



**BENCHMARK & TURNKEY**

**Weekly Radiological Screening Report  
For the Hertel Brownfields Remediation Project  
Located at 350 Hertel Ave., Buffalo, NY 14207  
Week Ending - Friday, August 5, 2022**

**INTRODUCTION**

Austin Master Services (AMS) performed radiological screening during the Hertel Brownfields Remediation Project located at 356 Hertel Ave., Buffalo, NY 14207. A Brownfields remediation project has been approved by the New York State Department of Environmental Conservation (NYSDEC) at: two contiguous tax parcels in Buffalo New York. The specific locations are as follows:

- 356 Hertel Avenue: SBL No. 77.74-4-22, 1.94 acres
- 42 Foundry Street: SBL No. 77.74-4-21, 1.05 acres

The site is known to be contaminated with SVOCs, metals, PCBs, and pesticides. As a precautionary measure the remediation contractor has agreed to perform limited surveillance for radioactive materials. After discussions between the remediation contractor (AMS) and NYSDEC a surveillance protocol that allows gamma count rate scanning of excavated materials; this protocol includes collection of background data and establishment of an **Action Level** at 1.5 times the background mean count rate. Radiological screening was conducted in accordance with the Gross Gamma Screening Standard Operating Procedure *AMS-FI-017B Soil Gamma Screening for Hertel and Foundry Brownfields Remediation Project Final Rev 1*, dated July 27, 2022. The purpose of the radiological screening is to verify that radioactive material is not present in the material being disposed off-site.

Excavated soils are being screened using a Ludlum Model 2221 Scaler/Ratemeter coupled to a Ludlum 44-10 2-inch by 2-inch sodium iodide (2x2 NaI) detector or equivalent. Radiological survey instrumentation is calibrated in accordance with the manufacturer's specifications and ANSI Z540-1. Additionally, prior to use, instrumentation is response checked with a known and appropriate source of radioactive material for the measurement of radioactivity that is being performed. For ease of surveys for the HP technician onsite, the most conservative background action level is being used for the screening of soils regardless of the survey geometry. At this point in the screening process based on the data it appears that the daily background action level obtained from an elevated excavator bucket is most conservative, and at no time will a less conservative background be administered without consultation with the AMS Project RSO or Austin Master Services CHP.

**PROJECT ACTIVITIES**

On Thursday, August 4, 2022 soil excavation and off-site disposal commenced and continued throughout the week ending Friday, August 5, 2022 within the 356 Hertel Ave. project site. Radiological screening was conducted in accordance with the Gross Gamma Screening Standard Operating Procedure *AMS-FI-017B Soil Gamma Screening for Hertel and Foundry Brownfields Remediation Project Final Rev 1*, dated July 27, 2022. AMS established initial backgrounds and action levels on an excavator bucket (1.5 x's the average of 10 one-minute static readings) at the Hertel Ave. project site on 7-18-2022 (BKG-001 - average – 8,440 cpm, with an action level of - 12,659 cpm). AMS will be utilizing the action level of 12,659 cpm that was generated at the Hertel site throughout the soil screening activities.

AMS health physics technician also performed gamma walkover surveys of the excavation and the stockpiled soils periodically during remedial activities. No radioactive materials were detected above the established action of 12,659 cpm during the walkover surveys.

Site- and instrument-specific background was checked daily as described above. All work and radiological screening during this week ending period were performed within the 356 Hertel Ave. project site.

**RADIOLOGICAL SCREENING RESULTS/INSTRUMENTATION/INITIAL BACKGROUNDS**

Radiological Screening Results conducted in week ending Friday, August 5, 2022 are summarized in Attachment 1, Daily QC Instrumentation background and source response checks are listed in Attachment 2, and the Instrumentation Calibration Certificate are listed in Attachment 3.

No radioactive materials were detected above the established action level of 12,659 cpm during this monitoring period.

**Patrick S. Horkman**

*Patrick S Horkman*

**Field Services Manager/Project Manager**

**Austin Master Services, LLC**

Attachment 1 – Radiological Screening Results

Attachment 2 – Daily QA Instrumentation Response Checks

Attachment 3 – Instrumentation Calibration Cert.

Attachment 4 - Photos

**ATTACHMENT 1**  
**Radiological Screening Results**  
**Week Ending - Friday, August 5, 2022**

## Excavator Bucket Radiological Screening Log

### Benchmark/Turnkey

For the Hertel Brownfields Remediation Project  
Located at 356 Hertel Ave., Buffalo, NY 14207

Date: August 4, 2022

Instr: L-2221, # 115157

Detector: 44-10, # PR090262

Cal. Due: 4-Oct-2022

Ave. Bkg: 8,439.5 cpm

1.5 x's Ave. Bkg: 12,659 cpm

Action Level: 12,659 cpm

Scanning Results				
GAMMA Scan #	Time	2x2 Bucket Readings (CPM)	Was Slag Material Visually Identified (Yes/No)	Comments
1	636	7953	n	90% dirt 10% debris
2	639	8135	n	80% dirt 20% debris
3	643	8297	n	80% dirt 20% debris
4	645	8126	n	100% dirt
5	650	7829	n	80% dirt 20% debris
6	654	8217	n	80% dirt 20% debris
7	659	8528	y	90% dirt 10% debris
8	700	8253	n	90% dirt 10% debris
9	705	8749	n	100% dirt
10	706	8254	n	80% dirt 20% debris
11	712	8422	n	100% dirt
12	713	8601	n	100% dirt
13	719	8611	n	80% dirt 20% debris
14	721	9123	n	90% dirt 10% debris
15	726	8852	n	85% dirt 15% debris
16	728	9106	n	90% dirt 10% debris
17	731	8734	n	90% dirt 10% debris
18	733	8463	n	80% dirt 20% debris
19	754	8958	n	95% dirt 5% debris
20	758	8956	n	100% dirt

**NOTE:** GAMMA # scan represents 1 out of every 5 bucket loads at a minimum

Print Name: Andrew Chawluk

Signature: Andrew Chawluk

Date: 8/4/22

## CONTINUATION SHEET

### Excavator Bucket Radiological Screening Log Benchmark/Turnkey

For the Hertel Brownfields Remediation Project  
Located at 356 Hertel Ave., Buffalo, NY 14207

Scanning Results				
GAMMA Scan #	Time	2x2 Bucket Readings (CPM)	Was Slag Material Visually Identified (Yes/No)	Comments
21	801	9080	n	100% dirt
22	802	9057	n	80% dirt 20% debris
23	808	8824	n	100% dirt
24	810	8741	n	100% dirt
25	815	8673	n	100% dirt
26	817	8990	n	90% dirt 10% debris
27	820	8553	n	80% dirt 20% debris
28	822	9132	n	85% dirt 15% debris (red fire brick)
29	826	10480	n	100% dirt
30	828	8742	n	100% dirt
31	831	8492	n	100% dirt
32	840	8236	n	95% dirt 5% debris
33	846	8276	n	90% dirt 5% debris
34	849	9508	n	95% dirt 5% debris
35	856	9713	y	100% dirt
36	901	9111	n	100% dirt
37	905	9351	n	95% dirt 5% debris
38	907	9404	n	90% dirt 10% debris
39	912	8518	n	85% dirt 15% debris
40	914	8974	n	85% dirt 15% debris
41	919	9140	n	80% dirt 20% debris
42	921	9110	n	90% dirt 10% debris
43	925	8751	n	95% dirt 5% debris
44	927	8901	n	100% dirt
45	931	9572	n	95% dirt 5% debris
46	933	8690	n	80% dirt 20% debris
47	937	9045	y	90% dirt 10% debris
48	938	8886	n	90% dirt 10% debris
49	954	9875	n	90% dirt 10% debris
50	955	8801	n	90% dirt 10% debris
51	1000	8635	n	85% dirt 15% debris
52	1001	8989	n	75% dirt 25% debris
53	1005	8741	n	85% dirt 15% debris
54	1007	9058	n	85% dirt 15% debris

**NOTE:** GAMMA # scan represents 1 out of every 5 bucket loads at a minimum

## CONTINUATION SHEET

### Excavator Bucket Radiological Screening Log Benchmark/Turnkey

For the Hertel Brownfields Remediation Project  
Located at 356 Hertel Ave., Buffalo, NY 14207

Scanning Results				
GAMMA Scan #	Time	2x2 Bucket Readings (CPM)	Was Slag Material Visually Identified (Yes/No)	Comments
55	1017	9941	n	80% dirt 20% debris
56	1019	9048	n	100% dirt
57	1023	8539	n	75% dirt 25% debris
58	1024	8893	n	80% dirt 20% debris
59	1028	9840	n	80% dirt 20% debris
60	1030	9815	n	95% dirt 5% debris
61	1033	9363	n	90% dirt 10% debris
62	1035	8360	n	100% dirt
63	1040	8794	n	100% dirt
64	1041	9278	n	85% dirt 15% debris
65	1045	9235	n	95% dirt 5% debris (red fire brick)
66	1105	9631	n	85% dirt 15% debris
67	1109	8675	n	80% dirt 20% debris
68	1112	9421	n	90% dirt 10% debris
69	1118	9038	n	100% dirt
70	1131	10187	y	80% dirt 20% debris
71	1133	9591	n	90% dirt 10% debris
72	1138	9281	n	90% dirt 10% debris
73	1141	9668	n	80% dirt 20% debris
74	1146	9476	n	90% dirt 10% debris
75	1150	9321	n	95% dirt 5% debris
76	1154	9322	n	95% dirt 5% debris
77	1159	8840	n	95% dirt 5% debris
78	1216	9163	n	100% dirt
79	1220	8832	n	90% dirt 10% debris
80	1225	9333	n	80% dirt 20% debris
81	1229	10078	n	95% dirt 5% debris
82	1230	9930	n	100% dirt
83	1243	9881	n	90% dirt 10% debris
84	1245	9677	n	95% dirt 5% debris
85	1250	10556	n	75% dirt 25% debris
86	1254	9412	n	80% dirt 20% debris (red fire brick)
87	1256	10174	n	90% dirt 10% debris
88	103	9233	n	95% dirt 5% debris

**NOTE:** GAMMA # scan represents 1 out of every 5 bucket loads at a minimum

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### Excavator Bucket Radiological Screening Log Benchmark/Turnkey

For the Hertel Brownfields Remediation Project  
Located at 356 Hertel Ave., Buffalo, NY 14207

Scanning Results				
GAMMA Scan #	Time	2x2 Bucket Readings (CPM)	Was Slag Material Visually Identified (Yes/No)	Comments
89	107	9224	n	80% dirt 20% debris
90	108	9113	n	90% dirt 10% debris
91	118	8474	n	95% dirt 5% debris
92	122	10047	n	80% dirt 20% debris
93	127	8873	n	90% dirt 10% debris
94	131	9513	n	80% dirt 20% debris
95	135	9262	n	95% dirt 5% debris
96	145	8522	n	90% dirt 10% debris
97	149	9422	n	75% dirt 25% debris (red fire brick)
98	152	9643	n	90% dirt 10% debris
99	205	9630	n	75% dirt 25% debris
100	209	11341	n	100% dirt
101	211	10087	n	90% dirt 10% debris
102	224	9211	n	90% dirt 10% debris
103	227	9175	n	100% dirt
104	229	9645	n	85% dirt 15% debris
105	234	9085	n	100% dirt
106	239	9773	n	80% dirt 20% debris
107	243	10024	n	95% dirt 5% debris
108	246	9661	n	100% dirt
109	251	9906	n	90% dirt 10% debris
110	258	8926	n	100% dirt
111	301	9155	n	90% dirt 10% debris
112				
113				
114				
115				
116			N A	
117				
118				
119				
120				
121				
122				

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## Excavator Bucket Radiological Screening Log

### Benchmark/Turnkey

For the Hertel Brownfields Remediation Project  
Located at 356 Hertel Ave., Buffalo, NY 14207

Date: Aug 5, 2022

Instr: L-2221, # 115157

Detector: 44-10, # PR090262

Cal. Due: 4-Oct-2022

Ave. Bkg: 8,439.5 cpm

1.5 x's Ave. Bkg: 12,659 cpm

Action Level: 12,659 cpm

Scanning Results				
GAMMA Scan #	Time	2x2 Bucket Readings (CPM)	Was Slag Material Visually Identified (Yes/No)	Comments
1	630	9248	n	90% dirt 10% debris
2	634	9075	n	95% dirt 5% debris (red fire brick)
3	636	8922	n	100% dirt
4	640	8824	n	95% dirt 5% debris
5	645	9300	n	95% dirt 5% debris
6	649	9097	n	90% dirt 10% debris
7	654	9215	n	95% dirt 5% debris
8	658	8863	n	90% dirt 10% debris
9	703	9882	n	100% dirt
10	707	8771	n	95% dirt 5% debris
11	740	9236	n	85% dirt 15% debris
12	744	9505	n	90% dirt 10 % debris
13	748	9490	n	100% dirt
14	749	9292	n	100% dirt
15	754	9442	n	5% dirt 5% debris
16	758	9574	n	95% dirt 5% debris
17	802	9700	n	90% dirt 10% debris (red fire brick)
18	807	9933	n	100% dirt
19	812	8917	n	85% dirt 15% debris
20	826	8688	n	90% dirt 10% debris

**NOTE:** GAMMA # scan represents 1 out of every 5 bucket loads at a minimum

Print Name: Andrew Chawluk

Signature: Andrew Chawluk

Date: 8/5/22

## CONTINUATION SHEET

### Excavator Bucket Radiological Screening Log Benchmark/Turnkey

For the Hertel Brownfields Remediation Project  
Located at 356 Hertel Ave., Buffalo, NY 14207

Scanning Results				
GAMMA Scan #	Time	2x2 Bucket Readings (CPM)	Was Slag Material Visually Identified (Yes/No)	Comments
21	835	9996	n	90% dirt 10% debris
22	852	9087	n	80% dirt 20% debris
23	921	9872	n	85% dirt 15% debris
24	927	8742	n	90% dirt 10% debris
25	929	9480	n	85% dirt 15% debris
26	935	9562	n	95% dirt 5% debris
27	940	9541	n	100% dirt
28	948	9654	n	100% dirt
29	950	9394	n	100% dirt
30	955	10109	n	100% dirt
31	958	9596	n	95% dirt 5% debris
32	1000	10498	n	90% dirt 10% debris
33	1006	9979	n	95% dirt 5% debris
34	1010	8810	n	85% dirt 15% debris
35	1012	8708	n	100% dirt
36	1028	9025	n	80% dirt 20% debris
37	1032	9399	n	100% dirt
38	1034	10723	n	85% dirt 15% debris (red fire brick)
39	1059	9008	n	75% dirt 25% debris
40	1104	9282	n	75% dirt 25% debris
41	1109	10056	n	70% dirt 30% debris
42	1122	9938	n	75% dirt 25% debris
43	1124	9314	n	85% dirt 15% debris
44	1130	9397	n	90% dirt 10% debris
45	1137	9216	n	85% dirt 15% debris
46	1146	8562	n	85% dirt 15% debris
47	1150	10252	n	75% dirt 25% debris
48	1155	8832	n	95% dirt 5% debris
49	1207	8941	n	90% dirt 10% debris
50	1215	9054	n	90% dirt 10% debris
51	1224	9000	n	95% dirt 5% debris
52	1129	9321	n	90% dirt 10% debris
53	1136	9772	n	85% dirt 15% debris
54	1241	9505	n	100% dirt

**NOTE:** GAMMA # scan represents 1 out of every 5 bucket loads at a minimum



## CONTINUATION SHEET

### Excavator Bucket Radiological Screening Log Benchmark/Turnkey

For the Hertel Brownfields Remediation Project  
Located at 356 Hertel Ave., Buffalo, NY 14207

Scanning Results				
GAMMA Scan #	Time	2x2 Bucket Readings (CPM)	Was Slag Material Visually Identified (Yes/No)	Comments
55	1258	9021	n	100% dirt
56	107	9250	n	80% dirt 20% debris
57	112	9830	n	95% dirt 5% debris (red fire brick)
58	113	9294	n	75% dirt 25% debris
59	118	9238	n	100% dirt
60	137	10113	n	70% dirt 30% debris
61	141	9153	n	85% dirt 15% debris
62	147	8460	n	95% dirt 5% debris
63	151	9499	n	100% dirt
64	216	8521	n	90% dirt 10% debris
65	220	8899	n	100% dirt
66	225	9020	n	95% dirt 5% debris
67	230	9617	n	85% dirt 15% debris
68	235	9495	n	85% dirt 15% debris
69	246	9218	n	100% dirt
70	253	9818	n	95% dirt 5% debris
71	258	8981	n	100% dirt
72				
73				
74				
75				
76				
77				
78				
79				
80			N	A
81				
82				
83				
84				
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86				
87				
88				

**NOTE:** GAMMA # scan represents 1 out of every 5 bucket loads at a minimum

**ATTACHMENT 2**

**Daily QA Instrumentation Response Checks**

**August 4, 2022 – August 5, 2022**





**ATTACHMENT 3**  
**Instrumentation Calibration Certificate**



## GRIFFIN INSTRUMENTS



## CALIBRATION CERTIFICATE FOR

2221

SERIAL#

115157

Owner: AUSTIN MASTER SERVICES

DATE: 10/04/21

LOCATION:

Griffin Inst

TECH: Joanne Glenn

DATE LAST CAL EXPIRES:

12/30/21

Reason For Calibration:

☒ Due For Calibration☐ Repair (See Remarks)☐ Other (See Remarks)☐ Due and Repair (See Remarks)

## NIST TRACEABLE EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2

SERIAL #: 284951

CAL. DUE: 10/30/21

MODEL:

SERIAL #:

CAL DUE:

☒ Fast/Slow Switch working properly ☒ Audio Response ☒ Geotropism CABLE LENGTH 39"

CONDITION: Worn AF MECHANICAL ZERO: 0 AL MECHANICAL ZERO: 0

NEW BATTERIES: ☐ Yes ☒ No BATT. CHECK >4.8V: 5.5 V

## HV (+/-10%)

## AS FOUND HV

## AS LEFT HV

600 V:

602

A.F.

1200 V:

1204

A.F.

1800 V:

1808

A.F.

AF INPUT SENSITIVITY (mV):

2

AL INPUT SENSITIVITY (mV):

10

## RATE METER

## SCALER

SCALE RATE CPM AS FOUND % ERROR AS LEFT % ERROR AS FOUND % ERROR AS LEFT % ERROR

x.1 or x1	100	100	0.0%	A.F.		249	0.4%	A.F.	
	250	250	0.0%	A.F.					
	400	400	0.0%	A.F.					
x1 or x10	1000	1000	0.0%	A.F.					
	2500	2500	0.0%	A.F.					
	4000	4000	0.0%	A.F.					
x10 or x100	10K	10 K	0.0%	A.F.					
	25K	25 K	0.0%	A.F.					
	40K	40 K	0.0%	A.F.					
x100 or x1000	100K	100 K	0.0%	A.F.					
	250K	250 K	0.0%	A.F.					
	400K	400 K	0.0%	A.F.					

Is the As Found Data Within 20% of the Set Point?:

☒ Yes☐ No

## LOG SCALE

SCALE RATE CPM AS FOUND % ERROR AS LEFT % ERROR

Log	200	200	0.0%	A.F.	
	2000	2000	0.0%	A.F.	
	20K	20 K	0.0%	A.F.	
	200K	200 K	0.0%	A.F.	

Is the As Found Data Within 20% of the Set Point?:

☒ Yes☐ No



## GRIFFIN INSTRUMENTS



## CALIBRATION CERTIFICATE FOR 44-10 PROBE # PR090262

Owner: AUSTIN MASTER SERVICES

DATE: 10/4/21

TECH: Joanne Glenn

LOCATION:

Griffin Inst

DATE LAST CAL EXPIRES:

12/30/21

☒ Due For Calibration☐ Other (See Remarks)

Cable Length: 39"

☐ Repair (See Remarks)☐ Due and Repair

I.S.: 10 mV

## NIST TRACEABLE EQUIPMENT AND STANDARDS USED DURING CALIBRATION

MODEL: 2221 SERIAL #: 115157 CAL. DUE: 10/4/22

SOURCE #: 99-1816 ISOTOPE: Cs137 ACTIVITY: 1.23 uCi ASSAY DATE: 08/12/99

GEOMETRY: Jig upside down with source underneath, activity side up, unless noted otherwise.

Physical Condition: ☒ Sat ☐ Unsat

Efficiency From Last Calibration:

Previous HV Set Point: 800 V

Counts (CPM)

Background (CPM)

Net CPM:

100723

6890

93833

AF Efficiency: 5.60%

Is the AF efficiency within 20% of the efficiency from the last calibration?

☒ Yes☐ No

Reproducibility: 100170 102030 99970 Average: 100723.33

Are the individual counts within 10% of the average?

☒ Yes☐ No

High Voltage:

Source Response (CPM):

Background (CPM):

Net CPM:

800
850
900
950
1000
1050
1100
1150

75070
83160
86710
91740
95010
100620
100730
103190

3960
5640
6440
7030
7390
7660
7420
7970

71110
77520
80270
84710
87620
92960
93810
95220

HV

RESPONSE

BACKGROUND

NET CPM

1100 V

100350

7830

92520

Efficiency:

5.52%

REMARKS: Previously calibrated by different company. Re-plateaued.

Does Instrument Meet Final Acceptance Criteria?:

☒ Yes☐ No

Calibration Sticker Attached?:

☒ Yes☐ No

Date Instrument is Due For Next Calibration:

10/04/21

INSTRUMENT MARRIED WITH

2221

# 115157

Performed/Reviewed by:

Joanne Glenn

Date: 10/4/2021

Entered by:

JG

Initials



# **ATTACHMENT 4**

## **Photos**



