



June 23, 2023

983826

Nicole Andrade  
Pioneer Engineering & Environmental Services, LLC  
2753 West 31st Street,  
Chicago, Illinois 60608

RE: Thorium Monitoring at 400 N. Lake Shore Dr.  
Dig Ticket # 601376090

Dear Ms. Andrade:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the installation of 7 soil borings at 400 N. Lake Shore Dr. in Chicago, Illinois. The monitoring was performed by Jeremy Kieser, SAHCI Health Physicist, on June 21, 2023.

#### Instrumentation

Surface gamma scans were performed using a Ludlum Model 2221 Scaler / Ratemeter (serial no. 99147) with attached Ludlum Model 44-10 2"x2" NaI Detector (w/ 6" collimated lead shield). The instrument was last calibrated on May 9, 2023. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 5,987 counts per minute (cpm).

The background count rate for this location was measured as 2,034 cpm.

#### Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Survey data was collected by scanning the core samples that were collected by the Geoprobe from 0 to a maximum of 15 feet below ground surface (bgs).

The attached figure shows the boring location at the site. Survey data is recorded on the attached Radiation Survey Form. No count rates were found at any time that exceeded the threshold limit of 5,987 cpm.

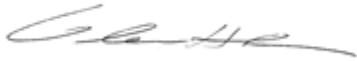
#### Additional Monitoring

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 (CDPH) 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.

A handwritten signature in black ink, appearing to read "Glenn Huber".

Glenn Huber, CHP  
President

# Radiation Survey Form

Date: June 21, 2023

Location: 400 North Lake Shore Drive, Chicago, IL 60611

Prepared for: Pioneer Engineering & Environmental Services, LLC

Survey performed by: Jeremy Kieser, SAHCI

CDOT Permit No: #601376090

Project Description: Boring cores were surveyed at seven different locations on site.

Cores were approximately 1inch in diameter and went to a maximum depth of approximately 15ft.

Instrument: Ludlum 2221, SN: 99147

Background: 2034 cpm

Action Level: 5987 cpm

Please see attached diagram for approximate core location.

Location 1:

depth (ft):	Result (cpm):
0-5	2000
5-10	2100
10-15	2000

Location 2:

depth (ft):	Result (cpm):
0-5	2300
0-5	1800
5-10	2100
10-15	2000

Location 3:

depth (ft):	Result (cpm):
0-5	2200
5-10	2100
10-15	1900

Location 4:

depth (ft):	Result (cpm):
0-5	2300
5-10	2100
10-15	2100

Location 5:

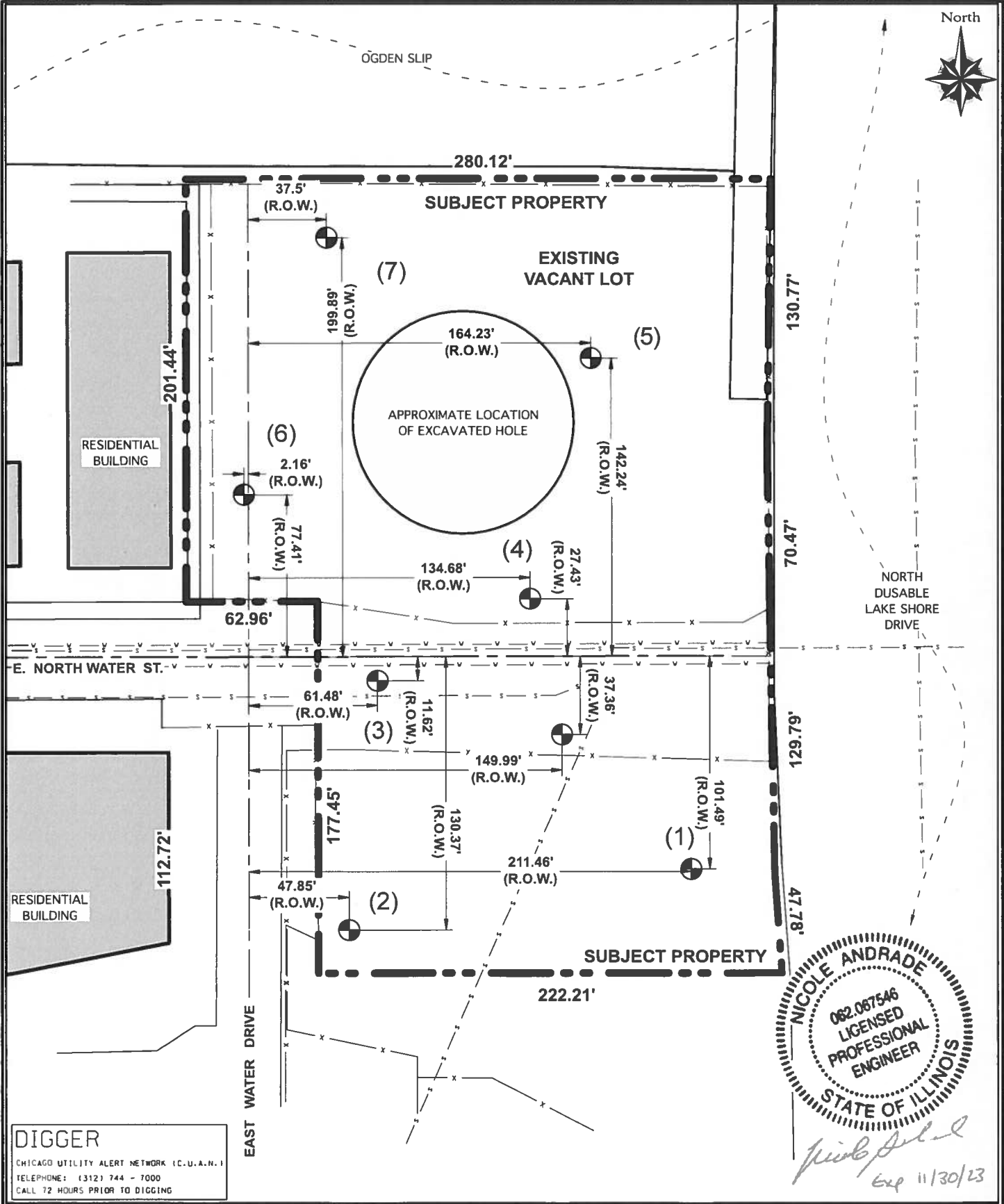
depth (ft):	Result (cpm):
0-5	2400
5-10	2600
10-15	2200

Location 6:

depth (ft):	Result (cpm):
0-5	2600
0-5	2300

Location 7:

depth (ft):	Result (cpm):
0-5	2300
5-10	2400



**DIGGER**  
 CHICAGO UTILITY ALERT NETWORK (C.U.A.N.)  
 TELEPHONE: (312) 744 - 7000  
 CALL 72 HOURS PRIOR TO DIGGING



Legend: Approximate Property Line

Fence Line — x —

Sewer Line — s — s —

Water Line — v — v —

Proposed Soil Boring Location (8 Total at 15' Depth)

Scale: 1" = 60'

0' ————— 60'

Job No.: 21-0438-103

DIG Ticket: 601313659

Date: March 2023

Checked by: Nicole Andrade

OUC No.: EFP-121410

**FIGURE 1**  
**Proposed Soil Boring Locations & Site Diagram**  
**400 North Lake Shore Drive**  
**Chicago, IL**