Stan A. Huber Consultants, Inc.
Health Physics and Radiation Safety Services

200 North Cedar Road – New Lenox, Illinois 60451-1751 – (800) 383-0468 or (815) 485-6161 – FAX (815) 485-4433 – Email sahci@sahci.com – Home Page www.sahci.com

April 25, 2020

955807

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Water Management
CDOT Permit: 1233468 – 240 E. Ohio St.
CDOT Permit: 1233456 – 311 E. Ohio St.
CDOT Permit: 1233448 – 103 E. Ontario St.
CDOT Permit: 1233422 – 627 N. Michigan Ave.

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation for repair of 4 storm sewer catch basins at the above noted locations in Chicago, Illinois. Since all 4 locations were performed consecutively on the same day they are being documented in a single report.

The monitoring was performed by Brian Schmidt, SAHCI Health Physicist, on April 20, 2020. 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. 132844) with attached Ludlum Model 44-10 2”x2” NaI Detector (w/ 6” collimated lead shield). The instrument was calibrated on August 6, 2019. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 7,299 counts per minute (cpm).

The average background count rate for the 4 locations ranged from 1,802 cpm – 1947 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 excavation depth of 1 foot 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 1,600 cpm to 3,000 cpm. No count rates were found at any time that exceeded the threshold limit of 7,299 cpm.

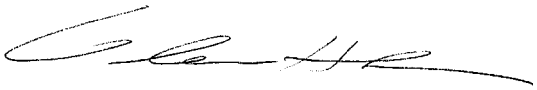
Additional Monitoring

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

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Stan A. Huber Consultants, Inc.

Radiation Survey Form

Location/ Project ID: DWM -240 & 311 E Ohio St. - Manhole Replacement - ROW Radiological Soil Survey

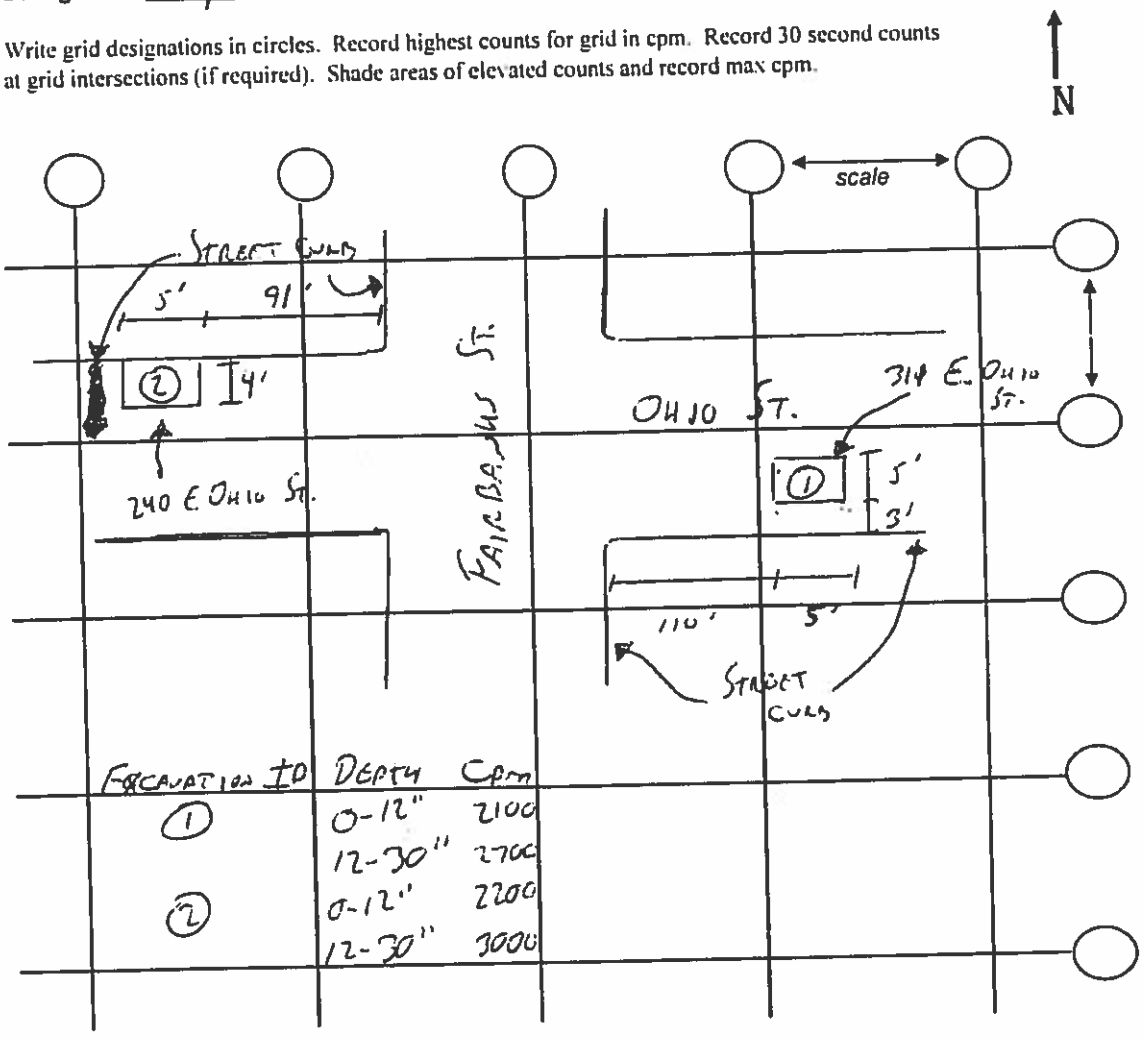
Date: 4/20/2020 **Technician:** Brian Schmidt

Inst Model: Ludlum -2221 **Serial No. :** 132844

Probe Type: 1"x1" NaI / ~~2"x2" NaI~~ ~~Shielded~~ / Not Shielded **Lift Elevation:** 0-12"

Background 47 cpm **Action Level:** 7299 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	0-12"	2100
	12-30"	2700
2	0-12"	2200
	12-30"	3000

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Radiation Survey Form

Location/ Project ID: DWM - 627 N. Michigan Ave & 103 E. Ontario St. - Manhole Replacement - Row Radiological Soil Surveys

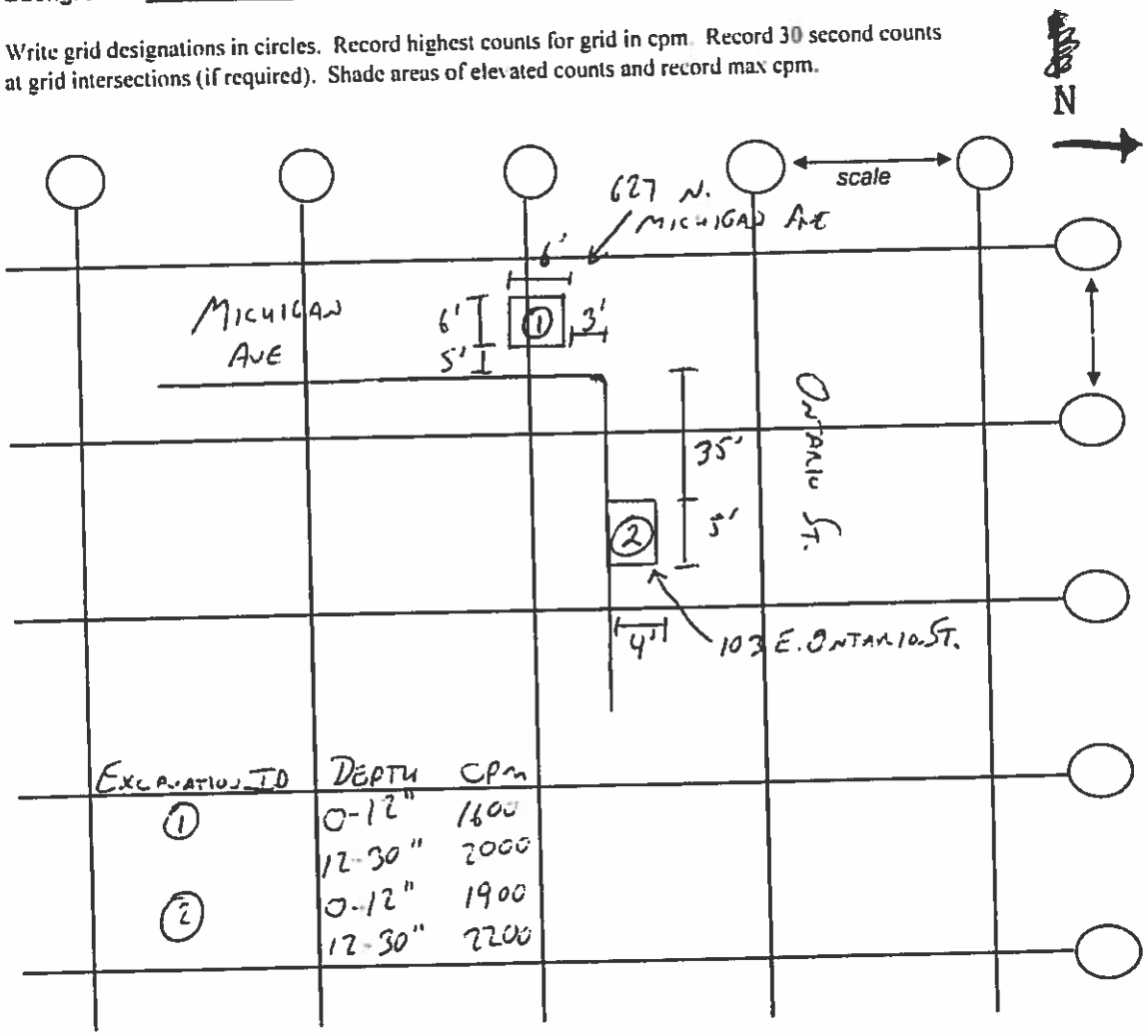
Date: 4/20/2020 **Technician:** Brian Schmidt

Inst Model: Ludlum-2221 **Serial No. :** 132844

Probe Type: 1"x1" NaI / 2"x2" NaI (circled) **Lift Elevation:** 0-12"
Shielded / Not Shielded

Background 1802 cpm **Action Level:** 7249 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	0-12"	1600
	12-30"	2000
2	0-12"	1900
	12-30"	2200