



March 29, 2023

981450

Keith Sutton  
Western Utility Contractors  
2565 Palmer Ave.  
University Park, IL 60484

RE: 500 N. State St. Thorium Monitoring 3/22/23  
CDOT Permit: 1793564

Dear Mr. Sutton:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation for repair of a manhole frame at 500 N. State Street in Chicago, Illinois. The monitoring was performed by Mark Dewald, SAHCI Health Physicist, on March 22, 2023.

#### Instrumentation

Surface gamma scans were performed using a Ludlum Model 2221 Scaler / Ratemeter (serial no. 99147) with attached Ludlum Model 44-10 2"x2" NaI Detector (w/ 6" collimated lead shield). The instrument was calibrated on May 3, 2022. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,936 counts per minute (cpm).

The average background count rate for this location was measured at 1,385 cpm.

#### Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Survey data was collected by entering the excavation around the existing manhole and recording the highest count rate for the floor and walls to a maximum depth of 12 inches below ground surface. All asphalt and concrete were loaded directly into a truck for disposal.

The maximum gamma count rate for the single 12-inch lift was recorded on the attached Radiation Survey Form. The count rates in the excavation ranged from 1,200 cpm to 1,400 cpm. No count rates were found at any time that exceeded the threshold limit of 6,936 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". The signature is fluid and cursive, with a long horizontal stroke at the end.

Glenn Huber, CHP  
President

## Radiation Survey Form

**Location/ Project ID:** 500 N. State St. - Western Utility

**Date:** 3/22/2023

**Technician:** Mark Dewald

**Inst Model:** Ludlum 2221

**Serial No. :** 99147

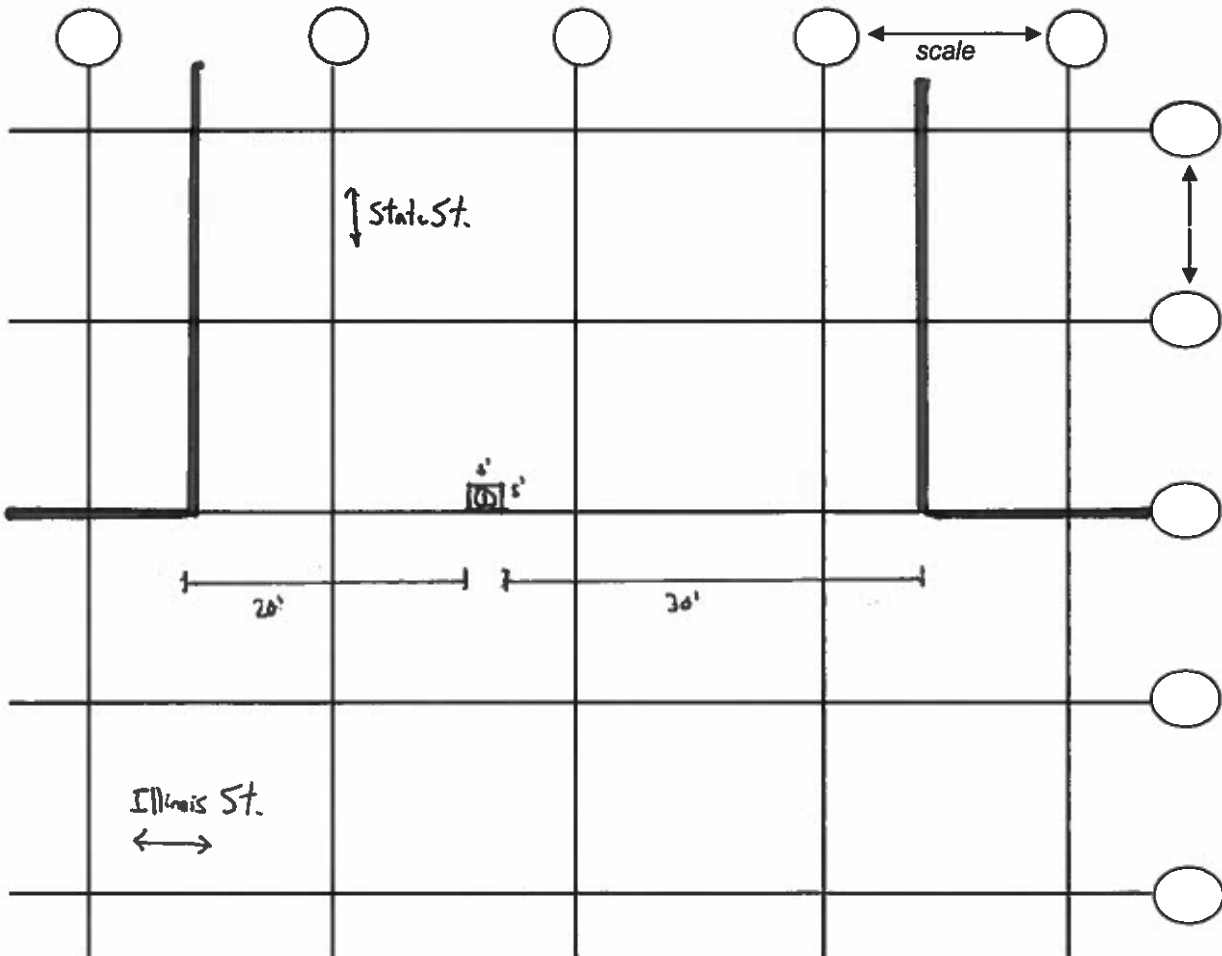
**Probe Type:** 1"x1" NaI 2"x2" NaI  
Shielded / Not Shielded

**Lift Elevation:** Surface to -12" BGS

**Background** 1,385 cpm

**Action Level:** 6,936 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.



	0-12"	12-30"
Area 1	1200	1400