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REMOVAL SUPPORT TEAM 3
EPA CONTRACT EP-S2-14-01

November 9, 2016

Mr. Daniel Gaughan, On-Scene Coordinator
U.S. Environmental Protection Agency, Region II
Removal Action Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

EPA CONTRACT NO: EP-S2-14-01
TDD No: TO-0007-0023
DC No: RST3-03-D-0296
SUBJECT: PHASE II REMOVAL ASSESSMENT TRIP REPORT – CANADIAN RADIUM AND URANIUM CORP. SITE, MOUNT KISCO, WESTCHESTER COUNTY, NEW YORK

Dear Mr. Gaughan,

Enclosed please find the Phase II Removal Assessment Trip Report for the on-site activities conducted at the Canadian Radium and Uranium Corp. Site located in Mount Kisco, Westchester County, New York. This phase of the Removal Assessment was conducted on April 4 through 6, 2016.

If you have any questions or comments, please contact me at (732) 585-4413.

Sincerely,

WESTON SOLUTIONS, INC.

Bernard Nwosu
RST 3 Site Project Manager

Enclosure
cc: TDD File: TO-0007-0023

REMOVAL ASSESSMENT TRIP REPORT

SITE NAME: Canadian Radium and Uranium Corp. Site
DC No.: RST3-03-D-0296
TDD No.: 0007-0023
CERCLIS ID: NYD987001468
EPA ID: A23P
EVENT DATES: April 4 through 6, 2016

1.0 Site Location: 103-105 Kisco Avenue
Mount Kisco, Westchester, New York
(Refer to Attachment A, Figure 1: Site Location Map)

2.0 Site History and Conditions

From 1943 until approximately 1966, the Canadian Radium and Uranium (CRU) facility operations at the Canadian Radium and Uranium Corporation Site (the Site) included the recovery of uranium and other radioactive elements from uranium-bearing sludge, old instrumentation, and watch dials. This work began as part of the federal government's Manhattan Engineering District (Manhattan Project). From 1943 to the 1950s, the primary product was uranium; subsequently, radium became the principal product until the facility's closure. According to a Village of Mount Kisco memorandum, in 1957, CRU pleaded guilty to charges of allowing three employees to be overexposed to radiation. From March 5, 1958, until sometime after May 19, 1961, decontamination procedures and expectations were established for the CRU facility.

In November and December 1966, the facility buildings (a two-story concrete block building and two smaller one-story concrete block buildings) were decontaminated and demolished. Removal of radioactive dirt to a depth of 12 inches was required on the CRU premises. The most contaminated demolition materials were disposed of by Nuclear Diagnostic Laboratories located in Peekskill, New York, while the less contaminated materials were disposed of at Croton Point Sanitary Landfill located in Croton-on-Hudson, New York. After demolition and decontamination, a post-operation survey was conducted by Isotopes, Inc. Two locations on the Haggerty Millwork wall, which originally shared a wall with the CRU facility that was demolished during the 1966 demolition and decontamination process, were found above specifications. One contaminated location was removed by chiseling out the masonry of a wall. The second was a result of tailings from a leaking waste drum, which CRU had stored on the second floor fire escape. Since contamination was low here, the area was sealed with 1 to 2 inches of mortar. Railroad Avenue was constructed where the main CRU building once stood and was put in place by the urban renewal efforts in the area. Between 1964 (pre-demolition/decontamination) and 1971 (post-demolition/decontamination), the building layout of the Site completely changed and it is believed that none of the original CRU facility buildings remained after the year 1971.

On April 5, 1979, a local newspaper reported the 1957 death of the CRU plant manager due to leukemia from high radioactivity levels found in his body. On April 20, 1979, a survey was performed by the Assistant Commissioner of Health for Environmental Quality, Westchester Department of Health. Based on the surveys, the highest dose rates were found in a small portion of a locked, chain-link fenced area south of the old wood freight station on Railroad Avenue and east of the L. B. Richard's Lumber yard (*i.e.*, an area located adjacent to the railroad). All other

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elevated dose rates were found in areas covered by soil and vegetative growth. The 1979 investigation reported that the high readings were obtained from an area covering approximately one square yard of the property within an area not being used by the public. In addition, the report indicated that the dose rates found did not pose a public health hazard to persons passing the fenced area, to persons working in buildings adjacent to the area, or to persons living across the railroad tracks to the east.

In a memorandum dated February 7, 1980, the Westchester County Health Department described investigation findings in more detail. The area in question was approximately 78 feet by 60 feet, enclosed by a chain-link fence located between the railroad tracks and a concrete paved area. The most significant contaminated area was a strip 15 feet by 5 feet, containing two separate "hot spots". A surface reading using an alpha probe survey meter measured 50 disintegrations per minute (dpm). Elevated readings several times above background were reported for an area extending about 50 feet south from the chain-link fence. The memorandum stated that the origin of this contamination was unknown and that it was not discovered in previous surveys.

In September 1993, the Bureau of Environmental Radiation Protection of the New York State Department of Health (NYSDOH) completed a survey of the Site; indoor radon measurements were collected (*i.e.*, office, show room, storage/sale floor) which documented a maximum concentration of 9.8 picocuries per liter (pCi/L), and the average of the different detectors was approximately 8.1 pCi/L. The NYSDOH also identified two outdoor areas where presence of radioactive materials were indicated at the back of Richard's Lumber, and the road that runs next to the railroad tracks and adjacent to a fence post inside the fenced portion of what appeared to be Richard's Lumber property on the south side of Railroad Avenue.

In 1994, the U.S. Environmental Protection Agency (EPA) conducted an on-site inspection to measure radon levels, collect air and soil samples, and measure exposure rates. The purpose of the investigation was to determine if conditions required immediate action and if the Site was eligible for long-term remediation under the federal Superfund Program. Elevated exposure rate measurements were observed on both the northern [10–700 microroentgens per hour (μR/hr)] and southern (10 –240 μR/hr) portions of the Site property. Radium-226 (Ra-226) concentrations in soil samples taken from the top 1.5 feet ranged from 3 to 150 picocuries per gram (pCi/g). All of the radon measurements were below EPA's guideline (*i.e.*, 4 pCi/L) and the air samples collected at the Site did not detect any radioactive contamination. The EPA concluded that the Site was not a potential candidate for inclusion in the National Priorities List (NPL) and, therefore, was not eligible for long-term remediation.

In July 1998, a complete radiological survey of the Village of Mt. Kisco and Richard's Lumber (former CRU) was conducted by New York State Department of Environmental Conservation (NYSDEC). The property owned by the Village of Mount Kisco (103 Kisco Avenue) was found to have contamination over one large unpaved area [about 4,000 to 5,000 square feet (sq. ft)] and a few smaller areas. The July 1998 report stated that, on the Mt. Kisco property, the highest concentrations of radium observed were a few hundred pCi/g and that most of the contamination was in the top one foot of soil. The report stated that the distribution suggests that uranium-containing material was placed on the surface and then the area was leveled. A new road (Railroad Avenue) had been built where the CRU facility once stood; soil sampling completed near the road showed elevated levels of radium a few feet below the surface. The NYSDEC reported that the

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distribution of radioactive material near the road appeared to be consistent with movement of soil as part of the building demolition and subsequent construction of the road. Sampling beneath the road surface was not performed. There is no documentation of shielding or other control measures implemented on the 103 Kisco Avenue property, though current conditions suggest that the property was recently paved with asphalt (of an unknown depth) or other cover materials.

The 1998 report further stated that the survey of the Richard's Lumber (105 Kisco Avenue) property indicated that radioactive materials were present under the parking lot, but no samples were taken beneath the asphalt. The highest concentration of radium at the Site was found just north of Railroad Avenue (about 6,000 pCi/g). A large part of the main outside storage area was reported to be contaminated with radium near the surface as well as within some soil profiles to depths of about 4 feet. Survey data suggested that the contamination stopped abruptly at the edges of the paved areas. Railroad Avenue showed count rates that were lower than background soils; NYSDEC attributed these results to absorption by the road surface material (*i.e.*, shielding). The July 1998 report indicated that radiation doses to workers or visitors to the Site as it was used at the time were not significant. The Site location where the dose rate was highest was a small area near Richard's Lumber, just north of Railroad Avenue. Time spent at this location was small; therefore, the accumulated dose was also estimated to be small. The July 1998 report suggested that significant radium contamination was present on both Mt. Kisco and Richard's Lumber properties. The NYSDEC did not consider the Site to be fully characterized at the completion of the survey.

In September 2013, Weston Solutions, Inc., Site Assessment Team (SAT), performed an on-site reconnaissance and gamma radiation screening of the historic CRU property and other possible areas of contamination. Based upon SAT's *Final Site Reassessment Summary Letter Report,* dated June 11, 2014, background readings taken north and northeast of the Site in the right-of-way (ROW) area alongside Kisco Avenue showed background gamma radiation levels of approximately 7,500 counts per minute (cpm). The highest reading of 73,637 cpm was located on the 105 Kisco Avenue property. Most readings were below 2 times (2x) background. There were three areas with readings that exceeded 2x background, ranging from 30,000 cpm to 73,637 cpm. All three areas above 2x background were located in the back portion of the 105 Kisco Avenue property, east of the historic CRU facility. No signs of ground discoloration were observed.

Site conditions during SAT's radiological reconnaissance of the 105 Kisco Avenue property, New York Stone and Masonry Supply, were typical for a stone, masonry, and landscaping business and had not changed significantly since the 1998 report. In the back portion of the property, surplus materials were stored in corrals, separating different materials such as gravel, sand, wood chips, etc. The most southeastern portion of the property consisted of a newly paved asphalt parking area for customers. Although historical redevelopment activities at the Site were unclear, it is believed that none of the current buildings are part of the original CRU facility. Materials and heavy machinery were present throughout the property, including the concrete corrals for materials. Many areas were not accessible for screening due to obstructions (*e.g.*, wood piles, heavy machinery, roll-offs). The property owner did not allow SAT to perform gamma screenings inside the main building; however, the owner allowed SAT to perform screenings in outdoor sheds and other storage warehouse-type buildings.

Site conditions during SAT's radiological reconnaissance of the 103 Kisco Avenue property, Hickory Homes and Properties, Inc., were typical for a landscaping supply and material storage facility. The property was semi-paved (during the 1998 report, the property was not paved), and completely fenced with an access gate. The access gate was closed and locked when employees were not on site. There was one small work trailer located at the northernmost portion of the property which included an employee break room, office, and reception area. Trucks, forklifts, and other heavy machinery were parked on the property. Various on-site roll-offs were filled with debris and materials. Cement corrals for materials were also located on-site. A manhole was located at the northeast corner of the Site, although no elevated gamma screenings were detected. Many areas were not accessible for screening due to obstructions (*e.g.*, wood piles, heavy machinery, roll-offs). No elevated gamma radiation was observed on the 103 Kisco Avenue property. Gamma screenings of Railroad Avenue and the ROW area bordering Railroad Avenue showed gamma screening readings ranging from background (~7,500 cpm) to 15,000 cpm, with one elevated area located at the corner of the 105 Kisco Avenue property, which had readings ranging from 15,000 cpm to 30,000 cpm.

In November 2013, SAT conducted a soil screening and sampling event. Eight boreholes were advanced to depth of 10 feet at the Site. During the event a gamma scintillation meter (Ludlum-2221 Scaler Ratemeter) was utilized for field gamma screening. Field screening data was collected to document the gamma exposure rates at 6-inch depth intervals vertically down each sample location borehole. The soil samples collected represent the highest levels of gamma radiation recorded for each borehole. All the soil samples were analyzed for radionuclides and target analyte list (TAL) metals.

Based upon SAT's June 2014 report of the November 2013 event, all analytical results for the thorium-232 (Th-232) decay series (Th-232, Th-228, and Ra-228) ranged from 0.6 to 1.2 pCi/g, and were therefore considered to be at background levels. In addition, all of the individual radioisotopes in this decay series were observed to be in equilibrium in each sample. Analytical results reported for the uranium-238 (U-238) decay series (U-238, U-234, Th-230, and Ra-226) did not appear to be in equilibrium. Concentrations of the parent isotopes U-238 and U-234 were at background levels ranging from 0.4 pCi/g to 0.8 pCi/g. The Th-230 concentrations in three of the samples [S01(24-36), S07(12-24), and S08(24-36)] were at background concentrations. The Th-230 concentrations in samples S02(0-12), S03(0-12), S04(36-48), S06(0-12), and S09(36-48) exhibited significantly elevated levels ranging from 4.6 to 83.3 pCi/g. It was also reported that the Th-230 analytical results for sample S05(0-12) may or may not be elevated, as the measured result was 1.8 +/- 0.3 pCi/g. Based upon the above, SAT concluded that the contaminants represent residual contamination from processed material and not uranium ore.

In addition, SAT reported that Ra-226 analytical results in samples S01(24-36), S02(0-12), S03(0-12), S04(36-48), S05(0-12), S06(0-12), and S09(36-48) were all significantly elevated, ranging from 15.4 pCi/g to 135 pCi/g. Sample location S07(12-24) was, as expected, at a background level of 0.9 pCi/g. Sample S08(24-36), which was collected at an assumed background location near the northeast corner of the 105 Kisco Avenue property, showed a Ra-226 concentration of 3.4 pCi/g, which is slightly elevated above the background level. In all instances, when an elevated concentration of Th-230 was detected in a sample, the Ra-226 was also elevated.

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Lead and thallium isotopes are a result of the decay chain of U-238 and Th-232. SAT reported that sample location S04(36-48)/S09(36-48) [duplicate] exhibited greater than 3x times the highest background level of lead with concentrations at 1,000 milligrams per kilogram (mg/kg) and 440 mg/kg, respectively; and that it is unknown if this exceedance is linked to the residual radioactive contamination on the CRU site. There were no detections of thallium at the Site. Mercury concentrations greater than 3x the highest background level were also documented at locations S01, S03, and S04. It is unknown if this elevated concentration of mercury can be linked to the former CRU site operations; however, all the analytical data from this event suggested that there is measureable residual contamination remaining at the CRU site.

In August 2015, Weston Solutions, Inc., Removal Support Team 3 (RST 3) was tasked by EPA to provide support for a Removal Assessment of the Site and on-site properties, including Metropolitan Transit Authority (MTA), Milepost 136, 103 Kisco Avenue (Property C001), Hickory Homes and Properties, Inc., 103 Kisco Avenue (Property C002), New York Stone and Building Supply, 105 Kisco Avenue (Property C003), and a background location (comprising a strip mall), 145-159 Kisco Avenue (Property C004). As part of the Removal Assessment, EPA and RST 3 conducted radiological surveys within living spaces of on-site buildings, exterior areas throughout the Site, and specifically, soil sample locations selected by the EPA On-Scene Coordinator (OSC). Gamma survey was conducted using a Ludlum Model 2241 (Ludlum-2241), Fluke Pressurized Ionization Chamber (FPIC) Model 451P, and Reuter-Stokes RSS-131ER High Pressure Ion Chamber (HPIC) gamma survey meter. Specific radioisotopes were identified using a Berkeley Nucleonics Corporation (BNC) SAM 940™ (SAM 940) portable radioisotope identification system. Radon/thoron survey was conducted using RAD7 radon/thoron detectors.

Based upon the results of the radiological survey conducted with Ludlum-2241, above-background gamma readings ranging from 12,000 – 15,000 cpm were identified at the southeast corner of one on-site warehouse (Warehouse-2) located further northeast in Property C003. More than 2x background gamma values were identified at soil sample locations throughout the Site with concentrations ranging from 20,000 – 180,000 cpm). It is suspected that the elevated gamma readings (20,000 – 22,000 cpm) observed at one location next to the shared perimeter fence on Property C001 side of the fence, may have be due to leaching from bagged contaminated soil staged on Property C002 side of the fence which had a gamma reading of 80,000 – 120,000 cpm. According to the tenant of Property C002 at the time of this event, the bagged soils were removed from a previous 3-feet deep excavation across Railroad Avenue (where the CRU main building once stood) created to allow for the installation of an electrical line to provide power supply to Property C002. The highest gamma readings (140,000 – 180,000 cpm) were observed at a soil sample location at the northwest corner of Warehouse-2. Survey was not conducted with the FPIC inside any buildings at Properties C001 and C002 and at any exterior locations throughout the Site. However, at Property C003, FPIC gamma survey conducted in the main building and two warehouses (Warehouses 1 & 2) located on the northeast portion indicated above-background gamma values in the Electrical Room of the main building and at the southeast corner of Warehouse-2 which is located further northeast from Warehouse-1. Survey conducted with the HPIC in the Electrical Room of the main building at Property C003 and at all the soil sample locations throughout the Site indicated above-background gamma values in the Electrical Room, the location of the bagged contaminated soil on Property C002, the location on the opposite side of the fence at Property C001 next to the bagged contaminated soil, one location along the ROW area northwest of Property C002, and all three soil sample locations on Property C003. Survey

conducted with the SAM-940 identified Ra-226 and potassium-40 (K-40) at the location on the opposite side of the fence on Property C001 next to the bagged contaminated soil. Ra-226 was also identified in jarred soil samples collected from Property C002 and Property C003. Radon/thoron survey indicated normal levels inside the office and storage trailer at Property C002. Radon and/or thoron concentrations were above background values in nine of the 13 locations surveyed in the main building of Property C003.

During the August 2015 Removal Assessment event, RST 3 utilized the services of a National Radon Proficiency Program (NRPP)-certified company to conduct radon sampling within living spaces of on-site properties. Radon sampling was conducted in Building B36 at Property C001, in the office and storage trailers at Property C002, and in the main building, Warehouse-1 and Warehouse-2 at Property C003. On August 3, 2015, a total of 33 activated charcoal canisters (radon canisters), including two field duplicates and two field blanks, were deployed in on-site buildings at Property C003. On August 4, 2015, five radon canisters were deployed in Property C001 and six radon canisters were deployed in Property C002. Analytical results were compared with the EPA Site-Specific Action Level (SSAL) of 4 pCi/L. Analytical results indicated normal radon levels in all the living spaces sampled at Properties C001, C002, and Warehouse-1 in Property C003. Analytical results were above the EPA SSAL in 11 of the 13 samples, including one field duplicate, collected from the main building at Property C003 with concentrations as high as 19.5 pCi/L in sample C003-AA024-01 collected from a location in the southwest area of a lobby located on the second floor. Analytical results were above EPA SSAL in two of the four samples collected in Warehouse-2 at Property C003 with concentrations as high as 4.6 pCi/L in C003-AA001-01 and 5.2 pCi/L in C003-AA007-01. Both samples were collected at locations in proximity of each other at the southeast corner of the warehouse where prior radiological survey also indicated elevated gamma readings. Following the installation of a radon mitigation system in the main building of Property C003, on October 23, 2015, a post-remedial radon sampling event was conducted by a NRPP-certified company under RST 3 and EPA oversight. A total of 27 radon canisters, including two field duplicates and two field blanks were deployed in the main building. Analytical results indicated normal levels of radon in the main building of Property C003.

On August 5, 2015, utilizing Geoprobe® technology, RST 3 collected four soil samples from Property C002, four soil samples, including one field duplicate from Property C003, and one aqueous rinsate blank. On August 7, 2015, utilizing a post digger and shovel, RST 3 collected one soil sample from a background location at Property C004. On August 18, 2015, following a limited access agreement between MTA and EPA, MTA's subcontractor provided soil sampling support to RST 3. A total of four soil samples, including one field duplicate, and one aqueous rinsate blank were collected from Property C001. All the soil sample locations were selected by the EPA OSC based on information from prior SAT site investigation and from radiological survey measurements collected during the event. Locations exhibiting elevated radioactivity measurements were selected for soil sampling. All the soil samples were analyzed for TAL metals and total mercury in accordance with EPA SW846 Methods 6010C and 7471B, respectively; isotopic thorium and isotopic uranium, in accordance with U.S. Department of Energy (DOE) alpha spectroscopy Health and Safety Laboratory (HASL)-300 Method A-01-R; Ra-226 (21-day ingrowth), Ra-228, and other gamma emitting radioisotopes, in accordance with DOE gamma spectroscopy HASL-300 Method GA-01-R. Aqueous rinsate blanks, collected to demonstrate adequate decontamination of non-dedicated sampling equipment (*i.e.* Geoprobe® cutting shoe), were analyzed for TAL metals, total mercury, isotopic thorium and isotopic uranium, and other

gamma emitting radioisotopes by the same methods as the soil samples. In addition, aqueous rinsate blanks were analyzed for Ra-226 in accordance with EPA SW-846 Method 9315 and Ra-228 by Gas Flow Proportional Counter (GFPC), in accordance with EPA SW-846 Method 9320. The soil analytical results for radioisotopes were compared with the respective EPA SSALs. The analytical results for TAL metals and mercury were compared with the EPA Removal Management Levels (RMLs).

Based upon validated analytical results, Ra-226 was detected above the EPA SSAL of 2.52 pCi/g in one of the four soil samples, C001-SS001-0012-01 (3.43 J (estimated result) pCi/g) and its field duplicate, C001-SS001-0012-02 (3.64 J pCi/g), both collected from Property C001. Ra-226 was detected above the EPA SSAL in two of the four soil samples, C002-SS003-2448-01 (9.84 J pCi/g) and C002-TRENCH-0036-01 (10.4 J pCi/g), collected from Property C002. Ra-226 was detected above the EPA SSAL in all four soil samples, C003-SS001-2448-01 (10.3 J pCi/g), C003-SS001-2448-02 (11.3 J pCi/g), C003-SS002-0024-01 (129 J pCi/g), and C003-SS003-2448-01 (15.1 J pCi/g), collected from Property C003. No radioisotope was detected above the EPA SSAL in soil samples collected from the background location at Property C004. Although no SSAL was provided by EPA for the aqueous samples, based on the analytical results, radioisotope concentrations were generally not detected. At the request of EPA, the analytical results of nine soil samples collected by SAT during the November 2013 site investigation were compared against the EPA SSAL. It is noteworthy that the laboratory analyses of SAT's soil samples, specifically for Ra-226, was not performed by 21-days ingrowth method; however, with the exception of the background soil sample collected from S07, Ra-226 was detected at concentrations above the EPA SSAL in the remaining eight soils samples collected during the sampling event. Soil sample S08(24-36), which was collected by SAT at an assumed background location near the northeast corner of Property C003 indicated concentration of Ra-226 at 3.44 pCi/g which exceeds the EPA SSAL. Based on analytical results, the concentration of TAL metals were below the respective EPA RMLs except for lead which exceeded the EPA RML of 400 mg/kg in C002-SS003-2448-01 (510 mg/kg).

On August 18, 2015, EPA collected three wipe samples, including one field blank, from Property C001, one wipe sample from Property C002, and four wipe samples from Property C003. The wipe samples were collected from locations biased towards floor cracks and entryways. All the wipe samples were analyzed by EPA's Radiation Health Physicist (RHP) for the presence of radioactivity using a Ludlum-3030. Based on the analytical results of the wipe samples for the selected counting durations, the minimum detectable activity (MDA) for 100 square centimeters (cm^2) was determined as 0.80 dpm and 29.50 dpm, respectively for alpha and beta particle counts. These levels were below 100 dpm and 1,000 dpm, respectively for alpha and beta counts as outlined in New York City Department of Health and Mental Hygiene (NYC DOHMH) Article 175 of the NYC Health Code, "Radiation Control", §175.03 - Release of Materials or Facilities, which was adopted by EPA as the SSAL for alpha and beta counts. Alpha and beta counts for all the wipe samples were at the natural background level conservatively estimated by counting a blank wipe.

3.0 Removal Assessment Objectives

As part of the Phase II Removal Assessment of the Site, RST 3 was tasked with providing support to EPA for additional ground radiological survey and providing a drilling subcontractor to advance 20 soil borings at locations throughout the Site for soil sample collection. In addition, RST 3 was

tasked with utilizing Global Positioning System (GPS) technology to record soil sample locations, utilizing VIPER technology to document mobile radiological survey data, performing photographic documentation, and maintaining a site logbook to document all site activities throughout the Removal Assessment. The radiological survey and soil sampling event was conducted in order to identify additional source areas and to further delineate on-site radioactive contamination. The results obtained from this event would assist EPA in determining the extent of the radiological contamination and to ascertain if a Removal Action would be necessary in the future.

4.0 On-Site Personnel

Name	Affiliation	Duties On-Site
Daniel Gaughan	U.S. EPA, Region II	On-Scene Coordinator
Lyndsey Nguyen	U.S. EPA, Region II	Radiation Health Physicist
Bernard Nwosu	RST 3, Region II	Team Lead, Site Health & Safety, Written and Photographic Documentation
Joel Siegel	RST 3, Region II	Field Support
Lionel Montanez	RST 3, Region II	Field Support
John Rush	TPI Environmental, Inc.	Geoprobe® Operator
Nicholas Lippincott	TPI Environmental, Inc.	GPR Operator

5.0 Radiological Survey and Screening Methodology

On April 4 through 6, 2016, EPA and RST 3 with remote support from EPA's Emergency Response Team (ERT), conducted radiological survey throughout the Site, including on-site Property C002, Property C003, and a new offsite background location, Mt. Kisco Truck and Auto Parts, 123-135 Kisco Avenue (Property C005). It is noteworthy that during this event, RST 3 inadvertently reported the sample numbers for this property with a leading C004 instead of C005.

Mobile gamma survey was conducted using a Ludlum-2241 with a sodium iodide (NaI) 3x3 scintillator. Static gamma screening for soil sample locations was conducted using a HPIC. Static gamma screening for soil borings and soil samples was conducted using a Ludlum-2241 with a NaI 2x2 scintillator.

Refer to Attachment A, Figure 2: Site Overview Map and Attachment C: Photographic Documentation of Site Activities.

5.1 Radiological Survey

The radiological survey instrument setup comprised of a Ludlum-2241 [Serial Number (No.): 198269] Scaler Ratemeter with a NaI 3x3 scintillator [Model: 44-20 (Serial No.: PR330005)] attached. A baby buggy stroller was utilized to provide mobility for the survey instrumentation setup. A Life-line Interoperable Network Communicator (LINC) was attached and connected to the Ludlum-2241 which was placed on a wooden platform fitted to the sitting area of the buggy. The Ludlum-2241 was connected via data cable to the NaI 3x3 scintillator which was placed in a sagging position approximately 6 inches above the ground surface in the bottom storage

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compartment of the buggy. A Trimble® GPS unit, laptop computer, and Gateway (internet source) were placed on a wooden platform constructed above the buggy's hood. The LINC, GPS unit, and laptop computer were connected to the internet via the Gateway. Gamma readings in μR/hr generated by the Ludlum-2241 setup was transmitted through the LINC via the Gateway to the VIPER system (a wireless network-based communication system). VIPER provided instantaneous gamma readings through a computer server [Viper Deployment Manager (VDM)]. The GPS unit provided geographical reference of the gamma readings by transmitting the locational data of the Ludlum-2241 setup through the Gateway and VIPER to VDM. The instantaneous gamma readings along with the geographical locations were viewed online on the VDM webpage via the laptop computer screen. Based on the background gamma reading (9 μR/hr) obtained with the Ludlum-2241 setup, alarms were set up by ERT on VIPER and programed to send electronic mail (email) alerts to the mobile phones of the OSC, RHP, and RST 3 Site Project Manager (SPM) when gamma readings exceeded background levels. With this mobile setup, RST 3 conducted radiological survey throughout the Site, walking along predetermined paths with the buggy as directed by the RHP and OSC.

5.2 Radiological Screening

A HPIC [Model S131-110-ER2500 (Serial No.: 11J01SDW)] was utilized to collect more precise gamma measurements at locations where elevated gamma readings were identified when using the Ludlum-2241. Prior to utilizing the HPIC for radiological screening, the instrument was turned on and allowed to warmup for approximately 60 minutes at the offsite background location. The instrument was then connected to a computer which was used to run the RSS-131 utility program in order to configure the desired settings for the field screening. At least three of the known radioactive source options provided with the equipment, including cesium-137 (Cs-137), cobalt-60 (Co-60), europium-152 (Eu-152), Th-232, and americium-241 (Am-241), with known gamma values, were utilized to calibrate the instrument daily. When the known radioactive source was placed next to the HPIC, the gamma reading displayed on the computer monitor was noted and compared with the known gamma value of that radioactive source. The instrument was turned off after calibration. When a location was selected for screening, the HPIC was turned on with the computer still connected. Instantaneous gamma readings were recorded every 60 seconds for the duration of each screening. The HPIC is normally uncollimated (*i.e.*, it measures cosmic, terrestrial, and foreign source contributions without discrimination); however, it is highly sensitive, precise, and accurate to vast changes in exposure rate, but it lacks the ability to distinguish either energy spectral characteristics or source type. For these reasons, the first two readings recorded by the HPIC at the beginning of each screening were not utilized in calculating the average gamma reading at that location. At least five data points were collected for each screening duration. When the data was downloaded unto a computer, the gamma reading in μR/hr was determined by calculating the average of the five data points collected at each specific location. The HPIC was utilized by RST 3 to collect and document gamma readings at all the soil sample locations selected by EPA for screening. The average gamma reading collected at each soil sample location was compared with the background gamma value measured by the instrument.

A Ludlum-2241 (Serial No.: 149408) Scaler Ratemeter and NaI 2x2 scintillator [Model: 44-10 (Serial No.: PR199131)] equipped with a 15 feet data cable was utilized by EPA with support from RST 3 to conduct gamma screening vertically down each sample location borehole. After soil sample locations were selected, a Geoprobe® was utilized to advance boreholes to desired depths.

A polyvinyl chloride (PVC) pipe was inserted into the borehole to prevent it from collapsing and to prevent residual potentially radioactive material from contaminating the scintillator. The NaI 2x2 scintillator was lowered into each borehole via a PVC pipe, and static gamma measurements in cpm were documented by RST 3 every 6-inch interval up to the total depth of the boring. The PVC pipe was extracted from the borehole after screening.

A Ludlum-2241 (Serial No.: 207757) Scaler Ratemeter and NaI 2x2 scintillator [Model: 44-10 (Serial No.: PR277919)] equipped with a standard (3 feet) data cable was utilized by RST 3 to conduct gamma screening of soil samples. After soil samples were collected and placed in laboratory glassware, static gamma measurements in cpm were collected by placing the scintillator next to each jarred soil sample. Gamma measurements were documented by RST 3 for all the soil samples collected during this event.

6.0 Soil Sampling Methodology

Soil sampling was conducted in accordance with EPA ERT/Scientific, Engineering, Response & Analytical Services (SERAS) contractor's Standard Operating Procedure (SOP) 2012: *Soil Sampling*. Soil sampling locations were selected by the EPA OSC based on information from prior site investigation and Removal Assessment, and from radiological data collected during this Phase II Removal Assessment of the Site, including Ludlum-2241 and HPIC gamma measurements.

Prior to mobilizing to the Site, at the request of RST 3, Dig Safely New York conducted a subsurface utilities mark-out to clear the locations within the ROW areas. RST 3 subcontractor, Environmental Field Services (EFS), located in Marlton, New Jersey utilized a ground-penetrating radar (GPR) to conduct subsurface utilities mark-out around all the proposed soil sampling locations within the Site, including the offsite background location. EFS utilized a Geoprobe® in accordance with SERAS SOP 2050: *Geoprobe Operation*, to facilitate soil sample collection by extracting soil cores from borings advanced to depths 4 feet below ground surface (bgs) at 15 locations and up to 8 feet bgs at five locations. MacroCore® sampling tubes lined with new, clean acetate sleeves were utilized for each soil boring. Upon completion of each sample location borehole, gamma screening data was obtained with a Ludlum-2241 and NaI 2x2 scintillator at 6 inch intervals vertically down to the bottom of the hole. After borehole screening and soil sample collection was completed, the borehole was backfilled in reverse order with the leftover soil, topped off with bagged garden soil, tamped down, and sealed with bentonite.

Decontamination of non-dedicated sampling equipment (*i.e.* Geoprobe® cutting shoe) was conducted in accordance with SERAS SOP 2006: *Sampling Equipment Decontamination* and was performed before and after the sampling event and between soil sample locations, and it consisted of an industrial soap (Alconox®) solution scrub, tap water rinse, steam-clean with deionized water, air dry, and screening with Ludlum-2241 for residual radiological contamination. In order to confine potential surface runoff to areas of contamination, the decontamination fluid was discarded on-site at the location indicating the highest levels of contamination based on radiological screening data.

At each sample location, EFS utilized new acetate sleeves to extract the soil cores. The physical characteristics and description of the soils in each core were documented in boring logs prior to sample collection. Soil samples were collected every 12 inch interval of each sample sleeve. All

the soil samples were collected by RST 3 using dedicated disposable plastic scoops, placed directly into re-sealable plastic bags, homogenized in the plastic bags, and then placed into glass sample jars. RST 3 utilized the Ludlum-2241 with a NaI 2x2 scintillator to collect and document the highest instantaneous gamma exposure rate measurement in cpm for each jarred soil sample. Fresh nitrile gloves were donned between sampling intervals and locations. Rinsate blanks were collected daily to demonstrate adequate decontamination of non-dedicated sampling equipment. The soil and aqueous samples were collected for definitive data and quality assurance/quality control (QA/QC) objectives. Field duplicates and matrix spike/matrix spike duplicate (MS/MSD) samples were collected at the rate of 1 per 20 field samples. All sample information was transcribed into EPA's SCRIBE database, an environmental data management system, from which the sample labels and chain of custody (COC) records were generated. All samples were stored on ice in a cooler.

Refer to Attachment B: Table 2: Soil Sample Location (HPIC) Screening Results and Soil Boring Logs Summary Table

At the discretion of the OSC, the soil and aqueous samples were spilt between two laboratories for analysis. Some of the soil samples and all of the aqueous samples were submitted to an RST 3-procured laboratory, Pace Analytical Services (PACE) located in Greensburg Pennsylvania for analyses. The remaining soil samples were submitted to EPA's National Analytical Radiation Environmental Laboratory (NAREL) located in Montgomery Alabama for analysis.

7.0 Laboratory Receiving Samples

The following laboratories were utilized during the April 2016 sampling event:

Sample Matrix	Analysis	Laboratory
Soil	Isotopic thorium, isotopic uranium, and other alpha emitting actinides via alpha spectroscopy HASL-300 Method U-02. Radium-226, radium-226 (in-growth), radium-228, and other gamma emitting radioisotopes via gamma spectroscopy EPA Method 901.1 modified	Pace Analytical Services 1638 Roseytown Road, Suite 2,3,4 Greensburg PA 15601
Aqueous	Isotopic thorium and isotopic uranium via HASL-300 Method U-02. Radium-226 via EPA Method 903.1 and radium-228 via EPA Method 904.0	
Soil	Isotopic thorium and isotopic uranium via sodium hydroxide fusion. Radium-226 (21-day ingrowth), radium-228, and other gamma emitting radioisotopes via gamma spectroscopy	National Analytical Radiation Environmental Laboratory (NAREL) 540 South Morris Avenue, Montgomery, AL 36115

8.0 Sample Collection and Dispatch

On April 5 through 6, 2016, RST 3 collected a total of 71 soil samples, including three field duplicates and three MS/MSD samples from 16 soil boring location at Property C003. On April 6, 2016, RST 3 collected 25 soil samples, including one field duplicate and one MS/MSD sample from three soil boring location at Property C002. On April 6, 2016, RST 3 collected seven soil samples, including one field duplicate and one MS/MSD sample from a background soil boring location at Property C005. One aqueous rinsate blank sample was collected each day of the sampling event.

ED_006395_00001616-00012

Refer to Attachment A, Figure 4: Soil Boring Location Map and Attachment B, Table 1: Sample Collection Summary Table.

On April 7, 2016, RST 3 shipped a total of 52 soil samples and two aqueous rinsate blank samples under COC record number (No.): 2-040716-155816-0006 via Fedex Airbill No.: 8037-9662-5485 to PACE for laboratory analyses. All the soil samples were analyzed for isotopic thorium, isotopic uranium, and other alpha emitting actinides via alpha spectroscopy HASL-300 Method U-02; radium-226 (21-day ingrowth), radium-228, and other gamma emitting radioisotopes via gamma spectroscopy EPA Method 901.1 modified. The aqueous rinsate samples were analyzed for isotopic thorium and isotopic uranium via HASL-300 Method U-02; radium-226 via EPA Method 903.1 and radium-228 via EPA Method 904.0.

On April 18, 2016, RST 3 shipped a total of 51 soil samples under COC record No: 2-041816-105138-0008 via Fedex Airbill No.: 8022-3572-1333 to NAREL for laboratory analyses. The soil samples were analyzed for isotopic thorium and isotopic uranium via sodium hydroxide fusion, an in-house Method, and radium-226 (21-day ingrowth), radium-228, and other gamma emitting radioisotopes via gamma spectroscopy.

Refer to Attachment B, Table 1: Sample Collection Summary Table and Attachment C: Chain of Custody Record and FedEx Airbill.

9.0 Radiological Survey and Screening Results

For reference purposes, Chart 1 (Background Gamma Reading) below provides the background gamma readings collected with each field instrument at the selected offsite background location. Results of the mobile radiological survey and static screening were compared with the background readings obtained with the survey or screening instrument.

Chart 1: Background Gamma Reading

Field Instrument	Radiological Parameter	Background Values
Ludlum-2241 with 3x3 scintillator	Gamma (Survey)	9 μR/hr
High Pressure Ion Chamber (HPIC)	Gamma (Screening)	9.12 μR/hr
Ludlum-2241 with 2x2 scintillator	Gamma (Screening)	7,500 - 9,500 cpm

9.1 Radiological Survey Results

A mobile radiological survey was conducted in order to identify additional source areas on-site and to provide additional information to assist EPA in determining the horizontally extent of the contamination. Radiological survey within Property C002 was minimally hindered by parked vehicles and supplies in outside storage areas, however, at Property C003, the presence of large quantities of merchandize in outside storage areas throughout the property grounds was a great hindrance for the survey equipment setup. Specifically, the northeast area of Property C003, near the "former old depot", which was not surveyed during prior site investigations due to presence of obstacles, could not be surveyed during this event due to obstruction from piles of stored merchandize.

Based upon the radiological survey results, most areas throughout the Site were generally within the background value of 9 μR/hr. However, several on-site locations were identified with gamma

readings exceeding 2x background, 3x background, and more than 3x background. At Property C002, one location along the northeast fence line near the staging location of five bags of contaminated soils which were identified during the Phase I Removal Assessment conducted in August 2015 indicated gamma readings that were greater than 3x background (>24 μR/hr). Other areas around Property C002 with elevated gamma readings include a location along the northwest ROW area, the ROW area north of Property C002, and the entire south portion of Railroad Avenue. These areas indicated elevated gamma reading that were 2 to 3 times background (>16 - 24 μR/hr). At Property C003, one area around the northwest corner of Warehouse-2 and an asphalt-paved area immediately south of Warehouse-2, indicated gamma readings exceeding 3x background (>24 μR/hr). Some northwest locations of Property C003, between merchandize stored outside, indicated gamma readings that were more than 2x background. Other "hotspots" (locations with gamma readings exceeding 24 μR/hr) identified at Property C003 include, a location by the south access gate to Property C003 next to the customer parking lot, the southeast corner of the perimeter fence by the "former dumpster location" near a utility pole, a location in the center of the customer parking lot, and a location near the west entrance to the main building.

Refer to Attachment A, Figure 3: Gamma Survey Results Map.

9.2 Soil Sample Location Screening Results

Soil sample location screening results provided surface gamma readings which were part of the decision-making information utilized in the field by EPA to select boring locations for soil sample collection. Screening data was collected each day of the sampling event at the background sample location. Based on soil sample location screening results, all three soil sample locations selected at Property C002 and 12 of the 16 soil sample locations selected at Property C003 were within background gamma values. Elevated gamma readings were observed at the remaining four soil sample locations [C003-SB010 (11.48 μR/hr), C003-SB011 (10.94 μR/hr), C003-SB015 (11.88 μR/hr), and C003-SB016 (9.88 μR/hr)] selected at Property C003.

Refer to Attachment B, Table 2: Soil Sample Location (HPIC) Screening Results and Soil Boring Logs Summary Table.

9.3 Borehole and Soil Sample Screening Results

Subsurface borehole screening was conducted to determine the depth intervals with the highest gamma reading in order to vertically delineate the extent of the radiological contamination. Soil sample screening was conducted in order to determine if a correlation exists between borehole screening measurements and individual soil sample measurements collected at corresponding borehole screening and soil sample depth intervals.

Chart 2 (Borehole/Soil Sample Screening Exceedance Graph) below, shows that generally, at all the selected soil boring locations, subsurface borehole screening results were significantly elevated; however, soil sample screening results were generally within background values. The highest borehole and soil sample screening results were observed at C003-SB010 approximately 36 to 48 inches bgs. The highest borehole screening results at C003-SB010 exceeded the maximum detection limit (999,000 μR/hr) of the Ludlum-2241 unit at depths 42 to 48 inches bgs. At the corresponding depths (42 to 48 inches bgs), the soil sample screening result was 24,300 μR/hr.

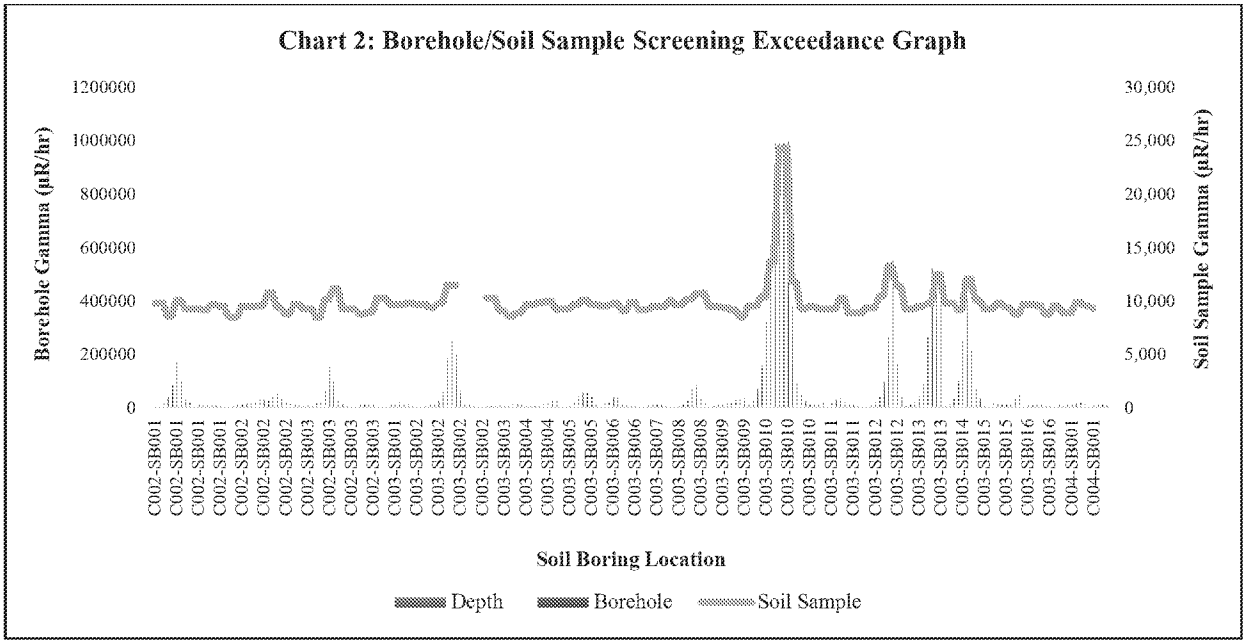
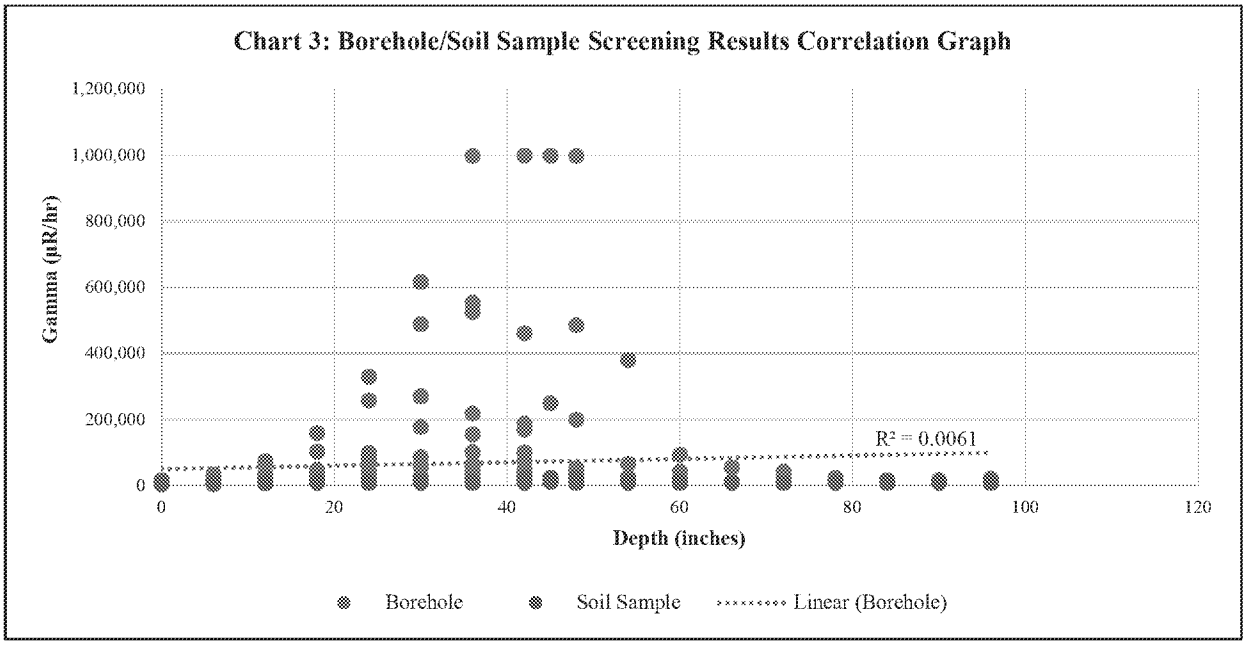


Chart 3 (Borehole/Soil Sample Screening Correlation Graph) below, shows that the gamma values for borehole and soil sample screening results have no correlation as indicated by the correlation coefficient $R^2 = 0.0061$. It is therefore suspected that potential subsurface interference exists from other gamma emitting sources which may have biased the borehole screening results.



Refer to Attachment B, Table 3: Borehole and Soil Sample (Ludlum-2241) Screening Results Summary Table.

10.0 Analytical Results Summary

The validated analytical results of all the soil samples collected during this sampling event were compared with the EPA SSALs for the target radioisotopes. Based upon the validated analytical results, Ra-226 was detected above the EPA SSAL of 2.52 pCi/g in eight of the 25 soil samples collected from three soil sample locations at Property C002. Ra-226 exceedance ranged from 2.57 pCi/g (C002-SB002-2436-01 collected 24 to 36 inches bgs) to 89.391 pCi/g (C002-SB001-2436-01 collected 24 to 36 inches bgs). In all three soil sample locations, the concentration of Ra-226 was below the EPA SSAL in soil samples collected at 0 to 12 inches bgs.

Based upon the validated analytical results, Ra-226 was detected above the EPA SSAL of 2.52 pCi/g in 32 of the 71 soil samples collected from 16 locations at Property C003. Ra-226 exceedance ranged from 2.79 pCi/g (C003-SB013-1224-01 collected 12 to 24 inches bgs) to 926.1 pCi/g (C003-SB010-3648-01 collected 36 to 48 inches bgs). C003-SB010 was the only location at Property C003 sampled to depths 84 to 96 inches bgs. Analytical results indicated exceedance of Ra-226 in C003-SB010-7284-01 (5.16 pCi/g) collected 72 to 84 inches bgs at C003-SB010. Except at C003-SB003 and C003-SB016, concentrations of Ra-226 exceeded the EPA SSAL in at least one 6 inch interval sampled at depths 0 and 48 inches bgs in the remaining 14 soil sample locations. Except at C003-SB007, Ra-226 was not detected above the EPA SSAL in soil samples collected 0 to 12 inches bgs in the remaining 15 soil sample locations. Lead-210 (Pb-210) was detected above the EPA SSAL of 418 pCi/g in one sample C003-SB010-3648-01 (810.09 pCi/g), collected 36 to 48 inches bgs.

Based upon the analytical results, Ra-226 was detected above the EPA SSAL of 2.52 pCi/g in three of the seven soil samples collected from a presumed offsite background location at Property C005. The highest concentration of Ra-226 was detected in C004-SB001-8496-01 (11.04 pCi/g) collected 84 to 96 inches bgs. It is noteworthy that due to poor soil recovery, samples were not collected at intervals 48 to 60 inches bgs. Ra-226 was not detected above the EPA SSAL in C004-SB001-0012-01 collected at depths 0 to 12 inches bgs.

Refer to Attachment A, Figure 5: Soil Analytical Results Map (Radium Only), Attachment B, Table 4: Validated Soil Analytical Results Summary Table - Radioisotopes, and Attachment E: Data Validation Memo - Soil Analytical Results (Radioisotopes).

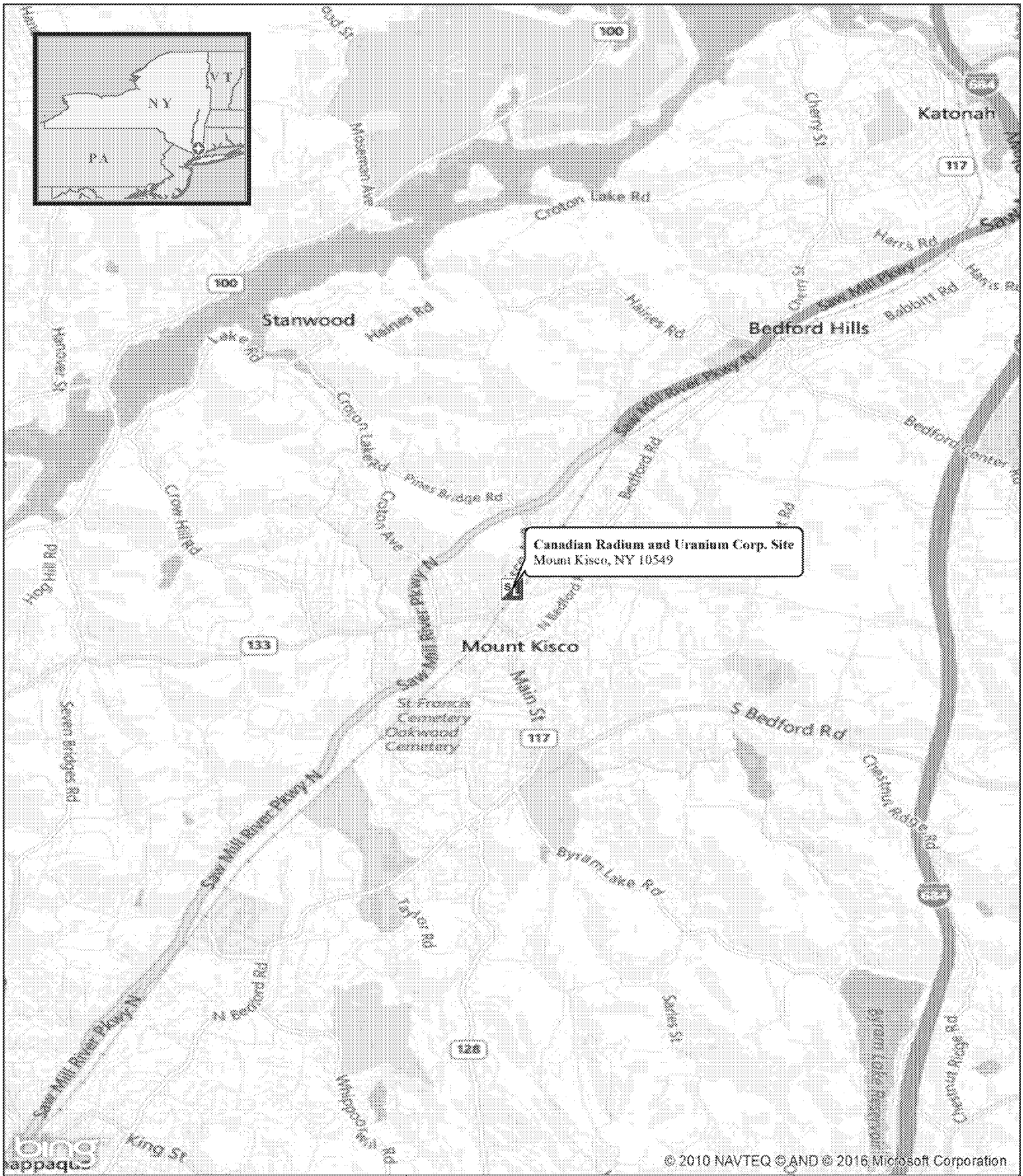
Report prepared by: _____ 11/9/2016
Bernard Nwosu — Date
RST 3 Site Project Manager

Report reviewed by: _____ 11/9/2016
Timothy Benton — Date
RST 3 Operations Leader

ED_006395_00001616-00016

ATTACHMENT A

Figure 1: Site Location Map
Figure 2: Site Overview Map
Figure 3: Gamma Survey Results Map
Figure 4: Soil Boring Locations Map
Figure 5: Soil Analytical Results Map (Radium-226)



Legend

Site Location

N

0 0.3 0.6 1.2 1.8 2.4 Miles

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Avatar Environmental, LLC, On-Site Environmental,
Inc and Sovereign Consulting, Inc

Figure 1:
Site Location Map

Canadian Radium and Uranium Corp. Site
Mount Kisco, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

GIS ANALYST:	T. Benton
EPA OSC:	D. Gaughan
RST SPM:	B. Nwosu
FILENAME:	160921_CRU_SITELOCATIONMAP.MXD

DATE MODIFIED: 9/21/2016

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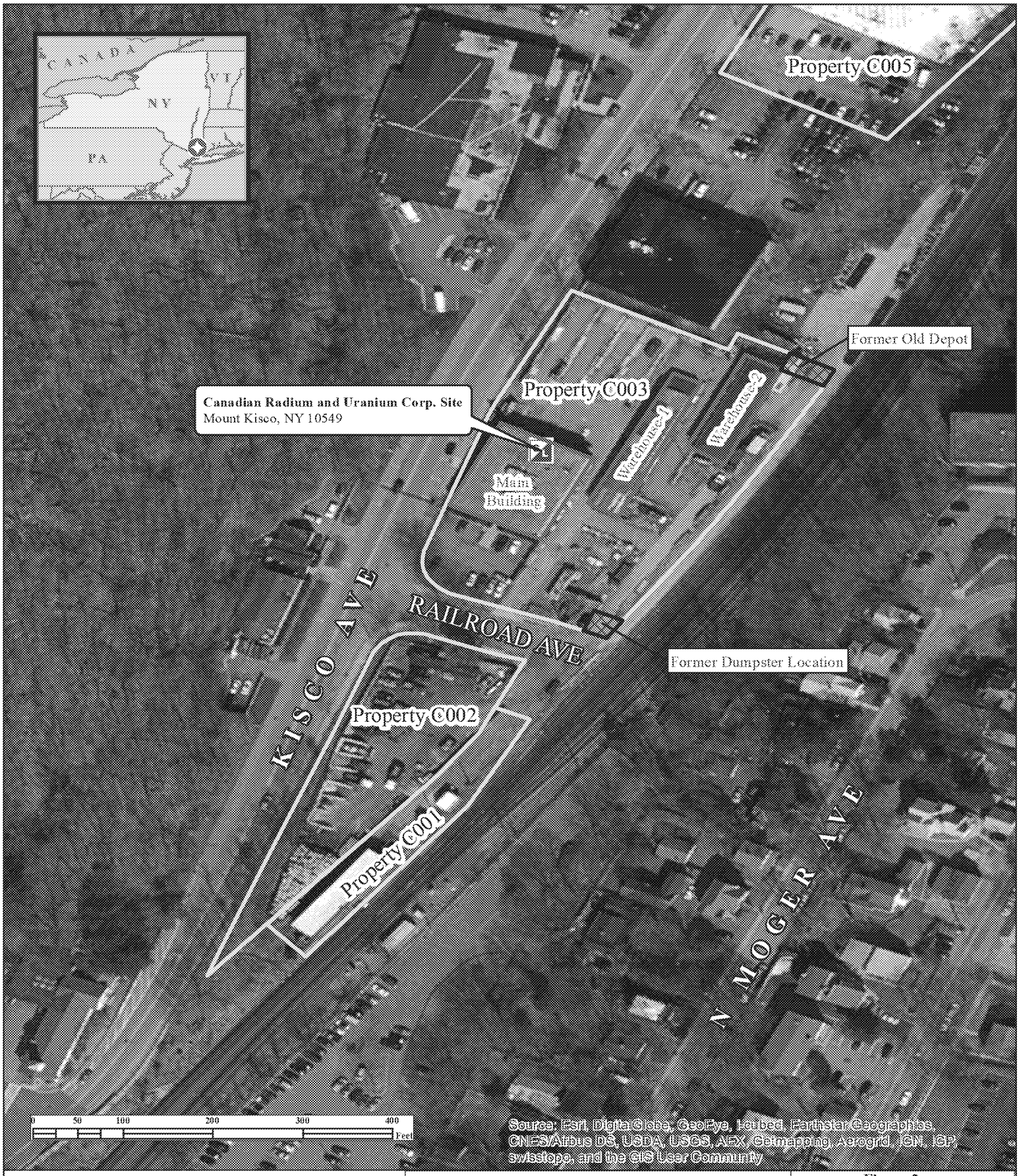

Legend

Site Boundary

Site Location

Site Feature

On-Site Structure

Former Documented Area

N

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Avatar Environmental, LLC, On-Site Environmental,
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Figure 2:
Site Overview Map

Canadian Radium and Uranium Corp. Site
Mount Kisco, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # HP-S2-14-01

DATE MODIFIED: 11/7/2016

GIS ANALYST:	T. BENTON
EPA OSC:	D. GAUGHAN
RST SPM:	B. NWOSU
PROJECT #:	30400.031.007.3023

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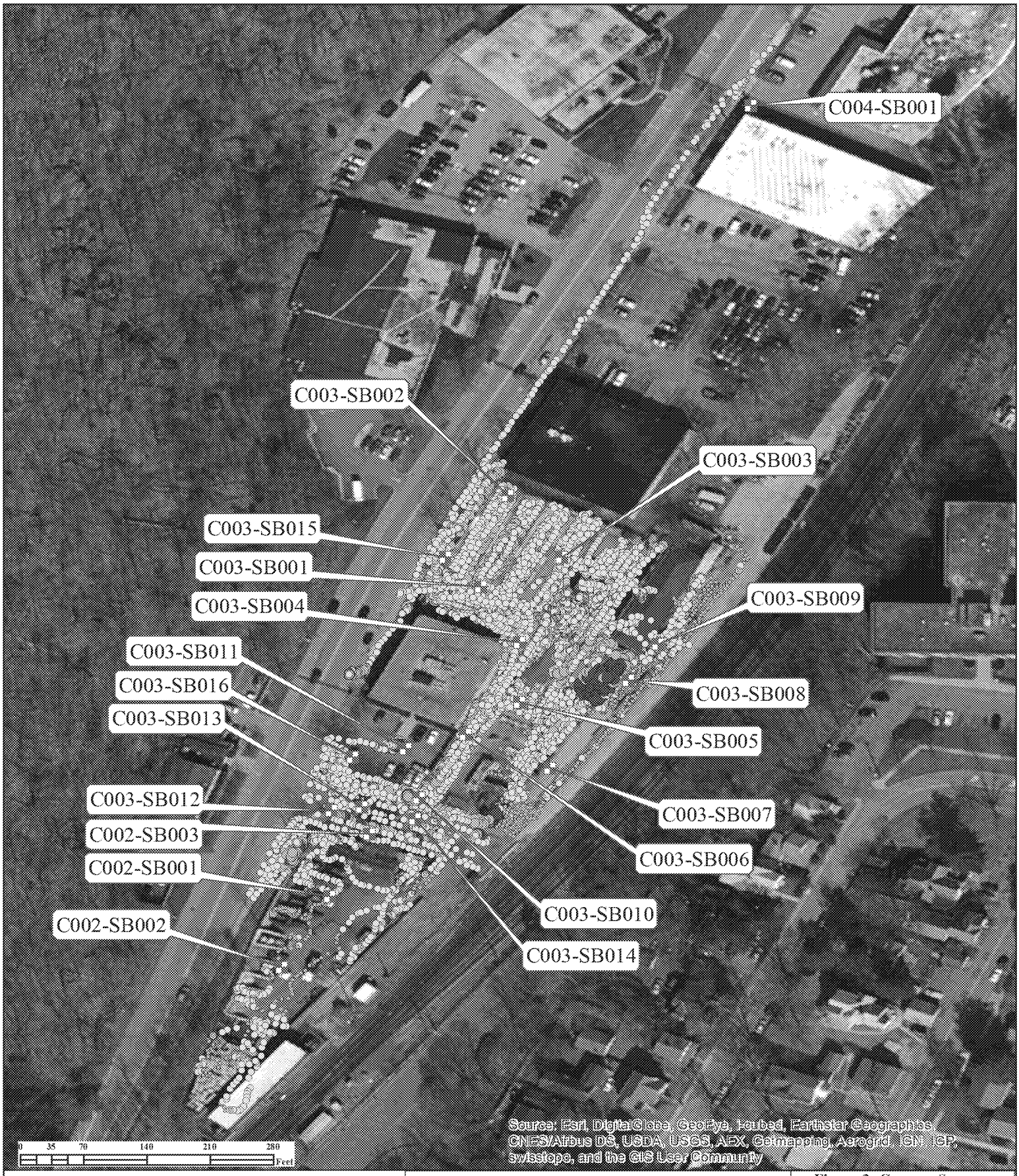

Legend

Gamma Survey

- 0 - 9
- 9 - 16
- 16 - 24
- >24

Soil Boring Location

N

Gamma Survey – Results presented in microroentgens per hour (µR/hr)

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Figure 3: Gamma Survey Results Map

Canadian Radium & Uranium Corp Site
Mount Kisco, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # HP-S2-14-01

DATE MODIFIED: 11/7/2016

GIS ANALYST:	P. Lisichenko
EPA OSC:	D. Gaughan
RST SPM:	E. Nwosu
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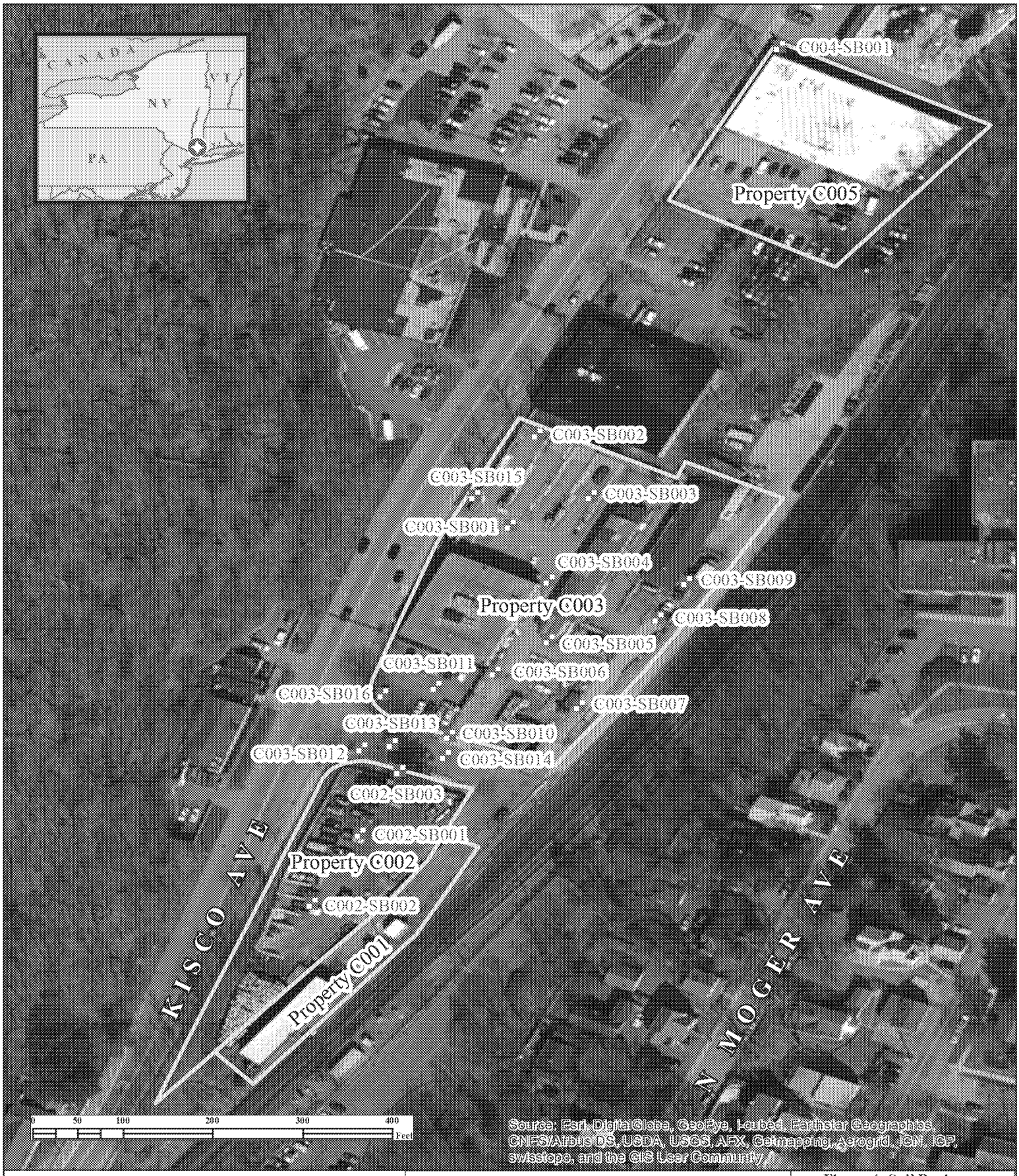

Legend

Soil Boring Location

Site Boundary

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Figure 4: Soil Boring Location Map

Canadian Radium and Uranium Corp. Site
Mount Kisco, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # HP-S2-14-01

DATE MODIFIED: 11/7/2016

GIS ANALYST:	T. BENTON
EPA OSC:	D. GAUGHAN
RST SPM:	B. NWOSU
PROJECT #:	30400.031.007.3023

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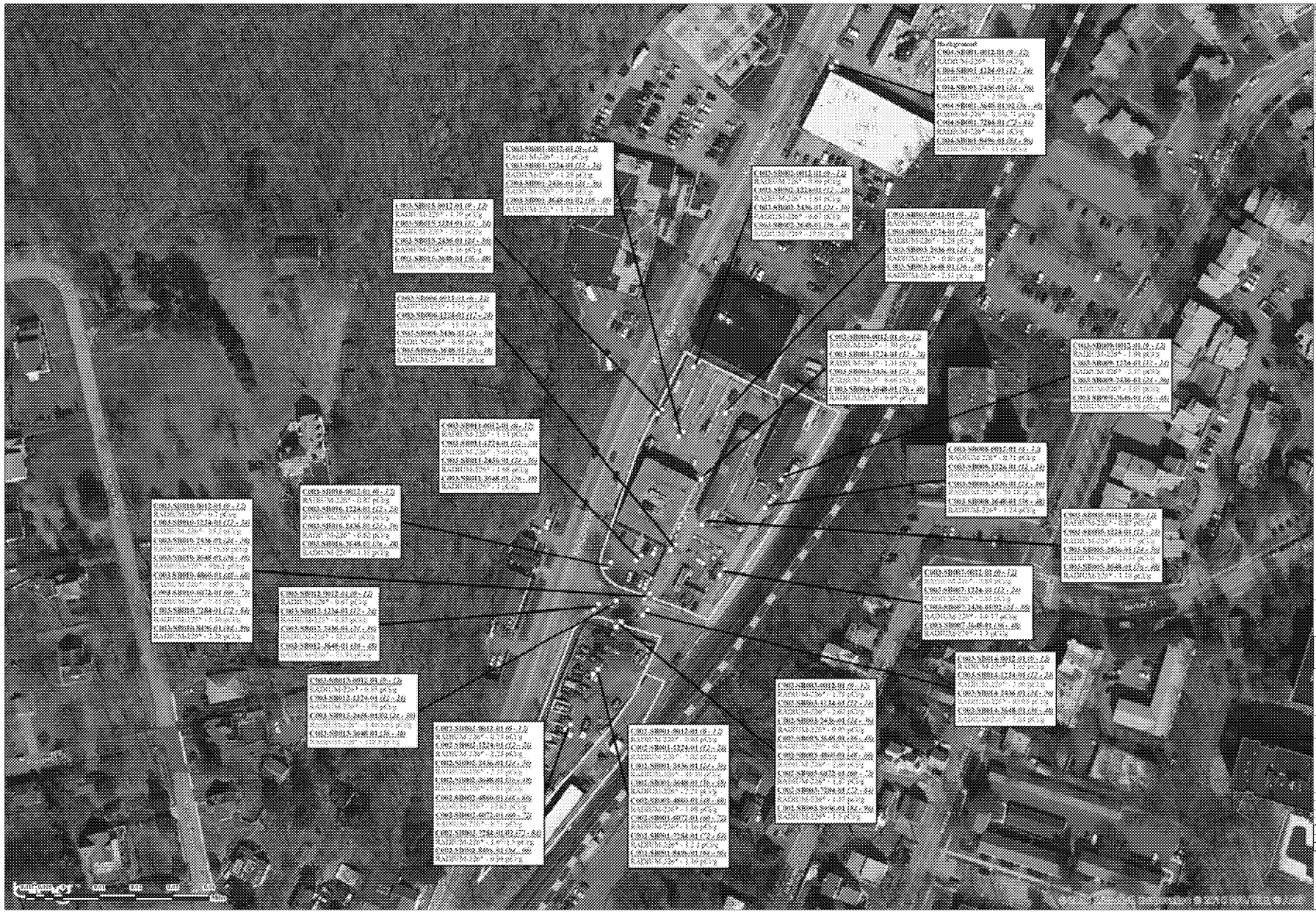

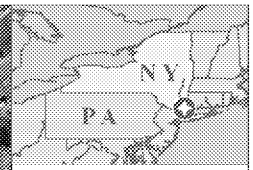

SCALE

1:1,580

LEGEND

April 2016 Soil Sample Location

Site Boundary

Notes:
1.) All results presented in picocuries per gram (pCi/g).
2.) Depth of sample collection is presented in parenthesis next to sample number.
3.) * Represents a Radium-226 value that was analyzed via the 21-day ingrowth method.
4.) Values highlighted red indicate an exceedance of the EPA Site-Specific Action Level for the specific radionuclide.
5.) EPA Site-Specific Action Levels: Ra-226 = 2.52 pCi/g.

Figure 5: Soil Analytical Results Map (Radium-226)

Canadian Radium and Uranium Corp. Site
Mount Kisco, New York

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

Weston Solutions, Inc.

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Environmental Compliance Consultants, Inc.,
Avatar Environmental, LLC, On-Site Environmental, Inc., and Sovereign Consulting, Inc.

GIS ANALYST:	T. BENTON
EPA OSC:	D. GAUGHAN
RST 3 SPM:	B. NWOSU
FILENAME:	150929_SampleLocationMap.mxd
FIGURE	5
REVISION	1
DATE MODIFIED	9/14/2016

WESTON SOLUTIONS

ATTACHMENT B

Table 1: Sample Collection Summary Table
Table 2: Soil Sample Location (HPIC) Screening Results and Soil Boring Logs Summary Table
Table 3: Borehole and Soil Sample (Ludlum-2241) Screening Results Summary Table
Table 4: Validated Soil Analytical Results Summary Table - Radioisotopes

Table 1
Sample Collection Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Sample Date	RST 3 Sample Number	Depth Interval	Sample Type	Sample Matrix	Receiving Laboratory
C002	C002-SB001	4/6/2016	C002-SB001-0012-01	0 - 12	Field Sample	Soil	NAREL
			C002-SB001-1224-01	12 - 24	Field Sample	Soil	PACE
			C002-SB001-2436-01	24 - 36	Field Sample	Soil	
			C002-SB001-3648-01	36 - 48	Field Sample	Soil	
			C002-SB001-4860-01	48 - 60	Field Sample	Soil	NAREL
			C002-SB001-6072-01	60 - 72	Field Sample	Soil	
			C002-SB001-7284-01	72 - 84	Field Sample	Soil	
			C002-SB001-8496-01	84 -96	Field Sample	Soil	
	C002-SB002	4/6/2016	C002-SB002-0012-01	0 - 12	Field Sample	Soil	NAREL
			C002-SB002-1224-01	12 - 24	Field Sample	Soil	
			C002-SB002-2436-01	24 - 36	Field Sample	Soil	
			C002-SB002-3648-01	36 - 48	Field Sample	Soil	
			C002-SB002-4860-01	48 - 60	Field Sample	Soil	PACE
			C002-SB002-6072-01	60 - 72	Field Sample	Soil	
			C002-SB002-7284-01	72 - 84	Field Sample	Soil	NAREL
			C002-SB002-7284-02		Field Duplicate	Soil	
			C002-SB002-8496-01*	84 - 96	Field Sample	Soil	
	C002-SB003	4/6/2016	C002-SB003-0012-01	0 - 12	Field Sample	Soil	NAREL
			C002-SB003-1224-01	12 - 24	Field Sample	Soil	
			C002-SB003-2436-01	24 - 36	Field Sample	Soil	PACE
			C002-SB003-3648-01	36 - 48	Field Sample	Soil	
			C002-SB003-4860-01	48 - 60	Field Sample	Soil	NAREL
			C002-SB003-6072-01	60 - 72	Field Sample	Soil	
			C002-SB003-7284-01	72 - 84	Field Sample	Soil	
			C002-SB003-8496-01	84 -96	Field Sample	Soil	
C003	C003-SB001	4/5/2016	C003-SB001-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB001-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB001-2436-01*	24 - 36	Field Sample	Soil	
			C003-SB001-3648-01	36 - 48	Field Sample	Soil	NAREL
			C003-SB001-3648-02		Field Duplicate	Soil	
	C003-SB002	4/5/2016	C003-SB002-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB002-1224-01	12 - 24	Field Sample	Soil	
			C003-SB002-2436-01	24 - 36	Field Sample	Soil	PACE
			C003-SB002-3648-01	36 - 48	Field Sample	Soil	
	C003-SB003	4/5/2016	C003-SB003-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB003-1224-01	12 - 24	Field Sample	Soil	
			C003-SB003-2436-01	24 - 36	Field Sample	Soil	PACE
			C003-SB003-3648-01	36 - 48	Field Sample	Soil	
	C003-SB004	4/5/2016	C003-SB004-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB004-1224-01	12 - 24	Field Sample	Soil	
			C003-SB004-2436-01	24 - 36	Field Sample	Soil	PACE
			C003-SB004-3648-01	36 - 48	Field Sample	Soil	
	C003-SB005	4/5/2016	C003-SB005-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB005-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB005-2436-01	24 - 36	Field Sample	Soil	
			C003-SB005-3648-01	36 - 48	Field Sample	Soil	
	C003-SB006	4/5/2016	C003-SB006-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB006-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB006-2436-01	24 - 36	Field Sample	Soil	
			C003-SB006-3648-01	36 - 48	Field Sample	Soil	NAREL
	C003-SB007	4/5/2016	C003-SB007-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB007-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB007-2436-01	24 - 36	Field Sample	Soil	
			C003-SB007-2436-02		Field Duplicate	Soil	
			C003-SB007-3648-01	36 - 48	Field Sample	Soil	NAREL

Notes:
RST 3 - Removal Support Team 3.
*Quality control (Q/C) samples analyzed for matrix spike/matrix spike duplicate (MS/MSD).
All soil and aqueous samples were analyzed for isotopic thorium and isotopic uranium by alpha spectroscopy via HASL-300 Method U-02.
All soil samples were analyzed for Radium-226 (21-day ingrowth), Radium 228, and other gama emitting radioisotopes by gamma spectroscopy via EPA Method 901.1.
All aqueous samples were analyzed for Radium-226 via EPA Method 903.1 and Radium-228 via EPA Method 904.0.
PACE - Pace Analytical Services.
NAREL - National Analytical Radiation Environmental Laboratory.

Table 1
Sample Collection Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Sample Date	RST 3 Sample Number	Depth Interval	Sample Type	Sample Matrix	Receiving Laboratory
C003	C003-SB008	4/5/2016	C003-SB008-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB008-1224-01*	12 - 24	Field Sample	Soil	
			C003-SB008-2436-01	24 - 36	Field Sample	Soil	PACE
			C003-SB008-3648-01	36 - 48	Field Sample	Soil	
	C003-SB009	4/5/2016	C003-SB009-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB009-1224-01	12 - 24	Field Sample	Soil	
			C003-SB009-2436-01	24 - 36	Field Sample	Soil	PACE
			C003-SB009-3648-01	36 - 48	Field Sample	Soil	
	C003-SB010	4/5/2016	C003-SB010-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB010-1224-01	12 - 24	Field Sample	Soil	
			C003-SB010-2436-01	24 - 36	Field Sample	Soil	PACE
			C003-SB010-3648-01	36 - 48	Field Sample	Soil	
			C003-SB010-4860-01	48 - 60	Field Sample	Soil	
			C003-SB010-6072-01	60 - 72	Field Sample	Soil	NAREL
			C003-SB010-7284-01	72 - 84	Field Sample	Soil	
			C003-SB010-8496-01	84 -96	Field Sample	Soil	
	C003-SB011	4/6/2016	C003-SB011-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB011-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB011-2436-01	24 - 36	Field Sample	Soil	
			C003-SB011-3648-01	36 - 48	Field Sample	Soil	NAREL
	C003-SB012	4/6/2016	C003-SB012-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB012-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB012-2436-01	24 - 36	Field Sample	Soil	
			C003-SB012-3648-01	36 - 48	Field Sample	Soil	
	C003-SB013	4/6/2016	C003-SB013-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB013-1224-01	12 - 24	Field Sample	Soil	
			C003-SB013-2436-01	24 - 36	Field Sample	Soil	PACE
			C003-SB013-2436-02		Field Duplicate	Soil	
			C003-SB013-3648-01*	36 - 48	Field Sample	Soil	
	C003-SB014	4/6/2016	C003-SB014-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB014-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB014-2436-01	24 - 36	Field Sample	Soil	
			C003-SB014-3648-01	36 - 48	Field Sample	Soil	
	C003-SB015	4/6/2016	C003-SB015-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB015-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB015-2436-01	24 - 36	Field Sample	Soil	NAREL
			C003-SB015-3648-01	36 - 48	Field Sample	Soil	PACE
	C003-SB016	4/6/2016	C003-SB016-0012-01	0 - 12	Field Sample	Soil	NAREL
			C003-SB016-1224-01	12 - 24	Field Sample	Soil	PACE
			C003-SB016-2436-01	24 - 36	Field Sample	Soil	
			C003-SB016-3648-01	36 - 48	Field Sample	Soil	NAREL
[1]C005	[1]C004-SB001	4/6/2016	[1]C004-SB001-0012-01	0 -12	Field Sample	Soil	PACE
			[1]C004-SB001-1224-01	12 - 24	Field Sample	Soil	
			[1]C004-SB001-2436-01	24 - 36	Field Sample	Soil	
			[1]C004-SB001-3648-01	36 - 48	Field Sample	Soil	
			[1]C004-SB001-3648-02		Field Duplicate	Soil	
			[1]C004-SB001-7284-01	72 - 84	Field Sample	Soil	
			[1]C004-SB001-8496-01*	84 - 96	Field Sample	Soil	
NA	NA	4/5/2016	RB-040516	NA	Rinsate Blank	Aqueous	PACE
		4/6/2016	RB-040616				

Notes:
RST 3 - Removal Support Team 3.
*Quality control (Q/C) samples analyzed for matrix spike/matrix spike duplicate (MS/MSD).
[1]Background samples were collected from Property C005; however, RST 3 inadvertently reported the sample numbers for this property with a lead C004 instead of C005.
All soil and aqueous samples were analyzed for isotopic thorium and isotopic uranium by alpha spectroscopy via HASL-300 Method U-02.
All soil samples were analyzed for Radium-226 (21-day ingrowth), Radium 228, and other gama emitting radioisotopes by gamma spectroscopy via EPA Method 901.1.
All aqueous samples were analyzed for Radium-226 via EPA Method 903.1 and Radium-228 via EPA Method 904.0.
PACE - Pace Analytical Services.
NAREL - National Analytical Radiation Environmental Laboratory.

Table 2
Soil Sample Location (HPIC) Screening Results and Soil Boring Logs Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Sample Location Screening Data		Soil Boring Logs			
		Screening Date	Average Gamma Reading (µR/hr)	Sample Date	Depth From (in.)	Depth To (in.)	Soil Description
C002	C002-SB001	4/5/2016	**8.56**	4/6/2016	0	48	Black medium SAND/GRAVEL mixture with concrete pieces, micaceous appearance.
					48	70	Dark grey SAND with medium to fine gravel.
					70	76	Black medium SAND.
					76	96	Brown fine silty SAND, some gravel.
	C002-SB002	4/5/2016	**7.9**	4/6/2016	0	30	Black medium with concrete and gravel.
					30	33	Green medium SAND.
					33	68	Black SAND and gravel and fill mixture.
					68	76	Dark brown fine silty SAND with gravel.
					76	96	Brown silty clayey SAND, moist.
	C002-SB003	4/6/2016	**8.6**	4/6/2016	0	16	Soil horizon.
					16	17	Concrete.
					17	31	Brown medium sand.
					31	42	Brown silty SILT with medium gravel.
					42	56	Light grey SAND, rock, mica euros appearance.
					56	70	Light grey silty clayey SAND with fine to medium gravel.
					70	96	Olive grey sandy SILT.
C003	C003-SB001	4/5/2016	**9.14**	4/5/2016	0	15	Black SAND and gravel fill.
					15	23	Brown SAND with medium to gravel.
					23	26	broken pegmatite pieces.
					26	33	Black medium SAND with mica.
					33	48	Light grey fine silty SAND.
	C003-SB002	4/5/2016	**8.74**	4/5/2016	0	16	Black gravelly sandy fill.
					16	29	Brown medium SAND, some fine to gravel.
					29	33	Brown fine SAND, moist, with silt.
					33	48	Black cinders, ash, sand with shiny small pieces, micaceous appearance.
	C003-SB003	4/5/2016	**8.54**	4/5/2016	0	17	Black GRAVEL and sand fill.
					17	29	Brown medium silty SAND.
					29	35	Brown fine silty SAND, some medium gravel.
					35	48	Black fine to medium GRAVEL, wet at base.
	C003-SB004	4/5/2016	**9.54**	4/5/2016	0	10	Black SAND with gravel fill.
					10	14	Brown medium SAND.
					14	19	Broken granite.
					19	32	Brown medium sandy SAND with medium coarse gravel.
					32	43	SAND, brick, gravel, fill.
					43	48	Light grey medium SAND, micaceous.
	C003-SB005	4/5/2016	**8.3**	4/5/2016	0	20	Broken concrete pieces
					20	28	Brown medium SAND with to medium gravel.
					28	48	Dark brown fine silty SAND, some gravel.
	C003-SB006	4/5/2016	**9.3**	4/5/2016	0	19	Broken concrete and sand.
					19	23	Light grey medium SAND with gravel and silt.
					23	26	Brown fine silty SAND with gravel.
					26	48	Dark brown silty CLAY sand with gravel.
	C003-SB007	4/5/2016	**7.8**	4/5/2016	0	13	Broken concrete.
					13	21	Brown medium SAND with gravel.
					21	31	Dark grey, black fine SAND with gravel.
					31	48	Black fine GRAVEL, moist.

Notes:
Soil sample location screening was conducted using High Pressure Ion Chamber (HPIC).
µR/hr - microroentgen per hour; in. - inches.
Values in red indicate elevated gamma readings.
Soil borings were installed using Geoprobe® Model 7811DT.

Table 2
Soil Sample Location (HPIC) Screening Results and Soil Boring Logs Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Sample Location Screening Data		Soil Boring Logs			
		Screening Date	Average Gamma Reading (µR/hr)	Sample Date	Depth From (in.)	Depth To (in.)	Soil Description
C003	C003-SB008	4/5/2016	**7.98**	4/5/2016	0	16	Broken concrete.
					16	21	Brown medium SAND.
					21	36	Black GRAVEL, sand, ash, cinders
					36	48	Black GRAVEL, slag, ash, cinders some clay at base.
	C003-SB009	4/5/2016	**7.46**	4/5/2016	0	18	Broken concrete.
					18	23	Yellowish-orange with medium GRAVEL.
					23	36	Black silty SAND with gravel.
					36	48	Black fine to medium GRAVEL and fill.
	C003-SB010	4/5/2016	**11.48**	4/5/2016	0	10	Broke asphalt.
					10	16	GRAVEL, sand, concrete.
					16	21	Broken concrete.
					21	32	Brown medium SAND with gravel and concrete.
					32	48	Brown fine SAND with silt and medium gravel, and wood.
					48	73	GRAVEL, concrete, sand.
					73	82	Black SAND silt and medium gravel.
					82	96	Black silty SAND.
	C003-SB011	4/6/2016	**10.94**	4/6/2016	0	17	Broken asphalt, some sand.
					17	36	Brown medium SAND with fine to medium coarse gravel.
					36	48	Brown silty SAND some clay. Wet at 43 inches.
	C003-SB012	4/6/2016	**8.5**	4/6/2016	0	12	Gravel and asphalt.
					12	21	Brown medium SAND with concrete.
					21	43	Black medium SAND with medium to coarse gravel, wood at 37 inches.
					43	48	Light grey medium SAND.
	C003-SB013	4/5/2016	**8.48**	4/6/2016	0	16	Asphalt and gravel.
					16	25	Brown medium to coarse SAND with fine gravel.
					25	31	Light brown medium SAND with fine gravel.
					31	37	Light brown medium.
					37	48	Black SILT and Clay with wood.
	C003-SB014	4/5/2016	**8.28**	4/6/2016	0	8	GRAVEL.
					8	16	Brown medium SAND with fine gravel.
					16	30	Dark grey medium SAND.
					30	32	Brick.
					32	48	Dark brown fine to medium SAND, some silt.
	C003-SB015	4/6/2016	**11.88**	4/6/2016	0	42	Brown SAND with fine to medium to coarse gravel.
					42	48	Black medium SAND with medium to coarse gravel
	C003-SB016	4/5/2016	**9.88**	4/6/2016	0	12	Broken asphalt and sand.
					12	36	Brown medium SAND with medium to gravel.
					36	48	Brown medium SAND, some silt and medium to fine gravel.
[1]C005	[1]C004-SB001	4/5/2016	**9.24**	4/6/2016	0	20	Brown medium SAND silt, rooted, some concrete
					20	36	Brown medium SAND with silt and gravel.
					36	43	Light grey fine to SAND with silt and medium gravel. Wet at 36 inches.
					43	48	Light grey silty SAND and medium to coarse gravel.
		4/6/2016	**9.06**		48	64	No recovery.
					64	71	Broken rock.
					71	73	Light grey medium coarse SAND.
					73	96	Light grey silty SILT medium sand and some clay.

Notes:
Soil sample location screening was conducted using High Pressure Ion Chamber (HPIC).
µR/hr - microroentgen per hour; in. - inches.
[1]Background samples were collected from Property C005; however, RST 3 inadvertently reported the sample numbers for this property with a lead C004 instead of C005.
Values in red indicate elevated gamma readings.
Soil borings were installed using Geoprobe® Model 7811DT.

Table 3
Borehole and Soil Sample (Ludlum-2241) Screening Results Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Borehole Screening		RST 3 Sample Number	Soil Sample Screening	
		Depth	Result (cpm)		Depth	Result (cpm)
C002	C002-SB001	0	7,400	C002-SB001-0012-01	0 - 12	9,800
		6	8,600			
		12	18,300	C002-SB001-1224-01	12 - 24	8,600
		18	42,200			
		24	85,000	C002-SB001-2436-01	24 - 36	10,100
		30	178,000			
		36	103,000	C002-SB001-3648-01	36 - 48	9,300
		42	32,800			
		48	19,100	C002-SB001-4860-01	48 - 60	9,300
		54	13,100			
		60	12,300	C002-SB001-6072-01	60 - 72	9,200
		66	10,600			
		72	9,600	C002-SB001-7284-01	72 - 84	9,700
		78	10,300			
		84	11,700	C002-SB001-8496-01	84 - 96	9,500
		90	11,400			
		96	12,700			
	C002-SB002	0	5,600	C002-SB002-0012-01	0 - 12	8,500
		6	8,400			
		12	12,600	C002-SB002-1224-01	12 - 24	9,500
		18	15,700			
		24	17,500	C002-SB002-2436-01	24 - 36	9,500
		30	18,200			
		36	21,300	C002-SB002-3648-01	36 - 48	9,600
		42	31,200			
		48	31,500	C002-SB002-4860-01	48 - 60	10,800
		54	27,600			
		60	43,600	C002-SB002-6072-01	60 - 72	9,400
		66	54,300			
		72	43,000	C002-SB002-7284-01	72 - 84	8,800
		78	23,300			
		84	14,900	C002-SB002-8496-01	84 - 96	9,700
		90	12,200			
		96	10,900			
	C002-SB003	0	7,900	C002-SB003-0012-01	0 - 12	9,300
		6	11,000			
		12	14,200	C002-SB003-1224-01	12 - 24	8,500
		18	18,600			
		24	27,400	C002-SB003-2436-01	24 - 36	10,200
		30	63,000			
		36	155,000	C002-SB003-3648-01	36 - 48	11,200
		42	101,000			
		48	28,900	C002-SB003-4860-01	48 - 60	9,300
		54	15,700			
		60	12,800	C002-SB003-6072-01	60 - 72	9,300
		66	11,000			
		72	11,100	C002-SB003-7284-01	72 - 84	8,800
		78	12,400			
		84	12,900	C002-SB003-8496-01	84 - 96	9,000
		90	13,900			
		96	13,900			
		102	13,700	NS	96 - 102	NC
C003	C003-SB001	0	8,000	C003-SB001-0012-01	0 - 12	10,300
		6	9,400			
		12	11,300			
		18	13,200	C003-SB001-1224-01	12 - 24	9,700
		24	15,800			
		30	22,300	C003-SB001-2436-01	24 - 36	9,700
		36	20,400			
		42	16,600	C003-SB001-3648-01	36 - 48	9,800
		48	12,700			

Notes:
NC - Not collected; NS - Not sampled.
cpm - counts per minute.

Table 3
Borehole and Soil Sample (Ludlum-2241) Screening Results Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Borehole Screening		RST 3 Sample Number	Soil Sample Screening	
		Depth	Result (cpm)		Depth	Result (cpm)
C003	C003-SB002	0	8,700	C003-SB002-0012-01	0 - 12	9,700
		6	7,000			
		12	9,000			
		18	12,000	C003-SB002-1224-01	12 - 24	9,400
		24	15,000			
		30	28,000	C003-SB002-2436-01	24 - 36	9,800
		36	62,000			
		42	188,000	C003-SB002-3648-01	36 - 48	11,500
		45	250,000			
		48	200,000			
		54	66,000	NS	48 - 96	NC
		60	21,000			
		66	13,800			
		72	10,800			
		78	10,400			
		84	10,000			
		90	NC			
		96	NC			
	C003-SB003	0	7,500	C003-SB003-0012-01	0 - 12	10,300
		6	7,500			
		12	8,000			
		18	11,700	C003-SB003-1224-01	12 - 24	9,100
		24	12,500			
		30	13,500	C003-SB003-2436-01	24 - 36	8,600
		36	14,500			
		42	16,500	C003-SB003-3648-01	36 - 48	8,900
		48	17,900			
	C003-SB004	0	7,100	C003-SB004-0012-01	0 - 12	9,700
		6	7,100			
		12	9,400			
		18	14,200	C003-SB004-1224-01	12 - 24	9,900
		24	15,200			
		30	18,300	C003-SB004-2436-01	24 - 36	10,000
		36	32,500			
		42	29,000	C003-SB004-3648-01	36 - 48	9,200
		48	NC			
	C003-SB005	0	4,300	C003-SB005-0012-01	0 - 12	9,300
		6	5,200			
		12	9,800			
		18	20,600	C003-SB005-1224-01	12 - 24	9,700
		24	43,100			
		30	58,500	C003-SB005-2436-01	24 - 36	10,100
		36	58,500			
		42	45,400	C003-SB005-3648-01	36 - 48	9,700
		48	21,000			
	C003-SB006	0	7,100	C003-SB006-0012-01	0 - 12	9,600
		6	18,400			
		12	28,300			
		18	42,100	C003-SB006-1224-01	12 - 24	9,800
		24	40,000			
		30	15,900	C003-SB006-2436-01	24 - 36	9,100
		36	10,700			
		42	12,400	C003-SB006-3648-01	36 - 48	9,900
		48	11,600			
	C003-SB007	0	5,100	C003-SB007-0012-01	0 - 12	9,200
		6	5,600			
		12	9,700			
		18	15,000	C003-SB007-1224-01	12 - 24	9,500
		24	13,200			
		30	12,500	C003-SB007-2436-01	24 - 36	9,500
		36	11,300			
		42	10,500	C003-SB007-3648-01	36 - 48	10,100
		48	NC			

Notes:
NC - Not collected; NS - Not sampled.
cpm - counts per minute.

Table 3
Borehole and Soil Sample (Ludlum-2241) Screening Results Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Borehole Screening		RST 3 Sample Number	Soil Sample Screening	
		Depth	Result (cpm)		Depth	Result (cpm)
C003	C003-SB008	0	6,400	C003-SB008-0012-01	0 - 12	9,700
		6	7,600			
		12	12,500			
		18	28,300	C003-SB008-1224-01	12 - 24	10,200
		24	75,200			
		30	87,700	C003-SB008-2436-01	24 - 36	10,700
		36	41,800			
		42	19,000	C003-SB008-3648-01	36 - 48	10,800
		48	NC			
	C003-SB009	0	6,900	C003-SB009-0012-01	0 - 12	9,500
		6	8,700			
		12	15,800			
		18	18,700	C003-SB009-1224-01	12 - 24	9,400
		24	16,700			
		30	18,500	C003-SB009-2436-01	24 - 36	9,200
		36	28,800			
		42	32,700	C003-SB009-3648-01	36 - 48	8,500
		48	36,000			
	C003-SB010	0	17,000	C003-SB010-0012-01	0 - 12	9,600
		6	33,000			
		12	73,500			
		18	159,000	C003-SB010-1224-01	12 - 24	10,400
		24	329,000			
		30	617,000	C003-SB010-2436-01	24 - 36	13,700
		36	>999,000			
		42	>999,000	C003-SB010-3648-01	36 - 48	24,300
		45	>999,000			
		48	>999,000			
		54	380,000	C002-SB010-4860-01	48 - 60	11,800
		60	94,000			
		66	55,000	C002-SB010-6072-01	60 - 72	9,300
		72	28,000			
		78	18,100	C002-SB010-7284-01	72 - 84	9,500
		84	16,500			
		90	17,500	C002-SB010-8496-01	84 - 96	9,300
		96	22,300			
	C003-SB011	0	9,600	C003-SB011-0012-01	0 - 12	9,300
		6	17,000			
		12	31,200			
		18	36,400	C003-SB011-1224-01	12 - 24	10,300
		24	22,400			
		30	15,900	C003-SB011-2436-01	24 - 36	8,900
		36	13,400			
		42	12,600	C003-SB011-3648-01	36 - 48	8,900
		48	12,800			
	C003-SB012	0	7,600	C003-SB012-0012-01	0 - 12	9,400
		6	11,700			
		12	23,400			
		18	48,400	C003-SB012-1224-01	12 - 24	10,500
		24	99,000			
		30	272,000	C003-SB012-2436-01	24 - 36	13,300
		36	554,000			
		42	170,000	C003-SB012-3648-01	36 - 48	11,400
		48	45,800			
	C003-SB013	0	8,000	C003-SB013-0012-01	0 - 12	9,300
		6	12,300			
		12	22,600			
		18	43,100	C003-SB013-1224-01	12 - 24	9,500
		24	90,000			
		30	270,000	C003-SB013-2436-01	24 - 36	9,800
		36	525,000			
		42	461,000	C003-SB013-3648-01	36 - 48	12,500
		48	486,000			

Notes:
NC - Not collected; NS - Not sampled.
cpm - counts per minute.

Table 3
Borehole and Soil Sample (Ludlum-2241) Screening Results Summary Table
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Property Number	Sample Location	Borehole Screening		RST 3 Sample Number	Soil Sample Screening	
		Depth	Result (cpm)		Depth	Result (cpm)
C003	C003-SB014	0	8,300	C003-SB014-0012-01	0 - 12	9,800
		6	15,500			
		12	36,500			
		18	103,000	C003-SB014-1224-01	12 - 24	9,200
		24	258,000			
		30	489,000	C003-SB014-2436-01	24 - 36	12,100
		36	219,000			
		42	75,000	C003-SB014-3648-01	36 - 48	10,100
		48	37,200			
	C003-SB015	0	12,800	C003-SB015-0012-01	0 - 12	9,300
		6	13,400			
		12	17,800			
		18	20,800	C003-SB015-1224-01	12 - 24	9,800
		24	14,800			
		30	15,000	C003-SB015-2436-01	24 - 36	9,400
		36	20,200			
		42	40,000	C003-SB015-3648-01	36 - 48	8,800
		48	52,200			
	C003-SB016	0	8,600	C003-SB016-0012-01	0 - 12	9,700
		6	9,700			
		12	11,600			
		18	12,700	C003-SB016-1224-01	12 - 24	9,600
		24	12,700			
		30	12,900	C003-SB016-2436-01	24 - 36	8,800
		36	12,800			
		42	12,500	C003-SB016-3648-01	36 - 48	9,600
		48	13,200			
[1]C005	[1]C004-SB001	0	7,900	C004-SB001-0012-01	0 - 12	8,900
		6	12,000			
		12	14,000	C004-SB001-1224-01	12 - 24	9,900
		18	19,000			
		24	24,000	C004-SB001-2436-01	24 - 36	9,600
		30	16,300			
		36	12,500	C004-SB001-3648-01	36 - 48	9,300
		42	11,800			
		48	NC	NS	48 - 60	NC
		54	12,600			
		60	12,500	NS	60 - 72	NC
		66	11,000			
		72	NC	C004-SB001-7284-01	72 - 84	9,200
		78	NC			
		84	NC	C004-SB001-8496-01	84 - 96	8,400
		96	NC			

Notes:
NC - Not collected; NS - Not sampled.
cpm - counts per minute.
[1]Background data was collected from Property C005; however, RST 3 inadvertently reported the sample location number for this property with a lead C004 instead of C005.

Table 4
Validated Soil Analytical Results Summary Table - Radioisotopes
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Location No.	C002-SB001																								C002-SB002		
RST 3 Sample No.	C002-SB001-0012-01			CB002-SB001-1224-01			CB002-SB001-2436-01			CB002-SB001-3648-01			C002-SB001-4860-01			C002-SB001-6072-01			C002-SB001-7284-01			C002-SB001-8496-01			C002-SB002-0012-01		
Sample Depth (inches)	0-12			12-24			24-36			36-48			48-60			60-72			72-84			84-96			0-12		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	0.41		0.14	0.745	J	1.274	1.821	UJ	6.026	1.551	J	1.686	0.66		0.13	0.63		0.1	0.93		0.16	0.92		0.13	0.42		0.12
Bismuth-214 (Bi-214)	1,310,000	0.3	J	0.04	NA			NA			NA			0.67	J	0.08	0.77	J	0.09	0.53	J	0.06	0.48	J	0.05	0.36	J	0.04
Cesium-137 (Cs-137)	11.20	ND			NA			NA			NA			ND			ND			ND			ND			0.01		0.01
[2]Lead-210 (Pb-210)	438	0.43		0.15	7.903	J	13.005	120.52		77.6	5.782	J	2.996	0.76		0.2	0.85		0.18	0.29		0.1	0.28		0.09	0.48		0.12
Lead-212 (Pb-212)	657,000	0.36		0.04	0.693		0.16	1.127		0.564	1.095		0.276	0.55		0.06	0.52		0.06	0.79		0.09	0.81		0.09	0.44		0.05
Lead-214 (Pb-214)	7,330,000	0.36	J	0.04	ND			ND			ND			0.75	J	0.09	0.88	J	0.1	0.6	J	0.07	0.56	J	0.07	0.42	J	0.05
Potassium-40 (K-40)	26.7	7.46	J	0.85	11.609		2.179	10.158		6.089	11.212		3.006	11.3	J	1.26	12	J	1.32	11.4	J	1.27	12	J	1.33	9.98	J	1.12
Radium-226* (Ra-226)	2.52	0.63		0.17	3.824		0.863	88.391		13.931	2.207		0.386	1.08		0.2	1.16		0.18	1.2	J	0.21	1.19		0.18	0.73		0.18
Radium-228 (Ra-228)	16.2	0.34		0.05	0.921		0.279	0.518	U	1.642	0.948		0.496	0.55		0.07	0.53		0.06	0.8		0.09	0.81		0.09	0.46		0.06
Thallium-208 (Tl-208)	3,400,000	0.1	J	0.01	0.295		0.098	0	UJ	0.328	0.535		0.159	0.18	J	0.02	0.16	J	0.02	0.26	J	0.03	0.24	J	0.03	0.14	J	0.02
Thorium-227 (Th-227)	NS	0.08		0.07	NA			NA			NA			0.07		0.04	0.07		0.04	0.12		0.06	0.1		0.05	0.12		0.06
Thorium-228 (Th-228)	13,300	0.6		0.16	0.65		0.334	1.17		0.501	1.34		0.579	0.5		0.09	0.63		0.11	0.75		0.12	0.74		0.12	0.54		0.11
Thorium-230 (Th-230)	2,060	0.45		0.13	1.89		0.579	10.3		2.09	0.598		0.338	0.48		0.1	0.5		0.1	0.62		0.11	0.54		0.1	0.55		0.12
Thorium-232 (Th-232)	5	0.45		0.13	0.812		0.35	1.29		0.509	1.1		0.463	0.52		0.1	0.59		0.11	0.71		0.12	0.71		0.11	0.42		0.09
Thorium-234 (Th-234)	47,500	0.28		0.14	0	U	0.991	3.66	U	5.035	1.215	U	1.415	0.58		0.15	0.43		0.14	0.58		0.14	0.78		0.13	0.27		0.13
Uranium-233/234 (U-233/234)	3,260	NA			0.519		0.187	0.74		0.273	0.37		0.194	NA			NA			NA			NA			NA		
Uranium-235/236 (U-235/236)	37.7	NA			0.067	J	0.072	0.08	J	0.097	0.082	J	0.107	NA			NA			NA			NA			NA		
Uranium-234 (U-234)	3,260	0.53		0.1	NA			NA			NA			0.5		0.09	0.31		0.07	0.64		0.11	0.89		0.14	0.38		0.08
Uranium-235 (U-235)	37.7	0.02	J	0.02	0.284	R	0.145	6.563	R	1.291	0.292	R	0.136	0.02	J	0.02	ND			0.03		0.03	0.05		0.03	ND		
Uranium-238 (U-238)	358	0.55	J	0.1	0.594		0.201	0.915		0.312	0.604		0.255	0.46	J	0.09	0.38	J	0.08	0.64	J	0.11	0.92	J	0.14	0.4	J	0.08

Location No.	C002-SB002																								C002-SB003		
RST 3 Sample No.	C002-SB002-1224-01			C002-SB002-2436-01			C002-SB002-3648-01			CB002-SB002-4860-01			CB002-SB002-6072-01			C002-SB002-7284-01			C002-SB002-7284-02			C002-SB002-8496-01			C002-SB003-0012-01		
Sample Depth (inches)	12-24			24-36			36-48			48-60			60-72			72-84			72-84			84-96			0-12		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	1.32		0.27	0.79		0.16	0.97		0.16	1.842	J	2.635	2.365		2.212	1.09		0.19	0.97		0.15	0.93		0.15	0.78		0.17
Bismuth-214 (Bi-214)	1,310,000	1.29	J	0.15	1.64	J	0.18	4.5	J	0.49	NA			NA			0.77	J	0.09	0.71	J	0.08	0.51	J	0.06	0.97	J	0.11
Cesium-137 (Cs-137)	11.20	0.05		0.01	0.04		0.01	0.07		0.01	NA			NA			ND			ND			ND			0.16		0.02
[2]Lead-210 (Pb-210)	438	0.97		0.17	2.11		0.31	8.99		1.1	14.252	J	5.308	3.558	J	5.406	0.84		0.18	0.77		0.22	0.51		0.17	1.34		0.19
Lead-212 (Pb-212)	657,000	1.31		0.15	0.73		0.08	0.9		0.1	1.335		0.355	1.503		0.347	1.02		0.11	0.94		0.11	0.8		0.09	0.76		0.09
Lead-214 (Pb-214)	7,330,000	1.47	J	0.16	1.89	J	0.21	5.07	J	0.56	ND			ND			0.88	J	0.1	0.83	J	0.09	0.57	J	0.07	1.11	J	0.13
Potassium-40 (K-40)	26.7	15.5	J	1.73	13.2	J	1.46	12.2	J	1.35	8.462		3.884	12.566		3.845	14.1	J	1.56	13.4	J	1.48	11.9	J	1.32	11	J	1.23
Radium-226* (Ra-226)	2.52	2.23		0.34	2.87		0.34	5.84		0.7	12.829		1.827	8.789		1.299	1.67		0.25	1.5		0.23	0.94		0.18	1.71		0.29
Radium-228 (Ra-228)	16.2	1.32		0.15	0.73		0.09	0.91		0.11	1.69		0.558	1.788		0.581	0.99		0.12	0.98		0.11	0.79		0.09	0.7		0.09
Thallium-208 (Tl-208)	3,400,000	0.41	J	0.05	0.22	J	0.03	0.28	J	0.03	0.645		0.239	0.626		0.215	0.32	J	0.04	0.3	J	0.03	0.26	J	0.03	0.22	J	0.03
Thorium-227 (Th-227)	NS	0.12		0.05	0.11		0.05	0.14		0.06	NA			NA			0.08		0.05	0.15		0.06	0.1		0.05	0.12		0.05
Thorium-228 (Th-228)	13,300	0.99		0.14	0.56		0.1	0.89		0.14	1.06	J	0.561	1.5	J	0.687	1.11	J	0.17	1.09	J	0.16	0.76	J	0.12	3.73	J	0.42
Thorium-230 (Th-230)	2,060	1.08		0.15	0.93		0.15	1.57		0.21	2.02	J	0.749	0.852	J	0.472	0.68		0.12	0.64		0.12	0.61		0.11	1.08		0.16
Thorium-232 (Th-232)	5	0.85		0.13	0.62		0.11	0.76		0.12	0.805	J	0.452	1.36	J	0.598	1.01	J	0.16	1.12	J	0.16	0.74	J	0.12	3.83	J	0.43
Thorium-234 (Th-234)	47,500	0.68		0.18	0.72		0.18	0.61		0.27	0.206	U	3.955	0.998	U	3.437	0.81		0.18	0.87		0.21	0.52		0.17	0.68		0.17
Uranium-233/234 (U-233/234)	3,260	NA			NA			NA			1.02		0.355	1.03		0.237	NA			NA			NA			NA		
Uranium-235/236 (U-235/236)	37.7	NA			NA			NA			0.119	J	0.126	0.037	J	0.046	NA			NA			NA			NA		
Uranium-234 (U-234)	3,260	0.74		0.12	0.53		0.1	0.57		0.1	NA			NA			0.71	J	0.15	0.78	J	0.14	0.62	J	0.14	0.79	J	0.14
Uranium-235 (U-235)	37.7	ND			0.04		0.03	0.03		0.03	0.902	R	0.297	0.668	R	0.284	0.04		0.04	0.03	J	0.03	ND			0.05		0.04
Uranium-238 (U-238)	358	0.71	J	0.12	0.64	J	0.11	0.64	J	0.11	0.909		0.334	0.875		0.211	0.64		0.14	0.73		0.14	0.62		0.14	0.8		0.14

Notes:

RST 3 - Removal Support Team 3.

No. - Number; U - Not detected; J - An estimated result; R - A rejected result.

pCi/g - picocuries per gram; NA - Not analyzed; NS - Not specified.

[1]U.S. Environmental Protection Agency (EPA) Site-Specific Action Levels (SSAL) are presented in pCi/g.

Samples analyzed by EPA's Northeast Analytical Radiation Environmental Laboratory (NAREL).

Samples analyzed by RST 3-procured laboratory, Pace Analytical Services (PACE).

Values in red equal or exceed the EPA SSAL for the respective radioisotope.

Radium-226* (21-day ingrowth) analyzed by gamma spectroscopy via EPA 901.1 modified (soil only).

[2]For samples analyzed by PACE, the detection limit for lead-210 by EPA Method 901.1 is not low enough, therefore, a negative result is generated by the laboratory instrument if the sample contains low or no detection of lead-210.

ED_006395_00001616-00032

Table 4
Validated Soil Analytical Results Summary Table - Radioisotopes
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Location No.	C003-SB003																					C003-SB001					
RST 3 Sample No.	C003-SB003-1224-01			CB002-SB003-2436-01			CB002-SB003-3648-01			C003-SB003-4860-01			C003-SB003-6072-01			C003-SB003-7284-01			C003-SB003-8496-01			C003-SB001-0012-01			C003-SB001-1224-01		
Sample Depth (inches)	12-24			24-36			36-48			48-60			60-72			72-84			84-96			0-12			12-24		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/5/2016			4/5/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	0.96		0.14	1.078		0.732	3.637	J	4.258	0.85		0.18	1.12		0.17	0.94		0.15	1.13		0.19	1.2		0.24	0.43	U	1.58
Bismuth-214 (Bi-214)	1,310,000	1.3	J	0.14	NA			NA			1.78	J	0.2	0.59	J	0.07	0.56	J	0.06	0.71		0.08	0.53		0.07	NA		
Cesium-137 (Cs-137)	11.20	0.09	J	0.01	NA			NA			ND			ND			ND			ND			ND			NA		
[2]Lead-210 (Pb-210)	418	1.27		0.24	1.561	U	10.873	51.323		13.99	1.84		0.23	0.55		0.13	0.32		0.1	0.48		0.11	0.59		0.22	0	U	4.361
Lead-212 (Pb-212)	657,000	0.85		0.1	0.636		0.145	0.907		0.413	0.78		0.09	1.04		0.12	0.85		0.09	1.01		0.11	1.18		0.13	0.861		0.197
Lead-214 (Pb-214)	7,330,000	1.46	J	0.16	ND			ND			2.03	J	0.22	0.74	J	0.08	0.6	J	0.07	0.82		0.09	0.65		0.08	ND		
Potassium-40 (K-40)	26.7	12.9		1.42	13.028		2.489	19.625		4.97	10.8	J	1.21	9.5	J	1.06	14.3	J	1.58	15		1.66	13.6		1.53	12.818		2.594
Radium-226* (Ra-226)	2.52	2.02		0.28	0.947		0.213	69.488		8.113	2.69		0.36	1.47		0.24	1.37		0.21	1.5		0.23	1.1		0.27	1.289		0.24
Radium-228 (Ra-228)	16.2	0.82		0.09	0.686	J	0.255	1.293	J	1.371	0.79		0.1	0.99		0.11	0.93		0.11	1.02		0.12	1.16		0.14	0.915		0.336
Thallium-208 (Tl-208)	3,400,000	0.26	J	0.03	0.195		0.066	0.414		0.246	0.24	J	0.03	0.31	J	0.04	0.27	J	0.03	0.32		0.04	0.34		0.04	0.267		0.094
Thorium-227 (Th-227)	NS	0.11		0.05	NA			NA			0.15		0.06	0.09		0.04	0.16		0.06	0.06	J	0.04	0.05	J	0.04	NA		
Thorium-228 (Th-228)	13,300	0.75	J	0.12	0.741		0.405	0.954		0.469	0.85	J	0.13	0.86	J	0.12	0.82	J	0.13	1.03	J	0.15	0.98	J	0.16	0.925		0.396
Thorium-230 (Th-230)	2,060	1		0.15	0.683		0.363	44.8		7.63	1.32		0.18	0.72		0.11	0.74		0.12	0.77	J	0.13	0.5	J	0.11	0.982		0.369
Thorium-232 (Th-232)	5	0.88	J	0.14	0.352		0.25	0.847		0.404	0.77	J	0.12	0.94	J	0.13	0.73	J	0.12	0.91	J	0.14	0.99	J	0.16	0.334		0.214
Thorium-234 (Th-234)	47,500	0.68		0.18	0.466	U	2.708	0.651	U	6.709	0.53		0.13	0.82		0.18	0.55		0.14	0.6		0.14	0.54		0.22	1.161	U	1.121
Uranium-233/234 (U-233/234)	3,260	NA			0.551		0.225	1.03		0.309	NA			NA			NA			NA			NA			0.435		0.166
Uranium-235/236 (U-235/236)	37.7	NA			0.045	J	0.092	0.09	J	0.089	NA			NA			NA			NA			NA			0.106	J	0.088
Uranium-234 (U-234)	3,260	0.56	J	0.11	NA			NA			0.67	J	0.13	0.96	J	0.16	1	J	0.17	0.82		0.15	0.64		0.11	NA		
Uranium-235 (U-235)	37.7	0.03		0.03	0.107	R	0.125	4.294	R	0.827	0.03	J	0.03	0.04		0.04	ND			0.04		0.03	0.04		0.03	0.107	R	0.104
Uranium-238 (U-238)	158	0.6		0.12	0.406		0.188	1.2		0.339	0.70		0.13	0.81	J	0.14	0.87		0.16	0.84		0.15	0.62		0.11	0.415		0.163

Location No.	C003-SB001									C003-SB002												C003-SB003					
RST 3 Sample No.	C003-SB001-2436-01			C003-SB001-3648-01			C003-SB001-3648-02			C003-SB002-0012-01			C003-SB002-1224-01			C003-SB002-2436-01			C003-SB002-3648-01			C003-SB003-0012-01			C003-SB003-1224-01		
Sample Depth (inches)	24-36			36-48			36-48			0-12			12-24			24-36			36-48			0-12			12-24		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/216			4/5/2016			4/5/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radinisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	0.285	U	2.132	0.77		0.13	0.79		0.13	0.62		0.16	1.02		0.14	0.858	J	1.244	2.33	J	2.817	0.83		0.17	0.88		0.18
Bismuth-214 (Bi-214)	1,310,000	NA			0.78		0.09	0.9		0.1	0.43		0.06	0.88		0.1	NA			NA			0.51		0.06	0.63		0.07
Cesium-137 (Cs-137)	11.20	NA			ND			ND			ND			0.01	J	0.01	NA			NA			ND			0.01		0.01
[2]Lead-210 (Pb-210)	418	1.976	U	3.342	0.73		0.16	0.74		0.2	0.8		0.2	0.85		0.2	2.336	U	12.72	60.996		41.09	0.32		0.12	0.65		0.16
Lead-212 (Pb-212)	657,000	0.943		0.226	0.74		0.08	0.72		0.08	0.56		0.06	0.91		0.1	0.997		0.21	0.841		0.335	0.76		0.09	0.79		0.09
Lead-214 (Pb-214)	7,330,000	ND			0.9		0.1	1.01		0.11	0.49		0.06	1.01		0.11	ND			ND			0.58		0.07	0.71		0.08
Potassium-40 (K-40)	26.7	13.81		2.86	13.6		1.5	13.6		1.5	12.7		1.42	13		1.44	14.618		2.534	11.657		2.492	16.5		1.83	13.2		1.47
Radium-226* (Ra-226)	2.52	3.393		0.553	1.31		0.2	1.53		0.23	0.89		0.22	1.64		0.24	0.668		0.164	39.964		4.05	1.01		0.2	1.24		0.2
Radium-228 (Ra-228)	16.2	1.311		0.397	0.75		0.09	0.74		0.08	0.52		0.07	0.91		0.1	1.224		0.297	1.24		0.883	0.79		0.09	0.84		0.1
Thallium-208 (Tl-208)	3,400,000	0.4		0.122	0.24		0.03	0.23		0.03	0.16		0.02	0.29		0.03	0.384		0.111	0.216	J	0.25	0.24		0.03	0.27		0.03
Thorium-227 (Th-227)	NS	NA			0.06	J	0.04	0.04	J	0.04	0.08	J	0.06	0.05	J	0.05	NA			NA			0.06	J	0.04	0.07	J	0.04
Thorium-228 (Th-228)	13,300	0.715		0.356	0.65	J	0.12	0.8	J	0.14	0.62	J	0.15	0.81	J	0.17	1.09		0.457	0.704		0.305	0.67	J	0.11	0.86	J	0.14
Thorium-230 (Th-230)	2,060	0.633		0.319	0.62	J	0.12	0.63	J	0.13	0.61	J	0.15	0.72	J	0.16	0.257		0.202	10.2		1.9	0.47	J	0.09	0.8	J	0.13
Thorium-232 (Th-232)	5	0.629		0.315	0.58	J	0.11	0.83	J	0.15	0.5	J	0.13	0.66	J	0.15	0.756		0.347	0.845		0.32	0.69	J	0.12	0.88	J	0.14
Thorium-234 (Th-234)	47,500	0	U	1.148	0.51		0.15	0.55		0.18	0.52		0.25	0.55		0.17	0.642	U	2.61	1.587	U	9.519	0.41		0.14	0.56		0.16
Uranium-233/234 (U-233/234)	3,260	0.458		0.217	NA			NA			NA			NA			0.615		0.171	0.564		0.24	NA			NA		
Uranium-235/236 (U-235/236)	37.7	0.053	J	0.109	NA			NA			NA			NA			0.097	J	0.074	0.057	J	0.102	NA			NA		
Uranium-234 (U-234)	3,260	NA			0.51		0.1	0.53		0.10	0.5		0.09	0.43		0.09	NA			NA			0.57		0.12	0.61		0.11
Uranium-235 (U-235)	37.7	0.345	R	0.151	0.05		0.03	0.03	J	0.03	0.02	J	0.02	0.04	J	0.03	0.013	R	0.088	1.88	R	0.464	ND			0.02	J	0.02
Uranium-238 (U-238)	158	0.523		0.235	0.62		0.12	0.56		0.11	0.46		0.09	0.47		0.09	0.546		0.157	0.304		0.173	0.57		0.12	0.60		0.11

Notes:

RST 3 - Removal Support Team 3.

No. - Number; U - Not detected; J - An estimated result; R - A rejected result.

pCi/g - picocuries per gram; NA - Not analyzed; NS - Not specified.

[1]U.S. Environmental Protection Agency (EPA) Site-Specific Action Levels (SSAL) are presented in pCi/g.

Samples analyzed by EPA's Region Analytical Radiation Environmental Laboratory (NARREL).

Samples analyzed by RST 3-procured laboratory, Pace Analytical Services (PACE).

Values in red equal or exceed the EPA SSAL for the respective radioisotope.

Radium-226* (21-day ingrowth) analyzed by gamma spectroscopy via EPA 901.1 modified (soil only).

[2]For samples analyzed by PACE, the detection limit for lead-210 by EPA Method 901.1 is not low enough, therefore, a negative result is generated by the laboratory instrument if the sample contains low or no detection of lead-210.

ED_006395_00001616-00033

Table 4
Validated Soil Analytical Results Summary Table - Radioisotopes
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Location No.	C003-SB003						C003-SB004												C003-SB005								
RST 3 Sample No.	C003-SB003-2436-01			C003-SB003-3648-01			C003-SB004-0012-01			C003-SB004-1224-01			C003-SB004-2436-01			C003-SB004-3648-01			C003-SB005-0012-01			C003-SB005-1224-01			C003-SB005-2436-01		
Sample Depth (inches)	24-36			36-48			0-12			12-24			24-36			36-48			0-12			12-24			24-36		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	1.582		1.132	-0.533	U	2.354	0.82		0.16	1.11		0.19	2.478		1.245	1.205		0.823	0.42		0.18	0	U	0.978	0.463	U	4.694
Bismuth-214 (Bi-214)	1,310,000	NA			NA			0.78		0.09	0.63		0.07	NA			NA			0.36		0.05	NA			NA		
Cesium-137 (Cs-137)	11.20	NA			NA			0.01		0.01	ND			NA			NA			ND			NA			NA		
[2]Lead-210 (Pb-210)	418	-2.011	U	13.632	8.169	U	20.834	0.77		0.2	0.64		0.16	2.978	J	4.262	4.749	U	10.085	0.65		0.18	11.702		6.301	33.665		11.499
Lead-212 (Pb-212)	657,000	0.892		0.204	0.729		0.226	0.63		0.07	1		0.11	0.964		0.254	0.653		0.159	0.31		0.04	1.001		0.288	1.156		0.4
Lead-214 (Pb-214)	7,330,000	ND			ND			0.92		0.1	0.74		0.08	ND			ND			0.44		0.06	ND			ND		
Potassium-40 (K-40)	26.7	14.779		2.696	5.763		1.604	13.1		1.46	13.3		1.48	15.18		3.144	12.645		2.199	4.78		0.57	15.208		3.362	29.801		5.684
Radium-226* (Ra-226)	2.52	0.855		0.204	2.108		0.436	1.39		0.24	1.31		0.2	6.678		1.031	0.952		0.206	0.87		0.24	33.198		1.864	28.307		3.501
Radium-228 (Ra-228)	16.2	0.721		0.377	1.019		0.36	0.68		0.08	0.99		0.11	1.971		0.53	0.8		0.247	0.29		0.06	1.082		0.795	0.971	J	0.843
Thallium-208 (Tl-208)	3,400,000	0.471		0.105	0.146	J	0.176	0.19		0.02	0.3		0.04	0.414		0.137	0.239		0.09	0.1		0.02	0.277		0.279	0.167	U	0.392
Thorium-227 (Th-227)	NS	NA			NA			0.07	J	0.04	0.07	J	0.04	NA			NA			0.13	J	0.07	NA			NA		
Thorium-228 (Th-228)	13,300	1.54		0.619	0.525		0.247	0.51	J	0.09	0.78	J	0.13	1.12		0.533	0.806	J	0.463	0.3		0.09	0.438		0.284	0.946		0.464
Thorium-230 (Th-230)	2,060	0.346		0.272	0.639		0.257	0.56	J	0.1	0.58	J	0.11	1.47		0.585	0.443	J	0.325	0.31		0.1	3.92		0.917	2.97		0.859
Thorium-232 Th-232)	5	1.43		0.577	0.548		0.236	0.52	J	0.09	0.72	J	0.12	0.586		0.352	0.723	J	0.41	0.27		0.08	0.536		0.263	0.607		0.344
Thorium-234 Th-234)	47,500	0.626	U	2.884	1.144	U	4.054	0.33		0.17	0.58		0.16	0	U	1.573	0.627	U	2.546	0.47		0.25	1.739	U	1.842	5.245	J	3.337
Uranium-233/234 (U-233/234)	3,260	0.632		0.211	0.577		0.209	NA			NA			0.644		0.182	0.539		0.173	NA			0.464		0.18	1.08		0.266
Uranium-235/236 (U-235/236)	37.7	0.103	J	0.083	0.041	J	0.074	NA			NA			0.083	J	0.063	0.097	J	0.074	NA			0.072	J	0.076	0.097	J	0.073
Uranium-234 (U-234)	3,260	NA			NA			0.6		0.11	0.59		0.12	NA			NA			0.39		0.1	NA			NA		
Uranium-235 (U-235)	37.7	0.129	R	0.109	0.106	R	0.157	0.64		0.03	ND			0.506	R	0.21	0.135	R	0.107	0.02		0.02	1.241	R	0.324	2.342	R	0.59
Uranium-238 (U-238)	158	0.746		0.223	0.612		0.216	0.6		0.11	0.64		0.12	0.693		0.19	0.553		0.175	0.48		0.11	0.588		0.205	1.2		0.285

Location No.	C003-SB005			C003-SB006												C003-SB007											
RST 3 Sample No.	C003-SB005-3648-01			C003-SB006-0012-01			C003-SB006-1224-01			C003-SB006-2436-01			C003-SB006-3648-01			C003-SB007-0012-01			C003-SB007-1224-01			C003-SB007-2436-01			C003-SB007-2436-02		
Sample Depth (inches)	36-48			0-12			12-24			24-36			36-48			0-12			12-24			24-36			24-36		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/5/2016			4/5/2016			4/8/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radinisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	0.76	U	1.69	0.56		0.18	1.939	J	2.859	1.586		1.267	1.02		0.15	0.45		0.11	1.003	J	1.424	2.321		1.073	1.75		0.94
Bismuth-214 (Bi-214)	1,310,000	NA			2.24		0.25	NA			NA			0.48		0.06	2.78		0.31	NA			NA			NA		
Cesium-137 (Cs-137)	11.20	NA			0.02		0.01	NA			NA			ND			ND			NA			NA			NA		
[2]Lead-210 (Pb-210)	418	0	U	1.823	2.79		0.4	25.154		3.053	0.248	U	2.393	0.36		0.1	2.65		0.37	-8.479	U	18.826	0	U	1.697	-4.407	U	16.096
Lead-212 (Pb-212)	657,000	0.814		0.206	0.57		0.07	0.819		0.311	0.809		0.204	0.87		0.1	0.42		0.05	0.672		0.187	0.888		0.231	0.793		0.194
Lead-214 (Pb-214)	7,330,000	ND			2.65		0.29	ND			ND			0.58		0.07	3.19		0.35	ND			ND			ND		
Potassium-40 (K-40)	26.7	11.608		2.548	10.1		1.14	16.311		3.546	12.504		2.718	13.8		1.52	10.6		1.18	12.173		2.262	13.642		2.958	12.225		2.359
Radium-226* (Ra-226)	2.52	1.187		0.274	3.72		0.49	18.408		2.571	0.555		0.181	1.12		0.18	3.84		0.47	2.826		0.453	1.002		0.22	0.869		0.232
Radium-228 (Ra-228)	16.2	0.662	J	0.27	0.57		0.08	1.736		0.672	1.017		0.36	0.92		0.1	0.45		0.06	1.009		0.264	1.529		0.398	1.089		0.308
Thallium-208 (Tl-208)	3,400,000	0.31		0.11	0.17		0.02	0.117	U	0.278	0.312		0.109	0.28		0.03	0.14		0.02	0.344		0.122	0.398		0.133	0.266		0.089
Thorium-227 (Th-227)	NS	NA			0.04	J	0.04	NA			NA			ND			0.11	J	0.08	NA			NA			NA		
Thorium-228 (Th-228)	13,300	0.63		0.335	0.59		0.13	0.722	J	0.336	0.769	J	0.401	0.63	J	0.1	0.5		0.13	0.677	J	0.355	0.964	J	0.449	0.949	J	0.465
Thorium-230 (Th-230)	2,060	0.374		0.232	0.73		0.15	3.17		0.758	0.426	J	0.279	0.43	J	0.08	1.67		0.27	0.812	J	0.365	0.567	J	0.32	0.491	J	0.301
Thorium-232 Th-232)	5	0.757		0.332	0.51		0.12	0.884		0.333	0.824	J	0.394	0.57	J	0.09	0.41		0.11	0.438	J	0.258	0.657	J	0.338	0.935	J	0.42
Thorium-234 Th-234)	47,500	1.775	J	1.519	0.07		0.24	1.547	U	2.052	0.458	U	1.532	0.58		0.13	0.56		0.16	1.616	U	3.298	0.171	U	1.928	0	U	1.779
Uranium-233/234 (U-233/234)	3,260	0.473		0.219	NA			0.538		0.195	0.416	J	0.188	NA			NA			0.436	J	0.17	0.349	J	0.183	0.607	J	0.242
Uranium-235/236 (U-235/236)	37.7	0.08	J	0.105	NA			-0.005	J	0.071	0.013	UJ	0.088	NA			NA			0.034	J	0.067	0.015	UJ	0.101	0.078	J	0.094
Uranium-234 (U-234)	3,260	NA			ND			NA			NA			0.6		0.12	0.41		0.09	NA			NA			NA		
Uranium-235 (U-235)	37.7	0.207	R	0.1	0.02	J	0.02	1.509	R	0.396	0.127	R	0.142	0.04		0.03	0		0.02	0.23	R	0.133	0.175	R	0.102	0.044	R	0.104
Uranium-238 (U-238)	158	0.36		0.191	0.39		0.08	0.459		0.179	0.406	J	0.184	0.53		0.11	0.41		0.09	0.54	J	0.192	0.488	J	0.217	0.494	J	0.21

Notes:

RST 3 - Removal Support Team 3.

No. - Number; U - Not detected; J - An estimated result; R - A rejected result.

pCi/g - picocuries per gram; NA - Not analyzed; NS - Not specified.

[1]U.S. Environmental Protection Agency (EPA) Site-Specific Action Levels (SSAL) are presented in pCi/g.

Samples analyzed by EPA's National Analytical Radiation Environmental Laboratory (NARELL).

Samples analyzed by RST 3-procured laboratory, Pace Analytical Services (PACE).

Values in red equal or exceed the EPA SSAL for the respective radioisotope.

Radium-226* (21-day ingrowth) analyzed by gamma spectroscopy via EPA 901.1 modified (soil only).

[2]For samples analyzed by PACE, the detection limit for lead-210 by EPA Method 901.1 is not low enough, therefore, a negative result is generated by the laboratory instrument if the sample contains low or no detection of lead-210.

ED_006395_00001616-00034

Table 4
Validated Soil Analytical Results Summary Table - Radioisotopes
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Location No.	C003-SB007			C003-SB008												C003-SB009									C003-SB009		
RST 3 Sample No.	C003-SB007-3648-01			C003-SB008-0012-01			C003-SB008-1224-01			C003-SB008-2436-01			C003-SB008-3648-01			C003-SB009-0012-01			C003-SB009-1224-01			C003-SB009-2436-01			C003-SB009-3648-01		
Sample Depth (inches)	36-48			0-12			12-24			24-36			36-48			0-12			12-24			24-36			36-48		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope	[1]EPA SSAL																										
Bismuth-212 (Bi-212)	6,440,000	0.77		0.18	0.31		0.14	0.75		0.14	2.729	J	3.165	0.966	J	1.2	0.31		0.17	0.66		0.17	0.548	U	0.723	7.565		2.698
Bismuth-214 (Bi-214)	1,310,000	0.73		0.09	ND			9.46		1.04	NA			NA			0.66		0.08	1.46		0.16	NA			NA		
Cesium-137 (Cs-137)	11.20	ND			0		0.01	ND			NA			NA			ND			ND			NA			NA		
[2]Lead-210 (Pb-210)	418	0.45		0.15	0.45		0.17	12		1.43	49.489		9.419	3.546		1.996	0.55	J	0.2	1.45	J	0.22	2.2	U	3.849	4.188	J	5.628
Lead-212 (Pb-212)	657,000	0.69		0.08	0.44		0.05	0.68		0.08	1.094		0.295	1.099		0.218	0.38		0.04	0.53		0.06	1.021		0.272	3.887		0.691
Lead-214 (Pb-214)	7,330,000	0.88		0.1	0.49		0.06	10.8		1.19	ND			ND			0.79		0.09	1.66		0.19	ND			ND		
Potassium-40 (K-40)	26.7	9		1.01	9.27		1.05	12.4		1.38	11.298		3.279	9.025		2.048	9.17		1.04	12		1.34	10.563		2.656	15.827		3.739
Radium-226* (Ra-226)	2.52	1.3		0.23	0.71		0.21	32.2		3.41	39.384		4.354	1.258		0.29	1.04		0.26	2.15		0.29	3.984		0.534	6.983		1.07
Radium-228 (Ra-228)	16.2	0.68		0.08	0.44		0.06	0.66		0.08	2.117		0.908	1.385		0.331	0.4		0.06	0.57		0.08	1.078		0.399	4.622		0.924
Thallium-208 (Tl-208)	3,400,000	0.21		0.03	0.12		0.02	0.21		0.03	0.284	J	0.276	0.398		0.116	0.1		0.02	0.17		0.02	0.459		0.161	1.614		0.331
Thorium-227 (Th-227)	NS	ND			0.18	J	0.09	0.23	J	0.08	NA			NA			0.07	J	0.05	ND			NA			NA		
Thorium-228 (Th-228)	13,300	0.76	J	0.12	0.36		0.1	0.68	J	0.12	1.06	J	0.373	0.944	J	0.439	0.38		0.08	0.46		0.09	0.849	J	0.422	3.23	J	0.875
Thorium-230 (Th-230)	2,060	0.6	J	0.1	0.56		0.13	3.64	J	0.44	12.8	J	2.32	1.11	J	0.465	0.55	J	0.11	0.95	J	0.14	1.19	J	0.444	2.6	J	0.745
Thorium-232 (Th-232)	5	0.7	J	0.11	0.34		0.09	0.58	J	0.11	0.95	J	0.338	0.903	J	0.412	0.32		0.07	0.5		0.09	0.686	J	0.328	2.62	J	0.748
Thorium-234 (Th-234)	47,500	0.61		0.19	0.3		0.16	ND			1.978	U	4.062	1.253	J	1.293	0.18	J	0.2	0.41		0.17	1.253	U	2.658	4.806	J	1.937
Uranium-233/234 (U-233/234)	3,260	NA			NA			NA			0.691	J	0.243	0.711	J	0.216	NA			NA			0.818	J	0.296	2.55	J	0.567
Uranium-235/236 (U-235/236)	37.7	NA			NA			NA			0.045	J	0.081	0.083	J	0.074	NA			NA			0	J	0.102	0.147	J	0.115
Uranium-234 (U-234)	3,260	0.56		0.11	0.48		0.11	0.54		0.10	NA			NA			0.37	J	0.09	0.46	J	0.08	NA			NA		
Uranium-235 (U-235)	37.7	0.03		0.03	0.04		0.03	0.02	J	0.02	2.837	R	0.496	0.198	R	0.131	0.02	J	0.02	0.02	J	0.02	0.233	R	0.17	0.635	R	0.233
Uranium-238 (U-238)	158	0.54		0.11	0.41		0.1	0.48	J	0.09	0.781	J	0.261	0.821	J	0.237	0.37	J	0.08	0.54	J	0.09	0.366	J	0.186	2.77	J	0.602

Location No.	C003-SB010																								C003-SB011		
RST 3 Sample No.	C003-SB010-0012-01			C003-SB010-1224-01			C003-SB010-2436-01			C003-SB010-3648-01			C003-SB010-4860-01			C003-SB010-6072-01			C003-SB010-7284-01			C003-SB010-8496-01			C003-SB011-0012-01		
Sample Depth (inches)	0-12			12-24			24-36			36-48			48-60			60-72			72-84			84-96			0-12		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/5/2016			4/6/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radinisotope	[1]EPA SSAL																										
Bismuth-212 (Bi-212)	6,440,000	0.57		0.11	1.09		0.26	8.627		10.22	0	U	3.86	1.186	U	7.386	1.89		0.3	3.48		0.49	1.17		0.16	0.99		0.21
Bismuth-214 (Bi-214)	1,310,000	0.36		0.04	26.5		2.9	NA			NA			NA			5.03		0.55	3.21		0.36	0.98		0.11	0.58		0.07
Cesium-137 (Cs-137)	11.20	0.01	J	0.01	0.07		0.02	NA			NA			NA			ND			ND			ND			ND		
[2]Lead-210 (Pb-210)	418	1.48	J	0.23	32.7	J	3.81	184.76		91.79	818.99		128.76	230.53		124.28	4.27	J	0.51	2.84	J	0.37	0.63	J	0.13	0.58	J	0.19
Lead-212 (Pb-212)	657,000	0.52		0.06	0.85		0.1	2.352		0.893	0.058	U	3.064	0	U	0.507	1.6		0.18	3.42		0.38	1.16		0.13	1.03		0.12
Lead-214 (Pb-214)	7,330,000	0.43		0.05	30		3.29	ND			ND		19.15	ND			5.85		0.64	3.81		0.42	1.13		0.13	0.68		0.08
Potassium-40 (K-40)	26.7	9.23		1.03	13.1		1.48	21.543		6.301	10.296	J	19.15	18.202		5.706	11.3		1.27	9.59		1.09	13.4		1.49	20.8		2.31
Radium-226* (Ra-226)	2.52	0.7		0.13	35.2		3.92	255.39		33.81	926.1		122.85	195.8		26.602	7.41		0.88	5.16		0.68	2.28		0.31	1.13		0.25
Radium-228 (Ra-228)	16.2	0.55		0.06	0.87		0.12	2.669		2.317	3.296	U	3.311	0	UJ	1.422	1.61		0.18	3.28		0.36	1.16		0.13	0.98		0.12
Thallium-208 (Tl-208)	3,400,000	0.17		0.02	0.26		0.03	0	U	0.398	2.386		2.326	0	U	0.257	0.49		0.06	0.99		0.11	0.36		0.04	0.3		0.04
Thorium-227 (Th-227)	NS	0.08	J	0.04	0.70	J	0.15	NA			NA			NA			0.25	J	0.07	0.26	J	0.09	0.13	J	0.06	0.15		0.09
Thorium-228 (Th-228)	13,300	0.46		0.08	0.86		0.13	1.45	J	0.653	1.91	J	1.03	1.17	J	0.476	1.79		0.21	2.35		0.32	1.06		0.16	1.04		0.21
Thorium-230 (Th-230)	2,060	0.44	J	0.08	15	J	1.52	128	J	21	546	J	98.2	116	J	18.9	4.46	J	0.46	3.98	J	0.5	1.13	J	0.16	0.79		0.18
Thorium-232 (Th-232)	5	0.54		0.09	0.91		0.14	1.72	J	0.658	2.93	J	1.27	0.949	J	0.411	1.67		0.2	2.38		0.32	1.22		0.17	0.85		0.19
Thorium-234 (Th-234)	47,500	0.46		0.13	0.78		0.43	21.573	J	12.072	3.823	U	33.453	0	U	11.725	0.9		0.22	1.79		0.39	1.28		0.18	0.73		0.21
Uranium-233/234 (U-233/234)	3,260	NA			NA			1.21	J	0.368	1.76	J	0.461	0.98	J	0.328	NA			NA			NA			NA		
Uranium-235/236 (U-235/236)	37.7	NA			NA			0.148	J	0.132	0.119	J	0.109	0.139	J	0.124	NA			NA			NA			NA		
Uranium-234 (U-234)	3,260	0.39	J	0.07	0.63	J	0.1	NA			NA			NA			1.34	J	0.17	1.74	J	0.2	1.41	J	0.18	0.84		0.14
Uranium-235 (U-235)	37.7	0.01	J	0.02	0.04		0.02	18.785	R	2.784	62.472	R	8.882	4.484	R	0.957	0.07		0.03	0.08		0.03	0.08		0.04	0.02	J	0.02
Uranium-238 (U-238)	158	0.49	J	0.08	0.72	J	0.11	1.46	J	0.413	1.31	J	0.377	1.13	J	0.358	1.35	J	0.17	1.85	J	0.22	1.44	J	0.18	0.81		0.14

Notes:

RST 3 - Removal Support Team 3.

No. - Number; U - Not detected; J - An estimated result; R - A rejected result.

pCi/g - picocuries per gram; NA - Not analyzed; NS - Not specified.

[1]U.S. Environmental Protection Agency (EPA) Site-Specific Action Levels (SSAL) are presented in pCi/g.

Samples analyzed by EPA's National Analytical Radiation Environmental Laboratory (NARELA).

Samples analyzed by RST 3-procured laboratory, Pace Analytical Services (PACE).

Values in red equal or exceed the EPA SSAL for the respective radioisotope.

Radium-226* (21-day ingrowth) analyzed by gamma spectroscopy via EPA 901.1 modified (soil only).

[2]For samples analyzed by PACE, the detection limit for lead-210 by EPA Method 901.1 is not low enough, therefore, a negative result is generated by the laboratory instrument if the sample contains low or no detection of lead-210.

ED_006395_00001616-00035

Table 4
Validated Soil Analytical Results Summary Table - Radioisotopes
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Location No.	C003-SB011									C003-SB012												C003-SB013					
RST 3 Sample No.	C003-SB011-1224-01			C003-SB011-2436-01			C003-SB011-3648-01			C003-SB012-0012-01			C003-SB012-1224-01			C003-SB012-2436-01			C003-SB012-3648-01			C003-SB013-0012-01			C003-SB013-1224-01		
Sample Depth (inches)	12-24			24-36			36-48			0-12			12-24			24-36			36-48			0-12			12-24		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	1.942	J	1.891	0	U	0.334	0.95		0.17	0.47		0.19	2.026		1.546	5.952		3.718	7.031		6.018	0.61		0.19	0.95		0.18
Bismuth-214 (Bi-214)	1,310,000	NA			NA			0.44		0.05	0.35		0.05	NA			NA			NA			0.43		0.06	1.8		0.2
Cesium-137 (Cs-137)	11.20	NA			NA			ND			ND			NA			NA			NA			ND			ND		
[2]Lead-210 (Pb-210)	418	11.287	J	5.291	0.424	UJ	16.114	0.69	J	0.18	0.43	J	0.13	8.64	J	5.157	205.99		96.837	73.896		17.078	0.44	J	0.22	2.01	J	0.29
Lead-212 (Pb-212)	657,000	0.678		0.221	0.851		0.203	0.84		0.1	0.47		0.06	0.911		0.265	0	U	0.433	0.594	J	0.457	0.5		0.06	0.74		0.08
Lead-214 (Pb-214)	7,330,000	ND			ND			0.51		0.06	0.4		0.06	ND			ND			ND			0.47		0.06	2.05		0.23
Potassium-40 (K-40)	26.7	13.393		2.976	16.599		3.02	14.6		1.62	11.1		1.25	15.026		3.142	14.755		5.406	22.578		5.318	12.6		1.42	12.3		1.36
Radium-226* (Ra-226)	2.52	3.492		0.871	1.675		0.286	1		0.19	0.67		0.23	8.132		1.39	132.07		17.556	75.998		10.175	0.85		0.08	2.79		0.36
Radium-228 (Ra-228)	16.2	0.599	J	0.668	0.838		0.415	0.88		0.1	0.45		0.07	1.007		0.618	2.206		0.934	1.037	J	1.502	0.54		0.21	0.82		0.1
Thallium-208 (Tl-208)	3,400,000	0.339		0.145	0.334		0.102	0.26		0.03	0.14		0.02	0.505		0.153	0.238	U	0.446	0.323	J	0.397	0.16		0.04	0.22		0.03
Thorium-227 (Th-227)	NS	NA			NA			0.1		0.05	0.13		0.05	NA			NA			NA			0.06		0.04	0.12		0.05
Thorium-228 (Th-228)	13,300	0.867	J	0.436	1.02	J	0.46	0.69		0.11	0.4		0.08	0.721	J	0.376	0.598	J	0.375	0.808	J	0.372	0.51		0.11	0.66		0.11
Thorium-230 (Th-230)	2,060	1.1	J	0.456	0.939	J	0.42	0.44		0.09	0.36		0.08	8.42	J	1.74	84.8	J	14	21	J	3.74	0.53		0.12	1.24		0.18
Thorium-232 (Th-232)	5	0.739	J	0.36	0.79	J	0.377	0.7		0.11	0.46		0.08	0.633	J	0.32	1.06	J	0.461	0.712	J	0.332	0.58		0.12	0.5		0.09
Thorium-234 (Th-234)	47,500	1.288	U	2.545	0	U	2.257	0.54		0.17	0.51		0.22	0.417	U	3.147	10	U	19.794	0	U	4.993	0.46		0.02	0.55		0.16
Uranium-233/234 (U-233/234)	3,260	0.244	J	0.134	0.361	J	0.163	NA			NA			0.395	J	0.186	0.796	J	0.258	4.38	J	0.885	NA			NA		
Uranium-235/236 (U-235/236)	37.7	0.044	J	0.079	-0.005	UJ	0.074	NA			NA			0.035	J	0.09	0.038	J	0.077	0.253	J	0.158	NA			NA		
Uranium-234 (U-234)	3,260	NA			NA			0.48		0.11	0.37		0.07	NA			NA			NA			0.41		0.09	0.35		0.09
Uranium-235 (U-235)	37.7	0.468	R	0.177	0.072	R	0.13	0.03		0.03	ND			0.919	R	0.289	9.273	R	1.471	5.507	R	1.046	0.03	J	0.03	0.02	J	0.02
Uranium-238 (U-238)	158	0.383	J	0.169	0.572	J	0.209	0.49		0.11	0.34		0.07	0.374	J	0.183	0.671	J	0.233	3.07	J	0.67	0.41		0.09	0.44		0.1

Location No.	C003-SB013									C003-SB014												C003-SB015					
RST 3 Sample No.	C003-SB013-2436-01			C003-SB013-2436-02			C003-SB013-3648-01			C003-SB014-0012-01			C003-SB014-1224-01			C003-SB014-2436-01			C003-SB014-3648-01			C003-SB015-0012-01			C003-SB015-1224-01		
Sample Depth (inches)	24-36			24-36			36-48			0-12			12-24			24-36			36-48			0-12			12-24		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212)	6,440,000	0.721	J	1.23	0	U	0.63	1.112	U	5.339	0.59		0.14	0.767	U	1.893	2.847	J	4.251	2.324		1.242	1.04		0.18	1.128	J	1.327
Bismuth-214 (Bi-214)	1,310,000	NA			NA			NA			0.58		0.07	NA			NA			NA			0.87		0.1	NA		
Cesium-137 (Cs-137)	11.20	NA			NA			NA			0.01	J	0.01	NA			NA			NA			0.07		0.01	NA		
[2]Lead-210 (Pb-210)	418	2.784	UJ	15.717	3.54	J	3.307	129.86		65.094	0.59	J	0.19	10.944	J	3.618	123.07		66.319	6.835	J	4.362	1.38	J	0.28	-2.152	UJ	17.964
Lead-212 (Pb-212)	657,000	0.493		0.151	0.558		0.165	0	U	0.473	0.55		0.06	0.612		0.189	0.994		0.502	0.916		0.233	0.86		0.1	0.836		0.2
Lead-214 (Pb-214)	7,330,000	ND			ND			ND			0.66		0.08	ND			ND			ND			1.05		0.12	ND		
Potassium-40 (K-40)	26.7	12.381		2.328	12.774		2.594	16.945		4.821	11.5		1.29	13.807		2.847	18.577		4.684	12.645		3.034	13.5		1.51	14.352		2.514
Radium-226* (Ra-226)	2.52	3.49		0.53	3.681		0.566	110.8		14.723	1.02		0.2	5.061		0.746	93.889		12.376	5.636		0.838	1.79		0.29	2.918		0.537
Radium-228 (Ra-228)	16.2	0.757		0.201	0.915		0.35	0	UJ	0.856	0.56		0.07	0.595	J	0.426	1.943		1.157	1.232		0.452	0.86		0.11	1.075		0.325
Thallium-208 (Tl-208)	3,400,000	0.285		0.1	0.248		0.081	0	U	0.271	0.17		0.02	0.136	J	0.169	0	U	0.185	0.382		0.145	0.26		0.03	0.371		0.113
Thorium-227 (Th-227)	NS	NA			NA			NA			0.08		0.05	NA			NA			NA			0.12		0.06	NA		
Thorium-228 (Th-228)	13,300	0.545	J	0.314	1.06	J	0.451	0.69	J	0.382	0.47		0.09	0.425	J	0.304	0.941		0.383	0.656	J	0.287	0.92		0.14	1.08		0.419
Thorium-230 (Th-230)	2,060	1.74	J	0.561	2.02	J	0.63	34.5		5.95	0.65		0.12	5.21		1.21	33.2		5.63	2.28		0.598	0.78		0.13	0.424		0.24
Thorium-232 (Th-232)	5	0.515	J	0.276	0.485	J	0.275	0.966		0.424	0.47		0.09	0.501		0.284	0.904		0.355	0.491		0.234	0.84		0.14	0.721		0.316
Thorium-234 (Th-234)	47,500	1.066	U	3.291	0.391	U	1.965	3.979	U	5.134	0.37		0.15	1.664	J	2.037	6.556	U	15.461	1.802	J	1.707	0.79		0.27	1.393	U	1.458
Uranium-233/234 (U-233/234)	3,260	0.439	J	0.179	0.455	J	0.2	0.907		0.285	NA			0.398		0.195	0.966		0.286	0.718		0.23	NA			0.446		0.178
Uranium-235/236 (U-235/236)	37.7	0.082	J	0.081	0.057	J	0.093	0.022	U	0.08	NA			0	U	0.101	0.067	J	0.077	0.13		0.1	NA			0.034	U	0.07
Uranium-234 (U-234)	3,260	NA			NA			NA			0.4		0.09	NA			NA			NA			0.53		0.11	NA		
Uranium-235 (U-235)	37.7	0.396	R	0.155	0.357	R	0.142	8.314	R	1.442	0.04		0.03	0.448	R	0.178	6.585	R	1.088	0.414	R	0.159	0.03	J	0.03	0.356	R	0.159
Uranium-238 (U-238)	158	0.46	J	0.181	0.332	J	0.169	0.634		0.23	0.44		0.09	0.381		0.189	1.01		0.294	0.57		0.2	0.6		0.11	0.543		0.197

Notes:

RST 3 - Removal Support Team 3.

No. - Number; U - Not detected; J - An estimated result; R - A rejected result.

pCi/g - picocuries per gram; NA - Not analyzed; NS - Not specified.

[1]U.S. Environmental Protection Agency (EPA) Site-Specific Action Levels (SSAL) are presented in pCi/g.

Samples analyzed by EPA's National Analytical Radiation Environmental Laboratory (NARELL).

Samples analyzed by RST 3-procured laboratory, Pace Analytical Services (PACE).

Values in red equal or exceed the EPA SSAL for the respective radioisotope.

Radium-226* (21-day ingrowth) analyzed by gamma spectroscopy via EPA 901.1 modified (soil only).

[2]For samples analyzed by PACE, the detection limit for lead-210 by EPA Method 901.1 is not low enough, therefore, a negative result is generated by the laboratory instrument if the sample contains low or no detection of lead-210.

ED_006395_00001616-00036

Table 4
Validated Soil Analytical Results Summary Table - Radioisotopes
Canadian Radium and Uranium Corp. Site
Mount Kisco, New York
April 2016

Location No.	C003-SB015						C003-SB016												[2]C004-SB001								
RST 3 Sample No.	C003-SB015-2436-01			C003-SB015-3648-01			C003-SB016-0012-01			C003-SB016-1224-01			C003-SB016-2436-01			C003-SB016-3648-01			C004-SB001-0012-01			C004-SB001-1224-01			C004-SB001-2436-01		
Sample Depth (inches)	24-36			36-48			0-12			12-24			24-36			36-48			0-12			12-24			24-36		
Sample Matrix	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Sample Date	4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/6/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																											
Bismuth-212 (Bi-212) / 6,440,000	1.03		0.14	0.046	U	3.005	0.97		0.19	1.332		0.999	1.52		1.18	0.99		0.14	1.749		0.998	1.441	J	1.604	0.116	U	1.488
Bismuth-214 (Bi-214) / 1,310,000	0.55		0.06	NA			0.39		0.05	NA			NA			0.54		0.06	NA			NA			NA		
Cesium-137 (Cs-137) / 11.20	0.01		0	NA			ND			NA			NA			ND			NA			NA			NA		
[2]Lead-210 (Pb-210) / 418	0.56	J	0.16	12.479	J	5.911	0.62	J	0.18	-0.708	UJ	14.296	0.306	UJ	2.68	0.55	J	0.17	8.123	UJ	15.244	2.429	J	2.535	-1.201	U	15.893
Lead-212 (Pb-212) / 657,000	0.88		0.1	0.98		0.279	0.77		0.09	0.86		0.201	0.893		0.218	0.9		0.1	0.864		0.21	0.873		0.223	0.73		0.18
Lead-214 (Pb-214) / 7,330,000	0.65		0.07	ND			0.48		0.06	ND			ND			0.62		0.07	ND			ND			ND		
Potassium-40 (K-40) / 26.7	12.9		1.42	14.738		3.346	16.9		1.88	11.902		2.794	14.109		2.98	13		1.44	14.147		2.631	13.325		3.325	13.714		2.451
Radium-226* (Ra-226) / 2.52	1.16		0.18	13.787		1.683	0.87		0.22	1.057		0.261	0.821		0.235	1.11		0.18	1.705		0.325	3.634		0.578	2.868		0.447
Radium-228 (Ra-228) / 16.2	0.9		0.1	0.046	UJ	0.993	0.8		0.1	1.244		0.318	1.267		0.373	0.94		0.11	1.282		0.342	1.122		0.437	1.096		0.33
Thallium-208 (Tl-208) / 3,400,000	0.28		0.03	0.506		0.162	0.22		0.03	0.36		0.114	0.329		0.104	0.29		0.03	0.305		0.086	0.336		0.116	0.284		0.087
Thorium-227 (Th-227) / NS	0.09		0.05	NA			0.11		0.06	NA			NA			0.12		0.06	NA			NA			NA		
Thorium-228 (Th-228) / 13,300	0.81		0.13	0.758	J	0.327	0.67		0.12	1.35		0.516	0.885		0.362	0.81		0.13	0.798	J	0.356	1.09		0.392	1.23		0.39
Thorium-230 (Th-230) / 2,060	0.54		0.1	1.33		0.432	0.49		0.1	0.408		0.255	0.158	J	0.141	0.7		0.12	0.324		0.213	1.02		0.349	0.657		0.261
Thorium-232 (Th-232) / 5	0.85		0.13	0.603		0.27	0.6		0.11	1.16		0.445	0.567		0.267	0.86		0.14	0.528		0.273	1.06		0.358	0.773		0.286
Thorium-234 (Th-234) / 47,500	0.6		0.16	0	U	2.248	0.69		0.27	1.205	U	2.002	0.18	U	1.782	0.61		0.17	1.193	U	3.356	0.105	U	2.222	3.298	J	3.371
Uranium-233/234 (U-233/234) / 3,260	NA			0.61		0.216	NA			0.439		0.178	0.317		0.146	NA			0.453		0.185	0.762		0.244	0.649		0.229
Uranium-235/236 (U-235/236) / 37.7	NA			0.077	J	0.081	NA			0.096	J	0.09	0.034	U	0.069	NA			0.021	U	0.076	0.102		0.09	0.038	U	0.079
Uranium-234 (U-234) / 3,260	0.52		0.1	NA			0.49		0.1	NA			NA			0.59		0.13	NA			NA			NA		
Uranium-235 (U-235) / 37.7	0.03	J	0.03	0.975	R	0.291	ND			0.193	R	0.167	0.002	R	0.123	ND			0.168	R	0.169	0.363	R	0.178	0.264	R	0.159
Uranium-238 (U-238) / 158	0.46		0.1	0.462		0.186	0.48		0.1	0.421		0.174	0.379		0.159	0.51		0.12	0.452		0.182	0.51		0.192	0.66		0.232

Location No.	[2]C004-SB001												Rinsate Blank					
RST 3 Sample No.	C004-SB001-3648-01			C004-SB001-3648-02			C004-SB001-7284-01			C004-SB001-8496-01			RB-040516			RB-040616		
Sample Depth (inches)	36-48			36-48			72-84			84-96			NA			NA		
Sample Matrix	Soil			Soil			Soil			Soil			Aqueous			Aqueous		
Sample Date	4/6/2016			4/6/2016			4/6/2016			4/6/2016			4/5/2016			4/6/2016		
Sample Result	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/g)	Qualifier	Total Uncertainty	Value (pCi/L)	Qualifier	Total Uncertainty	Value (pCi/L)	Qualifier	Total Uncertainty
Radioisotope / [1]EPA SSAL																		
Bismuth-212 (Bi-212) / 6,440,000	2.023		0.915	0.948	J	0.612	2.043		1.695	0.901	U	1.053	NA			NA		
Bismuth-214 (Bi-214) / 1,310,000	NA			NA			NA			NA			NA			NA		
Cesium-137 (Cs-137) / 11.2	NA			NA			NA			NA			NA			NA		
[2]Lead-210 (Pb-210) / 418	0	U	1.806	-4.986	U	14.443	1.29	U	2.575	2.426	U	27.587	NA			NA		
Lead-212 (Pb-212) / 657,000	1.264		0.268	1.049		0.214	0.894		0.213	0.954		0.252	NA			NA		
Lead-214 (Pb-214) / 7,330,000	ND			ND			ND			ND			NA			NA		
Potassium-40 (K-40) / 26.7	15.916		3.205	17.198		2.98	12.418		2.693	15.751		3.172	NA			NA		
Radium-226* (Ra-226) / 2.52	0.895		0.244	0.712		0.188	0.611		0.185	13.842		1.546	NA			NA		
Radium-228 (Ra-228) / 16.2	1.627		0.419	1.166		0.349	1.053		0.321	1.367		0.425	NA			NA		
Thallium-208 (Tl-208) / 3,400,000	0.469		0.135	0.37		0.162	0.37		0.119	0.167	J	0.174	NA			NA		
Thorium-227 (Th-227) / NS	NA			NA			NA			NA			NA			NA		
Thorium-228 (Th-228) / 13,300	0.896		0.361	0.875		0.342	0.682	J	0.306	1.1		0.379	0.101	J	0.091	0.186		0.104
Thorium-230 (Th-230) / 2,060	0.267		0.185	0.471		0.222	0.48		0.238	2.9		0.69	0.043	J	0.039	0.031	J	0.041
Thorium-232 (Th-232) / 5.11	0.561		0.268	0.726		0.282	0.762		0.309	0.493		0.225	0	J	0.038	0.019	J	0.041
Thorium-234 (Th-234) / 47,500	0.949	U	1.599	0	U	1.98	0	U	1.143	0	U	3.981	NA			NA		
Uranium-233/234 (U-233/234) / 3,260	0.409		0.172	0.382		0.157	0.394		0.175	0.443		0.175	0.059	U	0.087	0.078	J	0.086
Uranium-235/236 (U-235/236) / 37.7	0.079	J	0.082	0.01	J	0.066	0.048	U	0.078	0	U	0.069	0.047	U	0.101	0.017	U	0.091
Uranium-234 (U-234) / 3,260	NA			NA			NA			NA			NA			NA		
Uranium-235 (U-235) / 37.7	0.069	R	0.126	0.132	R	0.137	0.119	R	0.155	0.773	R	0.261	NA			NA		
Uranium-238 (U-238) / 158	0.47		0.185	0.459		0.173	0.245		0.131	0.472		0.182	0.046	UJ	0.088	0.015	UJ	0.07
Radium-226** (Ra-226) / NS	NA			NA			NA			NA			0.992		0.717	0.161	U	0.35
Radium-228*** (Ra-228) / NS													0.725	J	0.409	0.454	J	0.406

Notes:

RST 3 - Removal Support Team 3.

No. - Number; U - Not detected; J - An estimated result; R - A rejected result.

pCi/g - picocuries per gram; µg/L - micrograms per liter; NA - Not analyzed; NS - Not specified.

[1]U.S. Environmental Protection Agency (EPA) Site-Specific Action Levels (SSAL) are presented in pCi/g.

Samples analyzed by EPA's National Analytical Radiation Environmental Laboratory (NARELA).

Samples analyzed by RST 3-procured laboratory, Pace Analytical Services (PACE).

Values in red equal or exceed the EPA SSAL for the respective radioisotope.

Radium-226* (21-day ingrowth) analyzed by gamma spectroscopy via EPA 901.1 modified (soil only).

Radium-226** analyzed via EPA Method 903.1 (aqueous only).

Radium-228*** - analyzed via EPA Method 904.0 (aqueous only).

[2]For samples analyzed by PACE, the detection limit for lead-210 by EPA Method 901.1 is not low enough, therefore, a negative result is generated by the laboratory instrument if the sample contains low or no detection of lead-210.

Background samples were collected from Property C005, however, RST 3 inadvertently reported the sample numbers for this property with a lead C004 instead of C005.

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