

June 14, 2023

983803

Angel Camacho
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Transportation (CDOT)
CDOT Permit 1812165: 259-291 and 428-458 E. Ontario St., 421-441 E. Erie
St., 610-620 N. Fairbanks Ct.

Dear Mr. Camacho:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during sidewalk, curb, and gutter replacements at the addresses listed above. The monitoring was performed by Mark Dewald and Brian Schmidt, SAHCI Health Physics Technicians, on June 6, 7 and 12, 2023. All activities were conducted under the guidance of the document *SET General Procedure for Thorium Monitoring*.

Instrumentation

Surface gamma scans were performed using the following instruments:

- Ludlum Model 2221 Survey Meter (serial no. 126496) with attached Ludlum Model 44-10 2"x2" NaI Detector (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 is 5,986 counts per minute (cpm).
- Ludlum Model 2221 Survey Meter (serial no. 126497) with attached Ludlum Model 44-10 2"x2" NaI Detector (w/ 6" collimated lead shield). The instrument was calibrated on May 9, 2023. The US Environmental Protection Agency (USEPA) action level of 7.1 pCi/g total thorium is 6,043 cpm.

The background count rate for these locations ranged from 1,619 cpm to 1,889 cpm.

Soil Gamma Scans

Gamma surface scans were then performed using the Ludlum Model 2221 Scaler / Ratemeters described above. Survey data was collected by entering the excavations and recording the highest count rate for the floor and walls to a maximum depth of 8 inches below ground surface.

The maximum gamma count rates for each lift were recorded on the attached Radiation Survey Forms. The count rates in the excavations ranged from 1,400 cpm to 3,200 cpm. No count rates were found at any time that exceeded the threshold limits of 5,986 cpm and 6,043 cpm, respectively.

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: 446 E. Ontario St. and 441 E. Erie St. Sidewalk Removal - CDOT

Date: 6/6-7/2023

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 126497

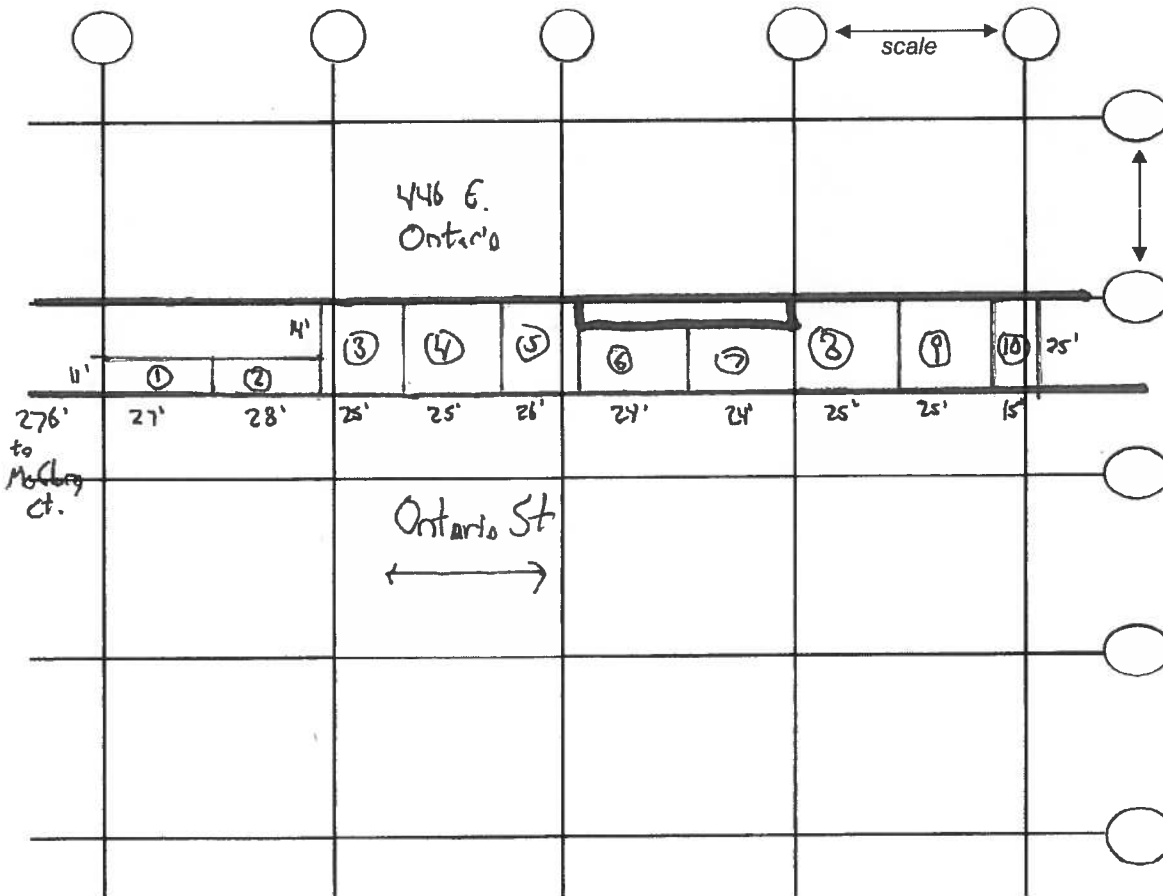
Probe Type: 1"x1" NaI 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: Surface to -8" BGS

Background 1,619 **cpm**

Action Level: 6,043 **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

Location/ Project ID: 446 E. Ontario St. and 441 E. Erie St. Sidewalk Removal - CDOT

Date: 6/6-7/2023

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 126497

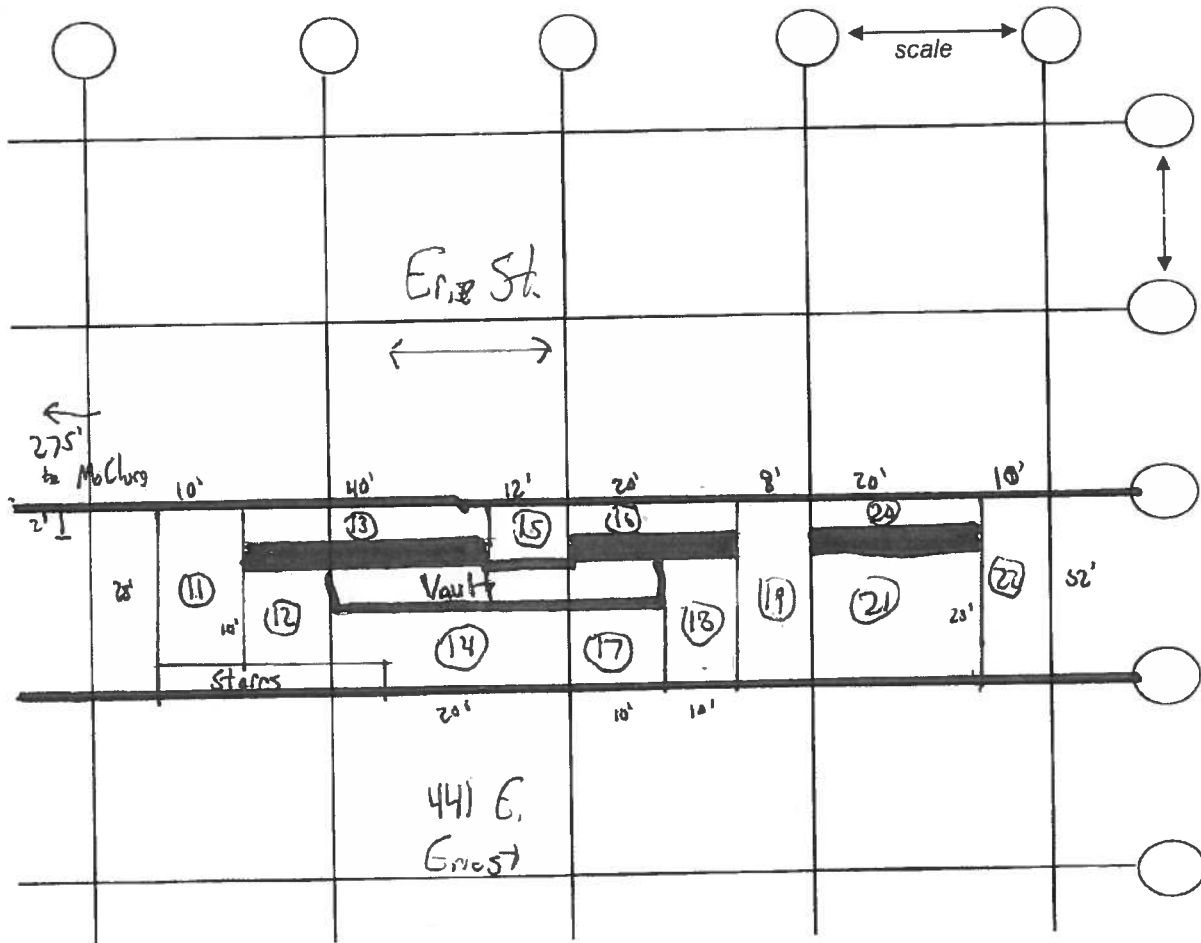
Probe Type: 1"x1" NaI 2"x2" NaI
Shielded Not Shielded

Lift Elevation: Surface to -8" BGS

Background 1,619 cpm

Action Level: 6,043 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.



441 E. Erie and 446 E. Ontario Sidewalk Removal Survey Data

	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9
0-8"	1200	1400	1400	1600	1500	1300	1500	1400	1700
8-26"	2400	2500	2100	2600	2600	2600	2100	2500	2400

	Area 10	Area 11	Area 12	Area 13	Area 14	Area 15	Area 16	Area 17	Area 18
0-8"	1500	1400	1500	1300	1900	1400	1700	1300	1400
8-26"	2900	2300	2600	2600	2500	2700	2400	2700	2800

	Area 19	Area 20	Area 21	Area 22
0-8"	1600	1400	1500	1500
8-26"	2600	2400	2600	2500

All results in Counts Per Minute (CPM)

Radiation Survey Form

Location/ Project ID: 443 E. ONTARIO ST. - SIDEWALK REMOVAL - LOW RADIOLOGICAL SOIL SURVEY

Date: 6/12/2013

Technician: BRIAN SCHMIDT

Inst Model: LOWLUM-2221

Serial No.: 126496

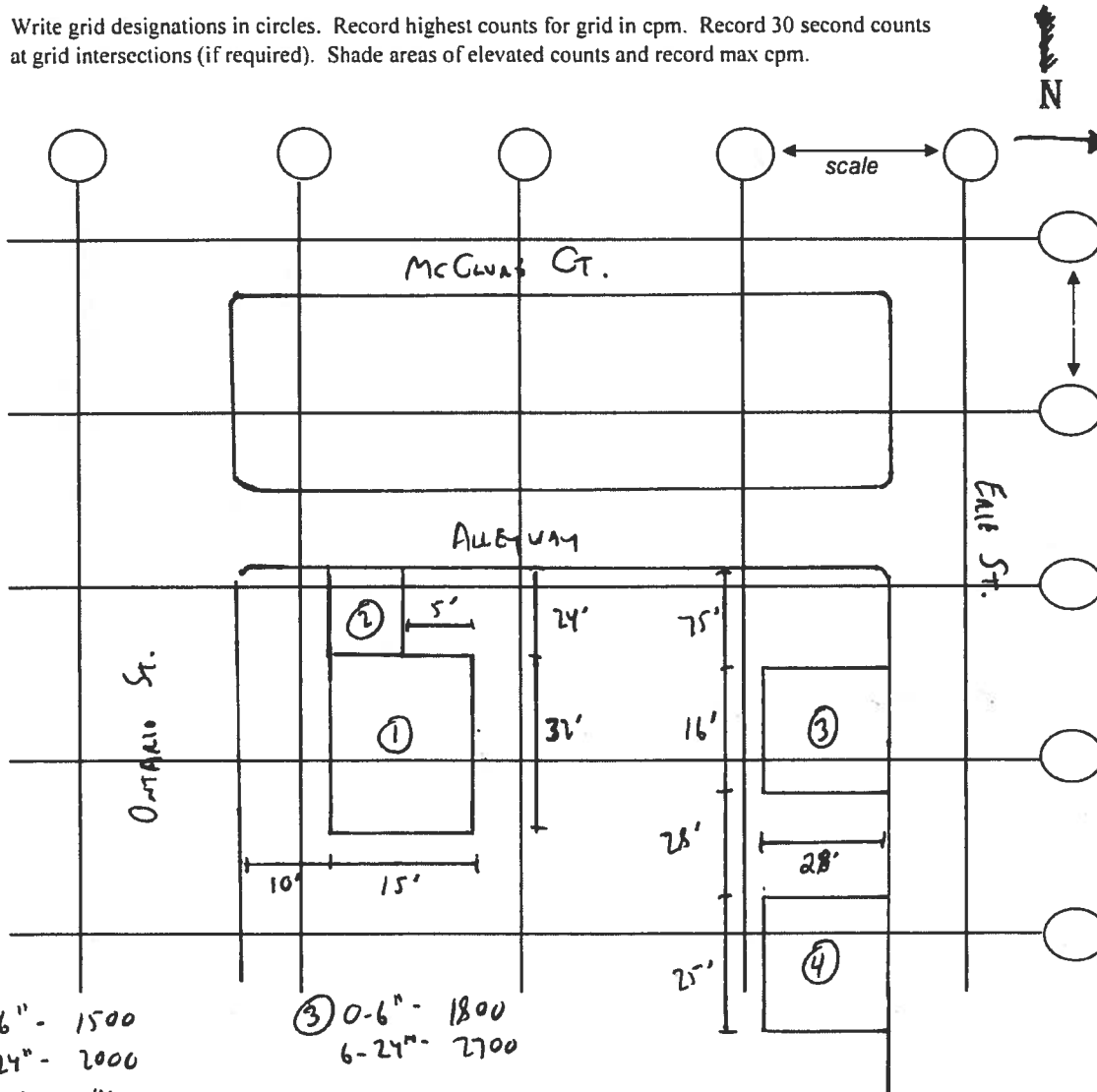
Probe Type: 1"x1" NaI / 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: 0-6"

Background 1889 cpm

Action Level: 5986 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.



- ① 0-6" - 1500
6-24" - 2000
- ② 0-6" - 1400
6-24" - 1800

- ③ 0-6" - 1800
6-24" - 2700
- ④ 0-6" - 2000
6-24" - 3200