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 30, 2019

Paul Duncan
Western Utility Contractors, Inc.
2565 Palmer Ave.
University Park, IL 60466

RE: 500 N. Lake Shore Drive Thorium Monitoring 6/24/19 – 6/25/19
CDOT Permit # 1112727

Dear Mr. Duncan:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation of a fiber optic utility conduit trench at 500 N. Lake Shore Dr. (E. Illinois St. and N. Peshtigo Ct.) in Chicago, Illinois. The monitoring was performed by Glenn Huber (SAHCI Health Physicist) and John Hummel (RSSI Health Physicist) on June 24, 2019 and June 25, 2019.

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial no. 134542 and 126497) with attached Ludlum Model 44-10 2"x2" NaI Detectors (w/ 6" collimated lead shields).

Instrument serial number 134542 (used by Glenn Huber) was calibrated on August 6, 2018. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,262 counts per minute (cpm). The average background count rate at this location for this instrument was determined to be 1,534 cpm.

Instrument serial number 126497 (used by John Hummel) was calibrated on October 15, 2018. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,319 counts per minute (cpm). The average background count rate at this location for this instrument was determined to be 1,445 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 after each 18-inch lift and recording the highest count rate for the floors and walls to a maximum excavation depth of 36 inches below ground surface. All soil was 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 5,814 cpm. No count rates were found at any time that exceeded the instrument specific threshold limits of 6,262 cpm and 6,319 cpm, respectively.

Additional Monitoring

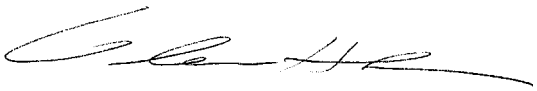
Since no count rates were identified above the 7.1 pCi/gram threshold limit, no additional soil sampling, air monitoring, or personnel monitoring were performed.

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 USEPA, 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

sahci
Stan A. Huber Consultants, Inc.

Radiation Survey Form

CDOT Permit #1112727

Location/ Project ID: Western Utility 500 N. Lake Shore Dr.(Peshtigo & Illinois)

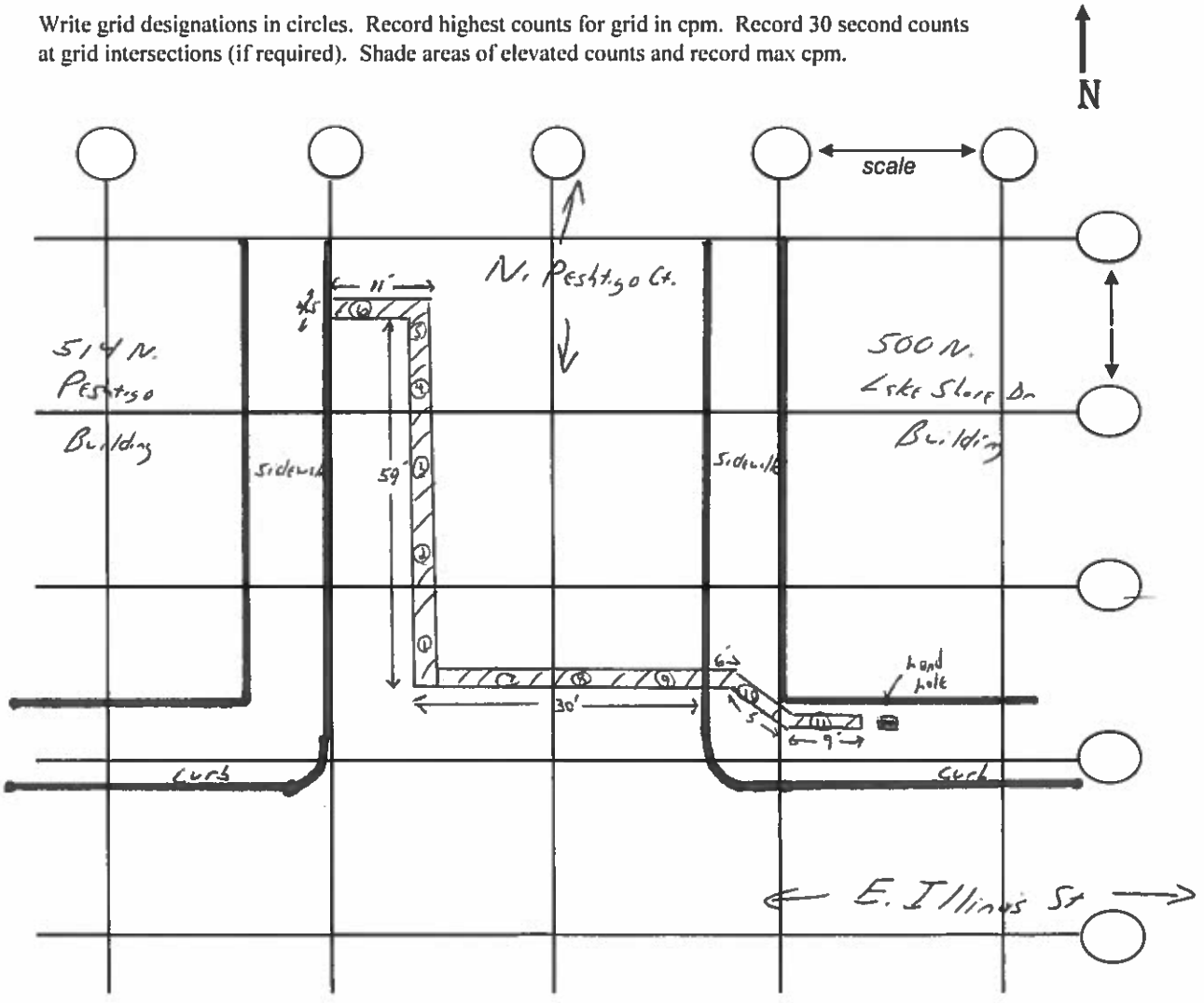
Date: 6/24/19-6/25/19 **Technician:** #7-#11 Glenn Huber / #1-#6 John Hummel

Inst Model: Ludlum 2221 **Serial No. :** 134542 / 126497

Probe Type: 1"x1" NaI (2"x2" NaI) (Shielded) Not Shielded **Lift Elevation:** surface -> -3' bgs

Background 1,534 / 1,445 **cpm** **Action Level:** 6,262/6,319 **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.



▨ = trench excavation (3.5'-4.5' wide)

See Attached Data Form

Radiation Survey Form - Field Data

Meter #1	Serial No.: 134542 Background: 1534 cpm 7.1 pCi/g Action Level: 6262 cpm
Meter #2	Serial No.: 126497 Background: 1445cpm 7.1 pCi/g Action Level: 6319 cpm

By: Glenn Huber (SAHCI) #1 , John Hummel (RSSI) #2
Dates: 3/9/19 - 3/14/19
Location: 5 500 N. Lake Shore Dr. (Peshtigo & Illinois)
CDOT Permit #1112727

Instrument ID: Ludlum Model 2221
w/ Ludlum Model 44-10 2" NaI (6" shield)

Location ID:	1
Date:	6/24/2019
Instrument ID:	2 JH
Depth	**CPM**
-12"	**3464**
-30"	**3630**

Location ID:	2
Date:	6/24/2019
Instrument ID:	2 JH
Depth	**CPM**
-12"	**4250**
-30"	**5120**

Location ID:	3
Date:	6/24/2019
Instrument ID:	2 JH
Depth	**CPM**
-12"	**4539**
-30"	**5814**

Location ID:	4
Date:	6/24/2019
Instrument ID:	2 JH
Depth	**CPM**
-12"	**4764**
-30"	**5327**

Location ID:	5
Date:	6/24/2019
Instrument ID:	2 JH
Depth	**CPM**
-12"	**4130**
-30"	**5351**

Location ID:	6
Date:	6/24/2019
Instrument ID:	2 JH
Depth	**CPM**
-12"	**4608**
-30"	**5147**

Location ID:	7
Date:	6/25/2019
Instrument ID:	1 GH
Depth	**CPM**
Surface	**1700**
-18"	**2200**
-36"	**3800**

Location ID:	8
Date:	6/25/2019
Instrument ID:	1 GH
Depth	**CPM**
Surface	**1900**
-18"	**2400**
-36"	**3900**

Location ID:	9
Date:	6/25/2019
Instrument ID:	1 GH
Depth	**CPM**
Surface	**1700**
-18"	**2200**
-36"	**2400**

Location ID:	10
Date:	6/25/2019
Instrument ID:	1 GH
Depth	**CPM**
Surface	**1600**
-18"	**2500**
-36"	**2900**

Location ID:	11
Date:	3/14/2019
Instrument ID:	1
Depth	**CPM**
Surface	**1600**
-18"	**2500**
-36"	**3200**