



August 16, 2021

Angel Camacho  
SET Environmental  
450 Sumac Road  
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Water Management  
CDOT Permit: 1570828 – 341 N. Lower Columbus Dr.

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 fire hydrant at 341 North Columbus Drive in Chicago, Illinois. The monitoring was performed by Brian Schmidt, SAHCI Health Physics Technician, on August 4, 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. 126497) 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 6,383 counts per minute (cpm).

The average background count rate for these locations was measured at 1,721 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 a maximum excavation depth of 3 feet below ground surface. 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 1,700 cpm to 2,400 cpm. No count rates were found at any time that exceeded the threshold limit of 6,383 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: DWM - FIRE HYDRANT REPLACEMENT EXCAVATION *LOWER WACHA + LOWER COLUMBUS ST. - LOW RADIOLOGICAL SOIL SURVEY*

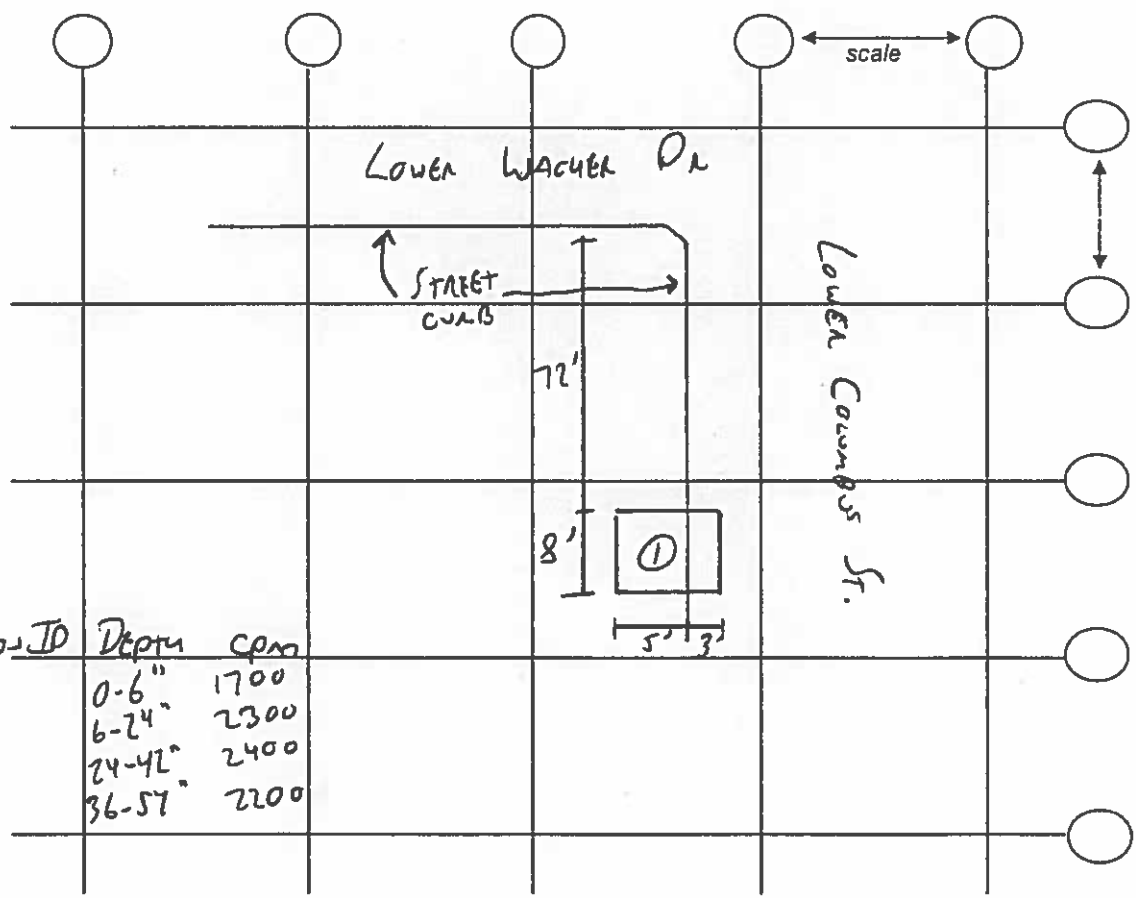
Date: 8/4/2021 Technician: BRIAN SCHMIDT

Inst Model: LOWUM-2221 Serial No.: 126497

Probe Type: 1"x1" NaI / ~~2"x2" NaI~~ Lift Elevation: 0-36"  
Shielded / Not Shielded

Background 1721 cpm Action Level: 6383 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.



EXCAVATION ID	DEPTH	CPM
①	0-6"	1700
	6-24"	2300
	24-42"	2400
	36-57"	2200