

June 1, 2018

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: 502 N. Streeter Dr. Thorium Monitoring – City of Chicago Department of Water Management
CDOT Permit: 958962

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring for the City of Chicago Department of Water Management (DWM) during excavation for replacement of a leaking 16" water valve at 502 N. Streeter Drive in Chicago, Illinois. The monitoring was performed by Glenn Huber, SAHCI Health Physicist on May 31, 2018 – June 1, 2018. 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. 134542) with attached Ludlum Model 44-10 2"x2" NaI detector (w/ 6" collimated lead shield). The instrument was calibrated on August 9, 2017. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,415 counts per minute (cpm).

The average background count rate for this location was measured as 1,886 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 after each 18-inch lift and recording the highest count rate for the floors and walls to an excavation depth of 3 feet below ground surface. After the excavation was 3 feet deep, surveys were performed of the buckets of soil as they were removed from the excavation, prior to loading. Bucket surveys proceeded to a maximum depth of 12 feet below ground surface. No soil was stockpiled during the project and all excavated soils were loaded directly into the truck after screening.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Form. The count rates in the excavation ranged from 1,900 cpm to 3,100 cpm. No count rates were found at any time that exceeded the threshold limit of 6,415 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 (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 'G. Huber', with a long horizontal flourish extending to the right.

Glenn Huber, CHP
President

Radiation Survey Form

Location/ Project ID: DWM 502 N. Streeter Drive

Date: 5/31/18

Technician: Glenn Huber

Inst Model: Ludlum 2221

Serial No. : 134542

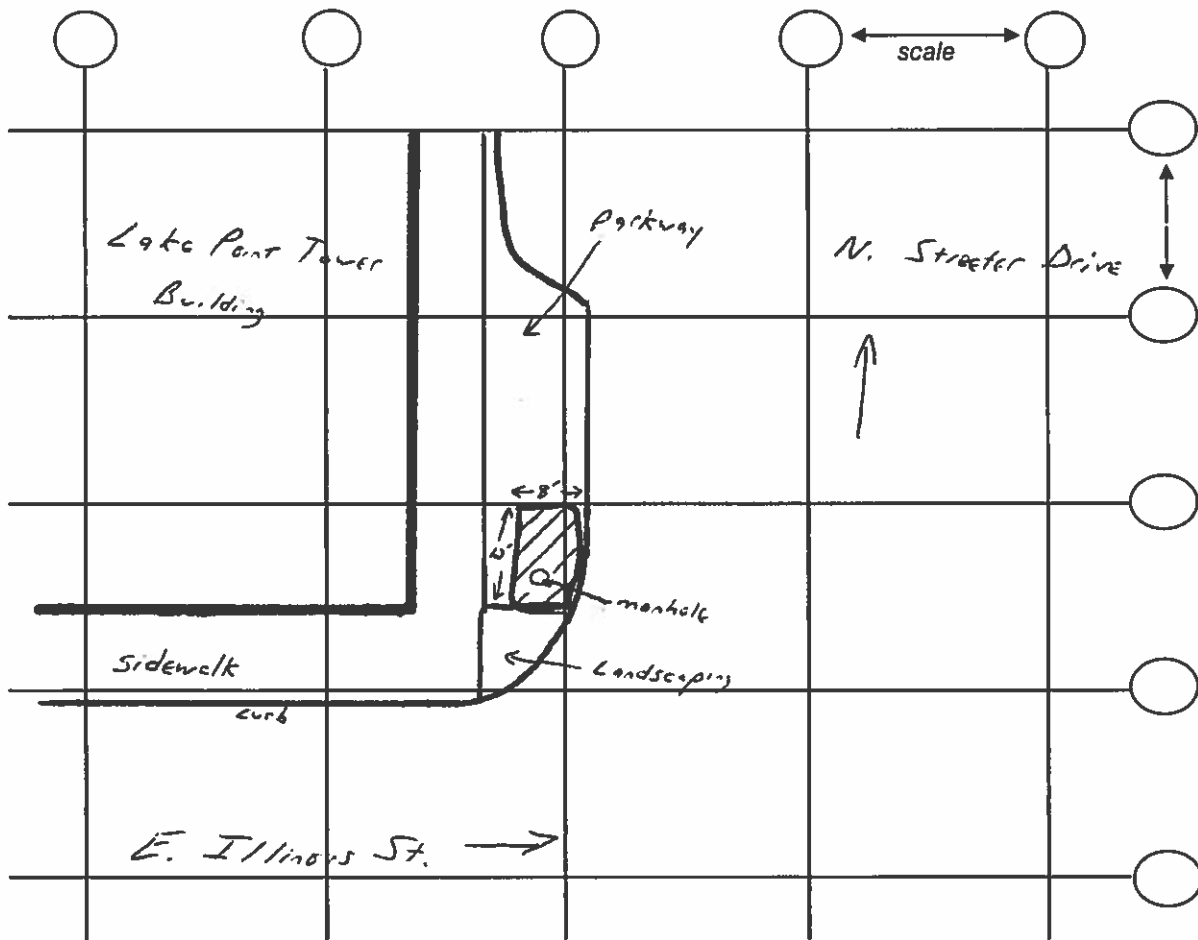
Probe Type: 1"x1" NaI 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: surface → -12' BGS

Background 1,886 cpm

Action Level: 6,415 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.



Depth	CPM
Surface	1900
-1.5'	2600
-3'	3100
-4.5'	2300
-6'	2200
-7.5'	2400
-9'	2400
-10.5'	2500
-12'	2600

= Encouraged Area