

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

February 4, 2017

Matt Welton Western Utility Contractors, Inc. 2565 Palmer Ave. University Park, IL 60466

RE: 0 - 36 W. Illinois St. Thorium Monitoring 1/19/17 - 1/24/17

CDOT Permit #745452

Dear Mr. Welton:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation for a fiber optic conduit installation at 0-36 W. Illinois St. in Chicago, Illinois. The monitoring was performed by Steven Kowalczyk and Brian Schmidt, SAHCI Health Physics Technicians, on January 19, 2017 through January 24, 2017.

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaled / Ratemeters (serial no. 126496 and 127242) with attached Ludlum Model 44-10 2"x2" Nal probes (w/ 6" collimated lead shield).

Serial number 126496 was calibrated on October 14, 2016. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 7,029 counts per minute (cpm). The average background count rate for this instrument at this location was determined to be 1,807 cpm.

Serial number 127242 was calibrated on August 8, 2016. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,738 counts per minute (cpm). The average background count rate for this instrument at this location was determined to be 1,993 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 a maximum excavation depth of 38 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 3,700 cpm. No count rates were found at any time that exceeded the threshold limits of 6,738 cpm and 7,029 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.

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Glenn Huber, CHP

President

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Radiation Survey Form Location/ Project ID: 0-36 W. FLLINGIS ST. - UTILITY LA STALLATION - ROW RAD SHOWEY - CHICAGO, IZZ Technician: BRIAN Soun, ot Date: 1/19-20/2017 Serial No.: _ 126496 Inst Model: Luncum - 2221 Lift Elevation: 0-36" Probe Type: 1"x1" Nal 2"x2" Na) Shielded / Not Shielded 1807 Action Level: 7029 Background 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. N scale 201 STREET CURB #B-1 PEARBAN ST. EXCANATION # DEPT4 cpm DEDIL CPM EXCAMPTION # 1800 0-12" 1900 0-12" 12-30" 2400 12-30.1 2500 30-48" 2900 30-484 7800 36-54" 2500 36 - SY " 3400 1900 0-12" \bigcirc 2100 1 0-124 12-39 2600 12-30" 27 00 30-48 3200 30-48" 3100 36-54" 7800 36-54" 3200 \odot 0-12" 1700 1600 12-30" 0-12' 2600 (3) 12-30" 30-48" 2900 3300 30-48" 3200 26-54" 2900 3700 36-54" 0-12" 2300 (4) 0-12" 12-30" 1900 A) 2600 12-30" 2300 30-48" 7800 30-48" 2400 36-54 " 3000 36-54 2700 0-12" 3 2100 0-121 2000 (10) 12-30" 2500 2100 12-30" 30-48" 2700 30-48" 7900 2700 7.800

B-1 = Bazy GROUND = 1807 CPM (IMW COUNT)

STREET

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Radiation Survey Form

Location/ Project ID: Western Utilities Illinois St.	
Date: 1/23/17 - 1/24/17 Technician: Steven Konalczyk	
Inst Model: <u>Ludlum 2221</u> Serial No.: <u>127242 Prote SN: 168144</u>	
Probe Type: 1"x1" Nal /2"x2" Nal Shielded / Not Shielded Lift Elevation:	
Background 1993 cpm Action Level: 6,738 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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Illinois St.	o ′
45'	
(1) (3) (4) (5) (7)	
222"	
Fremen Bohemian House Sniehers Bar + Grill (2)	
(1) - 20' long (2) - 20' long (13) - 20' long	
Sufau-1800 Sufau-1900 Sufau-2100	
18" - 2400 13" 2300 18" - 2700 36" - 2600 36" 2200 36" - 3000	Ĝ.
38" - 2460	
14 - 20' long (15) - 20' long (16) - 17' long Surface 2100 Surface 1900 Surface 1900	
18"-2600 18"-2100 18"-2/40	
36"- 3200 36"- 2700	,
38" - 2700	