

January 16, 2019

Mike Lanenga  
SET Environmental  
450 Sumac Road  
Wheeling, Illinois 60090

RE: 648 N. Lake Shore Drive Thorium Monitoring – City of Chicago Department of  
Water Management  
CDOT Permit: N/A

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 storm sewer catch basin at 648 (Inner) N. Lake Shore Drive in Chicago, Illinois. The monitoring was performed by Glenn Huber, SAHCI Health Physicist, on January 16, 2019. 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 Scaled / Ratemeter (serial no. 134542) with attached 2"x2" NaI detector (w/ 6" collimated lead shield). The instrument was calibrated on August 6, 2018. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,262 counts per minute (cpm).

The average background count rate for this location was measured as 1,302 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 surrounding the existing storm sewer drain and recording the highest count rate for the floor and walls to an excavation depth of 18 inches 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 excavation ranged from 1,500 cpm to 1,800 cpm. No count rates were found at any time that exceeded the threshold limit of 6,262 cpm.

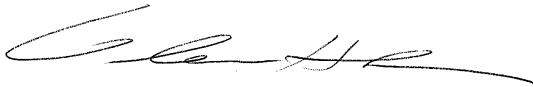
Additional Monitoring

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.

A handwritten signature in black ink, appearing to read 'G. Huber', written in a cursive style.

Glenn Huber, CHP  
President

## Radiation Survey Form

Location/ Project ID: Chicago Dept. of Water (648 inner L50) Storm Sewer Repair

Date: 1/16/19

Technician: Glenn Huber

Inst Model: Ludlum 2221

Serial No.: 134542

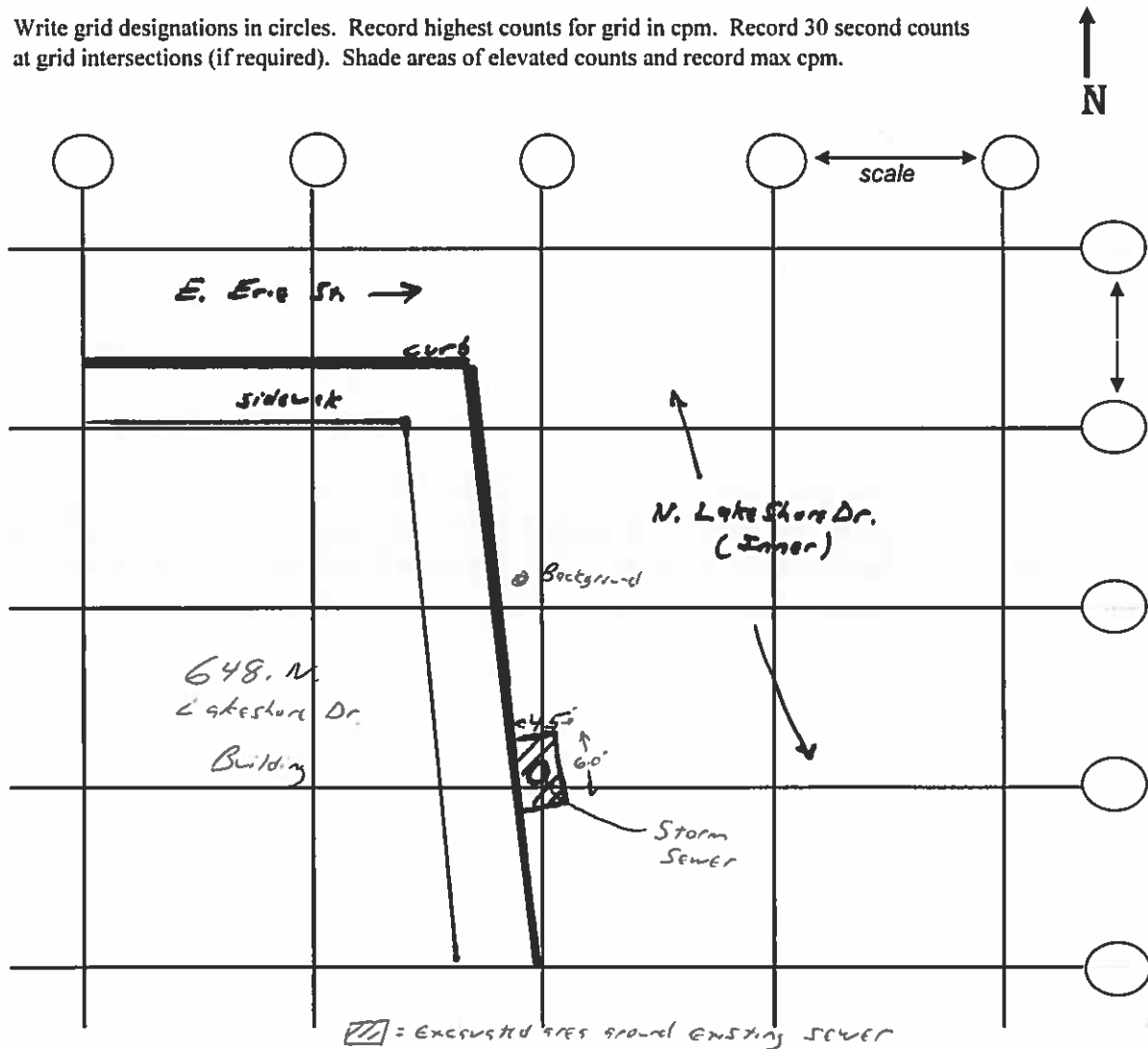
Probe Type: 1"x1" NaI / (2"x2" NaI)  
Shielded / Not Shielded

Lift Elevation: surface → -18"

Background 1,302 cpm

Action Level: 6,262 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.



= Excavated area ground existing sewer

Surface = 1500cpm

-1.5' = 1800cpm