



June 20, 2022

976402

Angel Camacho
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Transportation (CDOT)
CDOT Permits: 1654656 – 383-601 E. Illinois St.

Dear Mr. Camacho:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the removal of concrete for various CDOT improvements such as sidewalk ramps, curbs and gutters, and bump outs. The monitoring was performed by Mark Dewald and Brian Schmidt, SAHCI Health Physics Technicians, on May 6 – June 1, 2022. 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 no. 126496 and 126497) with attached Ludlum Model 44-10 2"x2" NaI Detectors (w/ 6" collimated lead shields). The instruments were calibrated on May 3, 2022. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for instrument 126496 is 7,819 counts per minute (cpm) and 7,208 cpm for instrument 126497.

The average background count rate for these locations ranged from 1,591 cpm to 1,809 cpm.

Soil Gamma Scans

Gamma surface scans were performed in the excavations using the Ludlum Model 2221 Scaler / Ratemeters detailed above. Survey data was collected by monitoring the concrete areas prior to removal and then again after removal to a maximum excavation depth of 12 inches below ground surface. All concrete was loaded directly into a truck for disposal.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Forms. The count rates in the excavations ranged from 1,100 cpm to 3,800

cpm. No count rates were found at any time that exceeded the threshold limits of 7,819 cpm and 7,208 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.



Glenn Huber, CHP
President

Radiation Survey Form

Location/ Project ID: 383 - 601 E. Illinois St Sidewalk Replacement (Pan-Am)

Date: 5/6/22 - 6/1/22

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 126496

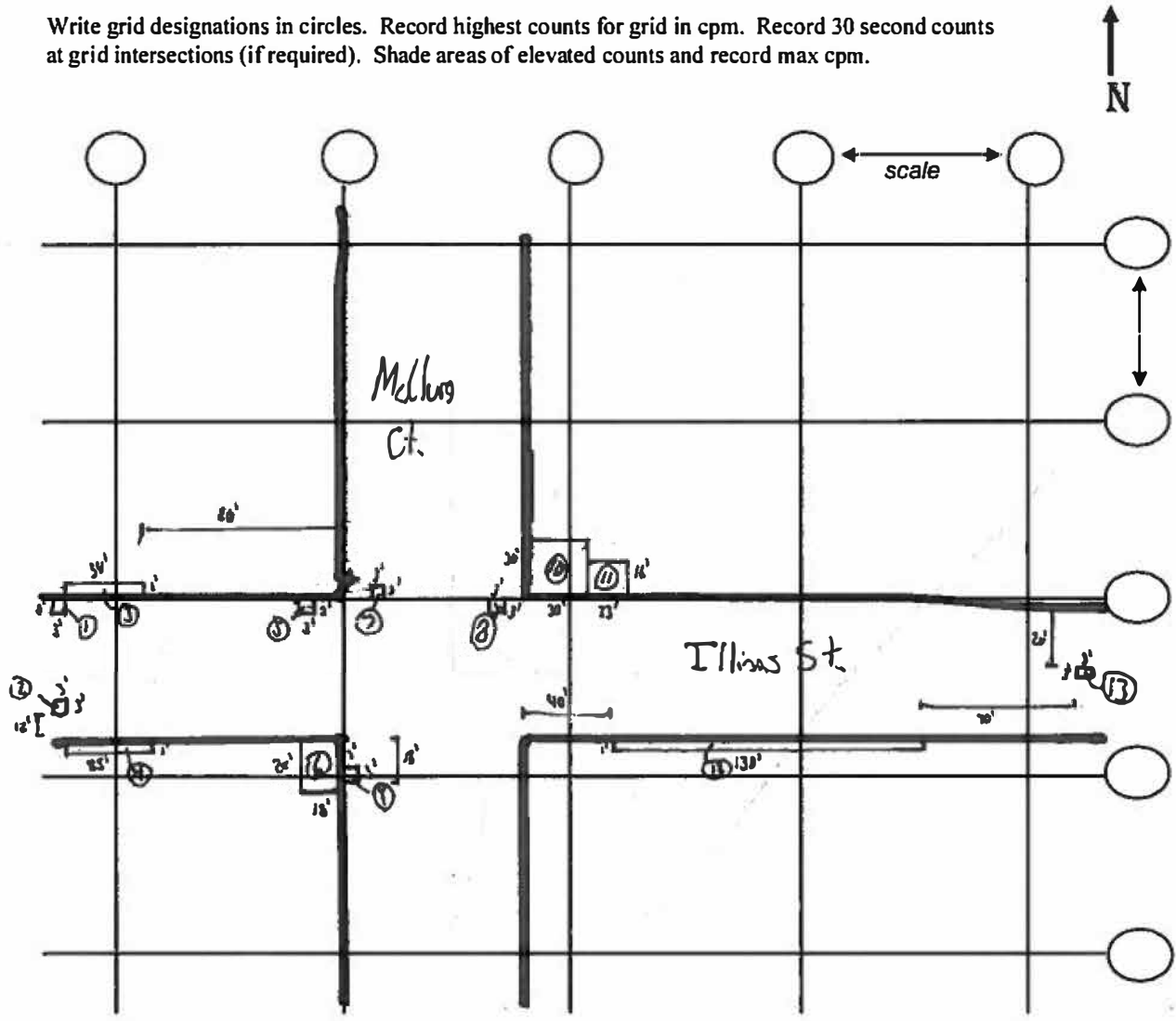
Probe Type: 1"x1" NaI 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: Surface to -12" BGS

Background 1,591 cpm

Action Level: 7,819 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.



| | Area 1 | Area 2 | Area 3 | Area 4 | Area 5 | Area 6 | Area 7 | Area 8 | Area 9 | Area 10 | Area 11 | Area 12 | Area 13 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 0-12" | 1200 | 1300 | 1500 | 1500 | 1200 | 1400 | 1100 | 1400 | 1200 | 1100 | 1300 | 1200 | 1500 |
| 12-30" | 1400 | 2100 | 2500 | 2100 | 2100 | 2100 | 1700 | 1700 | 2000 | 2300 | 2200 | 2800 | 2400 |

Radiation Survey Form

Location/ Project ID: 383 - 601 E. Illinois St Sidewalk Replacement (Pan-Am)

Date: 5/6/22 - 6/1/22

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 126496

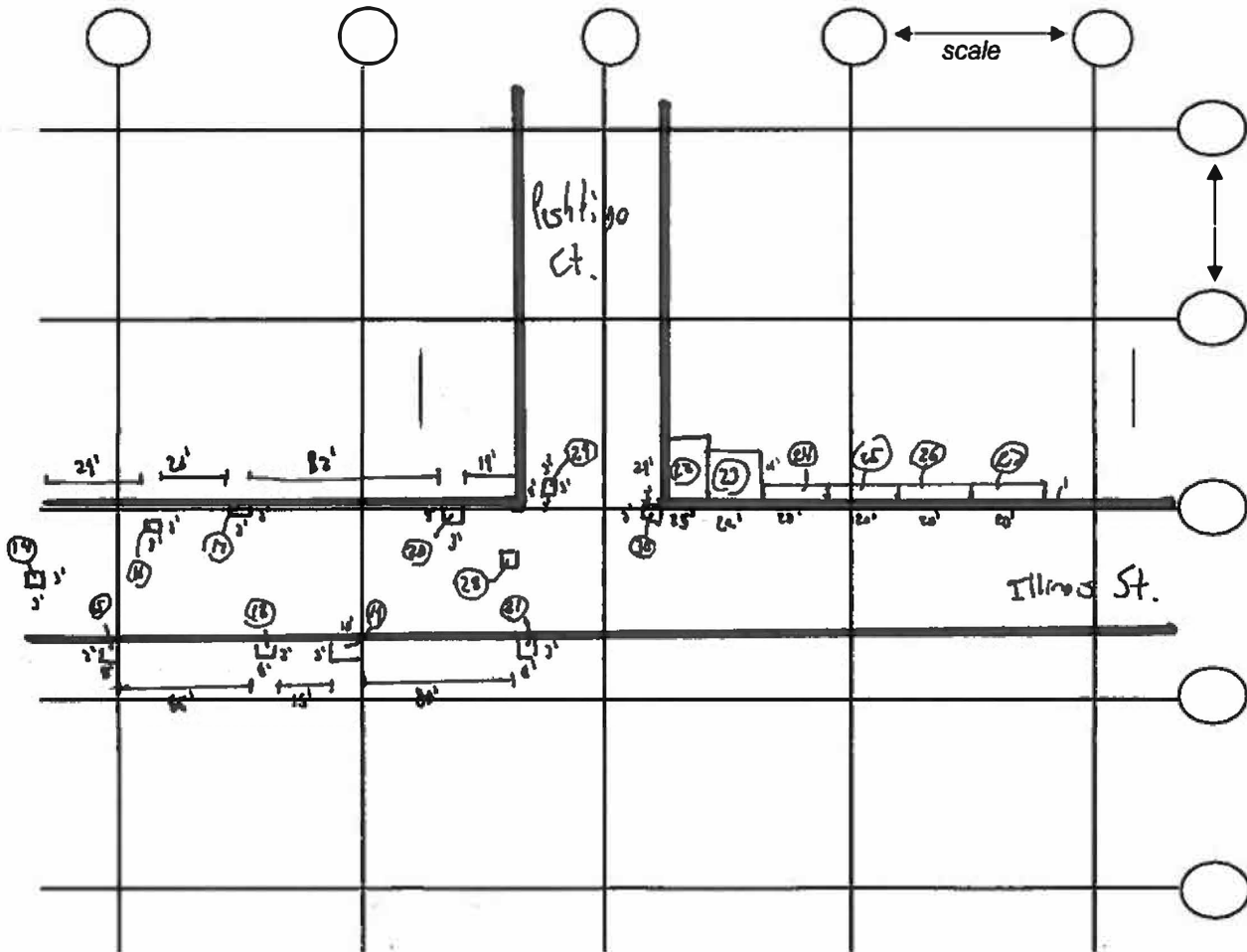
Probe Type: 1"x1" NaI 2"x2" NaI
 Shielded Not Shielded

Lift Elevation: Surface to -12" BGS

Background 1,591 cpm

Action Level: 7,819 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.



| | Area14 | Area15 | Area16 | Area17 | Area18 | Area19 | Area20 | Area21 | Area22 | Area23 | Area24 | Area25 | Area26 | Area27 | Area28 | Area29 | Area30 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0-12" | 1400 | 1600 | 1500 | 1200 | 1800 | 1400 | 1600 | 1500 | 1200 | 1400 | 1700 | 1400 | 1600 | 1500 | 1600 | 1600 | 1800 |
| 12-30" | 2100 | 1900 | 2100 | 1800 | 2200 | 2400 | 1900 | 2200 | 2100 | 2400 | 2400 | 2600 | 2800 | 2800 | 2200 | 2100 | 2300 |

Radiation Survey Form

Location/ Project ID: 383 - 601 E. Illinois St Sidewalk Replacement (Pan-Am)

Date: 5/6/22 - 6/1/22

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 126496

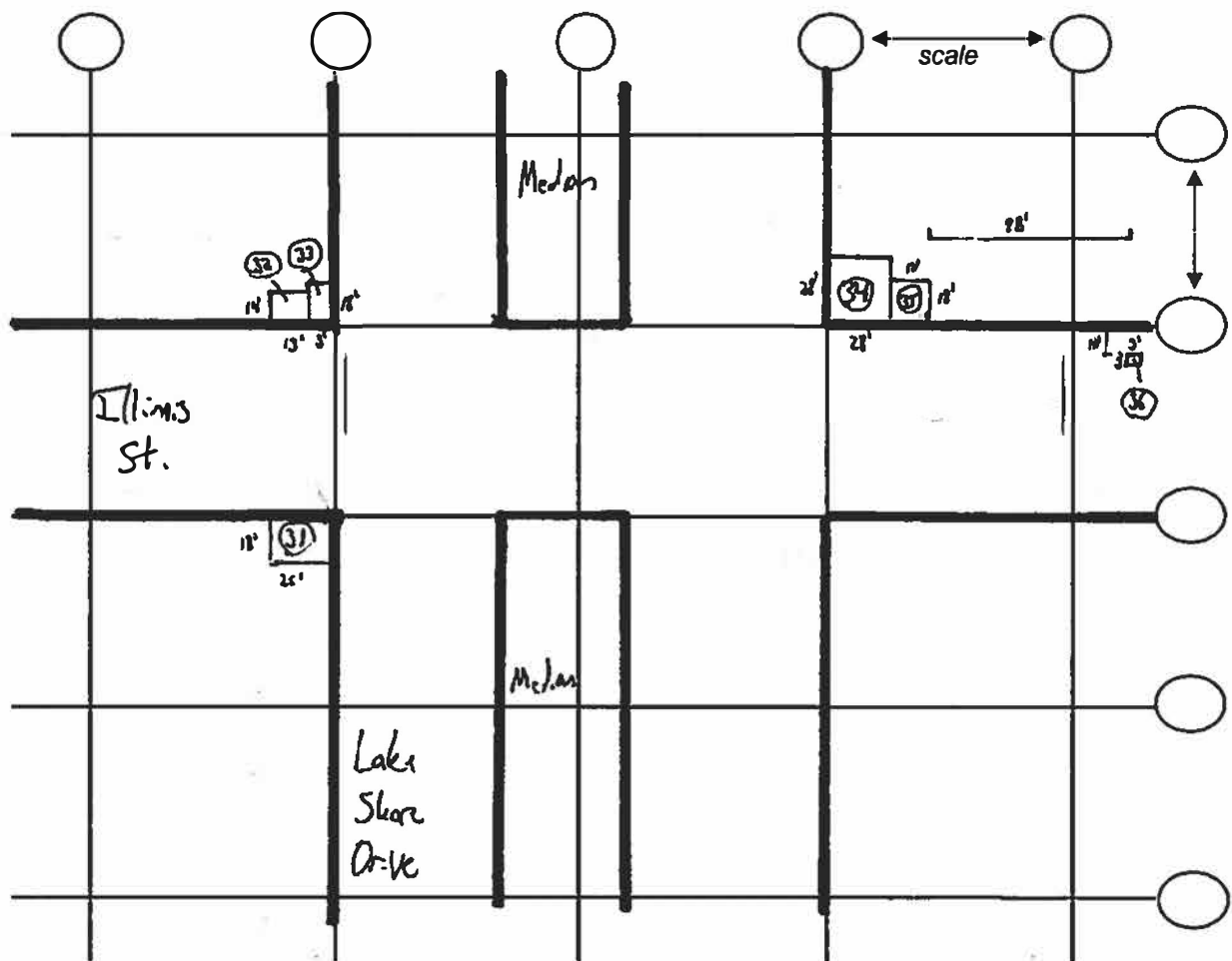
Probe Type: 1"x1" NaI 2"x2" NaI
 Shielded Not Shielded

Lift Elevation: Surface to -12" BGS

Background 1,591 cpm

Action Level: 7,819 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.



| | Area 31 | Area 32 | Area 33 | Area 34 | Area 35 | Area 36 |
|--------|---------|---------|---------|---------|---------|---------|
| 0-12" | 1200 | 1800 | 1500 | 1400 | 1700 | 1600 |
| 12-30" | 2300 | 2900 | 2400 | 3000 | 3300 | 2700 |

Radiation Survey Form

Location/ Project ID: 383 - 601 E. Illinois St Sidewalk Replacement (Pan-Am)

Date: 5/6/22 - 6/1/22

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No. : 126496

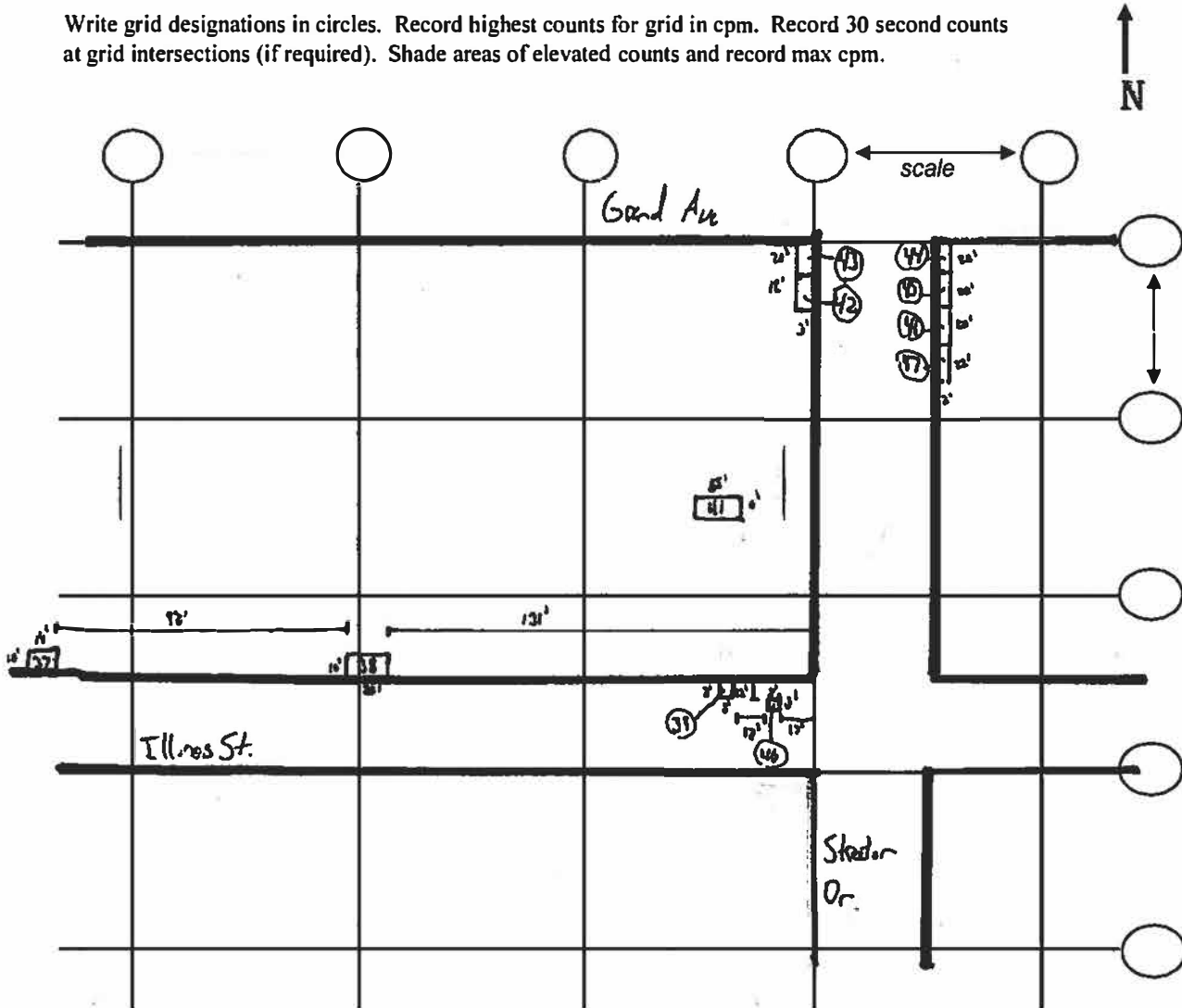
Probe Type: 1"x1" NaI 2"x2" NaI
 Shielded Not Shielded

Lift Elevation: Surface to -12" BGS

Background 1,591 cpm

Action Level: 7,819 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.



| | Area 37 | Area 38 | Area 39 | Area 40 | Area 41 | Area 42 | Area 43 | Area 44 | Area 45 | Area 46 | Area 47 |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0-12" | 1300 | 1800 | 1600 | 1300 | 1500 | 1600 | 1800 | 1700 | 1400 | 1500 | 1200 |
| 12-30" | 3600 | 3800 | 2700 | 1800 | 1900 | 2900 | 2400 | 2300 | 2100 | 2600 | 2400 |

Radiation Survey Form

Location/ Project ID: 383-601 E. Illinois St. CDOT CDOT#1654656

Date: 5/13/22

Technician: Brian Schmidt

Inst Model: Ludlum 2221

Serial No. : 126497

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

Lift Elevation: Surface to -12"

Background 1909 cpm

Action Level: 7,208 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.

