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

June 27, 2020

958943

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Water Management
CDOT Permits: 1250442 – 339 E. Grand Ave.
1250461 – 633 N. St. Clair 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 manhole at 339 E. Grand Ave. and a storm sewer catch basin at 633 N. St. Clair St. in Chicago, Illinois. The monitoring was performed by Jeremy Kieser, SAHCI Health Physicist, on June 8, 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. 127242) 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 6,673 counts per minute (cpm).

The average background count rate for these locations was measured at 1,958 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 excavations surrounding both the catch basin and manhole and recording the highest count rate for the floor and walls to a maximum depth of 6 feet below ground surface. Material removed from the manhole and catch basin (below 18 inches) were monitored in the excavator bucket prior to loading in the truck. 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 excavations ranged from 1,600 cpm to 2,400 cpm. No count rates were found at any time that exceeded the threshold limit of 6,673 cpm.

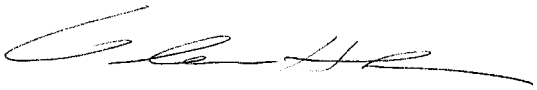
Additional Monitoring

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: Per # 1250442 (339 E Grand)

Date: June 8, 2020 **Technician:** Jeremy Kieser

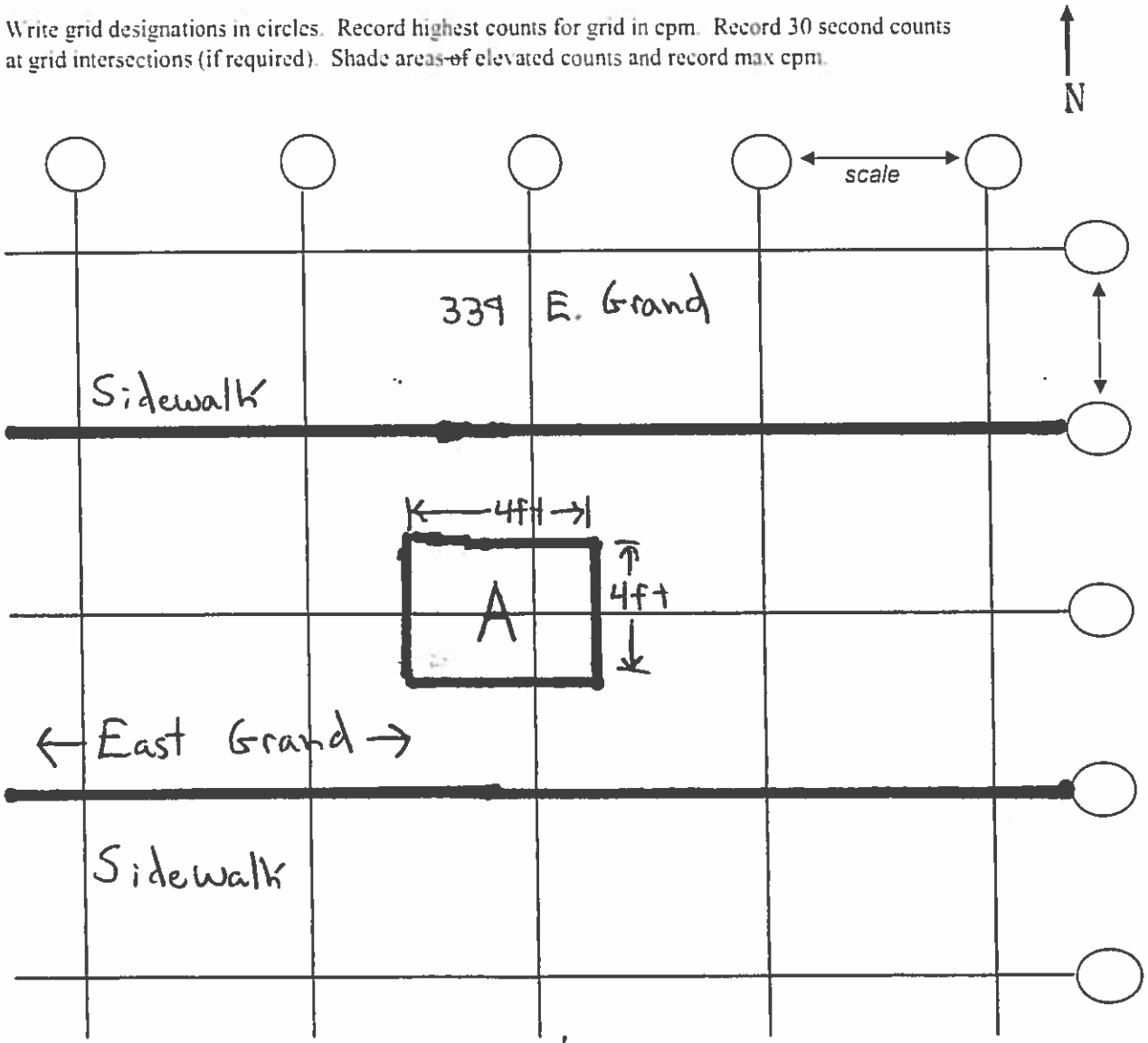
Inst Model: Ludlum 2221 **Serial No. :** 127242

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

Lift Elevation: Surface to 6ft

Background 1958 cpm **Action Level:** 6673 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.



Location A:
Surface: 1700 cpm
18 inches: 1700 cpm

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Radiation Survey Form

Location/ Project ID: Per # 1250461 (633 N. St. Clair)

Date: June 8, 2020 **Technician:** Jeremy Kieser

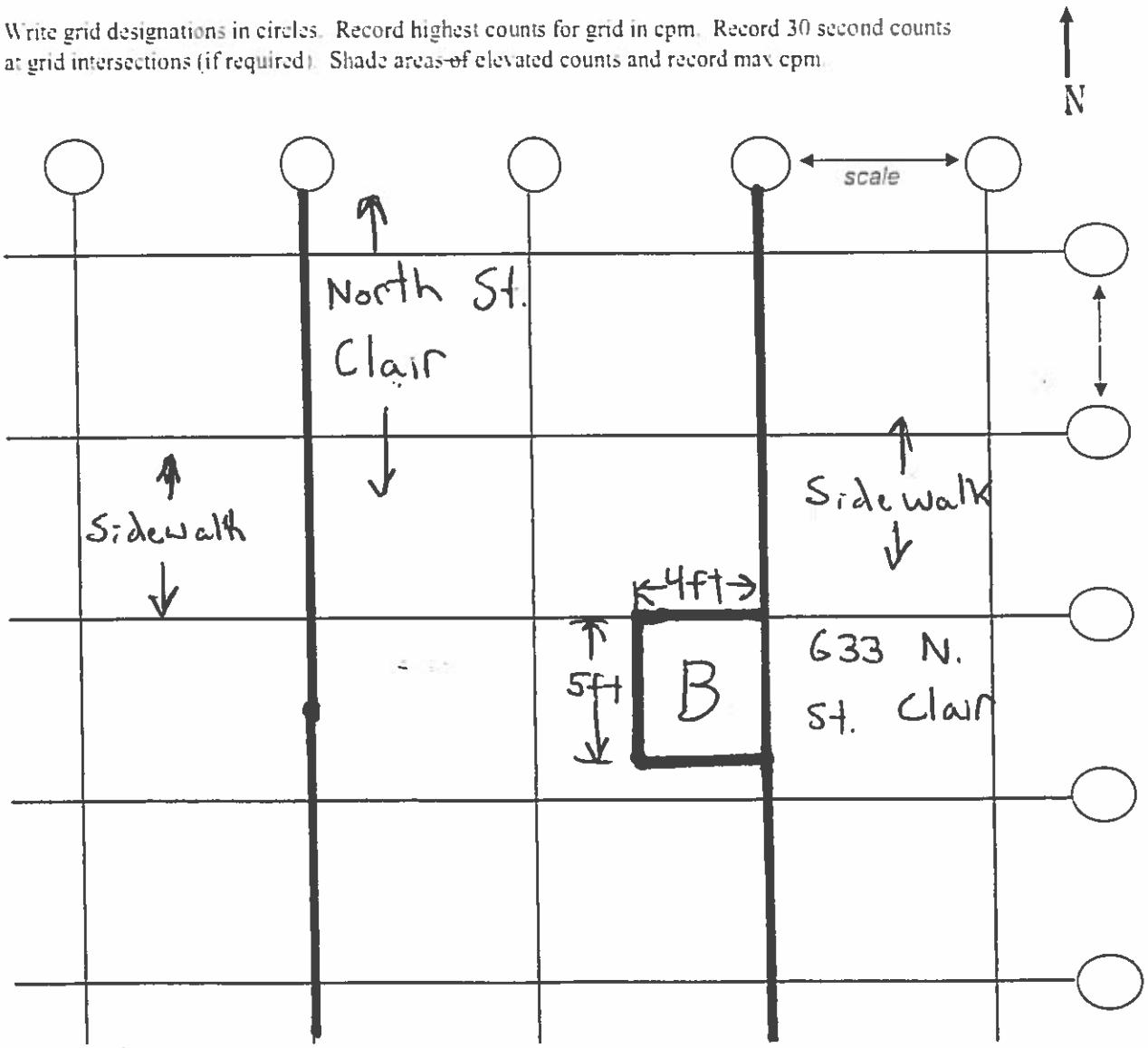
Inst Model: Ludlum 2221 **Serial No. :** 127242

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

Lift Elevation: Surface to 6ft

Background 1958 cpm **Action Level:** 6673 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.



Location B8

Surface @ 1600 cpm

18 inches @ 2100 cpm

36 inches @ 2300 cpm

54 inches @ 2400 cpm

72 inches @ 2000 cpm