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

May 14, 2021

Abby Mazza
City of Chicago Department of Assets, Information and Services (AIS)
2 N. LaSalle St., Suite 200
Chicago, Illinois 60602-3704

RE: Radiation Monitoring – City of Chicago Department of Transportation
Former Carnotite Reduction Company Permit Hold Area
CDOT Permits: 1417830 (CDOT)
1428349 (ComEd)

Dear Ms. Mazza:

Stan A. Huber Consultants, Inc (SAHCI) was contracted to provide radiation monitoring for the City of Chicago Department of Transportation (CDOT) during excavation for the installation of a ComEd utility conduit and pole at the Former Carnotite Reduction Company (Carnotite) site in Chicago, Illinois. The potential radiological contaminants in the area surrounding the Carnotite site are uranium (U-234+U-235+U-238), thorium (Th-230), and radium (Ra-226). The surveys were performed as follows:

4/7/21 – 4/9/21	Brian Schmidt	Utility Trenching
4/12/21	Glenn Huber	Boring for Utility Pole Installation
4/14/21	Mark Dewald	Connection of Trench to Pole Excavation

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial nos. 132844, 127242, and 134542) with attached Ludlum Model 44-10 2”x2” NaI detectors (w/ 6” collimated lead shields). The instruments were calibrated on July 28, 2020. The Illinois Emergency Management Agency (IEMA) field action level (FAL) which would trigger additional monitoring and sampling is twice the average background count rate.

The average background count rates and FAL for the instruments were as follows:

Instrument ID	Background	FAL
Serial No. 132844	2812 cpm	5624 cpm
Serial No. 127242	1981 cpm	3962 cpm
Serial No. 134542	1540 cpm	3080 cpm

Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeters described above. Survey data was collected by entering the excavations after each 18-inch lift and recording the highest count rate for the floors and walls to a maximum excavation depth of 3 feet below ground surface. For the boring of the utility pole, surveys were performed on the generated spoils to a depth of 7 feet below ground surface. The soil excavated during the trenching operation was re-used as backfill after the conduit was installed. Excess soil from the utility pole boring was placed into 3 55-gallon drums which were relocated to the secured portion of the Carnotite site.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Forms. The count rates in the excavations ranged from 1,200 cpm to 4,700 cpm. No count rates were found at any time that exceeded the instrument specific FALs.

Additional Monitoring

Since no count rates were identified above the FALs, no additional soil sampling, air monitoring, or personnel monitoring were performed.

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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Radiation Survey Form

Location/ Project ID: CARNOTITE - CDOT - 26th + MLK Jr. Dr. - ELECTRICAL INSTALLATION - ROW RADIOLOGICAL SOIL SURVEY

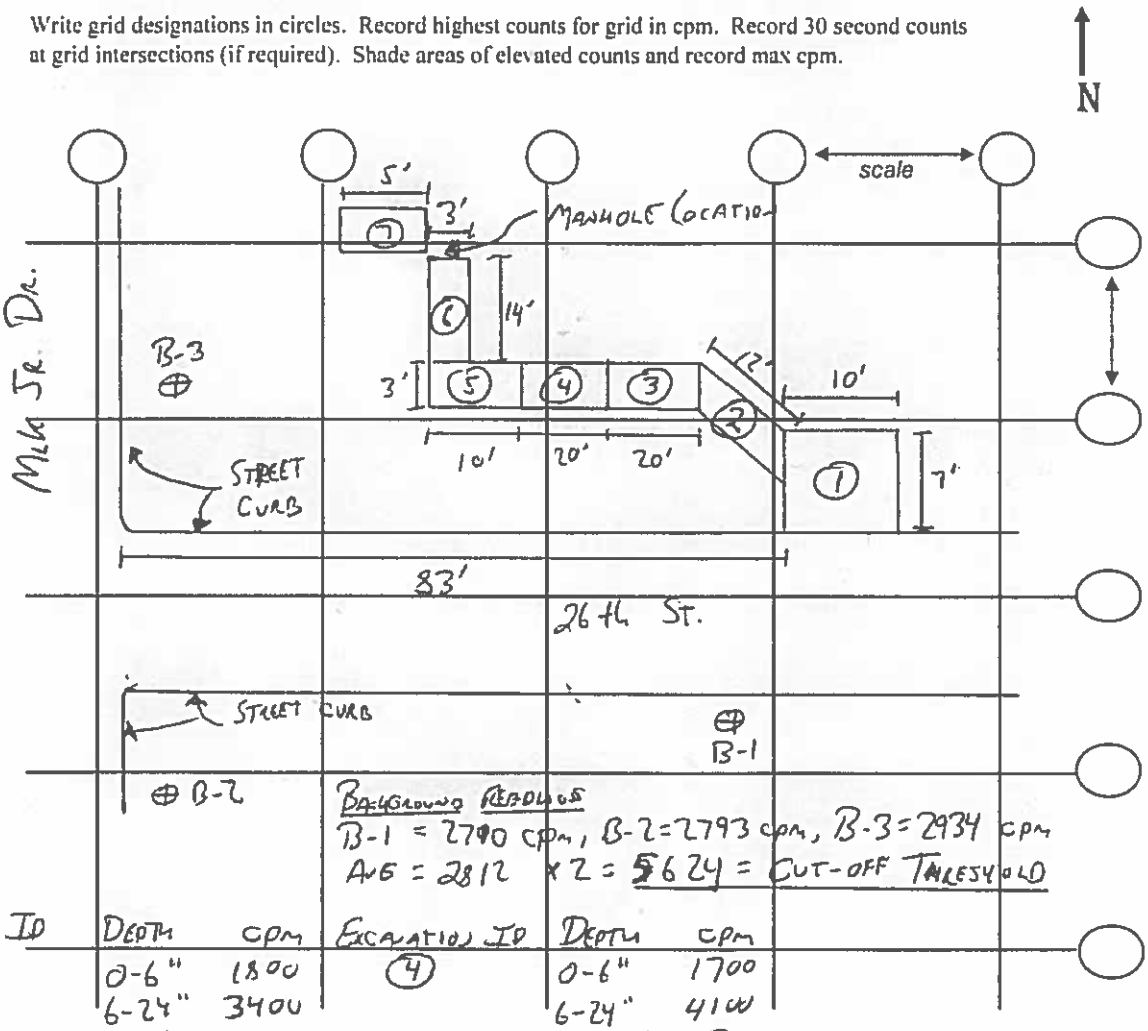
Date: 4/7-9/2021 **Technician:** BRIAN SCHMIDT

Inst Model: LUDLUM-2221 **Serial No. :** 132844

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

Background 2812 cpm **Action Level:** 5624 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.



BACKGROUND READINGS
B-1 = 2790 cpm, B-2 = 2793 cpm, B-3 = 2934 cpm
AVG = 2812 x 2 = 5624 = CUT-OFF THRESHOLD

EXCAVATION ID	DEPTH	cpm
1	0-6"	1800
	6-24"	3400
2	0-6"	1800
	6-24"	3700
	24-42"	3700
3	0-6"	1800
	6-24"	4000
	24-42"	4600
4	0-6"	1700
	6-24"	4100
	24-42"	4700
5	0-6"	1600
	6-24"	3400
	24-42"	3100
6	0-6"	1700
	6-24"	2100
	24-42"	2500
7	0-6"	1500
	6-24"	2400
	24-42"	2800

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Radiation Survey Form

Location/ Project ID: Carnotite: ComEd Boring for Pole Installation

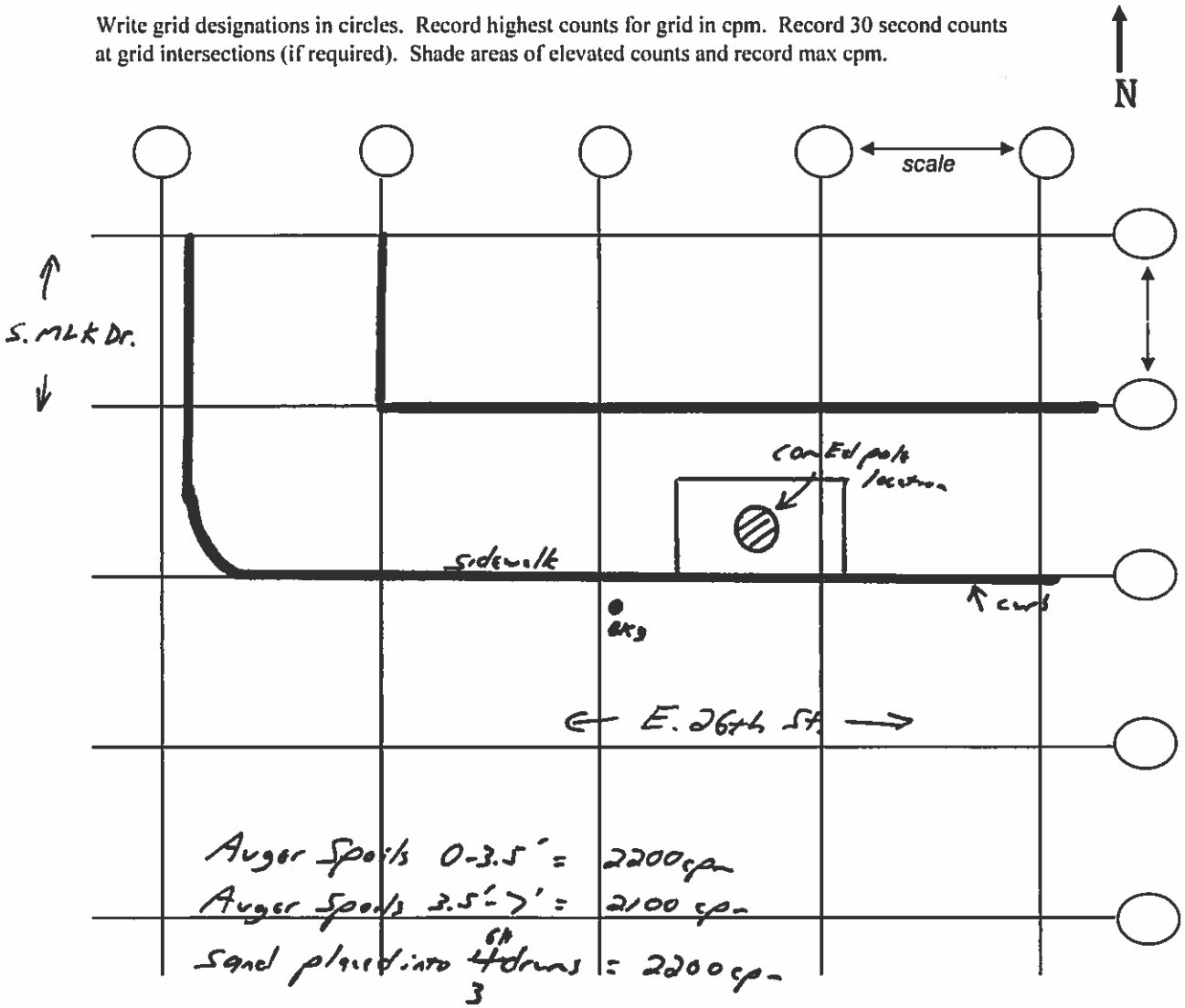
Date: 4/12/21 **Technician:** Glenn Huber

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

Probe Type: 1"x1" NaI / 2"x2" NaI
Shielded / Not Shielded **Lift Elevation:** Surface to -7' BGS

Background 1,540 **cpm** **Action Level:** 3,080 **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.



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Radiation Survey Form

Location/ Project ID: 26th - MLK Drive - CDOT

Date: 4/14/21 **Technician:** Mark Dewald

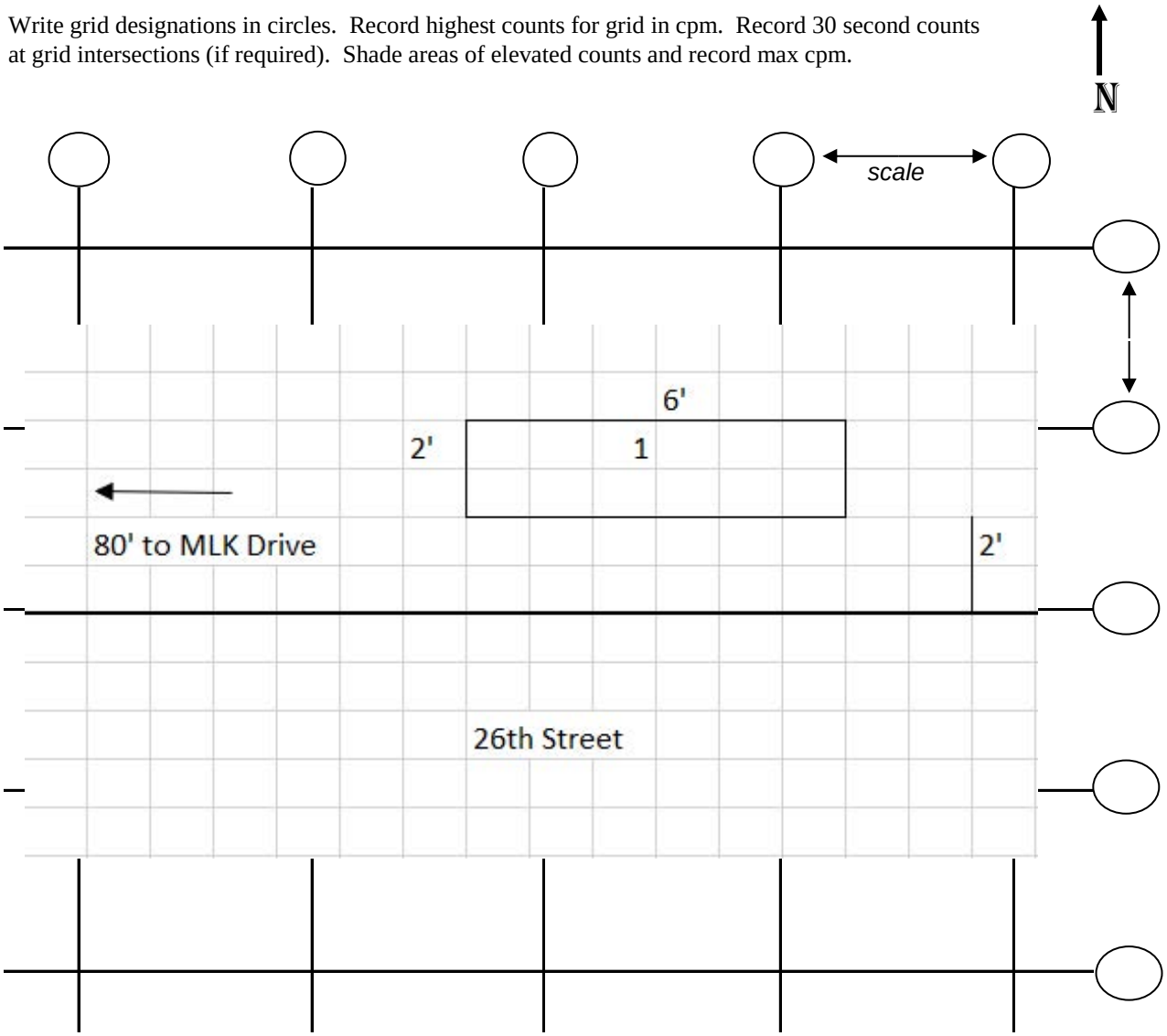
Inst Model: Ludlum 2221 **Serial No. :** 127242

Probe Type: 1"x1" NaI 2"x2" NaI **Lift Elevation:** Surface to -18" BGS

Shielded / Not Shielded

Background 1,981 **cpm** **Action Level:** 3,962 **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.



	0-18"	18-36"
Area 1	1200	1500