



November 12, 2021

Angel Camacho
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Transportation (CDOT)
CDOT Permit: 1608435 – 100-110 S. Lake Shore Drive

Dear Mr. Camacho:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation for replacement of a traffic pole at 100-110 S. Lake Shore Drive in Chicago, Illinois. The monitoring was performed by Mark Dewald, SAHCI Health Physics Technician, on November 10, 2021. 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. 127242) with attached Ludlum Model 44-10 2"x2" NaI Detector (w/ 6" collimated lead shield). The instrument was calibrated on May 5, 2021. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,995 counts per minute (cpm).

The average background count rate for these locations was measured at 1,362 cpm.

Soil Gamma Scans

Gamma surface scans were performed in the excavation using the Ludlum Model 2221 Scaler / Ratemeter detailed above. Survey data was collected by entering the excavation and recording the highest count rate for the floor and walls to an excavation depth of 44 inches below ground surface. Soil excavated from 44 inches to 108 inches below ground surface was monitored in the excavator bucket as it was removed. All asphalt, concrete, and soil were loaded directly into a truck for disposal.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Form. The count rates in the excavations ranged from 1,100 cpm to 1,600 cpm. No count rates were found at any time that exceeded the threshold limit of 6,995 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.

Glenn Huber, CHP
President

Radiation Survey Form

Location/ Project ID: Monroe Street/Lake Shore Drive Light Pole - CDOT

Date: 11/10/21

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 127242

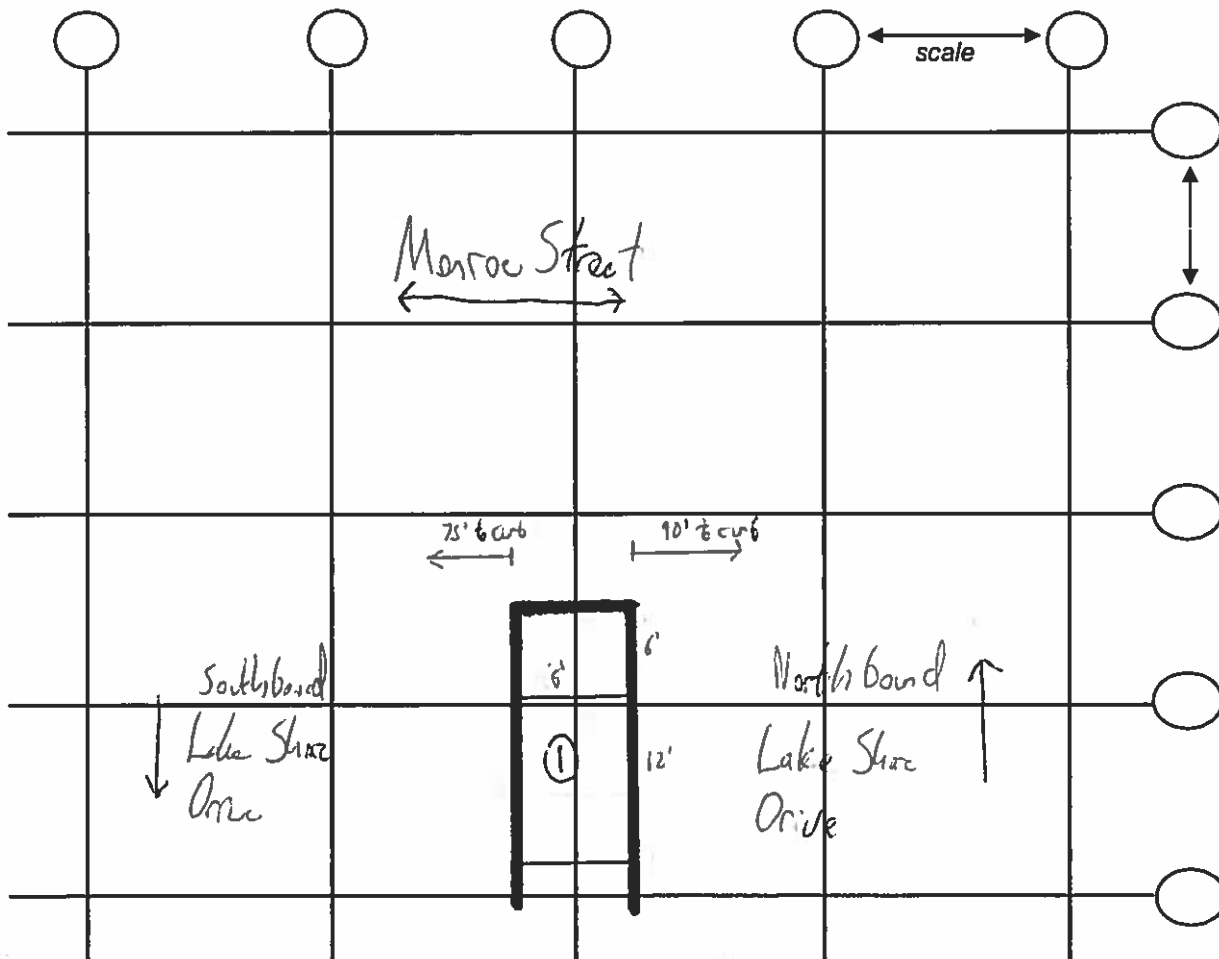
Probe Type: 1"x1" NaI 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: Surface to -108" BGS

Background 1,362 cpm

Action Level: 6,995 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.



	0-8"	8-26"	26-44"	44-62"	62-80"	80-98"	98-116"	108-126"
Area 1	1100	1400	1400	1200	1400	1500	1600	1300