



March 2, 2017

Buddy Hix
Western Utility Contractors, Inc.
2565 Palmer Ave.
University Park, IL 60466

RE: Thorium Monitoring Report: 1-14 E. Hubbard St., 1-6 W. Hubbard St.,
400-449 N. State St.
CDOT Permit #750402

Dear Mr. Hix:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation for a conduit installation project at 1-14 E. Hubbard St., 1-6 W. Hubbard St., and 400-449 N. State St. in Chicago, Illinois. The monitoring was performed by Glenn Huber, SAHCI Health Physicist, and Brian Schmidt, SAHCI Health Physics Technician, on January 30, 2017 through February 9, 2017.

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaled / Ratemeters (serial no. 134542 and 126496) with attached Ludlum Model 44-10 2"x2" NaI probes (w/ 6" collimated lead shields).

Serial number 134542 was calibrated on August 8, 2016. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,338 counts per minute (cpm).

Serial number 126496 was calibrated on October 14, 2016. The USEPA action level of 7.1 pCi/g total thorium for this instrument is 7,029 cpm

The average background count rate for this location was determined to be 1,704 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 excavation after each 18-inch lift and recording the highest count rate for the floors and walls to an excavation depth of 36 inches. 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 4,300 cpm. No count rates were found at any time that exceeded the threshold limits of 6,338 cpm and 7,038 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.

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 'G. Huber', with a long horizontal flourish extending to the right.

Glenn Huber, CHP
President

Radiation Survey Form

Location/ Project ID: Western Utility Contractors (1-14E Hubbard, 1-6W Hubbard, 400-449 N Street)

Date: 1/30/17 - 2/9/17

Technician: Glenn Huber

Inst Model: Ludlum 2221

Serial No.: 134542

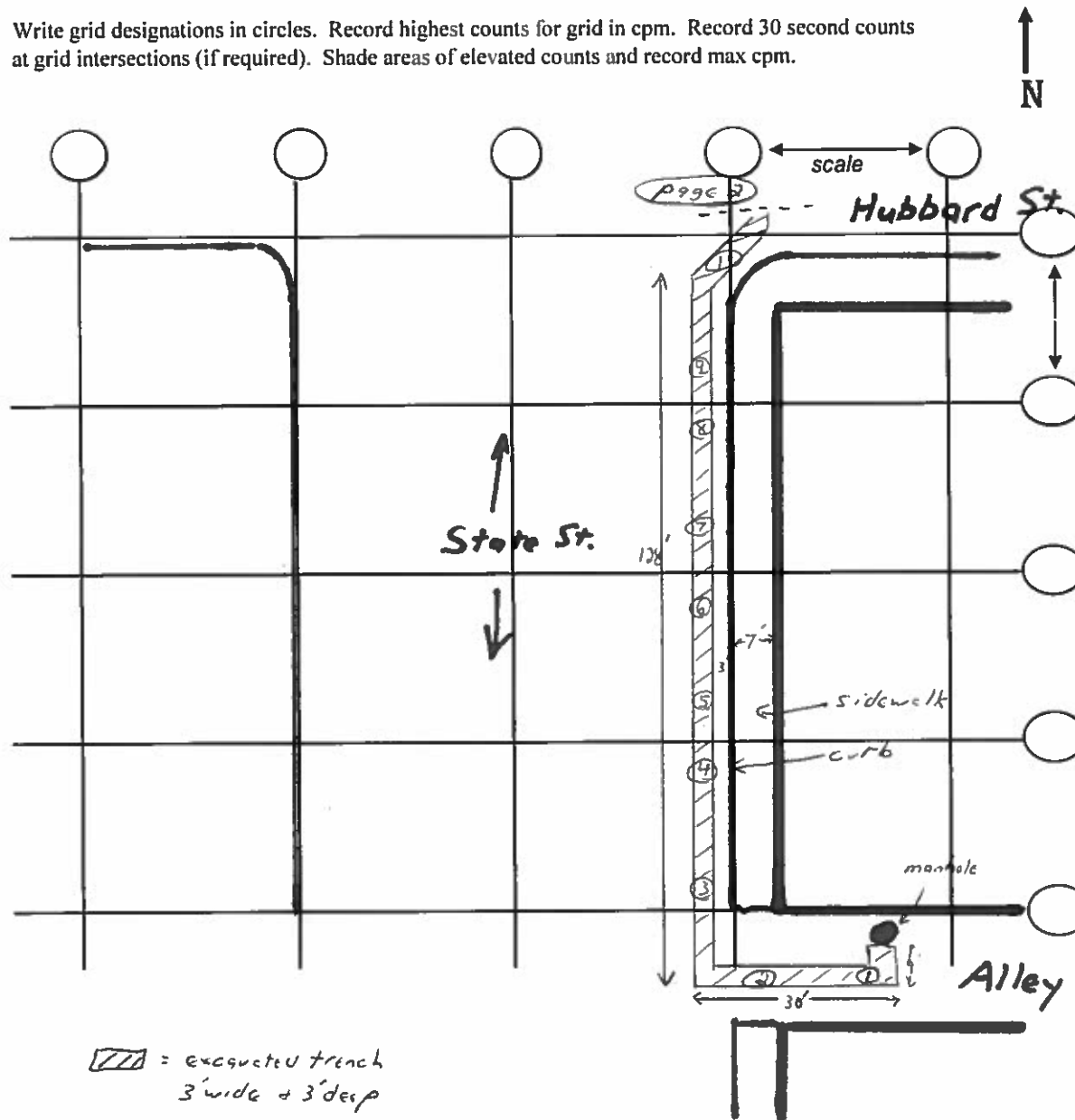
Probe Type: 1"x1" NaI 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: surface → -3'

Background 1704 cpm

Action Level: 6338 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.



= excavated trench
3' wide + 3' deep

Krate $\frac{1}{2}$ block to South
↓

Radiation Survey Form

Location/ Project ID: Western Utility Contractors (1-14 E. Hubbard, 1-6 W. Hubbard, 400-449 N. State St,

Date: 1/30/17-2/9/17 Technician: Glenn Huber

Inst Model: Lo/In 2221 Serial No.: 134542

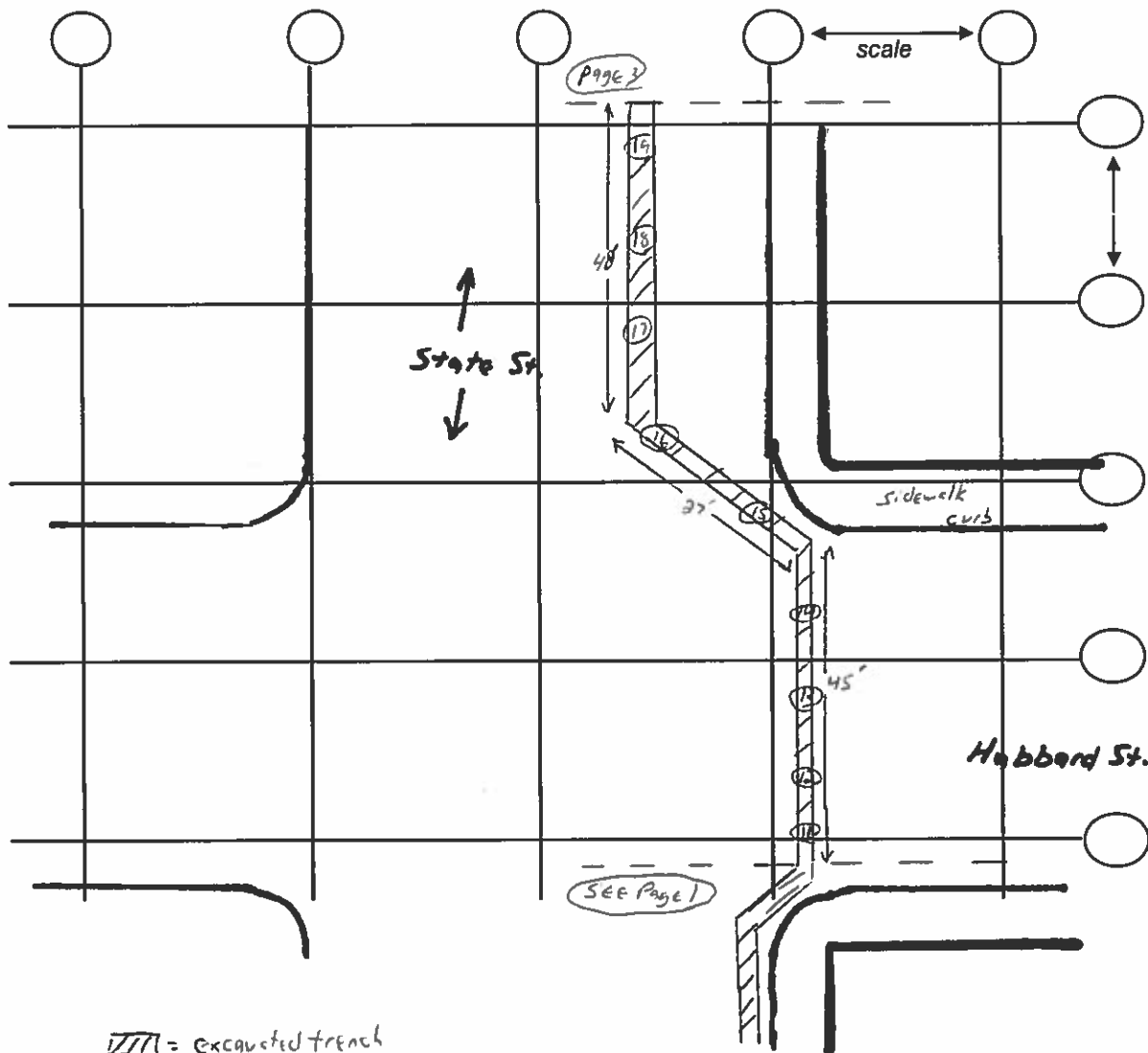
Probe Type: 1"x1" NaI / 2"x2" NaI
Shielded / Not Shielded

Lift Elevation: surface → -3'

Background 1704 cpm

Action Level: 6338 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.



||||| = excavated trench
3' wide x 3' deep

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Radiation Survey Form

Location/ Project ID: Western Utility Contractors (1-14 E Hubbard, 1-6 W. Hubbard, 400-449 N. State)

Date: 1/30/17 - 2/9/17

Technician: Glenn Huber / Brian Schmidt
(20-29) (30-33)

Inst Model: Lucika-2221

Serial No.: 134542 / 126496

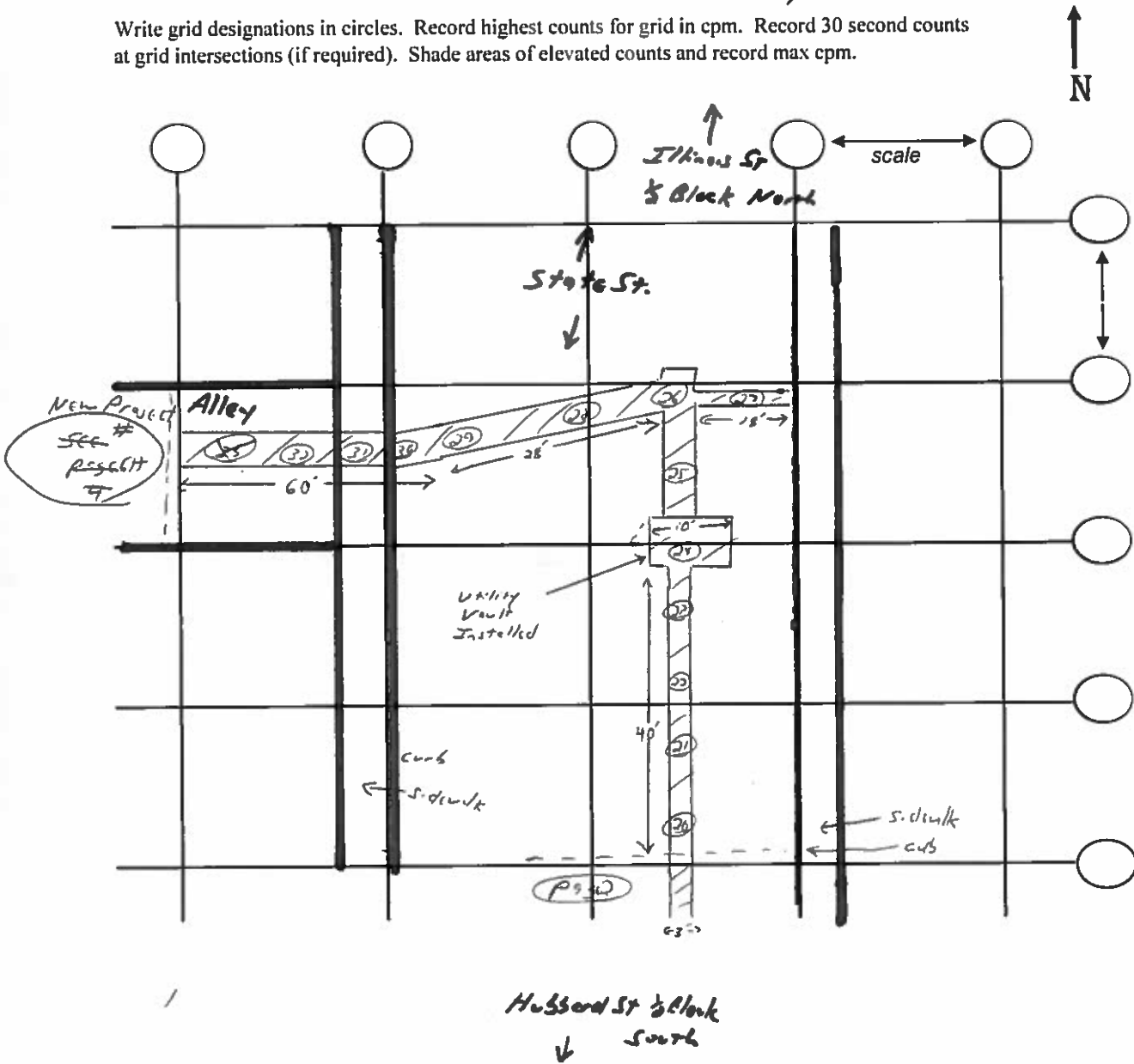
Probe Type: 1"x1" NaI (2"x2" NaI)
Shielded / Not Shielded

Lift Elevation: surface → -3'

Background 1704 cpm

Action Level: 6338 / 7019 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.



Western Utility Contractors (Permit #750402)

1-14 E. Hubbard St., 1-8 W. Hubbard St., 400-445 N. State St.

1/31/17 - 2/9/17

Area 1	Counts per minute (CPM)
surface	2100
-1.5'	1900
-3.0'	2200

Area 2	Counts per minute (CPM)
surface	2000
-1.5'	2000
-3.0'	2200

Area 3	Counts per minute (CPM)
surface	1900
-1.5'	2200
-3.0'	2100

Area 4	Counts per minute (CPM)
surface	1800
-1.5'	1900
-3.0'	2000

Area 5	Counts per minute (CPM)
surface	2000
-1.5'	2200
-3.0'	2100

Area 6	Counts per minute (CPM)
surface	1700
-1.5'	1900
-3.0'	2200

Area 7	Counts per minute (CPM)
surface	2200
-1.5'	2600
-3.0'	2800

Area 8	Counts per minute (CPM)
surface	2000
-1.5'	2700
-3.0'	3900

Area 9	Counts per minute (CPM)
surface	2200
-1.5'	2800
-3.0'	3800

Area 10	Counts per minute (CPM)
surface	2100
-1.5'	3200
-3.0'	3800

Area 11	Counts per minute (CPM)
surface	2300
-1.5'	3900
-3.0'	4400

Area 12	Counts per minute (CPM)
surface	2100
-1.5'	3900
-3.0'	4100

Area 13	Counts per minute (CPM)
surface	1800
-1.5'	2500
-3.0'	2700

Area 14	Counts per minute (CPM)
surface	1800
-1.5'	2600
-3.0'	2800

Area 15	Counts per minute (CPM)
surface	1600
-1.5'	1800
-3.0'	2700

Area 16	Counts per minute (CPM)
surface	1500
-1.5'	2100
-3.0'	1800

Area 17	Counts per minute (CPM)
surface	1700
-1.5'	1900
-3.0'	2400

Area 18	Counts per minute (CPM)
surface	2700
-1.5'	2100
-3.0'	2300

Western Utility Contractors (Permit #750402)

1-14 E. Hubbard St., 1-8 W. Hubbard St., 400-445 N. State St.

1/31/17 - 2/9/17

Area 19	Counts per minute (CPM)
surface	1600
-1.5'	2100
-3.0'	2300

Area 20	Counts per minute (CPM)
surface	1800
-1.5'	2200
-3.0'	2500

Area 21	Counts per minute (CPM)
surface	2000
-1.5'	2300
-3.0'	2700

Area 22	Counts per minute (CPM)
surface	1900
-1.5'	2300
-3.0'	2600

Area 23	Counts per minute (CPM)
surface	1800
-1.5'	2200
-3.0'	2500

Area 24	Counts per minute (CPM)
surface	1800
-1.5'	2100
-3.0'	2600

Area 25	Counts per minute (CPM)
surface	2000
-1.5'	2200
-3.0'	2100

Area 26	Counts per minute (CPM)
surface	1800
-1.5'	2100
-3.0'	2400

Area 27	Counts per minute (CPM)
surface	1700
-1.5'	2000
-3.0'	2500

Area 28	Counts per minute (CPM)
surface	1700
-1.5'	2200
-3.0'	2600

Area 29	Counts per minute (CPM)
surface	1900
-1.5'	2300
-3.0'	2500

Schmidt Area 30	Counts per minute (CPM)
surface	2100
-1.5'	2400
-3.0'	2600

Schmidt Area 31	Counts per minute (CPM)
surface	2700
-1.5'	3400
-3.0'	3800

Schmidt Area 32	Counts per minute (CPM)
surface	3200
-1.5'	4100
-3.0'	4300