EA Engineering and Geology, P.C.

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17 December 2025

Mr. Glenn May
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017

RE: Radiological Survey and Sampling Results
Contract/Work Assignment No. D009806-16
5565 River Road Site Tonawanda, New York
Site No. 915239

This letter describes the results of the radiological surface scan and follow-up sampling that was performed at the 5565 River Road Site in Tonawanda, New York (**Figure 1**). This work is being carried out by EA Engineering and Geology, P.C. under Work Assignment D009806-16. The work was conducted to determine if elevated radioactive materials of technologically enhanced naturally occurring radioactive materials (TENORM) are present at the site, and whether a TENORM management plan will need to be implemented during future remediation at the site.

1. BACKGROUND

On 30 April 2024, the NYSDEC Radioactive Materials Management Section (RMMS) performed a preliminary survey of the site to determine the potential for material with elevated activity and possible TENORM. The conclusions of the preliminary survey indicated that elevated material was encountered in areas known to contain fly ash and foundry sand. As a result, RMMS requested that further investigations be conducted to characterize and map the extent of elevated material on the site. The RMMS Trip Report from the preliminary survey is included as **Attachment A.**

2. RADIOLOGICAL SURFACE SCAN

A radiological surface scan was performed in November 2024 by Greater Radiological Dimensions (GRD), under contract to EA. GRD is a NYSDOH licensed Decommissioning and Decontamination contractor. The objective of the surface scan was to produce a gamma radiation map of the site and to characterize areas of elevated radiation within the boundaries of the site depicted on **Figure 2**. This area was subject to historical dumping operations of fly ash and foundry sand. The survey followed the requirements of DMM-5 / Management of Soils Contaminated with TENORM (**Attachment B**). The background screening area (shown on **Figure 2**) was selected because it represents background conditions in the vicinity of the site but is located outside of the area where historical dumping took place. Background screening levels were recorded in the same location each morning prior to screening at the Site (**Table 1**). The average background level was 5,920 counts per minute (CPM). GRD utilized the RadScout gamma survey system coupled with a Ludlum model 3000 survey meter. The survey meter was paired with a Ludlum model 44-10 NaI scintillator external probe to collect gamma measurements. Radiological data were tied to a GPS

coordinate (sub-meter accuracy) and stored in a binary file. Data was viewable in real time to identify areas of elevated gamma radiation while surveying. Locations that failed the screening were defined by readings that exceed 1.5 times background levels (greater than 8,880 CPM). Field locations that failed the screening were physically marked with stakes and flagging for further investigation and soil sampling. The results of the survey were compiled for evaluation and selection of sampling locations (**Figure 3**).

3. RADIOLOGICAL SOIL SAMPLING

Radiological sampling was conducted on 29 April 2025 by GRD per the 17 March 2025 Survey Plan (**Attachment C**). The sample locations (**Figure 3**) were selected based on the following criteria:

Table 2. Radiological Sample Details

Sample ID	Criteria for Location	Sample depth intervals (feet)
RAD-1	Foundry sand with gamma counts exceeding 1.5x background	0-3, 3-6, 6-9, 9-12, 12-15, 15-18
RAD-2		0-3, 3-6, 6-9, 9-12, 12-15, 15-18
RAD-3	Fly ash with gamma counts exceeding 1.5x background	0-3, 3-6, 6-9, 9-12
RAD-4		0-3, 3-6, 6-9
RAD-5	Fly ash and gamma counts in the southern area of the site exceeding 1.5x background	0-3, 3-6
RAD-6	Wetland area near the northwest corner of the site with gamma counts exceeding 1.5x background	0-3

The daily field report for the sampling event is provided as **Attachment D**. Soil samples were collected and submitted to GEL Laboratories in Charleston, South Carolina for the following analyses:

- Gamma Spec including Radium-226 and radium-228 (DOE HASL 300, 4.5.2.3/Ga-01-R, 21 day in-growth)

- Alpha Spec for Uranium (DOE EML HASL-300, U-02-RC Modified)
- Thorium (DOE EML HASL-300, Th-01-RC Modified).

4. RESULTS AND DISCUSSION

Per DMM-5, radium-226 concentrations dictate how TENORM is managed. The analytical results are presented on **Table 3**. The laboratory report is provided as **Attachment E**. Results indicate that TENORM material at the site is "background-comparable", as all radium-226 results are below 5 pCi/g. The State Superfund site's Remedial Action Work Plan and Site Management Plan will include information on the proper management of TENORM (Environmental Easement, no disposal in NYS landfills, etc.).

A Feasibility Study is currently underway to address site-related contamination. The selected remedy will consider the management requirements for background-comparable TENORM as described in Section IV. B. of DMM-5. Implementation of the remedy at the site will include

institutional controls, likely in the form of an environmental notice, that will prohibit groundwater use at the site and require compliance with a Site Management Plan.

Please contact Adam Etringer at aetringer@eaest.com or 315-565-6564 if you have any questions about the work described herein.

Sincerely,

EA ENGINEERING AND GEOLOGY, P.C.

Adam Etringer
Senior Project Manager

Attachments:

Table 1 – Background Screening Levels
Table 2 – Radiological Sample Details (in text)
Table 3 – Radiological Analytical Results

Figure 1 – Site Map and Surrounding Area
Figure 2 – Radiological Survey Area
Figure 3 – Radiological Survey Results and Sample Locations

Attachment A – RMMS Trip Report
Attachment B – DMM-5
Attachment C – Survey Plan
Attachment D – Daily Field Report
Attachment E – Analytical Data Report

Tables

Table 1. Background Screening Levels

Date	Background Measurement (CPM)	Average (CPM)	1.5x Background (CPM)
10/30/2024	6,009	5,920	8,880
10/31/2024	5,805		
11/1/2024	6,053		
11/4/2024	5,977		
11/5/2024	5,719		
11/7/2024	6,040		
11/8/2024	6,048		
11/9/2024	5,710		

Notes:
CPM = counts per minute

Table 3. Radiological Analytical Results

	Analysis	Gammaspec, Solid "Dry Weight Corrected"				Alphaspec Thorium, Solid "Dry Weight Corrected"						Alphaspec Uranium, Solid "Dry Weight Corrected"					
		Radium-226		Radium-228		Thorium-228		Thorium-230		Thorium-232		Uranium-233/234		Uranium-235/236		Uranium-238	
	Units	pCi/g		pCi/g		pCi/g		pCi/g		pCi/g		pCi/g		pCi/g		pCi/g	
	Sample Date	4/29/2025		4/29/2025		4/29/2025		4/29/2025		4/29/2025		4/29/2025		4/29/2025		4/29/2025	
Location ID	Depth (feet)	Result	Uncertainty	Result	Uncertainty	Result	Uncertainty	Result	Uncertainty	Result	Uncertainty	Result	Uncertainty	Result	Uncertainty	Result	Uncertainty
R-1	0-3	1.74	+/-0.302	1.58	+/-0.628	2.23	+/-0.933	1.46	+/-0.793	1.74	+/-0.806	1.5	+/-0.586	0.240 U	+/-0.283	1.61	+/-0.595
	3-6	2.28	+/-0.269	2.22	+/-0.513	1.25	+/-0.679	2.92	+/-1.01	1.28	+/-0.688	1.19	+/-0.542	0.195	+/-0.257	1.29	+/-0.528
	6-9	2.21	+/-0.301	2.22	+/-0.435	1.70	+/-0.736	1.98	+/-0.801	1.73	+/-0.720	1.32	+/-0.605	-0.0335 U	+/-0.148	1.79	+/-0.636
	9-12	2.33	+/-0.239	1.99	+/-0.430	1.34	+/-0.813	2.49	+/-0.987	1.64	+/-0.781	1.05	+/-0.464	0.300 U	+/-0.293	1.31	+/-0.482
	12-15	1.89	+/-0.265	2.13	+/-0.454	1.58	+/-0.694	1.61	+/-0.710	1.53	+/-0.682	0.979	+/-0.536	-0.0324 U	+/-0.143	1.42	+/-0.570
	15-18	1.08	+/-0.224	0.808	+/-0.381	0.352 U	+/-0.491	1.48	+/-0.737	1.27	+/-0.635	0.0555	+/-0.321	-0.0427 U	+/-0.129	0.673	+/-0.379
R-2	0-3	2.41	+/-0.283	1.88	+/-0.460	1.93	+/-0.823	2.27	+/-0.858	1.65	+/-0.727	1.55	+/-0.648	0.0831 U	+/-0.229	1.66	+/-0.604
	3-6	2.31	+/-0.280	2.10	+/-0.396	1.89	+/-0.780	1.85	+/-0.765	1.32	+/-0.633	1.67	+/-0.589	0.287	+/-0.277	2.28	+/-0.653
	6-9	2.04	+/-0.246	1.52	+/-0.408	1.76	+/-0.771	1.82	+/-0.788	1.70	+/-0.738	1.71	+/-0.617	0.0330 U	+/-0.184	1.79	+/-0.616
	9-12	1.31	+/-0.243	1.21	+/-0.414	1.06	+/-0.636	1.64	+/-0.770	1.29	+/-0.659	0.864	+/-0.434	0.0551 U	+/-0.155	0.959	+/-0.421
	12-15	0.819	+/-0.160	0.723	+/-0.264	0.617 U	+/-0.533	0.791	+/-0.555	0.761	+/-0.512	0.563	+/-0.399	0.0937 U	+/-0.215	0.700	+/-0.394
	15-18	0.958	+/-0.195	0.900	+/-0.253	0.801	+/-0.507	0.524 U	+/-0.461	0.694	+/-0.480	0.940	+/-0.419	0.101 U	+/-0.201	0.733	+/-0.363
R-3	0-3	1.98	+/-0.304	1.95	+/-0.420	2.02	+/-0.921	1.33	+/-0.796	2.51	+/-1.01	1.69	+/-0.571	0.141 U	+/-0.224	1.94	+/-0.598
	3-6	2.29	+/-0.284	1.88	+/-0.457	1.21	+/-0.669	0.962	+/-0.618	1.12	+/-0.613	1.69	+/-0.548	0.150	+/-0.198	1.47	+/-0.498
	6-9	2.28	+/-0.248	1.83	+/-0.447	1.02	+/-0.642	1.85	+/-0.820	1.52	+/-0.727	1.84	+/-0.557	0.0380 U	+/-0.142	1.48	+/-0.497
	9-12	1.84	+/-0.310	1.60	+/-0.471	1.61	+/-0.745	2.16	+/-0.848	1.44	+/-0.679	1.18	+/-0.464	0.0517 U	+/-0.177	0.970	+/-0.474
R-4	0-3	2.01	+/-0.264	2.25	+/-0.432	1.07	+/-0.619	1.50	+/-0.696	1.34	+/-0.633	1.45	+/-0.498	0.0375 U	+/-0.141	1.86	+/-0.551
	3-6	2.04	+/-0.355	2.15	+/-0.417	1.60	+/-0.727	1.81	+/-0.775	1.35	+/-0.646	1.03	+/-0.424	0.168 U	+/-0.212	1.53	+/-0.492
	6-9	2.13	+/-0.229	1.82	+/-0.437	1.73	+/-0.809	0.901	+/-0.623	1.80	+/-0.791	1.61	+/-0.571	0.125 U	+/-0.268	1.77	+/-0.575
R-5	0-3	2.11	+/-0.315	1.73	+/-0.443	1.65	+/-0.806	1.96	+/-0.887	1.14	+/-0.661	1.42	+/-0.459	0.0979 U	+/-0.173	1.43	+/-0.448
	3-6	0.719	+/-0.178	0.655	+/-0.286	0.564 U	+/-0.613	0.536 U	+/-0.557	0.290 U	+/-0.391	0.438	+/-0.332	0.00440 U	+/-0.202	0.196 U	+/-0.275
R-6	0-3	0.872	+/-0.221	0.000 UI	+/-0.280	0.860	+/-0.494	1.03	+/-0.541	0.501	+/-0.384	0.706	+/-0.426	-0.0127 U	+/-0.140	0.818	+/-0.440

Notes:
pCi/g = Picocuries per gram
U = Not detected above the method detection limit
UI = Results are considered a false positive due to low abundance.

Figures

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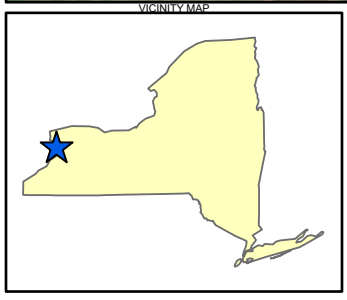
VICINITY MAP



Legend

- Site Boundary
- Open Surface Water Channel
- Surface Water Conduit/Culvert

0 400 800
Feet

N

Figure 1
SITE MAP AND SURROUNDING AREA
5565 River Road (915239)
Tonawanda, New York

Map Date: 3/3/2025
Projection: NAD 1983 (2011) State Plane
New York West FIPS 3103 (US Feet)

NEW YORK STATE | Department of Environmental Conservation

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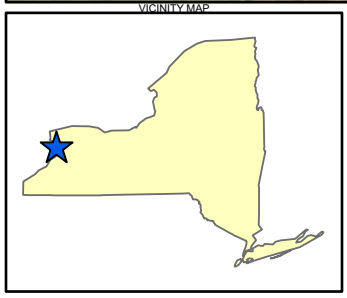


Legend

- Site Boundary and Area for Radiological Survey
- Property Boundary
- Open Surface Water Channel
- Surface Water Conduit/Culvert
- Background Measurement

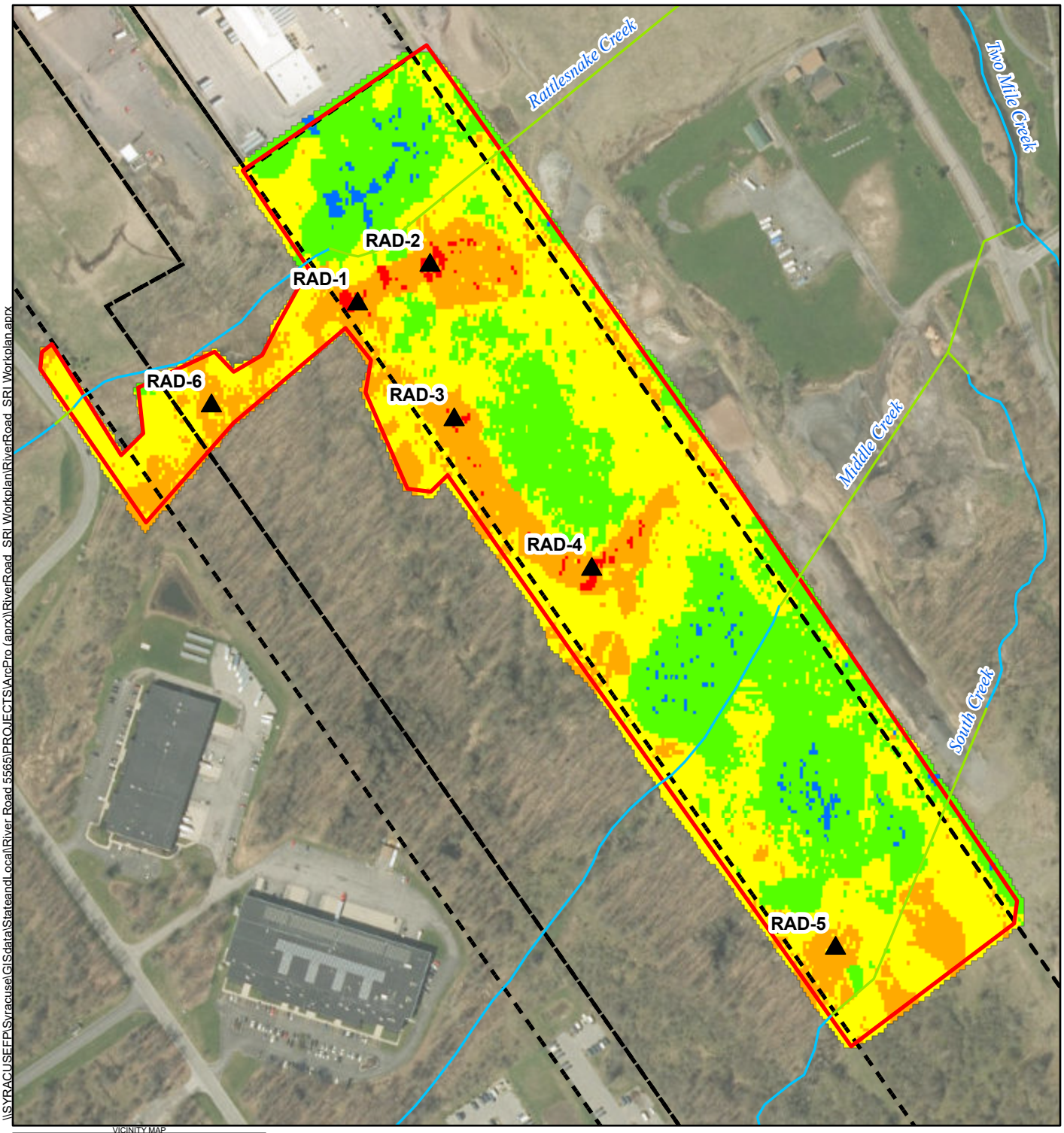
0 400 800
Feet

N

Figure 2
RADIOLOGICAL SURVEY AREA
5565 River Road (915239)
Tonawanda, New York

Map Date: 11/10/2025
Projection: NAD 1983 (2011) State Plane
New York West FIPS 3103 (US Feet)

NEW YORK STATE Department of Environmental Conservation



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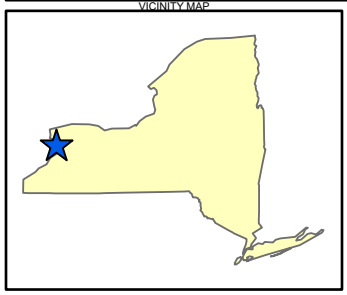


Legend

- Site Boundary and Area for Radiological Survey
- Property Boundary
- Open Surface Water Channel
- Surface Water Conduit/Culvert
- Sample Location

Gamma Count Rate (CPM)

- ≤ 5,000
- 5,001 - 7,000
- 7,001 - 8,779
- 8,880 - 11,000
- > 11,000

0 200 400
Feet

N

Figure 3
RADIOLOGICAL SURVEY AREA AND PROPOSED SAMPLE LOCATIONS
5565 River Road (915239)
Tonawanda, New York

Map Date: 11/10/2025
Projection: NAD 1983 (2011) State Plane New York West FIPS 3103 (US Feet)

NEW YORK STATE Department of Environmental Conservation

Attachment A
RMMS Trip Report

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials of Management, Bureau of Hazardous Waste and Radiation Management, Radioactive Materials Management Section
700 Delaware Avenue, Buffalo, New York 14209
P: (716) 851-7220 | F: (716) 851-7226
www.dec.ny.gov

Radioactive Materials Management Section

Trip Report

Site Name: 5565 River Road, Tonawanda, NY

Date of Visit: April 30th, 2024

Participants:

Derick Dietrich – ERS trainee

Taylor Monnin – DEC Project Manager

Adam Haines, Biologist at NYSDEC Division of Fish and Wildlife

Charles Rosenburg, Regional Habitat Protection Manager, NYSDEC Division of Fish and Wildlife

Adam Etringer, Senior Scientist/Project Manager (EA Science and Technology)

Kritika Thapa, (EA Science and Technology)

Donald Conan, (EA Science and Technology)

Thomas King, (EA Science and Technology)

Reporting ERS: Derick Dietrich

Date: April 30th, 2024

Purpose of Visit:

Preliminary survey of a site containing fly ash and foundry sand from historic disposal. Screening was conducted to determine the potential for material with elevated activity and possible TENORM.

Instrumentation:

Region 9 #1 Ludlum Model 2241-2 w/44-10 NaI Probe

Meter Background and Source Checks:

Pre-Survey Checks

(700 Delaware Ave, Buffalo)

Background: 5,651 cpm

Cs-137 Source: 213,266 cpm

(5565 River Road, Tonawanda)

On-Site Background: 5,414 cpm

On-Site Field Cs-137 Source: 103,175 cpm

Post Survey Checks

(Isle View Park 796 Niagara St, Tonawanda, NY 14150)

Background: 5,923 cpm

On-Site Field Cs-137 Source: 109,720 cpm

Observations:

Background Location:

The location chosen for the background survey was a patch of grass near the entrance of 5565 River Road, on the outskirt of the property. The background location was far away from any known material that potentially could have had elevated readings. Readings at this location were similar to the pre-check readings collected at 700 Delaware Ave, with a difference of 237 cpm.

Following the background checks, a survey around the site was initiated as the biologists began to examine the wetland portions of the site. During the biologist's investigation the ERS collected readings utilizing the 2241 ratemeter with the 44-10 NaI probe

Surveys Performed:

The first part of the screening survey began with a walk around the site to establish average readings away from the known areas of fly ash and foundry sand material. As the group progressed through the site, the activity readings were monitored and yielded

a range of approximately 4.0 to 6.5 kcpm. These levels were noted for a majority of the site that was away from the known fly ash and foundry sand material.

During the survey of the property, there were a few spots that did indicate elevated activity levels. These levels were found in the locations known to contain the disposed materials. When these elevated readings were encountered, the ratemeter reading was noted as well as obtaining a one-minute static count, where the readings were the highest. The ratemeter readings collected at these elevated locations ranged from 8.0 to 10.8 kcpm, with the highest scaler count reaching 10,568 cpm. The locations with the elevated readings coincided with exposed soil that at times had a distinct grey color to it.

Conclusions:

Elevated material was encountered during the preliminary screening for the 5565 River Road site. The locations where the elevated readings were found matched up with the areas known to contain fly ash and foundry sand. Further investigations by a NYSDOH D&D licensed consultant will be required to characterize and map the extent of the elevated material on this site.

Attachments:

Site and background location map

Photos where elevated readings were encountered

Readings collected from the site survey

Fly ash and foundry sand contours w/ the elevated readings marked.

Site location, on-site background location, and post survey check location

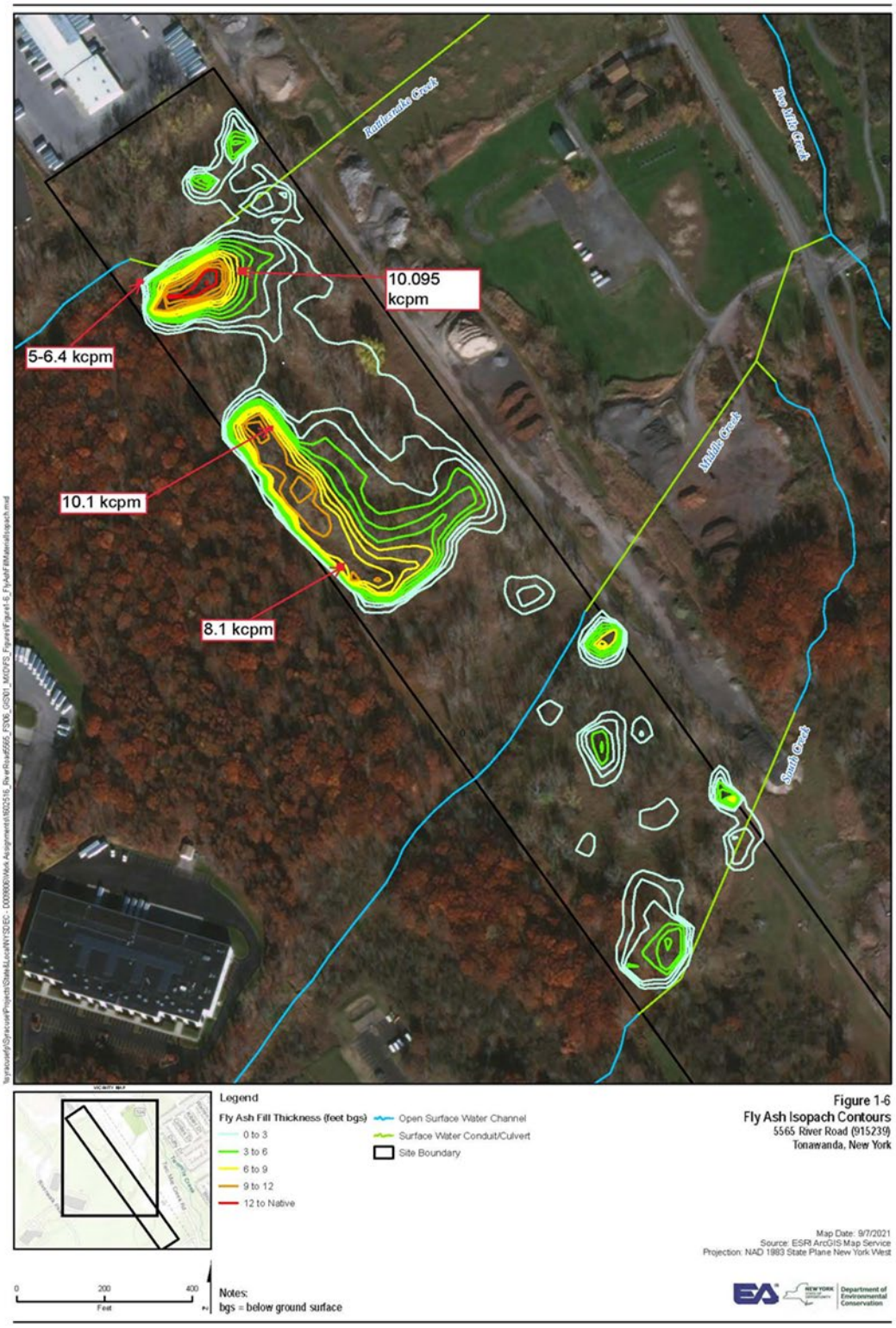
Photo of the on-site background location

photo of the location where the first elevated reading was encountered

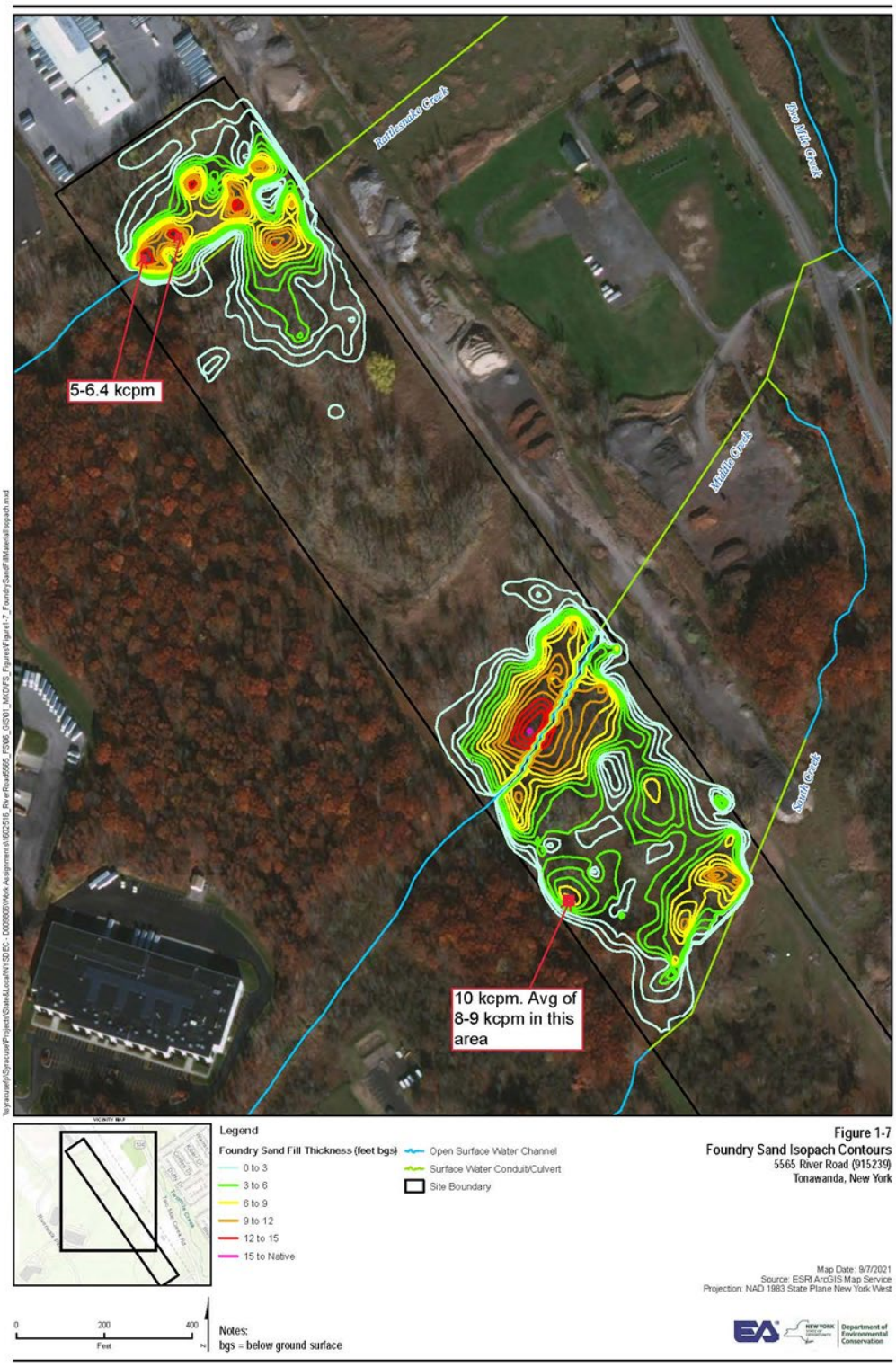
Photo of the exposed soil where an elevated reading was encountered

Photo showing an area of exposed soils where elevated activity was encountered.

Photos from an elevated reading location showing the scaler (left) and ratemeter (right) readings



Fly Ash Contour Map w/ activity readings (provided by Taylor Monnin)



Foundry Sand Contour Map w/ activity readings (provided by Taylor Monnin)

Attachment B
DMM-5

DMM-5 / Management of Soils Contaminated with Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM)	
New York State Department of Environmental Conservation **DEC Program Policy**	
Issuing Authority: David Vitale 	**Title:** Acting Deputy Commissioner, Office of Remediation and Materials Management
Date Issued: 10/27/2023	**Latest Date Revised: NEW POLICY**

I. Summary:

This policy explains the process and requirements for obtaining a variance under 6 NYCRR 380-3.5 for the management of processed and concentrated naturally occurring radioactive material, also commonly referred to as technologically enhanced naturally occurring radioactive material (TENORM). Additionally, this policy identifies the process and criteria to be used to evaluate TENORM and provides guidelines to Department of Environmental Conservation ("Department") program staff, and property owners, project sponsors, and the public who may be seeking variances, on how to appropriately handle TENORM encountered during construction or earthwork projects, such as clearing, grading, excavation, filling, demolition, or stockpiling. This policy also applies to any project site where the intrusive work conducted has or will likely disturb identified or suspected TENORM. This policy does not apply to activities that disturb naturally occurring radioactive materials.

Part 380 applies to any person who disposes of or releases TENORM. This policy is applicable where a variance application has been submitted pursuant to 6 NYCRR 380-3.5 for on-site management of TENORM fill that was generated, disposed of, or released prior to the implementation of 6 NYCRR Part 380, which was March 24, 1994, and which has been excavated for a project. Once TENORM has been excavated, it is considered radioactive material and may be subject to DEC's regulatory authority as noted in 6 NYCRR 380-1.2(e) and as defined in 6 NYCRR 380-2.1(a)(20). Placing the TENORM back into the area in which it was excavated constitutes deposition or injection into the environment and thus disposal. This policy provides guidance on the variance application that may be submitted pursuant to 6 NYCRR 380-3.5 to allow on-site management of excavated TENORM.

Implementation

This policy is to be implemented at any site, location, or work area where anthropogenic (i.e., "man- made" or "man-modified") material or fill (frequently observed to be "slag") has been noted or discovered and is suspected or known to have a potential or definitive TENORM characteristic, (see definition below).

Definitions

As Low As Reasonably Achievable (ALARA) – Means every reasonable effort is made to maintain exposures to radiation as far below the dose limits (or for purposes of this Policy concentration values) in Part 380 as is practical consistent, with the purpose for which the action is undertaken, taking into account the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of radioactive materials in the public interest.

Area of Contamination (AOC) – Means a discrete area of generally dispersed contamination.

Excavation – Means any man-made cut, cavity, trench, or depression in the earth surface formed by the removal of soil and rock, or any activity that causes or contributes to the creation of any such cut, cavity, trench, or depression.

Disposal – Means the act of discarding regulated radioactive material. Depositing or injecting radioactive material in the environment is disposal unless the radioactive material is being used in the environment, as authorized by a permit issued under 6 NYCRR 380-3.1.

TENORM Fill – Means slag or other material containing TENORM used as fill, without regard to its radiological content, placed on its present site before March 24, 1994, when 6 NYCRR Part 380 became effective. Such historically placed fill is not a regulated waste if it remains as it was placed at that time.

Licensed Decontamination & Decommissioning (D&D) Contractor – Means a person or company who possesses a radioactive materials license that authorizes them to perform decontamination and decommissioning of radiologically contaminated sites. D&D Contractors must possess a license issued by the New York State Department of Health (DOH). Companies licensed by the US Nuclear Regulatory Commission (NRC), or another state may work under reciprocity with the DOH.

Naturally-Occurring Radioactive Material (NORM) –Means any of the primordial radionuclides (those present since the formation of the earth – Uranium, Thorium, Potassium) or radioactive elements as they occur in nature, and their radioactive decay products, such as radium and radon, that are not concentrated as a result of human activity. (*Note*: NORM produced through interaction of cosmic rays with certain gasses in the upper atmosphere (cosmogenic NORM) such as tritium or carbon-14 are not addressed in this policy.)

Person – Means:

(i) any individual; public, private, or government corporation; joint stock company; industry; partnership; co-partnership; firm; association; trust; estate; public or private institution; agency, department, or bureau of the State, or group, political subdivision of the State, any other State or political subdivision thereof; Federal government agencies other than the U.S. Nuclear Regulatory Commission or Department of Energy; any foreign government or nation or any political subdivision of any such government or nation; and

(ii) any legal subsidiary, successor, representative, agent, or agency of the foregoing, or any other legal entity whatsoever.

Slag – Means a waste product from the pyrometallurgical processing of various ore, both ferrous (e.g., steel and blast furnace Fe) and non-ferrous (e.g., P, Ag, Cu, Ni, Pb, Sn, Zn).

Technologically-enhanced naturally occurring radioactive material (TENORM) – Means naturally occurring radioactive material whose radionuclide concentrations are increased by or as a result of past or present human practices, such as manufacturing or water processing.

TENORM (Background-comparable) – Means TENORM fill that has been disturbed by excavation or other methods and is below 5 pCi/g of radium-226.

TENORM Waste – Means TENORM fill that has been disturbed by excavation or other methods and exceeds 15 pCi/g of radium-226.

TENORM Disposal Plan – Means a TENORM disposal plan must cover management and disposal of TENORM waste (>15 pCi/g of Ra-226) generated for disposal to ensure handling in a manner adequate to protect human health and the environment until such time as it is shipped for disposal.

TENORM Management Plan – Means a plan to appropriately manage in an AOC and/or dispose of TENORM fill containing a concentration of radium-226 between 5 pCi/g and 15pCi/g that must be submitted with an application for a variance to be approved by the Department. (*Note*: for TENORM (Background-comparable), the procedure(s) utilized in determining compliance with the <5 pCi/g criteria will constitute a “Management Plan” for purposes of meeting the management requirements in Section
IV.B. of this policy.)

II. Policy

The Department will allow excavated TENORM to be returned to the excavation area on a project site if the concentration of radium-226 meets certain thresholds (discussed throughout) and the TENORM is handled in accordance with this policy and pursuant to a variance issued under 6 NYCRR 380-3.5. The Department’s position is that handling excavated TENORM in accordance with this policy and a Department-approved TENORM Management Plan will have no significant adverse impact on public health and safety, and the environment. (*Note*: A variance application to allow excavated TENORM below 15 pCi/g of Ra-226 to be returned to the area of excavation on a project site does not need to include the demonstrations required under 6 NYCRR 380-3.5(b)(4) and (5).) This policy utilizes the EPA Uranium Mill Tailings Radiation Control Act standards of 5 and 15 pCi/g of Ra-226, but conservatively applies them only to the excavated TENORM.

Purpose and Background

The purpose of this policy is to address intrusive work on sites containing TENORM fill. A number of industrial processes generated byproducts that contained processed and concentrated NORM, also known as TENORM. Slag and other TENORM-containing byproducts from ore refining were used as backfill beneath roadways and other construction projects. This was done due to their low cost and beneficial physical properties, but without consideration of their inherent radioactivity.

This policy applies to sites containing TENORM that was placed on its present site before March 24, 1994, when 6 NYCRR Part 380 was updated to address the radiological content of TENORM. Since that time, this type of waste is not allowed to be used as fill or disposed of at any site unless the site has regulatory approval to accept it. As of the effective date of this policy, there are no sites approved for the disposal of newly generated TENORM waste in New York. Therefore, such waste must be disposed of in an authorized disposal facility.

When the presence of TENORM at sites first came to light, the New York State Department of Health commissioned a group of outside experts to assess the potential public health risks of the sites. These experts determined that the sites did not pose significant public health or environmental concerns if the TENORM is left in place. If TENORM is disturbed, it must be appropriately handled and the potential impacts to public health and the environment must be taken into consideration.

III. Responsibility

Responsibility for the interpretation and implementation of this policy resides with the Department's assigned Environmental Radiation Specialist (ERS) in coordination with any Department project manager (or other involved Department staff), to ensure that an adequate radiological screening is performed. Additional consultation may occur as determined to be necessary with the Department's Radioactive Materials Management Section (RMMS) staff, in the Bureau of Hazardous Waste and Radiation Management in the Division of Materials Management.

Responsibility for updating of this policy resides with the RMMS in consultation with regional management and staff (e.g., ERS) responsible for implementation of this policy.

IV. Procedure

The first step is to verify whether anything exhibiting elevated radioactivity is present in the materials being handled. This includes a preliminary screening radiation survey to determine if TENORM is present. Prior to conducting the survey, a survey plan must be developed and submitted for Department approval.

Second, if the survey results demonstrate that TENORM is present, then a proper TENORM management plan must be developed and submitted for Department approval. The third step is the TENORM must be managed in accordance with the approved TENORM management plan and if necessary, a variance. Further details of each step are provided below.

A. Radiological Screening

6 NYCRR 380-1.5(c)(1) requires that a variance application include a description of the waste containing radioactive material to be disposed of, including the physical and chemical properties relevant to the risk evaluation. Radiological screening, as described below, may be used to satisfy this requirement.

At sites known or reasonably suspected of being contaminated with TENORM where any development activity or other ground-disturbing activity or excavation is planned, a licensed D&D contractor must be utilized to perform an initial radiological screening survey (the "survey") to identify the presence and concentration of radium-226, as described in Attachment A. If appropriate, the survey may be submitted with the necessary proposed TENORM Management Plan (see Section VI.C. of this policy). For sites where TENORM was not initially known or suspected, but during work the presence of slag fill or other indicators raise a concern for the possible presence of TENORM, a health physics technician or appropriately trained person (as approved by the Department) may perform a preliminary radiological screening survey. Project sponsors must submit a draft of the survey plan to the Department in advance to ensure that the survey will meet the Department's data needs. The Department will review and approve the survey plan prior to implementation.

After the survey plan is approved and an initial survey is conducted, the project sponsor, site owner, or other appropriate person must submit the initial survey results to the assigned ERS (and DEC project manager for sites in a DEC remedial program) for review. The initial radiological screening survey results will assist the ERS in determining the necessity, and scope, of a TENORM Management Plan. Additionally, the initial radiological screening survey results provide the description of the waste containing radioactive material, which includes the physical and chemical properties relevant to risk evaluation, that is a requirement for a variance application under 6 NYCRR 380-3.5(c)(1).

If any radiological screening survey conducted indicates the presence of radium-226 or other NORM isotopes, in potentially elevated concentrations, the site will be deemed to contain potential TENORM. If any material is determined to be TENORM, it must be handled in accordance with the management requirements in Section IV.B of this policy.

B. Management Requirements

This policy utilizes the EPA Uranium Mill Tailings Radiation Control Act standards of 5 and 15 pCi/g of Ra- 226, but conservatively applies them only to the management of the excavated TENORM. This standard is widely used as a remedial goal at sites across the country, and in New York, which contain Ra-226 contamination. The original purpose of these values was to minimize the radiation dose received via radon emanation from Ra-226 and, as such, represents a comparable risk and exposure scenario. The following are the management requirements for the different types of TENORM that could be discovered on a particular site:

> **TENORM (Background-comparable)** (below 5 pCi/g of radium-226) – the Department may either grant a variance to allow the excavated TENORM (Background-comparable) to be returned to the excavation/AOC, or the assigned ERS determines, and approves, that the proposed use and handling in the AOC is acceptable. The Department will also require that appropriate and approved institutional control(s) be put in place (e.g., deed restriction, environmental easement) for each AOC.

TENORM fill (between 5 pCi/g and 15 pCi/g of radium-226) – the Department may grant a variance to allow excavated TENORM fill to be returned to the excavation/AOC if the following conditions are met:

1) the site where the TENORM fill is found contains undisturbed TENORM fill;

2) all excavated TENORM fill is handled in conformance with the submitted and approved TENORM Management plan;

3) an appropriate and approved institutional control(s) is put in place (e.g., deed restriction, environmental easement) for each AOC; and

4) the TENORM fill does not exceed 15 pCi/g of radium-226.

TENORM Waste (above 15 pCi/g of radium-226) – TENORM waste is considered a regulated waste per 6 NYCRR Part 380 and must be disposed of in accordance with appropriate regulatory requirements at an authorized disposal facility.

C. Management Plan Requirements for TENORM fill

Once TENORM fill has been identified on a property where it is being or will be disturbed, a TENORM Management Plan must be submitted to the Department for approval. As discussed previously, the radiological screening survey plan can be incorporated into the TENORM Management Plan. The TENORM Management Plan describes the proposed manner and conditions of waste disposal and the procedures to ensure that doses are maintained ALARA, which are both requirements for a variance application under 6 NYCRR 380-3.5(c)(1), (4). The TENORM Management Plan must demonstrate the following:

1) the site is conducive to the implementation of long-term site controls;

2) a well-defined and documented consolidation location within the AOC (if proposed) will be established;

3) a minimum of two feet of acceptable soil cover material or the equivalent of paving with asphalt or concrete will be placed over the consolidation area;

4) whether substantial TENORM will remain on the site at the completion of any site work;

5) the size of the consolidation area will be based on the known extent of area containing undisturbed TENORM remaining on-site; and will be determined and approved on a case-by- case basis by the Department; and

6) that it is implemented in a manner consistent with the ALARA

concept. For more details on the TENORM Management Plan, see

Attachment B of this policy.

D. Variance Application Requirements

For TENORM to remain onsite per a proposed management plan, an application for a variance must be submitted and approved. The application must comply with the requirements of 6 NYCRR 380-3.5.

However, as previously indicated, the application does not need to include the demonstrations required under 6 NYCRR 380-3.5(b)(4) and (5).

To meet the requirements of 6 NYCRR 380-3.5, the application for a variance for TENORM fill must include the following:

1) an explanation as to why the applicant believes the property contains TENORM;

2) the initial radiological survey results showing the concentration of radium-226 and other NORM isotopes found in the TENORM;

3) a TENORM Management Plan;

4) institutional controls as previously discussed, as determined by the Department to be necessary; and

5) any additional information deemed necessary by the Department.

The application for a variance will be reviewed by the assigned ERS, with recommendations made to appropriate Department management and programmatic areas for determination of approval or rejection (preference is for determination to be made in a regionalized program office, whenever possible).

Any denial of a variance application may result in the applicant or responsible person being required to take further action, including, but not limited to, additional characterization, site definition, and potentially removal and disposal off site of the material in question. Additionally, when a variance application is denied, the Department will issue a notice of denial and the applicant may request a hearing in accordance with the procedures in 6 NYCRR Part 621 as a variance from Part 380 qualifies as a permit.

Additional Requirements and Recommendations

This policy does not address the transportation of TENORM or other radioactive materials.

Regardless of the concentration of radium-226 and other NORM isotopes determined to exist at a site, any new structures built at said location are recommended to utilize radon resistant construction.

V. Related References

49 CFR Part 173 Subpart I Class 7 Radioactive

Materials 10 NYCRR Part 16 Ionizing Radiation

6 NYCRR Part 380 Prevention and Control of Environmental Pollution by Radioactive

Materials 6 NYCRR Part 381 Transporters of Low-Level Radioactive Material

17 NYCRR Part 154 Special Hauling Permits

Attachment A Radiological

Screening Survey Criteria

If a radiological screening survey is needed to verify the presence of TENORM, the following process must be followed:

1) Establish an appropriate background(s) representative for the area(s) to be surveyed, as approved by the Department. It is intended for the background area to be distinct from the area of contamination (AOC), yet representative of background conditions in the vicinity of the AOC. Natural radiological background is preferred, however, in some instances, such as urban areas, background representative of non-natural conditions not impacted by TENORM may be acceptable.

2) At a minimum, survey the portion of the site to be disturbed.

3) If survey readings exceed 1.5 x background, collect a minimum of three representative composite samples of the TENORM (to be analyzed by a DOH Environmental Laboratory Approval Program (ELAP) certified laboratory) including from the area of highest survey readings. Perform fixed one-minute meter readings at each sampling location prior to collection of a sample.

   a) In consultation with the assigned ERS, develop a correlation between meter readings and soil concentrations to guide future survey efforts. Where feasible, the use of a meter reading-to-concentration correlation (backed-up by limited sample analyses) can reduce costs and time delays during site characterization and waste monitoring rather than relying solely on analytical results.

   b) As long as survey results indicate radium-226 levels below 5 pCi/g, no separation of soil and TENORM is required.

4) If no readings in excess of 1.5 times background are noted, no further monitoring during excavation activities is necessary, except as noted below.

   a) In most cases, no other radiological monitoring will be required.

   b) However, certain factors may necessitate limited additional monitoring of excavated materials. Those factors can include:

      i) Whether there are known areas of TENORM in the region or on nearby properties;

      ii) Whether there is evidence that slag is present on-site and if so whether it contains TENORM; or

      ii) If major changes in types of TENORM encountered occur during excavation.

   c) If Department staff or a site consultant see possible TENORM at or from a depth greater than was evaluated by the original survey, it is strongly recommended that a plan to perform limited radiological screening of excavated materials be developed. The goal is to ensure that contaminated materials are

not inadvertently redistributed on the site or moved off site. If such a circumstance arises, ERS staff will work with the consultant to establish an appropriate limited screening plan.

Attachment B

TENORM Management Plan

The TENORM Management Plan must include the following:

1) TENORM Sorting Process:

a) Unless an alternate plan is approved by the Department as part of previously discussed process regarding granting a Part 380 variance, material removed from the excavation area must be sorted as part of the excavation process and placed into stockpiles using average soil concentrations, based upon waste management needs. Stockpiles should be managed to minimize erosion and the generation of dust.

b) These stockpiles may include:

i) A pile for TENORM (Background-comparable) clearly below 5 pCi/g of radium- 226

ii) A pile for TENORM Waste clearly exceeding 15 pCi/g of radium- 226 for off-site disposal.

iii) An optional intermediate pile for TENORM fill that cannot readily be identified during excavation as fitting into one of the above categories based on meter readings alone. (below 5 pCi/g or above 15pCi/g for Ra-226.)

1) If an intermediate concentration pile is proposed by the TENORM Management Plan, the TENORM Management Plan must describe how the fate of this TENORM fill will be resolved, or

2) If an intermediate concentration pile is not proposed by the TENORM Management Plan, all TENORM fill exceeding 5 pCi/g of radium-226 must be placed in the pile for off-site disposal.

c) If a correlation between meter readings and soil concentrations to guide future survey efforts has not already been completed and approved by the assigned Department ERS, it must be included as part of this TENORM Management Plan.

2) Survey Process for Soil/TENORM Sorting

a) In larger excavations, the preferred method is to excavate in six-inch (6”) lifts and perform walkover surveys using the established meter reading-to-concentration correlation to separate out contaminated material. If site characteristics or other restrictions do not allow for this, surveying bucket by bucket, visual screening, or another process may be submitted for consideration as part of the TENORM Management Plan.

b) In tight areas such as trenches where normal surveying is impractical or dangerous, bucket loads of excavated material should be surveyed as they are removed from the excavation. Due to the change in geometry from a flat plane to a bucket of soil, a separate meter reading-to-concentration ratio would be required

for this survey option. Alternatives to surveying buckets of excavated material during excavation may be submitted to the Department for consideration as part of the TENORM Management Plan.

3) TENORM Management

The following contains information on the management requirements for the different types of TENORM:

a) TENORM Waste (i.e., material with survey levels exceeding 15 pCi/g of radium-226) must be disposed of off-site at facilities permitted to accept such wastes. Representative sampling must be performed following the waste acceptance criteria of the selected disposal site.

b) TENORM (Background-comparable) (i.e., material with survey levels below 5 pCi/g of radium-226) are generally not restricted for radiological purposes and may be reused on-site, dependent upon development of a variance and/or approval by the assigned ERS, and a commitment to utilize radon-resistant construction for any structures built on the property in the future, along with an appropriate land use control.

c) TENORM fill less than 15 pCi/g of radium-226 may be able to be placed back into the excavation area consistent with the criteria in this policy. Reuse of TENORM fill concentrations between 5 pCi/g and 15 pCi/g:

i) TENORM fill must be placed a minimum of two feet below grade.

ii) Appropriate land use controls, as previously discussed, must record the presence of TENORM fill and the known, or suspected, extent of its existence at the site.

4) Undisturbed TENORM

a) TENORM that does not have to be disturbed for site development or for remediation of other contaminants is not required to be remediated as long as the undisturbed TENORM poses no significant risk to public health or the environment in its present state.

b) Radon-resistant construction is strongly encouraged to be utilized for any future buildings.

Attachment C
Survey Plan

Survey Plan
at
5565 River Road,
Tonawanda, NY 14150

Prepared for:

EA Engineering and Geology, P.C.

Prepared by:

Greater Radiological Dimensions Inc.

3857 Hyde Park Blvd

Niagara Falls, NY 14305

March 17, 2025 - Rev 2

SIGNATURE SHEET

Survey Plan
5565 River Road,
Tonawanda, NY 14150

Prepared and Approved:

Michael Pauly_____ Date_____
Greater Radiological Dimensions, Inc / Radiation Safety Officer

John McCune, CHMM_____ Date_____
Greater Radiological Dimensions Inc. Senior Project Manager / Environmental Manager

Plan Concurrence:

R Conrad Perlman_____ Date _____
Greater Radiological Dimensions, Inc / Radiation Technician

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List of Acronyms

ALARA	As Low As Reasonably Achievable
AOC	Areas of Concern
CFR	Code of Federal Regulations
CHP	Certified Health Physicist
COC	Contaminants of Concern
DEC	The New York State Department of Environmental Conservation
DMM-5	Management of Soils Contaminated with Technologically Enhanced Naturally Occurring Radioactive Materials
DOH	Department of Health
ELAP	Environmental Laboratory Approval Program
ERS	Environmental Radiation Specialist
FBGS	Feet Below Ground Surface
GRD	Greater Radiological Dimensions Inc. (Radiation Services Subcontractor)
MDAs	Minimum Detectable Activities
pCi/g	picocuries per gram
PM	Project Manager
PPE	Personal Protective Equipment
RI	Remedial Investigation
RMMS	Radioactive Materials Management Section
RSO	Radiation Safety Officer
RT	Radiation Technician
TENORM	Technologically Enhanced Naturally Occurring Radiation Material
UD	Urban Land
USDA	United States Department of Agriculture

1.0 Introduction

Greater Radiological Dimensions (GRD), Radioactive Materials License No. C5514, has been subcontracted by EA Engineering and Geology, P.C. (EA) to perform a gamma survey with sampling at this site.

The subject site is located at 5565 River Road in the Town of Tonawanda, Erie County, New York. The property is a single parcel consisting of approximately 37 acres (**Figure 1**). The site is defined as the northern 24-acre portion of this parcel. The property is bounded on the west by vacant, forested land and a subsurface crude oil pipeline; on the south by commercial property; on the east by a gravel road; and on the north by a truck terminal. Access to the 5565 River Road site is by a gravel drive on the adjacent property owned by the Town of Tonawanda.

Three creeks traverse the site, one called Rattlesnake Creek in the northern portion of the site, and two unnamed creeks in the central and southern portions of the site, which for the ease of identification are referred to as Middle Creek and South Creek, respectively. All three creeks discharge to Two Mile Creek to the east, which ultimately discharges to the Niagara River approximately 2,500 feet (ft) downstream of the site.

The 5565 River Road site was operated as a dump for industrial fill material (primarily fly ash and foundry sand) from the 1960s through the 1990s. Aerial photographs indicate that dumping at the site had ended sometime before 2005 and trees were present at the former disposal areas. The site is currently vacant and is zoned by the Town of Tonawanda as Waterfront Industrial District. Surrounding land use consists of commercial/industrial properties zoned Waterfront Business District and Waterfront Industrial District.

GRD performed a GPS radiological field screening in November 2024, see results (**Figure 2**). GRD established an average background of 5,880 counts per minute (cpm). Screening was measured using a Ludlum Model 3000 meter with a 44-10 probe. Elevated radiation was associated with fly ash and foundry sand.

All work is subject to the conditions of GRD's Radioactive Materials License and the requirements of applicable regulations. The requirements and guidelines in this plan have been developed to ensure workers are afforded a safe work environment, and to maintain occupational and environmental exposure to ionizing radiation "As Low As Reasonably Achievable" (ALARA).

Greater Radiological Dimensions, Inc. (GRD) places its highest priority on ensuring the safety and health of its employees, neighbors, and the public, as well as protecting the environment. This priority extends to all areas affected by site operations.

2.0 Scope

According to the results of the surface scan (**Figure 2**) there are multiple areas that exceeded 1.5x background. These areas generally correspond to known fly ash or foundry sand piles resulting from historical dumping. EA has selected the following sample locations (**Figure 2**):

- RAD-1 and RAD-2 were selected to characterize areas of known foundry sand piles with gamma counts exceeding 1.5x background. Boring depths are approximately 15-18 feet.

- RAD-3 and RAD-4 were selected to characterize areas of known fly ash with gamma counts exceeding 1.5x background. The boring depth at Location 3 is approximately 12 feet; and Location 4 is approximately 9 feet.

- RAD-5 was selected for known fly ash with gamma counts exceeding 1.5x background. The boring depth at Location 5 is approximately 6 feet.

- RAD-6 was selected to characterize the wetland area near the northwest corner of the site with gamma counts exceeding 1.5x background. The boring depth at location 6 is approximately 3 feet.

Drilling equipment (provided by the Client) will be advanced into the subsurface to remove soil cores at each sample location. The soil will be screened using a Ludlum Model #3000 Detector paired with a #44-10 sodium iodide probe to create a vertical profile from the ground surface to the native clay material.

A composite soil sample will be collected from each three-foot interval. Each sample will consist of 3 grab samples to form a composite sample and analyzed for radium-226 at an ELAP certified laboratory. Upon completion of reporting, the site Owner, or other appropriate person must submit the results to the assigned ERS (and DEC project manager for sites in a DEC remedial program) for review.

Background activity levels will be recorded prior to screening each area(s) to be surveyed. It is intended for the background area to be distinct from the area of concern (AOC), yet representative of background conditions in the vicinity of the AOC. Once established, backgrounds will be recorded from the same location(s). Natural radiological background is preferred, however, in some instances, such as urban areas, background representative of non-natural conditions not impacted by TENORM may be acceptable, as approved by the Department (DEC).

Once testing is complete, Radium-226 results will be compared to established NYSDEC thresholds presented in Policy DMM-5 to assess material management implications. Analytical results will be included with GRD's submittal package to the Owner/Client and should be provided to the NYSDEC Site Project Manager. The results will assist in determining the necessity and scope of a TENORM Management Plan.

If radiologically impacted materials are encountered, then an equipment release survey will be conducted by surveying the item/equipment/personnel for contamination.

A visual inspection of any equipment that encounters radiologically impacted material will be performed. If needed a contamination survey using an appropriate portable survey instrument will subsequently be conducted if they encounter radiologically impacted materials (e.g., equipment treads and buckets, truck beds and tires, etc.). The scan rate will not exceed 1 inch per second. The entire surface of the item to be released will be surveyed. Items will be released if they exhibit beta/gamma activity levels less than 0.2 mR/hr (see 10 NYCRR 16, Appendix 16-A Table 7: Radioactive Surface

Contamination Limits for release of material of facilities in an uncontrolled area).

At the end of each workday personnel will be frisked by a GRD employee using a Model 12 paired with 44-9. If readings are above background they will need to wash the contaminated area with soap and water. Once completed they will be frisked again.

3.0 Personal Protective Equipment

- No high-level radiation exposure is expected during this project. Level D PPE is anticipated.
- The RSO has the authority to stop work and/or prescribe additional PPE based on radiological conditions encountered.

4.0 Documentation

GRD will be responsible for records pertaining to radiation surveys, monitoring, and sampling performed including:

- Name of the person making the evaluation and recording the results.
- Date of the survey.
- Instrument serial number used for surveys and measurements.
- Results obtained.

Material placement activities will be documented on a daily log. Logged information will include daily weather conditions, instrumentation in use, gamma screening results, and sketches or maps of activity areas.

5.0 Organization

Greater Radiological Dimensions (GRD), Radioactive Materials License No. C5514, has been subcontracted by EA to implement the gamma walkover survey at this site.

5.1 Radiation Safety Officer

The Radiation Safety Officer (RSO) has the authority to direct all aspects of surveying and sampling, including the RT, and to ensure compliance with required regulations. The RSO is organizationally independent from operations and has the authority and responsibility to stop any activity which is not conducted in a safe manner, with respect to radiological safety, or in compliance with the license, applicable regulations, and procedures.

5.2 Senior Project Manager

The Senior project manager will oversee and lead the planning, execution, and successful completion of the project. Ensuring alignment with organizational objectives while managing resources, deadlines, and budget.

5.3 Radiation Technician

GRD will provide the Radiation Technician (RT) for the project. The Radiation Technician reports directly to the RSO. The RT will perform fieldwork activities in support of surveying and sampling operations. All results will be reviewed by the RSO and transmitted to the client or Owner. The RSO and Owner will immediately be notified if elevated material is located.

GRD will have oversight of all radiation safety activities and operations relating to surveying, sampling, and sample analysis. GRD will also be responsible for the following:

- Ensure that operations are being conducted in accordance with 10 NYCRR Part 16, with 6 NYCRR Part 380 and with DMM-5.
- Perform briefing of personnel and ensure that all personnel are adequately trained in radiation safety principles commensurate to the level with each person's job function.
- Maintaining radiological records and reports. Consults with the Certified Health Physicist (CHP) about any deficiencies.

6.0 Responsibility

GRD's responsibility will be the compilation of the initial radiological survey screening results, and the collection of the samples detailed in this work plan. The client is responsible for the collection of the soil material for which the gamma screening and sampling will be conducted. Responsibility for the interpretation and implementation of this policy resides within the Department and its assigned Environmental Radiation Specialist (ERS) in coordination with any Department project manager (or other Department staff involved), to ensure that adequate radiological screening is performed. Additional consultation may occur as determined to be necessary with the Department's Radioactive Materials Management Section (RMMS) staff, in the Bureau of Hazardous Waste and Radiation Management in the Division of Materials Management.

7.0 Contacts

The following individuals are competent persons, and the primary contacts associated with this project:

Name	**Cell Phone #**
Adam Etringer, Project Manager (EA)	(518)-242-9773
John McCune, Senior Project Manager (GRD)	(716) 525-6630
Michael Pauly, Radiation Safety Officer (GRD)	(716) 913-5041
Conrad Perlman, Radiation Technician (GRD)	(716) 550-9215

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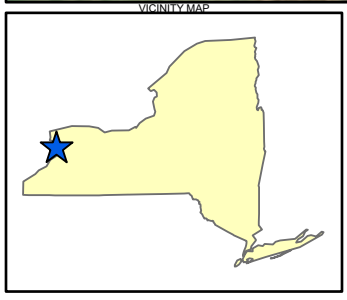
VICINITY MAP



Legend

- Site Boundary and Area for Radiological Survey
- Open Surface Water Channel
- Surface Water Conduit/Culvert

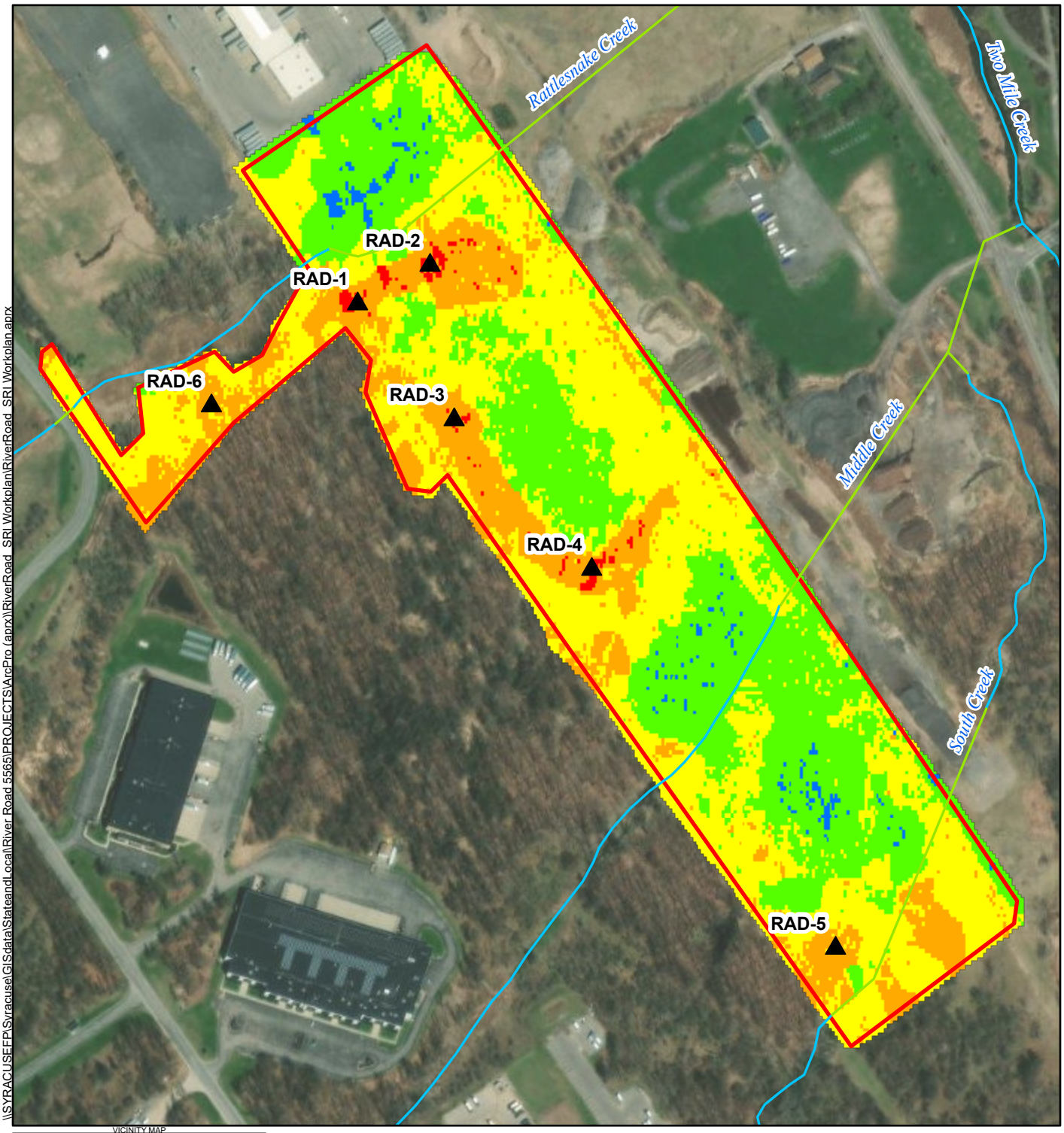
0 400 800
Feet

N

Figure 1
SITE MAP AND SURROUNDING AREA
5565 River Road (915239)
Tonawanda, New York

Map Date: 3/3/2025
Projection: NAD 1983 (2011) State Plane
New York West FIPS 3103 (US Feet)

NEW YORK STATE | Department of Environmental Conservation



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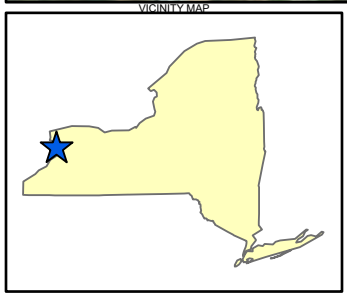
VICINITY MAP



Legend

- Site Boundary and Area for Radiological Survey
- Open Surface Water Channel
- Surface Water Conduit/Culvert
- Proposed Sample Location

Gamma Count Rate (CPM)

- ≤ 5,000
- 5,001 - 7,000
- 7,001 - 8,779
- 8,880 - 11,000
- > 11,000

0 200 400
Feet
N

Figure 2
RADIOLOGICAL SURVEY AREA AND PROPOSED SAMPLE LOCATIONS
5565 River Road (915239)
Tonawanda, New York

Map Date: 3/19/2025
Projection: NAD 1983 (2011) State Plane New York West FIPS 3103 (US Feet)

NEW YORK STATE Department of Environmental Conservation

Attachment D
Daily Field Report

NEW YORK STATE Department of Environmental Conservation

Contract No. D009806-16
DEC PM – Glenn May
Engineer PM – Adam Etringer

Site Location: 5565 River Road, Tonawanda, NY

Weather Conditions				
General Description	Overcast	AM	Overcast	PM
Temperature	68	AM	79	PM
Wind	20mph, SSE	AM	22mph, ESE	PM

Health & Safety
If any box below is checked "Yes", provide explanation under "Health & Safety Comments"

Were there any changes to the Health & Safety Plan?	*Yes	**No X**	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	**NA X**
Were there any nuisance issues reported/observed on this date?	*Yes	No	**NA X**

Health & Safety Comments

Walking on uneven terrain; ticks/biting insects, radiological monitoring & post-work frisk test

Summary of Work Performed | Arrived at site: | | Departed Site: |

- 0730 – EA (A. Carey, L. Backman-Lowe, A. Faux) onsite. Calibrate equipment and await arrival of subcontractors
- 0800 – Matrix (Rich, Jason) onsite. EA sets CAMP Boxes for air monitoring. Cable for Dust monitor in upwind CAMP box was broken, EA calls Pine to get replacement cable delivered to site. Only one CAMP box in operation for duration of the day (downwind of work area).
- 0810 – GRD (Conrad Perlman) onsite
- 0815 – Health & Safety meeting, discuss scope of rad drilling
- 0900 – Matrix sets up to drill RAD-2 boring. EA marks out additional rad sample locations
- 0905 – start drilling RAD-2 boring. GRD collects samples in 3 foot intervals to 18 ft bgs
- 0920 – Collect RAD-6 sample from 0-3 ft bgs with hand-auger
- 0935 – Matrix moves rig to RAD-1 location
- 0945 – Start drilling RAD-1 boring. GRD collects samples in 3 foot intervals to 18 ft bgs
- 1010 – Matrix moves rig to RAD-3 location
- 1050 – Start drilling RAD-3 boring. GRD collects samples in 3 foot intervals to 12 ft bgs
- 1105 – Matrix moves rig to RAD-4 location
- 1125 – Start drilling RAD-4 boring. GRD collects samples in 3 foot intervals to 9 ft bgs
- 1145 – Matrix moves rig to RAD-5 location
- 1150 – NYSDEC (Derick Dietrich) and NYSDOH (Sarah Heim) onsite
- 1220 – Start drilling RAD-5 boring. GRD collects samples in 3 foot intervals to 6 ft bgs
- 1245 – Matrix moves rig to south of South Creek to prep for environmental sampling
- 1250 – NYSDOH offsite
- 1315 – GRD performs post-work "frisk test" for radiation on the hands & clothes of all site workers
- 1330 – GRD & NYSDEC offsite
- 1345 – Collect soil sample SB-A49-0-2 for PCBs & Metals
- 1350 – Collect soil sample SB-A49-2-4 for PCBs & Metals
- 1415 – Collect soil sample SB-D48-0-2 for PCBs & Metals
- 1420 – Collect soil sample SB-A49-2-4 for PCBs & Metals
- 1435 – Collect soil sample SB-G46-0-2 for PCBs & Metals, split sample with FD-01
- 1440 – Collect soil sample SB-G46-2-4 for PCBs & Metals
- 1445 – Collect soil sample SB-G45-0-2 for PCBs & Metals
- 1450 – Collect soil sample SB-G45-2-4 for PCBs & Metals
- 1455 – Collect soil sample SB-G47-0-2 for PCBs & Metals
- 1500 – Collect soil sample SB-G47-2-4 for PCBs & Metals, split sample with MS/MSD
- 1510 – Matrix moves rig to SB-G44 location
- 1520 – Start drilling at SB-G44 location
- 1535 – Finish drilling at SB-G44 location
- 1540 – EA processes boring while Matrix cleans & packs for the day
- 1550 – Matrix offsite, Pine onsite to deliver new equipment and pickup used equipment
- 1605 – Collect soil sample SB-G44-0-3 for PCBs & Metals
- 1610 – Collect soil sample SB-G44-3-6 for PCBs & Metals
- 1615 – Collect soil sample SB-G44-6-9 for PCBs & Metals
- 1620 – Collect soil sample SB-G44-9-12 for PCBs & Metals
- 1630 – EA packs up equipment & offsite

Personnel and Equipment

Individual	Company	Role	Total Hours
Lincoln Backman-Lowe	EA	Field leader	9
Adam Carey	EA	Geologist	9
Alex Faux	EA	Geologist	9
Rich Raegan	Matrix	Driller	8
Jason Kuechey	Matrix	Driller Support	8
Conrad Perlman	GRD	Rad Tech	5.5

Equipment Description	Contractor/Vendor	Quantity	Used
Horiba U-52	Pine	1	Yes
miniRAE 3000 PID	Pine	3	Yes
Hammer drill	EA	1	Yes
GPS unit	EA	1	Yes
Honda generator	Pine	1	Yes
Ford F-150	EA	2	Yes
DustTrak	Pine	2	1 Used, 1 inoperable
GeoProbe Drill Rig	Matrix	1	Yes

Visitors to Site

Name	Representing	Entered Exclusion/CRZ Zone	
Derick Dietrich	NYSDEC	**Yes X**	No
Sarah Heim	NYSDOH	**Yes X**	No

Site Representatives

Name	Representing
none	

Project Schedule Comments

None

On-site Waste Storage	
None	
Outstanding Items	
None	
Interaction with Public, Property Owners, Media, etc.	
None	
EA Field Team: L. Backman-Lowe	**Date: 4/29/2025**

Photo Log

GeoProbe Rig set up & drilling at RAD-2 location

GeoProbe Rig set up & drilling at SB-A49 location

Drill rig setting up to drill at SB-G47 location

Disc-like material encountered from 10.7 to 10.9 ft bgs at boring SB-G44

Attachment E
Analytical Data Report

GEL Laboratories LLC
a member of The GEL Group INC

2040 Savage Road | Charleston, SC 29407
843.556.8171

gel.com

May 29, 2025

John McCune
Greater Radiological Dimensions, Inc.
3857 Hyde Park Boulevard
Niagara Falls, New York 14305

Re: Niagara Falls, NY
Work Order: 722626

Dear John McCune:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 05, 2025. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 1648.

Sincerely,

M Boddiford

Meredith Boddiford
Project Manager

Purchase Order: 23-0013-01
Enclosures

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Runlogs.....1283

Case Narrative

Receipt Narrative
for
Greater Radiological Dimensions Inc.
SDG: 722626

May 29, 2025

Laboratory Identification:

GEL Laboratories, LLC.

Summary:

Sample receipt: The samples arrived at GEL Laboratories, LLC., Charleston, South Carolina on May 05, 2025 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

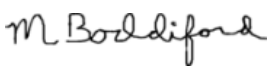
Sample Identification: The laboratory received the following samples:

Laboratory ID	Client ID
722626001	RREA-4292025-R1-0-3
722626002	RREA-4292025-R1-3-6
722626003	RREA-4292025-R1-6-9
722626004	RREA-4292025-R1-9-12
722626005	RREA-4292025-R1-12-15
722626006	RREA-4292025-R1-15-18
722626007	RREA-4292025-R2-0-3
722626008	RREA-4292025-R2-3-6
722626009	RREA-4292025-R2-6-9
722626010	RREA-4292025-R2-9-12
722626011	RREA-4292025-R2-12-15
722626012	RREA-4292025-R2-15-18
722626013	RREA-4292025-R3-0-3
722626014	RREA-4292025-R3-3-6
722626015	RREA-4292025-R3-6-9
722626016	RREA-4292025-R3-9-12
722626017	RREA-4292025-R4-0-3
722626018	RREA-4292025-R4-3-6
722626019	RREA-4292025-R4-6-9
722626020	RREA-4292025-R5-0-3
722626021	RREA-4292025-R5-3-6
722626022	RREA-4292025-R6-0-3

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Radiochemistry.



Meredith Boddiford
Project Manager

Chain of Custody and Supporting Documentation

Page: _____ of _____
Project # _____
GEL Quote #: _____
COC Number [1]: _____
PO Number: 23-0013-01

Chain of Custody and Analytical Request

GEL Work Order Number: GEL Project Manager:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

7226026

Client Name: Greater Radiological Dimensions, Inc. Phone # 716.754.1654
Project Name: 5565 River Road, Tonawanda, NY - EA Fax #
Address: 3857 Hyde Park Blvd, Niagara Falls, NY 14305
Collected By: Conrad Perlman Send Results To: conrad.perlman@grdny.com

Page 5 of 28

SDG: 7226026

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	Gross A/B	Gamma Spec Iclud Ra	Alpha Spec - Ur	Alpha Apec - Th	<-- Preservative Type (6)	Comments
RREA-4292025-R1-0-3	4/29/2025	0900	C		SO			2	x	x	x	x		R1 = Rad 1 / 0-3 ft
RREA-4292025-R1-3-6	4/29/2025	0905	C		SO			2	x	x	x	x		
RREA-4292025-R1-6-9	4/29/2025	0910	C		SO			2	x	x	x	x		
RREA-4292025-R1-9-12	4/29/2025	0915	C		SO			1	x	x	x	x		
RREA-4292025-R1-12-15	4/29/2025	0920	C		SO			1	x	x	x	x		
RREA-4292025-R1-15-18	4/29/2025	0925	C		SO			1	x	x	x	x		
RREA-4292025-R2-0-3	4/29/2025	0945	C		SO			2	x	x	x	x		
RREA-4292025-R2-3-6	4/29/2025	0950	C		SO			2	x	x	x	x		
RREA-4292025-R2-6-9	4/29/2025	0955	C		SO			2	x	x	x	x		
RREA-4292025-R2-9-12	4/29/2025	1000	C		SO			2	x	x	x	x		

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1	R Conrad Perlman	5-1-2025	1600	1		5/5/25	1025
2				2			
3				3			

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge)

Fax Results: [ ] Yes [x] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] Yes [ ] No ***Cooler Temp:*** 21 °C

> ***For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)***

Sample Collection Time Zone : [ ] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

Page: ______ of ______
Project # ______
GEL Quote #: ______
COC Number [1]: ______
PO Number: 23-0013-01

Chain of Custody and Analytical Request

GEL Work Order Number: **GEL Project Manager:**

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Greater Radiological Dimensions, Inc. Phone # 716.754.1654
Project Name: 5565 River Road, Tonawanda, NY - EA Fax #
Address: 3857 Hyde Park Blvd, Niagara Falls, NY 14305
Collected By: Conrad Perlman Send Results To: conrad.perlman@grdny.com

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive (If yes, please supply isotopic info.)	(7) Known or possible Hazards	Total number of containers	Gross A/B	Gamma Spec Iclud R	Alpha Spec - Ur	Alpha Apec - Th							Comments
																			<-- Preservative Type (6)
RREA-4292025-R2-12-15	4/29/2025	1005	C		SO			1	x	x	x	x							Note: extra sample is required for sample specific QC
RREA-4292025-R2-15-18	4/29/2025	1010	C		SO			1	x	x	x	x							
RREA-4292025-R3-0-3	4/29/2025	1140	C		SO			1	x	x	x	x							
RREA-4292025-R3-3-6	4/29/2025	1145	C		SO			1	x	x	x	x							
RREA-4292025-R3-6-9	4/29/2025	1150	C		SO			1	x	x	x	x							
RREA-4292025-R3-9-12	4/29/2025	1155	C		SO			1	x	x	x	x							
RREA-4292025-R4-0-3	4/29/2025	1115	C		SO			1	x	x	x	x							
RREA-4292025-R4-3-6	4/29/2025	1120	C		SO			1	x	x	x	x							
RREA-4292025-R4-6-9	4/29/2025	1125	C		SO			1	x	x	x	x							
RREA-4292025-R5-0-3	4/29/2025	1300	C		SO			1	x	x	x	x							

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1	Conrad Perlman	5-1-2025	1600	1	[signature]	5-5-25	1025
2				2			
3				3			

TAT Requested: Normal: ____ Rush: ____ Specify: ______ (Subject to Surcharge)

Fax Results: [ ] Yes [x] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] *Yes* [ ] *No* ***Cooler Temp:*** 21 °C

Sample Collection Time Zone : [ ] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

Page: _____ of _____
Project # _____
GEL Quote #: _____
COC Number [1]: _____
PO Number: 23-0013-01

Page 1 of 1

Chain of Custody and Analytical Request

GEL Work Order Number: ***GEL Project Manager:***

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Greater Radiological Dimensions, Inc. Phone # 716.754.1654

Project Name: 5565 River Road, Tonawanda, NY - EA Fax #

Address: 3857 Hyde Park Blvd, Niagara Falls, NY 14305

Collected By: Conrad Perlman Send Results To: conrad.perlman@grdny.com

SDG: 722626

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID *For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	Gross A/B	Gamma Spec Iclud R	Alpha Spec - Ur	Alpha Apec - Th	<-- Preservative Type (6)
RREA-4292025-R5-3-6	4/29/2025	1305	C		SO			1	x	x	x	x	
RREA-4292025-R6-0-3	4/29/2025	1040	C		SO			1	x	x	x	x	

Comments
Note: extra sample is required for sample specific QC

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1	R. Conrad Perlman	5-1-2025	1600	1		5/5/25	1025
2				2			
3				3			

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge)

Fax Results: [ ] Yes [x] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] *Yes* [ ] *No* ***Cooler Temp:*** 21 °C

> ***For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)***

Sample Collection Time Zone : [ ] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

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As = Arsenic **Hg**= Mercury
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Characteristic Hazards
FL = Flammable/Ignitable
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TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GRDI | SDG/AR/COC/Work Order: 722626 | GEL PM:

Received By: Stacy L Boone | Date Received at GEL: May 5, 2025

Carrier (Circle Applicable): FedEx Express (FedEx Ground) UPS Field Services Courier Client Other: | IR Temp gun # IRA-24 Daily Calibration Performed? (Y)N

Tracking Number	Temp (C)	If over 6 °C, check if samples do not require cold preservation (le radiochem only).	Tracking Number	Temp (C)	If over 6 °C, check if samples do not require cold preservation (le radiochem only).
8809 4976 8905	21°				

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): NR CPM / mR/Hr. Classified as: Rad 1 Rad 2 Rad 3
D) Are there any sample hazards to document?		✓	If yes, select Hazards below. PCBs Flammable Foreign Soil RCRA Asbestos Beryllium Corrosive Other:
E) Was a SDS received and reviewed by Lab Safety?		✓	Circle Applicable: See additional Comments below. No additional comments needed after review.

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Direct client dropoff Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	If there are samples requiring cold preservation, did they arrive within (0 < 6 °C)?		✓		Preservation Method: Wet Ice Ice Packs Dry Ice None Other: *all temperatures recorded next to tracking numbers are in Celcius
4	Sample containers intact and sealed? SH	X		✓	Circle Applicable: Seals broken Damaged container Leaking container Other (describe) SEE ATTACHED
5	Samples requiring chemical preservation at proper pH?		✓		Preserved per COC request or list Sample IDs and Containers Affected: If Preservation added, Lot#:
6	Do any samples require Volatile Analysis? (If yes, answer all three additional questions.)			✓	If Yes, are Encores or Soil Kits present? Yes___ No___ (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___ (If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample IDs and containers affected:
7	Samples received within holding time?	✓			IDs and tests affected:
8	Sample IDs on COC match IDs on bottles?	✓			IDs and containers affected:
9	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10	Number of containers received match number indicated on COC?			✓	Circle Applicable: No container count on COC Missing Container (provide details) Other (describe) SEE ATTACHED
11	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
12	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments:

PM (or PMA) review: Initials SH Date 5/6/25

Continuation Form Required when selected

GL-CHL-SR-001 Rev 8

Laboratory Certifications

List of current GEL Certifications as of 29 May 2025

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-00651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	525-24-281-19660
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	KY90129
Kentucky Wastewater	KY90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2023019
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	NV-C24-00175
New Hampshire NELAP	205424
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2023-152
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235
Utah NELAP	SC000122024-45
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Radiological Analysis

Case Narrative

Radiochemistry
Technical Case Narrative
Greater Radiological Dimensions Inc.
SDG #: 722626

Product: **Alphaspec U, Solid**
Analytical Method: DOE EML HASL-300, U-02-RC Modified
Analytical Procedure: GL-RAD-A-011 REV# 29
Analytical Batch: 2795159

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795145

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626001	RREA-4292025-R1-0-3
722626002	RREA-4292025-R1-3-6
722626003	RREA-4292025-R1-6-9
722626004	RREA-4292025-R1-9-12
722626005	RREA-4292025-R1-12-15
722626006	RREA-4292025-R1-15-18
722626007	RREA-4292025-R2-0-3
722626008	RREA-4292025-R2-3-6
722626009	RREA-4292025-R2-6-9
722626010	RREA-4292025-R2-9-12
722626011	RREA-4292025-R2-12-15
1206100205	Method Blank (MB)
1206100206	722626001(RREA-4292025-R1-0-3) Sample Duplicate (DUP)
1206100207	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
The tracer peak centroid for sample 1206100207 (LCS) is greater than 50 keV from the expected library energy value for the tracer; however, the tracer yield requirement was met and the tracer peak is within the tracer region of interest.

Product: **Alphaspec Th, Solid**
Analytical Method: DOE EML HASL-300, Th-01-RC Modified

Analytical Procedure: GL-RAD-A-038 REV# 19
Analytical Batch: 2795160

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795145

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626001	RREA-4292025-R1-0-3
722626002	RREA-4292025-R1-3-6
722626003	RREA-4292025-R1-6-9
722626004	RREA-4292025-R1-9-12
722626005	RREA-4292025-R1-12-15
722626006	RREA-4292025-R1-15-18
722626007	RREA-4292025-R2-0-3
722626008	RREA-4292025-R2-3-6
722626009	RREA-4292025-R2-6-9
722626010	RREA-4292025-R2-9-12
722626011	RREA-4292025-R2-12-15
1206100208	Method Blank (MB)
1206100209	722626001(RREA-4292025-R1-0-3) Sample Duplicate (DUP)
1206100210	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Alphaspec U, Solid**
Analytical Method: DOE EML HASL-300, U-02-RC Modified
Analytical Procedure: GL-RAD-A-011 REV# 29
Analytical Batch: 2795161

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795146

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626012	RREA-4292025-R2-15-18
722626013	RREA-4292025-R3-0-3
722626014	RREA-4292025-R3-3-6
722626015	RREA-4292025-R3-6-9
722626016	RREA-4292025-R3-9-12
722626017	RREA-4292025-R4-0-3
722626018	RREA-4292025-R4-3-6

722626019	RREA-4292025-R4-6-9
722626020	RREA-4292025-R5-0-3
722626021	RREA-4292025-R5-3-6
722626022	RREA-4292025-R6-0-3
1206100211	Method Blank (MB)
1206100212	722626012(RREA-4292025-R2-15-18) Sample Duplicate (DUP)
1206100213	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Alphaspec Th, Solid**
Analytical Method: DOE EML HASL-300, Th-01-RC Modified
Analytical Procedure: GL-RAD-A-038 REV# 19
Analytical Batch: 2795162

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795146

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626012	RREA-4292025-R2-15-18
722626013	RREA-4292025-R3-0-3
722626014	RREA-4292025-R3-3-6
722626015	RREA-4292025-R3-6-9
722626016	RREA-4292025-R3-9-12
722626017	RREA-4292025-R4-0-3
722626018	RREA-4292025-R4-3-6
722626019	RREA-4292025-R4-6-9
722626020	RREA-4292025-R5-0-3
722626021	RREA-4292025-R5-3-6
722626022	RREA-4292025-R6-0-3
1206100214	Method Blank (MB)
1206100215	722626012(RREA-4292025-R2-15-18) Sample Duplicate (DUP)
1206100216	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795145

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626001	RREA-4292025-R1-0-3
722626002	RREA-4292025-R1-3-6
722626003	RREA-4292025-R1-6-9
722626004	RREA-4292025-R1-9-12
722626005	RREA-4292025-R1-12-15
722626006	RREA-4292025-R1-15-18
722626007	RREA-4292025-R2-0-3
722626008	RREA-4292025-R2-3-6
722626009	RREA-4292025-R2-6-9
722626010	RREA-4292025-R2-9-12
722626011	RREA-4292025-R2-12-15

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795146

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626012	RREA-4292025-R2-15-18
722626013	RREA-4292025-R3-0-3
722626014	RREA-4292025-R3-3-6
722626015	RREA-4292025-R3-6-9
722626016	RREA-4292025-R3-9-12
722626017	RREA-4292025-R4-0-3
722626018	RREA-4292025-R4-3-6
722626019	RREA-4292025-R4-6-9
722626020	RREA-4292025-R5-0-3
722626021	RREA-4292025-R5-3-6
722626022	RREA-4292025-R6-0-3

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 29
Analytical Batch: 2795913

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795145

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626001	RREA-4292025-R1-0-3
722626002	RREA-4292025-R1-3-6
722626003	RREA-4292025-R1-6-9
722626004	RREA-4292025-R1-9-12
722626005	RREA-4292025-R1-12-15
722626006	RREA-4292025-R1-15-18
722626007	RREA-4292025-R2-0-3
722626008	RREA-4292025-R2-3-6
722626009	RREA-4292025-R2-6-9
722626010	RREA-4292025-R2-9-12
722626011	RREA-4292025-R2-12-15
1206102035	Method Blank (MB)
1206102036	722626001(RREA-4292025-R1-0-3) Sample Duplicate (DUP)
1206102037	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1206102036 (RREA-4292025-R1-0-3DUP)	Lead-210	RPD 187* (0.0%-100.0%) RER 1.11 (0-3)

Qualifier Information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Results are considered a false positive due to high peak-width.	Bismuth-212	722626003	RREA-4292025-R1-6-9
		Cesium-134	722626006	RREA-4292025-R1-15-18
		Mercury-203	722626007	RREA-4292025-R2-0-3
		Mercury-203	1206102036	RREA-4292025-R1-0-3(722626001DUP)
UI	Results are considered a false positive due to interference.	Europium-155	722626006	RREA-4292025-R1-15-18
		Europium-155	722626008	RREA-4292025-R2-3-6
		Europium-155	1206102036	RREA-4292025-R1-0-3(722626001DUP)
		Mercury-203	722626001	RREA-4292025-R1-0-3
		Mercury-203	722626004	RREA-4292025-R1-9-12
UI	Results are considered a false positive due to low abundance.	Bismuth-212	722626007	RREA-4292025-R2-0-3
UI	Results are considered a false positive due to no valid peak.	Cobalt-58	722626001	RREA-4292025-R1-0-3
		Thorium-234	722626005	RREA-4292025-R1-12-15
		Uranium-235	722626002	RREA-4292025-R1-3-6
		Uranium-235	722626004	RREA-4292025-R1-9-12
		Uranium-238	722626005	RREA-4292025-R1-12-15

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 29
Analytical Batch: 2795914

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25

Preparation Batch: 2795146

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626012	RREA-4292025-R2-15-18
722626013	RREA-4292025-R3-0-3
722626014	RREA-4292025-R3-3-6
722626015	RREA-4292025-R3-6-9
722626016	RREA-4292025-R3-9-12
722626017	RREA-4292025-R4-0-3
722626018	RREA-4292025-R4-3-6
722626019	RREA-4292025-R4-6-9
722626020	RREA-4292025-R5-0-3
722626021	RREA-4292025-R5-3-6
722626022	RREA-4292025-R6-0-3
1206102038	Method Blank (MB)
1206102039	722626012(RREA-4292025-R2-15-18) Sample Duplicate (DUP)
1206102040	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1206102039 (RREA-4292025-R2-15-18DUP)	Actinium-228 and Radium-228	RPD 31.3* (0.00%-20.00%) RER 1.54 (0-3)

Qualifier Information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Results are considered a false positive due to high peak-width.	Cobalt-58	1206102039	RREA-4292025-R2-15-18(722626012DUP)
		Manganese-54	722626017	RREA-4292025-R4-0-3
		Tin-113	722626012	RREA-4292025-R2-15-18

UI	Results are considered a false positive due to interference.	Europium-155	722626019	RREA-4292025-R4-6-9
		Manganese-54	722626018	RREA-4292025-R4-3-6
		Mercury-203	722626014	RREA-4292025-R3-3-6
UI	Results are considered a false positive due to low abundance.	Actinium-228	722626022	RREA-4292025-R6-0-3
		Cesium-134	722626017	RREA-4292025-R4-0-3
		Radium-228	722626022	RREA-4292025-R6-0-3

Product: **GFPC Gross A/B, Solid**
Analytical Method: EPA 900.0/SW846 9310/SM 7110B Modified
Analytical Procedure: GL-RAD-A-001B REV# 20
Analytical Batch: 2795427

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2795146

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626021	RREA-4292025-R5-3-6
722626022	RREA-4292025-R6-0-3
1206100888	Method Blank (MB)
1206100889	722626021(RREA-4292025-R5-3-6) Sample Duplicate (DUP)
1206100890	722626021(RREA-4292025-R5-3-6) Matrix Spike (MS)
1206100891	722626021(RREA-4292025-R5-3-6) Matrix Spike Duplicate (MSD)
1206100892	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Gross Alpha/Beta Preparation Information
High hygroscopic salt content in evaporated samples can cause the sample mass to fluctuate due to moisture absorption. To minimize this interference, the salts are converted to oxides by heating the sample under a flame until a dull red color is obtained. The conversion to oxides stabilizes the sample weight and ensures that proper alpha/beta efficiencies are assigned for each sample. Volatile radioisotopes of carbon, hydrogen, technetium, polonium and

cesium may be lost during sample heating.

Product: **GFPC Gross A/B, Solid**
Analytical Method: EPA 900.0/SW846 9310/SM 7110B Modified
Analytical Procedure: GL-RAD-A-001B REV# 20
Analytical Batch: 2805685

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batches: 2795145 and 2795146

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
722626001	RREA-4292025-R1-0-3
722626002	RREA-4292025-R1-3-6
722626003	RREA-4292025-R1-6-9
722626004	RREA-4292025-R1-9-12
722626005	RREA-4292025-R1-12-15
722626006	RREA-4292025-R1-15-18
722626007	RREA-4292025-R2-0-3
722626008	RREA-4292025-R2-3-6
722626009	RREA-4292025-R2-6-9
722626010	RREA-4292025-R2-9-12
722626011	RREA-4292025-R2-12-15
722626012	RREA-4292025-R2-15-18
722626013	RREA-4292025-R3-0-3
722626014	RREA-4292025-R3-3-6
722626015	RREA-4292025-R3-6-9
722626016	RREA-4292025-R3-9-12
722626017	RREA-4292025-R4-0-3
722626018	RREA-4292025-R4-3-6
722626019	RREA-4292025-R4-6-9
722626020	RREA-4292025-R5-0-3
1206123591	Method Blank (MB)
1206123592	722626001(RREA-4292025-R1-0-3) Sample Duplicate (DUP)
1206123593	722626001(RREA-4292025-R1-0-3) Matrix Spike (MS)
1206123594	722626001(RREA-4292025-R1-0-3) Matrix Spike Duplicate (MSD)
1206123595	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS) Recovery
Matrix Spike and Matrix Spike Duplicate, (See Below), do not meet the alpha recovery requirement due to the matrix

of the sample. The samples are similar in results.

Sample	Analyte	Value
1206123593 (RREA-4292025-R1-0-3MS)	Alpha	55.7* (75%-125%)
1206123594 (RREA-4292025-R1-0-3MSD)	Alpha	53.7* (75%-125%)

Technical Information

Sample Re-prep/Re-analysis
Samples were reprepped due to low recovery. The re-analysis is being reported.

Gross Alpha/Beta Preparation Information
High hygroscopic salt content in evaporated samples can cause the sample mass to fluctuate due to moisture absorption. To minimize this interference, the salts are converted to oxides by heating the sample under a flame until a dull red color is obtained. The conversion to oxides stabilizes the sample weight and ensures that proper alpha/beta efficiencies are assigned for each sample. Volatile radioisotopes of carbon, hydrogen, technetium, polonium and cesium may be lost during sample heating.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Moisture LogBook

Batch: 2795145
Analyst: GG
Date/Time: 09-MAY-2025
Procedure Code:___PREPD
Procedure Description: Dry Soil Prep GL-RAD-A-021
Lab Sop: GL-RAD-A-021

Sample St	Sample Id	Rpd(%)

Sample Id	Sample Type	Original Hsn	Balance	Run Time	Container Wt	Initial Wt	Final Wt (g)	Net Initial Wt (g)	Net Final Wt (g)	Moisture (%)
722626001	SAMPLE		SP-C238839655	09:15	68.29	317.06	271.35	248.77	203.06	18.374
722626002	SAMPLE		SP-C238839655	09:15	68.41	280.36	216.18	211.95	147.77	30.28
722626003	SAMPLE		SP-C238839655	09:15	68.17	277.7	209.11	209.53	140.94	32.735
722626004	SAMPLE		SP-C238839655	09:15	68.36	326.78	241.1	258.42	172.74	33.155
722626005	SAMPLE		SP-C238839655	09:15	68.53	417.74	300.99	349.21	232.46	33.432
722626006	SAMPLE		SP-C238839655	09:15	68.34	446.17	397.42	377.83	329.08	12.902
722626007	SAMPLE		SP-C238839655	09:15	68.33	347.42	299	279.09	230.67	17.349
722626008	SAMPLE		SP-C238839655	09:15	68.15	305.29	235.99	237.14	167.84	29.223
722626009	SAMPLE		SP-C238839655	09:15	68.22	387.09	309.63	318.87	241.41	24.292
722626010	SAMPLE		SP-C238839655	09:15	68.06	369.02	297.9	300.96	229.84	23.631
722626011	SAMPLE		SP-C238839655	09:15	68.07	465.28	390.73	397.21	322.66	18.768

Comments:

A) Result = (Net Initial - Net Final) /Net Initial * 100

Note: Aliquot is used for the determination of the effective MDL and PQL in LIMS

Moisture LogBook

Batch: 2795146
Analyst: GG
Date/Time: 09-MAY-2025
Procedure Code:___PREPD
Procedure Description: Dry Soil Prep GL-RAD-A-021
Lab Sop: GL-RAD-A-021

Sample St	Sample Id	Rpd(%)

Sample Id	Sample Type	Original Hsn	Balance	Run Time	Container Wt	Initial Wt	Final Wt (g)	Net Initial Wt (g)	Net Final Wt (g)	Moisture (%)
722626012	SAMPLE		SP-C238839655	09:18	68.05	358.33	316.36	290.28	248.31	14.458
722626013	SAMPLE		SP-C238839655	09:18	67.71	315.5	236.1	247.79	168.39	32.043
722626014	SAMPLE		SP-C238839655	09:18	68.14	300.2	228.83	232.06	160.69	30.754
722626015	SAMPLE		SP-C238839655	09:18	68.16	302.54	219.47	234.38	151.31	35.442
722626016	SAMPLE		SP-C238839655	09:18	68.16	426.91	308.33	358.75	240.17	33.053
722626017	SAMPLE		SP-C238839655	09:18	68.35	345.08	270.09	276.73	201.74	27.098
722626018	SAMPLE		SP-C238839655	09:18	68.24	387.38	286.8	319.14	218.56	31.515
722626019	SAMPLE		SP-C238839655	09:18	68.23	391.41	284.53	323.18	216.3	33.071
722626020	SAMPLE		SP-C238839655	09:18	68.07	411.55	309.82	343.48	241.75	29.617
722626021	SAMPLE		SP-C238839655	09:18	68.28	506.05	438.59	437.77	370.31	15.409
722626022	SAMPLE		SP-C238839655	09:18	68.16	515.16	441.43	447	373.27	16.494

Comments:

A) Result = (Net Initial - Net Final) /Net Initial * 100

Note: Aliquot is used for the determination of the effective MDL and PQL in LIMS

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Qualifier Definition Report
for

GRDI001 Greater Radiological Dimensions Inc.

Client SDG: 722626 GEL Work Order: 722626

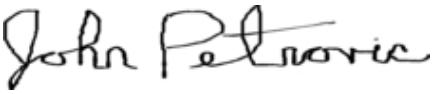
The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a Tracer compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI Gamma Spectroscopy--Uncertain identification

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: John Petrovic**

Date: 03 JUN 2025 **Title: Data Validator**

Sample Data Summary

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-0-3
Sample ID: 722626001
Matrix: Soil
Collect Date: 29-APR-25 09:00
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		2.23	+/-0.933	0.673	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		1.46	+/-0.793	0.782	1.00	pCi/g							
Thorium-232		1.74	+/-0.806	0.510	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.50	+/-0.586	0.471	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	0.240	+/-0.283	0.306	1.00	pCi/g							
Uranium-238		1.61	+/-0.595	0.417	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.58	+/-0.628	0.406		pCi/g			MXR1	06/02/25	0905	2795913	3
Americium-241	U	-0.00381	+/-0.0716	0.120		pCi/g							
Antimony-124	U	0.0950	+/-0.187	0.442		pCi/g							
Antimony-125	U	-0.0840	+/-0.156	0.266		pCi/g							
Barium-133	U	-0.0513	+/-0.0666	0.0965		pCi/g							
Barium-140	U	0.336	+/-1.12	2.15		pCi/g							
Beryllium-7	U	0.130	+/-0.659	1.24		pCi/g							
Bismuth-212		1.74	+/-1.21	1.40		pCi/g							
Bismuth-214		1.70	+/-0.330	0.192		pCi/g							
Cerium-139	U	-0.0335	+/-0.0411	0.0735		pCi/g							
Cerium-141	U	-0.108	+/-0.129	0.207		pCi/g							
Cerium-144	U	-0.155	+/-0.251	0.412		pCi/g							
Cesium-134	U	0.0555	+/-0.110	0.147		pCi/g							
Cesium-136	U	-0.243	+/-0.534	0.929		pCi/g							
Cesium-137	U	0.0244	+/-0.0617	0.125	0.100	pCi/g							
Chromium-51	U	0.293	+/-0.855	1.64		pCi/g							
Cobalt-56	U	0.000299	+/-0.0822	0.140		pCi/g							
Cobalt-57	U	-0.0170	+/-0.0298	0.0495		pCi/g							
Cobalt-58	UI	0.000	+/-0.0600	0.0194		pCi/g							
Cobalt-60	U	-0.0130	+/-0.0584	0.115		pCi/g							
Europium-152	U	0.0382	+/-0.142	0.259		pCi/g							
Europium-154	U	-0.106	+/-0.190	0.343		pCi/g							
Europium-155	U	0.0286	+/-0.114	0.205		pCi/g							
Iridium-192	U	-0.0453	+/-0.0517	0.0867		pCi/g							
Iron-59	U	0.0394	+/-0.201	0.397		pCi/g							
Lead-210		1.05	+/-1.30	0.912		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-0-3 Project: GRDI00101
Sample ID: 722626001 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.95	+/-0.183	0.130		pCi/g							
Lead-214		1.74	+/-0.302	0.180		pCi/g							
Manganese-54	U	0.0218	+/-0.0627	0.120		pCi/g							
Mercury-203	UI	0.000	+/-0.119	0.115		pCi/g							
Neodymium-147	U	-2.11	+/-2.91	4.70		pCi/g							
Neptunium-239	U	-0.165	+/-0.308	0.515		pCi/g							
Niobium-94	U	0.0310	+/-0.0552	0.114		pCi/g							
Niobium-95	U	0.00476	+/-0.0915	0.156		pCi/g							
Potassium-40		11.6	+/-2.06	0.981		pCi/g							
Promethium-144	U	0.0464	+/-0.0697	0.141		pCi/g							
Promethium-146	U	0.0136	+/-0.0620	0.118		pCi/g							
Radium-226		1.74	+/-0.302	0.180		pCi/g							
Radium-228		1.58	+/-0.628	0.406		pCi/g							
Ruthenium-106	U	0.141	+/-0.408	0.859		pCi/g							
Silver-110m	U	-0.0354	+/-0.0944	0.169		pCi/g							
Sodium-22	U	-0.0345	+/-0.0684	0.125		pCi/g							
Thallium-208		0.542	+/-0.134	0.0954		pCi/g							
Thorium-234		3.12	+/-1.41	1.12		pCi/g							
Tin-113	U	0.000895	+/-0.0762	0.140		pCi/g							
Uranium-235	U	0.171	+/-0.263	0.474		pCi/g							
Uranium-238		3.12	+/-1.41	1.12		pCi/g							
Yttrium-88	U	0.0381	+/-0.0818	0.191		pCi/g							
Zinc-65	U	0.104	+/-0.137	0.284		pCi/g							
Zirconium-95	U	-0.0994	+/-0.173	0.290		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		9.02	+/-3.28	2.23	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		16.5	+/-3.79	4.46	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-0-3 Project: GRDI00101
Sample ID: 722626001 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			48.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			98	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-3-6
Sample ID: 722626002
Matrix: Soil
Collect Date: 29-APR-25 09:05
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.25	+/-0.679	0.478	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		2.92	+/-1.01	0.608	1.00	pCi/g							
Thorium-232		1.28	+/-0.688	0.529	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.19	+/-0.542	0.506	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236		0.195	+/-0.257	0.195	1.00	pCi/g							
Uranium-238		1.29	+/-0.528	0.292	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		2.22	+/-0.513	0.370		pCi/g			MXR1	06/02/25	0906	2795913	3
Americium-241	U	0.188	+/-0.348	0.658		pCi/g							
Antimony-124	U	0.0553	+/-0.111	0.300		pCi/g							
Antimony-125	U	0.0168	+/-0.118	0.230		pCi/g							
Barium-133	U	0.0746	+/-0.0979	0.125		pCi/g							
Barium-140	U	0.457	+/-1.13	2.23		pCi/g							
Beryllium-7	U	-0.168	+/-0.616	1.12		pCi/g							
Bismuth-212		2.79	+/-1.27	1.12		pCi/g							
Bismuth-214		1.94	+/-0.301	0.164		pCi/g							
Cerium-139	U	-0.0322	+/-0.0506	0.0825		pCi/g							
Cerium-141	U	0.145	+/-0.233	0.243		pCi/g							
Cerium-144	U	-0.643	+/-0.314	0.437		pCi/g							
Cesium-134	U	0.0213	+/-0.0729	0.139		pCi/g							
Cesium-136	U	0.0193	+/-0.401	0.814		pCi/g							
Cesium-137	U	-0.00186	+/-0.0484	0.0915	0.100	pCi/g							
Chromium-51	U	-0.209	+/-0.807	1.34		pCi/g							
Cobalt-56	U	0.00524	+/-0.0608	0.118		pCi/g							
Cobalt-57	U	0.00220	+/-0.0387	0.0685		pCi/g							
Cobalt-58	U	0.0350	+/-0.0712	0.144		pCi/g							
Cobalt-60	U	-0.0435	+/-0.0582	0.0985		pCi/g							
Europium-152	U	-0.0136	+/-0.134	0.251		pCi/g							
Europium-154	U	-0.0184	+/-0.133	0.241		pCi/g							
Europium-155	U	0.0451	+/-0.164	0.295		pCi/g							
Iridium-192	U	0.0897	+/-0.0777	0.134		pCi/g							
Iron-59	U	0.107	+/-0.156	0.353		pCi/g							
Lead-210	U	-3.22	+/-16.5	29.5		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-3-6 Project: GRDI00101
Sample ID: 722626002 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.99	+/-0.202	0.136		pCi/g							
Lead-214		2.28	+/-0.269	0.201		pCi/g							
Manganese-54	U	0.00167	+/-0.0541	0.102		pCi/g							
Mercury-203	U	-0.0432	+/-0.0792	0.126		pCi/g							
Neodymium-147	U	0.351	+/-2.57	4.94		pCi/g							
Neptunium-239	U	0.176	+/-0.394	0.720		pCi/g							
Niobium-94	U	0.00668	+/-0.0538	0.103		pCi/g							
Niobium-95	U	0.0391	+/-0.0877	0.157		pCi/g							
Potassium-40		10.4	+/-2.14	0.992		pCi/g							
Promethium-144	U	-0.00129	+/-0.0531	0.0984		pCi/g							
Promethium-146	U	0.00573	+/-0.0537	0.104		pCi/g							
Radium-226		2.28	+/-0.269	0.201		pCi/g							
Radium-228		2.22	+/-0.513	0.370		pCi/g							
Ruthenium-106	U	0.0319	+/-0.510	0.871		pCi/g							
Silver-110m	U	-0.0214	+/-0.0768	0.137		pCi/g							
Sodium-22	U	-0.00356	+/-0.0483	0.0893		pCi/g							
Thallium-208		0.534	+/-0.128	0.111		pCi/g							
Thorium-234	U	-0.418	+/-3.14	5.58		pCi/g							
Tin-113	U	-0.0589	+/-0.0739	0.127		pCi/g							
Uranium-235	UI	0.000	+/-0.477	0.605		pCi/g							
Uranium-238	U	-0.418	+/-3.14	5.58		pCi/g							
Yttrium-88	U	0.0457	+/-0.0664	0.165		pCi/g							
Zinc-65	U	-0.0988	+/-0.115	0.150		pCi/g							
Zirconium-95	U	0.0125	+/-0.143	0.268		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		16.4	+/-4.41	2.48	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		18.1	+/-3.72	3.64	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-3-6
Sample ID: 722626002
Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			51.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			82	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard
Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-6-9
Sample ID: 722626003
Matrix: Soil
Collect Date: 29-APR-25 09:10
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.70	+/-0.736	0.600	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		1.98	+/-0.801	0.703	1.00	pCi/g							
Thorium-232		1.73	+/-0.720	0.502	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.32	+/-0.605	0.602	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	-0.0335	+/-0.148	0.386	1.00	pCi/g							
Uranium-238		1.79	+/-0.636	0.270	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		2.22	+/-0.435	0.408		pCi/g			MXR1	06/02/25	0906	2795913	3
Americium-241	U	0.0719	+/-0.0665	0.132		pCi/g							
Antimony-124	U	-0.0146	+/-0.182	0.367		pCi/g							
Antimony-125	U	0.117	+/-0.142	0.289		pCi/g							
Barium-133	U	0.0100	+/-0.0503	0.0913		pCi/g							
Barium-140	U	-0.102	+/-1.01	1.90		pCi/g							
Beryllium-7	U	-0.0650	+/-0.571	1.07		pCi/g							
Bismuth-212	UI	0.000	+/-1.34	1.35		pCi/g							
Bismuth-214		2.08	+/-0.299	0.157		pCi/g							
Cerium-139	U	-0.00241	+/-0.0392	0.0695		pCi/g							
Cerium-141	U	-0.0268	+/-0.113	0.197		pCi/g							
Cerium-144	U	0.0752	+/-0.234	0.433		pCi/g							
Cesium-134	U	0.00912	+/-0.0709	0.133		pCi/g							
Cesium-136	U	-0.412	+/-0.350	0.509		pCi/g							
Cesium-137	U	-0.0209	+/-0.0579	0.102	0.100	pCi/g							
Chromium-51	U	0.757	+/-0.720	1.53		pCi/g							
Cobalt-56	U	0.000917	+/-0.0597	0.116		pCi/g							
Cobalt-57	U	-0.0133	+/-0.0276	0.0480		pCi/g							
Cobalt-58	U	-0.0159	+/-0.0733	0.132		pCi/g							
Cobalt-60	U	-0.00513	+/-0.0598	0.119		pCi/g							
Europium-152	U	-0.170	+/-0.125	0.202		pCi/g							
Europium-154	U	0.0520	+/-0.189	0.393		pCi/g							
Europium-155	U	0.155	+/-0.153	0.188		pCi/g							
Iridium-192	U	-0.0337	+/-0.0558	0.101		pCi/g							
Iron-59	U	-0.0752	+/-0.165	0.301		pCi/g							
Lead-210		1.93	+/-1.16	0.960		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-6-9 Project: GRDI00101
Sample ID: 722626003 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.77	+/-0.183	0.122		pCi/g							
Lead-214		2.21	+/-0.301	0.180		pCi/g							
Manganese-54	U	0.0415	+/-0.0743	0.145		pCi/g							
Mercury-203	U	0.0459	+/-0.0643	0.116		pCi/g							
Neodymium-147	U	-1.08	+/-2.50	4.47		pCi/g							
Neptunium-239	U	-0.0365	+/-0.291	0.522		pCi/g							
Niobium-94	U	-0.00292	+/-0.0490	0.0910		pCi/g							
Niobium-95	U	-0.0475	+/-0.0977	0.171		pCi/g							
Potassium-40		7.79	+/-1.89	1.09		pCi/g							
Promethium-144	U	-0.00452	+/-0.0570	0.105		pCi/g							
Promethium-146	U	-0.0130	+/-0.0614	0.113		pCi/g							
Radium-226		2.21	+/-0.301	0.180		pCi/g							
Radium-228		2.22	+/-0.435	0.408		pCi/g							
Ruthenium-106	U	0.187	+/-0.442	0.901		pCi/g							
Silver-110m	U	-0.0731	+/-0.0788	0.133		pCi/g							
Sodium-22	U	0.0201	+/-0.0676	0.141		pCi/g							
Thallium-208		0.701	+/-0.124	0.0888		pCi/g							
Thorium-234		2.04	+/-1.34	1.12		pCi/g							
Tin-113	U	-0.0173	+/-0.0797	0.146		pCi/g							
Uranium-235	U	-0.0927	+/-0.255	0.443		pCi/g							
Uranium-238		2.04	+/-1.34	1.12		pCi/g							
Yttrium-88	U	0.00661	+/-0.0527	0.130		pCi/g							
Zinc-65	U	-0.0230	+/-0.137	0.232		pCi/g							
Zirconium-95	U	-0.0796	+/-0.160	0.270		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		9.82	+/-3.42	2.54	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		14.7	+/-3.27	3.44	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-6-9
Sample ID: 722626003
Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			60.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			79.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-9-12
Sample ID: 722626004
Matrix: Soil
Collect Date: 29-APR-25 09:15
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.34	+/-0.813	0.926	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		2.49	+/-0.987	0.705	1.00	pCi/g							
Thorium-232		1.64	+/-0.781	0.357	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.05	+/-0.464	0.456	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	0.300	+/-0.293	0.363	1.00	pCi/g							
Uranium-238		1.31	+/-0.482	0.325	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.99	+/-0.430	0.271		pCi/g			MXR1	06/02/25	0913	2795913	3
Americium-241	U	-0.00269	+/-0.0625	0.103		pCi/g							
Antimony-124	U	-0.0212	+/-0.0909	0.190		pCi/g							
Antimony-125	U	0.0248	+/-0.103	0.198		pCi/g							
Barium-133	U	-0.0148	+/-0.0502	0.0821		pCi/g							
Barium-140	U	0.212	+/-0.729	1.45		pCi/g							
Beryllium-7	U	-0.281	+/-0.460	0.804		pCi/g							
Bismuth-212		1.40	+/-1.01	1.14		pCi/g							
Bismuth-214		1.84	+/-0.275	0.148		pCi/g							
Cerium-139	U	-0.0307	+/-0.0368	0.0591		pCi/g							
Cerium-141	U	0.0278	+/-0.0966	0.161		pCi/g							
Cerium-144	U	0.0199	+/-0.211	0.373		pCi/g							
Cesium-134	U	0.0990	+/-0.0788	0.131		pCi/g							
Cesium-136	U	0.159	+/-0.306	0.637		pCi/g							
Cesium-137	U	-0.0335	+/-0.0438	0.0728	0.100	pCi/g							
Chromium-51	U	0.149	+/-0.570	1.12		pCi/g							
Cobalt-56	U	-0.0410	+/-0.0509	0.0814		pCi/g							
Cobalt-57	U	0.0256	+/-0.0269	0.0507		pCi/g							
Cobalt-58	U	0.00480	+/-0.0527	0.0917		pCi/g							
Cobalt-60	U	-0.0138	+/-0.0376	0.0720		pCi/g							
Europium-152	U	-0.0414	+/-0.0991	0.180		pCi/g							
Europium-154	U	-0.0513	+/-0.148	0.276		pCi/g							
Europium-155	U	0.0979	+/-0.109	0.202		pCi/g							
Iridium-192	U	0.0240	+/-0.0393	0.0796		pCi/g							
Iron-59	U	0.0215	+/-0.110	0.234		pCi/g							
Lead-210		1.37	+/-1.08	0.874		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-9-12 Project: GRDI00101
Sample ID: 722626004 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		2.17	+/-0.176	0.110		pCi/g							
Lead-214		2.33	+/-0.239	0.127		pCi/g							
Manganese-54	U	0.0189	+/-0.0427	0.0855		pCi/g							
Mercury-203	UI	0.000	+/-0.105	0.0907		pCi/g							
Neodymium-147	U	0.384	+/-2.22	4.23		pCi/g							
Neptunium-239	U	-0.345	+/-0.275	0.435		pCi/g							
Niobium-94	U	0.0269	+/-0.0426	0.0845		pCi/g							
Niobium-95	U	0.000299	+/-0.0628	0.105		pCi/g							
Potassium-40		11.3	+/-1.62	0.859		pCi/g							
Promethium-144	U	-0.00531	+/-0.0410	0.0672		pCi/g							
Promethium-146	U	0.0446	+/-0.0490	0.100		pCi/g							
Radium-226		2.33	+/-0.239	0.127		pCi/g							
Radium-228		1.99	+/-0.430	0.271		pCi/g							
Ruthenium-106	U	-0.0142	+/-0.369	0.689		pCi/g							
Silver-110m	U	0.0213	+/-0.0498	0.104		pCi/g							
Sodium-22	U	-0.0183	+/-0.0529	0.0985		pCi/g							
Thallium-208		0.519	+/-0.120	0.0801		pCi/g							
Thorium-234		1.74	+/-1.38	1.01		pCi/g							
Tin-113	U	-0.0397	+/-0.0479	0.0826		pCi/g							
Uranium-235	UI	0.000	+/-0.383	0.357		pCi/g							
Uranium-238		1.74	+/-1.38	1.01		pCi/g							
Yttrium-88	U	0.0155	+/-0.0423	0.103		pCi/g							
Zinc-65	U	0.00462	+/-0.117	0.207		pCi/g							
Zirconium-95	U	-0.0707	+/-0.104	0.173		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		14.8	+/-4.13	2.53	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		20.1	+/-3.93	3.93	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-9-12 Project: GRDI00101
Sample ID: 722626004 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			49.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			107	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-12-15
Sample ID: 722626005
Matrix: Soil
Collect Date: 29-APR-25 09:20
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.58	+/-0.694	0.474	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		1.61	+/-0.710	0.572	1.00	pCi/g							
Thorium-232		1.53	+/-0.682	0.504	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		0.979	+/-0.536	0.607	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	-0.0324	+/-0.143	0.374	1.00	pCi/g							
Uranium-238		1.42	+/-0.570	0.360	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		2.13	+/-0.454	0.319		pCi/g			MXR1	06/02/25	0917	2795913	3
Americium-241	U	-0.0313	+/-0.303	0.506		pCi/g							
Antimony-124	U	0.0236	+/-0.0807	0.219		pCi/g							
Antimony-125	U	0.165	+/-0.253	0.218		pCi/g							
Barium-133	U	0.0326	+/-0.0642	0.112		pCi/g							
Barium-140	U	0.981	+/-1.00	2.14		pCi/g							
Beryllium-7	U	-0.357	+/-0.558	0.939		pCi/g							
Bismuth-212		1.53	+/-1.35	1.30		pCi/g							
Bismuth-214		1.72	+/-0.311	0.149		pCi/g							
Cerium-139	U	-0.0172	+/-0.0467	0.0833		pCi/g							
Cerium-141	U	0.113	+/-0.286	0.241		pCi/g							
Cerium-144	U	0.00232	+/-0.288	0.530		pCi/g							
Cesium-134	U	0.0636	+/-0.0577	0.123		pCi/g							
Cesium-136	U	0.0267	+/-0.326	0.690		pCi/g							
Cesium-137	U	-0.0322	+/-0.0513	0.0753	0.100	pCi/g							
Chromium-51	U	0.619	+/-0.793	1.54		pCi/g							
Cobalt-56	U	0.0210	+/-0.0656	0.134		pCi/g							
Cobalt-57	U	0.0139	+/-0.0376	0.0709		pCi/g							
Cobalt-58	U	0.0146	+/-0.0573	0.119		pCi/g							
Cobalt-60	U	0.00738	+/-0.0367	0.0829		pCi/g							
Europium-152	U	0.00277	+/-0.132	0.231		pCi/g							
Europium-154	U	-0.0762	+/-0.136	0.245		pCi/g							
Europium-155	U	0.0407	+/-0.153	0.288		pCi/g							
Iridium-192	U	-0.00179	+/-0.0487	0.0899		pCi/g							
Iron-59	U	0.0206	+/-0.150	0.278		pCi/g							
Lead-210	U	2.09	+/-7.03	13.5		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-12-15 Project: GRDI00101
Sample ID: 722626005 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.61	+/-0.180	0.143		pCi/g							
Lead-214		1.89	+/-0.265	0.188		pCi/g							
Manganese-54	U	0.0855	+/-0.0829	0.0962		pCi/g							
Mercury-203	U	-0.00653	+/-0.0681	0.123		pCi/g							
Neodymium-147	U	1.07	+/-2.42	4.74		pCi/g							
Neptunium-239	U	0.00777	+/-0.380	0.702		pCi/g							
Niobium-94	U	-0.0562	+/-0.0499	0.0751		pCi/g							
Niobium-95	U	-0.0433	+/-0.0824	0.119		pCi/g							
Potassium-40		12.6	+/-1.88	0.677		pCi/g							
Promethium-144	U	0.0123	+/-0.0490	0.0931		pCi/g							
Promethium-146	U	0.00795	+/-0.0618	0.114		pCi/g							
Radium-226		1.89	+/-0.265	0.188		pCi/g							
Radium-228		2.13	+/-0.454	0.319		pCi/g							
Ruthenium-106	U	-0.114	+/-0.390	0.694		pCi/g							
Silver-110m	U	0.0138	+/-0.0531	0.114		pCi/g							
Sodium-22	U	-0.0296	+/-0.0479	0.0850		pCi/g							
Thallium-208		0.576	+/-0.115	0.0867		pCi/g							
Thorium-234	UI	0.000	+/-4.67	3.79		pCi/g							
Tin-113	U	-0.0891	+/-0.0728	0.115		pCi/g							
Uranium-235	U	0.489	+/-0.599	0.581		pCi/g							
Uranium-238	UI	0.000	+/-4.67	3.79		pCi/g							
Yttrium-88	U	0.00940	+/-0.0533	0.121		pCi/g							
Zinc-65	U	0.0987	+/-0.110	0.237		pCi/g							
Zirconium-95	U	0.172	+/-0.109	0.235		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		11.2	+/-3.55	2.56	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		21.0	+/-3.64	3.50	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-12-15 Project: GRDI00101
Sample ID: 722626005 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			62.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			81.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-15-18
Sample ID: 722626006
Matrix: Soil
Collect Date: 29-APR-25 09:25
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228	U	0.352	+/-0.491	0.799	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		1.48	+/-0.737	0.749	1.00	pCi/g							
Thorium-232		1.27	+/-0.635	0.463	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234	U	0.0555	+/-0.321	0.629	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	-0.0427	+/-0.129	0.362	1.00	pCi/g							
Uranium-238		0.673	+/-0.379	0.316	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		0.808	+/-0.381	0.281		pCi/g			MXR1	06/02/25	0918	2795913	3
Americium-241	U	0.227	+/-0.198	0.394		pCi/g							
Antimony-124	U	0.00454	+/-0.116	0.254		pCi/g							
Antimony-125	U	0.0590	+/-0.0997	0.202		pCi/g							
Barium-133	U	-0.0242	+/-0.0516	0.0832		pCi/g							
Barium-140	U	-0.155	+/-0.857	1.58		pCi/g							
Beryllium-7	U	0.0633	+/-0.454	0.875		pCi/g							
Bismuth-212		1.32	+/-1.03	0.999		pCi/g							
Bismuth-214		0.892	+/-0.184	0.151		pCi/g							
Cerium-139	U	0.0252	+/-0.0334	0.0644		pCi/g							
Cerium-141	U	0.0388	+/-0.105	0.196		pCi/g							
Cerium-144	U	-0.232	+/-0.211	0.349		pCi/g							
Cesium-134	UI	0.000	+/-0.0740	0.0684		pCi/g							
Cesium-136	U	-0.201	+/-0.308	0.537		pCi/g							
Cesium-137	U	-0.0164	+/-0.0450	0.0816	0.100	pCi/g							
Chromium-51	U	-0.174	+/-0.658	1.24		pCi/g							
Cobalt-56	U	0.0306	+/-0.0536	0.114		pCi/g							
Cobalt-57	U	0.0360	+/-0.0271	0.0528		pCi/g							
Cobalt-58	U	-0.0151	+/-0.0428	0.0821		pCi/g							
Cobalt-60	U	-0.0130	+/-0.0408	0.0760		pCi/g							
Europium-152	U	0.0304	+/-0.0934	0.187		pCi/g							
Europium-154	U	0.0134	+/-0.122	0.247		pCi/g							
Europium-155	UI	0.000	+/-0.206	0.190		pCi/g							
Iridium-192	U	0.0320	+/-0.0426	0.0880		pCi/g							
Iron-59	U	0.0707	+/-0.125	0.271		pCi/g							
Lead-210	U	8.48	+/-9.54	11.1		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-15-18 Project: GRDI00101
Sample ID: 722626006 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		0.953	+/-0.167	0.112		pCi/g							
Lead-214		1.08	+/-0.224	0.155		pCi/g							
Manganese-54	U	0.00787	+/-0.0454	0.0908		pCi/g							
Mercury-203	U	0.00887	+/-0.0527	0.104		pCi/g							
Neodymium-147	U	-0.0326	+/-1.75	3.37		pCi/g							
Neptunium-239	U	-0.00997	+/-0.351	0.526		pCi/g							
Niobium-94	U	-0.0184	+/-0.0429	0.0739		pCi/g							
Niobium-95	U	-0.0302	+/-0.0571	0.105		pCi/g							
Potassium-40		21.2	+/-2.22	0.927		pCi/g							
Promethium-144	U	-0.0163	+/-0.0459	0.0800		pCi/g							
Promethium-146	U	-0.0230	+/-0.0473	0.0843		pCi/g							
Radium-226		1.08	+/-0.224	0.155		pCi/g							
Radium-228		0.808	+/-0.381	0.281		pCi/g							
Ruthenium-106	U	-0.337	+/-0.421	0.694		pCi/g							
Silver-110m	U	-0.000393	+/-0.0453	0.0836		pCi/g							
Sodium-22	U	0.00791	+/-0.0441	0.0905		pCi/g							
Thallium-208		0.285	+/-0.0873	0.0665		pCi/g							
Thorium-234	U	1.84	+/-3.13	2.69		pCi/g							
Tin-113	U	6.67E-05	+/-0.0490	0.0945		pCi/g							
Uranium-235	U	-0.237	+/-0.236	0.406		pCi/g							
Uranium-238	U	1.84	+/-3.13	2.69		pCi/g							
Yttrium-88	U	0.000361	+/-0.0428	0.0995		pCi/g							
Zinc-65	U	-0.0297	+/-0.125	0.200		pCi/g							
Zirconium-95	U	0.0348	+/-0.0983	0.193		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		9.40	+/-3.40	2.84	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		28.6	+/-4.11	3.32	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R1-15-18 Project: GRDI00101
Sample ID: 722626006 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			58	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			104	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-0-3
Sample ID: 722626007
Matrix: Soil
Collect Date: 29-APR-25 09:45
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.93	+/-0.823	0.681	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		2.27	+/-0.858	0.562	1.00	pCi/g							
Thorium-232		1.65	+/-0.727	0.441	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.55	+/-0.648	0.679	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	0.0831	+/-0.229	0.397	1.00	pCi/g							
Uranium-238		1.66	+/-0.604	0.389	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.88	+/-0.460	0.288		pCi/g			MXR1	06/02/25	0921	2795913	3
Americium-241	U	0.213	+/-0.374	0.651		pCi/g							
Antimony-124	U	-0.0524	+/-0.133	0.242		pCi/g							
Antimony-125	U	0.0281	+/-0.134	0.246		pCi/g							
Barium-133	U	-0.0133	+/-0.0670	0.104		pCi/g							
Barium-140	U	0.116	+/-0.847	1.67		pCi/g							
Beryllium-7	U	0.291	+/-0.520	1.01		pCi/g							
Bismuth-212	UI	0.000	+/-0.778	1.75		pCi/g							
Bismuth-214		1.81	+/-0.298	0.163		pCi/g							
Cerium-139	U	-0.00400	+/-0.0507	0.0925		pCi/g							
Cerium-141	U	0.127	+/-0.141	0.271		pCi/g							
Cerium-144	U	0.0212	+/-0.335	0.548		pCi/g							
Cesium-134	U	0.0396	+/-0.0589	0.119		pCi/g							
Cesium-136	U	-0.0817	+/-0.277	0.521		pCi/g							
Cesium-137	U	-0.0137	+/-0.0488	0.0904	0.100	pCi/g							
Chromium-51	U	-0.194	+/-0.761	1.36		pCi/g							
Cobalt-56	U	-0.0465	+/-0.0630	0.110		pCi/g							
Cobalt-57	U	0.00177	+/-0.0399	0.0736		pCi/g							
Cobalt-58	U	-0.0534	+/-0.0537	0.0897		pCi/g							
Cobalt-60	U	0.0349	+/-0.0441	0.0986		pCi/g							
Europium-152	U	-0.00536	+/-0.194	0.221		pCi/g							
Europium-154	U	-0.107	+/-0.129	0.212		pCi/g							
Europium-155	U	0.146	+/-0.163	0.317		pCi/g							
Iridium-192	U	-0.0348	+/-0.0562	0.0973		pCi/g							
Iron-59	U	-0.171	+/-0.147	0.232		pCi/g							
Lead-210	U	-1.41	+/-13.6	25.9		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-0-3 Project: GRDI00101
Sample ID: 722626007 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		2.15	+/-0.234	0.148		pCi/g							
Lead-214		2.41	+/-0.283	0.173		pCi/g							
Manganese-54	U	-0.0289	+/-0.0556	0.0839		pCi/g							
Mercury-203	UI	0.000	+/-0.234	0.125		pCi/g							
Neodymium-147	U	-0.595	+/-2.47	4.03		pCi/g							
Neptunium-239	U	0.0349	+/-0.394	0.735		pCi/g							
Niobium-94	U	0.0148	+/-0.0454	0.0887		pCi/g							
Niobium-95	U	0.0596	+/-0.0848	0.151		pCi/g							
Potassium-40		10.9	+/-1.40	0.739		pCi/g							
Promethium-144	U	0.0194	+/-0.0457	0.0908		pCi/g							
Promethium-146	U	0.00729	+/-0.0580	0.107		pCi/g							
Radium-226		2.41	+/-0.283	0.173		pCi/g							
Radium-228		1.88	+/-0.460	0.288		pCi/g							
Ruthenium-106	U	-0.361	+/-0.422	0.738		pCi/g							
Silver-110m	U	-0.0292	+/-0.0669	0.121		pCi/g							
Sodium-22	U	-0.0381	+/-0.0459	0.0756		pCi/g							
Thallium-208		0.604	+/-0.124	0.0781		pCi/g							
Thorium-234	U	0.532	+/-5.00	4.71		pCi/g							
Tin-113	U	0.0400	+/-0.0669	0.128		pCi/g							
Uranium-235	U	0.0727	+/-0.306	0.569		pCi/g							
Uranium-238	U	0.532	+/-5.00	4.71		pCi/g							
Yttrium-88	U	-0.0266	+/-0.0510	0.0889		pCi/g							
Zinc-65	U	0.0393	+/-0.115	0.206		pCi/g							
Zirconium-95	U	0.00207	+/-0.125	0.208		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		17.8	+/-4.73	2.61	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		20.2	+/-3.55	3.18	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-0-3 Project: GRDI00101
Sample ID: 722626007 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			57.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			85.9	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-3-6
Sample ID: 722626008
Matrix: Soil
Collect Date: 29-APR-25 09:50
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.89	+/-0.780	0.614	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		1.85	+/-0.765	0.601	1.00	pCi/g							
Thorium-232		1.32	+/-0.633	0.412	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.67	+/-0.589	0.472	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236		0.287	+/-0.277	0.172	1.00	pCi/g							
Uranium-238		2.28	+/-0.653	0.306	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		2.10	+/-0.396	0.301		pCi/g			MXR1	06/02/25	1000	2795913	3
Americium-241	U	0.0127	+/-0.0604	0.100		pCi/g							
Antimony-124	U	0.112	+/-0.120	0.301		pCi/g							
Antimony-125	U	0.0663	+/-0.0983	0.201		pCi/g							
Barium-133	U	-0.0363	+/-0.0536	0.0781		pCi/g							
Barium-140	U	-0.287	+/-0.796	1.46		pCi/g							
Beryllium-7	U	0.137	+/-0.469	0.921		pCi/g							
Bismuth-212		2.72	+/-1.01	0.884		pCi/g							
Bismuth-214		2.12	+/-0.271	0.136		pCi/g							
Cerium-139	U	0.00990	+/-0.0315	0.0594		pCi/g							
Cerium-141	U	-0.0283	+/-0.0907	0.164		pCi/g							
Cerium-144	U	-0.0836	+/-0.217	0.364		pCi/g							
Cesium-134	U	0.0939	+/-0.0884	0.116		pCi/g							
Cesium-136	U	-0.181	+/-0.282	0.509		pCi/g							
Cesium-137	U	0.0122	+/-0.0457	0.0810	0.100	pCi/g							
Chromium-51	U	0.283	+/-0.667	1.23		pCi/g							
Cobalt-56	U	-0.00982	+/-0.0482	0.0883		pCi/g							
Cobalt-57	U	-0.00564	+/-0.0231	0.0427		pCi/g							
Cobalt-58	U	0.000528	+/-0.0571	0.107		pCi/g							
Cobalt-60	U	-0.0216	+/-0.0361	0.0641		pCi/g							
Europium-152	U	-0.0466	+/-0.0931	0.155		pCi/g							
Europium-154	U	0.00388	+/-0.141	0.277		pCi/g							
Europium-155	UI	0.000	+/-0.162	0.159		pCi/g							
Iridium-192	U	0.00650	+/-0.0480	0.0860		pCi/g							
Iron-59	U	-0.0706	+/-0.121	0.220		pCi/g							
Lead-210		1.78	+/-0.754	0.764		pCi/g							

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-3-6 Project: GRDI00101
Sample ID: 722626008 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		2.12	+/-0.164	0.104		pCi/g							
Lead-214		2.31	+/-0.280	0.139		pCi/g							
Manganese-54	U	-0.00541	+/-0.0514	0.0929		pCi/g							
Mercury-203	U	0.0240	+/-0.101	0.0879		pCi/g							
Neodymium-147	U	-1.08	+/-2.19	3.93		pCi/g							
Neptunium-239	U	-0.144	+/-0.226	0.408		pCi/g							
Niobium-94	U	0.0101	+/-0.0399	0.0768		pCi/g							
Niobium-95	U	0.0645	+/-0.0662	0.128		pCi/g							
Potassium-40		9.79	+/-1.56	0.852		pCi/g							
Promethium-144	U	-0.00878	+/-0.0460	0.0745		pCi/g							
Promethium-146	U	0.0498	+/-0.0448	0.0954		pCi/g							
Radium-226		2.31	+/-0.280	0.139		pCi/g							
Radium-228		2.10	+/-0.396	0.301		pCi/g							
Ruthenium-106	U	-0.196	+/-0.336	0.591		pCi/g							
Silver-110m	U	0.0407	+/-0.0594	0.123		pCi/g							
Sodium-22	U	-0.000614	+/-0.0497	0.0974		pCi/g							
Thallium-208		0.663	+/-0.132	0.0782		pCi/g							
Thorium-234		1.27	+/-1.26	1.05		pCi/g							
Tin-113	U	0.0341	+/-0.0600	0.111		pCi/g							
Uranium-235	U	0.119	+/-0.208	0.397		pCi/g							
Uranium-238		1.27	+/-1.26	1.05		pCi/g							
Yttrium-88	U	0.0115	+/-0.0524	0.113		pCi/g							
Zinc-65	U	-0.0629	+/-0.0984	0.147		pCi/g							
Zirconium-95	U	0.151	+/-0.140	0.227		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		19.8	+/-4.73	2.67	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		22.4	+/-3.72	3.36	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-3-6 Project: GRDI00101
Sample ID: 722626008 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			59	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			91.9	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-6-9
Sample ID: 722626009
Matrix: Soil
Collect Date: 29-APR-25 09:55
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.76	+/-0.771	0.526	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		1.82	+/-0.788	0.599	1.00	pCi/g							
Thorium-232		1.70	+/-0.738	0.396	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.71	+/-0.617	0.455	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	0.0330	+/-0.184	0.352	1.00	pCi/g							
Uranium-238		1.79	+/-0.616	0.361	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.52	+/-0.408	0.283		pCi/g			MXR1	06/02/25	1001	2795913	3
Americium-241	U	0.00187	+/-0.153	0.275		pCi/g							
Antimony-124	U	0.0112	+/-0.115	0.244		pCi/g							
Antimony-125	U	-0.0501	+/-0.0947	0.171		pCi/g							
Barium-133	U	0.0200	+/-0.0488	0.0888		pCi/g							
Barium-140	U	0.755	+/-1.10	1.44		pCi/g							
Beryllium-7	U	0.245	+/-0.369	0.777		pCi/g							
Bismuth-212		1.66	+/-1.17	0.836		pCi/g							
Bismuth-214		1.45	+/-0.201	0.137		pCi/g							
Cerium-139	U	0.00581	+/-0.0356	0.0650		pCi/g							
Cerium-141	U	0.000382	+/-0.104	0.188		pCi/g							
Cerium-144	U	-0.00562	+/-0.203	0.372		pCi/g							
Cesium-134	U	0.0667	+/-0.0687	0.101		pCi/g							
Cesium-136	U	-0.0618	+/-0.293	0.565		pCi/g							
Cesium-137	U	0.0642	+/-0.0648	0.0762	0.100	pCi/g							
Chromium-51	U	0.319	+/-0.557	1.15		pCi/g							
Cobalt-56	U	0.0140	+/-0.0566	0.108		pCi/g							
Cobalt-57	U	-0.00588	+/-0.0273	0.0494		pCi/g							
Cobalt-58	U	-0.0241	+/-0.0476	0.0816		pCi/g							
Cobalt-60	U	0.0656	+/-0.0755	0.0985		pCi/g							
Europium-152	U	-0.0310	+/-0.0914	0.164		pCi/g							
Europium-154	U	-0.0229	+/-0.139	0.265		pCi/g							
Europium-155	U	0.0244	+/-0.107	0.202		pCi/g							
Iridium-192	U	-0.0217	+/-0.0337	0.0619		pCi/g							
Iron-59	U	-0.0437	+/-0.0953	0.178		pCi/g							
Lead-210	U	1.23	+/-4.64	8.73		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-6-9 Project: GRDI00101
Sample ID: 722626009 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.58	+/-0.162	0.104		pCi/g							
Lead-214		2.04	+/-0.246	0.155		pCi/g							
Manganese-54	U	0.0251	+/-0.0382	0.0796		pCi/g							
Mercury-203	U	0.000743	+/-0.0566	0.110		pCi/g							
Neodymium-147	U	0.715	+/-1.81	3.65		pCi/g							
Neptunium-239	U	0.103	+/-0.258	0.492		pCi/g							
Niobium-94	U	0.0202	+/-0.0381	0.0756		pCi/g							
Niobium-95	U	0.0234	+/-0.0608	0.118		pCi/g							
Potassium-40		8.67	+/-1.30	0.621		pCi/g							
Promethium-144	U	-0.0141	+/-0.0361	0.0640		pCi/g							
Promethium-146	U	-0.0286	+/-0.0448	0.0794		pCi/g							
Radium-226		2.04	+/-0.246	0.155		pCi/g							
Radium-228		1.52	+/-0.408	0.283		pCi/g							
Ruthenium-106	U	0.0300	+/-0.342	0.655		pCi/g							
Silver-110m	U	-0.00808	+/-0.0447	0.0892		pCi/g							
Sodium-22	U	-0.00617	+/-0.0499	0.0955		pCi/g							
Thallium-208		0.449	+/-0.112	0.0702		pCi/g							
Thorium-234		2.35	+/-3.30	2.33		pCi/g							
Tin-113	U	0.00361	+/-0.0528	0.102		pCi/g							
Uranium-235	U	-0.0926	+/-0.226	0.397		pCi/g							
Uranium-238		2.35	+/-3.30	2.33		pCi/g							
Yttrium-88	U	-0.00177	+/-0.0396	0.0880		pCi/g							
Zinc-65	U	0.00212	+/-0.101	0.177		pCi/g							
Zirconium-95	U	-0.0463	+/-0.0917	0.158		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		10.1	+/-3.53	2.63	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		22.7	+/-4.06	3.70	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-6-9 Project: GRDI00101
Sample ID: 722626009 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			60.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			100	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-9-12
Sample ID: 722626010
Matrix: Soil
Collect Date: 29-APR-25 10:00
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.06	+/-0.636	0.582	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		1.64	+/-0.770	0.621	1.00	pCi/g							
Thorium-232		1.29	+/-0.659	0.325	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		0.864	+/-0.434	0.434	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	0.0551	+/-0.155	0.165	1.00	pCi/g							
Uranium-238		0.959	+/-0.421	0.247	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.21	+/-0.414	0.402		pCi/g			MXR1	06/02/25	1002	2795913	3
Americium-241	U	0.00625	+/-0.167	0.306		pCi/g							
Antimony-124	U	-0.00936	+/-0.119	0.254		pCi/g							
Antimony-125	U	-0.0279	+/-0.0904	0.167		pCi/g							
Barium-133	U	0.0450	+/-0.0499	0.0968		pCi/g							
Barium-140	U	0.283	+/-0.805	1.61		pCi/g							
Beryllium-7	U	-0.0148	+/-0.415	0.794		pCi/g							
Bismuth-212		1.90	+/-0.731	0.939		pCi/g							
Bismuth-214		1.27	+/-0.242	0.158		pCi/g							
Cerium-139	U	-0.0164	+/-0.0354	0.0614		pCi/g							
Cerium-141	U	-0.0209	+/-0.0979	0.174		pCi/g							
Cerium-144	U	0.0190	+/-0.209	0.388		pCi/g							
Cesium-134	U	-0.0135	+/-0.0554	0.0914		pCi/g							
Cesium-136	U	-0.0859	+/-0.337	0.609		pCi/g							
Cesium-137	U	0.00570	+/-0.0399	0.0769	0.100	pCi/g							
Chromium-51	U	-0.376	+/-0.658	1.19		pCi/g							
Cobalt-56	U	0.0263	+/-0.0460	0.102		pCi/g							
Cobalt-57	U	0.0134	+/-0.0270	0.0521		pCi/g							
Cobalt-58	U	0.0475	+/-0.0461	0.105		pCi/g							
Cobalt-60	U	-0.00249	+/-0.0309	0.0651		pCi/g							
Europium-152	U	-0.00100	+/-0.108	0.207		pCi/g							
Europium-154	U	-0.0183	+/-0.145	0.275		pCi/g							
Europium-155	U	0.0671	+/-0.0988	0.197		pCi/g							
Iridium-192	U	0.0263	+/-0.0496	0.0994		pCi/g							
Iron-59	U	0.101	+/-0.146	0.298		pCi/g							
Lead-210	U	2.89	+/-4.85	10.0		pCi/g							

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-9-12 Project: GRDI00101
Sample ID: 722626010 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.48	+/-0.162	0.115		pCi/g							
Lead-214		1.31	+/-0.243	0.159		pCi/g							
Manganese-54	U	0.0654	+/-0.0399	0.0887		pCi/g							
Mercury-203	U	0.00423	+/-0.0563	0.0999		pCi/g							
Neodymium-147	U	-0.795	+/-2.09	3.27		pCi/g							
Neptunium-239	U	0.0307	+/-0.272	0.510		pCi/g							
Niobium-94	U	-0.00594	+/-0.0359	0.0652		pCi/g							
Niobium-95	U	-0.00206	+/-0.0625	0.109		pCi/g							
Potassium-40		8.95	+/-1.67	0.981		pCi/g							
Promethium-144	U	0.00298	+/-0.0396	0.0749		pCi/g							
Promethium-146	U	0.00716	+/-0.0457	0.0890		pCi/g							
Radium-226		1.31	+/-0.243	0.159		pCi/g							
Radium-228		1.21	+/-0.414	0.402		pCi/g							
Ruthenium-106	U	0.309	+/-0.370	0.782		pCi/g							
Silver-110m	U	-0.0114	+/-0.0522	0.101		pCi/g							
Sodium-22	U	-0.00651	+/-0.0515	0.0978		pCi/g							
Thallium-208		0.373	+/-0.0996	0.0769		pCi/g							
Thorium-234		2.96	+/-4.02	2.46		pCi/g							
Tin-113	U	-0.0182	+/-0.0586	0.108		pCi/g							
Uranium-235	U	0.0526	+/-0.214	0.396		pCi/g							
Uranium-238		2.96	+/-4.02	2.46		pCi/g							
Yttrium-88	U	-0.000376	+/-0.0454	0.101		pCi/g							
Zinc-65	U	0.0245	+/-0.108	0.198		pCi/g							
Zirconium-95	U	-0.0285	+/-0.102	0.180		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		12.0	+/-3.95	2.80	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		13.9	+/-3.51	3.90	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-9-12 Project: GRDI00101
Sample ID: 722626010 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			58.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			105	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-12-15
Sample ID: 722626011
Matrix: Soil
Collect Date: 29-APR-25 10:05
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228	U	0.617	+/-0.533	0.702	1.00	pCi/g			KG3	05/16/25	1045	2795160	1
Thorium-230		0.791	+/-0.555	0.629	1.00	pCi/g							
Thorium-232		0.761	+/-0.512	0.469	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		0.563	+/-0.399	0.492	1.00	pCi/g			CM4	05/15/25	0822	2795159	2
Uranium-235/236	U	0.0937	+/-0.215	0.341	1.00	pCi/g							
Uranium-238		0.700	+/-0.394	0.329	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		0.723	+/-0.264	0.249		pCi/g			MXR1	06/02/25	1002	2795913	3
Americium-241	U	-0.00574	+/-0.137	0.273		pCi/g							
Antimony-124	U	-0.0466	+/-0.0790	0.137		pCi/g							
Antimony-125	U	0.0592	+/-0.0767	0.160		pCi/g							
Barium-133	U	0.00745	+/-0.0369	0.0669		pCi/g							
Barium-140	U	0.367	+/-0.535	1.14		pCi/g							
Beryllium-7	U	0.171	+/-0.317	0.655		pCi/g							
Bismuth-212		1.55	+/-0.842	0.688		pCi/g							
Bismuth-214		0.609	+/-0.168	0.102		pCi/g							
Cerium-139	U	0.0205	+/-0.0263	0.0518		pCi/g							
Cerium-141	U	0.00126	+/-0.0755	0.141		pCi/g							
Cerium-144	U	0.0316	+/-0.155	0.298		pCi/g							
Cesium-134	U	0.0198	+/-0.0348	0.0708		pCi/g							
Cesium-136	U	-0.251	+/-0.233	0.390		pCi/g							
Cesium-137	U	-0.00623	+/-0.0308	0.0572	0.100	pCi/g							
Chromium-51	U	0.304	+/-0.443	0.933		pCi/g							
Cobalt-56	U	0.00200	+/-0.0349	0.0675		pCi/g							
Cobalt-57	U	5.19E-05	+/-0.0206	0.0387		pCi/g							
Cobalt-58	U	0.00938	+/-0.0302	0.0625		pCi/g							
Cobalt-60	U	-0.00934	+/-0.0286	0.0547		pCi/g							
Europium-152	U	-0.00284	+/-0.0728	0.144		pCi/g							
Europium-154	U	0.0682	+/-0.0885	0.216		pCi/g							
Europium-155	U	0.0449	+/-0.0803	0.160		pCi/g							
Iridium-192	U	0.0122	+/-0.0309	0.0635		pCi/g							
Iron-59	U	-0.0249	+/-0.112	0.187		pCi/g							
Lead-210	U	3.26	+/-4.58	9.75		pCi/g							

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-12-15 Project: GRDI00101
Sample ID: 722626011 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		0.634	+/-0.128	0.0927		pCi/g							
Lead-214		0.819	+/-0.160	0.115		pCi/g							
Manganese-54	U	-0.0202	+/-0.0323	0.0548		pCi/g							
Mercury-203	U	-0.00936	+/-0.0392	0.0765		pCi/g							
Neodymium-147	U	-0.116	+/-1.27	2.46		pCi/g							
Neptunium-239	U	0.0558	+/-0.212	0.411		pCi/g							
Niobium-94	U	0.0125	+/-0.0264	0.0531		pCi/g							
Niobium-95	U	0.00266	+/-0.0441	0.0834		pCi/g							
Potassium-40		11.3	+/-1.29	0.508		pCi/g							
Promethium-144	U	-0.00620	+/-0.0225	0.0420		pCi/g							
Promethium-146	U	-0.00304	+/-0.0340	0.0657		pCi/g							
Radium-226		0.819	+/-0.160	0.115		pCi/g							
Radium-228		0.723	+/-0.264	0.249		pCi/g							
Ruthenium-106	U	-0.0967	+/-0.233	0.425		pCi/g							
Silver-110m	U	0.0157	+/-0.0459	0.0906		pCi/g							
Sodium-22	U	0.0243	+/-0.0315	0.0670		pCi/g							
Thallium-208		0.189	+/-0.0679	0.0593		pCi/g							
Thorium-234	U	0.535	+/-1.33	2.68		pCi/g							
Tin-113	U	-0.0166	+/-0.0393	0.0739		pCi/g							
Uranium-235	U	-0.0163	+/-0.175	0.324		pCi/g							
Uranium-238	U	0.535	+/-1.33	2.68		pCi/g							
Yttrium-88	U	0.0190	+/-0.0305	0.0757		pCi/g							
Zinc-65	U	8.76E-05	+/-0.0716	0.131		pCi/g							
Zirconium-95	U	0.0560	+/-0.0727	0.152		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		8.42	+/-2.94	2.29	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		11.0	+/-2.98	3.55	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0915	2795145

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-12-15 Project: GRDI00101
Sample ID: 722626011 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			61.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			86	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-15-18
Sample ID: 722626012
Matrix: Soil
Collect Date: 29-APR-25 10:10
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		0.801	+/-0.507	0.435	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230	U	0.524	+/-0.461	0.592	1.00	pCi/g							
Thorium-232		0.694	+/-0.480	0.471	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		0.940	+/-0.419	0.384	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.101	+/-0.201	0.326	1.00	pCi/g							
Uranium-238		0.733	+/-0.363	0.310	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		0.900	+/-0.253	0.224		pCi/g			MXR1	06/02/25	0914	2795914	3
Americium-241	U	-0.000752	+/-0.146	0.301		pCi/g							
Antimony-124	U	0.0415	+/-0.0575	0.192		pCi/g							
Antimony-125	U	-0.0730	+/-0.0922	0.160		pCi/g							
Barium-133	U	0.00226	+/-0.0402	0.0719		pCi/g							
Barium-140	U	-0.396	+/-0.779	1.37		pCi/g							
Beryllium-7	U	-0.346	+/-0.408	0.687		pCi/g							
Bismuth-212	U	0.971	+/-1.03	1.05		pCi/g							
Bismuth-214		0.683	+/-0.184	0.336		pCi/g							
Cerium-139	U	-0.00868	+/-0.0261	0.0475		pCi/g							
Cerium-141	U	-0.0229	+/-0.0791	0.146		pCi/g							
Cerium-144	U	-0.0398	+/-0.183	0.316		pCi/g							
Cesium-134	U	0.0276	+/-0.0424	0.0922		pCi/g							
Cesium-136	U	0.0475	+/-0.373	0.728		pCi/g							
Cesium-137	U	-0.0169	+/-0.0425	0.0739	0.100	pCi/g							
Chromium-51	U	0.0556	+/-0.506	1.02		pCi/g							
Cobalt-56	U	0.0265	+/-0.0518	0.110		pCi/g							
Cobalt-57	U	0.0119	+/-0.0230	0.0461		pCi/g							
Cobalt-58	U	0.0427	+/-0.0419	0.0993		pCi/g							
Cobalt-60	U	0.0148	+/-0.0517	0.109		pCi/g							
Europium-152	U	-0.0416	+/-0.0831	0.155		pCi/g							
Europium-154	U	0.136	+/-0.143	0.329		pCi/g							
Europium-155	U	0.0602	+/-0.0791	0.166		pCi/g							
Iridium-192	U	-0.0130	+/-0.0385	0.0654		pCi/g							
Iron-59	U	-0.0192	+/-0.162	0.265		pCi/g							
Lead-210	U	-0.425	+/-5.63	9.81		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-15-18 Project: GRDI00101
Sample ID: 722626012 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		0.981	+/-0.133	0.0955		pCi/g							
Lead-214		0.958	+/-0.195	0.122		pCi/g							
Manganese-54	U	-0.0254	+/-0.0423	0.0755		pCi/g							
Mercury-203	U	-0.0492	+/-0.0487	0.0751		pCi/g							
Neodymium-147	U	0.560	+/-1.44	3.05		pCi/g							
Neptunium-239	U	-0.357	+/-0.250	0.375		pCi/g							
Niobium-94	U	-0.00122	+/-0.0391	0.0683		pCi/g							
Niobium-95	U	-0.0155	+/-0.0587	0.111		pCi/g							
Potassium-40		20.7	+/-2.08	0.516		pCi/g							
Promethium-144	U	-0.000295	+/-0.0475	0.0823		pCi/g							
Promethium-146	U	-0.0128	+/-0.0424	0.0784		pCi/g							
Radium-226		0.958	+/-0.195	0.122		pCi/g							
Radium-228		0.900	+/-0.253	0.224		pCi/g							
Ruthenium-106	U	0.00358	+/-0.360	0.676		pCi/g							
Silver-110m	U	-0.00786	+/-0.0514	0.100		pCi/g							
Sodium-22	U	0.0483	+/-0.0509	0.117		pCi/g							
Thallium-208		0.298	+/-0.0803	0.0727		pCi/g							
Thorium-234	U	0.218	+/-1.38	2.86		pCi/g							
Tin-113	UI	0.000	+/-0.132	0.0878		pCi/g							
Uranium-235	U	0.105	+/-0.162	0.320		pCi/g							
Uranium-238	U	0.218	+/-1.38	2.86		pCi/g							
Yttrium-88	U	0.00214	+/-0.0447	0.0987		pCi/g							
Zinc-65	U	-0.110	+/-0.130	0.212		pCi/g							
Zirconium-95	U	-0.0209	+/-0.0977	0.188		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		10.8	+/-3.77	2.64	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		23.1	+/-4.38	4.57	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R2-15-18 Project: GRDI00101
Sample ID: 722626012 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			87.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			91.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-0-3
Sample ID: 722626013
Matrix: Soil
Collect Date: 29-APR-25 11:40
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		2.02	+/-0.921	0.492	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		1.33	+/-0.796	0.775	1.00	pCi/g							
Thorium-232		2.51	+/-1.01	0.393	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.69	+/-0.571	0.396	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.141	+/-0.224	0.310	1.00	pCi/g							
Uranium-238		1.94	+/-0.598	0.318	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.95	+/-0.420	0.363		pCi/g			MXR1	06/02/25	1018	2795914	3
Americium-241	U	0.125	+/-0.356	0.662		pCi/g							
Antimony-124	U	-0.0918	+/-0.202	0.364		pCi/g							
Antimony-125	U	-0.154	+/-0.134	0.218		pCi/g							
Barium-133	U	-0.0141	+/-0.0692	0.114		pCi/g							
Barium-140	U	1.01	+/-1.01	2.17		pCi/g							
Beryllium-7	U	-0.109	+/-0.622	1.14		pCi/g							
Bismuth-212		3.31	+/-1.62	1.12		pCi/g							
Bismuth-214		1.92	+/-0.307	0.159		pCi/g							
Cerium-139	U	-0.0210	+/-0.0522	0.0870		pCi/g							
Cerium-141	U	0.00833	+/-0.148	0.257		pCi/g							
Cerium-144	U	-0.517	+/-0.309	0.449		pCi/g							
Cesium-134	U	0.117	+/-0.0727	0.145		pCi/g							
Cesium-136	U	0.176	+/-0.417	0.886		pCi/g							
Cesium-137	U	-0.0111	+/-0.0534	0.0971	0.100	pCi/g							
Chromium-51	U	0.403	+/-0.871	1.71		pCi/g							
Cobalt-56	U	0.0129	+/-0.0653	0.128		pCi/g							
Cobalt-57	U	0.0187	+/-0.0401	0.0730		pCi/g							
Cobalt-58	U	0.0602	+/-0.0551	0.129		pCi/g							
Cobalt-60	U	-0.0211	+/-0.0680	0.110		pCi/g							
Europium-152	U	-0.0309	+/-0.151	0.249		pCi/g							
Europium-154	U	-0.0476	+/-0.206	0.388		pCi/g							
Europium-155	U	0.116	+/-0.177	0.306		pCi/g							
Iridium-192	U	-0.00273	+/-0.0578	0.109		pCi/g							
Iron-59	U	-0.0867	+/-0.148	0.268		pCi/g							
Lead-210	U	-2.41	+/-15.2	27.5		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-0-3 Project: GRDI00101
Sample ID: 722626013 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.61	+/-0.191	0.134		pCi/g							
Lead-214		1.98	+/-0.304	0.201		pCi/g							
Manganese-54	U	0.00836	+/-0.0574	0.109		pCi/g							
Mercury-203	U	-0.0343	+/-0.0821	0.133		pCi/g							
Neodymium-147	U	-0.947	+/-2.73	4.88		pCi/g							
Neptunium-239	U	-0.197	+/-0.391	0.658		pCi/g							
Niobium-94	U	0.0234	+/-0.0548	0.109		pCi/g							
Niobium-95	U	0.0423	+/-0.0756	0.142		pCi/g							
Potassium-40		9.90	+/-1.98	1.26		pCi/g							
Promethium-144	U	0.00268	+/-0.0536	0.100		pCi/g							
Promethium-146	U	-0.00366	+/-0.0534	0.101		pCi/g							
Radium-226		1.98	+/-0.304	0.201		pCi/g							
Radium-228		1.95	+/-0.420	0.363		pCi/g							
Ruthenium-106	U	0.131	+/-0.394	0.799		pCi/g							
Silver-110m	U	-0.0425	+/-0.0686	0.113		pCi/g							
Sodium-22	U	-0.0155	+/-0.0737	0.139		pCi/g							
Thallium-208		0.556	+/-0.125	0.0912		pCi/g							
Thorium-234	U	1.92	+/-2.76	5.25		pCi/g							
Tin-113	U	-0.0310	+/-0.0762	0.137		pCi/g							
Uranium-235	U	0.0687	+/-0.333	0.580		pCi/g							
Uranium-238	U	1.92	+/-2.76	5.25		pCi/g							
Yttrium-88	U	-0.0258	+/-0.0683	0.127		pCi/g							
Zinc-65	U	-0.0168	+/-0.151	0.258		pCi/g							
Zirconium-95	U	0.0509	+/-0.140	0.274		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		11.9	+/-3.76	2.70	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		18.4	+/-3.97	4.56	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-0-3 Project: GRDI00101
Sample ID: 722626013 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			60.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			82.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-3-6
Sample ID: 722626014
Matrix: Soil
Collect Date: 29-APR-25 11:45
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.21	+/-0.669	0.576	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		0.962	+/-0.618	0.644	1.00	pCi/g							
Thorium-232		1.12	+/-0.613	0.322	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.69	+/-0.548	0.420	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236		0.150	+/-0.198	0.150	1.00	pCi/g							
Uranium-238		1.47	+/-0.498	0.314	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.88	+/-0.457	0.438		pCi/g			MXR1	06/02/25	1019	2795914	3
Americium-241	U	0.0268	+/-0.0659	0.119		pCi/g							
Antimony-124	U	0.0808	+/-0.162	0.390		pCi/g							
Antimony-125	U	-0.0102	+/-0.136	0.254		pCi/g							
Barium-133	U	0.00113	+/-0.0559	0.0974		pCi/g							
Barium-140	U	0.450	+/-1.22	2.20		pCi/g							
Beryllium-7	U	0.182	+/-0.545	1.09		pCi/g							
Bismuth-212		3.36	+/-1.34	1.33		pCi/g							
Bismuth-214		1.81	+/-0.266	0.209		pCi/g							
Cerium-139	U	0.0148	+/-0.0382	0.0706		pCi/g							
Cerium-141	U	0.0309	+/-0.108	0.186		pCi/g							
Cerium-144	U	-0.0966	+/-0.224	0.390		pCi/g							
Cesium-134	U	0.116	+/-0.0834	0.177		pCi/g							
Cesium-136	U	-0.284	+/-0.394	0.680		pCi/g							
Cesium-137	U	-0.0106	+/-0.0426	0.0789	0.100	pCi/g							
Chromium-51	U	0.146	+/-0.759	1.48		pCi/g							
Cobalt-56	U	0.0202	+/-0.0666	0.133		pCi/g							
Cobalt-57	U	-0.0160	+/-0.0311	0.0539		pCi/g							
Cobalt-58	U	-0.0221	+/-0.0707	0.125		pCi/g							
Cobalt-60	U	-0.000417	+/-0.0506	0.105		pCi/g							
Europium-152	U	0.0549	+/-0.116	0.235		pCi/g							
Europium-154	U	0.165	+/-0.228	0.375		pCi/g							
Europium-155	U	0.0915	+/-0.176	0.178		pCi/g							
Iridium-192	U	-0.0259	+/-0.0495	0.0903		pCi/g							
Iron-59	U	-0.0374	+/-0.142	0.276		pCi/g							
Lead-210		1.27	+/-1.20	0.872		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-3-6 Project: GRDI00101
Sample ID: 722626014 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.83	+/-0.184	0.103		pCi/g							
Lead-214		2.29	+/-0.284	0.162		pCi/g							
Manganese-54	U	-0.0123	+/-0.0547	0.0984		pCi/g							
Mercury-203	UI	0.000	+/-0.156	0.113		pCi/g							
Neodymium-147	U	3.60	+/-2.80	5.04		pCi/g							
Neptunium-239	U	-0.230	+/-0.279	0.473		pCi/g							
Niobium-94	U	0.0143	+/-0.0493	0.0966		pCi/g							
Niobium-95	U	0.0188	+/-0.0821	0.154		pCi/g							
Potassium-40		11.1	+/-1.94	0.982		pCi/g							
Promethium-144	U	0.0102	+/-0.0641	0.109		pCi/g							
Promethium-146	U	0.0345	+/-0.0563	0.116		pCi/g							
Radium-226		2.29	+/-0.284	0.162		pCi/g							
Radium-228		1.88	+/-0.457	0.438		pCi/g							
Ruthenium-106	U	0.164	+/-0.492	0.970		pCi/g							
Silver-110m	U	0.0458	+/-0.0790	0.171		pCi/g							
Sodium-22	U	0.0586	+/-0.0812	0.133		pCi/g							
Thallium-208		0.562	+/-0.116	0.104		pCi/g							
Thorium-234		2.02	+/-1.39	1.14		pCi/g							
Tin-113	U	-0.0567	+/-0.0733	0.127		pCi/g							
Uranium-235	U	0.119	+/-0.299	0.411		pCi/g							
Uranium-238		2.02	+/-1.39	1.14		pCi/g							
Yttrium-88	U	0.0151	+/-0.0557	0.140		pCi/g							
Zinc-65	U	0.103	+/-0.148	0.300		pCi/g							
Zirconium-95	U	0.0787	+/-0.158	0.311		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		8.88	+/-3.35	2.35	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		20.5	+/-4.04	4.08	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-3-6
Sample ID: 722626014
Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			89.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			94.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-6-9
Sample ID: 722626015
Matrix: Soil
Collect Date: 29-APR-25 11:50
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.02	+/-0.642	0.607	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		1.85	+/-0.820	0.576	1.00	pCi/g							
Thorium-232		1.52	+/-0.727	0.337	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.84	+/-0.557	0.347	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.0380	+/-0.142	0.240	1.00	pCi/g							
Uranium-238		1.48	+/-0.497	0.299	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.83	+/-0.447	0.327		pCi/g			MXR1	06/02/25	1020	2795914	3
Americium-241	U	0.0115	+/-0.0636	0.107		pCi/g							
Antimony-124	U	-0.0160	+/-0.0969	0.202		pCi/g							
Antimony-125	U	0.0580	+/-0.101	0.201		pCi/g							
Barium-133	U	-0.0140	+/-0.0468	0.0760		pCi/g							
Barium-140	U	-0.336	+/-0.862	1.44		pCi/g							
Beryllium-7	U	-0.0300	+/-0.450	0.835		pCi/g							
Bismuth-212		1.95	+/-1.21	1.08		pCi/g							
Bismuth-214		1.67	+/-0.255	0.154		pCi/g							
Cerium-139	U	0.00229	+/-0.0364	0.0632		pCi/g							
Cerium-141	U	0.0331	+/-0.108	0.189		pCi/g							
Cerium-144	U	-0.0108	+/-0.219	0.351		pCi/g							
Cesium-134	U	0.0650	+/-0.0579	0.115		pCi/g							
Cesium-136	U	0.0773	+/-0.255	0.526		pCi/g							
Cesium-137	U	0.0142	+/-0.0447	0.0790	0.100	pCi/g							
Chromium-51	U	0.430	+/-0.766	1.03		pCi/g							
Cobalt-56	U	-0.0340	+/-0.0541	0.0887		pCi/g							
Cobalt-57	U	0.00731	+/-0.0261	0.0468		pCi/g							
Cobalt-58	U	0.0279	+/-0.0594	0.117		pCi/g							
Cobalt-60	U	0.000815	+/-0.0453	0.0907		pCi/g							
Europium-152	U	-0.0329	+/-0.108	0.175		pCi/g							
Europium-154	U	-0.0214	+/-0.126	0.215		pCi/g							
Europium-155	U	0.124	+/-0.123	0.171		pCi/g							
Iridium-192	U	-0.0442	+/-0.0465	0.0686		pCi/g							
Iron-59	U	-0.00309	+/-0.101	0.207		pCi/g							
Lead-210		1.65	+/-0.743	0.766		pCi/g							

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-6-9 Project: GRDI00101
Sample ID: 722626015 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.75	+/-0.158	0.119		pCi/g							
Lead-214		2.28	+/-0.248	0.143		pCi/g							
Manganese-54	U	0.0401	+/-0.0457	0.0948		pCi/g							
Mercury-203	U	0.0686	+/-0.0835	0.100		pCi/g							
Neodymium-147	U	-2.76	+/-1.81	2.56		pCi/g							
Neptunium-239	U	0.180	+/-0.417	0.446		pCi/g							
Niobium-94	U	-0.00463	+/-0.0382	0.0692		pCi/g							
Niobium-95	U	-0.00806	+/-0.0666	0.106		pCi/g							
Potassium-40		12.6	+/-1.78	0.914		pCi/g							
Promethium-144	U	-0.0202	+/-0.0474	0.0814		pCi/g							
Promethium-146	U	0.0449	+/-0.0436	0.0918		pCi/g							
Radium-226		2.28	+/-0.248	0.143		pCi/g							
Radium-228		1.83	+/-0.447	0.327		pCi/g							
Ruthenium-106	U	-0.0537	+/-0.383	0.696		pCi/g							
Silver-110m	U	0.0749	+/-0.0533	0.125		pCi/g							
Sodium-22	U	-0.00868	+/-0.0448	0.0755		pCi/g							
Thallium-208		0.539	+/-0.101	0.0743		pCi/g							
Thorium-234		1.87	+/-0.915	1.02		pCi/g							
Tin-113	U	0.0516	+/-0.0576	0.116		pCi/g							
Uranium-235	U	0.112	+/-0.227	0.405		pCi/g							
Uranium-238		1.87	+/-0.915	1.02		pCi/g							
Yttrium-88	U	-0.0219	+/-0.0518	0.0938		pCi/g							
Zinc-65	U	0.0726	+/-0.100	0.205		pCi/g							
Zirconium-95	U	-0.00171	+/-0.0958	0.178		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		12.2	+/-4.05	2.90	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		18.6	+/-3.68	3.52	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-6-9 Project: GRDI00101
Sample ID: 722626015 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			72.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			91.9	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-9-12
Sample ID: 722626016
Matrix: Soil
Collect Date: 29-APR-25 11:55
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.61	+/-0.745	0.581	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		2.16	+/-0.848	0.619	1.00	pCi/g							
Thorium-232		1.44	+/-0.679	0.391	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.18	+/-0.464	0.389	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.0517	+/-0.177	0.328	1.00	pCi/g							
Uranium-238		0.970	+/-0.474	0.560	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.60	+/-0.471	0.412		pCi/g			MXR1	06/02/25	1026	2795914	3
Americium-241	U	-0.0874	+/-0.272	0.445		pCi/g							
Antimony-124	U	-0.0754	+/-0.110	0.182		pCi/g							
Antimony-125	U	0.0455	+/-0.119	0.229		pCi/g							
Barium-133	U	0.0423	+/-0.0742	0.109		pCi/g							
Barium-140	U	0.714	+/-0.903	1.88		pCi/g							
Beryllium-7	U	-0.129	+/-0.583	1.04		pCi/g							
Bismuth-212		2.41	+/-1.03	0.905		pCi/g							
Bismuth-214		1.50	+/-0.267	0.173		pCi/g							
Cerium-139	U	0.0197	+/-0.0504	0.0853		pCi/g							
Cerium-141	U	0.0438	+/-0.137	0.254		pCi/g							
Cerium-144	U	-0.0685	+/-0.285	0.513		pCi/g							
Cesium-134	U	0.0596	+/-0.101	0.143		pCi/g							
Cesium-136	U	-0.269	+/-0.421	0.765		pCi/g							
Cesium-137	U	0.00892	+/-0.0623	0.106	0.100	pCi/g							
Chromium-51	U	0.399	+/-0.796	1.50		pCi/g							
Cobalt-56	U	-0.0202	+/-0.0538	0.102		pCi/g							
Cobalt-57	U	0.0110	+/-0.0384	0.0717		pCi/g							
Cobalt-58	U	-0.0211	+/-0.0595	0.0978		pCi/g							
Cobalt-60	U	-0.0444	+/-0.0551	0.0923		pCi/g							
Europium-152	U	0.0757	+/-0.115	0.222		pCi/g							
Europium-154	U	-0.00512	+/-0.127	0.262		pCi/g							
Europium-155	U	0.0514	+/-0.156	0.292		pCi/g							
Iridium-192	U	-0.0134	+/-0.0556	0.0993		pCi/g							
Iron-59	U	-0.0169	+/-0.176	0.340		pCi/g							
Lead-210	U	3.60	+/-6.39	12.4		pCi/g							

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-9-12 Project: GRDI00101
Sample ID: 722626016 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.50	+/-0.169	0.139		pCi/g							
Lead-214		1.84	+/-0.310	0.163		pCi/g							
Manganese-54	U	-0.0210	+/-0.0540	0.100		pCi/g							
Mercury-203	U	-0.00603	+/-0.0618	0.113		pCi/g							
Neodymium-147	U	1.04	+/-2.26	4.51		pCi/g							
Neptunium-239	U	0.126	+/-0.356	0.671		pCi/g							
Niobium-94	U	0.0411	+/-0.0461	0.0955		pCi/g							
Niobium-95	U	0.0580	+/-0.0857	0.156		pCi/g							
Potassium-40		18.9	+/-2.32	0.791		pCi/g							
Promethium-144	U	-0.0297	+/-0.0494	0.0817		pCi/g							
Promethium-146	U	0.0101	+/-0.0587	0.110		pCi/g							
Radium-226		1.84	+/-0.310	0.163		pCi/g							
Radium-228		1.60	+/-0.471	0.412		pCi/g							
Ruthenium-106	U	-0.198	+/-0.396	0.676		pCi/g							
Silver-110m	U	-0.0422	+/-0.0622	0.0913		pCi/g							
Sodium-22	U	-0.000526	+/-0.0457	0.0946		pCi/g							
Thallium-208		0.463	+/-0.120	0.0799		pCi/g							
Thorium-234	U	1.44	+/-3.77	4.16		pCi/g							
Tin-113	U	-0.0465	+/-0.0854	0.127		pCi/g							
Uranium-235	U	0.188	+/-0.304	0.566		pCi/g							
Uranium-238	U	1.44	+/-3.77	4.16		pCi/g							
Yttrium-88	U	-0.0196	+/-0.0612	0.118		pCi/g							
Zinc-65	U	0.0611	+/-0.116	0.232		pCi/g							
Zirconium-95	U	0.0590	+/-0.118	0.236		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		14.4	+/-4.14	2.61	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		23.7	+/-3.83	3.28	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R3-9-12 Project: GRDI00101
Sample ID: 722626016 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			79	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			94.7	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-0-3
Sample ID: 722626017
Matrix: Soil
Collect Date: 29-APR-25 11:15
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.07	+/-0.619	0.635	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		1.50	+/-0.696	0.581	1.00	pCi/g							
Thorium-232		1.34	+/-0.633	0.365	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.45	+/-0.498	0.352	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.0375	+/-0.141	0.237	1.00	pCi/g							
Uranium-238		1.86	+/-0.551	0.296	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		2.25	+/-0.432	0.298		pCi/g			MXR1	06/02/25	1027	2795914	3
Americium-241	U	0.183	+/-0.258	0.473		pCi/g							
Antimony-124	U	0.104	+/-0.114	0.313		pCi/g							
Antimony-125	U	-0.0534	+/-0.114	0.203		pCi/g							
Barium-133	U	-0.00237	+/-0.0563	0.0950		pCi/g							
Barium-140	U	0.564	+/-1.02	2.01		pCi/g							
Beryllium-7	U	0.0847	+/-0.510	0.976		pCi/g							
Bismuth-212		2.31	+/-1.13	1.10		pCi/g							
Bismuth-214		1.84	+/-0.281	0.152		pCi/g							
Cerium-139	U	-0.00491	+/-0.0439	0.0760		pCi/g							
Cerium-141	U	0.0663	+/-0.232	0.233		pCi/g							
Cerium-144	U	0.0126	+/-0.274	0.487		pCi/g							
Cesium-134	UI	0.000	+/-0.0709	0.143		pCi/g							
Cesium-136	U	-0.269	+/-0.422	0.608		pCi/g							
Cesium-137	U	0.0350	+/-0.0571	0.114	0.100	pCi/g							
Chromium-51	U	-0.00584	+/-0.755	1.43		pCi/g							
Cobalt-56	U	-0.0466	+/-0.0786	0.119		pCi/g							
Cobalt-57	U	0.0273	+/-0.0357	0.0672		pCi/g							
Cobalt-58	U	-0.00902	+/-0.0580	0.112		pCi/g							
Cobalt-60	U	0.00453	+/-0.0384	0.0826		pCi/g							
Europium-152	U	-0.0115	+/-0.144	0.240		pCi/g							
Europium-154	U	0.0537	+/-0.136	0.293		pCi/g							
Europium-155	U	0.180	+/-0.202	0.232		pCi/g							
Iridium-192	U	-0.00660	+/-0.0525	0.0981		pCi/g							
Iron-59	U	-0.0677	+/-0.179	0.322		pCi/g							
Lead-210	U	10.8	+/-8.75	17.6		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-0-3 Project: GRDI00101
Sample ID: 722626017 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.86	+/-0.187	0.137		pCi/g							
Lead-214		2.01	+/-0.264	0.160		pCi/g							
Manganese-54	UI	0.000	+/-0.184	0.0886		pCi/g							
Mercury-203	U	0.0375	+/-0.118	0.124		pCi/g							
Neodymium-147	U	0.811	+/-2.38	4.64		pCi/g							
Neptunium-239	U	0.334	+/-0.368	0.698		pCi/g							
Niobium-94	U	0.0110	+/-0.0557	0.0928		pCi/g							
Niobium-95	U	0.0169	+/-0.0750	0.134		pCi/g							
Potassium-40		9.38	+/-1.53	0.787		pCi/g							
Promethium-144	U	0.0285	+/-0.0610	0.106		pCi/g							
Promethium-146	U	0.0460	+/-0.0985	0.124		pCi/g							
Radium-226		2.01	+/-0.264	0.160		pCi/g							
Radium-228		2.25	+/-0.432	0.298		pCi/g							
Ruthenium-106	U	0.281	+/-0.509	0.986		pCi/g							
Silver-110m	U	0.0340	+/-0.0713	0.148		pCi/g							
Sodium-22	U	0.0192	+/-0.0485	0.104		pCi/g							
Thallium-208		0.491	+/-0.128	0.0908		pCi/g							
Thorium-234	U	1.97	+/-4.74	3.72		pCi/g							
Tin-113	U	-0.00378	+/-0.0653	0.122		pCi/g							
Uranium-235	U	0.142	+/-0.496	0.467		pCi/g							
Uranium-238	U	1.97	+/-4.74	3.72		pCi/g							
Yttrium-88	U	-0.0103	+/-0.0467	0.105		pCi/g							
Zinc-65	U	0.0665	+/-0.142	0.262		pCi/g							
Zirconium-95	U	-0.0226	+/-0.133	0.235		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		17.4	+/-4.92	2.89	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		17.3	+/-3.94	4.07	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-0-3 Project: GRDI00101
Sample ID: 722626017 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			83.4	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			90.7	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-3-6
Sample ID: 722626018
Matrix: Soil
Collect Date: 29-APR-25 11:20
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.60	+/-0.727	0.539	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		1.81	+/-0.775	0.605	1.00	pCi/g							
Thorium-232		1.35	+/-0.646	0.303	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.03	+/-0.424	0.363	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.168	+/-0.212	0.264	1.00	pCi/g							
Uranium-238		1.53	+/-0.492	0.270	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		2.15	+/-0.417	0.332		pCi/g			MXR1	06/02/25	1039	2795914	3
Americium-241	U	0.518	+/-0.416	0.731		pCi/g							
Antimony-124	U	0.0412	+/-0.110	0.266		pCi/g							
Antimony-125	U	0.00452	+/-0.155	0.276		pCi/g							
Barium-133	U	0.0742	+/-0.0719	0.127		pCi/g							
Barium-140	U	-0.585	+/-1.08	1.94		pCi/g							
Beryllium-7	U	0.0808	+/-0.535	0.992		pCi/g							
Bismuth-212		3.32	+/-1.64	1.34		pCi/g							
Bismuth-214		1.77	+/-0.314	0.183		pCi/g							
Cerium-139	U	-0.0312	+/-0.0583	0.100		pCi/g							
Cerium-141	U	0.146	+/-0.154	0.288		pCi/g							
Cerium-144	U	-0.146	+/-0.378	0.658		pCi/g							
Cesium-134	U	0.0454	+/-0.0740	0.146		pCi/g							
Cesium-136	U	-0.0844	+/-0.355	0.663		pCi/g							
Cesium-137	U	-0.00643	+/-0.0532	0.0996	0.100	pCi/g							
Chromium-51	U	0.670	+/-1.50	1.79		pCi/g							
Cobalt-56	U	0.0518	+/-0.0703	0.145		pCi/g							
Cobalt-57	U	-0.0234	+/-0.0464	0.0799		pCi/g							
Cobalt-58	U	-0.0195	+/-0.0648	0.119		pCi/g							
Cobalt-60	U	-0.0129	+/-0.0709	0.113		pCi/g							
Europium-152	U	0.0298	+/-0.247	0.283		pCi/g							
Europium-154	U	-0.0102	+/-0.138	0.271		pCi/g							
Europium-155	U	0.00321	+/-0.182	0.326		pCi/g							
Iridium-192	U	-0.0260	+/-0.0722	0.108		pCi/g							
Iron-59	U	0.0557	+/-0.167	0.335		pCi/g							
Lead-210	U	-5.03	+/-15.7	28.1		pCi/g							

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-3-6 Project: GRDI00101
Sample ID: 722626018 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		2.29	+/-0.232	0.162		pCi/g							
Lead-214		2.04	+/-0.355	0.198		pCi/g							
Manganese-54	UI	0.000	+/-0.0816	0.112		pCi/g							
Mercury-203	U	0.0494	+/-0.0888	0.163		pCi/g							
Neodymium-147	U	-0.383	+/-2.64	4.94		pCi/g							
Neptunium-239	U	-0.0858	+/-0.467	0.826		pCi/g							
Niobium-94	U	0.0297	+/-0.0539	0.106		pCi/g							
Niobium-95	U	0.147	+/-0.0817	0.171		pCi/g							
Potassium-40		10.6	+/-1.65	0.979		pCi/g							
Promethium-144	U	-0.0227	+/-0.0537	0.0964		pCi/g							
Promethium-146	U	0.0353	+/-0.0675	0.127		pCi/g							
Radium-226		2.04	+/-0.355	0.198		pCi/g							
Radium-228		2.15	+/-0.417	0.332		pCi/g							
Ruthenium-106	U	0.333	+/-0.457	0.937		pCi/g							
Silver-110m	U	0.00503	+/-0.0633	0.125		pCi/g							
Sodium-22	U	-0.00720	+/-0.0485	0.0936		pCi/g							
Thallium-208		0.638	+/-0.151	0.0876		pCi/g							
Thorium-234	U	0.312	+/-5.59	5.40		pCi/g							
Tin-113	U	0.0147	+/-0.0831	0.150		pCi/g							
Uranium-235	U	-0.0459	+/-0.343	0.605		pCi/g							
Uranium-238	U	0.312	+/-5.59	5.40		pCi/g							
Yttrium-88	U	-0.00258	+/-0.0470	0.0999		pCi/g							
Zinc-65	U	0.00173	+/-0.153	0.251		pCi/g							
Zirconium-95	U	0.0752	+/-0.135	0.271		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		14.1	+/-4.28	2.47	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		20.7	+/-4.13	4.42	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-3-6 Project: GRDI00101
Sample ID: 722626018 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			75.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			95.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-6-9
Sample ID: 722626019
Matrix: Soil
Collect Date: 29-APR-25 11:25
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.73	+/-0.809	0.661	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		0.901	+/-0.623	0.690	1.00	pCi/g							
Thorium-232		1.80	+/-0.791	0.479	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.61	+/-0.571	0.517	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.125	+/-0.268	0.474	1.00	pCi/g							
Uranium-238		1.77	+/-0.575	0.426	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.82	+/-0.437	0.274		pCi/g			MXR1	06/02/25	1146	2795914	3
Americium-241	U	-0.0569	+/-0.0557	0.0821		pCi/g							
Antimony-124	U	0.0564	+/-0.0853	0.229		pCi/g							
Antimony-125	U	0.0307	+/-0.0968	0.192		pCi/g							
Barium-133	U	-0.0114	+/-0.0491	0.0770		pCi/g							
Barium-140	U	0.371	+/-0.807	1.62		pCi/g							
Beryllium-7	U	0.249	+/-0.379	0.795		pCi/g							
Bismuth-212		2.70	+/-1.19	1.02		pCi/g							
Bismuth-214		1.88	+/-0.241	0.139		pCi/g							
Cerium-139	U	-0.0164	+/-0.0318	0.0563		pCi/g							
Cerium-141	U	0.0118	+/-0.0837	0.157		pCi/g							
Cerium-144	U	-0.0133	+/-0.211	0.364		pCi/g							
Cesium-134	U	0.0363	+/-0.0579	0.114		pCi/g							
Cesium-136	U	-0.0824	+/-0.284	0.546		pCi/g							
Cesium-137	U	-0.0186	+/-0.0377	0.0669	0.100	pCi/g							
Chromium-51	U	0.203	+/-0.636	1.17		pCi/g							
Cobalt-56	U	0.0200	+/-0.0444	0.0920		pCi/g							
Cobalt-57	U	-0.00931	+/-0.0225	0.0411		pCi/g							
Cobalt-58	U	-0.0213	+/-0.0453	0.0794		pCi/g							
Cobalt-60	U	0.0550	+/-0.0474	0.111		pCi/g							
Europium-152	U	0.0187	+/-0.0994	0.181		pCi/g							
Europium-154	U	0.0455	+/-0.117	0.253		pCi/g							
Europium-155	UI	0.000	+/-0.176	0.145		pCi/g							
Iridium-192	U	0.0307	+/-0.0428	0.0823		pCi/g							
Iron-59	U	-0.0579	+/-0.133	0.246		pCi/g							
Lead-210		1.38	+/-1.03	0.743		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-6-9 Project: GRDI00101
Sample ID: 722626019 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		2.03	+/-0.161	0.106		pCi/g							
Lead-214		2.13	+/-0.229	0.156		pCi/g							
Manganese-54	U	-0.00430	+/-0.0518	0.0939		pCi/g							
Mercury-203	U	0.0248	+/-0.0760	0.0869		pCi/g							
Neodymium-147	U	-0.268	+/-1.98	3.72		pCi/g							
Neptunium-239	U	-0.0192	+/-0.214	0.402		pCi/g							
Niobium-94	U	-0.0128	+/-0.0431	0.0771		pCi/g							
Niobium-95	U	-0.0200	+/-0.0693	0.109		pCi/g							
Potassium-40		10.9	+/-1.67	0.772		pCi/g							
Promethium-144	U	-0.00598	+/-0.0375	0.0694		pCi/g							
Promethium-146	U	0.00453	+/-0.0409	0.0804		pCi/g							
Radium-226		2.13	+/-0.229	0.156		pCi/g							
Radium-228		1.82	+/-0.437	0.274		pCi/g							
Ruthenium-106	U	-0.120	+/-0.317	0.577		pCi/g							
Silver-110m	U	-0.0256	+/-0.0667	0.116		pCi/g							
Sodium-22	U	0.0182	+/-0.0422	0.0914		pCi/g							
Thallium-208		0.652	+/-0.0957	0.0601		pCi/g							
Thorium-234		1.09	+/-0.961	0.989		pCi/g							
Tin-113	U	0.00811	+/-0.0504	0.0911		pCi/g							
Uranium-235	U	0.0547	+/-0.195	0.367		pCi/g							
Uranium-238		1.09	+/-0.961	0.989		pCi/g							
Yttrium-88	U	-0.000821	+/-0.0240	0.0602		pCi/g							
Zinc-65	U	-0.0322	+/-0.0853	0.139		pCi/g							
Zirconium-95	U	-0.0241	+/-0.0988	0.179		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		13.4	+/-4.30	2.36	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		17.6	+/-4.04	4.23	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R4-6-9 Project: GRDI00101
Sample ID: 722626019 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			72.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			89.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R5-0-3
Sample ID: 722626020
Matrix: Soil
Collect Date: 29-APR-25 13:00
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		1.65	+/-0.806	0.602	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		1.96	+/-0.887	0.731	1.00	pCi/g							
Thorium-232		1.14	+/-0.661	0.451	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		1.42	+/-0.459	0.321	1.00	pCi/g			CM4	05/15/25	1014	2795161	2
Uranium-235/236	U	0.0979	+/-0.173	0.262	1.00	pCi/g							
Uranium-238		1.43	+/-0.448	0.229	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		1.73	+/-0.443	0.364		pCi/g			MXR1	06/02/25	1146	2795914	3
Americium-241	U	0.0613	+/-0.292	0.493		pCi/g							
Antimony-124	U	0.0273	+/-0.138	0.315		pCi/g							
Antimony-125	U	0.0481	+/-0.115	0.225		pCi/g							
Barium-133	U	-0.0303	+/-0.0662	0.100		pCi/g							
Barium-140	U	1.23	+/-1.70	2.31		pCi/g							
Beryllium-7	U	0.404	+/-0.672	1.30		pCi/g							
Bismuth-212		1.90	+/-1.41	1.39		pCi/g							
Bismuth-214		1.54	+/-0.275	0.182		pCi/g							
Cerium-139	U	0.0101	+/-0.0493	0.0902		pCi/g							
Cerium-141	U	0.0605	+/-0.152	0.280		pCi/g							
Cerium-144	U	-0.0812	+/-0.296	0.527		pCi/g							
Cesium-134	U	0.0306	+/-0.0641	0.126		pCi/g							
Cesium-136	U	-0.536	+/-0.427	0.683		pCi/g							
Cesium-137	U	0.0303	+/-0.0607	0.111	0.100	pCi/g							
Chromium-51	U	-0.403	+/-0.965	1.65		pCi/g							
Cobalt-56	U	0.0196	+/-0.0610	0.127		pCi/g							
Cobalt-57	U	0.0223	+/-0.0418	0.0783		pCi/g							
Cobalt-58	U	0.0107	+/-0.0663	0.134		pCi/g							
Cobalt-60	U	-0.00963	+/-0.0475	0.0942		pCi/g							
Europium-152	U	-0.0633	+/-0.146	0.253		pCi/g							
Europium-154	U	0.0843	+/-0.140	0.321		pCi/g							
Europium-155	U	0.199	+/-0.183	0.293		pCi/g							
Iridium-192	U	0.0502	+/-0.0634	0.123		pCi/g							
Iron-59	U	0.0893	+/-0.158	0.345		pCi/g							
Lead-210	U	-3.09	+/-7.04	12.7		pCi/g							

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R5-0-3 Project: GRDI00101
Sample ID: 722626020 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		1.79	+/-0.240	0.163		pCi/g							
Lead-214		2.11	+/-0.315	0.184		pCi/g							
Manganese-54	U	0.0325	+/-0.0495	0.107		pCi/g							
Mercury-203	U	0.0555	+/-0.0902	0.141		pCi/g							
Neodymium-147	U	1.95	+/-3.08	5.99		pCi/g							
Neptunium-239	U	-0.00701	+/-0.405	0.736		pCi/g							
Niobium-94	U	0.0184	+/-0.0478	0.0928		pCi/g							
Niobium-95	U	0.00150	+/-0.0825	0.135		pCi/g							
Potassium-40		11.3	+/-1.99	1.04		pCi/g							
Promethium-144	U	-0.0237	+/-0.0518	0.0879		pCi/g							
Promethium-146	U	0.00753	+/-0.0674	0.124		pCi/g							
Radium-226		2.11	+/-0.315	0.184		pCi/g							
Radium-228		1.73	+/-0.443	0.364		pCi/g							
Ruthenium-106	U	0.446	+/-0.468	0.976		pCi/g							
Silver-110m	U	0.0339	+/-0.0732	0.155		pCi/g							
Sodium-22	U	0.0342	+/-0.0508	0.117		pCi/g							
Thallium-208		0.544	+/-0.103	0.0975		pCi/g							
Thorium-234	U	1.69	+/-3.87	3.98		pCi/g							
Tin-113	U	-0.0276	+/-0.0823	0.143		pCi/g							
Uranium-235	U	0.0961	+/-0.331	0.598		pCi/g							
Uranium-238	U	1.69	+/-3.87	3.98		pCi/g							
Yttrium-88	U	-0.0121	+/-0.0502	0.104		pCi/g							
Zinc-65	U	0.0454	+/-0.128	0.245		pCi/g							
Zirconium-95	U	-0.000165	+/-0.133	0.243		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		13.6	+/-4.06	2.64	4.00	pCi/g			HH3	06/02/25	1115	2805685	4
Beta		18.0	+/-3.68	4.03	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R5-0-3 Project: GRDI00101
Sample ID: 722626020 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			69.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			101	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R5-3-6
Sample ID: 722626021
Matrix: Soil
Collect Date: 29-APR-25 13:05
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228	U	0.564	+/-0.613	0.875	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230	U	0.536	+/-0.557	0.727	1.00	pCi/g							
Thorium-232	U	0.290	+/-0.391	0.387	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		0.438	+/-0.332	0.413	1.00	pCi/g			CM4	05/15/25	1015	2795161	2
Uranium-235/236	U	0.00440	+/-0.202	0.444	1.00	pCi/g							
Uranium-238	U	0.196	+/-0.275	0.443	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228		0.655	+/-0.286	0.222		pCi/g			MXR1	06/02/25	1147	2795914	3
Americium-241	U	0.0224	+/-0.172	0.328		pCi/g							
Antimony-124	U	-0.0121	+/-0.0880	0.187		pCi/g							
Antimony-125	U	-0.00851	+/-0.0779	0.136		pCi/g							
Barium-133	U	0.0308	+/-0.0333	0.0682		pCi/g							
Barium-140	U	-0.756	+/-0.544	0.805		pCi/g							
Beryllium-7	U	0.576	+/-0.586	0.590		pCi/g							
Bismuth-212		0.941	+/-0.872	0.767		pCi/g							
Bismuth-214		0.719	+/-0.123	0.0683		pCi/g							
Cerium-139	U	-0.00803	+/-0.0271	0.0495		pCi/g							
Cerium-141	U	0.0208	+/-0.0786	0.142		pCi/g							
Cerium-144	U	0.0891	+/-0.159	0.320		pCi/g							
Cesium-134	U	-0.00732	+/-0.0354	0.0696		pCi/g							
Cesium-136	U	-0.0152	+/-0.178	0.370		pCi/g							
Cesium-137		0.0967	+/-0.0675	0.0600	0.100	pCi/g							
Chromium-51	U	-0.0734	+/-0.448	0.884		pCi/g							
Cobalt-56	U	0.00318	+/-0.0404	0.0826		pCi/g							
Cobalt-57	U	0.00548	+/-0.0195	0.0388		pCi/g							
Cobalt-58	U	0.00768	+/-0.0318	0.0693		pCi/g							
Cobalt-60	U	0.00740	+/-0.0299	0.0654		pCi/g							
Europium-152	U	0.0569	+/-0.0820	0.173		pCi/g							
Europium-154	U	0.0433	+/-0.0804	0.187		pCi/g							
Europium-155	U	0.0336	+/-0.0796	0.161		pCi/g							
Iridium-192	U	-0.00521	+/-0.0325	0.0641		pCi/g							
Iron-59	U	0.0593	+/-0.0966	0.215		pCi/g							
Lead-210	U	-4.95	+/-4.96	9.48		pCi/g							

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Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R5-3-6 Project: GRDI00101
Sample ID: 722626021 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		0.649	+/-0.122	0.102		pCi/g							
Lead-214		0.719	+/-0.178	0.118		pCi/g							
Manganese-54	U	-0.0183	+/-0.0231	0.0411		pCi/g							
Mercury-203	U	0.0342	+/-0.0427	0.0908		pCi/g							
Neodymium-147	U	-0.475	+/-1.33	2.48		pCi/g							
Neptunium-239	U	0.0588	+/-0.199	0.396		pCi/g							
Niobium-94	U	0.0107	+/-0.0293	0.0586		pCi/g							
Niobium-95	U	0.0166	+/-0.0401	0.0794		pCi/g							
Potassium-40		8.41	+/-1.20	0.483		pCi/g							
Promethium-144	U	0.00699	+/-0.0303	0.0599		pCi/g							
Promethium-146	U	-0.00728	+/-0.0361	0.0687		pCi/g							
Radium-226		0.719	+/-0.178	0.118		pCi/g							
Radium-228		0.655	+/-0.286	0.222		pCi/g							
Ruthenium-106	U	-0.00260	+/-0.303	0.520		pCi/g							
Silver-110m	U	-0.0277	+/-0.0399	0.0721		pCi/g							
Sodium-22	U	0.0138	+/-0.0282	0.0653		pCi/g							
Thallium-208		0.113	+/-0.0710	0.0624		pCi/g							
Thorium-234	U	1.17	+/-3.46	2.35		pCi/g							
Tin-113	U	-0.0307	+/-0.0431	0.0677		pCi/g							
Uranium-235	U	0.0158	+/-0.322	0.306		pCi/g							
Uranium-238	U	1.17	+/-3.46	2.35		pCi/g							
Yttrium-88	U	0.0221	+/-0.0332	0.0900		pCi/g							
Zinc-65	U	-0.0386	+/-0.0753	0.114		pCi/g							
Zirconium-95	U	0.00323	+/-0.0623	0.123		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		6.15	+/-2.87	2.96	4.00	pCi/g			HH3	05/21/25	1607	2795427	4
Beta		11.3	+/-3.22	3.87	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R5-3-6 Project: GRDI00101
Sample ID: 722626021 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			61.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			83.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: June 3, 2025

Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R6-0-3
Sample ID: 722626022
Matrix: Soil
Collect Date: 29-APR-25 10:40
Receive Date: 05-MAY-25
Collector: Client

Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec Th, Solid "Dry Weight Corrected"													
Thorium-228		0.860	+/-0.494	0.438	1.00	pCi/g			MB3	05/15/25	1015	2795162	1
Thorium-230		1.03	+/-0.541	0.490	1.00	pCi/g							
Thorium-232		0.501	+/-0.384	0.386	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		0.706	+/-0.426	0.389	1.00	pCi/g			CM4	05/15/25	1015	2795161	2
Uranium-235/236	U	-0.0127	+/-0.140	0.314	1.00	pCi/g							
Uranium-238		0.818	+/-0.440	0.289	1.00	pCi/g							
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Actinium-228	UI	0.000	+/-0.280	0.593		pCi/g			MXR1	06/02/25	1147	2795914	3
Americium-241	U	-0.232	+/-0.225	0.418		pCi/g							
Antimony-124	U	-0.0841	+/-0.0999	0.150		pCi/g							
Antimony-125	U	-0.0339	+/-0.0917	0.176		pCi/g							
Barium-133	U	-0.00537	+/-0.0507	0.0830		pCi/g							
Barium-140	U	-0.119	+/-0.753	1.46		pCi/g							
Beryllium-7	U	0.238	+/-0.367	0.803		pCi/g							
Bismuth-212		1.85	+/-0.777	0.898		pCi/g							
Bismuth-214		0.625	+/-0.220	0.122		pCi/g							
Cerium-139	U	0.00780	+/-0.0313	0.0608		pCi/g							
Cerium-141	U	-0.0418	+/-0.0852	0.156		pCi/g							
Cerium-144	U	0.0600	+/-0.190	0.377		pCi/g							
Cesium-134	U	0.0337	+/-0.0419	0.0921		pCi/g							
Cesium-136	U	0.0173	+/-0.309	0.603		pCi/g							
Cesium-137	U	0.00198	+/-0.0384	0.0758	0.100	pCi/g							
Chromium-51	U	0.133	+/-0.610	1.15		pCi/g							
Cobalt-56	U	-0.0214	+/-0.0753	0.119		pCi/g							
Cobalt-57	U	-0.00612	+/-0.0280	0.0531		pCi/g							
Cobalt-58	U	0.00570	+/-0.0429	0.0875		pCi/g							
Cobalt-60	U	-0.0198	+/-0.0364	0.0674		pCi/g							
Europium-152	U	-0.0157	+/-0.0971	0.174		pCi/g							
Europium-154	U	-0.00167	+/-0.144	0.288		pCi/g							
Europium-155	U	-0.0111	+/-0.105	0.203		pCi/g							
Iridium-192	U	-0.0261	+/-0.0417	0.0699		pCi/g							
Iron-59	U	0.0297	+/-0.147	0.276		pCi/g							
Lead-210	U	-4.57	+/-10.6	21.3		pCi/g							

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Company : Greater Radiological Dimensions, Inc.
Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R6-0-3 Project: GRDI00101
Sample ID: 722626022 Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis													
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"													
Lead-212		0.725	+/-0.170	0.123		pCi/g							
Lead-214		0.872	+/-0.221	0.122		pCi/g							
Manganese-54	U	-0.0235	+/-0.0386	0.0667		pCi/g							
Mercury-203	U	-0.00714	+/-0.0527	0.0963		pCi/g							
Neodymium-147	U	-0.967	+/-1.76	3.24		pCi/g							
Neptunium-239	U	0.135	+/-0.249	0.508		pCi/g							
Niobium-94	U	0.0197	+/-0.0338	0.0716		pCi/g							
Niobium-95	U	-0.0204	+/-0.0536	0.0973		pCi/g							
Potassium-40		17.0	+/-1.89	0.515		pCi/g							
Promethium-144	U	-0.00904	+/-0.0303	0.0574		pCi/g							
Promethium-146	U	0.0334	+/-0.0343	0.0792		pCi/g							
Radium-226		0.872	+/-0.221	0.122		pCi/g							
Radium-228	UI	0.000	+/-0.280	0.593		pCi/g							
Ruthenium-106	U	-0.115	+/-0.260	0.487		pCi/g							
Silver-110m	U	0.00719	+/-0.0514	0.104		pCi/g							
Sodium-22	U	0.0126	+/-0.0499	0.105		pCi/g							
Thallium-208		0.319	+/-0.0861	0.0661		pCi/g							
Thorium-234	U	0.0493	+/-2.14	4.31		pCi/g							
Tin-113	U	-0.0265	+/-0.0450	0.0847		pCi/g							
Uranium-235	U	0.0826	+/-0.197	0.385		pCi/g							
Uranium-238	U	0.0493	+/-2.14	4.31		pCi/g							
Yttrium-88	U	-0.0166	+/-0.0259	0.0395		pCi/g							
Zinc-65	U	0.0330	+/-0.104	0.201		pCi/g							
Zirconium-95	U	0.0262	+/-0.0856	0.177		pCi/g							
Rad Gas Flow Proportional Counting													
GFPC Gross A/B, Solid "Dry Weight Corrected"													
Alpha		9.79	+/-3.76	3.71	4.00	pCi/g			HH3	05/21/25	1607	2795427	4
Beta		21.0	+/-3.98	4.08	10.0	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	GG	05/09/25	0918	2795146

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Address : 3857 Hyde Park Boulevard

Niagara Falls, New York 14305
Contact: John McCune
Project: Niagara Falls, NY

Client Sample ID: RREA-4292025-R6-0-3
Sample ID: 722626022
Project: GRDI00101
Client ID: GRDI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	DOE HASL 300, 4.5.2.3/Ga-01-R	
4	EPA 900.0/SW846 9310/SM 7110B Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"			90	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			93.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit