



November 24, 2020

Paul Muszynski  
Electric Conduit Construction  
816 Hicks Drive  
Elburn, IL 60119

RE: Thorium Monitoring 120-215 E. Ontario St.  
CDOT Permit #1306983

Dear Mr. Muszynski:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation and installation of a fiber optic and power conduit at 120-215 E. Ontario Street in Chicago, Illinois. The monitoring was performed by Glenn Huber, Brian Schmidt and Mark Dewald, SAHCI Health Physics Technicians, on November 9, 2020 through November 13, 2020.

#### Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial no. 132844 and 134542) with attached Ludlum Model 44-10 2"x2" NaI Detectors (w/ 6" collimated lead shields). Both instruments were last calibrated on July 28, 2020.

The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for instrument serial number 132844 is 7,592 counts per minute (cpm). The USEPA action level of 7.1 pCi/g total thorium for instrument serial number 134542 is 7,228 cpm.

The background count rate for this location ranged from 1,202 cpm – 1,768 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 trench and recording the highest count rate for the floor and walls to a maximum excavation depth of 4 feet below ground surface. Soil was loaded directly into a truck for offsite 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 1,300 cpm to 3,800 cpm. No count rates were found at any time that exceeded instrument specific threshold limits of 7,592 cpm and 7,228 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: 120-215 E. Ontario St. ECC

Date: 11/9/20-11/10/20

Technician: Glenn Huber

Inst Model: Ludlum 2221

Serial No.: 134542

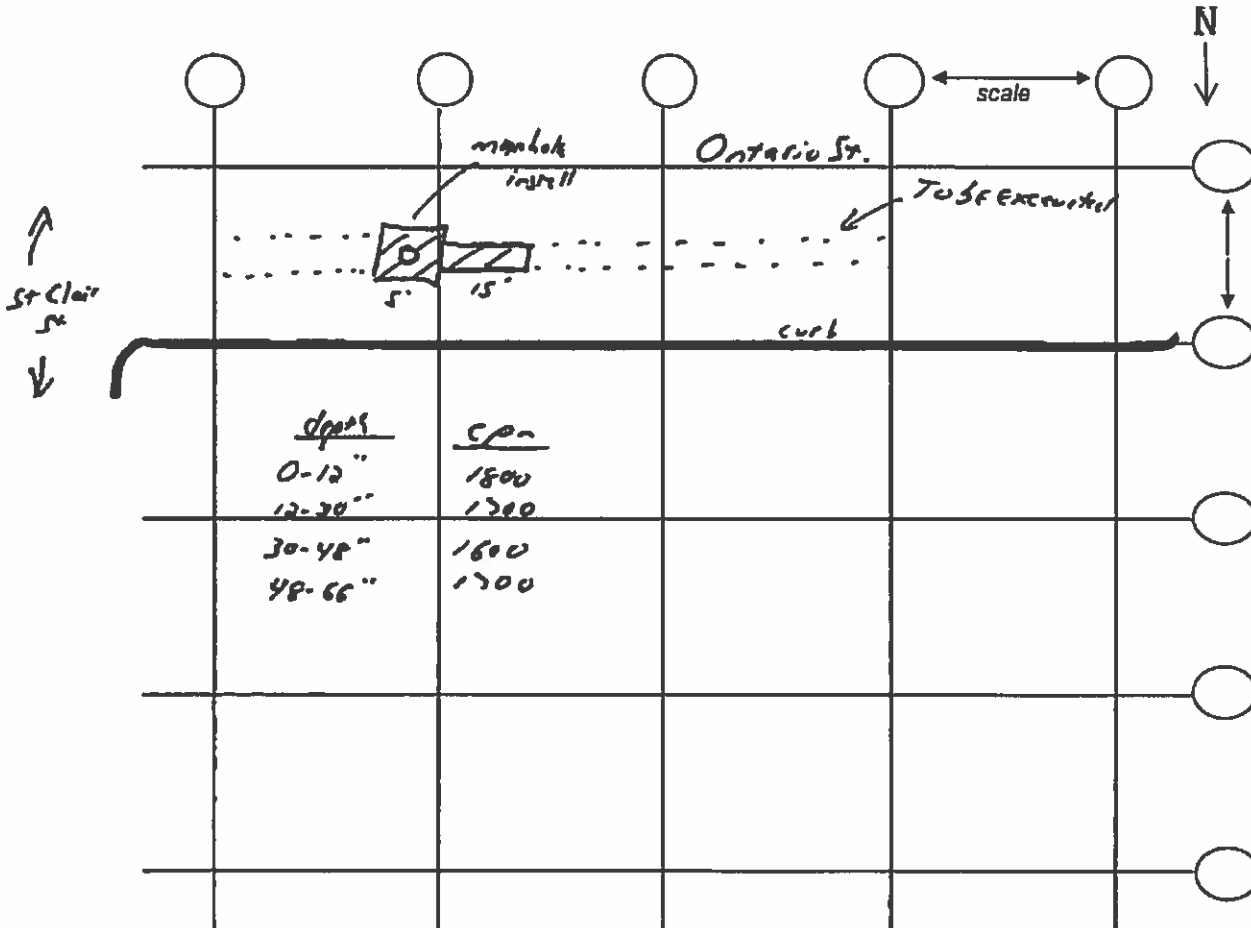
Probe Type: 1"x1" NaI / 2"x2" NaI  
 Shielded /  Not Shielded

Lift Elevation: Surface to -3' BGS

Background 1,768 cpm

Action Level: 7,228 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: ECC - St. CLAIR St. + ONTARIO ST. - Fiber LSTALL - ROW RADIOLOGICAL  
SOIL SURVEY

Date: 11/11-12/2020

Technician: BRIAN SCHMIDT

Inst Model: LUOLUM-2221

Serial No.: 132844

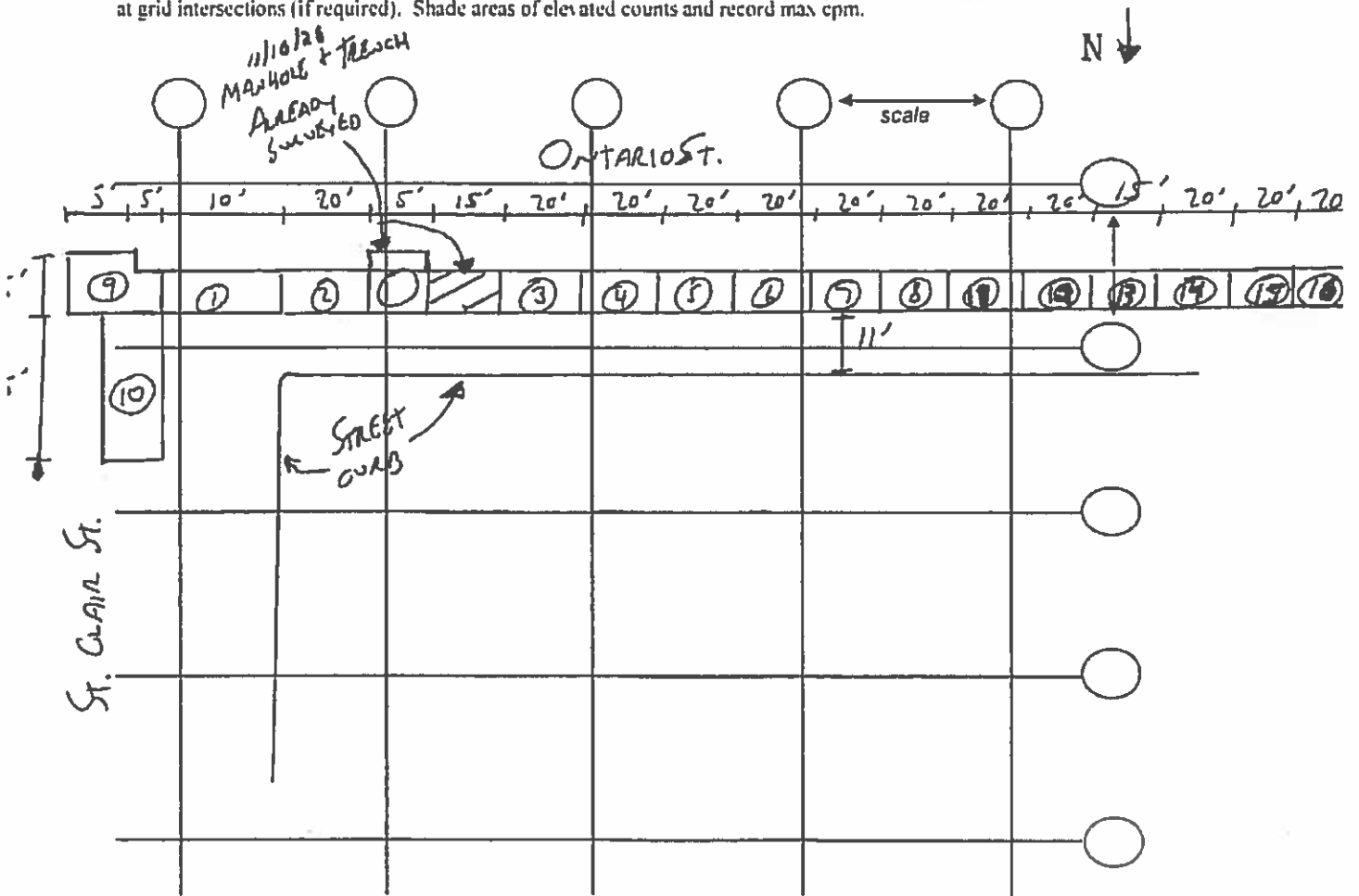
Probe Type: 1"x1" NaI / 2"x2" NaI  
Shielded / Not Shielded

Lift Elevation: 0-36"

Background 1701 cpm

Action Level: 7592 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: ECC - St. Clair St. + Ontario St. - Pigeon L. Stall - ROW RADIOLOGICAL  
Soil Survey

Date: 11/11-12/2020

Technician: Brian Schmitt

Inst Model: Lvolum-221

Serial No.: 132844

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

Lift Elevation: 0-36"

Background 1701 cpm

Action Level: 7592 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	Excavation ID	DEPTH	CPM	Excavation ID	DEPTH	CPM
①	0-12"	1600	⑧	0-12"	1700	⑮	0-12"	1800
	12-30"	2400		12-30"	1900		12-30"	1800
	30-48"	2700		30-48"	2100		30-48"	2900
	36-54"	3100		36-54"	2200		36-54"	2600
②	0-12"	1800	⑨	0-12"	1500	⑯	0-12"	1400
	12-30"	2100		12-30"	1800		12-30"	1900
	30-48"	2900		30-48"	2400		30-48"	2300
	36-54"	3400		36-54"	2100		36-54"	2500
③	0-12"	1400	⑩	12-30"	1800	⑰		
	12-30"	2300		30-48"	2400			
	30-48"	2200		36-54"	2600			
	36-54"	3800		0-12"	1900			
④	0-12"	2100	⑪	12-30"	2100	⑱		
	12-30"	2800		30-48"	2200			
	30-48"	2800		36-54"	2000			
	36-54"	3000		0-12"	1800			
⑤	0-12"	2000	⑫	12-30"	2200	⑲		
	12-30"	2400		30-48"	2300			
	30-48"	2900		36-54"	2300			
	36-54"	2600		0-12"	1100			
⑥	0-12"	1600	⑬	12-30"	2000	⑳		
	12-30"	2600		30-48"	2300			
	30-48"	2500		36-54"	2100			
	36-54"	2800		0-12"	1700			
⑦	0-12"	1500	⑭	12-30"	1900	㉑		
	12-30"	1700		30-48"	2200			
	30-48"	2100		36-54"	2400			
	36-54"	2300						

## Radiation Survey Form

Location/ Project ID: 120-215 E. Ontario St. ECC

Date: 11/13/20

Technician: Mark Dewald

Inst Model: Ludlum 2221

Serial No.: 134542

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

Lift Elevation: Surface to -4' BGS

Background 1,202 cpm

Action Level: 7,228 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.

