



March 11, 2024

989441

Angel Camacho
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Transportation
CDOT Permit No. 1909061 – 100-249 E. South Water Street

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiological monitoring during the performance of 3 borings at 100-249 E. South Water Street in Chicago, Illinois. The monitoring was performed by Glenn Huber, SAHCI Health Physicist, on March 7 and 8, 2024. All activities were conducted under the guidance of document SET General Procedure for Thorium Monitoring.

Instrumentation

Surface gamma scans were performed using a Ludlum Model 2221 Scaler / Ratemeter (serial no. 134542) with attached 2"x2" NaI probe (w/ 6" collimated lead shield). The instrument was calibrated on May 9, 2023. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,552 counts per minute (cpm).

The average background count rate for this location was determined to be 1,623 cpm.

Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Survey data was collected by scanning the surface each of the core samples that were obtained at the 3 boring locations (SGB-1, SGB-2, and SGB-4). A 4th boring was originally scheduled, but only a surface asphalt sample was needed at that location.

The maximum gamma count rate for each sampling interval was recorded on the attached Radiation Survey Form. The count rates of the core samples ranged from 1,700 cpm to 2,200 cpm to a maximum depth of 10 feet below ground surface. No count rates were found at any time that exceeded the instrument specific count rate threshold of 6,552 cpm.

Additional Monitoring

Since no count rates were identified above the 7.1 pCi/gram threshold limit, no additional soil sampling, air monitoring, or personnel monitoring were performed.

I will be providing a copy of this report to both the City of Chicago Department of Public Health and US Environmental Protection Agency, as required.

Thank you for your assistance with this project. If you have any questions or need additional information, please call me at (815) 485-6161.

Sincerely,
Stan A. Huber Consultants, Inc.

A handwritten signature in black ink, appearing to read 'Glenn Huber', written in a cursive style.

Glenn Huber, CHP
President

Radiation Survey Form

Location/ Project ID: 100-249 E. South Water Street CDOT #1909061

Date: 3/7/24 - 3/8/24

Technician: Glenn Huber

Inst Model: Ludlum 2221

Serial No. : 134542

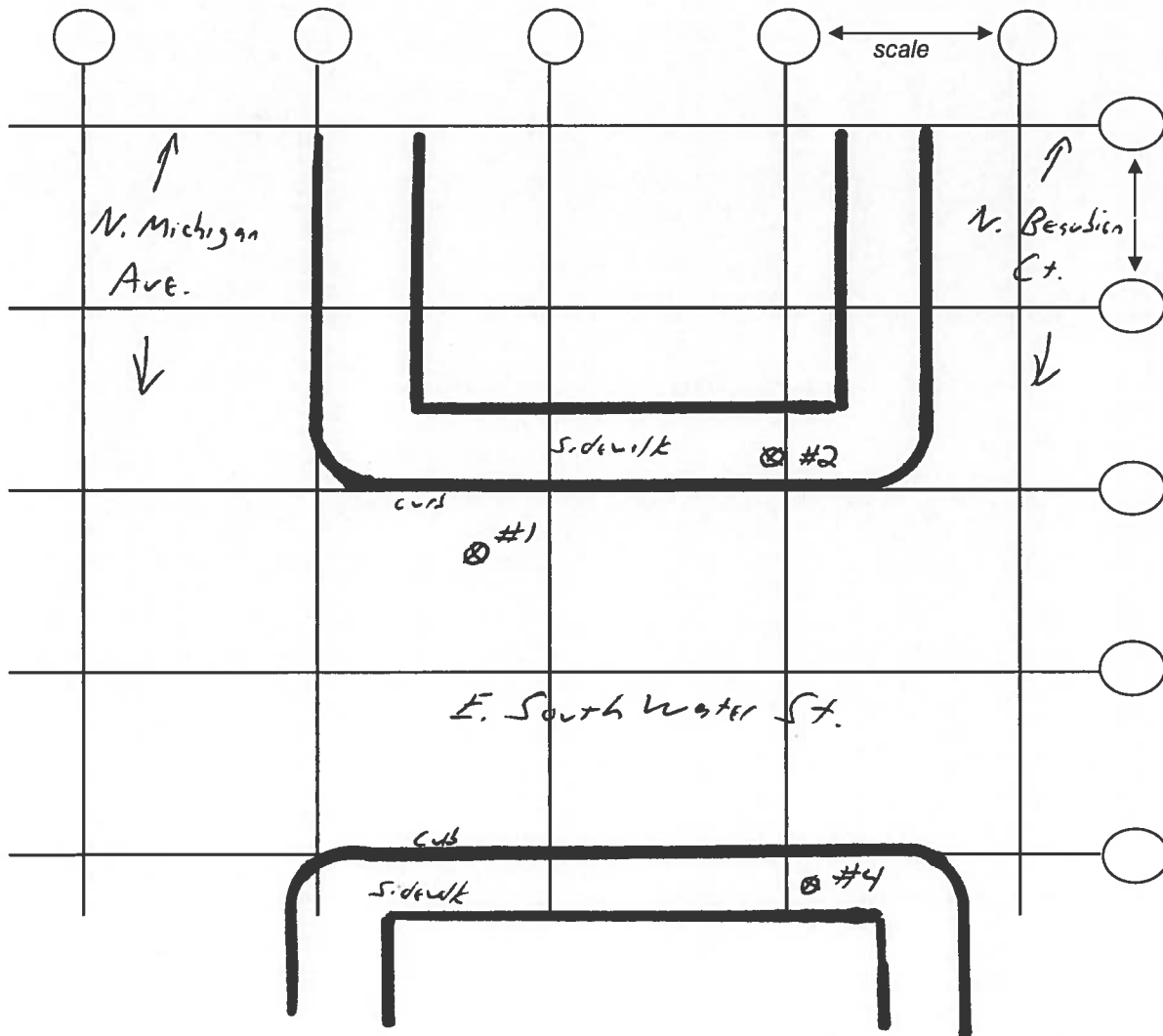
Probe Type: 1"x1" NaI / 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: Surface to -48"

Background 1,623 cpm

Action Level: 6,552 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Radiation Survey Form - Data

Location / Project ID:	100-249 E. South Water Street
HP Technician:	Glenn Huber
Date:	3/7/24 - 3/8/24
Instrument ID:	Ludlum Model 2221 Scaler/Ratemeter (serial # 134542) w/ Ludlum Model 44-10 2" NaI Detector (w/ 6" shield)
7.1 pCi/g Action Level:	6,552 cpm

		Depth	0-2' (bgs)	2'-4' (bgs)	4'-6' (bgs)	6'-8' (bgs)	8'-10' (bgs)
Date	Location ID	Survey Results (counts per minute)					
3/7/2024	SGB-2	2100	2200	2200	1900	2000	
3/8/2024	SGB-4	1900	1800	1800	1900	1700	
3/8/2024	SGB-1	2000	N/A	N/A	N/A	N/A	

- NA - Depth Interval Not Surveyed (Final Boring Depth Reached)