



April 5, 2019

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: 150 and 156 N. Harbor Drive Thorium Monitoring – City of Chicago Department
of Water Management
CDOT Permits: 1077250 and 1077246

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation for repair of 2 storm water drains at 150 and 156 N. Harbor Dr. in Chicago, Illinois. The monitoring was performed by Brian Schmidt and Glenn Huber, SAHCI Health Physics Technicians, on April 1 through April 4, 2019. All activities were conducted under the guidance of document *SET General Procedure for Thorium Monitoring*.

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial nos. 132844 and 134542) with attached Ludlum Model 44-10 2"x2" NaI detectors (w/ 6" collimated lead shield).

Serial number 134542 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).

Serial number 132844 was calibrated on August 6, 2018. The USEPA action level of 7.1 pCi/g total thorium for this instrument is 7,391 cpm.

The average background count rate for this location was determined to range from 1,676 to 1743 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 excavations and recording the highest count rate for the floor and walls to an excavation depth of 3

feet below ground surface. Material excavated from 3 feet below ground surface to 7 feet below ground surface was monitored as it was removed and placed on the surface.

The maximum gamma count rate for each of the 18" lifts were recorded on the attached Radiation Survey Forms. The count rates in the excavations ranged from 1,600 cpm to 2,700 cpm. No count rates were found at any time that exceeded the threshold limits of 7,391 cpm and 6,262 cpm, respectively.

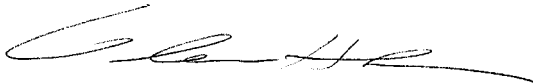
Additional Monitoring

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 'Glenn Huber', with a long horizontal flourish extending to the right.

Glenn Huber, CHP
President

Radiation Survey Form

Location/ Project ID: DWM - 150 N. HARSON DRIVE CHICAGO, IL - CATCH BASIN REPAIR ROW RADIOLOGICAL SOIL SURVEY

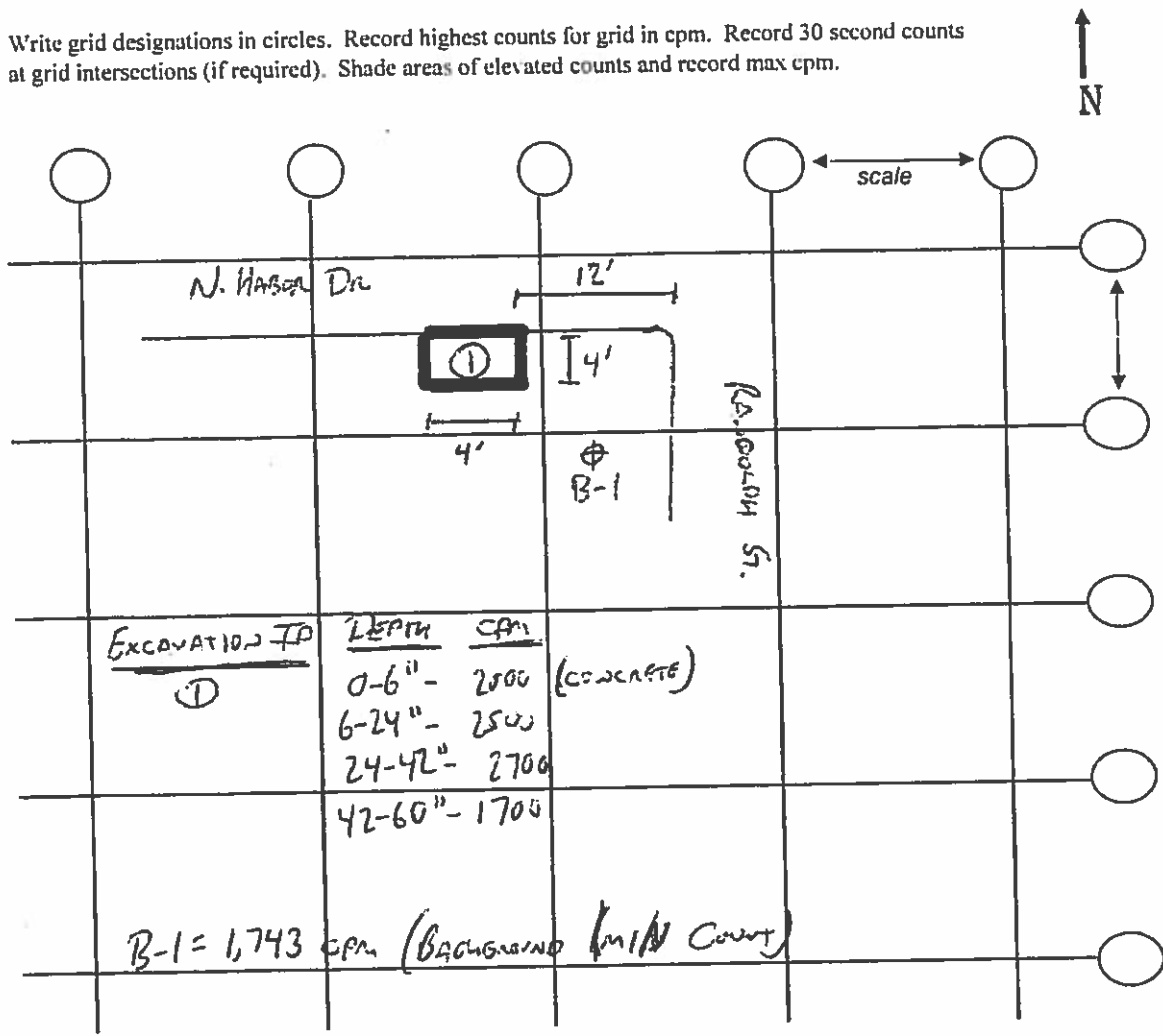
Date: 4/2/2019 Technician: BRIAN SCUMIST

Inst Model: LOWEN-2221 Serial No.: 132844

Probe Type: 1"x1" NaI / 2"x2" NaI
 Shielded Not Shielded
 Lift Elevation: 0-42"

Background 1743 cpm Action Level: 7391 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.



Radiation Survey Form

Location/ Project ID: City of Chicago DWM ¹⁵⁶ ~~150~~ N. Harbor Dr. CDOT Permit #1077250

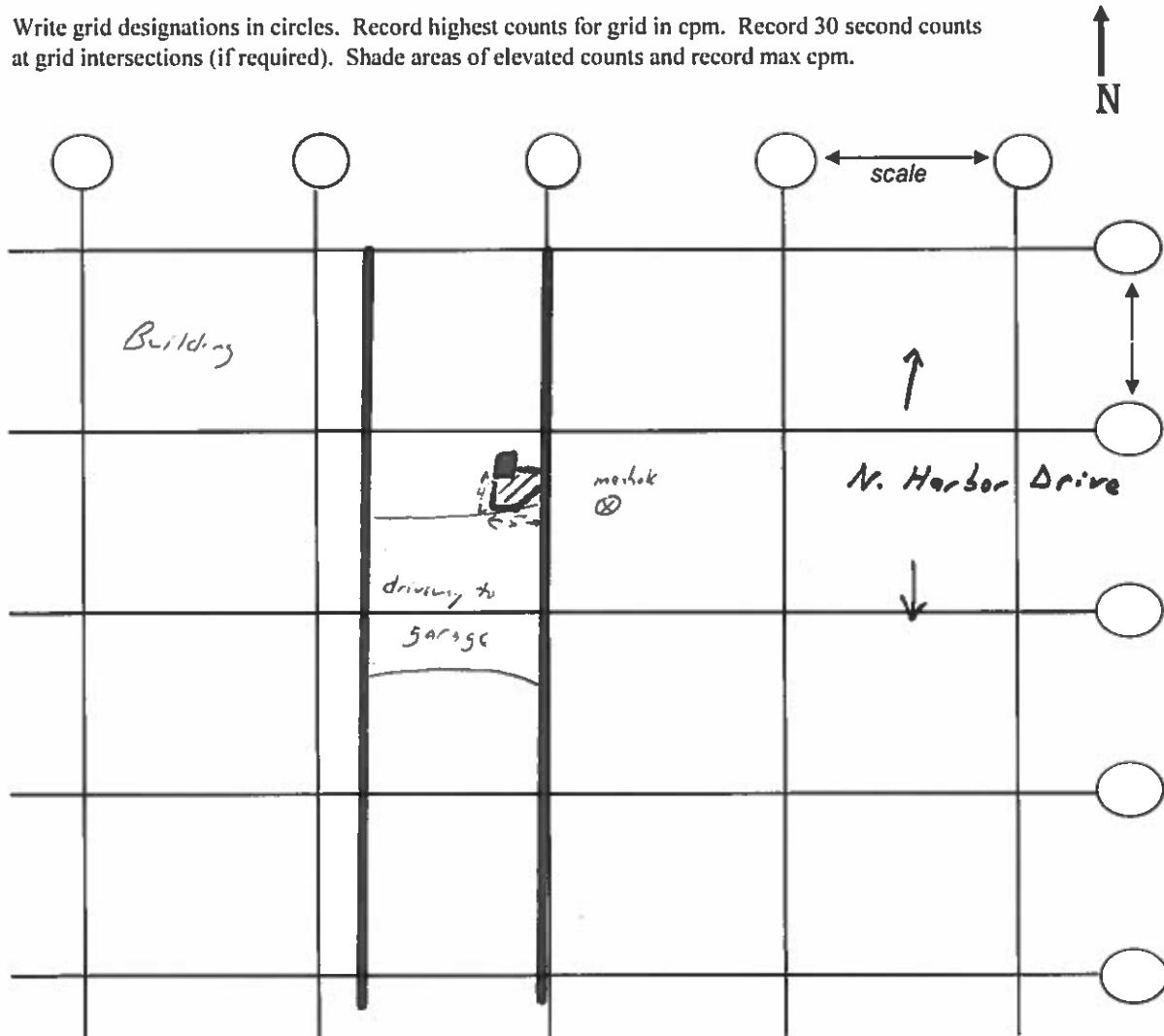
Date: 4/4/19 **Technician:** Glenn Huber

Inst Model: Ludlum 2221 **Serial No.:** 134542

Probe Type: 1"x1" NaI / 2"x2" NaI **Lift Elevation:** surface -> -6.5' bgs
Shielded / Not Shielded

Background 1,676 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.



Surface = 1600cp-
-1.5' = 1400cp-
-3' = 1700cp-
-4.5' = 1600cp-
-6' = 1300cp-

▨ = Excavated area