



December 28, 2021

Angel Camacho  
SET Environmental  
450 Sumac Road  
Wheeling, Illinois 60090

RE: Thorium Monitoring: 425 - 457 E. Lower Wacker Drive (Urban Kayaks)  
CDOT Permit: 601057768

Dear Mr. Camacho:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation of 6 container foundations and utility lines connecting them at 425 – 457 E. Lower Wacker Dr. The monitoring was performed by Brian Schmidt and Mark Dewald, SAHCI Health Physics Technicians, on October 5, 2021 through October 27, 2021. All activities were conducted under the guidance of document *SET General Procedure for Thorium Monitoring*.

#### Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial nos. 126497 and 127242) with attached Ludlum Model 44-10 2"x2" NaI 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 rates for this location were measured at 1,915 – 2,108 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 and recording the highest count rate for the floor and walls to a maximum excavation depth of 4 feet below ground surface.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Forms. The count rates in the excavations for the container foundations ranged from 2,100 cpm to 4,800 cpm. See Attachment A. The count rates in the utility excavations ranged from 1,800 cpm to 4,700 cpm. See Attachment B. 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.

Additional utility work is planned at this location in the near future. A separate survey report will be submitted when that work is completed.

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

## Attachment A

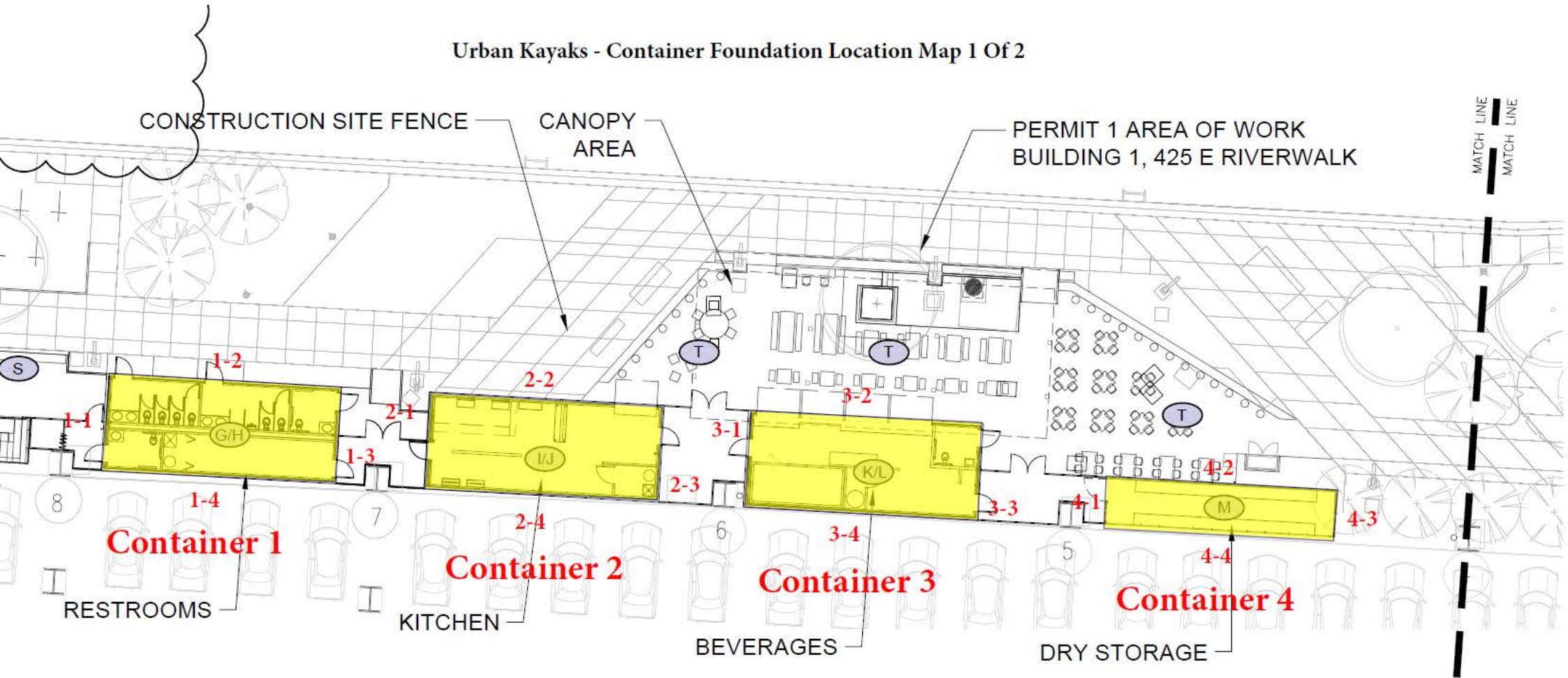
Urban Kayaks 425 – 457 E. Lower Wacker

Container Foundations

*Performed by:*

*Stan A. Huber Consultants, Inc.  
200 N. Cedar Rd.  
New Lenox, IL 60451*

# Urban Kayaks - Container Foundation Location Map 1 Of 2

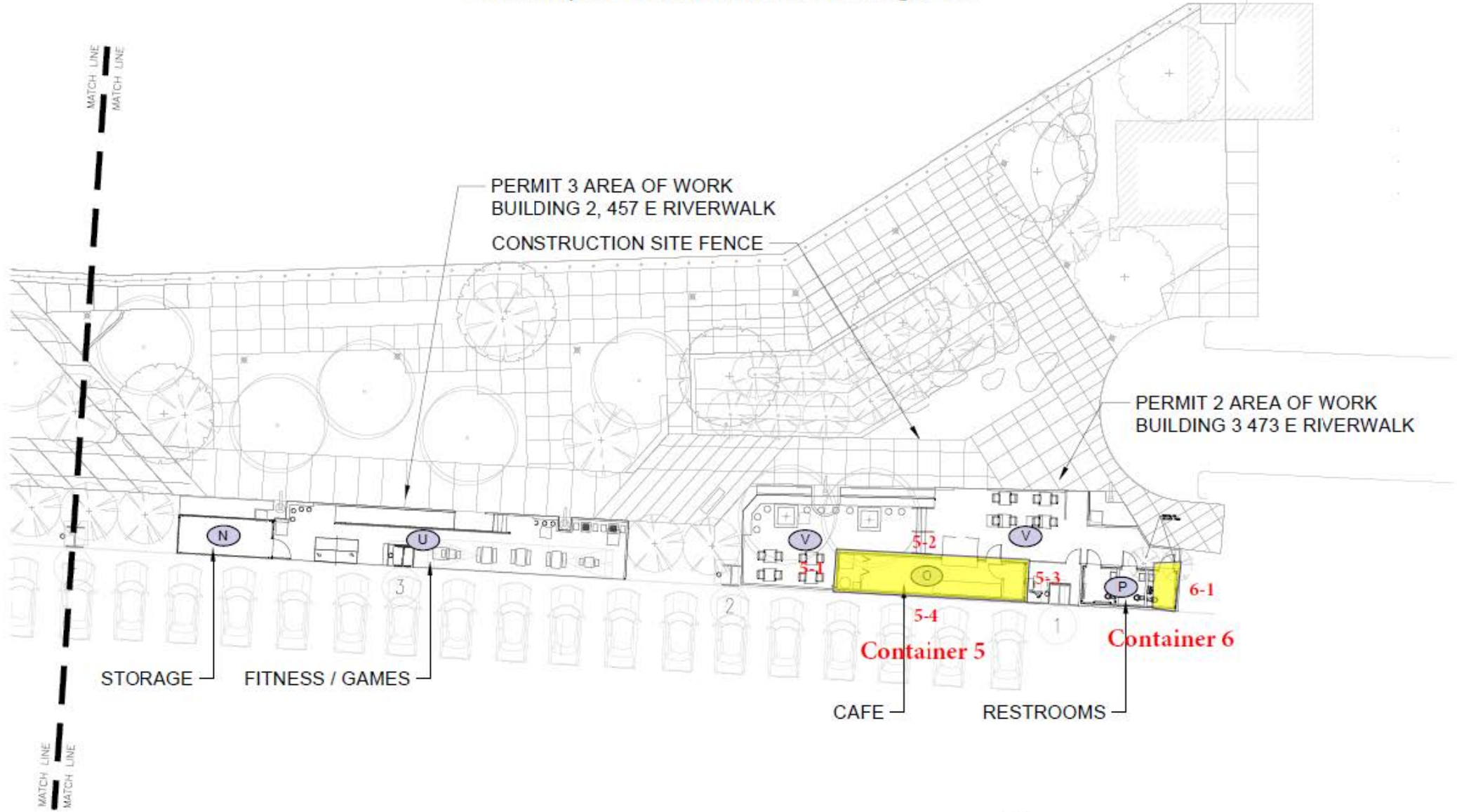


40'

- Each Foundation Wall Excavated to a Depth of 48-inches (bgs)
- Inside Footprint of Each Container Excavated to a Depth of 18-inches (bgs)

MATCH LINE  
MATCH LINE  
MATCH LINE  
MATCH LINE

# Urban Kayaks - Foundation Location Map 2 Of 2



2 FULL SITE PLAN - BUILDINGS 2 & 3 (PERMITS 3 & 2 RESPECTIVELY)  
1/16" = 1'-0"



## Radiation Survey Form

*Stan A. Huber Consultants, Inc.*

Location: Urban Kayaks 425-457 E. Lower Wacker  
 Name: Brian Schmidt and Mark Dewald  
 Date: 10/5/21 - 10/19/21

Instrument ID:  
 7.1 pCi/g CPM:

Ludlum Model 2221 Scaler/Ratemeter w/  
 Model 44-10 NaI Detector (w/ 6" Lead Shield)  
 6,383 CPM (serial no. 126497)  
 6,995 CPM (serial no. 127242) - 10/14/21 & 10/19/21

	Depth	0"-18" (bgs)	18"-36" (bgs)	36"-54" (bgs)	48"-66" (bgs)
Date	Excavation ID	Survey Results (counts per minute)			
10/5/2021	1-1	2400	2900	3400	3300
10/5/2021	1-2	2700	2800	3100	3200
10/5/2021	1-3	2700	3300	3400	3600
10/6/2021	1-4	2800	3200	3600	3700
10/6/2021	1-FP	2400	2600		
10/6/2021	2-1	2800	4000	4700	4000
10/7/2021	2-2	3000	3800	4100	4400
10/7/2021	2-3	2600	3200	3900	4500
10/7/2021	2-4	3200	4000	4200	3900
10/7/2021	2-FP	2600	3400		
10/8/2021	3-1	2700	2900	4100	4300
10/8/2021	3-2	2700	3200	4400	4600
10/8/2021	3-3	2500	3000	3200	3600
10/8/2021	3-4	3100	3900	4400	4700
10/8/2021	3-FP	2700	3200		
10/12/2021	4-1	2600	3100	4300	4500
10/12/2021	4-2	2700	3100	3600	4200
10/12/2021	4-3	3000	3400	4300	4500
10/12/2021	4-4	2900	3300	4500	4800
10/12/2021	4-FP	2500	3200		
10/13/2021	5-1	2500	2800	3300	3100
10/13/2021	5-2	2500	2900	3200	3700
10/14/2021	5-3	2100	2400	2800	3100
10/13/2021	5-4	3100	3600	3300	4100
10/13/2021	5-FP	2800	3500		
10/19/2021	6-1	2400	2700	2600	2900

## Attachment B

Urban Kayaks 425 – 457 E. Lower Wacker

Utility Excavations

*Performed by:*

*Stan A. Huber Consultants, Inc.  
200 N. Cedar Rd.  
New Lenox, IL 60451*

### Radiation Survey Form

Location/ Project ID: URBAN KAYAKS - WATER & SEWER SERVICE INSTALLATION EXCAVATIONS

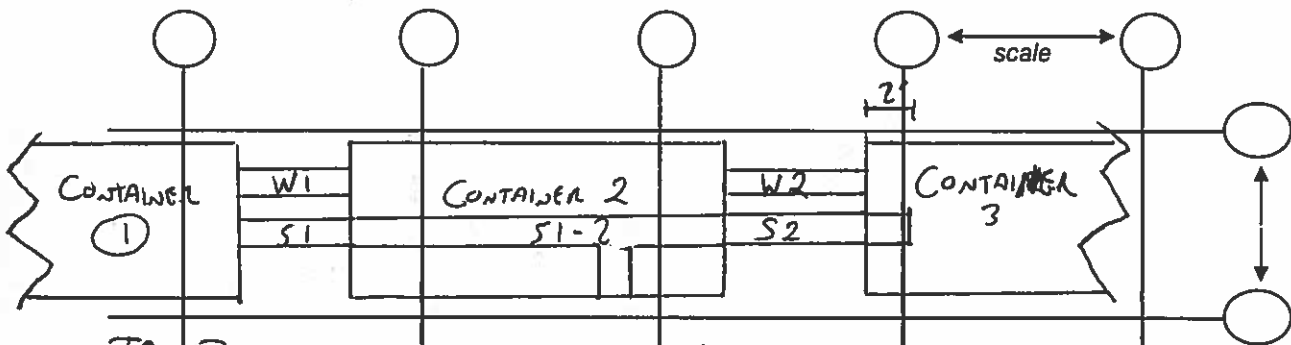
Date: ~~10/6-9/2021~~ 10/5-10/8/21 Technician: BRIAN SCHMIDT

Inst Model: LDWM-2221 Serial No.: 126497

Probe Type: 1"x1" NaI / ~~2"x2" NaI~~ Lift Elevation: 0-48"  
Shielded / Not Shielded

Background 1915 cpm Action Level: 6383 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.



EXCAVATION ID	DEPTH	CPM	EXCAVATION ID	DEPTH	CPM
WATER 1 (W1)	0-18"	2500	WATER 2 (W2)	0-18"	2700
	18-36"	2700		18-36"	2900
SEWER 1 (S1)	36-54"	3100	SEWER 2 (S2)	36-54"	3400
	48-66"	3400		48-66"	3500
	0-18"	2900		0-18"	2500
	18-36"	3100		18-36"	2700
SEWER 1-2 (S1-2)	36-54"	3800		36-54"	3200
	48-66"	4400		48-66"	3800
	0-18"	2400			
	18-36"	2600			
	36-54"	3000			
	48-66"	3200			



### Radiation Survey Form

Location/ Project ID: URBAJ KAYAKS - GAS/ELECTRICAL SERVICE INSTALLATION EXCAVATION

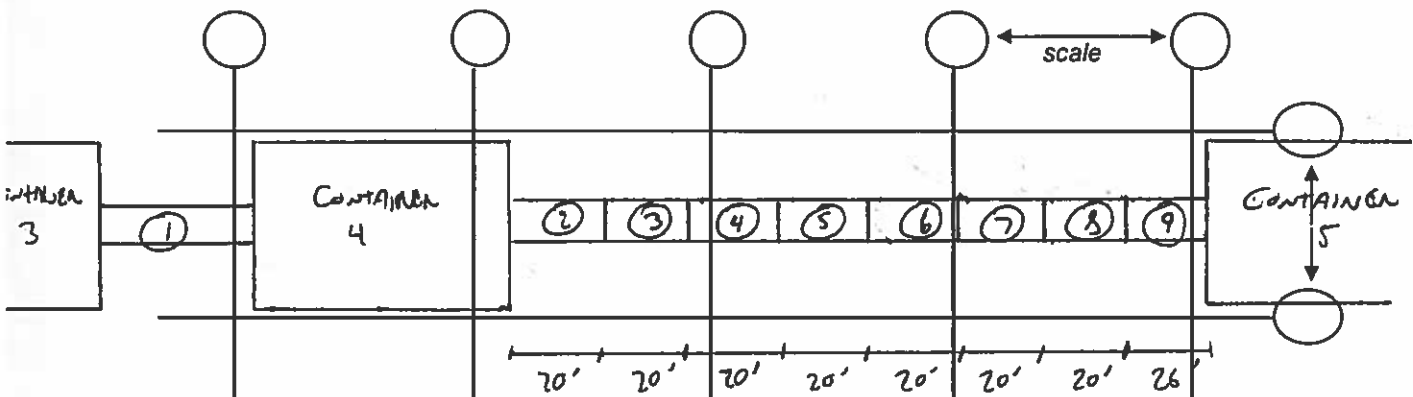
Date: 10/26/2021 + 10/27/2021 Technician: BRIAN JOYMIOT

Inst Model: Lucium-2221 Serial No.: 126497

Probe Type: 1"x1" NaI / ~~2"x2" NaI~~ Lift Elevation: 0-36"  
Shielded / Not Shielded

Background 1915 cpm Action Level: 6383 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.



EXCAVATION ID	DEPTH	CPM	EXCAVATION ID	DEPTH	CPM
①	0-18"	1800	⑥	0-0"	2500
	18-36"	2300		18-36"	3100
	36-54"	2900		36-54"	3200
②	0-18"	2400	⑦	0-18"	2700
	18-36"	2900		18-36"	3600
	36-54"	2800		36-54"	4400
③	0-18"	2700	⑧	0-18"	3100
	18-36"	2900		18-36"	4200
	36-54"	3200			
④	0-18"	2300	⑨	36-54"	4700
	18-36"	2900		0-18"	2800
	36-54"	3500		18-36"	3300
		36-54"		3900	
⑤	0-18"	2600			
	18-36"	3700			
	36-54"	4200			

## Radiation Survey Form

**Location/ Project ID:** Urban Kayaks - Trench from Area 5-3 to Area 6-1

**Date:** 10/14/21-10/19/21

**Technician:** Mark Dewald

**Inst Model:** Ludlum 2221

**Serial No. :** 127242

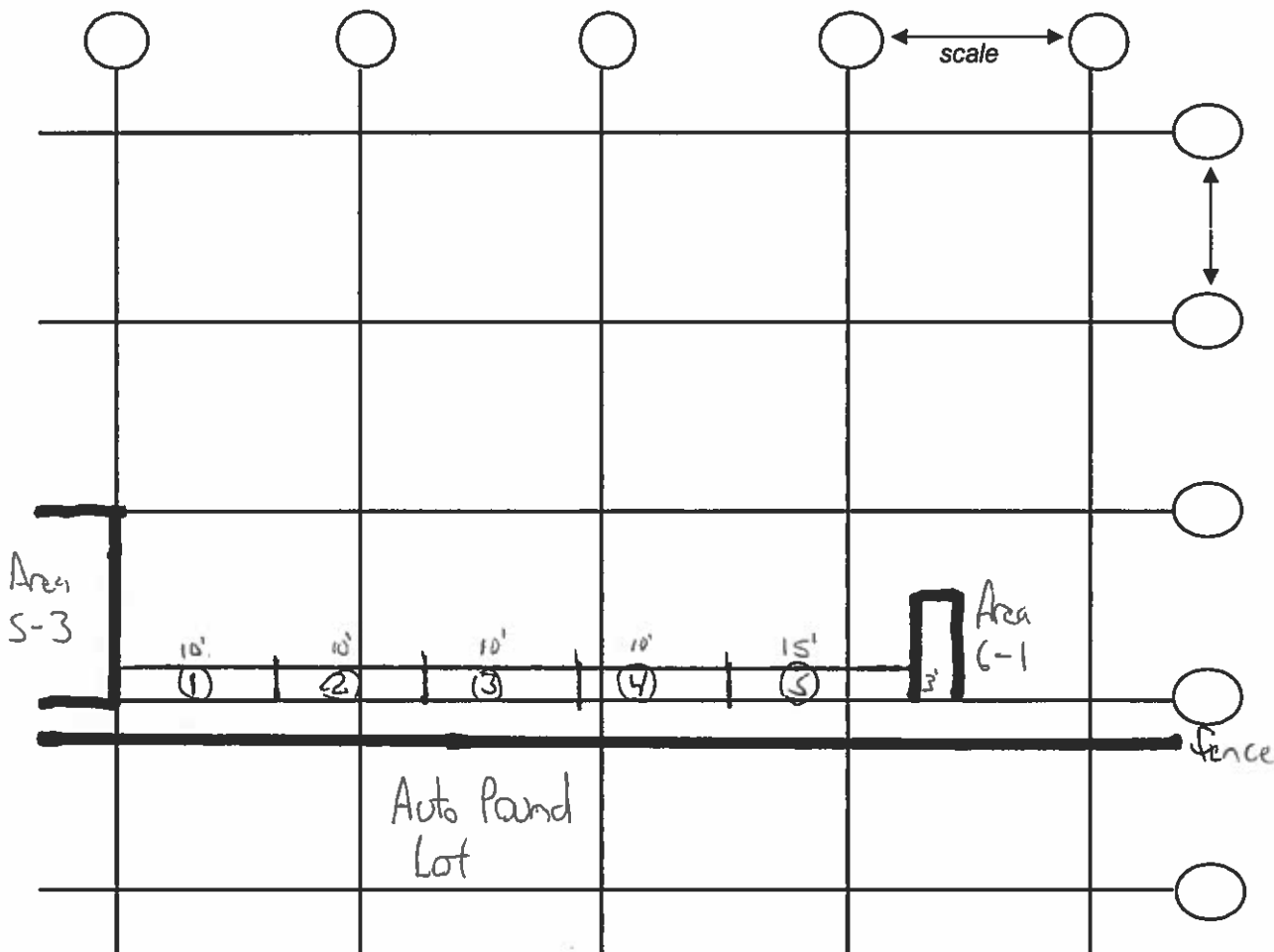
**Probe Type:** 1"x1" NaI 2"x2" NaI  
 Shielded /  Not Shielded

**Lift Elevation:** Surface to -48" BGS

**Background** 2,108 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.



	Area 1	Area 2	Area 3	Area 4	Area 5
0-18"	2200	2400	2100	2300	2500
18-36"	2300	2900	2400	3000	2400
36-54"	3100	2900	2200	2900	2500
48-66"	3300	2800	2300	2900	2600