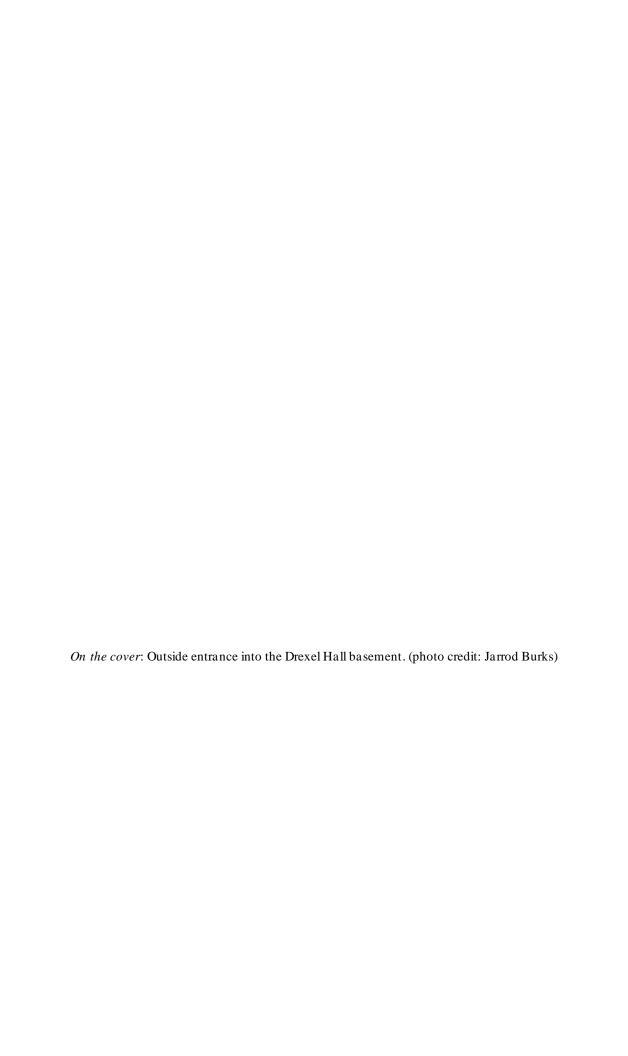


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OVAI Contract Report #2022-50

Excavation Results: Testing Two Ground Penetrating Radar Anomalies Detected in the Basement of Drexel Hall, Red Cloud Indian School, Pine Ridge, South Dakota

by

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Executive Summary

During the week of October 17, 2022, Marsha Small and a team from Ohio Valley Archaeology, Inc. conducted excavations at Red Cloud Indian School in the basement of Drexel Hall to examine the sources of two ground penetrating radar anomalies detected in a survey completed earlier in the year. The radar survey focused on an area of the basement where grave-like mounds of soil were once observed (in the 1990s) on the dirt floor of a small room. Walls of the room have since been demolished and the floor covered in concrete as part of a new HVAC system installation project in the late 1990s. The two radar anomalies were detected beneath the concrete floor.

The excavation work began with concrete saws and the removal of the concrete floor from an approximately 3.5x3.5-meter area, corresponding to the former location of the room in which possible graves were observed. Excavation then proceeded down by hand in 20-cm levels with shovels and trowels. All excavated sediment was screened through ¼ mesh to recover objects, bones, and other materials.

The excavations were taken down to 100 cm (~3.3 ft) below the floor surface, revealing the presence of an intact soil with A and B horizons developed into well sorted silt. Possible indications of what produced the radar anomalies include variability in the thickness of the gravelly substrate beneath the concrete (Anomaly 2) and a concentration of ancient animal burrows (Anomaly 1). Objects encountered during the excavation include oxidized iron building hardware of various ages, limited kitchen refuse (including animal bone), and naturally occurring animal bones (likely the remains of animals that created the many burrows cut through the excavation). No indications of graves or human remains were found

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Many individuals helped with this project. First and foremost, we are indebted to the witness of the three mounds of soil in the basement for having the courage to come forward with the story. The healing process related to Indian Boarding Schools is going to be a long one, crossing generations, with many steps along the way. Work to address personal accounts like this cannot fix the past, but it is important to advancing the healing process.

While on site at Red Cloud Indian School, Basil Braveheart and his son, Robert Braveheart, Sr. opened the excavation area with specific ceremonial protocols belonging to the Lakotah Nation. Marsha Small conducted the Northern Cheyenne protocols of protection for the archaeology team. The Bravehearts also closed the area at the end of the work.

The logistics of a project like this are many and we could not have accomplished the work without the thoughtful leadership and local arrangements by school administration, including Maka Black Elk (Director of Truth and Healing), Tashina Banks Rama (Executive Vice President), and Raymond Nadolny (President). Maka's strong and selfless commitment to furthering the healing process should not go unnoticed. Many others on the school staff also assisted in important ways. A facilities control team prepared the basement area for excavation with the installation of additional lighting and dust barriers to contain particulates. Above ground, the facilities control team erected the tent and provided other equipment to keep the screening area well-lit and protected. We greatly appreciated the efforts of the kitchen staff and the school for including the archaeology team on the lunch roster. And finally, many thanks to the students and other staff for allowing us to intrude on their lives for a week.

Excavations were led by Marsha Small and Jarrod Burks of Ohio Valley Archaeology, Inc. They were assisted by a small but effective field team from OVAI. The concrete removal team was led by Custom Concrete Removal, which included two ancestral lineage members of the Turtle Mountain Ojibwe. Two community interns, Lakotah and Northern Cheyenne, and multiple volunteers put in many hours at the screens and helped in myriad other ways. The archaeology team was assisted in the field by members of the FBI and the local tribal police force, who provided considerable extra muscle for carrying buckets of sediment up the stairs to the sifting area. Without this exemplary teamwork, the sediment removal and sifting would have taken twice as long as it did. We would also like to recognize the forensic expertise of Jonathan Bethard (South Florida State University) and his willingness to join us in the field for a couple days.

Introduction

From October 17 through October 20 of 2022, Marsha Small, a small team from Ohio Valley Archaeology, Inc., and a number of volunteers and others were on hand at Red Cloud Indian School in Pine Ridge, South Dakota to conduct a forensic excavation in the basement of Drexel Hall (Figure 1). This work focused on investigating two ground penetrating radar features detected earlier in 2022 beneath the building's basement floor. The radar survey was conducted to further examine an account of possible graves witnessed over twenty years ago on what was then the basement's dirt floor. This project was performed at the request of Red Cloud Indian School and Mr. Maka Black Elk, Executive Director of Truth and Healing.

The following report is organized in several sections. It begins with a brief introduction to the account that led to the radar survey and a summary of the survey results. A methods section outlines the approach of the excavations used to further examine the radar anomalies detected during the survey of the basement floor. This then is followed by a presentation of the project narrative and the excavation results, with details on the sediments, objects, and other indications of ground disturbance encountered during the project. A final section summarizes the report and provides thoughts on what might have happened to the grave-like mounds of soil.

Account of Possible Graves

In 1998, an employee of Red Cloud Indian School went into the basement of Drexel Hall at the request of their employer to check on a water leak. While there, they entered a small room just beyond the base of some stairs used to access the basement on the east side of the building. The room had one doorway, with wooden walls on three sides and a stone wall on the fourth. While in the room, the employee noted what appeared to be three grave-like mounds of soil on the room's dirt floor. They later asked their supervisor what these piles of soil might be, and they were instructed to not mention it further. The recent exposé of boarding school atrocities in Canada brought these memories back to the surface, precipitating interest and concern for sharing observations of the soil piles in the small room.



Figure 1. Excavation area location map on a 2016 aerial photograph of the core of the Red Cloud Indian School campus (imagery source: Google).

Geophysical Survey Summary

To test for the possible presence of graves, in May of 2022 a ground penetrating radar was used to scan the floor that was once located within the room in which a witness observed grave-like mounds (Figure 2). At the time of the radar survey, the floor was covered in what looked to be relatively new concrete, and the radar survey covered this newer-looking floor surface, an area about 3.5x3.5 meters in size. The results of the survey were assembled into a short report (Small and Burks 2022), and here they are briefly summarized to set the stage for the excavation. Radar data were collected along lines spaced just 10 cm (~3 inches) apart, with a radar scan down into the ground recorded once every 2.5 cm (1 inch) as the radar was pushed along the floor. Two datasets were generated in this way, with lines running in two different directions to make sure that no linear features (i.e., possible graves) were missed.

Radar data are recorded as profiles of the ground, extending from the surface down into the ground as far as the radar can penetrate. In this case, that was through the concrete, its substrate, and down into the ground about five feet. Once recorded, the radar profiles were transferred to a computer where they were combined and transformed into three-dimensional blocks, or volumes, of data. Like a CAT scan, these volumes were then sliced into flat plan maps of what the radar can "see" (in other words, reflect off of) below ground.

Figure 3 is an example one of the horizontal radar plan maps, also known as an amplitude slice map, produced from the data collected in the basement of Drexel Hall. Red areas are strong reflections while blue areas are weaker reflections. If a grave is to be detected and recognized, it must show up as a distinct area of radar reflections, or lack of reflections. In this case, we can see a linear area of stronger reflections that is about three times as long as it is wide—much like what we might expect for a grave. This radar anomaly (an area of "different" or distinct reflections compared to the background), was found at about 2 ft below surface and it was designated as Anomaly 1. It was detected in both radar datasets.

Figure 4 shows a series of radar amplitude slice maps at increasing depth. Anomaly 1 is visible deeper down, but higher up at 1 ft below surface there is another very strong radar anomaly, indicated as Anomaly 2. It is only slightly elongated in one direction, and it disappears fairly quickly as we look deeper into the data. While the radar produced variable readings all across the small survey area, only two distinctive grave-like anomalies were detected. Since many other kinds of things can produce grave-like radar anomalies, excavation was recommended in the report to determine what might be causing these distinctive radar anomalies.

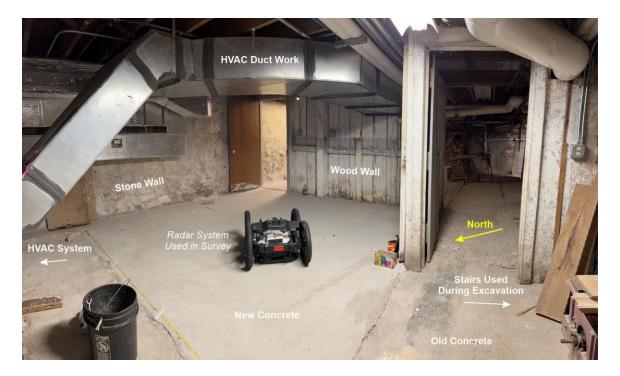


Figure 2. Image of the excavation area taken during the radar survey, showing the new concrete (the target of the excavation) versus the old concrete.

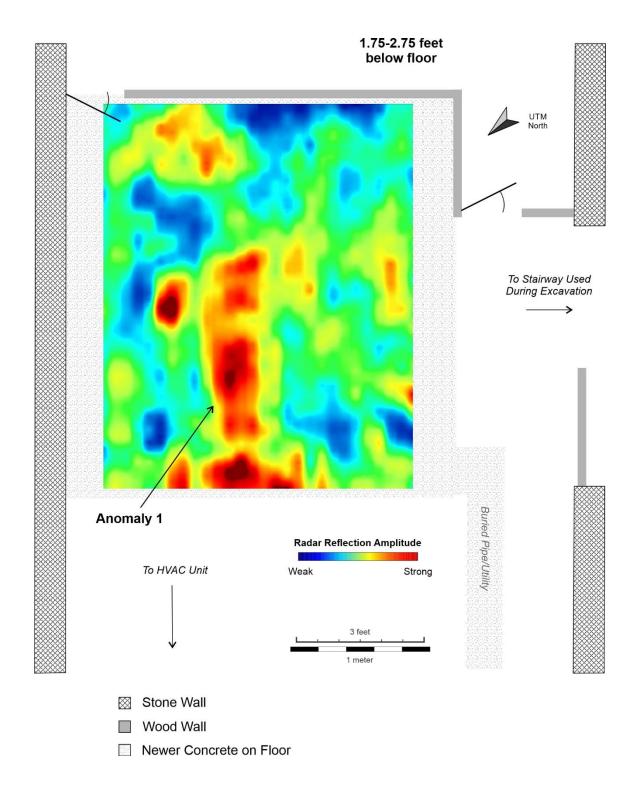


Figure 3. Plan map showing the radar results from 1.75-2.75 feet below surface. Red areas are stronger reflections and blue are weaker. The red area near the middle of the survey is about 3-4 feet long and about 1 ft wide. It stands out as being different and therefore was identified as a radar "anomaly" (Anomaly 1) of interest for further examination.

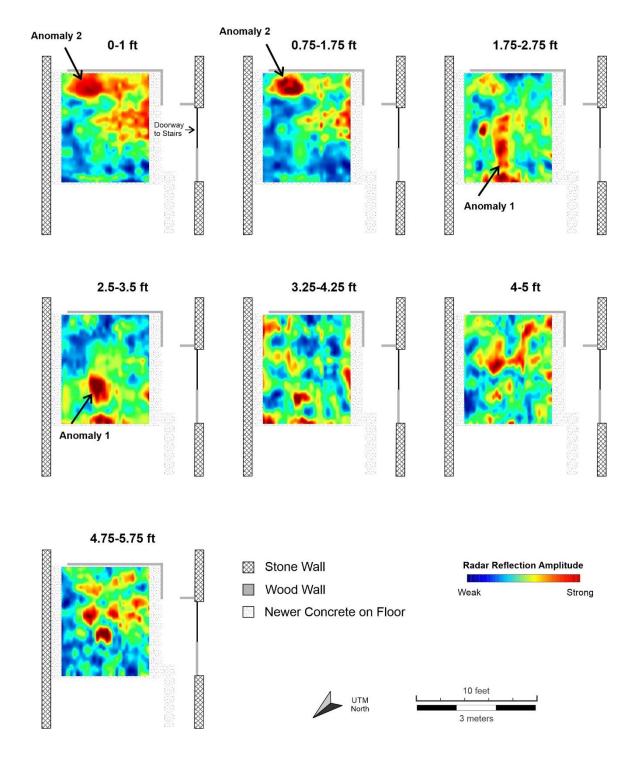


Figure 4. Results of the radar survey from various depths. Two areas of distinctive radar reflections were detected: just below the concrete (Anomaly 2) and deeper beneath the floor (Anomaly 1).

Excavation Methods and Project Narrative

The excavation approach was designed to quickly, and cleanly, locate the radar anomaly sources and determine if graves or human remains and/or clothing might be present beneath the floor. Graves, if present, might appear as circular to rectangular areas of disturbed or distinctly colored soil that extend down into the ground. Typically, the burial—in other words, the human remains—occurs close to the bottom of the grave. To be able to identify a grave, the bottom or floor of the excavation unit must be kept flat and periodically scraped clean so that subtle changes in sediment color can be observed all across the excavation area. In some cases, the color and texture of the sediment within the grave is so similar to the matrix around it that it is impossible to see graves in outline. Therefore, all sediment is sifted through a screen to determine if bones or other items associated with burials are present (such as buttons, fasteners, or other components of clothing).

The excavation work began with the removal of the concrete by a team of specialists, supervised by Marsha Small, the week before the arrival of the archaeology crew. A concrete saw was used to cut the floor up into pieces that could be hand carried out of the basement (Figure 5a). Water was used during cutting to help cool the saw and keep dust to a minimum. This approach was used, instead of jackhammering, to help protect the ground beneath the concrete from being damaged during the concrete removal process. A layer of sandy gravel was encountered just below the concrete. This was gently raked in preparation for the start of the excavation work (Figure 5b).

Excavation was conducted by hand with a mix of shovels and trowels (Figure 6). The sandy gravel substrate beneath the concrete was removed first as its own layer (Level 1, 10-15 cm below floor level). It varied in thickness across the excavation area and appears to have been added just before the concrete was poured as a means to help level the floor surface—it is typical to pour concrete onto a gravel base.

The excavation area was then divided into 1x1 meter squares to help keep track of where within the excavation the sediment was coming from as it was taken away to be screened (Figure 7). A simple grid pattern was maintained during the excavations using letters to designate rows and numbers to indicate columns. In this way, each unit was assigned a unique label (e.g., A1) that could be assigned to the buckets of sediment as they were taken away for screening. Units along two edges of the excavation (the D row and the 4 column) varied in size since the excavation area was not a perfect square. Only two units were under excavation at any given time to help limit accidental mixing of buckets on the way to the screens.

Screening took place outside on the paved surface between Drexel Hall and the cafeteria. A large portion of the area was covered by a tent to help insulate students and faculty from having to observe the recovery process (Figure 8a). A fence with heavy duty black fabric screened off the rest of the area. Sediment was processed through bipod shaker

screens with ¼ inch mesh (Figure 8), and the screened residuum was kept inside the tent as much as possible.

The excavation proceeded systematically in levels 20 cm thick, starting with units A1 and A3, then A2 and A4, and on to the next rows in a similar alternating pattern. In this way it was relatively easy to keep track of where objects were being found in the excavation. Anything that did appear in the screens was collected into bags labeled with the unit designator and the level (e.g., B2, Level 2). Once all units in a level had been excavated down 20 cm, the floor of the entire excavation area was thoroughly troweled down (Figure 7b), leaving it flat and clean so that the surface could be examined for signs of grave outlines and other features cutting into the sediment. Photo documentation was used to record the appearance of the cleaned level floors. Two kinds of images were produced for the base of each level: (1) a standard digital single-lens reflex camera (SLR) image from the side of the excavation area and (2) a scan combining LiDAR and digital photography (using an iPhone 13pro) to produce a three-dimensional model of the excavation that could be looked at from directly overhead. The latter is the preferred perspective for observing possible soil anomalies that might be related to graves. Once the excavation was complete, the same documentation process was used to record each of the excavation area's four walls (the north, south, east, and west profiles).



Figure 5. Concrete removal before excavation: (a) to help project what might below, the concrete was cut into section for removal by hand (rather than jackhammering), and (b) the concrete removed from the excavation area exposing the sandy/gravelly substrate used to level off the area before the concrete was poured (the surface was lightly raked after the concrete was removed).

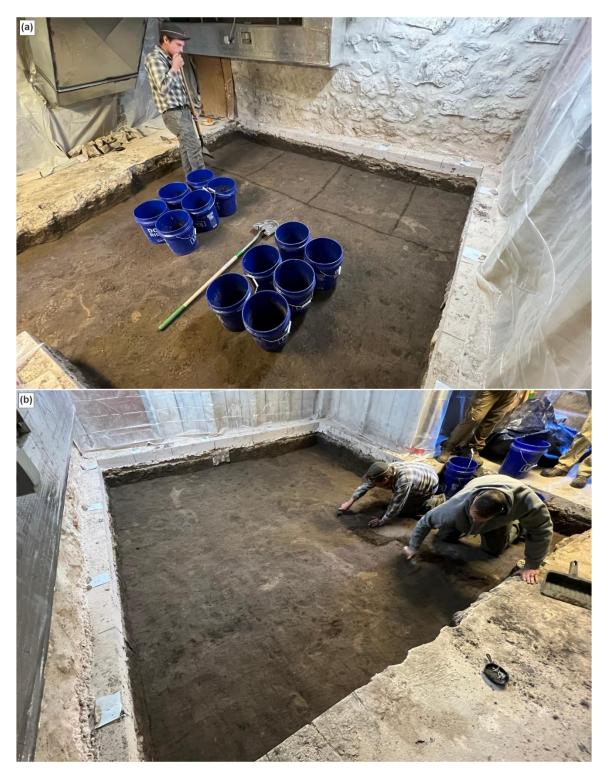


Figure 6. Excavation methods: (a) excavations occurred by hand with shovel and trowel in 1-meter squares 20 cm deep, (b) once the sediment was removed from a 20-cm-thick layer, the bottom of the layer was troweled flat to prepare it for photo documentation and three-dimensional scanning.



Figure 7. Excavation grid unit designations on a three-dimensional rendering of the excavation area in the basement of Drexel Hall.



Figure 8. Setup for screening the excavated sediment: (a) getting the screens established within the screening tent in the parking lot outside the building and just up some stairs from the excavations, (b) the screening team processing the buckets of sediment and piling the sifted results in a large berm for later backfilling.

Results of the Field Work

The excavation work occurred in five levels starting at 10 cm below the top of the concrete and extending down to 100 cm (~3.25 ft):

Level 1: 10-15 cm (gravel)

Level 2: 15-35 cm (topsoil-A horizon) Level 3: 35-55 cm (topsoil-A horizon) Level 4: 55-75 cm (subsoil-B horizon) Level 5: 75-100 cm (subsoil-B horizon)

Once the gravel leveling substrate beneath the concrete was removed (and screened), the sediment surprisingly turned very dark in color (Figure 9a) and was moist and very silty. As the digging continued, the moisture level remained about the same as the sediment became progressively lighter in color with depth. Very distinctive linear and circular soil discolorations were revealed everywhere within the excavation and appeared to rapidly increase in number with depth. These clearly are the remains of animal burrow complexes. While most burrows were filled in, a few remained opened. In the final level, from 75-100 cm, the sediment became much firmer from compactness but was not drier. Rather than finding rocky fill beneath the Drexel Hall basement, we instead appear to have found an intact soil profile—a collection of distinct soil layers or horizons that normally would develop after centuries or millennia of development beneath grass. This means that the ground beneath the basement floor was once part of an active, developing soil at the ground surface. In other words, this part of Drexel Hall is sitting on top of an old ground surface, rather than being excavated down into the ground.

Figure 10 provides a basic description of the soil profile exposed in the east wall of the excavation. While a bit of the top of the A horizon (the topsoil) was removed by the installation of the building, the bottom of the A horizon remained intact beneath the concrete, as did the AB and top of the B horizon toward the bottom of the excavation. This active prairie soil is exactly the kind of setting in which to find colonies of burrowing animals such as prairie dogs and gophers. A look at the other excavation block profiles in Figure 11 reveals more evidence of animal burrows, variability in the thickness of the gravel substrate beneath the concrete, and other signs of disturbance in the form of a concrete support column foundation and a utility trench in the western profile.

With numerous discolorations in the soil, it was difficult to spot possible soil features during the excavation. This challenge is highlighted in the four images of the cleaned excavation floors (the level plan views) provided in Figures 12 and 13. In the shallow plan views at 35 and 55 cm below surface there are relatively few animal burrows, but by 75 and 100 cm the soil is almost entirely animal burrows. These likely accumulated over hundreds of years, and the construction of the school on top of the soil halted this process. Particular attention was focused on the location of radar Anomaly 2 to determine if a grave might be present there. In Figure 13 the location of Anomaly 2 from the radar data is indicated by a white dashed line. At no point during the excavation did this area produce the recognizable outline of a grave, nor were any human remains or clothing found in this area. Instead, the density of animal burrows seems most concentrated in this small area, and thus the remains of this animal activity likely are what created Anomaly 2.

Two other features were also revealed during the excavations. A small cluster of bricks was found in the northwest corner just beneath the concrete (Figure 14a). The bricks were carefully set in a flat layer within the gravelly fill beneath the concrete. No human remains or other indications of a burial were found within or beneath the bricks. They appear to have been used to level off the area before the concrete was poured. A thickened area of gravelly substrate was also found to be associated with Anomaly 2, toward the southeastern corner of the excavated area. Figure 14(b) shows the thickened gravelly layer in profile. No human remains or other signs of a burial were found in this material, either.

While no human remains or other signs of burials were uncovered during the excavations, a number of animal bones, rusty pieces of iron, and other objects were recovered. Table 1 provides a summary of these objects, and a map showing their distribution by level is presented in Figures 15 and 16. Appendix A provides a more detailed breakdown of object type and frequency. In all, 637 objects were uncovered in the excavations. From the maps in Figures 15 and 16, we can see that nearly all the objects (94%) were found in Levels 1 and 2—the sandy gravel substrate (Level 1) used to level the surface prior to pouring concrete and the remains of the topsoil (Level 2) beneath it. The objects do not appear to cluster in any one area, as if they were deposited in a pile or within a pit. Instead, they are widely scattered across the excavation area, especially in Level 2.

Bone objects—all non-human animal bone—are the only things that occur across all levels of soil (no bone was found in the sandy gravel beneath the concrete, Level 1). In Figure 15 we can see that they are most numerous in Level 3, but they do not appear to cluster in any specific area within the excavations. Animals represented include small rodents, a bird, and larger non-human mammals (identifications by Dr. Jonathan Bethard, University of South Florida)

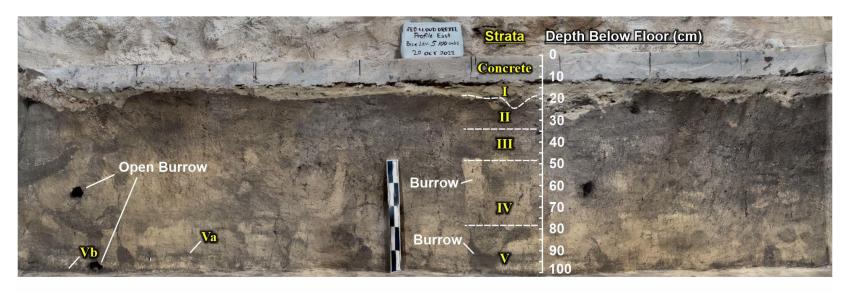
Other objects consisting of a variety of material types also were recovered. Metal objects, such as nails, are the most numerous with 325 objects. Small scraps of wood (possibly bits of old lumber, perhaps construction debris) are the second most common material recovered, with fragments of brick and mortar close behind. The remainder of the objects include small pieces of plastic, some glass fragments, and other miscellaneous or unidentifiable bits. As a group, these objects appear to primarily be construction or building related materials or tools. Some are from the original construction of the building (e.g., square nails), while others were discarded more recently (e.g., saw blades). A small percentage of objects may be refuse left behind on the surface before the building was constructed.

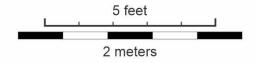
Table 1. Summary of objects recovered during the excavation.

Level	Bone	Metal	Plastic	Wood/ Charcoal	Glass	Brick/ Mortar/ Plaster	Rock	Feather	Unknown	Tot
1	0	69	2	53	5	69	0	0	5	203
2	6	256	12	48	30	25	0	0	3	374
3	12	0	0	9	0	0	1	0	0	10
4	2	0	0	0	0	0	1	1	1	3
5	3	0	0	5	0	0	0	1	18	24
Total	23	325	14	115	35	94	2	2	27	637



Figure 9. Excavation results: (a) excavation work in progress finishing Level 1 (15-35 cm below concrete surface), and (b) perspective view, base of final excavation at 100 cm below concrete surface.





- I. 10YR 6/2 (light brownish gray), medium (commercial?) sand leveling material added before pouring concrete; contains rusted iron hardware such as nails.
- II. 10YR 3/2 (very dark grayish brown), silt loam with few small wood charcoal fragments and few animal burrows. Probable bottom of a buried/relict A horizon (topsoil).
- III. 10YR 4/2 (dark grayish brown), silt loam with increasing bioturbation. Possible bottom of an A horizon from a buried/relict soil.
- IV. 10YR 4/3 (brown), silt loam with common animal burrows filled with a mix of darker topsoil from above and lighter subsoil from below. Possible AB horizon of a buried/relict soil.
- V. 10YR 5/3 (brown), firm silt loam subsoil (?) with very common animal burrows. Probable B horizon of a buried/relict soil.
- Va/b. 10YR 4/2 (dark grayish brown) dark bands within the B horizon that appear all across the excavation unit and are disturbed by extensive animal burrows.

Figure 10. Eastern profile with soils descriptions (50 cm scale bar).







Figure 11. Excavation unit profiles, continued, showing variability in soils at edges of the excavation (50 cm scale). Lensing (the presence of thin soil layers stacked one atop the other) results from small soil infilling events, often visible as thin layers, that fill up depressions or open spaces such as animal burrows. The soil typically is brought in by water or animal activity.





Figure 12. Overhead (plan) view of the excavation at 35 cm (14 inches) and 55 cm (22 inches) below the top of the concrete.



Figure 13. Overhead (plan) view of the excavation at $75 \, \text{cm}$ (30 inches) and $100 \, \text{cm}$ (40 inches) below the top of the concrete.



Figure 14. Features and debris encountered during the excavation: (a) a cluster of bricks in Level 1 used for filling in and leveling the floor before pouring the concrete, and (b) a deeper undulation in the gravelly substrate used to level the floor before the concrete was poured.

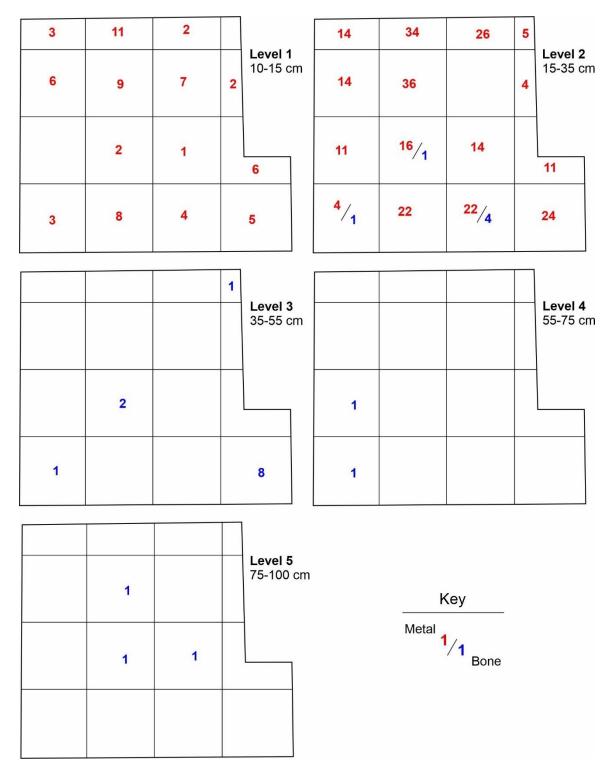


Figure 15. Numbers and locations of metal and bone objects found during excavation and screening.

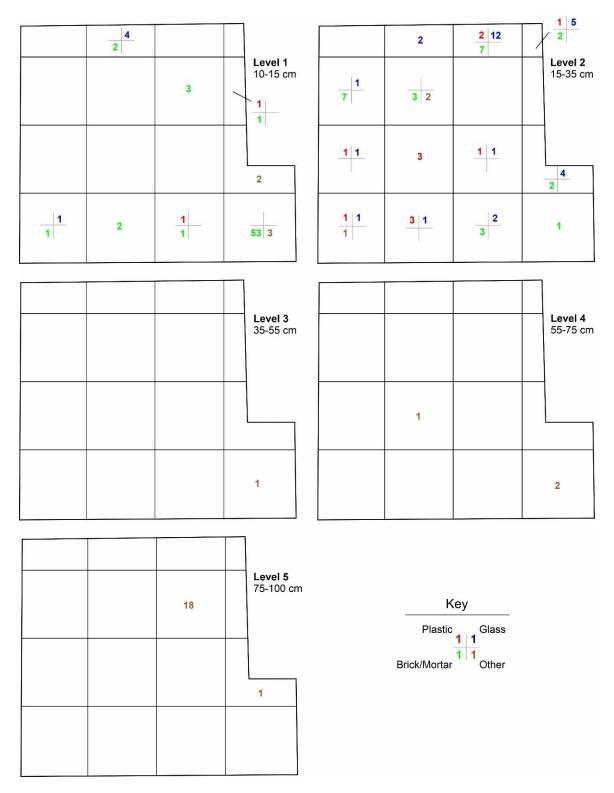


Figure 16. Numbers and locations of other objects found during excavation and screening.

Summary and Conclusions

Archaeological excavations of a 3.5x3.5-meter area conducted in the basement of Drexel Hall during the week of October 17, 2022 focused on two primary goals, (1) evaluating the sources for two distinctive radar anomalies detected beneath the concrete floor earlier in the year, and (2) determining if human remains are present in the same area. These investigations follow on a recent account of a school employee who in 1998 observed the presence of three grave-like mounds of soil located on the dirt floor of a small room near the eastern basement stairs.

The excavation work began with the removal of the concrete and its gravelly substrate. From there, the excavation proceeded down in 20 cm levels to a depth of 100 cm beneath the floor surface. All sediment was processed through ¼ inch mesh screens. Excavation level floors were cleaned and photographically documented, and artifacts recovered during the process were bagged by level within 1x1-meter units laid out in the excavation area.

The excavations located probable sources for radar Anomalies 1 and 2. Anomaly 1, which was approximately the size and shape expected for a small grave, was found to be related to a concentration of filled animal burrows. No signs of a grave or human remains were present. Anomaly 2, which was shallow and somewhat small for a grave, was closely associated with a downward dip in the gravelly layer beneath the concrete. No bones or other burial-related objects were found in the fill within this slightly deeper area of the gravelly layer. Therefore, neither Anomaly 1 nor Anomaly 2 are related to a grave.

A total of 637 objects was recovered from the excavations. These consist primarily of building-related materials and refuse, including nails, brick fragments, and other rusty iron objects. A selection of small bones and bone fragments was also found. All are non-human. Most of these objects are small rodent bones deposited naturally. Others come from animals larger than a human, such as livestock or perhaps bison. While many of the bones were naturally deposited, prior to the construction of Drexel Hall, most of the recovered objects were likely deposited during the construction or renovation of the building—in other words, they are building-related debris.

In conclusion, no evidence of graves was found beneath the concrete floor, nor were any bones or other signs of burials recovered from the soil. No indications of the soil mounds were found beneath the concrete floor. That said, surface-level burials covered with small mounds of soil might not have been sufficient to contain the odors commonly associated with tissue decomposition, making it much more likely that such graves would have been discovered by others.

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 $\boldsymbol{Appendix}\;\boldsymbol{A}.$ Inventory of objects recovered during the excavation.

Bone objects recovered during the excavation (from Bethard 2022).

Level	Unit/Context	Animal Class or Material Type	Description/Anatomical Region
2	A-1	Mammal	Fragment of a non-human long bone or rib
2	B-2	Mammal	Mammal carpal or tarsal bone
2	C-1	Mammal	Fragment of a non-human long bone or rib
2	C-1	Bird	Carpometacarpus (part of a bird wing)
2	C-1	Mammal	Fragment of a non-human long bone or rib
3	A-1	Mammal	Rodent metapodial (front or hind foot bone)
3	B-2	Mammal	Rodent cranial bone
3	B-2	Mammal	Rodent mandible (lower jaw-left side)
3	D-1	Rock/Mineral	Rock or mineral fragments
3	D-4	Mammal	Rodent bone
4	A-1	Mammal	Rodent cranial bone
4	A-2	Mammal	Rodent mandible (lower jaw-right side)
5	B-2	Mammal	Rodent humerus
5	B-3	Mammal	Rodent bone (possible pelvic region)
5	B-3	Mammal	Rodent femur

Metal objects recovered during the excavation.

Units	Nail	Fastener/Screw	Washer	Nut	Sawblade	Hook	Wire	Welding Rod	Door Hardware	Metal flake/ oxidized	Unide ntified	Total
Level 1												0
A1	2					1						3
A2												0
A3											6	6
A4											3	3
B1	3	1			1					2	1	8
B2	2											2
В3	2	1									6	9
B4	2	1	1				1				6	11
C1	1									1	2	4
C2											1	1
C3	2	1									4	7
C4											2	2
D1	1	1		2				1				5
D2											6	6
D3	1										1	2
D4												0

Metal objects recovered during the excavation.

Units	Nail	Fastener/Screw	Washer	Nut	Sawblade	Hook	Wire	Welding Rod	Door Hardware	Metal flake/ oxidized	Unide ntified	Total
Level 2												
A1											4	4
A2	7				1						3	11
A3	7										7	14
A4	2										12	14
B1	2	2								1	17	22
B2	6									1	9	16
В3	15									1	20	36
B4	8	1						1	1		23	34
C1	2					1		1			18	22
C2											14	14
C3												0
C4	6						1		1		17	25
D1	7	2									15	24
D2											11	11
D3		1									3	4
D4	1										4	5
Levels 3, 4, 5												0
Total	79	11	1	2	2	2	2	3	2	6	215	325

Units	Pop/ Beer Tab	Tape	Styrofoam	UNK Plastic	Wood	Charcoal	Glass bottle	Glass Flat	Glass button	Brick/ Mortar /Plaster	Chipped Rock	Feather	Uniden tified	Total
Level 1														
A1								1		1				2
A2														0
A3										6				6
A4														0
B1					1					2				3
B2					1									1
В3					3									3
B4					9		1	3		2				15
C1		1			4					1			·	6
C2													·	0
C3					4					3			·	7

Units	Pop/ Beer Tab	Tape	Styrofoam	UNK Plastic	Wood	Charcoal	Glass bottle	Glass Flat	Glass button	Brick/ Mortar /Plaster	Chipped Rock	Feather	Uniden tified	Total
C4					11									11
D1					3					53			3	59
D2					14								2	16
D3			1		3					1				5
D4														0
Level 2														
A1		1			5			1					1	8
A2		1			10			1						12
A3					13			1		7				21
A4														0
B1		1	2					1						4
B2	1	1		1	7									10
В3													2	2
B4								2		3				5
C1								2						2
C2								1		3				4
C3			1											1
C4				2	9		3	8	1					23
D1					1					7				8
D2					3			3	1	1				8
D3										2				2
D4				1			2	3						6
Level 3														
A1						1				2				3
A2														0
A3														0
A4														0
B1														0
B2														0
В3														0
B4						1								1
C1					1	1								2
C2						2								2

Units	Pop/ Beer Tab	Tape	Styrofoam	UNK Plastic	Wood	Charcoal	Glass bottle	Glass Flat	Glass button	Brick/ Mortar /Plaster	Chipped Rock	Feather	Uniden tified	Total
C3					1	1								2
C4						1								1
D1											1			1
D2														0
D3														0
D4														0
Level 4														
A1														0
A2													1	1
A3														0
A4														0
B1														0
B2														0
В3														0
B4														0
C1														0
C2														0
C3														0
C4														0
D1											1	1		2
D2														0
D3														0
D4														0
Level 5														
A1														0
A2														0
A3														0
A4														0
B1														0
B2														0
В3														0
B4						5								5
C1														0

Units	Pop/ Beer Tab	Tape	Styrofoam	UNK Plastic	Wood	Charcoal	Glass bottle	Glass Flat	Glass button	Brick/ Mortar /Plaster	Chipped Rock	Feather	Uniden tified	Total
C2														0
C3													18	18
C4														0
D1														0
D2												1		1
D3														0
D4														0
Total	1	5	4	4	103	12	6	27	2	94	2	2	27	289