

### 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

April 21, 2022

Angel Camacho SET Environmental 450 Sumac Road Wheeling, Illinois 60090

RE: Thorium Monitoring – City of Chicago Department of Transportation (CDOT)

CDOT Permits: 1574632 - 550-639 N. McClurg Ct.

1578685 – 120-211 E. Erie St. 1578702 – 400-461 E. Erie St.

Dear Mr. Camacho:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation for installation of residential lighting improvements at the addresses listed above. The initial monitoring which included concrete removal and helix pole base installations was performed by Mark Dewald, SAHCI Health Physics Technician, on April 4 – April 7, 2022. The next phase which involved excavating pits for horizontal borings was performed by Brain Schmidt on April 11 – April 15, 2022. All activities were conducted under the guidance of document *SET General Procedure for Thorium Monitoring*.

On April 12, 2022, a People's Gas line was impacted during the horizontal boring operation. Brian Schmidt stayed onsite to perform monitoring of the excavation and stockpile of material after the emergency repairs were completed by People's Gas. A separate survey form is included as part of this report that details that excavation.

#### Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial no. 126497 and 127242) with attached Ludlum Model 44-10 2"x2" Nal Detectors (w/ 6" collimated lead shields). The instruments were calibrated on May 5, 2021. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for instrument 126497 is 6,383 counts per minute (cpm) and 6,995 cpm for instrument 127242.

The average background count rate for these locations ranged from 1,481 cpm to 1,811 cpm.

#### Soil Gamma Scans

Gamma surface scans were performed in the excavations using the Ludlum Model 2221 Scaler / Ratemeters detailed above. Survey data was collected by lowering the detector into the narrow excavation and recording the highest count rate for the floor and walls to a maximum excavation depth of 30 inches below ground surface. All concrete and soil were loaded directly into a truck for disposal.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Forms. The count rates in the excavations ranged from 900 cpm to 4,500 cpm. The slightly elevated count rates in some excavations are likely due to the poor survey geometry of the narrow trench. No count rates were found at any time that exceeded the threshold limits of 6,383 cpm and 6,995 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.

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.

Classe

Glenn Huber, CHP

President

Page	o.€	
rage	 OI	



## Radiation Survey Form

Location/ Project ID: John Burns-Lake Shore Drive & Erie St. City Lights Install

Technician: Mark Dewald **Date:** 4/4-7/22 Ludlum 2221 Inst Model: Serial No.: 127242 Lift Elevation: Surface to -30" BGS Probe Type: 1"x1" Nal 2"x2" Nal Not Shielded Shielded Action Level: 6,995 1,481 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. scale Ene St. 162 13/1 92 'אַל 100 (2)

Page		of
	$\overline{}$	



# Radiation Survey Form

Location/ Project ID: John Burns-Lake Shore Drive & Erie St. City Lights Install

Date: 4/4-7/22				Technicia	an: Mai	ck Dewa	ld			
Inst N	Model: Ludlum 2221				Serial No. : 127242					
Probe	Type:	1"x1" Nal	2"x2" Na Not Shield		Lift Elevation: Surface to -30" BGS					
Backg	round1		cpm		Action Level: 6,995 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.								1		
		(		(			→ sca	le →(	N	
	i i	0-6"	6-24"	6-30"	i i	0-6"	6-24"	6-30 <sup>H</sup>	† ↓	
	Area 1	1400	1700	NA	Area 14	1300	2000	NA		
	Area 2	1400	1600	2600	Area 15	1400	1800	2900		
	Area 3	1600	1800	NA	Area 16	1300	2000	2100		
	Area 4	1500	1900	NA	Area 17	1200	1800	2600		
	Area 5	1300	1600	NA	Area 18	1500	2600	NA	1	
	Area 6	1300	1700	2900	Area 19	1500	2900	NA		
	Area 7	1900	1900	NA	Area 20	1300	2000	2300		
	Area 8	900	1800	NA	Area 21	1300	2200	2400	1	
	Area 9	1500	1600	NA	Area 22	1500	1700	2300		
	Area 10	1500	1900	2300	Area 23	1300	1800	NA		
	Area 11	1600	2500	NA	Area 24	1700	1800	NA	]	
	Area 12	1500	2800	NA	Area 25	1100	1800	NA		
	Area 13	1300	1700	NA	Area 26	1300	2300	NA		

			2
Page	1	of	<b>)</b>



		Rac	มเสนเด	n Sur	vey ro	orm	<b>.</b>	an R
_ocation/ Pr	oject ID:	JOHA BUA	15 - CI	ry 6104+	/w97466 =	0410 +Mc	(LVA 6 - 1	geow gen Sein
Location/ Pr Date:니	111-15/2	2012		Technic	cian:	BAIAN !	Scymiot	_
nst Model:	Lugue	- 2221		Serial N	lo. :	12649	٦	
Probe Type:		I / 2"x2" N / Not Shie		Lift Elev	vation: _	0-24	<b>M</b>	
Background	1811	cpm		Action Le	vel: _6	3 <i>8</i> 7 cp	m	
Write grid design	ations in circ	les. Record	highest cou	ints for grid	in cpm. Re	cord 30 second	counts	<b>†</b>
at grid intersectio	ns (if require	d). Shade ar	eas of eleva	ated counts a	and record n	nax cpm.		 
		$\overline{}$	,	$\frown$	,			N
$\bigcup_{\alpha \in \mathcal{A}} \sigma_{\alpha}$	L10 ST.		(	$\mathcal{C}$	(	→ <del>scal</del>	<u>•</u> → ( )	
٨١٨		2' 7'						
		<b>—</b>	T.3'	<u>I</u> 0	DEPTH	CPM		$\neg \checkmark$
5	T. CUABT	0	13	<u> </u>	0-6"	2100		Ţ
	- •		497		6-24" 24-41'	3200		Ţ
			1 43	(2)	0-6"	7000		
		(4)	5'		(-24"	3000		
			<b>T</b>	3	24-42.	1900		
		' '		3	6-27"			
		aΠ	T < 1		24-42"	7000		
	· · · · · · · · · · · · · · · · · · ·		1, 6	4)	0-6"			$-\bigcirc$
		1.3	٦3′ ر		6-24"	2700		
			1,3		24-45	3300		
		வி	t . 3	<b>⑤</b>	0-6" 6-74"	7300	j	
		(3)	5		- 01		-	( )
			† -	1	24-45,	3,00	ļ	
		'''	49'	ļ			ŀ	
			141			_		
			<u> </u>	1 7	-0	Dain Spo.	LS (MAK)	
		ΙПΙ	T 8'	1	1)	3100		
) ,		<del>'\\</del>	+ 7		ð	2900		
ST. CULO	٧. س	ا ئىسىلىد	16'		D D	2800		
	<u> </u>		T	Ç	2			
	<del> </del>	2, 1,2		Ġ	) 9	27 <i>00</i> 2 <b>7</b> 00		
Outo	St.			(	5)	2100		
Ouro	- ( \							



Radiation Survey Form Location/ Project ID: John Brans - City LIGHT INSTALL - EALE + St. Chair - Now RADIOLOGICAL Joil Shorty Date: 4/11-15/2022 Technician: Bridge Schmidt Inst Model: Lucun - 2221 Serial No.: /26497 Lift Elevation: \_\_\_\_\_O-24 " Probe Type: 1"x1" Nal / 2"x2" Nal Shielded / Not Shielded Action Level: 4383 cpm 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 ENIE ST. scale Ho (1) (1) Dana Sporer CPM 2400 2200 2700 6.27" 6.24" 3100 3100 2900 4000 3500 3500 2300 2400 3100 2500 2800 3000 3500 3300 2000 2600 2700 3200 3400 3500 3500 24-724 3100 2100 2100 1900 2200 2300

2600

2400



Radiation Survey Form

Location/ Project ID: JOHN BULLS - LANE SHOPE DR + GALEST - CITY LIBRITS LUSTALL - ROW RADIOLOGICAL

SURVEY Technician: BRIAN Sobalot Date: 4/11-15/2022 Inst Model: Lucian - 2721 Serial No.: /26497 Probe Type: 1"x1" Nal / (2"x2" Nal) Shielded / Not Shielded 1811 Action Level: 6383 cpm 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. scale ST. CUAB 18 100 ERIE **S**+. Dept4 С<u>Рм</u> MILL SPOIS (MOS DEPTH CPM 2200 2100 3200 6.54" 6-54" 37 00 2700 3700 4500 24-42 24-42" 3100 2600 2200 2200 (19) 3300 3000 4000 3700 4300 2600 2400 1800 3300 3700 2600 4300 24-724 3100 2900 7600 2100 2700 3300 3200 3500 4300 1900 2500 2700

		)
Page	 of _	



Radiation Survey Form Location/ Project ID: PEOPLE'S GAS - EMERGENCY GAS SERVICE REPAIR - ERIEST. - ROW RADIOCOFICAL Technician: Bulan Schniot 4/12/22 Date: \_ Inst Model: / Jaun - 2221 Lift Elevation: 0-36" Probe Type: 1"x1" Nal / ("x2" Nal Not Shielded Action Level: 6383 cpm 1811 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. scale Erie. St. 93 CHA