

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

January 29, 2021

Revised 7/26/21 GAH

Abby Mazza City of Chicago Department of Assets, Information and Services (AIS) 2 N. LaSalle St., Suite 200 Chicago, Illinois 60602-3704

RE: Radiation Monitoring – City of Chicago Department of Water Management Former Carnotite Reduction Company Permit Hold Area CDOT Permit: 1389448 and 1389467

Dear Ms. Mazza:

Stan A. Huber Consultants, Inc (SAHCI) was contracted to provide radiation monitoring for the City of Chicago Department of Water Management (DWM) during excavation for the abandonment of water mains and fire hydrant relocations surrounding the Former Carnotite Reduction Company (Carnotite) site in Chicago, Illinois. The potential radiological contaminants in the area surrounding the Carnotite site are uranium (U-234+U-235+U-238), thorium (Th-230), and radium (Ra-226).

Monitoring was performed at the following locations:

E. 26 th St. and Dr. Martin Luther King Jr. Dr. S. Vernon Ave. and S. Ellis Ave.	11/19/20-11/20/20, 11/30/20-12/1/20, 1/7/21 11/20/20, 11/23/20 - 11/25/20
E. 27 th St. and S. Ellis Ave.	11/25/20
Prairie Shores Parking Lot	12/2/20

On January 13, 2021, Chicago Department of Transportation (CDOT) performed excavation to remove a light pole at the corner of E. 26th Street and Dr. Martin Luther King Jr. Drive. Brian Schmidt, SAHCI Health Physics Technician, was onsite to provide radiological monitoring but it was determined that the planned excavation would only be taking place within the clean backfilled area that DWM had previously excavated. Since this area had been previously monitored, Abby Mazza, approved that no further surveys were required for this work.

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial nos. 132844 and 134542) with attached Ludlum Model 44-10 2"x2" Nal detectors (w/ 6" collimated lead shields). The instruments were calibrated on July 28, 2020. The

Illinois Emergency Management Agency (IEMA) field action level (FAL) which would trigger additional monitoring and sampling is twice the average background count rate.

The average background count rate for instrument number 132844 was measured as 2,844 counts per minute (cpm) with a FAL of 5,666 cpm. The average background count rate for instrument number 134542 was measured as 1,566 cpm with a FAL of 3,132 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 excavations after each 18-inch lift and recording the highest count rate for the floors and walls to a maximum excavation depth of 7.5 feet below ground surface. After the excavations were 3 feet deep, surveys were performed of the buckets of soil as they were removed from the excavation, prior to loading. No soil was stockpiled during the project and all excavated soils were loaded directly into the truck after screening.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Forms. The count rates in the excavations ranged from 1,500 cpm to 4,700 cpm. No count rates were found at any time that exceeded the instrument specific FAL.

Additional Monitoring

Since no count rates were identified above the FAL, no additional soil sampling, air monitoring, or personnel monitoring were performed.

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.

Glenn Huber, CHP President

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Stan A. Huber Consultants, Inc.	Radiatio	on Survev	Form		C
Location/ Project ID: \mathcal{V}	WM - CALNOTI	TE-WATER SEN	ICE + HypeANI	ROW RADIOLOGI	CAL SOIL
Date: 11/19/2020 - 1	2/2/2020	Technician:	BRIAN SOUM	107	SULVEY
Inst Model: LUDLUM	-2221	Serial No. :	132844		_
Probe Type: 1"x1" Nal	/ ETX2 Nat Not Shielded	Lift Elevatior	n: 0-108"		
Background 2833	cpm	Action Level: _	5666 cpm		
Write grid designations in circle at grid intersections (if required	es. Record highest co). Shade areas of ele	ounts for grid in cpm. wated counts and rece	Record 30 second co ord max cpm.	ounts N	
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Date: 11[19	[[1020 - [1111000		Technician:	-BAIA~)CUMIOT		
Inst Model:	Lupium	- 2221		Serial No. :	137	844	<u></u>	
Probe Type:	1"x1" Nal Shielded	/ 2 x2' Na / Not Shield	ed	Lift Elevatior	n: <u>0 ·</u>	-108"		
Background _	2833	cpm		Action Level: _	5666	cpm		
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Stan & Huber Consultants Inc.	
erder P. Huber Berlettente, MV.	Radiation Survey Form
Location/ Project ID: N	WM-CARNETITE - WATER SOLVICE + MYDRAJT DECOMISSION EN ANTITE - WATER SOLVEY
Date: 11/20-25/2020	Technician: BRIAN Soumint
Inst Model: LURIUM	- 2721 Serial No. : 132844
Probe Type: 1"x1" Nal Shielded /	Image: 2"x2" Nal Lift Elevation: 0 - 108 " Not Shielded
Background 2833	cpm Action Level: 5666 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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Radiatio	n Survey Form
Location / Project ID: DWM- GALA OTITE	- WATER SCAVICE + MADRAST VECOMMISSION CACAVATION ROW RADIOLOGICAL SOIL SULVE.
Date: 11/20-25/2020	Technician: BUAS SCYMIOT
Inst Model: Lunum - 7221	Serial No. : 132844
Probe Type: 1"x1" Nat / 2 x2" Nat Shielded / Not Shielded	Lift Elevation: <u>O-108</u> "
Background 2833cpm	Action Level: 5666cpm

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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stan A. Huber Consultants, Inc. Radiati	on Survey Form
Location/ Project ID: DWM-CALNITIT	E- WATER SERVICE + HYPLAN KEROVAL VECOMISSION CHEAN
Date: 11/25/2020	Technician: BRIAN ScumPT
Inst Model: Lucium - 2221	Serial No. : 132844
Probe Type: 1"x1" Nat / 2"x2" Na Shielded / Not Shielded	Lift Elevation:
Background 2833 cpm	Action Level:cpm
Write grid designations in circles. Record highest c at grid intersections (if required). Shade areas of el	counts for grid in cpm. Record 30 second counts evated counts and record max cpm.
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Stan & Buber Consultants, Inc.
Radiation Survey Form
Location/ Project ID: DWM-CANOTHE - WATER SERVICE & MYDLAST DECOMMISSION EXCASTION
Date: 12/2/2026 Technician: Bugs Schmidt SvavEy
Inst Model: Serial No. :
Probe Type: 1"x1" Nal / 2 x2" Nal Lift Elevation: 0-108 *
Background <u>2833</u> cpm Action Level: <u>5666</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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Excavation ID VEDTA CPM
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J4-72" 3800
72-90" 2700
90-108 2200
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Radiation Survey Form

Location/ Project ID: 26th St. and MLK - DWM water shutoff

Date: 1/7/	/21	Technician:	Glenn Huber
Inst Model:	Ludlum 2221	Serial No. :	134542
Probe Type:	1"x1" Nal / 2"x2" Nal	Lift Elevation:	Surface to -7.5' BGS
Rockssound	Shielded / Not Shielded	<i>cH ・ ネノョ ユ</i> Action Level: 7,228 cpm	
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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.



Depth cpm surface 1500 1800 -1.5 -2-2400 2900 -4.5 2200 2100 -7-5

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