



March 25, 2021

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Water Management
CDOT Permit: 1421493 – 157 E. Ohio St.

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation for repair of a water valve box at 157 E. Ohio St. in Chicago, Illinois. The monitoring was performed by Mark Dewald, SAHCI Health Physicist, on March 19, 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 July 28, 2020. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 7,013 counts per minute (cpm).

The average background count rate for these locations was measured at 1,837 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 and recording the highest count rate for the floor and walls to a maximum depth of 11.5 feet below ground surface. Shoring was installed so the excavation was able to be entered and surveys performed to the full depth. All 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 1,500 cpm to 1,900 cpm. No count rates were found at any time that exceeded the threshold limit of 7,013 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: 157 E. Ohio St. DWM

Date: 3/19/21

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 127242

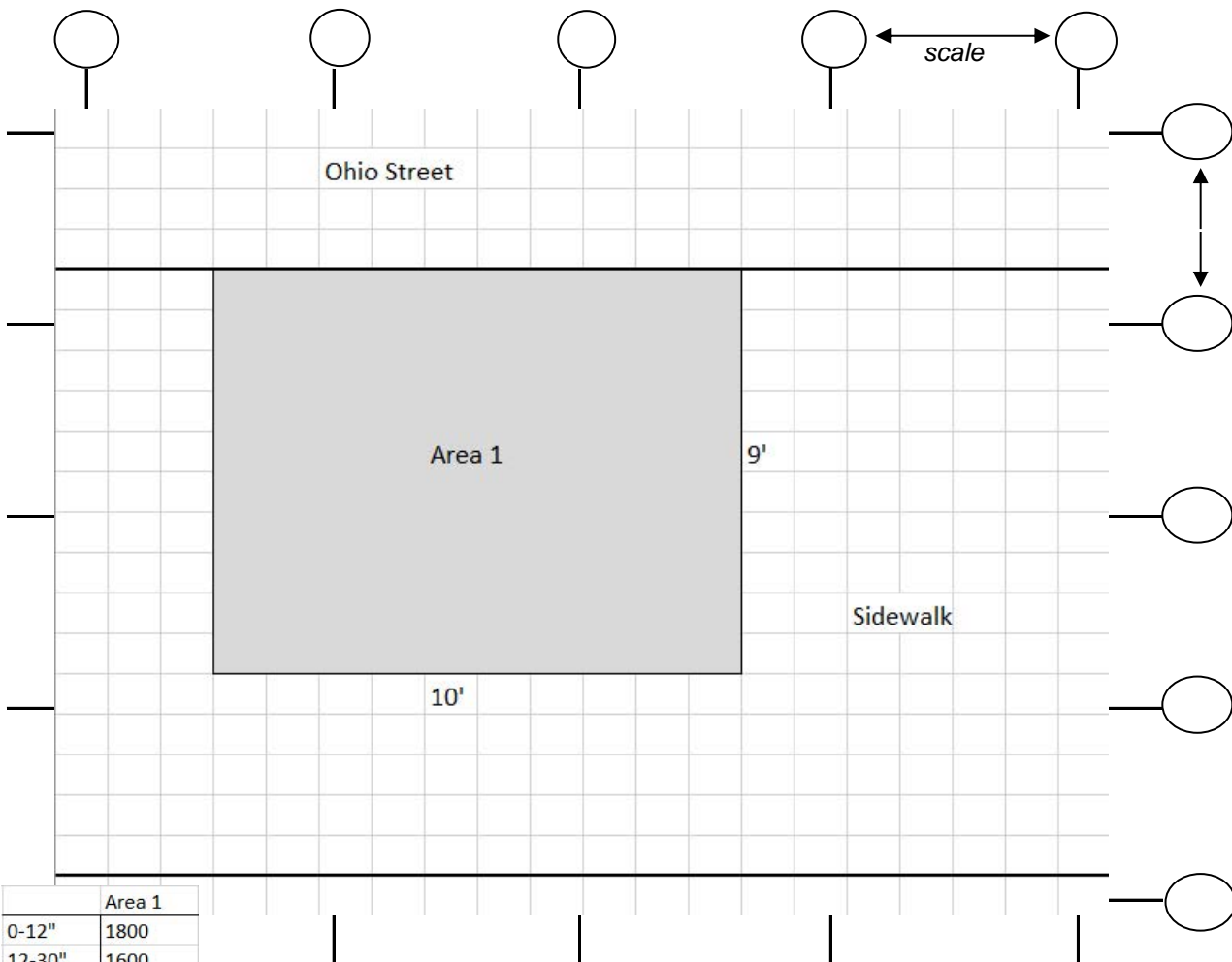
Probe Type: 1"x1" NaI / 2"x2" NaI
 Shielded / Not Shielded

Lift Elevation: Surface to -138" BGS

Background 1,837 cpm

Action Level: 7,013 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.



Area 1	
0-12"	1800
12-30"	1600
30-48"	1800
48-66"	1700
66-84"	1900
84-102"	1800
102-120"	1700
120-138"	1800
138-156"	1500