

February 29, 2024

989108

Paul Muszynski
Electric Conduit Construction
816 Hicks Dr.
Elburn IL 60119

RE: Thorium Monitoring at 300-327 N. MacChesney Ct.
CDOT Permit # 1885723

Dear Mr. Muszynski:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation for installation of a fiber optic conduit at 300-327 N. MacChesney Ct. in Chicago, Illinois. The monitoring was performed by Mark Dewald and Glenn Huber, SAHCI Health Physics Technicians, on February 21 – February 23, 2024.

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial nos. 126497 and 134542) with attached Ludlum Model 44-10 2"x2" NaI Detectors (w/ 6" collimated lead shields). The instruments were last calibrated on May 9, 2023. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium is 6,043 counts per minute (cpm) for instrument 126497 and 6,552 cpm for instrument 134542.

The background count rate for this location ranged from 2,149 cpm to 2,274 cpm.

Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeters described above. Survey data was collected by entering the excavation and recording the highest count rate for the floor and walls to a depth of 36 inches below ground surface. All asphalt, concrete, and soil were loaded directly into a truck for disposal.

The maximum gamma count rates on the surface and each lift were recorded on the attached Radiation Survey Form. The count rates in the excavations ranged from 1,800 cpm to 6,700 cpm. The elevated count rates in Areas 2, 3 and 4 were due to granite street pavers near the surface. The granite pavers are known to have elevated levels of naturally occurring radioactive material. The soil immediately below the pavers and all other locations of the trench were well below the 7.1 pCi/g action level for thorium. See attached photo.



Additional Monitoring

Since no count rates were identified above the 7.1 pCi/gram threshold limit (other than pavers), 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 (CDPH) and USEPA, 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".

Glenn Huber, CHP
President

300-327 MacChesney Ct. Thorium Survey Data - All Results in Count Per Minute (cpm)

| | Area 1 | Area 2 | Area 3 | Area 4 | Area 5 | Area 6 | Area 7 | Area 8 | Area 9 | Area 10 | Area 11 | Area 12 | Area 13 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 0-12" | 2000 | 6700* | 6100* | 5400* | 3100 | 3000 | 2800 | 2800 | 2400 | 2000 | 1900 | 1800 | 1900 |
| 12-30" | 1900 | 3300 | 2800 | 3000 | 2400 | 2100 | 3300 | 3500 | 3500 | 2800 | 2800 | 2600 | 2800 |
| 30-48" | 2400 | 2500 | 3100 | 3600 | 2800 | 2300 | 2800 | 3600 | 3200 | 2400 | 2000 | 2200 | 2300 |
| 36-54" | 2500 | 2500 | 2800 | 3200 | 2900 | 2800 | 2400 | 3100 | 3300 | 2400 | 1900 | 1900 | 2300 |

* - granite pavers were exposed at the surface

Areas 1-11 surveyed by Mark Dewald, Areas 12-13 surveyed by Glenn Huber