

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 23, 2016

Mike Lanenga SET Environmental 450 Sumac Road Wheeling, IL 60090

RE: 201 – 485 Chicago Riverwalk Thorium Monitoring

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc. (SAHCI) was hired by your firm to provide radiation monitoring during the excavation and installation of manholes and duct banks along the Riverwalk adjacent to Lower Wacker Drive in Chicago, Illinois. The monitoring was performed on May 11 – May 17, 2016. All activities were conducted under the guidance of document *SET General Guidance for Thorium Monitoring.*

Instrumentation

Surface gamma scans were performed by Kyle Smith and Brian Schmidt using a Ludlum Model 2221 Scaled / Ratemeter (serial no. 126496) with attached 2"x2" Nal probe with 6" lead shield. The instrument was calibrated on October 15, 2015. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 7,054 counts per minute (cpm).

The average background count rate for this location was found to be 2,106 cpm.

Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. 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 3 feet. Soil removed beyond 3 feet deep to a maximum depth of 6.5 feet was screened as it was removed from the excavation. Directional borings were used for much of the work. For these locations, any generated spoils were screened as they were generated.

The maximum gamma count rate for each 1.5 foot lift was recorded on the attached Radiation Survey Forms. The count rates in the excavation ranged from 1,400 cpm to 5,300 cpm. No count rates were found at any time that exceeded the threshold limit of 7,054 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.

You will need to forward a copy of this report to the City of Chicago Department of Public Health (Attn: Rahmatunsia Begum) with the CDOT Permit Number in the subject line. Additionally, a copy of this report should be submitted to 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.

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Glenn Huber, CHP President

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	sahci								
	Stan A. Nuber Counsultants, Inc. Dediction Suprov Form								
	Stan & Buber Counsultants, Inc. Radiation Survey Form Location/ Project ID: Riverware - Electrical Service Instaliation - GuigaGo, FL								
		CILICAC > CI	n r						
	Date:		BRIAN SCHMIDT						
	Inst Model: Luoum -7221	Serial No. :							
	Probe Type: 1"x1" Nal 2"x2" Nal Shielded / Not Shielded	Lift Elevation	n: <u>0-78</u> "						
	Background 7-106 cpm	Action Level: _	7054 cpm						
	Write grid designations in circles. Record highest cou at grid intersections (if required). Shade areas of elev	ants for grid in cpm. ated counts and reco	Record 30 second counts ord max cpm.						
	φ φ	9							
	8'7' (1) (2)	1737	I'm PAD						
	STREET IS' III O	LOWER.	INLACINER. PR.						
LBACK	SROWER T AREA T	AREA PREN Scheened S/11/16	UNY CONTRACT						
G	PEPTH OPM (COMMENTS)	2 4	DEPT2 CPM 2-6" 1400 (CONVETE) -24" 1800 GAAVEL 14-42" 2000 FILL 2-60" 1900						
C) <u>DEPth</u> <u>CPM</u> 0-6" 3000 (concrete) 1-24" 39 00 24-42" 46 00 42-60" 4600 42-60" 5100 78-96" 4800	L.	24" 2100 (GOWINETE) -24" 2400 4-24" 3100 42-60" 3300						

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Stan A. Nuber Gounsultants, Inc. Radiation Survey Form	
Location/ Project ID: RIVERWALK - DIRECTION AL BORING - ELEC	TAICAL SEAVICE INSTALL - GAILOGO
Date: $5/13-17-2016$ Technician: $BRIAN$	The Science of
Inst Model: Lupum - 222.1 Serial No. : 12649	
Probe Type: 1"x1" Nal / 2"x2" Nal Lift Elevation:	56
Background 2106 cpm Action Level: 7054	cpm
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 set at grid intersections (if required). Shade areas of elevated counts and record max cpm.	cond counts
φ φ φ φ	scale
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PARTY BAR	50
BILLE REISTAL STOLAUE - ME	JAGAN KAYAN
BINE/ PEDESIN AND BAN TILIVEN	REITRANAR
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INSTALLED ON 5/11/16	
CX CX4 X S OP FXCAVATION SUAFAC	RE SCAN OF
C-CNATION 0-18"- 2900 DISTUI	KAED Sour= 500 Cpm
36-34	
36-54"- 5300	
(4) 2'x4'x3'bgs	
(4) Excavation 7.500 0-18"- 7.500 18-36"- 3100 18-36"- 3500	
18-36-54- 3500	



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Radiation Survey Form

Location/ Project ID:

Date:	5/11/2010	0	Technician:	KYUE SMITH		
Inst Model: ଅନ୍ମମ୍ଭା		1	Serial No. : <u>126497</u>			
Probe Type: 1"x1" Nal (2"x2" Nal Shielded // Not Shielded			Lift Elevation: <u>O 4'</u>			
Background <u>2,258</u> cpm			Action Level: <u>6، 6۱۶</u> 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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	$\frac{A}{0=2,200}$	C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-		CURBY	-40	
	-1.5'= 3,800 -3'= 4,400 -4'= 5,200	E		E		
	13 Q = 2400 -1.5' = 3,300 -3' = 4,200 -4' = 5,100	$C = 1,800$ $-1,5^{12} 2,500$ $-3^{12} 3,300$ $-4^{12} 3,800$	D -1,5'= 2,700 -3'= 3,300 -4'=3,700	$\frac{e}{0' = 1,700}$ -1.5' = 2,600 3' = 3,800 -4' = 4,000	-0	

Excavated Area 🚊 🔟

