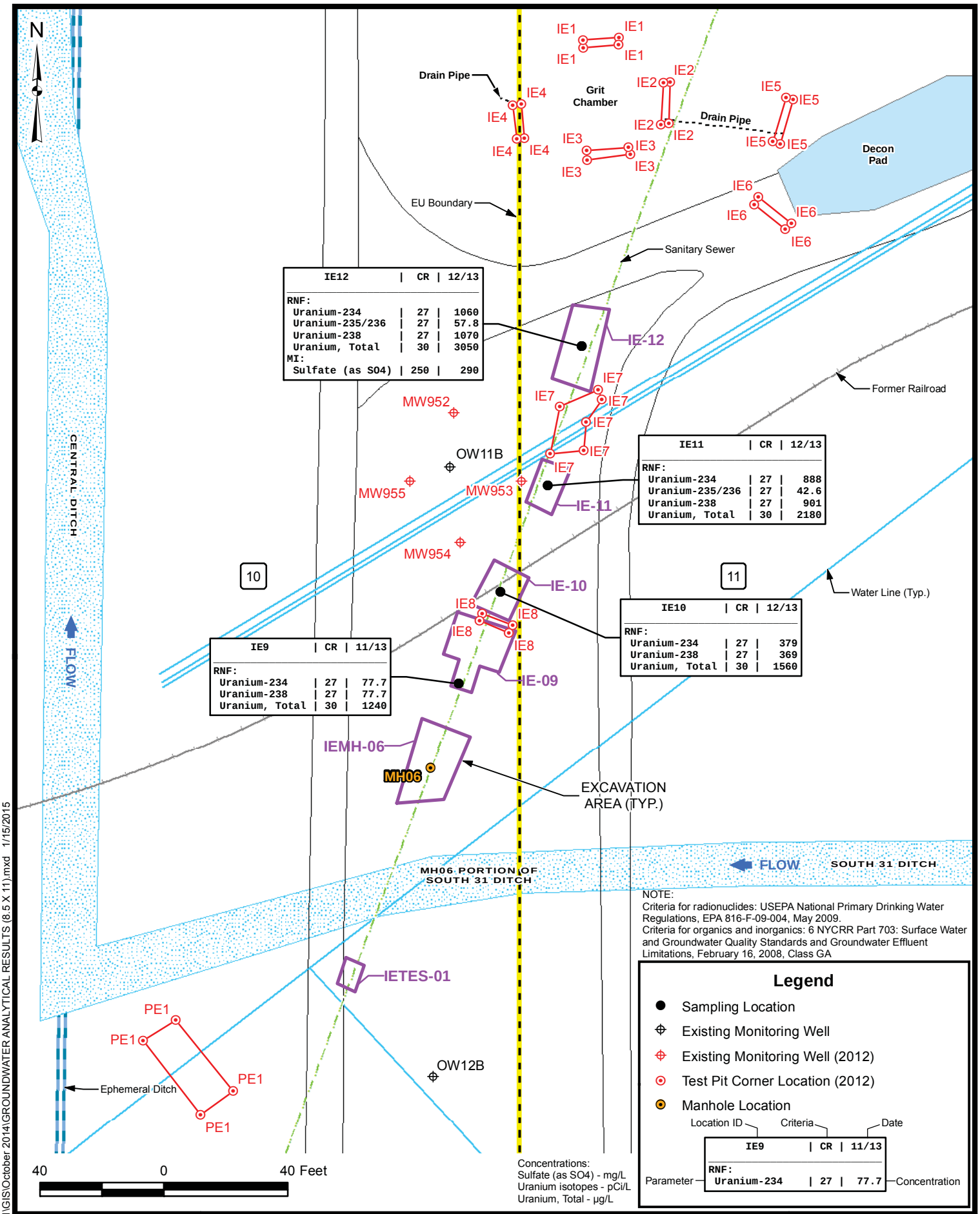
Buffalo District

EXCAVATION SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 12

J:\Projects\11176781\GIS\October 2014\SOIL ANALYTICAL RESULTS (8.5 X 11).mxd 2/23/2015



NOTE:
Criteria for radionuclides: USEPA National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009.
Criteria for organics and inorganics: 6 NYCRR Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations, February 16, 2008, Class GA

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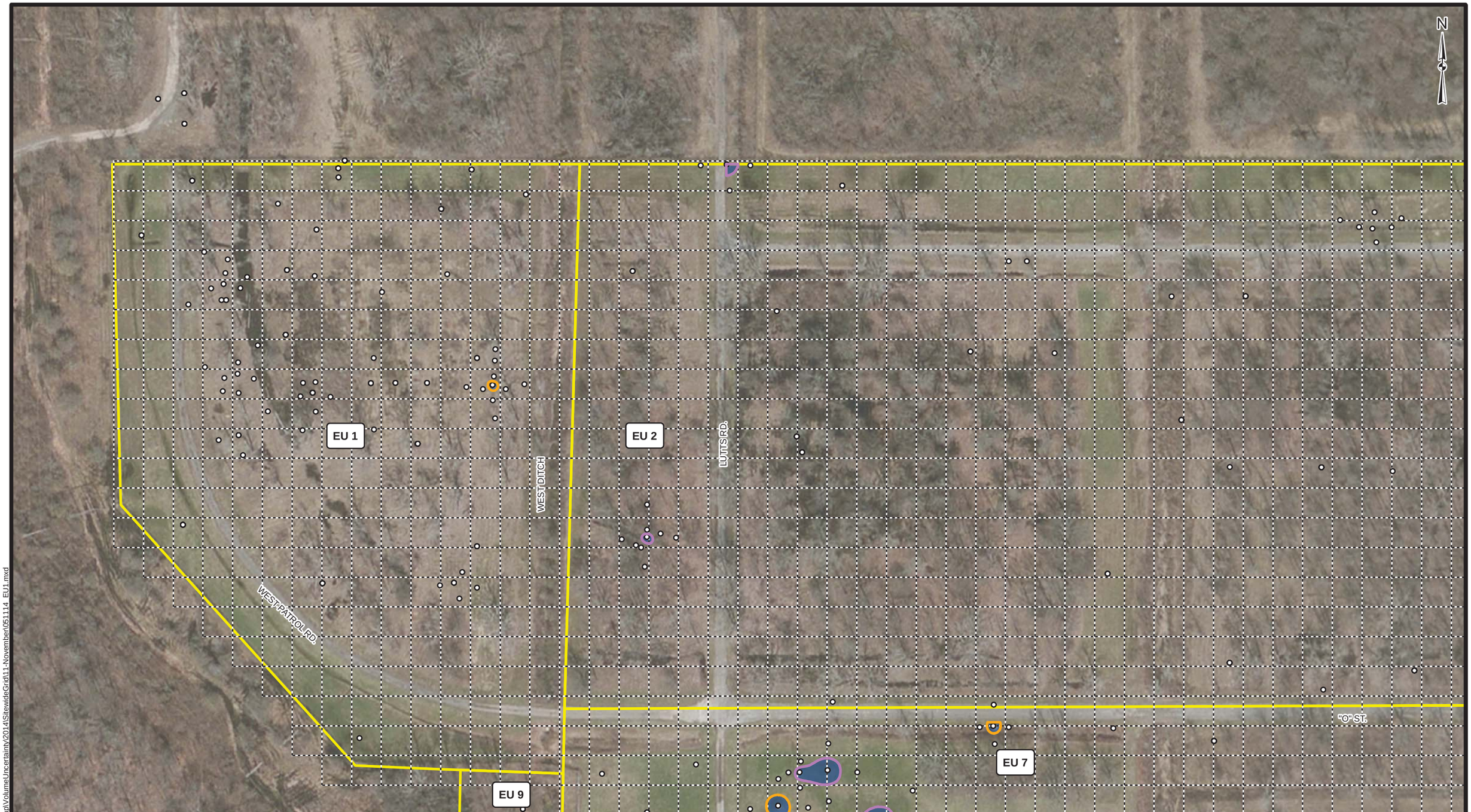
EXCAVATION WATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 13

J:\Projects\11176781\GIS\October 2014\GROUNDWATER ANALYTICAL RESULTS (8.5 X 11).mxd 1/15/2015



Legend

- Soil Sample Location
- Modeled Extent of Surface Radiological Contamination
- Modeled Extent of Subsurface Radiological Contamination
- Modeled Extent of Organic Contamination
- Site Grid (10 x 10 m)

Depth of Contaminated Soil (ft bgs)

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- >5

0 50 100 200 Feet

US Army Corps of Engineers. Buffalo District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NY

MODELED EXTENT OF SOIL CONTAMINATION
FOR EU1 AND EU2

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NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 14

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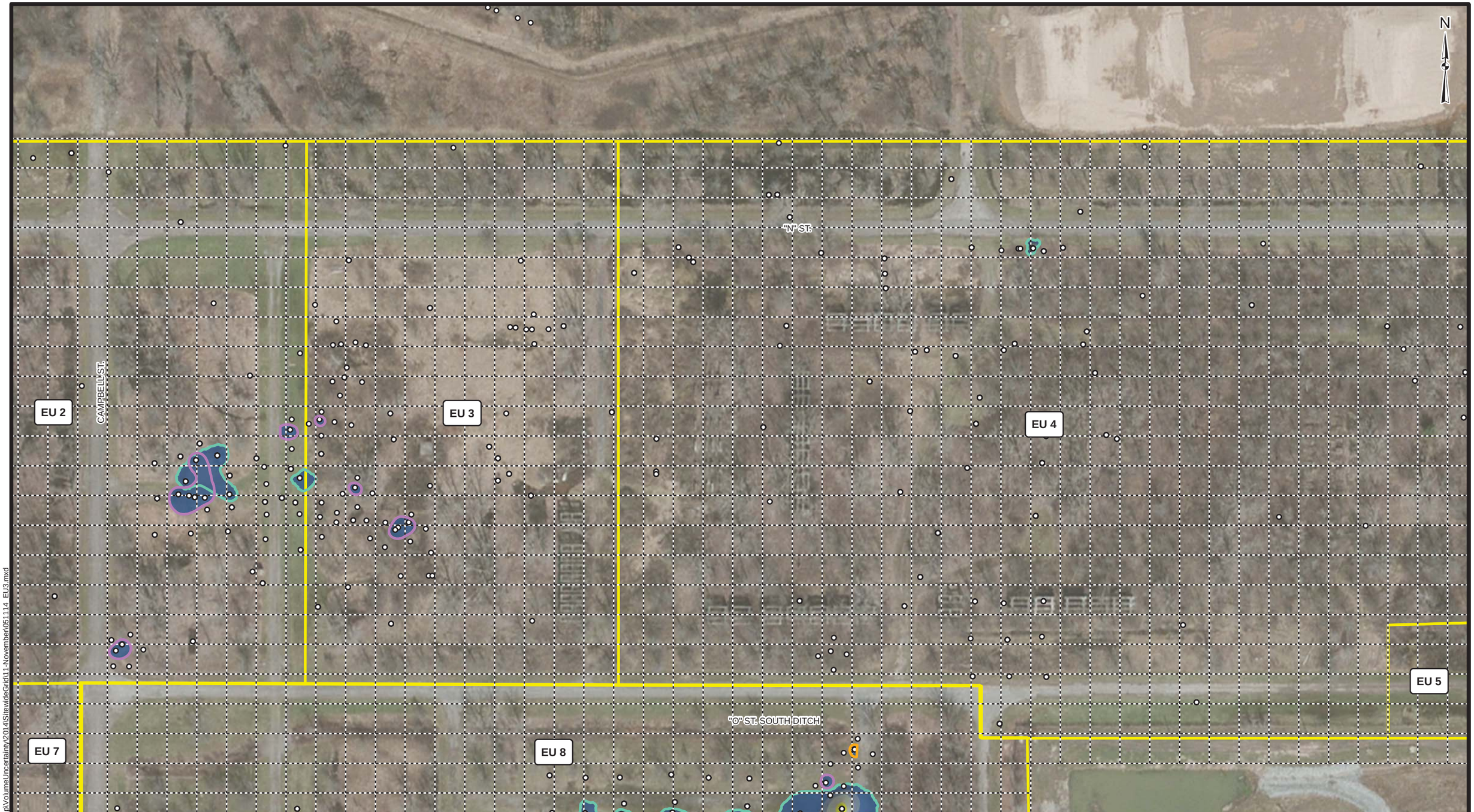

Legend

- Soil Sample Location
- Modeled Extent of Surface Radiological Contamination
- Modeled Extent of Subsurface Radiological Contamination
- Modeled Extent of Organic Contamination
- Site Grid (10 x 10 m)

Depth of Contaminated Soil (ft bgs)

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- >5

0 50 100 200 Feet

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CORPS OF ENGINEERS
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MODELED EXTENT OF SOIL CONTAMINATION
FOR EU3 AND EU4

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NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 15

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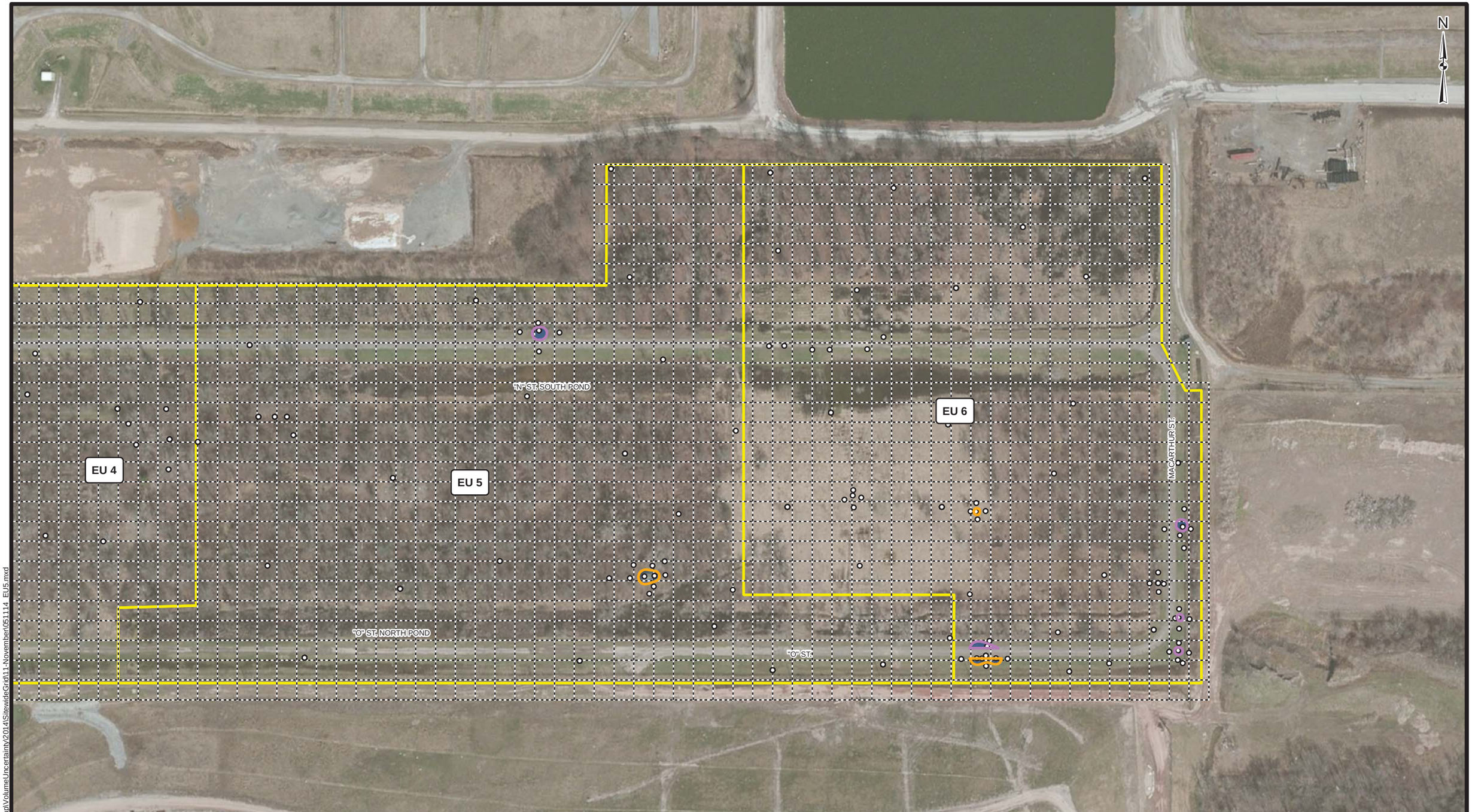

Legend

- Soil Sample Location
- Modeled Extent of Surface Radiological Contamination
- Modeled Extent of Subsurface Radiological Contamination
- Modeled Extent of Organic Contamination
- Site Grid (10 x 10 m)

Depth of Contaminated Soil (ft bgs)

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- >5

0 75 150 300 Feet

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CORPS OF ENGINEERS
BUFFALO, NY

MODELED EXTENT OF SOIL CONTAMINATION
FOR EU5 AND EU6

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NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 16

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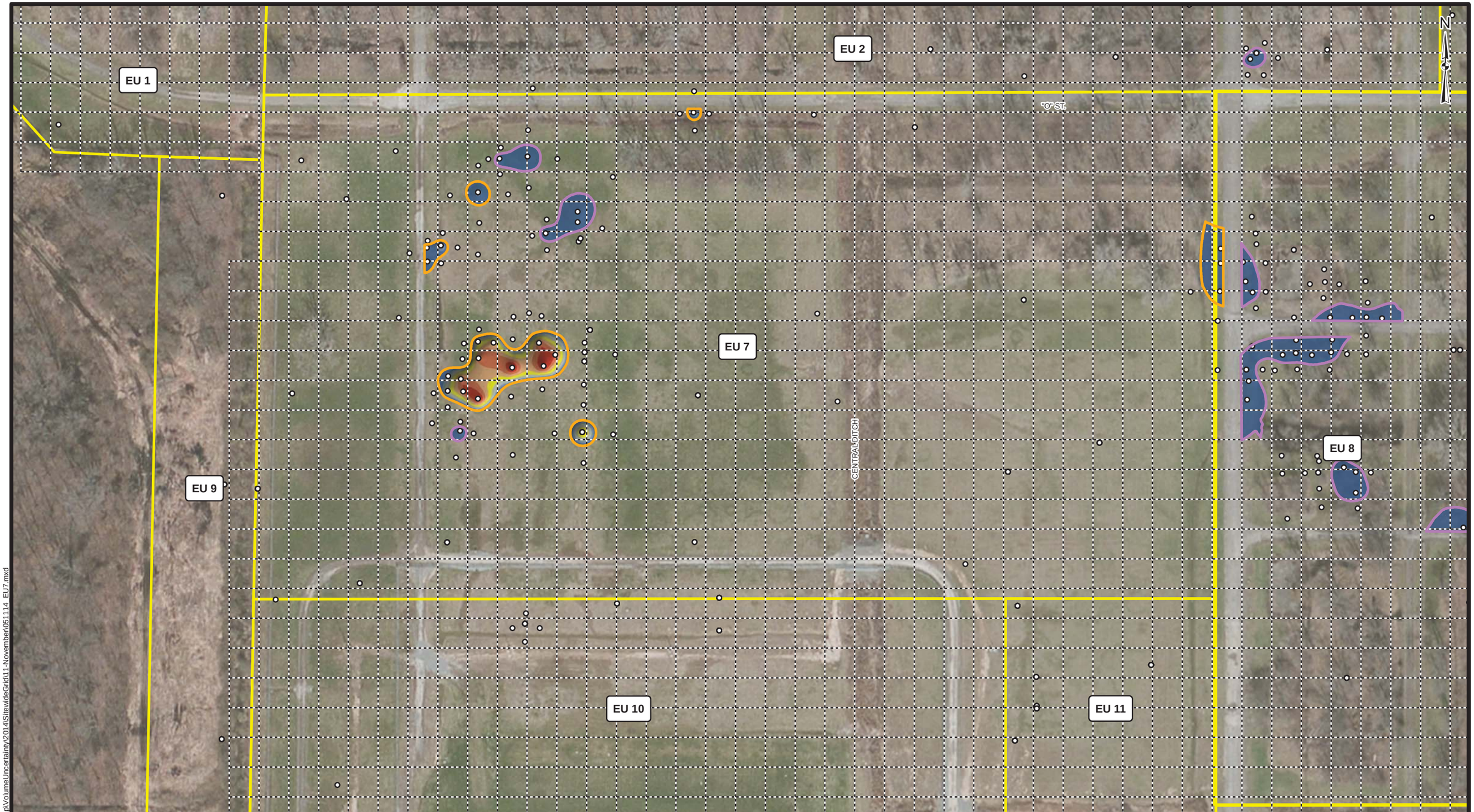

Legend

- Soil Sample Location
- Modeled Extent of Surface Radiological Contamination
- Modeled Extent of Subsurface Radiological Contamination
- Modeled Extent of Organic Contamination
- Site Grid (10 x 10 m)

Depth of Contaminated Soil (ft bgs)

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- >5

0 50 100 200 Feet

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CORPS OF ENGINEERS
BUFFALO, NY

MODELED EXTENT OF SOIL CONTMINATION
FOR EU7

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NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 17

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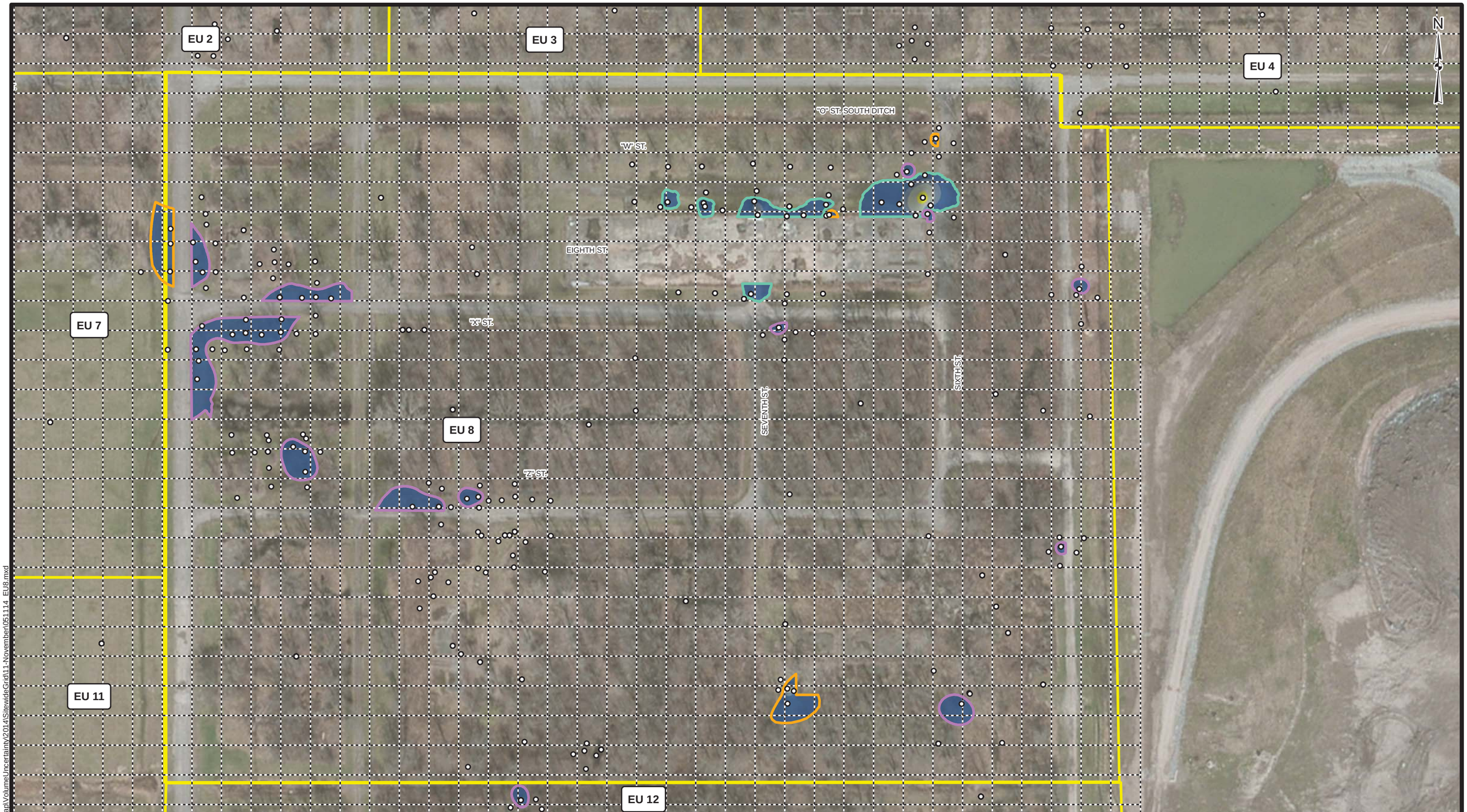

Legend

- Soil Sample Location
- Modeled Extent of Surface Radiological Contamination
- Modeled Extent of Subsurface Radiological Contamination
- Modeled Extent of Organic Contamination
- Site Grid (10 x 10 m)

Depth of Contaminated Soil (ft bgs)

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- >5

0 50 100 200 Feet

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MODELED EXTENT OF SOIL CONTAMINATION
FOR EU8

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NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 18

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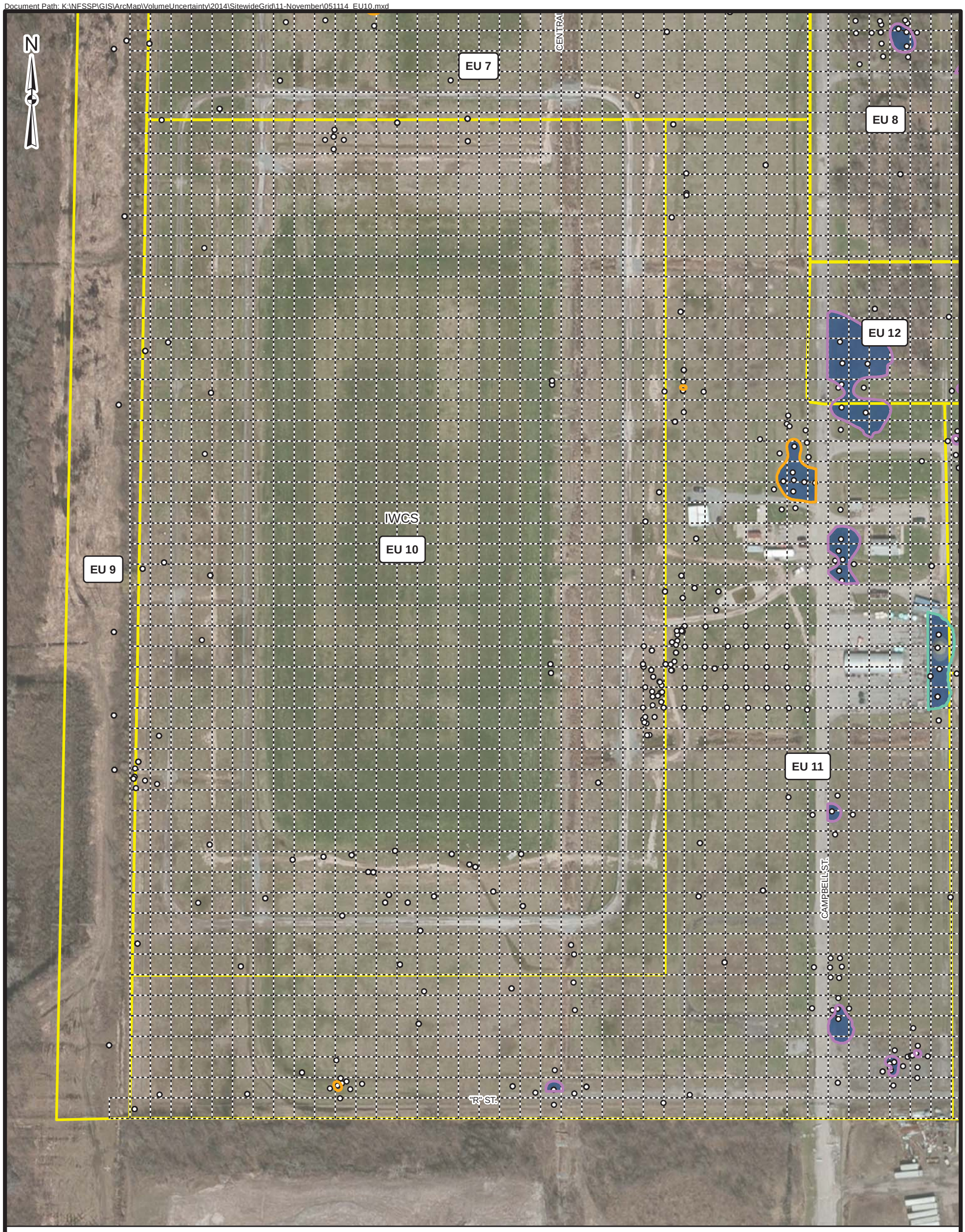

Legend

- Soil Sample Location
- Modeled Extent of Surface Radiological Contamination
- Modeled Extent of Subsurface Radiological Contamination
- Modeled Extent of Organic Contamination
- Site Grid (10 x 10 m)

Depth of Contaminated Soil (ft bgs)

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- >5

0 75 150 300 Feet

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MODELED EXTENT OF SOIL CONTAMINATION
FOR EU10 AND EU11

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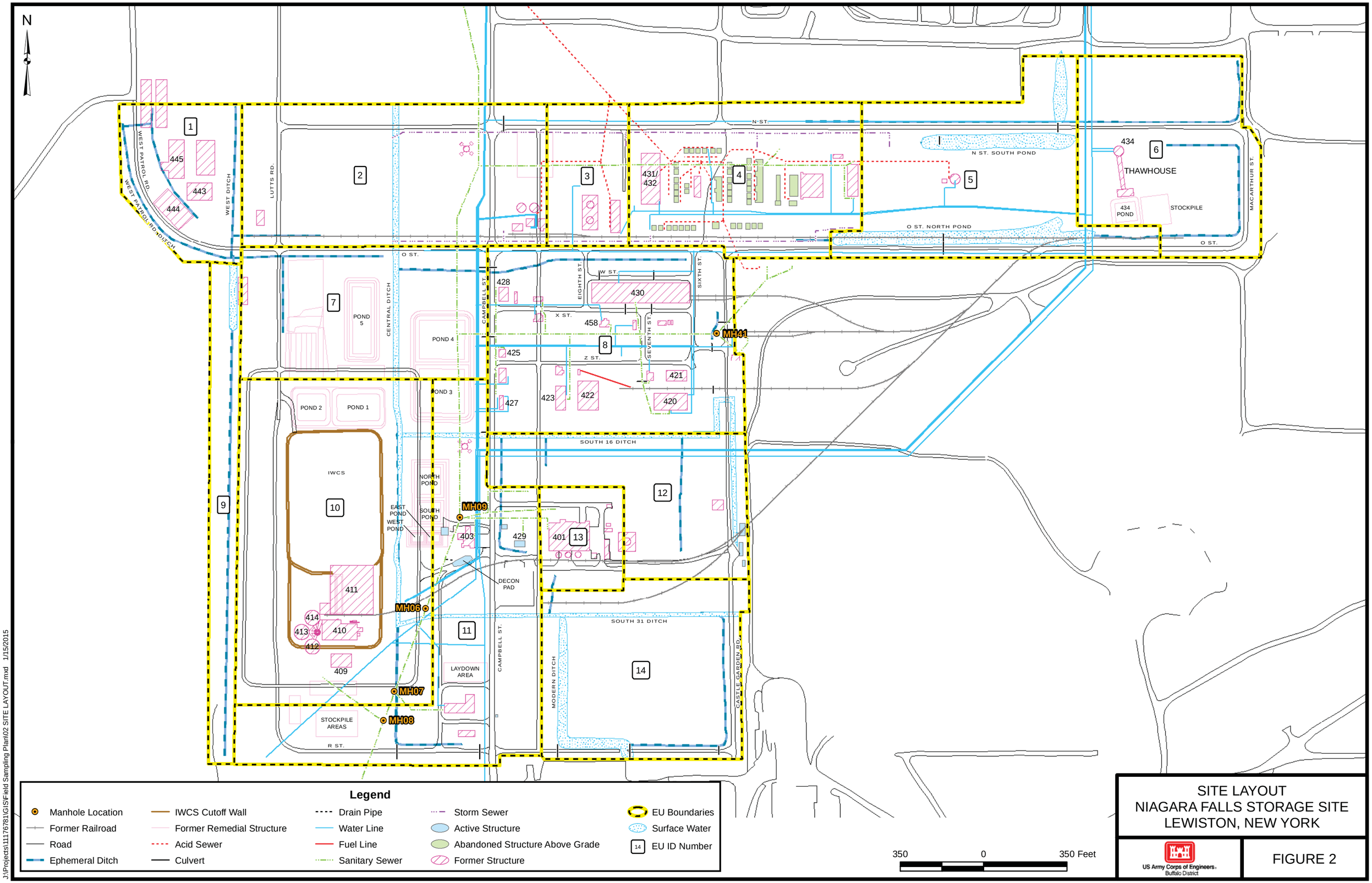
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 19



SITE LAYOUT
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 2

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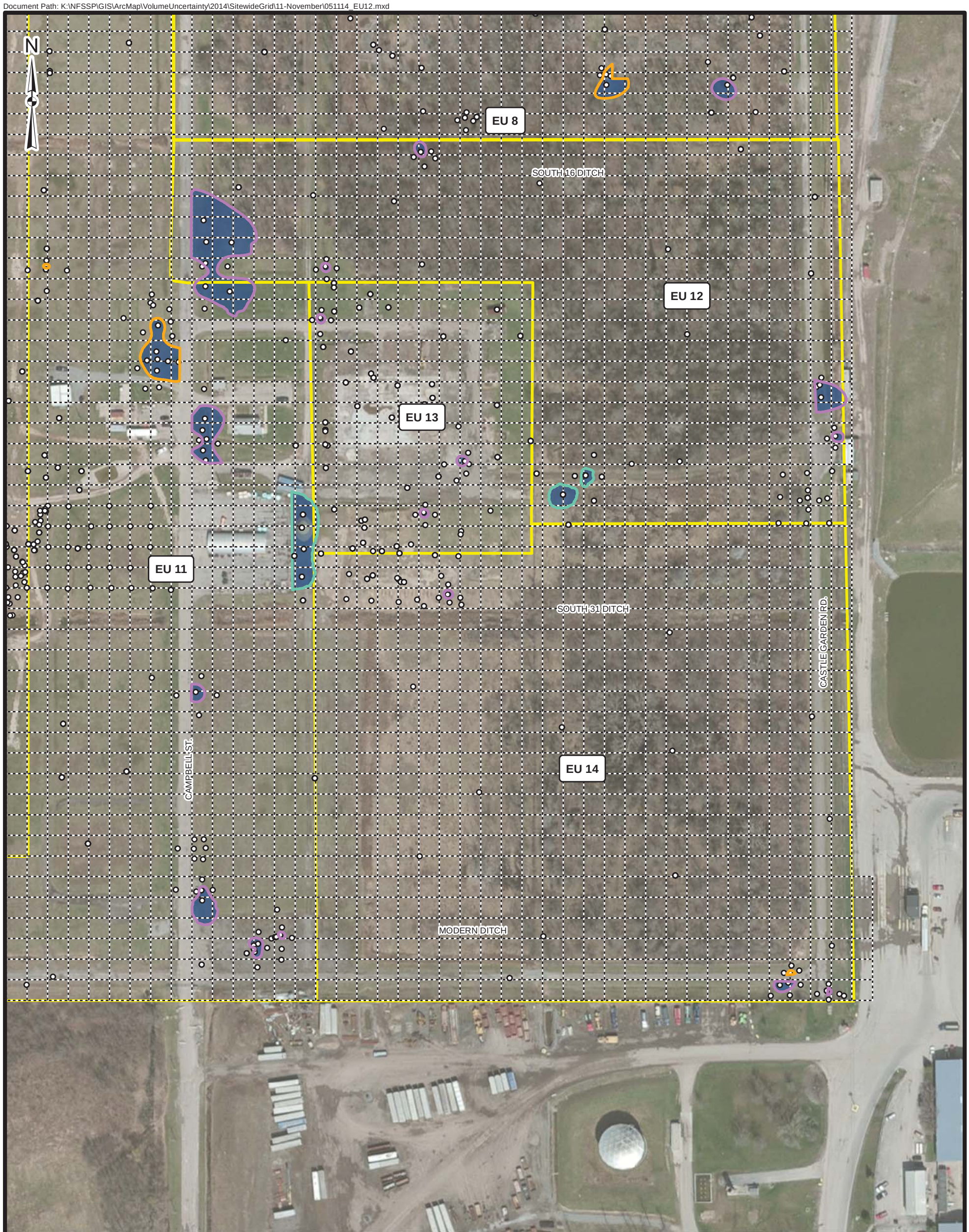

Legend

- Soil Sample Location
- Modeled Extent of Surface Radiological Contamination
- Modeled Extent of Subsurface Radiological Contamination
- Modeled Extent of Organic Contamination
- Site Grid (10 x 10 m)

Depth of Contaminated Soil (ft bgs)

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- >5

0 75 150 300 Feet

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BUFFALO, NY

MODELED EXTENT OF SOIL CONTAMINATION
FOR EU12, EU13 AND EU14

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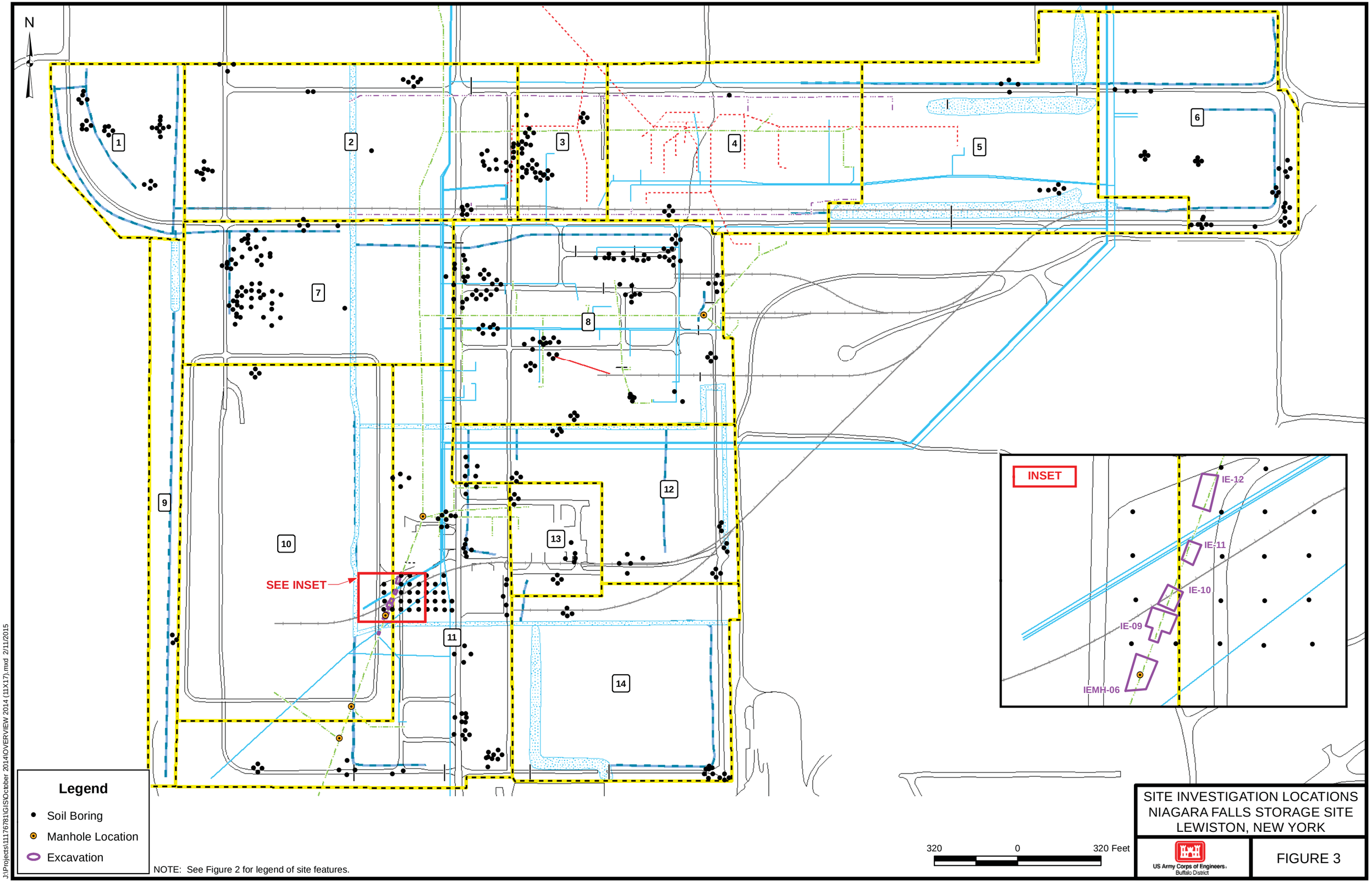
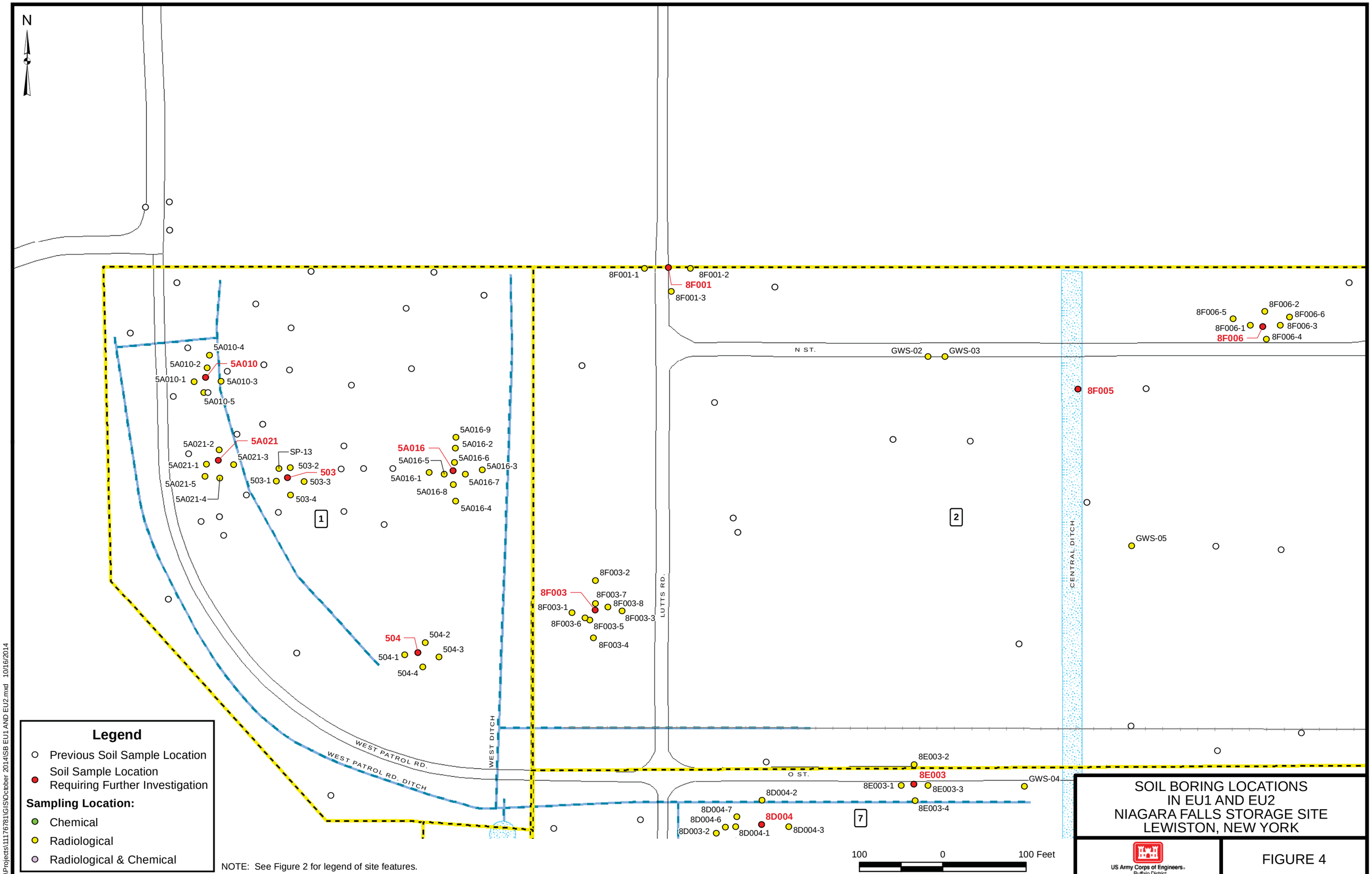
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 20



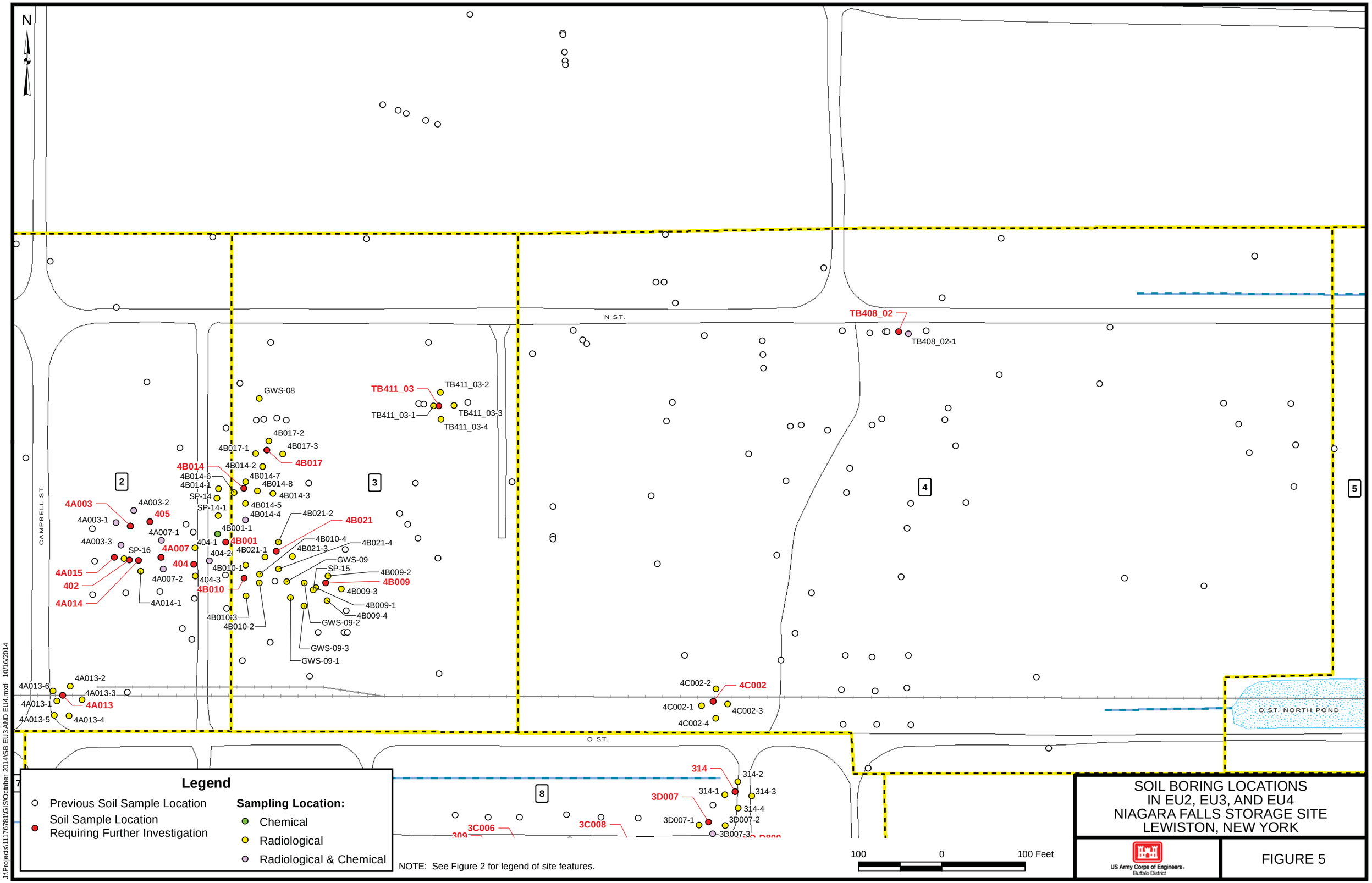
SITE INVESTIGATION LOCATIONS
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 3



SOIL BORING LOCATIONS
IN EU1 AND EU2
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 4



Legend

- Previous Soil Sample Location
- Soil Sample Location Requiring Further Investigation

Sampling Location:

- Chemical
- Radiological
- Radiological & Chemical

NOTE: See Figure 2 for legend of site features.

SOIL BORING LOCATIONS
IN EU2, EU3, AND EU4
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

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FIGURE 5

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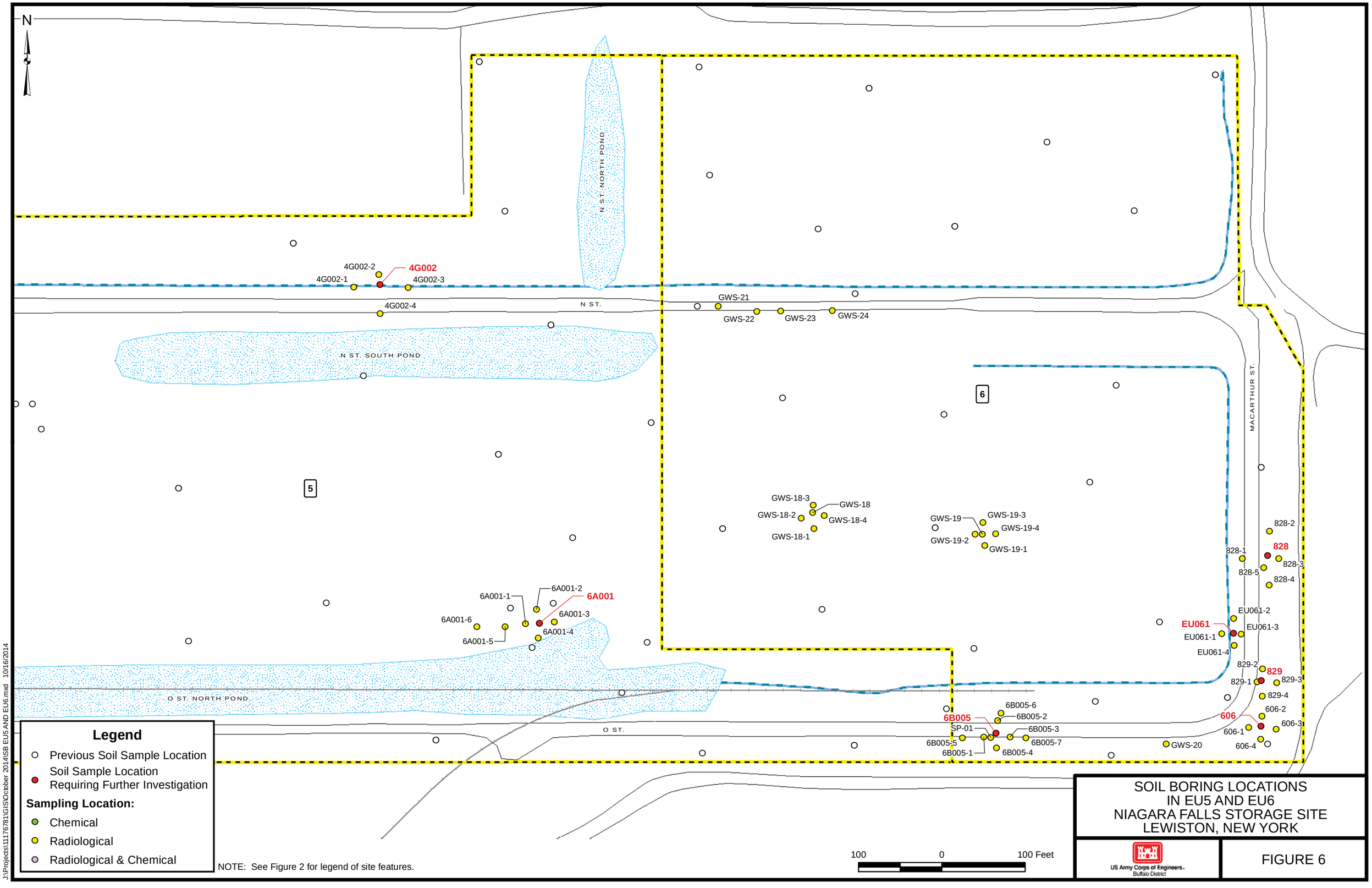
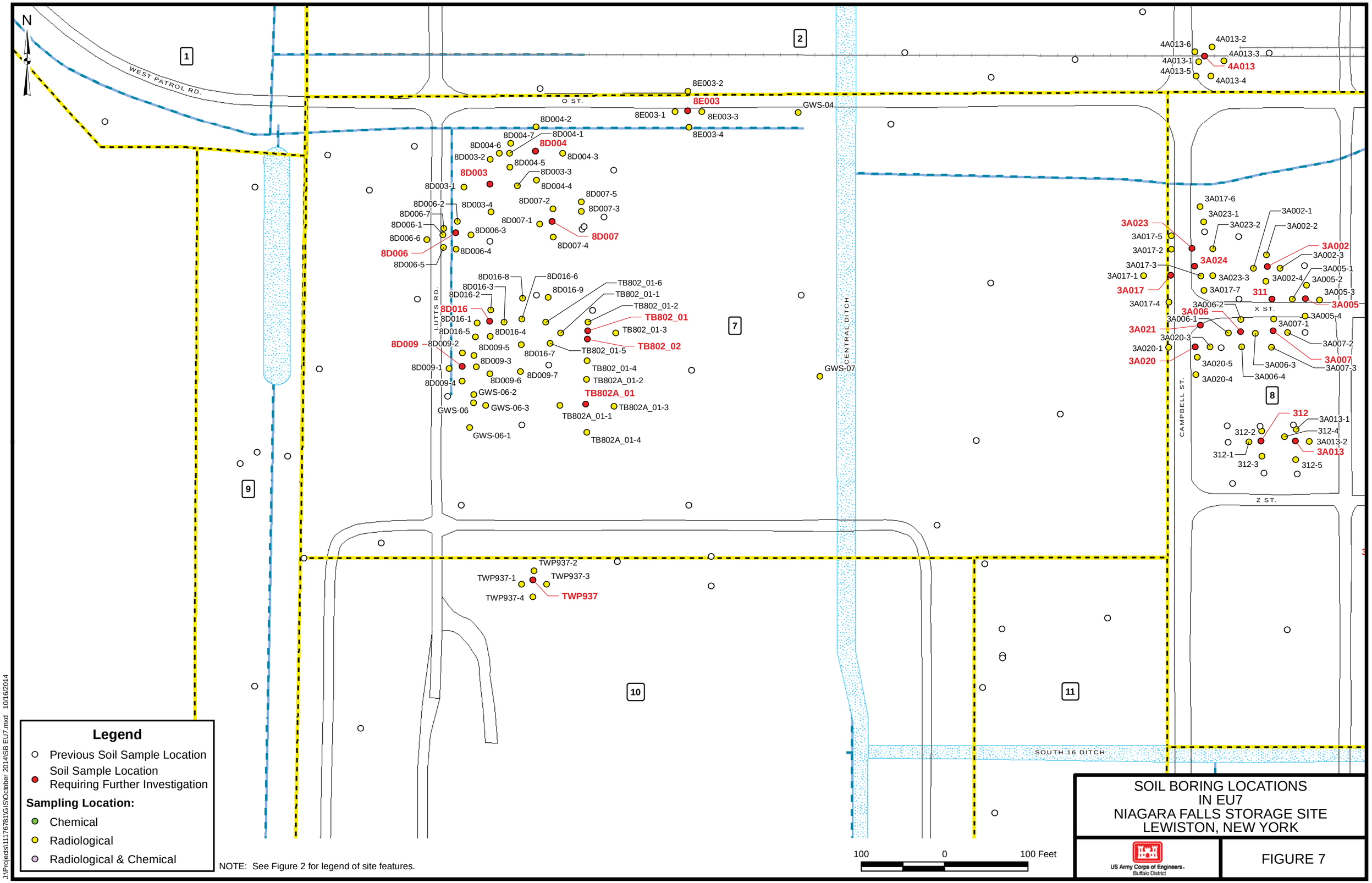


SOIL BORING LOCATIONS
IN EU5 AND EU6
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 6



Legend

- Previous Soil Sample Location
- Soil Sample Location Requiring Further Investigation

Sampling Location:

- Chemical
- Radiological
- Radiological & Chemical

NOTE: See Figure 2 for legend of site features.

SOIL BORING LOCATIONS
IN EU7
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

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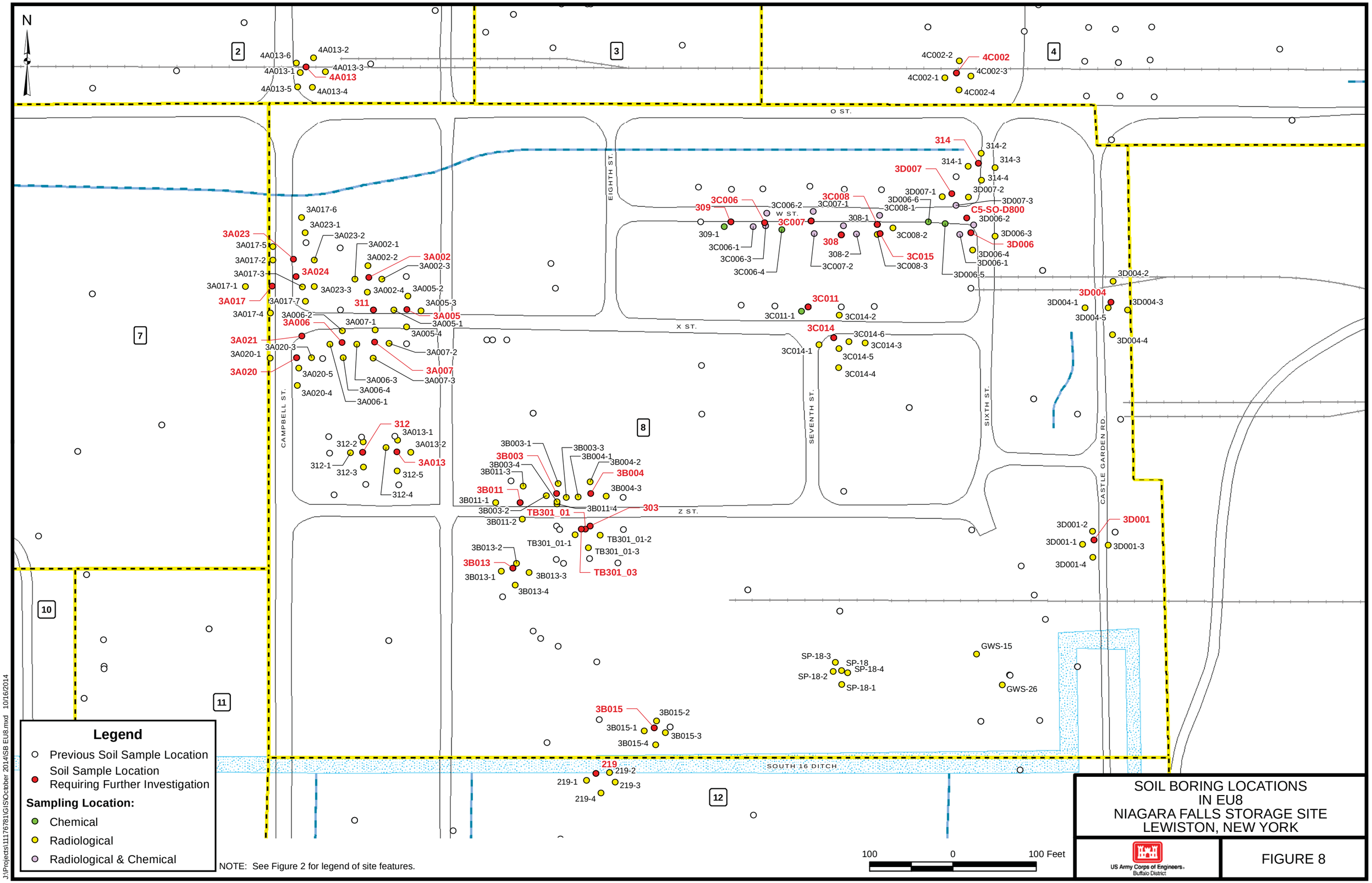
FIGURE 7

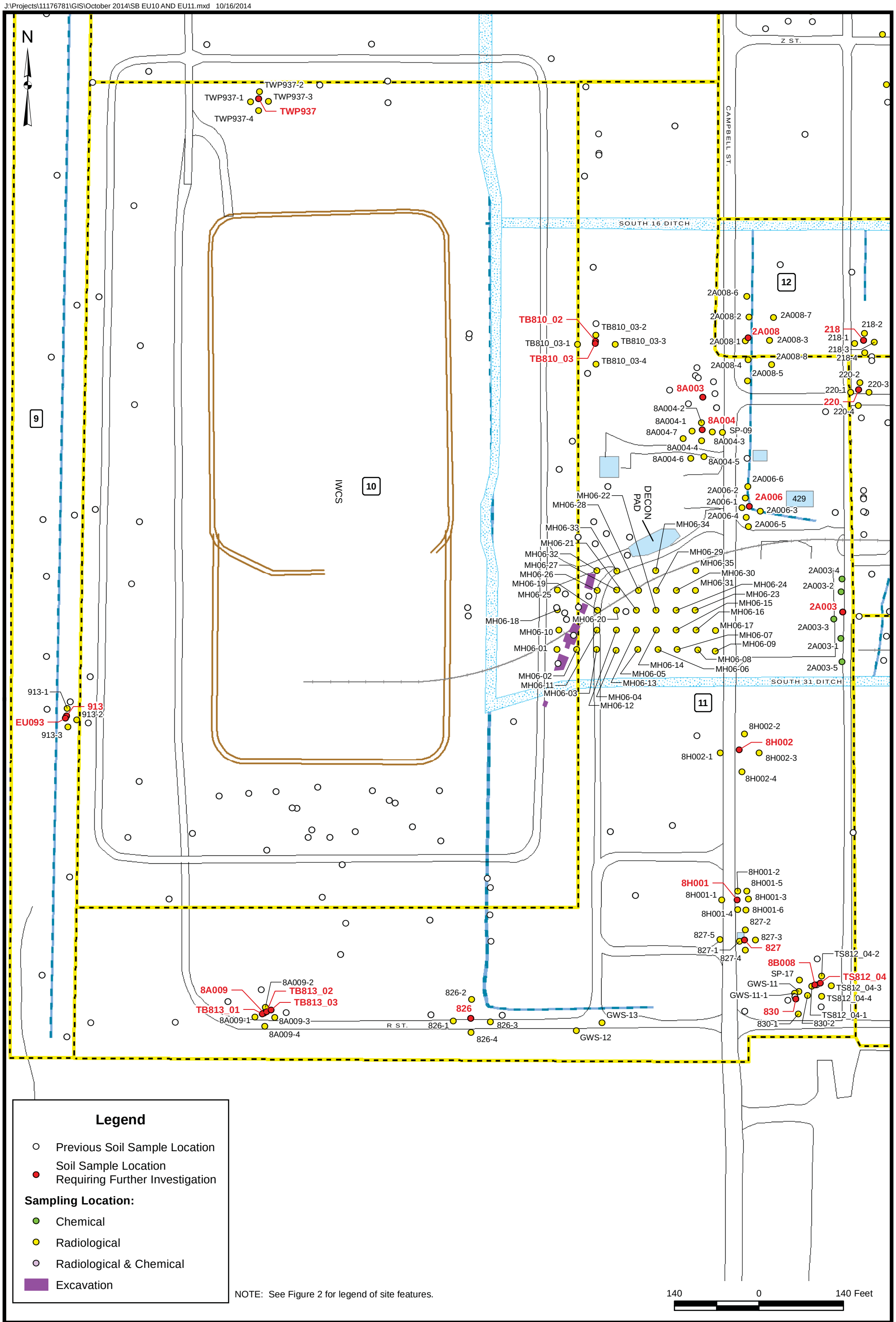
J:\Projects\1117678\1\GIS\October 2014\SB EU7.mxd 10/16/2014



SOIL BORING LOCATIONS
IN EU8
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 8

J:\Projects\11176781\GIS\October 2014\SB EU10 AND EU11.mxd 10/16/2014



US Army Corps of Engineers
Buffalo District

SOIL BORING LOCATIONS IN EU9, EU10, AND EU11
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

FIGURE 9

TABLE 1

RADIATION DETECTION INSTRUMENTATION

NIAGARA FALLS STORAGE SITE

Function	Radiation Detected	Instrument	Detector	Additional Equipment
Gamma Walkover Surveys	Gamma	Ludlum Model 2221	Ludlum Model 44-10 NaI (2”x2”)	Trimble Geo6000 XH, Zephyr Model 2 Antenna
Trench Surveys	Gamma	Ludlum Model 2221	Ludlum Model 44-10 NaI (2”x2”)	Ludlum Model 4260-076 shield
Soil Core Logging	Alpha-Beta-Gamma	Ludlum Model 12	Ludlum Model 44-9 GM	
Soil Core Logging	Alpha-Beta	Ludlum Model 2360	Ludlum Model 43-93	
Frisking - Personnel	Alpha-Beta-Gamma	Ludlum Model 12	Ludlum Model 44-9 GM	
Frisking - Equipment	Alpha-Beta-Gamma	Ludlum Model 12 or Model 3	Ludlum Model 44-9 GM	
	Alpha-Beta	Ludlum Model 2360	Ludlum Model 43-93	
Gamma Survey	Gamma	Ludlum Model 2221	Ludlum Model 44-10 NaI (2”x2”)	
Exposure Rate Surveys	Gamma	Ludlum Model 3	Ludlum Model 44-2 NaI (1"x1")	
		Ludlum Model 19	Integrated NaI detector	
Smear Counting	Alpha-Beta	Ludlum Model 2929	Ludlum Model 43-10-1	

TABLE 2

GAMMA WALKOVER SUMMARY TABLE

NIAGARA FALLS STORAGE SITE

Survey Area	Number of Points	Minimum (µR/h)	Maximum (µR/h)	Mean (µR/h)	Standard Deviation (µR/h)	Boring Location Maximum Value
EU1	4061	7.7	23.4	12.3	2.8	5A016
EU2	3027	6.6	27.6	11.3	3.3	SP-14
EU3	6525	5.5	41.8	12.9	4.2	4B009
EU4	1059	7.1	20.2	12.5	3.7	GWS-25
EU5	2048	6.9	56.1	11.8	7.7	6A001
EU6	8131	6.8	69.1	12.2	4.7	SP-1
EU7	8631	6.1	37.7	12.8	3.2	8D009
EU8	15117	5.4	42.6	11.7	3.1	3D007
EU 9	530	8.2	13	10.4	0.7	913
EU 10	602	10.2	21.1	13	2.3	TWP-937
EU11	8110	4.9	89.5	12.6	6.4	GWS-11
EU12	3312	6.1	20.2	13.4	2.1	2D013
EU13	2133	5.4	34.9	9.8	4.2	2A006
EU14	1489	6.8	19.9	11.2	2	8B001
Manhole	7377	4.8	15.7	10.2	1.8	NA
All Sample data	72152	4.9	89.5	12	4.1	NA
Background	2067	5.9	20.7	11.9	2.2	NA

TABLE 3

EXCAVATION GAMMA SCREEENING SUMMARY TABLE

NIAGARA FALLS STORAGE SITE

Excavation	Minimum shield (cpm)	Maximum shield (cpm)	Maximum Reading Location
Manhole MH06	2784	5014	South wall - lower west corner
IE9	2810	8126	North wall lower - east corner
IE10	3498	4394	West wall - middle north grid
IE11	3426	4904	North wall - middle east grid
IE12	3060	4596	East wall - center lower grid

TABLE 4

SUMMARY OF PRE- AND POST-EXCAVATION GWS SURVEY DATA

NIAGARA FALLS STORAGE SITE

GWS	Number of Points	Minimum (cpm)	Maximum (cpm)	Mean (cpm)	Median (cpm)	Standard Deviation (cpm)
Pre excavation	2106	4347	12449	8915	9201	1536
Post excavation	1364	5066	14092	9644	10014	1675

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B009 AREA

LOCATION ID				4B009-1	4B009-1
DEPTH (feet)				0.5 - 2	2 - 3
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	0.943	0.932
Thorium-230	PCI/G	18	55	0.835	0.806
Uranium-238	PCI/G	115	346	1.12	1.07

LOCATION ID				4B009-2	4B009-2	4B009-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.13	0.841	1.30
Thorium-230	PCI/G	18	55	1.33	1.20	0.673
Uranium-238	PCI/G	115	346	0.795	1.06	0.698

LOCATION ID				4B009-3	4B009-3	4B009-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.17	0.914	1.02
Thorium-230	PCI/G	18	55	2.20	0.759	0.642
Uranium-238	PCI/G	115	346	0.684	0.623	0.722

LOCATION ID				4B009-4	4B009-4	4B009-4FD	4B009-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.07	1.36	0.918	0.917
Thorium-230	PCI/G	18	55	2.08	1.10	0.849	0.738
Uranium-238	PCI/G	115	346	0.692	0.525	0.654	0.789

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B010 AREA

LOCATION ID				4B010-1	4B010-1	4B010-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.18***	1.01	0.916
Thorium-230	PCI/G	18	55	5.09	0.997	0.817
Uranium-238	PCI/G	115	346	5.63	2.32	2.09

LOCATION ID				4B010-2	4B010-2	4B010-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.94	0.89	0.926
Thorium-230	PCI/G	18	55	1.78	1.05	0.709
Uranium-238	PCI/G	115	346	0.601	0.654	0.606

LOCATION ID				4B010-3	4B010-3	4B010-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.64	0.915	0.965
Thorium-230	PCI/G	18	55	1.90	0.736	0.902
Uranium-238	PCI/G	115	346	0.872	0.838	0.737

LOCATION ID				4B010-4	4B010-4	4B010-4FD	4B010-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.11	0.897	1.28	0.842
Thorium-230	PCI/G	18	55	2.19	0.880	0.768	0.720
Uranium-238	PCI/G	115	346	0.755	0.805	0.704	0.636

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B014 AREA

LOCATION ID				4B014-1	4B014-1	4B014-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.12	1.04	0.697
Thorium-230	PCI/G	18	55	1.73	0.790	0.613
Uranium-238	PCI/G	115	346	0.868	0.810	0.928

LOCATION ID				4B014-2	4B014-2	4B014-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.992	0.859	0.958
Thorium-230	PCI/G	18	55	1.61	0.675	0.590
Uranium-238	PCI/G	115	346	0.819	0.930	0.908

LOCATION ID				4B014-3	4B014-3	4B014-3FD	4B014-3
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.43	0.678	0.855	0.764
Thorium-230	PCI/G	18	55	1.44	0.753	0.710	0.793
Uranium-238	PCI/G	115	346	0.814	3.27	0.655	0.638

LOCATION ID				4B014-4	4B014-4	4B014-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.82	0.934	0.794
Thorium-230	PCI/G	18	55	2.00	0.860	0.728
Uranium-238	PCI/G	115	346	0.584	0.609	0.613

LOCATION ID				4B014-5	4B014-5	4B014-5
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.53	1.00	1.01
Thorium-230	PCI/G	18	55	1.87	1.05	0.803
Uranium-238	PCI/G	115	346	0.819	0.827	0.817

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B014 AREA

LOCATION ID				4B014-6	4B014-6	4B014-6FD	4B014-6
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.10	1.21	0.669	0.745
Thorium-230	PCI/G	18	55	3.27	1.20	1.08	1.00
Uranium-238	PCI/G	115	346	1.90	0.933	0.973	1.19

LOCATION ID				4B014-7	4B014-7	4B014-7
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.96	0.825	0.683
Thorium-230	PCI/G	18	55	1.67	0.805	0.558
Uranium-238	PCI/G	115	346	1.57	0.811	0.816

LOCATION ID				4B014-8	4B014-8	4B014-8	4B014-8FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	0.5 - 2
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.793	0.690	1.01	0.749
Thorium-230	PCI/G	18	55	1.11	0.660	0.730	0.614
Uranium-238	PCI/G	115	346	0.557	0.707	0.852	0.630

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B017 AREA

LOCATION ID				4B017-1	4B017-1	4B017-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.15	0.860	0.828
Thorium-230	PCI/G	18	55	1.03	0.792	1.07
Uranium-238	PCI/G	115	346	0.866	0.716	0.894

LOCATION ID				4B017-2	4B017-2	4B017-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.12	0.772	1.12
Thorium-230	PCI/G	18	55	2.41	1.02	0.702
Uranium-238	PCI/G	115	346	1.35	1.13	0.718

LOCATION ID				4B017-3	4B017-3	4B017-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.549	0.405	0.628
Thorium-230	PCI/G	18	55	1.20	0.907	0.587
Uranium-238	PCI/G	115	346	0.49	0.388	0.478

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B021 AREA

LOCATION ID				4B021-1	4B021-1	4B021-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.05	0.941	0.725
Thorium-230	PCI/G	18	55	2.26	1.11	0.684
Uranium-238	PCI/G	115	346	0.677	0.835	0.524

LOCATION ID				4B021-2	4B021-2	4B021-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.73	0.819	0.498
Thorium-230	PCI/G	18	55	1.88	0.912	0.843
Uranium-238	PCI/G	115	346	0.552	0.607	0.618

LOCATION ID				4B021-3	4B021-3	4B021-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.19	0.887	0.961
Thorium-230	PCI/G	18	55	1.98	0.768	0.671
Uranium-238	PCI/G	115	346	0.703	0.695	0.738

LOCATION ID				4B021-4	4B021-4	4B021-4FD	4B021-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.99	1.24	0.841	0.736
Thorium-230	PCI/G	18	55	1.96	1.05	0.885	0.642
Uranium-238	PCI/G	115	346	0.941	0.634	0.632	0.553

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
GWS AREAS

LOCATION ID				GWS-08	GWS-08	GWS-08
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.67	1.25	0.716
Thorium-230	PCI/G	18	55	2.89	0.915	0.834
Uranium-238	PCI/G	115	346	1.47	0.920	0.727

LOCATION ID				GWS-09	GWS-09	GWS-09
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.28***	***20.6***	0.782
Thorium-230	PCI/G	18	55	5.99	10.7	0.820
Uranium-238	PCI/G	115	346	3.10	9.75	0.832

LOCATION ID				GWS-09-1	GWS-09-1	GWS-09-1	GWS-09-1FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.49	1.32	0.886	1.07
Thorium-230	PCI/G	18	55	2.47	1.34	0.667	0.640
Uranium-238	PCI/G	115	346	0.730	0.767	0.732	0.913

LOCATION ID				GWS-09-2	GWS-09-2	GWS-09-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.12	4.36	1.00
Thorium-230	PCI/G	18	55	2.33	2.10	0.702
Uranium-238	PCI/G	115	346	0.713	1.09	0.813

LOCATION ID				GWS-09-3	GWS-09-3	GWS-09-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.01	0.855	1.08
Thorium-230	PCI/G	18	55	2.13	0.704	0.808
Uranium-238	PCI/G	115	346	0.735	0.573	0.784

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
SP AREAS

LOCATION ID				SP-15	SP-15	SP-15	SP-15FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***12.2***	1.25	0.898	0.731
Thorium-230	PCI/G	18	55	8.92	1.03	0.975	0.931
Uranium-238	PCI/G	115	346	7.11	0.843	0.875	0.923

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
TB411 AREA

LOCATION ID				TB411_03-1	TB411_03-1	TB411_03-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.62	1.14	0.816
Thorium-230	PCI/G	18	55	1.62	0.992	0.880
Uranium-238	PCI/G	115	346	1.07	0.965	0.784

LOCATION ID				TB411_03-2	TB411_03-2	TB411_03-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.45	1.85	0.531
Thorium-230	PCI/G	18	55	1.45	1.84	0.786
Uranium-238	PCI/G	115	346	1.40	1.43	0.661

LOCATION ID				TB411_03-3	TB411_03-3	TB411_03-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.444	1.33	0.991
Thorium-230	PCI/G	18	55	1.23	1.12	0.802
Uranium-238	PCI/G	115	346	1.14	1.25	0.961

LOCATION ID				TB411_03-4	TB411_03-4	TB411_03-4FD	TB411_03-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.68	0.960	0.991	0.821
Thorium-230	PCI/G	18	55	1.51	0.763	0.761	0.787
Uranium-238	PCI/G	115	346	1.16	0.940	0.825	0.502

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 11
EU4 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU4
4C002 AREA

LOCATION ID					4C002-1	4C002-1FD	4C002-1
DEPTH (feet)					0.5 - 2	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	4.17	4.08	0.870
Thorium-230	PCI/G	PCI/G	18	55	2.49	2.18	0.778
Uranium-238	PCI/G	PCI/G	115	346	1.62	1.54	0.598

LOCATION ID					4C002-2	4C002-2	4C002-2
DEPTH (feet)					0 - 0.5	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	2.91	0.904	0.933
Thorium-230	PCI/G	PCI/G	18	55	3.45	0.971	0.687
Uranium-238	PCI/G	PCI/G	115	346	1.20	0.687	0.666

LOCATION ID					4C002-3	4C002-3	4C002-3
DEPTH (feet)					0 - 0.5	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	4.60	2.92	0.805
Thorium-230	PCI/G	PCI/G	18	55	4.24	1.67	0.832
Uranium-238	PCI/G	PCI/G	115	346	3.67	1.23	0.605

LOCATION ID					4C002-4	4C002-4	4C002-4
DEPTH (feet)					0 - 0.5	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	2.44	0.911	0.986
Thorium-230	PCI/G	PCI/G	18	55	2.17	0.788	0.730
Uranium-238	PCI/G	PCI/G	115	346	0.881	0.567	0.701

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 12
EU5 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU5
6A001 AREA

LOCATION ID				6A001-1	6A001-1	6A001-1FD	6A001-1
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***119***	***59.1***	***30.0***	0.769
Thorium-230	PCI/G	18	55	6.33	3.50	2.43	0.849
Uranium-238	PCI/G	115	346	1.21	0.820	0.763	0.738

LOCATION ID				6A001-2	6A001-2	6A001-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.44	0.931	0.981
Thorium-230	PCI/G	18	55	0.936	0.774	0.749
Uranium-238	PCI/G	115	346	0.537	0.636	0.706

LOCATION ID				6A001-3	6A001-3	6A001-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.31	0.738	0.942
Thorium-230	PCI/G	18	55	0.962	0.778	0.992
Uranium-238	PCI/G	115	346	0.540	0.654	0.681

LOCATION ID				6A001-4	6A001-4	6A001-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.22	0.963	0.989
Thorium-230	PCI/G	18	55	0.928	0.773	0.885
Uranium-238	PCI/G	115	346	0.661	0.644	0.650

TABLE 12
EU5 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU5
6A001 AREA

LOCATION ID				6A001-5	6A001-5	6A001-5FD	6A001-5
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.810	0.772	0.942	1.10
Thorium-230	PCI/G	18	55	1.10	0.932	0.603	0.938
Uranium-238	PCI/G	115	346	0.735	0.716	0.607	0.806

LOCATION ID				6A001-6	6A001-6	6A001-6
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.29	1.10	0.877
Thorium-230	PCI/G	18	55	1.02	0.885	0.693
Uranium-238	PCI/G	115	346	0.843	0.686	0.569

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE -
SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE
EU6
6B005 AREA **1** **2**

LOCATION ID				606-1	606-1
DEPTH (Feet)				0 - 0.5	0.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
SAMPLE DATE				11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	1.91	1.06
Thorium-230	PCI/G	18	55	1.24	0.771
Uranium-238	PCI/G	115	346	0.877	0.774

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate compound exceeded criterion.

3	4	5	6	7	8
606-1	606-1FD	606-2	606-2	606-2	606-3
2 - 3	0 - 0.5	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/5/2013
0.956	1.76	1.43	0.942	0.99	1.12
0.864	0.87	1.16	1	0.854	0.727
0.669	0.851	0.677	0.674	0.933	0.632

9	10	11	12	13	14
606-3	606-3	606-4	606-4	606-4	6B005-1
0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/5/2013	11/5/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
0.802	0.768	1.09	0.849	0.949	8.42
0.769	0.534	1.27	0.822	0.749	3.42
0.554	0.708	0.756	0.687	0.57	1.85

15	16	17	18	19	20
6B005-1	6B005-1	6B005-2	6B005-2	6B005-2	6B005-3
0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
6.03	0.987	11	1.27	0.804	6.35
2.63	0.807	4.28	1.3	0.737	3.88
33.5	2.94	0.946	0.975	1.06	1.36

21	22	23	24	25	26
6B005-3	6B005-3	6B005-3FD	6B005-4	6B005-4	6B005-4
0.5 - 2	2 - 3	2 - 3	0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
1.88	0.914	1.62	1.37	0.888	1.09
1.16	0.908	0.862	1.01	0.795	0.838
1.81	1.29	1.15	1.03	1.11	0.868

27	28	29	30	31	32
6B005-5	6B005-5	6B005-5	6B005-6	6B005-6	6B005-6
0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014
5.32	1.67	1.07	1.25	0.778	1.07
2.51	2.1	0.888	1.06	0.815	0.899
0.882	1.82	1.27	0.655	0.897	0.681

33	34	35	36	37	38
6B005-6FD	6B005-7	6B005-7	6B005-7	6B005-7FD	828-1
2 - 3	0 - 0.5	0.5 - 2	2 - 3	0.5 - 2	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014	11/7/2013
0.994	2.43	1.06	0.906	1.16	1.02
0.857	1.6	0.864	0.766	1.06	1.32
0.819	0.887	0.729	1.21	0.889	0.545

39	40	41	42	43	44
828-1	828-1	828-2	828-2	828-2	828-2FD
0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/5/2013	11/5/2013	11/5/2013	11/5/2013
1.25	0.707	0.782	0.808	0.667	0.501
1.09	0.662	0.731	0.638	0.531	0.555
0.649	0.714	0.611	0.527	0.693	0.509

45	46	47	48	49	50
828-3	828-3	828-3	828-3FD	828-4	828-4
0 - 0.5	0.5 - 2	2 - 3	0.5 - 2	0 - 0.5	0.5 - 2
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/5/2013	11/5/2013	11/5/2013	11/5/2013	11/5/2013	11/5/2013
0.902	0.573	0.701	0.706	0.856	0.562
0.681	0.561	0.504	0.664	0.738	0.572
0.633	0.689	0.409	0.606	0.622	0.484

51	52	53	54	55	56
828-4	828-5	828-5	828-5	828-5FD	829-1
2 - 3	0 - 0.5	0.5 - 2	2 - 3	0.5 - 2	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/5/2013	7/2/2014	7/2/2014	7/2/2014	7/2/2014	11/7/2013
0.751	2.63	0.874	0.826	0.698	2.53
0.495	0.951	0.535	0.589	0.545	2.21
0.764	0.698	0.609	0.755	0.61	1.28

57	58	59	60	61	62
829-1	829-1	829-2	829-2	829-2	829-3
0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/5/2013
1.44	1.07	1.56	1.52	1.23	1.85
1.08	0.725	0.815	0.754	0.8	2.06
0.992	0.715	0.755	0.924	0.818	0.854

63	64	65	66	67	68
829-3	829-3	829-4	829-4	829-4	EU061-1
0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/5/2013	11/5/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
2.71	0.734	0.999	1.25	3.93	1.12
0.966	0.504	1.12	0.751	3.46	0.963
0.719	0.563	0.542	0.558	2.92	1.24

69	70	71	72	73	74
EU061-1	EU061-1	EU061-2	EU061-2	EU061-2	EU061-3
0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
1.12	1.23	1.04	0.982	0.901	1.42
0.857	1.11	0.988	0.769	0.849	1.05
1.03	1.1	0.692	0.903	0.774	0.658

75	76	77	78	79	80
EU061-3	EU061-3	EU061-3FD	EU061-4	EU061-4	EU061-4
0.5 - 2	2 - 3	0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
1.07	0.904	1.16	1.08	0.858	1.28
0.823	0.687	0.89	0.857	0.828	0.914
0.888	0.619	0.624	0.66	0.945	0.989

81	82	83	84	85	86
EU061-4FD	GWS-18	GWS-18	GWS-18	GWS-18-1	GWS-18-1
2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	6/30/2014	6/30/2014
1.09	5.89	1.65	0.926	1.12	0.913
0.769	1.78	1.05	0.738	1.27	0.758
0.99	0.914	0.482	0.605	1.26	0.959

87	88	89	90	91	92
GWS-18-1	GWS-18-2	GWS-18-2	GWS-18-2	GWS-18-2FD	GWS-18-3
2 - 3	0 - 0.5	0.5 - 2	2 - 3	0.5 - 2	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
6/30/2014	6/30/2014	6/30/2014	6/30/2014	6/30/2014	6/30/2014
0.989	1.24	0.985	1.13	1.03	1.8
0.741	1.03	0.856	0.865	0.893	1.29
0.758	0.694	0.648	0.828	0.649	1.16

93	94	95	96	97	98
GWS-18-3	GWS-18-3	GWS-18-4	GWS-18-4	GWS-18-4	GWS-19
0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
6/30/2014	6/30/2014	6/30/2014	6/30/2014	6/30/2014	11/7/2013
1.08	0.711	1.19	1.12	0.698	10.1
0.999	0.72	1.27	0.635	0.762	4.68
0.558	0.461	1.17	0.776	0.616	0.826

99	100	101	102	103	104
GWS-19	GWS-19	GWS-19	GWS-19	GWS-19-1	GWS-19-1
0.5 - 2	2 - 3	3 - 4	4 - 5	0 - 0.5	0.5 - 2
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	7/1/2014	7/1/2014
73.4	14.8	3.71	1.46	1.07	0.757
21.3	3.37	1.22	1.09	0.867	0.838
1.28	0.558	0.588	0.578	0.938	0.96

105	106	107	108	109	110
GWS-19-1	GWS-19-1FD	GWS-19-2	GWS-19-2	GWS-19-2	GWS-19-2FD
2 - 3	2 - 3	0 - 0.5	0.5 - 2	2 - 3	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014
0.96	0.77	3.52	1.36	0.688	0.77
0.652	0.728	1.7	0.991	0.735	0.819
0.657	0.617	0.765	0.883	0.656	0.555

111	112	113	114	115	116
GWS-19-3	GWS-19-3	GWS-19-3	GWS-19-3FD	GWS-19-4	GWS-19-4
0 - 0.5	0.5 - 2	2 - 3	0.5 - 2	0 - 0.5	0.5 - 2
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014
1.21	0.877	0.756	0.871	1.11	0.632
0.926	0.745	0.849	0.826	0.829	0.575
0.71	0.797	0.664	0.746	0.806	0.548

117	118	119	120	121	122
GWS-19-4	GWS-19-4FD	GWS-19FD	GWS-20	GWS-20	GWS-20
2 - 3	2 - 3	0.5 - 2	0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
7/1/2014	7/1/2014	11/7/2013	11/7/2013	11/7/2013	11/7/2013
0.859	0.523	17	1.62	1.4	0.865
0.72	0.579	3.73	1.11	0.856	0.849
0.666	0.586	0.827	1.01	0.665	0.872

123	124	125	126	127	128
GWS-21	GWS-21	GWS-21	GWS-22	GWS-22	GWS-22FD
0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	0.5 - 2
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
4.58	1	1.21	4.36	1.38	0.944
4.35	0.763	1.01	4.19	0.892	0.949
4.45	0.851	0.898	3.61	0.846	0.778

129	130	131	132	133	134
GWS-23	GWS-23	GWS-23	GWS-24	GWS-24	GWS-24
0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
4.39	0.828	0.909	1.67	3.8	0.99
4.94	0.812	0.844	1.95	2.6	0.742
4.25	0.807	0.589	1.72	2.14	0.69

135	136	137	138
SP-01	SP-01	SP-01	SP-01
0 - 0.5	0.5 - 2	2 - 3	3 - 4
SOIL	SOIL	SOIL	SOIL
11/8/2013	11/8/2013	11/8/2013	11/8/2013
72.4	44.7	1.6	0.757
13.3	6.96	0.716	0.699
2.83	74.4	20.9	6.62

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
TB802A AREA

LOCATION ID				TB802A_01-1	TB802A_01-1	TB802A_01-1FD	TB802A_01-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.51	0.995	1.59	1.03
Thorium-230	PCI/G	18	55	1.20	1.43	1.48	1.15
Uranium-238	PCI/G	115	346	0.779	0.874	0.835	0.758

LOCATION ID				TB802A_01-2	TB802A_01-2	TB802A_01-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.25	0.995	1.17
Thorium-230	PCI/G	18	55	1.08	0.922	0.849
Uranium-238	PCI/G	115	346	0.962	0.804	0.711

LOCATION ID				TB802A_01-3	TB802A_01-3	TB802A_01-3	TB802A_01-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.11	1.20	8.39	0.877
Thorium-230	PCI/G	18	55	1.61	1.83	11.8	0.933
Uranium-238	PCI/G	115	346	0.669	0.918	1.78	0.708

LOCATION ID				TB802A_01-4	TB802A_01-4	TB802A_01-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.34	0.902	0.845
Thorium-230	PCI/G	18	55	1.27	1.03	0.841
Uranium-238	PCI/G	115	346	0.767	0.734	0.854

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
308 AREA

LOCATION ID				308-1	308-1	308-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.97	1.07	1.09
Thorium-230	PCI/G	18	55	1.95	0.83	0.851
Uranium-238	PCI/G	115	346	0.929	1.13	0.802

LOCATION ID				308-2	308-2	308-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.52	1.34	1.06
Thorium-230	PCI/G	18	55	1.59	1.48	1.02
Uranium-238	PCI/G	115	346	2.11	1.40	1.31

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 16
EU9 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU9
913 AREA

LOCATION ID				913-1	913-1	913-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.08	0.851	0.832
Thorium-230	PCI/G	18	55	0.885	0.767	0.899
Uranium-238	PCI/G	115	346	0.790	0.698	0.637

LOCATION ID				913-2	913-2	913-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.08	0.992	0.923
Thorium-230	PCI/G	18	55	1.01	0.937	0.867
Uranium-238	PCI/G	115	346	0.854	0.818	0.620

LOCATION ID				913-3	913-3	913-3FD	913-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
SAMPLE DATE				11/18/2013	11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.703	0.972	0.881	0.917
Thorium-230	PCI/G	18	55	0.739	0.646	0.652	0.75
Uranium-238	PCI/G	115	346	0.671	0.536	0.669	0.455

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 17
EU10 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU10
TWP937 Area

LOCATION ID				TWP937-1	TWP937-1	TWP937-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.19	1.07	0.728
Thorium-230	PCI/G	18	55	1.01	0.743	0.841
Uranium-238	PCI/G	115	346	1.15	0.748	0.886

LOCATION ID				TWP937-2	TWP937-2	TWP937-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.49	0.997	0.796
Thorium-230	PCI/G	18	55	1.51	0.851	0.933
Uranium-238	PCI/G	115	346	1.20	0.763	0.785

LOCATION ID				TWP937-3	TWP937-3	TWP937-3FD	TWP937-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.03	0.899	0.816	0.603
Thorium-230	PCI/G	18	55	2.11	0.889	0.773	0.624
Uranium-238	PCI/G	115	346	0.815	0.773	0.576	0.574

LOCATION ID				TWP937-4	TWP937-4	TWP937-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.51	1.11	0.751
Thorium-230	PCI/G	18	55	1.43	0.900	0.925
Uranium-238	PCI/G	115	346	0.873	0.870	0.849

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-01	MH06-01	MH06-01FD	MH06-01
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.796	0.857	1.06	0.952
Thorium-230	PCI/G	18	55	1.01	0.758	0.705	0.702
Uranium-238	PCI/G	115	346	3.80	4.24	3.94	5.24

LOCATION ID				MH06-02	MH06-02	MH06-02FD	MH06-02	MH06-02	MH06-02
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	1.18	1.07	0.991	1.16	0.688	0.979
Thorium-230	PCI/G	18	55	1.13	0.969	0.842	0.872	0.947	0.827
Uranium-238	PCI/G	115	346	6.69	23.5	27.0	27.0	24.5	19.5

LOCATION ID				MH06-03	MH06-03	MH06-03FD	MH06-03	MH06-03	MH06-03
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	0.854	0.865	1.00	0.785	1.01	0.961
Thorium-230	PCI/G	18	55	1.45	0.998	1.02	0.883	0.704	0.530
Uranium-238	PCI/G	115	346	0.441	0.862	1.01	0.832	23.3	5.28

LOCATION ID				MH06-04	MH06-04	MH06-04
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.23	0.735	0.843
Thorium-230	PCI/G	18	55	1.22	0.790	0.680
Uranium-238	PCI/G	115	346	5.89	5.12	2.52

LOCATION ID				MH06-05	MH06-05	MH06-05
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.08	1.28	0.743
Thorium-230	PCI/G	18	55	1.52	1.53	0.826
Uranium-238	PCI/G	115	346	0.957	0.977	1.03

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-06	MH06-06	MH06-06	MH06-06FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.20	1.51	0.982	1.17
Thorium-230	PCI/G	18	55	5.21	1.59	0.954	0.978
Uranium-238	PCI/G	115	346	1.31	1.67	1.28	1.25

LOCATION ID				MH06-07	MH06-07	MH06-07
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.91	1.27	1.03
Thorium-230	PCI/G	18	55	3.16	1.57	0.856
Uranium-238	PCI/G	115	346	1.01	1.16	1.28

LOCATION ID				MH06-08	MH06-08	MH06-08
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.15	1.81	0.880
Thorium-230	PCI/G	18	55	2.22	1.91	0.832
Uranium-238	PCI/G	115	346	1.03	1.45	0.973

LOCATION ID				MH06-09	MH06-09	MH06-09
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.92	1.68	1.38
Thorium-230	PCI/G	18	55	1.79	1.58	1.40
Uranium-238	PCI/G	115	346	0.821	0.771	1.12

LOCATION ID				MH06-10	MH06-10	MH06-10	MH06-10FD	MH06-10	MH06-10
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE		
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	1.19	1.18	0.862	1.21	0.911	0.915
Thorium-230	PCI/G	18	55	1.12	0.932	0.888	1.19	0.890	0.893
Uranium-238	PCI/G	115	346	10.3	23.2	30.6	20.6	23.7	6.86

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-11	MH06-11	MH06-11	MH06-11	MH06-11
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	0.739	0.364	1.01	0.814	1.05
Thorium-230	PCI/G	18	55	0.733	0.639	1.23	0.750	0.803
Uranium-238	PCI/G	115	346	0.597	0.394	2.78	20.7	15.2

LOCATION ID				MH06-12	MH06-12	MH06-12	MH06-12FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.52	0.883	0.838	1.12
Thorium-230	PCI/G	18	55	1.72	0.811	0.917	0.977
Uranium-238	PCI/G	115	346	4.66	5.94	4.03	4.33

LOCATION ID				MH06-13	MH06-13	MH06-13
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.99	1.14	0.84
Thorium-230	PCI/G	18	55	1.90	1.16	1.10
Uranium-238	PCI/G	115	346	3.46	7.64	12.9

LOCATION ID				MH06-14	MH06-14	MH06-14
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.53	1.00	0.835
Thorium-230	PCI/G	18	55	1.73	0.887	0.775
Uranium-238	PCI/G	115	346	1.69	1.56	1.50

LOCATION ID				MH06-15	MH06-15	MH06-15
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.949	0.800	0.639
Thorium-230	PCI/G	18	55	1.18	0.805	0.649
Uranium-238	PCI/G	115	346	0.753	0.789	0.570

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-16	MH06-16	MH06-16
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.35	1.17	0.677
Thorium-230	PCI/G	18	55	2.89	1.19	0.658
Uranium-238	PCI/G	115	346	0.847	1.09	0.595

LOCATION ID				MH06-17	MH06-17	MH06-17
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.82	1.35	1.06
Thorium-230	PCI/G	18	55	1.52	1.38	0.888
Uranium-238	PCI/G	115	346	0.865	1.24	0.876

LOCATION ID				MH06-18	MH06-18	MH06-18FD	MH06-18
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.02	0.890	0.959	0.921
Thorium-230	PCI/G	18	55	1.12	1.04	0.954	0.818
Uranium-238	PCI/G	115	346	5.51	7.30	6.38	4.03

LOCATION ID				MH06-19	MH06-19	MH06-19FD	MH06-19
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.882	0.545	0.460	0.962
Thorium-230	PCI/G	18	55	1.14	0.917	0.921	1.03
Uranium-238	PCI/G	115	346	1.01	5.28	1.81	17.2

LOCATION ID				MH06-20	MH06-20	MH06-20
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.07	1.07	0.968
Thorium-230	PCI/G	18	55	1.55	1.02	0.802
Uranium-238	PCI/G	115	346	1.70	3.60	3.46

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-21	MH06-21	MH06-21
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.27	0.921	0.897
Thorium-230	PCI/G	18	55	1.66	0.909	0.903
Uranium-238	PCI/G	115	346	3.91	9.38	6.14

LOCATION ID				MH06-22	MH06-22	MH06-22FD	MH06-22
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.59	0.975	0.989	0.838
Thorium-230	PCI/G	18	55	1.67	0.913	0.887	0.75
Uranium-238	PCI/G	115	346	7.16	18.6	22.6	6.38

LOCATION ID				MH06-23	MH06-23	MH06-23
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.92	1.03	0.957
Thorium-230	PCI/G	18	55	1.38	0.849	0.909
Uranium-238	PCI/G	115	346	1.82	2.53	2.16

LOCATION ID				MH06-24	MH06-24	MH06-24FD	MH06-24
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.18	0.930	1.33	0.804
Thorium-230	PCI/G	18	55	1.47	1.32	1.22	0.753
Uranium-238	PCI/G	115	346	0.896	1.26	1.13	0.845

LOCATION ID				MH06-25	MH06-25	MH06-25
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.05	0.958	0.707
Thorium-230	PCI/G	18	55	1.02	0.751	0.868
Uranium-238	PCI/G	115	346	3.90	1.11	0.913

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-26	MH06-26	MH06-26	MH06-26
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.386	1.04	1.05	0.878
Thorium-230	PCI/G	18	55	0.542	1.02	0.902	0.863
Uranium-238	PCI/G	115	346	0.463	0.69	0.746	19.4

LOCATION ID				MH06-27	MH06-27	MH06-27FD	MH06-27
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.66	0.771	0.996	0.675
Thorium-230	PCI/G	18	55	1.94	1.12	0.810	0.931
Uranium-238	PCI/G	115	346	6.95	2.75	2.71	1.82

LOCATION ID				MH06-28	MH06-28	MH06-28
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.19	0.724	0.855
Thorium-230	PCI/G	18	55	1.37	0.761	0.925
Uranium-238	PCI/G	115	346	3.17	0.906	0.854

LOCATION ID				MH06-29	MH06-29	MH06-29
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.80	0.937	0.866
Thorium-230	PCI/G	18	55	1.33	0.696	0.792
Uranium-238	PCI/G	115	346	6.06	8.35	11.4

LOCATION ID				MH06-30	MH06-30	MH06-30	MH06-30
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.75	0.948	0.78	1.21
Thorium-230	PCI/G	18	55	1.54	1.01	0.843	0.902
Uranium-238	PCI/G	115	346	3.89	8.13	2.54	1.36

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-31	MH06-31	MH06-31
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.42	1.14	0.889
Thorium-230	PCI/G	18	55	1.85	0.843	0.996
Uranium-238	PCI/G	115	346	0.951	1.94	1.45

LOCATION ID				MH06-32	MH06-32	MH06-32
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.21	0.899	0.866
Thorium-230	PCI/G	18	55	1.11	1.03	0.953
Uranium-238	PCI/G	115	346	1.77	1.81	6.09

LOCATION ID				MH06-33	MH06-33	MH06-33
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.934	1.02	0.765
Thorium-230	PCI/G	18	55	1.13	1.03	0.929
Uranium-238	PCI/G	115	346	9.81	24.0	4.82

LOCATION ID				MH06-34	MH06-34	MH06-34FD	MH06-34
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.734	1.57	0.925	0.798
Thorium-230	PCI/G	18	55	1.75	0.77	0.804	0.986
Uranium-238	PCI/G	115	346	6.23	3.78	3.28	2.06

LOCATION ID				MH06-35	MH06-35	MH06-35
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.84	1.50	0.911
Thorium-230	PCI/G	18	55	1.89	1.41	0.900
Uranium-238	PCI/G	115	346	1.09	3.20	3.88

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
2A006 AREA

LOCATION ID				2A006-1	2A006-1	2A006-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.26	2.48	1.17
Thorium-230	PCI/G	18	55	1.32	1.92	1.03
Uranium-238	PCI/G	115	346	0.967	1.17	1.86

LOCATION ID				2A006-2	2A006-2	2A006-3FD	2A006-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***6.73***	2.10	1.46	0.877
Thorium-230	PCI/G	18	55	7.06	2.73	2.30	0.945
Uranium-238	PCI/G	115	346	1.41	1.14	0.746	1.25

LOCATION ID				2A006-3	2A006-3	2A006-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.16	1.60	0.827
Thorium-230	PCI/G	18	55	3.77	1.79	0.902
Uranium-238	PCI/G	115	346	0.764	0.815	0.921

LOCATION ID				2A006-4	2A006-4	2A006-4FD	2A006-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.08***	1.70	2.37	0.965
Thorium-230	PCI/G	18	55	4.98	2.14	2.36	0.994
Uranium-238	PCI/G	115	346	1.12	1.29	1.27	1.95

LOCATION ID				2A006-5	2A006-5	2A006-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				41807.00	41807.00	41807.00
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.72***	2.38	0.97
Thorium-230	PCI/G	18	55	6.70	2.32	1.13
Uranium-238	PCI/G	115	346	1.82	1.30	1.12

LOCATION ID				2A006-6	2A006-6	2A006-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/17/2014	6/17/2014	6/17/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***18.6***	5.29	1.21
Thorium-230	PCI/G	18	55	***21.3***	7.34	0.807
Uranium-238	PCI/G	115	346	6.24	2.99	1.45

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
826 AREA

LOCATION ID				826-1	826-1	826-1FD	826-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.543	1.74	0.997	0.828
Thorium-230	PCI/G	18	55	0.857	1.47	1.09	0.866
Uranium-238	PCI/G	115	346	0.515	1.34	1.18	1.04

LOCATION ID				826-2	826-2	826-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.14	0.958	0.805
Thorium-230	PCI/G	18	55	1.03	0.823	0.796
Uranium-238	PCI/G	115	346	0.797	0.786	0.809

LOCATION ID				826-3	826-3	826-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.89	1.36	0.889
Thorium-230	PCI/G	18	55	2.12	1.17	0.965
Uranium-238	PCI/G	115	346	1.28	1.13	0.753

LOCATION ID				826-4	826-4	826-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.04	1.26	0.922
Thorium-230	PCI/G	18	55	2.90	1.50	0.891
Uranium-238	PCI/G	115	346	1.27	1.58	1.10

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
827 AREA

LOCATION ID				827-1	827-1
DEPTH (Feet)				0 - 0.5	0.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	2.59	4.56
Thorium-230	PCI/G	18	55	2.87	5.55
Uranium-238	PCI/G	115	346	1.27	5.84

LOCATION ID				827-2	827-2	827-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.47	1.38	1.06
Thorium-230	PCI/G	18	55	2.53	1.64	1.24
Uranium-238	PCI/G	115	346	0.981	1.50	1.07

LOCATION ID				827-3	827-3	827-3FD	827-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.15	1.07	1.21	0.957
Thorium-230	PCI/G	18	55	1.67	1.28	1.34	1.15
Uranium-238	PCI/G	115	346	1.63	1.41	1.62	1.26

LOCATION ID				827-4	827-4	827-4FD	827-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.98	2.03	1.99	0.98
Thorium-230	PCI/G	18	55	3.92	1.88	1.58	1.17
Uranium-238	PCI/G	115	346	1.22	1.13	1.26	1.72

LOCATION ID				827-5	827-5	827-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.66	4.46	1.48
Thorium-230	PCI/G	18	55	3.10	3.28	1.35
Uranium-238	PCI/G	115	346	1.08	3.12	1.46

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
830 AREA

LOCATION ID				830-1	830-1	830-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.76	0.508	1.09
Thorium-230	PCI/G	18	55	2.47	1.31	1.06
Uranium-238	PCI/G	115	346	0.712	1.11	1.67

LOCATION ID				830-2	830-2	830-2FD	830-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.60	0.984	0.987	0.776
Thorium-230	PCI/G	18	55	1.69	1.09	1.21	0.922
Uranium-238	PCI/G	115	346	0.625	1.00	1.01	0.847

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8A004 AREA

LOCATION ID				8A004-1	8A004-1	8A004-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.01***	2.67	0.834
Thorium-230	PCI/G	18	55	6.88	3.36	0.914
Uranium-238	PCI/G	115	346	1.00	0.942	0.935

LOCATION ID				8A004-2	8A004-2	8A004-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.20***	1.52	1.00
Thorium-230	PCI/G	18	55	6.96	1.56	1.19
Uranium-238	PCI/G	115	346	0.922	0.989	1.03

LOCATION ID				8A004-3	8A004-3	8A004-3FD	8A004-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.87	5.52	5.56	1.70
Thorium-230	PCI/G	18	55	5.80	5.06	5.24	1.55
Uranium-238	PCI/G	115	346	1.17	1.58	1.54	2.14

LOCATION ID				8A004-4	8A004-4	8A004-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.88***	1.85	1.31
Thorium-230	PCI/G	18	55	7.85	2.37	0.954
Uranium-238	PCI/G	115	346	1.19	1.09	0.960

LOCATION ID				8A004-5	8A004-5	8A004-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.80	1.42	0.954
Thorium-230	PCI/G	18	55	2.50	2.03	0.943
Uranium-238	PCI/G	115	346	0.884	1.16	1.19

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8A004 AREA

LOCATION ID				8A004-6	8A004-6	8A004-6	8A004-6FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.40	1.30	0.971	0.867
Thorium-230	PCI/G	18	55	2.48	1.08	0.835	0.95
Uranium-238	PCI/G	115	346	0.903	1.32	1.26	1.46

LOCATION ID				8A004-7	8A004-7	8A004-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.13	2.60	1.26
Thorium-230	PCI/G	18	55	5.86	2.92	1.02
Uranium-238	PCI/G	115	346	0.740	0.883	1.26

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8A009 AREA

LOCATION ID				8A009-1	8A009-1	8A009-1FD	8A009-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.68	1.10	1.20	0.997
Thorium-230	PCI/G	18	55	1.80	1.05	1.18	1.18
Uranium-238	PCI/G	115	346	1.96	2.03	1.96	1.22

LOCATION ID				8A009-2	8A009-2	8A009-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.58	1.16	0.909
Thorium-230	PCI/G	18	55	1.73	1.16	0.726
Uranium-238	PCI/G	115	346	1.28	1.15	0.374

LOCATION ID				8A009-3	8A009-3	8A009-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.14	1.39	0.992
Thorium-230	PCI/G	18	55	1.62	1.34	0.963
Uranium-238	PCI/G	115	346	2.44	2.18	0.813

LOCATION ID				8A009-4	8A009-4	8A009-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.153	2.27	0.990
Thorium-230	PCI/G	18	55	0.252	2.79	0.947
Uranium-238	PCI/G	115	346	0.285	2.72	1.15

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8H001 AREA

LOCATION ID				8H001-1	8H001-1	8H001-1FD	8H001-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.59	1.57	1.53	1.03
Thorium-230	PCI/G	18	55	2.99	1.65	1.54	0.990
Uranium-238	PCI/G	115	346	1.16	0.936	1.01	0.906

LOCATION ID				8H001-2
DEPTH (Feet)				0 - 0.5
MATRIX				SOIL
FIELD DUPLICATE				
DATE SAMPLED				12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2	
Radionuclides				
Radium-226	PCI/G	5	15	3.23
Thorium-230	PCI/G	18	55	3.64
Uranium-238	PCI/G	115	346	1.78

LOCATION ID				8H001-3	8H001-3	8H001-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.57	1.70	1.08
Thorium-230	PCI/G	18	55	1.66	1.75	1.01
Uranium-238	PCI/G	115	346	1.23	1.14	1.25

LOCATION ID				8H001-4
DEPTH (Feet)				0 - 0.5
MATRIX				SOIL
FIELD DUPLICATE				
DATE SAMPLED				12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2	
Radionuclides				
Radium-226	PCI/G	5	15	1.85
Thorium-230	PCI/G	18	55	1.90
Uranium-238	PCI/G	115	346	1.13

LOCATION ID				8H001-5	8H001-5	8H001-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.32	1.16	0.671
Thorium-230	PCI/G	18	55	2.13	1.71	0.671
Uranium-238	PCI/G	115	346	1.50	1.46	0.535

LOCATION ID				8H001-6	8H001-6	8H001-6FD	8H001-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.34	2.24	1.64	1.13
Thorium-230	PCI/G	18	55	2.34	2.28	2.35	1.07
Uranium-238	PCI/G	115	346	1.36	1.36	1.37	1.22

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8H002 AREA

LOCATION ID				8H002-1	8H002-1	8H002-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.41	1.97	0.78
Thorium-230	PCI/G	18	55	3.91	2.02	0.985
Uranium-238	PCI/G	115	346	1.77	1.13	1.98

LOCATION ID				8H002-2	8H002-2	8H002-2FD	8H002-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.46	1.93	1.36	0.996
Thorium-230	PCI/G	18	55	3.28	2.59	1.83	1.06
Uranium-238	PCI/G	115	346	2.34	2.16	2.15	1.59

LOCATION ID				8H002-3	8H002-3	8H002-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.54	1.41	1.02
Thorium-230	PCI/G	18	55	1.25	0.973	1.04
Uranium-238	PCI/G	115	346	1.35	1.64	0.942

LOCATION ID				8H002-4	8H002-4	8H002-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.52	2.88	0.780
Thorium-230	PCI/G	18	55	3.84	1.95	0.911
Uranium-238	PCI/G	115	346	1.69	1.94	0.963

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
GWS-11, GWS-12, GWS-13, AND GWS-27 AREAS

LOCATION ID				GWS-11	GWS-11	GWS-11
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***11.2***	1.93	0.910
Thorium-230	PCI/G	18	55	16.5	3.24	0.891
Uranium-238	PCI/G	115	346	2.03	0.995	1.45

LOCATION ID				GWS-11-1	GWS-11-1	GWS-11-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.21***	1.91	1.35
Thorium-230	PCI/G	18	55	7.21	1.44	0.995
Uranium-238	PCI/G	115	346	1.94	1.53	1.17

LOCATION ID				GWS-12	GWS-12	GWS-12FD	GWS-12
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.871	1.19	1.00	0.935
Thorium-230	PCI/G	18	55	5.14	0.910	1.15	0.895
Uranium-238	PCI/G	115	346	1.53	1.41	1.01	0.825

LOCATION ID				GWS-13	GWS-13	GWS-13
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.83	2.99	4.03
Thorium-230	PCI/G	18	55	7.66	5.67	0.771
Uranium-238	PCI/G	115	346	0.668	1.58	0.888

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
SP-09 AND SP-17 AREAS

LOCATION ID				SP-09	SP-09
DEPTH (Feet)				0.5 - 1.5	1.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	12.9	5.46
Thorium-230	PCI/G	18	55	16.5	5.28
Uranium-238	PCI/G	115	346	2.51	2.59

LOCATION ID				SP-17	SP-17	SP-17FD	SP-17
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.40	0.916	1.21	0.941
Thorium-230	PCI/G	18	55	3.21	0.856	0.964	1.12
Uranium-238	PCI/G	115	346	0.702	1.35	1.30	0.926

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
TB810 AREA

LOCATION ID				TB810_03-1	TB810_03-1	TB810_03-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.75	1.29	0.954
Thorium-230	PCI/G	18	55	1.47	1.46	0.926
Uranium-238	PCI/G	115	346	1.09	1.20	1.03

LOCATION ID				TB810_03-2	TB810_03-2	TB810_03-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.53	1.04	1.55
Thorium-230	PCI/G	18	55	1.18	1.04	1.29
Uranium-238	PCI/G	115	346	1.03	0.942	0.759

LOCATION ID				TB810_03-3	TB810_03-3	TB810_03-3FD	TB810_03-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.14	1.26	1.56	0.783
Thorium-230	PCI/G	18	55	1.77	1.39	1.14	0.797
Uranium-238	PCI/G	115	346	1.19	1.06	1.21	0.831

LOCATION ID				TB810_03-4	TB810_03-4	TB810_03-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.98	1.71	0.895
Thorium-230	PCI/G	18	55	1.75	0.935	0.994
Uranium-238	PCI/G	115	346	1.17	1.03	0.922

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
TS812 AREA

LOCATION ID				TS812_04-1	TS812_04-1	TS812_04-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.29	0.639	0.977
Thorium-230	PCI/G	18	55	1.36	0.795	0.947
Uranium-238	PCI/G	115	346	6.23	1.19	1.02

LOCATION ID				TS812_04-2	TS812_04-2	TS812_04-2FD	TS812_04-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.66	1.05	0.895	0.942
Thorium-230	PCI/G	18	55	2.05	1.23	1.29	0.929
Uranium-238	PCI/G	115	346	0.852	1.43	1.46	0.803

LOCATION ID				TS812_04-3	TS812_04-3	TS812_04-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.593	0.735	0.798
Thorium-230	PCI/G	18	55	0.986	0.675	0.940
Uranium-238	PCI/G	115	346	1.67	1.19	0.988

LOCATION ID				TS812_04-4	TS812_04-4	TS812_04-4FD	TS812_04-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.600	0.859	0.886	0.966
Thorium-230	PCI/G	18	55	1.14	0.763	0.806	0.727
Uranium-238	PCI/G	115	346	0.482	0.93	0.787	0.725

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
205 AREA

LOCATION ID				205-1	205-1	205-1FD	205-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.29	1.39	0.906	0.782
Thorium-230	PCI/G	18	55	1.90	1.52	0.815	0.712
Uranium-238	PCI/G	115	346	0.976	0.858	0.840	0.712

LOCATION ID				205-2	205-2	205-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.55***	2.24	0.249
Thorium-230	PCI/G	18	55	3.15	2.14	0.725
Uranium-238	PCI/G	115	346	0.926	1.00	0.504

LOCATION ID				205-3	205-3	205-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.59	3.90	1.13
Thorium-230	PCI/G	18	55	1.40	3.00	1.02
Uranium-238	PCI/G	115	346	0.762	2.95	1.11

LOCATION ID				205-4	205-4	205-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.53	1.81	0.934
Thorium-230	PCI/G	18	55	3.52	1.53	0.635
Uranium-238	PCI/G	115	346	1.07	0.961	0.492

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
218 AREA

LOCATION ID				218-1	218-1	218-1FD	218-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.08	1.34	1.98	0.911
Thorium-230	PCI/G	18	55	2.61	1.31	2.02	0.959
Uranium-238	PCI/G	115	346	0.982	1.25	1.36	1.34

LOCATION ID				218-2	218-2	218-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.15	1.10	1.02
Thorium-230	PCI/G	18	55	1.09	1.08	0.741
Uranium-238	PCI/G	115	346	0.819	1.60	0.771

LOCATION ID				218-3	218-3	218-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.37	1.13	0.866
Thorium-230	PCI/G	18	55	3.65	1.29	0.783
Uranium-238	PCI/G	115	346	1.07	1.03	1.32

LOCATION ID				218-4	218-4	218-4FD	218-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.96	1.52	1.69	1.23
Thorium-230	PCI/G	18	55	3.07	1.97	1.62	0.873
Uranium-238	PCI/G	115	346	1.22	1.66	1.19	1.00

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
219 AREA

LOCATION ID				219-1	219-1	219-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.77	4.82	1.12
Thorium-230	PCI/G	18	55	2.19	5.36	1.31
Uranium-238	PCI/G	115	346	0.828	0.762	0.996

LOCATION ID				219-2	219-2	219-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.02	2.16	0.905
Thorium-230	PCI/G	18	55	3.59	2.09	1.01
Uranium-238	PCI/G	115	346	0.993	0.853	0.912

LOCATION ID				219-3	219-3	219-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.01	1.03	1.01
Thorium-230	PCI/G	18	55	3.09	0.943	1.24
Uranium-238	PCI/G	115	346	0.857	0.804	1.25

LOCATION ID				219-4	219-4	219-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.94	1.36	1.10
Thorium-230	PCI/G	18	55	3.87	1.66	1.05
Uranium-238	PCI/G	115	346	1.06	0.572	1.38

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2A008 AREA

LOCATION ID				2A008-1	2A008-1	2A008-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.57	1.51	1.08
Thorium-230	PCI/G	18	55	1.22	1.41	0.948
Uranium-238	PCI/G	115	346	0.889	1.24	0.786

LOCATION ID				2A008-2	2A008-2	2A008-2FD	2A008-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***6.43***	1.93	2.60	0.954
Thorium-230	PCI/G	18	55	7.49	1.82	2.19	0.832
Uranium-238	PCI/G	115	346	1.14	0.767	0.601	0.444

LOCATION ID				2A008-3	2A008-3	2A008-3	2A008-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.32	2.92	1.24	0.737
Thorium-230	PCI/G	18	55	2.78	2.67	0.93	0.843
Uranium-238	PCI/G	115	346	1.11	1.33	1.10	0.884

LOCATION ID				2A008-4	2A008-4	2A008-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.36***	1.57	0.955
Thorium-230	PCI/G	18	55	6.86	2.48	0.735
Uranium-238	PCI/G	115	346	1.43	1.02	0.622

LOCATION ID				2A008-5	2A008-5	2A008-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.92	2.77	1.39
Thorium-230	PCI/G	18	55	4.37	3.11	1.04
Uranium-238	PCI/G	115	346	1.07	1.57	1.02

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2A008 AREA

LOCATION ID				2A008-6	2A008-6	2A008-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.28***	2.02	1.04
Thorium-230	PCI/G	18	55	10.7	2.37	0.793
Uranium-238	PCI/G	115	346	1.59	1.21	0.985

LOCATION ID				2A008-7	2A008-7	2A008-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.40***	1.86	1.38
Thorium-230	PCI/G	18	55	8.12	1.52	0.878
Uranium-238	PCI/G	115	346	1.43	1.18	1.20

LOCATION ID				2A008-8	2A008-8FD	2A008-8	2A008-8
DEPTH (Feet)				0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					DUPLICATE		
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.10***	4.19	2.68	1.10
Thorium-230	PCI/G	18	55	5.87	6.40	3.09	0.998
Uranium-238	PCI/G	115	346	1.11	0.929	1.48	1.15

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2D012 AREA

LOCATION ID				2D012-1	2D012-1	2D012-1FD	2D012-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.42	2.15	3.04	2.38
Thorium-230	PCI/G	18	55	1.28	0.830	1.28	1.55
Uranium-238	PCI/G	115	346	0.988	0.681	1.01	1.67

LOCATION ID				2D012-2	2D012-2	2D012-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.24	2.89	1.46
Thorium-230	PCI/G	18	55	1.28	1.43	1.12
Uranium-238	PCI/G	115	346	1.07	1.37	0.851

LOCATION ID				2D012-4	2D012-4	2D012-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.49	2.76	2.04
Thorium-230	PCI/G	18	55	2.25	2.13	1.12
Uranium-238	PCI/G	115	346	2.15	1.95	2.07

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2D013 AREA

LOCATION ID				2D013-1	2D013-1
DEPTH (Feet)				0 - 0.5	0.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	***5.20***	4.71
Thorium-230	PCI/G	18	55	4.05	3.56
Uranium-238	PCI/G	115	346	3.33	4.04

LOCATION ID				2D013-2	2D013-2	2D013-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.03	1.29	1.35
Thorium-230	PCI/G	18	55	1.72	1.11	0.816
Uranium-238	PCI/G	115	346	0.752	0.805	0.703

LOCATION ID				2D013-4	2D013-4	2D013-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***7.41***	1.34	0.834
Thorium-230	PCI/G	18	55	2.17	1.10	0.771
Uranium-238	PCI/G	115	346	1.13	1.04	0.886

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
GWS-27 AREA

LOCATION ID				GWS-27	GWS-27	GWS-27	GWS-27FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.03	1.41	0.998	0.957
Thorium-230	PCI/G	18	55	2.23	1.72	1.09	1.16
Uranium-238	PCI/G	115	346	1.32	1.08	1.11	1.15

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
203 AREA

LOCATION ID				203-1	203-1	203-1FD	203-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.25	0.984	1.07	0.993
Thorium-230	PCI/G	18	55	1.32	1.06	0.862	1.21
Uranium-238	PCI/G	115	346	1.23	0.999	0.736	1.97

LOCATION ID				203-2	203-2	203-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.95	1.08	0.891
Thorium-230	PCI/G	18	55	0.749	0.920	0.824
Uranium-238	PCI/G	115	346	1.07	0.849	0.793

LOCATION ID				203-3	203-3	203-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.63	1.07	1.06
Thorium-230	PCI/G	18	55	1.18	0.846	0.688
Uranium-238	PCI/G	115	346	1.43	0.813	1.44

LOCATION ID				203-4	203-4	203-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.59	1.21	0.947
Thorium-230	PCI/G	18	55	1.21	1.32	0.927
Uranium-238	PCI/G	115	346	1.36	1.30	2.25

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
220 AREA

LOCATION ID				220-1	220-1	220-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.05	3.94	1.96
Thorium-230	PCI/G	18	55	2.93	5.13	2.17
Uranium-238	PCI/G	115	346	1.00	1.09	1.37

LOCATION ID				220-2	220-2	220-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.90	1.59	2.42
Thorium-230	PCI/G	18	55	2.86	1.61	1.47
Uranium-238	PCI/G	115	346	0.648	0.842	1.18

LOCATION ID				220-3	220-3	220-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.60	4.33	3.26
Thorium-230	PCI/G	18	55	5.02	7.25	2.08
Uranium-238	PCI/G	115	346	0.707	16.5	3.44

LOCATION ID				220-4	220-4	220-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.698	1.88	0.981
Thorium-230	PCI/G	18	55	1.05	1.55	0.849
Uranium-238	PCI/G	115	346	0.442	1.53	1.19

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
221 AREA

LOCATION ID				221-1	221-1	221-1FD	221-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.622	1.17	1.12	1.19
Thorium-230	PCI/G	18	55	1.53	1.23	1.47	0.828
Uranium-238	PCI/G	115	346	0.655	0.592	0.775	0.735

LOCATION ID				221-2	221-2	221-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.346	0.593	1.29
Thorium-230	PCI/G	18	55	0.415	0.754	0.990
Uranium-238	PCI/G	115	346	0.228	0.599	2.58

LOCATION ID				221-3	221-3	221-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.289	3.99	1.11
Thorium-230	PCI/G	18	55	0.530	3.56	0.952
Uranium-238	PCI/G	115	346	0.348	2.23	2.65

LOCATION ID				221-4	221-4	221-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.50	3.02	0.725
Thorium-230	PCI/G	18	55	2.07	1.61	0.765
Uranium-238	PCI/G	115	346	2.09	1.59	0.888

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
GWS-14 AREA

LOCATION ID				GWS-14	GWS-14	GWS-14
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.372	0.971	0.838
Thorium-230	PCI/G	18	55	0.579	1.00	0.979
Uranium-238	PCI/G	115	346	0.364	1.14	1.52

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 21

EU14 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU14
8B001 AREA

LOCATION ID				8B001-1	8B001-1	8B001-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.9***	2.67	0.930
Thorium-230	PCI/G	18	55	1.85	1.39	1.09
Uranium-238	PCI/G	115	346	0.800	1.25	1.18

LOCATION ID				8B001-2	8B001-2	8B001-2FD	8B001-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.3***	6.08	5.13	***15.3***
Thorium-230	PCI/G	18	55	2.58	4.85	4.05	2.05
Uranium-238	PCI/G	115	346	2.11	2.57	3.20	0.790

LOCATION ID				8B001-3	8B001-3	8B001-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.45	3.25	3.40
Thorium-230	PCI/G	18	55	1.41	0.920	2.73
Uranium-238	PCI/G	115	346	1.49	0.973	2.50

LOCATION ID				8B001-4	8B001-4	8B001-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.46	1.07	0.841
Thorium-230	PCI/G	18	55	1.17	1.08	0.985
Uranium-238	PCI/G	115	346	0.974	1.10	0.957

LOCATION ID				8B001-5	8B001-5	8B001-5	8B001-5	8B001-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	***5.07***	4.29	1.23	0.910	1.21
Thorium-230	PCI/G	18	55	2.43	1.52	0.988	0.902	0.894
Uranium-238	PCI/G	115	346	1.42	0.994	0.827	0.671	0.724

TABLE 21

EU14 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU14
8B001 AREA

LOCATION ID				8B001-6	8B001-6	8B001-6	8B001-6	8B001-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	2.04	1.38	0.732	0.911	0.837
Thorium-230	PCI/G	18	55	1.27	1.09	0.897	0.847	0.958
Uranium-238	PCI/G	115	346	0.883	0.945	1.01	0.923	0.786

LOCATION ID				8B001-7	8B001-7	8B001-7FD	8B001-7	8B001-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE		
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	2.72	1.73	2.12	5.35	5.37
Thorium-230	PCI/G	18	55	1.69	1.23	1.54	5.13	4.70
Uranium-238	PCI/G	115	346	0.796	0.759	1.10	4.63	4.72

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

8B001-7
4 - 5
SOIL
6/19/2014
6.09
3.88
3.64

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
101	0	0.5	1.64	1.94	1.02	0.23
101	10	10.5	0.639	0.528	0.524	0
102	0	0.5	1.07	1.45	0.774	0.087
102	9	9.5	0.859	1.26	0.796	0.012
103	0	0.5	0.652	0.941	1.44	0.007
103	10	10.5	0.763	1.03	0.989	0.002
1A001	0	0.5	0.937	1.57	1.1	0.068
1A002	0	0.5	2.04	1.88	1.09	0.306
1B001	0	0.5	1.02	1.22	0.797	0.064
1B002	0	0.5	1.02	0.828	0.956	0.047
201	0	0.5	1.66	3.48	1.37	0.322
201	9.5	10	0.646	0.585	0.696	0
202	0	0.5	0.988	1.17	1.91	0.064
202	9.5	10	0.985	1.31	1.07	0.021
203	0	0.5	1140	6.48	1.8	228.161
203	11.5	12	0.894	1.03	1.13	0.01
203-1	0	0.5	2.25	1.32	1.23	0.319
203-1	0.5	2	0.984	1.06	0.999	0.017
203-1	2	3	0.993	1.21	1.97	0.023
203-2	0	0.5	1.95	0.749	1.07	0.234
203-2	0.5	2	1.08	0.92	0.849	0.019
203-2	2	3	0.891	0.824	0.793	0.007
203-3	0	0.5	1.63	1.18	1.43	0.189
203-3	0.5	2	1.07	0.846	0.813	0.019
203-3	2	3	1.06	0.688	1.44	0.02
203-4	0	0.5	1.59	1.21	1.36	0.182
203-4	0.5	2	1.21	1.32	1.3	0.037
203-4	2	3	0.947	0.927	2.25	0.014
204	0	0.5	0.891	2.17	0.923	0.092
204	8.5	9	0.634	1.09	0.836	0.003
205	0	0.5	7.87	3.47	0.763	1.559
205	12	12.5	0.776	0.674	0.775	0
205-1	0	0.5	1.29	1.9	0.976	0.157
205-1	0.5	2	1.39	1.52	0.858	0.051
205-1	2	3	0.782	0.712	0.712	0
205-2	0	0.5	5.55	3.15	0.926	1.078
205-2	0.5	2	2.24	2.14	1	0.121
205-2	2	3	0.249	0.725	0.504	0
205-3	0	0.5	2.59	1.4	0.762	0.388
205-3	0.5	2	3.9	3	2.95	0.251
205-3	2	3	1.13	1.02	1.11	0.026
205-4	0	0.5	3.53	3.52	1.07	0.696
205-4	0.5	2	1.81	1.53	0.961	0.079
205-4	2	3	0.934	0.635	0.492	0.01
206	0	0.5	1.72	1.65	0.796	0.228
206	8.5	9	0.957	0.705	0.991	0.011
207	0	0.5	1.53	2.32	2.15	0.239
207	13.5	14	0.668	0.689	0.576	0
208	0	0.5	0.511	1.79	0.978	0.05
208	11.5	12	0.855	1.33	1.07	0.013
209	0	0.5	1.42	2.01	1.03	0.19
209	9.5	10	0.717	0.673	0.848	0
210	0	0.5	1.66	2.01	0.65	0.236
210	12.5	13	0.615	0.886	0.515	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
211	0	0.5	3.92	7.39	0.968	0.988
211	10.5	11	0.793	0.979	0.756	0.001
212	0	0.5	1.71	2.88	0.888	0.295
212	12	12.5	0.848	1.21	0.947	0.01
213	0	0.5	1.36	1.69	0.992	0.159
213	12	12.5	1.05	1.01	0.863	0.019
214	0	0.5	1.06	1.54	0.721	0.09
214	14.5	15	0.823	0.964	0.932	0.003
215	0	0.5	1.41	1.34	1.08	0.15
215	7	7.5	1.19	0.893	1.61	0.029
216	0	0.5	1.52	3.13	0.839	0.27
216	10	10.5	0.866	0.986	0.815	0.007
217	0	0.5	1.45	2.17	0.731	0.203
217	12.5	13	0.842	0.865	0.814	0.003
218	0	0.5	29.6	69.6	12.1	9.677
218	1.5	2	0.841	1.11	1.41	0.009
218	15	15	0.75	1.24	1.08	0.007
218-1	0	0.5	2.08	2.61	0.982	0.354
218-1	0.5	2	1.34	1.31	1.25	0.045
218-1	2	3	0.911	0.959	1.34	0.011
218-2	0	0.5	1.15	1.09	0.819	0.083
218-2	0.5	2	1.1	1.08	1.6	0.026
218-2	2	3	1.02	0.741	0.771	0.015
218-3	0	0.5	4.37	3.65	1.07	0.871
218-3	0.5	2	1.13	1.29	1.03	0.031
218-3	2	3	0.866	0.783	1.32	0.006
218-4	0	0.5	2.96	3.07	1.22	0.558
218-4	0.5	2	1.52	1.97	1.66	0.07
218-4	2	3	1.23	0.873	1	0.03
219	0	0.5	24.1	39.2	7.51	6.848
219	1.5	2	1.61	1.57	1.14	0.068
219	6	6	0.729	1.16	1.82	0.008
219-1	0	0.5	1.77	2.19	0.828	0.268
219-1	0.5	2	4.82	5.36	0.762	0.35
219-1	2	3	1.12	1.31	0.996	0.03
219-2	0	0.5	4.02	3.59	0.993	0.797
219-2	0.5	2	2.16	2.09	0.853	0.113
219-2	2	3	0.905	1.01	0.912	0.01
219-3	0	0.5	2.01	3.09	0.857	0.366
219-3	0.5	2	1.03	0.943	0.804	0.017
219-3	2	3	1.01	1.24	1.25	0.022
219-4	0	0.5	3.94	3.87	1.06	0.797
219-4	0.5	2	1.36	1.66	0.572	0.052
219-4	2	3	1.1	1.05	1.38	0.026
220	0	0.5	33.4	8.24	6.8	6.982
220	0.5	1	10.7	2.01	4.36	0.691
220	20	20	0.77	1.36	1.03	0.009
220-1	0	0.5	2.05	2.93	1	0.367
220-1	0.5	2	3.94	5.13	1.09	0.288
220-1	2	3	1.96	2.17	1.37	0.103
220-2	0	0.5	2.9	2.86	0.648	0.531
220-2	0.5	2	1.59	1.61	0.842	0.066
220-2	2	3	2.42	1.47	1.18	0.12
220-3	0	0.5	3.6	5.02	0.707	0.791

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
220-3	0.5	2	4.33	7.25	16.5	0.396
220-3	2	3	3.26	2.08	3.44	0.194
220-4	0	0.5	0.698	1.05	0.442	0.008
220-4	0.5	2	1.88	1.55	1.53	0.087
220-4	2	3	0.981	0.849	1.19	0.014
221	0	0.5	127	978	26.2	79.746
221	1.5	2	1.48	2.38	1.84	0.076
221-1	0	0.5	0.622	1.53	0.655	0.035
221-1	0.5	2	1.17	1.23	0.592	0.031
221-1	2	3	1.19	0.828	0.735	0.027
221-2	0	0.5	0.346	0.415	0.228	0
221-2	0.5	2	0.593	0.754	0.599	0
221-2	2	3	1.29	0.99	2.58	0.04
221-3	0	0.5	0.289	0.53	0.348	0
221-3	0.5	2	3.99	3.56	2.23	0.265
221-3	2	3	1.11	0.952	2.65	0.027
221-4	0	0.5	2.5	2.07	2.09	0.418
221-4	0.5	2	3.02	1.61	1.59	0.164
221-4	2	3	0.725	0.765	0.888	0
221A	15	15	0.797	1.48	0.906	0.011
222	6	6	0.702	1.39	1.1	0.01
223	3	3	1.24	1.49	3.44	0.049
224	10	10	0.78	0.913	0.817	0
225	10	10	0.67	1.06	0.65	0.003
226	12	12	0.805	1.22	1.01	0.008
227	15	15	0.833	0.775	0.822	0.003
2A001	10.5	11	0.938	1.24	0.924	0.016
2A002	0	0.5	0.956	1.57	0.63	0.07
2A002	10.5	11	0.811	1.22	1.1	0.008
2A003	0	0.5	0.379	0.403	0.338	0
2A003	11	11.5	0.937	0.938	0.539	0.011
2A004	0	0.5	4.18	6.31	1.74	0.987
2A005	0	0.5	3.41	4.88	1.02	0.747
2A005	1.53	1.7	1.69	2.37	0.85	0.087
2A006	0	0.5	5.46	8.04	1.95	1.341
2A006-1	0	0.5	1.26	1.32	0.967	0.118
2A006-1	0.5	2	2.48	1.92	1.17	0.133
2A006-1	2	3	1.17	1.03	1.86	0.03
2A006-2	0	0.5	6.73	7.06	1.41	1.535
2A006-2	0.5	2	2.1	2.73	1.14	0.121
2A006-2	2	3	0.877	0.945	1.25	0.008
2A006-3	0	0.5	4.16	3.77	0.764	0.833
2A006-3	0.5	2	1.6	1.79	0.815	0.07
2A006-3	2	3	0.827	0.902	0.921	0.002
2A006-4	0	0.5	5.08	4.98	1.12	1.088
2A006-4	0.5	2	1.7	2.14	1.29	0.085
2A006-4	2	3	0.965	0.994	1.95	0.017
2A006-5	0	0.5	6.72	6.7	1.82	1.517
2A006-5	0.5	2	2.38	2.32	1.3	0.133
2A006-5	2	3	0.972	1.13	1.12	0.017
2A006-6	0	0.5	18.6	21.3	6.24	4.742
2A006-6	0.5	2	5.29	7.34	2.99	0.423
2A006-6	2	3	1.21	0.807	1.45	0.03
2A007	0	0.5	1.04	1.13	1.33	0.067

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
2A008	0	0.5	8.65	14	1.64	2.307
2A008-1	0	0.5	1.57	1.22	0.889	0.175
2A008-1	0.5	2	1.51	1.41	1.24	0.058
2A008-1	2	3	1.08	0.948	0.786	0.02
2A008-2	0	0.5	6.43	7.49	1.14	1.497
2A008-2	0.5	2	1.93	1.82	0.767	0.093
2A008-2	2	3	0.954	0.832	0.444	0.011
2A008-3	0	0.5	2.32	2.78	1.11	0.413
2A008-3	0.5	2	2.92	2.67	1.33	0.175
2A008-3	2	3	1.24	0.93	1.1	0.032
2A008-3	3	4	0.737	0.843	0.884	0
2A008-4	0	0.5	6.36	6.86	1.43	1.45
2A008-4	0.5	2	1.57	2.48	1.02	0.082
2A008-4	2	3	0.955	0.735	0.622	0.011
2A008-5	0	0.5	2.92	4.37	1.07	0.621
2A008-5	0.5	2	2.77	3.11	1.57	0.174
2A008-5	2	3	1.39	1.04	1.02	0.044
2A008-6	0	0.5	6.28	10.7	1.59	1.649
2A008-6	0.5	2	2.02	2.37	1.21	0.11
2A008-6	2	3	1.04	0.793	0.985	0.017
2A008-7	0	0.5	5.4	8.12	1.43	1.328
2A008-7	0.5	2	1.86	1.52	1.18	0.083
2A008-7	2	3	1.38	0.878	1.2	0.04
2A008-8	0	0.5	5.1	5.87	1.11	1.141
2A008-8	0.5	2	2.68	3.09	1.48	0.168
2A008-8	2	3	1.1	0.998	1.15	0.024
2A009	0	0.5	1.34	2.93	0.659	0.223
2B001	0	0.5	1.41	1.42	1.26	0.157
2B001	15.5	16	0.994	1.64	0.981	0.027
2B002	0	0.5	3.43	2.54	1.78	0.627
2B002	9	9.5	1.01	1.13	0.929	0.019
2B003	0	0.5	1.81	3.94	2.23	0.385
2B003	7.5	8	0.592	0.768	0.401	0
2B004	0	0.5	1.47	1.39	2.25	0.175
2B005	0	0.5	1.02	1.12	0.787	0.058
2B006	0	0.5	0.997	1.39	2.26	0.081
2B006	12.5	13	0.852	0.733	0.518	0.004
2B007	0	0.5	1.56	2.81	1.61	0.267
2B008	0	0.5	1.47	2.76	1.42	0.244
2B009	0	0.5	1.08	1.99	1.14	0.122
2B010	0	0.5	0.862	1.46	1.16	0.048
2B011	0	0.5	0.804	1.19	1.13	0.022
2B012	0	0.5	0.789	1.37	0.6	0.026
2B013	0	0.5	0.849	0.957	0.917	0.016
2B014	0	0.5	126	4.3	3.82	25.257
2B014	2	2	0.889	1.14	0.956	0.011
2B014-1	0	0.5	0.491	0.651	1.02	0.002
2B014-1	0.5	2	0.581	0.654	0.829	0
2B014-2	0	0.5	1.22	1.14	0.766	0.099
2B014-2	0.5	2	1.08	1.04	1.02	0.023
2B014-2	2	3	0.873	0.86	1.28	0.007
2B014-3	0	0.5	1.17	0.95	1.79	0.087
2B014-3	0.5	2	0.964	1.03	1.54	0.016
2B014-3	2	3	0.735	0.678	0.707	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
2B014-4	0	0.5	1.44	1.2	3.36	0.169
2B014-4	0.5	1	1.01	0.877	1.83	0.018
2B015	0	0.5	0.775	1.12	1.1	0.014
2B016	0	0.5	1.08	1.02	1.52	0.071
2B017	0	0.5	0.812	0.704	1.08	0.006
2B018	0	0.5	0.922	1.27	1.24	0.051
2C001	16.5	17	0.514	1.02	0.385	0.002
2C002	0	0.5	1.65	2.32	0.958	0.252
2D001	0	0.5	1.47	2.75	1.29	0.243
2D002	0	0.5	1.59	2.97	0.721	0.275
2D003	0	0.5	2.13	3.26	1.13	0.402
2D004	0	0.5	0.912	0.0906	0.0416	0.024
2D005	0	0.5	1.77	2.39	0.784	0.279
2D006	0	0.5	1.57	1.91	1.16	0.215
2D007	0	0.5	1.83	1.64	1.19	0.252
2D008	0	0.5	1.46	2.84	0.894	0.243
2D009	0	0.5	0.994	1.73	2.5	0.102
2D010	0	0.5	1.1	1.25	0.754	0.081
2D011	0	0.5	1.37	2.29	3.05	0.212
2D012	0	0.5	10.7	4.2	1.02	2.167
2D012-1	0	0.5	2.42	1.28	0.988	0.348
2D012-1	0.5	2	2.15	0.83	0.681	0.091
2D012-1	2	3	2.38	1.55	1.67	0.12
2D012-2	0	0.5	1.24	1.28	1.07	0.113
2D012-2	0.5	2	2.89	1.43	1.37	0.152
2D012-2	2	3	1.46	1.12	0.851	0.049
2D012-4	0	0.5	4.49	2.25	2.15	0.827
2D012-4	0.5	2	2.76	2.13	1.95	0.156
2D012-4	2	3	2.04	1.12	2.07	0.091
2D013	0	0.5	5.92	3.36	1.18	1.166
2D013-1	0	0.5	5.2	4.05	3.33	1.079
2D013-1	0.5	2	4.71	3.56	4.04	0.318
2D013-2	0	0.5	2.03	1.72	0.752	0.294
2D013-2	0.5	2	1.29	1.11	0.805	0.037
2D013-2	2	3	1.35	0.816	0.703	0.037
2D013-4	0	0.5	7.41	2.17	1.13	1.398
2D013-4	0.5	2	1.34	1.1	1.04	0.042
2D013-4	2	3	0.834	0.771	0.886	0.003
301	0	0.5	0.827	0.935	1.22	0.012
301	9.5	10	0.88	0.859	0.991	0.006
302	0	0.5	0.671	0.726	0.658	0
302	10.5	11	0.751	0.8	0.718	0
303	0	0.5	3.84	3.48	2.42	0.767
303	7.5	8	0.819	0.775	0.618	0.002
304	0	0.5	1.61	1.8	0.94	0.215
304	8.5	9		1.09	0.86	0.003
305	0	0.5	1.27	1.35	0.922	0.122
305	12	12.5	0.843	0.977	0.834	0.005
306	0	0.5	1.17	1.87	1.48	0.136
306	12	12.5	0.751	1.49	1.1	0.012
307	0	0.5	0.74	0.631	1.01	0.002
307	9.5	10	0.766	0.787	0.719	0
308	0	0.5	3.56	14.2	3.42	1.316
308	18.5	19	0.797	0.843	0.929	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
308-1	0	0.5	1.97	1.95	0.929	0.295
308-1	0.5	2	1.07	0.83	1.13	0.02
308-1	2	3	1.09	0.851	0.802	0.02
308-2	0	0.5	1.52	1.59	2.11	0.195
308-2	0.5	2	1.34	1.48	1.4	0.05
308-2	2	3	1.06	1.02	1.31	0.021
309	0	0.5	2.58	5.64	1.28	0.625
309	18.5	19	0.667	0.696	0.492	0
310	0	0.5	1.56	1.92	0.83	0.211
310	8	8.5	0.908	0.712	0.516	0.008
311	0	0.5	6.58	15.6	1.75	1.983
311	12.5	13	0.806	1.05	0.69	0.004
312	0	0.5	7.49	10.3	2.09	1.873
312	14.5	15	0.709	1.1	0.713	0.004
312-1	0	0.5	1.64	2.51	0.767	0.259
312-1	0.5	2	0.901	0.971	0.69	0.008
312-1	2	3	1.05	0.905	0.638	0.017
312-2	0	0.5	4.08	4.91	1.02	0.883
312-2	0.5	2	2.27	2.42	0.984	0.127
312-2	2	3	1.06	0.879	1.26	0.019
312-3	0	0.5	3.09	3.68	1.16	0.617
312-3	0.5	2	1.19	0.865	0.892	0.027
312-3	2	3	1.15	0.695	0.715	0.024
312-4	0	0.5	6.5	7.52	1.76	1.518
312-4	0.5	2	2.18	2.55	1.55	0.125
312-4	2	3	0.704	0.923	0.73	0
312-5	0	0.5	5.24	6.62	1.81	1.217
312-5	0.5	2	2.66	2.51	1.34	0.156
312-5	2	3	1.13	0.876	1.3	0.024
313	0	0.5	1.52	1.87	1.4	0.205
313	13	13.5	0.796	1.03	1.44	0.004
314	0	0.5	55.4	15.8	2.37	11.763
314	1	1.5	28.1	8.12	1.39	1.954
314-1	0	0.5	1.35	0.892	1.19	0.115
314-1	0.5	2	1.04	0.708	1.57	0.019
314-1	2	3	0.811	0.843	1.1	0.002
314-2	0	0.5	1.1	1.65	0.75	0.104
314-2	0.5	2	0.524	0.604	0.485	0
314-2	2	3	0.887	0.893	0.773	0.006
314-3	0	0.5	3.36	4.68	1.32	0.728
314-3	0.5	2	0.969	0.829	0.721	0.012
314-3	2	3	0.77	0.72	0.703	0
314-4	0	0.5	0.851	1.55	1.07	0.05
314-4	0.5	2	0.573	0.534	0.486	0
314-4	2	3	0.94	0.768	0.705	0.01
3A001	0	0.5	2.57	2.45	1.14	0.445
3A002	0	0.5	4.06	7.36	1.62	1.02
3A002-1	0	0.5	0.687	1.95	0.545	0.058
3A002-1	0.5	2	0.633	1.37	0.609	0.009
3A002-1	2	3	0.816	0.962	1.01	0.004
3A002-2	0	0.5	3.01	3.26	0.98	0.576
3A002-2	0.5	2	1.43	1.29	0.857	0.05
3A002-2	2	3	1.05	0.919	0.879	0.017
3A002-3	0	0.5	3.62	3.41	0.936	0.706

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3A002-3	0.5	2	1.7	1.96	0.827	0.08
3A002-3	2	3	0.864	0.866	0.796	0.005
3A002-4	0	0.5	2.89	2.49	0.898	0.509
3A002-4	0.5	2	1.49	1.42	0.874	0.056
3A002-4	2	3	0.798	0.976	1.1	0.003
3A003	0	0.5	3.2	4.18	1.28	0.668
3A004	0	0.5	2.67	5.17	4	0.641
3A005	0	0.5	3.87	7.79	9.23	1.072
3A005-1	0	0.5	8.2	9.29	2.96	1.967
3A005-1	0.5	2	0.904	1.13	1.22	0.013
3A005-1	2	3	0.711	0.613	0.836	0
3A005-2	0	0.5	2.77	2.82	1.62	0.51
3A005-2	0.5	2	1.69	1.82	1.52	0.079
3A005-2	2	3	0.651	0.709	0.91	0
3A005-3	0	0.5	8.58	10.9	3.77	2.14
3A005-3	0.5	2	1.03	1.18	1.19	0.022
3A005-3	2	3	1.12	0.829	0.964	0.022
3A005-4	0	0.5	0.448	0.399	0.364	0
3A005-4	0.5	2	0.61	0.69	0.478	0
3A005-4	2	3	2.16	4.21	0.939	0.151
3A006	0	0.5	6.31	9.35	1.85	1.582
3A006-1	0	0.5	4.78	6.12	1.49	1.094
3A006-1	0.5	2	1.3	1.53	0.814	0.045
3A006-1	2	3	0.711	0.754	1.06	0.001
3A006-2	0	0.5	6.9	8.79	1.13	1.663
3A006-2	0.5	2	0.75	1.15	0.88	0.005
3A006-2	2	3	0.546	0.654	0.528	0
3A006-3	0	0.5	4.78	6.95	1.27	1.138
3A006-3	0.5	2	1.16	1.13	0.838	0.029
3A006-3	2	3	0.711	0.719	0.871	0
3A006-4	0	0.5	4.18	5.02	0.977	0.908
3A006-4	0.5	2	1.34	1.28	0.841	0.044
3A006-4	2	3	0.698	0.764	1.12	0.001
3A007	0	0.5	5.5	8.82	1.52	1.388
3A007-1	0	0.5	7.92	11	1.67	1.994
3A007-1	0.5	2	0.937	1.05	0.627	0.013
3A007-1	2	3	0.509	0.744	0.37	0
3A007-2	0	0.5	4.18	0.499	1.23	0.682
3A007-2	0.5	2	1.41	4.86	1.01	0.114
3A007-2	2	3	0.74	1.21	0.583	0.006
3A007-3	0	0.5	5.44	0.735	1.28	0.934
3A007-3	0.5	2	1.15	1.34	0.858	0.032
3A007-3	2	3	1.19	0.965	0.697	0.028
3A008	0	0.5	2.26	2.33	1.19	0.376
3A009	0	0.5	2.86	3.21	0.923	0.543
3A010	0	0.5	2.35	3.69	1.29	0.471
3A011	0	0.5	1.77	2.61	1.11	0.294
3A012	0	0.5	1.97	2.25	1.3	0.315
3A013	0	0.5	5.51	7.3	1.42	1.305
3A013-1	0	0.5	3.35	4.57	1.28	0.72
3A013-1	0.5	2	1.32	1.17	1	0.041
3A013-1	2	3	1.18	0.809	0.848	0.026
3A013-2	0	0.5	2.76	3.68	1.4	0.553
3A013-2	0.5	2	0.879	0.745	0.705	0.006

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3A013-2	2	3	1.03	0.697	0.986	0.016
3A014	0	0.5	1.06	1.14	1.18	0.07
3A015	0	0.5	1.13	1.28	1.41	0.094
3A016	0	0.5	4.21	5.79	1.06	0.958
3A017	0	0.5	15.1	7.59	0.999	3.236
3A017	0.5	1	16.7	6.18	1.52	1.159
3A017	5	5	0.819	1.56	0.934	0.014
3A017-1	0	0.5	2.31	2.87	0.603	0.413
3A017-1	0.5	2	1.05	1.27	0.662	0.024
3A017-1	2	3	0.864	0.842	0.728	0.005
3A017-2	0	0.5	7.56	4.44	0.84	1.551
3A017-2	0.5	2	3.44	2.74	1.25	0.211
3A017-2	2	3	0.805	0.809	1.13	0.002
3A017-3	0	0.5	15.7	16.1	1.09	3.828
3A017-3	0.5	2	3.67	3.83	1.88	0.248
3A017-3	2	3	0.967	0.957	0.872	0.013
3A017-4	0	0.5	3.45	3.61	0.886	0.684
3A017-4	0.5	2	1.38	1.32	1.11	0.048
3A017-4	2	3	0.961	0.719	0.801	0.011
3A017-5	0	0.5	5.78	4.27	0.881	1.186
3A017-5	0.5	2	2.63	2.93	2.11	0.164
3A017-5	2	3	1.64	1.28	1.12	0.065
3A017-6	0	0.5	4.06	5.78	0.976	0.926
3A017-6	0.5	2	2.13	2.1	0.975	0.111
3A017-6	2	3	1.07	0.741	0.682	0.019
3A017-7	0	0.5	3.57	5.48	1.39	0.815
3A017-7	0.5	2	2.33	2.78	1.89	0.14
3A017-7	2	3	1.31	1.12	1.25	0.04
3A020	0	0.5	8.54	0.338	1.89	1.559
3A020	2	2	5.85	5.18	5.89	0.43
3A020	5	5	0.606	0.784	0.239	0
3A020-1	0	0.5	3.55	3.79	0.742	0.713
3A020-1	0.5	2	1.95	1.63	0.792	0.09
3A020-1	2	3	1.14	0.78	1.85	0.026
3A020-3	0	0.5	4.3	5.35	1.15	0.952
3A020-3	0.5	2	1.5	1.44	0.942	0.057
3A020-3	2	3	1.13	0.897	1.13	0.024
3A020-4	0	0.5	4.88	5.22	0.951	1.059
3A020-4	0.5	2	3.13	2.39	2.85	0.189
3A020-4	2	3	0.814	0.778	0.647	0.002
3A020-5	0	0.5	6.18	7.32	1.02	1.437
3A020-5	0.5	2	2.71	2.94	2.15	0.169
3A020-5	2	3	0.935	0.687	0.724	0.01
3A021	0	0.5	21	21.8	1.47	5.209
3A022	0	0.5	1.48	1.53	1.37	0.178
3A023	0	0.5	17.6	11.5	1.07	3.953
3A023-1	0	0.5	3.35	3.99	1.32	0.688
3A023-1	0.5	2	1.7	1.5	1.1	0.073
3A023-1	2	3	0.728	0.754	0.638	0
3A023-2	0	0.5	1.98	2.24	0.652	0.312
3A023-2	0.5	2	1.09	0.87	0.635	0.02
3A023-2	2	3	0.836	0.779	0.627	0.003
3A023-3	0	0.5	1.85	1.84	0.753	0.264
3A023-3	0.5	2	1.07	1.03	0.764	0.021

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3A023-3	2	3	0.816	0.729	0.718	0.002
3A024	0	0.5	10.7	8.85	1.92	2.434
3A025	0	0.5	2.6	3.87	0.794	0.527
3B001	0	0.5	1.07	2.15	2.46	0.139
3B002	0	0.5	2.05	3.32	1.09	0.388
3B003	0	0.5	7.91	8.65	2.49	1.87
3B003-1	0	0.5	4.1	4.04	1.16	0.839
3B003-1	0.5	2	1.17	0.857	0.696	0.025
3B003-1	2	3	0.823	0.506	0.634	0.002
3B003-2	0	0.5	4.88	7.23	1.74	1.178
3B003-2	0.5	2	1.07	0.86	1.44	0.021
3B003-2	2	3	0.997	0.707	0.772	0.014
3B003-3	0	0.5	3.3	3.27	1.83	0.643
3B003-3	0.5	2	0.735	1.03	1.38	0.004
3B003-3	2	3	1.12	1.15	1	0.028
3B003-4	0	0.5	1.65	1.9	2.1	0.239
3B003-4	0.5	2	0.705	0.787	0.719	0
3B003-4	2	3	0.756	0.691	0.48	0
3B004	0	0.5	4.16	6.88	2.17	1.018
3B004-1	0	0.5	3.65	3.8	1.22	0.736
3B004-1	0.5	2	1.26	1.2	1.16	0.037
3B004-1	2	3	1.12	0.785	0.808	0.022
3B004-2	0	0.5	2.63	2.63	0.805	0.464
3B004-2	0.5	2	1.63	1.21	0.946	0.062
3B004-2	2	3	1.01	0.741	1.04	0.016
3B004-3	0	0.5	3.57	3.15	1.36	0.686
3B004-3	0.5	2	1.54	1.6	1.25	0.064
3B004-3	2	3	1.04	0.915	1.62	0.019
3B005	0	0.5	2.94	3.24	1.78	0.568
3B006	0	0.5	0.849	1.39	0.996	0.041
3B007	0	0.5	2.96	3.09	2.49	0.571
3B008	0	0.5	0.971	1.43	1.51	0.071
3B009	0	0.5	0.879	1.11	1.28	0.034
3B010	0	0.5	2.84	5.68	2.46	0.69
3B011	0	0.5	12.5	16.9	1.81	3.24
3B011	1.5	2	0.986	1.8	1.4	0.031
3B011-1	0	0.5	4.78	9.21	2.32	1.273
3B011-1	0.5	2	1.07	0.945	0.704	0.02
3B011-1	2	3	0.809	0.382	0.412	0.001
3B011-2	0	0.5	1.32	1.36	1.25	0.136
3B011-2	0.5	2	1.93	1.09	1.05	0.08
3B011-2	2	3	0.658	0.686	0.601	0
3B011-3	0	0.5	3.19	4.24	1.58	0.673
3B011-3	0.5	2	2.06	2.02	0.952	0.105
3B011-3	2	3	0.902	0.667	0.684	0.007
3B011-4	0	0.5	3.43	3.36	4.44	0.696
3B011-4	0.5	2	0.783	1.04	0.705	0.003
3B011-4	2	3	0.982	0.886	0.633	0.013
3B012	0	0.5	1.79	2.75	1.65	0.31
3B013	0	0.5	5.7	12.5	2.33	1.639
3B013	1.5	2	0.939	1.24	1.12	0.017
3B013-1	0	0.5	3.61	2.97	0.856	0.679
3B013-1	0.5	2	1.63	2.02	1.28	0.077
3B013-1	2	3	0.958	0.77	0.495	0.011

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3B013-2	0	0.5	2.1	2.2	1.3	0.338
3B013-2	0.5	2	1.54	1.46	1.08	0.061
3B013-2	2	3	3.05	1.42	1.26	0.161
3B013-3	0	0.5	1.45	2.56	3.26	0.245
3B013-3	0.5	2	0.755	0.81	0.84	0
3B013-3	2	3	0.908	0.98	0.581	0.009
3B013-4	0	0.5	2.82	3.03	1.69	0.532
3B013-4	0.5	2	1.81	1.37	0.975	0.077
3B013-4	2	3	1.04	0.739	0.495	0.017
3B014	0	0.5	1.7	2.71	3.34	0.305
3B015	0	0.5	12.4	9.85	7.86	2.88
3B015	1	1.25	6.43	5.02	5.66	0.465
3B015	5	5	0.746	1.88	0.852	0.018
3B015-1	0	0.5	3.5	3.65	1.19	0.698
3B015-1	0.5	2	1.76	1.15	0.834	0.07
3B015-1	2	3	0.862	0.929	0.782	0.006
3B015-2	0	0.5	2.73	3.84	1.15	0.554
3B015-2	0.5	2	1.58	1.78	1.13	0.07
3B015-2	2	3	0.76	0.764	0.781	0
3B015-3	0	0.5	1.2	1.76	2.18	0.142
3B015-3	0.5	2	0.944	0.746	0.635	0.01
3B015-3	2	3	0.868	0.881	0.718	0.005
3B015-4	0	0.5	2.92	3.54	0.971	0.574
3B015-4	0.5	2	1.44	1.53	0.831	0.054
3B015-4	2	3	0.77	0.742	0.647	0
3B016	0	0.5	2.32	3.47	1.98	0.459
3B017	0	0.5	2.61	3.09	0.892	0.487
3B018	0	0.5	1.4	1.94	0.858	0.18
3B019	0	0.5	1.24	2.42	0.767	0.174
3C001	0	0.5	1.95	3.61	1.36	0.388
3C002	0	0.5	2.31	4.23	1.56	0.495
3C003	0	0.5	1.51	2.94	1.01	0.259
3C004	0	0.5	1.86	2.72	0.911	0.316
3C005	0	0.5	1.98	5.23	1.96	0.489
3C006	0	0.5	2.65	10.7	2.44	0.93
3C006-1	0	0.5	1.13	0.885	0.877	0.068
3C006-1	0.5	2	1.33	1.19	0.767	0.041
3C006-1	2	3	0.78	0.928	0.835	0.001
3C006-2	0	0.5	0.658	1.29	1.87	0.031
3C006-2	0.5	2	0.583	0.654	0.651	0
3C006-2	2	3	0.659	0.686	0.755	0
3C006-3	0	0.5	0.636	1.17	0.601	0.015
3C006-3	0.5	2	1.14	1.41	1.48	0.034
3C006-3	2	3	0.988	0.932	1	0.015
3C007	0	0.5	2.5	10.8	4.03	0.92
3C007-1	0	0.5	0.385	0.893	0.581	0
3C007-1	0.5	2	0.683	1	0.676	0.002
3C007-1	2	3	0.992	0.931	1.2	0.015
3C007-2	0	0.5	1.63	1.27	0.833	0.189
3C007-2	0.5	2	1.84	2.13	0.901	0.092
3C007-2	2	3	0.998	0.854	0.769	0.014
3C008	0	0.5	1.8	1.83	1.94	0.264
3C008-1	0	0.5	0.62	0.65	0.629	0
3C008-1	0.5	2	0.566	0.562	0.784	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3C008-1	2	3	0.884	0.842	0.901	0.006
3C008-2	0	0.5	2.01	1.89	0.97	0.3
3C008-2	0.5	2	1.7	1.82	0.977	0.078
3C008-2	2	3	0.985	0.975	0.819	0.014
3C008-3	0	0.5	1.42	3.23	7.78	0.316
3C008-3	0.5	2	1.55	2.34	5.57	0.091
3C008-3	2	3	1.07	1.13	2.74	0.029
3C009	0	0.5	0.807	1.71	0.876	0.048
3C010	0	0.5	0.709	1.13	0.503	0.013
3C011	0	0.5	1.36	1.86	1.5	0.173
3C012	0	0.5	2.19	2.44	1.11	0.369
3C013	0	0.5	1.58	2.9	1.07	0.271
3C014	0	0.5	13.4	10.1	7.69	3.093
3C014	0.5	1	10.6	9.46	7.64	0.83
3C014	1.5	2	0.688	0.761	2.22	0.004
3C014	5	5	0.626	1.04	0.375	0.003
3C014-1	0	0.5	1.12	3.8	1.22	0.23
3C014-1	0.5	2	0.694	0.88	0.61	0
3C014-1	2	3	0.815	0.881	0.848	0.002
3C014-2	0	0.5	3.85	3.96	1.91	0.791
3C014-2	0.5	2	0.799	1.03	0.784	0.003
3C014-2	2	3	0.923	0.599	0.881	0.009
3C014-3	0	0.5	3.82	3.83	4.03	0.797
3C014-3	0.5	2	1.94	1.95	2.6	0.101
3C014-3	2	3	0.891	1.04	1.19	0.011
3C014-4	0	0.5	1.83	1.65	1.41	0.255
3C014-4	0.5	2	0.962	1.14	0.993	0.016
3C014-4	2	3	1.19	0.956	0.805	0.028
3C014-5	0	0.5	1.82	2.01	1.08	0.27
3C014-5	0.5	2	1.4	1.31	1.37	0.05
3C014-5	2	3	0.697	0.791	0.958	0
3C014-6	0	0.5	5.13	3.35	4.04	1.032
3C014-6	0.5	2	3.85	1.98	3.67	0.232
3C014-6	2	3	1.14	0.85	2.26	0.027
3C015	0	0.5	19.6	87.9	65.9	9.161
3C015	1	1.5	9.95	22.3	16.5	1.045
3C015	5	5	0.82	0.74	0.626	0.002
3C016	0	0.5	1.94	3.12	1.71	0.361
3D001	0	0.5	19.3	11.2	2.37	4.287
3D001	1	1	5.63		0.99	0.323
3D001	5	5	0.581	0.918	0.638	0
3D001-1	0	0.5	2.41	1.87	1.31	0.382
3D001-1	0.5	2	0.953	0.84	0.846	0.011
3D001-1	2	3	0.75	0.775	0.698	0
3D001-2	0	0.5	4.69	3.1	1.06	0.904
3D001-2	0.5	2	0.666	0.586	0.703	0
3D001-2	2	3	0.748	0.62	0.695	0
3D001-3	0	0.5	3.9	2.98	2.35	0.751
3D001-3	0.5	2	0.947	0.623	0.64	0.01
3D001-3	2	3	0.873	0.848	0.79	0.006
3D001-4	0	0.5	2.63	1.62	0.828	0.408
3D001-4	0.5	2	0.543	0.692	0.962	0
3D001-4	2	3	0.934	0.828	0.691	0.01
3D002	0	0.5	2.03	2.24	1.27	0.326

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3D002	5	5	0.754	1.09	0.963	0.003
3D003	1.5	2	0.969	1.27	1.11	0.02
3D004	0	0.5	50.2	7.87	1.03	10.271
3D004-1	0	0.5	3.57	2.09	1.13	0.625
3D004-1	0.5	2	1.28	1.2	0.793	0.038
3D004-1	2	3	1.04	0.724	1.22	0.018
3D004-2	0	0.5	4.35	5.31	4.77	0.991
3D004-2	0.5	2	4.02	3.9	3.22	0.277
3D004-2	2	3	1.1	0.976	1.06	0.023
3D004-3	0	0.5	1.44	1.52	1.07	0.166
3D004-3	0.5	2	0.999	0.921	0.897	0.014
3D004-3	2	3	0.91	1.03	1.02	0.011
3D004-4	0	0.5	0.649	0.935	0.696	0.002
3D004-4	0.5	2	1.13	1.05	0.738	0.026
3D004-5	0	0.5	4.93	2.14	1	0.899
3D004-5	0.5	2	1.28	0.997	1.25	0.036
3D004-5	2	3	1.18	1.09	1.17	0.03
3D005	0	0.5	0.552	1.22	3.77	0.044
3D006	0	0.5	82.1	32.9	373	21.276
3D006	5	5	0.623	0.584	0.472	0
3D006-1	0	0.5	0.753	2.91	1.43	0.117
3D006-1	0.5	2	0.594	2.25	0.999	0.026
3D006-1	2	3	1.03	0.769	0.933	0.016
3D006-2	0	0.5	0.733	1.12	1.7	0.02
3D006-2	0.5	2	0.374	0.987	0.689	0.002
3D006-2	2	3	0.95	0.652	0.735	0.011
3D006-3	0	0.5	1.88	3.16	2.24	0.356
3D006-3	0.5	2	0.602	1.22	0.924	0.006
3D006-3	2	3	0.8	0.611	0.773	0.001
3D006-4	0	0.5	1.06	1.85	6.86	0.16
3D006-4	0.5	2	0.72	1.12	3.01	0.01
3D006-4	2	3	0.794	1.13	0.558	0.004
3D007	0	0.5	7.3	7.54	1420	14.012
3D007-1	0	0.5	1.74	1.7	1.1	0.236
3D007-1	0.5	2	1.01	1.04	0.918	0.018
3D007-1	2	3	0.94	0.931	1.1	0.012
3D007-2	0	0.5	2.2	1.89	1.58	0.344
3D007-2	0.5	2	0.782	0.915	1.01	0.001
3D007-2	2	3	0.946	0.795	0.727	0.01
3D007-3	0	0.5	2.07	2.96	1.42	0.375
3D007-3	0.5	2	0.568	0.652	0.858	0
3D007-3	2	3	1.2	0.953	0.828	0.028
3D008	0	0.5	1.43	2.05	4.7	0.226
3D009	0	0.5	1.77	2.25	7.52	0.329
401	0	0.5	1.39	1.62	0.724	0.16
401	19.5	20	0.934	1.06	0.85	0.013
402	0	0.5	9.49	10.8	10.1	2.371
402	22.5	23	0.718	0.737	0.984	0
403	0	0.5	1.58	2.15	0.934	0.228
403	17.5	18	0.869	1.01	0.778	0.007
404	0	0.5	4.5	9.54	1.26	1.226
404	0.9	1.4	7.72	8.12	6.69	0.61
404	24.5	25	1.43	0.793	0.382	0.043
404-1	0	0.5	2.12	1.93	1	0.325

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
404-1	0.5	2	1.05	1.29	0.74	0.024
404-1	2	3	2.16	2.3	1.53	0.118
404-2	0	0.5	1.96	2.71	1.14	0.338
404-2	0.5	2	2.04	2.91	1.24	0.121
404-2	2	3	0.934	0.784	4.55	0.021
404-3	0	0.5	2.22	2.38	0.933	0.369
404-3	0.5	2	3.81	4.38	3.5	0.272
404-3	2	3	1.57	1.34	1.19	0.061
405	0	0.5	1.62	1.24	0.744	0.185
405	24.5	25	0.601	0.624	0.668	0
406	0	0.5	2.15	2.27	1.12	0.351
406	17.5	18	0.811	0.872	0.803	0.001
407	0	0.5	1.98	1.54	1.62	0.281
407	19.5	20	0.569	0.59	0.628	0
408	0	0.5	1.17	1.16	0.57	0.09
408	19.5	20	0.788	0.741	0.521	0
409	0	0.5	1.28	1.38	1.2	0.128
409	7	7.5	0.823			0.002
410	0	0.5	1.27	1.5	0.888	0.13
410	10.5	11	0.796	0.958	0.819	0.001
411	0	0.5	0.85	1.16	1.06	0.028
411	19.5	20	0.838	0.908	0.666	0.003
412	0	0.5	0.837	2.05	0.754	0.073
412	14.5	15	0.646	0.865	0.738	0
413	0	0.5	2.01	2.83	0.878	0.352
413	18.5	19	0.774	1.04	0.891	0.003
414	0	0.5	1.64	2.09	0.873	0.236
414	5	5	0.609	1.37	0.491	0.009
414	20.5	21	0.703	0.681	0.825	0
415	0	0.5	1.67	2.1	0.9	0.244
415	13.5	14	0.784	0.449	0.431	0
416	0	0.5	0.889	1.05	0.765	0.028
416	20.5	21	0.659	0.763	0.904	0
417	0	0.5	4.45	2.63	1.04	0.83
417	8.4	8.9		1.08	0.999	0.004
418	0	0.5	1.35	1.46	0.896	0.144
418	18.5	19	0.784	0.756	0.898	0
419	0	0.5	1.05	1.42	0.705	0.081
419	16.5	17	0.679	0.65	0.514	0
420	0	0.5	2.35	1.17	0.955	0.328
420	6.5	7	0.922	0.768	0.739	0.009
421	0	0.5	0.905	1.12	0.758	0.035
421	15.5	16	0.726	1.51	0.859	0.011
422	0	0.5	2.33	1.79	1.7	0.365
422	10	10.5	0.856	0.81	0.804	0.004
423	0	0.5	1.92	1.17	1.21	0.244
423	9.5	10	0.792	0.829	0.483	0
424	0	0.5	0.878	0.994	0.692	0.023
424	15.5	16	0.839	0.737	0.604	0.003
425	0	0.5	0.871	1.26	0.757	0.036
425	10	10.5	0.704	0.886	1.27	0.001
4A001	0	0.5	1.64	2.67	1.12	0.271
4A002	0	0.5	1.41	1.88	0.222	0.178
4A003	0	0.5	5.35	3.62	0.504	1.063

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4A003-1	0	0.5	1.78	1.57	0.691	0.235
4A003-1	0.5	2	0.872	0.932	0.693	0.006
4A003-1	2	3	1.06	0.73	0.933	0.018
4A003-2	0	0.5	1.33	1.43	0.709	0.137
4A003-2	0.5	2	1.12	0.788	0.634	0.022
4A003-2	2	3	1.05	0.729	0.606	0.017
4A003-3	0	0.5	1.07	1.23	0.73	0.074
4A003-3	0.5	2	0.901	0.799	0.622	0.007
4A003-3	2	3	1.11	0.715	0.702	0.021
4A004	0	0.5	1.87	2.25	1.16	0.294
4A005	0	0.5	1.83	2.18	0.956	0.28
4A006	0	0.5	1.69	2.05	0.864	0.244
4A007	0	0.5	3.27	6.29	1.84	0.804
4A007-1	0	0.5	1.5	1.54	0.74	0.178
4A007-1	0.5	2	1.09	1.27	0.632	0.027
4A007-1	2	3	1.02	0.716	0.644	0.015
4A007-2	0	0.5	1.72	1.43	0.78	0.215
4A007-2	0.5	2	3.65	2.95	2.55	0.233
4A007-2	2	3	3.17	3.29	3.42	0.21
4A008	0	0.5	1.3	1.45	0.849	0.133
4A009	0	0.5	0.786	0.948	1.72	0.011
4A010	0	0.5	1.34	1.43	0.755	0.139
4A011	0	0.5	1.92	3.38	1.36	0.369
4A012	0	0.5	1.11	2.72	3.02	0.184
4A013	0	0.5	6	11.2	1.87	1.623
4A013	0.5	1	5.06	7.84	2.85	0.417
4A013	1	1.5	5.15	9.7	2.87	0.457
4A013	1.5	2	4.35	4.95	3.57	0.319
4A013-1	0	0.5	6.61	9.94	3.27	1.687
4A013-1	0.5	2	3.82	6.27	3.57	0.308
4A013-1	2	3	3.66	4.75	4.47	0.272
4A013-2	0	0.5	2.32	2.14	0.721	0.375
4A013-2	0.5	2	1	0.817	0.64	0.014
4A013-2	2	3	1.1	0.617	0.963	0.021
4A013-3	0	0.5	1.99	1.44	0.709	0.27
4A013-3	0.5	2	1.58	0.901	0.854	0.053
4A013-3	2	3	0.692	0.771	0.769	0
4A013-4	0	0.5	2.09	2.49	0.727	0.348
4A013-4	0.5	2	1.12	1.06	0.756	0.025
4A013-4	2	3	2.58	1.73	1.58	0.136
4A013-5	0	0.5	3.18	4	0.94	0.651
4A013-5	0.5	2	1.25	1.67	0.696	0.045
4A013-5	2	3	3.54	4.23	1.07	0.245
4A013-6	0	0.5	3.14	2.56	1.36	0.567
4A013-6	0.5	2	2.48	1.26	1.03	0.121
4A013-6	2	3	1.58	1.15	1.45	0.06
4A014	0	0.5	8.48	6.3	4.56	1.871
4A014	0.5	1	8.05	5.64	5.56	0.584
4A014-1	0	0.5	2.39	2.37	0.952	0.403
4A014-1	0.5	1.5	2.03	2.63	1.64	0.116
4A015	0	0.5	7.17	5.36	4.63	1.557
4A015	0.5	1	7.42	6.31	5.31	0.553
4A016	0	0.5	1.07	1.66	0.666	0.098
4A017	0	0.5	1.17	1.22	0.518	0.094

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4A018	0	0.5	1.04	1.53	0.788	0.085
4A019	0	0.5	4.49	2.46	0.92	0.828
4A020	0	0.5	0.994	1.13	0.662	0.054
4B001	0	0.5	3.09	4.47	2.72	0.675
4B002	0	0.5	2.66	3.7	1.3	0.534
4B003	0	0.5	2.14	2.37	1.05	0.354
4B004	0	0.5	1.1	1.18	0.624	0.078
4B005	0	0.5	1.41	1.5	0.547	0.157
4B006	0	0.5	1.72	1.94	0.712	0.244
4B007	0	0.5	1.4	2.37	1.27	0.208
4B008	0	0.5	1.71	2.14	0.888	0.254
4B009	0	0.5	37.5	8.46	11	7.851
4B009	1.5	2	2.28	1.28	1.86	0.109
4B009-1	0	0.5	34	11.8	12.5	7.35
4B009-1	0.5	2	0.943	0.835	1.12	0.011
4B009-1	2	3	0.932	0.806	1.07	0.01
4B009-2	0	0.5	1.13	1.33	0.795	0.092
4B009-2	0.5	2	0.841	1.2	1.06	0.009
4B009-2	2	3	1.3	0.673	0.698	0.034
4B009-3	0	0.5	2.17	2.2	0.684	0.348
4B009-3	0.5	2	0.914	0.759	0.623	0.008
4B009-3	2	3	1.02	0.642	0.722	0.015
4B009-4	0	0.5	2.07	2.08	0.692	0.322
4B009-4	0.5	2	1.36	1.1	0.525	0.042
4B009-4	2	3	0.917	0.738	0.789	0.008
4B010	0	0.5	7.31	12.1	3.46	1.949
4B010-1	0	0.5	5.18	5.09	5.63	1.153
4B010-1	0.5	2	1.01	0.997	2.32	0.021
4B010-1	2	3	0.916	0.817	2.09	0.012
4B010-2	0	0.5	1.94	1.78	0.601	0.279
4B010-2	0.5	2	0.89	1.05	0.654	0.01
4B010-2	2	3	0.926	0.709	0.606	0.009
4B010-3	0	0.5	1.64	1.9	0.872	0.226
4B010-3	0.5	2	0.915	0.736	0.838	0.008
4B010-3	2	3	0.965	0.902	0.737	0.012
4B010-4	0	0.5	2.11	2.19	0.755	0.336
4B010-4	0.5	2	0.897	0.88	0.805	0.007
4B010-4	2	3	0.842	0.72	0.636	0.003
4B011	1.5	2	0.784	0.715	0.957	0
4B012	0	0.5	1.12	0.794	1.47	0.072
4B013	0	0.5	0.858	2.22	0.993	0.089
4B013	1.5	2	0.854	1.13	0.636	0.008
4B014	0	0.5	15.2	2.96	1.69	3.004
4B014	0.5	1	4.25	3.09	2.25	0.275
4B014	1	1.5	0.712	1.37	0.399	0.009
4B014-1	0	0.5	2.12	1.73	0.868	0.312
4B014-1	0.5	2	1.04	0.79	0.81	0.017
4B014-1	2	3	0.697	0.613	0.928	0
4B014-2	0	0.5	0.992	1.61	0.819	0.079
4B014-2	0.5	2	0.859	0.675	0.93	0.005
4B014-2	2	3	0.958	0.59	0.908	0.011
4B014-3	0	0.5	1.43	1.44	0.814	0.158
4B014-3	0.5	2	0.678	0.753	3.27	0.007
4B014-3	2	3	0.764	0.793	0.638	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4B014-4	0	0.5	1.82	2	0.584	0.267
4B014-4	0.5	2	0.934	0.86	0.609	0.01
4B014-4	2	3	0.794	0.728	0.613	0
4B014-5	0	0.5	1.53	1.87	0.819	0.202
4B014-5	0.5	2	1	1.05	0.827	0.017
4B014-5	2	3	1.01	0.803	0.817	0.015
4B014-6	0	0.5	4.1	3.27	1.9	0.803
4B014-6	0.5	2	1.21	1.2	0.933	0.033
4B014-6	2	3	0.745	1	1.19	0.003
4B014-7	0	0.5	1.96	1.67	1.57	0.284
4B014-7	0.5	2	0.825	0.805	0.811	0.002
4B014-7	2	3	0.683	0.558	0.816	0
4B014-8	0	0.5	0.793	1.11	0.557	0.013
4B014-8	0.5	2	0.69	0.66	0.707	0
4B014-8	2	3	1.01	0.73	0.852	0.015
4B015	0	0.5	2.05	2.56	1.91	0.353
4B016	0	0.5	2.36	3.32	3	0.467
4B017	0	0.5	7.14	1.55	1.16	1.309
4B017	0.5	1	0.965	1.2	1.17	0.018
4B017-1	0	0.5	1.15	1.03	0.866	0.079
4B017-1	0.5	2	0.86	0.792	0.716	0.005
4B017-1	2	3	0.828	1.07	0.894	0.006
4B017-2	0	0.5	2.12	2.41	1.35	0.355
4B017-2	0.5	2	0.772	1.02	1.13	0.003
4B017-2	2	3	1.12	0.702	0.718	0.022
4B017-3	0	0.5	0.549	1.2	0.49	0.017
4B017-3	0.5	2	0.405	0.907	0.388	0
4B017-3	2	3	0.628	0.587	0.478	0
4B018	1.5	2	0.75	0.935	0.984	0.001
4B019	0	0.5	1.44	1.65	1.15	0.175
4B020	0	0.5	0.944	1.08	0.82	0.041
4B021	0	0.5	17.6	3.76	1.89	3.53
4B021	1.5	2	1.37	1.19	1.14	0.045
4B021-1	0	0.5	2.05	2.26	0.677	0.328
4B021-1	0.5	2	0.941	1.11	0.835	0.014
4B021-1	2	3	0.725	0.684	0.524	0
4B021-2	0	0.5	1.73	1.88	0.552	0.242
4B021-2	0.5	2	0.819	0.912	0.607	0.002
4B021-2	2	3	0.498	0.843	0.618	0
4B021-3	0	0.5	2.19	1.98	0.703	0.34
4B021-3	0.5	2	0.887	0.768	0.695	0.006
4B021-3	2	3	0.961	0.671	0.738	0.011
4B021-4	0	0.5	1.99	1.96	0.941	0.3
4B021-4	0.5	2	1.24	1.05	0.634	0.033
4B021-4	2	3	0.736	0.642	0.553	0
4C001	0	0.5	1.42	1.96	0.905	0.186
4C002	0	0.5	5.83	4.21	2.47	1.206
4C002	0.5	1	2.67	1.65	1.66	0.141
4C002-1	0	0.5	4.25	4.53	3.08	0.914
4C002-1	0.5	2	4.17	2.49	1.62	0.256
4C002-1	2	3	0.87	0.778	0.598	0.005
4C002-2	0	0.5	2.91	3.45	1.2	0.569
4C002-2	0.5	2	0.904	0.971	0.687	0.009
4C002-2	2	3	0.933	0.687	0.666	0.01

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4C002-3	0	0.5	4.6	4.24	3.67	0.973
4C002-3	0.5	2	2.92	1.67	1.23	0.157
4C002-3	2	3	0.805	0.832	0.605	0.001
4C002-4	0	0.5	2.44	2.17	0.881	0.402
4C002-4	0.5	2	0.911	0.788	0.567	0.008
4C002-4	2	3	0.986	0.73	0.701	0.013
4C003	0	0.5	1.78	1.62	2.2	0.25
4C004	0	0.5	3.72	3.52	1.74	0.74
4C005	0	0.5	0.571	2.55	0.964	0.093
4C006	0	0.5	1.33	1.66	0.735	0.15
4D001	14	14.5	0.862	1.32	0.902	0.013
4D002	11.5	12	0.779	1.01	0.756	0.002
4D003	14	14.5	0.821	1.15	0.503	0.007
4D004	14	14.5	0.877	1.5	0.69	0.017
4D005	0	0.5	1.73	3.25	0.534	0.319
4D005	15	15.5	0.868	1.27	0.342	0.012
4D006	0	0.5	1.21	2.34	1.14	0.167
4D006	14.5	15	0.713	0.86	0.64	0
4D007	0	0.5	0.815	1.07	0.725	0.014
4D008	0	0.5	1.48	1.27	0.878	0.16
4D009	0	0.5	1.15	2.04	0.424	0.135
4D010	0	0.5	1.95	2	0.595	0.293
4D011	0	0.5	2.34	2.67	1.37	0.413
4D012	0	0.5	2.69	1.87	1.16	0.437
4D013	0	0.5	1.86	2.4	1.03	0.299
4D014	0	0.5	1.51	2.11	1.19	0.214
4D015	0	0.5	2.32	2.97	0.569	0.421
4D017	0	0.5	4.66	3.47	1.35	0.922
4D018	0	0.5	1.01	1.26	0.537	0.064
4D019	0	0.5	2.95	2.4	1.02	0.517
4D020	0	0.5	1.43	2.24	0.97	0.203
4F001	0	0.5	1.18	1.31	0.642	0.101
4F002	0	0.5	1.14	1.13	0.502	0.083
4F003	0	0.5	1.23	1.59	0.838	0.126
4F004	0	0.5	1.26	1.17	0.555	0.109
4F005	0	0.5	1.13	1.7	0.795	0.112
4F006	0	0.5	0.886	1.89	1	0.076
4F007	0	0.5	1.1	1.24	0.662	0.081
4F008	0	0.5	0.87	1.46	0.766	0.047
4F009	0	0.5	1.18	1.77	0.662	0.126
4F010	0	0.5	0.555	0.732	0.576	0
4F011	0	0.5	0.629	1.01	0.761	0.006
4G001	0	0.5	1.2	1.92	0.774	0.139
4G002	0	0.5	43.9	8.51	1.77	9.053
4G002	0.5	1	1.16	1.07	0.755	0.028
4G002	1	1.5	0.99	0.857	0.335	0.013
4G002	1.5	2	0.854	1.26	0.661	0.011
4G002-1	0	0.5	1.36	1.15	0.788	0.128
4G002-1	0.5	2	1.05	0.861	0.879	0.017
4G002-1	2	3	0.892	0.853	0.587	0.007
4G002-2	0	0.5	1.14	0.759	0.774	0.07
4G002-2	0.5	2	1.09	0.806	0.855	0.02
4G002-2	2	3	1.52	0.952	0.592	0.05
4G002-3	0	0.5	1.28	0.881	0.765	0.098

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4G002-3	0.5	2	0.888	0.894	1.01	0.008
4G002-3	2	3	0.896	0.875	0.704	0.007
4G002-4	0	0.5	2.15	1.24	0.914	0.292
4G002-4	0.5	2	1.22	1.01	0.734	0.031
4G002-4	2	3	0.686	0.663	0.468	0
501	0	0.5	0.993	0.876	1.04	0.043
501	11.5	12	0.933	1.07	0.816	0.013
502	0	0.5	0.768	1	6.5	0.055
502	12.5	13	0.852	1.33	1.12	0.013
503	0	0.5	0.778	0.985	120	1.041
503	12.5	13	0.738	0.797	0.872	0
503-1	0	0.5	0.935	0.982	33.5	0.318
503-1	0.5	2	0.923	0.927	38.3	0.117
503-1	2	3	0.901	0.841	11	0.036
503-2	0	0.5	0.81	0.848	6.04	0.049
503-2	0.5	2	0.924	0.8	7.18	0.027
503-2	2	3	0.91	0.771	3.78	0.017
503-3	0	0.5	0.711	0.777	21	0.175
503-3	0.5	2	0.752	0.724	5.57	0.014
503-3	2	3	0.907	0.833	1.68	0.01
503-4	0	0.5	1.03	1.18	4.05	0.092
503-4	0.5	2	0.957	1.09	4.86	0.026
503-4	2	3	1.09	0.893	2.73	0.026
504	0	0.5	6.07	2.52	7.52	1.204
504	13.5	14	0.958	1.36	0.783	0.019
504-1	0	0.5	3.68	1.45	1.47	0.615
504-1	0.5	2	1.81	0.795	1.98	0.071
504-1	2	3	0.923	0.938	0.978	0.01
504-2	0	0.5	2.93	2.64	1.52	0.531
504-2	0.5	2	2.16	2.72	1.21	0.125
504-2	2	3	0.792	0.816	0.829	0
504-3	0	0.5	3.93	3.41	1.56	0.773
504-3	0.5	2	0.811	0.835	1.19	0.002
504-3	2	3	0.811	0.751	0.829	0.001
504-4	0	0.5	2.26	1.7	1.67	0.345
504-4	0.5	2	1.63	1.07	1.37	0.061
504-4	2	3	0.759	0.67	1.11	0.001
505	0	0.5	0.762	1.97	2.17	0.071
505	16.5	17	0.584	1.97	0.69	0.019
506	0	0.5	0.708	0.979	0.952	0.005
506	12.5	13	0.802	1.43	1.04	0.012
5A001	0	0.5	2.91	3.06	2.73	0.561
5A002	0	0.5	0.677	1.26	4.13	0.049
5A003	0	0.5	0.664	1.36	0.766	0.026
5A004	0	0.5	1.67	2.09	1.42	0.247
5A005	0	0.5	0.555	1.13	1.27	0.017
5A006	0	0.5	1.66	2.31	2.69	0.268
5A007	0	0.5	0.818	0.764	0.727	0.006
5A008	0	0.5	1.26	1.8	1.12	0.147
5A009	0	0.5	0.776	0.992	1.27	0.009
5A010	0	0.5	5.36	4.56	2.5	1.132
5A010	0.5	1	5.03	3.65	3.01	0.339
5A010	1.5	2	1.17	0.966	0.932	0.026
5A010	5	5	0.715	1.26	0.766	0.007

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
5A010-1	0	0.5	4.36	4.04	3.3	0.91
5A010-1	0.5	2	1.04	1	1.24	0.02
5A010-1	2	3	1.08	0.928	0.77	0.02
5A010-2	0	0.5	5.02	4.38	3.59	1.063
5A010-2	0.5	2	1.69	1.12	1.51	0.066
5A010-2	2	3	0.958	0.773	1.16	0.012
5A010-3	0	0.5	1.21	1.74	1.14	0.134
5A010-3	0.5	2	0.963	0.927	0.743	0.012
5A010-3	2	3	0.901	0.91	0.702	0.007
5A010-4	0	0.5	3.97	2.53	1.97	0.737
5A010-4	0.5	2	2.07	0.925	1.12	0.086
5A010-4	2	3	1.14	0.681	1.07	0.024
5A010-5	0	0.5	1.91	1.35	1.23	0.253
5A010-5	0.5	2	1.35	1.07	0.955	0.04
5A010-5	2	3	1.05	1	0.861	0.019
5A011	0	0.5	1.92	1.88	1.01	0.282
5A012	0	0.5	4.57	3.37	2.55	0.908
5A013	0	0.5	3.72	3.42	2.72	0.743
5A013	1.5	2	1.44	12.6	1.47	0.258
5A013	5	5	0.808	1.13	0.649	0.005
5A014	0	0.5	4.79	2.21	1.82	0.882
5A015	0	0.5	0.899	1.02	0.7	0.029
5A016	0	0.5	13.4	31.3	1.81	4.22
5A016	0.5	1	155	354	5.09	16.713
5A016	1	1.5	151	344	4.7	16.263
5A016	1.53	1.7	85.7	227	3.12	9.779
5A016	5	5	0.736	0.698	0.586	0
5A016-1	0	0.5	0.889	0.917	0.695	0.021
5A016-1	0.5	2	0.781	0.776	0.955	0
5A016-1	2	3	0.847	0.911	0.872	0.004
5A016-2	0	0.5	4.86	9.05	1.48	1.273
5A016-2	0.5	2	1.62	1.71	1.06	0.071
5A016-2	2	3	1	0.919	0.686	0.014
5A016-3	0	0.5	0.967	0.998	1.14	0.043
5A016-3	0.5	2	1.26	0.797	1.06	0.032
5A016-3	2	3	0.887	0.71	0.938	0.006
5A016-4	0	0.5	1.1	1.19	0.938	0.079
5A016-4	0.5	2	3.29	3.66	1.95	0.22
5A016-4	2	3	0.766	0.696	0.528	0
5A016-5	0	0.5	1.27	0.995	0.961	0.102
5A016-5	0.5	2	1.02	1.02	0.599	0.017
5A016-5	2	3	1.1	0.859	0.906	0.021
5A016-6	0	0.5	1.27	1.1	1.06	0.109
5A016-6	0.5	2	2.3	3.05	0.823	0.14
5A016-6	2	3	0.75	0.839	0.905	0
5A016-7	0	0.5	3.14	6.46	2.22	0.791
5A016-7	0.5	2	2.54	4.17	2.2	0.18
5A016-7	2	3	0.668	0.955	0.963	0.001
5A016-8	0	0.5	1.16	1.23	1.02	0.094
5A016-8	0.5	2	1.52	1.79	0.669	0.065
5A016-8	2	3	1.19	0.827	0.829	0.027
5A016-9	0	0.5	1.93	2.02	2.07	0.301
5A016-9	0.5	2	0.84	0.853	0.691	0.003
5A016-9	2	3	0.935	0.771	0.689	0.01

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
5A017	0	0.5	0.848	1.1	1.31	0.027
5A018	1.5	2	2.14	1.12	0.786	0.094
5A018	5	5	0.733	0.949	1.31	0.002
5A019	1.5	1.75	1.13	1.47	1.48	0.035
5A020	1.5	2	0.886	0.748	1.03	0.007
5A020	5	5	0.727	1.35	1.29	0.009
5A021	0	0.5	6.39	4.53	3.72	1.347
5A021-1	0	0.5	5.94	5.22	4.28	1.3
5A021-1	0.5	2	0.819	0.915	1.06	0.003
5A021-1	2	3	1.01	0.908	0.807	0.015
5A021-2	0	0.5	1.1	1.37	1.06	0.09
5A021-2	0.5	2	1.49	1.19	1.11	0.053
5A021-2	2	3	0.792	0.789	0.708	0
5A021-3	0	0.5	2.47	1.54	1.72	0.38
5A021-3	0.5	2	1.4	0.83	1.05	0.042
5A021-3	2	3	0.77	0.825	0.881	0
5A021-4	0	0.5	2.54	1.93	1.48	0.413
5A021-4	0.5	2	0.881	0.968	0.803	0.007
5A021-4	2	3	0.716	0.755	0.749	0
5A021-5	0	0.5	1.69	1.06	0.93	0.19
5A021-5	0.5	2	0.703	0.81	0.815	0
5A021-5	2	3	0.966	0.743	0.676	0.012
601	0	0.5	0.916	1.04	0.71	0.033
601	12.5	13	0.809	1.17	0.903	0.006
602	0	0.5	0.683	1.08	0.605	0.01
602	14.5	15	0.83	0.781	0.628	0.003
603	0	0.5	0.871	0.991	0.838	0.021
604	0	0.5	0.813	0.854	1.05	0.007
604	14.5	15	0.771	0.705	0.62	0
605	0	0.5	0.827	1.29	1.07	0.031
605	16	16.5	0.623	1.22	0.763	0.006
606	0	0.5	103	352	41.5	40.302
606	17.5	18	0.655	0.983	1.19	0.003
606-1	0	0.5	1.91	1.24	0.877	0.243
606-1	0.5	2	1.06	0.771	0.774	0.018
606-1	2	3	0.956	0.864	0.669	0.011
606-2	0	0.5	1.43	1.16	0.677	0.142
606-2	0.5	2	0.942	1	0.674	0.012
606-2	2	3	0.99	0.854	0.933	0.013
606-3	0	0.5	1.12	0.727	0.632	0.066
606-3	0.5	2	0.802	0.769	0.554	0.001
606-3	2	3	0.768	0.534	0.708	0
606-4	0	0.5	1.09	1.27	0.756	0.081
606-4	0.5	2	0.849	0.822	0.687	0.004
606-4	2	3	0.949	0.749	0.57	0.011
607	0	0.5	1.3	0.88	0.565	0.102
607	16.5	17	0.711	0.872	1.1	0.001
6A001	0	0.5	285	8.73	1.38	57.282
6A001	0.5	1	79.9	6.12	0.678	5.369
6A001	1	1.5	167	6.98	4.12	11.202
6A001	1.5	2	6.33	1.63	0.947	0.382
6A001-1	0	0.5	119	6.33	1.21	23.947
6A001-1	0.5	2	59.1	3.5	0.82	3.934
6A001-1	2	3	0.769	0.849	0.738	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
6A001-2	0	0.5	1.44	0.936	0.537	0.132
6A001-2	0.5	2	0.931	0.774	0.636	0.009
6A001-2	2	3	0.981	0.749	0.706	0.013
6A001-3	0	0.5	1.31	0.962	0.54	0.107
6A001-3	0.5	2	0.738	0.778	0.654	0
6A001-3	2	3	0.942	0.992	0.681	0.012
6A001-4	0	0.5	1.22	0.928	0.661	0.088
6A001-4	0.5	2	0.963	0.773	0.644	0.012
6A001-4	2	3	0.989	0.885	0.65	0.013
6A001-5	0	0.5	0.81	1.1	0.735	0.015
6A001-5	0.5	2	0.772	0.932	0.716	0.001
6A001-5	2	3	1.1	0.938	0.806	0.022
6A001-6	0	0.5		1.02	0.843	0.007
6A001-6	0.5	2	1.1	0.885	0.686	0.021
6A001-6	2	3	0.877	0.693	0.569	0.006
6A002	0	0.5	1.04	1.22	0.965	0.069
6A003	0	0.5	2.24	1.18	0.894	0.307
6A004	0	0.5	1.07	1.03	0.701	0.063
6A005	0	0.5	2.54	0.945	1.11	0.356
6A006	0	0.5	1.34	0.717	0.885	0.111
6A006	1.5	2	1.27	0.889	0.859	0.032
6A007	0	0.5	0.833	1.06	1.32	0.022
6A008	0	0.5	1.02	0.963	0.589	0.05
6A009	0	0.5	0.95	1.08	1.83	0.051
6A010	0	0.5	3.39	2.69	0.906	0.62
6B001	0	0.5	2.78	1.51	1.25	0.436
6B002	0	0.5	0.741	0.738	0.964	0.001
6B003	0	0.5	1.08	0.879	1.01	0.06
6B004	0	0.5	1.12	1.12	1.03	0.08
6B005	0	0.5	29.3	8.25	2.62	6.126
6B005	0.5	1	70.1	14.5	13.4	4.904
6B005	1	1.5	9.5	3.89	39.7	0.747
6B005	1.5	2	0.899	1.05	14	0.048
6B005-1	0	0.5	8.42	3.42	1.85	1.675
6B005-1	0.5	2	6.03	2.63	33.5	0.474
6B005-1	2	3	0.987	0.807	2.94	0.019
6B005-2	0	0.5	11	4.28	0.946	2.231
6B005-2	0.5	2	1.27	1.3	0.975	0.039
6B005-2	2	3	0.804	0.737	1.06	0.002
6B005-3	0	0.5	6.35	3.88	1.36	1.283
6B005-3	0.5	2	1.88	1.16	1.81	0.081
6B005-3	2	3	0.914	0.908	1.29	0.009
6B005-4	0	0.5	1.37	1.01	1.03	0.124
6B005-4	0.5	2	0.888	0.795	1.11	0.008
6B005-4	2	3	1.09	0.838	0.868	0.02
6B005-5	0	0.5	5.32	2.51	0.882	0.996
6B005-5	0.5	2	1.67	2.1	1.82	0.084
6B005-5	2	3	1.07	0.888	1.27	0.02
6B005-6	0	0.5	1.25	1.06	0.655	0.101
6B005-6	0.5	2	0.778	0.815	0.897	0
6B005-6	2	3	1.07	0.899	0.681	0.019
6B005-7	0	0.5	2.43	1.6	0.887	0.368
6B005-7	0.5	2	1.06	0.864	0.729	0.018
6B005-7	2	3	0.906	0.766	1.21	0.009

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
6B006	0	0.5	1.05	1.06	0.688	0.061
6C001	0	0.5	1.17	1.39	0.547	0.103
6C002	0	0.5	0.852	1	0.628	0.018
6C003	0	0.5	0.89	0.959	1.12	0.026
6C004	0	0.5	0.898	1.17	1.07	0.039
6C005	0	0.5	1.14	1.26	1.26	0.094
6C006	0	0.5	1.25	1.04	1.61	0.107
801	0	0.5	1.81	1.49	1.58	0.244
801	17.5	18	0.793	0.722	0.863	0
802	0	0.5	1.25	1.24	0.622	0.111
802	16.5	17	0.752	0.81	0.629	0
803	0	0.5	0.957	1.19	0.931	0.05
803	7	7.5	0.926	1.13	0.964	0.013
804	0	0.5	0.798	1.31	1.79	0.033
804	7	7.5	1.31	1.15	1.08	0.041
805	0	0.5	1.5	2.79	1.28	0.251
805	7	7.5	0.887	1.04	0.959	0.009
806	0	0.5	1.27	1.92	1.14	0.156
806	18.4	18.9	0.658	0.585	0.541	0
807	0	0.5	1.7	1.57	0.987	0.22
807	17.7	18.2	0.812	1.13	0.878	0.005
808	0	0.5	0.809	0.892	0.909	0.005
808	14.5	15	0.619	0.664	0.44	0
809	0	0.5	0.711	0.891	0.795	0
809	17.5	18	0.622	0.636	0.746	0
810	0	0.5	0.779	1.08	0.787	0.01
810	11.5	12	0.381	0.427	0.377	0
811	0	0.5	0.734	0.837	0.586	0
811	22.5	23	1.33	1.16	0.699	0.041
812	0	0.5	0.942	0.642	0.913	0.031
812	9.5	10	0.826	0.866	0.411	0.002
813	0	0.5	1.37	2.02	1.61	0.185
813	10	10.5	0.748	0.939	0.788	0.001
814	0	0.5	2.71	2.62	3.31	0.502
814	18.5	19	0.871	1.41	0.881	0.014
815	0	0.5	3.07	4.47	3.13	0.674
815	10.5	11	0.853	1.03	0.964	0.006
816	0	0.5	299	3.39	2.78	59.797
816	11.5	12	0.921	1.15	1.03	0.015
816-1	0	0.5	2.1	1.9	1.79	0.326
816-1	0.5	2	1.68	0.938	0.977	0.06
816-1	2	3	0.721	0.668	0.58	0
816-2	0	0.5	2.14	0.901	0.836	0.27
816-2	0.5	2	1.03	0.723	0.781	0.016
816-2	2	3	0.887	0.778	0.471	0.006
816-3	0	0.5	0.66	0.657	0.654	0
816-3	0.5	2	1.08	0.974	0.707	0.02
816-3	2	3	1.25	1.11	0.926	0.035
816-4	0	0.5	1.47	1.21	0.744	0.153
816-4	0.5	2	0.922	0.952	0.584	0.01
816-4	2	3	0.899	0.733	0.975	0.007
817	0	0.5	2.72	3.59	1.77	0.543
817	9.5	10	0.809	0.971	1.06	0.003
818	0	0.5	1.66	1.8	1.84	0.233

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
818	10	10.5	0.703	0.64	0.985	0
819	0	0.5	1.05	1.06	14.7	0.182
819	8.5	9	0.931	1.14	0.72	0.013
820	0	0.5	2.19	3.13	1.65	0.411
820	18	18.5	0.638	0.688	0.706	0
821	0	0.5	1.13	1.23	1.38	0.091
821	11.5	12	0.714	1.12	0.786	0.004
822	0	0.5	0.872	1.32	1.2	0.042
822	10.5	11	0.796	0.973	0.479	0.001
823	0	0.5	0.866	0.802	0.451	0.015
823	13	13.5	0.777	1.41	0.667	0.009
824	0	0.5	1.08	0.996	1.25	0.067
824	12.5	13	0.62	0.813	0.423	0
825	0	0.5	1.07	1.19	1.06	0.074
825	9	9.5	0.877	1.13	1.26	0.011
826	0	0.5	13.2	11.9	3.76	3.119
826	0.8	1.3	5.99	13.2	6.53	0.588
826-1	0	0.5	0.543	0.857	0.515	0
826-1	0.5	2	1.74	1.47	1.34	0.075
826-1	2	3	0.828	0.866	1.04	0.004
826-2	0	0.5	1.14	1.03	0.797	0.077
826-2	0.5	2	0.958	0.823	0.786	0.011
826-2	2	3	0.805	0.796	0.809	0.001
826-3	0	0.5	1.89	2.12	1.28	0.292
826-3	0.5	2	1.36	1.17	1.13	0.044
826-3	2	3	0.889	0.965	0.753	0.008
826-4	0	0.5	3.04	2.9	1.27	0.565
826-4	0.5	2	1.26	1.5	1.58	0.044
826-4	2	3	0.922	0.891	1.1	0.01
827	0	0.5	185	33.3	2.36	38.655
827	1.5	2	8.37	3.35	1.46	0.552
827-1	0	0.5	2.59	2.87	1.27	0.473
827-1	0.5	2	4.56	5.55	5.84	0.351
827-2	0	0.5	2.47	2.53	0.981	0.428
827-2	0.5	2	1.38	1.64	1.5	0.054
827-2	2	3	1.06	1.24	1.07	0.025
827-3	0	0.5	2.15	1.67	1.63	0.322
827-3	0.5	2	1.07	1.28	1.41	0.028
827-3	2	3	0.957	1.15	1.26	0.017
827-4	0	0.5	4.98	3.92	1.22	1.009
827-4	0.5	2	2.03	1.88	1.13	0.102
827-4	2	3	0.98	1.17	1.72	0.021
827-5	0	0.5	1.66	3.1	1.08	0.298
827-5	0.5	2	4.46	3.28	3.12	0.295
827-5	2	3	1.48	1.35	1.46	0.056
828	0	0.5	8.33	3.13	3.04	1.651
828-1	0	0.5	1.02	1.32	0.545	0.069
828-1	0.5	2	1.25	1.09	0.649	0.034
828-1	2	3	0.707	0.662	0.714	0
828-2	0	0.5	0.782	0.731	0.611	0
828-2	0.5	2	0.808	0.638	0.527	0.001
828-2	2	3	0.667	0.531	0.693	0
828-3	0	0.5	0.902	0.681	0.633	0.022
828-3	0.5	2	0.573	0.561	0.689	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
828-3	2	3	0.701	0.504	0.409	0
828-4	0	0.5	0.856	0.738	0.622	0.013
828-4	0.5	2	0.562	0.572	0.484	0
828-4	2	3	0.751	0.495	0.764	0
828-5	0	0.5	2.63	0.951	0.698	0.371
828-5	0.5	2	0.874	0.535	0.609	0.006
828-5	2	3	0.826	0.589	0.755	0.002
829	0	0.5	182	5.29	0.921	36.487
829	0.8	1.3	3.72	0.887	0.882	0.195
829-1	0	0.5	2.53	2.21	1.28	0.425
829-1	0.5	2	1.44	1.08	0.992	0.046
829-1	2	3	1.07	0.725	0.715	0.019
829-2	0	0.5	1.56	0.815	0.755	0.154
829-2	0.5	2	1.52	0.754	0.924	0.049
829-2	2	3	1.23	0.8	0.818	0.029
829-3	0	0.5	1.85	2.06	0.854	0.276
829-3	0.5	2	2.71	0.966	0.719	0.129
829-3	2	3	0.734	0.504	0.563	0
829-4	0	0.5	0.999	1.12	0.542	0.054
829-4	0.5	2	1.25	0.751	0.558	0.031
829-4	2	3	3.93	3.46	2.92	0.262
830	0	0.5	386	304	88.6	94.644
830	1.5	2	2.25	3.63	2.66	0.152
830-1	0	0.5	1.76	2.47	0.712	0.281
830-1	0.5	2	0.508	1.31	1.11	0.008
830-1	2	3	1.09	1.06	1.67	0.025
830-2	0	0.5	1.6	1.69	0.625	0.206
830-2	0.5	2	0.984	1.09	1	0.017
830-2	2	3	0.776	0.922	0.847	0
831	0	0.5	0.805	0.94	0.993	0.007
831	15	15	0.762	0.683	0.697	0
832	0	0.5	0.815	1.28	1.32	0.03
832	12	12	0.856	1.23	1.09	0.011
833	0	0.5	0.664	1.22	21	0.193
833	10	10	0.4	0.495	1.05	0.001
834	0	0.5	0.768	1.26	1.41	0.025
834	14	14	0.723	0.655	0.93	0
835	0	0.5	0.717	1.69	0.829	0.044
835	15	15	0.785	1.09	0.896	0.003
836	0	0.5	1.03	2.01	0.964	0.111
836	15	15	0.736	1.13	0.613	0.004
837	0	0.5	0.861	1.62	0.923	0.055
837	19	19	0.77	0.644	0.913	0
838	0	0.5	0.869	1.4	0.668	0.044
838	14	14	0.791	1.6	0.709	0.013
839	0	0.5	0.704	1.31	1.29	0.027
839	14	14	0.76	1.36	0.931	0.008
840	0	0.5	0.952	1.39	0.835	0.059
840	12	12	0.705	0.805	0.821	0
841	0	0.5	0.959	2.01	1.82	0.105
841	10	10	0.784	1.8	0.929	0.016
842	0	0.5	0.775	1.75	0.85	0.047
842	10	10	0.836	1.39	0.707	0.012
843	0	0.5	0.759	1.17	1.1	0.017

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
843	10	10	0.732	1.91	0.744	0.018
844	0	0.5	1.3	2.58	1.1	0.197
844	11	11	0.646	1.37	0.847	0.009
845	0	0.5	1.17	2.57	1.66	0.176
845	13	13	0.646	1.15	0.69	0.005
846	0	0.5	0.726	1.11	0.692	0.012
846	16	16	0.711	0.936	0.623	0.001
847	0	0.5	1.16	2	1.16	0.138
847	10	10	0.794	1.62	0.945	0.013
848	0	0.5	1.76	2.7	1.93	0.304
848	11	11	0.856	1.49	0.816	0.015
849	0	0.5	0.784	2.06	1.43	0.069
849	11	11	0.571	1.39	0.654	0.009
850	0	0.5	0.907	1.44	0.872	0.053
850	17	17	0.68	1.28	1.18	0.008
851	0	0.5	0.772	1.46	1.15	0.034
851	18	18	0.697	1.56	0.663	0.012
852	0	0.5	1	2.53	1.67	0.14
852	15	15	0.571	0.602	0.442	0
853	0	0.5	0.767	1.52	1.12	0.037
853	16.5	16.5	0.763	1.24	0.787	0.006
854	0	0.5	0.737	1.37	1.65	0.033
854	13	13	0.714	1.18	0.961	0.005
855	0	0.5	0.717	2.7	2.75	0.117
855	15	15	0.615	0.908	0.72	0
856	0	0.5	0.984	2.04	1.11	0.105
856	11	11	0.506	0.82	0.557	0
857	0	0.5	0.829	1.31	12.2	0.13
857	11	11	0.593	0.766	0.403	0
858	0	0.5	0.792	1.16	1.55	0.02
858	16	16	0.803	1.61	0.816	0.014
859	0	0.5	0.726	1.3	1.32	0.026
859	18	18	0.718	1.23	0.761	0.006
860	15	15	0.519	1.01	0.531	0.002
861	0	0.5	0.817	1.67	0.977	0.049
861	34.5	34.5	0.732	1.09	0.65	0.003
861	38	38	0.674	0.741	0.575	0
864	10	10	0.734	1.08	0.867	0.003
8A001	1.5	2	1.03	1.51	1.08	0.028
8A002	0	0.5	3.01	3.68	0.861	0.598
8A003	0	0.5	47.9	87.6	3.18	14.26
8A003	1.5	2	1.6	2.79	0.964	0.088
8A004	0	0.5	6.2	9.79	1.38	1.581
8A004-1	0	0.5	6.01	6.88	1	1.378
8A004-1	0.5	2	2.67	3.36	0.942	0.17
8A004-1	2	3	0.834	0.914	0.935	0.003
8A004-2	0	0.5	5.2	6.96	0.922	1.22
8A004-2	0.5	2	1.52	1.56	0.989	0.061
8A004-2	2	3	1	1.19	1.03	0.02
8A004-3	0	0.5	4.87	5.8	1.17	1.091
8A004-3	0.5	2	5.52	5.06	1.58	0.393
8A004-3	2	3	1.7	1.55	2.14	0.077
8A004-4	0	0.5	6.88	7.85	1.19	1.607
8A004-4	0.5	2	1.85	2.37	1.09	0.099

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8A004-4	2	3	1.31	0.954	0.96	0.036
8A004-5	0	0.5	1.8	2.5	0.884	0.292
8A004-5	0.5	2	1.42	2.03	1.16	0.064
8A004-5	2	3	0.954	0.943	1.19	0.013
8A004-6	0	0.5	2.4	2.48	0.903	0.411
8A004-6	0.5	2	1.3	1.08	1.32	0.038
8A004-6	2	3	0.971	0.835	1.26	0.013
8A004-7	0	0.5	4.13	5.86	0.74	0.944
8A004-7	0.5	2	2.6	2.92	0.883	0.158
8A004-7	2	3	1.26	1.02	1.26	0.034
8A005	0	0.5	2.12	3.03	1.14	0.387
8A006	0	0.5	1.05	1.05	1.26	0.064
8A007	0	0.5	1.03	1.22	0.91	0.067
8A008	0	0.5	1.08	1.4	1.13	0.089
8A009	0	0.5	67.9	68.5	1.75	17.186
8A009	2	2	1.65	2.57	1.03	0.088
8A009-1	0	0.5	1.68	1.8	1.96	0.238
8A009-1	0.5	2	1.1	1.05	2.03	0.027
8A009-1	2	3	0.997	1.18	1.22	0.02
8A009-2	0	0.5	1.58	1.73	1.28	0.208
8A009-2	0.5	2	1.16	1.16	1.15	0.031
8A009-2	2	3	0.909	0.726	0.374	0.008
8A009-3	0	0.5	2.14	1.62	2.44	0.324
8A009-3	0.5	2	1.39	1.34	2.18	0.052
8A009-3	2	3	0.992	0.963	0.813	0.014
8A009-4	0	0.5	0.153	0.252	0.285	0
8A009-4	0.5	2	2.27	2.79	2.72	0.138
8A009-4	2	3	0.99	0.947	1.15	0.015
8A010	0	0.5	1.24	1.13	0.723	0.103
8A011	2	2	0.99	0.953	1.08	0.015
8B001	0	0.5	16.8	4.11	0.976	3.381
8B001-1	0	0.5	5.9	1.85	0.8	1.075
8B001-1	0.5	2	2.67	1.39	1.25	0.135
8B001-1	2	3	0.93	1.09	1.18	0.013
8B001-2	0	0.5	5.3	2.58	2.11	1.006
8B001-2	0.5	2	6.08	4.85	2.57	0.43
8B001-2	2	3	15.3	2.05	0.79	0.988
8B001-3	0	0.5	1.45	1.41	1.49	0.166
8B001-3	0.5	2	3.25	0.92	0.973	0.164
8B001-3	2	3	3.4	2.73	2.5	0.212
8B001-4	0	0.5	1.46	1.17	0.974	0.15
8B001-4	0.5	2	1.07	1.08	1.1	0.023
8B001-4	2	3	0.841	0.985	0.957	0.005
8B001-5	0	0.5	5.07	2.43	1.42	0.946
8B001-5	0.5	2	4.29	1.52	0.994	0.245
8B001-5	2	3	1.23	0.988	0.827	0.031
8B001-5	3	4	0.91	0.902	0.671	0.008
8B001-5	4	5	1.21	0.894	0.724	0.028
8B001-6	0	0.5	2.04	1.27	0.883	0.272
8B001-6	0.5	2	1.38	1.09	0.945	0.042
8B001-6	2	3	0.732	0.897	1.01	0.001
8B001-6	3	4	0.911	0.847	0.923	0.008
8B001-6	4	5	0.837	0.958	0.786	0.004
8B001-7	0	0.5	2.72	1.69	0.796	0.43

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8B001-7	0.5	2	1.73	1.23	0.759	0.069
8B001-7	2	3	5.35	5.13	4.63	0.392
8B001-7	3	4	5.37	4.7	4.72	0.385
8B001-7	4	5	6.09	3.88	3.64	0.415
8B002	0	0.5	1.03	1.12	0.778	0.06
8B002	2	2	0.948	1.2	1.28	0.017
8B003	0	0.5	1.21	1.44	1.18	0.117
8B004	0	0.5	1.09	1.29	1.12	0.085
8B005	0	0.5	1.08	1.78	1.26	0.111
8B006	0	0.5	1.33	2.71	0.923	0.21
8B007	0	0.5	1.15	2.01	3.7	0.159
8B008	0	0.5	0.0607	0.146	0.049	0
8B008	2	2	0.924	1.06	0.791	0.012
8B009	0	0.5	1.19	2.83	0.68	0.187
8B010	0	0.5	1.83	2.33	2.92	0.305
8C001	0	0.5	1.86	1.98	0.889	0.275
8C002	0	0.5	1.12	1.05	0.69	0.074
8C003	0	0.5	0.991	1.14	1.27	0.057
8C004	0	0.5	0.939	1.37	0.851	0.056
8D001	0	0.5	3.78	3.73	1.17	0.758
8D002	0	0.5	0.793	0.914	0.791	0.002
8D003	0	0.5	45.5	8.94	1.63	9.396
8D003	0.42	0.75	44.5	8.06	1.46	3.046
8D003	0.75	1	7.17	3.56	1.23	0.474
8D003	4.5	4.5	0.744	0.984	0.809	0.002
8D003-1	0	0.5	2.36	2.71	1.08	0.417
8D003-1	0.5	2	1.2	1.32	1.11	0.036
8D003-1	2	3	0.814	0.82	0.765	0.002
8D003-2	0	0.5	2.85	3.55	1.09	0.561
8D003-2	0.5	2	1.1	1.17	0.935	0.026
8D003-2	2	3	1.02	0.86	0.764	0.015
8D003-3	0	0.5	1.71	1.7	0.92	0.229
8D003-3	0.5	2	0.94	0.781	0.754	0.01
8D003-3	2	3	0.771	0.641	0.642	0
8D003-4	0	0.5	3.22	4.02	1.31	0.663
8D003-4	0.5	2	1.57	3.02	1.06	0.092
8D003-4	2	3	0.871	0.911	0.725	0.005
8D004	0	0.5	42.2	58.8	1.85	11.508
8D004	1.47	1.8	3.79	1.16	0.889	0.205
8D004-1	0	0.5	8.73	3.92	1.47	1.762
8D004-1	0.5	2	1.36	1.27	0.813	0.045
8D004-1	2	3	0.902	0.664	0.689	0.007
8D004-2	0	0.5	1.23	1.05	0.79	0.096
8D004-2	0.5	2	1.14	0.781	0.754	0.023
8D004-2	2	3	1.2	0.785	0.698	0.027
8D004-3	0	0.5	1.77	2.24	0.969	0.271
8D004-3	0.5	2	1	1.02	0.677	0.016
8D004-3	2	3	1.17	0.815	0.757	0.025
8D004-4	0	0.5	2.49	2.12	0.944	0.409
8D004-4	0.5	2	0.994	0.977	1.02	0.016
8D004-4	2	3	0.925	0.756	1.22	0.01
8D004-5	0	0.5	2.38	2.26	3.25	0.415
8D004-5	0.5	2	1	0.98	1.13	0.016
8D004-5	2	3	1.14	0.919	0.794	0.023

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8D004-6	0	0.5	2.55	2.96	0.616	0.466
8D004-6	0.5	2	0.937	0.975	1.32	0.012
8D004-6	2	3	0.818	0.935	0.822	0.003
8D004-7	0	0.5	2.06	2.13	0.828	0.322
8D004-7	0.5	2	0.95	0.952	1.08	0.013
8D004-7	2	3	0.661	0.809	0.739	0
8D005	0	0.5	0.942	1.21	1.03	0.049
8D006	0	0.5	13.4	14.1	0.989	3.256
8D006	0.47	0.8	143	98.3	1.3	11.253
8D006	1.17	1.5	14.2	24.3	0.953	1.319
8D006	1.5	2	7.94	8.96	1.03	0.625
8D006	2	2.5	0.684	0.85	1.1	0.001
8D006-1	0	0.5	7.01	8.27	0.878	1.654
8D006-1	0.5	2	2.85	3.7	0.809	0.188
8D006-1	2	3	1.09	0.794	1.32	0.021
8D006-2	0	0.5	1.92	2.04	1.03	0.291
8D006-2	0.5	2	1.37	1.5	1.19	0.051
8D006-2	2	3	0.759	0.739	0.645	0
8D006-3	0	0.5	0.926	1.04	1.13	0.038
8D006-3	0.5	2	0.874	0.728	0.597	0.006
8D006-3	2	3	0.938	0.832	0.645	0.01
8D006-4	0	0.5	1.2	1.34	0.745	0.106
8D006-4	0.5	2	1.37	0.975	0.735	0.04
8D006-4	2	3	0.87	0.846	0.573	0.005
8D006-5	0	0.5	7.42	10.1	1.22	1.84
8D006-5	0.5	2	1.99	2.29	0.896	0.105
8D006-5	2	3	0.991	0.715	0.674	0.013
8D006-6	0	0.5	0.841	1.22	0.713	0.028
8D006-6	0.5	2	1.65	1.21	0.944	0.063
8D006-6	2	3	1.52	1.3	1.02	0.057
8D006-7	0	0.5	2.7	3.33	0.726	0.517
8D006-7	0.5	2	1.03	1.13	0.86	0.02
8D006-7	2	3	0.992	0.791	0.621	0.013
8D007	0	0.5	14.9	9.04	2.11	3.285
8D007	1.47	1.8	5.68	3.7	1.07	0.378
8D007-1	0	0.5	1.45	1.77	1.09	0.182
8D007-1	0.5	2	1.03	0.926	0.89	0.016
8D007-1	2	3	0.866	0.953	0.719	0.006
8D007-2	0	0.5	1.79	1.61	1.26	0.243
8D007-2	0.5	2	1.49	0.948	1.8	0.051
8D007-2	2	3	1	1.05	1.9	0.02
8D007-3	0	0.5	9.89	7.4	1.88	2.19
8D007-3	0.5	2	0.786	0.78	0.756	0
8D007-3	2	3	0.848	0.756	0.59	0.004
8D007-4	0	0.5	2.19	1.56	1	0.319
8D007-4	0.5	2	1.14	0.812	1.31	0.024
8D007-4	2	3	0.797	0.726	0.594	0
8D007-5	0	0.5	5.25	4.71	0.672	1.104
8D007-5	0.5	2	1.06	0.952	2.16	0.023
8D007-5	2	3	0.824	0.894	0.598	0.002
8D008	0	0.5	0.998	1.49	1.23	0.079
8D009	0	0.5	446	536	7.1	118.825
8D009	1.5	2	10	25.3	0.977	1.058
8D009	2	2.5	0.778	1.3	0.855	0.007

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8D009-1	0	0.5	1.18	1.59	0.882	0.117
8D009-1	0.5	2	1.2	1.29	0.842	0.034
8D009-1	2	3	1.53	1.67	0.824	0.063
8D009-2	0	0.5	5.45	6.55	1.11	1.249
8D009-2	0.5	2	5.99	5.81	1.58	0.438
8D009-2	2	3	1.38	1.06	0.865	0.042
8D009-3	0	0.5	1.57	1.07	0.69	0.165
8D009-3	0.5	2	1.25	1.04	0.859	0.034
8D009-3	2	3	26.6	24.8	3.67	2.164
8D009-3	3	4	21.4	24.5	30.8	1.89
8D009-3	4	5	13.9	12.8	5.21	1.103
8D009-4	0	0.5	1.87	2	0.756	0.277
8D009-4	0.5	2	1.91	2.05	0.7	0.096
8D009-4	2	3	0.542	0.735	0.558	0
8D009-5	0	0.5	1.24	1.19	0.633	0.106
8D009-5	0.5	2	1.34	1.21	0.963	0.043
8D009-5	2	3	5.98	6.28	2.14	0.448
8D009-5	3	5	15.8	15.6	3.09	1.275
8D009-5	5	7	1.53	1.17	0.942	0.054
8D009-6	0	0.5	1.65	1.73	0.803	0.218
8D009-6	0.5	2	1.29	1.12	0.909	0.037
8D009-6	2	3	3.04	4.73	0.923	0.22
8D009-6	3	5	8.02	9.14	2.06	0.636
8D009-6	5	7	15.7	14	3.14	1.239
8D009-7	0	0.5	1.26	1.03	0.648	0.101
8D009-7	0.5	2	1.47	0.977	0.801	0.046
8D009-7	2	3	2.12	1.45	0.747	0.099
8D009-7	3	5	1.09	0.793	0.686	0.02
8D009-7	5	7	0.824	0.655	0.544	0.002
8D011	1.5	2	0.822	0.995	0.777	0.004
8D012	1.5	2	0.86	0.955	0.627	0.006
8D013	1.53	1.7	1.04	1.32	0.83	0.025
8D014	1.5	2	0.814	1.09	0.766	0.005
8D015	1.5	2	0.719	0.768	0.6	0
8D016	1.5	2	19.1	21.9	4.14	1.613
8D016	3	3.5	0.693	1.76	1.05	0.017
8D016-1	0	0.5	1.43	1.25	0.724	0.147
8D016-1	0.5	2	0.907	1.18	0.729	0.013
8D016-1	2	3	1.85	1.58	2.62	0.088
8D016-2	0	0.5	3.1	2.94	1.06	0.577
8D016-2	0.5	2	1.88	1.88	1.16	0.092
8D016-2	2	3	8.6	12.1	2.62	0.73
8D016-3	0	0.5	3.4	4.44	0.989	0.72
8D016-3	0.5	2	0.98	0.969	0.832	0.014
8D016-3	2	3	30.2	38.9	4.3	2.662
8D016-3	3	4	67.2	77.3	9.73	5.842
8D016-3	4	5	7.38	10.8	2.55	0.624
8D016-4	0	0.5	3.01	4.73	1	0.659
8D016-4	0.5	2	12.3	15.4	2.62	1.036
8D016-4	2	3	38	33.5	8.13	3.095
8D016-4	3	4	30.4	31.7	4.64	2.545
8D016-4	4	5	18.9	21.3	4.82	1.59
8D016-5	0	0.5	1.66	1.29	1.29	0.2
8D016-5	0.5	2	5.58	7.33	1.98	0.439

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8D016-5	2	3	6.1	6.29	1.75	0.455
8D016-5	3	5	1.3	1.42	1.25	0.044
8D016-5	5	7	0.84	0.874	0.814	0.003
8D016-6	0	0.5	1.1	1.09	0.84	0.073
8D016-6	0.5	2	1.21	1.13	1.03	0.033
8D016-6	2	3	1.19	0.925	1.09	0.028
8D016-6	3	5	1.45	1.06	0.924	0.047
8D016-6	5	7	1.66	1.68	0.848	0.072
8D016-7	0	0.5	1.74	1.39	1.04	0.219
8D016-7	0.5	2	9.64	9.26	1.58	0.744
8D016-7	2	3	16.6	44.8	5.13	1.864
8D016-7	3	5	37.6	51	10.3	3.392
8D016-7	5	7	25	22.8	5.99	2.027
8D016-8	0	0.5	0.943	1.28	0.897	0.053
8D016-8	0.5	2	1.09	0.984	0.907	0.022
8D016-8	2	3	1	0.82	0.952	0.014
8D016-8	3	5	1.09	1.11	0.794	0.024
8D016-8	5	7	1.03	0.828	0.716	0.016
8D016-9	0	0.5	1.12	1.15	1.15	0.083
8D016-9	0.5	2	1.13	1.08	1.24	0.027
8D016-9	2	3	1.1	0.954	0.88	0.022
8D016-9	3	5	0.825	0.712	0.749	0.002
8D016-9	5	7	0.881	0.783	0.676	0.006
8E001	0	0.5	1.27	1.66	1.08	0.14
8E002	0	0.5	1.98	2.12	0.834	0.306
8E003	0	0.5	0.862	1.06	0.755	0.023
8E003	0.5	1	0.917	1.24	0.857	0.014
8E003	1	1.5	74.8	38.5	1.11	5.619
8E003	5	5	0.752	1.18	0.575	0.005
8E003-1	0	0.5	1.53	1.82	0.853	0.199
8E003-1	0.5	2	0.904	0.845	0.93	0.008
8E003-1	2	3	1.07	0.911	0.77	0.019
8E003-2	0	0.5	2.53	3.14	0.737	0.472
8E003-2	0.5	2	1.59	1.51	0.752	0.064
8E003-2	2	3	0.968	0.594	0.703	0.012
8E003-3	0	0.5	1.28	1.32	0.927	0.122
8E003-3	0.5	2	0.763	1	0.645	0.002
8E003-3	2	3	0.559	0.484	0.461	0
8E003-4	0	0.5	1.36	0.962	0.672	0.117
8E003-4	0.5	2	1.22	0.789	0.799	0.029
8E003-4	2	3	1.07	0.942	0.676	0.02
8F001	0	0.5	61.5	6.76	1.9	12.477
8F001	0.5	1	14.3	3.37	0.134	0.946
8F001	1	1.5	11.3	2.29	0.885	0.726
8F001-1	0	0.5	0.933	0.698	0.575	0.029
8F001-1	0.5	2	0.786	0.875	0.805	0
8F001-1	2	3	0.831	0.747	0.703	0.003
8F001-2	0	0.5	0.748	0.746	0.684	0
8F001-2	0.5	2	0.841	0.757	0.601	0.003
8F001-2	2	3	0.663	0.849	0.785	0
8F001-3	0	0.5	1.42	1.35	0.71	0.151
8F001-3	0.5	2	0.908	0.85	0.857	0.008
8F001-3	2	3	0.555	0.707	0.711	0
8F002	0	0.5	0.866	1.04	1.03	0.025

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8F003	0	0.5	45.9	39.4	1.65	11.168
8F003-1	0	0.5	0.893	0.8	0.749	0.021
8F003-1	0.5	2	0.762	0.833	0.679	0
8F003-1	2	3	0.899	0.756	0.678	0.007
8F003-2	0	0.5	0.712	0.645	0.942	0.001
8F003-2	0.5	2	1.15	0.832	0.994	0.025
8F003-2	2	3	1.17	0.869	0.738	0.025
8F003-3	0	0.5	1.16	0.846	0.705	0.074
8F003-3	0.5	2	0.808	0.737	0.777	0.001
8F003-3	2	3	0.938	0.809	0.713	0.01
8F003-4	0	0.5	0.926	0.815	0.723	0.027
8F003-4	0.5	2	1.06	0.751	0.892	0.018
8F003-4	2	3	1.21	0.784	0.67	0.028
8F003-5	0	0.5	1.05	0.723	0.862	0.052
8F003-5	0.5	2	0.887	0.689	0.931	0.006
8F003-5	2	3	0.945	0.77	1.02	0.011
8F003-6	0	0.5	0.838	0.766	0.743	0.01
8F003-6	0.5	2	0.993	0.748	0.859	0.014
8F003-6	2	3	1.33	0.645	0.714	0.036
8F003-7	0	0.5	1.25	0.815	0.873	0.092
8F003-7	0.5	2	0.692	0.717	0.778	0
8F003-7	2	3	0.897	0.728	0.587	0.007
8F003-8	0	0.5	0.968	0.713	0.585	0.036
8F003-8	0.5	2	1.03	0.731	0.678	0.016
8F003-8	2	3	0.656	0.862	0.815	0
8F004	0	0.5	0.797	0.916	0.704	0.002
8F005	0	0.5	18.9	40.8	1.51	5.845
8F005	0.5	1	6.14	6.85	0.471	0.465
8F005	1	1.5	1.23	1.91	0.822	0.047
8F006	0	0.5	7.32	2.99	1.73	1.43
8F006	0.5	1	1.99	1.81	1.32	0.098
8F006	1	1.5	1.31	1.06	1.1	0.039
8F006-1	0	0.5	1.73	1.34	1.07	0.214
8F006-1	0.5	2	1.01	0.754	0.881	0.015
8F006-1	2	3	0.982	0.956	0.811	0.014
8F006-2	0	0.5	4.75	1.63	1.36	0.838
8F006-2	0.5	2	1.2	0.802	0.839	0.027
8F006-2	2	3	1.04	0.888	0.744	0.017
8F006-3	0	0.5	1.13	0.879	0.811	0.068
8F006-3	0.5	2	1.13	0.701	1	0.024
8F006-3	2	3	0.991	1.01	0.925	0.015
8F006-4	0	0.5	1.48	1.23	0.73	0.156
8F006-4	0.5	2	0.921	0.969	0.817	0.01
8F006-4	2	3	0.89	0.747	0.865	0.007
8F006-5	0	0.5	2.5	2.34	0.715	0.422
8F006-5	0.5	2	1.81	0.886	1.1	0.069
8F006-5	2	3	0.886	0.644	0.627	0.006
8F006-6	0	0.5	4.87	1.97	2.04	0.886
8F006-6	0.5	2	2.33	2.03	1.12	0.125
8F006-6	2	3	0.742	0.72	0.903	0
8F007	0	0.5	1.12	1.38	0.705	0.093
8G001	0	0.5	1.5	1.3	0.607	0.164
8G002	0	0.5	1.35	1.59	0.295	0.15
8G003	0	0.5	0.91	0.699	0.483	0.024

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8G004	0	0.5	0.777	0.939	0.894	0.003
8G005	0	0.5	1.1	1.44	0.746	0.092
8H001	0	0.5	7.49	10	2.83	1.863
8H001-1	0	0.5	2.59	2.99	1.16	0.479
8H001-1	0.5	2	1.57	1.65	0.936	0.066
8H001-1	2	3	1.03	0.99	0.906	0.018
8H001-2	0	0.5	3.23	3.64	1.78	0.648
8H001-3	0	0.5	1.57	1.66	1.23	0.202
8H001-3	0.5	2	1.7	1.75	1.14	0.077
8H001-3	2	3	1.08	1.01	1.25	0.022
8H001-4	0	0.5	1.85	1.9	1.13	0.271
8H001-5	0	0.5	2.32	2.13	1.5	0.38
8H001-5	0.5	2	1.16	1.71	1.46	0.042
8H001-5	2	3	0.671	0.671	0.535	0
8H001-6	0	0.5	2.34	2.34	1.36	0.395
8H001-6	0.5	2	2.24	2.28	1.36	0.124
8H001-6	2	3	1.13	1.07	1.22	0.027
8H002	0	0.5	15.1	22.5	4.04	4.09
8H002-1	0	0.5	4.41	3.91	1.77	0.899
8H002-1	0.5	2	1.97	2.02	1.13	0.1
8H002-1	2	3	0.78	0.985	1.98	0.005
8H002-2	0	0.5	3.46	3.28	2.34	0.679
8H002-2	0.5	2	1.93	2.59	2.16	0.111
8H002-2	2	3	0.996	1.06	1.59	0.019
8H002-3	0	0.5	1.54	1.25	1.35	0.174
8H002-3	0.5	2	1.41	0.973	1.64	0.044
8H002-3	2	3	1.02	1.04	0.942	0.018
8H002-4	0	0.5	3.52	3.84	1.69	0.717
8H002-4	0.5	2	2.88	1.95	1.94	0.161
8H002-4	2	3	0.78	0.911	0.963	0
901	0	0.5	0.576	0.709	0.27	0
901	1.5	2	0.533	0.473	0.341	0
902	0	0.5	0.786	1.05	0.852	0.008
902	1.5	2	0.837	1.14	0.926	0.007
903	0	0.5	0.919	1.26	0.816	0.046
903	1.5	2	0.889	1.01	1.04	0.01
904	0	0.5	0.981	1.61	1	0.079
904	2.5	3	0.689	0.938	0.715	0.001
905	0	0.5	2.07	2.14	2.95	0.344
905	1.5	2	1.68	2.1	1.32	0.082
906	0	0.5	1.84	3.1	0.897	0.333
906	2.5	3	0.759	0.753	0.762	0
907	0	0.5	0.414	1.26	0.751	0.02
907	2	2.5	0.65	0.887	0.939	0
908	0	0.5	0.723	1.1	0.825	0.011
908	2	2.5	0.717	0.973	0.828	0.001
909	0	0.5	0.757	0.733	1.06	0.002
909	1.5	2	0.697	0.901	0.69	0
910	0	0.5	0.677	0.875	0.734	0
910	1.5	2	1.03	1.22	1.34	0.024
913	0	0.5	17.8	30.5	1.66	5.053
913	1	1.5	0.966	1.38	1.77	0.024
913-1	0	0.5	1.08	0.885	0.79	0.058
913-1	0.5	2	0.851	0.767	0.698	0.004

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
913-1	2	3	0.832	0.899	0.637	0.003
913-2	0	0.5	1.08	1.01	0.854	0.064
913-2	0.5	2	0.992	0.937	0.818	0.014
913-2	2	3	0.923	0.867	0.62	0.009
913-3	0	0.5	0.703	0.739	0.671	0
913-3	0.5	2	0.972	0.646	0.536	0.012
913-3	2	3	0.917	0.75	0.455	0.008
EU011	0	0.5	1.49	2.14	0.857	0.209
EU011	2	2	1.01	1.09	0.927	0.018
EU012	1	1	0.895	2.62	1.72	0.041
EU013	1	1	0.965	1.81	0.86	0.029
EU014	1	1	0.67	1.07	1.31	0.004
EU021	0	0.5	1.31	1.73	0.907	0.151
EU021	1	1	0.736	1.26	0.605	0.007
EU022	0	0.5	1.04	1.48	0.662	0.082
EU022	2	2	0.791	1.28	0.817	0.007
EU023	2	2	0.754	1.91	0.956	0.018
EU031	0	0.5	0.988	1.41	0.991	0.069
EU031	2	2	0.753	1.04	0.897	0.003
EU032	0	0.5	0.802	1.58	0.855	0.04
EU032	1	1	1.12	2.03	0.935	0.043
EU041	1	1	0.646	1.31	0.68	0.007
EU042	1	1	1.34	2.13	1.07	0.06
EU051	0	0.5	3.56	2.48	2.45	0.656
EU051	1	1	0.839	1.01	0.993	0.006
EU052	1.5	1.5	0.71	0.897	0.91	0
EU061	0	0.5	4.1	8.02	0.88	1.059
EU061	2	2	0.708	1.49	0.36	0.011
EU061-1	0	0.5	1.12	0.963	1.24	0.074
EU061-1	0.5	2	1.12	0.857	1.03	0.023
EU061-1	2	3	1.23	1.11	1.1	0.034
EU061-2	0	0.5	1.04	0.988	0.692	0.055
EU061-2	0.5	2	0.982	0.769	0.903	0.013
EU061-2	2	3	0.901	0.849	0.774	0.007
EU061-3	0	0.5	1.42	1.05	0.658	0.134
EU061-3	0.5	2	1.07	0.823	0.888	0.019
EU061-3	2	3	0.904	0.687	0.619	0.008
EU061-4	0	0.5	1.08	0.857	0.66	0.058
EU061-4	0.5	2	0.858	0.828	0.945	0.005
EU061-4	2	3	1.28	0.914	0.989	0.033
EU062	0	0.5	0.702	1.19	0.818	0.016
EU062	2	2	0.654	1.19	0.963	0.005
EU071	0	0.5	0.737	1.74	1.66	0.054
EU071	2	2	0.68	1.23	1.07	0.007
EU072	0	0.5	1.46	2.52	1.19	0.227
EU072	1.5	1.5	0.742	1.99	0.793	0.02
EU081	0	0.5	0.718	1.41	1.73	0.036
EU081	1.5	1.5	1.07	1.65	2.01	0.036
EU082	1.5	1.5	1.51	1.62	0.83	0.061
EU091	0	0.5	0.378	0.54	0.378	0
EU091	2	2	0.637	1.85	1.15	0.018
EU092	0	0.5	0.628	0.952	0.912	0.004
EU092	2	2	0.473	0.791	0.431	0
EU093	0	0.5	0.627	1.09	1.06	0.013

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
EU093	2	2	0.836	1.51	1.39	0.016
EU101	0	0.5	2.69	6.86	0.741	0.711
EU101	1	1	3.8	7.42	1.23	0.321
EU102	0	0.5	0.696	1.54	1.06	0.038
EU102	2	2	0.733	1.11	23.4	0.069
EU103	0	0.5	0.956	0.673	0.61	0.033
EU103	1	1	0.718	0.674	1.42	0.002
EU111	0	0.5	0.977	1.44	1.17	0.07
EU111	1.5	1.5	0.718	0.968	0.808	0.001
EU113	0	0.5	0.706	1.58	1.22	0.041
EU121	0	0.5	1.46	2.51	5.66	0.265
EU122	0	0.5	0.807	1.72	0.954	0.05
EU123	0	0.5	1.39	2.59	1.52	0.22
EU141	0	0.5	1.06	1.57	1.75	0.099
GWS-02	0	0.5	3.33	4.02	3.1	0.701
GWS-02	0.5	2	1.41	0.74	0.865	0.041
GWS-02	2	3	1.21	0.921	1	0.029
GWS-03	0	0.5	2.98	3.65	2.63	0.607
GWS-03	0.5	2	0.882	0.759	0.812	0.006
GWS-03	2	3	0.83	0.974	0.677	0.004
GWS-04	0	0.5	4.02	4.75	0.795	0.86
GWS-04	0.5	2	1.09	1.37	0.724	0.029
GWS-04	2	3	0.761	0.715	0.794	0
GWS-05	0	0.5	1.03	1.22	0.591	0.066
GWS-05	0.5	2	0.755	1.06	0.707	0.003
GWS-05	2	3	0.842	0.789	0.782	0.003
GWS-06	0	0.5	31	7.05	1.13	6.387
GWS-06	0.5	2	2.96	1.56	0.895	0.157
GWS-06	2	3	1.02	0.773	0.481	0.015
GWS-06-1	0	0.5	1.78	1.31	0.691	0.221
GWS-06-1	0.5	2	1.34	1.38	0.721	0.046
GWS-06-1	2	3	1.55	1.34	0.725	0.059
GWS-06-2	0	0.5	4.3	1.54	0.888	0.739
GWS-06-2	0.5	2	1.53	1.18	0.882	0.054
GWS-06-2	2	3	1.2	1.09	0.872	0.03
GWS-06-3	0	0.5	1.59	1.09	0.805	0.171
GWS-06-3	0.5	2	1.18	1.09	0.977	0.029
GWS-06-3	2	3	0.851	0.484	0.596	0.004
GWS-07	0	0.5	1.92	2.59	0.767	0.32
GWS-07	0.5	2	1.29	1.27	0.567	0.04
GWS-07	2	3	1.08	0.796	0.78	0.019
GWS-08	0	0.5	4.67	2.89	1.47	0.893
GWS-08	0.5	2	1.25	0.915	0.92	0.031
GWS-08	2	3	0.716	0.834	0.727	0
GWS-09	0	0.5	6.28	5.99	3.1	1.401
GWS-09	0.5	2	20.6	10.7	9.75	1.525
GWS-09	2	3	0.782	0.82	0.832	0
GWS-09-1	0	0.5	2.49	2.47	0.73	0.427
GWS-09-1	0.5	2	1.32	1.34	0.767	0.043
GWS-09-1	2	3	0.886	0.667	0.732	0.006
GWS-09-2	0	0.5	2.12	2.33	0.713	0.345
GWS-09-2	0.5	2	4.36	2.1	1.09	0.261
GWS-09-2	2	3	1	0.702	0.813	0.014
GWS-09-3	0	0.5		2.13	0.735	0.068

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
GWS-09-3	0.5	2	0.855	0.704	0.573	0.004
GWS-09-3	2	3	1.08	0.808	0.784	0.019
GWS-11	0	0.5	11.2	16.5	2.03	2.96
GWS-11	0.5	2	1.93	3.24	0.995	0.12
GWS-11	2	3	0.91	0.891	1.45	0.01
GWS-11-1	0	0.5	5.21	7.21	1.94	1.245
GWS-11-1	0.5	2	1.91	1.44	1.53	0.087
GWS-11-1	2	3	1.35	0.995	1.17	0.04
GWS-12	0	0.5	0.871	5.14	1.53	0.258
GWS-12	0.5	2	1.19	0.91	1.41	0.029
GWS-12	2	3	0.935	0.895	0.825	0.01
GWS-13	0	0.5	3.83	7.66	0.668	0.984
GWS-13	0.5	2	2.99	5.67	1.58	0.236
GWS-13	2	3	4.03	0.771	0.888	0.216
GWS-14	0	0.5	0.372	0.579	0.364	0
GWS-14	0.5	2	0.971	1	1.14	0.015
GWS-14	2	3	0.838	0.979	1.52	0.006
GWS-15	0	0.5	1.29	1.81	1.64	0.158
GWS-15	0.5	2	0.87	0.947	1.1	0.007
GWS-15	2	3	1.02	0.794	0.777	0.015
GWS-18	0	0.5	5.89	1.78	0.914	1.07
GWS-18	0.5	2	1.65	1.05	0.482	0.06
GWS-18	2	3	0.926	0.738	0.605	0.009
GWS-18-1	0	0.5	1.12	1.27	1.26	0.091
GWS-18-1	0.5	2	0.913	0.758	0.959	0.008
GWS-18-1	2	3	0.989	0.741	0.758	0.013
GWS-18-2	0	0.5	1.24	1.03	0.694	0.097
GWS-18-2	0.5	2	0.985	0.856	0.648	0.013
GWS-18-2	2	3	1.13	0.865	0.828	0.023
GWS-18-3	0	0.5	1.8	1.29	1.16	0.227
GWS-18-3	0.5	2	1.08	0.999	0.558	0.021
GWS-18-3	2	3	0.711	0.72	0.461	0
GWS-18-4	0	0.5	1.19	1.27	1.17	0.104
GWS-18-4	0.5	2	1.12	0.635	0.776	0.022
GWS-18-4	2	3	0.698	0.762	0.616	0
GWS-19	0	0.5	10.1	4.68	0.826	2.072
GWS-19	0.5	2	73.4	21.3	1.28	5.213
GWS-19	2	3	14.8	3.37	0.558	0.979
GWS-19	3	4	3.71	1.22	0.588	0.201
GWS-19	4	5	1.46	1.09	0.578	0.048
GWS-19-1	0	0.5	1.07	0.867	0.938	0.057
GWS-19-1	0.5	2	0.757	0.838	0.96	0
GWS-19-1	2	3	0.96	0.652	0.657	0.011
GWS-19-2	0	0.5	3.52	1.7	0.765	0.59
GWS-19-2	0.5	2	1.36	0.991	0.883	0.04
GWS-19-2	2	3	0.688	0.735	0.656	0
GWS-19-3	0	0.5	1.21	0.926	0.71	0.085
GWS-19-3	0.5	2	0.877	0.745	0.797	0.006
GWS-19-3	2	3	0.756	0.849	0.664	0
GWS-19-4	0	0.5	1.11	0.829	0.806	0.064
GWS-19-4	0.5	2	0.632	0.575	0.548	0
GWS-19-4	2	3	0.859	0.72	0.666	0.005
GWS-20	0	0.5	1.62	1.11	1.01	0.18
GWS-20	0.5	2	1.4	0.856	0.665	0.041

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
GWS-20	2	3	0.865	0.849	0.872	0.005
GWS-21	0	0.5	4.58	4.35	4.45	0.982
GWS-21	0.5	2	1	0.763	0.851	0.014
GWS-21	2	3	1.21	1.01	0.898	0.03
GWS-22	0	0.5	4.36	4.19	3.61	0.921
GWS-22	0.5	2	1.38	0.892	0.846	0.039
GWS-23	0	0.5	4.39	4.94	4.25	0.974
GWS-23	0.5	2	0.828	0.812	0.807	0.003
GWS-23	2	3	0.909	0.844	0.589	0.008
GWS-24	0	0.5	1.67	1.95	1.72	0.242
GWS-24	0.5	2	3.8	2.6	2.14	0.236
GWS-24	2	3	0.99	0.742	0.69	0.013
GWS-26	0	0.5	1.93	2.66	358	3.432
GWS-26	0.5	2	1.57	1.8	143	0.479
GWS-26	2	3	1.27	0.769	1.82	0.035
GWS-27	0	0.5	2.03	2.23	1.32	0.326
GWS-27	0.5	2	1.41	1.72	1.08	0.057
GWS-27	2	3	0.998	1.09	1.11	0.018
IE01	0	0.5	0.791	1.13	0.845	0.013
IE01	3	3.5	1.54	1.61	1.46	0.065
IE01	6	7.5	0.653	0.454	0.533	0
IE01	9.5	10	0.662	0.69	0.559	0
IE02	0	0.5	1.21	1.54	1.08	0.122
IE02	3.5	4	0.977	0.803	0.774	0.012
IE02	4	4	0.383	0.317	0.683	0
IE02	4	4.5	0.413	0.397	0.315	0
IE02	9	9.5	0.79	0.783	0.631	0
IE03	0	0.5	0.756	0.92	0.634	0.001
IE03	3.2	3.6	1.02	0.816	1.04	0.016
IE03	10.2	10.6	0.772	0.796	0.715	0
IE04	0	0.5	0.929	0.881	0.969	0.029
IE04	2.8	3.2	1.41	1.14	1.14	0.046
IE04	3.5	4	0.476	0.408	0.449	0
IE04	10	10.5	0.887	0.664	0.619	0.006
IE05	0	0.5	1.47	1.6	0.912	0.176
IE05	2	2.4	1.68	1.49	0.777	0.07
IE05	2.7	3.2	0.395	0.42	0.356	0
IE05	11	11.5	0.726	0.495	0.462	0
IE06	0	0.5	0.804	1.14	0.866	0.016
IE06	2.5	3	1.19	1	7.09	0.047
IE06	6	8	1.04	0.977	0.812	0.018
IE06	11.5	12	1.1	1.03	1.01	0.024
IE07	0	0.5	0.981	1.2	2.3	0.068
IE07	1.2	2.5	1.079	1.04	4.93	0.034
IE07	4	4	0.978	1.01	13.9	0.053
IE07	4.5	4.5	1.124	0.868	11.2	0.052
IE07	4.5	5	1.06	0.959	11.2	0.049
IE07	6	6	0.973	0.825	12.9	0.047
IE07	7.5	8	0.845	0.771	2.16	0.008
IE07	9	9.5	0.904	0.782	10.9	0.037
IE08	0	0.5	1.26	1.27	4.08	0.143
IE08	3	3.5	0.875	0.758	15.7	0.049
IE08	6.5	7	0.883	0.766	4.32	0.016
IE08	8	9	0.844	1.03	2.17	0.01

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
IE09	8	8	1.898	1.41	4.79	0.094
IE09-1	0	0.5	1.17	1.28	3.59	0.121
IE09-2	3.5	4	0.724	0.715	9.77	0.026
IE09-3	6	6.5	1.02	0.845	1.89	0.018
IE09-4	10	10.5	0.875	0.753	0.782	0.006
IE10-1	0	0.5	1.1	1.08	14.9	0.194
IE10-2	3	4	0.895	0.851	9.28	0.031
IE10-3	3	4	0.84	0.883	15.1	0.044
IE10-4	10	10.5	0.724	0.765	0.76	0
IE11-1	0	0.5	1.18	1.3	8.43	0.166
IE11-2	3	4	1.02	0.843	17	0.062
IE11-3	1	2	1.32	1.09	9.39	0.063
IE11-4	10	10.5	0.75	0.59	0.996	0.001
IE12-1	0	0.5	0.886	1.03	1.7	0.034
IE12-2	0	0.5	1.29	1.12	1.44	0.117
IE12-3	3	4	0.826	0.972	6.43	0.019
IE12-4	6	7	0.611	0.607	1.18	0.001
IE12-5	5	6	0.787	0.921	4.41	0.01
IE12-6	6	7	0.794	0.906	14.6	0.04
IE12-7	11	11.5	0.948	0.871	0.908	0.011
IE12-8	11	11.5	1.02	0.87	8.33	0.037
IEMH06-1	0	0.5	0.805	0.749	2.85	0.021
IEMH06-2	3	3.5	0.927	0.996	6.76	0.028
IEMH06-3	2	3	0.959	1.12	1.13	0.016
IEMH06-4	6.5	7	0.531	0.715	0.347	0
MH06-01	0	0.5	0.796	1.01	3.8	0.033
MH06-01	0.5	2	0.857	0.758	4.24	0.014
MH06-01	2	3	0.952	0.702	5.24	0.024
MH06-02	0	0.5	1.18	1.13	6.69	0.142
MH06-02	0.5	2	1.07	0.969	23.5	0.086
MH06-02	2	3	1.16	0.872	27	0.101
MH06-02	3	4	0.688	0.947	24.5	0.069
MH06-02	4	5	0.979	0.827	19.5	0.067
MH06-03	0	0.5	0.854	1.45	0.441	0.044
MH06-03	0.5	2	0.865	0.998	0.862	0.007
MH06-03	2	3	0.785	0.883	0.832	0
MH06-03	3	4	1.01	0.704	23.3	0.08
MH06-03	4	5	0.961	0.53	5.28	0.024
MH06-04	0	0.5	1.23	1.22	5.89	0.15
MH06-04	0.5	2	0.735	0.79	5.12	0.012
MH06-04	2	3	0.843	0.68	2.52	0.009
MH06-05	0	0.5	2.08	1.52	0.957	0.293
MH06-05	0.5	2	1.28	1.53	0.977	0.044
MH06-05	2	3	0.743	0.826	1.03	0.001
MH06-06	0	0.5	4.2	5.21	1.31	0.925
MH06-06	0.5	2	1.51	1.59	1.67	0.063
MH06-06	2	3	0.982	0.954	1.28	0.015
MH06-07	0	0.5	2.91	3.16	1.01	0.552
MH06-07	0.5	2	1.27	1.57	1.16	0.045
MH06-07	2	3	1.03	0.856	1.28	0.017
MH06-08	0	0.5	2.15	2.22	1.03	0.347
MH06-08	0.5	2	1.81	1.91	1.45	0.088
MH06-08	2	3	0.88	0.832	0.973	0.006
MH06-09	0	0.5	1.92	1.79	0.821	0.275

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MH06-09	0.5	2	1.68	1.58	0.771	0.071
MH06-09	2	3	1.38	1.4	1.12	0.049
MH06-10	0	0.5	1.19	1.12	10.3	0.174
MH06-10	0.5	2	1.18	0.932	23.2	0.092
MH06-10	2	3	0.862	0.888	30.6	0.091
MH06-10	3	4	0.911	0.89	23.7	0.074
MH06-10	4	5	0.915	0.893	6.86	0.025
MH06-11	0	0.5	0.739	0.733	0.597	0
MH06-11	0.5	2	0.364	0.639	0.394	0
MH06-11	2	3	1.01	1.23	2.78	0.027
MH06-11	3	4	0.814	0.75	20.7	0.059
MH06-11	4	5	1.05	0.803	15.2	0.059
MH06-12	0	0.5	1.52	1.72	4.66	0.225
MH06-12	0.5	2	0.883	0.811	5.94	0.021
MH06-12	2	3	0.838	0.917	4.03	0.012
MH06-13	0	0.5	1.99	1.9	3.46	0.319
MH06-13	0.5	2	1.14	1.16	7.64	0.048
MH06-13	2	3	0.84	1.1	12.9	0.042
MH06-14	0	0.5	1.53	1.73	1.69	0.202
MH06-14	0.5	2	1	0.887	1.56	0.016
MH06-14	2	3	0.835	0.775	1.5	0.005
MH06-15	0	0.5	0.949	1.18	0.753	0.048
MH06-15	0.5	2	0.8	0.805	0.789	0.001
MH06-15	2	3	0.639	0.649	0.57	0
MH06-16	0	0.5	2.35	2.89	0.847	0.423
MH06-16	0.5	2	1.17	1.19	1.09	0.031
MH06-16	2	3	0.677	0.658	0.595	0
MH06-17	0	0.5	1.82	1.52	0.865	0.24
MH06-17	0.5	2	1.35	1.38	1.24	0.047
MH06-17	2	3	1.06	0.888	0.876	0.018
MH06-18	0	0.5	1.02	1.12	5.51	0.099
MH06-18	0.5	2	0.89	1.04	7.3	0.029
MH06-18	2	3	0.921	0.818	4.03	0.018
MH06-19	0	0.5	0.882	1.14	1.01	0.033
MH06-19	0.5	2	0.545	0.917	5.28	0.013
MH06-19	2	3	0.962	1.03	17.2	0.06
MH06-20	0	0.5	2.07	1.55	1.7	0.3
MH06-20	0.5	2	1.07	1.02	3.6	0.029
MH06-20	2	3	0.968	0.802	3.46	0.02
MH06-21	0	0.5	1.27	1.66	3.91	0.165
MH06-21	0.5	2	0.921	0.909	9.38	0.034
MH06-21	2	3	0.897	0.903	6.14	0.022
MH06-22	0	0.5	1.59	1.67	7.16	0.258
MH06-22	0.5	2	0.975	0.913	18.6	0.063
MH06-22	2	3	0.838	0.75	6.38	0.019
MH06-23	0	0.5	1.92	1.38	1.82	0.262
MH06-23	0.5	2	1.03	0.849	2.53	0.021
MH06-23	2	3	0.957	0.909	2.16	0.015
MH06-24	0	0.5	1.18	1.47	0.896	0.111
MH06-24	0.5	2	0.93	1.32	1.26	0.018
MH06-24	2	3	0.804	0.753	0.845	0.001
MH06-25	0	0.5	1.05	1.02	3.9	0.086
MH06-25	0.5	2	0.958	0.751	1.11	0.012
MH06-25	2	3	0.707	0.868	0.913	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MH06-26	0	0.5	0.386	0.542	0.463	0
MH06-26	0.5	2	1.04	1.02	0.69	0.019
MH06-26	2	3	1.05	0.902	0.746	0.017
MH06-26	3	4	0.878	0.863	19.4	0.06
MH06-27	0	0.5	1.66	1.94	6.95	0.285
MH06-27	0.5	2	0.771	1.12	2.75	0.01
MH06-27	2	3	0.675	0.931	1.82	0.004
MH06-28	0	0.5	1.19	1.37	3.17	0.126
MH06-28	0.5	2	0.724	0.761	0.906	0
MH06-28	2	3	0.855	0.925	0.854	0.004
MH06-29	0	0.5	1.8	1.33	6.06	0.272
MH06-29	0.5	2	0.937	0.696	8.35	0.032
MH06-29	2	3	0.866	0.792	11.4	0.036
MH06-30	0	0.5	1.75	1.54	3.89	0.255
MH06-30	0.5	2	0.948	1.01	8.13	0.034
MH06-30	2	3	0.78	0.843	2.54	0.005
MH06-30	3	4	1.21	0.902	1.36	0.03
MH06-31	0	0.5	1.42	1.85	0.951	0.18
MH06-31	0.5	2	1.14	0.843	1.94	0.026
MH06-31	2	3	0.889	0.996	1.45	0.011
MH06-32	0	0.5	1.21	1.11	1.77	0.104
MH06-32	0.5	2	0.899	1.03	1.81	0.012
MH06-32	2	3	0.866	0.953	6.09	0.021
MH06-33	0	0.5	0.934	1.13	9.81	0.12
MH06-33	0.5	2	1.02	1.03	24	0.084
MH06-33	2	3	0.765	0.929	4.82	0.013
MH06-34	0	0.5	0.734	1.75	6.23	0.094
MH06-34	0.5	2	1.57	0.77	3.78	0.061
MH06-34	2	3	0.798	0.986	2.06	0.007
MH06-35	0	0.5	1.84	1.89	1.09	0.267
MH06-35	0.5	2	1.5	1.41	3.2	0.063
MH06-35	2	3	0.911	0.9	3.88	0.017
MH06-SEEP	9	9	1.083	0.772	7.29	0.039
MW228	11	11	0.874	1.23	1.05	0.013
MW229	0	0.5	0.933	1.61	0.62	0.068
MW229	11	11	0.911	1.95	0.942	0.027
MW229	28.5	28.5	0.544	1.47	0.304	0.01
MW313	0	0.5	4.51	3.07	2.3	0.878
MW313	11	11	0.836	1.26	0.768	0.01
MW314	0	0.5	1.42	2.89	1.52	0.243
MW314	15	15	0.877	2.31	1.21	0.033
MW422	0	0.5	1.05	1.8	0.959	0.103
MW422	15	15	0.787	1.36	0.7	0.008
MW423	0	0.5	0.871	1.92	0.892	0.074
MW423	15	15	0.822	1.82	1.11	0.02
MW424	0	0.5	0.817	0.805	0.817	0.005
MW424	14	14	0.549	0.54	0.385	0
MW862	0	0.5	0.716	1.23	0.748	0.018
MW862	11.5	11.5	0.563	1.62	0.678	0.013
MW863	0	0.5	0.731	1.32	0.934	0.024
MW863	32	32	0.62	1.02	0.408	0.002
MW944	0	0.5	0.703	0.672	0.772	0
MW944	2	2.5	0.679	0.655	0.698	0
MW944	10	11	0.717	0.521	0.436	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MW944	13	13.5	0.956	0.784	0.693	0.011
MW945	0	0.5	0.851	0.799	0.611	0.012
MW945	3.5	4	0.73	0.695	0.714	0
MW945	9.5	10	0.688	0.862	0.733	0
MW945	12.5	13	0.435	0.633	0.442	0
MW946	0	0.5	0.684	1.12	0.692	0.012
MW946	6	6.5	1.18		0.774	0.026
MW946	8	8.5	0.718	0.643	0.542	0
MW946	12	12.5	0.911	0.761	0.712	0.008
MW947	0	0.5	1.83		0.714	0.208
MW947	2	2.5	0.903	0.794	0.723	0.008
MW947	14	14.5	0.601		0.486	0
MW947	18	18.5	1.08	1.03	0.833	0.021
MW948	0	0.5	1.64	1.64	0.783	0.211
MW948	5.5	6	0.84	0.925	0.569	0.003
MW948	10	10.5	0.696	0.837	0.609	0
MW948	13	13.5	0.764	0.764	0.639	0
MW949	0	0.5	1.76	1.91	0.742	0.25
MW949	16	16.5	0.803	0.912	0.729	0.001
MW949	29.5	30	0.675	0.921	0.766	0
MW949	34.5	35	0.648	0.54	0.534	0
MW950	0	0.5	0.487	1.02	0.871	0.007
MW950	2	2.5	1.01	0.971	1.11	0.017
MW950	10.5	11	0.813	0.907	0.51	0.002
MW950	15	15.5	1.05	0.895	1.02	0.018
MW951	0	0.5	0.956	0.96	1.35	0.041
MW951	12.5	18	0.491	0.935	0.73	0.001
MW951	15	15.5	1.04	0.63	0.743	0.017
MW951	17.5	18	1.058	0.602	0.885	0.018
MW951	18.5	19	0.888	0.943	0.817	0.008
MW952	0	0.5	1.05	0.916	6.4	0.102
MW952	4	4.5	0.927	0.877	1.48	0.011
MW952	6	6.5	0.925	0.699	0.942	0.009
MW952	6.5	7	0.924	0.941	0.909	0.01
MW953	0	0.5	1.36	1.19	7.24	0.186
MW953	1	2	0.973	1.15	12.9	0.052
MW953	4	4.5	0.887	0.678	18.9	0.058
MW953	6	6.5	0.923	0.796	9.86	0.035
MW954	0	0.5	1	0.886	5.46	0.082
MW954	2	2.5	0.629	0.803	7.58	0.02
MW954	5.5	6	0.975	0.948	1.61	0.015
MW954	8.5	9	0.776	0.611	0.593	0
MW955	0	0.5	0.85	1.04	14.3	0.137
MW955	0.5	1	1.05	0.77	16.7	0.063
MW955	2.5	3	1.01	0.785	6.84	0.032
MW955	7	8	0.682	0.469	0.374	0
MW956	0	0.5	0.921	0.875	1.68	0.033
MW956	2.5	3	0.844	0.908	1.8	0.007
MW956	15.5	16	0.766	0.968	0.591	0.001
MW956	16.5	17	0.754	0.729	0.632	0
MW957	0	0.5	0.905	0.762	0.798	0.023
MW957	2	2.5	1.24	1.2	0.79	0.035
MW957	4	4.5	1.07	1	12.5	0.055
MW957	7	7.5	0.72	0.629	2.22	0.004

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MW958	0	0.5	1.14	0.898	0.972	0.071
MW958	4.5	5	0.845	0.722	1.77	0.007
MW958	7.5	8	0.894	0.903	1.02	0.008
MW958	8.5	9	1.24	1.05	1.08	0.034
MW959	0	0.5	0.882	0.975	0.807	0.022
MW959	8	8.5	1.13	0.838	0.76	0.023
MW959	13	13.5	0.897	0.697	0.826	0.007
MW959	14	14.5	0.945	0.997	0.988	0.012
MW960	0	0.5	0.912	0.95	0.78	0.027
MW960	2	3	1	0.756	9.3	0.039
MW960	9.5	10	0.928	0.607	1.18	0.01
MW960	12	12.5	0.914	0.941	0.788	0.009
OTFL11	13	13	0.863	1.18	0.793	0.01
OTFL12	13.5	13.5	0.696	1.3	0.898	0.007
PE1	15	15.5	1.2	0.918	0.719	0.027
PE2	9	9.5	0.819	0.741	0.606	0.002
PE3	8	8.5	0.807	0.683	1.16	0.002
PE3	10	11	1.05	0.829	0.943	0.017
PE4	7	7.5	0.95	0.741	0.779	0.011
PE4	7.1	7.6	0.884	0.769	0.556	0.006
PE4	7.5	8	0.912	0.85	0.635	0.008
PE5	6	6.5	0.814	0.775	0.778	0.002
PE5	6.1	6.5	0.768	0.77	0.525	0
PE5	7.1	7.6	0.851	0.838	0.82	0.004
PE6	5	5.5	0.79	0.921	0.746	0
PIPE74	7	7	0.72	1.12	0.661	0.004
S31D-NS-SEWER-B	10	10	1.636	1.45	2.35	0.07
S31D-NS-SEWER-E	8	8	1.323	1.38	7.46	0.064
S31D-NS-SEWER-W	8	8	1.3	0.348	2.95	0.04
SB-MH06A	8.5	8.5	0.742	0.685	1.77	0.003
SB-MH07	11	11	0.978	1.62	1.04	0.027
SB-MH07/08	11	11	0.927	1.15	0.966	0.014
SB-MH08	11	11	0.742	0.998	0.94	0.002
SB-MH41	8	8	0.653	1.47	0.646	0.01
SB-MH43	9	9	0.756	1.46	0.922	0.01
SB-MH45	9	9	0.476	1.5	0.519	0.011
SP-01	0	0.5	72.4	13.3	2.83	15.028
SP-01	0.5	2	44.7	6.96	74.4	3.25
SP-01	2	3	1.6	0.716	20.9	0.112
SP-01	3	4	0.757	0.699	6.62	0.017
SP-09	0.5	1.5	12.9	16.5	2.51	1.096
SP-09	1.5	2	5.46	5.28	2.59	0.396
SP-13	0	0.5	1.35	1.55	71.4	0.762
SP-13	0.5	2	1.03	0.895	38.1	0.124
SP-13	2	3	0.786	0.766	2.92	0.006
SP-14	0	0.5	8.6	7.06	5.64	1.946
SP-14	0.5	2	2.58	1.05	0.83	0.122
SP-14	2	3	0.778	0.806	1.15	0.001
SP-14-1	0	0.5	1.33	1.39	0.763	0.135
SP-14-1	2	3	0.837	1.32	0.834	0.011
SP-15	0	0.5	12.2	8.92	7.11	2.783
SP-15	0.5	2	1.25	1.03	0.843	0.033
SP-15	2	3	0.898	0.975	0.875	0.008
SP-16	0	0.5	7.83	5.99	4.55	1.723

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
SP-16	0.5	2	4.15	3.14	3.06	0.271
SP-16	2	3	0.683	0.804	0.645	0
SP-17	0	0.5	3.4	3.21	0.702	0.65
SP-17	0.5	2	0.916	0.856	1.35	0.01
SP-17	2	3	0.941	1.12	0.926	0.014
SP-18	0	0.5	8.83	9.6	19.1	2.25
SP-18	0.5	2	1.36	0.752	1.73	0.041
SP-18	2	3	16.4	0.813	1.26	1.042
SP-18-1	0	0.5	9.92	3.48	1.37	1.974
SP-18-1	0.5	2	6.1	2.57	1.18	0.385
SP-18-1	2	3	2.52	1.11	0.927	0.119
SP-18-1	3	4	1.22	0.929	0.817	0.03
SP-18-1	4	5	1.09	0.916	0.761	0.02
SP-18-2	0	0.5	2.16	5.57	4.93	0.569
SP-18-2	0.5	2	0.784	0.908	0.834	0
SP-18-2	2	3	1.25	0.825	1.45	0.033
SP-18-2	3	4	1	0.771	0.873	0.014
SP-18-2	4	5	0.946	0.652	0.622	0.01
SP-18-3	0	0.5	4.86	0.609	0.485	0.814
SP-18-3	0.5	2	0.936	0.81	0.838	0.01
SP-18-3	2	3	0.871	0.795	0.782	0.005
SP-18-3	3	4	1.18	0.961	0.603	0.027
SP-18-3	4	5	1.16	0.901	0.716	0.025
SP-18-4	0	0.5	5.76	4.36	4.29	1.216
SP-18-4	0.5	2	1.92	2.39	2.8	0.108
SP-18-4	2	3	1.05	0.759	1.02	0.018
SP-18-4	3	4	1.12	0.924	1.54	0.024
SP-18-4	4	5	1.02	0.842	1.02	0.016
TB201_01	5	5	0.755	0.892	0.921	0
TB201_02	1	1	0.839	1.26	0.623	0.01
TB201_03	1	1	0.772	1.52	0.862	0.011
TB201_04	2.4	2.4	0.551	1.05	0.847	0.003
TB202_01	5.2	5.2	0.745	1.34	1.25	0.009
TB202_02	3.5	3.5	0.81	1.02	0.959	0.003
TB202_03	3	3	0.849	1.03	1.13	0.007
TB203_01	1	1	2.33	4.63	1.26	0.172
TB203_02	4	4	1.04	1.02	4.38	0.029
TB204_01	8	8	0.855	0.713	1.35	0.006
TB204_02	10	10	0.743	1.08	1.23	0.004
TB204_03	7	7	0.702	1.13	1.36	0.006
TB205_01	3	3	0.825	1.19	1.28	0.008
TB205_02	6.5	6.5	0.538	0.961	0.794	0.001
TB205_03	8	8	0.465	0.582	0.345	0
TB301_01	3.5	3.5	0.948	1.28	0.823	0.018
TB301_01-1	0	0.5	1.11	1.18	0.996	0.082
TB301_01-1	0.5	2	1.05	0.844	1.02	0.018
TB301_01-1	2	3	1.27	0.454	1.02	0.033
TB301_01-2	0	0.5	0.934	0.754	0.507	0.029
TB301_01-2	0.5	2	1	0.697	0.527	0.014
TB301_01-2	2	3	1.93	2.19	0.847	0.099
TB301_01-3	0	0.5	0.758	0.748	0.624	0
TB301_01-3	0.5	2	0.809	0.746	0.593	0.001
TB301_01-3	2	3	0.879	0.75	0.597	0.006
TB301_02	1.5	1.5	0.994	1.8	0.387	0.03

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TB301_03	1	1	17.4	25.8	2.91	1.566
TB302_01	8	8	0.572	1.11	0.579	0.004
TB302_02	1	1	1.35	1.47	1.13	0.048
TB302_03	6	6	0.712	0.97	0.4	0.001
TB303_01	5	5	0.505	0.973	0.608	0.001
TB303_02	1	1	1.24	1.79	1.05	0.047
TB303_03	5	5	0.42	0.611	0.414	0
TB304_01	1.3	1.3	0.85	0.953	10.3	0.032
TB304_02	6.5	6.5	0.648	0.648	0.409	0
TB304_03	7	7	0.877	1.2	1.26	0.012
TB305_01	4	4	0.726	1.4	0.558	0.009
TB305_02	5	5	0.8	0.839	1.2	0.002
TB305_03	5	5	0.824	1.84	1.9	0.022
TB403_01	4	4	1.24	1.52	1.57	0.043
TB403_02	7	7	0.574	1.41	0.642	0.009
TB403_03	8	8	0.832	1.17	0.719	0.008
TB404_01	3.3	3.3	0.791	1.18	0.801	0.005
TB404_02	6.2	6.2	0.716	1.27	0.616	0.007
TB404_03	2.3	2.3	1.14	1.44	0.967	0.033
TB406_01	7	7	0.708	0.954	0.716	0.001
TB406_02	2	2	3.38	2.07	1.56	0.196
TB406_03	1	1	0.92	1.24	1.1	0.016
TB408_01	2.7	2.7	0.863	1.29	0.989	0.012
TB408_02	3.9	3.9	1.58	1.06	0.863	0.056
TB408_03	4.7	4.7	0.787	1.38	0.691	0.009
TB410_01	6	6	0.804	1.28	0.945	0.008
TB410_02	2	2	1.07	1.11	0.844	0.023
TB410_03	4	4	0.846	1.8	0.928	0.02
TB411_01	5	5	0.7	0.64	0.649	0
TB411_02	1.5	1.5	2.12	2.02	1.57	0.111
TB411_03	1.5	1.5	7.68	8.74	2.97	0.608
TB411_03-1	0	0.5	2.62	1.62	1.07	0.408
TB411_03-1	0.5	2	1.14	0.992	0.965	0.025
TB411_03-1	2	3	0.816	0.88	0.784	0.002
TB411_03-2	0	0.5	1.45	1.45	1.4	0.168
TB411_03-2	0.5	2	1.85	1.84	1.43	0.09
TB411_03-2	2	3	0.531	0.786	0.661	0
TB411_03-3	0	0.5	0.444	1.23	1.14	0.021
TB411_03-3	0.5	2	1.33	1.12	1.25	0.041
TB411_03-3	2	3	0.991	0.802	0.961	0.013
TB411_03-4	0	0.5	1.68	1.51	1.16	0.215
TB411_03-4	0.5	2	0.96	0.763	0.94	0.011
TB411_03-4	2	3	0.821	0.787	0.502	0.002
TB412_01	5	5	0.812	0.7	0.736	0.001
TB412_02	5	5	0.645	1.65	0.674	0.014
TB412_03	4	4	0.781	0.827	0.891	0
TB413_01	9	9	0.516	0.649	0.246	0
TB413_02	3	3	0.84	1.11	0.766	0.007
TB413_03	3	3	0.678	0.976	0.46	0.001
TB414_01	5.5	5.5	0.585	0.998	1.26	0.003
TB414_02	8	8	0.678	1.02	2.73	0.008
TB414_03	1	1	0.999	1.51	1.58	0.027
TB501_01	1.5	1.5	0.786	1.32	2.25	0.012
TB501_02	3	3	1.04	1.42	0.662	0.026

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TB501_03	2.7	2.7	0.935	1.23	6.27	0.032
TB802_01	4.2	4.2	2.68	2.64	1.46	0.16
TB802_01-1	0	0.5	1.21	0.973	0.598	0.088
TB802_01-1	0.5	2	1.39	1.74	0.799	0.055
TB802_01-1	2	3	24.3	19.9	3.29	1.919
TB802_01-1	3	4	15.5	17.2	3.88	1.286
TB802_01-1	4	5	12.5	13.1	4.54	1.014
TB802_01-2	0	0.5	1.33	1.1	0.834	0.119
TB802_01-2	0.5	2	0.977	1.06	0.834	0.015
TB802_01-2	2	3	1.24	1.21	0.792	0.036
TB802_01-3	0	0.5	1.4	1.32	0.925	0.146
TB802_01-3	0.5	2	1.96	1.82	0.989	0.095
TB802_01-3	2	3	1.42	1.36	1.04	0.051
TB802_01-4	0	0.5	1.05	1	0.596	0.058
TB802_01-4	0.5	2	0.968	0.9	0.612	0.012
TB802_01-4	2	3	0.788	0.842	0.817	0
TB802_01-5	0	0.5	2.26	2.19	1.35	0.371
TB802_01-5	0.5	2	14.2	13.5	1.78	1.126
TB802_01-5	2	3	25.7	33.9	4.71	2.272
TB802_01-5	3	5	39.1	58.7	14.5	3.645
TB802_01-5	5	7	37.7	21.3	5.1	2.844
TB802_01-6	0	0.5	4.08	1.28	1.49	0.685
TB802_01-6	0.5	2	50	3.91	3.62	3.344
TB802_01-6	2	3	36.5	54.4	8.11	3.375
TB802_01-6	3	5	25.7	32	6.73	2.243
TB802_01-6	5	7	5.03	3.33	1.09	0.328
TB802_02	4	4	7.83	15.2	2.39	0.734
TB802A_01	3.8	3.8	34.5	39.2	5.61	2.957
TB802A_01-1	0	0.5	1.51	1.2	0.779	0.161
TB802A_01-1	0.5	2	0.995	1.43	0.874	0.024
TB802A_01-1	2	3	1.03	1.15	0.758	0.021
TB802A_01-2	0	0.5	1.25	1.08	0.962	0.103
TB802A_01-2	0.5	2	0.995	0.922	0.804	0.014
TB802A_01-2	2	3	1.17	0.849	0.711	0.025
TB802A_01-3	0	0.5	2.11	1.61	0.669	0.303
TB802A_01-3	0.5	2	1.2	1.83	0.918	0.044
TB802A_01-3	2	3	8.39	11.8	1.78	0.708
TB802A_01-3	3	4	0.877	0.933	0.708	0.007
TB802A_01-4	0	0.5	1.34	1.27	0.767	0.131
TB802A_01-4	0.5	2	0.902	1.03	0.734	0.009
TB802A_01-4	2	3	0.845	0.841	0.854	0.004
TB808_01	4.5	4.5	0.851	1.34	0.769	0.012
TB808_02	1.5	1.5	1.41	2.52	1.28	0.071
TB808_03	1.5	1.5	1.3	1.99	0.966	0.054
TB809_01	1	1	1.9	8.2	1.21	0.208
TB810_01	2.9	2.9	1.19	1.76	0.919	0.043
TB810_02	1.8	1.8	82.7	29.6	1.06	5.984
TB810_03	5.8	5.8	0.806	1.39	0.816	0.01
TB810_03-1	0	0.5	1.75	1.47	1.09	0.226
TB810_03-1	0.5	2	1.29	1.46	1.2	0.044
TB810_03-1	2	3	0.954	0.926	1.03	0.012
TB810_03-2	0	0.5	1.53	1.18	1.03	0.166
TB810_03-2	0.5	2	1.04	1.04	0.942	0.02
TB810_03-2	2	3	1.55	1.29	0.759	0.058

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TB810_03-3	0	0.5	2.14	1.77	1.19	0.321
TB810_03-3	0.5	2	1.26	1.39	1.06	0.041
TB810_03-3	2	3	0.783	0.797	0.831	0
TB810_03-4	0	0.5	1.98	1.75	1.17	0.288
TB810_03-4	0.5	2	1.71	0.935	1.03	0.063
TB810_03-4	2	3	0.895	0.994	0.922	0.009
TB811_01	4.8	4.8	0.566	1.72	0.388	0.015
TB811_02	2.3	2.3	0.968	1.77	0.659	0.028
TB811_03	4	4	1.23	1.47	1.91	0.042
TB812_01	3	3	0.952	1.07	0.904	0.014
TB812_02	3	3	0.869	1.82	0.713	0.022
TB812_03	5	5	0.958	0.848	0.652	0.011
TB813_01	0.8	0.8	32.6	31.2	1.95	2.675
TB813_02	1	1	1.65	2.49	1.86	0.089
TB813_03	3.9	3.9	0.985	1.83	0.768	0.03
TS203_03	0	0.5	1.64	3.68	0.869	0.324
TS408_04	0	0.5	0.171	0.901	0.218	0
TS809_02	0	0.5	3.09	4.58	0.866	0.664
TS809_03	0	0.5	3.39	5.95	1.32	0.805
TS812_04	0	0.5	9.64	14.3	8830	79.289
TS812_04-1	0	0.5	1.29	1.36	6.23	0.173
TS812_04-1	0.5	2	0.639	0.795	1.19	0.001
TS812_04-1	2	3	0.977	0.947	1.02	0.014
TS812_04-2	0	0.5	1.66	2.05	0.852	0.238
TS812_04-2	0.5	2	1.05	1.23	1.43	0.025
TS812_04-2	2	3	0.942	0.929	0.803	0.011
TS812_04-3	0	0.5	0.593	0.986	1.67	0.012
TS812_04-3	0.5	2	0.735	0.675	1.19	0.001
TS812_04-3	2	3	0.798	0.94	0.988	0.002
TS812_04-4	0	0.5	0.6	1.14	0.482	0.013
TS812_04-4	0.5	2	0.859	0.763	0.93	0.005
TS812_04-4	2	3	0.966	0.727	0.725	0.012
TWP830	0	0.5	0.915	0.851	0.838	0.025
TWP830	15	15	0.545	1.36	0.71	0.008
TWP921	0	0.5	0.555	1.16	0.941	0.015
TWP921	14	16	0.681	1.01	0.853	0.002
TWP922	0	0.5	0.618	1.88	1.74	0.062
TWP922	12	14	0.388	0.406	0.731	0
TWP923	0	0.5	0.875	0.592	0.554	0.017
TWP923	16	18	0.384	0.462	0.677	0
TWP924	0	0.5	0.317	0.869	1.49	0.006
TWP924	12	14	0.597	0.487	0.471	0
TWP925	0	0.5	1.3	1.18	2.88	0.136
TWP925	10	12	1.26	1.31	1.12	0.039
TWP926	0	0.5	1.02	0.788	0.935	0.047
TWP926	8	12	0.592	0.582	0.353	0
TWP927	0	0.5	1.1	1	0.459	0.068
TWP927	10	12	0.704	1.26	0.747	0.007
TWP928	0	0.5	2.03	1.98	1.38	0.313
TWP928	12	14	0.789	1.49	0.851	0.011
TWP929	0	0.5	1.86	2.15	0.885	0.284
TWP929	8	10	0.739	1.06	0.736	0.003
TWP930	0	0.5	2.72	1.41	0.868	0.414
TWP930	15	17	0.253	1.02	0.419	0.002

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TWP931	0	0.5	1.83	1.35	0.526	0.233
TWP931	8	10	1.1	0.641	1.08	0.022
TWP932	0	0.5			0.789	0
TWP932	14	16			0.978	0
TWP933	0	0.5			0.722	0
TWP933	10	12			0.861	0
TWP934	0	0.5			0.665	0
TWP934	16	18			0.578	0
TWP935	0	0.5	0.648	0.836	1.15	0.003
TWP935	10	12	0.351	0.801	0.811	0
TWP936	0	0.5	1.03	1.35	1.55	0.079
TWP936	12	14	0.828	0.809	1.03	0.004
TWP937	0	0.5	5	5.93	0.954	1.122
TWP937	12	14	0.422	0.468	0.651	0
TWP937-1	0	0.5	1.19	1.01	1.15	0.089
TWP937-1	0.5	2	1.07	0.743	0.748	0.019
TWP937-1	2	3	0.728	0.841	0.886	0
TWP937-2	0	0.5	1.49	1.51	1.2	0.177
TWP937-2	0.5	2	0.997	0.851	0.763	0.014
TWP937-2	2	3	0.796	0.933	0.785	0.001
TWP937-3	0	0.5	2.03	2.11	0.815	0.315
TWP937-3	0.5	2	0.899	0.889	0.773	0.007
TWP937-3	2	3	0.603	0.624	0.574	0
TWP937-4	0	0.5	1.51	1.43	0.873	0.173
TWP937-4	0.5	2	1.11	0.9	0.87	0.021
TWP937-4	2	3	0.751	0.925	0.849	0
TWP938	0	0.5	0.285	0.834	0.885	0.001
TWP938	14	16	0.657	0.381	0.509	0
TWP939	0	0.5	0.766	1.74	1.2	0.05
TWP939	2	4	0.13	0.765	0.588	0
TWP940	0	0.5	0.674	0.855	0.985	0.001
TWP940	8	10	0.49	0.806	0.844	0
TWP941	0	0.5	0.823	0.637	1.08	0.009
TWP941	10	12	0.413	0.673	0.688	0
TWP942	0	0.5	0.914	1.51	0.885	0.06
TWP942	4	6	0.468	0.785	0.759	0
TWP943	0	0.5	0.759	1.17	1.34	0.02
TWP943	8	10	0.376	0.736	1.04	0.001

Notes:
1. SOR scores are net after background
2. DCGLs (pCi/g) for surface soils are Ra-226: 5, Th-230: 18, and U-238: 115
3. DCGLs (pCi/g) for subsurface soils are Ra-226: 15, Th-230: 55, and U-238: 346
4. Background values (pCi/g) are Ra-226: 0.79, Th-230: 0.82, and U238: 0.9

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
404 AREA

LOCATION ID		404-2	404-2	404-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	63	0.5	0.49
Acenaphthene	UG/KG	5.9	1.4 U	1.3 U
Acenaphthylene	UG/KG	4.8	0.97 U	1.2
Anthracene	UG/KG	15	R	1.7
Benzo(a)anthracene	UG/KG	130	2.8	7.1
Benzo(a)pyrene	UG/KG	120	2.6	5.3
Benzo(b)fluoranthene	UG/KG	160	4.4	15
Benzo(g,h,i)perylene	UG/KG	81	2.5	7.1
Benzo(k)fluoranthene	UG/KG	72	1.4 U	3.5
Chrysene	UG/KG	120	4	15
Dibenz(a,h)anthracene	UG/KG	16	1.8 U	2.1
Fluoranthene	UG/KG	220	3.8	8.1
Fluorene	UG/KG	4.9	1.1 U	0.99 U
Indeno(1,2,3-cd)pyrene	UG/KG	94	2.7	7.5
Naphthalene	UG/KG	34	1.2 U	1.2 U
Phenanthrene	UG/KG	98	1.8	3.5
Pyrene	UG/KG	180	3.1	5.8

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID		4A003-1	4A003-1	4A003-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	3.3	0.39 U	0.42
Acenaphthene	UG/KG	41	1.3 U	1.3 U
Acenaphthylene	UG/KG	3.6	0.92 U	0.93 U
Anthracene	UG/KG	42	R	0.59 U
Benzo(a)anthracene	UG/KG	370	5.7	2.1
Benzo(a)pyrene	UG/KG	530	9.9	2.5
Benzo(b)fluoranthene	UG/KG	560	11	4.8
Benzo(g,h,i)perylene	UG/KG	320	6.7	2.1
Benzo(k)fluoranthene	UG/KG	240	3.6	1.3 U
Chrysene	UG/KG	420	7.2	3.6
Dibenz(a,h)anthracene	UG/KG	88	1.9	1.8 U
Fluoranthene	UG/KG	310	5.2	4
Fluorene	UG/KG	7.4	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	360	7.2	2.6
Naphthalene	UG/KG	2.1	1.2 U	1.2 U
Phenanthrene	UG/KG	120	2.8	2.3
Pyrene	UG/KG	330	5.6	3.1

LOCATION ID		4A003-2	4A003-2	4A003-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1.1	0.39 U	0.38 U
Acenaphthene	UG/KG	1.9	1.3 U	1.3 U
Acenaphthylene	UG/KG	1.2	0.93 U	0.91 U
Anthracene	UG/KG	2.4	0.59 U	0.58 U
Benzo(a)anthracene	UG/KG	13	2.4	0.7 U
Benzo(a)pyrene	UG/KG	0.67 U	0.55 U	0.54 U
Benzo(b)fluoranthene	UG/KG	28	3.9	3
Benzo(g,h,i)perylene	UG/KG	21	3.2	2.1
Benzo(k)fluoranthene	UG/KG	12	1.3 U	1.3 U
Chrysene	UG/KG	50	2.9	2.5
Dibenz(a,h)anthracene	UG/KG	4.4	1.8 U	1.7 U
Fluoranthene	UG/KG	17	2.8	2.3
Fluorene	UG/KG	1.5	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	18	3	1.8
Naphthalene	UG/KG	1.4 U	1.2 U	1.2 U
Phenanthrene	UG/KG	10	1.8	1.6
Pyrene	UG/KG	17	3	2

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID		4A003-3	4A003-3FD	4A003-3	4A003-3
DEPTH (Feet)		0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE			DUPLICATE		
DATE SAMPLED		6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	16	8.3	0.38 U	2.5
Acenaphthene	UG/KG	96	69	1.3 U	1.3 U
Acenaphthylene	UG/KG	8.4	0.93 U	0.9 U	0.92 U
Anthracene	UG/KG	90	65	0.57 U	0.71
Benzo(a)anthracene	UG/KG	860	580	0.7 U	1.8
Benzo(a)pyrene	UG/KG	1400	910	0.53 U	1.6
Benzo(b)fluoranthene	UG/KG	1700	1100	1.1	2.5
Benzo(g,h,i)perylene	UG/KG	1400	970	1	1.6
Benzo(k)fluoranthene	UG/KG	480	340	1.3 U	1.3 U
Chrysene	UG/KG	850	570	0.72 U	2.3
Dibenz(a,h)anthracene	UG/KG	320	170	1.7 U	1.7 U
Fluoranthene	UG/KG	670	490	1	1.9
Fluorene	UG/KG	18	15	0.99 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	1400	970	1.1 U	1.9
Naphthalene	UG/KG	10	6	1.1 U	1.7
Phenanthrene	UG/KG	340	260	1.9	2.8
Pyrene	UG/KG	770	550	0.7	1.6

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A007 AREA

LOCATION ID		4A007-1	4A007-1	4A007-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	7	0.79	0.38 U
Acenaphthene	UG/KG	54	1.5	1.3 U
Acenaphthylene	UG/KG	7.3	0.91 U	0.91 U
Anthracene	UG/KG	68	2.5	0.58 U
Benzo(a)anthracene	UG/KG	470	19	0.71 U
Benzo(a)pyrene	UG/KG	590	23	1.4
Benzo(b)fluoranthene	UG/KG	670	23	1.7
Benzo(g,h,i)perylene	UG/KG	410	18	R
Benzo(k)fluoranthene	UG/KG	220	15	1.3 U
Chrysene	UG/KG	430	17	1.4
Dibenz(a,h)anthracene	UG/KG	98	6.1	1.7 U
Fluoranthene	UG/KG	390	13	1.4
Fluorene	UG/KG	16	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	440	19	R
Naphthalene	UG/KG	6.2	1.2 U	1.2 U
Phenanthrene	UG/KG	230	7.4	R
Pyrene	UG/KG	390	14	1.1

LOCATION ID		4A007-2	4A007-2FD	4A007-2	4A007-2
DEPTH (Feet)		0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE			DUPLICATE		
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	29	18	2.6	7
Acenaphthene	UG/KG	220	83	1.7	1.3 U
Acenaphthylene	UG/KG	10	9.5	1.4	0.92 U
Anthracene	UG/KG	360	120	2.4	R
Benzo(a)anthracene	UG/KG	760	460	13	2.3
Benzo(a)pyrene	UG/KG	890	690	16	4.6
Benzo(b)fluoranthene	UG/KG	1100	770	20	2.7
Benzo(g,h,i)perylene	UG/KG	540	460	12	7.3
Benzo(k)fluoranthene	UG/KG	400	280	8.9	1.3 U
Chrysene	UG/KG	880	580	18	5.6
Dibenz(a,h)anthracene	UG/KG	100	81	2.5	1.7 U
Fluoranthene	UG/KG	2000	950	22	2.7
Fluorene	UG/KG	170	41	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	610	510	11	2.8
Naphthalene	UG/KG	65	17	1.7	3.5
Phenanthrene	UG/KG	1700	600	12	6.2
Pyrene	UG/KG	1600	770	19	5.1

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4B001 AREA

LOCATION ID		4B001-1	4B001-1	4B001-1FD	4B001-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE				DUPLICATE	
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	23	12	10	0.53
Acenaphthene	UG/KG	3.7	1.4	4.6	1.3 U
Acenaphthylene	UG/KG	55	20	40	1.1
Anthracene	UG/KG	32	10	39	0.68
Benzo(a)anthracene	UG/KG	100	35	100	0.7 U
Benzo(a)pyrene	UG/KG	120	36	98	0.54 U
Benzo(b)fluoranthene	UG/KG	160	47	120	4
Benzo(g,h,i)perylene	UG/KG	130	42	95	2.9
Benzo(k)fluoranthene	UG/KG	1.4 U	1.3 U	1.3 U	1.3 U
Chrysene	UG/KG	120	42	120	3.4
Dibenz(a,h)anthracene	UG/KG	26	7.8	18	1.7 U
Fluoranthene	UG/KG	210	70	240	2.5
Fluorene	UG/KG	11	4.4	12	0.99 U
Indeno(1,2,3-cd)pyrene	UG/KG	120	37	86	2.8
Naphthalene	UG/KG	16	8.2	7.4	1.2 U
Phenanthrene	UG/KG	130	44	150	2
Pyrene	UG/KG	180	60	180	2.3

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
404 AREA

LOCATION ID		404-2	404-2	404-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	63	0.5	0.49
Acenaphthene	UG/KG	5.9	1.4 U	1.3 U
Acenaphthylene	UG/KG	4.8	0.97 U	1.2
Anthracene	UG/KG	15	R	1.7
Benzo(a)anthracene	UG/KG	130	2.8	7.1
Benzo(a)pyrene	UG/KG	120	2.6	5.3
Benzo(b)fluoranthene	UG/KG	160	4.4	15
Benzo(g,h,i)perylene	UG/KG	81	2.5	7.1
Benzo(k)fluoranthene	UG/KG	72	1.4 U	3.5
Chrysene	UG/KG	120	4	15
Dibenz(a,h)anthracene	UG/KG	16	1.8 U	2.1
Fluoranthene	UG/KG	220	3.8	8.1
Fluorene	UG/KG	4.9	1.1 U	0.99 U
Indeno(1,2,3-cd)pyrene	UG/KG	94	2.7	7.5
Naphthalene	UG/KG	34	1.2 U	1.2 U
Phenanthrene	UG/KG	98	1.8	3.5
Pyrene	UG/KG	180	3.1	5.8

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID		4A003-1	4A003-1	4A003-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	3.3	0.39 U	0.42
Acenaphthene	UG/KG	41	1.3 U	1.3 U
Acenaphthylene	UG/KG	3.6	0.92 U	0.93 U
Anthracene	UG/KG	42	R	0.59 U
Benzo(a)anthracene	UG/KG	370	5.7	2.1
Benzo(a)pyrene	UG/KG	530	9.9	2.5
Benzo(b)fluoranthene	UG/KG	560	11	4.8
Benzo(g,h,i)perylene	UG/KG	320	6.7	2.1
Benzo(k)fluoranthene	UG/KG	240	3.6	1.3 U
Chrysene	UG/KG	420	7.2	3.6
Dibenz(a,h)anthracene	UG/KG	88	1.9	1.8 U
Fluoranthene	UG/KG	310	5.2	4
Fluorene	UG/KG	7.4	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	360	7.2	2.6
Naphthalene	UG/KG	2.1	1.2 U	1.2 U
Phenanthrene	UG/KG	120	2.8	2.3
Pyrene	UG/KG	330	5.6	3.1

LOCATION ID		4A003-2	4A003-2	4A003-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1.1	0.39 U	0.38 U
Acenaphthene	UG/KG	1.9	1.3 U	1.3 U
Acenaphthylene	UG/KG	1.2	0.93 U	0.91 U
Anthracene	UG/KG	2.4	0.59 U	0.58 U
Benzo(a)anthracene	UG/KG	13	2.4	0.7 U
Benzo(a)pyrene	UG/KG	0.67 U	0.55 U	0.54 U
Benzo(b)fluoranthene	UG/KG	28	3.9	3
Benzo(g,h,i)perylene	UG/KG	21	3.2	2.1
Benzo(k)fluoranthene	UG/KG	12	1.3 U	1.3 U
Chrysene	UG/KG	50	2.9	2.5
Dibenz(a,h)anthracene	UG/KG	4.4	1.8 U	1.7 U
Fluoranthene	UG/KG	17	2.8	2.3
Fluorene	UG/KG	1.5	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	18	3	1.8
Naphthalene	UG/KG	1.4 U	1.2 U	1.2 U
Phenanthrene	UG/KG	10	1.8	1.6
Pyrene	UG/KG	17	3	2

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID		4A003-3	4A003-3FD	4A003-3	4A003-3
DEPTH (Feet)		0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE			DUPLICATE		
DATE SAMPLED		6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	16	8.3	0.38 U	2.5
Acenaphthene	UG/KG	96	69	1.3 U	1.3 U
Acenaphthylene	UG/KG	8.4	0.93 U	0.9 U	0.92 U
Anthracene	UG/KG	90	65	0.57 U	0.71
Benzo(a)anthracene	UG/KG	860	580	0.7 U	1.8
Benzo(a)pyrene	UG/KG	1400	910	0.53 U	1.6
Benzo(b)fluoranthene	UG/KG	1700	1100	1.1	2.5
Benzo(g,h,i)perylene	UG/KG	1400	970	1	1.6
Benzo(k)fluoranthene	UG/KG	480	340	1.3 U	1.3 U
Chrysene	UG/KG	850	570	0.72 U	2.3
Dibenz(a,h)anthracene	UG/KG	320	170	1.7 U	1.7 U
Fluoranthene	UG/KG	670	490	1	1.9
Fluorene	UG/KG	18	15	0.99 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	1400	970	1.1 U	1.9
Naphthalene	UG/KG	10	6	1.1 U	1.7
Phenanthrene	UG/KG	340	260	1.9	2.8
Pyrene	UG/KG	770	550	0.7	1.6

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A007 AREA

LOCATION ID		4A007-1	4A007-1	4A007-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	7	0.79	0.38 U
Acenaphthene	UG/KG	54	1.5	1.3 U
Acenaphthylene	UG/KG	7.3	0.91 U	0.91 U
Anthracene	UG/KG	68	2.5	0.58 U
Benzo(a)anthracene	UG/KG	470	19	0.71 U
Benzo(a)pyrene	UG/KG	590	23	1.4
Benzo(b)fluoranthene	UG/KG	670	23	1.7
Benzo(g,h,i)perylene	UG/KG	410	18	R
Benzo(k)fluoranthene	UG/KG	220	15	1.3 U
Chrysene	UG/KG	430	17	1.4
Dibenz(a,h)anthracene	UG/KG	98	6.1	1.7 U
Fluoranthene	UG/KG	390	13	1.4
Fluorene	UG/KG	16	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	440	19	R
Naphthalene	UG/KG	6.2	1.2 U	1.2 U
Phenanthrene	UG/KG	230	7.4	R
Pyrene	UG/KG	390	14	1.1

LOCATION ID		4A007-2	4A007-2FD	4A007-2	4A007-2
DEPTH (Feet)		0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE			DUPLICATE		
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	29	18	2.6	7
Acenaphthene	UG/KG	220	83	1.7	1.3 U
Acenaphthylene	UG/KG	10	9.5	1.4	0.92 U
Anthracene	UG/KG	360	120	2.4	R
Benzo(a)anthracene	UG/KG	760	460	13	2.3
Benzo(a)pyrene	UG/KG	890	690	16	4.6
Benzo(b)fluoranthene	UG/KG	1100	770	20	2.7
Benzo(g,h,i)perylene	UG/KG	540	460	12	7.3
Benzo(k)fluoranthene	UG/KG	400	280	8.9	1.3 U
Chrysene	UG/KG	880	580	18	5.6
Dibenz(a,h)anthracene	UG/KG	100	81	2.5	1.7 U
Fluoranthene	UG/KG	2000	950	22	2.7
Fluorene	UG/KG	170	41	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	610	510	11	2.8
Naphthalene	UG/KG	65	17	1.7	3.5
Phenanthrene	UG/KG	1700	600	12	6.2
Pyrene	UG/KG	1600	770	19	5.1

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4B001 AREA

LOCATION ID		4B001-1	4B001-1	4B001-1FD	4B001-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE				DUPLICATE	
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	23	12	10	0.53
Acenaphthene	UG/KG	3.7	1.4	4.6	1.3 U
Acenaphthylene	UG/KG	55	20	40	1.1
Anthracene	UG/KG	32	10	39	0.68
Benzo(a)anthracene	UG/KG	100	35	100	0.7 U
Benzo(a)pyrene	UG/KG	120	36	98	0.54 U
Benzo(b)fluoranthene	UG/KG	160	47	120	4
Benzo(g,h,i)perylene	UG/KG	130	42	95	2.9
Benzo(k)fluoranthene	UG/KG	1.4 U	1.3 U	1.3 U	1.3 U
Chrysene	UG/KG	120	42	120	3.4
Dibenz(a,h)anthracene	UG/KG	26	7.8	18	1.7 U
Fluoranthene	UG/KG	210	70	240	2.5
Fluorene	UG/KG	11	4.4	12	0.99 U
Indeno(1,2,3-cd)pyrene	UG/KG	120	37	86	2.8
Naphthalene	UG/KG	16	8.2	7.4	1.2 U
Phenanthrene	UG/KG	130	44	150	2
Pyrene	UG/KG	180	60	180	2.3

TABLE 23
EU3 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU3
4B014 AREA

LOCATION ID		4B014-4	4B014-4	4B014-4
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1300	89	1.4
Acenaphthene	UG/KG	1.7 U	1.3 U	1.3 U
Acenaphthylene	UG/KG	26	4.2	5.2
Anthracene	UG/KG	25	3.4	25
Benzo(a)anthracene	UG/KG	83	13	76
Benzo(a)pyrene	UG/KG	49	19	45
Benzo(b)fluoranthene	UG/KG	100	30	97
Benzo(g,h,i)perylene	UG/KG	53	29	41
Benzo(k)fluoranthene	UG/KG	1.7 U	8.9	1.3 U
Chrysene	UG/KG	140	24	110
Dibenz(a,h)anthracene	UG/KG	13	7.6	12
Fluoranthene	UG/KG	100	14	160
Fluorene	UG/KG	1.3 U	1 U	3.4
Indeno(1,2,3-cd)pyrene	UG/KG	38	23	37
Naphthalene	UG/KG	760	54	1.9
Phenanthrene	UG/KG	500	32	69
Pyrene	UG/KG	120	16	120

TABLE 24
EU4 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU4
TB408 AREA

LOCATION ID		TB408_02-1	TB408_02-1	TB408_02-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	2.7	0.4 U	0.39 U
Acenaphthene	UG/KG	3.3	1.4 U	1.3 U
Acenaphthylene	UG/KG	8.1	0.96 U	0.93 U
Anthracene	UG/KG	11	0.81	0.6
Benzo(a)anthracene	UG/KG	1.4 U	4.1	2
Benzo(a)pyrene	UG/KG	290	4.6	1.7
Benzo(b)fluoranthene	UG/KG	120	6.2	3.3
Benzo(g,h,i)perylene	UG/KG	880	12	2
Benzo(k)fluoranthene	UG/KG	2.6 U	1.4 U	1.3 U
Chrysene	UG/KG	120	4.4	2.2
Dibenz(a,h)anthracene	UG/KG	67	1.8 U	1.8 U
Fluoranthene	UG/KG	100	6.2	3.1
Fluorene	UG/KG	2.5	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	210	6.6	2.3
Naphthalene	UG/KG	2.3 U	1.2 U	1.2 U
Phenanthrene	UG/KG	35	3	1.8
Pyrene	UG/KG	170	5	2.4

EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
4B014 AREA

LOCATION ID		308-1	308-1	308-1	308-2	308-2	308-2	309-1	309-1	309-1	3C006-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE											
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS										
Semivolatile Organic Compounds											
2-Methylnaphthalene	UG/KG	12	0.88	0.41 U	19	34	0.43 U	3.1	2.3	0.41 U	4.7
Acenaphthene	UG/KG	190	1.4 U	2.3	270	630	1.4 U	59	5.8	1.4 U	47
Acenaphthylene	UG/KG	3.1	0.98 U	0.99 U	3.1	9.1	1 U	1.7	0.96 U	0.98 U	2.6
Anthracene	UG/KG	350	1.8	3	550	1200	3	120	13	1.4	110
Benzo(a)anthracene	UG/KG	1000	7.8	11	1300	2900	8.5	350	36	5	280
Benzo(a)pyrene	UG/KG	980	9.7	14	1200	2800	6.8	360	32	5.4	270
Benzo(b)fluoranthene	UG/KG	1200	13	21	1200	3800	8.8	390	45	8.5	380
Benzo(g,h,i)perylene	UG/KG	910	11	9.9	1100	2000	5.8	350	35	8	100
Benzo(k)fluoranthene	UG/KG	410	4.9	7.2	420	1400	3.9	170	19	3	180
Chrysene	UG/KG	1200	11	14	1400	3000	7.2	380	39	5.6	290
Dibenz(a,h)anthracene	UG/KG	150	1.9 U	1.9 U	140	290	1.9 U	62	3.9	3.1	22
Fluoranthene	UG/KG	3300	18	29	3400	8600	21	900	92	10	650
Fluorene	UG/KG	140	1.1 U	1.7	200	480	1.2	43	4.6	1.1 U	40
Indeno(1,2,3-cd)pyrene	UG/KG	890	11	10	1100	2000	6.6	320	33	7.9	130
Naphthalene	UG/KG	40	1.2 U	1.3 U	68	120	1.3 U	8.5	2.2	1.2 U	13
Phenanthrene	UG/KG	2100	9.8	16	2900	6400	14	570	61	5.7	510
Pyrene	UG/KG	2600	17	22	3400	7200	16	740	92	8.8	650

3C006-1	3C006-1FD	3C006-1	3C006-2	3C006-2	3C006-2	3C006-3	3C006-3	3C006-3	3C006-4	3C006-4	3C006-4FD	3C006-4
0.5 - 2	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	DUPLICATE										DUPLICATE	
12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	6/23/2014	6/23/2014	6/23/2014	6/23/2014
1.4	0.45 U	0.37 U	2.6	0.72	1.2	30	2.4	0.41 U	0.42 U	2.5	2.9	3
17	3.6	1.3 U	26	1.3 U	1.4 U	640	36	1.4 U	2.7	47	53	57
0.98 U	1.1	0.89 U	3.8	62	5.3	22	6.6	0.99 U	1 U	1.7	1.5	1
35	8.1	1.4	49	21	3.8	1300	71	1.6	5.9	95	100	120
94	27	4.5	300	110	11	3500	250	6	25	320	280	260
93	34	4.8	290	130	12	3500	260	5.6	25	320	290	250
98	44	6	330	170	20	4300	330	7.7	32	390	390	290
81	15	2.2	270	71	5.6	3100	250	4.3	20	280	220	240
47	25	4	1.3 U	79	7.1	1700	120	3	15	150	150	1.4 U
99	32	4.9	260	110	13	3700	280	7	26	280	320	280
13	3.2	1.7 U	42	19	1.9 U	280	39	1.9 U	7.6	50	37	44
230	74	12	660	130	19	10000	740	14	62	730	850	760
13	2.8	0.98 U	18	4	1.1 U	460	26	1.1 U	2.2	34	39	43
86	17	2.5	250	83	6.8	3100	250	3.9	23	260	250	220
3.1	1.4 U	1.1 U	2.5	1.1 U	1.2 U	94	5.9	1.3 U	1.3 U	4.5	6.7	7.5
170	41	6.9	280	25	8.2	7000	430	8.1	29	480	560	540
220	44	6.9	530	98	12	8500	600	12	50	580	650	610

3C007-1	3C007-1	3C007-1	3C007-2	3C007-2	3C007-2FD	3C007-2	3C008-1	3C008-1	3C008-1	3C011-1	3C011-1	3C011-1
0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					DUPLICATE							
12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/11/2013	12/11/2013	12/11/2013
2.6	0.85	0.38 U	6.7	170	360	0.4 U	1.8	7.1	0.39 U	8	0.42 U	0.43 U
16	1.3 U	1.3 U	120	3500	4000	1.4 U	21	1.2 U	1.3 U	75	1.4 U	1.5 U
1.8	2.7	0.92 U	2.6	38	46	0.97 U	1	1.1	0.94 U	10	2.1	1 U
35	1.4	0.58 U	230	6900	9300	2.1	36	1.7	0.59 U	140	1.4	0.65 U
230	4.1	1.3	580	16000	23000	6.2	170	5.1	0.97	620	7.6	2.6
260	4.3	1	530	15000	25000	6.5	190	5.5	0.77	940	8.6	0.61 U
370	8.2	1.4	700	19000	34000	6.8	260	8.2	1.7	1700	19	6.1
240	3.5	0.78	320	14000	11000	6.7	130	5.6	1.2	690	16	6
4.7 U	2.8	1.3 U	270	8800	11000	4.3	130	1.2 U	1.3 U	550	5.8	1.5
200	6.1	1.2	700	18000	17000	6.9	160	7.3	2.3	760	17	5.1
36	1.8 U	1.7 U	66	2300	1900	1.8 U	25	1.6 U	1.8 U	220	3.4	2 U
570	6.2	2.1	1500	51000	90000	15	620	8.1	1.5	1800	22	6.2
11	1 U	1 U	86	2700	3700	1.1 U	15	0.91 U	1 U	47	1.2	1.1 U
210	4	1.1 U	380	14000	19000	6.3	140	6.4	1.2	670	14	5.1
2.1 U	1.2 U	1.2 U	22	620	1300	1.2 U	3.3	4.3	1.2 U	11	1.3 U	1.3 U
190	3.6	1.6	1100	35000	51000	10	210	9.6	1.3	760	9.1	2.9
660	5	1.7	1600	39000	96000	15	420	7.2	1.3	1200	17	5.6

3D006-1	3D006-1	3D006-1	3D006-2	3D006-2	3D006-2	3D006-2FD	3D006-5	3D006-5	3D006-5	3D006-6	3D006-6	3D006-6
0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3	2 - 3	0 - 0.5	0.5 - 2	2 - 3	0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						DUPLICATE						
12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013	6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
160	130	0.42 U	12	0.37 U	0.39 U	0.38 U	150	9.5	0.48	58	2.8	0.45
1500	1600	1.4 U	110	1.3	1.3 U	1.3 U	3000	100	1.5 U	1200	1.3 U	1.3 U
28	31	1 U	10	0.87 U	0.94 U	0.91 U	99	5.4	1 U	52	1	0.94 U
2800	3000	1.9	200	2.5	0.59 U	0.57 U	5300	130	0.85	2100	1.6	0.59 U
7600	7200	7.8	1000	23	1.1	1.6	19000	490	3.8	8300	9.5	1.4
7400	7100	7.8	1300	35	0.56 U	1.5	18000	560	3.4	8600	10	1.1
8100	11000	12	1600	48	1.9	2.6	26000	870	3.6	10000	16	1.5
5900	2700	8.4	1000	49	1.8	2.4	19000	190	2.3	2200	14	1.3
2500	3400	3.8	640	18	1.3 U	1.3 U	8500	390	2	4100	5.8	1.3 U
8600	7900	8.5	1400	31	1.8	2	20000	610	3.6	8500	12	0.87
700	600	1.9 U	110	7.8	1.8 U	1.7 U	1400	51	2 U	590	5.9	5.1
24000	29000	21	3000	57	2.1	3.6	62000	1800	9.6	21000	19	1.8
1200	1200	1.1 U	70	0.96 U	1 U	0.99 U	2000	75	1.1 U	780	1 U	1 U
5800	3100	7.5	960	42	1.5	2	19000	240	6.8	2800	15	6
490	410	1.3 U	14	1.1 U	1.2 U	1.2 U	550	28	1.3 U	160	2.3	1.2 U
18000	16000	11	1300	17	1.3	1.9	38000	1100	4.3	12000	11	1.9
18000	14000	17	2000	50	1.8	3	52000	990	7.6	17000	17	1.5

3D007-3	3D007-3	3D007-3
0 - 0.5	0.5 - 2	2 - 3
SOIL	SOIL	SOIL
12/10/2013	12/10/2013	12/10/2013
38	14	0.38 U
240	66	1.3 U
14	3.2	0.92 U
460	120	0.58 U
1700	510	1.7
1800	500	1.2
2800	650	1.7
920	460	1.1
900	230	1.3 U
1700	590	1.5
150	64	1.7 U
7000	1300	2.9
180	44	1 U
1100	410	1.4
44	13	1.2 U
2500	840	1.6
5100	1300	2.6

TABLE 26

EU11 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU11
2A003 AREA

LOCATION ID		2A003-1	2A003-1	2A003-1
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	180	5.4	0.43U
Acenaphthene	UG/KG	300	2.3	1.4U
Acenaphthylene	UG/KG	55	5	1U
Anthracene	UG/KG	350	6.9	0.64U
Benzo(a)anthracene	UG/KG	2500	24	1.3
Benzo(a)pyrene	UG/KG	2600	55	1.1
Benzo(b)fluoranthene	UG/KG	4700	97	2.1
Benzo(g,h,i)perylene	UG/KG	2100	86	1.2
Benzo(k)fluoranthene	UG/KG	2500	45	1.4U
Chrysene	UG/KG	3600	64	3.7
Dibenz(a,h)anthracene	UG/KG	320	8.5	1.9U
Fluoranthene	UG/KG	8000	94	3.2
Fluorene	UG/KG	220	3.7	1.1U
Indeno(1,2,3-cd)pyrene	UG/KG	2200	77	1.2U
Naphthalene	UG/KG	120	4.9	1.3U
Phenanthrene	UG/KG	4900	43	2.3
Pyrene	UG/KG	7400	95	2.5

LOCATION ID		2A003-2	2A003-2	2A003-2
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	650	86	0.38U
Acenaphthene	UG/KG	1800	160	1.3U
Acenaphthylene	UG/KG	190	17	0.9U
Anthracene	UG/KG	2600	280	0.57U
Benzo(a)anthracene	UG/KG	10000	1200	1.2
Benzo(a)pyrene	UG/KG	11000	1300	0.81
Benzo(b)fluoranthene	UG/KG	18000	2200	1.7
Benzo(g,h,i)perylene	UG/KG	6500	790	1.4
Benzo(k)fluoranthene	UG/KG	7100	830	1.3U
Chrysene	UG/KG	15000	1800	2.6
Dibenz(a,h)anthracene	UG/KG	2000	250	1.7U
Fluoranthene	UG/KG	32000	4600	1.7
Fluorene	UG/KG	1500	140	0.99U
Indeno(1,2,3-cd)pyrene	UG/KG	7400	810	1.1U
Naphthalene	UG/KG	490	53	1.1U
Phenanthrene	UG/KG	23000	2300	1.2
Pyrene	UG/KG	29000	3300	1.7

TABLE 26

EU11 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU11
2A003 AREA

LOCATION ID		2A003-3	2A003-3	2A003-3
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	2400	2.1	1.5
Acenaphthene	UG/KG	58000	18	10
Acenaphthylene	UG/KG	1500	1.9	0.94U
Anthracene	UG/KG	150000	59	19
Benzo(a)anthracene	UG/KG	340000	130	71
Benzo(a)pyrene	UG/KG	240000	110	79
Benzo(b)fluoranthene	UG/KG	320000	160	120
Benzo(g,h,i)perylene	UG/KG	140000	85	59
Benzo(k)fluoranthene	UG/KG	180000	50	62
Chrysene	UG/KG	310000	120	110
Dibenz(a,h)anthracene	UG/KG	30000	15	9.1
Fluoranthene	UG/KG	1000000	360	190
Fluorene	UG/KG	64000	21	9
Indeno(1,2,3-cd)pyrene	UG/KG	180000	77	56
Naphthalene	UG/KG	2400	1.4	1.3
Phenanthrene	UG/KG	660000	200	120
Pyrene	UG/KG	710000	250	180

LOCATION ID		2A003-4	2A003-4	2A003-4FD	2A003-4
DEPTH		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	520	82	82	1.1
Acenaphthene	UG/KG	690	1.4U	1.5	1.5U
Acenaphthylene	UG/KG	58	1.5	1.4	1.1U
Anthracene	UG/KG	680	2	2.2	0.69U
Benzo(a)anthracene	UG/KG	3800	7.2	17	0.84U
Benzo(a)pyrene	UG/KG	3500	3.9	17	1.5
Benzo(b)fluoranthene	UG/KG	6200	7.1	24	2.5
Benzo(g,h,i)perylene	UG/KG	2400	3.6	14	2.2
Benzo(k)fluoranthene	UG/KG	2400	1.4U	15	1.5U
Chrysene	UG/KG	5500	9.4	26	3
Dibenz(a,h)anthracene	UG/KG	620	1.8U	2.8	2.1U
Fluoranthene	UG/KG	15000	10	44	3.2
Fluorene	UG/KG	460	1U	2.2	1.2U
Indeno(1,2,3-cd)pyrene	UG/KG	2800	2.5	14	3.6
Naphthalene	UG/KG	380	57	53	1.4
Phenanthrene	UG/KG	10000	38	55	3.9
Pyrene	UG/KG	11000	11	36	2.8

TABLE 26

EU11 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU11
2A003 AREA

LOCATION ID		2A003-5	2A003-5	2A003-5
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	7.4	37	1.9
Acenaphthene	UG/KG	39	18	1.2U
Acenaphthylene	UG/KG	5.7	3.8	0.84U
Anthracene	UG/KG	46	26	1.7
Benzo(a)anthracene	UG/KG	340	180	7
Benzo(a)pyrene	UG/KG	340	190	6.6
Benzo(b)fluoranthene	UG/KG	450	260	11
Benzo(g,h,i)perylene	UG/KG	330	180	6.1
Benzo(k)fluoranthene	UG/KG	270	110	3.9
Chrysene	UG/KG	420	210	10
Dibenz(a,h)anthracene	UG/KG	66	33	1.6U
Fluoranthene	UG/KG	990	500	18
Fluorene	UG/KG	25	14	1
Indeno(1,2,3-cd)pyrene	UG/KG	320	180	6.8
Naphthalene	UG/KG	6.7	25	2
Phenanthrene	UG/KG	570	280	13
Pyrene	UG/KG	730	350	14

TABLE 27

EU12 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU12
2B002 AREA

LOCATION ID		2B002-1	2B002-1	2B002-1
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	21	0.94	0.39U
Acenaphthene	UG/KG	5.6	1.4U	1.3U
Acenaphthylene	UG/KG	6.6	0.95U	0.92U
Anthracene	UG/KG	11	0.6U	0.58U
Benzo(a)anthracene	UG/KG	51	1.9	0.71U
Benzo(a)pyrene	UG/KG	72	2.4	0.55U
Benzo(b)fluoranthene	UG/KG	110	4.5	1.2
Benzo(g,h,i)perylene	UG/KG	70	2.9	1.4
Benzo(k)fluoranthene	UG/KG	43	2.1	1.3U
Chrysene	UG/KG	86	4.5	4.2
Dibenz(a,h)anthracene	UG/KG	11	1.8U	1.7U
Fluoranthene	UG/KG	120	4.8	0.91
Fluorene	UG/KG	4	1U	1U
Indeno(1,2,3-cd)pyrene	UG/KG	64	2.5	1.1U
Naphthalene	UG/KG	13	1.2U	1.2U
Phenanthrene	UG/KG	57	2.8	2
Pyrene	UG/KG	100	4.2	1.8

LOCATION ID		2B002-2	2B002-2	2B002-2
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1.2	440	2.4
Acenaphthene	UG/KG	1.3U	1.5U	1.4U
Acenaphthylene	UG/KG	0.9U	7.4	0.96U
Anthracene	UG/KG	0.57U	13	0.61U
Benzo(a)anthracene	UG/KG	0.78	30	0.89
Benzo(a)pyrene	UG/KG	0.53U	18	0.57U
Benzo(b)fluoranthene	UG/KG	0.98U	30	1.3
Benzo(g,h,i)perylene	UG/KG	0.72U	16	1.2
Benzo(k)fluoranthene	UG/KG	1.3U	14	1.4U
Chrysene	UG/KG	0.77	52	2.6
Dibenz(a,h)anthracene	UG/KG	1.7U	3.2	1.8U
Fluoranthene	UG/KG	0.87U	38	1.4
Fluorene	UG/KG	0.99U	1.2U	1.1U
Indeno(1,2,3-cd)pyrene	UG/KG	1.1U	10	1.1U
Naphthalene	UG/KG	1.1U	220	1.3
Phenanthrene	UG/KG	1.2	210	3.2
Pyrene	UG/KG	0.63U	47	1.5

TABLE 27

EU12 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU12
2B002 AREA

LOCATION ID		2B002-3	2B002-3	2B002-3
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	140	1.4	0.38U
Acenaphthene	UG/KG	2.7	1.3U	1.3U
Acenaphthylene	UG/KG	76	0.91U	0.9U
Anthracene	UG/KG	38	0.67	0.57U
Benzo(a)anthracene	UG/KG	150	0.71U	0.7U
Benzo(a)pyrene	UG/KG	250	1.8	0.53U
Benzo(b)fluoranthene	UG/KG	530	3.8	0.99U
Benzo(g,h,i)perylene	UG/KG	330	3	0.98
Benzo(k)fluoranthene	UG/KG	180	1.3U	1.3U
Chrysene	UG/KG	270	4	1.9
Dibenz(a,h)anthracene	UG/KG	71	1.7U	1.7U
Fluoranthene	UG/KG	180	2	1.1
Fluorene	UG/KG	4.1	1U	0.99U
Indeno(1,2,3-cd)pyrene	UG/KG	300	3.8	1.6
Naphthalene	UG/KG	94	1.4	1.1U
Phenanthrene	UG/KG	78	3.5	2.8
Pyrene	UG/KG	180	1.9	1

LOCATION ID		2B002-4	2B002-4	2B002-4
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	31	0.71	0.8
Acenaphthene	UG/KG	1.5U	1.3U	1.4U
Acenaphthylene	UG/KG	24	0.9U	1U
Anthracene	UG/KG	15	0.83	0.87
Benzo(a)anthracene	UG/KG	61	1.9	0.77U
Benzo(a)pyrene	UG/KG	110	2.4	0.66
Benzo(b)fluoranthene	UG/KG	250	5.6	1.5
Benzo(g,h,i)perylene	UG/KG	140	3.5	2.2
Benzo(k)fluoranthene	UG/KG	73	2.1	1.4U
Chrysene	UG/KG	120	5.1	4.8
Dibenz(a,h)anthracene	UG/KG	30	1.7U	1.9U
Fluoranthene	UG/KG	65	3.5	1.7
Fluorene	UG/KG	2.2	0.99U	1.1U
Indeno(1,2,3-cd)pyrene	UG/KG	130	4.5	2.3
Naphthalene	UG/KG	23	1.1U	1.3
Phenanthrene	UG/KG	27	3.8	4.9
Pyrene	UG/KG	64	3	2

TABLE 28
IEMH06 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IEMH06-1	IEMH06-1	IEMH06-1	IEMH06-1	IEMH06-2
Sample ID				IEMH-6T10.0-0.5-2000	IEMH-6T10.0-0.5D-9200	IEMH-6TB10.0-0.5-2000	IEMH-6TB10.0-0.5D-9200	IE-MH-6T2-3.0-3.5-2006
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	3.0-3.5
Date Sampled				11/22/13	11/22/13	11/22/13	11/22/13	11/26/13
Parameter	**Units**	**(1)**	**(2)**		Field Duplicate (1-1)		Field Duplicate (1-1)	
Radionuclides								
Radium-226	PCI/G	5	-	0.805	0.99	NA	NA	0.927
Thorium-228	PCI/G	5	-	0.806	0.856	NA	NA	0.942
Thorium-230	PCI/G	5	-	0.749	0.983	NA	NA	0.996
Thorium-232	PCI/G	5	-	0.769	0.832	NA	NA	0.839
Uranium-234	PCI/G	13	-	2.89	3.11	NA	NA	7.27
Uranium-235/236	PCI/G	8	-	0.174	0.155	NA	NA	0.412
Uranium-238	PCI/G	14	-	2.85	2.9	NA	NA	6.76
Uranium, Total	MG/KG	-	230	NA	NA	8.04	8.98	12.6

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

Advanced Selection: IEMH0
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[MATRIX] = 'SO' AND [LOCID] = 'IEMH06-1' OR [LOCID] = 'IEMH06-2' OR [LOCID] = 'IEMH06-3' OR [LOCID] = 'IEMH06-

TABLE 28
IEMH06 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IEMH06-3	IEMH06-4
Sample ID				IE-MH-6T3-2.0-3.0-2007	IE-MH-6T4-6.5-7.0-2008
Matrix				Soil	Soil
Depth Interval (ft)				2.0-3.0	6.5-7.0
Date Sampled				11/26/13	11/26/13
Parameter	**Units**	**(1)**	**(2)**		
Radionuclides					
Radium-226	PCI/G	5	-	0.959	0.531
Thorium-228	PCI/G	5	-	1.08	0.694
Thorium-230	PCI/G	5	-	1.12	0.715
Thorium-232	PCI/G	5	-	0.923	0.645
Uranium-234	PCI/G	13	-	1.24	0.415 J
Uranium-235/236	PCI/G	8	-	0.0396	0.0429 U
Uranium-238	PCI/G	14	-	1.13	0.347 J
Uranium, Total	MG/KG	-	230	4.32	9.69

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

Advanced Selection: IEMH0
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Printed: 10/17/2014 9:10:32 AM
[MATRIX] = 'SO' AND [LOCID] = 'IEMH06-1' OR [LOCID] = 'IEMH06-2' OR [LOCID] = 'IEMH06-3' OR [LOCID] = 'IEMH06-

TABLE 29
IE9 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE9-1	IE9-2	IE9-3	IE9-4
Sample ID				IE-9T10.0-0.5-2002	IE-9T23.5-4.0-2003	IE-9T36.0-6.5-2004	IE-9T410.0-10.5-2005
Matrix				Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	3.5-4.0	6.0-6.5	10.0-10.5
Date Sampled				11/25/13	11/25/13	11/25/13	11/25/13
Parameter	Units	(1)	(2)				
Radionuclides							
Radium-226	PCI/G	5	-	1.17	0.724	1.02	0.875
Thorium-228	PCI/G	5	-	0.913	0.748	1.02	0.92
Thorium-230	PCI/G	5	-	1.28	0.715	0.845	0.753
Thorium-232	PCI/G	5	-	0.906	0.712	0.848	0.711
Uranium-234	PCI/G	13	-	3.38	9.81	1.88	0.754
Uranium-235/236	PCI/G	8	-	0.186	0.554	0.0473	0.0315
Uranium-238	PCI/G	14	-	3.59	9.77	1.89	0.782
Uranium, Total	MG/KG	-	230	11.6	49.5	6.84	3.74

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 30
IE9 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE9	IE9
Sample ID				IE-9GW6.5-7.0-2001	IE-9GW6.5-7.0F-2001
Matrix				Groundwater	Groundwater
Depth Interval (ft)				6.5-7.0	6.5-7.0
Date Sampled				11/25/13	11/25/13
Parameter	**Units**	**Criteria (1)**	**Criteria (2)**		
Miscellaneous Parameters					
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	500 J	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	500 J	NA
Chloride	MG/L	-	250	21	NA
Fluoride	MG/L	-	1.5	0.55	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.35	NA
Nitrite-Nitrogen	MG/L	-	1	0.02 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	-	10	0.35	NA
Phosphate (as o-PO4)	MG/L	-	-	0.38 J	NA
Sulfate (as SO4)	MG/L	-	250	140	NA
Total Dissolved Solids	MG/L	-	-	620 J	NA
Radionuclides (Filtered)					
Radium-226	PCI/L	5	3	NA	0.389
Thorium-228	PCI/L	15	-	NA	1.28 J
Thorium-230	PCI/L	15	-	NA	0.79 U
Thorium-232	PCI/L	15	-	NA	0.319 U
Uranium-234	PCI/L	27	-	NA	77.7 J
Uranium-235/236	PCI/L	27	-	NA	4.14 J
Uranium-238	PCI/L	27	-	NA	77.7 J
Uranium, Total	UG/L	30	-	NA	1,240

Criteria (1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium

Criteria (2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria (1)

Concentration Exceeds Criteria (2)

Detection Limits shown are MDL

TABLE 31
IE10 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE10-1	IE10-2	IE10-3	IE10-4
Sample ID				IE-10-T1-0.0-0.5-2010	IE-10-T2-3.0-4.0-2011	IE-10-T3-3.0-4.0-2012	IE-10-T4-10.0-10.5-2013
Matrix				Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	3.0-4.0	3.0-4.0	10.0-10.5
Date Sampled				12/02/13	12/02/13	12/02/13	12/02/13
Parameter	Units	(1)	(2)				
Radionuclides							
Radium-226	PCI/G	5	-	1.1	0.895	0.84	0.724
Thorium-228	PCI/G	5	-	1 J	0.838 J	0.775 J	0.784
Thorium-230	PCI/G	5	-	1.08 J	0.851 J	0.883 J	0.765
Thorium-232	PCI/G	5	-	0.927 J	0.882 J	0.773 J	0.775
Uranium-234	PCI/G	13	-	15.2 J	9.3 J	15 J	0.821
Uranium-235/236	PCI/G	8	-	0.721 J	0.65 J	0.635 J	0.0339 U
Uranium-238	PCI/G	14	-	14.9 J	9.28 J	15.1 J	0.76
Uranium, Total	MG/KG	-	230	53.7	23.5	37.2	2.75

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 32
IE10 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE10	IE10	IE10	IE10
Sample ID				IE-10-GW-7.0-8.0-2009	IE-10-GW-7.0-8.0D-2009	IE-10-GW-7.0-8.0F-2009	IE-10-GW-7.0-8.0FD-2009
Matrix				Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)				7.0-8.0	7.0-8.0	7.0-8.0	7.0-8.0
Date Sampled				12/02/13	12/02/13	12/02/13	12/02/13
Parameter	Units	(1)	(2)		Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters							
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	310	430	NA	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	0.54 U	NA	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	0.54 U	NA	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	0.54 U	NA	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	310	430	NA	NA
Chloride	MG/L	-	250	14	14	NA	NA
Fluoride	MG/L	-	1.5	0.44	0.42	NA	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.16	0.16	NA	NA
Nitrite-Nitrogen	MG/L	-	1	0.003 U	0.003 U	NA	NA
Phosphate	MG/L	-	-	0.16 R	0.078 U	NA	NA
Sulfate (as SO4)	MG/L	-	250	120 J	120	NA	NA
Total Dissolved Solids	MG/L	-	-	680	610	NA	NA
Radionuclides (Filtered)							
Radium-226	PCI/L	5	3	NA	NA	0.16 U	0.187 J
Thorium-228	PCI/L	15	-	NA	NA	0.0553	0.0268 U
Thorium-230	PCI/L	15	-	NA	NA	0.0641 U	0.0358 U
Thorium-232	PCI/L	15	-	NA	NA	0.0348 U	-0.0151
Uranium-234	PCI/L	27	-	NA	NA	379	368
Uranium-235/236	PCI/L	27	-	NA	NA	17.8	19.7
Uranium-238	PCI/L	27	-	NA	NA	369	364

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 32
IE10 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE10	IE10	IE10	IE10
Sample ID				IE-10-GW-7.0-8.0-2009	IE-10-GW-7.0-8.0D-2009	IE-10-GW-7.0-8.0F-2009	IE-10-GW-7.0-8.0FD-2009
Matrix				Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)				7.0-8.0	7.0-8.0	7.0-8.0	7.0-8.0
Date Sampled				12/02/13	12/02/13	12/02/13	12/02/13
Parameter	Units	(1)	(2)		Field Duplicate (1-1)		Field Duplicate (1-1)
Radionuclides (Filtered)							
Uranium, Total	UG/L	30	-	NA	NA	1,560	1,070

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 33
IE11 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE11-1	IE11-2	IE11-3	IE11-4
Sample ID				IE-11-T1-0.0-0.5-2015	IE-11-T2-3.0-4.0-2016	IE-11-T3-1.0-2.0-2017	IE-11-T4-10.0-10.5-2018
Matrix				Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	3.0-4.0	1.0-2.0	10.0-10.5
Date Sampled				12/03/13	12/03/13	12/03/13	12/03/13
Parameter	Units	(1)	(2)				
Radionuclides							
Radium-226	PCI/G	5	-	1.18	1.02	1.32	0.75
Thorium-228	PCI/G	5	-	0.901 J	0.896 J	0.925	0.584
Thorium-230	PCI/G	5	-	1.3 J	0.843 J	1.09	0.59
Thorium-232	PCI/G	5	-	0.793 J	0.754 J	0.893	0.528
Uranium-234	PCI/G	13	-	8.49	16.7	8.93	0.931
Uranium-235/236	PCI/G	8	-	0.417	0.79	0.431	0.0716
Uranium-238	PCI/G	14	-	8.43	17	9.39	0.996
Uranium, Total	MG/KG	-	230	18.9	52	26.3	5.51

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 34
IE11 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE11	IE11
Sample ID				IE-11-GW-6.5-7.5-2014	IE-11-GW-6.5-7.5F-2014
Matrix				Groundwater	Groundwater
Depth Interval (ft)				6.5-7.5	6.5-7.5
Date Sampled				12/03/13	12/03/13
Parameter	**Units**	**(1)**	**(2)**		
Miscellaneous Parameters					
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	320	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	320	NA
Chloride	MG/L	-	250	14	NA
Fluoride	MG/L	-	1.5	0.57 J	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.23 J	NA
Nitrite-Nitrogen	MG/L	-	1	0.003 U	NA
Phosphate	MG/L	-	-	0.45 J	NA
Sulfate (as SO4)	MG/L	-	250	220	NA
Total Dissolved Solids	MG/L	-	-	700	NA
Radionuclides (Filtered)					
Radium-226	PCI/L	5	3	NA	0.139 U
Thorium-228	PCI/L	15	-	NA	0.0688 U
Thorium-230	PCI/L	15	-	NA	0.0511 U
Thorium-232	PCI/L	15	-	NA	0.0469 U
Uranium-234	PCI/L	27	-	NA	888
Uranium-235/236	PCI/L	27	-	NA	42.6
Uranium-238	PCI/L	27	-	NA	901
Uranium, Total	UG/L	30	-	NA	2,180

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 35
IE12 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE12-1	IE12-2	IE12-3	IE12-4	IE12-5
Sample ID				IE-12-T1-0.0-0.5-2019	IE-12-T2-0.0-0.5-2020	IE-12-T3-3.0-4.0-2021	IE-12-T4-6.0-7.0-2022	IE-12-T5-5.0-6.0-2023
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	0.0-0.5	3.0-4.0	6.0-7.0	5.0-6.0
Date Sampled				12/04/13	12/04/13	12/04/13	12/04/13	12/04/13
Parameter	Units	(1)	(2)					
Radionuclides								
Radium-226	PCI/G	5	-	0.886	1.29	0.826 J	0.611 J	0.787
Thorium-228	PCI/G	5	-	0.891	0.946	1.09	0.671	0.964
Thorium-230	PCI/G	5	-	1.03	1.12	0.972	0.607	0.921
Thorium-232	PCI/G	5	-	0.905	0.918	1.03	0.601	0.818
Uranium-234	PCI/G	13	-	1.55	1.65	5.9	1.41	4.5
Uranium-235/236	PCI/G	8	-	0.0902	0.107	0.321	0.126	0.232
Uranium-238	PCI/G	14	-	1.7	1.44	6.43	1.18	4.41
Uranium, Total	MG/KG	-	230	4.33	4.48	16.6	4.54	9.42

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

[LOCID] = 'IE12-1' OR [LOCID] = 'IE12-2' OR [LOCID] = 'IE12-3' OR [LOCID] = 'IE12-4' OR [LOCID] = 'IE12-5' OR [LOCID] = 'IE12-6' OR [LOCID] = 'IE12-7' OR [LOCID] = 'IE12-8' AND [MATRIX] =

TABLE 35
IE12 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE12-6	IE12-7	IE12-8
Sample ID				IE-12-T6-6.0-7.0-2024	IE-12-T7-11.0-11.5-2025	IE-12-T8-11.0-11.5-2026
Matrix				Soil	Soil	Soil
Depth Interval (ft)				6.0-7.0	11.0-11.5	11.0-11.5
Date Sampled				12/04/13	12/04/13	12/04/13
Parameter	Units	(1)	(2)			
Radionuclides						
Radium-226	PCI/G	5	-	0.794	0.948	1.02
Thorium-228	PCI/G	5	-	1	1.19	0.933
Thorium-230	PCI/G	5	-	0.906	0.871	0.87
Thorium-232	PCI/G	5	-	1.08	1.1	0.853
Uranium-234	PCI/G	13	-	15.1	0.953	8.21
Uranium-235/236	PCI/G	8	-	0.799	0.0622	0.363
Uranium-238	PCI/G	14	-	14.6	0.908	8.33
Uranium, Total	MG/KG	-	230	32.5	3.64	21.5

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

[LOCID] = 'IE12-1' OR [LOCID] = 'IE12-2' OR [LOCID] = 'IE12-3' OR [LOCID] = 'IE12-4' OR [LOCID] = 'IE12-5' OR [LOCID] = 'IE12-6' OR [LOCID] = 'IE12-7' OR [LOCID] = 'IE12-8' AND [MATRIX] =

TABLE 36
IE12 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE12	IE12
Sample ID				IE-12-GW-7.0-7.5-2027	IE-12-GW-7.0-7.5F-2027
Matrix				Groundwater	Groundwater
Depth Interval (ft)				7.0-7.5	7.0-7.5
Date Sampled				12/04/13	12/04/13
Parameter	**Units**	**(1)**	**(2)**		
Miscellaneous Parameters					
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	350	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	350	NA
Chloride	MG/L	-	250	15	NA
Fluoride	MG/L	-	1.5	0.51 J	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.3 J	NA
Nitrite-Nitrogen	MG/L	-	1	0.003 U	NA
Phosphate	MG/L	-	-	0.15 R	NA
Sulfate (as SO4)	MG/L	-	250	290	NA
Total Dissolved Solids	MG/L	-	-	750	NA
Radionuclides (Filtered)					
Radium-226	PCI/L	5	3	NA	0.378
Thorium-228	PCI/L	15	-	NA	0.0547 U
Thorium-230	PCI/L	15	-	NA	0.051 R
Thorium-232	PCI/L	15	-	NA	0.0378 U
Uranium-234	PCI/L	27	-	NA	1,060
Uranium-235/236	PCI/L	27	-	NA	57.8
Uranium-238	PCI/L	27	-	NA	1,070
Uranium, Total	UG/L	30	-	NA	3,050

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	UG/L	NA	0.25 U
1,1,1-Trichloroethane	UG/L	NA	0.29 U
1,1,2,2-Tetrachloroethane	UG/L	NA	0.43 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	NA	0.25 U
1,1,2-Trichloroethane	UG/L	NA	0.57 U
1,1-Dichloroethane	UG/L	NA	0.39 U
1,1-Dichloroethene	UG/L	NA	0.37 U
1,1-Dichloropropene	UG/L	NA	0.3 U
1,2,3-Trichlorobenzene	UG/L	NA	0.65 U
1,2,4-Trichlorobenzene	UG/L	NA	0.55 U
1,2,4-Trimethylbenzene	UG/L	NA	0.4 U
1,2-Dibromo-3-chloropropane	UG/L	NA	1.2 U
1,2-Dibromoethane (Ethylene dibromide)	UG/L	NA	0.44 U
1,2-Dichlorobenzene	UG/L	NA	0.28 U
1,2-Dichloroethane	UG/L	NA	0.37 U
1,2-Dichloroethene (cis)	UG/L	NA	2.1 J
1,2-Dichloroethene (total)	UG/L	NA	2.1 J
1,2-Dichloroethene (trans)	UG/L	NA	0.18 U
1,2-Dichloropropane	UG/L	NA	0.32 U
1,3-Dichlorobenzene	UG/L	NA	0.23 U
1,3-Dichloropropane	UG/L	NA	0.24 U
1,3-Dichloropropene (cis)	UG/L	NA	0.34 U
1,3-Dichloropropene (trans)	UG/L	NA	0.35 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
1,4-Dichloro-2-butene (trans)	UG/L	NA	0.95 U
1,4-Dichlorobenzene	UG/L	NA	0.35 U
1,4-Dioxane	UG/L	NA	23 U
2-Chlorotoluene	UG/L	NA	0.34 U
2-Chloro-1,3-butadiene	UG/L	NA	0.39 U
2-Hexanone	UG/L	NA	0.59 U
2-Nitropropane	UG/L	NA	0.64 U
4-Chlorotoluene	UG/L	NA	0.31 U
4-Isopropyltoluene (p-Cymene)	UG/L	NA	0.32 U
4-Methyl-2-pentanone	UG/L	NA	0.33 U
Acetone	UG/L	NA	36
Benzene	UG/L	NA	0.25 U
Bromobenzene	UG/L	NA	0.33 U
Bromochloromethane	UG/L	NA	0.55 U
Bromodichloromethane	UG/L	NA	0.25 U
Bromoform	UG/L	NA	0.37 U
Bromomethane	UG/L	NA	0.4 U
Carbon disulfide	UG/L	NA	0.37 U
Carbon tetrachloride	UG/L	NA	0.36 U
Chlorobenzene	UG/L	NA	0.38 U
Chloroethane	UG/L	NA	0.38 U
Chloroform	UG/L	NA	0.19 J
Chloromethane	UG/L	NA	0.55 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
Cyclohexane	UG/L	NA	0.36 U
Cyclohexanone	UG/L	NA	18 U
Dibromochloromethane	UG/L	NA	0.33 U
Dibromomethane	UG/L	NA	0.41 U
Dichlorodifluoromethane	UG/L	NA	0.45 U
Ethylbenzene	UG/L	NA	0.3 U
Ethyl methacrylate	UG/L	NA	0.25 U
Hexachlorobutadiene	UG/L	NA	0.25 U
Hexane	UG/L	NA	0.46 U
Isopropylbenzene (Cumene)	UG/L	NA	0.26 U
Methyl acetate	UG/L	NA	2.3 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	0.39 U
Methyl tert-butyl ether	UG/L	NA	0.4 U
Methylcyclohexane	UG/L	NA	0.26 U
Methylene chloride	UG/L	NA	1.7 U
Methyl methacrylate	UG/L	NA	0.51 U
Naphthalene	UG/L	NA	0.85 U
n-Butylbenzene	UG/L	NA	0.23 U
n-Propylbenzene	UG/L	NA	0.3 U
sec-Butylbenzene	UG/L	NA	0.31 U
Styrene	UG/L	NA	0.35 U
tert-Butylbenzene	UG/L	NA	0.31 U
Tetrachloroethene	UG/L	NA	0.28 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
Tetrahydrofuran	UG/L	NA	1.7 U
Toluene	UG/L	NA	1 U
Trichloroethene	UG/L	NA	0.29 U
Trichlorofluoromethane	UG/L	NA	0.22 U
Vinyl acetate	UG/L	NA	0.61 U
Vinyl chloride	UG/L	NA	0.43 U
Xylene (total)	UG/L	NA	0.85 U
TCLP Volatile Organic Compounds			
1,1-Dichloroethene	UG/L	NA	3.7 U
1,2-Dichloroethane	UG/L	NA	3.7 U
Benzene	UG/L	NA	2.5 U
Carbon tetrachloride	UG/L	NA	3.6 U
Chlorobenzene	UG/L	NA	3.8 U
Chloroform	UG/L	NA	0.92 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	3.9 U
Tetrachloroethene	UG/L	NA	2.8 U
Trichloroethene	UG/L	NA	2.9 U
Vinyl chloride	UG/L	NA	4.3 U
Semivolatile Organic Compounds			
1,1-Biphenyl	UG/L	NA	0.98 U
1,2,4-Trichlorobenzene	UG/L	NA	0.98 U
1,2-Dichlorobenzene	UG/L	NA	0.98 U
1,3-Dichlorobenzene	UG/L	NA	0.98 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Semivolatile Organic Compounds			
1,4-Dichlorobenzene	UG/L	NA	0.98 U
1,4-Dioxane	UG/L	NA	0.98 U
2,2'-oxybis(1-Chloropropane)	UG/L	NA	0.98 U
2,4,5-Trichlorophenol	UG/L	NA	0.98 U
2,4,6-Trichlorophenol	UG/L	NA	0.98 U
2,4-Dichlorophenol	UG/L	NA	0.98 U
2,4-Dimethylphenol	UG/L	NA	0.98 U
2,4-Dinitrophenol	UG/L	NA	2 U
2,4-Dinitrotoluene	UG/L	NA	0.98 U
2,6-Dinitrotoluene	UG/L	NA	2.1 U
2-Chloronaphthalene	UG/L	NA	0.98 U
2-Chlorophenol	UG/L	NA	0.98 U
2-Methylnaphthalene	UG/L	NA	0.98 U
2-Methylphenol (o-cresol)	UG/L	NA	0.98 U
2-Nitroaniline	UG/L	NA	1.1 U
2-Nitrophenol	UG/L	NA	1.5 U
3&4-Methylphenol	UG/L	NA	2 U
3,3'-Dichlorobenzidine	UG/L	NA	1.3 U
3-Nitroaniline	UG/L	NA	0.98 U
4,6-Dinitro-2-methylphenol	UG/L	NA	1.2 U
4-Bromophenyl-phenylether	UG/L	NA	0.98 U
4-Chloro-3-methylphenol	UG/L	NA	0.98 U
4-Chloroaniline	UG/L	NA	2 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Semivolatile Organic Compounds			
4-Chlorophenyl-phenylether	UG/L	NA	0.98 U
4-Nitroaniline	UG/L	NA	0.98 U
4-Nitrophenol	UG/L	NA	2 U
Acenaphthene	UG/L	NA	0.98 U
Acenaphthylene	UG/L	NA	0.98 U
Acetophenone	UG/L	NA	0.98 U
Anthracene	UG/L	NA	0.98 U
Atrazine	UG/L	NA	0.98 U
Benzaldehyde	UG/L	NA	0.98 U
Benzo(a)anthracene	UG/L	NA	0.98 U
Benzo(a)pyrene	UG/L	NA	0.98 U
Benzo(b)fluoranthene	UG/L	NA	0.98 U
Benzo(g,h,i)perylene	UG/L	NA	0.98 U
Benzo(k)fluoranthene	UG/L	NA	0.98 U
Benzyl alcohol	UG/L	NA	2.9 U
bis(2-Chloroethoxy)methane	UG/L	NA	0.98 U
bis(2-Chloroethyl)ether	UG/L	NA	0.98 U
bis(2-Ethylhexyl)phthalate	UG/L	NA	1.8 U
Butylbenzylphthalate	UG/L	NA	0.98 U
Caprolactam	UG/L	NA	2 U
Carbazole	UG/L	NA	0.98 U
Chrysene	UG/L	NA	0.98 U
Dibenz(a,h)anthracene	UG/L	NA	0.98 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Semivolatile Organic Compounds			
Dibenzofuran	UG/L	NA	0.98 U
Diethylphthalate	UG/L	NA	0.98 U
Dimethylphthalate	UG/L	NA	0.98 U
Di-n-butylphthalate	UG/L	NA	0.98 U
Di-n-octylphthalate	UG/L	NA	0.98 U
Fluoranthene	UG/L	NA	0.98 U
Fluorene	UG/L	NA	0.98 U
Hexachlorobenzene	UG/L	NA	0.98 U
Hexachlorobutadiene	UG/L	NA	0.98 U
Hexachlorocyclopentadiene	UG/L	NA	0.98 U
Hexachloroethane	UG/L	NA	0.98 U
Indeno(1,2,3-cd)pyrene	UG/L	NA	0.98 U
Isophorone	UG/L	NA	0.98 U
Naphthalene	UG/L	NA	0.98 U
Nitrobenzene	UG/L	NA	0.98 U
N-Nitroso-di-n-propylamine	UG/L	NA	1.5 U
N-Nitrosodiphenylamine	UG/L	NA	0.98 U
Pentachlorophenol	UG/L	NA	1.2 U
Phenanthrene	UG/L	NA	0.98 U
Phenol	UG/L	NA	2 U
Pyrene	UG/L	NA	0.98 U
Pyridine	UG/L	NA	2 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
TCLP Semivolatile Organic Compounds			
1,4-Dichlorobenzene	UG/L	NA	5 U
2,4,5-Trichlorophenol	UG/L	NA	10 U
2,4,6-Trichlorophenol	UG/L	NA	10 U
2,4-Dinitrotoluene	UG/L	NA	5 U
2-Methylphenol (o-cresol)	UG/L	NA	10 U
3&4-Methylphenol	UG/L	NA	5 U
Hexachlorobenzene	UG/L	NA	5 U
Hexachlorobutadiene	UG/L	NA	5 U
Hexachloroethane	UG/L	NA	5 U
Nitrobenzene	UG/L	NA	5 U
Pentachlorophenol	UG/L	NA	10 U
Pyridine	UG/L	NA	25 U
Pesticide Organic Compounds			
4,4'-DDD	UG/L	NA	0.0019 U
4,4'-DDE	UG/L	NA	0.0019 U
4,4'-DDT	UG/L	NA	0.0019 U
Aldrin	UG/L	NA	0.0019 U
alpha-BHC	UG/L	NA	0.0019 U
alpha-Chlordane	UG/L	NA	0.0019 U
beta-BHC	UG/L	NA	0.0025 U
delta-BHC	UG/L	NA	0.0019 U
Dieldrin	UG/L	NA	0.0019 U
Endosulfan I	UG/L	NA	0.0019 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Pesticide Organic Compounds			
Endosulfan II	UG/L	NA	0.0019 U
Endosulfan sulfate	UG/L	NA	0.0019 U
Endrin	UG/L	NA	0.0032 U
Endrin aldehyde	UG/L	NA	0.0019 U
Endrin ketone	UG/L	NA	0.0019 U
gamma-BHC (Lindane)	UG/L	NA	0.0019 U
gamma-Chlordane	UG/L	NA	0.0019 U
Heptachlor	UG/L	NA	0.0019 U
Heptachlor epoxide	UG/L	NA	0.0032 U
Methoxychlor	UG/L	NA	0.0019 U
Technical Chlordane	UG/L	NA	0.019 U
Toxaphene	UG/L	NA	0.051 U
TCLP Pesticide Organic Compounds			
Endrin	UG/L	NA	0.05 U
gamma-BHC (Lindane)	UG/L	NA	0.015 U
Heptachlor	UG/L	NA	0.015 U
Heptachlor epoxide	UG/L	NA	0.05 U
Methoxychlor	UG/L	NA	0.05 U
Technical Chlordane	UG/L	NA	0.2 U
Toxaphene	UG/L	NA	0.05 U
Herbicides			
2,4,5-T	UG/L	NA	0.13 U
2,4,5-TP (Silvex)	UG/L	NA	0.14 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	**Units**		
Herbicides			
2,4-D	UG/L	NA	1.7 U
2,4-DB	UG/L	NA	2.3 U
Dalapon	UG/L	NA	0.9 U
Dicamba	UG/L	NA	0.28 U
Dichloroprop	UG/L	NA	1.1 U
Dinoseb	UG/L	NA	0.61 U
MCPA	UG/L	NA	120 U
MCPP	UG/L	NA	140 U
TCLP Herbicides			
2,4,5-TP (Silvex)	UG/L	NA	3 U
2,4-D	UG/L	NA	20 U
Metals			
Aluminum	UG/L	NA	1,000
Antimony	UG/L	NA	1.7 U
Arsenic	UG/L	NA	1.6 J
Barium	UG/L	NA	240
Beryllium	UG/L	NA	0.35 U
Boron	UG/L	NA	280
Cadmium	UG/L	NA	0.14 J
Calcium	UG/L	NA	320,000 D
Chromium	UG/L	NA	420
Cobalt	UG/L	NA	2.2
Copper	UG/L	NA	14

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Metals			
Iron	UG/L	NA	1,000
Lead	UG/L	NA	1.8 J
Lithium	UG/L	NA	54
Magnesium	UG/L	NA	530
Manganese	UG/L	NA	16
Mercury	UG/L	NA	0.06 U
Molybdenum	UG/L	NA	66
Nickel	UG/L	NA	3.5 J
Phosphorus, Total (as P)	UG/L	NA	180
Potassium	UG/L	NA	85,000
Selenium	UG/L	NA	5.8
Silver	UG/L	NA	0.89 J
Sodium	UG/L	NA	45,000
Thallium	UG/L	NA	0.55 U
Uranium, Total	UG/L	1.8	NA
Vanadium	UG/L	NA	6.7 J
Zinc	UG/L	NA	60
TCLP Metals			
Arsenic	UG/L	NA	4.9 U
Barium	UG/L	NA	230
Cadmium	UG/L	NA	2.3 U
Chromium	UG/L	NA	430
Lead	UG/L	NA	3.2 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
TCLP Metals			
Mercury	UG/L	NA	0.079 U
Selenium	UG/L	NA	6.7 U
Silver	UG/L	NA	15 U
Miscellaneous Parameters			
Corrosivity (as pH)	S.U.	NA	11.5
Oil & Grease (HEM)	MG/L	NA	3 R
Total Organic Carbon (TOC)	MG/L	NA	15
Total Suspended Solids	MG/L	NA	57
Radionuclides			
Thorium-228	PCI/L	NA	0.0606
Thorium-230	PCI/L	NA	0.0903
Thorium-232	PCI/L	NA	0.0243
Uranium-234	PCI/L	NA	0.469
Uranium-235/236	PCI/L	NA	0.0392
Uranium-238	PCI/L	NA	0.399
Radionuclides (Gamma Spec)			
Actinium-227	PCI/L	NA	66.7 U
Actinium-228	PCI/L	NA	37.7 U
Bismuth-212	PCI/L	NA	138 U
Bismuth-214	PCI/L	NA	27.2 U
Cesium-137	PCI/L	NA	10.5 U
Lead-210	PCI/L	NA	236 U
Lead-212	PCI/L	NA	19.8 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Radionuclides (Gamma Spec)			
Lead-214	PCI/L	NA	23.2 U
Potassium-40	PCI/L	NA	165 U
Protactinium-231	PCI/L	NA	240 U
Radium-226	PCI/L	NA	27.2 U
Radium-228	PCI/L	NA	37.7 U
Thallium-208	PCI/L	NA	12 U
Thorium-232	PCI/L	NA	37.7 U
Thorium-234	PCI/L	NA	206 U
Uranium-235/236	PCI/L	NA	71.2 U
Uranium-238	PCI/L	NA	206 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW	IDW
Sample ID		IESP-1A-2028	IESP-1B-2033	IESP-2A-2029	IESP-2B-2030	IESP-2C-2031
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/05/13	12/05/13	12/05/13	12/05/13	12/05/13
Parameter	Units					
TCLP Volatile Organic Compounds						
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Carbon tetrachloride	UG/L	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	NA	NA	NA	NA	NA
Chloroform	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
Trichloroethene	UG/L	NA	NA	NA	NA	NA
Vinyl chloride	UG/L	NA	NA	NA	NA	NA
TCLP Semivolatile Organic Compounds						
1,4-Dichlorobenzene	UG/L	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	UG/L	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	UG/L	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	UG/L	NA	NA	NA	NA	NA
2-Methylphenol (o-cresol)	UG/L	NA	NA	NA	NA	NA
3&4-Methylphenol	UG/L	NA	NA	NA	NA	NA
Hexachlorobenzene	UG/L	NA	NA	NA	NA	NA
Hexachlorobutadiene	UG/L	NA	NA	NA	NA	NA
Hexachloroethane	UG/L	NA	NA	NA	NA	NA
Nitrobenzene	UG/L	NA	NA	NA	NA	NA
Pentachlorophenol	UG/L	NA	NA	NA	NA	NA
Pyridine	UG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW	IDW
Sample ID		IESP-1A-2028	IESP-1B-2033	IESP-2A-2029	IESP-2B-2030	IESP-2C-2031
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/05/13	12/05/13	12/05/13	12/05/13	12/05/13
Parameter	Units					
TCLP Pesticide Organic Compounds						
Endrin	UG/L	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	UG/L	NA	NA	NA	NA	NA
Heptachlor	UG/L	NA	NA	NA	NA	NA
Heptachlor epoxide	UG/L	NA	NA	NA	NA	NA
Methoxychlor	UG/L	NA	NA	NA	NA	NA
Technical Chlordane	UG/L	NA	NA	NA	NA	NA
Toxaphene	UG/L	NA	NA	NA	NA	NA
TCLP Herbicides						
2,4,5-TP (Silvex)	UG/L	NA	NA	NA	NA	NA
2,4-D	UG/L	NA	NA	NA	NA	NA
Polychlorinated Biphenyls						
Aroclor 1016	UG/KG	NA	NA	NA	NA	NA
Aroclor 1221	UG/KG	NA	NA	NA	NA	NA
Aroclor 1232	UG/KG	NA	NA	NA	NA	NA
Aroclor 1242	UG/KG	NA	NA	NA	NA	NA
Aroclor 1248	UG/KG	NA	NA	NA	NA	NA
Aroclor 1254	UG/KG	NA	NA	NA	NA	NA
Aroclor 1260	UG/KG	NA	NA	NA	NA	NA
Aroclor 1262	UG/KG	NA	NA	NA	NA	NA
Aroclor 1268	UG/KG	NA	NA	NA	NA	NA
PCBs, Total	UG/KG	NA	NA	NA	NA	NA
TCLP Metals						
Arsenic	UG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW	IDW
Sample ID		IESP-1A-2028	IESP-1B-2033	IESP-2A-2029	IESP-2B-2030	IESP-2C-2031
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/05/13	12/05/13	12/05/13	12/05/13	12/05/13
Parameter	Units					
TCLP Metals						
Barium	UG/L	NA	NA	NA	NA	NA
Cadmium	UG/L	NA	NA	NA	NA	NA
Chromium	UG/L	NA	NA	NA	NA	NA
Lead	UG/L	NA	NA	NA	NA	NA
Mercury	UG/L	NA	NA	NA	NA	NA
Selenium	UG/L	NA	NA	NA	NA	NA
Silver	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Corrosivity (as pH)	S.U.	NA	NA	NA	NA	NA
Flash Point	DEG C	NA	NA	NA	NA	NA
Paint Filter Test	NONE	NA	NA	NA	NA	NA
Reactive Cyanide	MG/KG	NA	NA	NA	NA	NA
Reactive Sulfide	MG/KG	NA	NA	NA	NA	NA
Radionuclides						
Radium-226	PCI/G	1.19	0.964	0.901	1.1	1.23
Thorium-228	PCI/G	1.11	0.822	1.02	0.995	0.914
Thorium-230	PCI/G	0.984 J	0.647 J	0.859 J	1.19 J	0.939 J
Thorium-232	PCI/G	0.953 J	0.827 J	0.913 J	0.808 J	0.823 J
Uranium-234	PCI/G	5.49	6.08	5.48	5.53	8.73
Uranium-235/236	PCI/G	0.229	0.207	0.202	0.217	0.512
Uranium-238	PCI/G	5.64	6.65	5.65	5.43	8.28
Uranium, Total	MG/KG	10.8	21.2	26.8	13.7	17.2

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW
Sample ID		IESP-2D-2032	IESP-2DD-9205	FRACTANKSED	FRACTANKSED
Matrix		Soil	Soil	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		12/05/13	12/05/13	07/01/14	08/29/14
Parameter	Units		Field Duplicate (1-1)		
TCLP Volatile Organic Compounds					
1,1-Dichloroethene	UG/L	NA	NA	0.37 U	NA
1,2-Dichloroethane	UG/L	NA	NA	0.37 U	NA
Benzene	UG/L	NA	NA	0.25 U	NA
Carbon tetrachloride	UG/L	NA	NA	0.36 U	NA
Chlorobenzene	UG/L	NA	NA	0.38 U	NA
Chloroform	UG/L	NA	NA	R	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	0.39 U	NA
Tetrachloroethene	UG/L	NA	NA	0.28 U	NA
Trichloroethene	UG/L	NA	NA	0.29 U	NA
Vinyl chloride	UG/L	NA	NA	0.43 U	NA
TCLP Semivolatile Organic Compounds					
1,4-Dichlorobenzene	UG/L	NA	NA	5 U	NA
2,4,5-Trichlorophenol	UG/L	NA	NA	10 U	NA
2,4,6-Trichlorophenol	UG/L	NA	NA	10 U	NA
2,4-Dinitrotoluene	UG/L	NA	NA	5 U	NA
2-Methylphenol (o-cresol)	UG/L	NA	NA	10 U	NA
3&4-Methylphenol	UG/L	NA	NA	5 U	NA
Hexachlorobenzene	UG/L	NA	NA	5 U	NA
Hexachlorobutadiene	UG/L	NA	NA	5 U	NA
Hexachloroethane	UG/L	NA	NA	5 U	NA
Nitrobenzene	UG/L	NA	NA	5 U	NA
Pentachlorophenol	UG/L	NA	NA	10 U	NA
Pyridine	UG/L	NA	NA	25 U	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW
Sample ID		IESP-2D-2032	IESP-2DD-9205	FRACTANKSED	FRACTANKSED
Matrix		Soil	Soil	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		12/05/13	12/05/13	07/01/14	08/29/14
Parameter	Units		Field Duplicate (1-1)		
TCLP Pesticide Organic Compounds					
Endrin	UG/L	NA	NA	0.05 U	NA
gamma-BHC (Lindane)	UG/L	NA	NA	0.015 U	NA
Heptachlor	UG/L	NA	NA	0.015 U	NA
Heptachlor epoxide	UG/L	NA	NA	0.05 U	NA
Methoxychlor	UG/L	NA	NA	0.05 U	NA
Technical Chlordane	UG/L	NA	NA	0.2 U	NA
Toxaphene	UG/L	NA	NA	0.05 U	NA
TCLP Herbicides					
2,4,5-TP (Silvex)	UG/L	NA	NA	3 U	NA
2,4-D	UG/L	NA	NA	20 U	NA
Polychlorinated Biphenyls					
Aroclor 1016	UG/KG	NA	NA	30 U	NA
Aroclor 1221	UG/KG	NA	NA	30 U	NA
Aroclor 1232	UG/KG	NA	NA	30 U	NA
Aroclor 1242	UG/KG	NA	NA	30 U	NA
Aroclor 1248	UG/KG	NA	NA	30 U	NA
Aroclor 1254	UG/KG	NA	NA	19 U	NA
Aroclor 1260	UG/KG	NA	NA	19 U	NA
Aroclor 1262	UG/KG	NA	NA	19 U	NA
Aroclor 1268	UG/KG	NA	NA	19 U	NA
PCBs, Total	UG/KG	NA	NA	19 U	NA
TCLP Metals					
Arsenic	UG/L	NA	NA	6 J	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW
Sample ID		IESP-2D-2032	IESP-2DD-9205	FRACTANKSED	FRACTANKSED
Matrix		Soil	Soil	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		12/05/13	12/05/13	07/01/14	08/29/14
Parameter	Units		Field Duplicate (1-1)		
TCLP Metals					
Barium	UG/L	NA	NA	870	NA
Cadmium	UG/L	NA	NA	0.84 U	NA
Chromium	UG/L	NA	NA	9.8 J	NA
Lead	UG/L	NA	NA	1.5 U	NA
Mercury	UG/L	NA	NA	0.079 U	NA
Selenium	UG/L	NA	NA	5.2 U	NA
Silver	UG/L	NA	NA	2.5 U	NA
Miscellaneous Parameters					
Corrosivity (as pH)	S.U.	NA	NA	11.7	NA
Flash Point	DEG C	NA	NA	27	60 >
Paint Filter Test	NONE	NA	NA	0 U	NA
Reactive Cyanide	MG/KG	NA	NA	0.25 U	NA
Reactive Sulfide	MG/KG	NA	NA	22 U	NA
Radionuclides					
Radium-226	PCI/G	0.513	0.835	1.02 ± 3.70E-01	NA
Thorium-228	PCI/G	0.71	0.775	0.775 ± 1.56E-01	NA
Thorium-230	PCI/G	0.833 J	0.75 J	1.03 ± 1.83E-01	NA
Thorium-232	PCI/G	0.816 J	0.784 J	0.638 ± 1.38E-01	NA
Uranium-234	PCI/G	8.63	7.42	6.31 ± 6.47E-01	NA
Uranium-235/236	PCI/G	0.62	0.656	0.366 ± 1.04E-01	NA
Uranium-238	PCI/G	8.56	7.31	5.79 ± 6.02E-01	NA
Uranium, Total	MG/KG	17.4	17.2	20.2 ± 2.40E+03	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 39
SCISSOR LIFT INVESTIGATION DERIVED WASTE ANALYTICAL RESULTS

Location ID		IDW	IDW
Sample ID		IDW-SL-HYOIL	IDW-SL-PAINT
Matrix		Hydraulic Oil	Scrapings
Depth Interval (ft)		-	-
Date Sampled		05/14/14	05/14/14
Parameter	Units		
Polychlorinated Biphenyls			
Aroclor 1016	UG/KG	440 UJ	90 U
Aroclor 1221	UG/KG	440 U	90 U
Aroclor 1232	UG/KG	440 U	90 U
Aroclor 1242	UG/KG	440 U	90 U
Aroclor 1248	UG/KG	440 U	90 U
Aroclor 1254	UG/KG	300 U	1,700
Aroclor 1260	UG/KG	300 U	420
Aroclor 1262	UG/KG	300 U	57 U
Aroclor 1268	UG/KG	300 U	57 U
Metals			
Lead	MG/KG	NA	62,000 DJ

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 7

SOLID AND LIQUID INVESTIGATIVE-DERIVED WASTE ANALYTICAL SCHEDULE

NIAGARA FALLS STORAGE SITE

PARAMETER	SOLID	LIQUID	METHOD
Mass Uranium (Total-U)	7 samples	NA	ASTM D5174-02, Trace Uranium by Pulsed-Laser Phosphorimetry
Isotopic Uranium-234, 235/236 and 238	7 samples	1 sample	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Radium- 226	7 samples	1 sample	EPA 901.1 / DOE HASL 300 Ga-01-R, Gamma Spectroscopy
Isotopic Thorium -228, 230 and 232	7 samples	1 sample	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Actinium-227, Cesium-137	NA	1 sample	EPA 901.1 / DOE HASL 300 Ga-01-R, Gamma Spectroscopy
Other Gamma Radionuclides[1]	NA	1 sample	EPA 901.1 / DOE HASL 300 Ga-01-R, Gamma Spectroscopy
Metals, including Boron, Lithium, Molybdenum	NA	1 sample	EPA SW846 6020A/7470A
Total Lead	1 sample	NA	EPA SW846 6020A
Total Uranium	NA	1 sample	EPA SW846 6020A
Volatile Organic Compounds (VOCs)	NA	1 sample	EPA SW846 8260C
Semi-Volatile Organic Compounds (SVOCs)	NA	1 sample	EPA SW846 8270D
Pesticides	NA	1 sample	EPA SW846 8081B
Herbicides	NA	1 sample	EPA SW846 8151A
Polychlorinated Biphenyls (PCBs)	3 samples	NA	EPA SW846 8082A
TCLP VOCs	1 sample	1 sample	EPA SW846 1311/8260C
TCLP SVOCs	1 sample	1 sample	EPA SW846 1311/8270D
TCLP Pesticides	1 sample	1 sample	EPA SW846 1311/8081B
TCLP Herbicides	1 sample	1 sample	EPA SW846 1311/8151A
TCLP Metals	1 sample	1 sample	EPA SW846 1311/6010C/7470A
Reactive Cyanide	1 sample	NA	EPA SW846 9012
Reactive Sulfide	1 sample	NA	EPA SW846 9034
Paint Filter Test	1 sample	1 sample	EPA SW846 9056
Corrosivity (as pH)	1 sample	1 sample	EPA SW846 9040B/9045D
Oil & Grease	NA	1 sample	EPA 1664A
Total Organic Carbon	NA	1 sample	EPA 415.1
Total Phosphorus	NA	1 sample	EPA SW846 6020A
Total Suspended Solids	NA	1 sample	EPA 160.2

(1) Other gamma radionuclides include: Actinium-228, Bismuth-212, Bismuth-214, Lead-210, Lead-212, Lead-214, Potassium-40, Protactinium-231, Ra--226, Ra-228, Thallium-208, Thorium-232, Thorium-234, Uranium-235, and Uranium-238.

NA - Not analyzed

TABLE 8

EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
5A016 AREA

LOCATION ID				5A016-1	5A016-1	5A016-1FD	5A016-1
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.889	0.781	0.794	0.847
Thorium-230	PCI/G	18	55	0.917	0.776	0.834	0.911
Uranium-238	PCI/G	115	346	0.695	0.955	0.969	0.872

LOCATION ID				5A016-2	5A016-2	5A016-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.86	1.62	1.00
Thorium-230	PCI/G	18	55	9.05	1.71	0.919
Uranium-238	PCI/G	115	346	1.48	1.06	0.686

LOCATION ID				5A016-3	5A016-3	5A010-3FD	5A016-3
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/20/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.967	1.26	1.05	0.887
Thorium-230	PCI/G	18	55	0.998	0.797	0.979	0.710
Uranium-238	PCI/G	115	346	1.14	1.06	0.707	0.938

LOCATION ID				5A016-4	5A016-4	5A016-4FD	5A016-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.10	3.29	1.53	0.766
Thorium-230	PCI/G	18	55	1.19	3.66	1.66	0.696
Uranium-238	PCI/G	115	346	0.938	1.95	1.18	0.528

LOCATION ID				5A016-5	5A016-5	5A016-5
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.27	1.02	1.10
Thorium-230	PCI/G	18	55	0.995	1.02	0.859
Uranium-238	PCI/G	115	346	0.961	0.599	0.906

LOCATION ID				5A016-6	5A016-6	5A016-6
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.27	2.30	0.75
Thorium-230	PCI/G	18	55	1.10	3.05	0.839
Uranium-238	PCI/G	115	346	1.06	0.823	0.905

TABLE 8

EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
5A016 AREA

LOCATION ID				5A016-7	5A016-7	5A016-7
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.14	2.54	0.668
Thorium-230	PCI/G	18	55	6.46	4.17	0.955
Uranium-238	PCI/G	115	346	2.22	2.2	0.963

LOCATION ID				5A016-8	5A016-8	5A016-8
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.16	1.52	1.19
Thorium-230	PCI/G	18	55	1.23	1.79	0.827
Uranium-238	PCI/G	115	346	1.02	0.669	0.829

LOCATION ID				5A016-9	5A016-9	5A016-9FD	5A016-9
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.93	0.840	0.835	0.935
Thorium-230	PCI/G	18	55	2.02	0.853	0.789	0.771
Uranium-238	PCI/G	115	346	2.07	0.691	0.672	0.689

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soil: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soil: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID				4A003-1	4A003-1	4A003-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.78	0.872	1.06
Thorium-230	PCI/G	18	55	1.57	0.932	0.730
Uranium-238	PCI/G	115	346	0.691	0.693	0.933

LOCATION ID				4A003-2	4A003-2	4A003-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.33	1.12	1.05
Thorium-230	PCI/G	18	55	1.43	0.788	0.729
Uranium-238	PCI/G	115	346	0.709	0.634	0.606

LOCATION ID				4A003-3	4A003-3	4A003-3FD	4A003-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.07	0.901	0.857	1.11
Thorium-230	PCI/G	18	55	1.23	0.799	0.581	0.715
Uranium-238	PCI/G	115	346	0.73	0.622	0.608	0.702

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 1

RADIATION DETECTION INSTRUMENTATION

NIAGARA FALLS STORAGE SITE

Function	Radiation Detected	Instrument	Detector	Additional Equipment
Gamma Walkover Surveys	Gamma	Ludlum Model 2221	Ludlum Model 44-10 NaI (2”x2”)	Trimble Geo6000 XH, Zephyr Model 2 Antenna
Trench Surveys	Gamma	Ludlum Model 2221	Ludlum Model 44-10 NaI (2”x2”)	Ludlum Model 4260-076 shield
Soil Core Logging	Alpha-Beta-Gamma	Ludlum Model 12	Ludlum Model 44-9 GM	
Soil Core Logging	Alpha-Beta	Ludlum Model 2360	Ludlum Model 43-93	
Frisking - Personnel	Alpha-Beta-Gamma	Ludlum Model 12	Ludlum Model 44-9 GM	
Frisking - Equipment	Alpha-Beta-Gamma	Ludlum Model 12 or Model 3	Ludlum Model 44-9 GM	
	Alpha-Beta	Ludlum Model 2360	Ludlum Model 43-93	
Gamma Survey	Gamma	Ludlum Model 2221	Ludlum Model 44-10 NaI (2”x2”)	
Exposure Rate Surveys	Gamma	Ludlum Model 3	Ludlum Model 44-2 NaI (1"x1")	
		Ludlum Model 19	Integrated NaI detector	
Smear Counting	Alpha-Beta	Ludlum Model 2929	Ludlum Model 43-10-1	

TABLE 2

GAMMA WALKOVER SUMMARY TABLE

NIAGARA FALLS STORAGE SITE

Survey Area	Number of Points	Minimum (µR/h)	Maximum (µR/h)	Mean (µR/h)	Standard Deviation (µR/h)	Boring Location Maximum Value
EU1	4061	7.7	23.4	12.3	2.8	5A016
EU2	3027	6.6	27.6	11.3	3.3	SP-14
EU3	6525	5.5	41.8	12.9	4.2	4B009
EU4	1059	7.1	20.2	12.5	3.7	GWS-25
EU5	2048	6.9	56.1	11.8	7.7	6A001
EU6	8131	6.8	69.1	12.2	4.7	SP-1
EU7	8631	6.1	37.7	12.8	3.2	8D009
EU8	15117	5.4	42.6	11.7	3.1	3D007
EU 9	530	8.2	13	10.4	0.7	913
EU 10	602	10.2	21.1	13	2.3	TWP-937
EU11	8110	4.9	89.5	12.6	6.4	GWS-11
EU12	3312	6.1	20.2	13.4	2.1	2D013
EU13	2133	5.4	34.9	9.8	4.2	2A006
EU14	1489	6.8	19.9	11.2	2	8B001
Manhole	7377	4.8	15.7	10.2	1.8	NA
All Sample data	72152	4.9	89.5	12	4.1	NA
Background	2067	5.9	20.7	11.9	2.2	NA

TABLE 3

EXCAVATION GAMMA SCREEENING SUMMARY TABLE

NIAGARA FALLS STORAGE SITE

Excavation	Minimum shield (cpm)	Maximum shield (cpm)	Maximum Reading Location
Manhole MH06	2784	5014	South wall - lower west corner
IE9	2810	8126	North wall lower - east corner
IE10	3498	4394	West wall - middle north grid
IE11	3426	4904	North wall - middle east grid
IE12	3060	4596	East wall - center lower grid

TABLE 4
DELINEATION SOIL BORING SUMMARY TABLE
NIAGARA FALLS STORAGE SITE

Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
1	1	1	503	503-1	1172985.275	1040165.87	315.64	Rad
2	2	1		503-2	1173001.02	1040182.686	316	Rad
3	3	1		503-3	1172984.569	1040199.233	315.85	Rad
4	4	1		503-4	1172968.36	1040182.918	315.82	Rad
5	5	1	504	504-1	1172776.688	1040319.937	316.71	Rad
6	6	1		504-2	1172791.14	1040344.656	316.99	Rad
7	7	1		504-3	1172774.061	1040360.856	317.26	Rad
8	8	1		504-4	1172762.006	1040341.476	316.93	Rad
9	9	1	5A010	5A010-1	1173104.512	1040067.355	315.93	Rad
10	10	1		5A010-2	1173121.181	1040083.006	315.85	Rad
11	11	1		5A010-3	1173104.745	1040099.704	314.25	Rad
12	12	1		5A010-4	1173136.26	1040085.6	315.347	Rad
13	13	1		5A010-5	1173091.45	1040078.87	315.494	Rad
14	14	1	5A016	5A016-1	1172995.523	1040349.276	316.6	Rad
15	15	1		5A016-2	1173024.651	1040380.547	316.92	Rad
16	16	1		5A016-3	1172998.522	1040413.078	316.9	Rad
17	17	1		5A016-4	1172960.963	1040380.903	317.88	Rad
18	18	1		5A016-5	1172993.34	1040367.31	317.462	Rad
19	19	1		5A016-6	1173007.34	1040379.53	317.568	Rad
20	20	1		5A016-7	1172993.23	1040392.52	316.699	Rad
21	21	1		5A016-8	1172980.81	1040378.34	317.757	Rad
22	22	1		5A016-9	1173037.33	1040381.26	316.066	Rad
23	23	1	5A021	5A021-1	1173005.479	1040081.918	316.08	Rad
24	24	1		5A021-2	1173022.75	1040097.203	316.16	Rad
25	25	1		5A021-3	1173004.676	1040114.621	315.66	Rad
26	26	1		5A021-4	1172988.913	1040097.797	316.08	Rad
27	27	1		5A021-5	1172990.83	1040080.16	316.149	Rad
28	28	1	SP-13	SP-13	1173000.122	1040168.954	315.54	Rad
29	1	2	404	404-1	1172863.928	1041709.748	320.87	Rad
30	2	2		404-2	1172848.362	1041726.836	321.04	Rad/Chem
31	3	2		404-3	1172830.322	1041710.062	321.39	Rad
32	4	2	4A003	4A003-1	1172894.163	1041615.113	320.01	Rad/Chem
33	5	2		4A003-2	1172908.517	1041636.479	320.19	Rad/Chem
34	6	2		4A003-3	1172866.83	1041620.87	319.983	Rad/Chem
35	7	2	4A007	4A007-1	1172872.97	1041669.367	320.08	Rad/Chem
36	8	2		4A007-2	1172838.218	1041671.778	321.58	Rad/Chem
37	9	2	4A013	4A013-1	1172680.146	1041544.012	320.44	Rad
38	10	2		4A013-2	1172698.011	1041560.039	319.19	Rad
39	11	2		4A013-3	1172681.406	1041574.481	317.58	Rad
40	12	2		4A013-4	1172662.603	1041558.654	320.12	Rad
41	13	2		4A013-5	1172662.98	1041541.06	320.691	Rad
42	14	2		4A013-6	1172691.94	1041539.24	321.239	Rad
43	15	2	4A014	4A014-1	1172835.514	1041644.517	320.61	Rad
44	16	2	4B001	4B001-1	1172880.455	1041736.933	321.02	Chem
45	17	2	8F001	8F001-1	1173240.081	1040607.622	317.07	Rad
46	18	2		8F001-2	1173240.074	1040662.553	316.76	Rad
47	19	2		8F001-3	1173212.311	1040639.754	318.12	Rad
48	20	2	8F003	8F003-1	1172827.603	1040520.612	317.46	Rad
49	21	2		8F003-2	1172865.871	1040548.737	317.45	Rad
50	22	2		8F003-3	1172829.196	1040580.709	317.86	Rad
51	23	2		8F003-4	1172797.15	1040546.166	317.15	Rad
52	24	2		8F003-5	1172818.45	1040541.95	317.29	Rad
53	25	2		8F003-6	1172820.96	1040536.27	317.229	Rad
54	26	2		8F003-7	1172837.95	1040548.58	317.39	Rad
55	27	2		8F003-8	1172833.92	1040563.57	317.71	Rad

TABLE 4
DELINEATION SOIL BORING SUMMARY TABLE
NIAGARA FALLS STORAGE SITE

Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
56	28	2	8F006	8F006-1	1173172.19	1041334.414	317.53	Rad
57	29	2		8F006-2	1173188.381	1041351.566	318.13	Rad
58	30	2		8F006-3	1173171.926	1041370.308	317.63	Rad
59	31	2		8F006-4	1173155.153	1041353.661	319.17	Rad
60	32	2		8F006-5	1173179.801	1041313.693	317.91	Rad
61	33	2		8F006-6	1173181.973	1041381.266	318.06	Rad
62	34	3	SP-14	SP-14	1172923.653	1041736.152	320.42	Rad
63	35	3		SP-14-1	1172902.56	1041737.77	320.813	Rad
64	36	2	GWS-02	GWS-02	1173134.402	1040947.802	318.99	Rad
65	37	2	GWS-03	GWS-03	1173134.449	1040967.871	318.98	Rad
66	38	2	GWS-05	GWS-05	1172907.319	1041191.915	317.68	Rad
67	39	2	SP-16	SP-16	1172850.922	1041624.593	320.58	Rad
68	1	3	4B009	4B009-1	1172815.889	1041854.982	320.27	Rad
69	2	3		4B009-2	1172830.069	1041869.48	319.55	Rad
70	3	3		4B009-3	1172814.569	1041885.451	319.88	Rad
71	4	3		4B009-4	1172800.596	1041868.267	319.84	Rad
72	5	3	4B010	4B010-1	1172843.349	1041770.745	320.36	Rad
73	6	3		4B010-2	1172821.745	1041786.867	320.74	Rad
74	7	3		4B010-3	1172805.746	1041771.069	320.09	Rad
75	8	3		4B010-4	1172832.21	1041787.43	320.515	Rad
76	9	3	4B014	4B014-1	1172934.939	1041737.837	319.95	Rad
77	10	3		4B014-2	1172961.345	1041791.041	319.92	Rad
78	11	3		4B014-3	1172928.832	1041803.385	320.47	Rad
79	12	3		4B014-4	1172897.146	1041770.386	321.15	Rad/Chem
80	13	3		4B014-5	1172916.95	1041770.41	321.147	Rad
81	14	3		4B014-6	1172930.29	1041756.71	320.168	Rad
82	15	3		4B014-7	1172943.21	1041770.53	320.126	Rad
83	16	3		4B014-8	1172932.3	1041784.82	320.171	Rad
84	17	3	4B017	4B017-1	1172976.764	1041782.618	319.17	Rad
85	18	3		4B017-2	1172992.08	1041798.303	318.45	Rad
86	19	3		4B017-3	1172976.291	1041815.147	320.18	Rad
87	20	3	4B021	4B021-1	1172853.105	1041793.741	320.51	Rad
88	21	3		4B021-2	1172870.719	1041810.109	320.51	Rad
89	22	3		4B021-3	1172853.558	1041826.561	320.46	Rad
90	23	3		4B021-4	1172838.489	1041810.105	320.11	Rad
91	24	3	TB411_03	TB411_03-1	1173034.272	1041995.995	317.63	Rad
92	25	3		TB411_03-2	1173050.671	1042004.44	318.15	Rad
93	26	3		TB411_03-3	1173034.406	1042020.662	318.2	Rad
94	27	3		TB411_03-4	1173018.166	1042004.858	317.9	Rad
95	28	3	GWS-09	GWS-09	1172823.651	1041820.007	321.07	Rad
96	29	3		GWS-09-1	1172803.97	1041824.19	320.014	Rad
97	30	3		GWS-09-2	1172821.39	1041841.05	320.586	Rad
98	31	3		GWS-09-3	1172794.13	1041840.52	319.522	Rad
99	32	3	GWS-08	GWS-08	1173043.2	1041786.921	319.34	Rad
100	33	3	SP-15	SP-15	1172813.32	1041851.803	320.24	Rad
101	1	4	4C002	4C002-1	1172674.034	1042317.627	318.74	Rad
102	2	4		4C002-2	1172694.455	1042334.981	320.04	Rad
103	3	4		4C002-3	1172676.081	1042348.929	319.05	Rad
104	4	4		4C002-4	1172659.089	1042334.603	318.76	Rad
105	5	4	TB408_02	TB408_02-1	1173120.501	1042566.132	319.86	Chem
106	1	5	4G002	4G002-1	1173164.391	1043610.129	319.06	Rad
107	2	5		4G002-2	1173179.237	1043640.236	319.2	Rad
108	3	5		4G002-3	1173163.398	1043675.726	319.45	Rad
109	4	5		4G002-4	1173132.355	1043641.777	320.65	Rad

TABLE 4
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Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
110	5	5	6A001	6A001-1	1172760.286	1043816.228	320.84	Rad
111	6	5		6A001-2	1172777.759	1043829.647	320.43	Rad
112	7	5		6A001-3	1172762.343	1043850.983	320.53	Rad
113	8	5		6A001-4	1172743.45	1043831.627	320.66	Rad
114	9	5		6A001-5	1172757.18	1043792	320.711	Rad
115	10	5		6A001-6	1172757.15	1043758.04	321.205	Rad
116	1	6	6B005	6B005-1	1172624.614	1044366.181	320.55	Rad
117	2	6		6B005-2	1172644.217	1044383.056	320.69	Rad
118	3	6		6B005-3	1172624.542	1044398.044	320.6	Rad
119	4	6		6B005-4	1172611.817	1044381.721	319.08	Rad
120	5	6		6B005-5	1172623.3	1044340.6	320.341	Rad
121	6	6		6B005-6	1172653.28	1044387.11	319.878	Rad
122	7	6		6B005-7	1172623.69	1044416.96	320.405	Rad
123	8	6	606	606-1	1172635.553	1044684.438	320.37	Rad
124	9	6		606-2	1172649.789	1044700.436	320.52	Rad
125	10	6		606-3	1172633.534	1044717.375	319.03	Rad
126	11	6		606-4	1172621.774	1044698.77	319.15	Rad
127	12	6	828	828-1	1172838.363	1044676.64	320.93	Rad
128	13	6		828-2	1172871.414	1044709.38	320.36	Rad
129	14	6		828-3	1172838.424	1044720.225	319.23	Rad
130	15	6		828-4	1172806.661	1044708.861	320.17	Rad
131	16	6		828-5	1172827.67	1044702.23	320.495	Rad
132	17	6	829	829-1	1172690.65	1044694.434	320.86	Rad
133	18	6		829-2	1172706.054	1044700.905	320.75	Rad
134	19	6		829-3	1172689.385	1044718.107	319.16	Rad
135	20	6		829-4	1172673.384	1044700.715	320.9	Rad
136	21	6	EU061	EU061-1	1172748.459	1044651.838	319.25	Rad
137	22	6		EU061-2	1172766.686	1044666.183	319.88	Rad
138	23	6		EU061-3	1172747.883	1044675.428	320.73	Rad
139	24	6		EU061-4	1172734.367	1044667.091	320.07	Rad
140	25	6	GWS-19	GWS-19	1172867.524	1044364.646	320.68	Rad
141	26	6		GWS-19-1	1172854.51	1044367.48	320.616	Rad
142	27	6		GWS-19-2	1172867.64	1044355.97	320.546	Rad
143	28	6		GWS-19-3	1172881.55	1044365.42	320.92	Rad
144	29	6		GWS-19-4	1172868.06	1044380.75	320.924	Rad
145	30	6	GWS-18	GWS-18	1172893.697	1044160.859	319.45	Rad
146	31	6		GWS-18-1	1172874.37	1044162.55	319.388	Rad
147	32	6		GWS-18-2	1172887.07	1044147.15	319.683	Rad
148	33	6		GWS-18-3	1172902.78	1044161.76	319.089	Rad
149	34	6		GWS-18-4	1172890.37	1044174.92	319.409	Rad
150	35	6	GWS-20	GWS-20	1172616.318	1044585.243	319.86	Rad
151	36	6	GWS-21	GWS-21	1173141.485	1044047.494	319.98	Rad
152	37	6	GWS-22	GWS-22	1173135.166	1044093.858	319.91	Rad
153	38	6	GWS-23	GWS-23	1173135.323	1044122.589	320.03	Rad
154	39	6	GWS-24	GWS-24	1173136.174	1044184.772	320.04	Rad
155	40	6	SP-01	SP-01	1172624.085	1044374.746	320.42	Rad
156	1	7	8D003	8D003-1	1172529.824	1040662.427	316.62	Rad
157	2	7		8D003-2	1172562.88	1040693.503	316.71	Rad
158	3	7		8D003-3	1172531.18	1040726.39	316.59	Rad
159	4	7		8D003-4	1172499.669	1040694.745	317.42	Rad
160	5	7	8D004	8D004-1	1172570.402	1040716.88	315.57	Rad
161	6	7		8D004-2	1172601.997	1040748.511	317.18	Rad
162	7	7		8D004-3	1172570.387	1040780.77	316.66	Rad
163	8	7		8D004-4	1172538.227	1040749.227	316.12	Rad
164	9	7		8D004-5	1172553.29	1040717.42	315.863	Rad
165	10	7		8D004-6	1172570.05	1040704.6	315.542	Rad
166	11	7		8D004-7	1172582.43	1040718.3	315.44	Rad

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Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
167	12	7	8D006	8D006-1	1172472.324	1040636.876	318.48	Rad
168	13	7		8D006-2	1172488.557	1040654.268	316.19	Rad
169	14	7		8D006-3	1172472.43	1040670.558	317.63	Rad
170	15	7		8D006-4	1172455.149	1040652.521	316.68	Rad
171	16	7		8D006-5	1172457.22	1040637.47	318.538	Rad
172	17	7		8D006-6	1172466.33	1040617.76	318.163	Rad
173	18	7		8D006-7	1172479.94	1040637.94	318.312	Rad
174	19	7	8D007	8D007-1	1172485.379	1040752.971	316.87	Rad
175	20	7		8D007-2	1172503.435	1040769.019	316.36	Rad
176	21	7		8D007-3	1172500.489	1040802.924	316.71	Rad
177	22	7		8D007-4	1172469.607	1040769.144	316.66	Rad
178	23	7		8D007-5	1172511.97	1040802.98	316.549	Rad
179	24	7	8D009	8D009-1	1172311.79	1040644.367	317.05	Rad
180	25	7		8D009-2	1172330.824	1040660.325	317.51	Rad
181	26	7		8D009-3	1172313.896	1040677.014	318.52	Rad
182	27	7		8D009-4	1172296.572	1040659.937	317.36	Rad
183	28	7		8D009-5	1172327.61	1040674.34	318.29	Rad
184	29	7		8D009-6	1172305.81	1040693.3	318.363	Rad
185	30	7		8D009-7	1172308.11	1040729.84	319.252	Rad
186	31	7	8D016	8D016-1	1172366.692	1040677.947	318.52	Rad
187	32	7		8D016-2	1172382.317	1040694.246	318.6	Rad
188	33	7		8D016-3	1172367.699	1040710.368	318.82	Rad
189	34	7		8D016-4	1172350.424	1040693.7	318.63	Rad
190	35	7		8D016-5	1172349.66	1040676.09	318.4	Rad
191	36	7		8D016-6	1172371.26	1040731.62	318.517	Rad
192	37	7		8D016-7	1172340.26	1040731	318.971	Rad
193	38	7		8D016-8	1172396.1	1040732.48	318.164	Rad
194	39	7		8D016-9	1172396.98	1040763.2	318.028	Rad
195	40	7	8E003	8E003-1	1172620.001	1040915.678	318.31	Rad
196	41	7		8E003-2	1172644.818	1040931.131	318.95	Rad
197	42	7		8E003-3	1172620.074	1040947.709	318.76	Rad
198	43	7		8E003-4	1172601.474	1040932.238	317.71	Rad
199	44	7	TB802_01	TB802_01-1	1172354.249	1040778.331	319.51	Rad
200	45	7		TB802_01-2	1172367.741	1040810.818	320.56	Rad
201	46	7		TB802_01-3	1172354.436	1040844.284	319.38	Rad
202	47	7		TB802_01-4	1172321.497	1040809.868	320.05	Rad
203	48	7		TB802_01-5	1172341.94	1040765.54	319.002	Rad
204	49	7		TB802_01-6	1172367.33	1040760.44	318.29	Rad
205	50	7	TB802A_01	TB802A_01-1	1172267.705	1040777.419	319.32	Rad
206	51	7		TB802A_01-2	1172299.082	1040809.423	319.73	Rad
207	52	7		TB802A_01-3	1172266.436	1040842.246	318.73	Rad
208	53	7		TB802A_01-4	1172235.124	1040809.521	318.82	Rad
209	54	7	GWS-06	GWS-06	1172270.564	1040673.596	317.7	Rad
210	55	7		GWS-06-1	1172240.94	1040668.81	317.134	Rad
211	56	7		GWS-06-2	1172280.59	1040673.94	317.674	Rad
212	57	7		GWS-06-3	1172267.59	1040688.41	317.699	Rad
213	58	7	GWS-04	GWS-04	1172618.956	1041063.36	319.16	Rad
214	59	7	GWS-07	GWS-07	1172302.849	1041089.328	315.85	Rad
215	1	8	308	308-1	1172496.18	1042196.159	319.07	Rad/Chem
216	2	8		308-2	1172486.428	1042211.74	319.01	Rad/Chem
217	3	8	309	309-1	1172495.644	1042053.157	319.26	Chem

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Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
218	4	8	312	312-1	1172223.899	1041604.247	318.35	Rad
219	5	8		312-2	1172237.196	1041619.79	318.46	Rad
220	6	8		312-3	1172206.69	1041620.061	318.23	Rad
221	7	8		312-4	1172230.17	1041646.96	318.725	Rad
222	8	8		312-5	1172202.24	1041660.27	317.82	Rad
223	9	8	314	314-1	1172567.604	1042345.748	318.93	Rad
224	10	8		314-2	1172583.061	1042361.396	319.68	Rad
225	11	8		314-3	1172566.144	1042377.937	319.3	Rad
226	12	8		314-4	1172551.257	1042361.603	319.52	Rad
227	13	8	3A002	3A002-1	1172432.348	1041609.712	318.95	Rad
228	14	8		3A002-2	1172448.385	1041625.429	318.76	Rad
229	15	8		3A002-3	1172432.051	1041641.829	318.74	Rad
230	16	8		3A002-4	1172416.82	1041624.527	319.05	Rad
231	17	8	3A005	3A005-1	1172395.065	1041656.429	318.72	Rad
232	18	8		3A005-2	1172411.68	1041673.281	318.91	Rad
233	19	8		3A005-3	1172394.537	1041688.987	318.84	Rad
234	20	8		3A005-4	1172375.231	1041671.808	318.98	Rad
235	21	8	3A006	3A006-1	1172354.3	1041579.71	318.98	Rad
236	22	8		3A006-2	1172370.581	1041594.53	318.95	Rad
237	23	8		3A006-3	1172354.052	1041612.084	318.72	Rad
238	24	8		3A006-4	1172338.226	1041595.554	318.51	Rad
239	25	8	3A007	3A007-1	1172371.133	1041634.109	318.78	Rad
240	26	8		3A007-2	1172355.151	1041650.659	318.69	Rad
241	27	8		3A007-3	1172337.532	1041631.508	318.17	Rad
242	28	8	3A013	3A013-1	1172239.106	1041661.138	318.56	Rad
243	29	8		3A013-2	1172224.468	1041676.764	318.52	Rad
244	30	8	3A017	3A017-1	1172423.521	1041478.153	317.59	Rad
245	31	8		3A017-2	1172455.057	1041511.223	318.96	Rad
246	32	8		3A017-3	1172423.192	1041546.539	318.42	Rad
247	33	8		3A017-4	1172391.663	1041508.193	318.61	Rad
248	34	8		3A017-5	1172471.48	1041511.25	319.033	Rad
249	35	8		3A017-6	1172506.56	1041545.53	318.727	Rad
250	36	8		3A017-7	1172405.8	1041550.26	318.767	Rad
251	37	8	3A020	3A020-1	1172337.5	1041508.038	318.98	Rad
252	38	8		3A020-3	1172338.049	1041557.522	318.16	Rad
253	39	8		3A020-4	1172304.84	1041540.537	319.06	Rad
254	40	8		3A020-5	1172325.37	1041542.23	318.684	Rad
255	41	8	3A023	3A023-1	1172487.958	1041549.943	318.03	Rad
256	42	8		3A023-2	1172455.291	1041560.867	318.49	Rad
257	43	8		3A023-3	1172423.561	1041561.101	318.18	Rad
258	44	8	3B003	3B003-1	1172187.175	1041853.583	318.67	Rad
259	45	8		3B003-2	1172172.617	1041839.288	318.46	Rad
260	46	8		3B003-3	1172170.51	1041863.24	318.765	Rad
261	47	8		3B003-4	1172164.96	1041852.2	0	Rad
262	48	8	3B004	3B004-1	1172170.882	1041877.784	318.39	Rad
263	49	8		3B004-2	1172189.017	1041892.135	318.81	Rad
264	50	8		3B004-3	1172171.77	1041911.474	318.31	Rad
265	51	8	3B011	3B011-1	1172163.774	1041778.787	318.68	Rad
266	52	8		3B011-2	1172144.025	1041810.696	318.89	Rad
267	53	8		3B011-3	1172183.7	1041811.51	318.506	Rad
268	54	8		3B011-4	1172162.6	1041852.47	318.771	Rad
269	55	8	3B013	3B013-1	1172081.318	1041785.194	318.16	Rad
270	56	8		3B013-2	1172091.081	1041803.692	318.48	Rad
271	57	8		3B013-3	1172080.07	1041818.726	318.53	Rad
272	58	8		3B013-4	1172064.736	1041802.153	318.68	Rad

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Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
273	59	8	3B015	3B015-1	1171889.634	1041957.013	317.47	Rad
274	60	8		3B015-2	1171901.764	1041971.666	317.05	Rad
275	61	8		3B015-3	1171888.267	1041982.21	315.54	Rad
276	62	8		3B015-4	1171873.437	1041970.791	317.11	Rad
277	63	8	3C006	3C006-1	1172495.413	1042087.527	319.44	Rad/Chem
278	64	8		3C006-2	1172511.471	1042103.876	319.23	Rad/Chem
279	65	8		3C006-3	1172496.034	1042102.712	319.16	Rad/Chem
280	66	8		3C006-4	1172491.89	1042121.93	319.034	Chem
281	67	8	3C007	3C007-1	1172513.376	1042159.759	319.18	Rad/Chem
282	68	8		3C007-2	1172486.774	1042161.015	319.1	Rad/Chem
283	69	8	3C008	3C008-1	1172508.706	1042239.515	319.07	Rad/Chem
284	70	8		3C008-2	1172493.347	1042255.498	319.22	Rad
285	71	8		3C008-3	1172485.784	1042236.845	319.17	Rad
286	72	8	3C011	3C011-1	1172393.726	1042145.757	319.44	Chem
287	73	8	3C014	3C014-1	1172353.867	1042166.582	319	Rad
288	74	8		3C014-2	1172388.753	1042191.071	319.21	Rad
289	75	8		3C014-3	1172355.446	1042221.915	319.11	Rad
290	76	8		3C014-4	1172326.12	1042190.479	317.82	Rad
291	77	8		3C014-5	1172348.72	1042190.53	319.202	Rad
292	78	8		3C014-6	1172357.02	1042202.82	318.617	Rad
293	79	8	3D001	3D001-1	1172113.886	1042482.873	318.75	Rad
294	80	8		3D001-2	1172129.744	1042494.934	319.7	Rad
295	81	8		3D001-3	1172112.866	1042513.72	319.56	Rad
296	82	8		3D001-4	1172098.37	1042495.455	319.75	Rad
297	83	8	3D004	3D004-1	1172398.268	1042486.174	319.97	Rad
298	84	8		3D004-2	1172429.681	1042519.651	319.24	Rad
299	85	8		3D004-3	1172395.177	1042537.118	319.62	Rad
300	86	8		3D004-4	1172365.974	1042518.89	319.38	Rad
301	87	8		3D004-5	1172398.01	1042513.62	319.882	Rad
302	88	8	3D006	3D006-1	1172485.991	1042335.827	319.44	Rad/Chem
303	89	8		3D006-2	1172497.162	1042352.492	319.53	Rad/Chem
304	90	8		3D006-3	1172483.92	1042378.069	319.66	Rad
305	91	8		3D006-4	1172467.203	1042350.975	319.87	Rad
306	92	8		3D006-5	1172498.75	1042317.9	319.355	Chem
307	93	8		3D006-6	1172500.68	1042297.96	319.088	Chem
308	94	8	3D007	3D007-1	1172531.255	1042314.834	319.26	Rad
309	95	8		3D007-2	1172530.615	1042346.015	319.29	Rad
310	96	8		3D007-3	1172520.762	1042331.054	319.48	Rad/Chem
311	97	8	TB301_01	TB301_01-1	1172125.558	1041873.994	318.99	Rad
312	98	8		TB301_01-2	1172124.71	1041904.014	318.08	Rad
313	99	8		TB301_01-3	1172109.799	1041890.013	318.31	Rad
314	100	8	SP-18	SP-18	1171962.359	1042193.724	0	Rad
315	101	8		SP-18-1	1171945.68	1042193.94	319	Rad
316	102	8		SP-18-2	1171961.03	1042183.81	319.6	Rad
317	103	8		SP-18-3	1171972.39	1042186.23	318.646	Rad
318	104	8		SP-18-4	1171959.86	1042200.86	318.834	Rad
319	105	8	GWS-15	GWS-15	1171982.183	1042355.816	319.34	Rad
320	106	8	GWS-26	GWS-26	1171945.5	1042386.61	318.246	Rad
321	1	9	913	913-1	1171048.112	1040427.67	316.06	Rad
322	2	9		913-2	1171028.672	1040443.437	317.69	Rad
323	3	9		913-3	1171017.058	1040429.221	316.51	Rad
324	1	10	TWP937	TWP937-1	1172052.898	1040731.367	316.51	Rad
325	2	10		TWP937-2	1172069.231	1040746.237	317	Rad
326	3	10		TWP937-3	1172053.001	1040761.282	316.72	Rad
327	4	10		TWP937-4	1172037.921	1040744.926	316.13	Rad

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Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
328	1	11	2A003	2A003-1	1171163.022	1041709.757	318.28	Chem
329	2	11		2A003-2	1171241.158	1041709.833	318.63	Chem
330	3	11		2A003-3	1171195.791	1041697.987	318.78	Chem
331	4	11		2A003-4	1171261.82	1041711.54	0	Chem
332	5	11		2A003-5	1171125.09	1041711.54	0	Chem
333	6	11	2A006	2A006-1	1171380.331	1041545.914	318.93	Rad
334	7	11		2A006-2	1171395.969	1041551.555	318.55	Rad
335	8	11		2A006-3	1171374.722	1041576.141	317.98	Rad
336	9	11		2A006-4	1171364.085	1041552.584	318.35	Rad
337	10	11		2A006-5	1171348.28	1041556.71	319.047	Rad
338	11	11		2A006-6	1171414.66	1041555.36	317.566	Rad
339	12	11	826	826-1	1170530.042	1041067.251	318.82	Rad
340	13	11		826-2	1170565.878	1041097.874	316.05	Rad
341	14	11		826-3	1170528.665	1041129.258	318.89	Rad
342	15	11		826-4	1170510.761	1041096.652	318.56	Rad
343	16	11	827	827-1	1170661.905	1041541.604	319.74	Rad
344	17	11		827-2	1170681.129	1041551.181	319.26	Rad
345	18	11		827-3	1170664.41	1041568.038	319.04	Rad
346	19	11		827-4	1170647.709	1041551.273	319.68	Rad
347	20	11		827-5	1170664.89	1041509.208	319.36	Rad
348	21	11	830	830-1	1170541.378	1041638.924	319.27	Rad
349	22	11		830-2	1170572.461	1041654.534	319.14	Rad
350	23	11	8A004	8A004-1	1171507.306	1041463.194	319.12	Rad
351	24	11		8A004-2	1171521.249	1041478.382	318.88	Rad
352	25	11		8A004-3	1171505.793	1041496.681	317.96	Rad
353	26	11		8A004-4	1171491.051	1041479.081	318.58	Rad
354	27	11		8A004-5	1171464.44	1041482.56	318.577	Rad
355	28	11		8A004-6	1171462.07	1041460.73	319.037	Rad
356	29	11		8A004-7	1171494.53	1041448.06	318.972	Rad
357	30	11	8A009	8A009-1	1170536.677	1040739.036	318.88	Rad
358	31	11		8A009-2	1170552.982	1040756.054	318.41	Rad
359	32	11		8A009-3	1170535.711	1040771.608	318.95	Rad
360	33	11		8A009-4	1170520.868	1040755.354	319.26	Rad
361	34	11	8H001	8H001-1	1170730.607	1041512.275	319.32	Rad
362	35	11		8H001-2	1170745.088	1041538.804	319.46	Rad
363	36	11		8H001-3	1170731.347	1041556.752	318.65	Rad
364	37	11		8H001-4	1170714.302	1041538.667	319.67	Rad
365	38	11		8H001-5	1170745.256	1041553.612	318.52	Rad
366	39	11		8H001-6	1170713.426	1041552.474	318.56	Rad
367	40	11	8H002	8H002-1	1170974.013	1041509.867	319.31	Rad
368	41	11		8H002-2	1171005.028	1041549.798	318.45	Rad
369	42	11		8H002-3	1170974.346	1041574.269	317.58	Rad
370	43	11		8H002-4	1170942.744	1041545.949	318.92	Rad
371	44	11	TB810_03	TB810_03-1	1171650.569	1041273.446	316.85	Rad
372	45	11		TB810_03-2	1171666.204	1041303.441	316.91	Rad
373	46	11		TB810_03-3	1171650.193	1041336	317.78	Rad
374	47	11		TB810_03-4	1171617.809	1041304.035	317.07	Rad
375	48	11	TS812_04	TS812_04-1	1170587.315	1041661.552	319.4	Rad
376	49	11		TS812_04-2	1170604.789	1041677.952	319.31	Rad
377	50	11		TS812_04-3	1170588.372	1041693.774	319.14	Rad
378	51	11		TS812_04-4	1170570.647	1041677.649	319.22	Rad
379	52	11	SP-09	SP-09	1171504.588	1041513.684	318.9	Rad
380	53	11	SP-17	SP-17	1170597.832	1041640.907	319.24	Rad
381	54	11	GWS-11	GWS-11	1170578.77	1041640.129	319.27	Rad
382	55	11		GWS-11-1	1170576.25	1041633.07	319.199	Rad
383	56	11	GWS-12	GWS-12	1170513.623	1041271.606	318.81	Rad
384	57	11	GWS-13	GWS-13	1170526.622	1041313.803	319.12	Rad

TABLE 4
DELINEATION SOIL BORING SUMMARY TABLE
NIAGARA FALLS STORAGE SITE

Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
385	58	11	MH-06	MH06-01	1171145.493	1041239.173	0	Rad
386	59	11		MH06-02	1171145.493	1041271.981	0	Rad
387	60	11		MH06-03	1171145.493	1041304.789	0	Rad
388	61	11		MH06-04	1171144.173	1041337.349	315.98	Rad
389	62	11		MH06-05	1171145.269	1041373.352	317.45	Rad
390	63	11		MH06-06	1171144.881	1041406.933	318.08	Rad
391	64	11		MH06-07	1171144.875	1041438.486	318.12	Rad
392	65	11		MH06-08	1171144.409	1041472.439	318.05	Rad
393	66	11		MH06-09	1171142.197	1041501.281	318.58	Rad
394	67	11		MH06-10	1171177.882	1041242.343	316.95	Rad
395	68	11		MH06-11	1171177.366	1041305.471	318.05	Rad
396	69	11		MH06-12	1171177.363	1041337.869	315.98	Rad
397	70	11		MH06-13	1171177.847	1041370.641	316.31	Rad
398	71	11		MH06-14	1171177.443	1041404.007	317.21	Rad
399	72	11		MH06-15	1171177.216	1041436.567	317.76	Rad
400	73	11		MH06-16	1171177.285	1041469.92	318.15	Rad
401	74	11		MH06-17	1171176.549	1041501.766	318.63	Rad
402	75	11		MH06-18	1171210.726	1041240.119	317.18	Rad
403	76	11		MH06-19	1171210.209	1041306.486	317.75	Rad
404	77	11		MH06-20	1171209.943	1041337.809	315.87	Rad
405	78	11		MH06-21	1171210.548	1041370.652	315.89	Rad
406	79	11		MH06-22	1171209.739	1041403.542	316.6	Rad
407	80	11		MH06-23	1171210.204	1041468.44	317.77	Rad
408	81	11		MH06-24	1171210.023	1041436.601	317.23	Rad
409	82	11		MH06-25	1171243.452	1041240.226	317.35	Rad
410	83	11		MH06-26	1171242.949	1041305.923	318.1	Rad
411	84	11		MH06-27	1171243.334	1041338.224	316.49	Rad
412	85	11		MH06-28	1171243.181	1041374.475	315.75	Rad
413	86	11		MH06-29	1171243.068	1041403.918	316.06	Rad
414	87	11		MH06-30	1171243.209	1041436.867	316.75	Rad
415	88	11		MH06-31	1171243.135	1041468.908	317.56	Rad
416	89	11		MH06-32	1171275.938	1041305.632	318.86	Rad
417	90	11		MH06-33	1171275.008	1041338.816	318.29	Rad
418	91	11		MH06-34	1171275.821	1041403.218	316.46	Rad
419	92	11		MH06-35	1171275.7	1041469.275	317.45	Rad
420	1	12	205	205-1	1171284.284	1042501.757	317.88	Rad
421	2	12		205-2	1171300.493	1042514.622	319.93	Rad
422	3	12		205-3	1171284.5	1042532.708	319.86	Rad
423	4	12		205-4	1171269.876	1042515.436	319.72	Rad
424	5	12	218	218-1	1171651.7	1041732.248	317.12	Rad
425	6	12		218-2	1171668.405	1041748.945	316.93	Rad
426	7	12		218-3	1171653.904	1041765.165	317.07	Rad
427	8	12		218-4	1171636.671	1041749.15	317.19	Rad
428	9	12	219	219-1	1171830.609	1041887.566	317.94	Rad
429	10	12		219-2	1171839.653	1041915.379	317.85	Rad
430	11	12		219-3	1171828.752	1041921.921	318.28	Rad
431	12	12		219-4	1171815.635	1041904.921	317.92	Rad
432	13	12	2A008	2A008-1	1171656.573	1041551.276	317.1	Rad
433	14	12		2A008-2	1171695.744	1041557.635	316.24	Rad
434	15	12		2A008-3	1171656.772	1041591.668	317.75	Rad
435	16	12		2A008-4	1171625.181	1041556.258	316.41	Rad
436	17	12		2A008-5	1171589.53	1041555.13	316.997	Rad
437	18	12		2A008-6	1171730.21	1041553.54	316.99	Rad
438	19	12		2A008-7	1171695.01	1041597.99	317.004	Rad
439	20	12		2A008-8	1171616.99	1041594.94	317.211	Rad

TABLE 4
DELINEATION SOIL BORING SUMMARY TABLE
NIAGARA FALLS STORAGE SITE

Total No. of Borings	Borings Per Area	EU	Original Boring Area	Boring ID	Northing	Easting	Elevation	Analysis
440	21	12	2B002	2B002-1	1171356.773	1042174.26	317.13	Chem
441	22	12		2B002-2	1171284.071	1042174.379	317.4	Chem
442	23	12		2B002-3	1171323.12	1042143.99	317.748	Chem
443	24	12		2B002-4	1171321.89	1042186.79	317.572	Chem
444	25	12	2D012	2D012-1	1171382.939	1042545.274	320.24	Rad
445	26	12		2D012-2	1171400.175	1042556.689	319.27	Rad
446	27	12		2D012-4	1171368.412	1042558.232	320.12	Rad
447	28	12	2D013	2D013-1	1171465.379	1042528.407	318.74	Rad
448	29	12		2D013-2	1171479.605	1042536.251	318.34	Rad
449	30	12		2D013-4	1171448.285	1042535.796	318.91	Rad
450	31	12	GWS-27	GWS-27	1171342.7	1042234.61	317.098	Rad
451	1	13	203	203-1	1171261.422	1041890.051	319.52	Rad
452	2	13		203-2	1171277.356	1041906.125	319.05	Rad
453	3	13		203-3	1171261.755	1041921.571	319.41	Rad
454	4	13		203-4	1171245.215	1041906.189	320.83	Rad
455	5	13	220	220-1	1171571.291	1041726.1	319.09	Rad
456	6	13		220-2	1171587.257	1041741.199	318.82	Rad
457	7	13		220-3	1171570.874	1041756.259	319.19	Rad
458	8	13		220-4	1171549.101	1041738.734	319.1	Rad
459	9	13	221	221-1	1171341.619	1041936.31	319.16	Rad
460	10	13		221-2	1171360.113	1041974.123	319.23	Rad
461	11	13		221-3	1171342.176	1041975.477	319.47	Rad
462	12	13		221-4	1171327.23	1041971.063	319.45	Rad
463	13	13	GWS-14	GWS-14	1171402.294	1041958.817	319.12	Rad
464	1	14	2B014	2B014-1	1171129.647	1041927.492	312.77	Rad
465	2	14		2B014-2	1171150.358	1041942.706	316.59	Rad
466	3	14		2B014-3	1171129.533	1041961.658	317.28	Rad
467	4	14		2B014-4	1171121.673	1041944.532	317.03	Rad
468	5	14	816	816-1	1170499.051	1042529.429	319.23	Rad
469	6	14		816-2	1170514.928	1042547.679	319.47	Rad
470	7	14		816-3	1170499.176	1042564.931	319.44	Rad
471	8	14		816-4	1170490.105	1042547.84	319.54	Rad
472	9	14	8B001	8B001-1	1170513.447	1042470.358	319.08	Rad
473	10	14		8B001-2	1170532.081	1042486.54	318.93	Rad
474	11	14		8B001-3	1170513.472	1042503.176	319.03	Rad
475	12	14		8B001-4	1170497.156	1042485.901	318.83	Rad
476	13	14		8B001-5	1170532.34	1042476.76	318.753	Rad
477	14	14		8B001-6	1170544.2	1042488.75	317.924	Rad
478	15	14		8B001-7	1170536.54	1042500.92	318.623	Rad

TABLE 5

DELINEATION SOIL BORING ANALYTICAL SCHEDULE

NIAGARA FALLS STORAGE SITE

PARAMETER	METHOD[1]
Isotopic Uranium-234, 235/236 and 238	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Radium- 226	EPA 901.1 / DOE HASL 300 Ga-01-R, Gamma Spectroscopy
Isotopic Thorium -228, 230 and 232	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Polyaromatic Hydrocarbons (PAHs)	EPA SW846 8270D, GC/MS-SIM

(1) When limited volume of sample was available, the priority of analysis was, from highest to lowest priority: radiation parameters, PAHs, QA/QC duplicates, QA/QC MD, QA/QC MS, QA/QC MSD.

TABLE 6

INVESTIGATIVE EXCAVATION SOIL AND GROUNDWATER ANALYTICAL SCHEDULE

NIAGARA FALLS STORAGE SITE

PARAMETER	GROUNDWATER	SOIL	METHOD
Mass Uranium (Total-U)	4 filtered	24 samples	ASTM D5174-02, Trace Uranium by Pulsed-Laser Phosphorimetry
Isotopic Uranium-234, 235/236 and 238	4 filtered	24 samples	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Radium- 226	4 filtered	24 samples	EPA 903.1, Radon Emanation/EPA 901.1 - soil only
Isotopic Thorium – 228, 230 and 232	4 filtered	24 samples	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Anions (unfiltered only)	4 unfiltered	NA	EPA 300.0, Ion Chromatography
Total Dissolved Solids (unfiltered only)	4 unfiltered	NA	EPA 160.1
Alkalinity (unfiltered) (bicarbonate and carbonate)	4 unfiltered	NA	EPA 310.1

(1) Groundwater samples were filtered using disposable 0.45 micron in-line field filters.

(2) NA – not applicable

TABLE 7
SOLID AND LIQUID INVESTIGATIVE-DERIVED WASTE ANALYTICAL SCHEDULE
NIAGARA FALLS STORAGE SITE

PARAMETER	SOLID	LIQUID	METHOD
Mass Uranium (Total-U)	7 samples	NA	ASTM D5174-02, Trace Uranium by Pulsed-Laser Phosphorimetry
Isotopic Uranium-234, 235/236 and 238	7 samples	1 sample	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Radium- 226	7 samples	1 sample	EPA 901.1 / DOE HASL 300 Ga-01-R, Gamma Spectroscopy
Isotopic Thorium -228, 230 and 232	7 samples	1 sample	DOE EML HASL-300 A-01-R, Alpha Spectroscopy
Actinium-227, Cesium-137	NA	1 sample	EPA 901.1 / DOE HASL 300 Ga-01-R, Gamma Spectroscopy
Other Gamma Radionuclides[1]	NA	1 sample	EPA 901.1 / DOE HASL 300 Ga-01-R, Gamma Spectroscopy
Metals, including Boron, Lithium, Molybdenum	NA	1 sample	EPA SW846 6020A/7470A
Total Lead	1 sample	NA	EPA SW846 6020A
Total Uranium	NA	1 sample	EPA SW846 6020A
Volatile Organic Compounds (VOCs)	NA	1 sample	EPA SW846 8260C
Semi-Volatile Organic Compounds (SVOCs)	NA	1 sample	EPA SW846 8270D
Pesticides	NA	1 sample	EPA SW846 8081B
Herbicides	NA	1 sample	EPA SW846 8151A
Polychlorinated Biphenyls (PCBs)	3 samples	NA	EPA SW846 8082A
TCLP VOCs	1 sample	1 sample	EPA SW846 1311/8260C
TCLP SVOCs	1 sample	1 sample	EPA SW846 1311/8270D
TCLP Pesticides	1 sample	1 sample	EPA SW846 1311/8081B
TCLP Herbicides	1 sample	1 sample	EPA SW846 1311/8151A
TCLP Metals	1 sample	1 sample	EPA SW846 1311/6010C/7470A
Reactive Cyanide	1 sample	NA	EPA SW846 9012
Reactive Sulfide	1 sample	NA	EPA SW846 9034
Paint Filter Test	1 sample	1 sample	EPA SW846 9056
Corrosivity (as pH)	1 sample	1 sample	EPA SW846 9040B/9045D
Oil & Grease	NA	1 sample	EPA 1664A
Total Organic Carbon	NA	1 sample	EPA 415.1
Total Phosphorus	NA	1 sample	EPA SW846 6020A
Total Suspended Solids	NA	1 sample	EPA 160.2

(1) Other gamma radionuclides include: Actinium-228, Bismuth-212, Bismuth-214, Lead-210, Lead-212, Lead-214, Potassium-40, Protactinium-231, Ra--226, Ra-228, Thallium-208, Thorium-232, Thorium-234, Uranium-235, and Uranium-238.

NA - Not analyzed

TABLE 8
EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
503 AREA

LOCATION ID				503-1	503-1	503-1FD	503-1
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.935	0.923	0.982	0.901
Thorium-230	PCI/G	18	55	0.982	0.927	0.889	0.841
Uranium-238	PCI/G	115	346	33.5	38.3	32.4	11.0

LOCATION ID				503-2	503-2	503-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.810	0.924	0.910
Thorium-230	PCI/G	18	55	0.848	0.800	0.771
Uranium-238	PCI/G	115	346	6.04	7.18	3.78

LOCATION ID				503-3	503-3	503-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.711	0.752	0.907
Thorium-230	PCI/G	18	55	0.777	0.724	0.833
Uranium-238	PCI/G	115	346	21.0	5.57	1.68

LOCATION ID				503-4	503-4	503-4FD	503-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.03	0.957	0.945	1.09
Thorium-230	PCI/G	18	55	1.18	1.09	0.801	0.893
Uranium-238	PCI/G	115	346	4.05	4.86	3.23	2.73

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 8
EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
504 AREA

LOCATION ID				504-1	504-1	504-1FD	504-1
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.68	1.81	1.35	0.923
Thorium-230	PCI/G	18	55	1.45	0.795	0.85	0.938
Uranium-238	PCI/G	115	346	1.47	1.98	2.01	0.978

LOCATION ID				504-2	504-2	504-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.93	2.16	0.792
Thorium-230	PCI/G	18	55	2.64	2.72	0.816
Uranium-238	PCI/G	115	346	1.52	1.21	0.829

LOCATION ID				504-3	504-3	504-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.93	0.811	0.811
Thorium-230	PCI/G	18	55	3.41	0.835	0.751
Uranium-238	PCI/G	115	346	1.56	1.19	0.829

LOCATION ID				504-4	504-4	504-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.26	1.63	0.759
Thorium-230	PCI/G	18	55	1.70	1.07	0.67
Uranium-238	PCI/G	115	346	1.67	1.37	1.11

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 8
EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
5A010 AREA

LOCATION ID				5A010-1	5A010-1	5A010-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.36	1.04	1.08
Thorium-230	PCI/G	18	55	4.04	1.00	0.928
Uranium-238	PCI/G	115	346	3.3	1.24	0.77

LOCATION ID				5A010-2	5A010-2	5A010-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.02***	1.69	0.958
Thorium-230	PCI/G	18	55	4.38	1.12	0.773
Uranium-238	PCI/G	115	346	3.59	1.51	1.16

LOCATION ID				5A010-3	5A010-3	5A010-3	5A010-3FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	0.5 - 2
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							Duplicate
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.21	0.963	0.901	1.05
Thorium-230	PCI/G	18	55	1.74	0.927	0.91	0.979
Uranium-238	PCI/G	115	346	1.14	0.743	0.702	0.707

LOCATION ID				5A010-4	5A010-4	5A010-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.97	2.07	1.14
Thorium-230	PCI/G	18	55	2.53	0.925	0.681
Uranium-238	PCI/G	115	346	1.97	1.12	1.07

LOCATION ID				5A010-5	5A010-5	5A010-5
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.91	1.35	1.05
Thorium-230	PCI/G	18	55	1.35	1.07	1.00
Uranium-238	PCI/G	115	346	1.23	0.955	0.861

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 8

EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
5A016 AREA

LOCATION ID				5A016-1	5A016-1	5A016-1FD	5A016-1
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.889	0.781	0.794	0.847
Thorium-230	PCI/G	18	55	0.917	0.776	0.834	0.911
Uranium-238	PCI/G	115	346	0.695	0.955	0.969	0.872

LOCATION ID				5A016-2	5A016-2	5A016-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.86	1.62	1.00
Thorium-230	PCI/G	18	55	9.05	1.71	0.919
Uranium-238	PCI/G	115	346	1.48	1.06	0.686

LOCATION ID				5A016-3	5A016-3	5A010-3FD	5A016-3
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/20/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.967	1.26	1.05	0.887
Thorium-230	PCI/G	18	55	0.998	0.797	0.979	0.710
Uranium-238	PCI/G	115	346	1.14	1.06	0.707	0.938

LOCATION ID				5A016-4	5A016-4	5A016-4FD	5A016-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.10	3.29	1.53	0.766
Thorium-230	PCI/G	18	55	1.19	3.66	1.66	0.696
Uranium-238	PCI/G	115	346	0.938	1.95	1.18	0.528

LOCATION ID				5A016-5	5A016-5	5A016-5
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.27	1.02	1.10
Thorium-230	PCI/G	18	55	0.995	1.02	0.859
Uranium-238	PCI/G	115	346	0.961	0.599	0.906

LOCATION ID				5A016-6	5A016-6	5A016-6
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.27	2.30	0.75
Thorium-230	PCI/G	18	55	1.10	3.05	0.839
Uranium-238	PCI/G	115	346	1.06	0.823	0.905

TABLE 8

EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
5A016 AREA

LOCATION ID				5A016-7	5A016-7	5A016-7
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.14	2.54	0.668
Thorium-230	PCI/G	18	55	6.46	4.17	0.955
Uranium-238	PCI/G	115	346	2.22	2.2	0.963

LOCATION ID				5A016-8	5A016-8	5A016-8
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.16	1.52	1.19
Thorium-230	PCI/G	18	55	1.23	1.79	0.827
Uranium-238	PCI/G	115	346	1.02	0.669	0.829

LOCATION ID				5A016-9	5A016-9	5A016-9FD	5A016-9
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.93	0.840	0.835	0.935
Thorium-230	PCI/G	18	55	2.02	0.853	0.789	0.771
Uranium-238	PCI/G	115	346	2.07	0.691	0.672	0.689

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soil: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soil: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 8
EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
5A021 AREA

LOCATION ID				5A021-1	5A021-1	5A021-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.94***	0.819	1.01
Thorium-230	PCI/G	18	55	5.22	0.915	0.908
Uranium-238	PCI/G	115	346	4.28	1.06	0.807

LOCATION ID				5A021-2	5A021-2	5A021-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.10	1.49	0.792
Thorium-230	PCI/G	18	55	1.37	1.19	0.789
Uranium-238	PCI/G	115	346	1.06	1.11	0.708

LOCATION ID				5A021-3	5A021-3	5A021-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.47	1.40	0.77
Thorium-230	PCI/G	18	55	1.54	0.830	0.825
Uranium-238	PCI/G	115	346	1.72	1.05	0.881

LOCATION ID				5A021-4	5A021-4	5A021-4	5A021-4FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	0.5 - 2
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							Duplicate
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.54	0.881	0.716	0.847
Thorium-230	PCI/G	18	55	1.93	0.968	0.755	0.98
Uranium-238	PCI/G	115	346	1.48	0.803	0.749	0.772

LOCATION ID				5A021-5	5A021-5	5A021-5
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.69	0.703	0.966
Thorium-230	PCI/G	18	55	1.06	0.81	0.743
Uranium-238	PCI/G	115	346	0.930	0.815	0.676

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 8
EU1 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU1
SP-13 AREA

LOCATION ID				SP-13	SP-13	SP-13
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.35	1.03	0.786
Thorium-230	PCI/G	18	55	1.55	0.895	0.766
Uranium-238	PCI/G	115	346	***71.4***	***38.1***	2.92

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
404 AREA

LOCATION ID				404-1	404-1	404-1FD	404-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.12	1.05	1.06	2.16
Thorium-230	PCI/G	18	55	1.93	1.29	1.060	2.30
Uranium-238	PCI/G	115	346	1.000	0.740	0.812	1.53

LOCATION ID				404-2	404-2	404-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.96	2.04	0.934
Thorium-230	PCI/G	18	55	2.71	2.91	0.784
Uranium-238	PCI/G	115	346	1.14	1.24	4.55

LOCATION ID				404-3	404-3	404-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.22	3.81	1.57
Thorium-230	PCI/G	18	55	2.38	4.38	1.34
Uranium-238	PCI/G	115	346	0.933	3.5	1.19

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID				4A003-1	4A003-1	4A003-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.78	0.872	1.06
Thorium-230	PCI/G	18	55	1.57	0.932	0.730
Uranium-238	PCI/G	115	346	0.691	0.693	0.933

LOCATION ID				4A003-2	4A003-2	4A003-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.33	1.12	1.05
Thorium-230	PCI/G	18	55	1.43	0.788	0.729
Uranium-238	PCI/G	115	346	0.709	0.634	0.606

LOCATION ID				4A003-3	4A003-3	4A003-3FD	4A003-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.07	0.901	0.857	1.11
Thorium-230	PCI/G	18	55	1.23	0.799	0.581	0.715
Uranium-238	PCI/G	115	346	0.73	0.622	0.608	0.702

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
4A007 AREA

LOCATION ID				4A007-1	4A007-1	4A007-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.50	1.09	1.02
Thorium-230	PCI/G	18	55	1.54	1.27	0.716
Uranium-238	PCI/G	115	346	0.740	0.632	0.644

LOCATION ID				4A007-2	4A007-2FD	4A007-2	4A007-2
DEPTH (Feet)				0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					Duplicate		
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.72	1.56	3.65	3.17
Thorium-230	PCI/G	18	55	1.43	1.61	2.95	3.29
Uranium-238	PCI/G	115	346	0.780	0.732	2.55	3.42

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
4A013 AREA

LOCATION ID				4A013-1	4A013-1	4A013-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.61***	3.82	3.66
Thorium-230	PCI/G	18	55	9.94	6.27	4.750
Uranium-238	PCI/G	115	346	3.27	3.57	4.47

LOCATION ID				4A013-2	4A013-2	4A013-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.32	1.00	1.10
Thorium-230	PCI/G	18	55	2.14	0.817	0.617
Uranium-238	PCI/G	115	346	0.721	0.640	0.963

LOCATION ID				4A013-3	4A013-3	4A013-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.99	1.58	0.692
Thorium-230	PCI/G	18	55	1.44	0.901	0.771
Uranium-238	PCI/G	115	346	0.709	0.854	0.769

LOCATION ID				4A013-4	4A013-4	4A013-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.09	1.12	2.58
Thorium-230	PCI/G	18	55	2.49	1.06	1.73
Uranium-238	PCI/G	115	346	0.727	0.756	1.58

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
4A013 AREA

LOCATION ID				4A013-5	4A013-5	4A013-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.18	1.25	3.54
Thorium-230	PCI/G	18	55	4.00	1.67	4.23
Uranium-238	PCI/G	115	346	0.94	0.696	1.07

LOCATION ID				4A013-6	4A013-6	4A013-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.14	2.48	1.58
Thorium-230	PCI/G	18	55	2.56	1.26	1.15
Uranium-238	PCI/G	115	346	1.36	1.03	1.45

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
4A014 AREA

LOCATION ID				4A014-1	4A014-1
DEPTH (Feet)				0 - 0.5	0.5 - 1.5
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	2.39	2.03
Thorium-230	PCI/G	18	55	2.37	2.63
Uranium-238	PCI/G	115	346	0.952	1.640

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
8F001 AREA

LOCATION ID				8F001-1	8F001-1	8F001-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.933	0.786	0.831
Thorium-230	PCI/G	18	55	0.698	0.875	0.747
Uranium-238	PCI/G	115	346	0.575	0.805	0.703

LOCATION ID				8F001-2	8F001-2	8F001-2FD	8F001-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.748	0.841	0.734	0.663
Thorium-230	PCI/G	18	55	0.746	0.757	0.844	0.849
Uranium-238	PCI/G	115	346	0.684	0.601	0.687	0.785

LOCATION ID				8F001-3	8F001-3	8F001-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.42	0.908	0.555
Thorium-230	PCI/G	18	55	1.35	0.850	0.707
Uranium-238	PCI/G	115	346	0.710	0.857	0.711

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
8F003 AREA

LOCATION ID				8F003-1	8F003-1	8F003-1FD	8F003-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.893	0.762	1.03	0.899
Thorium-230	PCI/G	18	55	0.800	0.833	0.544	0.756
Uranium-238	PCI/G	115	346	0.749	0.679	0.643	0.678

LOCATION ID				8F003-2	8F003-2	8F003-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.712	1.15	1.17
Thorium-230	PCI/G	18	55	0.645	0.832	0.869
Uranium-238	PCI/G	115	346	0.942	0.994	0.738

LOCATION ID				8F003-3	8F003-3	8F003-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.16	0.808	0.938
Thorium-230	PCI/G	18	55	0.846	0.737	0.809
Uranium-238	PCI/G	115	346	0.705	0.777	0.713

LOCATION ID				8F003-4	8F003-4	8F003-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.926	1.06	1.21
Thorium-230	PCI/G	18	55	0.815	0.751	0.784
Uranium-238	PCI/G	115	346	0.723	0.892	0.670

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
8F003 AREA

LOCATION ID				8F003-5	8F003-5	8F003-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.05	0.887	0.945
Thorium-230	PCI/G	18	55	0.723	0.689	0.770
Uranium-238	PCI/G	115	346	0.862	0.931	1.02

LOCATION ID				8F003-6	8F003-6	8F003-6	8F003-6FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							Duplicate
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.838	0.993	1.33	1.04
Thorium-230	PCI/G	18	55	0.766	0.748	0.645	0.810
Uranium-238	PCI/G	115	346	0.743	0.859	0.714	0.869

LOCATION ID				8F003-7	8F003-7	8F003-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.25	0.692	0.897
Thorium-230	PCI/G	18	55	0.815	0.717	0.728
Uranium-238	PCI/G	115	346	0.873	0.778	0.587

LOCATION ID				8F003-8	8F003-8	8F003-8
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.968	1.03	0.656
Thorium-230	PCI/G	18	55	0.713	0.731	0.862
Uranium-238	PCI/G	115	346	0.585	0.678	0.815

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
8F006 AREA

LOCATION ID				8F006-1	8F006-1	8F006-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.73	1.01	0.982
Thorium-230	PCI/G	18	55	1.34	0.754	0.956
Uranium-238	PCI/G	115	346	1.070	0.881	0.811

LOCATION ID				8F006-2	8F006-2	8F006-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.75	1.20	1.04
Thorium-230	PCI/G	18	55	1.63	0.802	0.888
Uranium-238	PCI/G	115	346	1.36	0.839	0.744

LOCATION ID				8F006-3	8F006-3	8F006-3FD	8F006-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.13	1.13	1.02	0.991
Thorium-230	PCI/G	18	55	0.879	0.701	0.932	1.01
Uranium-238	PCI/G	115	346	0.811	1.00	1.19	0.925

LOCATION ID				8F006-4	8F006-4	8F006-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.48	0.921	0.890
Thorium-230	PCI/G	18	55	1.23	0.969	0.747
Uranium-238	PCI/G	115	346	0.730	0.817	0.865

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
8F006 AREA

LOCATION ID				8F006-5	8F006-5	8F006-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.50	1.81	0.886
Thorium-230	PCI/G	18	55	2.34	0.886	0.644
Uranium-238	PCI/G	115	346	0.715	1.10	0.627

LOCATION ID				8F006-6	8F006-6	8F006-6FD	8F006-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						Duplicate	
DATE SAMPLED				12/9/2013	12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.87	2.33	2.70	0.742
Thorium-230	PCI/G	18	55	1.97	2.03	2.20	0.72
Uranium-238	PCI/G	115	346	2.04	1.12	1.30	0.903

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
GWS AREAS

LOCATION ID				GWS-02	GWS-02	GWS-02
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
QA/QC						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.33	1.41	1.21
Thorium-230	PCI/G	18	55	4.02	0.740	0.921
Uranium-238	PCI/G	115	346	3.10	0.865	1.00

LOCATION ID				GWS-03	GWS-03	GWS-03FD	GWS-03
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
QA/QC						Duplicate	
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.98	0.882	1.25	0.83
Thorium-230	PCI/G	18	55	3.65	0.759	1.05	0.974
Uranium-238	PCI/G	115	346	2.63	0.812	0.793	0.677

LOCATION ID				GWS-05	GWS-05	GWS-05
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
QA/QC						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.03	0.755	0.842
Thorium-230	PCI/G	18	55	1.22	1.06	0.789
Uranium-238	PCI/G	115	346	0.591	0.707	0.782

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 9
EU2 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU2
SP AREAS

LOCATION ID				SP-14	SP-14	SP-14FD	SP-14
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***8.6***	2.58	1.11	0.778
Thorium-230	PCI/G	18	55	7.06	1.05	1.21	0.806
Uranium-238	PCI/G	115	346	5.64	0.83	0.926	1.15

LOCATION ID				SP-14-1	SP-14-1FD	SP-14-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
QA/QC					Duplicate	
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.33	1.14	0.837
Thorium-230	PCI/G	18	55	1.39	0.776	1.320
Uranium-238	PCI/G	115	346	0.763	0.796	0.834

LOCATION ID				SP-16	SP-16	SP-16
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
QA/QC						
DATE SAMPLED				11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***7.83***	4.15	0.683
Thorium-230	PCI/G	18	55	5.99	3.14	0.804
Uranium-238	PCI/G	115	346	4.55	3.06	0.645

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B009 AREA

LOCATION ID				4B009-1	4B009-1
DEPTH (feet)				0.5 - 2	2 - 3
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	0.943	0.932
Thorium-230	PCI/G	18	55	0.835	0.806
Uranium-238	PCI/G	115	346	1.12	1.07

LOCATION ID				4B009-2	4B009-2	4B009-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.13	0.841	1.30
Thorium-230	PCI/G	18	55	1.33	1.20	0.673
Uranium-238	PCI/G	115	346	0.795	1.06	0.698

LOCATION ID				4B009-3	4B009-3	4B009-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.17	0.914	1.02
Thorium-230	PCI/G	18	55	2.20	0.759	0.642
Uranium-238	PCI/G	115	346	0.684	0.623	0.722

LOCATION ID				4B009-4	4B009-4	4B009-4FD	4B009-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.07	1.36	0.918	0.917
Thorium-230	PCI/G	18	55	2.08	1.10	0.849	0.738
Uranium-238	PCI/G	115	346	0.692	0.525	0.654	0.789

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B010 AREA

LOCATION ID				4B010-1	4B010-1	4B010-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.18***	1.01	0.916
Thorium-230	PCI/G	18	55	5.09	0.997	0.817
Uranium-238	PCI/G	115	346	5.63	2.32	2.09

LOCATION ID				4B010-2	4B010-2	4B010-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.94	0.89	0.926
Thorium-230	PCI/G	18	55	1.78	1.05	0.709
Uranium-238	PCI/G	115	346	0.601	0.654	0.606

LOCATION ID				4B010-3	4B010-3	4B010-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.64	0.915	0.965
Thorium-230	PCI/G	18	55	1.90	0.736	0.902
Uranium-238	PCI/G	115	346	0.872	0.838	0.737

LOCATION ID				4B010-4	4B010-4	4B010-4FD	4B010-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.11	0.897	1.28	0.842
Thorium-230	PCI/G	18	55	2.19	0.880	0.768	0.720
Uranium-238	PCI/G	115	346	0.755	0.805	0.704	0.636

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B014 AREA

LOCATION ID				4B014-1	4B014-1	4B014-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.12	1.04	0.697
Thorium-230	PCI/G	18	55	1.73	0.790	0.613
Uranium-238	PCI/G	115	346	0.868	0.810	0.928

LOCATION ID				4B014-2	4B014-2	4B014-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.992	0.859	0.958
Thorium-230	PCI/G	18	55	1.61	0.675	0.590
Uranium-238	PCI/G	115	346	0.819	0.930	0.908

LOCATION ID				4B014-3	4B014-3	4B014-3FD	4B014-3
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.43	0.678	0.855	0.764
Thorium-230	PCI/G	18	55	1.44	0.753	0.710	0.793
Uranium-238	PCI/G	115	346	0.814	3.27	0.655	0.638

LOCATION ID				4B014-4	4B014-4	4B014-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.82	0.934	0.794
Thorium-230	PCI/G	18	55	2.00	0.860	0.728
Uranium-238	PCI/G	115	346	0.584	0.609	0.613

LOCATION ID				4B014-5	4B014-5	4B014-5
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.53	1.00	1.01
Thorium-230	PCI/G	18	55	1.87	1.05	0.803
Uranium-238	PCI/G	115	346	0.819	0.827	0.817

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B014 AREA

LOCATION ID				4B014-6	4B014-6	4B014-6FD	4B014-6
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.10	1.21	0.669	0.745
Thorium-230	PCI/G	18	55	3.27	1.20	1.08	1.00
Uranium-238	PCI/G	115	346	1.90	0.933	0.973	1.19

LOCATION ID				4B014-7	4B014-7	4B014-7
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/27/2014	6/27/2014	6/27/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.96	0.825	0.683
Thorium-230	PCI/G	18	55	1.67	0.805	0.558
Uranium-238	PCI/G	115	346	1.57	0.811	0.816

LOCATION ID				4B014-8	4B014-8	4B014-8	4B014-8FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	0.5 - 2
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.793	0.690	1.01	0.749
Thorium-230	PCI/G	18	55	1.11	0.660	0.730	0.614
Uranium-238	PCI/G	115	346	0.557	0.707	0.852	0.630

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B017 AREA

LOCATION ID				4B017-1	4B017-1	4B017-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.15	0.860	0.828
Thorium-230	PCI/G	18	55	1.03	0.792	1.07
Uranium-238	PCI/G	115	346	0.866	0.716	0.894

LOCATION ID				4B017-2	4B017-2	4B017-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.12	0.772	1.12
Thorium-230	PCI/G	18	55	2.41	1.02	0.702
Uranium-238	PCI/G	115	346	1.35	1.13	0.718

LOCATION ID				4B017-3	4B017-3	4B017-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.549	0.405	0.628
Thorium-230	PCI/G	18	55	1.20	0.907	0.587
Uranium-238	PCI/G	115	346	0.49	0.388	0.478

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
4B021 AREA

LOCATION ID				4B021-1	4B021-1	4B021-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.05	0.941	0.725
Thorium-230	PCI/G	18	55	2.26	1.11	0.684
Uranium-238	PCI/G	115	346	0.677	0.835	0.524

LOCATION ID				4B021-2	4B021-2	4B021-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.73	0.819	0.498
Thorium-230	PCI/G	18	55	1.88	0.912	0.843
Uranium-238	PCI/G	115	346	0.552	0.607	0.618

LOCATION ID				4B021-3	4B021-3	4B021-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.19	0.887	0.961
Thorium-230	PCI/G	18	55	1.98	0.768	0.671
Uranium-238	PCI/G	115	346	0.703	0.695	0.738

LOCATION ID				4B021-4	4B021-4	4B021-4FD	4B021-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.99	1.24	0.841	0.736
Thorium-230	PCI/G	18	55	1.96	1.05	0.885	0.642
Uranium-238	PCI/G	115	346	0.941	0.634	0.632	0.553

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
GWS AREAS

LOCATION ID				GWS-08	GWS-08	GWS-08
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.67	1.25	0.716
Thorium-230	PCI/G	18	55	2.89	0.915	0.834
Uranium-238	PCI/G	115	346	1.47	0.920	0.727

LOCATION ID				GWS-09	GWS-09	GWS-09
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.28***	***20.6***	0.782
Thorium-230	PCI/G	18	55	5.99	10.7	0.820
Uranium-238	PCI/G	115	346	3.10	9.75	0.832

LOCATION ID				GWS-09-1	GWS-09-1	GWS-09-1	GWS-09-1FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.49	1.32	0.886	1.07
Thorium-230	PCI/G	18	55	2.47	1.34	0.667	0.640
Uranium-238	PCI/G	115	346	0.730	0.767	0.732	0.913

LOCATION ID				GWS-09-2	GWS-09-2	GWS-09-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.12	4.36	1.00
Thorium-230	PCI/G	18	55	2.33	2.10	0.702
Uranium-238	PCI/G	115	346	0.713	1.09	0.813

LOCATION ID				GWS-09-3	GWS-09-3	GWS-09-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.01	0.855	1.08
Thorium-230	PCI/G	18	55	2.13	0.704	0.808
Uranium-238	PCI/G	115	346	0.735	0.573	0.784

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
SP AREAS

LOCATION ID				SP-15	SP-15	SP-15	SP-15FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/27/2013	11/27/2013	11/27/2013	11/27/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***12.2***	1.25	0.898	0.731
Thorium-230	PCI/G	18	55	8.92	1.03	0.975	0.931
Uranium-238	PCI/G	115	346	7.11	0.843	0.875	0.923

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 10
EU3 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU3
TB411 AREA

LOCATION ID				TB411_03-1	TB411_03-1	TB411_03-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.62	1.14	0.816
Thorium-230	PCI/G	18	55	1.62	0.992	0.880
Uranium-238	PCI/G	115	346	1.07	0.965	0.784

LOCATION ID				TB411_03-2	TB411_03-2	TB411_03-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.45	1.85	0.531
Thorium-230	PCI/G	18	55	1.45	1.84	0.786
Uranium-238	PCI/G	115	346	1.40	1.43	0.661

LOCATION ID				TB411_03-3	TB411_03-3	TB411_03-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.444	1.33	0.991
Thorium-230	PCI/G	18	55	1.23	1.12	0.802
Uranium-238	PCI/G	115	346	1.14	1.25	0.961

LOCATION ID				TB411_03-4	TB411_03-4	TB411_03-4FD	TB411_03-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.68	0.960	0.991	0.821
Thorium-230	PCI/G	18	55	1.51	0.763	0.761	0.787
Uranium-238	PCI/G	115	346	1.16	0.940	0.825	0.502

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 11
EU4 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU4
4C002 AREA

LOCATION ID					4C002-1	4C002-1FD	4C002-1
DEPTH (feet)					0.5 - 2	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	4.17	4.08	0.870
Thorium-230	PCI/G	PCI/G	18	55	2.49	2.18	0.778
Uranium-238	PCI/G	PCI/G	115	346	1.62	1.54	0.598

LOCATION ID					4C002-2	4C002-2	4C002-2
DEPTH (feet)					0 - 0.5	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	2.91	0.904	0.933
Thorium-230	PCI/G	PCI/G	18	55	3.45	0.971	0.687
Uranium-238	PCI/G	PCI/G	115	346	1.20	0.687	0.666

LOCATION ID					4C002-3	4C002-3	4C002-3
DEPTH (feet)					0 - 0.5	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	4.60	2.92	0.805
Thorium-230	PCI/G	PCI/G	18	55	4.24	1.67	0.832
Uranium-238	PCI/G	PCI/G	115	346	3.67	1.23	0.605

LOCATION ID					4C002-4	4C002-4	4C002-4
DEPTH (feet)					0 - 0.5	0.5 - 2	2 - 3
MATRIX					SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED					12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	UNITS	Criteria 1	Criteria 2			
Radionuclides							
Radium-226	PCI/G	PCI/G	5	15	2.44	0.911	0.986
Thorium-230	PCI/G	PCI/G	18	55	2.17	0.788	0.730
Uranium-238	PCI/G	PCI/G	115	346	0.881	0.567	0.701

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 12
EU5 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU5
4G002 AREA

LOCATION ID				4G002-1	4G002-1	4G002-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/8/2013	11/8/2013	11/8/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.36	1.05	0.892
Thorium-230	PCI/G	18	55	1.15	0.861	0.853
Uranium-238	PCI/G	115	346	0.788	0.879	0.587

LOCATION ID				4G002-2	4G002-2	4G002-2FD	4G002-2
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/8/2013	11/8/2013	11/8/2013	11/8/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.14	1.09	0.974	1.52
Thorium-230	PCI/G	18	55	0.759	0.806	1.00	0.952
Uranium-238	PCI/G	115	346	0.774	0.855	1.04	0.592

LOCATION ID				4G002-3	4G002-3	4G002-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/8/2013	11/8/2013	11/8/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.28	0.888	0.896
Thorium-230	PCI/G	18	55	0.881	0.894	0.875
Uranium-238	PCI/G	115	346	0.765	1.01	0.704

LOCATION ID				4G002-4	4G002-4	4G002-4FD	4G002-4
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/8/2013	11/8/2013	11/8/2013	11/8/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.15	1.22	1.22	0.686
Thorium-230	PCI/G	18	55	1.24	1.01	1.16	0.663
Uranium-238	PCI/G	115	346	0.914	0.734	0.691	0.468

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 12
EU5 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU5
6A001 AREA

LOCATION ID				6A001-1	6A001-1	6A001-1FD	6A001-1
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***119***	***59.1***	***30.0***	0.769
Thorium-230	PCI/G	18	55	6.33	3.50	2.43	0.849
Uranium-238	PCI/G	115	346	1.21	0.820	0.763	0.738

LOCATION ID				6A001-2	6A001-2	6A001-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.44	0.931	0.981
Thorium-230	PCI/G	18	55	0.936	0.774	0.749
Uranium-238	PCI/G	115	346	0.537	0.636	0.706

LOCATION ID				6A001-3	6A001-3	6A001-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.31	0.738	0.942
Thorium-230	PCI/G	18	55	0.962	0.778	0.992
Uranium-238	PCI/G	115	346	0.540	0.654	0.681

LOCATION ID				6A001-4	6A001-4	6A001-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.22	0.963	0.989
Thorium-230	PCI/G	18	55	0.928	0.773	0.885
Uranium-238	PCI/G	115	346	0.661	0.644	0.650

TABLE 12
EU5 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU5
6A001 AREA

LOCATION ID				6A001-5	6A001-5	6A001-5FD	6A001-5
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.810	0.772	0.942	1.10
Thorium-230	PCI/G	18	55	1.10	0.932	0.603	0.938
Uranium-238	PCI/G	115	346	0.735	0.716	0.607	0.806

LOCATION ID				6A001-6	6A001-6	6A001-6
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.29	1.10	0.877
Thorium-230	PCI/G	18	55	1.02	0.885	0.693
Uranium-238	PCI/G	115	346	0.843	0.686	0.569

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
606 AREA

LOCATION ID				606-1	606-1FD	606-1	606-1
DEPTH (feet)				0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					DUPLICATE		
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.91	1.76	1.06	0.956
Thorium-230	PCI/G	18	55	1.24	0.870	0.771	0.864
Uranium-238	PCI/G	115	346	0.877	0.851	0.774	0.669

LOCATION ID				606-2	606-2	606-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.43	0.942	0.990
Thorium-230	PCI/G	18	55	1.16	1.00	0.854
Uranium-238	PCI/G	115	346	0.677	0.674	0.933

LOCATION ID				606-3	606-3	606-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/5/2013	11/5/2013	11/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.12	0.802	0.768
Thorium-230	PCI/G	18	55	0.727	0.769	0.534
Uranium-238	PCI/G	115	346	0.632	0.554	0.708

LOCATION ID				606-4	606-4	606-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.09	0.849	0.949
Thorium-230	PCI/G	18	55	1.27	0.822	0.749
Uranium-238	PCI/G	115	346	0.756	0.687	0.570

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
6B005 AREA

LOCATION ID				6B005-1	6B005-1	6B005-1
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***8.42***	6.03	0.987
Thorium-230	PCI/G	18	55	3.42	2.63	0.807
Uranium-238	PCI/G	115	346	1.85	33.5	2.94

LOCATION ID				6B005-2	6B005-2	6B005-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***11.0***	1.27	0.804
Thorium-230	PCI/G	18	55	4.28	1.30	0.737
Uranium-238	PCI/G	115	346	0.946	0.975	1.06

LOCATION ID				6B005-3	6B005-3	6B005-3	6B005-3FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***6.35***	1.88	0.914	1.62
Thorium-230	PCI/G	18	55	3.88	1.16	0.908	0.862
Uranium-238	PCI/G	115	346	1.36	1.81	1.29	1.15

LOCATION ID				6B005-4	6B005-4	6B005-4
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.37	0.888	1.09
Thorium-230	PCI/G	18	55	1.01	0.795	0.838
Uranium-238	PCI/G	115	346	1.03	1.11	0.868

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
6B005 AREA

LOCATION ID				6B005-5	6B005-5	6B005-5
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				7/1/2014	7/1/2014	7/1/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.32***	1.67	1.07
Thorium-230	PCI/G	18	55	2.51	2.10	0.888
Uranium-238	PCI/G	115	346	0.882	1.82	1.27

LOCATION ID				6B005-6	6B005-6	6B005-6	6B005-6FD
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				7/1/2014	7/1/2014	7/1/2014	7/1/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.25	0.778	1.07	0.994
Thorium-230	PCI/G	18	55	1.06	0.815	0.899	0.857
Uranium-238	PCI/G	115	346	0.655	0.897	0.681	0.819

LOCATION ID				6B005-7	6B005-7	6B005-7FD	6B005-7
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				7/1/2014	7/1/2014	7/1/2014	7/1/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.43	1.06	1.16	0.906
Thorium-230	PCI/G	18	55	1.60	0.864	1.06	0.766
Uranium-238	PCI/G	115	346	0.887	0.729	0.889	1.21

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
828 AREA

LOCATION ID				828-1	828-1	828-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.02	1.25	0.707
Thorium-230	PCI/G	18	55	1.32	1.09	0.662
Uranium-238	PCI/G	115	346	0.545	0.649	0.714

LOCATION ID				828-2	828-2	828-2	828-2FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
SAMPLE DATE				11/5/2013	11/5/2013	11/5/2013	11/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.782	0.808	0.667	0.501
Thorium-230	PCI/G	18	55	0.731	0.638	0.531	0.555
Uranium-238	PCI/G	115	346	0.611	0.527	0.693	0.509

LOCATION ID				828-3	828-3	828-3FD	828-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
SAMPLE DATE				11/5/2013	11/5/2013	11/5/2013	11/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.902	0.573	0.706	0.701
Thorium-230	PCI/G	18	55	0.681	0.561	0.664	0.504
Uranium-238	PCI/G	115	346	0.633	0.689	0.606	0.409

LOCATION ID				828-4	828-4	828-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/5/2013	11/5/2013	11/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.856	0.562	0.751
Thorium-230	PCI/G	18	55	0.738	0.572	0.495
Uranium-238	PCI/G	115	346	0.622	0.484	0.764

LOCATION ID				828-5	828-5	828-5FD	828-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
SAMPLE DATE				7/2/2014	7/2/2014	7/2/2014	7/2/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.63	0.874	0.698	0.826
Thorium-230	PCI/G	18	55	0.951	0.535	0.545	0.589
Uranium-238	PCI/G	115	346	0.698	0.609	0.610	0.755

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
829 AREA

LOCATION ID				829-1	829-1	829-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.53	1.44	1.07
Thorium-230	PCI/G	18	55	2.21	1.08	0.725
Uranium-238	PCI/G	115	346	1.28	0.992	0.715

LOCATION ID				829-2	829-2	829-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.56	1.52	1.23
Thorium-230	PCI/G	18	55	0.815	0.754	0.800
Uranium-238	PCI/G	115	346	0.755	0.924	0.818

LOCATION ID				829-3	829-3	829-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/5/2013	11/5/2013	11/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.85	2.71	0.734
Thorium-230	PCI/G	18	55	2.06	0.966	0.504
Uranium-238	PCI/G	115	346	0.854	0.719	0.563

LOCATION ID				829-4	829-4	829-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.999	1.25	3.93
Thorium-230	PCI/G	18	55	1.12	0.751	3.46
Uranium-238	PCI/G	115	346	0.542	0.558	2.92

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
EU061 AREA

LOCATION ID				EU061-1	EU061-1	EU061-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.12	1.12	1.23
Thorium-230	PCI/G	18	55	0.963	0.857	1.11
Uranium-238	PCI/G	115	346	1.24	1.03	1.10

LOCATION ID				EU061-2	EU061-2	EU061-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.04	0.982	0.901
Thorium-230	PCI/G	18	55	0.988	0.769	0.849
Uranium-238	PCI/G	115	346	0.692	0.903	0.774

LOCATION ID				EU061-3	EU061-3FD	EU061-3	EU061-3
DEPTH (Feet)				0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					DUPLICATE		
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.42	1.16	1.07	0.904
Thorium-230	PCI/G	18	55	1.05	0.890	0.823	0.687
Uranium-238	PCI/G	115	346	0.658	0.624	0.888	0.619

LOCATION ID				EU061-4	EU061-4	EU061-4	EU061-4FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.08	0.858	1.28	1.09
Thorium-230	PCI/G	18	55	0.857	0.828	0.914	0.769
Uranium-238	PCI/G	115	346	0.660	0.945	0.989	0.990

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
GWS-18 AREA

LOCATION ID				GWS-18	GWS-18	GWS-18
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.89***	1.65	0.926
Thorium-230	PCI/G	18	55	1.78	1.05	0.738
Uranium-238	PCI/G	115	346	0.914	0.482	0.605

LOCATION ID				GWS-18-1	GWS-18-1	GWS-18-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.12	0.913	0.989
Thorium-230	PCI/G	18	55	1.27	0.758	0.741
Uranium-238	PCI/G	115	346	1.26	0.959	0.758

LOCATION ID				GWS-18-2	GWS-18-2	GWS-18-2FD	GWS-18-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
SAMPLE DATE				6/30/2014	6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.24	0.985	1.03	1.13
Thorium-230	PCI/G	18	55	1.03	0.856	0.893	0.865
Uranium-238	PCI/G	115	346	0.694	0.648	0.649	0.828

LOCATION ID				GWS-18-3	GWS-18-3	GWS-18-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.80	1.08	0.711
Thorium-230	PCI/G	18	55	1.29	0.999	0.720
Uranium-238	PCI/G	115	346	1.16	0.558	0.461

LOCATION ID				GWS-18-4	GWS-18-4	GWS-18-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				6/30/2014	6/30/2014	6/30/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.19	1.12	0.698
Thorium-230	PCI/G	18	55	1.27	0.635	0.762
Uranium-238	PCI/G	115	346	1.17	0.776	0.616

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
GWS-19 AREA

LOCATION ID				GWS-19	GWS-19	GWS-19FD	GWS-19	GWS-19
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE		
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	***10.1***	***73.4***	***17.0***	3.71	1.46
Thorium-230	PCI/G	18	55	4.68	21.3	3.73	1.22	1.09
Uranium-238	PCI/G	115	346	0.826	1.28	0.827	0.588	0.578

LOCATION ID				GWS-19-1	GWS-19-1	GWS-19	GWS-19-1FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
SAMPLE DATE				7/1/2014	7/1/2014	11/7/2013	7/1/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.07	0.757	14.8	0.770
Thorium-230	PCI/G	18	55	0.867	0.838	3.37	0.728
Uranium-238	PCI/G	115	346	0.938	0.960	0.558	0.617

LOCATION ID				GWS-19-2	GWS-19-2	GWS-19-1	GWS-19-2FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
SAMPLE DATE				7/1/2014	7/1/2014	7/1/2014	7/1/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.52	1.36	0.960	0.770
Thorium-230	PCI/G	18	55	1.70	0.991	0.652	0.819
Uranium-238	PCI/G	115	346	0.765	0.883	0.657	0.555

LOCATION ID				GWS-19-3	GWS-19-3	GWS-19-2	GWS-19-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
SAMPLE DATE				7/1/2014	7/1/2014	7/1/2014	7/1/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.21	0.877	0.688	0.756
Thorium-230	PCI/G	18	55	0.926	0.745	0.735	0.849
Uranium-238	PCI/G	115	346	0.710	0.797	0.656	0.664

LOCATION ID				GWS-19-4	GWS-19-4	GWS-19-3FD	GWS-19-4	GWS-19-4FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE		DUPLICATE
SAMPLE DATE				7/1/2014	7/1/2014	7/1/2014	7/1/2014	7/1/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	1.11	0.632	0.871	0.859	0.523
Thorium-230	PCI/G	18	55	0.829	0.575	0.826	0.720	0.579
Uranium-238	PCI/G	115	346	0.806	0.548	0.746	0.666	0.586

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
GWS-20, GWS-21, GWS-22, GWS-23, AND GWS-24 AREAS

LOCATION ID				GWS-20	GWS-20	GWS-20
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.62	1.40	0.865
Thorium-230	PCI/G	18	55	1.11	0.856	0.849
Uranium-238	PCI/G	115	346	1.01	0.665	0.872

LOCATION ID				GWS-21	GWS-21	GWS-21
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.58	1.00	1.21
Thorium-230	PCI/G	18	55	4.35	0.763	1.01
Uranium-238	PCI/G	115	346	4.45	0.851	0.898

LOCATION ID				GWS-22	GWS-22	GWS-22FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.36	1.38	0.944
Thorium-230	PCI/G	18	55	4.19	0.892	0.949
Uranium-238	PCI/G	115	346	3.61	0.846	0.778

LOCATION ID				GWS-23	GWS-23	GWS-23
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.39	0.828	0.909
Thorium-230	PCI/G	18	55	4.94	0.812	0.844
Uranium-238	PCI/G	115	346	4.25	0.807	0.589

LOCATION ID				GWS-24	GWS-24	GWS-24
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/7/2013	11/7/2013	11/7/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.67	3.80	0.990
Thorium-230	PCI/G	18	55	1.95	2.60	0.742
Uranium-238	PCI/G	115	346	1.72	2.14	0.690

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 13
EU6 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU6
SP-01 AREA

LOCATION ID				SP-01	SP-01	SP-01	SP-01
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
SAMPLE DATE				11/8/2013	11/8/2013	11/8/2013	11/8/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***72.4***	***44.7***	1.60	0.757
Thorium-230	PCI/G	18	55	13.3	6.96	0.716	0.699
Uranium-238	PCI/G	115	346	2.83	74.4	20.9	6.62

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D003 AREA

LOCATION ID				8D003-1	8D003-1	8D003-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.36	1.20	0.814
Thorium-230	PCI/G	18	55	2.71	1.32	0.820
Uranium-238	PCI/G	115	346	1.08	1.11	0.765

LOCATION ID				8D003-2	8D003-2	8D003-2FD	8D003-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.85	1.10	1.31	1.02
Thorium-230	PCI/G	18	55	3.55	1.17	1.42	0.86
Uranium-238	PCI/G	115	346	1.09	0.935	0.815	0.764

LOCATION ID				8D003-3	8D003-3	8D003-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.71	0.94	0.771
Thorium-230	PCI/G	18	55	1.70	0.781	0.641
Uranium-238	PCI/G	115	346	0.920	0.754	0.642

LOCATION ID				8D003-4	8D003-4	8D003-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.22	1.57	0.871
Thorium-230	PCI/G	18	55	4.02	3.02	0.911
Uranium-238	PCI/G	115	346	1.31	1.06	0.725

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D004 AREA

LOCATION ID				8D004-1	8D004-1	8D004-1FD	8D004-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***8.73***	1.36	1.23	0.902
Thorium-230	PCI/G	18	55	3.92	1.27	1.17	0.664
Uranium-238	PCI/G	115	346	1.47	0.813	0.923	0.689

LOCATION ID				8D004-2	8D004-2	8D004-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.23	1.14	1.20
Thorium-230	PCI/G	18	55	1.05	0.781	0.785
Uranium-238	PCI/G	115	346	0.790	0.754	0.698

LOCATION ID				8D004-3	8D004-3	8D004-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.77	1.00	1.17
Thorium-230	PCI/G	18	55	2.24	1.02	0.815
Uranium-238	PCI/G	115	346	0.969	0.677	0.757

LOCATION ID				8D004-4	8D004-4	8D004-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.49	0.994	0.925
Thorium-230	PCI/G	18	55	2.12	0.977	0.756
Uranium-238	PCI/G	115	346	0.944	1.02	1.22

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D004 AREA

LOCATION ID				8D004-5	8D004-5	8D004-5FD	8D004-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.38	1.00	1.05	1.14
Thorium-230	PCI/G	18	55	2.26	0.98	1.06	0.919
Uranium-238	PCI/G	115	346	3.25	1.13	0.77	0.794

LOCATION ID				8D004-6	8D004-6	8D004-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.55	0.937	0.818
Thorium-230	PCI/G	18	55	2.96	0.975	0.935
Uranium-238	PCI/G	115	346	0.616	1.32	0.822

LOCATION ID				8D004-7	8D004-7	8D004-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.06	0.95	0.661
Thorium-230	PCI/G	18	55	2.13	0.952	0.809
Uranium-238	PCI/G	115	346	0.828	1.08	0.739

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D006 AREA

LOCATION ID				8D006-1	8D006-1	8D006-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***7.01***	2.85	1.09
Thorium-230	PCI/G	18	55	8.27	3.70	0.794
Uranium-238	PCI/G	115	346	0.878	0.809	1.32

LOCATION ID				8D006-2	8D006-2	8D006-2FD	8D006-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.92	1.37	1.04	0.759
Thorium-230	PCI/G	18	55	2.04	1.50	1.10	0.739
Uranium-238	PCI/G	115	346	1.03	1.19	1.10	0.645

LOCATION ID				8D006-3	8D006-3	8D006-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.926	0.874	0.938
Thorium-230	PCI/G	18	55	1.04	0.728	0.832
Uranium-238	PCI/G	115	346	1.13	0.597	0.645

LOCATION ID				8D006-4	8D006-4	8D006-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.20	1.37	0.87
Thorium-230	PCI/G	18	55	1.34	0.975	0.846
Uranium-238	PCI/G	115	346	0.745	0.735	0.573

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D006 AREA

LOCATION ID				8D006-5	8D006-5	8D006-5FD	8D006-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***7.42***	1.99	1.49	0.991
Thorium-230	PCI/G	18	55	10.1	2.29	1.64	0.715
Uranium-238	PCI/G	115	346	1.22	0.896	1.05	0.674

LOCATION ID				8D006-6	8D006-6	8D006-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.841	1.65	1.52
Thorium-230	PCI/G	18	55	1.22	1.21	1.30
Uranium-238	PCI/G	115	346	0.713	0.944	1.02

LOCATION ID				8D006-7	8D006-7	8D006-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/24/2014	6/24/2014	6/24/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.70	1.03	0.992
Thorium-230	PCI/G	18	55	3.33	1.13	0.791
Uranium-238	PCI/G	115	346	0.726	0.860	0.621

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D007 AREA

LOCATION ID				8D007-1	8D007-1	8D007-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.45	1.03	0.866
Thorium-230	PCI/G	18	55	1.77	0.926	0.953
Uranium-238	PCI/G	115	346	1.09	0.890	0.719

LOCATION ID				8D007-2	8D007-2	8D007-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.79	1.49	1.00
Thorium-230	PCI/G	18	55	1.61	0.948	1.05
Uranium-238	PCI/G	115	346	1.26	1.80	1.90

LOCATION ID				8D007-3	8D007-3	8D007-3	8D007-3FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***9.89***	0.786	0.848	0.843
Thorium-230	PCI/G	18	55	7.40	0.780	0.756	0.669
Uranium-238	PCI/G	115	346	1.88	0.756	0.590	0.559

LOCATION ID				8D007-4	8D007-4	8D007-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.19	1.14	0.797
Thorium-230	PCI/G	18	55	1.56	0.812	0.726
Uranium-238	PCI/G	115	346	1.00	1.31	0.594

LOCATION ID				8D007-5	8D007-5	8D007-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.25***	1.06	0.824
Thorium-230	PCI/G	18	55	4.71	0.952	0.894
Uranium-238	PCI/G	115	346	0.672	2.16	0.598

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14

EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D009 AREA

LOCATION ID				8D009-1	8D009-1	8D009-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.18	1.20	1.53
Thorium-230	PCI/G	18	55	1.59	1.29	1.67
Uranium-238	PCI/G	115	346	0.882	0.842	0.824

LOCATION ID				8D009-2	8D009-2	8D009-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.45***	5.99	1.38
Thorium-230	PCI/G	18	55	6.55	5.81	1.06
Uranium-238	PCI/G	115	346	1.11	1.58	0.865

LOCATION ID				8D009-3	8D009-3	8D009-3FD	8D009-3	8D009-3	8D009-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013	11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	1.57	1.25	1.20	***26.6***	***21.4***	13.9
Thorium-230	PCI/G	18	55	1.07	1.04	1.12	24.8	24.5	12.8
Uranium-238	PCI/G	115	346	0.69	0.859	0.716	3.67	30.8	5.21

LOCATION ID				8D009-4	8D009-4	8D009-4FD	8D009-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.87	1.91	1.41	0.542
Thorium-230	PCI/G	18	55	2.00	2.05	0.868	0.735
Uranium-238	PCI/G	115	346	0.756	0.700	0.704	0.558

LOCATION ID				8D009-5	8D009-5	8D009-5	8D009-5	8D009-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	1.24	1.34	5.98	***15.8***	1.53
Thorium-230	PCI/G	18	55	1.19	1.21	6.28	15.6	1.17
Uranium-238	PCI/G	115	346	0.633	0.963	2.14	3.09	0.942

TABLE 14

EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D009 AREA

LOCATION ID				8D009-6	8D009-6	8D009-6	8D009-6	8D009-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	1.65	1.29	3.04	8.02	***15.7***
Thorium-230	PCI/G	18	55	1.73	1.12	4.73	9.14	14
Uranium-238	PCI/G	115	346	0.803	0.909	0.923	2.06	3.14

LOCATION ID				8D009-7	8D009-7	8D009-7	8D009-7	8D009-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	1.26	1.47	2.12	1.09	0.824
Thorium-230	PCI/G	18	55	1.03	0.977	1.45	0.793	0.655
Uranium-238	PCI/G	115	346	0.648	0.801	0.747	0.686	0.544

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14

EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D016 AREA

LOCATION ID				8D016-1	8D016-1	8D016-1FD	8D016-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.43	0.907	1.10	1.85
Thorium-230	PCI/G	18	55	1.25	1.18	0.985	1.58
Uranium-238	PCI/G	115	346	0.724	0.729	0.746	2.62

LOCATION ID				8D016-2	8D016-2	8D016-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.10	1.88	8.60
Thorium-230	PCI/G	18	55	2.94	1.88	12.1
Uranium-238	PCI/G	115	346	1.06	1.16	2.62

LOCATION ID				8D016-3	8D016-3	8D016-3FD	8D016-3	8D016-3	8D016-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013	11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	3.40	0.980	1.10	***30.2***	***67.2***	7.38
Thorium-230	PCI/G	18	55	4.44	0.969	1.07	38.9	***77.3***	10.8
Uranium-238	PCI/G	115	346	0.989	0.832	0.729	4.30	9.73	2.55

LOCATION ID				8D016-4	8D016-4	8D016-4	8D016-4	8D016-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				11/15/2013	11/15/2013	11/15/2013	11/15/2013	11/15/2013
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	3.01	12.3	***38.0***	***30.4***	***18.9***
Thorium-230	PCI/G	18	55	4.73	15.4	33.5	31.7	21.3
Uranium-238	PCI/G	115	346	1.00	2.62	8.13	4.64	4.82

LOCATION ID				8D016-5	8D016-5	8D016-5	8D016-5	8D016-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/26/2014	6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	1.66	5.58	6.10	1.30	0.840
Thorium-230	PCI/G	18	55	1.29	7.33	6.29	1.42	0.874
Uranium-238	PCI/G	115	346	1.29	1.98	1.75	1.25	0.814

LOCATION ID				8D016-6	8D016-6	8D016-6	8D016-6	8D016-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/26/2014	6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	1.10	1.21	1.19	1.45	1.66
Thorium-230	PCI/G	18	55	1.09	1.13	0.925	1.06	1.68
Uranium-238	PCI/G	115	346	0.84	1.03	1.09	0.924	0.848

TABLE 14

EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8D016 AREA

LOCATION ID				8D016-7	8D016-7	8D016-7	8D016-7	8D016-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/26/2014	6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	1.74	9.64	***16.6***	***37.6***	***25***
Thorium-230	PCI/G	18	55	1.39	9.26	44.8	51	22.8
Uranium-238	PCI/G	115	346	1.04	1.58	5.13	10.3	5.99

LOCATION ID				8D016-8	8D016-8	8D016-8	8D016-8	8D016-8FD	8D016-8
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								DUPLICATE	
DATE SAMPLED				7/2/2014	7/2/2014	7/2/2014	7/2/2014	7/2/2014	7/2/2014
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	0.943	1.09	1.00	1.09	1.07	1.03
Thorium-230	PCI/G	18	55	1.28	0.984	0.82	1.11	1.00	0.828
Uranium-238	PCI/G	115	346	0.897	0.907	0.952	0.794	0.803	0.716

LOCATION ID				8D016-9	8D016-9	8D016-9	8D016-9	8D016-9FD	8D016-9	8D016-9FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	3 - 5	5 - 7	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								DUPLICATE		DUPLICATE
DATE SAMPLED				7/2/2014	7/2/2014	7/2/2014	7/2/2014	7/2/2014	7/2/2014	7/2/2014
PARAMETER	UNITS	Criteria 1	Criteria 2							
Radionuclides										
Radium-226	PCI/G	5	15	1.12	1.13	1.10	0.825	0.770	0.881	1.12
Thorium-230	PCI/G	18	55	1.15	1.08	0.954	0.712	0.753	0.783	0.898
Uranium-238	PCI/G	115	346	1.15	1.24	0.880	0.749	0.591	0.676	0.725

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
8E003 AREA

LOCATION ID				8E003-1	8E003-1	8E003-1FD	8E003-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.53	0.904	0.704	1.07
Thorium-230	PCI/G	18	55	1.82	0.845	0.755	0.911
Uranium-238	PCI/G	115	346	0.853	0.930	0.863	0.770

LOCATION ID				8E003-2	8E003-2	8E003-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.53	1.59	0.968
Thorium-230	PCI/G	18	55	3.14	1.51	0.594
Uranium-238	PCI/G	115	346	0.737	0.752	0.703

LOCATION ID				8E003-3	8E003-3	8E003-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.28	0.763	0.559
Thorium-230	PCI/G	18	55	1.32	1.00	0.484
Uranium-238	PCI/G	115	346	0.927	0.645	0.461

LOCATION ID				8E003-4	8E003-4	8E003-4FD	8E003-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.36	1.22	1.01	1.07
Thorium-230	PCI/G	18	55	0.962	0.789	0.998	0.942
Uranium-238	PCI/G	115	346	0.672	0.799	0.906	0.676

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
GWS-04, GWS-06, AND GWS-07 AREAs

LOCATION ID				GWS-04	GWS-04	GWS-04
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/19/2013	11/19/2013	11/19/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.02	1.09	0.761
Thorium-230	PCI/G	18	55	4.75	1.37	0.715
Uranium-238	PCI/G	115	346	0.795	0.724	0.794

LOCATION ID				GWS-06	GWS-06	GWS-06
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***31.0***	2.96	1.02
Thorium-230	PCI/G	18	55	7.05	1.56	0.773
Uranium-238	PCI/G	115	346	1.13	0.895	0.481

LOCATION ID				GWS-06-1	GWS-06-1	GWS-06-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.78	1.34	1.55
Thorium-230	PCI/G	18	55	1.31	1.38	1.34
Uranium-238	PCI/G	115	346	0.691	0.721	0.725

LOCATION ID				GWS-06-2	GWS-06-2	GWS-06-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/25/2014	6/25/2014	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.30	1.53	1.20
Thorium-230	PCI/G	18	55	1.54	1.18	1.09
Uranium-238	PCI/G	115	346	0.888	0.882	0.872

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
GWS-04, GWS-06, AND GWS-07 AREAs

LOCATION ID				GWS-06-3	GWS-06-3	GWS-06FD	GWS-06-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/25/2014	6/25/2014	11/14/2013	6/25/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.59	1.18	1.90	0.851
Thorium-230	PCI/G	18	55	1.09	1.09	1.12	0.484
Uranium-238	PCI/G	115	346	0.805	0.977	0.814	0.596

LOCATION ID				GWS-07	GWS-07	GWS-07
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.92	1.29	1.08
Thorium-230	PCI/G	18	55	2.59	1.27	0.796
Uranium-238	PCI/G	115	346	0.767	0.567	0.780

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14

EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
TB802 AREA

LOCATION ID				TB802_01-1	TB802_01-1	TB802_01-1FD	TB802_01-1	TB802_01-1	TB802_01-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013	11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	1.21	1.39	1.69	***24.3***	***15.5***	12.5
Thorium-230	PCI/G	18	55	0.973	1.74	2.00	19.9	17.2	13.1
Uranium-238	PCI/G	115	346	0.598	0.799	0.772	3.29	3.88	4.54

LOCATION ID				TB802_01-2	TB802_01-2	TB802_01-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.33	0.977	1.24
Thorium-230	PCI/G	18	55	1.10	1.06	1.21
Uranium-238	PCI/G	115	346	0.834	0.834	0.792

LOCATION ID				TB802_01-3	TB802_01-3	TB802_01-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.40	1.96	1.42
Thorium-230	PCI/G	18	55	1.32	1.82	1.36
Uranium-238	PCI/G	115	346	0.925	0.989	1.04

LOCATION ID				TB802_01-4	TB802_01-4	TB802_01-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.05	0.968	0.788
Thorium-230	PCI/G	18	55	1.00	0.900	0.842
Uranium-238	PCI/G	115	346	0.596	0.612	0.817

LOCATION ID				TB802_01-5	TB802_01-5	TB802_01-5	TB802_01-5	TB802_01-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/26/2014	6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	2.26	14.2	***25.7***	***39.1***	***37.7***
Thorium-230	PCI/G	18	55	2.19	13.5	33.9	***58.7***	21.3
Uranium-238	PCI/G	115	346	1.35	1.78	4.71	14.5	5.10

LOCATION ID				TB802_01-6	TB802_01-6	TB802_01-6	TB802_01-6	TB802_01-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 5	5 - 7
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/26/2014	6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	4.08	***50.0***	***36.5***	***25.7***	5.03
Thorium-230	PCI/G	18	55	1.28	3.91	54.4	32.0	3.33
Uranium-238	PCI/G	115	346	1.49	3.62	8.11	6.73	1.09

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 14
EU7 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU7
TB802A AREA

LOCATION ID				TB802A_01-1	TB802A_01-1	TB802A_01-1FD	TB802A_01-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.51	0.995	1.59	1.03
Thorium-230	PCI/G	18	55	1.20	1.43	1.48	1.15
Uranium-238	PCI/G	115	346	0.779	0.874	0.835	0.758

LOCATION ID				TB802A_01-2	TB802A_01-2	TB802A_01-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.25	0.995	1.17
Thorium-230	PCI/G	18	55	1.08	0.922	0.849
Uranium-238	PCI/G	115	346	0.962	0.804	0.711

LOCATION ID				TB802A_01-3	TB802A_01-3	TB802A_01-3	TB802A_01-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.11	1.20	8.39	0.877
Thorium-230	PCI/G	18	55	1.61	1.83	11.8	0.933
Uranium-238	PCI/G	115	346	0.669	0.918	1.78	0.708

LOCATION ID				TB802A_01-4	TB802A_01-4	TB802A_01-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.34	0.902	0.845
Thorium-230	PCI/G	18	55	1.27	1.03	0.841
Uranium-238	PCI/G	115	346	0.767	0.734	0.854

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
308 AREA

LOCATION ID				308-1	308-1	308-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.97	1.07	1.09
Thorium-230	PCI/G	18	55	1.95	0.83	0.851
Uranium-238	PCI/G	115	346	0.929	1.13	0.802

LOCATION ID				308-2	308-2	308-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.52	1.34	1.06
Thorium-230	PCI/G	18	55	1.59	1.48	1.02
Uranium-238	PCI/G	115	346	2.11	1.40	1.31

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
312 AREA

LOCATION ID				312-1	312-1	312-1FD	312-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.64	0.901	1.12	1.05
Thorium-230	PCI/G	18	55	2.51	0.971	0.996	0.905
Uranium-238	PCI/G	115	346	0.767	0.690	0.572	0.638

LOCATION ID				312-2	312-2	312-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.08	2.27	1.06
Thorium-230	PCI/G	18	55	4.91	2.42	0.879
Uranium-238	PCI/G	115	346	1.02	0.984	1.26

LOCATION ID				312-3	312-3	312-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.09	1.19	1.15
Thorium-230	PCI/G	18	55	3.68	0.865	0.695
Uranium-238	PCI/G	115	346	1.16	0.892	0.715

LOCATION ID				312-4	312-4FD	312-4	312-4
DEPTH (Feet)				0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					DUPLICATE		
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***6.50***	***6.71***	2.18	0.704
Thorium-230	PCI/G	18	55	7.52	7.81	2.55	0.923
Uranium-238	PCI/G	115	346	1.76	1.94	1.55	0.730

LOCATION ID				312-5	312-5	312-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.24***	2.66	1.13
Thorium-230	PCI/G	18	55	6.62	2.51	0.876
Uranium-238	PCI/G	115	346	1.81	1.34	1.30

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
314 AREA

LOCATION ID				314-1	314-1	314-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.35	1.04	0.811
Thorium-230	PCI/G	18	55	0.892	0.708	0.843
Uranium-238	PCI/G	115	346	1.19	1.57	1.10

LOCATION ID				314-2	314-2	314-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.10	0.524	0.887
Thorium-230	PCI/G	18	55	1.65	0.604	0.893
Uranium-238	PCI/G	115	346	0.75	0.485	0.773

LOCATION ID				314-3	314-3	314-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.36	0.969	0.770
Thorium-230	PCI/G	18	55	4.68	0.829	0.720
Uranium-238	PCI/G	115	346	1.32	0.721	0.703

LOCATION ID				314-4	314-4	314-4	314-4FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				12/9/2013	12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.851	0.573	0.94	0.618
Thorium-230	PCI/G	18	55	1.55	0.534	0.768	0.808
Uranium-238	PCI/G	115	346	1.07	0.486	0.705	0.654

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A002 AREA

LOCATION ID				3A002-1	3A002-1	3A002-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.687	0.633	0.816
Thorium-230	PCI/G	18	55	1.95	1.37	0.962
Uranium-238	PCI/G	115	346	0.545	0.609	1.01

LOCATION ID				3A002-2	3A002-2	3A002-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.01	1.43	1.05
Thorium-230	PCI/G	18	55	3.26	1.29	0.919
Uranium-238	PCI/G	115	346	0.98	0.857	0.879

LOCATION ID				3A002-3	3A002-3	3A002-3FD	3A002-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.62	1.70	1.73	0.864
Thorium-230	PCI/G	18	55	3.41	1.96	1.71	0.866
Uranium-238	PCI/G	115	346	0.936	0.827	1.07	0.796

LOCATION ID				3A002-4	3A002-4	3A002-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.89	1.49	0.798
Thorium-230	PCI/G	18	55	2.49	1.42	0.976
Uranium-238	PCI/G	115	346	0.898	0.874	1.10

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A005 AREA

LOCATION ID				3A005-1	3A005-1	3A005-1FD	3A005-1
DEPTH (feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***8.20***	0.904	1.30	0.711
Thorium-230	PCI/G	18	55	9.29	1.13	1.30	0.613
Uranium-238	PCI/G	115	346	2.96	1.22	1.25	0.836

LOCATION ID				3A005-2	3A005-2	3A005-2
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.77	1.69	0.651
Thorium-230	PCI/G	18	55	2.82	1.82	0.709
Uranium-238	PCI/G	115	346	1.62	1.52	0.910

LOCATION ID				3A005-3	3A005-3	3A005-3
DEPTH (feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/22/2013	11/22/2013	11/22/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***8.58***	1.03	1.12
Thorium-230	PCI/G	18	55	10.9	1.18	0.829
Uranium-238	PCI/G	115	346	3.77	1.19	0.964

LOCATION ID				3A005-4	3A005-4	3A005-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.448	0.610	2.16
Thorium-230	PCI/G	18	55	0.399	0.690	4.21
Uranium-238	PCI/G	115	346	0.364	0.478	0.939

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A006 AREA

LOCATION ID				3A006-1	3A006-1	3A006-1FD	3A006-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.78	1.30	1.36	0.711
Thorium-230	PCI/G	18	55	6.12	1.53	1.76	0.754
Uranium-238	PCI/G	115	346	1.49	0.814	1.10	1.06

LOCATION ID				3A006-2	3A006-2	3A006-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.90***	0.75	0.546
Thorium-230	PCI/G	18	55	8.79	1.15	0.654
Uranium-238	PCI/G	115	346	1.13	0.88	0.528

LOCATION ID				3A006-3	3A006-3	3A006-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.78	1.16	0.711
Thorium-230	PCI/G	18	55	6.95	1.13	0.719
Uranium-238	PCI/G	115	346	1.27	0.838	0.871

LOCATION ID				3A006-4	3A006-4	3A006-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.18	1.34	0.698
Thorium-230	PCI/G	18	55	5.02	1.28	0.764
Uranium-238	PCI/G	115	346	0.977	0.841	1.12

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A007 AREA

LOCATION ID				3A007-1	3A007-1	3A007-1FD	3A007-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***7.92***	0.937	0.859	0.509
Thorium-230	PCI/G	18	55	11.0	1.05	6.27	0.744
Uranium-238	PCI/G	115	346	1.67	0.627	0.586	0.370

LOCATION ID				3A007-2	3A007-2	3A007-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.18	1.41	0.74
Thorium-230	PCI/G	18	55	0.499	4.86	1.21
Uranium-238	PCI/G	115	346	1.23	1.01	0.583

LOCATION ID				3A007-3	3A007-3	3A007-3FD	3A007-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.44***	1.15	1.11	1.19
Thorium-230	PCI/G	18	55	0.735	1.34	0.884	0.965
Uranium-238	PCI/G	115	346	1.28	0.858	0.742	0.697

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A013 AREA

LOCATION ID				3A013-1	3A013-1	3A013-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.35	1.32	1.18
Thorium-230	PCI/G	18	55	4.57	1.17	0.809
Uranium-238	PCI/G	115	346	1.28	1.00	0.848

LOCATION ID				3A013-2	3A013-2	3A013-2FD	3A013-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/2/2013	12/2/2013	12/2/2013	12/2/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.76	0.879	0.835	1.03
Thorium-230	PCI/G	18	55	3.68	0.745	0.746	0.697
Uranium-238	PCI/G	115	346	1.40	0.705	0.625	0.986

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A017 AREA

LOCATION ID				3A017-1	3A017-1	3A017-1FD	3A017-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.31	1.05	1.10	0.864
Thorium-230	PCI/G	18	55	2.87	1.27	1.19	0.842
Uranium-238	PCI/G	115	346	0.603	0.662	0.662	0.728

LOCATION ID				3A017-2	3A017-2	3A017-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***7.56***	3.44	0.805
Thorium-230	PCI/G	18	55	4.44	2.74	0.809
Uranium-238	PCI/G	115	346	0.840	1.25	1.13

LOCATION ID				3A017-3	3A017-3	3A017-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***15.7***	3.67	0.967
Thorium-230	PCI/G	18	55	16.1	3.83	0.957
Uranium-238	PCI/G	115	346	1.09	1.88	0.872

LOCATION ID				3A017-4	3A017-4	3A017-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.45	1.38	0.961
Thorium-230	PCI/G	18	55	3.61	1.32	0.719
Uranium-238	PCI/G	115	346	0.886	1.11	0.801

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A017 AREA

LOCATION ID				3A017-5	3A017-5	3A017-5FD	3A017-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.78***	2.63	2.79	1.64
Thorium-230	PCI/G	18	55	4.27	2.93	2.46	1.28
Uranium-238	PCI/G	115	346	0.881	2.11	1.53	1.12

LOCATION ID				3A017-6	3A017-6	3A017-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.06	2.13	1.07
Thorium-230	PCI/G	18	55	5.78	2.10	0.741
Uranium-238	PCI/G	115	346	0.976	0.975	0.682

LOCATION ID				3A017-7	3A017-7	3A017-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.57	2.33	1.31
Thorium-230	PCI/G	18	55	5.48	2.78	1.12
Uranium-238	PCI/G	115	346	1.39	1.89	1.25

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A020 AREA

LOCATION ID				3A020-1	3A020-1	3A020-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/20/2013	11/20/2013	11/20/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.55	1.95	1.14
Thorium-230	PCI/G	18	55	3.79	1.63	0.780
Uranium-238	PCI/G	115	346	0.742	0.792	1.85

LOCATION ID				3A020-3	3A020-3	3A020-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.30	1.50	1.13
Thorium-230	PCI/G	18	55	5.35	1.44	0.897
Uranium-238	PCI/G	115	346	1.15	0.942	1.13

LOCATION ID				3A020-4	3A020-4	3A020-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.88	3.13	0.814
Thorium-230	PCI/G	18	55	5.22	2.39	0.778
Uranium-238	PCI/G	115	346	0.951	2.85	0.647

LOCATION ID				3A020-5	3A020-5	3A020-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.18***	2.71	0.935
Thorium-230	PCI/G	18	55	7.32	2.94	0.687
Uranium-238	PCI/G	115	346	1.02	2.15	0.724

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3A023 AREA

LOCATION ID				3A023-1	3A023-1	3A023-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.35	1.70	0.728
Thorium-230	PCI/G	18	55	3.99	1.50	0.754
Uranium-238	PCI/G	115	346	1.32	1.10	0.638

LOCATION ID				3A023-2	3A023-2	3A023-2FD	3A023-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.98	1.09	0.958	0.836
Thorium-230	PCI/G	18	55	2.24	0.870	0.771	0.779
Uranium-238	PCI/G	115	346	0.652	0.635	0.522	0.627

LOCATION ID				3A023-3	3A023-3	3A023-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/21/2013	11/21/2013	11/21/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.85	1.07	0.816
Thorium-230	PCI/G	18	55	1.84	1.03	0.729
Uranium-238	PCI/G	115	346	0.753	0.764	0.718

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3B003 AREA

LOCATION ID				3B003-1	3B003-1	3B003-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.10	1.17	0.823
Thorium-230	PCI/G	18	55	4.04	0.857	0.506
Uranium-238	PCI/G	115	346	1.16	0.696	0.634

LOCATION ID				3B003-2	3B003-2	3B003-2FD	3B003-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.88	1.07	1.23	0.997
Thorium-230	PCI/G	18	55	7.23	0.860	0.795	0.707
Uranium-238	PCI/G	115	346	1.74	1.44	1.39	0.772

LOCATION ID				3B003-3	3B003-3	3B003-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.30	0.735	1.12
Thorium-230	PCI/G	18	55	3.27	1.03	1.15
Uranium-238	PCI/G	115	346	1.83	1.38	1.00

LOCATION ID				3B003-4	3B003-4	3B003-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.65	0.705	0.756
Thorium-230	PCI/G	18	55	1.90	0.787	0.691
Uranium-238	PCI/G	115	346	2.10	0.719	0.480

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3B004 AREA

LOCATION ID				3B004-1	3B004-1	3B004-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.65	1.26	1.12
Thorium-230	PCI/G	18	55	3.80	1.20	0.785
Uranium-238	PCI/G	115	346	1.22	1.16	0.808

LOCATION ID				3B004-2	3B004-2	3B004-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.63	1.63	1.01
Thorium-230	PCI/G	18	55	2.63	1.21	0.741
Uranium-238	PCI/G	115	346	0.805	0.946	1.04

LOCATION ID				3B004-3	3B004-3	3B004-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.57	1.54	1.04
Thorium-230	PCI/G	18	55	3.15	1.60	0.915
Uranium-238	PCI/G	115	346	1.36	1.25	1.62

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3B011 AREA

LOCATION ID				3B011-1	3B011-1	3B011-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.78	1.07	0.809
Thorium-230	PCI/G	18	55	9.21	0.945	0.382
Uranium-238	PCI/G	115	346	2.32	0.704	0.412

LOCATION ID				3B011-2	3B011-2	3B011-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.32	1.93	0.658
Thorium-230	PCI/G	18	55	1.36	1.09	0.686
Uranium-238	PCI/G	115	346	1.25	1.05	0.601

LOCATION ID				3B011-3	3B011-3	3B011-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.19	2.06	0.902
Thorium-230	PCI/G	18	55	4.24	2.02	0.667
Uranium-238	PCI/G	115	346	1.58	0.952	0.684

LOCATION ID				3B011-4	3B011-4	3B011-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.43	0.783	0.982
Thorium-230	PCI/G	18	55	3.36	1.04	0.886
Uranium-238	PCI/G	115	346	4.44	0.705	0.633

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3B013 AREA

LOCATION ID				3B013-1	3B013-1	3B013-1FD	3B013-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.61	1.63	1.26	0.958
Thorium-230	PCI/G	18	55	2.97	2.02	1.40	0.770
Uranium-238	PCI/G	115	346	0.856	1.28	1.22	0.495

LOCATION ID				3B013-2	3B013-2	3B013-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.10	1.54	3.05
Thorium-230	PCI/G	18	55	2.20	1.46	1.42
Uranium-238	PCI/G	115	346	1.30	1.08	1.26

LOCATION ID				3B013-3	3B013-3	3B013-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.45	0.755	0.908
Thorium-230	PCI/G	18	55	2.56	0.810	0.980
Uranium-238	PCI/G	115	346	3.26	0.840	0.581

LOCATION ID				3B013-4	3B013-4	3B013-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.82	1.81	1.04
Thorium-230	PCI/G	18	55	3.03	1.37	0.739
Uranium-238	PCI/G	115	346	1.69	0.975	0.495

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3B015 AREA

LOCATION ID				3B015-1	3B015-1	3B015-1FD	3B015-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.50	1.76	1.45	0.862
Thorium-230	PCI/G	18	55	3.65	1.15	1.63	0.929
Uranium-238	PCI/G	115	346	1.19	0.834	1.02	0.782

LOCATION ID				3B015-2	3B015-2	3B015-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.73	1.58	0.760
Thorium-230	PCI/G	18	55	3.84	1.78	0.764
Uranium-238	PCI/G	115	346	1.15	1.13	0.781

LOCATION ID				3B015-3	3B015-3	3B015-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.20	0.944	0.868
Thorium-230	PCI/G	18	55	1.76	0.746	0.881
Uranium-238	PCI/G	115	346	2.18	0.635	0.718

LOCATION ID				3B015-4	3B015-4	3B015-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.92	1.44	0.770
Thorium-230	PCI/G	18	55	3.54	1.53	0.742
Uranium-238	PCI/G	115	346	0.971	0.831	0.647

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3C006 AREA

LOCATION ID				3C006-1	3C006-1	3C006-1FD	3C006-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.13	1.33	1.15	0.780
Thorium-230	PCI/G	18	55	0.885	1.19	1.39	0.928
Uranium-238	PCI/G	115	346	0.877	0.767	0.780	0.835

LOCATION ID				3C006-2	3C006-2	3C006-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.658	0.583	0.659
Thorium-230	PCI/G	18	55	1.29	0.654	0.686
Uranium-238	PCI/G	115	346	1.87	0.651	0.755

LOCATION ID				3C006-3	3C006-3	3C006-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.636	1.14	0.988
Thorium-230	PCI/G	18	55	1.17	1.41	0.932
Uranium-238	PCI/G	115	346	0.601	1.48	1.00

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3C007 AREA

LOCATION ID				3C007-1	3C007-1	3C007-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.385	0.683	0.992
Thorium-230	PCI/G	18	55	0.893	1.00	0.931
Uranium-238	PCI/G	115	346	0.581	0.676	1.20

LOCATION ID				3C007-2	3C007-2	3C007-2FD	3C007-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.63	1.84	1.75	0.998
Thorium-230	PCI/G	18	55	1.27	2.13	1.69	0.854
Uranium-238	PCI/G	115	346	0.833	0.901	0.996	0.769

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3C008 AREA

LOCATION ID				3C008-1	3C008-1	3C008-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.620	0.566	0.884
Thorium-230	PCI/G	18	55	0.650	0.562	0.842
Uranium-238	PCI/G	115	346	0.629	0.784	0.901

LOCATION ID				3C008-2	3C008-2	3C008-2FD	3C008-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.01	1.70	2.21	0.985
Thorium-230	PCI/G	18	55	1.89	1.82	2.79	0.975
Uranium-238	PCI/G	115	346	0.97	0.977	1.01	0.819

LOCATION ID				3C008-3	3C008-3	3C008-3	3C008-3FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.42	1.55	1.07	1.08
Thorium-230	PCI/G	18	55	3.23	2.34	1.13	0.943
Uranium-238	PCI/G	115	346	7.78	5.57	2.74	2.54

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3C014 AREA

LOCATION ID				3C014-1	3C014-1	3C014-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.12	0.694	0.815
Thorium-230	PCI/G	18	55	3.80	0.880	0.881
Uranium-238	PCI/G	115	346	1.22	0.610	0.848

LOCATION ID				3C014-2	3C014-2	3C014-2FD	3C014-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.85	0.799	0.797	0.923
Thorium-230	PCI/G	18	55	3.96	1.03	0.878	0.599
Uranium-238	PCI/G	115	346	1.91	0.784	0.637	0.881

LOCATION ID				3C014-3	3C014-3	3C014-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.82	1.94	0.891
Thorium-230	PCI/G	18	55	3.83	1.95	1.04
Uranium-238	PCI/G	115	346	4.03	2.60	1.19

LOCATION ID				3C014-4	3C014-4	3C014-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.83	0.962	1.19
Thorium-230	PCI/G	18	55	1.65	1.14	0.956
Uranium-238	PCI/G	115	346	1.41	0.993	0.805

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3C014 AREA

LOCATION ID				3C014-5	3C014-5	3C014-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.82	1.40	0.697
Thorium-230	PCI/G	18	55	2.01	1.31	0.791
Uranium-238	PCI/G	115	346	1.08	1.37	0.958

LOCATION ID				3C014-6	3C014-6	3C014-6FD	3C014-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.13***	3.85	1.22	1.14
Thorium-230	PCI/G	18	55	3.35	1.98	1.18	0.850
Uranium-238	PCI/G	115	346	4.04	3.67	2.36	2.26

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3D001 AREA

LOCATION ID				3D001-1	3D001-1	3D001-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.41	0.953	0.750
Thorium-230	PCI/G	18	55	1.87	0.840	0.775
Uranium-238	PCI/G	115	346	1.31	0.846	0.698

LOCATION ID				3D001-2	3D001-2	3D001-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.69	0.666	0.748
Thorium-230	PCI/G	18	55	3.10	0.586	0.620
Uranium-238	PCI/G	115	346	1.06	0.703	0.695

LOCATION ID				3D001-3	3D001-3	3D001-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.90	0.947	0.873
Thorium-230	PCI/G	18	55	2.98	0.623	0.848
Uranium-238	PCI/G	115	346	2.35	0.640	0.790

LOCATION ID				3D001-4	3D001-4	3D001-4FD	3D001-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.63	0.543	0.597	0.934
Thorium-230	PCI/G	18	55	1.62	0.692	0.658	0.828
Uranium-238	PCI/G	115	346	0.828	0.962	0.865	0.691

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3D004 AREA

LOCATION ID				3D004-1	3D004-1	3D004-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.57	1.28	1.04
Thorium-230	PCI/G	18	55	2.09	1.20	0.724
Uranium-238	PCI/G	115	346	1.13	0.793	1.22

LOCATION ID				3D004-2	3D004-2	3D004-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.35	4.02	1.10
Thorium-230	PCI/G	18	55	5.31	3.90	0.976
Uranium-238	PCI/G	115	346	4.77	3.22	1.06

LOCATION ID				3D004-3	3D004-3	3D004-3FD	3D004-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.44	0.999	0.841	0.910
Thorium-230	PCI/G	18	55	1.52	0.921	0.934	1.03
Uranium-238	PCI/G	115	346	1.07	0.897	0.770	1.02

LOCATION ID				3D004-4	3D004-4
DEPTH (Feet)				0 - 0.5	0.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	0.649	1.13
Thorium-230	PCI/G	18	55	0.935	1.05
Uranium-238	PCI/G	115	346	0.696	0.738

LOCATION ID				3D004-5	3D004-5	3D004-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.93	1.28	1.18
Thorium-230	PCI/G	18	55	2.14	0.997	1.09
Uranium-238	PCI/G	115	346	1.00	1.25	1.17

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3D006 AREA

LOCATION ID				3D006-1	3D006-1	3D006-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.753	0.594	1.03
Thorium-230	PCI/G	18	55	2.91	2.25	0.769
Uranium-238	PCI/G	115	346	1.43	0.999	0.933

LOCATION ID				3D006-2	3D006-2	3D006-2	3D006-2FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.733	0.374	0.950	0.851
Thorium-230	PCI/G	18	55	1.12	0.987	0.652	0.855
Uranium-238	PCI/G	115	346	1.70	0.689	0.735	0.848

LOCATION ID				3D006-3	3D006-3	3D006-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.88	0.602	0.800
Thorium-230	PCI/G	18	55	3.16	1.22	0.611
Uranium-238	PCI/G	115	346	2.24	0.924	0.773

LOCATION ID				3D006-4	3D006-4	3D006-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.06	0.72	0.794
Thorium-230	PCI/G	18	55	1.85	1.12	1.13
Uranium-238	PCI/G	115	346	6.86	3.01	0.558

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
3D007 AREA

LOCATION ID				3D007-1	3D007-1	3D007-1FD	3D007-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.74	1.01	1.20	0.940
Thorium-230	PCI/G	18	55	1.70	1.04	0.964	0.931
Uranium-238	PCI/G	115	346	1.10	0.918	0.783	1.10

LOCATION ID				3D007-2	3D007-2	3D007-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.20	0.782	0.946
Thorium-230	PCI/G	18	55	1.89	0.915	0.795
Uranium-238	PCI/G	115	346	1.58	1.01	0.727

LOCATION ID				3D007-3	3D007-3	3D007-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.07	0.568	1.20
Thorium-230	PCI/G	18	55	2.96	0.652	0.953
Uranium-238	PCI/G	115	346	1.42	0.858	0.828

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
GWS-15 AND GWS-26 AREAS

LOCATION ID				GWS-15	GWS-15	GWS-15FD	GWS-15
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.29	0.870	0.852	1.02
Thorium-230	PCI/G	18	55	1.81	0.947	0.896	0.794
Uranium-238	PCI/G	115	346	1.64	1.10	0.830	0.777

LOCATION ID				GWS-26	GWS-26	GWS-26FD	GWS-26
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.93	1.57	1.23	1.27
Thorium-230	PCI/G	18	55	2.66	1.80	1.62	0.769
Uranium-238	PCI/G	115	346	***358***	***143***	***133***	1.82

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15

EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
SP-18 AREA

LOCATION ID				SP-18	SP-18	SP-18
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***8.83***	1.36	***16.4***
Thorium-230	PCI/G	18	55	9.60	0.752	0.813
Uranium-238	PCI/G	115	346	19.1	1.73	1.26

LOCATION ID				SP-18-1	SP-18-1	SP-18-1	SP-18-1	SP-18-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	***9.92***	6.10	2.52	1.22	1.09
Thorium-230	PCI/G	18	55	3.48	2.57	1.11	0.929	0.916
Uranium-238	PCI/G	115	346	1.37	1.18	0.927	0.817	0.761

LOCATION ID				SP-18-2	SP-18-2	SP-18-2FD	SP-18-2	SP-18-2	SP-18-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	2.16	0.784	0.828	1.25	1.00	0.946
Thorium-230	PCI/G	18	55	5.57	0.908	0.799	0.825	0.771	0.652
Uranium-238	PCI/G	115	346	4.93	0.834	0.819	1.45	0.873	0.622

LOCATION ID				SP-18-3	SP-18-3	SP-18-3FD	SP-18-3	SP-18-3	SP-18-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	4.86	0.936	0.702	0.871	1.18	1.16
Thorium-230	PCI/G	18	55	0.609	0.810	0.816	0.795	0.961	0.901
Uranium-238	PCI/G	115	346	0.485	0.838	0.789	0.782	0.603	0.716

LOCATION ID				SP-18-4	SP-18-4	SP-18-4	SP-18-4	SP-18-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/20/2014	6/20/2014	6/20/2014	6/20/2014	6/20/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	***5.76***	1.92	1.05	1.12	1.02
Thorium-230	PCI/G	18	55	4.36	2.39	0.759	0.924	0.842
Uranium-238	PCI/G	115	346	4.29	2.80	1.02	1.54	1.02

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 15
EU8 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU8
TB301 AREA

LOCATION ID				TB301_01-1	TB301_01-1	TB301_01-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.11	1.05	1.27
Thorium-230	PCI/G	18	55	1.18	0.844	0.454
Uranium-238	PCI/G	115	346	0.996	1.02	1.02

LOCATION ID				TB301_01-2	TB301_01-2	TB301_01-2FD	TB301_01-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.934	1.00	0.954	1.93
Thorium-230	PCI/G	18	55	0.754	0.697	0.810	2.19
Uranium-238	PCI/G	115	346	0.507	0.527	0.780	0.847

LOCATION ID				TB301_01-3	TB301_01-3	TB301_01-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/12/2013	12/12/2013	12/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.758	0.809	0.879
Thorium-230	PCI/G	18	55	0.748	0.746	0.750
Uranium-238	PCI/G	115	346	0.624	0.593	0.597

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 16
EU9 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU9
913 AREA

LOCATION ID				913-1	913-1	913-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.08	0.851	0.832
Thorium-230	PCI/G	18	55	0.885	0.767	0.899
Uranium-238	PCI/G	115	346	0.790	0.698	0.637

LOCATION ID				913-2	913-2	913-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
SAMPLE DATE				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.08	0.992	0.923
Thorium-230	PCI/G	18	55	1.01	0.937	0.867
Uranium-238	PCI/G	115	346	0.854	0.818	0.620

LOCATION ID				913-3	913-3	913-3FD	913-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
SAMPLE DATE				11/18/2013	11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.703	0.972	0.881	0.917
Thorium-230	PCI/G	18	55	0.739	0.646	0.652	0.75
Uranium-238	PCI/G	115	346	0.671	0.536	0.669	0.455

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 17
EU10 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU10
TWP937 Area

LOCATION ID				TWP937-1	TWP937-1	TWP937-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.19	1.07	0.728
Thorium-230	PCI/G	18	55	1.01	0.743	0.841
Uranium-238	PCI/G	115	346	1.15	0.748	0.886

LOCATION ID				TWP937-2	TWP937-2	TWP937-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.49	0.997	0.796
Thorium-230	PCI/G	18	55	1.51	0.851	0.933
Uranium-238	PCI/G	115	346	1.20	0.763	0.785

LOCATION ID				TWP937-3	TWP937-3	TWP937-3FD	TWP937-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.03	0.899	0.816	0.603
Thorium-230	PCI/G	18	55	2.11	0.889	0.773	0.624
Uranium-238	PCI/G	115	346	0.815	0.773	0.576	0.574

LOCATION ID				TWP937-4	TWP937-4	TWP937-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/18/2013	11/18/2013	11/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.51	1.11	0.751
Thorium-230	PCI/G	18	55	1.43	0.900	0.925
Uranium-238	PCI/G	115	346	0.873	0.870	0.849

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-01	MH06-01	MH06-01FD	MH06-01
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.796	0.857	1.06	0.952
Thorium-230	PCI/G	18	55	1.01	0.758	0.705	0.702
Uranium-238	PCI/G	115	346	3.80	4.24	3.94	5.24

LOCATION ID				MH06-02	MH06-02	MH06-02FD	MH06-02	MH06-02	MH06-02
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	1.18	1.07	0.991	1.16	0.688	0.979
Thorium-230	PCI/G	18	55	1.13	0.969	0.842	0.872	0.947	0.827
Uranium-238	PCI/G	115	346	6.69	23.5	27.0	27.0	24.5	19.5

LOCATION ID				MH06-03	MH06-03	MH06-03FD	MH06-03	MH06-03	MH06-03
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	0.854	0.865	1.00	0.785	1.01	0.961
Thorium-230	PCI/G	18	55	1.45	0.998	1.02	0.883	0.704	0.530
Uranium-238	PCI/G	115	346	0.441	0.862	1.01	0.832	23.3	5.28

LOCATION ID				MH06-04	MH06-04	MH06-04
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.23	0.735	0.843
Thorium-230	PCI/G	18	55	1.22	0.790	0.680
Uranium-238	PCI/G	115	346	5.89	5.12	2.52

LOCATION ID				MH06-05	MH06-05	MH06-05
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.08	1.28	0.743
Thorium-230	PCI/G	18	55	1.52	1.53	0.826
Uranium-238	PCI/G	115	346	0.957	0.977	1.03

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-06	MH06-06	MH06-06	MH06-06FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.20	1.51	0.982	1.17
Thorium-230	PCI/G	18	55	5.21	1.59	0.954	0.978
Uranium-238	PCI/G	115	346	1.31	1.67	1.28	1.25

LOCATION ID				MH06-07	MH06-07	MH06-07
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.91	1.27	1.03
Thorium-230	PCI/G	18	55	3.16	1.57	0.856
Uranium-238	PCI/G	115	346	1.01	1.16	1.28

LOCATION ID				MH06-08	MH06-08	MH06-08
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.15	1.81	0.880
Thorium-230	PCI/G	18	55	2.22	1.91	0.832
Uranium-238	PCI/G	115	346	1.03	1.45	0.973

LOCATION ID				MH06-09	MH06-09	MH06-09
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.92	1.68	1.38
Thorium-230	PCI/G	18	55	1.79	1.58	1.40
Uranium-238	PCI/G	115	346	0.821	0.771	1.12

LOCATION ID				MH06-10	MH06-10	MH06-10	MH06-10FD	MH06-10	MH06-10
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE		
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	1.19	1.18	0.862	1.21	0.911	0.915
Thorium-230	PCI/G	18	55	1.12	0.932	0.888	1.19	0.890	0.893
Uranium-238	PCI/G	115	346	10.3	23.2	30.6	20.6	23.7	6.86

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-11	MH06-11	MH06-11	MH06-11	MH06-11
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				11/11/2013	11/11/2013	11/11/2013	11/11/2013	11/11/2013
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	0.739	0.364	1.01	0.814	1.05
Thorium-230	PCI/G	18	55	0.733	0.639	1.23	0.750	0.803
Uranium-238	PCI/G	115	346	0.597	0.394	2.78	20.7	15.2

LOCATION ID				MH06-12	MH06-12	MH06-12	MH06-12FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.52	0.883	0.838	1.12
Thorium-230	PCI/G	18	55	1.72	0.811	0.917	0.977
Uranium-238	PCI/G	115	346	4.66	5.94	4.03	4.33

LOCATION ID				MH06-13	MH06-13	MH06-13
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.99	1.14	0.84
Thorium-230	PCI/G	18	55	1.90	1.16	1.10
Uranium-238	PCI/G	115	346	3.46	7.64	12.9

LOCATION ID				MH06-14	MH06-14	MH06-14
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.53	1.00	0.835
Thorium-230	PCI/G	18	55	1.73	0.887	0.775
Uranium-238	PCI/G	115	346	1.69	1.56	1.50

LOCATION ID				MH06-15	MH06-15	MH06-15
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.949	0.800	0.639
Thorium-230	PCI/G	18	55	1.18	0.805	0.649
Uranium-238	PCI/G	115	346	0.753	0.789	0.570

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-16	MH06-16	MH06-16
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.35	1.17	0.677
Thorium-230	PCI/G	18	55	2.89	1.19	0.658
Uranium-238	PCI/G	115	346	0.847	1.09	0.595

LOCATION ID				MH06-17	MH06-17	MH06-17
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.82	1.35	1.06
Thorium-230	PCI/G	18	55	1.52	1.38	0.888
Uranium-238	PCI/G	115	346	0.865	1.24	0.876

LOCATION ID				MH06-18	MH06-18	MH06-18FD	MH06-18
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.02	0.890	0.959	0.921
Thorium-230	PCI/G	18	55	1.12	1.04	0.954	0.818
Uranium-238	PCI/G	115	346	5.51	7.30	6.38	4.03

LOCATION ID				MH06-19	MH06-19	MH06-19FD	MH06-19
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.882	0.545	0.460	0.962
Thorium-230	PCI/G	18	55	1.14	0.917	0.921	1.03
Uranium-238	PCI/G	115	346	1.01	5.28	1.81	17.2

LOCATION ID				MH06-20	MH06-20	MH06-20
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.07	1.07	0.968
Thorium-230	PCI/G	18	55	1.55	1.02	0.802
Uranium-238	PCI/G	115	346	1.70	3.60	3.46

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-21	MH06-21	MH06-21
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.27	0.921	0.897
Thorium-230	PCI/G	18	55	1.66	0.909	0.903
Uranium-238	PCI/G	115	346	3.91	9.38	6.14

LOCATION ID				MH06-22	MH06-22	MH06-22FD	MH06-22
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.59	0.975	0.989	0.838
Thorium-230	PCI/G	18	55	1.67	0.913	0.887	0.75
Uranium-238	PCI/G	115	346	7.16	18.6	22.6	6.38

LOCATION ID				MH06-23	MH06-23	MH06-23
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.92	1.03	0.957
Thorium-230	PCI/G	18	55	1.38	0.849	0.909
Uranium-238	PCI/G	115	346	1.82	2.53	2.16

LOCATION ID				MH06-24	MH06-24	MH06-24FD	MH06-24
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.18	0.930	1.33	0.804
Thorium-230	PCI/G	18	55	1.47	1.32	1.22	0.753
Uranium-238	PCI/G	115	346	0.896	1.26	1.13	0.845

LOCATION ID				MH06-25	MH06-25	MH06-25
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.05	0.958	0.707
Thorium-230	PCI/G	18	55	1.02	0.751	0.868
Uranium-238	PCI/G	115	346	3.90	1.11	0.913

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-26	MH06-26	MH06-26	MH06-26
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.386	1.04	1.05	0.878
Thorium-230	PCI/G	18	55	0.542	1.02	0.902	0.863
Uranium-238	PCI/G	115	346	0.463	0.69	0.746	19.4

LOCATION ID				MH06-27	MH06-27	MH06-27FD	MH06-27
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.66	0.771	0.996	0.675
Thorium-230	PCI/G	18	55	1.94	1.12	0.810	0.931
Uranium-238	PCI/G	115	346	6.95	2.75	2.71	1.82

LOCATION ID				MH06-28	MH06-28	MH06-28
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.19	0.724	0.855
Thorium-230	PCI/G	18	55	1.37	0.761	0.925
Uranium-238	PCI/G	115	346	3.17	0.906	0.854

LOCATION ID				MH06-29	MH06-29	MH06-29
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.80	0.937	0.866
Thorium-230	PCI/G	18	55	1.33	0.696	0.792
Uranium-238	PCI/G	115	346	6.06	8.35	11.4

LOCATION ID				MH06-30	MH06-30	MH06-30	MH06-30
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				11/12/2013	11/12/2013	11/12/2013	11/12/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.75	0.948	0.78	1.21
Thorium-230	PCI/G	18	55	1.54	1.01	0.843	0.902
Uranium-238	PCI/G	115	346	3.89	8.13	2.54	1.36

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
MH06 AREA

LOCATION ID				MH06-31	MH06-31	MH06-31
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.42	1.14	0.889
Thorium-230	PCI/G	18	55	1.85	0.843	0.996
Uranium-238	PCI/G	115	346	0.951	1.94	1.45

LOCATION ID				MH06-32	MH06-32	MH06-32
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.21	0.899	0.866
Thorium-230	PCI/G	18	55	1.11	1.03	0.953
Uranium-238	PCI/G	115	346	1.77	1.81	6.09

LOCATION ID				MH06-33	MH06-33	MH06-33
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.934	1.02	0.765
Thorium-230	PCI/G	18	55	1.13	1.03	0.929
Uranium-238	PCI/G	115	346	9.81	24.0	4.82

LOCATION ID				MH06-34	MH06-34	MH06-34FD	MH06-34
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.734	1.57	0.925	0.798
Thorium-230	PCI/G	18	55	1.75	0.77	0.804	0.986
Uranium-238	PCI/G	115	346	6.23	3.78	3.28	2.06

LOCATION ID				MH06-35	MH06-35	MH06-35
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.84	1.50	0.911
Thorium-230	PCI/G	18	55	1.89	1.41	0.900
Uranium-238	PCI/G	115	346	1.09	3.20	3.88

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
2A006 AREA

LOCATION ID				2A006-1	2A006-1	2A006-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.26	2.48	1.17
Thorium-230	PCI/G	18	55	1.32	1.92	1.03
Uranium-238	PCI/G	115	346	0.967	1.17	1.86

LOCATION ID				2A006-2	2A006-2	2A006-3FD	2A006-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***6.73***	2.10	1.46	0.877
Thorium-230	PCI/G	18	55	7.06	2.73	2.30	0.945
Uranium-238	PCI/G	115	346	1.41	1.14	0.746	1.25

LOCATION ID				2A006-3	2A006-3	2A006-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.16	1.60	0.827
Thorium-230	PCI/G	18	55	3.77	1.79	0.902
Uranium-238	PCI/G	115	346	0.764	0.815	0.921

LOCATION ID				2A006-4	2A006-4	2A006-4FD	2A006-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.08***	1.70	2.37	0.965
Thorium-230	PCI/G	18	55	4.98	2.14	2.36	0.994
Uranium-238	PCI/G	115	346	1.12	1.29	1.27	1.95

LOCATION ID				2A006-5	2A006-5	2A006-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				41807.00	41807.00	41807.00
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.72***	2.38	0.97
Thorium-230	PCI/G	18	55	6.70	2.32	1.13
Uranium-238	PCI/G	115	346	1.82	1.30	1.12

LOCATION ID				2A006-6	2A006-6	2A006-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/17/2014	6/17/2014	6/17/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***18.6***	5.29	1.21
Thorium-230	PCI/G	18	55	***21.3***	7.34	0.807
Uranium-238	PCI/G	115	346	6.24	2.99	1.45

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
826 AREA

LOCATION ID				826-1	826-1	826-1FD	826-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.543	1.74	0.997	0.828
Thorium-230	PCI/G	18	55	0.857	1.47	1.09	0.866
Uranium-238	PCI/G	115	346	0.515	1.34	1.18	1.04

LOCATION ID				826-2	826-2	826-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.14	0.958	0.805
Thorium-230	PCI/G	18	55	1.03	0.823	0.796
Uranium-238	PCI/G	115	346	0.797	0.786	0.809

LOCATION ID				826-3	826-3	826-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.89	1.36	0.889
Thorium-230	PCI/G	18	55	2.12	1.17	0.965
Uranium-238	PCI/G	115	346	1.28	1.13	0.753

LOCATION ID				826-4	826-4	826-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.04	1.26	0.922
Thorium-230	PCI/G	18	55	2.90	1.50	0.891
Uranium-238	PCI/G	115	346	1.27	1.58	1.10

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
827 AREA

LOCATION ID				827-1	827-1
DEPTH (Feet)				0 - 0.5	0.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	2.59	4.56
Thorium-230	PCI/G	18	55	2.87	5.55
Uranium-238	PCI/G	115	346	1.27	5.84

LOCATION ID				827-2	827-2	827-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.47	1.38	1.06
Thorium-230	PCI/G	18	55	2.53	1.64	1.24
Uranium-238	PCI/G	115	346	0.981	1.50	1.07

LOCATION ID				827-3	827-3	827-3FD	827-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.15	1.07	1.21	0.957
Thorium-230	PCI/G	18	55	1.67	1.28	1.34	1.15
Uranium-238	PCI/G	115	346	1.63	1.41	1.62	1.26

LOCATION ID				827-4	827-4	827-4FD	827-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.98	2.03	1.99	0.98
Thorium-230	PCI/G	18	55	3.92	1.88	1.58	1.17
Uranium-238	PCI/G	115	346	1.22	1.13	1.26	1.72

LOCATION ID				827-5	827-5	827-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.66	4.46	1.48
Thorium-230	PCI/G	18	55	3.10	3.28	1.35
Uranium-238	PCI/G	115	346	1.08	3.12	1.46

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
830 AREA

LOCATION ID				830-1	830-1	830-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.76	0.508	1.09
Thorium-230	PCI/G	18	55	2.47	1.31	1.06
Uranium-238	PCI/G	115	346	0.712	1.11	1.67

LOCATION ID				830-2	830-2	830-2FD	830-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.60	0.984	0.987	0.776
Thorium-230	PCI/G	18	55	1.69	1.09	1.21	0.922
Uranium-238	PCI/G	115	346	0.625	1.00	1.01	0.847

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8A004 AREA

LOCATION ID				8A004-1	8A004-1	8A004-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.01***	2.67	0.834
Thorium-230	PCI/G	18	55	6.88	3.36	0.914
Uranium-238	PCI/G	115	346	1.00	0.942	0.935

LOCATION ID				8A004-2	8A004-2	8A004-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.20***	1.52	1.00
Thorium-230	PCI/G	18	55	6.96	1.56	1.19
Uranium-238	PCI/G	115	346	0.922	0.989	1.03

LOCATION ID				8A004-3	8A004-3	8A004-3FD	8A004-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	4.87	5.52	5.56	1.70
Thorium-230	PCI/G	18	55	5.80	5.06	5.24	1.55
Uranium-238	PCI/G	115	346	1.17	1.58	1.54	2.14

LOCATION ID				8A004-4	8A004-4	8A004-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.88***	1.85	1.31
Thorium-230	PCI/G	18	55	7.85	2.37	0.954
Uranium-238	PCI/G	115	346	1.19	1.09	0.960

LOCATION ID				8A004-5	8A004-5	8A004-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.80	1.42	0.954
Thorium-230	PCI/G	18	55	2.50	2.03	0.943
Uranium-238	PCI/G	115	346	0.884	1.16	1.19

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8A004 AREA

LOCATION ID				8A004-6	8A004-6	8A004-6	8A004-6FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.40	1.30	0.971	0.867
Thorium-230	PCI/G	18	55	2.48	1.08	0.835	0.95
Uranium-238	PCI/G	115	346	0.903	1.32	1.26	1.46

LOCATION ID				8A004-7	8A004-7	8A004-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.13	2.60	1.26
Thorium-230	PCI/G	18	55	5.86	2.92	1.02
Uranium-238	PCI/G	115	346	0.740	0.883	1.26

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8A009 AREA

LOCATION ID				8A009-1	8A009-1	8A009-1FD	8A009-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.68	1.10	1.20	0.997
Thorium-230	PCI/G	18	55	1.80	1.05	1.18	1.18
Uranium-238	PCI/G	115	346	1.96	2.03	1.96	1.22

LOCATION ID				8A009-2	8A009-2	8A009-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.58	1.16	0.909
Thorium-230	PCI/G	18	55	1.73	1.16	0.726
Uranium-238	PCI/G	115	346	1.28	1.15	0.374

LOCATION ID				8A009-3	8A009-3	8A009-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.14	1.39	0.992
Thorium-230	PCI/G	18	55	1.62	1.34	0.963
Uranium-238	PCI/G	115	346	2.44	2.18	0.813

LOCATION ID				8A009-4	8A009-4	8A009-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/6/2013	12/6/2013	12/6/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.153	2.27	0.990
Thorium-230	PCI/G	18	55	0.252	2.79	0.947
Uranium-238	PCI/G	115	346	0.285	2.72	1.15

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18

EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8H001 AREA

LOCATION ID				8H001-1	8H001-1	8H001-1FD	8H001-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.59	1.57	1.53	1.03
Thorium-230	PCI/G	18	55	2.99	1.65	1.54	0.990
Uranium-238	PCI/G	115	346	1.16	0.936	1.01	0.906

LOCATION ID				8H001-2
DEPTH (Feet)				0 - 0.5
MATRIX				SOIL
FIELD DUPLICATE				
DATE SAMPLED				12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2	
Radionuclides				
Radium-226	PCI/G	5	15	3.23
Thorium-230	PCI/G	18	55	3.64
Uranium-238	PCI/G	115	346	1.78

LOCATION ID				8H001-3	8H001-3	8H001-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.57	1.70	1.08
Thorium-230	PCI/G	18	55	1.66	1.75	1.01
Uranium-238	PCI/G	115	346	1.23	1.14	1.25

LOCATION ID				8H001-4
DEPTH (Feet)				0 - 0.5
MATRIX				SOIL
FIELD DUPLICATE				
DATE SAMPLED				12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2	
Radionuclides				
Radium-226	PCI/G	5	15	1.85
Thorium-230	PCI/G	18	55	1.90
Uranium-238	PCI/G	115	346	1.13

LOCATION ID				8H001-5	8H001-5	8H001-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.32	1.16	0.671
Thorium-230	PCI/G	18	55	2.13	1.71	0.671
Uranium-238	PCI/G	115	346	1.50	1.46	0.535

LOCATION ID				8H001-6	8H001-6	8H001-6FD	8H001-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.34	2.24	1.64	1.13
Thorium-230	PCI/G	18	55	2.34	2.28	2.35	1.07
Uranium-238	PCI/G	115	346	1.36	1.36	1.37	1.22

Notes:
Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)
Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)
Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
8H002 AREA

LOCATION ID				8H002-1	8H002-1	8H002-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.41	1.97	0.78
Thorium-230	PCI/G	18	55	3.91	2.02	0.985
Uranium-238	PCI/G	115	346	1.77	1.13	1.98

LOCATION ID				8H002-2	8H002-2	8H002-2FD	8H002-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.46	1.93	1.36	0.996
Thorium-230	PCI/G	18	55	3.28	2.59	1.83	1.06
Uranium-238	PCI/G	115	346	2.34	2.16	2.15	1.59

LOCATION ID				8H002-3	8H002-3	8H002-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.54	1.41	1.02
Thorium-230	PCI/G	18	55	1.25	0.973	1.04
Uranium-238	PCI/G	115	346	1.35	1.64	0.942

LOCATION ID				8H002-4	8H002-4	8H002-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.52	2.88	0.780
Thorium-230	PCI/G	18	55	3.84	1.95	0.911
Uranium-238	PCI/G	115	346	1.69	1.94	0.963

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
GWS-11, GWS-12, GWS-13, AND GWS-27 AREAS

LOCATION ID				GWS-11	GWS-11	GWS-11
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***11.2***	1.93	0.910
Thorium-230	PCI/G	18	55	16.5	3.24	0.891
Uranium-238	PCI/G	115	346	2.03	0.995	1.45

LOCATION ID				GWS-11-1	GWS-11-1	GWS-11-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.21***	1.91	1.35
Thorium-230	PCI/G	18	55	7.21	1.44	0.995
Uranium-238	PCI/G	115	346	1.94	1.53	1.17

LOCATION ID				GWS-12	GWS-12	GWS-12FD	GWS-12
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.871	1.19	1.00	0.935
Thorium-230	PCI/G	18	55	5.14	0.910	1.15	0.895
Uranium-238	PCI/G	115	346	1.53	1.41	1.01	0.825

LOCATION ID				GWS-13	GWS-13	GWS-13
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.83	2.99	4.03
Thorium-230	PCI/G	18	55	7.66	5.67	0.771
Uranium-238	PCI/G	115	346	0.668	1.58	0.888

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
SP-09 AND SP-17 AREAS

LOCATION ID				SP-09	SP-09
DEPTH (Feet)				0.5 - 1.5	1.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	12.9	5.46
Thorium-230	PCI/G	18	55	16.5	5.28
Uranium-238	PCI/G	115	346	2.51	2.59

LOCATION ID				SP-17	SP-17	SP-17FD	SP-17
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	3.40	0.916	1.21	0.941
Thorium-230	PCI/G	18	55	3.21	0.856	0.964	1.12
Uranium-238	PCI/G	115	346	0.702	1.35	1.30	0.926

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
TB810 AREA

LOCATION ID				TB810_03-1	TB810_03-1	TB810_03-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.75	1.29	0.954
Thorium-230	PCI/G	18	55	1.47	1.46	0.926
Uranium-238	PCI/G	115	346	1.09	1.20	1.03

LOCATION ID				TB810_03-2	TB810_03-2	TB810_03-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.53	1.04	1.55
Thorium-230	PCI/G	18	55	1.18	1.04	1.29
Uranium-238	PCI/G	115	346	1.03	0.942	0.759

LOCATION ID				TB810_03-3	TB810_03-3	TB810_03-3FD	TB810_03-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				11/13/2013	11/13/2013	11/13/2013	11/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.14	1.26	1.56	0.783
Thorium-230	PCI/G	18	55	1.77	1.39	1.14	0.797
Uranium-238	PCI/G	115	346	1.19	1.06	1.21	0.831

LOCATION ID				TB810_03-4	TB810_03-4	TB810_03-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				11/14/2013	11/14/2013	11/14/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.98	1.71	0.895
Thorium-230	PCI/G	18	55	1.75	0.935	0.994
Uranium-238	PCI/G	115	346	1.17	1.03	0.922

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 18
EU11 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU11
TS812 AREA

LOCATION ID				TS812_04-1	TS812_04-1	TS812_04-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.29	0.639	0.977
Thorium-230	PCI/G	18	55	1.36	0.795	0.947
Uranium-238	PCI/G	115	346	6.23	1.19	1.02

LOCATION ID				TS812_04-2	TS812_04-2	TS812_04-2FD	TS812_04-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.66	1.05	0.895	0.942
Thorium-230	PCI/G	18	55	2.05	1.23	1.29	0.929
Uranium-238	PCI/G	115	346	0.852	1.43	1.46	0.803

LOCATION ID				TS812_04-3	TS812_04-3	TS812_04-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.593	0.735	0.798
Thorium-230	PCI/G	18	55	0.986	0.675	0.940
Uranium-238	PCI/G	115	346	1.67	1.19	0.988

LOCATION ID				TS812_04-4	TS812_04-4	TS812_04-4FD	TS812_04-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/5/2013	12/5/2013	12/5/2013	12/5/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.600	0.859	0.886	0.966
Thorium-230	PCI/G	18	55	1.14	0.763	0.806	0.727
Uranium-238	PCI/G	115	346	0.482	0.93	0.787	0.725

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
205 AREA

LOCATION ID				205-1	205-1	205-1FD	205-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.29	1.39	0.906	0.782
Thorium-230	PCI/G	18	55	1.90	1.52	0.815	0.712
Uranium-238	PCI/G	115	346	0.976	0.858	0.840	0.712

LOCATION ID				205-2	205-2	205-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.55***	2.24	0.249
Thorium-230	PCI/G	18	55	3.15	2.14	0.725
Uranium-238	PCI/G	115	346	0.926	1.00	0.504

LOCATION ID				205-3	205-3	205-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.59	3.90	1.13
Thorium-230	PCI/G	18	55	1.40	3.00	1.02
Uranium-238	PCI/G	115	346	0.762	2.95	1.11

LOCATION ID				205-4	205-4	205-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.53	1.81	0.934
Thorium-230	PCI/G	18	55	3.52	1.53	0.635
Uranium-238	PCI/G	115	346	1.07	0.961	0.492

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
218 AREA

LOCATION ID				218-1	218-1	218-1FD	218-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.08	1.34	1.98	0.911
Thorium-230	PCI/G	18	55	2.61	1.31	2.02	0.959
Uranium-238	PCI/G	115	346	0.982	1.25	1.36	1.34

LOCATION ID				218-2	218-2	218-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.15	1.10	1.02
Thorium-230	PCI/G	18	55	1.09	1.08	0.741
Uranium-238	PCI/G	115	346	0.819	1.60	0.771

LOCATION ID				218-3	218-3	218-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.37	1.13	0.866
Thorium-230	PCI/G	18	55	3.65	1.29	0.783
Uranium-238	PCI/G	115	346	1.07	1.03	1.32

LOCATION ID				218-4	218-4	218-4FD	218-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.96	1.52	1.69	1.23
Thorium-230	PCI/G	18	55	3.07	1.97	1.62	0.873
Uranium-238	PCI/G	115	346	1.22	1.66	1.19	1.00

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
219 AREA

LOCATION ID				219-1	219-1	219-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.77	4.82	1.12
Thorium-230	PCI/G	18	55	2.19	5.36	1.31
Uranium-238	PCI/G	115	346	0.828	0.762	0.996

LOCATION ID				219-2	219-2	219-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.02	2.16	0.905
Thorium-230	PCI/G	18	55	3.59	2.09	1.01
Uranium-238	PCI/G	115	346	0.993	0.853	0.912

LOCATION ID				219-3	219-3	219-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.01	1.03	1.01
Thorium-230	PCI/G	18	55	3.09	0.943	1.24
Uranium-238	PCI/G	115	346	0.857	0.804	1.25

LOCATION ID				219-4	219-4	219-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/13/2013	12/13/2013	12/13/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.94	1.36	1.10
Thorium-230	PCI/G	18	55	3.87	1.66	1.05
Uranium-238	PCI/G	115	346	1.06	0.572	1.38

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2A008 AREA

LOCATION ID				2A008-1	2A008-1	2A008-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.57	1.51	1.08
Thorium-230	PCI/G	18	55	1.22	1.41	0.948
Uranium-238	PCI/G	115	346	0.889	1.24	0.786

LOCATION ID				2A008-2	2A008-2	2A008-2FD	2A008-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***6.43***	1.93	2.60	0.954
Thorium-230	PCI/G	18	55	7.49	1.82	2.19	0.832
Uranium-238	PCI/G	115	346	1.14	0.767	0.601	0.444

LOCATION ID				2A008-3	2A008-3	2A008-3	2A008-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.32	2.92	1.24	0.737
Thorium-230	PCI/G	18	55	2.78	2.67	0.93	0.843
Uranium-238	PCI/G	115	346	1.11	1.33	1.10	0.884

LOCATION ID				2A008-4	2A008-4	2A008-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.36***	1.57	0.955
Thorium-230	PCI/G	18	55	6.86	2.48	0.735
Uranium-238	PCI/G	115	346	1.43	1.02	0.622

LOCATION ID				2A008-5	2A008-5	2A008-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.92	2.77	1.39
Thorium-230	PCI/G	18	55	4.37	3.11	1.04
Uranium-238	PCI/G	115	346	1.07	1.57	1.02

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2A008 AREA

LOCATION ID				2A008-6	2A008-6	2A008-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***6.28***	2.02	1.04
Thorium-230	PCI/G	18	55	10.7	2.37	0.793
Uranium-238	PCI/G	115	346	1.59	1.21	0.985

LOCATION ID				2A008-7	2A008-7	2A008-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.40***	1.86	1.38
Thorium-230	PCI/G	18	55	8.12	1.52	0.878
Uranium-238	PCI/G	115	346	1.43	1.18	1.20

LOCATION ID				2A008-8	2A008-8FD	2A008-8	2A008-8
DEPTH (Feet)				0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					DUPLICATE		
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.10***	4.19	2.68	1.10
Thorium-230	PCI/G	18	55	5.87	6.40	3.09	0.998
Uranium-238	PCI/G	115	346	1.11	0.929	1.48	1.15

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2D012 AREA

LOCATION ID				2D012-1	2D012-1	2D012-1FD	2D012-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.42	2.15	3.04	2.38
Thorium-230	PCI/G	18	55	1.28	0.830	1.28	1.55
Uranium-238	PCI/G	115	346	0.988	0.681	1.01	1.67

LOCATION ID				2D012-2	2D012-2	2D012-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.24	2.89	1.46
Thorium-230	PCI/G	18	55	1.28	1.43	1.12
Uranium-238	PCI/G	115	346	1.07	1.37	0.851

LOCATION ID				2D012-4	2D012-4	2D012-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	4.49	2.76	2.04
Thorium-230	PCI/G	18	55	2.25	2.13	1.12
Uranium-238	PCI/G	115	346	2.15	1.95	2.07

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
2D013 AREA

LOCATION ID				2D013-1	2D013-1
DEPTH (Feet)				0 - 0.5	0.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	***5.20***	4.71
Thorium-230	PCI/G	18	55	4.05	3.56
Uranium-238	PCI/G	115	346	3.33	4.04

LOCATION ID				2D013-2	2D013-2	2D013-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.03	1.29	1.35
Thorium-230	PCI/G	18	55	1.72	1.11	0.816
Uranium-238	PCI/G	115	346	0.752	0.805	0.703

LOCATION ID				2D013-4	2D013-4	2D013-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/17/2013	12/17/2013	12/17/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***7.41***	1.34	0.834
Thorium-230	PCI/G	18	55	2.17	1.10	0.771
Uranium-238	PCI/G	115	346	1.13	1.04	0.886

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 19
EU12 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU12
GWS-27 AREA

LOCATION ID				GWS-27	GWS-27	GWS-27	GWS-27FD
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE							DUPLICATE
DATE SAMPLED				6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.03	1.41	0.998	0.957
Thorium-230	PCI/G	18	55	2.23	1.72	1.09	1.16
Uranium-238	PCI/G	115	346	1.32	1.08	1.11	1.15

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
203 AREA

LOCATION ID				203-1	203-1	203-1FD	203-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.25	0.984	1.07	0.993
Thorium-230	PCI/G	18	55	1.32	1.06	0.862	1.21
Uranium-238	PCI/G	115	346	1.23	0.999	0.736	1.97

LOCATION ID				203-2	203-2	203-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.95	1.08	0.891
Thorium-230	PCI/G	18	55	0.749	0.920	0.824
Uranium-238	PCI/G	115	346	1.07	0.849	0.793

LOCATION ID				203-3	203-3	203-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.63	1.07	1.06
Thorium-230	PCI/G	18	55	1.18	0.846	0.688
Uranium-238	PCI/G	115	346	1.43	0.813	1.44

LOCATION ID				203-4	203-4	203-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.59	1.21	0.947
Thorium-230	PCI/G	18	55	1.21	1.32	0.927
Uranium-238	PCI/G	115	346	1.36	1.30	2.25

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
220 AREA

LOCATION ID				220-1	220-1	220-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.05	3.94	1.96
Thorium-230	PCI/G	18	55	2.93	5.13	2.17
Uranium-238	PCI/G	115	346	1.00	1.09	1.37

LOCATION ID				220-2	220-2	220-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.90	1.59	2.42
Thorium-230	PCI/G	18	55	2.86	1.61	1.47
Uranium-238	PCI/G	115	346	0.648	0.842	1.18

LOCATION ID				220-3	220-3	220-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	3.60	4.33	3.26
Thorium-230	PCI/G	18	55	5.02	7.25	2.08
Uranium-238	PCI/G	115	346	0.707	16.5	3.44

LOCATION ID				220-4	220-4	220-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.698	1.88	0.981
Thorium-230	PCI/G	18	55	1.05	1.55	0.849
Uranium-238	PCI/G	115	346	0.442	1.53	1.19

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
221 AREA

LOCATION ID				221-1	221-1	221-1FD	221-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	0.622	1.17	1.12	1.19
Thorium-230	PCI/G	18	55	1.53	1.23	1.47	0.828
Uranium-238	PCI/G	115	346	0.655	0.592	0.775	0.735

LOCATION ID				221-2	221-2	221-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.346	0.593	1.29
Thorium-230	PCI/G	18	55	0.415	0.754	0.990
Uranium-238	PCI/G	115	346	0.228	0.599	2.58

LOCATION ID				221-3	221-3	221-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.289	3.99	1.11
Thorium-230	PCI/G	18	55	0.530	3.56	0.952
Uranium-238	PCI/G	115	346	0.348	2.23	2.65

LOCATION ID				221-4	221-4	221-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.50	3.02	0.725
Thorium-230	PCI/G	18	55	2.07	1.61	0.765
Uranium-238	PCI/G	115	346	2.09	1.59	0.888

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 20
EU13 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU13
GWS-14 AREA

LOCATION ID				GWS-14	GWS-14	GWS-14
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/3/2013	12/3/2013	12/3/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.372	0.971	0.838
Thorium-230	PCI/G	18	55	0.579	1.00	0.979
Uranium-238	PCI/G	115	346	0.364	1.14	1.52

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 21
EU14 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU14
2B014 AREA

LOCATION ID				2B014-1	2B014-1
DEPTH (Feet)				0 - 0.5	0.5 - 2
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				12/18/2013	12/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	0.491	0.581
Thorium-230	PCI/G	18	55	0.651	0.654
Uranium-238	PCI/G	115	346	1.02	0.829

LOCATION ID				2B014-2	2B014-2	2B014-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/18/2013	12/18/2013	12/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.22	1.08	0.873
Thorium-230	PCI/G	18	55	1.14	1.04	0.860
Uranium-238	PCI/G	115	346	0.766	1.02	1.28

LOCATION ID				2B014-3	2B014-3	2B014-3FD	2B014-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/18/2013	12/18/2013	12/18/2013	12/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	1.17	0.964	0.930	0.735
Thorium-230	PCI/G	18	55	0.950	1.03	0.870	0.678
Uranium-238	PCI/G	115	346	1.79	1.54	1.48	0.707

LOCATION ID				2B014-4	2B014-4
DEPTH (Feet)				0 - 0.5	0.5 - 1
MATRIX				SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED				12/18/2013	12/18/2013
PARAMETER	UNITS	Criteria 1	Criteria 2		
Radionuclides					
Radium-226	PCI/G	5	15	1.44	1.01
Thorium-230	PCI/G	18	55	1.20	0.877
Uranium-238	PCI/G	115	346	3.36	1.83

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 21
EU14 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU14
816 AREA

LOCATION ID				816-1	816-1	816-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	2.10	1.68	0.721
Thorium-230	PCI/G	18	55	1.90	0.938	0.668
Uranium-238	PCI/G	115	346	1.79	0.977	0.580

LOCATION ID				816-2	816-2	816-2FD	816-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	2.14	1.03	1.77	0.887
Thorium-230	PCI/G	18	55	0.901	0.723	0.860	0.778
Uranium-238	PCI/G	115	346	0.836	0.781	0.701	0.471

LOCATION ID				816-3	816-3	816-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	0.660	1.08	1.25
Thorium-230	PCI/G	18	55	0.657	0.974	1.11
Uranium-238	PCI/G	115	346	0.654	0.707	0.926

LOCATION ID				816-4	816-4	816-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.47	0.922	0.899
Thorium-230	PCI/G	18	55	1.21	0.952	0.733
Uranium-238	PCI/G	115	346	0.744	0.584	0.975

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 21

EU14 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU14
8B001 AREA

LOCATION ID				8B001-1	8B001-1	8B001-1
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	***5.9***	2.67	0.930
Thorium-230	PCI/G	18	55	1.85	1.39	1.09
Uranium-238	PCI/G	115	346	0.800	1.25	1.18

LOCATION ID				8B001-2	8B001-2	8B001-2FD	8B001-2
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE	
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2				
Radionuclides							
Radium-226	PCI/G	5	15	***5.3***	6.08	5.13	***15.3***
Thorium-230	PCI/G	18	55	2.58	4.85	4.05	2.05
Uranium-238	PCI/G	115	346	2.11	2.57	3.20	0.790

LOCATION ID				8B001-3	8B001-3	8B001-3
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.45	3.25	3.40
Thorium-230	PCI/G	18	55	1.41	0.920	2.73
Uranium-238	PCI/G	115	346	1.49	0.973	2.50

LOCATION ID				8B001-4	8B001-4	8B001-4
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3
MATRIX				SOIL	SOIL	SOIL
FIELD DUPLICATE						
DATE SAMPLED				12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS	Criteria 1	Criteria 2			
Radionuclides						
Radium-226	PCI/G	5	15	1.46	1.07	0.841
Thorium-230	PCI/G	18	55	1.17	1.08	0.985
Uranium-238	PCI/G	115	346	0.974	1.10	0.957

LOCATION ID				8B001-5	8B001-5	8B001-5	8B001-5	8B001-5
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	***5.07***	4.29	1.23	0.910	1.21
Thorium-230	PCI/G	18	55	2.43	1.52	0.988	0.902	0.894
Uranium-238	PCI/G	115	346	1.42	0.994	0.827	0.671	0.724

TABLE 21

EU14 SOIL ANALYTICAL RESULTS - RADIONUCLIDES
NIAGARA FALLS STORAGE SITE
EU14
8B001 AREA

LOCATION ID				8B001-6	8B001-6	8B001-6	8B001-6	8B001-6
DEPTH (Feet)				0 - 0.5	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE								
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2					
Radionuclides								
Radium-226	PCI/G	5	15	2.04	1.38	0.732	0.911	0.837
Thorium-230	PCI/G	18	55	1.27	1.09	0.897	0.847	0.958
Uranium-238	PCI/G	115	346	0.883	0.945	1.01	0.923	0.786

LOCATION ID				8B001-7	8B001-7	8B001-7FD	8B001-7	8B001-7	8B001-7
DEPTH (Feet)				0 - 0.5	0.5 - 2	0.5 - 2	2 - 3	3 - 4	4 - 5
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE						DUPLICATE			
DATE SAMPLED				6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014	6/19/2014
PARAMETER	UNITS	Criteria 1	Criteria 2						
Radionuclides									
Radium-226	PCI/G	5	15	2.72	1.73	2.12	5.35	5.37	6.09
Thorium-230	PCI/G	18	55	1.69	1.23	1.54	5.13	4.70	3.88
Uranium-238	PCI/G	115	346	0.796	0.759	1.10	4.63	4.72	3.64

Notes:

Criteria 1: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (shallow soils: 0 to 0.5 ft)

Criteria 2: 10 CFR Part 40, Appendix A, Criterion 6(6), and RESRAD computer code, version 6.5 (deep soils: >0.5 ft)

Shaded, bold and italicized values indicate radionuclide exceeded criterion.

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
101	0	0.5	1.64	1.94	1.02	0.23
101	10	10.5	0.639	0.528	0.524	0
102	0	0.5	1.07	1.45	0.774	0.087
102	9	9.5	0.859	1.26	0.796	0.012
103	0	0.5	0.652	0.941	1.44	0.007
103	10	10.5	0.763	1.03	0.989	0.002
1A001	0	0.5	0.937	1.57	1.1	0.068
1A002	0	0.5	2.04	1.88	1.09	0.306
1B001	0	0.5	1.02	1.22	0.797	0.064
1B002	0	0.5	1.02	0.828	0.956	0.047
201	0	0.5	1.66	3.48	1.37	0.322
201	9.5	10	0.646	0.585	0.696	0
202	0	0.5	0.988	1.17	1.91	0.064
202	9.5	10	0.985	1.31	1.07	0.021
203	0	0.5	1140	6.48	1.8	228.161
203	11.5	12	0.894	1.03	1.13	0.01
203-1	0	0.5	2.25	1.32	1.23	0.319
203-1	0.5	2	0.984	1.06	0.999	0.017
203-1	2	3	0.993	1.21	1.97	0.023
203-2	0	0.5	1.95	0.749	1.07	0.234
203-2	0.5	2	1.08	0.92	0.849	0.019
203-2	2	3	0.891	0.824	0.793	0.007
203-3	0	0.5	1.63	1.18	1.43	0.189
203-3	0.5	2	1.07	0.846	0.813	0.019
203-3	2	3	1.06	0.688	1.44	0.02
203-4	0	0.5	1.59	1.21	1.36	0.182
203-4	0.5	2	1.21	1.32	1.3	0.037
203-4	2	3	0.947	0.927	2.25	0.014
204	0	0.5	0.891	2.17	0.923	0.092
204	8.5	9	0.634	1.09	0.836	0.003
205	0	0.5	7.87	3.47	0.763	1.559
205	12	12.5	0.776	0.674	0.775	0
205-1	0	0.5	1.29	1.9	0.976	0.157
205-1	0.5	2	1.39	1.52	0.858	0.051
205-1	2	3	0.782	0.712	0.712	0
205-2	0	0.5	5.55	3.15	0.926	1.078
205-2	0.5	2	2.24	2.14	1	0.121
205-2	2	3	0.249	0.725	0.504	0
205-3	0	0.5	2.59	1.4	0.762	0.388
205-3	0.5	2	3.9	3	2.95	0.251
205-3	2	3	1.13	1.02	1.11	0.026
205-4	0	0.5	3.53	3.52	1.07	0.696
205-4	0.5	2	1.81	1.53	0.961	0.079
205-4	2	3	0.934	0.635	0.492	0.01
206	0	0.5	1.72	1.65	0.796	0.228
206	8.5	9	0.957	0.705	0.991	0.011
207	0	0.5	1.53	2.32	2.15	0.239
207	13.5	14	0.668	0.689	0.576	0
208	0	0.5	0.511	1.79	0.978	0.05
208	11.5	12	0.855	1.33	1.07	0.013
209	0	0.5	1.42	2.01	1.03	0.19
209	9.5	10	0.717	0.673	0.848	0
210	0	0.5	1.66	2.01	0.65	0.236
210	12.5	13	0.615	0.886	0.515	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
211	0	0.5	3.92	7.39	0.968	0.988
211	10.5	11	0.793	0.979	0.756	0.001
212	0	0.5	1.71	2.88	0.888	0.295
212	12	12.5	0.848	1.21	0.947	0.01
213	0	0.5	1.36	1.69	0.992	0.159
213	12	12.5	1.05	1.01	0.863	0.019
214	0	0.5	1.06	1.54	0.721	0.09
214	14.5	15	0.823	0.964	0.932	0.003
215	0	0.5	1.41	1.34	1.08	0.15
215	7	7.5	1.19	0.893	1.61	0.029
216	0	0.5	1.52	3.13	0.839	0.27
216	10	10.5	0.866	0.986	0.815	0.007
217	0	0.5	1.45	2.17	0.731	0.203
217	12.5	13	0.842	0.865	0.814	0.003
218	0	0.5	29.6	69.6	12.1	9.677
218	1.5	2	0.841	1.11	1.41	0.009
218	15	15	0.75	1.24	1.08	0.007
218-1	0	0.5	2.08	2.61	0.982	0.354
218-1	0.5	2	1.34	1.31	1.25	0.045
218-1	2	3	0.911	0.959	1.34	0.011
218-2	0	0.5	1.15	1.09	0.819	0.083
218-2	0.5	2	1.1	1.08	1.6	0.026
218-2	2	3	1.02	0.741	0.771	0.015
218-3	0	0.5	4.37	3.65	1.07	0.871
218-3	0.5	2	1.13	1.29	1.03	0.031
218-3	2	3	0.866	0.783	1.32	0.006
218-4	0	0.5	2.96	3.07	1.22	0.558
218-4	0.5	2	1.52	1.97	1.66	0.07
218-4	2	3	1.23	0.873	1	0.03
219	0	0.5	24.1	39.2	7.51	6.848
219	1.5	2	1.61	1.57	1.14	0.068
219	6	6	0.729	1.16	1.82	0.008
219-1	0	0.5	1.77	2.19	0.828	0.268
219-1	0.5	2	4.82	5.36	0.762	0.35
219-1	2	3	1.12	1.31	0.996	0.03
219-2	0	0.5	4.02	3.59	0.993	0.797
219-2	0.5	2	2.16	2.09	0.853	0.113
219-2	2	3	0.905	1.01	0.912	0.01
219-3	0	0.5	2.01	3.09	0.857	0.366
219-3	0.5	2	1.03	0.943	0.804	0.017
219-3	2	3	1.01	1.24	1.25	0.022
219-4	0	0.5	3.94	3.87	1.06	0.797
219-4	0.5	2	1.36	1.66	0.572	0.052
219-4	2	3	1.1	1.05	1.38	0.026
220	0	0.5	33.4	8.24	6.8	6.982
220	0.5	1	10.7	2.01	4.36	0.691
220	20	20	0.77	1.36	1.03	0.009
220-1	0	0.5	2.05	2.93	1	0.367
220-1	0.5	2	3.94	5.13	1.09	0.288
220-1	2	3	1.96	2.17	1.37	0.103
220-2	0	0.5	2.9	2.86	0.648	0.531
220-2	0.5	2	1.59	1.61	0.842	0.066
220-2	2	3	2.42	1.47	1.18	0.12
220-3	0	0.5	3.6	5.02	0.707	0.791

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
220-3	0.5	2	4.33	7.25	16.5	0.396
220-3	2	3	3.26	2.08	3.44	0.194
220-4	0	0.5	0.698	1.05	0.442	0.008
220-4	0.5	2	1.88	1.55	1.53	0.087
220-4	2	3	0.981	0.849	1.19	0.014
221	0	0.5	127	978	26.2	79.746
221	1.5	2	1.48	2.38	1.84	0.076
221-1	0	0.5	0.622	1.53	0.655	0.035
221-1	0.5	2	1.17	1.23	0.592	0.031
221-1	2	3	1.19	0.828	0.735	0.027
221-2	0	0.5	0.346	0.415	0.228	0
221-2	0.5	2	0.593	0.754	0.599	0
221-2	2	3	1.29	0.99	2.58	0.04
221-3	0	0.5	0.289	0.53	0.348	0
221-3	0.5	2	3.99	3.56	2.23	0.265
221-3	2	3	1.11	0.952	2.65	0.027
221-4	0	0.5	2.5	2.07	2.09	0.418
221-4	0.5	2	3.02	1.61	1.59	0.164
221-4	2	3	0.725	0.765	0.888	0
221A	15	15	0.797	1.48	0.906	0.011
222	6	6	0.702	1.39	1.1	0.01
223	3	3	1.24	1.49	3.44	0.049
224	10	10	0.78	0.913	0.817	0
225	10	10	0.67	1.06	0.65	0.003
226	12	12	0.805	1.22	1.01	0.008
227	15	15	0.833	0.775	0.822	0.003
2A001	10.5	11	0.938	1.24	0.924	0.016
2A002	0	0.5	0.956	1.57	0.63	0.07
2A002	10.5	11	0.811	1.22	1.1	0.008
2A003	0	0.5	0.379	0.403	0.338	0
2A003	11	11.5	0.937	0.938	0.539	0.011
2A004	0	0.5	4.18	6.31	1.74	0.987
2A005	0	0.5	3.41	4.88	1.02	0.747
2A005	1.53	1.7	1.69	2.37	0.85	0.087
2A006	0	0.5	5.46	8.04	1.95	1.341
2A006-1	0	0.5	1.26	1.32	0.967	0.118
2A006-1	0.5	2	2.48	1.92	1.17	0.133
2A006-1	2	3	1.17	1.03	1.86	0.03
2A006-2	0	0.5	6.73	7.06	1.41	1.535
2A006-2	0.5	2	2.1	2.73	1.14	0.121
2A006-2	2	3	0.877	0.945	1.25	0.008
2A006-3	0	0.5	4.16	3.77	0.764	0.833
2A006-3	0.5	2	1.6	1.79	0.815	0.07
2A006-3	2	3	0.827	0.902	0.921	0.002
2A006-4	0	0.5	5.08	4.98	1.12	1.088
2A006-4	0.5	2	1.7	2.14	1.29	0.085
2A006-4	2	3	0.965	0.994	1.95	0.017
2A006-5	0	0.5	6.72	6.7	1.82	1.517
2A006-5	0.5	2	2.38	2.32	1.3	0.133
2A006-5	2	3	0.972	1.13	1.12	0.017
2A006-6	0	0.5	18.6	21.3	6.24	4.742
2A006-6	0.5	2	5.29	7.34	2.99	0.423
2A006-6	2	3	1.21	0.807	1.45	0.03
2A007	0	0.5	1.04	1.13	1.33	0.067

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
2A008	0	0.5	8.65	14	1.64	2.307
2A008-1	0	0.5	1.57	1.22	0.889	0.175
2A008-1	0.5	2	1.51	1.41	1.24	0.058
2A008-1	2	3	1.08	0.948	0.786	0.02
2A008-2	0	0.5	6.43	7.49	1.14	1.497
2A008-2	0.5	2	1.93	1.82	0.767	0.093
2A008-2	2	3	0.954	0.832	0.444	0.011
2A008-3	0	0.5	2.32	2.78	1.11	0.413
2A008-3	0.5	2	2.92	2.67	1.33	0.175
2A008-3	2	3	1.24	0.93	1.1	0.032
2A008-3	3	4	0.737	0.843	0.884	0
2A008-4	0	0.5	6.36	6.86	1.43	1.45
2A008-4	0.5	2	1.57	2.48	1.02	0.082
2A008-4	2	3	0.955	0.735	0.622	0.011
2A008-5	0	0.5	2.92	4.37	1.07	0.621
2A008-5	0.5	2	2.77	3.11	1.57	0.174
2A008-5	2	3	1.39	1.04	1.02	0.044
2A008-6	0	0.5	6.28	10.7	1.59	1.649
2A008-6	0.5	2	2.02	2.37	1.21	0.11
2A008-6	2	3	1.04	0.793	0.985	0.017
2A008-7	0	0.5	5.4	8.12	1.43	1.328
2A008-7	0.5	2	1.86	1.52	1.18	0.083
2A008-7	2	3	1.38	0.878	1.2	0.04
2A008-8	0	0.5	5.1	5.87	1.11	1.141
2A008-8	0.5	2	2.68	3.09	1.48	0.168
2A008-8	2	3	1.1	0.998	1.15	0.024
2A009	0	0.5	1.34	2.93	0.659	0.223
2B001	0	0.5	1.41	1.42	1.26	0.157
2B001	15.5	16	0.994	1.64	0.981	0.027
2B002	0	0.5	3.43	2.54	1.78	0.627
2B002	9	9.5	1.01	1.13	0.929	0.019
2B003	0	0.5	1.81	3.94	2.23	0.385
2B003	7.5	8	0.592	0.768	0.401	0
2B004	0	0.5	1.47	1.39	2.25	0.175
2B005	0	0.5	1.02	1.12	0.787	0.058
2B006	0	0.5	0.997	1.39	2.26	0.081
2B006	12.5	13	0.852	0.733	0.518	0.004
2B007	0	0.5	1.56	2.81	1.61	0.267
2B008	0	0.5	1.47	2.76	1.42	0.244
2B009	0	0.5	1.08	1.99	1.14	0.122
2B010	0	0.5	0.862	1.46	1.16	0.048
2B011	0	0.5	0.804	1.19	1.13	0.022
2B012	0	0.5	0.789	1.37	0.6	0.026
2B013	0	0.5	0.849	0.957	0.917	0.016
2B014	0	0.5	126	4.3	3.82	25.257
2B014	2	2	0.889	1.14	0.956	0.011
2B014-1	0	0.5	0.491	0.651	1.02	0.002
2B014-1	0.5	2	0.581	0.654	0.829	0
2B014-2	0	0.5	1.22	1.14	0.766	0.099
2B014-2	0.5	2	1.08	1.04	1.02	0.023
2B014-2	2	3	0.873	0.86	1.28	0.007
2B014-3	0	0.5	1.17	0.95	1.79	0.087
2B014-3	0.5	2	0.964	1.03	1.54	0.016
2B014-3	2	3	0.735	0.678	0.707	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
2B014-4	0	0.5	1.44	1.2	3.36	0.169
2B014-4	0.5	1	1.01	0.877	1.83	0.018
2B015	0	0.5	0.775	1.12	1.1	0.014
2B016	0	0.5	1.08	1.02	1.52	0.071
2B017	0	0.5	0.812	0.704	1.08	0.006
2B018	0	0.5	0.922	1.27	1.24	0.051
2C001	16.5	17	0.514	1.02	0.385	0.002
2C002	0	0.5	1.65	2.32	0.958	0.252
2D001	0	0.5	1.47	2.75	1.29	0.243
2D002	0	0.5	1.59	2.97	0.721	0.275
2D003	0	0.5	2.13	3.26	1.13	0.402
2D004	0	0.5	0.912	0.0906	0.0416	0.024
2D005	0	0.5	1.77	2.39	0.784	0.279
2D006	0	0.5	1.57	1.91	1.16	0.215
2D007	0	0.5	1.83	1.64	1.19	0.252
2D008	0	0.5	1.46	2.84	0.894	0.243
2D009	0	0.5	0.994	1.73	2.5	0.102
2D010	0	0.5	1.1	1.25	0.754	0.081
2D011	0	0.5	1.37	2.29	3.05	0.212
2D012	0	0.5	10.7	4.2	1.02	2.167
2D012-1	0	0.5	2.42	1.28	0.988	0.348
2D012-1	0.5	2	2.15	0.83	0.681	0.091
2D012-1	2	3	2.38	1.55	1.67	0.12
2D012-2	0	0.5	1.24	1.28	1.07	0.113
2D012-2	0.5	2	2.89	1.43	1.37	0.152
2D012-2	2	3	1.46	1.12	0.851	0.049
2D012-4	0	0.5	4.49	2.25	2.15	0.827
2D012-4	0.5	2	2.76	2.13	1.95	0.156
2D012-4	2	3	2.04	1.12	2.07	0.091
2D013	0	0.5	5.92	3.36	1.18	1.166
2D013-1	0	0.5	5.2	4.05	3.33	1.079
2D013-1	0.5	2	4.71	3.56	4.04	0.318
2D013-2	0	0.5	2.03	1.72	0.752	0.294
2D013-2	0.5	2	1.29	1.11	0.805	0.037
2D013-2	2	3	1.35	0.816	0.703	0.037
2D013-4	0	0.5	7.41	2.17	1.13	1.398
2D013-4	0.5	2	1.34	1.1	1.04	0.042
2D013-4	2	3	0.834	0.771	0.886	0.003
301	0	0.5	0.827	0.935	1.22	0.012
301	9.5	10	0.88	0.859	0.991	0.006
302	0	0.5	0.671	0.726	0.658	0
302	10.5	11	0.751	0.8	0.718	0
303	0	0.5	3.84	3.48	2.42	0.767
303	7.5	8	0.819	0.775	0.618	0.002
304	0	0.5	1.61	1.8	0.94	0.215
304	8.5	9		1.09	0.86	0.003
305	0	0.5	1.27	1.35	0.922	0.122
305	12	12.5	0.843	0.977	0.834	0.005
306	0	0.5	1.17	1.87	1.48	0.136
306	12	12.5	0.751	1.49	1.1	0.012
307	0	0.5	0.74	0.631	1.01	0.002
307	9.5	10	0.766	0.787	0.719	0
308	0	0.5	3.56	14.2	3.42	1.316
308	18.5	19	0.797	0.843	0.929	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
308-1	0	0.5	1.97	1.95	0.929	0.295
308-1	0.5	2	1.07	0.83	1.13	0.02
308-1	2	3	1.09	0.851	0.802	0.02
308-2	0	0.5	1.52	1.59	2.11	0.195
308-2	0.5	2	1.34	1.48	1.4	0.05
308-2	2	3	1.06	1.02	1.31	0.021
309	0	0.5	2.58	5.64	1.28	0.625
309	18.5	19	0.667	0.696	0.492	0
310	0	0.5	1.56	1.92	0.83	0.211
310	8	8.5	0.908	0.712	0.516	0.008
311	0	0.5	6.58	15.6	1.75	1.983
311	12.5	13	0.806	1.05	0.69	0.004
312	0	0.5	7.49	10.3	2.09	1.873
312	14.5	15	0.709	1.1	0.713	0.004
312-1	0	0.5	1.64	2.51	0.767	0.259
312-1	0.5	2	0.901	0.971	0.69	0.008
312-1	2	3	1.05	0.905	0.638	0.017
312-2	0	0.5	4.08	4.91	1.02	0.883
312-2	0.5	2	2.27	2.42	0.984	0.127
312-2	2	3	1.06	0.879	1.26	0.019
312-3	0	0.5	3.09	3.68	1.16	0.617
312-3	0.5	2	1.19	0.865	0.892	0.027
312-3	2	3	1.15	0.695	0.715	0.024
312-4	0	0.5	6.5	7.52	1.76	1.518
312-4	0.5	2	2.18	2.55	1.55	0.125
312-4	2	3	0.704	0.923	0.73	0
312-5	0	0.5	5.24	6.62	1.81	1.217
312-5	0.5	2	2.66	2.51	1.34	0.156
312-5	2	3	1.13	0.876	1.3	0.024
313	0	0.5	1.52	1.87	1.4	0.205
313	13	13.5	0.796	1.03	1.44	0.004
314	0	0.5	55.4	15.8	2.37	11.763
314	1	1.5	28.1	8.12	1.39	1.954
314-1	0	0.5	1.35	0.892	1.19	0.115
314-1	0.5	2	1.04	0.708	1.57	0.019
314-1	2	3	0.811	0.843	1.1	0.002
314-2	0	0.5	1.1	1.65	0.75	0.104
314-2	0.5	2	0.524	0.604	0.485	0
314-2	2	3	0.887	0.893	0.773	0.006
314-3	0	0.5	3.36	4.68	1.32	0.728
314-3	0.5	2	0.969	0.829	0.721	0.012
314-3	2	3	0.77	0.72	0.703	0
314-4	0	0.5	0.851	1.55	1.07	0.05
314-4	0.5	2	0.573	0.534	0.486	0
314-4	2	3	0.94	0.768	0.705	0.01
3A001	0	0.5	2.57	2.45	1.14	0.445
3A002	0	0.5	4.06	7.36	1.62	1.02
3A002-1	0	0.5	0.687	1.95	0.545	0.058
3A002-1	0.5	2	0.633	1.37	0.609	0.009
3A002-1	2	3	0.816	0.962	1.01	0.004
3A002-2	0	0.5	3.01	3.26	0.98	0.576
3A002-2	0.5	2	1.43	1.29	0.857	0.05
3A002-2	2	3	1.05	0.919	0.879	0.017
3A002-3	0	0.5	3.62	3.41	0.936	0.706

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3A002-3	0.5	2	1.7	1.96	0.827	0.08
3A002-3	2	3	0.864	0.866	0.796	0.005
3A002-4	0	0.5	2.89	2.49	0.898	0.509
3A002-4	0.5	2	1.49	1.42	0.874	0.056
3A002-4	2	3	0.798	0.976	1.1	0.003
3A003	0	0.5	3.2	4.18	1.28	0.668
3A004	0	0.5	2.67	5.17	4	0.641
3A005	0	0.5	3.87	7.79	9.23	1.072
3A005-1	0	0.5	8.2	9.29	2.96	1.967
3A005-1	0.5	2	0.904	1.13	1.22	0.013
3A005-1	2	3	0.711	0.613	0.836	0
3A005-2	0	0.5	2.77	2.82	1.62	0.51
3A005-2	0.5	2	1.69	1.82	1.52	0.079
3A005-2	2	3	0.651	0.709	0.91	0
3A005-3	0	0.5	8.58	10.9	3.77	2.14
3A005-3	0.5	2	1.03	1.18	1.19	0.022
3A005-3	2	3	1.12	0.829	0.964	0.022
3A005-4	0	0.5	0.448	0.399	0.364	0
3A005-4	0.5	2	0.61	0.69	0.478	0
3A005-4	2	3	2.16	4.21	0.939	0.151
3A006	0	0.5	6.31	9.35	1.85	1.582
3A006-1	0	0.5	4.78	6.12	1.49	1.094
3A006-1	0.5	2	1.3	1.53	0.814	0.045
3A006-1	2	3	0.711	0.754	1.06	0.001
3A006-2	0	0.5	6.9	8.79	1.13	1.663
3A006-2	0.5	2	0.75	1.15	0.88	0.005
3A006-2	2	3	0.546	0.654	0.528	0
3A006-3	0	0.5	4.78	6.95	1.27	1.138
3A006-3	0.5	2	1.16	1.13	0.838	0.029
3A006-3	2	3	0.711	0.719	0.871	0
3A006-4	0	0.5	4.18	5.02	0.977	0.908
3A006-4	0.5	2	1.34	1.28	0.841	0.044
3A006-4	2	3	0.698	0.764	1.12	0.001
3A007	0	0.5	5.5	8.82	1.52	1.388
3A007-1	0	0.5	7.92	11	1.67	1.994
3A007-1	0.5	2	0.937	1.05	0.627	0.013
3A007-1	2	3	0.509	0.744	0.37	0
3A007-2	0	0.5	4.18	0.499	1.23	0.682
3A007-2	0.5	2	1.41	4.86	1.01	0.114
3A007-2	2	3	0.74	1.21	0.583	0.006
3A007-3	0	0.5	5.44	0.735	1.28	0.934
3A007-3	0.5	2	1.15	1.34	0.858	0.032
3A007-3	2	3	1.19	0.965	0.697	0.028
3A008	0	0.5	2.26	2.33	1.19	0.376
3A009	0	0.5	2.86	3.21	0.923	0.543
3A010	0	0.5	2.35	3.69	1.29	0.471
3A011	0	0.5	1.77	2.61	1.11	0.294
3A012	0	0.5	1.97	2.25	1.3	0.315
3A013	0	0.5	5.51	7.3	1.42	1.305
3A013-1	0	0.5	3.35	4.57	1.28	0.72
3A013-1	0.5	2	1.32	1.17	1	0.041
3A013-1	2	3	1.18	0.809	0.848	0.026
3A013-2	0	0.5	2.76	3.68	1.4	0.553
3A013-2	0.5	2	0.879	0.745	0.705	0.006

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3A013-2	2	3	1.03	0.697	0.986	0.016
3A014	0	0.5	1.06	1.14	1.18	0.07
3A015	0	0.5	1.13	1.28	1.41	0.094
3A016	0	0.5	4.21	5.79	1.06	0.958
3A017	0	0.5	15.1	7.59	0.999	3.236
3A017	0.5	1	16.7	6.18	1.52	1.159
3A017	5	5	0.819	1.56	0.934	0.014
3A017-1	0	0.5	2.31	2.87	0.603	0.413
3A017-1	0.5	2	1.05	1.27	0.662	0.024
3A017-1	2	3	0.864	0.842	0.728	0.005
3A017-2	0	0.5	7.56	4.44	0.84	1.551
3A017-2	0.5	2	3.44	2.74	1.25	0.211
3A017-2	2	3	0.805	0.809	1.13	0.002
3A017-3	0	0.5	15.7	16.1	1.09	3.828
3A017-3	0.5	2	3.67	3.83	1.88	0.248
3A017-3	2	3	0.967	0.957	0.872	0.013
3A017-4	0	0.5	3.45	3.61	0.886	0.684
3A017-4	0.5	2	1.38	1.32	1.11	0.048
3A017-4	2	3	0.961	0.719	0.801	0.011
3A017-5	0	0.5	5.78	4.27	0.881	1.186
3A017-5	0.5	2	2.63	2.93	2.11	0.164
3A017-5	2	3	1.64	1.28	1.12	0.065
3A017-6	0	0.5	4.06	5.78	0.976	0.926
3A017-6	0.5	2	2.13	2.1	0.975	0.111
3A017-6	2	3	1.07	0.741	0.682	0.019
3A017-7	0	0.5	3.57	5.48	1.39	0.815
3A017-7	0.5	2	2.33	2.78	1.89	0.14
3A017-7	2	3	1.31	1.12	1.25	0.04
3A020	0	0.5	8.54	0.338	1.89	1.559
3A020	2	2	5.85	5.18	5.89	0.43
3A020	5	5	0.606	0.784	0.239	0
3A020-1	0	0.5	3.55	3.79	0.742	0.713
3A020-1	0.5	2	1.95	1.63	0.792	0.09
3A020-1	2	3	1.14	0.78	1.85	0.026
3A020-3	0	0.5	4.3	5.35	1.15	0.952
3A020-3	0.5	2	1.5	1.44	0.942	0.057
3A020-3	2	3	1.13	0.897	1.13	0.024
3A020-4	0	0.5	4.88	5.22	0.951	1.059
3A020-4	0.5	2	3.13	2.39	2.85	0.189
3A020-4	2	3	0.814	0.778	0.647	0.002
3A020-5	0	0.5	6.18	7.32	1.02	1.437
3A020-5	0.5	2	2.71	2.94	2.15	0.169
3A020-5	2	3	0.935	0.687	0.724	0.01
3A021	0	0.5	21	21.8	1.47	5.209
3A022	0	0.5	1.48	1.53	1.37	0.178
3A023	0	0.5	17.6	11.5	1.07	3.953
3A023-1	0	0.5	3.35	3.99	1.32	0.688
3A023-1	0.5	2	1.7	1.5	1.1	0.073
3A023-1	2	3	0.728	0.754	0.638	0
3A023-2	0	0.5	1.98	2.24	0.652	0.312
3A023-2	0.5	2	1.09	0.87	0.635	0.02
3A023-2	2	3	0.836	0.779	0.627	0.003
3A023-3	0	0.5	1.85	1.84	0.753	0.264
3A023-3	0.5	2	1.07	1.03	0.764	0.021

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3A023-3	2	3	0.816	0.729	0.718	0.002
3A024	0	0.5	10.7	8.85	1.92	2.434
3A025	0	0.5	2.6	3.87	0.794	0.527
3B001	0	0.5	1.07	2.15	2.46	0.139
3B002	0	0.5	2.05	3.32	1.09	0.388
3B003	0	0.5	7.91	8.65	2.49	1.87
3B003-1	0	0.5	4.1	4.04	1.16	0.839
3B003-1	0.5	2	1.17	0.857	0.696	0.025
3B003-1	2	3	0.823	0.506	0.634	0.002
3B003-2	0	0.5	4.88	7.23	1.74	1.178
3B003-2	0.5	2	1.07	0.86	1.44	0.021
3B003-2	2	3	0.997	0.707	0.772	0.014
3B003-3	0	0.5	3.3	3.27	1.83	0.643
3B003-3	0.5	2	0.735	1.03	1.38	0.004
3B003-3	2	3	1.12	1.15	1	0.028
3B003-4	0	0.5	1.65	1.9	2.1	0.239
3B003-4	0.5	2	0.705	0.787	0.719	0
3B003-4	2	3	0.756	0.691	0.48	0
3B004	0	0.5	4.16	6.88	2.17	1.018
3B004-1	0	0.5	3.65	3.8	1.22	0.736
3B004-1	0.5	2	1.26	1.2	1.16	0.037
3B004-1	2	3	1.12	0.785	0.808	0.022
3B004-2	0	0.5	2.63	2.63	0.805	0.464
3B004-2	0.5	2	1.63	1.21	0.946	0.062
3B004-2	2	3	1.01	0.741	1.04	0.016
3B004-3	0	0.5	3.57	3.15	1.36	0.686
3B004-3	0.5	2	1.54	1.6	1.25	0.064
3B004-3	2	3	1.04	0.915	1.62	0.019
3B005	0	0.5	2.94	3.24	1.78	0.568
3B006	0	0.5	0.849	1.39	0.996	0.041
3B007	0	0.5	2.96	3.09	2.49	0.571
3B008	0	0.5	0.971	1.43	1.51	0.071
3B009	0	0.5	0.879	1.11	1.28	0.034
3B010	0	0.5	2.84	5.68	2.46	0.69
3B011	0	0.5	12.5	16.9	1.81	3.24
3B011	1.5	2	0.986	1.8	1.4	0.031
3B011-1	0	0.5	4.78	9.21	2.32	1.273
3B011-1	0.5	2	1.07	0.945	0.704	0.02
3B011-1	2	3	0.809	0.382	0.412	0.001
3B011-2	0	0.5	1.32	1.36	1.25	0.136
3B011-2	0.5	2	1.93	1.09	1.05	0.08
3B011-2	2	3	0.658	0.686	0.601	0
3B011-3	0	0.5	3.19	4.24	1.58	0.673
3B011-3	0.5	2	2.06	2.02	0.952	0.105
3B011-3	2	3	0.902	0.667	0.684	0.007
3B011-4	0	0.5	3.43	3.36	4.44	0.696
3B011-4	0.5	2	0.783	1.04	0.705	0.003
3B011-4	2	3	0.982	0.886	0.633	0.013
3B012	0	0.5	1.79	2.75	1.65	0.31
3B013	0	0.5	5.7	12.5	2.33	1.639
3B013	1.5	2	0.939	1.24	1.12	0.017
3B013-1	0	0.5	3.61	2.97	0.856	0.679
3B013-1	0.5	2	1.63	2.02	1.28	0.077
3B013-1	2	3	0.958	0.77	0.495	0.011

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3B013-2	0	0.5	2.1	2.2	1.3	0.338
3B013-2	0.5	2	1.54	1.46	1.08	0.061
3B013-2	2	3	3.05	1.42	1.26	0.161
3B013-3	0	0.5	1.45	2.56	3.26	0.245
3B013-3	0.5	2	0.755	0.81	0.84	0
3B013-3	2	3	0.908	0.98	0.581	0.009
3B013-4	0	0.5	2.82	3.03	1.69	0.532
3B013-4	0.5	2	1.81	1.37	0.975	0.077
3B013-4	2	3	1.04	0.739	0.495	0.017
3B014	0	0.5	1.7	2.71	3.34	0.305
3B015	0	0.5	12.4	9.85	7.86	2.88
3B015	1	1.25	6.43	5.02	5.66	0.465
3B015	5	5	0.746	1.88	0.852	0.018
3B015-1	0	0.5	3.5	3.65	1.19	0.698
3B015-1	0.5	2	1.76	1.15	0.834	0.07
3B015-1	2	3	0.862	0.929	0.782	0.006
3B015-2	0	0.5	2.73	3.84	1.15	0.554
3B015-2	0.5	2	1.58	1.78	1.13	0.07
3B015-2	2	3	0.76	0.764	0.781	0
3B015-3	0	0.5	1.2	1.76	2.18	0.142
3B015-3	0.5	2	0.944	0.746	0.635	0.01
3B015-3	2	3	0.868	0.881	0.718	0.005
3B015-4	0	0.5	2.92	3.54	0.971	0.574
3B015-4	0.5	2	1.44	1.53	0.831	0.054
3B015-4	2	3	0.77	0.742	0.647	0
3B016	0	0.5	2.32	3.47	1.98	0.459
3B017	0	0.5	2.61	3.09	0.892	0.487
3B018	0	0.5	1.4	1.94	0.858	0.18
3B019	0	0.5	1.24	2.42	0.767	0.174
3C001	0	0.5	1.95	3.61	1.36	0.388
3C002	0	0.5	2.31	4.23	1.56	0.495
3C003	0	0.5	1.51	2.94	1.01	0.259
3C004	0	0.5	1.86	2.72	0.911	0.316
3C005	0	0.5	1.98	5.23	1.96	0.489
3C006	0	0.5	2.65	10.7	2.44	0.93
3C006-1	0	0.5	1.13	0.885	0.877	0.068
3C006-1	0.5	2	1.33	1.19	0.767	0.041
3C006-1	2	3	0.78	0.928	0.835	0.001
3C006-2	0	0.5	0.658	1.29	1.87	0.031
3C006-2	0.5	2	0.583	0.654	0.651	0
3C006-2	2	3	0.659	0.686	0.755	0
3C006-3	0	0.5	0.636	1.17	0.601	0.015
3C006-3	0.5	2	1.14	1.41	1.48	0.034
3C006-3	2	3	0.988	0.932	1	0.015
3C007	0	0.5	2.5	10.8	4.03	0.92
3C007-1	0	0.5	0.385	0.893	0.581	0
3C007-1	0.5	2	0.683	1	0.676	0.002
3C007-1	2	3	0.992	0.931	1.2	0.015
3C007-2	0	0.5	1.63	1.27	0.833	0.189
3C007-2	0.5	2	1.84	2.13	0.901	0.092
3C007-2	2	3	0.998	0.854	0.769	0.014
3C008	0	0.5	1.8	1.83	1.94	0.264
3C008-1	0	0.5	0.62	0.65	0.629	0
3C008-1	0.5	2	0.566	0.562	0.784	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3C008-1	2	3	0.884	0.842	0.901	0.006
3C008-2	0	0.5	2.01	1.89	0.97	0.3
3C008-2	0.5	2	1.7	1.82	0.977	0.078
3C008-2	2	3	0.985	0.975	0.819	0.014
3C008-3	0	0.5	1.42	3.23	7.78	0.316
3C008-3	0.5	2	1.55	2.34	5.57	0.091
3C008-3	2	3	1.07	1.13	2.74	0.029
3C009	0	0.5	0.807	1.71	0.876	0.048
3C010	0	0.5	0.709	1.13	0.503	0.013
3C011	0	0.5	1.36	1.86	1.5	0.173
3C012	0	0.5	2.19	2.44	1.11	0.369
3C013	0	0.5	1.58	2.9	1.07	0.271
3C014	0	0.5	13.4	10.1	7.69	3.093
3C014	0.5	1	10.6	9.46	7.64	0.83
3C014	1.5	2	0.688	0.761	2.22	0.004
3C014	5	5	0.626	1.04	0.375	0.003
3C014-1	0	0.5	1.12	3.8	1.22	0.23
3C014-1	0.5	2	0.694	0.88	0.61	0
3C014-1	2	3	0.815	0.881	0.848	0.002
3C014-2	0	0.5	3.85	3.96	1.91	0.791
3C014-2	0.5	2	0.799	1.03	0.784	0.003
3C014-2	2	3	0.923	0.599	0.881	0.009
3C014-3	0	0.5	3.82	3.83	4.03	0.797
3C014-3	0.5	2	1.94	1.95	2.6	0.101
3C014-3	2	3	0.891	1.04	1.19	0.011
3C014-4	0	0.5	1.83	1.65	1.41	0.255
3C014-4	0.5	2	0.962	1.14	0.993	0.016
3C014-4	2	3	1.19	0.956	0.805	0.028
3C014-5	0	0.5	1.82	2.01	1.08	0.27
3C014-5	0.5	2	1.4	1.31	1.37	0.05
3C014-5	2	3	0.697	0.791	0.958	0
3C014-6	0	0.5	5.13	3.35	4.04	1.032
3C014-6	0.5	2	3.85	1.98	3.67	0.232
3C014-6	2	3	1.14	0.85	2.26	0.027
3C015	0	0.5	19.6	87.9	65.9	9.161
3C015	1	1.5	9.95	22.3	16.5	1.045
3C015	5	5	0.82	0.74	0.626	0.002
3C016	0	0.5	1.94	3.12	1.71	0.361
3D001	0	0.5	19.3	11.2	2.37	4.287
3D001	1	1	5.63		0.99	0.323
3D001	5	5	0.581	0.918	0.638	0
3D001-1	0	0.5	2.41	1.87	1.31	0.382
3D001-1	0.5	2	0.953	0.84	0.846	0.011
3D001-1	2	3	0.75	0.775	0.698	0
3D001-2	0	0.5	4.69	3.1	1.06	0.904
3D001-2	0.5	2	0.666	0.586	0.703	0
3D001-2	2	3	0.748	0.62	0.695	0
3D001-3	0	0.5	3.9	2.98	2.35	0.751
3D001-3	0.5	2	0.947	0.623	0.64	0.01
3D001-3	2	3	0.873	0.848	0.79	0.006
3D001-4	0	0.5	2.63	1.62	0.828	0.408
3D001-4	0.5	2	0.543	0.692	0.962	0
3D001-4	2	3	0.934	0.828	0.691	0.01
3D002	0	0.5	2.03	2.24	1.27	0.326

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
3D002	5	5	0.754	1.09	0.963	0.003
3D003	1.5	2	0.969	1.27	1.11	0.02
3D004	0	0.5	50.2	7.87	1.03	10.271
3D004-1	0	0.5	3.57	2.09	1.13	0.625
3D004-1	0.5	2	1.28	1.2	0.793	0.038
3D004-1	2	3	1.04	0.724	1.22	0.018
3D004-2	0	0.5	4.35	5.31	4.77	0.991
3D004-2	0.5	2	4.02	3.9	3.22	0.277
3D004-2	2	3	1.1	0.976	1.06	0.023
3D004-3	0	0.5	1.44	1.52	1.07	0.166
3D004-3	0.5	2	0.999	0.921	0.897	0.014
3D004-3	2	3	0.91	1.03	1.02	0.011
3D004-4	0	0.5	0.649	0.935	0.696	0.002
3D004-4	0.5	2	1.13	1.05	0.738	0.026
3D004-5	0	0.5	4.93	2.14	1	0.899
3D004-5	0.5	2	1.28	0.997	1.25	0.036
3D004-5	2	3	1.18	1.09	1.17	0.03
3D005	0	0.5	0.552	1.22	3.77	0.044
3D006	0	0.5	82.1	32.9	373	21.276
3D006	5	5	0.623	0.584	0.472	0
3D006-1	0	0.5	0.753	2.91	1.43	0.117
3D006-1	0.5	2	0.594	2.25	0.999	0.026
3D006-1	2	3	1.03	0.769	0.933	0.016
3D006-2	0	0.5	0.733	1.12	1.7	0.02
3D006-2	0.5	2	0.374	0.987	0.689	0.002
3D006-2	2	3	0.95	0.652	0.735	0.011
3D006-3	0	0.5	1.88	3.16	2.24	0.356
3D006-3	0.5	2	0.602	1.22	0.924	0.006
3D006-3	2	3	0.8	0.611	0.773	0.001
3D006-4	0	0.5	1.06	1.85	6.86	0.16
3D006-4	0.5	2	0.72	1.12	3.01	0.01
3D006-4	2	3	0.794	1.13	0.558	0.004
3D007	0	0.5	7.3	7.54	1420	14.012
3D007-1	0	0.5	1.74	1.7	1.1	0.236
3D007-1	0.5	2	1.01	1.04	0.918	0.018
3D007-1	2	3	0.94	0.931	1.1	0.012
3D007-2	0	0.5	2.2	1.89	1.58	0.344
3D007-2	0.5	2	0.782	0.915	1.01	0.001
3D007-2	2	3	0.946	0.795	0.727	0.01
3D007-3	0	0.5	2.07	2.96	1.42	0.375
3D007-3	0.5	2	0.568	0.652	0.858	0
3D007-3	2	3	1.2	0.953	0.828	0.028
3D008	0	0.5	1.43	2.05	4.7	0.226
3D009	0	0.5	1.77	2.25	7.52	0.329
401	0	0.5	1.39	1.62	0.724	0.16
401	19.5	20	0.934	1.06	0.85	0.013
402	0	0.5	9.49	10.8	10.1	2.371
402	22.5	23	0.718	0.737	0.984	0
403	0	0.5	1.58	2.15	0.934	0.228
403	17.5	18	0.869	1.01	0.778	0.007
404	0	0.5	4.5	9.54	1.26	1.226
404	0.9	1.4	7.72	8.12	6.69	0.61
404	24.5	25	1.43	0.793	0.382	0.043
404-1	0	0.5	2.12	1.93	1	0.325

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
404-1	0.5	2	1.05	1.29	0.74	0.024
404-1	2	3	2.16	2.3	1.53	0.118
404-2	0	0.5	1.96	2.71	1.14	0.338
404-2	0.5	2	2.04	2.91	1.24	0.121
404-2	2	3	0.934	0.784	4.55	0.021
404-3	0	0.5	2.22	2.38	0.933	0.369
404-3	0.5	2	3.81	4.38	3.5	0.272
404-3	2	3	1.57	1.34	1.19	0.061
405	0	0.5	1.62	1.24	0.744	0.185
405	24.5	25	0.601	0.624	0.668	0
406	0	0.5	2.15	2.27	1.12	0.351
406	17.5	18	0.811	0.872	0.803	0.001
407	0	0.5	1.98	1.54	1.62	0.281
407	19.5	20	0.569	0.59	0.628	0
408	0	0.5	1.17	1.16	0.57	0.09
408	19.5	20	0.788	0.741	0.521	0
409	0	0.5	1.28	1.38	1.2	0.128
409	7	7.5	0.823			0.002
410	0	0.5	1.27	1.5	0.888	0.13
410	10.5	11	0.796	0.958	0.819	0.001
411	0	0.5	0.85	1.16	1.06	0.028
411	19.5	20	0.838	0.908	0.666	0.003
412	0	0.5	0.837	2.05	0.754	0.073
412	14.5	15	0.646	0.865	0.738	0
413	0	0.5	2.01	2.83	0.878	0.352
413	18.5	19	0.774	1.04	0.891	0.003
414	0	0.5	1.64	2.09	0.873	0.236
414	5	5	0.609	1.37	0.491	0.009
414	20.5	21	0.703	0.681	0.825	0
415	0	0.5	1.67	2.1	0.9	0.244
415	13.5	14	0.784	0.449	0.431	0
416	0	0.5	0.889	1.05	0.765	0.028
416	20.5	21	0.659	0.763	0.904	0
417	0	0.5	4.45	2.63	1.04	0.83
417	8.4	8.9		1.08	0.999	0.004
418	0	0.5	1.35	1.46	0.896	0.144
418	18.5	19	0.784	0.756	0.898	0
419	0	0.5	1.05	1.42	0.705	0.081
419	16.5	17	0.679	0.65	0.514	0
420	0	0.5	2.35	1.17	0.955	0.328
420	6.5	7	0.922	0.768	0.739	0.009
421	0	0.5	0.905	1.12	0.758	0.035
421	15.5	16	0.726	1.51	0.859	0.011
422	0	0.5	2.33	1.79	1.7	0.365
422	10	10.5	0.856	0.81	0.804	0.004
423	0	0.5	1.92	1.17	1.21	0.244
423	9.5	10	0.792	0.829	0.483	0
424	0	0.5	0.878	0.994	0.692	0.023
424	15.5	16	0.839	0.737	0.604	0.003
425	0	0.5	0.871	1.26	0.757	0.036
425	10	10.5	0.704	0.886	1.27	0.001
4A001	0	0.5	1.64	2.67	1.12	0.271
4A002	0	0.5	1.41	1.88	0.222	0.178
4A003	0	0.5	5.35	3.62	0.504	1.063

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4A003-1	0	0.5	1.78	1.57	0.691	0.235
4A003-1	0.5	2	0.872	0.932	0.693	0.006
4A003-1	2	3	1.06	0.73	0.933	0.018
4A003-2	0	0.5	1.33	1.43	0.709	0.137
4A003-2	0.5	2	1.12	0.788	0.634	0.022
4A003-2	2	3	1.05	0.729	0.606	0.017
4A003-3	0	0.5	1.07	1.23	0.73	0.074
4A003-3	0.5	2	0.901	0.799	0.622	0.007
4A003-3	2	3	1.11	0.715	0.702	0.021
4A004	0	0.5	1.87	2.25	1.16	0.294
4A005	0	0.5	1.83	2.18	0.956	0.28
4A006	0	0.5	1.69	2.05	0.864	0.244
4A007	0	0.5	3.27	6.29	1.84	0.804
4A007-1	0	0.5	1.5	1.54	0.74	0.178
4A007-1	0.5	2	1.09	1.27	0.632	0.027
4A007-1	2	3	1.02	0.716	0.644	0.015
4A007-2	0	0.5	1.72	1.43	0.78	0.215
4A007-2	0.5	2	3.65	2.95	2.55	0.233
4A007-2	2	3	3.17	3.29	3.42	0.21
4A008	0	0.5	1.3	1.45	0.849	0.133
4A009	0	0.5	0.786	0.948	1.72	0.011
4A010	0	0.5	1.34	1.43	0.755	0.139
4A011	0	0.5	1.92	3.38	1.36	0.369
4A012	0	0.5	1.11	2.72	3.02	0.184
4A013	0	0.5	6	11.2	1.87	1.623
4A013	0.5	1	5.06	7.84	2.85	0.417
4A013	1	1.5	5.15	9.7	2.87	0.457
4A013	1.5	2	4.35	4.95	3.57	0.319
4A013-1	0	0.5	6.61	9.94	3.27	1.687
4A013-1	0.5	2	3.82	6.27	3.57	0.308
4A013-1	2	3	3.66	4.75	4.47	0.272
4A013-2	0	0.5	2.32	2.14	0.721	0.375
4A013-2	0.5	2	1	0.817	0.64	0.014
4A013-2	2	3	1.1	0.617	0.963	0.021
4A013-3	0	0.5	1.99	1.44	0.709	0.27
4A013-3	0.5	2	1.58	0.901	0.854	0.053
4A013-3	2	3	0.692	0.771	0.769	0
4A013-4	0	0.5	2.09	2.49	0.727	0.348
4A013-4	0.5	2	1.12	1.06	0.756	0.025
4A013-4	2	3	2.58	1.73	1.58	0.136
4A013-5	0	0.5	3.18	4	0.94	0.651
4A013-5	0.5	2	1.25	1.67	0.696	0.045
4A013-5	2	3	3.54	4.23	1.07	0.245
4A013-6	0	0.5	3.14	2.56	1.36	0.567
4A013-6	0.5	2	2.48	1.26	1.03	0.121
4A013-6	2	3	1.58	1.15	1.45	0.06
4A014	0	0.5	8.48	6.3	4.56	1.871
4A014	0.5	1	8.05	5.64	5.56	0.584
4A014-1	0	0.5	2.39	2.37	0.952	0.403
4A014-1	0.5	1.5	2.03	2.63	1.64	0.116
4A015	0	0.5	7.17	5.36	4.63	1.557
4A015	0.5	1	7.42	6.31	5.31	0.553
4A016	0	0.5	1.07	1.66	0.666	0.098
4A017	0	0.5	1.17	1.22	0.518	0.094

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4A018	0	0.5	1.04	1.53	0.788	0.085
4A019	0	0.5	4.49	2.46	0.92	0.828
4A020	0	0.5	0.994	1.13	0.662	0.054
4B001	0	0.5	3.09	4.47	2.72	0.675
4B002	0	0.5	2.66	3.7	1.3	0.534
4B003	0	0.5	2.14	2.37	1.05	0.354
4B004	0	0.5	1.1	1.18	0.624	0.078
4B005	0	0.5	1.41	1.5	0.547	0.157
4B006	0	0.5	1.72	1.94	0.712	0.244
4B007	0	0.5	1.4	2.37	1.27	0.208
4B008	0	0.5	1.71	2.14	0.888	0.254
4B009	0	0.5	37.5	8.46	11	7.851
4B009	1.5	2	2.28	1.28	1.86	0.109
4B009-1	0	0.5	34	11.8	12.5	7.35
4B009-1	0.5	2	0.943	0.835	1.12	0.011
4B009-1	2	3	0.932	0.806	1.07	0.01
4B009-2	0	0.5	1.13	1.33	0.795	0.092
4B009-2	0.5	2	0.841	1.2	1.06	0.009
4B009-2	2	3	1.3	0.673	0.698	0.034
4B009-3	0	0.5	2.17	2.2	0.684	0.348
4B009-3	0.5	2	0.914	0.759	0.623	0.008
4B009-3	2	3	1.02	0.642	0.722	0.015
4B009-4	0	0.5	2.07	2.08	0.692	0.322
4B009-4	0.5	2	1.36	1.1	0.525	0.042
4B009-4	2	3	0.917	0.738	0.789	0.008
4B010	0	0.5	7.31	12.1	3.46	1.949
4B010-1	0	0.5	5.18	5.09	5.63	1.153
4B010-1	0.5	2	1.01	0.997	2.32	0.021
4B010-1	2	3	0.916	0.817	2.09	0.012
4B010-2	0	0.5	1.94	1.78	0.601	0.279
4B010-2	0.5	2	0.89	1.05	0.654	0.01
4B010-2	2	3	0.926	0.709	0.606	0.009
4B010-3	0	0.5	1.64	1.9	0.872	0.226
4B010-3	0.5	2	0.915	0.736	0.838	0.008
4B010-3	2	3	0.965	0.902	0.737	0.012
4B010-4	0	0.5	2.11	2.19	0.755	0.336
4B010-4	0.5	2	0.897	0.88	0.805	0.007
4B010-4	2	3	0.842	0.72	0.636	0.003
4B011	1.5	2	0.784	0.715	0.957	0
4B012	0	0.5	1.12	0.794	1.47	0.072
4B013	0	0.5	0.858	2.22	0.993	0.089
4B013	1.5	2	0.854	1.13	0.636	0.008
4B014	0	0.5	15.2	2.96	1.69	3.004
4B014	0.5	1	4.25	3.09	2.25	0.275
4B014	1	1.5	0.712	1.37	0.399	0.009
4B014-1	0	0.5	2.12	1.73	0.868	0.312
4B014-1	0.5	2	1.04	0.79	0.81	0.017
4B014-1	2	3	0.697	0.613	0.928	0
4B014-2	0	0.5	0.992	1.61	0.819	0.079
4B014-2	0.5	2	0.859	0.675	0.93	0.005
4B014-2	2	3	0.958	0.59	0.908	0.011
4B014-3	0	0.5	1.43	1.44	0.814	0.158
4B014-3	0.5	2	0.678	0.753	3.27	0.007
4B014-3	2	3	0.764	0.793	0.638	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4B014-4	0	0.5	1.82	2	0.584	0.267
4B014-4	0.5	2	0.934	0.86	0.609	0.01
4B014-4	2	3	0.794	0.728	0.613	0
4B014-5	0	0.5	1.53	1.87	0.819	0.202
4B014-5	0.5	2	1	1.05	0.827	0.017
4B014-5	2	3	1.01	0.803	0.817	0.015
4B014-6	0	0.5	4.1	3.27	1.9	0.803
4B014-6	0.5	2	1.21	1.2	0.933	0.033
4B014-6	2	3	0.745	1	1.19	0.003
4B014-7	0	0.5	1.96	1.67	1.57	0.284
4B014-7	0.5	2	0.825	0.805	0.811	0.002
4B014-7	2	3	0.683	0.558	0.816	0
4B014-8	0	0.5	0.793	1.11	0.557	0.013
4B014-8	0.5	2	0.69	0.66	0.707	0
4B014-8	2	3	1.01	0.73	0.852	0.015
4B015	0	0.5	2.05	2.56	1.91	0.353
4B016	0	0.5	2.36	3.32	3	0.467
4B017	0	0.5	7.14	1.55	1.16	1.309
4B017	0.5	1	0.965	1.2	1.17	0.018
4B017-1	0	0.5	1.15	1.03	0.866	0.079
4B017-1	0.5	2	0.86	0.792	0.716	0.005
4B017-1	2	3	0.828	1.07	0.894	0.006
4B017-2	0	0.5	2.12	2.41	1.35	0.355
4B017-2	0.5	2	0.772	1.02	1.13	0.003
4B017-2	2	3	1.12	0.702	0.718	0.022
4B017-3	0	0.5	0.549	1.2	0.49	0.017
4B017-3	0.5	2	0.405	0.907	0.388	0
4B017-3	2	3	0.628	0.587	0.478	0
4B018	1.5	2	0.75	0.935	0.984	0.001
4B019	0	0.5	1.44	1.65	1.15	0.175
4B020	0	0.5	0.944	1.08	0.82	0.041
4B021	0	0.5	17.6	3.76	1.89	3.53
4B021	1.5	2	1.37	1.19	1.14	0.045
4B021-1	0	0.5	2.05	2.26	0.677	0.328
4B021-1	0.5	2	0.941	1.11	0.835	0.014
4B021-1	2	3	0.725	0.684	0.524	0
4B021-2	0	0.5	1.73	1.88	0.552	0.242
4B021-2	0.5	2	0.819	0.912	0.607	0.002
4B021-2	2	3	0.498	0.843	0.618	0
4B021-3	0	0.5	2.19	1.98	0.703	0.34
4B021-3	0.5	2	0.887	0.768	0.695	0.006
4B021-3	2	3	0.961	0.671	0.738	0.011
4B021-4	0	0.5	1.99	1.96	0.941	0.3
4B021-4	0.5	2	1.24	1.05	0.634	0.033
4B021-4	2	3	0.736	0.642	0.553	0
4C001	0	0.5	1.42	1.96	0.905	0.186
4C002	0	0.5	5.83	4.21	2.47	1.206
4C002	0.5	1	2.67	1.65	1.66	0.141
4C002-1	0	0.5	4.25	4.53	3.08	0.914
4C002-1	0.5	2	4.17	2.49	1.62	0.256
4C002-1	2	3	0.87	0.778	0.598	0.005
4C002-2	0	0.5	2.91	3.45	1.2	0.569
4C002-2	0.5	2	0.904	0.971	0.687	0.009
4C002-2	2	3	0.933	0.687	0.666	0.01

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4C002-3	0	0.5	4.6	4.24	3.67	0.973
4C002-3	0.5	2	2.92	1.67	1.23	0.157
4C002-3	2	3	0.805	0.832	0.605	0.001
4C002-4	0	0.5	2.44	2.17	0.881	0.402
4C002-4	0.5	2	0.911	0.788	0.567	0.008
4C002-4	2	3	0.986	0.73	0.701	0.013
4C003	0	0.5	1.78	1.62	2.2	0.25
4C004	0	0.5	3.72	3.52	1.74	0.74
4C005	0	0.5	0.571	2.55	0.964	0.093
4C006	0	0.5	1.33	1.66	0.735	0.15
4D001	14	14.5	0.862	1.32	0.902	0.013
4D002	11.5	12	0.779	1.01	0.756	0.002
4D003	14	14.5	0.821	1.15	0.503	0.007
4D004	14	14.5	0.877	1.5	0.69	0.017
4D005	0	0.5	1.73	3.25	0.534	0.319
4D005	15	15.5	0.868	1.27	0.342	0.012
4D006	0	0.5	1.21	2.34	1.14	0.167
4D006	14.5	15	0.713	0.86	0.64	0
4D007	0	0.5	0.815	1.07	0.725	0.014
4D008	0	0.5	1.48	1.27	0.878	0.16
4D009	0	0.5	1.15	2.04	0.424	0.135
4D010	0	0.5	1.95	2	0.595	0.293
4D011	0	0.5	2.34	2.67	1.37	0.413
4D012	0	0.5	2.69	1.87	1.16	0.437
4D013	0	0.5	1.86	2.4	1.03	0.299
4D014	0	0.5	1.51	2.11	1.19	0.214
4D015	0	0.5	2.32	2.97	0.569	0.421
4D017	0	0.5	4.66	3.47	1.35	0.922
4D018	0	0.5	1.01	1.26	0.537	0.064
4D019	0	0.5	2.95	2.4	1.02	0.517
4D020	0	0.5	1.43	2.24	0.97	0.203
4F001	0	0.5	1.18	1.31	0.642	0.101
4F002	0	0.5	1.14	1.13	0.502	0.083
4F003	0	0.5	1.23	1.59	0.838	0.126
4F004	0	0.5	1.26	1.17	0.555	0.109
4F005	0	0.5	1.13	1.7	0.795	0.112
4F006	0	0.5	0.886	1.89	1	0.076
4F007	0	0.5	1.1	1.24	0.662	0.081
4F008	0	0.5	0.87	1.46	0.766	0.047
4F009	0	0.5	1.18	1.77	0.662	0.126
4F010	0	0.5	0.555	0.732	0.576	0
4F011	0	0.5	0.629	1.01	0.761	0.006
4G001	0	0.5	1.2	1.92	0.774	0.139
4G002	0	0.5	43.9	8.51	1.77	9.053
4G002	0.5	1	1.16	1.07	0.755	0.028
4G002	1	1.5	0.99	0.857	0.335	0.013
4G002	1.5	2	0.854	1.26	0.661	0.011
4G002-1	0	0.5	1.36	1.15	0.788	0.128
4G002-1	0.5	2	1.05	0.861	0.879	0.017
4G002-1	2	3	0.892	0.853	0.587	0.007
4G002-2	0	0.5	1.14	0.759	0.774	0.07
4G002-2	0.5	2	1.09	0.806	0.855	0.02
4G002-2	2	3	1.52	0.952	0.592	0.05
4G002-3	0	0.5	1.28	0.881	0.765	0.098

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
4G002-3	0.5	2	0.888	0.894	1.01	0.008
4G002-3	2	3	0.896	0.875	0.704	0.007
4G002-4	0	0.5	2.15	1.24	0.914	0.292
4G002-4	0.5	2	1.22	1.01	0.734	0.031
4G002-4	2	3	0.686	0.663	0.468	0
501	0	0.5	0.993	0.876	1.04	0.043
501	11.5	12	0.933	1.07	0.816	0.013
502	0	0.5	0.768	1	6.5	0.055
502	12.5	13	0.852	1.33	1.12	0.013
503	0	0.5	0.778	0.985	120	1.041
503	12.5	13	0.738	0.797	0.872	0
503-1	0	0.5	0.935	0.982	33.5	0.318
503-1	0.5	2	0.923	0.927	38.3	0.117
503-1	2	3	0.901	0.841	11	0.036
503-2	0	0.5	0.81	0.848	6.04	0.049
503-2	0.5	2	0.924	0.8	7.18	0.027
503-2	2	3	0.91	0.771	3.78	0.017
503-3	0	0.5	0.711	0.777	21	0.175
503-3	0.5	2	0.752	0.724	5.57	0.014
503-3	2	3	0.907	0.833	1.68	0.01
503-4	0	0.5	1.03	1.18	4.05	0.092
503-4	0.5	2	0.957	1.09	4.86	0.026
503-4	2	3	1.09	0.893	2.73	0.026
504	0	0.5	6.07	2.52	7.52	1.204
504	13.5	14	0.958	1.36	0.783	0.019
504-1	0	0.5	3.68	1.45	1.47	0.615
504-1	0.5	2	1.81	0.795	1.98	0.071
504-1	2	3	0.923	0.938	0.978	0.01
504-2	0	0.5	2.93	2.64	1.52	0.531
504-2	0.5	2	2.16	2.72	1.21	0.125
504-2	2	3	0.792	0.816	0.829	0
504-3	0	0.5	3.93	3.41	1.56	0.773
504-3	0.5	2	0.811	0.835	1.19	0.002
504-3	2	3	0.811	0.751	0.829	0.001
504-4	0	0.5	2.26	1.7	1.67	0.345
504-4	0.5	2	1.63	1.07	1.37	0.061
504-4	2	3	0.759	0.67	1.11	0.001
505	0	0.5	0.762	1.97	2.17	0.071
505	16.5	17	0.584	1.97	0.69	0.019
506	0	0.5	0.708	0.979	0.952	0.005
506	12.5	13	0.802	1.43	1.04	0.012
5A001	0	0.5	2.91	3.06	2.73	0.561
5A002	0	0.5	0.677	1.26	4.13	0.049
5A003	0	0.5	0.664	1.36	0.766	0.026
5A004	0	0.5	1.67	2.09	1.42	0.247
5A005	0	0.5	0.555	1.13	1.27	0.017
5A006	0	0.5	1.66	2.31	2.69	0.268
5A007	0	0.5	0.818	0.764	0.727	0.006
5A008	0	0.5	1.26	1.8	1.12	0.147
5A009	0	0.5	0.776	0.992	1.27	0.009
5A010	0	0.5	5.36	4.56	2.5	1.132
5A010	0.5	1	5.03	3.65	3.01	0.339
5A010	1.5	2	1.17	0.966	0.932	0.026
5A010	5	5	0.715	1.26	0.766	0.007

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
5A010-1	0	0.5	4.36	4.04	3.3	0.91
5A010-1	0.5	2	1.04	1	1.24	0.02
5A010-1	2	3	1.08	0.928	0.77	0.02
5A010-2	0	0.5	5.02	4.38	3.59	1.063
5A010-2	0.5	2	1.69	1.12	1.51	0.066
5A010-2	2	3	0.958	0.773	1.16	0.012
5A010-3	0	0.5	1.21	1.74	1.14	0.134
5A010-3	0.5	2	0.963	0.927	0.743	0.012
5A010-3	2	3	0.901	0.91	0.702	0.007
5A010-4	0	0.5	3.97	2.53	1.97	0.737
5A010-4	0.5	2	2.07	0.925	1.12	0.086
5A010-4	2	3	1.14	0.681	1.07	0.024
5A010-5	0	0.5	1.91	1.35	1.23	0.253
5A010-5	0.5	2	1.35	1.07	0.955	0.04
5A010-5	2	3	1.05	1	0.861	0.019
5A011	0	0.5	1.92	1.88	1.01	0.282
5A012	0	0.5	4.57	3.37	2.55	0.908
5A013	0	0.5	3.72	3.42	2.72	0.743
5A013	1.5	2	1.44	12.6	1.47	0.258
5A013	5	5	0.808	1.13	0.649	0.005
5A014	0	0.5	4.79	2.21	1.82	0.882
5A015	0	0.5	0.899	1.02	0.7	0.029
5A016	0	0.5	13.4	31.3	1.81	4.22
5A016	0.5	1	155	354	5.09	16.713
5A016	1	1.5	151	344	4.7	16.263
5A016	1.53	1.7	85.7	227	3.12	9.779
5A016	5	5	0.736	0.698	0.586	0
5A016-1	0	0.5	0.889	0.917	0.695	0.021
5A016-1	0.5	2	0.781	0.776	0.955	0
5A016-1	2	3	0.847	0.911	0.872	0.004
5A016-2	0	0.5	4.86	9.05	1.48	1.273
5A016-2	0.5	2	1.62	1.71	1.06	0.071
5A016-2	2	3	1	0.919	0.686	0.014
5A016-3	0	0.5	0.967	0.998	1.14	0.043
5A016-3	0.5	2	1.26	0.797	1.06	0.032
5A016-3	2	3	0.887	0.71	0.938	0.006
5A016-4	0	0.5	1.1	1.19	0.938	0.079
5A016-4	0.5	2	3.29	3.66	1.95	0.22
5A016-4	2	3	0.766	0.696	0.528	0
5A016-5	0	0.5	1.27	0.995	0.961	0.102
5A016-5	0.5	2	1.02	1.02	0.599	0.017
5A016-5	2	3	1.1	0.859	0.906	0.021
5A016-6	0	0.5	1.27	1.1	1.06	0.109
5A016-6	0.5	2	2.3	3.05	0.823	0.14
5A016-6	2	3	0.75	0.839	0.905	0
5A016-7	0	0.5	3.14	6.46	2.22	0.791
5A016-7	0.5	2	2.54	4.17	2.2	0.18
5A016-7	2	3	0.668	0.955	0.963	0.001
5A016-8	0	0.5	1.16	1.23	1.02	0.094
5A016-8	0.5	2	1.52	1.79	0.669	0.065
5A016-8	2	3	1.19	0.827	0.829	0.027
5A016-9	0	0.5	1.93	2.02	2.07	0.301
5A016-9	0.5	2	0.84	0.853	0.691	0.003
5A016-9	2	3	0.935	0.771	0.689	0.01

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
5A017	0	0.5	0.848	1.1	1.31	0.027
5A018	1.5	2	2.14	1.12	0.786	0.094
5A018	5	5	0.733	0.949	1.31	0.002
5A019	1.5	1.75	1.13	1.47	1.48	0.035
5A020	1.5	2	0.886	0.748	1.03	0.007
5A020	5	5	0.727	1.35	1.29	0.009
5A021	0	0.5	6.39	4.53	3.72	1.347
5A021-1	0	0.5	5.94	5.22	4.28	1.3
5A021-1	0.5	2	0.819	0.915	1.06	0.003
5A021-1	2	3	1.01	0.908	0.807	0.015
5A021-2	0	0.5	1.1	1.37	1.06	0.09
5A021-2	0.5	2	1.49	1.19	1.11	0.053
5A021-2	2	3	0.792	0.789	0.708	0
5A021-3	0	0.5	2.47	1.54	1.72	0.38
5A021-3	0.5	2	1.4	0.83	1.05	0.042
5A021-3	2	3	0.77	0.825	0.881	0
5A021-4	0	0.5	2.54	1.93	1.48	0.413
5A021-4	0.5	2	0.881	0.968	0.803	0.007
5A021-4	2	3	0.716	0.755	0.749	0
5A021-5	0	0.5	1.69	1.06	0.93	0.19
5A021-5	0.5	2	0.703	0.81	0.815	0
5A021-5	2	3	0.966	0.743	0.676	0.012
601	0	0.5	0.916	1.04	0.71	0.033
601	12.5	13	0.809	1.17	0.903	0.006
602	0	0.5	0.683	1.08	0.605	0.01
602	14.5	15	0.83	0.781	0.628	0.003
603	0	0.5	0.871	0.991	0.838	0.021
604	0	0.5	0.813	0.854	1.05	0.007
604	14.5	15	0.771	0.705	0.62	0
605	0	0.5	0.827	1.29	1.07	0.031
605	16	16.5	0.623	1.22	0.763	0.006
606	0	0.5	103	352	41.5	40.302
606	17.5	18	0.655	0.983	1.19	0.003
606-1	0	0.5	1.91	1.24	0.877	0.243
606-1	0.5	2	1.06	0.771	0.774	0.018
606-1	2	3	0.956	0.864	0.669	0.011
606-2	0	0.5	1.43	1.16	0.677	0.142
606-2	0.5	2	0.942	1	0.674	0.012
606-2	2	3	0.99	0.854	0.933	0.013
606-3	0	0.5	1.12	0.727	0.632	0.066
606-3	0.5	2	0.802	0.769	0.554	0.001
606-3	2	3	0.768	0.534	0.708	0
606-4	0	0.5	1.09	1.27	0.756	0.081
606-4	0.5	2	0.849	0.822	0.687	0.004
606-4	2	3	0.949	0.749	0.57	0.011
607	0	0.5	1.3	0.88	0.565	0.102
607	16.5	17	0.711	0.872	1.1	0.001
6A001	0	0.5	285	8.73	1.38	57.282
6A001	0.5	1	79.9	6.12	0.678	5.369
6A001	1	1.5	167	6.98	4.12	11.202
6A001	1.5	2	6.33	1.63	0.947	0.382
6A001-1	0	0.5	119	6.33	1.21	23.947
6A001-1	0.5	2	59.1	3.5	0.82	3.934
6A001-1	2	3	0.769	0.849	0.738	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
6A001-2	0	0.5	1.44	0.936	0.537	0.132
6A001-2	0.5	2	0.931	0.774	0.636	0.009
6A001-2	2	3	0.981	0.749	0.706	0.013
6A001-3	0	0.5	1.31	0.962	0.54	0.107
6A001-3	0.5	2	0.738	0.778	0.654	0
6A001-3	2	3	0.942	0.992	0.681	0.012
6A001-4	0	0.5	1.22	0.928	0.661	0.088
6A001-4	0.5	2	0.963	0.773	0.644	0.012
6A001-4	2	3	0.989	0.885	0.65	0.013
6A001-5	0	0.5	0.81	1.1	0.735	0.015
6A001-5	0.5	2	0.772	0.932	0.716	0.001
6A001-5	2	3	1.1	0.938	0.806	0.022
6A001-6	0	0.5		1.02	0.843	0.007
6A001-6	0.5	2	1.1	0.885	0.686	0.021
6A001-6	2	3	0.877	0.693	0.569	0.006
6A002	0	0.5	1.04	1.22	0.965	0.069
6A003	0	0.5	2.24	1.18	0.894	0.307
6A004	0	0.5	1.07	1.03	0.701	0.063
6A005	0	0.5	2.54	0.945	1.11	0.356
6A006	0	0.5	1.34	0.717	0.885	0.111
6A006	1.5	2	1.27	0.889	0.859	0.032
6A007	0	0.5	0.833	1.06	1.32	0.022
6A008	0	0.5	1.02	0.963	0.589	0.05
6A009	0	0.5	0.95	1.08	1.83	0.051
6A010	0	0.5	3.39	2.69	0.906	0.62
6B001	0	0.5	2.78	1.51	1.25	0.436
6B002	0	0.5	0.741	0.738	0.964	0.001
6B003	0	0.5	1.08	0.879	1.01	0.06
6B004	0	0.5	1.12	1.12	1.03	0.08
6B005	0	0.5	29.3	8.25	2.62	6.126
6B005	0.5	1	70.1	14.5	13.4	4.904
6B005	1	1.5	9.5	3.89	39.7	0.747
6B005	1.5	2	0.899	1.05	14	0.048
6B005-1	0	0.5	8.42	3.42	1.85	1.675
6B005-1	0.5	2	6.03	2.63	33.5	0.474
6B005-1	2	3	0.987	0.807	2.94	0.019
6B005-2	0	0.5	11	4.28	0.946	2.231
6B005-2	0.5	2	1.27	1.3	0.975	0.039
6B005-2	2	3	0.804	0.737	1.06	0.002
6B005-3	0	0.5	6.35	3.88	1.36	1.283
6B005-3	0.5	2	1.88	1.16	1.81	0.081
6B005-3	2	3	0.914	0.908	1.29	0.009
6B005-4	0	0.5	1.37	1.01	1.03	0.124
6B005-4	0.5	2	0.888	0.795	1.11	0.008
6B005-4	2	3	1.09	0.838	0.868	0.02
6B005-5	0	0.5	5.32	2.51	0.882	0.996
6B005-5	0.5	2	1.67	2.1	1.82	0.084
6B005-5	2	3	1.07	0.888	1.27	0.02
6B005-6	0	0.5	1.25	1.06	0.655	0.101
6B005-6	0.5	2	0.778	0.815	0.897	0
6B005-6	2	3	1.07	0.899	0.681	0.019
6B005-7	0	0.5	2.43	1.6	0.887	0.368
6B005-7	0.5	2	1.06	0.864	0.729	0.018
6B005-7	2	3	0.906	0.766	1.21	0.009

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
6B006	0	0.5	1.05	1.06	0.688	0.061
6C001	0	0.5	1.17	1.39	0.547	0.103
6C002	0	0.5	0.852	1	0.628	0.018
6C003	0	0.5	0.89	0.959	1.12	0.026
6C004	0	0.5	0.898	1.17	1.07	0.039
6C005	0	0.5	1.14	1.26	1.26	0.094
6C006	0	0.5	1.25	1.04	1.61	0.107
801	0	0.5	1.81	1.49	1.58	0.244
801	17.5	18	0.793	0.722	0.863	0
802	0	0.5	1.25	1.24	0.622	0.111
802	16.5	17	0.752	0.81	0.629	0
803	0	0.5	0.957	1.19	0.931	0.05
803	7	7.5	0.926	1.13	0.964	0.013
804	0	0.5	0.798	1.31	1.79	0.033
804	7	7.5	1.31	1.15	1.08	0.041
805	0	0.5	1.5	2.79	1.28	0.251
805	7	7.5	0.887	1.04	0.959	0.009
806	0	0.5	1.27	1.92	1.14	0.156
806	18.4	18.9	0.658	0.585	0.541	0
807	0	0.5	1.7	1.57	0.987	0.22
807	17.7	18.2	0.812	1.13	0.878	0.005
808	0	0.5	0.809	0.892	0.909	0.005
808	14.5	15	0.619	0.664	0.44	0
809	0	0.5	0.711	0.891	0.795	0
809	17.5	18	0.622	0.636	0.746	0
810	0	0.5	0.779	1.08	0.787	0.01
810	11.5	12	0.381	0.427	0.377	0
811	0	0.5	0.734	0.837	0.586	0
811	22.5	23	1.33	1.16	0.699	0.041
812	0	0.5	0.942	0.642	0.913	0.031
812	9.5	10	0.826	0.866	0.411	0.002
813	0	0.5	1.37	2.02	1.61	0.185
813	10	10.5	0.748	0.939	0.788	0.001
814	0	0.5	2.71	2.62	3.31	0.502
814	18.5	19	0.871	1.41	0.881	0.014
815	0	0.5	3.07	4.47	3.13	0.674
815	10.5	11	0.853	1.03	0.964	0.006
816	0	0.5	299	3.39	2.78	59.797
816	11.5	12	0.921	1.15	1.03	0.015
816-1	0	0.5	2.1	1.9	1.79	0.326
816-1	0.5	2	1.68	0.938	0.977	0.06
816-1	2	3	0.721	0.668	0.58	0
816-2	0	0.5	2.14	0.901	0.836	0.27
816-2	0.5	2	1.03	0.723	0.781	0.016
816-2	2	3	0.887	0.778	0.471	0.006
816-3	0	0.5	0.66	0.657	0.654	0
816-3	0.5	2	1.08	0.974	0.707	0.02
816-3	2	3	1.25	1.11	0.926	0.035
816-4	0	0.5	1.47	1.21	0.744	0.153
816-4	0.5	2	0.922	0.952	0.584	0.01
816-4	2	3	0.899	0.733	0.975	0.007
817	0	0.5	2.72	3.59	1.77	0.543
817	9.5	10	0.809	0.971	1.06	0.003
818	0	0.5	1.66	1.8	1.84	0.233

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
818	10	10.5	0.703	0.64	0.985	0
819	0	0.5	1.05	1.06	14.7	0.182
819	8.5	9	0.931	1.14	0.72	0.013
820	0	0.5	2.19	3.13	1.65	0.411
820	18	18.5	0.638	0.688	0.706	0
821	0	0.5	1.13	1.23	1.38	0.091
821	11.5	12	0.714	1.12	0.786	0.004
822	0	0.5	0.872	1.32	1.2	0.042
822	10.5	11	0.796	0.973	0.479	0.001
823	0	0.5	0.866	0.802	0.451	0.015
823	13	13.5	0.777	1.41	0.667	0.009
824	0	0.5	1.08	0.996	1.25	0.067
824	12.5	13	0.62	0.813	0.423	0
825	0	0.5	1.07	1.19	1.06	0.074
825	9	9.5	0.877	1.13	1.26	0.011
826	0	0.5	13.2	11.9	3.76	3.119
826	0.8	1.3	5.99	13.2	6.53	0.588
826-1	0	0.5	0.543	0.857	0.515	0
826-1	0.5	2	1.74	1.47	1.34	0.075
826-1	2	3	0.828	0.866	1.04	0.004
826-2	0	0.5	1.14	1.03	0.797	0.077
826-2	0.5	2	0.958	0.823	0.786	0.011
826-2	2	3	0.805	0.796	0.809	0.001
826-3	0	0.5	1.89	2.12	1.28	0.292
826-3	0.5	2	1.36	1.17	1.13	0.044
826-3	2	3	0.889	0.965	0.753	0.008
826-4	0	0.5	3.04	2.9	1.27	0.565
826-4	0.5	2	1.26	1.5	1.58	0.044
826-4	2	3	0.922	0.891	1.1	0.01
827	0	0.5	185	33.3	2.36	38.655
827	1.5	2	8.37	3.35	1.46	0.552
827-1	0	0.5	2.59	2.87	1.27	0.473
827-1	0.5	2	4.56	5.55	5.84	0.351
827-2	0	0.5	2.47	2.53	0.981	0.428
827-2	0.5	2	1.38	1.64	1.5	0.054
827-2	2	3	1.06	1.24	1.07	0.025
827-3	0	0.5	2.15	1.67	1.63	0.322
827-3	0.5	2	1.07	1.28	1.41	0.028
827-3	2	3	0.957	1.15	1.26	0.017
827-4	0	0.5	4.98	3.92	1.22	1.009
827-4	0.5	2	2.03	1.88	1.13	0.102
827-4	2	3	0.98	1.17	1.72	0.021
827-5	0	0.5	1.66	3.1	1.08	0.298
827-5	0.5	2	4.46	3.28	3.12	0.295
827-5	2	3	1.48	1.35	1.46	0.056
828	0	0.5	8.33	3.13	3.04	1.651
828-1	0	0.5	1.02	1.32	0.545	0.069
828-1	0.5	2	1.25	1.09	0.649	0.034
828-1	2	3	0.707	0.662	0.714	0
828-2	0	0.5	0.782	0.731	0.611	0
828-2	0.5	2	0.808	0.638	0.527	0.001
828-2	2	3	0.667	0.531	0.693	0
828-3	0	0.5	0.902	0.681	0.633	0.022
828-3	0.5	2	0.573	0.561	0.689	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
828-3	2	3	0.701	0.504	0.409	0
828-4	0	0.5	0.856	0.738	0.622	0.013
828-4	0.5	2	0.562	0.572	0.484	0
828-4	2	3	0.751	0.495	0.764	0
828-5	0	0.5	2.63	0.951	0.698	0.371
828-5	0.5	2	0.874	0.535	0.609	0.006
828-5	2	3	0.826	0.589	0.755	0.002
829	0	0.5	182	5.29	0.921	36.487
829	0.8	1.3	3.72	0.887	0.882	0.195
829-1	0	0.5	2.53	2.21	1.28	0.425
829-1	0.5	2	1.44	1.08	0.992	0.046
829-1	2	3	1.07	0.725	0.715	0.019
829-2	0	0.5	1.56	0.815	0.755	0.154
829-2	0.5	2	1.52	0.754	0.924	0.049
829-2	2	3	1.23	0.8	0.818	0.029
829-3	0	0.5	1.85	2.06	0.854	0.276
829-3	0.5	2	2.71	0.966	0.719	0.129
829-3	2	3	0.734	0.504	0.563	0
829-4	0	0.5	0.999	1.12	0.542	0.054
829-4	0.5	2	1.25	0.751	0.558	0.031
829-4	2	3	3.93	3.46	2.92	0.262
830	0	0.5	386	304	88.6	94.644
830	1.5	2	2.25	3.63	2.66	0.152
830-1	0	0.5	1.76	2.47	0.712	0.281
830-1	0.5	2	0.508	1.31	1.11	0.008
830-1	2	3	1.09	1.06	1.67	0.025
830-2	0	0.5	1.6	1.69	0.625	0.206
830-2	0.5	2	0.984	1.09	1	0.017
830-2	2	3	0.776	0.922	0.847	0
831	0	0.5	0.805	0.94	0.993	0.007
831	15	15	0.762	0.683	0.697	0
832	0	0.5	0.815	1.28	1.32	0.03
832	12	12	0.856	1.23	1.09	0.011
833	0	0.5	0.664	1.22	21	0.193
833	10	10	0.4	0.495	1.05	0.001
834	0	0.5	0.768	1.26	1.41	0.025
834	14	14	0.723	0.655	0.93	0
835	0	0.5	0.717	1.69	0.829	0.044
835	15	15	0.785	1.09	0.896	0.003
836	0	0.5	1.03	2.01	0.964	0.111
836	15	15	0.736	1.13	0.613	0.004
837	0	0.5	0.861	1.62	0.923	0.055
837	19	19	0.77	0.644	0.913	0
838	0	0.5	0.869	1.4	0.668	0.044
838	14	14	0.791	1.6	0.709	0.013
839	0	0.5	0.704	1.31	1.29	0.027
839	14	14	0.76	1.36	0.931	0.008
840	0	0.5	0.952	1.39	0.835	0.059
840	12	12	0.705	0.805	0.821	0
841	0	0.5	0.959	2.01	1.82	0.105
841	10	10	0.784	1.8	0.929	0.016
842	0	0.5	0.775	1.75	0.85	0.047
842	10	10	0.836	1.39	0.707	0.012
843	0	0.5	0.759	1.17	1.1	0.017

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
843	10	10	0.732	1.91	0.744	0.018
844	0	0.5	1.3	2.58	1.1	0.197
844	11	11	0.646	1.37	0.847	0.009
845	0	0.5	1.17	2.57	1.66	0.176
845	13	13	0.646	1.15	0.69	0.005
846	0	0.5	0.726	1.11	0.692	0.012
846	16	16	0.711	0.936	0.623	0.001
847	0	0.5	1.16	2	1.16	0.138
847	10	10	0.794	1.62	0.945	0.013
848	0	0.5	1.76	2.7	1.93	0.304
848	11	11	0.856	1.49	0.816	0.015
849	0	0.5	0.784	2.06	1.43	0.069
849	11	11	0.571	1.39	0.654	0.009
850	0	0.5	0.907	1.44	0.872	0.053
850	17	17	0.68	1.28	1.18	0.008
851	0	0.5	0.772	1.46	1.15	0.034
851	18	18	0.697	1.56	0.663	0.012
852	0	0.5	1	2.53	1.67	0.14
852	15	15	0.571	0.602	0.442	0
853	0	0.5	0.767	1.52	1.12	0.037
853	16.5	16.5	0.763	1.24	0.787	0.006
854	0	0.5	0.737	1.37	1.65	0.033
854	13	13	0.714	1.18	0.961	0.005
855	0	0.5	0.717	2.7	2.75	0.117
855	15	15	0.615	0.908	0.72	0
856	0	0.5	0.984	2.04	1.11	0.105
856	11	11	0.506	0.82	0.557	0
857	0	0.5	0.829	1.31	12.2	0.13
857	11	11	0.593	0.766	0.403	0
858	0	0.5	0.792	1.16	1.55	0.02
858	16	16	0.803	1.61	0.816	0.014
859	0	0.5	0.726	1.3	1.32	0.026
859	18	18	0.718	1.23	0.761	0.006
860	15	15	0.519	1.01	0.531	0.002
861	0	0.5	0.817	1.67	0.977	0.049
861	34.5	34.5	0.732	1.09	0.65	0.003
861	38	38	0.674	0.741	0.575	0
864	10	10	0.734	1.08	0.867	0.003
8A001	1.5	2	1.03	1.51	1.08	0.028
8A002	0	0.5	3.01	3.68	0.861	0.598
8A003	0	0.5	47.9	87.6	3.18	14.26
8A003	1.5	2	1.6	2.79	0.964	0.088
8A004	0	0.5	6.2	9.79	1.38	1.581
8A004-1	0	0.5	6.01	6.88	1	1.378
8A004-1	0.5	2	2.67	3.36	0.942	0.17
8A004-1	2	3	0.834	0.914	0.935	0.003
8A004-2	0	0.5	5.2	6.96	0.922	1.22
8A004-2	0.5	2	1.52	1.56	0.989	0.061
8A004-2	2	3	1	1.19	1.03	0.02
8A004-3	0	0.5	4.87	5.8	1.17	1.091
8A004-3	0.5	2	5.52	5.06	1.58	0.393
8A004-3	2	3	1.7	1.55	2.14	0.077
8A004-4	0	0.5	6.88	7.85	1.19	1.607
8A004-4	0.5	2	1.85	2.37	1.09	0.099

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8A004-4	2	3	1.31	0.954	0.96	0.036
8A004-5	0	0.5	1.8	2.5	0.884	0.292
8A004-5	0.5	2	1.42	2.03	1.16	0.064
8A004-5	2	3	0.954	0.943	1.19	0.013
8A004-6	0	0.5	2.4	2.48	0.903	0.411
8A004-6	0.5	2	1.3	1.08	1.32	0.038
8A004-6	2	3	0.971	0.835	1.26	0.013
8A004-7	0	0.5	4.13	5.86	0.74	0.944
8A004-7	0.5	2	2.6	2.92	0.883	0.158
8A004-7	2	3	1.26	1.02	1.26	0.034
8A005	0	0.5	2.12	3.03	1.14	0.387
8A006	0	0.5	1.05	1.05	1.26	0.064
8A007	0	0.5	1.03	1.22	0.91	0.067
8A008	0	0.5	1.08	1.4	1.13	0.089
8A009	0	0.5	67.9	68.5	1.75	17.186
8A009	2	2	1.65	2.57	1.03	0.088
8A009-1	0	0.5	1.68	1.8	1.96	0.238
8A009-1	0.5	2	1.1	1.05	2.03	0.027
8A009-1	2	3	0.997	1.18	1.22	0.02
8A009-2	0	0.5	1.58	1.73	1.28	0.208
8A009-2	0.5	2	1.16	1.16	1.15	0.031
8A009-2	2	3	0.909	0.726	0.374	0.008
8A009-3	0	0.5	2.14	1.62	2.44	0.324
8A009-3	0.5	2	1.39	1.34	2.18	0.052
8A009-3	2	3	0.992	0.963	0.813	0.014
8A009-4	0	0.5	0.153	0.252	0.285	0
8A009-4	0.5	2	2.27	2.79	2.72	0.138
8A009-4	2	3	0.99	0.947	1.15	0.015
8A010	0	0.5	1.24	1.13	0.723	0.103
8A011	2	2	0.99	0.953	1.08	0.015
8B001	0	0.5	16.8	4.11	0.976	3.381
8B001-1	0	0.5	5.9	1.85	0.8	1.075
8B001-1	0.5	2	2.67	1.39	1.25	0.135
8B001-1	2	3	0.93	1.09	1.18	0.013
8B001-2	0	0.5	5.3	2.58	2.11	1.006
8B001-2	0.5	2	6.08	4.85	2.57	0.43
8B001-2	2	3	15.3	2.05	0.79	0.988
8B001-3	0	0.5	1.45	1.41	1.49	0.166
8B001-3	0.5	2	3.25	0.92	0.973	0.164
8B001-3	2	3	3.4	2.73	2.5	0.212
8B001-4	0	0.5	1.46	1.17	0.974	0.15
8B001-4	0.5	2	1.07	1.08	1.1	0.023
8B001-4	2	3	0.841	0.985	0.957	0.005
8B001-5	0	0.5	5.07	2.43	1.42	0.946
8B001-5	0.5	2	4.29	1.52	0.994	0.245
8B001-5	2	3	1.23	0.988	0.827	0.031
8B001-5	3	4	0.91	0.902	0.671	0.008
8B001-5	4	5	1.21	0.894	0.724	0.028
8B001-6	0	0.5	2.04	1.27	0.883	0.272
8B001-6	0.5	2	1.38	1.09	0.945	0.042
8B001-6	2	3	0.732	0.897	1.01	0.001
8B001-6	3	4	0.911	0.847	0.923	0.008
8B001-6	4	5	0.837	0.958	0.786	0.004
8B001-7	0	0.5	2.72	1.69	0.796	0.43

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8B001-7	0.5	2	1.73	1.23	0.759	0.069
8B001-7	2	3	5.35	5.13	4.63	0.392
8B001-7	3	4	5.37	4.7	4.72	0.385
8B001-7	4	5	6.09	3.88	3.64	0.415
8B002	0	0.5	1.03	1.12	0.778	0.06
8B002	2	2	0.948	1.2	1.28	0.017
8B003	0	0.5	1.21	1.44	1.18	0.117
8B004	0	0.5	1.09	1.29	1.12	0.085
8B005	0	0.5	1.08	1.78	1.26	0.111
8B006	0	0.5	1.33	2.71	0.923	0.21
8B007	0	0.5	1.15	2.01	3.7	0.159
8B008	0	0.5	0.0607	0.146	0.049	0
8B008	2	2	0.924	1.06	0.791	0.012
8B009	0	0.5	1.19	2.83	0.68	0.187
8B010	0	0.5	1.83	2.33	2.92	0.305
8C001	0	0.5	1.86	1.98	0.889	0.275
8C002	0	0.5	1.12	1.05	0.69	0.074
8C003	0	0.5	0.991	1.14	1.27	0.057
8C004	0	0.5	0.939	1.37	0.851	0.056
8D001	0	0.5	3.78	3.73	1.17	0.758
8D002	0	0.5	0.793	0.914	0.791	0.002
8D003	0	0.5	45.5	8.94	1.63	9.396
8D003	0.42	0.75	44.5	8.06	1.46	3.046
8D003	0.75	1	7.17	3.56	1.23	0.474
8D003	4.5	4.5	0.744	0.984	0.809	0.002
8D003-1	0	0.5	2.36	2.71	1.08	0.417
8D003-1	0.5	2	1.2	1.32	1.11	0.036
8D003-1	2	3	0.814	0.82	0.765	0.002
8D003-2	0	0.5	2.85	3.55	1.09	0.561
8D003-2	0.5	2	1.1	1.17	0.935	0.026
8D003-2	2	3	1.02	0.86	0.764	0.015
8D003-3	0	0.5	1.71	1.7	0.92	0.229
8D003-3	0.5	2	0.94	0.781	0.754	0.01
8D003-3	2	3	0.771	0.641	0.642	0
8D003-4	0	0.5	3.22	4.02	1.31	0.663
8D003-4	0.5	2	1.57	3.02	1.06	0.092
8D003-4	2	3	0.871	0.911	0.725	0.005
8D004	0	0.5	42.2	58.8	1.85	11.508
8D004	1.47	1.8	3.79	1.16	0.889	0.205
8D004-1	0	0.5	8.73	3.92	1.47	1.762
8D004-1	0.5	2	1.36	1.27	0.813	0.045
8D004-1	2	3	0.902	0.664	0.689	0.007
8D004-2	0	0.5	1.23	1.05	0.79	0.096
8D004-2	0.5	2	1.14	0.781	0.754	0.023
8D004-2	2	3	1.2	0.785	0.698	0.027
8D004-3	0	0.5	1.77	2.24	0.969	0.271
8D004-3	0.5	2	1	1.02	0.677	0.016
8D004-3	2	3	1.17	0.815	0.757	0.025
8D004-4	0	0.5	2.49	2.12	0.944	0.409
8D004-4	0.5	2	0.994	0.977	1.02	0.016
8D004-4	2	3	0.925	0.756	1.22	0.01
8D004-5	0	0.5	2.38	2.26	3.25	0.415
8D004-5	0.5	2	1	0.98	1.13	0.016
8D004-5	2	3	1.14	0.919	0.794	0.023

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8D004-6	0	0.5	2.55	2.96	0.616	0.466
8D004-6	0.5	2	0.937	0.975	1.32	0.012
8D004-6	2	3	0.818	0.935	0.822	0.003
8D004-7	0	0.5	2.06	2.13	0.828	0.322
8D004-7	0.5	2	0.95	0.952	1.08	0.013
8D004-7	2	3	0.661	0.809	0.739	0
8D005	0	0.5	0.942	1.21	1.03	0.049
8D006	0	0.5	13.4	14.1	0.989	3.256
8D006	0.47	0.8	143	98.3	1.3	11.253
8D006	1.17	1.5	14.2	24.3	0.953	1.319
8D006	1.5	2	7.94	8.96	1.03	0.625
8D006	2	2.5	0.684	0.85	1.1	0.001
8D006-1	0	0.5	7.01	8.27	0.878	1.654
8D006-1	0.5	2	2.85	3.7	0.809	0.188
8D006-1	2	3	1.09	0.794	1.32	0.021
8D006-2	0	0.5	1.92	2.04	1.03	0.291
8D006-2	0.5	2	1.37	1.5	1.19	0.051
8D006-2	2	3	0.759	0.739	0.645	0
8D006-3	0	0.5	0.926	1.04	1.13	0.038
8D006-3	0.5	2	0.874	0.728	0.597	0.006
8D006-3	2	3	0.938	0.832	0.645	0.01
8D006-4	0	0.5	1.2	1.34	0.745	0.106
8D006-4	0.5	2	1.37	0.975	0.735	0.04
8D006-4	2	3	0.87	0.846	0.573	0.005
8D006-5	0	0.5	7.42	10.1	1.22	1.84
8D006-5	0.5	2	1.99	2.29	0.896	0.105
8D006-5	2	3	0.991	0.715	0.674	0.013
8D006-6	0	0.5	0.841	1.22	0.713	0.028
8D006-6	0.5	2	1.65	1.21	0.944	0.063
8D006-6	2	3	1.52	1.3	1.02	0.057
8D006-7	0	0.5	2.7	3.33	0.726	0.517
8D006-7	0.5	2	1.03	1.13	0.86	0.02
8D006-7	2	3	0.992	0.791	0.621	0.013
8D007	0	0.5	14.9	9.04	2.11	3.285
8D007	1.47	1.8	5.68	3.7	1.07	0.378
8D007-1	0	0.5	1.45	1.77	1.09	0.182
8D007-1	0.5	2	1.03	0.926	0.89	0.016
8D007-1	2	3	0.866	0.953	0.719	0.006
8D007-2	0	0.5	1.79	1.61	1.26	0.243
8D007-2	0.5	2	1.49	0.948	1.8	0.051
8D007-2	2	3	1	1.05	1.9	0.02
8D007-3	0	0.5	9.89	7.4	1.88	2.19
8D007-3	0.5	2	0.786	0.78	0.756	0
8D007-3	2	3	0.848	0.756	0.59	0.004
8D007-4	0	0.5	2.19	1.56	1	0.319
8D007-4	0.5	2	1.14	0.812	1.31	0.024
8D007-4	2	3	0.797	0.726	0.594	0
8D007-5	0	0.5	5.25	4.71	0.672	1.104
8D007-5	0.5	2	1.06	0.952	2.16	0.023
8D007-5	2	3	0.824	0.894	0.598	0.002
8D008	0	0.5	0.998	1.49	1.23	0.079
8D009	0	0.5	446	536	7.1	118.825
8D009	1.5	2	10	25.3	0.977	1.058
8D009	2	2.5	0.778	1.3	0.855	0.007

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8D009-1	0	0.5	1.18	1.59	0.882	0.117
8D009-1	0.5	2	1.2	1.29	0.842	0.034
8D009-1	2	3	1.53	1.67	0.824	0.063
8D009-2	0	0.5	5.45	6.55	1.11	1.249
8D009-2	0.5	2	5.99	5.81	1.58	0.438
8D009-2	2	3	1.38	1.06	0.865	0.042
8D009-3	0	0.5	1.57	1.07	0.69	0.165
8D009-3	0.5	2	1.25	1.04	0.859	0.034
8D009-3	2	3	26.6	24.8	3.67	2.164
8D009-3	3	4	21.4	24.5	30.8	1.89
8D009-3	4	5	13.9	12.8	5.21	1.103
8D009-4	0	0.5	1.87	2	0.756	0.277
8D009-4	0.5	2	1.91	2.05	0.7	0.096
8D009-4	2	3	0.542	0.735	0.558	0
8D009-5	0	0.5	1.24	1.19	0.633	0.106
8D009-5	0.5	2	1.34	1.21	0.963	0.043
8D009-5	2	3	5.98	6.28	2.14	0.448
8D009-5	3	5	15.8	15.6	3.09	1.275
8D009-5	5	7	1.53	1.17	0.942	0.054
8D009-6	0	0.5	1.65	1.73	0.803	0.218
8D009-6	0.5	2	1.29	1.12	0.909	0.037
8D009-6	2	3	3.04	4.73	0.923	0.22
8D009-6	3	5	8.02	9.14	2.06	0.636
8D009-6	5	7	15.7	14	3.14	1.239
8D009-7	0	0.5	1.26	1.03	0.648	0.101
8D009-7	0.5	2	1.47	0.977	0.801	0.046
8D009-7	2	3	2.12	1.45	0.747	0.099
8D009-7	3	5	1.09	0.793	0.686	0.02
8D009-7	5	7	0.824	0.655	0.544	0.002
8D011	1.5	2	0.822	0.995	0.777	0.004
8D012	1.5	2	0.86	0.955	0.627	0.006
8D013	1.53	1.7	1.04	1.32	0.83	0.025
8D014	1.5	2	0.814	1.09	0.766	0.005
8D015	1.5	2	0.719	0.768	0.6	0
8D016	1.5	2	19.1	21.9	4.14	1.613
8D016	3	3.5	0.693	1.76	1.05	0.017
8D016-1	0	0.5	1.43	1.25	0.724	0.147
8D016-1	0.5	2	0.907	1.18	0.729	0.013
8D016-1	2	3	1.85	1.58	2.62	0.088
8D016-2	0	0.5	3.1	2.94	1.06	0.577
8D016-2	0.5	2	1.88	1.88	1.16	0.092
8D016-2	2	3	8.6	12.1	2.62	0.73
8D016-3	0	0.5	3.4	4.44	0.989	0.72
8D016-3	0.5	2	0.98	0.969	0.832	0.014
8D016-3	2	3	30.2	38.9	4.3	2.662
8D016-3	3	4	67.2	77.3	9.73	5.842
8D016-3	4	5	7.38	10.8	2.55	0.624
8D016-4	0	0.5	3.01	4.73	1	0.659
8D016-4	0.5	2	12.3	15.4	2.62	1.036
8D016-4	2	3	38	33.5	8.13	3.095
8D016-4	3	4	30.4	31.7	4.64	2.545
8D016-4	4	5	18.9	21.3	4.82	1.59
8D016-5	0	0.5	1.66	1.29	1.29	0.2
8D016-5	0.5	2	5.58	7.33	1.98	0.439

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8D016-5	2	3	6.1	6.29	1.75	0.455
8D016-5	3	5	1.3	1.42	1.25	0.044
8D016-5	5	7	0.84	0.874	0.814	0.003
8D016-6	0	0.5	1.1	1.09	0.84	0.073
8D016-6	0.5	2	1.21	1.13	1.03	0.033
8D016-6	2	3	1.19	0.925	1.09	0.028
8D016-6	3	5	1.45	1.06	0.924	0.047
8D016-6	5	7	1.66	1.68	0.848	0.072
8D016-7	0	0.5	1.74	1.39	1.04	0.219
8D016-7	0.5	2	9.64	9.26	1.58	0.744
8D016-7	2	3	16.6	44.8	5.13	1.864
8D016-7	3	5	37.6	51	10.3	3.392
8D016-7	5	7	25	22.8	5.99	2.027
8D016-8	0	0.5	0.943	1.28	0.897	0.053
8D016-8	0.5	2	1.09	0.984	0.907	0.022
8D016-8	2	3	1	0.82	0.952	0.014
8D016-8	3	5	1.09	1.11	0.794	0.024
8D016-8	5	7	1.03	0.828	0.716	0.016
8D016-9	0	0.5	1.12	1.15	1.15	0.083
8D016-9	0.5	2	1.13	1.08	1.24	0.027
8D016-9	2	3	1.1	0.954	0.88	0.022
8D016-9	3	5	0.825	0.712	0.749	0.002
8D016-9	5	7	0.881	0.783	0.676	0.006
8E001	0	0.5	1.27	1.66	1.08	0.14
8E002	0	0.5	1.98	2.12	0.834	0.306
8E003	0	0.5	0.862	1.06	0.755	0.023
8E003	0.5	1	0.917	1.24	0.857	0.014
8E003	1	1.5	74.8	38.5	1.11	5.619
8E003	5	5	0.752	1.18	0.575	0.005
8E003-1	0	0.5	1.53	1.82	0.853	0.199
8E003-1	0.5	2	0.904	0.845	0.93	0.008
8E003-1	2	3	1.07	0.911	0.77	0.019
8E003-2	0	0.5	2.53	3.14	0.737	0.472
8E003-2	0.5	2	1.59	1.51	0.752	0.064
8E003-2	2	3	0.968	0.594	0.703	0.012
8E003-3	0	0.5	1.28	1.32	0.927	0.122
8E003-3	0.5	2	0.763	1	0.645	0.002
8E003-3	2	3	0.559	0.484	0.461	0
8E003-4	0	0.5	1.36	0.962	0.672	0.117
8E003-4	0.5	2	1.22	0.789	0.799	0.029
8E003-4	2	3	1.07	0.942	0.676	0.02
8F001	0	0.5	61.5	6.76	1.9	12.477
8F001	0.5	1	14.3	3.37	0.134	0.946
8F001	1	1.5	11.3	2.29	0.885	0.726
8F001-1	0	0.5	0.933	0.698	0.575	0.029
8F001-1	0.5	2	0.786	0.875	0.805	0
8F001-1	2	3	0.831	0.747	0.703	0.003
8F001-2	0	0.5	0.748	0.746	0.684	0
8F001-2	0.5	2	0.841	0.757	0.601	0.003
8F001-2	2	3	0.663	0.849	0.785	0
8F001-3	0	0.5	1.42	1.35	0.71	0.151
8F001-3	0.5	2	0.908	0.85	0.857	0.008
8F001-3	2	3	0.555	0.707	0.711	0
8F002	0	0.5	0.866	1.04	1.03	0.025

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8F003	0	0.5	45.9	39.4	1.65	11.168
8F003-1	0	0.5	0.893	0.8	0.749	0.021
8F003-1	0.5	2	0.762	0.833	0.679	0
8F003-1	2	3	0.899	0.756	0.678	0.007
8F003-2	0	0.5	0.712	0.645	0.942	0.001
8F003-2	0.5	2	1.15	0.832	0.994	0.025
8F003-2	2	3	1.17	0.869	0.738	0.025
8F003-3	0	0.5	1.16	0.846	0.705	0.074
8F003-3	0.5	2	0.808	0.737	0.777	0.001
8F003-3	2	3	0.938	0.809	0.713	0.01
8F003-4	0	0.5	0.926	0.815	0.723	0.027
8F003-4	0.5	2	1.06	0.751	0.892	0.018
8F003-4	2	3	1.21	0.784	0.67	0.028
8F003-5	0	0.5	1.05	0.723	0.862	0.052
8F003-5	0.5	2	0.887	0.689	0.931	0.006
8F003-5	2	3	0.945	0.77	1.02	0.011
8F003-6	0	0.5	0.838	0.766	0.743	0.01
8F003-6	0.5	2	0.993	0.748	0.859	0.014
8F003-6	2	3	1.33	0.645	0.714	0.036
8F003-7	0	0.5	1.25	0.815	0.873	0.092
8F003-7	0.5	2	0.692	0.717	0.778	0
8F003-7	2	3	0.897	0.728	0.587	0.007
8F003-8	0	0.5	0.968	0.713	0.585	0.036
8F003-8	0.5	2	1.03	0.731	0.678	0.016
8F003-8	2	3	0.656	0.862	0.815	0
8F004	0	0.5	0.797	0.916	0.704	0.002
8F005	0	0.5	18.9	40.8	1.51	5.845
8F005	0.5	1	6.14	6.85	0.471	0.465
8F005	1	1.5	1.23	1.91	0.822	0.047
8F006	0	0.5	7.32	2.99	1.73	1.43
8F006	0.5	1	1.99	1.81	1.32	0.098
8F006	1	1.5	1.31	1.06	1.1	0.039
8F006-1	0	0.5	1.73	1.34	1.07	0.214
8F006-1	0.5	2	1.01	0.754	0.881	0.015
8F006-1	2	3	0.982	0.956	0.811	0.014
8F006-2	0	0.5	4.75	1.63	1.36	0.838
8F006-2	0.5	2	1.2	0.802	0.839	0.027
8F006-2	2	3	1.04	0.888	0.744	0.017
8F006-3	0	0.5	1.13	0.879	0.811	0.068
8F006-3	0.5	2	1.13	0.701	1	0.024
8F006-3	2	3	0.991	1.01	0.925	0.015
8F006-4	0	0.5	1.48	1.23	0.73	0.156
8F006-4	0.5	2	0.921	0.969	0.817	0.01
8F006-4	2	3	0.89	0.747	0.865	0.007
8F006-5	0	0.5	2.5	2.34	0.715	0.422
8F006-5	0.5	2	1.81	0.886	1.1	0.069
8F006-5	2	3	0.886	0.644	0.627	0.006
8F006-6	0	0.5	4.87	1.97	2.04	0.886
8F006-6	0.5	2	2.33	2.03	1.12	0.125
8F006-6	2	3	0.742	0.72	0.903	0
8F007	0	0.5	1.12	1.38	0.705	0.093
8G001	0	0.5	1.5	1.3	0.607	0.164
8G002	0	0.5	1.35	1.59	0.295	0.15
8G003	0	0.5	0.91	0.699	0.483	0.024

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
8G004	0	0.5	0.777	0.939	0.894	0.003
8G005	0	0.5	1.1	1.44	0.746	0.092
8H001	0	0.5	7.49	10	2.83	1.863
8H001-1	0	0.5	2.59	2.99	1.16	0.479
8H001-1	0.5	2	1.57	1.65	0.936	0.066
8H001-1	2	3	1.03	0.99	0.906	0.018
8H001-2	0	0.5	3.23	3.64	1.78	0.648
8H001-3	0	0.5	1.57	1.66	1.23	0.202
8H001-3	0.5	2	1.7	1.75	1.14	0.077
8H001-3	2	3	1.08	1.01	1.25	0.022
8H001-4	0	0.5	1.85	1.9	1.13	0.271
8H001-5	0	0.5	2.32	2.13	1.5	0.38
8H001-5	0.5	2	1.16	1.71	1.46	0.042
8H001-5	2	3	0.671	0.671	0.535	0
8H001-6	0	0.5	2.34	2.34	1.36	0.395
8H001-6	0.5	2	2.24	2.28	1.36	0.124
8H001-6	2	3	1.13	1.07	1.22	0.027
8H002	0	0.5	15.1	22.5	4.04	4.09
8H002-1	0	0.5	4.41	3.91	1.77	0.899
8H002-1	0.5	2	1.97	2.02	1.13	0.1
8H002-1	2	3	0.78	0.985	1.98	0.005
8H002-2	0	0.5	3.46	3.28	2.34	0.679
8H002-2	0.5	2	1.93	2.59	2.16	0.111
8H002-2	2	3	0.996	1.06	1.59	0.019
8H002-3	0	0.5	1.54	1.25	1.35	0.174
8H002-3	0.5	2	1.41	0.973	1.64	0.044
8H002-3	2	3	1.02	1.04	0.942	0.018
8H002-4	0	0.5	3.52	3.84	1.69	0.717
8H002-4	0.5	2	2.88	1.95	1.94	0.161
8H002-4	2	3	0.78	0.911	0.963	0
901	0	0.5	0.576	0.709	0.27	0
901	1.5	2	0.533	0.473	0.341	0
902	0	0.5	0.786	1.05	0.852	0.008
902	1.5	2	0.837	1.14	0.926	0.007
903	0	0.5	0.919	1.26	0.816	0.046
903	1.5	2	0.889	1.01	1.04	0.01
904	0	0.5	0.981	1.61	1	0.079
904	2.5	3	0.689	0.938	0.715	0.001
905	0	0.5	2.07	2.14	2.95	0.344
905	1.5	2	1.68	2.1	1.32	0.082
906	0	0.5	1.84	3.1	0.897	0.333
906	2.5	3	0.759	0.753	0.762	0
907	0	0.5	0.414	1.26	0.751	0.02
907	2	2.5	0.65	0.887	0.939	0
908	0	0.5	0.723	1.1	0.825	0.011
908	2	2.5	0.717	0.973	0.828	0.001
909	0	0.5	0.757	0.733	1.06	0.002
909	1.5	2	0.697	0.901	0.69	0
910	0	0.5	0.677	0.875	0.734	0
910	1.5	2	1.03	1.22	1.34	0.024
913	0	0.5	17.8	30.5	1.66	5.053
913	1	1.5	0.966	1.38	1.77	0.024
913-1	0	0.5	1.08	0.885	0.79	0.058
913-1	0.5	2	0.851	0.767	0.698	0.004

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
913-1	2	3	0.832	0.899	0.637	0.003
913-2	0	0.5	1.08	1.01	0.854	0.064
913-2	0.5	2	0.992	0.937	0.818	0.014
913-2	2	3	0.923	0.867	0.62	0.009
913-3	0	0.5	0.703	0.739	0.671	0
913-3	0.5	2	0.972	0.646	0.536	0.012
913-3	2	3	0.917	0.75	0.455	0.008
EU011	0	0.5	1.49	2.14	0.857	0.209
EU011	2	2	1.01	1.09	0.927	0.018
EU012	1	1	0.895	2.62	1.72	0.041
EU013	1	1	0.965	1.81	0.86	0.029
EU014	1	1	0.67	1.07	1.31	0.004
EU021	0	0.5	1.31	1.73	0.907	0.151
EU021	1	1	0.736	1.26	0.605	0.007
EU022	0	0.5	1.04	1.48	0.662	0.082
EU022	2	2	0.791	1.28	0.817	0.007
EU023	2	2	0.754	1.91	0.956	0.018
EU031	0	0.5	0.988	1.41	0.991	0.069
EU031	2	2	0.753	1.04	0.897	0.003
EU032	0	0.5	0.802	1.58	0.855	0.04
EU032	1	1	1.12	2.03	0.935	0.043
EU041	1	1	0.646	1.31	0.68	0.007
EU042	1	1	1.34	2.13	1.07	0.06
EU051	0	0.5	3.56	2.48	2.45	0.656
EU051	1	1	0.839	1.01	0.993	0.006
EU052	1.5	1.5	0.71	0.897	0.91	0
EU061	0	0.5	4.1	8.02	0.88	1.059
EU061	2	2	0.708	1.49	0.36	0.011
EU061-1	0	0.5	1.12	0.963	1.24	0.074
EU061-1	0.5	2	1.12	0.857	1.03	0.023
EU061-1	2	3	1.23	1.11	1.1	0.034
EU061-2	0	0.5	1.04	0.988	0.692	0.055
EU061-2	0.5	2	0.982	0.769	0.903	0.013
EU061-2	2	3	0.901	0.849	0.774	0.007
EU061-3	0	0.5	1.42	1.05	0.658	0.134
EU061-3	0.5	2	1.07	0.823	0.888	0.019
EU061-3	2	3	0.904	0.687	0.619	0.008
EU061-4	0	0.5	1.08	0.857	0.66	0.058
EU061-4	0.5	2	0.858	0.828	0.945	0.005
EU061-4	2	3	1.28	0.914	0.989	0.033
EU062	0	0.5	0.702	1.19	0.818	0.016
EU062	2	2	0.654	1.19	0.963	0.005
EU071	0	0.5	0.737	1.74	1.66	0.054
EU071	2	2	0.68	1.23	1.07	0.007
EU072	0	0.5	1.46	2.52	1.19	0.227
EU072	1.5	1.5	0.742	1.99	0.793	0.02
EU081	0	0.5	0.718	1.41	1.73	0.036
EU081	1.5	1.5	1.07	1.65	2.01	0.036
EU082	1.5	1.5	1.51	1.62	0.83	0.061
EU091	0	0.5	0.378	0.54	0.378	0
EU091	2	2	0.637	1.85	1.15	0.018
EU092	0	0.5	0.628	0.952	0.912	0.004
EU092	2	2	0.473	0.791	0.431	0
EU093	0	0.5	0.627	1.09	1.06	0.013

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
EU093	2	2	0.836	1.51	1.39	0.016
EU101	0	0.5	2.69	6.86	0.741	0.711
EU101	1	1	3.8	7.42	1.23	0.321
EU102	0	0.5	0.696	1.54	1.06	0.038
EU102	2	2	0.733	1.11	23.4	0.069
EU103	0	0.5	0.956	0.673	0.61	0.033
EU103	1	1	0.718	0.674	1.42	0.002
EU111	0	0.5	0.977	1.44	1.17	0.07
EU111	1.5	1.5	0.718	0.968	0.808	0.001
EU113	0	0.5	0.706	1.58	1.22	0.041
EU121	0	0.5	1.46	2.51	5.66	0.265
EU122	0	0.5	0.807	1.72	0.954	0.05
EU123	0	0.5	1.39	2.59	1.52	0.22
EU141	0	0.5	1.06	1.57	1.75	0.099
GWS-02	0	0.5	3.33	4.02	3.1	0.701
GWS-02	0.5	2	1.41	0.74	0.865	0.041
GWS-02	2	3	1.21	0.921	1	0.029
GWS-03	0	0.5	2.98	3.65	2.63	0.607
GWS-03	0.5	2	0.882	0.759	0.812	0.006
GWS-03	2	3	0.83	0.974	0.677	0.004
GWS-04	0	0.5	4.02	4.75	0.795	0.86
GWS-04	0.5	2	1.09	1.37	0.724	0.029
GWS-04	2	3	0.761	0.715	0.794	0
GWS-05	0	0.5	1.03	1.22	0.591	0.066
GWS-05	0.5	2	0.755	1.06	0.707	0.003
GWS-05	2	3	0.842	0.789	0.782	0.003
GWS-06	0	0.5	31	7.05	1.13	6.387
GWS-06	0.5	2	2.96	1.56	0.895	0.157
GWS-06	2	3	1.02	0.773	0.481	0.015
GWS-06-1	0	0.5	1.78	1.31	0.691	0.221
GWS-06-1	0.5	2	1.34	1.38	0.721	0.046
GWS-06-1	2	3	1.55	1.34	0.725	0.059
GWS-06-2	0	0.5	4.3	1.54	0.888	0.739
GWS-06-2	0.5	2	1.53	1.18	0.882	0.054
GWS-06-2	2	3	1.2	1.09	0.872	0.03
GWS-06-3	0	0.5	1.59	1.09	0.805	0.171
GWS-06-3	0.5	2	1.18	1.09	0.977	0.029
GWS-06-3	2	3	0.851	0.484	0.596	0.004
GWS-07	0	0.5	1.92	2.59	0.767	0.32
GWS-07	0.5	2	1.29	1.27	0.567	0.04
GWS-07	2	3	1.08	0.796	0.78	0.019
GWS-08	0	0.5	4.67	2.89	1.47	0.893
GWS-08	0.5	2	1.25	0.915	0.92	0.031
GWS-08	2	3	0.716	0.834	0.727	0
GWS-09	0	0.5	6.28	5.99	3.1	1.401
GWS-09	0.5	2	20.6	10.7	9.75	1.525
GWS-09	2	3	0.782	0.82	0.832	0
GWS-09-1	0	0.5	2.49	2.47	0.73	0.427
GWS-09-1	0.5	2	1.32	1.34	0.767	0.043
GWS-09-1	2	3	0.886	0.667	0.732	0.006
GWS-09-2	0	0.5	2.12	2.33	0.713	0.345
GWS-09-2	0.5	2	4.36	2.1	1.09	0.261
GWS-09-2	2	3	1	0.702	0.813	0.014
GWS-09-3	0	0.5		2.13	0.735	0.068

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
GWS-09-3	0.5	2	0.855	0.704	0.573	0.004
GWS-09-3	2	3	1.08	0.808	0.784	0.019
GWS-11	0	0.5	11.2	16.5	2.03	2.96
GWS-11	0.5	2	1.93	3.24	0.995	0.12
GWS-11	2	3	0.91	0.891	1.45	0.01
GWS-11-1	0	0.5	5.21	7.21	1.94	1.245
GWS-11-1	0.5	2	1.91	1.44	1.53	0.087
GWS-11-1	2	3	1.35	0.995	1.17	0.04
GWS-12	0	0.5	0.871	5.14	1.53	0.258
GWS-12	0.5	2	1.19	0.91	1.41	0.029
GWS-12	2	3	0.935	0.895	0.825	0.01
GWS-13	0	0.5	3.83	7.66	0.668	0.984
GWS-13	0.5	2	2.99	5.67	1.58	0.236
GWS-13	2	3	4.03	0.771	0.888	0.216
GWS-14	0	0.5	0.372	0.579	0.364	0
GWS-14	0.5	2	0.971	1	1.14	0.015
GWS-14	2	3	0.838	0.979	1.52	0.006
GWS-15	0	0.5	1.29	1.81	1.64	0.158
GWS-15	0.5	2	0.87	0.947	1.1	0.007
GWS-15	2	3	1.02	0.794	0.777	0.015
GWS-18	0	0.5	5.89	1.78	0.914	1.07
GWS-18	0.5	2	1.65	1.05	0.482	0.06
GWS-18	2	3	0.926	0.738	0.605	0.009
GWS-18-1	0	0.5	1.12	1.27	1.26	0.091
GWS-18-1	0.5	2	0.913	0.758	0.959	0.008
GWS-18-1	2	3	0.989	0.741	0.758	0.013
GWS-18-2	0	0.5	1.24	1.03	0.694	0.097
GWS-18-2	0.5	2	0.985	0.856	0.648	0.013
GWS-18-2	2	3	1.13	0.865	0.828	0.023
GWS-18-3	0	0.5	1.8	1.29	1.16	0.227
GWS-18-3	0.5	2	1.08	0.999	0.558	0.021
GWS-18-3	2	3	0.711	0.72	0.461	0
GWS-18-4	0	0.5	1.19	1.27	1.17	0.104
GWS-18-4	0.5	2	1.12	0.635	0.776	0.022
GWS-18-4	2	3	0.698	0.762	0.616	0
GWS-19	0	0.5	10.1	4.68	0.826	2.072
GWS-19	0.5	2	73.4	21.3	1.28	5.213
GWS-19	2	3	14.8	3.37	0.558	0.979
GWS-19	3	4	3.71	1.22	0.588	0.201
GWS-19	4	5	1.46	1.09	0.578	0.048
GWS-19-1	0	0.5	1.07	0.867	0.938	0.057
GWS-19-1	0.5	2	0.757	0.838	0.96	0
GWS-19-1	2	3	0.96	0.652	0.657	0.011
GWS-19-2	0	0.5	3.52	1.7	0.765	0.59
GWS-19-2	0.5	2	1.36	0.991	0.883	0.04
GWS-19-2	2	3	0.688	0.735	0.656	0
GWS-19-3	0	0.5	1.21	0.926	0.71	0.085
GWS-19-3	0.5	2	0.877	0.745	0.797	0.006
GWS-19-3	2	3	0.756	0.849	0.664	0
GWS-19-4	0	0.5	1.11	0.829	0.806	0.064
GWS-19-4	0.5	2	0.632	0.575	0.548	0
GWS-19-4	2	3	0.859	0.72	0.666	0.005
GWS-20	0	0.5	1.62	1.11	1.01	0.18
GWS-20	0.5	2	1.4	0.856	0.665	0.041

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
GWS-20	2	3	0.865	0.849	0.872	0.005
GWS-21	0	0.5	4.58	4.35	4.45	0.982
GWS-21	0.5	2	1	0.763	0.851	0.014
GWS-21	2	3	1.21	1.01	0.898	0.03
GWS-22	0	0.5	4.36	4.19	3.61	0.921
GWS-22	0.5	2	1.38	0.892	0.846	0.039
GWS-23	0	0.5	4.39	4.94	4.25	0.974
GWS-23	0.5	2	0.828	0.812	0.807	0.003
GWS-23	2	3	0.909	0.844	0.589	0.008
GWS-24	0	0.5	1.67	1.95	1.72	0.242
GWS-24	0.5	2	3.8	2.6	2.14	0.236
GWS-24	2	3	0.99	0.742	0.69	0.013
GWS-26	0	0.5	1.93	2.66	358	3.432
GWS-26	0.5	2	1.57	1.8	143	0.479
GWS-26	2	3	1.27	0.769	1.82	0.035
GWS-27	0	0.5	2.03	2.23	1.32	0.326
GWS-27	0.5	2	1.41	1.72	1.08	0.057
GWS-27	2	3	0.998	1.09	1.11	0.018
IE01	0	0.5	0.791	1.13	0.845	0.013
IE01	3	3.5	1.54	1.61	1.46	0.065
IE01	6	7.5	0.653	0.454	0.533	0
IE01	9.5	10	0.662	0.69	0.559	0
IE02	0	0.5	1.21	1.54	1.08	0.122
IE02	3.5	4	0.977	0.803	0.774	0.012
IE02	4	4	0.383	0.317	0.683	0
IE02	4	4.5	0.413	0.397	0.315	0
IE02	9	9.5	0.79	0.783	0.631	0
IE03	0	0.5	0.756	0.92	0.634	0.001
IE03	3.2	3.6	1.02	0.816	1.04	0.016
IE03	10.2	10.6	0.772	0.796	0.715	0
IE04	0	0.5	0.929	0.881	0.969	0.029
IE04	2.8	3.2	1.41	1.14	1.14	0.046
IE04	3.5	4	0.476	0.408	0.449	0
IE04	10	10.5	0.887	0.664	0.619	0.006
IE05	0	0.5	1.47	1.6	0.912	0.176
IE05	2	2.4	1.68	1.49	0.777	0.07
IE05	2.7	3.2	0.395	0.42	0.356	0
IE05	11	11.5	0.726	0.495	0.462	0
IE06	0	0.5	0.804	1.14	0.866	0.016
IE06	2.5	3	1.19	1	7.09	0.047
IE06	6	8	1.04	0.977	0.812	0.018
IE06	11.5	12	1.1	1.03	1.01	0.024
IE07	0	0.5	0.981	1.2	2.3	0.068
IE07	1.2	2.5	1.079	1.04	4.93	0.034
IE07	4	4	0.978	1.01	13.9	0.053
IE07	4.5	4.5	1.124	0.868	11.2	0.052
IE07	4.5	5	1.06	0.959	11.2	0.049
IE07	6	6	0.973	0.825	12.9	0.047
IE07	7.5	8	0.845	0.771	2.16	0.008
IE07	9	9.5	0.904	0.782	10.9	0.037
IE08	0	0.5	1.26	1.27	4.08	0.143
IE08	3	3.5	0.875	0.758	15.7	0.049
IE08	6.5	7	0.883	0.766	4.32	0.016
IE08	8	9	0.844	1.03	2.17	0.01

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
IE09	8	8	1.898	1.41	4.79	0.094
IE09-1	0	0.5	1.17	1.28	3.59	0.121
IE09-2	3.5	4	0.724	0.715	9.77	0.026
IE09-3	6	6.5	1.02	0.845	1.89	0.018
IE09-4	10	10.5	0.875	0.753	0.782	0.006
IE10-1	0	0.5	1.1	1.08	14.9	0.194
IE10-2	3	4	0.895	0.851	9.28	0.031
IE10-3	3	4	0.84	0.883	15.1	0.044
IE10-4	10	10.5	0.724	0.765	0.76	0
IE11-1	0	0.5	1.18	1.3	8.43	0.166
IE11-2	3	4	1.02	0.843	17	0.062
IE11-3	1	2	1.32	1.09	9.39	0.063
IE11-4	10	10.5	0.75	0.59	0.996	0.001
IE12-1	0	0.5	0.886	1.03	1.7	0.034
IE12-2	0	0.5	1.29	1.12	1.44	0.117
IE12-3	3	4	0.826	0.972	6.43	0.019
IE12-4	6	7	0.611	0.607	1.18	0.001
IE12-5	5	6	0.787	0.921	4.41	0.01
IE12-6	6	7	0.794	0.906	14.6	0.04
IE12-7	11	11.5	0.948	0.871	0.908	0.011
IE12-8	11	11.5	1.02	0.87	8.33	0.037
IEMH06-1	0	0.5	0.805	0.749	2.85	0.021
IEMH06-2	3	3.5	0.927	0.996	6.76	0.028
IEMH06-3	2	3	0.959	1.12	1.13	0.016
IEMH06-4	6.5	7	0.531	0.715	0.347	0
MH06-01	0	0.5	0.796	1.01	3.8	0.033
MH06-01	0.5	2	0.857	0.758	4.24	0.014
MH06-01	2	3	0.952	0.702	5.24	0.024
MH06-02	0	0.5	1.18	1.13	6.69	0.142
MH06-02	0.5	2	1.07	0.969	23.5	0.086
MH06-02	2	3	1.16	0.872	27	0.101
MH06-02	3	4	0.688	0.947	24.5	0.069
MH06-02	4	5	0.979	0.827	19.5	0.067
MH06-03	0	0.5	0.854	1.45	0.441	0.044
MH06-03	0.5	2	0.865	0.998	0.862	0.007
MH06-03	2	3	0.785	0.883	0.832	0
MH06-03	3	4	1.01	0.704	23.3	0.08
MH06-03	4	5	0.961	0.53	5.28	0.024
MH06-04	0	0.5	1.23	1.22	5.89	0.15
MH06-04	0.5	2	0.735	0.79	5.12	0.012
MH06-04	2	3	0.843	0.68	2.52	0.009
MH06-05	0	0.5	2.08	1.52	0.957	0.293
MH06-05	0.5	2	1.28	1.53	0.977	0.044
MH06-05	2	3	0.743	0.826	1.03	0.001
MH06-06	0	0.5	4.2	5.21	1.31	0.925
MH06-06	0.5	2	1.51	1.59	1.67	0.063
MH06-06	2	3	0.982	0.954	1.28	0.015
MH06-07	0	0.5	2.91	3.16	1.01	0.552
MH06-07	0.5	2	1.27	1.57	1.16	0.045
MH06-07	2	3	1.03	0.856	1.28	0.017
MH06-08	0	0.5	2.15	2.22	1.03	0.347
MH06-08	0.5	2	1.81	1.91	1.45	0.088
MH06-08	2	3	0.88	0.832	0.973	0.006
MH06-09	0	0.5	1.92	1.79	0.821	0.275

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MH06-09	0.5	2	1.68	1.58	0.771	0.071
MH06-09	2	3	1.38	1.4	1.12	0.049
MH06-10	0	0.5	1.19	1.12	10.3	0.174
MH06-10	0.5	2	1.18	0.932	23.2	0.092
MH06-10	2	3	0.862	0.888	30.6	0.091
MH06-10	3	4	0.911	0.89	23.7	0.074
MH06-10	4	5	0.915	0.893	6.86	0.025
MH06-11	0	0.5	0.739	0.733	0.597	0
MH06-11	0.5	2	0.364	0.639	0.394	0
MH06-11	2	3	1.01	1.23	2.78	0.027
MH06-11	3	4	0.814	0.75	20.7	0.059
MH06-11	4	5	1.05	0.803	15.2	0.059
MH06-12	0	0.5	1.52	1.72	4.66	0.225
MH06-12	0.5	2	0.883	0.811	5.94	0.021
MH06-12	2	3	0.838	0.917	4.03	0.012
MH06-13	0	0.5	1.99	1.9	3.46	0.319
MH06-13	0.5	2	1.14	1.16	7.64	0.048
MH06-13	2	3	0.84	1.1	12.9	0.042
MH06-14	0	0.5	1.53	1.73	1.69	0.202
MH06-14	0.5	2	1	0.887	1.56	0.016
MH06-14	2	3	0.835	0.775	1.5	0.005
MH06-15	0	0.5	0.949	1.18	0.753	0.048
MH06-15	0.5	2	0.8	0.805	0.789	0.001
MH06-15	2	3	0.639	0.649	0.57	0
MH06-16	0	0.5	2.35	2.89	0.847	0.423
MH06-16	0.5	2	1.17	1.19	1.09	0.031
MH06-16	2	3	0.677	0.658	0.595	0
MH06-17	0	0.5	1.82	1.52	0.865	0.24
MH06-17	0.5	2	1.35	1.38	1.24	0.047
MH06-17	2	3	1.06	0.888	0.876	0.018
MH06-18	0	0.5	1.02	1.12	5.51	0.099
MH06-18	0.5	2	0.89	1.04	7.3	0.029
MH06-18	2	3	0.921	0.818	4.03	0.018
MH06-19	0	0.5	0.882	1.14	1.01	0.033
MH06-19	0.5	2	0.545	0.917	5.28	0.013
MH06-19	2	3	0.962	1.03	17.2	0.06
MH06-20	0	0.5	2.07	1.55	1.7	0.3
MH06-20	0.5	2	1.07	1.02	3.6	0.029
MH06-20	2	3	0.968	0.802	3.46	0.02
MH06-21	0	0.5	1.27	1.66	3.91	0.165
MH06-21	0.5	2	0.921	0.909	9.38	0.034
MH06-21	2	3	0.897	0.903	6.14	0.022
MH06-22	0	0.5	1.59	1.67	7.16	0.258
MH06-22	0.5	2	0.975	0.913	18.6	0.063
MH06-22	2	3	0.838	0.75	6.38	0.019
MH06-23	0	0.5	1.92	1.38	1.82	0.262
MH06-23	0.5	2	1.03	0.849	2.53	0.021
MH06-23	2	3	0.957	0.909	2.16	0.015
MH06-24	0	0.5	1.18	1.47	0.896	0.111
MH06-24	0.5	2	0.93	1.32	1.26	0.018
MH06-24	2	3	0.804	0.753	0.845	0.001
MH06-25	0	0.5	1.05	1.02	3.9	0.086
MH06-25	0.5	2	0.958	0.751	1.11	0.012
MH06-25	2	3	0.707	0.868	0.913	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MH06-26	0	0.5	0.386	0.542	0.463	0
MH06-26	0.5	2	1.04	1.02	0.69	0.019
MH06-26	2	3	1.05	0.902	0.746	0.017
MH06-26	3	4	0.878	0.863	19.4	0.06
MH06-27	0	0.5	1.66	1.94	6.95	0.285
MH06-27	0.5	2	0.771	1.12	2.75	0.01
MH06-27	2	3	0.675	0.931	1.82	0.004
MH06-28	0	0.5	1.19	1.37	3.17	0.126
MH06-28	0.5	2	0.724	0.761	0.906	0
MH06-28	2	3	0.855	0.925	0.854	0.004
MH06-29	0	0.5	1.8	1.33	6.06	0.272
MH06-29	0.5	2	0.937	0.696	8.35	0.032
MH06-29	2	3	0.866	0.792	11.4	0.036
MH06-30	0	0.5	1.75	1.54	3.89	0.255
MH06-30	0.5	2	0.948	1.01	8.13	0.034
MH06-30	2	3	0.78	0.843	2.54	0.005
MH06-30	3	4	1.21	0.902	1.36	0.03
MH06-31	0	0.5	1.42	1.85	0.951	0.18
MH06-31	0.5	2	1.14	0.843	1.94	0.026
MH06-31	2	3	0.889	0.996	1.45	0.011
MH06-32	0	0.5	1.21	1.11	1.77	0.104
MH06-32	0.5	2	0.899	1.03	1.81	0.012
MH06-32	2	3	0.866	0.953	6.09	0.021
MH06-33	0	0.5	0.934	1.13	9.81	0.12
MH06-33	0.5	2	1.02	1.03	24	0.084
MH06-33	2	3	0.765	0.929	4.82	0.013
MH06-34	0	0.5	0.734	1.75	6.23	0.094
MH06-34	0.5	2	1.57	0.77	3.78	0.061
MH06-34	2	3	0.798	0.986	2.06	0.007
MH06-35	0	0.5	1.84	1.89	1.09	0.267
MH06-35	0.5	2	1.5	1.41	3.2	0.063
MH06-35	2	3	0.911	0.9	3.88	0.017
MH06-SEEP	9	9	1.083	0.772	7.29	0.039
MW228	11	11	0.874	1.23	1.05	0.013
MW229	0	0.5	0.933	1.61	0.62	0.068
MW229	11	11	0.911	1.95	0.942	0.027
MW229	28.5	28.5	0.544	1.47	0.304	0.01
MW313	0	0.5	4.51	3.07	2.3	0.878
MW313	11	11	0.836	1.26	0.768	0.01
MW314	0	0.5	1.42	2.89	1.52	0.243
MW314	15	15	0.877	2.31	1.21	0.033
MW422	0	0.5	1.05	1.8	0.959	0.103
MW422	15	15	0.787	1.36	0.7	0.008
MW423	0	0.5	0.871	1.92	0.892	0.074
MW423	15	15	0.822	1.82	1.11	0.02
MW424	0	0.5	0.817	0.805	0.817	0.005
MW424	14	14	0.549	0.54	0.385	0
MW862	0	0.5	0.716	1.23	0.748	0.018
MW862	11.5	11.5	0.563	1.62	0.678	0.013
MW863	0	0.5	0.731	1.32	0.934	0.024
MW863	32	32	0.62	1.02	0.408	0.002
MW944	0	0.5	0.703	0.672	0.772	0
MW944	2	2.5	0.679	0.655	0.698	0
MW944	10	11	0.717	0.521	0.436	0

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MW944	13	13.5	0.956	0.784	0.693	0.011
MW945	0	0.5	0.851	0.799	0.611	0.012
MW945	3.5	4	0.73	0.695	0.714	0
MW945	9.5	10	0.688	0.862	0.733	0
MW945	12.5	13	0.435	0.633	0.442	0
MW946	0	0.5	0.684	1.12	0.692	0.012
MW946	6	6.5	1.18		0.774	0.026
MW946	8	8.5	0.718	0.643	0.542	0
MW946	12	12.5	0.911	0.761	0.712	0.008
MW947	0	0.5	1.83		0.714	0.208
MW947	2	2.5	0.903	0.794	0.723	0.008
MW947	14	14.5	0.601		0.486	0
MW947	18	18.5	1.08	1.03	0.833	0.021
MW948	0	0.5	1.64	1.64	0.783	0.211
MW948	5.5	6	0.84	0.925	0.569	0.003
MW948	10	10.5	0.696	0.837	0.609	0
MW948	13	13.5	0.764	0.764	0.639	0
MW949	0	0.5	1.76	1.91	0.742	0.25
MW949	16	16.5	0.803	0.912	0.729	0.001
MW949	29.5	30	0.675	0.921	0.766	0
MW949	34.5	35	0.648	0.54	0.534	0
MW950	0	0.5	0.487	1.02	0.871	0.007
MW950	2	2.5	1.01	0.971	1.11	0.017
MW950	10.5	11	0.813	0.907	0.51	0.002
MW950	15	15.5	1.05	0.895	1.02	0.018
MW951	0	0.5	0.956	0.96	1.35	0.041
MW951	12.5	18	0.491	0.935	0.73	0.001
MW951	15	15.5	1.04	0.63	0.743	0.017
MW951	17.5	18	1.058	0.602	0.885	0.018
MW951	18.5	19	0.888	0.943	0.817	0.008
MW952	0	0.5	1.05	0.916	6.4	0.102
MW952	4	4.5	0.927	0.877	1.48	0.011
MW952	6	6.5	0.925	0.699	0.942	0.009
MW952	6.5	7	0.924	0.941	0.909	0.01
MW953	0	0.5	1.36	1.19	7.24	0.186
MW953	1	2	0.973	1.15	12.9	0.052
MW953	4	4.5	0.887	0.678	18.9	0.058
MW953	6	6.5	0.923	0.796	9.86	0.035
MW954	0	0.5	1	0.886	5.46	0.082
MW954	2	2.5	0.629	0.803	7.58	0.02
MW954	5.5	6	0.975	0.948	1.61	0.015
MW954	8.5	9	0.776	0.611	0.593	0
MW955	0	0.5	0.85	1.04	14.3	0.137
MW955	0.5	1	1.05	0.77	16.7	0.063
MW955	2.5	3	1.01	0.785	6.84	0.032
MW955	7	8	0.682	0.469	0.374	0
MW956	0	0.5	0.921	0.875	1.68	0.033
MW956	2.5	3	0.844	0.908	1.8	0.007
MW956	15.5	16	0.766	0.968	0.591	0.001
MW956	16.5	17	0.754	0.729	0.632	0
MW957	0	0.5	0.905	0.762	0.798	0.023
MW957	2	2.5	1.24	1.2	0.79	0.035
MW957	4	4.5	1.07	1	12.5	0.055
MW957	7	7.5	0.72	0.629	2.22	0.004

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
MW958	0	0.5	1.14	0.898	0.972	0.071
MW958	4.5	5	0.845	0.722	1.77	0.007
MW958	7.5	8	0.894	0.903	1.02	0.008
MW958	8.5	9	1.24	1.05	1.08	0.034
MW959	0	0.5	0.882	0.975	0.807	0.022
MW959	8	8.5	1.13	0.838	0.76	0.023
MW959	13	13.5	0.897	0.697	0.826	0.007
MW959	14	14.5	0.945	0.997	0.988	0.012
MW960	0	0.5	0.912	0.95	0.78	0.027
MW960	2	3	1	0.756	9.3	0.039
MW960	9.5	10	0.928	0.607	1.18	0.01
MW960	12	12.5	0.914	0.941	0.788	0.009
OTFL11	13	13	0.863	1.18	0.793	0.01
OTFL12	13.5	13.5	0.696	1.3	0.898	0.007
PE1	15	15.5	1.2	0.918	0.719	0.027
PE2	9	9.5	0.819	0.741	0.606	0.002
PE3	8	8.5	0.807	0.683	1.16	0.002
PE3	10	11	1.05	0.829	0.943	0.017
PE4	7	7.5	0.95	0.741	0.779	0.011
PE4	7.1	7.6	0.884	0.769	0.556	0.006
PE4	7.5	8	0.912	0.85	0.635	0.008
PE5	6	6.5	0.814	0.775	0.778	0.002
PE5	6.1	6.5	0.768	0.77	0.525	0
PE5	7.1	7.6	0.851	0.838	0.82	0.004
PE6	5	5.5	0.79	0.921	0.746	0
PIPE74	7	7	0.72	1.12	0.661	0.004
S31D-NS-SEWER-B	10	10	1.636	1.45	2.35	0.07
S31D-NS-SEWER-E	8	8	1.323	1.38	7.46	0.064
S31D-NS-SEWER-W	8	8	1.3	0.348	2.95	0.04
SB-MH06A	8.5	8.5	0.742	0.685	1.77	0.003
SB-MH07	11	11	0.978	1.62	1.04	0.027
SB-MH07/08	11	11	0.927	1.15	0.966	0.014
SB-MH08	11	11	0.742	0.998	0.94	0.002
SB-MH41	8	8	0.653	1.47	0.646	0.01
SB-MH43	9	9	0.756	1.46	0.922	0.01
SB-MH45	9	9	0.476	1.5	0.519	0.011
SP-01	0	0.5	72.4	13.3	2.83	15.028
SP-01	0.5	2	44.7	6.96	74.4	3.25
SP-01	2	3	1.6	0.716	20.9	0.112
SP-01	3	4	0.757	0.699	6.62	0.017
SP-09	0.5	1.5	12.9	16.5	2.51	1.096
SP-09	1.5	2	5.46	5.28	2.59	0.396
SP-13	0	0.5	1.35	1.55	71.4	0.762
SP-13	0.5	2	1.03	0.895	38.1	0.124
SP-13	2	3	0.786	0.766	2.92	0.006
SP-14	0	0.5	8.6	7.06	5.64	1.946
SP-14	0.5	2	2.58	1.05	0.83	0.122
SP-14	2	3	0.778	0.806	1.15	0.001
SP-14-1	0	0.5	1.33	1.39	0.763	0.135
SP-14-1	2	3	0.837	1.32	0.834	0.011
SP-15	0	0.5	12.2	8.92	7.11	2.783
SP-15	0.5	2	1.25	1.03	0.843	0.033
SP-15	2	3	0.898	0.975	0.875	0.008
SP-16	0	0.5	7.83	5.99	4.55	1.723

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
SP-16	0.5	2	4.15	3.14	3.06	0.271
SP-16	2	3	0.683	0.804	0.645	0
SP-17	0	0.5	3.4	3.21	0.702	0.65
SP-17	0.5	2	0.916	0.856	1.35	0.01
SP-17	2	3	0.941	1.12	0.926	0.014
SP-18	0	0.5	8.83	9.6	19.1	2.25
SP-18	0.5	2	1.36	0.752	1.73	0.041
SP-18	2	3	16.4	0.813	1.26	1.042
SP-18-1	0	0.5	9.92	3.48	1.37	1.974
SP-18-1	0.5	2	6.1	2.57	1.18	0.385
SP-18-1	2	3	2.52	1.11	0.927	0.119
SP-18-1	3	4	1.22	0.929	0.817	0.03
SP-18-1	4	5	1.09	0.916	0.761	0.02
SP-18-2	0	0.5	2.16	5.57	4.93	0.569
SP-18-2	0.5	2	0.784	0.908	0.834	0
SP-18-2	2	3	1.25	0.825	1.45	0.033
SP-18-2	3	4	1	0.771	0.873	0.014
SP-18-2	4	5	0.946	0.652	0.622	0.01
SP-18-3	0	0.5	4.86	0.609	0.485	0.814
SP-18-3	0.5	2	0.936	0.81	0.838	0.01
SP-18-3	2	3	0.871	0.795	0.782	0.005
SP-18-3	3	4	1.18	0.961	0.603	0.027
SP-18-3	4	5	1.16	0.901	0.716	0.025
SP-18-4	0	0.5	5.76	4.36	4.29	1.216
SP-18-4	0.5	2	1.92	2.39	2.8	0.108
SP-18-4	2	3	1.05	0.759	1.02	0.018
SP-18-4	3	4	1.12	0.924	1.54	0.024
SP-18-4	4	5	1.02	0.842	1.02	0.016
TB201_01	5	5	0.755	0.892	0.921	0
TB201_02	1	1	0.839	1.26	0.623	0.01
TB201_03	1	1	0.772	1.52	0.862	0.011
TB201_04	2.4	2.4	0.551	1.05	0.847	0.003
TB202_01	5.2	5.2	0.745	1.34	1.25	0.009
TB202_02	3.5	3.5	0.81	1.02	0.959	0.003
TB202_03	3	3	0.849	1.03	1.13	0.007
TB203_01	1	1	2.33	4.63	1.26	0.172
TB203_02	4	4	1.04	1.02	4.38	0.029
TB204_01	8	8	0.855	0.713	1.35	0.006
TB204_02	10	10	0.743	1.08	1.23	0.004
TB204_03	7	7	0.702	1.13	1.36	0.006
TB205_01	3	3	0.825	1.19	1.28	0.008
TB205_02	6.5	6.5	0.538	0.961	0.794	0.001
TB205_03	8	8	0.465	0.582	0.345	0
TB301_01	3.5	3.5	0.948	1.28	0.823	0.018
TB301_01-1	0	0.5	1.11	1.18	0.996	0.082
TB301_01-1	0.5	2	1.05	0.844	1.02	0.018
TB301_01-1	2	3	1.27	0.454	1.02	0.033
TB301_01-2	0	0.5	0.934	0.754	0.507	0.029
TB301_01-2	0.5	2	1	0.697	0.527	0.014
TB301_01-2	2	3	1.93	2.19	0.847	0.099
TB301_01-3	0	0.5	0.758	0.748	0.624	0
TB301_01-3	0.5	2	0.809	0.746	0.593	0.001
TB301_01-3	2	3	0.879	0.75	0.597	0.006
TB301_02	1.5	1.5	0.994	1.8	0.387	0.03

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TB301_03	1	1	17.4	25.8	2.91	1.566
TB302_01	8	8	0.572	1.11	0.579	0.004
TB302_02	1	1	1.35	1.47	1.13	0.048
TB302_03	6	6	0.712	0.97	0.4	0.001
TB303_01	5	5	0.505	0.973	0.608	0.001
TB303_02	1	1	1.24	1.79	1.05	0.047
TB303_03	5	5	0.42	0.611	0.414	0
TB304_01	1.3	1.3	0.85	0.953	10.3	0.032
TB304_02	6.5	6.5	0.648	0.648	0.409	0
TB304_03	7	7	0.877	1.2	1.26	0.012
TB305_01	4	4	0.726	1.4	0.558	0.009
TB305_02	5	5	0.8	0.839	1.2	0.002
TB305_03	5	5	0.824	1.84	1.9	0.022
TB403_01	4	4	1.24	1.52	1.57	0.043
TB403_02	7	7	0.574	1.41	0.642	0.009
TB403_03	8	8	0.832	1.17	0.719	0.008
TB404_01	3.3	3.3	0.791	1.18	0.801	0.005
TB404_02	6.2	6.2	0.716	1.27	0.616	0.007
TB404_03	2.3	2.3	1.14	1.44	0.967	0.033
TB406_01	7	7	0.708	0.954	0.716	0.001
TB406_02	2	2	3.38	2.07	1.56	0.196
TB406_03	1	1	0.92	1.24	1.1	0.016
TB408_01	2.7	2.7	0.863	1.29	0.989	0.012
TB408_02	3.9	3.9	1.58	1.06	0.863	0.056
TB408_03	4.7	4.7	0.787	1.38	0.691	0.009
TB410_01	6	6	0.804	1.28	0.945	0.008
TB410_02	2	2	1.07	1.11	0.844	0.023
TB410_03	4	4	0.846	1.8	0.928	0.02
TB411_01	5	5	0.7	0.64	0.649	0
TB411_02	1.5	1.5	2.12	2.02	1.57	0.111
TB411_03	1.5	1.5	7.68	8.74	2.97	0.608
TB411_03-1	0	0.5	2.62	1.62	1.07	0.408
TB411_03-1	0.5	2	1.14	0.992	0.965	0.025
TB411_03-1	2	3	0.816	0.88	0.784	0.002
TB411_03-2	0	0.5	1.45	1.45	1.4	0.168
TB411_03-2	0.5	2	1.85	1.84	1.43	0.09
TB411_03-2	2	3	0.531	0.786	0.661	0
TB411_03-3	0	0.5	0.444	1.23	1.14	0.021
TB411_03-3	0.5	2	1.33	1.12	1.25	0.041
TB411_03-3	2	3	0.991	0.802	0.961	0.013
TB411_03-4	0	0.5	1.68	1.51	1.16	0.215
TB411_03-4	0.5	2	0.96	0.763	0.94	0.011
TB411_03-4	2	3	0.821	0.787	0.502	0.002
TB412_01	5	5	0.812	0.7	0.736	0.001
TB412_02	5	5	0.645	1.65	0.674	0.014
TB412_03	4	4	0.781	0.827	0.891	0
TB413_01	9	9	0.516	0.649	0.246	0
TB413_02	3	3	0.84	1.11	0.766	0.007
TB413_03	3	3	0.678	0.976	0.46	0.001
TB414_01	5.5	5.5	0.585	0.998	1.26	0.003
TB414_02	8	8	0.678	1.02	2.73	0.008
TB414_03	1	1	0.999	1.51	1.58	0.027
TB501_01	1.5	1.5	0.786	1.32	2.25	0.012
TB501_02	3	3	1.04	1.42	0.662	0.026

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TB501_03	2.7	2.7	0.935	1.23	6.27	0.032
TB802_01	4.2	4.2	2.68	2.64	1.46	0.16
TB802_01-1	0	0.5	1.21	0.973	0.598	0.088
TB802_01-1	0.5	2	1.39	1.74	0.799	0.055
TB802_01-1	2	3	24.3	19.9	3.29	1.919
TB802_01-1	3	4	15.5	17.2	3.88	1.286
TB802_01-1	4	5	12.5	13.1	4.54	1.014
TB802_01-2	0	0.5	1.33	1.1	0.834	0.119
TB802_01-2	0.5	2	0.977	1.06	0.834	0.015
TB802_01-2	2	3	1.24	1.21	0.792	0.036
TB802_01-3	0	0.5	1.4	1.32	0.925	0.146
TB802_01-3	0.5	2	1.96	1.82	0.989	0.095
TB802_01-3	2	3	1.42	1.36	1.04	0.051
TB802_01-4	0	0.5	1.05	1	0.596	0.058
TB802_01-4	0.5	2	0.968	0.9	0.612	0.012
TB802_01-4	2	3	0.788	0.842	0.817	0
TB802_01-5	0	0.5	2.26	2.19	1.35	0.371
TB802_01-5	0.5	2	14.2	13.5	1.78	1.126
TB802_01-5	2	3	25.7	33.9	4.71	2.272
TB802_01-5	3	5	39.1	58.7	14.5	3.645
TB802_01-5	5	7	37.7	21.3	5.1	2.844
TB802_01-6	0	0.5	4.08	1.28	1.49	0.685
TB802_01-6	0.5	2	50	3.91	3.62	3.344
TB802_01-6	2	3	36.5	54.4	8.11	3.375
TB802_01-6	3	5	25.7	32	6.73	2.243
TB802_01-6	5	7	5.03	3.33	1.09	0.328
TB802_02	4	4	7.83	15.2	2.39	0.734
TB802A_01	3.8	3.8	34.5	39.2	5.61	2.957
TB802A_01-1	0	0.5	1.51	1.2	0.779	0.161
TB802A_01-1	0.5	2	0.995	1.43	0.874	0.024
TB802A_01-1	2	3	1.03	1.15	0.758	0.021
TB802A_01-2	0	0.5	1.25	1.08	0.962	0.103
TB802A_01-2	0.5	2	0.995	0.922	0.804	0.014
TB802A_01-2	2	3	1.17	0.849	0.711	0.025
TB802A_01-3	0	0.5	2.11	1.61	0.669	0.303
TB802A_01-3	0.5	2	1.2	1.83	0.918	0.044
TB802A_01-3	2	3	8.39	11.8	1.78	0.708
TB802A_01-3	3	4	0.877	0.933	0.708	0.007
TB802A_01-4	0	0.5	1.34	1.27	0.767	0.131
TB802A_01-4	0.5	2	0.902	1.03	0.734	0.009
TB802A_01-4	2	3	0.845	0.841	0.854	0.004
TB808_01	4.5	4.5	0.851	1.34	0.769	0.012
TB808_02	1.5	1.5	1.41	2.52	1.28	0.071
TB808_03	1.5	1.5	1.3	1.99	0.966	0.054
TB809_01	1	1	1.9	8.2	1.21	0.208
TB810_01	2.9	2.9	1.19	1.76	0.919	0.043
TB810_02	1.8	1.8	82.7	29.6	1.06	5.984
TB810_03	5.8	5.8	0.806	1.39	0.816	0.01
TB810_03-1	0	0.5	1.75	1.47	1.09	0.226
TB810_03-1	0.5	2	1.29	1.46	1.2	0.044
TB810_03-1	2	3	0.954	0.926	1.03	0.012
TB810_03-2	0	0.5	1.53	1.18	1.03	0.166
TB810_03-2	0.5	2	1.04	1.04	0.942	0.02
TB810_03-2	2	3	1.55	1.29	0.759	0.058

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TB810_03-3	0	0.5	2.14	1.77	1.19	0.321
TB810_03-3	0.5	2	1.26	1.39	1.06	0.041
TB810_03-3	2	3	0.783	0.797	0.831	0
TB810_03-4	0	0.5	1.98	1.75	1.17	0.288
TB810_03-4	0.5	2	1.71	0.935	1.03	0.063
TB810_03-4	2	3	0.895	0.994	0.922	0.009
TB811_01	4.8	4.8	0.566	1.72	0.388	0.015
TB811_02	2.3	2.3	0.968	1.77	0.659	0.028
TB811_03	4	4	1.23	1.47	1.91	0.042
TB812_01	3	3	0.952	1.07	0.904	0.014
TB812_02	3	3	0.869	1.82	0.713	0.022
TB812_03	5	5	0.958	0.848	0.652	0.011
TB813_01	0.8	0.8	32.6	31.2	1.95	2.675
TB813_02	1	1	1.65	2.49	1.86	0.089
TB813_03	3.9	3.9	0.985	1.83	0.768	0.03
TS203_03	0	0.5	1.64	3.68	0.869	0.324
TS408_04	0	0.5	0.171	0.901	0.218	0
TS809_02	0	0.5	3.09	4.58	0.866	0.664
TS809_03	0	0.5	3.39	5.95	1.32	0.805
TS812_04	0	0.5	9.64	14.3	8830	79.289
TS812_04-1	0	0.5	1.29	1.36	6.23	0.173
TS812_04-1	0.5	2	0.639	0.795	1.19	0.001
TS812_04-1	2	3	0.977	0.947	1.02	0.014
TS812_04-2	0	0.5	1.66	2.05	0.852	0.238
TS812_04-2	0.5	2	1.05	1.23	1.43	0.025
TS812_04-2	2	3	0.942	0.929	0.803	0.011
TS812_04-3	0	0.5	0.593	0.986	1.67	0.012
TS812_04-3	0.5	2	0.735	0.675	1.19	0.001
TS812_04-3	2	3	0.798	0.94	0.988	0.002
TS812_04-4	0	0.5	0.6	1.14	0.482	0.013
TS812_04-4	0.5	2	0.859	0.763	0.93	0.005
TS812_04-4	2	3	0.966	0.727	0.725	0.012
TWP830	0	0.5	0.915	0.851	0.838	0.025
TWP830	15	15	0.545	1.36	0.71	0.008
TWP921	0	0.5	0.555	1.16	0.941	0.015
TWP921	14	16	0.681	1.01	0.853	0.002
TWP922	0	0.5	0.618	1.88	1.74	0.062
TWP922	12	14	0.388	0.406	0.731	0
TWP923	0	0.5	0.875	0.592	0.554	0.017
TWP923	16	18	0.384	0.462	0.677	0
TWP924	0	0.5	0.317	0.869	1.49	0.006
TWP924	12	14	0.597	0.487	0.471	0
TWP925	0	0.5	1.3	1.18	2.88	0.136
TWP925	10	12	1.26	1.31	1.12	0.039
TWP926	0	0.5	1.02	0.788	0.935	0.047
TWP926	8	12	0.592	0.582	0.353	0
TWP927	0	0.5	1.1	1	0.459	0.068
TWP927	10	12	0.704	1.26	0.747	0.007
TWP928	0	0.5	2.03	1.98	1.38	0.313
TWP928	12	14	0.789	1.49	0.851	0.011
TWP929	0	0.5	1.86	2.15	0.885	0.284
TWP929	8	10	0.739	1.06	0.736	0.003
TWP930	0	0.5	2.72	1.41	0.868	0.414
TWP930	15	17	0.253	1.02	0.419	0.002

TABLE 21A
SOR SCORES
NIAGARA FALLS STORAGE SITE

BORING ID	SAMPLE DEPTH (feet)		Ra-226	Th-230	U-238	SOR SCORE
	beginning	end	pCi/g	pCi/g	pCi/g	
TWP931	0	0.5	1.83	1.35	0.526	0.233
TWP931	8	10	1.1	0.641	1.08	0.022
TWP932	0	0.5			0.789	0
TWP932	14	16			0.978	0
TWP933	0	0.5			0.722	0
TWP933	10	12			0.861	0
TWP934	0	0.5			0.665	0
TWP934	16	18			0.578	0
TWP935	0	0.5	0.648	0.836	1.15	0.003
TWP935	10	12	0.351	0.801	0.811	0
TWP936	0	0.5	1.03	1.35	1.55	0.079
TWP936	12	14	0.828	0.809	1.03	0.004
TWP937	0	0.5	5	5.93	0.954	1.122
TWP937	12	14	0.422	0.468	0.651	0
TWP937-1	0	0.5	1.19	1.01	1.15	0.089
TWP937-1	0.5	2	1.07	0.743	0.748	0.019
TWP937-1	2	3	0.728	0.841	0.886	0
TWP937-2	0	0.5	1.49	1.51	1.2	0.177
TWP937-2	0.5	2	0.997	0.851	0.763	0.014
TWP937-2	2	3	0.796	0.933	0.785	0.001
TWP937-3	0	0.5	2.03	2.11	0.815	0.315
TWP937-3	0.5	2	0.899	0.889	0.773	0.007
TWP937-3	2	3	0.603	0.624	0.574	0
TWP937-4	0	0.5	1.51	1.43	0.873	0.173
TWP937-4	0.5	2	1.11	0.9	0.87	0.021
TWP937-4	2	3	0.751	0.925	0.849	0
TWP938	0	0.5	0.285	0.834	0.885	0.001
TWP938	14	16	0.657	0.381	0.509	0
TWP939	0	0.5	0.766	1.74	1.2	0.05
TWP939	2	4	0.13	0.765	0.588	0
TWP940	0	0.5	0.674	0.855	0.985	0.001
TWP940	8	10	0.49	0.806	0.844	0
TWP941	0	0.5	0.823	0.637	1.08	0.009
TWP941	10	12	0.413	0.673	0.688	0
TWP942	0	0.5	0.914	1.51	0.885	0.06
TWP942	4	6	0.468	0.785	0.759	0
TWP943	0	0.5	0.759	1.17	1.34	0.02
TWP943	8	10	0.376	0.736	1.04	0.001

Notes:
1. SOR scores are net after background
2. DCGLs (pCi/g) for surface soils are Ra-226: 5, Th-230: 18, and U-238: 115
3. DCGLs (pCi/g) for subsurface soils are Ra-226: 15, Th-230: 55, and U-238: 346
4. Background values (pCi/g) are Ra-226: 0.79, Th-230: 0.82, and U238: 0.9

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
404 AREA

LOCATION ID		404-2	404-2	404-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	63	0.5	0.49
Acenaphthene	UG/KG	5.9	1.4 U	1.3 U
Acenaphthylene	UG/KG	4.8	0.97 U	1.2
Anthracene	UG/KG	15	R	1.7
Benzo(a)anthracene	UG/KG	130	2.8	7.1
Benzo(a)pyrene	UG/KG	120	2.6	5.3
Benzo(b)fluoranthene	UG/KG	160	4.4	15
Benzo(g,h,i)perylene	UG/KG	81	2.5	7.1
Benzo(k)fluoranthene	UG/KG	72	1.4 U	3.5
Chrysene	UG/KG	120	4	15
Dibenz(a,h)anthracene	UG/KG	16	1.8 U	2.1
Fluoranthene	UG/KG	220	3.8	8.1
Fluorene	UG/KG	4.9	1.1 U	0.99 U
Indeno(1,2,3-cd)pyrene	UG/KG	94	2.7	7.5
Naphthalene	UG/KG	34	1.2 U	1.2 U
Phenanthrene	UG/KG	98	1.8	3.5
Pyrene	UG/KG	180	3.1	5.8

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID		4A003-1	4A003-1	4A003-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	3.3	0.39 U	0.42
Acenaphthene	UG/KG	41	1.3 U	1.3 U
Acenaphthylene	UG/KG	3.6	0.92 U	0.93 U
Anthracene	UG/KG	42	R	0.59 U
Benzo(a)anthracene	UG/KG	370	5.7	2.1
Benzo(a)pyrene	UG/KG	530	9.9	2.5
Benzo(b)fluoranthene	UG/KG	560	11	4.8
Benzo(g,h,i)perylene	UG/KG	320	6.7	2.1
Benzo(k)fluoranthene	UG/KG	240	3.6	1.3 U
Chrysene	UG/KG	420	7.2	3.6
Dibenz(a,h)anthracene	UG/KG	88	1.9	1.8 U
Fluoranthene	UG/KG	310	5.2	4
Fluorene	UG/KG	7.4	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	360	7.2	2.6
Naphthalene	UG/KG	2.1	1.2 U	1.2 U
Phenanthrene	UG/KG	120	2.8	2.3
Pyrene	UG/KG	330	5.6	3.1

LOCATION ID		4A003-2	4A003-2	4A003-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1.1	0.39 U	0.38 U
Acenaphthene	UG/KG	1.9	1.3 U	1.3 U
Acenaphthylene	UG/KG	1.2	0.93 U	0.91 U
Anthracene	UG/KG	2.4	0.59 U	0.58 U
Benzo(a)anthracene	UG/KG	13	2.4	0.7 U
Benzo(a)pyrene	UG/KG	0.67 U	0.55 U	0.54 U
Benzo(b)fluoranthene	UG/KG	28	3.9	3
Benzo(g,h,i)perylene	UG/KG	21	3.2	2.1
Benzo(k)fluoranthene	UG/KG	12	1.3 U	1.3 U
Chrysene	UG/KG	50	2.9	2.5
Dibenz(a,h)anthracene	UG/KG	4.4	1.8 U	1.7 U
Fluoranthene	UG/KG	17	2.8	2.3
Fluorene	UG/KG	1.5	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	18	3	1.8
Naphthalene	UG/KG	1.4 U	1.2 U	1.2 U
Phenanthrene	UG/KG	10	1.8	1.6
Pyrene	UG/KG	17	3	2

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A003 AREA

LOCATION ID		4A003-3	4A003-3FD	4A003-3	4A003-3
DEPTH (Feet)		0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE			DUPLICATE		
DATE SAMPLED		6/26/2014	6/26/2014	6/26/2014	6/26/2014
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	16	8.3	0.38 U	2.5
Acenaphthene	UG/KG	96	69	1.3 U	1.3 U
Acenaphthylene	UG/KG	8.4	0.93 U	0.9 U	0.92 U
Anthracene	UG/KG	90	65	0.57 U	0.71
Benzo(a)anthracene	UG/KG	860	580	0.7 U	1.8
Benzo(a)pyrene	UG/KG	1400	910	0.53 U	1.6
Benzo(b)fluoranthene	UG/KG	1700	1100	1.1	2.5
Benzo(g,h,i)perylene	UG/KG	1400	970	1	1.6
Benzo(k)fluoranthene	UG/KG	480	340	1.3 U	1.3 U
Chrysene	UG/KG	850	570	0.72 U	2.3
Dibenz(a,h)anthracene	UG/KG	320	170	1.7 U	1.7 U
Fluoranthene	UG/KG	670	490	1	1.9
Fluorene	UG/KG	18	15	0.99 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	1400	970	1.1 U	1.9
Naphthalene	UG/KG	10	6	1.1 U	1.7
Phenanthrene	UG/KG	340	260	1.9	2.8
Pyrene	UG/KG	770	550	0.7	1.6

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4A007 AREA

LOCATION ID		4A007-1	4A007-1	4A007-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	7	0.79	0.38 U
Acenaphthene	UG/KG	54	1.5	1.3 U
Acenaphthylene	UG/KG	7.3	0.91 U	0.91 U
Anthracene	UG/KG	68	2.5	0.58 U
Benzo(a)anthracene	UG/KG	470	19	0.71 U
Benzo(a)pyrene	UG/KG	590	23	1.4
Benzo(b)fluoranthene	UG/KG	670	23	1.7
Benzo(g,h,i)perylene	UG/KG	410	18	R
Benzo(k)fluoranthene	UG/KG	220	15	1.3 U
Chrysene	UG/KG	430	17	1.4
Dibenz(a,h)anthracene	UG/KG	98	6.1	1.7 U
Fluoranthene	UG/KG	390	13	1.4
Fluorene	UG/KG	16	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	440	19	R
Naphthalene	UG/KG	6.2	1.2 U	1.2 U
Phenanthrene	UG/KG	230	7.4	R
Pyrene	UG/KG	390	14	1.1

LOCATION ID		4A007-2	4A007-2FD	4A007-2	4A007-2
DEPTH (Feet)		0 - 0.5	0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE			DUPLICATE		
DATE SAMPLED		11/25/2013	11/25/2013	11/25/2013	11/25/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	29	18	2.6	7
Acenaphthene	UG/KG	220	83	1.7	1.3 U
Acenaphthylene	UG/KG	10	9.5	1.4	0.92 U
Anthracene	UG/KG	360	120	2.4	R
Benzo(a)anthracene	UG/KG	760	460	13	2.3
Benzo(a)pyrene	UG/KG	890	690	16	4.6
Benzo(b)fluoranthene	UG/KG	1100	770	20	2.7
Benzo(g,h,i)perylene	UG/KG	540	460	12	7.3
Benzo(k)fluoranthene	UG/KG	400	280	8.9	1.3 U
Chrysene	UG/KG	880	580	18	5.6
Dibenz(a,h)anthracene	UG/KG	100	81	2.5	1.7 U
Fluoranthene	UG/KG	2000	950	22	2.7
Fluorene	UG/KG	170	41	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	610	510	11	2.8
Naphthalene	UG/KG	65	17	1.7	3.5
Phenanthrene	UG/KG	1700	600	12	6.2
Pyrene	UG/KG	1600	770	19	5.1

TABLE 22
EU2 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU2
4B001 AREA

LOCATION ID		4B001-1	4B001-1	4B001-1FD	4B001-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE				DUPLICATE	
DATE SAMPLED		11/26/2013	11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	23	12	10	0.53
Acenaphthene	UG/KG	3.7	1.4	4.6	1.3 U
Acenaphthylene	UG/KG	55	20	40	1.1
Anthracene	UG/KG	32	10	39	0.68
Benzo(a)anthracene	UG/KG	100	35	100	0.7 U
Benzo(a)pyrene	UG/KG	120	36	98	0.54 U
Benzo(b)fluoranthene	UG/KG	160	47	120	4
Benzo(g,h,i)perylene	UG/KG	130	42	95	2.9
Benzo(k)fluoranthene	UG/KG	1.4 U	1.3 U	1.3 U	1.3 U
Chrysene	UG/KG	120	42	120	3.4
Dibenz(a,h)anthracene	UG/KG	26	7.8	18	1.7 U
Fluoranthene	UG/KG	210	70	240	2.5
Fluorene	UG/KG	11	4.4	12	0.99 U
Indeno(1,2,3-cd)pyrene	UG/KG	120	37	86	2.8
Naphthalene	UG/KG	16	8.2	7.4	1.2 U
Phenanthrene	UG/KG	130	44	150	2
Pyrene	UG/KG	180	60	180	2.3

TABLE 23
EU3 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU3
4B014 AREA

LOCATION ID		4B014-4	4B014-4	4B014-4
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		11/26/2013	11/26/2013	11/26/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1300	89	1.4
Acenaphthene	UG/KG	1.7 U	1.3 U	1.3 U
Acenaphthylene	UG/KG	26	4.2	5.2
Anthracene	UG/KG	25	3.4	25
Benzo(a)anthracene	UG/KG	83	13	76
Benzo(a)pyrene	UG/KG	49	19	45
Benzo(b)fluoranthene	UG/KG	100	30	97
Benzo(g,h,i)perylene	UG/KG	53	29	41
Benzo(k)fluoranthene	UG/KG	1.7 U	8.9	1.3 U
Chrysene	UG/KG	140	24	110
Dibenz(a,h)anthracene	UG/KG	13	7.6	12
Fluoranthene	UG/KG	100	14	160
Fluorene	UG/KG	1.3 U	1 U	3.4
Indeno(1,2,3-cd)pyrene	UG/KG	38	23	37
Naphthalene	UG/KG	760	54	1.9
Phenanthrene	UG/KG	500	32	69
Pyrene	UG/KG	120	16	120

TABLE 24
EU4 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU4
TB408 AREA

LOCATION ID		TB408_02-1	TB408_02-1	TB408_02-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/9/2013	12/9/2013	12/9/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	2.7	0.4 U	0.39 U
Acenaphthene	UG/KG	3.3	1.4 U	1.3 U
Acenaphthylene	UG/KG	8.1	0.96 U	0.93 U
Anthracene	UG/KG	11	0.81	0.6
Benzo(a)anthracene	UG/KG	1.4 U	4.1	2
Benzo(a)pyrene	UG/KG	290	4.6	1.7
Benzo(b)fluoranthene	UG/KG	120	6.2	3.3
Benzo(g,h,i)perylene	UG/KG	880	12	2
Benzo(k)fluoranthene	UG/KG	2.6 U	1.4 U	1.3 U
Chrysene	UG/KG	120	4.4	2.2
Dibenz(a,h)anthracene	UG/KG	67	1.8 U	1.8 U
Fluoranthene	UG/KG	100	6.2	3.1
Fluorene	UG/KG	2.5	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/KG	210	6.6	2.3
Naphthalene	UG/KG	2.3 U	1.2 U	1.2 U
Phenanthrene	UG/KG	35	3	1.8
Pyrene	UG/KG	170	5	2.4

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
308 AREA

LOCATION ID		308-1	308-1	308-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	12	0.88	0.41 U
Acenaphthene	UG/KG	190	1.4 U	2.3
Acenaphthylene	UG/KG	3.1	0.98 U	0.99 U
Anthracene	UG/KG	350	1.8	3.0
Benzo(a)anthracene	UG/KG	1000	7.8	11
Benzo(a)pyrene	UG/KG	980	9.7	14
Benzo(b)fluoranthene	UG/KG	1200	13	21
Benzo(g,h,i)perylene	UG/KG	910	11	9.9
Benzo(k)fluoranthene	UG/KG	410	4.9	7.2
Chrysene	UG/KG	1200	11	14
Dibenz(a,h)anthracene	UG/KG	150	1.9 U	1.9 U
Fluoranthene	UG/KG	3300	18	29
Fluorene	UG/KG	140	1.1 U	1.7
Indeno(1,2,3-cd)pyrene	UG/KG	890	11	10
Naphthalene	UG/KG	40	1.2 U	1.3 U
Phenanthrene	UG/KG	2100	9.8	16
Pyrene	UG/KG	2600	17	22

LOCATION ID		308-2	308-2	308-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	19	34	0.43 U
Acenaphthene	UG/KG	270	630	1.4 U
Acenaphthylene	UG/KG	3.1	9.1	1.0 U
Anthracene	UG/KG	550	1200	3.0
Benzo(a)anthracene	UG/KG	1300	2900	8.5
Benzo(a)pyrene	UG/KG	1200	2800	6.8
Benzo(b)fluoranthene	UG/KG	1200	3800	8.8
Benzo(g,h,i)perylene	UG/KG	1100	2000	5.8
Benzo(k)fluoranthene	UG/KG	420	1400	3.9
Chrysene	UG/KG	1400	3000	7.2
Dibenz(a,h)anthracene	UG/KG	140	290	1.9 U
Fluoranthene	UG/KG	3400	8600	21
Fluorene	UG/KG	200	480	1.2
Indeno(1,2,3-cd)pyrene	UG/KG	1100	2000	6.6
Naphthalene	UG/KG	68	120	1.3 U
Phenanthrene	UG/KG	2900	6400	14
Pyrene	UG/KG	3400	7200	16

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
309 AREA

LOCATION ID		309-1	309-1	309-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	3.1	2.3	0.41 U
Acenaphthene	UG/KG	59	5.8	1.4 U
Acenaphthylene	UG/KG	1.7	0.96 U	0.98 U
Anthracene	UG/KG	120	13	1.4
Benzo(a)anthracene	UG/KG	350	36	5.0
Benzo(a)pyrene	UG/KG	360	32	5.4
Benzo(b)fluoranthene	UG/KG	390	45	8.5
Benzo(g,h,i)perylene	UG/KG	350	35	8.0
Benzo(k)fluoranthene	UG/KG	170	19	3.0
Chrysene	UG/KG	380	39	5.6
Dibenz(a,h)anthracene	UG/KG	62	3.9	3.1
Fluoranthene	UG/KG	900	92	10
Fluorene	UG/KG	43	4.6	1.1 U
Indeno(1,2,3-cd)pyrene	UG/KG	320	33	7.9
Naphthalene	UG/KG	8.5	2.2	1.2 U
Phenanthrene	UG/KG	570	61	5.7
Pyrene	UG/KG	740	92	8.8

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3C006 AREA

LOCATION ID		3C006-1	3C006-1	3C006-1FD	3C006-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE				DUPLICATE	
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	4.7	1.4	0.45 U	0.37 U
Acenaphthene	UG/KG	47	17	3.6	1.3 U
Acenaphthylene	UG/KG	2.6	0.98 U	1.1	0.89 U
Anthracene	UG/KG	110	35	8.1	1.4
Benzo(a)anthracene	UG/KG	280	94	27	4.5
Benzo(a)pyrene	UG/KG	270	93	34	4.8
Benzo(b)fluoranthene	UG/KG	380	98	44	6.0
Benzo(g,h,i)perylene	UG/KG	100	81	15	2.2
Benzo(k)fluoranthene	UG/KG	180	47	25	4.0
Chrysene	UG/KG	290	99	32	4.9
Dibenz(a,h)anthracene	UG/KG	22	13	3.2	1.7 U
Fluoranthene	UG/KG	650	230	74	12
Fluorene	UG/KG	40	13	2.8	0.98 U
Indeno(1,2,3-cd)pyrene	UG/KG	130	86	17	2.5
Naphthalene	UG/KG	13	3.1	1.4 U	1.1 U
Phenanthrene	UG/KG	510	170	41	6.9
Pyrene	UG/KG	650	220	44	6.9

LOCATION ID		3C006-2	3C006-2	3C006-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	2.6	0.72	1.2
Acenaphthene	UG/KG	26	1.3 U	1.4 U
Acenaphthylene	UG/KG	3.8	62	5.3
Anthracene	UG/KG	49	21	3.8
Benzo(a)anthracene	UG/KG	300	110	11
Benzo(a)pyrene	UG/KG	290	130	12
Benzo(b)fluoranthene	UG/KG	330	170	20
Benzo(g,h,i)perylene	UG/KG	270	71	5.6
Benzo(k)fluoranthene	UG/KG	1.3 U	79	7.1
Chrysene	UG/KG	260	110	13
Dibenz(a,h)anthracene	UG/KG	42	19	1.9 U
Fluoranthene	UG/KG	660	130	19
Fluorene	UG/KG	18	4.0	1.1 U
Indeno(1,2,3-cd)pyrene	UG/KG	250	83	6.8
Naphthalene	UG/KG	2.5	1.1 U	1.2 U
Phenanthrene	UG/KG	280	25	8.2
Pyrene	UG/KG	530	98	12

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3C006 AREA

LOCATION ID		3C006-3	3C006-3	3C006-3
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	30	2.4	0.41 U
Acenaphthene	UG/KG	640	36	1.4 U
Acenaphthylene	UG/KG	22	6.6	0.99 U
Anthracene	UG/KG	1300	71	1.6
Benzo(a)anthracene	UG/KG	3500	250	6.0
Benzo(a)pyrene	UG/KG	3500	260	5.6
Benzo(b)fluoranthene	UG/KG	4300	330	7.7
Benzo(g,h,i)perylene	UG/KG	3100	250	4.3
Benzo(k)fluoranthene	UG/KG	1700	120	3.0
Chrysene	UG/KG	3700	280	7.0
Dibenz(a,h)anthracene	UG/KG	280	39	1.9 U
Fluoranthene	UG/KG	10000	740	14
Fluorene	UG/KG	460	26	1.1 U
Indeno(1,2,3-cd)pyrene	UG/KG	3100	250	3.9
Naphthalene	UG/KG	94	5.9	1.3 U
Phenanthrene	UG/KG	7000	430	8.1
Pyrene	UG/KG	8500	600	12

LOCATION ID		3C006-4	3C006-4	3C006-4FD	3C006-4
DEPTH (Feet)		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE				DUPLICATE	
DATA SAMPLED		6/23/2014	6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	0.42 U	2.5	2.9	3.0
Acenaphthene	UG/KG	2.7	47	53	57
Acenaphthylene	UG/KG	1 U	1.7	1.5	1.0
Anthracene	UG/KG	5.9	95	100	120
Benzo(a)anthracene	UG/KG	25	320	280	260
Benzo(a)pyrene	UG/KG	25	320	290	250
Benzo(b)fluoranthene	UG/KG	32	390	390	290
Benzo(g,h,i)perylene	UG/KG	20	280	220	240
Benzo(k)fluoranthene	UG/KG	15	150	150	1.4 U
Chrysene	UG/KG	26	280	320	280
Dibenz(a,h)anthracene	UG/KG	7.6	50	37	44
Fluoranthene	UG/KG	62	730	850	760
Fluorene	UG/KG	2.2	34	39	43
Indeno(1,2,3-cd)pyrene	UG/KG	23	260	250	220
Naphthalene	UG/KG	1.3 U	4.5	6.7	7.5
Phenanthrene	UG/KG	29	480	560	540
Pyrene	UG/KG	50	580	650	610

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3C007 AREA

LOCATION ID		3C007-1	3C007-1	3C007-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	2.6	0.85	0.38 U
Acenaphthene	UG/KG	16	1.3 U	1.3 U
Acenaphthylene	UG/KG	1.8	2.7	0.92 U
Anthracene	UG/KG	35	1.4	0.58 U
Benzo(a)anthracene	UG/KG	230	4.1	1.3
Benzo(a)pyrene	UG/KG	260	4.3	1.0
Benzo(b)fluoranthene	UG/KG	370	8.2	1.4
Benzo(g,h,i)perylene	UG/KG	240	3.5	0.78
Benzo(k)fluoranthene	UG/KG	4.7 U	2.8	1.3 U
Chrysene	UG/KG	200	6.1	1.2
Dibenz(a,h)anthracene	UG/KG	36	1.8 U	1.7 U
Fluoranthene	UG/KG	570	6.2	2.1
Fluorene	UG/KG	11	1 U	1.0 U
Indeno(1,2,3-cd)pyrene	UG/KG	210	4.0	1.1 U
Naphthalene	UG/KG	2.1 U	1.2 U	1.2 U
Phenanthrene	UG/KG	190	3.6	1.6
Pyrene	UG/KG	660	5.0	1.7

LOCATION ID		3C007-2	3C007-2	3C007-2FD	3C007-2
DEPTH (Feet)		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE				DUPLICATE	
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	6.7	170	360	0.40 U
Acenaphthene	UG/KG	120	3500	4000	1.4 U
Acenaphthylene	UG/KG	2.6	38	46	0.97 U
Anthracene	UG/KG	230	6900	9300	2.1
Benzo(a)anthracene	UG/KG	580	16000	23000	6.2
Benzo(a)pyrene	UG/KG	530	15000	25000	6.5
Benzo(b)fluoranthene	UG/KG	700	19000	34000	6.8
Benzo(g,h,i)perylene	UG/KG	320	14000	11000	6.7
Benzo(k)fluoranthene	UG/KG	270	8800	11000	4.3
Chrysene	UG/KG	700	18000	17000	6.9
Dibenz(a,h)anthracene	UG/KG	66	2300	1900	1.8 U
Fluoranthene	UG/KG	1500	51000	90000	15
Fluorene	UG/KG	86	2700	3700	1.1 U
Indeno(1,2,3-cd)pyrene	UG/KG	380	14000	19000	6.3
Naphthalene	UG/KG	22	620	1300	1.2 U
Phenanthrene	UG/KG	1100	35000	51000	10
Pyrene	UG/KG	1600	39000	96000	15

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3C008 AREA

LOCATION ID		3C008-1	3C008-1	3C008-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1.8	7.1	0.39 U
Acenaphthene	UG/KG	21	1.2 U	1.3 U
Acenaphthylene	UG/KG	1.0	1.1	0.94 U
Anthracene	UG/KG	36	1.7	0.59 U
Benzo(a)anthracene	UG/KG	170	5.1	0.97
Benzo(a)pyrene	UG/KG	190	5.5	0.77
Benzo(b)fluoranthene	UG/KG	260	8.2	1.7
Benzo(g,h,i)perylene	UG/KG	130	5.6	1.2
Benzo(k)fluoranthene	UG/KG	130	1.2 U	1.3 U
Chrysene	UG/KG	160	7.3	2.3
Dibenz(a,h)anthracene	UG/KG	25	1.6 U	1.8 U
Fluoranthene	UG/KG	620	8.1	1.5
Fluorene	UG/KG	15	0.91 U	1.0 U
Indeno(1,2,3-cd)pyrene	UG/KG	140	6.4	1.2
Naphthalene	UG/KG	3.3	4.3	1.2 U
Phenanthrene	UG/KG	210	9.6	1.3
Pyrene	UG/KG	420	7.2	1.3

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3C011 AREA

LOCATION ID		3C011-1	3C011-1	3C011-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	8.0	0.42 U	0.43 U
Acenaphthene	UG/KG	75	1.4 U	1.5 U
Acenaphthylene	UG/KG	10	2.1	1.0 U
Anthracene	UG/KG	140	1.4	0.65 U
Benzo(a)anthracene	UG/KG	620	7.6	2.6
Benzo(a)pyrene	UG/KG	940	8.6	0.61 U
Benzo(b)fluoranthene	UG/KG	1700	19	6.1
Benzo(g,h,i)perylene	UG/KG	690	16	6.0
Benzo(k)fluoranthene	UG/KG	550	5.8	1.5
Chrysene	UG/KG	760	17	5.1
Dibenz(a,h)anthracene	UG/KG	220	3.4	2.0 U
Fluoranthene	UG/KG	1800	22	6.2
Fluorene	UG/KG	47	1.2	1.1 U
Indeno(1,2,3-cd)pyrene	UG/KG	670	14	5.1
Naphthalene	UG/KG	11	1.3 U	1.3 U
Phenanthrene	UG/KG	760	9.1	2.9
Pyrene	UG/KG	1200	17	5.6

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3D006 AREA

LOCATION ID		3D006-1	3D006-1	3D006-1
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	160	130	0.42 U
Acenaphthene	UG/KG	1500	1600	1.4 U
Acenaphthylene	UG/KG	28	31	1.0 U
Anthracene	UG/KG	2800	3000	1.9
Benzo(a)anthracene	UG/KG	7600	7200	7.8
Benzo(a)pyrene	UG/KG	7400	7100	7.8
Benzo(b)fluoranthene	UG/KG	8100	11000	12
Benzo(g,h,i)perylene	UG/KG	5900	2700	8.4
Benzo(k)fluoranthene	UG/KG	2500	3400	3.8
Chrysene	UG/KG	8600	7900	8.5
Dibenz(a,h)anthracene	UG/KG	700	600	1.9 U
Fluoranthene	UG/KG	24000	29000	21
Fluorene	UG/KG	1200	1200	1.1 U
Indeno(1,2,3-cd)pyrene	UG/KG	5800	3100	7.5
Naphthalene	UG/KG	490	410	1.3 U
Phenanthrene	UG/KG	18000	16000	11
Pyrene	UG/KG	18000	14000	17

LOCATION ID		3D006-2	3D006-2	3D006-2	3D006-2FD
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					DUPLICATE
DATA SAMPLED		12/11/2013	12/11/2013	12/11/2013	12/11/2013
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	12	0.37 U	0.39 U	0.38 U
Acenaphthene	UG/KG	110	1.3	1.3 U	1.3 U
Acenaphthylene	UG/KG	10	0.87 U	0.94 U	0.91 U
Anthracene	UG/KG	200	2.5	0.59 U	0.57 U
Benzo(a)anthracene	UG/KG	1000	23	1.1	1.6
Benzo(a)pyrene	UG/KG	1300	35	0.56 U	1.5
Benzo(b)fluoranthene	UG/KG	1600	48	1.9	2.6
Benzo(g,h,i)perylene	UG/KG	1000	49	1.8	2.4
Benzo(k)fluoranthene	UG/KG	640	18	1.3 U	1.3 U
Chrysene	UG/KG	1400	31	1.8	2.0
Dibenz(a,h)anthracene	UG/KG	110	7.8	1.8 U	1.7 U
Fluoranthene	UG/KG	3000	57	2.1	3.6
Fluorene	UG/KG	70	0.96 U	1.0 U	0.99 U
Indeno(1,2,3-cd)pyrene	UG/KG	960	42	1.5	2.0
Naphthalene	UG/KG	14	1.1 U	1.2 U	1.2 U
Phenanthrene	UG/KG	1300	17	1.3	1.9
Pyrene	UG/KG	2000	50	1.8	3.0

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3D006 AREA

LOCATION ID		3D006-5	3D006-5	3D006-5
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	150	9.5	0.48
Acenaphthene	UG/KG	3000	100	1.5 U
Acenaphthylene	UG/KG	99	5.4	1.0 U
Anthracene	UG/KG	5300	130	0.85
Benzo(a)anthracene	UG/KG	19000	490	3.8
Benzo(a)pyrene	UG/KG	18000	560	3.4
Benzo(b)fluoranthene	UG/KG	26000	870	3.6
Benzo(g,h,i)perylene	UG/KG	19000	190	2.3
Benzo(k)fluoranthene	UG/KG	8500	390	2.0
Chrysene	UG/KG	20000	610	3.6
Dibenz(a,h)anthracene	UG/KG	1400	51	2.0 U
Fluoranthene	UG/KG	62000	1800	9.6
Fluorene	UG/KG	2000	75	1.1 U
Indeno(1,2,3-cd)pyrene	UG/KG	19000	240	6.8
Naphthalene	UG/KG	550	28	1.3 U
Phenanthrene	UG/KG	38000	1100	4.3
Pyrene	UG/KG	52000	990	7.6

LOCATION ID		3D006-6	3D006-6	3D006-6
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		6/23/2014	6/23/2014	6/23/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	58	2.8	0.45
Acenaphthene	UG/KG	1200	1.3 U	1.3 U
Acenaphthylene	UG/KG	52	1.0	0.94 U
Anthracene	UG/KG	2100	1.6	0.59 U
Benzo(a)anthracene	UG/KG	8300	9.5	1.4
Benzo(a)pyrene	UG/KG	8600	10	1.1
Benzo(b)fluoranthene	UG/KG	10000	16	1.5
Benzo(g,h,i)perylene	UG/KG	2200	14	1.3
Benzo(k)fluoranthene	UG/KG	4100	5.8	1.3 U
Chrysene	UG/KG	8500	12	0.87
Dibenz(a,h)anthracene	UG/KG	590	5.9	5.1
Fluoranthene	UG/KG	21000	19	1.8
Fluorene	UG/KG	780	1.0 U	1.0 U
Indeno(1,2,3-cd)pyrene	UG/KG	2800	15	6.0
Naphthalene	UG/KG	160	2.3	1.2 U
Phenanthrene	UG/KG	12000	11	1.9
Pyrene	UG/KG	17000	17	1.5

TABLE 25
EU8 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU8
3D007 AREA

LOCATION ID		3D007-3	3D007-3	3D007-3
DEPTH (Feet)		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATA SAMPLED		12/10/2013	12/10/2013	12/10/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	38	14	0.38 U
Acenaphthene	UG/KG	240	66	1.3 U
Acenaphthylene	UG/KG	14	3.2	0.92 U
Anthracene	UG/KG	460	120	0.58 U
Benzo(a)anthracene	UG/KG	1700	510	1.7
Benzo(a)pyrene	UG/KG	1800	500	1.2
Benzo(b)fluoranthene	UG/KG	2800	650	1.7
Benzo(g,h,i)perylene	UG/KG	920	460	1.1
Benzo(k)fluoranthene	UG/KG	900	230	1.3 U
Chrysene	UG/KG	1700	590	1.5
Dibenz(a,h)anthracene	UG/KG	150	64	1.7 U
Fluoranthene	UG/KG	7000	1300	2.9
Fluorene	UG/KG	180	44	1.0 U
Indeno(1,2,3-cd)pyrene	UG/KG	1100	410	1.4
Naphthalene	UG/KG	44	13	1.2 U
Phenanthrene	UG/KG	2500	840	1.6
Pyrene	UG/KG	5100	1300	2.6

TABLE 26

EU11 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU11
2A003 AREA

LOCATION ID		2A003-1	2A003-1	2A003-1
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	180	5.4	0.43U
Acenaphthene	UG/KG	300	2.3	1.4U
Acenaphthylene	UG/KG	55	5	1U
Anthracene	UG/KG	350	6.9	0.64U
Benzo(a)anthracene	UG/KG	2500	24	1.3
Benzo(a)pyrene	UG/KG	2600	55	1.1
Benzo(b)fluoranthene	UG/KG	4700	97	2.1
Benzo(g,h,i)perylene	UG/KG	2100	86	1.2
Benzo(k)fluoranthene	UG/KG	2500	45	1.4U
Chrysene	UG/KG	3600	64	3.7
Dibenz(a,h)anthracene	UG/KG	320	8.5	1.9U
Fluoranthene	UG/KG	8000	94	3.2
Fluorene	UG/KG	220	3.7	1.1U
Indeno(1,2,3-cd)pyrene	UG/KG	2200	77	1.2U
Naphthalene	UG/KG	120	4.9	1.3U
Phenanthrene	UG/KG	4900	43	2.3
Pyrene	UG/KG	7400	95	2.5

LOCATION ID		2A003-2	2A003-2	2A003-2
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	650	86	0.38U
Acenaphthene	UG/KG	1800	160	1.3U
Acenaphthylene	UG/KG	190	17	0.9U
Anthracene	UG/KG	2600	280	0.57U
Benzo(a)anthracene	UG/KG	10000	1200	1.2
Benzo(a)pyrene	UG/KG	11000	1300	0.81
Benzo(b)fluoranthene	UG/KG	18000	2200	1.7
Benzo(g,h,i)perylene	UG/KG	6500	790	1.4
Benzo(k)fluoranthene	UG/KG	7100	830	1.3U
Chrysene	UG/KG	15000	1800	2.6
Dibenz(a,h)anthracene	UG/KG	2000	250	1.7U
Fluoranthene	UG/KG	32000	4600	1.7
Fluorene	UG/KG	1500	140	0.99U
Indeno(1,2,3-cd)pyrene	UG/KG	7400	810	1.1U
Naphthalene	UG/KG	490	53	1.1U
Phenanthrene	UG/KG	23000	2300	1.2
Pyrene	UG/KG	29000	3300	1.7

TABLE 26

EU11 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU11
2A003 AREA

LOCATION ID		2A003-3	2A003-3	2A003-3
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/4/2013	12/4/2013	12/4/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	2400	2.1	1.5
Acenaphthene	UG/KG	58000	18	10
Acenaphthylene	UG/KG	1500	1.9	0.94U
Anthracene	UG/KG	150000	59	19
Benzo(a)anthracene	UG/KG	340000	130	71
Benzo(a)pyrene	UG/KG	240000	110	79
Benzo(b)fluoranthene	UG/KG	320000	160	120
Benzo(g,h,i)perylene	UG/KG	140000	85	59
Benzo(k)fluoranthene	UG/KG	180000	50	62
Chrysene	UG/KG	310000	120	110
Dibenz(a,h)anthracene	UG/KG	30000	15	9.1
Fluoranthene	UG/KG	1000000	360	190
Fluorene	UG/KG	64000	21	9
Indeno(1,2,3-cd)pyrene	UG/KG	180000	77	56
Naphthalene	UG/KG	2400	1.4	1.3
Phenanthrene	UG/KG	660000	200	120
Pyrene	UG/KG	710000	250	180

LOCATION ID		2A003-4	2A003-4	2A003-4FD	2A003-4
DEPTH		0 - 0.5	0.5 - 2	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL	SOIL
FIELD DUPLICATE					
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS				
Semivolatile Organic Compounds					
2-Methylnaphthalene	UG/KG	520	82	82	1.1
Acenaphthene	UG/KG	690	1.4U	1.5	1.5U
Acenaphthylene	UG/KG	58	1.5	1.4	1.1U
Anthracene	UG/KG	680	2	2.2	0.69U
Benzo(a)anthracene	UG/KG	3800	7.2	17	0.84U
Benzo(a)pyrene	UG/KG	3500	3.9	17	1.5
Benzo(b)fluoranthene	UG/KG	6200	7.1	24	2.5
Benzo(g,h,i)perylene	UG/KG	2400	3.6	14	2.2
Benzo(k)fluoranthene	UG/KG	2400	1.4U	15	1.5U
Chrysene	UG/KG	5500	9.4	26	3
Dibenz(a,h)anthracene	UG/KG	620	1.8U	2.8	2.1U
Fluoranthene	UG/KG	15000	10	44	3.2
Fluorene	UG/KG	460	1U	2.2	1.2U
Indeno(1,2,3-cd)pyrene	UG/KG	2800	2.5	14	3.6
Naphthalene	UG/KG	380	57	53	1.4
Phenanthrene	UG/KG	10000	38	55	3.9
Pyrene	UG/KG	11000	11	36	2.8

TABLE 26

EU11 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU11
2A003 AREA

LOCATION ID		2A003-5	2A003-5	2A003-5
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	7.4	37	1.9
Acenaphthene	UG/KG	39	18	1.2U
Acenaphthylene	UG/KG	5.7	3.8	0.84U
Anthracene	UG/KG	46	26	1.7
Benzo(a)anthracene	UG/KG	340	180	7
Benzo(a)pyrene	UG/KG	340	190	6.6
Benzo(b)fluoranthene	UG/KG	450	260	11
Benzo(g,h,i)perylene	UG/KG	330	180	6.1
Benzo(k)fluoranthene	UG/KG	270	110	3.9
Chrysene	UG/KG	420	210	10
Dibenz(a,h)anthracene	UG/KG	66	33	1.6U
Fluoranthene	UG/KG	990	500	18
Fluorene	UG/KG	25	14	1
Indeno(1,2,3-cd)pyrene	UG/KG	320	180	6.8
Naphthalene	UG/KG	6.7	25	2
Phenanthrene	UG/KG	570	280	13
Pyrene	UG/KG	730	350	14

TABLE 27

EU12 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU12
2B002 AREA

LOCATION ID		2B002-1	2B002-1	2B002-1
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	21	0.94	0.39U
Acenaphthene	UG/KG	5.6	1.4U	1.3U
Acenaphthylene	UG/KG	6.6	0.95U	0.92U
Anthracene	UG/KG	11	0.6U	0.58U
Benzo(a)anthracene	UG/KG	51	1.9	0.71U
Benzo(a)pyrene	UG/KG	72	2.4	0.55U
Benzo(b)fluoranthene	UG/KG	110	4.5	1.2
Benzo(g,h,i)perylene	UG/KG	70	2.9	1.4
Benzo(k)fluoranthene	UG/KG	43	2.1	1.3U
Chrysene	UG/KG	86	4.5	4.2
Dibenz(a,h)anthracene	UG/KG	11	1.8U	1.7U
Fluoranthene	UG/KG	120	4.8	0.91
Fluorene	UG/KG	4	1U	1U
Indeno(1,2,3-cd)pyrene	UG/KG	64	2.5	1.1U
Naphthalene	UG/KG	13	1.2U	1.2U
Phenanthrene	UG/KG	57	2.8	2
Pyrene	UG/KG	100	4.2	1.8

LOCATION ID		2B002-2	2B002-2	2B002-2
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		12/16/2013	12/16/2013	12/16/2013
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	1.2	440	2.4
Acenaphthene	UG/KG	1.3U	1.5U	1.4U
Acenaphthylene	UG/KG	0.9U	7.4	0.96U
Anthracene	UG/KG	0.57U	13	0.61U
Benzo(a)anthracene	UG/KG	0.78	30	0.89
Benzo(a)pyrene	UG/KG	0.53U	18	0.57U
Benzo(b)fluoranthene	UG/KG	0.98U	30	1.3
Benzo(g,h,i)perylene	UG/KG	0.72U	16	1.2
Benzo(k)fluoranthene	UG/KG	1.3U	14	1.4U
Chrysene	UG/KG	0.77	52	2.6
Dibenz(a,h)anthracene	UG/KG	1.7U	3.2	1.8U
Fluoranthene	UG/KG	0.87U	38	1.4
Fluorene	UG/KG	0.99U	1.2U	1.1U
Indeno(1,2,3-cd)pyrene	UG/KG	1.1U	10	1.1U
Naphthalene	UG/KG	1.1U	220	1.3
Phenanthrene	UG/KG	1.2	210	3.2
Pyrene	UG/KG	0.63U	47	1.5

TABLE 27

EU12 SOIL ANALYTICAL RESULTS - PAHs
NIAGARA FALLS STORAGE SITE
EU12
2B002 AREA

LOCATION ID		2B002-3	2B002-3	2B002-3
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	140	1.4	0.38U
Acenaphthene	UG/KG	2.7	1.3U	1.3U
Acenaphthylene	UG/KG	76	0.91U	0.9U
Anthracene	UG/KG	38	0.67	0.57U
Benzo(a)anthracene	UG/KG	150	0.71U	0.7U
Benzo(a)pyrene	UG/KG	250	1.8	0.53U
Benzo(b)fluoranthene	UG/KG	530	3.8	0.99U
Benzo(g,h,i)perylene	UG/KG	330	3	0.98
Benzo(k)fluoranthene	UG/KG	180	1.3U	1.3U
Chrysene	UG/KG	270	4	1.9
Dibenz(a,h)anthracene	UG/KG	71	1.7U	1.7U
Fluoranthene	UG/KG	180	2	1.1
Fluorene	UG/KG	4.1	1U	0.99U
Indeno(1,2,3-cd)pyrene	UG/KG	300	3.8	1.6
Naphthalene	UG/KG	94	1.4	1.1U
Phenanthrene	UG/KG	78	3.5	2.8
Pyrene	UG/KG	180	1.9	1

LOCATION ID		2B002-4	2B002-4	2B002-4
DEPTH		0 - 0.5	0.5 - 2	2 - 3
MATRIX		SOIL	SOIL	SOIL
FIELD DUPLICATE				
DATE SAMPLED		6/18/2014	6/18/2014	6/18/2014
PARAMETER	UNITS			
Semivolatile Organic Compounds				
2-Methylnaphthalene	UG/KG	31	0.71	0.8
Acenaphthene	UG/KG	1.5U	1.3U	1.4U
Acenaphthylene	UG/KG	24	0.9U	1U
Anthracene	UG/KG	15	0.83	0.87
Benzo(a)anthracene	UG/KG	61	1.9	0.77U
Benzo(a)pyrene	UG/KG	110	2.4	0.66
Benzo(b)fluoranthene	UG/KG	250	5.6	1.5
Benzo(g,h,i)perylene	UG/KG	140	3.5	2.2
Benzo(k)fluoranthene	UG/KG	73	2.1	1.4U
Chrysene	UG/KG	120	5.1	4.8
Dibenz(a,h)anthracene	UG/KG	30	1.7U	1.9U
Fluoranthene	UG/KG	65	3.5	1.7
Fluorene	UG/KG	2.2	0.99U	1.1U
Indeno(1,2,3-cd)pyrene	UG/KG	130	4.5	2.3
Naphthalene	UG/KG	23	1.1U	1.3
Phenanthrene	UG/KG	27	3.8	4.9
Pyrene	UG/KG	64	3	2

TABLE 28
IEMH06 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IEMH06-1	IEMH06-1	IEMH06-1	IEMH06-1	IEMH06-2
Sample ID				IEMH-6T10.0-0.5-2000	IEMH-6T10.0-0.5D-9200	IEMH-6TB10.0-0.5-2000	IEMH-6TB10.0-0.5D-9200	IE-MH-6T2-3.0-3.5-2006
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	3.0-3.5
Date Sampled				11/22/13	11/22/13	11/22/13	11/22/13	11/26/13
Parameter	Units	(1)	(2)		Field Duplicate (1-1)		Field Duplicate (1-1)	
Radionuclides								
Radium-226	PCI/G	5	-	0.805	0.99	NA	NA	0.927
Thorium-228	PCI/G	5	-	0.806	0.856	NA	NA	0.942
Thorium-230	PCI/G	5	-	0.749	0.983	NA	NA	0.996
Thorium-232	PCI/G	5	-	0.769	0.832	NA	NA	0.839
Uranium-234	PCI/G	13	-	2.89	3.11	NA	NA	7.27
Uranium-235/236	PCI/G	8	-	0.174	0.155	NA	NA	0.412
Uranium-238	PCI/G	14	-	2.85	2.9	NA	NA	6.76
Uranium, Total	MG/KG	-	230	NA	NA	8.04	8.98	12.6

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

Advanced Selection: IEMH0
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[MATRIX] = 'SO' AND [LOCID] = 'IEMH06-1' OR [LOCID] = 'IEMH06-2' OR [LOCID] = 'IEMH06-3' OR [LOCID] = 'IEMH06-

TABLE 28
IEMH06 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IEMH06-3	IEMH06-4
Sample ID				IE-MH-6T3-2.0-3.0-2007	IE-MH-6T4-6.5-7.0-2008
Matrix				Soil	Soil
Depth Interval (ft)				2.0-3.0	6.5-7.0
Date Sampled				11/26/13	11/26/13
Parameter	Units	(1)	(2)		
Radionuclides					
Radium-226	PCI/G	5	-	0.959	0.531
Thorium-228	PCI/G	5	-	1.08	0.694
Thorium-230	PCI/G	5	-	1.12	0.715
Thorium-232	PCI/G	5	-	0.923	0.645
Uranium-234	PCI/G	13	-	1.24	0.415 J
Uranium-235/236	PCI/G	8	-	0.0396	0.0429 U
Uranium-238	PCI/G	14	-	1.13	0.347 J
Uranium, Total	MG/KG	-	230	4.32	9.69

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 29
IE9 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE9-1	IE9-2	IE9-3	IE9-4
Sample ID				IE-9T10.0-0.5-2002	IE-9T23.5-4.0-2003	IE-9T36.0-6.5-2004	IE-9T410.0-10.5-2005
Matrix				Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	3.5-4.0	6.0-6.5	10.0-10.5
Date Sampled				11/25/13	11/25/13	11/25/13	11/25/13
Parameter	Units	(1)	(2)				
Radionuclides							
Radium-226	PCI/G	5	-	1.17	0.724	1.02	0.875
Thorium-228	PCI/G	5	-	0.913	0.748	1.02	0.92
Thorium-230	PCI/G	5	-	1.28	0.715	0.845	0.753
Thorium-232	PCI/G	5	-	0.906	0.712	0.848	0.711
Uranium-234	PCI/G	13	-	3.38	9.81	1.88	0.754
Uranium-235/236	PCI/G	8	-	0.186	0.554	0.0473	0.0315
Uranium-238	PCI/G	14	-	3.59	9.77	1.89	0.782
Uranium, Total	MG/KG	-	230	11.6	49.5	6.84	3.74

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 30
IE9 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE9	IE9
Sample ID				IE-9GW6.5-7.0-2001	IE-9GW6.5-7.0F-2001
Matrix				Groundwater	Groundwater
Depth Interval (ft)				6.5-7.0	6.5-7.0
Date Sampled				11/25/13	11/25/13
Parameter	Units	(1)	(2)		
Miscellaneous Parameters					
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	500 J	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	500 J	NA
Chloride	MG/L	-	250	21	NA
Fluoride	MG/L	-	1.5	0.55	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.35	NA
Nitrite-Nitrogen	MG/L	-	1	0.02 U	NA
Nitrogen, Nitrate-Nitrite	MG/L	-	10	0.35	NA
Phosphate (as o-PO4)	MG/L	-	-	0.38 J	NA
Sulfate (as SO4)	MG/L	-	250	140	NA
Total Dissolved Solids	MG/L	-	-	620 J	NA
Radionuclides					
Thorium-228	PCI/L	15	-	1.42 J	NA
Thorium-230	PCI/L	15	-	0.81 J	NA
Thorium-232	PCI/L	15	-	0.809 U	NA
Uranium-234	PCI/L	27	-	375 J	NA
Uranium-235/236	PCI/L	27	-	20.1 J	NA
Uranium-238	PCI/L	27	-	370 J	NA

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 30
IE9 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE9	IE9
Sample ID				IE-9GW6.5-7.0-2001	IE-9GW6.5-7.0F-2001
Matrix				Groundwater	Groundwater
Depth Interval (ft)				6.5-7.0	6.5-7.0
Date Sampled				11/25/13	11/25/13
Parameter	Units	(1)	(2)		
Radionuclides (Filtered)					
Radium-226	PCI/L	5	3	NA	0.389
Thorium-228	PCI/L	15	-	NA	1.28 J
Thorium-230	PCI/L	15	-	NA	0.79 U
Thorium-232	PCI/L	15	-	NA	0.319 U
Uranium-234	PCI/L	27	-	NA	77.7 J
Uranium-235/236	PCI/L	27	-	NA	4.14 J
Uranium-238	PCI/L	27	-	NA	77.7 J
Uranium, Total	UG/L	30	-	NA	1,240

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 31
IE10 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE10-1	IE10-2	IE10-3	IE10-4
Sample ID				IE-10-T1-0.0-0.5-2010	IE-10-T2-3.0-4.0-2011	IE-10-T3-3.0-4.0-2012	IE-10-T4-10.0-10.5-2013
Matrix				Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	3.0-4.0	3.0-4.0	10.0-10.5
Date Sampled				12/02/13	12/02/13	12/02/13	12/02/13
Parameter	Units	(1)	(2)				
Radionuclides							
Radium-226	PCI/G	5	-	1.1	0.895	0.84	0.724
Thorium-228	PCI/G	5	-	1 J	0.838 J	0.775 J	0.784
Thorium-230	PCI/G	5	-	1.08 J	0.851 J	0.883 J	0.765
Thorium-232	PCI/G	5	-	0.927 J	0.882 J	0.773 J	0.775
Uranium-234	PCI/G	13	-	15.2 J	9.3 J	15 J	0.821
Uranium-235/236	PCI/G	8	-	0.721 J	0.65 J	0.635 J	0.0339 U
Uranium-238	PCI/G	14	-	14.9 J	9.28 J	15.1 J	0.76
Uranium, Total	MG/KG	-	230	53.7	23.5	37.2	2.75

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 32
IE10 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE10	IE10	IE10	IE10
Sample ID				IE-10-GW-7.0-8.0-2009	IE-10-GW-7.0-8.0D-2009	IE-10-GW-7.0-8.0F-2009	IE-10-GW-7.0-8.0FD-2009
Matrix				Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)				7.0-8.0	7.0-8.0	7.0-8.0	7.0-8.0
Date Sampled				12/02/13	12/02/13	12/02/13	12/02/13
Parameter	Units	(1)	(2)		Field Duplicate (1-1)		Field Duplicate (1-1)
Miscellaneous Parameters							
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	310	430	NA	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	0.54 U	NA	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	0.54 U	NA	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	0.54 U	NA	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	310	430	NA	NA
Chloride	MG/L	-	250	14	14	NA	NA
Fluoride	MG/L	-	1.5	0.44	0.42	NA	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.16	0.16	NA	NA
Nitrite-Nitrogen	MG/L	-	1	0.003 U	0.003 U	NA	NA
Phosphate	MG/L	-	-	0.16 R	0.078 U	NA	NA
Sulfate (as SO4)	MG/L	-	250	120 J	120	NA	NA
Total Dissolved Solids	MG/L	-	-	680	610	NA	NA
Radionuclides (Filtered)							
Radium-226	PCI/L	5	3	NA	NA	0.16 U	0.187 J
Thorium-228	PCI/L	15	-	NA	NA	0.0553	0.0268 U
Thorium-230	PCI/L	15	-	NA	NA	0.0641 U	0.0358 U
Thorium-232	PCI/L	15	-	NA	NA	0.0348 U	-0.0151
Uranium-234	PCI/L	27	-	NA	NA	379	368
Uranium-235/236	PCI/L	27	-	NA	NA	17.8	19.7
Uranium-238	PCI/L	27	-	NA	NA	369	364

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 32
IE10 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE10	IE10	IE10	IE10
Sample ID				IE-10-GW-7.0-8.0-2009	IE-10-GW-7.0-8.0D-2009	IE-10-GW-7.0-8.0F-2009	IE-10-GW-7.0-8.0FD-2009
Matrix				Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)				7.0-8.0	7.0-8.0	7.0-8.0	7.0-8.0
Date Sampled				12/02/13	12/02/13	12/02/13	12/02/13
Parameter	Units	(1)	(2)		Field Duplicate (1-1)		Field Duplicate (1-1)
Radionuclides (Filtered)							
Uranium, Total	UG/L	30	-	NA	NA	1,560	1,070

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 33
IE11 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE11-1	IE11-2	IE11-3	IE11-4
Sample ID				IE-11-T1-0.0-0.5-2015	IE-11-T2-3.0-4.0-2016	IE-11-T3-1.0-2.0-2017	IE-11-T4-10.0-10.5-2018
Matrix				Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	3.0-4.0	1.0-2.0	10.0-10.5
Date Sampled				12/03/13	12/03/13	12/03/13	12/03/13
Parameter	Units	(1)	(2)				
Radionuclides							
Radium-226	PCI/G	5	-	1.18	1.02	1.32	0.75
Thorium-228	PCI/G	5	-	0.901 J	0.896 J	0.925	0.584
Thorium-230	PCI/G	5	-	1.3 J	0.843 J	1.09	0.59
Thorium-232	PCI/G	5	-	0.793 J	0.754 J	0.893	0.528
Uranium-234	PCI/G	13	-	8.49	16.7	8.93	0.931
Uranium-235/236	PCI/G	8	-	0.417	0.79	0.431	0.0716
Uranium-238	PCI/G	14	-	8.43	17	9.39	0.996
Uranium, Total	MG/KG	-	230	18.9	52	26.3	5.51

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 34
IE11 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE11	IE11
Sample ID				IE-11-GW-6.5-7.5-2014	IE-11-GW-6.5-7.5F-2014
Matrix				Groundwater	Groundwater
Depth Interval (ft)				6.5-7.5	6.5-7.5
Date Sampled				12/03/13	12/03/13
Parameter	Units	(1)	(2)		
Miscellaneous Parameters					
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	320	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	320	NA
Chloride	MG/L	-	250	14	NA
Fluoride	MG/L	-	1.5	0.57 J	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.23 J	NA
Nitrite-Nitrogen	MG/L	-	1	0.003 U	NA
Phosphate	MG/L	-	-	0.45 J	NA
Sulfate (as SO4)	MG/L	-	250	220	NA
Total Dissolved Solids	MG/L	-	-	700	NA
Radionuclides (Filtered)					
Radium-226	PCI/L	5	3	NA	0.139 U
Thorium-228	PCI/L	15	-	NA	0.0688 U
Thorium-230	PCI/L	15	-	NA	0.0511 U
Thorium-232	PCI/L	15	-	NA	0.0469 U
Uranium-234	PCI/L	27	-	NA	888
Uranium-235/236	PCI/L	27	-	NA	42.6
Uranium-238	PCI/L	27	-	NA	901
Uranium, Total	UG/L	30	-	NA	2,180

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 35
IE12 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE12-1	IE12-2	IE12-3	IE12-4	IE12-5
Sample ID				IE-12-T1-0.0-0.5-2019	IE-12-T2-0.0-0.5-2020	IE-12-T3-3.0-4.0-2021	IE-12-T4-6.0-7.0-2022	IE-12-T5-5.0-6.0-2023
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				0.0-0.5	0.0-0.5	3.0-4.0	6.0-7.0	5.0-6.0
Date Sampled				12/04/13	12/04/13	12/04/13	12/04/13	12/04/13
Parameter	Units	(1)	(2)					
Radionuclides								
Radium-226	PCI/G	5	-	0.886	1.29	0.826 J	0.611 J	0.787
Thorium-228	PCI/G	5	-	0.891	0.946	1.09	0.671	0.964
Thorium-230	PCI/G	5	-	1.03	1.12	0.972	0.607	0.921
Thorium-232	PCI/G	5	-	0.905	0.918	1.03	0.601	0.818
Uranium-234	PCI/G	13	-	1.55	1.65	5.9	1.41	4.5
Uranium-235/236	PCI/G	8	-	0.0902	0.107	0.321	0.126	0.232
Uranium-238	PCI/G	14	-	1.7	1.44	6.43	1.18	4.41
Uranium, Total	MG/KG	-	230	4.33	4.48	16.6	4.54	9.42

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

[LOCID] = 'IE12-1' OR [LOCID] = 'IE12-2' OR [LOCID] = 'IE12-3' OR [LOCID] = 'IE12-4' OR [LOCID] = 'IE12-5' OR [LOCID] = 'IE12-6' OR [LOCID] = 'IE12-7' OR [LOCID] = 'IE12-8' AND [MATRIX] =

TABLE 35
IE12 SOIL ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE12-6	IE12-7	IE12-8
Sample ID				IE-12-T6-6.0-7.0-2024	IE-12-T7-11.0-11.5-2025	IE-12-T8-11.0-11.5-2026
Matrix				Soil	Soil	Soil
Depth Interval (ft)				6.0-7.0	11.0-11.5	11.0-11.5
Date Sampled				12/04/13	12/04/13	12/04/13
Parameter	Units	(1)	(2)			
Radionuclides						
Radium-226	PCI/G	5	-	0.794	0.948	1.02
Thorium-228	PCI/G	5	-	1	1.19	0.933
Thorium-230	PCI/G	5	-	0.906	0.871	0.87
Thorium-232	PCI/G	5	-	1.08	1.1	0.853
Uranium-234	PCI/G	13	-	15.1	0.953	8.21
Uranium-235/236	PCI/G	8	-	0.799	0.0622	0.363
Uranium-238	PCI/G	14	-	14.6	0.908	8.33
Uranium, Total	MG/KG	-	230	32.5	3.64	21.5

(1)- USDOE Order 458.1, June 2011 - Ra-226 and Ra-228 (sum total of 5 pCi/g), Thorium isotopes (sum total of 5 pCi/g); NUREG 1757 (NRC 2006), Screening values in units of pCi/g are equivale

(2)- USEPA Regional Screening Levels (RSL), May 2013.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

[LOCID] = 'IE12-1' OR [LOCID] = 'IE12-2' OR [LOCID] = 'IE12-3' OR [LOCID] = 'IE12-4' OR [LOCID] = 'IE12-5' OR [LOCID] = 'IE12-6' OR [LOCID] = 'IE12-7' OR [LOCID] = 'IE12-8' AND [MATRIX] =

TABLE 36
IE12 GROUNDWATER ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID				IE12	IE12
Sample ID				IE-12-GW-7.0-7.5-2027	IE-12-GW-7.0-7.5F-2027
Matrix				Groundwater	Groundwater
Depth Interval (ft)				7.0-7.5	7.0-7.5
Date Sampled				12/04/13	12/04/13
Parameter	Units	(1)	(2)		
Miscellaneous Parameters					
Alkalinity, Bicarbonate (as CaCO3)	MG/L	-	-	350	NA
Alkalinity, carbonate (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, hydroxide (as CaCO3)	MG/L	-	-	0.54 U	NA
Alkalinity, Phenophthalein	MG/L	-	-	0.54 U	NA
Alkalinity, Total (as CaCO3)	MG/L	-	-	350	NA
Chloride	MG/L	-	250	15	NA
Fluoride	MG/L	-	1.5	0.51 J	NA
Nitrate-Nitrogen (as N)	MG/L	-	10	0.3 J	NA
Nitrite-Nitrogen	MG/L	-	1	0.003 U	NA
Phosphate	MG/L	-	-	0.15 R	NA
Sulfate (as SO4)	MG/L	-	250	290	NA
Total Dissolved Solids	MG/L	-	-	750	NA
Radionuclides (Filtered)					
Radium-226	PCI/L	5	3	NA	0.378
Thorium-228	PCI/L	15	-	NA	0.0547 U
Thorium-230	PCI/L	15	-	NA	0.051 R
Thorium-232	PCI/L	15	-	NA	0.0378 U
Uranium-234	PCI/L	27	-	NA	1,060
Uranium-235/236	PCI/L	27	-	NA	57.8
Uranium-238	PCI/L	27	-	NA	1,070
Uranium, Total	UG/L	30	-	NA	3,050

(1)- USEPA, National Primary Drinking Water Regulations, EPA 816-F-09-004, May 2009 - Ra-226 and Ra-228 (sum total of 5 pCi/L), Alpha Emitters - Thorium isotopes (15 pCi/L), Uranium isotop

(2)- NYSDEC Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. February 16, 2008, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds (1)

Concentration Exceeds (2)

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	UG/L	NA	0.25 U
1,1,1-Trichloroethane	UG/L	NA	0.29 U
1,1,2,2-Tetrachloroethane	UG/L	NA	0.43 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	NA	0.25 U
1,1,2-Trichloroethane	UG/L	NA	0.57 U
1,1-Dichloroethane	UG/L	NA	0.39 U
1,1-Dichloroethene	UG/L	NA	0.37 U
1,1-Dichloropropene	UG/L	NA	0.3 U
1,2,3-Trichlorobenzene	UG/L	NA	0.65 U
1,2,4-Trichlorobenzene	UG/L	NA	0.55 U
1,2,4-Trimethylbenzene	UG/L	NA	0.4 U
1,2-Dibromo-3-chloropropane	UG/L	NA	1.2 U
1,2-Dibromoethane (Ethylene dibromide)	UG/L	NA	0.44 U
1,2-Dichlorobenzene	UG/L	NA	0.28 U
1,2-Dichloroethane	UG/L	NA	0.37 U
1,2-Dichloroethene (cis)	UG/L	NA	2.1 J
1,2-Dichloroethene (total)	UG/L	NA	2.1 J
1,2-Dichloroethene (trans)	UG/L	NA	0.18 U
1,2-Dichloropropane	UG/L	NA	0.32 U
1,3-Dichlorobenzene	UG/L	NA	0.23 U
1,3-Dichloropropane	UG/L	NA	0.24 U
1,3-Dichloropropene (cis)	UG/L	NA	0.34 U
1,3-Dichloropropene (trans)	UG/L	NA	0.35 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
1,4-Dichloro-2-butene (trans)	UG/L	NA	0.95 U
1,4-Dichlorobenzene	UG/L	NA	0.35 U
1,4-Dioxane	UG/L	NA	23 U
2-Chlorotoluene	UG/L	NA	0.34 U
2-Chloro-1,3-butadiene	UG/L	NA	0.39 U
2-Hexanone	UG/L	NA	0.59 U
2-Nitropropane	UG/L	NA	0.64 U
4-Chlorotoluene	UG/L	NA	0.31 U
4-Isopropyltoluene (p-Cymene)	UG/L	NA	0.32 U
4-Methyl-2-pentanone	UG/L	NA	0.33 U
Acetone	UG/L	NA	36
Benzene	UG/L	NA	0.25 U
Bromobenzene	UG/L	NA	0.33 U
Bromochloromethane	UG/L	NA	0.55 U
Bromodichloromethane	UG/L	NA	0.25 U
Bromoform	UG/L	NA	0.37 U
Bromomethane	UG/L	NA	0.4 U
Carbon disulfide	UG/L	NA	0.37 U
Carbon tetrachloride	UG/L	NA	0.36 U
Chlorobenzene	UG/L	NA	0.38 U
Chloroethane	UG/L	NA	0.38 U
Chloroform	UG/L	NA	0.19 J
Chloromethane	UG/L	NA	0.55 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
Cyclohexane	UG/L	NA	0.36 U
Cyclohexanone	UG/L	NA	18 U
Dibromochloromethane	UG/L	NA	0.33 U
Dibromomethane	UG/L	NA	0.41 U
Dichlorodifluoromethane	UG/L	NA	0.45 U
Ethylbenzene	UG/L	NA	0.3 U
Ethyl methacrylate	UG/L	NA	0.25 U
Hexachlorobutadiene	UG/L	NA	0.25 U
Hexane	UG/L	NA	0.46 U
Isopropylbenzene (Cumene)	UG/L	NA	0.26 U
Methyl acetate	UG/L	NA	2.3 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	0.39 U
Methyl tert-butyl ether	UG/L	NA	0.4 U
Methylcyclohexane	UG/L	NA	0.26 U
Methylene chloride	UG/L	NA	1.7 U
Methyl methacrylate	UG/L	NA	0.51 U
Naphthalene	UG/L	NA	0.85 U
n-Butylbenzene	UG/L	NA	0.23 U
n-Propylbenzene	UG/L	NA	0.3 U
sec-Butylbenzene	UG/L	NA	0.31 U
Styrene	UG/L	NA	0.35 U
tert-Butylbenzene	UG/L	NA	0.31 U
Tetrachloroethene	UG/L	NA	0.28 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Volatile Organic Compounds			
Tetrahydrofuran	UG/L	NA	1.7 U
Toluene	UG/L	NA	1 U
Trichloroethene	UG/L	NA	0.29 U
Trichlorofluoromethane	UG/L	NA	0.22 U
Vinyl acetate	UG/L	NA	0.61 U
Vinyl chloride	UG/L	NA	0.43 U
Xylene (total)	UG/L	NA	0.85 U
TCLP Volatile Organic Compounds			
1,1-Dichloroethene	UG/L	NA	3.7 U
1,2-Dichloroethane	UG/L	NA	3.7 U
Benzene	UG/L	NA	2.5 U
Carbon tetrachloride	UG/L	NA	3.6 U
Chlorobenzene	UG/L	NA	3.8 U
Chloroform	UG/L	NA	0.92 U
Methyl ethyl ketone (2-Butanone)	UG/L	NA	3.9 U
Tetrachloroethene	UG/L	NA	2.8 U
Trichloroethene	UG/L	NA	2.9 U
Vinyl chloride	UG/L	NA	4.3 U
Semivolatile Organic Compounds			
1,1-Biphenyl	UG/L	NA	0.98 U
1,2,4-Trichlorobenzene	UG/L	NA	0.98 U
1,2-Dichlorobenzene	UG/L	NA	0.98 U
1,3-Dichlorobenzene	UG/L	NA	0.98 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Semivolatile Organic Compounds			
1,4-Dichlorobenzene	UG/L	NA	0.98 U
1,4-Dioxane	UG/L	NA	0.98 U
2,2'-oxybis(1-Chloropropane)	UG/L	NA	0.98 U
2,4,5-Trichlorophenol	UG/L	NA	0.98 U
2,4,6-Trichlorophenol	UG/L	NA	0.98 U
2,4-Dichlorophenol	UG/L	NA	0.98 U
2,4-Dimethylphenol	UG/L	NA	0.98 U
2,4-Dinitrophenol	UG/L	NA	2 U
2,4-Dinitrotoluene	UG/L	NA	0.98 U
2,6-Dinitrotoluene	UG/L	NA	2.1 U
2-Chloronaphthalene	UG/L	NA	0.98 U
2-Chlorophenol	UG/L	NA	0.98 U
2-Methylnaphthalene	UG/L	NA	0.98 U
2-Methylphenol (o-cresol)	UG/L	NA	0.98 U
2-Nitroaniline	UG/L	NA	1.1 U
2-Nitrophenol	UG/L	NA	1.5 U
3&4-Methylphenol	UG/L	NA	2 U
3,3'-Dichlorobenzidine	UG/L	NA	1.3 U
3-Nitroaniline	UG/L	NA	0.98 U
4,6-Dinitro-2-methylphenol	UG/L	NA	1.2 U
4-Bromophenyl-phenylether	UG/L	NA	0.98 U
4-Chloro-3-methylphenol	UG/L	NA	0.98 U
4-Chloroaniline	UG/L	NA	2 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Semivolatile Organic Compounds			
4-Chlorophenyl-phenylether	UG/L	NA	0.98 U
4-Nitroaniline	UG/L	NA	0.98 U
4-Nitrophenol	UG/L	NA	2 U
Acenaphthene	UG/L	NA	0.98 U
Acenaphthylene	UG/L	NA	0.98 U
Acetophenone	UG/L	NA	0.98 U
Anthracene	UG/L	NA	0.98 U
Atrazine	UG/L	NA	0.98 U
Benzaldehyde	UG/L	NA	0.98 U
Benzo(a)anthracene	UG/L	NA	0.98 U
Benzo(a)pyrene	UG/L	NA	0.98 U
Benzo(b)fluoranthene	UG/L	NA	0.98 U
Benzo(g,h,i)perylene	UG/L	NA	0.98 U
Benzo(k)fluoranthene	UG/L	NA	0.98 U
Benzyl alcohol	UG/L	NA	2.9 U
bis(2-Chloroethoxy)methane	UG/L	NA	0.98 U
bis(2-Chloroethyl)ether	UG/L	NA	0.98 U
bis(2-Ethylhexyl)phthalate	UG/L	NA	1.8 U
Butylbenzylphthalate	UG/L	NA	0.98 U
Caprolactam	UG/L	NA	2 U
Carbazole	UG/L	NA	0.98 U
Chrysene	UG/L	NA	0.98 U
Dibenz(a,h)anthracene	UG/L	NA	0.98 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Semivolatile Organic Compounds			
Dibenzofuran	UG/L	NA	0.98 U
Diethylphthalate	UG/L	NA	0.98 U
Dimethylphthalate	UG/L	NA	0.98 U
Di-n-butylphthalate	UG/L	NA	0.98 U
Di-n-octylphthalate	UG/L	NA	0.98 U
Fluoranthene	UG/L	NA	0.98 U
Fluorene	UG/L	NA	0.98 U
Hexachlorobenzene	UG/L	NA	0.98 U
Hexachlorobutadiene	UG/L	NA	0.98 U
Hexachlorocyclopentadiene	UG/L	NA	0.98 U
Hexachloroethane	UG/L	NA	0.98 U
Indeno(1,2,3-cd)pyrene	UG/L	NA	0.98 U
Isophorone	UG/L	NA	0.98 U
Naphthalene	UG/L	NA	0.98 U
Nitrobenzene	UG/L	NA	0.98 U
N-Nitroso-di-n-propylamine	UG/L	NA	1.5 U
N-Nitrosodiphenylamine	UG/L	NA	0.98 U
Pentachlorophenol	UG/L	NA	1.2 U
Phenanthrene	UG/L	NA	0.98 U
Phenol	UG/L	NA	2 U
Pyrene	UG/L	NA	0.98 U
Pyridine	UG/L	NA	2 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
TCLP Semivolatile Organic Compounds			
1,4-Dichlorobenzene	UG/L	NA	5 U
2,4,5-Trichlorophenol	UG/L	NA	10 U
2,4,6-Trichlorophenol	UG/L	NA	10 U
2,4-Dinitrotoluene	UG/L	NA	5 U
2-Methylphenol (o-cresol)	UG/L	NA	10 U
3&4-Methylphenol	UG/L	NA	5 U
Hexachlorobenzene	UG/L	NA	5 U
Hexachlorobutadiene	UG/L	NA	5 U
Hexachloroethane	UG/L	NA	5 U
Nitrobenzene	UG/L	NA	5 U
Pentachlorophenol	UG/L	NA	10 U
Pyridine	UG/L	NA	25 U
Pesticide Organic Compounds			
4,4'-DDD	UG/L	NA	0.0019 U
4,4'-DDE	UG/L	NA	0.0019 U
4,4'-DDT	UG/L	NA	0.0019 U
Aldrin	UG/L	NA	0.0019 U
alpha-BHC	UG/L	NA	0.0019 U
alpha-Chlordane	UG/L	NA	0.0019 U
beta-BHC	UG/L	NA	0.0025 U
delta-BHC	UG/L	NA	0.0019 U
Dieldrin	UG/L	NA	0.0019 U
Endosulfan I	UG/L	NA	0.0019 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Pesticide Organic Compounds			
Endosulfan II	UG/L	NA	0.0019 U
Endosulfan sulfate	UG/L	NA	0.0019 U
Endrin	UG/L	NA	0.0032 U
Endrin aldehyde	UG/L	NA	0.0019 U
Endrin ketone	UG/L	NA	0.0019 U
gamma-BHC (Lindane)	UG/L	NA	0.0019 U
gamma-Chlordane	UG/L	NA	0.0019 U
Heptachlor	UG/L	NA	0.0019 U
Heptachlor epoxide	UG/L	NA	0.0032 U
Methoxychlor	UG/L	NA	0.0019 U
Technical Chlordane	UG/L	NA	0.019 U
Toxaphene	UG/L	NA	0.051 U
TCLP Pesticide Organic Compounds			
Endrin	UG/L	NA	0.05 U
gamma-BHC (Lindane)	UG/L	NA	0.015 U
Heptachlor	UG/L	NA	0.015 U
Heptachlor epoxide	UG/L	NA	0.05 U
Methoxychlor	UG/L	NA	0.05 U
Technical Chlordane	UG/L	NA	0.2 U
Toxaphene	UG/L	NA	0.05 U
Herbicides			
2,4,5-T	UG/L	NA	0.13 U
2,4,5-TP (Silvex)	UG/L	NA	0.14 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Herbicides			
2,4-D	UG/L	NA	1.7 U
2,4-DB	UG/L	NA	2.3 U
Dalapon	UG/L	NA	0.9 U
Dicamba	UG/L	NA	0.28 U
Dichloroprop	UG/L	NA	1.1 U
Dinoseb	UG/L	NA	0.61 U
MCPA	UG/L	NA	120 U
MCPP	UG/L	NA	140 U
TCLP Herbicides			
2,4,5-TP (Silvex)	UG/L	NA	3 U
2,4-D	UG/L	NA	20 U
Metals			
Aluminum	UG/L	NA	1,000
Antimony	UG/L	NA	1.7 U
Arsenic	UG/L	NA	1.6 J
Barium	UG/L	NA	240
Beryllium	UG/L	NA	0.35 U
Boron	UG/L	NA	280
Cadmium	UG/L	NA	0.14 J
Calcium	UG/L	NA	320,000 D
Chromium	UG/L	NA	420
Cobalt	UG/L	NA	2.2
Copper	UG/L	NA	14

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Metals			
Iron	UG/L	NA	1,000
Lead	UG/L	NA	1.8 J
Lithium	UG/L	NA	54
Magnesium	UG/L	NA	530
Manganese	UG/L	NA	16
Mercury	UG/L	NA	0.06 U
Molybdenum	UG/L	NA	66
Nickel	UG/L	NA	3.5 J
Phosphorus, Total (as P)	UG/L	NA	180
Potassium	UG/L	NA	85,000
Selenium	UG/L	NA	5.8
Silver	UG/L	NA	0.89 J
Sodium	UG/L	NA	45,000
Thallium	UG/L	NA	0.55 U
Uranium, Total	UG/L	1.8	NA
Vanadium	UG/L	NA	6.7 J
Zinc	UG/L	NA	60
TCLP Metals			
Arsenic	UG/L	NA	4.9 U
Barium	UG/L	NA	230
Cadmium	UG/L	NA	2.3 U
Chromium	UG/L	NA	430
Lead	UG/L	NA	3.2 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
TCLP Metals			
Mercury	UG/L	NA	0.079 U
Selenium	UG/L	NA	6.7 U
Silver	UG/L	NA	15 U
Miscellaneous Parameters			
Corrosivity (as pH)	S.U.	NA	11.5
Oil & Grease (HEM)	MG/L	NA	3 R
Total Organic Carbon (TOC)	MG/L	NA	15
Total Suspended Solids	MG/L	NA	57
Radionuclides			
Thorium-228	PCI/L	NA	0.0606
Thorium-230	PCI/L	NA	0.0903
Thorium-232	PCI/L	NA	0.0243
Uranium-234	PCI/L	NA	0.469
Uranium-235/236	PCI/L	NA	0.0392
Uranium-238	PCI/L	NA	0.399
Radionuclides (Gamma Spec)			
Actinium-227	PCI/L	NA	66.7 U
Actinium-228	PCI/L	NA	37.7 U
Bismuth-212	PCI/L	NA	138 U
Bismuth-214	PCI/L	NA	27.2 U
Cesium-137	PCI/L	NA	10.5 U
Lead-210	PCI/L	NA	236 U
Lead-212	PCI/L	NA	19.8 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 37
AQUEOUS INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IEFT-1-2034	IEFT-1-2034
Matrix		Waste Water	Waste Water
Depth Interval (ft)		-	-
Date Sampled		12/09/13	12/19/13
Parameter	Units		
Radionuclides (Gamma Spec)			
Lead-214	PCI/L	NA	23.2 U
Potassium-40	PCI/L	NA	165 U
Protactinium-231	PCI/L	NA	240 U
Radium-226	PCI/L	NA	27.2 U
Radium-228	PCI/L	NA	37.7 U
Thallium-208	PCI/L	NA	12 U
Thorium-232	PCI/L	NA	37.7 U
Thorium-234	PCI/L	NA	206 U
Uranium-235/236	PCI/L	NA	71.2 U
Uranium-238	PCI/L	NA	206 U

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW	IDW
Sample ID		IESP-1A-2028	IESP-1B-2033	IESP-2A-2029	IESP-2B-2030	IESP-2C-2031
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/05/13	12/05/13	12/05/13	12/05/13	12/05/13
Parameter	Units					
TCLP Volatile Organic Compounds						
1,1-Dichloroethene	UG/L	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	NA	NA	NA	NA	NA
Benzene	UG/L	NA	NA	NA	NA	NA
Carbon tetrachloride	UG/L	NA	NA	NA	NA	NA
Chlorobenzene	UG/L	NA	NA	NA	NA	NA
Chloroform	UG/L	NA	NA	NA	NA	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	NA	NA	NA	NA	NA
Trichloroethene	UG/L	NA	NA	NA	NA	NA
Vinyl chloride	UG/L	NA	NA	NA	NA	NA
TCLP Semivolatile Organic Compounds						
1,4-Dichlorobenzene	UG/L	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	UG/L	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	UG/L	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	UG/L	NA	NA	NA	NA	NA
2-Methylphenol (o-cresol)	UG/L	NA	NA	NA	NA	NA
3&4-Methylphenol	UG/L	NA	NA	NA	NA	NA
Hexachlorobenzene	UG/L	NA	NA	NA	NA	NA
Hexachlorobutadiene	UG/L	NA	NA	NA	NA	NA
Hexachloroethane	UG/L	NA	NA	NA	NA	NA
Nitrobenzene	UG/L	NA	NA	NA	NA	NA
Pentachlorophenol	UG/L	NA	NA	NA	NA	NA
Pyridine	UG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW	IDW
Sample ID		IESP-1A-2028	IESP-1B-2033	IESP-2A-2029	IESP-2B-2030	IESP-2C-2031
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/05/13	12/05/13	12/05/13	12/05/13	12/05/13
Parameter	Units					
TCLP Pesticide Organic Compounds						
Endrin	UG/L	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	UG/L	NA	NA	NA	NA	NA
Heptachlor	UG/L	NA	NA	NA	NA	NA
Heptachlor epoxide	UG/L	NA	NA	NA	NA	NA
Methoxychlor	UG/L	NA	NA	NA	NA	NA
Technical Chlordane	UG/L	NA	NA	NA	NA	NA
Toxaphene	UG/L	NA	NA	NA	NA	NA
TCLP Herbicides						
2,4,5-TP (Silvex)	UG/L	NA	NA	NA	NA	NA
2,4-D	UG/L	NA	NA	NA	NA	NA
Polychlorinated Biphenyls						
Aroclor 1016	UG/KG	NA	NA	NA	NA	NA
Aroclor 1221	UG/KG	NA	NA	NA	NA	NA
Aroclor 1232	UG/KG	NA	NA	NA	NA	NA
Aroclor 1242	UG/KG	NA	NA	NA	NA	NA
Aroclor 1248	UG/KG	NA	NA	NA	NA	NA
Aroclor 1254	UG/KG	NA	NA	NA	NA	NA
Aroclor 1260	UG/KG	NA	NA	NA	NA	NA
Aroclor 1262	UG/KG	NA	NA	NA	NA	NA
Aroclor 1268	UG/KG	NA	NA	NA	NA	NA
PCBs, Total	UG/KG	NA	NA	NA	NA	NA
TCLP Metals						
Arsenic	UG/L	NA	NA	NA	NA	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW	IDW
Sample ID		IESP-1A-2028	IESP-1B-2033	IESP-2A-2029	IESP-2B-2030	IESP-2C-2031
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		-	-	-	-	-
Date Sampled		12/05/13	12/05/13	12/05/13	12/05/13	12/05/13
Parameter	Units					
TCLP Metals						
Barium	UG/L	NA	NA	NA	NA	NA
Cadmium	UG/L	NA	NA	NA	NA	NA
Chromium	UG/L	NA	NA	NA	NA	NA
Lead	UG/L	NA	NA	NA	NA	NA
Mercury	UG/L	NA	NA	NA	NA	NA
Selenium	UG/L	NA	NA	NA	NA	NA
Silver	UG/L	NA	NA	NA	NA	NA
Miscellaneous Parameters						
Corrosivity (as pH)	S.U.	NA	NA	NA	NA	NA
Flash Point	DEG C	NA	NA	NA	NA	NA
Paint Filter Test	NONE	NA	NA	NA	NA	NA
Reactive Cyanide	MG/KG	NA	NA	NA	NA	NA
Reactive Sulfide	MG/KG	NA	NA	NA	NA	NA
Radionuclides						
Radium-226	PCI/G	1.19	0.964	0.901	1.1	1.23
Thorium-228	PCI/G	1.11	0.822	1.02	0.995	0.914
Thorium-230	PCI/G	0.984 J	0.647 J	0.859 J	1.19 J	0.939 J
Thorium-232	PCI/G	0.953 J	0.827 J	0.913 J	0.808 J	0.823 J
Uranium-234	PCI/G	5.49	6.08	5.48	5.53	8.73
Uranium-235/236	PCI/G	0.229	0.207	0.202	0.217	0.512
Uranium-238	PCI/G	5.64	6.65	5.65	5.43	8.28
Uranium, Total	MG/KG	10.8	21.2	26.8	13.7	17.2

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW
Sample ID		IESP-2D-2032	IESP-2DD-9205	FRACTANKSED	FRACTANKSED
Matrix		Soil	Soil	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		12/05/13	12/05/13	07/01/14	08/29/14
Parameter	Units		Field Duplicate (1-1)		
TCLP Volatile Organic Compounds					
1,1-Dichloroethene	UG/L	NA	NA	0.37 U	NA
1,2-Dichloroethane	UG/L	NA	NA	0.37 U	NA
Benzene	UG/L	NA	NA	0.25 U	NA
Carbon tetrachloride	UG/L	NA	NA	0.36 U	NA
Chlorobenzene	UG/L	NA	NA	0.38 U	NA
Chloroform	UG/L	NA	NA	R	NA
Methyl ethyl ketone (2-Butanone)	UG/L	NA	NA	0.39 U	NA
Tetrachloroethene	UG/L	NA	NA	0.28 U	NA
Trichloroethene	UG/L	NA	NA	0.29 U	NA
Vinyl chloride	UG/L	NA	NA	0.43 U	NA
TCLP Semivolatile Organic Compounds					
1,4-Dichlorobenzene	UG/L	NA	NA	5 U	NA
2,4,5-Trichlorophenol	UG/L	NA	NA	10 U	NA
2,4,6-Trichlorophenol	UG/L	NA	NA	10 U	NA
2,4-Dinitrotoluene	UG/L	NA	NA	5 U	NA
2-Methylphenol (o-cresol)	UG/L	NA	NA	10 U	NA
3&4-Methylphenol	UG/L	NA	NA	5 U	NA
Hexachlorobenzene	UG/L	NA	NA	5 U	NA
Hexachlorobutadiene	UG/L	NA	NA	5 U	NA
Hexachloroethane	UG/L	NA	NA	5 U	NA
Nitrobenzene	UG/L	NA	NA	5 U	NA
Pentachlorophenol	UG/L	NA	NA	10 U	NA
Pyridine	UG/L	NA	NA	25 U	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW
Sample ID		IESP-2D-2032	IESP-2DD-9205	FRACTANKSED	FRACTANKSED
Matrix		Soil	Soil	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		12/05/13	12/05/13	07/01/14	08/29/14
Parameter	Units		Field Duplicate (1-1)		
TCLP Pesticide Organic Compounds					
Endrin	UG/L	NA	NA	0.05 U	NA
gamma-BHC (Lindane)	UG/L	NA	NA	0.015 U	NA
Heptachlor	UG/L	NA	NA	0.015 U	NA
Heptachlor epoxide	UG/L	NA	NA	0.05 U	NA
Methoxychlor	UG/L	NA	NA	0.05 U	NA
Technical Chlordane	UG/L	NA	NA	0.2 U	NA
Toxaphene	UG/L	NA	NA	0.05 U	NA
TCLP Herbicides					
2,4,5-TP (Silvex)	UG/L	NA	NA	3 U	NA
2,4-D	UG/L	NA	NA	20 U	NA
Polychlorinated Biphenyls					
Aroclor 1016	UG/KG	NA	NA	30 U	NA
Aroclor 1221	UG/KG	NA	NA	30 U	NA
Aroclor 1232	UG/KG	NA	NA	30 U	NA
Aroclor 1242	UG/KG	NA	NA	30 U	NA
Aroclor 1248	UG/KG	NA	NA	30 U	NA
Aroclor 1254	UG/KG	NA	NA	19 U	NA
Aroclor 1260	UG/KG	NA	NA	19 U	NA
Aroclor 1262	UG/KG	NA	NA	19 U	NA
Aroclor 1268	UG/KG	NA	NA	19 U	NA
PCBs, Total	UG/KG	NA	NA	19 U	NA
TCLP Metals					
Arsenic	UG/L	NA	NA	6 J	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 38
SOIL AND SEDIMENT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW	IDW	IDW
Sample ID		IESP-2D-2032	IESP-2DD-9205	FRACTANKSED	FRACTANKSED
Matrix		Soil	Soil	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		12/05/13	12/05/13	07/01/14	08/29/14
Parameter	Units		Field Duplicate (1-1)		
TCLP Metals					
Barium	UG/L	NA	NA	870	NA
Cadmium	UG/L	NA	NA	0.84 U	NA
Chromium	UG/L	NA	NA	9.8 J	NA
Lead	UG/L	NA	NA	1.5 U	NA
Mercury	UG/L	NA	NA	0.079 U	NA
Selenium	UG/L	NA	NA	5.2 U	NA
Silver	UG/L	NA	NA	2.5 U	NA
Miscellaneous Parameters					
Corrosivity (as pH)	S.U.	NA	NA	11.7	NA
Flash Point	DEG C	NA	NA	27	60 >
Paint Filter Test	NONE	NA	NA	0 U	NA
Reactive Cyanide	MG/KG	NA	NA	0.25 U	NA
Reactive Sulfide	MG/KG	NA	NA	22 U	NA
Radionuclides					
Radium-226	PCI/G	0.513	0.835	1.02 ± 3.70E-01	NA
Thorium-228	PCI/G	0.71	0.775	0.775 ± 1.56E-01	NA
Thorium-230	PCI/G	0.833 J	0.75 J	1.03 ± 1.83E-01	NA
Thorium-232	PCI/G	0.816 J	0.784 J	0.638 ± 1.38E-01	NA
Uranium-234	PCI/G	8.63	7.42	6.31 ± 6.47E-01	NA
Uranium-235/236	PCI/G	0.62	0.656	0.366 ± 1.04E-01	NA
Uranium-238	PCI/G	8.56	7.31	5.79 ± 6.02E-01	NA
Uranium, Total	MG/KG	17.4	17.2	20.2 ± 2.40E+03	NA

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL

TABLE 39
SCISSOR LIFT INVESTIGATION-DERIVED WASTE ANALYTICAL RESULTS
NIAGARA FALLS STORAGE SITE

Location ID		IDW	IDW
Sample ID		IDW-SL-HYOIL	IDW-SL-PAINT
Matrix		Hydraulic Oil	Scrapings
Depth Interval (ft)		-	-
Date Sampled		05/14/14	05/14/14
Parameter	Units		
Polychlorinated Biphenyls			
Aroclor 1016	UG/KG	440 UJ	90 U
Aroclor 1221	UG/KG	440 U	90 U
Aroclor 1232	UG/KG	440 U	90 U
Aroclor 1242	UG/KG	440 U	90 U
Aroclor 1248	UG/KG	440 U	90 U
Aroclor 1254	UG/KG	300 U	1,700
Aroclor 1260	UG/KG	300 U	420
Aroclor 1262	UG/KG	300 U	57 U
Aroclor 1268	UG/KG	300 U	57 U
Metals			
Lead	MG/KG	NA	62,000 DJ

Flags assigned during chemistry validation are shown.

Detection Limits shown are MDL