



August 4, 2020

Devon Pavlek  
EBI Consulting  
21 B Street  
Burlington, MA 01803

RE: Thorium Monitoring for Meade Electric / Verizon Wireless  
530 N. Fairbanks Ct. - Dig # 600782608  
397 E. Grand Ave. - Dig #600782645

Dear Ms. Pavlek:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation for installation of utility poles at 530 N. Fairbanks Court and 397 E. Grand Avenue in Chicago, Illinois. The monitoring was performed by Brian Schmidt and Mark Dewald, SAHCI Health Physics Technicians, on July 30 and 31, 2020.

On July 30, 2020, potential radiological contamination was identified at the 397 E. Grand Avenue location in concentrations exceeding the United States Environmental Protection Agency (USEPA) limit of 7.1 picocuries per gram (pCi/g) of total radium (Ra-226 + Ra-228).

#### Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters with attached Ludlum Model 44-10 2"x2" NaI Detectors (w/ 6" collimated lead shields).

Instrument serial number 127242 was last calibrated on July 28, 2020. The USEPA action level of 7.1 pCi/g total radium for this instrument is 7,013 counts per minute (cpm). The background count rate for this instrument was measured at 1,907 cpm.

Instrument serial number 126496 was last calibrated on October 18, 2019. The USEPA action level of 7.1 pCi/g total radium for this instrument is 7,102 cpm. The background count rate for this instrument was measured at 1,434 cpm.

#### Soil Gamma Scans – 397 E. Grand Avenue

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeters described above. Survey data was collected by entering the excavation and recording the highest count rate for the floor and walls to an excavation depth of 3.5 feet below ground surface.

Count rates of 34,000 cpm were identified at approximately 2.5 to 3.5 feet below ground surface in the sidewall of the excavation. See attached photograph.

Upon being notified of the elevated count rates, Glenn Huber called Verneta Simon at USEPA to discuss the potential contamination. Due to the location of the elevated count rates being limited to the sidewall, Ms. Simon issued verbal approval to proceed with excavation by screening each bucket as it was removed and to perform additional surveys while the vacuum truck was used. No elevated count rates were identified in any of the buckets removed from -3.5 feet to -7'.

The remainder of the excavation work was performed using a vacuum truck. In order to verify that no contaminated soil was present and to minimize the possibility that any contamination would be inadvertently loaded into the vacuum truck; surveys were performed in 6-inch lifts until the excavation reached its final depth of 9 feet below ground surface.

With the exception of the count rates exceeding the threshold limit in the sidewall, all other count rates ranged from 1,200 cpm to 3,400 cpm. No radiological contamination was excavated or handled at any time during the excavation process. See attached Radiation Survey Forms.

#### Soil Gamma Scans – 530 N. Fairbanks Ct.

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeters described above. Survey data was collected by entering the excavation and recording the highest count rate for the floor and walls to an excavation depth of 3.5 feet below ground surface. The remainder of the excavation from -3.5 feet to -9 feet below ground surface was performed using the vacuum truck. Surveys from -3.5 feet to -9 feet were performed by lowering the detector in the narrow excavation and recording the maximum count rate for each 18-inch lift.

All count rates ranged from 1,500 cpm to 1,900 cpm. No count rates were identified at this location which exceeded the instrument specific count rate thresholds of 7,013 cpm and 7,102 cpm, respectively.

#### Additional Monitoring

Due to the elevated count rates being identified at the 397 E. Grand Avenue location, additional surveys were performed to monitor for surface contamination.

A Ludlum Model 14C Survey Meter with attached Ludlum Model 44-9 G-M Detector were used to scan personnel and equipment which could have come into contact with potential contamination. All surveys were at background levels.

2 removable contamination smears were collected on the vacuum truck hose nozzle and exhaust vent. The removable contamination smears were analyzed on a Ludlum Model 2200 Scaler with attached Ludlum Model 43-10 Alpha Scintillation Detector. All

removable contamination was below the alpha removable contamination guideline of 33 dpm/100 cm<sup>2</sup>. See attached Equipment Survey Form.

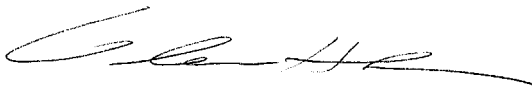
In addition to the surface contamination surveys, pre-excavation and post-excavation surveys were performed on the tank of the vacuum truck exterior. Both the before and after count rates were at background levels.

Regulatory Notification of Survey Completion

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

397 E. Grand Ave. – Exclusion Zone (34,000 cpm)



397 E. Grand Ave. Vacuum Truck



## Radiation Survey Form

Location/ Project ID: MEADE - LIGHT POLE REPLACEMENT (INTERSECTIONS OF GRAND + McCUMB; GRAND + FAIRBANKS)  
LOW RADIOLOGICAL SOIL SURVEY

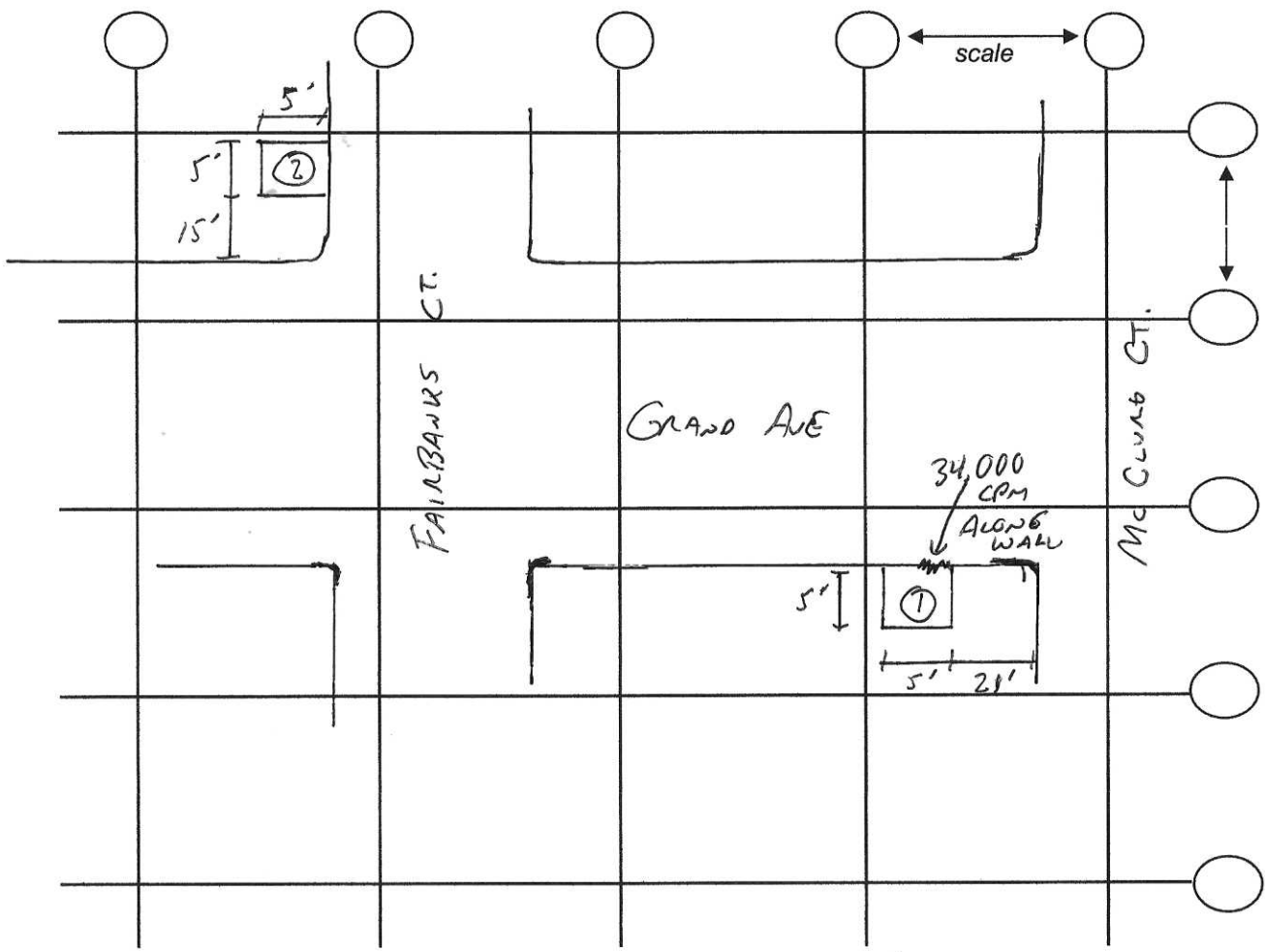
Date: 7/30-31/2020 Technician: BRIAN SCHMIDT

Inst Model: LUDLUM-2221 Serial No. : 126496

Probe Type: 1"x1" NaI / 2"x2" NaI Lift Elevation: 0-108"  
Shielded / Not Shielded

Background 1907 cpm Action Level: 7102 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: MEADE - LIGHT POLE REPLACEMENT EXCAVATION (INTERSECTIONS OF GRAND + McCLELLAN; GRAND + FAIRDAWNS)

Date: 7/30-31/2020 Technician: BRIAN SCHMIOT

Inst Model: LUDLUM-2221 Serial No.: 126496

Probe Type: 1"x1" NaI / ~~2"x2" NaI~~ Lift Elevation: 0-108"  
Shielded / Not Shielded

Background 1907 cpm Action Level: 7102 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	0-6"	1500			
	6-24"	1800			
	24-42"	1700			
	42-60"	34000	* ALONG NORTH WALL OF EXCAVATION		
(VAC TRUCK SWAYER PERFORMED w/ 10' CORO)	60-78"	1500	(B)		
	78-96"	1200	(B)		
	84-90"	3000	VAC TRUCK		
	90-96"	3300	↓		
	96-102"	3400			
	102-108"	2900			
	108-114"	2700	ESB @ 9'		
② (ALL SURVEYS PERFORMED w/ 10' CORO)	42-60"	1900	VAC TRUCK		
	60-78"	1700	↓		
	78-96"	1600			
	96-114"	1900			
	108-126"	1700			

CHECK SOURCE COMPARISON  
3' CORO - 146,889 cpm (1 MIN COUNT)  
10' CORO - 139,048 cpm (1 MIN COUNT)

VAC TRUCK LUDLUM-2221 w/2x2  
SURVEY BEFORE + AFTER  
(MAX VALUE)  
BEFORE: 1271 cpm  
AFTER: 1320 cpm

## Radiation Survey Form

Location/ Project ID: Fairbairns & Grand - Meade

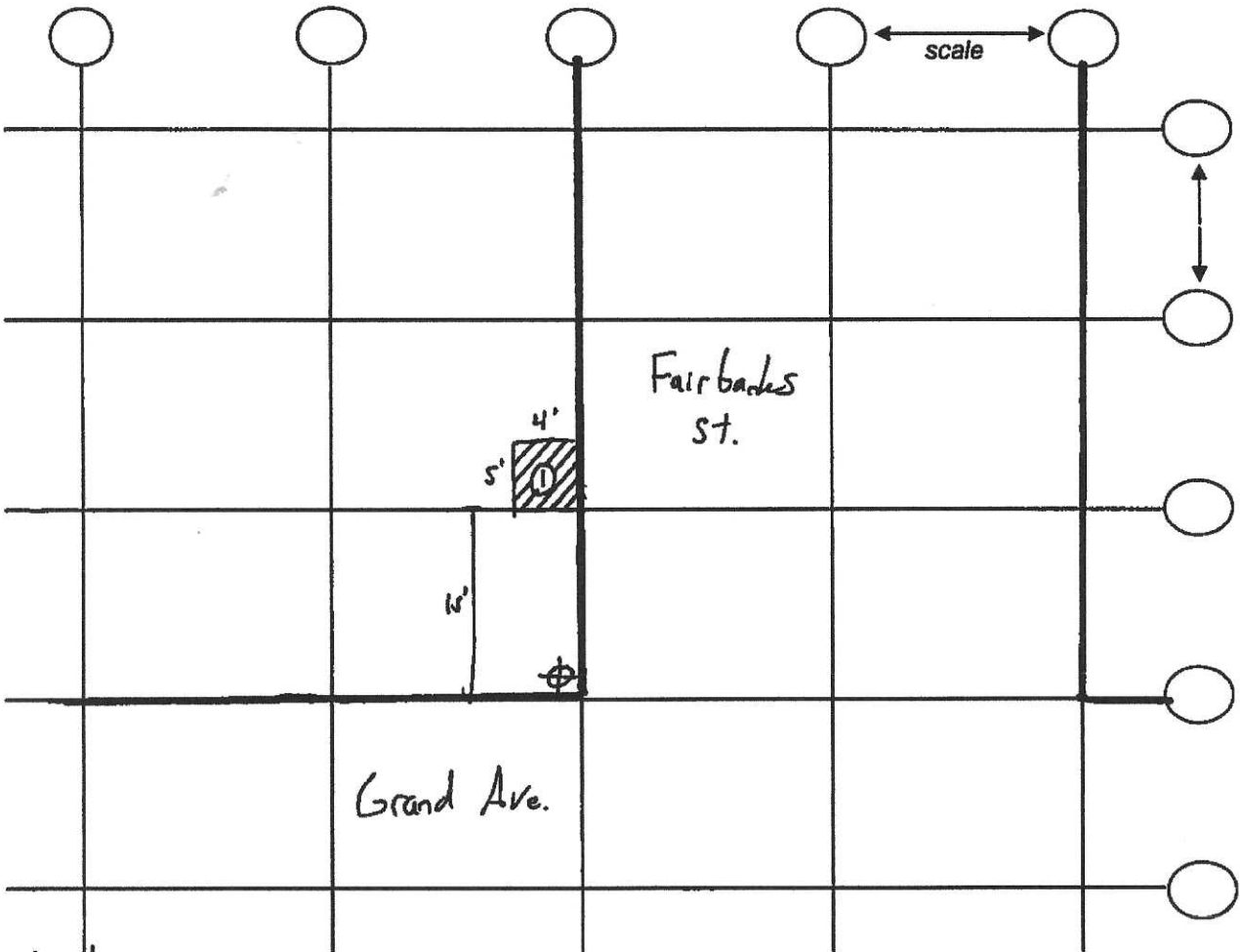
Date: 7/30/2020 Technician: Mark Oswald

Inst Model: Ludlum 2221 Serial No. : 127242

Probe Type: 1"x1" NaI / 2"x2" NaI Lift Elevation: 0-24"  
 Shielded  Not Shielded

Background 1434 cpm Action Level: 7013 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
0-6"	1500
6"-24"	1500
24"-42"	1800

