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Artifact Discard Eligibility: A Potential Alleviation to the Growing Curation Crisis

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by

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ABSTRACT

This thesis discusses current and past issues surrounding archaeological curation, often referred to in relevant literature as the “curation crisis”. Curation facilities lack the space and time to properly curate legacy collections, which in turn increases the cost necessary to curate modern collections. Some archaeologists propose discarding materials rather than curating them; however, by discarding materials from a collection the future research potential of the collection is negatively affected. In an attempt to alleviate this curation crisis while minimizing damage to future research opportunities, this thesis proposes a model for the systematic discard of certain machine-made, non-diagnostic, historical artifacts both in current and legacy archaeological collections. This model will be referred to as the Artifact Discard Eligibility Model (ADEM). This thesis defines the ADEM and tests its efficacy on both a modern collection created from a Cultural Resource Management (CRM) survey and a legacy collection.

INDEX WORDS: Curation Crisis, Artifact Discard, Artifact Discard Eligibility Model, MARTA Collection, Laboratory Methods, 36 CFR 79, Historical Archaeology, SR 17, Wilkes County

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DEDICATION

I would like to dedicate this thesis to my family. Most importantly, I would like to thank my wife Aspen Kemmerlin, who has been so supportive of my growth and journey as an archaeologist. Even though we have both been incredibly busy during this time in our lives, she has still always been there whenever I've needed to talk about anything. It's very helpful to have a life partner who is also an archaeologist. We have had so many great discussions about my thesis that have helped me tremendously. I would like to also thanks my parents, Greg and Caroline Blank. My parents have been very supportive in my pursuit of archaeology. I found archaeology late in my undergraduate career, totally switched gears to pursue it, and my family was somehow still okay with it. Thank you to everyone that has helped me along this journey.

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1 INTRODUCTION

The primary goal of this thesis is to explore the effects, both positive and negative, that selective artifact sampling can have on the curation of archaeological collections by applying a model that will be referred to as Artifact Discard Eligibility Model (ADEM). In Chapter 2 I review the predominant issues in curation that archaeology is faced with today. These issues are often referred to as aspects of the "curation crisis" in relevant literature (Childs 1995; Kersag 2015; Marquardt et al. 1982). In sum, the issues that affect curation today are primarily issues of space, cost, and time (Bawaya 2007; Kersag 2015). Curation facilities that were already struggling to maintain the collections they had grew even more encumbered following the passing of laws such as 36 CFR 79 in 1990, which mandated strict guidelines regarding the curation of Cultural Resource Management (CRM) collections in particular (NPS 2020). These collections are numerous, as CRM work represents the vast majority of archaeological work conducted within the United States today (King 2008). These collections can also be very large at times, particularly when historic sites have been documented (Warner 2019). The other major issues of the curation crisis relate to how to properly deal with legacy collections, which are often very large and poorly documented (Kersel 2015). Without changing some aspects of how we curate as archaeologists, the issues of cost, space, and time that make up the curation crisis will only continue to worsen. Even now, some federal agencies such as the United States Army only allow for the curation of diagnostic objects when archaeological projects are conducted on Army property (US Department of the Army 2007). By proactively addressing the curation crisis, the archaeological community can avoid potential futures in which federal agencies decide not to curate at all to avoid the cost, or only allow for very limited collections that are severely constrained in their research potential.

Having established the urgency of these curation concerns and the underlying causes of these issues, in Chapter 3 I discuss the effects that sampling strategies could have in addressing the curation crisis, and then propose a new artifact sampling strategy that I refer to as the ADEM. Artifact sampling can be conducted in numerous ways. In a sense, any CRM project that is not fully mitigating a site is sampling a site in some way (King 2008); however, even beyond that, additional methods of sampling the artifact assemblage have been employed by archaeologists both historically, and currently (Crane and Heilen 2019). I then summarize the potential adverse effects of no-collection strategies, as these strategies, in my opinion, do not provide enough data for future archaeological researchers. Others propose only curating a portion of an archaeological collection rather than the collection in its entirety, and only after the collection has been analyzed (Crane and Heilen 2019; Kersel 2015,). Some CRM practitioners employ limited collection sampling strategies such as this, with some conducting in-field analysis and reburying what will not be curated while others bring all artifacts to the laboratory and make decisions on culling parts of a collection at this point (Crane and Heilen 2019).

Following these discussions, I detail the ADEM and how it functions. Such a practice could have a significant effect regarding the paring down of both legacy collections through deaccessioning, and incoming CRM collections through pre-accession sampling and culling. By reducing the size of a collection, and therefore the number of boxes necessary to curate, this practice is also more financially appealing for the CRM practitioner. In CRM, archaeological sites are evaluated under Section 106 of the National Historic Preservation Act (NHPA) for their eligibility for the National Register of Historic Places (NRHP). A site is determined to be eligible or not based on a set of established criteria. This thesis proposes that a similar process could be taken in determining whether or not certain materials of an archaeological collection are "eligible" to be discarded due to their limited future data potential. I then establish the process that I use to test this model. Metrics regarding the amount of time and labor cost that would go into the process, as well as how the process effects the size of a collection will be recorded. I also set expectations in Chapter 3 regarding the level of detail necessary when it comes to documenting items that will not be curated.

In order to establish whether or not this method would effectively reduce the size of incoming CRM collections, this method is applied to a moderately sized collection currently housed at the CRM firm Vanasse Hangen Brustlin (VHB) archaeology laboratory in Atlanta, Georgia. In Chapter 4, I present a detailed discussion on the VHB SR 17 collection, including the history of the VHB SR 17 collection, the nature of the sites that were tested, the field and laboratory sampling methods that had already been employed prior to employing this model, and my personal history with the collection as well as my reason for choosing it. I then detail the results of employing the ADEM on this collection. These results include a detailed breakdown on how much the collection shrunk through both a weight comparison and a space estimate, what was determined to be eligible for discard, and the amount of time it took to complete this process.

In Chapter 5, I apply the ADEM to an existing legacy collection. In order to test the model's efficacy with legacy collections, I use site 9FU91, a large, historic municipal dump site from the MARTA legacy collection housed at Georgia State University (GSU). Chapter 5 follows a similar structure as Chapter 4, with a focus on 9FU91. A legacy collection poses different issues, as documentation of this collection will likely not be as detailed as modern CRM collections. Testing in this thesis attempts determine whether it is possible to reduce the size of a legacy collection prior to the collection being brought up to modern curation standards in order to make that process easier, or if it instead is necessary to fully curate a legacy collection prior to performing a sampling strategy such as the one proposed. I discuss the history of the MARTA collection, its status as a legacy collection, the history of data collection for site 9FU91, what sampling methods were used, and why I chose this site in particular. I then present the overall effects that the ADEM had on the collection from 9FU91 in terms of both size and weight, issues that I encountered during data collection, and the amount of time it took to complete this process.

Analyses of the data are not limited to just the quantifiable metrics produced. A discussion in Chapter 6 addresses the critical question of how much data would be lost if such a strategy were employed. By discarding some physical materials, there is inherent destruction of potential data, regardless of how well the materials discarded were documented. In Chapter 7 I make concluding remarks, and outline my perspective on how research regarding alleviations to the curation crisis should continue in the future.

2 THE CURATION CRISIS

In this chapter I provide information regarding issues with archaeological curation in the United States both historically, and in the present. These issues are often referred to as a "curation crisis" (Childs 1996; Kersel 2015; Marquardt et al. 1982). As with most crises, the circumstances that have led to the current curation issues are many and go back decades. I discuss the history of these circumstances below.

2.1 Early Advocation for Curation Standards

In the United States concern regarding the utility of archaeological collections for future research began to grow in the 1970s. Countless archaeological collections were housed all over the United States with greatly varying degrees of accessibility. Developing a model for adequate curation was considered by archaeologists at the time to be vital to the continuation and relevance of archaeology within the United States. William Lipe proposed as much in a 1974 article titled, "A Conservation Model for American Archaeology". Lipe (1974:213) details the need for proper conservation in archaeology because by excavating archaeological sites, we "exploit a non-renewable resource." Primarily, he argued for a focus on the conservation of archaeological sites by avoiding sites. This was just then becoming a pertinent issue due to the recent passing of both the National Historic Preservation Act (NHPA) in 1966 and the National Environmental Policy Act (NEPA) in 1969. Under these laws, excavating an archaeological site that has potential for eligibility on the National Register of Historic Places (NRHP) is considered a mitigative action that then allows the archaeological site to be destroyed by construction. However, Lipe (1974) was also aware that avoidance of archaeological resources was not always going to be an option. He argued for the long-term survival of archaeological collections through the advocation for additional storage space. He also argued that when an archaeologist is forced to discard a collection, that a representative sample of that collection should always be taken (Lipe 1974:240). While Lipe understood the necessity of curation and conservation, he felt that some items should be curated in museums, while others could be curated in permanent but less maintained environments such as burying artifacts in cement capsules underground (Lipe 1974).

Efforts were made in 1975 to codify the responsibilities that archaeologists have for preserving archaeological collections in the first *Code of Ethics and Standards of Performance*, created by the Society of Professional Archaeologists (SOPA). These ethical responsibilities included the archaeologist's responsibility to share their data with fellow researchers and keep adequate record of their work (SOPA 1981). These ethical standards went as far as to say that all curation facilities must be "adequate," "permanent," and "proper," but never defined what any of these standards would actually look like (Marquardt et al. 1982:411). Without defined standards, the SOPA *Ethics and Standards of Performance* inherently left it up to each individual archaeologist to define for themselves what they felt was adequate in terms of archaeological curation.

In order to attempt to establish regulations that were more defined, members of the archaeological community such as William Marquardt, Anta Montet-White, and Sandra Schultz began to advocate for at least minimum set-standards that curation facilities needed to abide by in order to curate archaeological materials (Marquardt et al. 1982). Most archaeologists agreed that there was a problem, but studies showed that regional differentiation made it difficult to come to one solution regarding how to approach improving curation facilities (Marquardt et al. 1982).

Marquardt and colleagues (1982) went on to define what they felt would constitute "adequate" curation. These standards focused on defining both initial processing requirements, and long-term curation requirements (summarized in Table 1). The goal was for these standards to be detailed enough that all collections would be at least useable, but flexible enough to allow for differentiation depending on the type of collection that was being curated. The standards they highlight are far more detailed and stricter than anything proposed by Lipe (1974) or in the first SOPA *Ethics and Standards of Performance.*

This early attempt at defining what was necessary for an archaeological curation facility is important for multiple reasons. For one, many of the standards defined by Marquardt and colleagues closely resemble curation facility standards throughout the country today (NPS 2020, University of Georgia Archaeology Laboratory 2021). They also closely resemble guidelines for CRM collections that were codified into federal law in 36 CFR 79 in 1990 (NPS 2020). Additionally, along with these standards, Marquardt and colleagues also correctly predicted the substantial costs that would come with curation standards, both to the facilities and to the CRM companies and academic archaeologists who needed to preserve their data (Marquardt et al. 1982).

To address this potential pitfall of curation, they outlined how the cost of curation should be considered before any archaeological work is conducted at all in initial budget calculations. They acknowledged that there would be a large amount of variability in terms of how ready an archaeological collection might be when it reaches a curation facility that meets the minimum standards previously outlined. In order to account for this, each curation facility must develop their own formulas for cost of curation (Marquardt et al. 1982).

Table 1. Adequate Curation Requirements (after Marquardt et al. 1982:412-413)

Category	Standards
Initial Processing Requirements	Artifacts sorted, cleaned, catalogued
	Provenience information recorded, identification of the artifact recorded
	Material, condition of artifact recorded
	Supporting documentation included (maps, photographs, field notes, drawings, etc.)
Long-Term Curation Requirements	Collection adequately organized in stabile storage conditions that would not deteriorate.
	Organization easily searchable
	Facility needs to be properly maintained by qualified personnel.

2.2 36 CFR 79

An important development in the necessity of curatorial practices in archaeology was the passing of 36 CFR 79 in 1990. This law defines regulations pertaining to the curation of federally owned and administered archaeological collections. In many ways, these standards are what Marquardt and his colleagues were proposing almost a decade prior, although the reach is limited to federal collection curation. The standards hold CRM professionals responsible for the proper management of archaeological collections created by work necessitated under the National Historic Preservation Act (NHPA), the Reservoir Salvage Act, or the Archaeological Resources Protection Act (ARPA) (NPS 2020). The hope was to address the problematic conditions highlighted by Marquardt et al. (1982) and Ford (1977) among others.

Regulation 36 CFR 79 covers the curation of materials from excavations conducted under the authority of, or in connection with Federal agencies, laws, and permits. In addition to new collections, the responsibility falls on the federal agency to also review and evaluate preexisting collections and repositories that hold these collections. The law requires that collections that were created prior to the passing of 36 CFR 79 be brought up to the standard that is defined in the regulation. The federal agency is financially responsible for collections care (NPS 2020). These responsibilities are often passed on through contract from the federal agency to CRM firms that work on federal projects. In these cases, the responsibility lies with the CRM firm to properly curate a collection.

Detailed standards are defined in 36 CFR 79 for how archaeological materials should be kept, what should be kept, and where they should be kept, necessitating that the chosen repository for federal collections must be able to "accession, label, catalog, maintain, and conserve a collection on a long-term basis in accordance with professional museum and archival standards" (NPS 2020). The building itself also has to be up to code in terms of fire emergency systems, intrusion systems, and other security measures. If there are exhibits at the curation facility, those also must be properly maintained up to the standards that are described in the regulation.

Federal collections must also be made available for public study by curation facilities for scientific, educational, and religious uses. This must be maintained while limiting access to information that might cause looting at archaeological sites (NPS 2020). Collections are required to go through frequent inspection by the curation facility, and also must be available for inspection by a variety of stakeholders such as indigenous tribes and other descendent communities (NPS 2020).

Regulation 36 CFR 79 represented a big step in archaeology within the United States towards necessitating curatorial practices as part of the archaeological process. The regulation specifically states that collections must be curated in a manner so that they can be maintained "in perpetuity" (NPS 2020). The law has much more detail with regards to how this should happen than previous efforts by the archaeological community such as guidelines put forward in the *Code of Ethics and Standards of Performance* in 1975. It should be noted that the regulation does not have the legal language necessary to impose punishment on archaeologists, CRM companies, federal agencies, or curation facilities who do not follow these guidelines (NPS 2020). The lack of substantial enforcement allows for proper curation to be overlooked by federal agencies and CRM firms and allows for curation to continue to not be adequately funded on the federal level (Childs 1995).

Curation facilities often have to balance their efforts. New collections coming to facilities are held to standards at least as strict as those highlighted in 36 CFR 79 (A. Waring Lab 2007; University of Georgia Laboratory of Archaeology 2021), but what are often referred to as "legacy" collections (collections that predate the 1990 regulation) have yet to be brought up to the current standards for curatorial practice.

2.3 Growing Collections Create Growing Issues

Despite the passing of 36 CFR 79, many of the same issues surrounding proper curation persisted into the 1990s, and in some ways became even worse due to the increased number of collections curated at federal facilities. Terry Childs (1996) highlights the ongoing issues in a piece titled simply "The Curation Crisis." Childs (1996) highlights the same concerns that Marquardt and colleagues (1982) had in the 1980s, including that federal curation facilities lacked the materials necessary to properly curate items in perpetuity and those collections lacked proper searchable databases and records. Due to these issues, more collections could not be used for future research due to their level of inaccessibility (Childs 1996).

While Childs acknowledges that regulations such as 36 CFR 79 have somewhat improved conditions, it was clear that by 1996, not much had changed at curation facilities, especially regarding the care of legacy collections. Childs (1996) felt that the roots of the curation crisis lay in the fact that archaeologists primarily think of excavation as archaeology, and curation only as an afterthought. This often led to a poor allocation of resources in project budgets, which lead to artifacts being kept in inadequate curation facilities. Even some of the best curation facilities lack funding and are ill-equipped to care for the large collections that they house (Childs 1996). Childs argued in 1996 for federal agencies to take a more proactive stance in actually conducting inspections of curation facilities that are part of the 36 CFR 79 guidelines (Childs 1996).

Child's research shows that the lack of "teeth" in the 36 CFR 79 regulation led to the regulation having a lesser impact on curation facility quality, at least in the short term and especially when it came to the care of legacy collections, for which federal curation facilities lacked funding to properly bring up to standard. As previously mentioned though, one thing that 36 CFR 79 did change was how curation facilities handled incoming collections, and the standards that they imposed on CRM firms and federal facilities in terms of what kind of shape a collection must be in when it is sent to the curation facility. The ramifications of these changes began to become more noticeable in the 2000s, as the increased number of collections from federal projects began to fill up federal curation facilities and stress their limits in terms of collection intake (Bawaya 2007). Without funding to address curatorial issues concerning legacy collections or a lack of space, curation facilities in some circumstances were forced to stop accepting any new collections, or to only accept a limited amount of collections. In 2001, only one curation facility in Colorado was still accepting materials from all areas of the state. Other facilities were forced to become more focused on specific regions (Lyons et al. 2006). When facilities can no longer accept collections, CRM firms are forced to keep collections in-house in facilities that may or may not be up to standards set forth in 36 CFR 79.

To combat these growing concerns, Childs (1999) even began to consider the necessity of deaccessioning certain materials from federal archaeological collections in a 1999 piece titled, "Contemplating the Future: Deaccessioning Federal Archaeological Collections". Childs felt that the potentially necessary process of deaccessioning collections was a complicated one that must be approached with great care so as not to damage the usefulness of archaeological collections. Childs (1999) outlined a four-step process in developing a comprehensive plan for deaccessioning artifacts (Table 2).

These comprehensive steps did not lead to the passing of any regulations regarding deaccessioning and federal collections. An addendum to the previously passed 36 CFR 79 was proposed (Childs 1999), but never passed. As no official guidance has been codified regarding federal collections and deaccessioning, how to go about removing items from a collection is still an issue that is debated today. Due to the lack of guidance, little deaccessioning from federal legacy collections has happened outside of deaccessioning related to NAGPRA.

Table 2. Steps in Developing a Comprehensive Deaccessioning Plan (Childs 1999:41-44)

Step 1: Adequate Research Design	Developing a collecting strategy for each project before they start.
	When sampling is necessary, this process is developed and supervised by an archaeological professional knowledgeable in the particular type of site being sampled.
	Consultation with the curatorial staff of the repository, telling them about any sampling strategies that were employed.
Step 2: Identifying a Repository and Setting up Curation Agreements	Select a repository with a mission statement, long-range goals for collections and research, and a strong, compatible scope of collections statement.
	Develop a deaccessioning agreement with the curation facility that also includes advisors from any community whose past is being excavated.
Step 3: Determining when Deaccessioning is Necessary	Examining all possible alternatives to deaccessioning.
	Determining which materials should be deaccessioned. At this point, a proposed addendum to 36 CFR 79 outlined which objects could potentially be deaccessioned. This addendum was never passed into law.
Step 4: Education on Curatorial Responsibilities	Comprehending the size and complexity of the database of existing collections.
	Comprehending federal and state laws on curation and the constraints under which curators work.
	Understanding how to apply sampling strategies to collections, not just sites, and the importance of recording which procedures were practiced.

outside of deaccessioning related to NAGPRA due to this lack of guidance. How we determine what to sample in archaeological collections being prepped for curation, and whether or not we should get rid of objects that we have already curated are major issues that have a significant influence on the curation crisis now. Current thoughts on issues of deaccessioning and how they influence the curation crisis are highlighted in the following section of this chapter.

2.4 Curation Concerns Today: What is Worth Keeping?

These issues of space, as well issues of poor collections conditions and usability, continue today. These issues are not limited to the United States either, with quality of facilities and a lack of space affecting archaeological work all over the globe. While this thesis is focused on curation issues within the United States, other perspectives such as Morag Kersel's (2015) investigation of the curation crisis in the Mediterranean can help inform a discussion on curation within the United States as well.

For Kersel (2015), space is a primary issue that is affecting curation practice today, and therefore must be addressed within the field of archaeology. While a lack of space is the root cause of the problem, Kersel also believes that the conversation should go beyond just figuring out where to put everything, and that it also involves the people, progress, publishing and ethical responsibility of conducting archaeology. Kersel (2015: 44) states, "the underlying difficulty in solving the curation crisis is not simply whether to build more and better storage facilities, but whether the prevailing paradigm, favoring archaeological fieldwork over processing, publication, and permanent curation of materials from field projects and must change." A focus on fieldwork in archaeology creates more collections than are actually used for research. While fieldwork is necessary in CRM contexts, the lack of consideration that curation receives in budget preparation is also a concern. A problem of this scale necessitates solutions that limit the size of collections that come from fieldwork. In the next chapter I explore how artifact sampling has been used, both effectively and ineffectively, as a potential alleviation to the curation crisis by limiting the number of archaeological materials that must be curated.

Throughout the United States, individual states are trying to find potential solutions to the ongoing curation crisis. The Governor's Archaeology Advisory Commission Curation Subcommittee of Arizona published an article outlining potential solutions to the curation crisis occurring within the state in 2008 (Lyons et al. 2008). These issues mirror the issues facing curation facilities throughout the country, and as outlined above, in areas throughout the world as well. A lack of adequate space and funding for curation led to the issues Arizona is facing today. In order to combat these challenges, the committee made three major policy recommendations regarding curation (Lyons et al. 2008:2):

- An increase in space available to repositories for curation, including rehabilitation of existing spaces to accommodate more artifacts, and procuring new spaces.
- An increase in funding for curation through endowments and fee structures that actually meet the costs of curation.
- Effective management and long-term strategic planning of collections by the archaeologists who create collections and the repository staff who manage them. This would include excavation plans that incorporate more, but limited, representative sampling. It would also include limiting excavation entirely when possible and encouraging (or maybe even requiring) the use of existing collections for research instead.

These standards were developed through consultation and surveys conducted of repositories, archaeologists, and Native American tribal groups throughout the state. This allowed the commission to have a good feel for what issues curation facilities were facing, and what solutions could actually benefit those facilities. One topic that was discussed both in meetings and in surveys was whether or not materials in collections should be deaccessioned after being curated, or if portions of collections should be culled prior to curation, or both. There was a strong consensus against either practice in both the meetings and surveys (Lyons et al. 2008). It should be noted though that while the consensus was against culling collections, the discussion focused mostly on precontact objects such as metates. When asked about machine-made objects, most meeting attendees and survey recipients were more in favor of deaccessioning and culling objects such as brick, or window glass, but also thought that these decisions have to be made by a trained professional (Lyons et al. 2008: 14).

Upon examination of the curation crisis, it is abundantly clear that while certain aspects of the crisis, such as curation facility standards, have improved over time, curation facilities have faced significant challenges when it comes to space and collections management throughout the twentieth century, and continue to face such problems today. Continued dialogue on the issues facing curation is necessary in order to create solutions. One potential solution to the curation crisis that has continued to be brought to the forefront by experts in the field since the 1970s is the use of artifact sampling strategies and altering the ways we think about collecting materials.

3 DEVELOPING AN ARTIFACT SAMPLING STRATEGY: ARTIFACT DISCARD ELIGIBILITY

One primary way that archaeologists can limit the impacts that a collection can have on the curation crisis is to limit the volume of cultural materials curated. Archaeologists in the United States, especially since the passing of NEPA and the NHPA, have experimented with ways in which they might limit the size of archaeological collections. These potential solutions to the curation crisis take the form of numerous different artifact sampling techniques that have been employed by both CRM and academic archaeologists. This chapter discusses how artifact sampling strategies have changed over time, and the general perception of the archaeological community regarding their efficacy today.

3.1 No-Collection Policies

CRM projects in the 1970s were still in a relatively new period in terms of determining how to handle and best approach regulations set forth in the National Historic Preservation Act (NHPA) regarding how to conduct archaeological survey for federal projects. Often in the late 1970s, only very limited excavations were actually performed during the initial archaeological survey effort for federal projects. Instead, areas that were to be developed were subject to surface reconnaissance, referred to as pedestrian survey, and areas with the highest probability of an archaeological site were shovel tested (Butler 1979). On some early federal projects, little to no artifacts were collected during survey, with archaeologists instead deciding to simply record the site. Even if artifacts were located at the surface or in a plowzone context, they were usually left "in situ" and simply documented. Proponents of this method of testing argued that by not disturbing a site, the site would better retain its archaeological integrity and be more likely to be eligible for the NRHP (Butler 1979).

Those opposed to this method of archaeological survey, such as William Butler, argued against this notion of better preservation through limited testing and essentially not collecting artifacts. Butler argues that even just a surface collection of artifacts, or artifacts located in disturbed plowzone contexts, have the ability to generate a wealth of information regarding the nature of an archaeological site, and are much more likely to fall victim to looting practices or destruction due to their presence on or close to the ground surface (Butler 1979).

Going beyond the initial evaluation of the site, Butler (1979) stated that a no collection policy severely limited future research potential because the field archaeologists cannot possibly account for all of the potential research questions future archaeologists might have. These future questions would be much more readily researchable if some of the material remains of that site still existed (Butler 1979). One might argue that with a no collection strategy, that data would be readily available at the site location and would only require excavation to uncover; however, as previously discussed, the potential for that data at an archaeological site to be disturbed or even completely destroyed could be very high. A vast majority of archaeological sites identified through CRM work are recommended as not eligible for the NRHP and are subsequently not afforded protection from federal development. Even when sites are protected from federal development, they are not necessarily protected from private development, or the potential for artifact looting.

While no-collection strategies have been heavily criticized, they are still enacted to some degree today; however, what is entailed in a no-collection strategy has changed significantly over time. Today, if a limited collection or no-collection strategy is employed, artifacts are often analyzed in the field, and a robust data set including classification, weight, photographs, and contextual data are recorded for every artifact that is not collected from the site (Crane and

Heilen 2019). The addition of tablets (or other portable computers) with internet or cellular capabilities into the archaeological toolkit has made this possible. After in-field analysis is conducted, artifacts are reburied at the site in question. Similar processes are used outside of the United States as well and are sometimes referred to as "Catch-and-Release" archaeology (Kersel 2015).

Brian Crane and Michael Heilen set out to determine the validity of this type of sampling strategy through testing. In their experiment, two archaeological sites were used as test cases. Two field technicians analyzed and took photos of the artifacts in the field. Two different field technicians that specialized in lithic and ceramic analysis respectively then analyzed the artifacts again in a laboratory setting. Four total datasets were created with separate analyses by each field technician. While there was some overlap between the four datasets, the experiment showed that the most accurate data was obtained when artifacts were analyzed by a technician in a lab (Crane and Heilen 2019).

The implications of this experiment for no-collection strategies are significant. The variability in the four datasets, and the overall lack of reliability from datasets obtained in the field, show the importance of at least recovering a portion of the artifacts identified at an archaeological site from the field, and analyzing them in the lab. Without an artifact assemblage, it becomes exponentially more difficult for future archaeologists to catch errors in the initial analysis process. While photographs of artifacts were taken in the field as documentation, presumably even the quality of the artifact photos would improve if photos were taken in a laboratory setting after the artifacts have been cleaned. Based on this study, Crane and Heilen (2019) conclude that no-collection strategies should not be used, and caution against the use of in-field analyses. Beyond the potential pitfalls highlighted above, the process of artifact reburial is also problematic in some ways. By reburying archaeological materials at a site location, the archaeologists are further disturbing the site by creating a false context of already excavated artifacts. The locations of these artifacts can be noted through GPS coordinates, or other accurate means, but the exact locations of the buried collections may or may not be correct. Future excavations at an archaeological site that has undergone an artifact reburial practice prior might yield inaccurate data. The accuracy of locational data for reburying collections will undoubtedly continue to improve over time, but the possibilities of inaccurate future data should be considered before reburying a collection.

3.2 Limited Collection Policies

Given the degree of uncertainty regarding in-field analysis and the necessity of some tangible data from archaeological sites to truly allow for future research, no-collection policies appear to be less than ideal. In order to limit the impact of archaeological sites on curation facilities but still collect enough accurate data to allow for accurate future research, limited collection policies are sometimes employed instead of no-collection policies. These can differ greatly in terms of what artifacts are collected, and in what manner artifacts are analyzed depending on who is conducting the work and in what context.

Archaeological excavations with limited-collection policies in a lot of ways hope to reach a “best of both worlds” approach, in which enough of a collection is curated to allow for future research, but enough is discarded to keep a collection smaller and more manageable for curation. Catch and release policies at times do collect only diagnostic materials, and meticulously record the remainder of materials (Kersel 2015). Other limited collections policies call for the curation of a set percentage of each non-diagnostic artifact class and discard the remaining (Crane and Heilen 2019).

Due to the large number of CRM projects within the United States, certain federal agencies actually require a limited-collection policy when conducting archaeological work. Army Regulation 200-1 directs that any archaeological work associated with the Army limit collections to "diagnostic artifacts and other significant and environmentally sensitive material that will add important information to site interpretation" (US Department of the Army 2007, as cited in Crane and Heilen 2019). This is not limited to the Army, as the Navy have similar regulations as well (US Department of the Navy 2001, as cited in Crane and Heilen 2019).

In terms of state regulations and State Historic Preservation Office (SHPO) recommendations, what is allowed and what is recommended vary significantly from state to state. Crane and Heilen (2019) found that Arizona, New Mexico, and Oregon actively encourage no-collection strategies, while other states either do not address the issue, or do not encourage the practice of no-collection or limited-collection strategies. The Texas Historical Commission (THC) actively encourages artifact sampling, citing curation concerns as their primary reason for doing so. While the THC encourages artifact sampling, they discourage artifact analysis in the field, encouraging that a historic artifact professional examines the artifacts so that the site is accurately characterized. The THC also requires the photography of all artifacts (THC 2021).

3.3 Limited Collections Strategies in Historical Archaeology.

While most limited collection strategies or archaeological recommendations on artifact sampling and deaccession can be applied to both precontact and historic archaeological collections, a growing number of archaeologists feel that historic collections in particular should be subject to deaccession and limited collection.

As mentioned previously, in a survey conducted by the Governor's Archaeology Advisory Commission Curation Subcommittee of Arizona, most respondents felt that while artifact sampling in precontact contexts should not be done, historic collections can and should be sampled to some extent by trained professionals. Objects that might be subject to sampling could include aluminum cans, brick and mortar, as well as other building materials (Lyons et al. 2008). The THC argues that historic artifacts are better suited for artifact sampling (THC 2001). Archaeologist Mark S. Warner (2019) calls for selective artifact sampling of historic materials, with a focus on machine-made historic artifacts.

For federal projects, all cultural remains that are 50 years or older must be considered archaeological and evaluated (King 2008). In 2021, that means material remains as recent as 1971 must be considered archaeological. To properly evaluate archaeological sites archaeological materials are collected. Due to rapid population growth throughout the United States in the 20th century, as well as the very nature of these material remains, historic archaeological collections (particularly those from the 20th century) tend to be larger in size compared to precontact or colonial era archaeological collections. Therefore, more recent archaeological sites tend to place a greater burden on curation facilities (Warner 2019).

Warner (2019) argues that machine-made artifacts are inherently less unique than those produced with human hands. Since there are hundreds, and sometimes thousands of the same type of machine-made artifact at a site, there is less of a reason to curate and keep that artifact. Precontact artifacts, by contrast, are made by an individual with unique actions. He argues this uniqueness of an artifact should factor into decisions about curation. Warner is careful to note that not curating all historic artifacts does not mean that historic archaeological sites should not be considered for eligibility on the NRHP. Just because each individual artifact doesn't necessarily need to be curated does not mean that a site is inherently insignificant (Warner 2019).

With previous research regarding artifact sampling strategies in mind, I develop and test a methodology for a consistent limited collection policy. This policy has been developed with a focus on historical archaeological collections with the goal of successfully limiting curated archaeological materials with a minimal impact on the data potential of the archaeological collection.

3.4 Developing a Limited Collection Sampling Methodology

To create an effective limited collection policy, multiple factors must be considered from prior research. First, through testing provided by Crane and Heilen (2019), in-field analysis appears to not provide accurate enough data to be reliable. Second, all artifact classes are not created equal, and it is apparent that non-diagnostic machine-made historic artifacts both take up more space and are less unique than non-diagnostic precontact artifacts. Finally, regardless of artifact type, in order to preserve a representative sample of an archaeological collection, at least some of every type of artifact must be preserved.

3.4.1 The NRHP Process of Site Evaluation

Archaeologists, and in particular, CRM archaeologists, are very familiar with evaluating whether or not archaeological materials should be preserved. In fact, the NHPA necessitates this type of evaluation for archaeological sites endangered by federally funded projects. The NRHP is the US government's list of cultural resources (historic structures, districts and archaeological sites) deemed worthy of historical significance. The NRHP is derived, in part, from passage of the NHPA in 1966. Section 106 of the act (36 Code of Federal Regulations [CFR] 800.1 – 800.16) requires all federal agency undertakings, either fully or partially funded by the federal government, to consider the potential impacts of that undertaking to cultural resources. The Section 106 process requires that if a cultural resource, such as an archaeological site, is identified through survey, then that cultural resource must be evaluated for its eligibility to the NHRP.

Regulation 36 CFR Part 60.4, *Criteria for Evaluation,* establishes the eligibility criteria used to evaluate the eligibility of an archaeological site for the NHRP. Cultural resources can be determined eligible if they:

A. Are associated with events that have made a significant contribution to the broad pattern of history;

B. Are associated with the lives of persons significant in the past;

C. Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possesses high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction, or;

D. Have yielded, or are likely to yield, information important to prehistory or history.

These criteria allow for a range of different historic sites to be considered eligible for the NRHP. Typically, archaeological sites are nominated for the NRHP under Criterion D because of their data potential. A variety of conditions can contribute to an archaeological site's data potential, including integrity of location, materials, and design. Uniqueness of the archaeological site plays an integral role in determining whether or not the site is eligible. If the site has the potential to contribute unique data to our understanding of the past, it is more likely to be considered eligible and preserved (Hardesty and Little 2009).

3.4.2 Artifact Eligibility as a Methodology: Incoming CRM Collections

A similar method of considering set criteria and uniqueness can be employed on the physical materials recovered from these archaeological sites. Like archaeological sites as a whole, each individual artifact has potential to contribute to our understanding of the past. While artifacts from archaeological sites contribute to our understanding of each site, we do not always need the physical artifact to be curated in order to fully understand or preserve an archaeological site. In the ADEM I propose that a series of questions about every artifact can allow the researcher to determine how unique an artifact is, how relevant that artifact is to understanding an archaeological site, and therefore how necessary it might be to curate that artifact. The questions act as a flow chart, with each step providing a separate criterion that the artifact can either meet or fail to meet (Figure 1). A detailed explanation of each step in the flow chart is provided below.

1. *Hand Crafted or Machine-Made*: First, a determination must be made as to whether the artifact has been hand-crafted or machine made. This automatically rules out materials from precontact sites. For historic archaeological sites, a large percentage of the material remains encountered will likely be machine-made, with an increase in percentage of machine-made artifacts the more recent a historic site is. While machine-made artifacts could have unique traits, they are potentially eligible for discard.

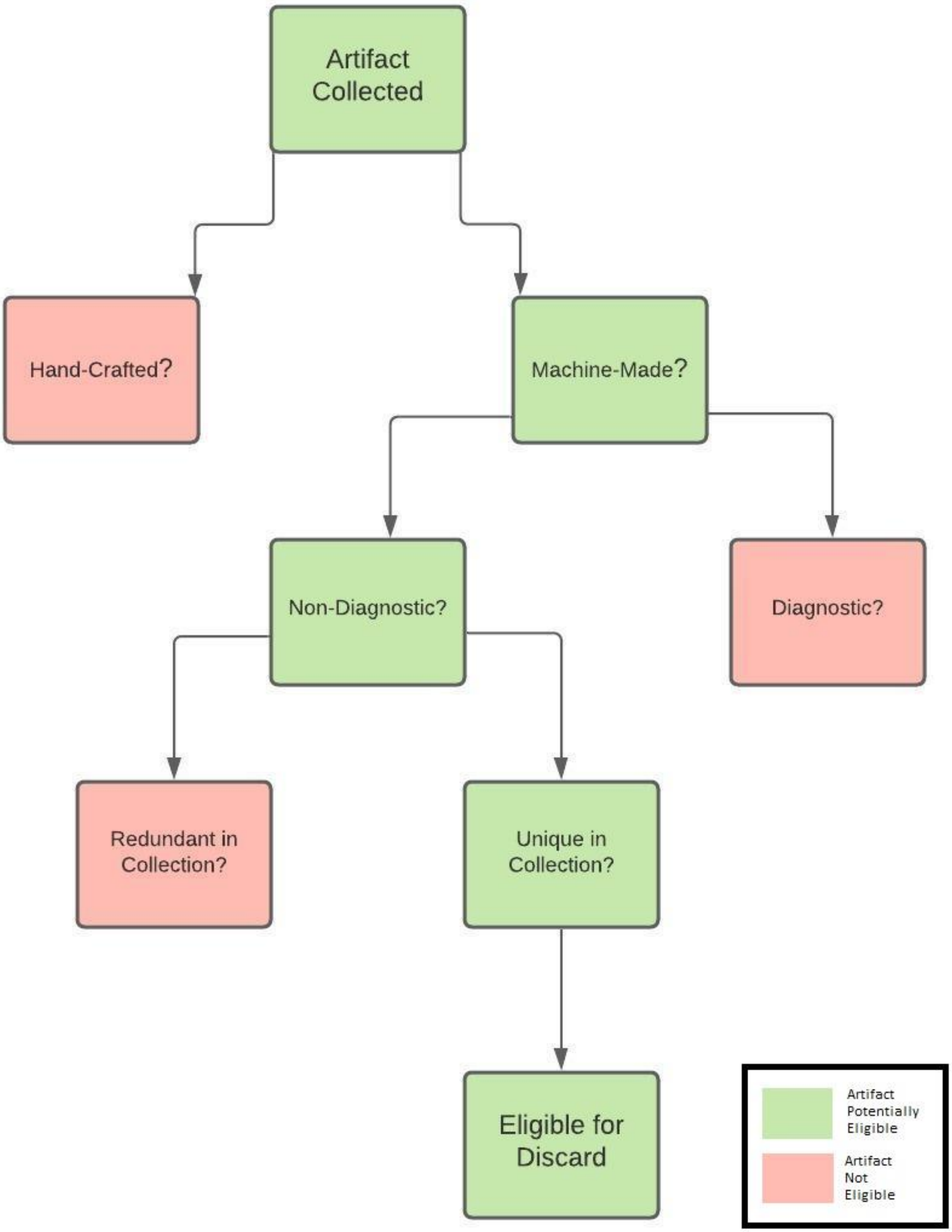


Figure 1. Artifact Discard Eligibility Flowchart.

2. *Diagnostic or Non-Diagnostic:* After determining that an artifact is machine-made, the next step is to determine whether or not an artifact is "diagnostic". A diagnostic artifact is defined more broadly. How diagnostic an artifact class might be is to some degree up to interpretation. For example, all square nails can be associated with the late nineteenth to early twentieth centuries. A square nail could still be determined to be "non-diagnostic" at the discretion of the laboratory manager on the basis that it cannot be associated with a very specific date range, such as a glass bottle with a maker's mark, or a ceramic sherd with a motif only created during a specific decade. Artifacts that are determined to be non-diagnostic and machine made are potentially eligible for discard.
3. *Redundant or Unique in Collection*: Even if an artifact meets the above criteria, the artifact may be the only artifact of its particular classification present from an archaeological site. If this is the case, the artifact should be kept. If there are multiple examples of an artifact, then the artifact is still potentially eligible for discard.
4. If an artifact has gone through the eligibility criteria highlighted in steps 1 through 3 and still is potentially eligible for discard, then it is up to the laboratory manager's discretion whether or not it is necessary to curate that artifact. The laboratory manager may still choose to curate that item for many reasons, such as the artifact's association with an important person or event. If the laboratory manager determines that the artifact might be discarded, they must also consider the amount of that exact class of artifacts in a collection. Regardless of whether or not an artifact meets the above criteria, 10% of all artifact types should be curated. For example, if 100 square nails were found at an archaeological site and the laboratory manager determined that square nails were potentially eligible for

discard, then at least 10 square nails should still be curated as a representative sample even if they are determined eligible for discard. This artifact sample should be chosen by the laboratory manager with careful consideration. For example, if 10 square nails will be kept, the manager might choose to keep 10 nails showing a range of deterioration or might choose to keep the 10 best preserved nails. For glass body sherds, if 10 sherds will be kept, the archaeologist might decide to keep 10 body sherds that appear to be from 10 separate bottles or the 10 largest fragments. As each archaeological site will differ, determining which 10% of an artifact class to keep should be a decision made on a case-by-case basis. If less than 10 artifacts are present from the archaeological site, then it is up to the discretion of the laboratory manager in determining how many of each object should be kept, with the general rule that at least one object of every class should be curated.

The flowchart above has been kept intentionally simple. The initial determination of which artifacts are potentially eligible for discard should be able to be accomplished by a laboratory technician. This process ideally would be done during the typical laboratory analysis process for incoming collections from any CRM project. All artifacts when brought into the lab should be washed, regardless of whether or not they might later be discarded. As the cleaned artifacts are analyzed, they should be subject to the above flow chart, and artifacts that could be potentially eligible for discard should be separated. Modern standards for artifact curation typically require that each artifact class is bagged separately. In order to reduce waste of expensive curation quality bags and tags, artifacts classes that are deemed potentially eligible for discard should be washed, but not immediately bagged in curation quality bags, but instead held in a temporary storage environment (such as a biodegradable paper bag) until a final decision on the artifact is made.

While this separate bagging process could potentially slow down the laboratory process as it is another step, I believe that artifact classes that will often be flagged as potentially eligible for discard, such as nails, brick fragments, unidentifiable metal fragments and glass body sherds, will quickly present themselves, which will make the process smoother. It is likely that after repeated use of the ADEM that CRM laboratory practitioners would be able to create lists of artifact classes most likely to be eligible for discard. If these classes are easily identifiable, then the only real difference in the initial laboratory process would be bagging artifacts potentially eligible for discard separately.

Upon completion of an initial artifact catalog and making initial determinations on artifacts eligible for discard, these decisions should be reviewed by a laboratory manager, and the principal investigator working on the project. If, after review, artifacts are determined to either be not eligible for discard or that they should still be curated for other reasons, at this point they can be bagged in curation quality bags.

Artifacts that have been determined to be eligible for discard at this point should be photographed. Each artifact class from each shovel test or test unit should be photographed separately with a scale. If there are any noticeable differences on one side of the artifacts from another, multiple photographs showing the entire artifact should be taken. These photographs should be labeled and curated with the collection either digitally or as printed photographs depending on the requirements of the curation facility.

In addition to the main artifact catalog for a collection which has all materials listed, a separate catalog should be created just of the artifacts that will be discarded. This catalog will be curated with all other final curation materials as well. In the “main” catalog, all artifacts that were discarded should be clearly labeled as having been discarded so that future researchers can clearly tell which artifacts were discarded. The entire process of the ADEM is summarized in the table below.

Table 3. Steps to the Artifact Discard Eligibility Model.

Step	**Details**
Step 1: Processing	Artifacts potentially eligible for discard should be washed and sorted as part of the collection as a whole.
	As artifacts are washed and sorted, they should be brought through the ADEM flowchart, and artifacts potentially eligible for discard should be separated.
Step 1: Processing	Artifacts potentially eligible for discard should be catalogued along with the rest of the collection. Artifact weights and counts would be taken at this stage. This is necessary for many artifact analyses both in the present and in the future.
	During the bagging process of curation, artifacts potentially eligible for discard should be bagged in biodegradable bags rather than curation quality bags.
Step 2: Separation	In the "main" catalog, all artifacts that were bagged separately should be flagged.
	Upon completion of an initial catalog, all decisions made by laboratory technicians should be reviewed by both the laboratory manager and the principal investigator assigned to the project
Step 3: Review	If artifacts that were initially flagged as potentially eligible for discard are deemed to be necessary for the collection, these artifacts should be rebagged in curation quality bags, and the flags in the main catalog associated with these objects removed.
	A separate catalog should be created for artifacts that have been determined to be eligible for discard.

Step 4: Documentation	All artifacts eligible for discard should be photographed so that the entire artifact can be visually inspected through photographic means in the future (Photograph both sides of the artifact).

3.4.3 Artifact Discard Eligibility Model: Legacy Collections

While I originally conceptualized the ADEM as a way to reduce the size of collections not yet curated, as I conducted research on the curation crisis, it became clear that incoming collections are only part of the ongoing problems curation facilities face today. Legacy collections sit in desperate need of rehabilitation in curation facilities across the nation (Childs 1995). Discarding materials from federally curated legacy collections is complicated, as regulation 36 CFR 79 was never amended to establish deaccessioning protocols for collections. In practice, the most common reason that materials are deaccessioned from federal collections is in association with the Native American Graves and Repatriation Act (NAGPRA), not to remove materials that might not be necessary (King 2012). While there are currently no established standards for deaccession in regulation 36 CFR 79, by testing the validity of the ADEM on a legacy collection, some progress might be made in establishing these standards.

The ADEM in a legacy collection setting would function very similarly as it did for incoming CRM collections. The flowchart is the same (see Figure 1), and the general pattern of artifact study is the same. One small difference is who is conducting the work. For collections at federal facilities, this work could be conducted by curation facility staff. For collections housed at universities, the work could be conducted by students under the supervision of a professor with laboratory experience. The primary differences in dealing with a legacy collection and dealing with an incoming collection lie primarily in the state of the collection. As legacy collections can be in varying states of disarray, some preliminary work might be necessary before the model can be applied. Before work should occur on a legacy collection, the analyst should understand some key aspects about the collection:

- Where the collection is from, when it was first collected, and what type of project it was (i.e., is this collection from a large-scale academic excavation? A CRM Phase III mitigation? A large Phase I survey? There are many types of collections)
- Who has legal control over the collection, the repository or an outside entity that must be contacted if deaccessioning were to occur?
- What sampling methods were used in creating the original collection. Has the collection already undergone sampling either in the field or in the lab?
- Is there an artifact catalog? If there is, how accurate is that catalog? Establish an understanding of the catalog system.
- Get a general feel for the state of the collection. How much of the collection has been brought up to modern curation standards? Are artifacts labeled? Are artifact bags labeled? If artifacts are still in paper bags, have the paper bags deteriorated?

Once the analyst has collected the above information, they will have a good feel for whether or not it is feasible for the ADEM to be applied. Without at least a reasonably accurate catalog and artifacts housed in materials that are at the very least labeled, it would not be feasible to apply this model. It is necessary to have enough information to discern how unique artifacts are in a collection, and what context the artifacts come from. If there is enough information, then the process can begin.

As legacy collections are already curated, the process of deciding which objects to discard will obviously not be occurring alongside the cataloguing process. Therefore, before going through the physical collection, artifacts potentially eligible for discard can be identified by using the existing artifact catalog. This saves time, as not every bag or box will need to be looked at physically. This also will help to prevent damaging sometimes delicate older curation materials like paper bags unnecessarily.

After artifacts potentially eligible for discard are identified, the analyst can begin to pull boxes and confirm whether or not the artifacts are eligible for discard. If artifacts are eligible for discard, they should be weighed and photographed, then placed in a temporary bag to be prepped for deaccessioning and eventual disposal. A separate catalog should be created of discarded material. If the original artifact catalog is digitized, then a new copy of the catalog should be made with any changes in artifact count documented. The original artifact catalog should always be preserved. If artifacts are determined to not be eligible for discard, they do not need to be weighed or photographed, and should be re-bagged. As artifacts in older collections may have been lumped together, it is possible that some artifact bags might hold objects that are eligible and objects that are not eligible. In these cases, any changes to the original catalog should be documented in the catalog copy. An example of this might be an artifact bag of glass body sherds that contains both non-diagnostic body sherds and embossed body sherds. If the embossed body sherds are to be kept and the plain body sherds discarded, then the "new" catalog should reflect that the bag now solely contains embossed body sherds.

Discarding materials from a legacy collection will hopefully free up space in many artifact boxes currently housing that collection. This will therefore necessitate a reorganizing of the collection post-discard. Of course, this should only be done after the materials have been fully removed from the collection. How best to re-house the collection will vary for each collection, and these decisions should be made by the curation facility staff. For instance, if the collection is already housed in curation quality material, then much of those materials can likely still be used. If the collection was housed in non-curation materials such as cardboard boxes and paper bags, then this may be a good opportunity to rehouse the entire collection in curation quality materials.

3.5 Testing the Artifact Discard Eligibility Model

With the Artifact Discard Eligibility model established both for legacy collections and incoming CRM collections, Chapters 4 and 5 outline my efforts to test this model in both circumstances. As mentioned above, I use a CRM collection currently housed at a CRM firm in Atlanta, Georgia and the MARTA collection currently housed at Georgia State University. Data gathered will help to establish whether or not the ADEM is effective at reducing the size of collections. Metrics collected during the ADEM process are summarized in the table below.

Table 4. Data to be Collected from a Legacy Collection.

Data Collected
All artifact weights will be collected for artifacts deemed potentially eligible for discard.
The total weights of collections will be collected in order to determine what portion of the collection is potentially eligible for discard.
Catalogs will be created for artifacts potentially eligible for discard that match what has been outlined in section 3.4.3.
Artifact photos will be collected that match what has been outlined in section 3.4.3.
Time spent on the project will be recorded by task to better understand the time and money cost of this process.

Through the collection of the above data, an accurate picture of how both test collections would change after applying the ADEM can be understood. Additionally, this project allows us to understand how much of an undertaking such a process would be in terms of cost and time.

This project does not involve the final discard of materials. Metrics concerning the length of time and amount of money necessary to rehouse collection materials after discard will therefore not be tested.

4 CRM COLLECTION TESTING: THE SR 17 COLLECTION

4.1 Project History

The CRM collection that I have chosen to study for this project consists of the materials recovered from a Phase I archaeological survey. The survey was conducted in relation to an approximately 13-mile-long road widening project currently planned for State Route (SR) 17 in Wilkes County, Georgia just north of the town of Washington. The archaeology team at the environmental firm Vanasse Hangen Brustlin (VHB) conducted this archaeological work for this project for the Georgia Department of Transportation (GDOT). Fieldwork was conducted from fall of 2018 to the spring of 2019 by a team of between four and five archaeologists including myself as the lead crew chief. Artifact analysis and data processing from the project was completed in 2019, and the Phase I report for the project was completed between 2019 and 2021 (Pappas et al. 2021). The project area was defined in the report through the use of an Environmental Survey Boundary (ESB) and is referred to as such. In order to protect the archaeological sites identified, I do not disclose their exact locational data in this report.

A total of 38 archaeological sites (excluding cemeteries) were investigated over the course of this survey. Of these 39 sites, 17 were archaeological revisits. The SR 17 corridor had been previously surveyed from 1994 to 2002 during initial archaeological assessments in relation to a road widening effort by Southeastern Archaeological Services (SAS) (Gresham 2002). As required survey methodologies in the state of Georgia have changed since 2002, previous archaeological survey coverage from this project was not considered to be sufficient. Therefore, all sites that had been previously recorded by SAS in 1994 had to be revisited by VHB in 2018. VHB staff identified the remaining 21 archaeological sites investigated (Pappas et al. 2021). Table 5 contains the official GASF site numbers, the cultural components of each site, and the NRHP eligibility of each site.

Table 5. Archaeological Sites in the SR 17 Collection.

Site Number	Site Type	Cultural Components	Current NRHP Eligibility Recommendation
9WS199	Farmstead/ Lithic Scatter	Early- to Mid-20th Century/ Woodland	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS200	Farmstead	20^{th} Century	Recommended Ineligible
9WS215	Artifact Scatter	Late 19^{th} to 20^{th} Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS216	House/ Farmstead	20^{th} Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS217	House/ Farmstead	Late 19^{th} to 20^{th} Century	Recommended Ineligible
9WS218	House/ Farmstead	Late 19^{th} to Early 20^{th} Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS219	Artifact Scatter	19^{th} and 20^{th} Centuries	Recommended Ineligible
9WS228	House/ Farmstead	Late 19^{th} to 20^{th} Century	Recommended Ineligible
9WS230	House/ Farmstead	19^{th} and 20^{th} Centuries	Recommended Ineligible
9WS231	House/ Farmstead	Late 19^{th} / 20^{th} Century	Recommended Ineligible
9WS232	House/ Farmstead	20^{th} Century	Recommended Ineligible
9WS233	House/ Farmstead	20^{th} Century	Recommended Ineligible
9WS234	House/ Farmstead	20^{th} Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS337	House/ Farmstead	Late 19^{th} to Early 20^{th} Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS340	House/ Farmstead	Late 19^{th} to Early 20^{th} Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS61	Artifact Scatter	Woodland, Mississippian	Unknown, Portion of the Site within the ESB lacks Significant Data Potential

Site Number	Site Type	Cultural Components	Current NRHP Eligibility Recommendation
9WS196	Lithic Scatter	Archaic	Ineligible
9WS420	Artifact Scatter	Precontact Unknown / 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS421	Artifact Scatter	Precontact Unknown / Late 19th to Mid-20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS422	Artifact Scatter	Late 19th to 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS423	Artifact and Brick Scatter	20th Century	Recommended Ineligible
9WS424	Chimney Fall, Artifact Scatter	20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS425	Lithic Scatter	Precontact Unknown	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS426	Artifact Scatter and Foundations	Late 19th – Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS427	Artifact Scatter	Late 19th – Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS428	Artifact Scatter, House Site	Precontact Unknown / Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS429	Artifact Scatter, Razed House Site	Precontact Unknown / 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS430	Artifact Scatter, Razed House Site	Precontact Unknown / Late 19th -Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS431	Artifact Scatter	Precontact Unknown / Late 19th -Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS432	Artifact Scatter	Late 19th -Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS433	Artifact Scatter	Late 19th -Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential

Site Number	Site Type	Cultural Components	Current NRHP Eligibility Recommendation
9WS434	Artifact Scatter	20th Century	Recommended Ineligible
9WS435	Artifact Scatter, Refuse Pile	Middle Archaic / 20th Century	Recommended Ineligible
9WS436	Artifact Scatter, Razed House Site	Mid-20th Century	Recommended Ineligible
9WS437	Artifact Scatter, Razed House Site	Late 19th -Early 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS438	Bridge Abutments	Early 20th Century	Recommended Ineligible
9WS439	House Site	19th – 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential
9WS440	Artifact Scatter, House Site	Precontact Unknown / 20th Century	Unknown, Portion of the Site within the ESB lacks Significant Data Potential

The vast majority (94.7%) of archaeological sites identified over the course of this survey have a historic component. Wilkes county is one of the earliest counties in Georgia, founded in 1777 from newly ceded land in the Constitution (Wilkes County 2020). Washington has been the county seat since the county’s founding. It was the first city in the United States to be named after George Washington and was the site of the final distribution of the Confederate Treasury following the Civil War (Wilkes County 2020). SR 17 runs north of Washington through the town of Tignall. Tignall was once referred to as “Little Atlanta” due to its early adoption of electricity and bustling downtown (Wilkes County 2020). The sites, and therefore the artifact assemblage, identified during the SR 17 archaeological survey are representative of the significant nineteenth to twentieth century historic occupation of the area.

4.2 Survey Methodologies Employed

The VHB Phase I archaeological survey of SR 17 followed standard methodologies for shovel testing as stipulated in the GDOT *Environmental Procedures Manual*, dated 2012, and the Georgia Council of Professional Archaeologists *Georgia Standards and Guidelines for Archaeological Surveys* dated April 2019.

4.2.1 Field Methods

Fieldwork was conducted through two primary methods excluding cemetery study; surface inspection and shovel testing. When possible, shovel tests were excavated at 30 m intervals upon transects established through the use of Geographic Information System (GIS) software prior to fieldwork. Shovel testing was not conducted in areas that were paved, contained pre-existing structures, held standing water, or on hillside slopes (>15 degrees). This practice is standard in Phase I archaeological survey. These areas would be visually inspected in lieu of subsurface testing. The field technician upon encountering an area that could not be shovel tested would record the test as a "No Dig". Shovel tests measured 30 cm in diameter and were excavated at least 10 cm into culturally sterile subsoil (usually a clayey B horizon) or 80 cmbs, whichever came first (Pappas et al. 2021). As Wilkes County lies within the Piedmont physiographic region, clay subsoil was usually reached before 80 cmbs due to eroded soil conditions common in the region (Hodler and Schretter 1983).

If archaeological materials were encountered during survey, the interval between shovel tests was reduced to 15 m (~50 ft) to better determine the boundaries of the site. Two consecutive negative shovel tests in four cardinal directions, oriented along transect baselines, provided an edge determination to a site boundary. In coordination with GDOT, VHB formulated a fieldwork plan to revisit previously recorded archaeological sites. A grid was developed that consisted of shovel tests spaced 15 m apart and covered the entirety of the portion of any previously recorded site within the project ESB. This was necessary to re-evaluate these archaeological sites, as previous survey methods were not considered to be sufficient by modern standards (Pappas et al. 2021).

Shovel tests were spaced along transects and excavated by natural soil horizons. All excavated soils were sifted using ¼-inch mesh for uniform artifact recovery. Standardized data for each shovel test were collected on forms and in notebooks; information recorded consisted of depth, Munsell soil color for each soil stratum, and the number and type of artifacts encountered, when applicable. Once excavated, the walls of each shovel test were inspected for artifacts, features, and other indications of an archaeological site. All excavated shovel tests were backfilled upon completion (Pappas et al. 2021).

When artifacts were located on the surface, it was up to the discretion of the field supervisor what type of sampling strategy should be employed. As large collections of surface artifacts can be encountered at historic house sites, only objects that appeared to have diagnostic traits were collected. Non-diagnostic objects were left in situ.

Artifacts were collected in ziplock bags, which were labeled with provenience and additional pertinent site information. As any bag used for artifact collection in the field will invariably become dirty to some extent, ziplock bags were used as a cheap, temporary alternative rather than wasting expensive curation bags. Sketch maps were made of selected areas and shovel test transects, as needed. Representative photographs of the project ESB were taken to document the general topography, vegetation, and environmental condition of the survey area. Upon recovery of cultural materials, the find was assigned a sequential bag number. During the analysis portion of the project, field sites were evaluated in terms of whether they constituted an archaeological site or an isolated find (IF) as defined by the GCPA.

The definitions of an archaeological site adhered to those presented in the *Georgia Standards and Guidelines for Archaeological Surveys* (Georgia Council of Professional Archaeologists 2019). An archaeological site is defined as a concentration of artifacts, ecofacts, or modifications to the landscape associated with past human activity retaining context and containing artifacts or features at least 50 years old (GCPA 2019). Additionally, to be considered a site, an encountered archaeological resource must have met at least one of the following criteria:

- An area yielding three or more artifacts from the same broad cultural period (i.e., historic or precontact) on the surface within a 30-m radius;
- A shovel test that produces two or more artifacts from the same broad cultural period, as long as the artifacts cannot be fitted together (i.e., they are not two pieces of the same artifact);
- A shovel test that produces one artifact and at least one surface artifact from the same broad cultural period within a 20-m radius from that shovel test;
- An area with visible or historically-recorded cultural features (e.g., shell midden, cemetery, rockshelter, chimney fall, brick walls, bridge abutments, piers, pilings, earthworks, etc.).

Locations with two or fewer artifacts found within a 30-meter radius and not containing features or ruins are classified as IFs. An IF is defined as no more than two historic or precontact artifacts found within a 30-meter radius. IFs are, by definition, not considered eligible for listing on the NRHP. For cases where an IF is unique, and potentially may be considered eligible for inclusion in the NRHP, it should be defined as a site. Deposits of cultural artifacts that have no integrity, such as road fill, stream gravels, or other situations where artifacts clearly are re-deposited, also should be considered IFs (Pappas et al. 2021).

4.2.2 Laboratory Methods

Upon field survey completion, artifacts were transported to the VHB laboratory located in Atlanta. Artifact bags were checked against bag lists created in the field to confirm receipt of all excavated/recovered material. Artifacts were washed, sorted, and divided by class/type and assigned a catalog number. Artifacts were placed in resealable polyethylene bags with catalog tags and bag information enclosed. Artifact bags were placed in archival, stable, acid-free boxes (Pappas et al. 2021).

Historic artifact analysis first involved the sorting of all recovered historic artifacts by material type (i.e., ceramics, metal, glass, and other). Further analysis of historic material focused on determining the method of manufacture to produce a working chronology for the site. Relative dating of historical ceramics was based on the manufacture chronology developed by Brown (1982) and Miller (1980). Glass artifact dates were based on chronologies developed by the Society for Historical Archaeology (SHA) (2018). Metal artifacts, specifically nails, were dated using the chronology developed by Elliott (2010). Diagnostic artifacts were labeled using Acryloid B-72 lacquer and permanent black ink (Pappas et al. 2021).

Artifact cataloguing was conducted within a Microsoft Excel database. In order to establish catalog numbers for each artifact class, a trinomial catalog system was employed. For a Phase I survey, this cataloguing system consists of the institutional site number, followed by the shovel test number, followed by the artifact class number. For example, if two wire nails and four clear glass fragments were collected from the first 10 centimeters below surface (cmbs) of shovel test A2 in Field Site (FS) 1, the nails might get a catalog number of 1.A2.1, and the glass fragments, if they all fell under the same class (i.e., no base fragment, or fragments with embossing etc.), would all fall under the catalog number of 1.A2.2. If additional glass artifacts were collected from 10-20 cmbs of the same test, they would receive a new catalog number (1.A2.3) (Pappas et al. 2021).

All field notes, photographs, and other information produced throughout the course of this survey have been temporarily stored at the Atlanta facilities of VHB and are still located there today. Following approval of the final report, related materials will be submitted to the curation facilities of the Antonio J. Waring, Jr. Archaeological Laboratory at the University of West Georgia. This facility meets the standards defined in 36 CFR 79.

4.3 Testing the Artifact Discard Eligibility Model

With an understanding of the history of the SR 17 collection, the field methods used during the Phase I survey, and the laboratory methods used in cataloguing and prepping the materials for curation, I felt that I had the information necessary to begin testing the ADEM. To determine which artifacts would be potentially eligible for discard, I began by highlighting materials in the SR 17 artifact catalog that could be potentially eligible. These objects included glass body sherds, metal fragments, building materials such as brick and mortar, nails and nail fragments and plastic. These artifact classes pass all stages of the Artifact Eligibility Flowchart. Initial estimates at this stage showed that approximately 54% of all artifacts in the SR 17 collection could be considered potentially eligible for discard (Table 1). When considering only the historic artifact assemblage of the SR 17 collection, 61% of historic materials were considered eligible for discard. The total weight of artifacts potentially eligible for discard comprised 39% of the total weight of the collection (Figure 3).

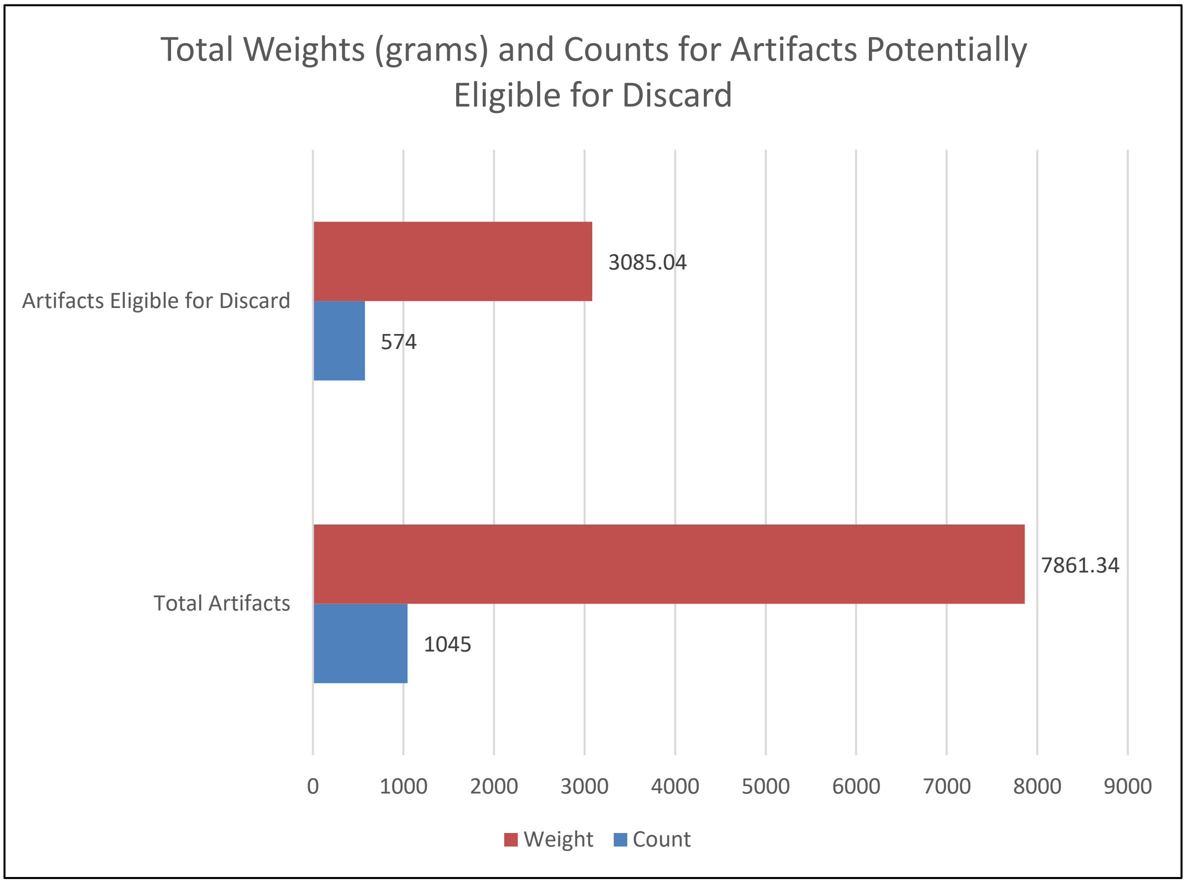


Figure 2. Total Weights and Counts for Artifacts Potentially Eligible for Discard.

With the artifacts potentially eligible for discard identified, I then moved into documentation for the artifacts, and confirmation that the artifacts were indeed eligible for discard. This involved travelling to the VHB archaeology laboratory, and checking each artifact identified. I conducted this process site by site. As each archaeological site should be considered independently, I then needed to identify the 10% of artifacts from each class that I would keep. For glass, I determined that 10% of all glass from each site would be a sufficient representative sample. For classes like unidentifiable metal, I did not take a 10% sample, but instead determined whether or not the artifact should be discarded on a case-by-case basis. For artifact classes like nails and building materials, a true 10% sample was kept. If there were less than 10 of any artifact type, only one artifact was kept. After determining the 10% of artifacts to keep, the objects that were to be discarded were then photographed by class and shovel test from which they were identified.

During this process, almost all of the artifacts identified as potentially eligible for discard in the previous step were confirmed to be eligible. One exception to this was the artifact class of sun-colored amethyst, or solarized, glass. As the color of this glass indicates a very specific date range of approximately 1890-1920 (SHA 2021), the artifact class does not necessarily need any additional traits such as a maker's mark or decoration for it to be considered diagnostic. As the date range is so specific, sun-colored amethyst glass on its own can establish a date of occupation or use. Therefore, I decided that sun-colored amethyst glass should be universally kept as it does not pass the second stage of the Artifact Discard Eligibility Flowchart. This is an excellent example of the decisions that laboratory managers would be in the position to make when employing ADEM.

Other changes from the initially identified artifacts included removing items that had already been deaccessioned from the collection. Plastic materials, pieces of slag, and building materials such as brick and mortar had already been removed from the collection during initial curation efforts. This was noted in the catalog, but I did not see the this note upon initial identification of artifacts for discard. A negligible amount of glass artifacts was miscatalogued as body sherds when they were in fact basal sherds or finish fragments. These instances were corrected using procedures highlighted in Chapter 3, and artifacts with diagnostic traits were not included in final weights of artifacts eligible for discard.

4.4 Final Results of Employing the Artifact Discard Eligibility Model on the SR 17 Collection

4.4.1 Effects on Collection

Once all items eligible for discard had been photographed and documented, I could analyze the full effects that this model would have on the SR 17 collection. With 10% of artifacts eligible for discard kept, the overall effect on the collection was slightly reduced. Overall, 39.5% (n=471) of artifacts in the SR 17 collection would be discarded using the ADEM. Approximately 30% of the total weight of the collection would be removed.

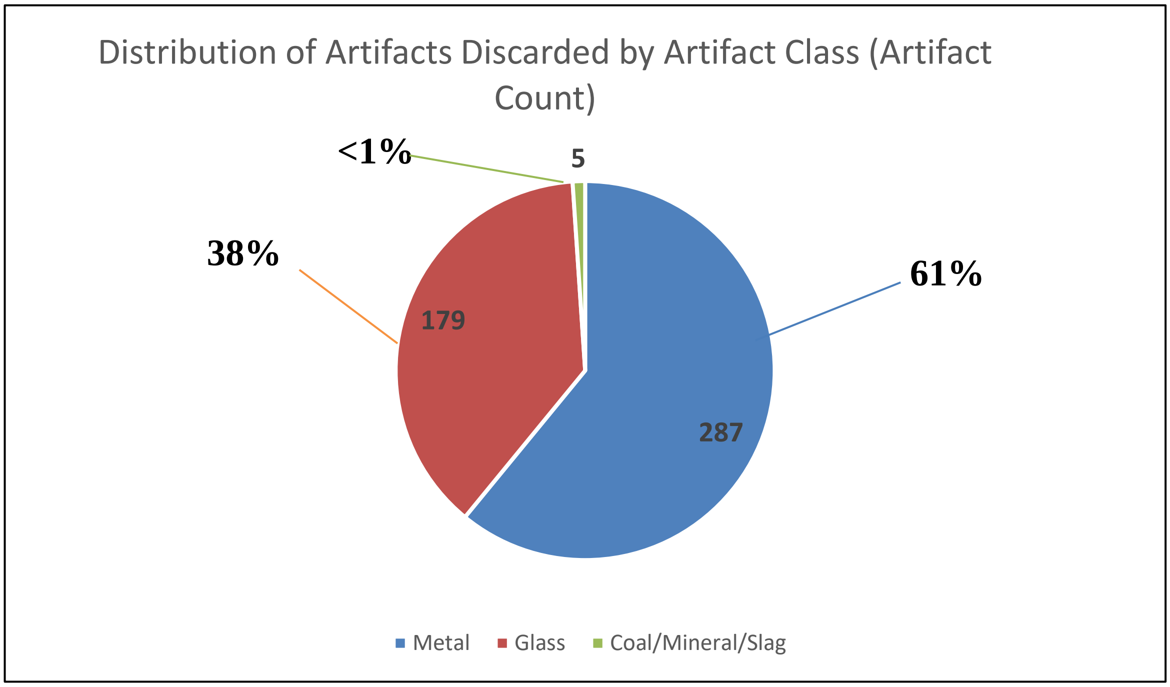


Figure 3. *Distribution of Artifacts Discarded.*

Overall, the total weight of metal was the most significantly affected artifact class with over 77% of metal objects discarded using this model. By weight, over 56% of the total weight of metal objects were to be discarded. Glass was other most significantly affected class, with

38% of artifacts to be discarded, and 26% of the overall weight of glass artifacts to be culled. The division of the artifacts discarded by artifact class can be seen in the figure below (Figure 3).

4.4.2 Costs Associated with the Artifact Discard Eligibility Model in a CRM Setting

As the collection is currently housed in four artifact boxes and 30% of the overall weight of the collection would be removed, it is reasonable to assume that after rehousing the collection, one less artifact box would be necessary to curate the collection. VHB curates collections at the University of West Georgia Antonio Waring Laboratory (Pappas et al. 2021). The current rate for curating an archival box at the West Georgia curation facility is $300 per box.

The total time to go through the process of the ADEM in a CRM laboratory setting was minimal. The time it would take to make final determinations for materials similarly was minimal. Artifact photography took up the bulk of the time in this model. Total times and estimated costs associated with these tasks are detailed in the table below (Table 6). For cost estimates, the initial rate I was paid when I started as a VHB archaeological technician was taken for the tasks of artifact photography and initial determinations of artifacts potentially eligible for discard. The total time for final decisions on artifact eligibility was calculated at the rate of a laboratory manager. I used the average rate of a Project Archaeologist according to Glassdoor.com (Glassdoor 2021). What this rate might be in a real-world situation could be more, or less expensive depending on the experience of the laboratory manager. Finally, a principal investigator would oversee and double check the process. The principal investigator’s task is an intentional redundancy to that of the laboratory manager. As I conducted all roles in this experiment, it is difficult to judge how long a principal investigator would need to spend. I double checked my own work and agreed with my own conclusions, but this is of course not necessarily a fair estimation. I estimated roughly half the time I spent making final decisions on artifact eligibility in the role of lab manager as a reasonable estimate of time. For the rate of a principal investigator, I used the average pay of the position according to Glassdoor.com (Glassdoor 2021).

Table 6. Cost of the Artifact Discard Eligibility Model.

Personnel	**Rate of Pay**	**Task(s)**	**Hours**	**Total Cost**
Laboratory Technician	17.73	Identify artifacts potentially eligible for discard	2.5	115.25
		Photograph discarded artifacts	4	
Laboratory Manager	24.50	Make final artifact discard eligibility determinations.	2	49
Principle Investigator	36.21	Ensure that a quality product was produced	1	36.21
Total			9.5	200.46

The total cost of performing the Artifact Discard Eligibility model after initial artifact cataloguing would likely include 1-2 hours of additional time for re-bagging the remaining artifacts to reduce space. If the process is performed during the initial cataloguing efforts for an incoming project, the time spent on the discard process may even be slightly lower. Overall, the cost of performing this model is at most the same price as a box to curate; however, the typical costs to curate are greater than just the box. A significant number of curation quality artifact bags would also be saved if the model is performed in conjunction with initial cataloguing. An additional consideration is the fact that box prices will likely not remain the same in the long-term. With ongoing concerns regarding space for curation, box pricing is likely to increase over time. Different facilities also have different price points for curating a box,

Perhaps the most significant cost savings, both in the short-term and long-term, come from the significant amount of metal that will be discarded under this model rather than curated. All metal artifacts must be prepared in microclimates in order to be curated at facilities such as the Waring Laboratory. A microclimate includes a separate container and silica gel (Waring Laboratory 2007). Methods employed for creating microclimates vary. Cheap solutions would involve the use of Rubbermaid Tupperware containers for individual metal artifact classes. Larger microclimate solutions could also be employed such as military containers produced by Hardigg, which cost approximately $400 (Singley 2015). Silica gel costs vary depending on how large of a container of silica is necessary to purchase (Singley 2015). By decreasing the amount of silica needed, the cost of silica as it relates to the collection would also be reduced. With these additional cost savings included, performing this model will likely save a CRM company money in addition to creating smaller collections for curation.

The potential space-saving effects of using such a model would not be limited to the curation facility. CRM firms often temporarily house collections before they are permanently housed at a federal curation facility. Spaces for temporary collection housing can often be very minimal. By reducing the size of collections when they are initially processed using the ADEM, more collections can be temporarily housed at any given time. For VHB in particular, the space-saving effects could be significant due to the large number of historic materials currently housed at the firm. Other firms that perform similar transportation work could see similarly large effects on the size of their temporary collections.

5 LEGACY COLLECTION TESTING: THE MARTA COLLECTION

5.1 Project History

The MARTA collection acts as an excellent example of a CRM effort conducted in the early years following the passage of the NHPA in 1966. The archaeological survey was conducted in association with the planned Metropolitan Atlanta Rapid Transit system first conceptualized in the Metropolitan Atlanta Rapid Transit Authority (MARTA) Act passed by Georgia state legislature in 1965 (MARTA 2009). Actual archaeological survey for the planned MARTA rail lines was predated by an Environmental Impact Study conducted by the environmental firm of Eric Hill Associates, Inc. in 1973. The Environmental Impact Study measured a variety of impacts that the MARTA transit project would have on the environment. These included the impacts the project would have on both historical and archaeological resources.

Survey methods are not fully specified in this report, but it appears that the work was limited to archival research and physical survey in the form of pedestrian reconnaissance. Though not explicitly stated, it does not appear that any subsurface archaeological testing occurred during this initial survey effort, nor were any artifacts collected (Eric Hill Associates Inc. 1973). Through this archival and physical reconnaissance, 35 areas of potential archaeological impacts were identified. As there were significant potential archaeological impacts for the MARTA project, the report recommended that “MARTA contract for and maintain its own archaeological investigative capability during all phases of design and construction” (Eric Hill and Associates 1973:278). Contracts for more intensive archaeological work were drafted and signed between Georgia State University and MARTA in 1975.

Archaeological fieldwork was conducted by Georgia State University under the supervision of Roy S. Dickens, Jr. as Project Director and Principal Investigator. Fieldwork began in 1976 and was concluded in 1979. The field archaeologists that worked on the project included William R. Bowen, Linda F. Carnes, and Robin S. Futch. Three separate reports were published in relation to fieldwork conducted on the East and West lines in 1977 (Dickens et al. 1977) and for the North and South lines in both 1979 and 1980 (Dickens et al. 1979;1980). It should be noted that while the reports are titled for their respective lines of focus, work on the West line also occurred between 1977-1979 and was reported on in the 1979 report. Additional assistant and student archaeologists were also involved in the project throughout its various stages.

Throughout the course of both the surveys for the East and West lines and the North and South lines, a total of 30 archaeological sites were identified (14 between 1975 and 1977 and 16 between 1978 and 1979) (Dickens et al. 1979) (Table 7). All but site 9FU97 consisted solely of a historic site, either Civil War related or dating to the late nineteenth to early twentieth century. Some archaeological sites were comprised of single features with associated artifacts while others were large battlefield sites, or dump sites. The broad range of historic sites identified led to a diverse historic artifact collection associated with the MARTA project. This collection was initially processed at Georgia State University, and it now is housed there; however, between 1979 and today the collection has been relocated two separate times.

Lori Thompson documents the collection's various moves in her thesis published on the state of MARTA collection materials (Thompson 2016). The collection was moved from GSU to the University of North Carolina at Chapel Hill (UNC) in 1984. Roy S. Dickens moved to UNC around this time and desired to use the collection to complete his own research. He originally

Table 7. MARTA Collection Archaeological Sites (Dickens et al. 1989).

Site Number	Site Type	Cultural Components	Contract Date
9DA89	Historic Dump	1910-1911	1975-1977
9DA90	Historic Well/Batteflied	Civil War/1923-1970s	975-1977
9DA127	Historic Cellar	1830-1870	1975-1977
9DA129	Midden	1900-1920	1975-1977
9DA130	Well/Pit	1850-1890	1975-1977
9DA131	Historic Cellar	1930-1950	1975-1977
9FU77	Battlefield	Civil War	1975-1977
9FU79	Battlefield	Civil War	1975-1977
9FU80	Battlefield	Civil War	1975-1977
9FU81	Battlefield	Civil War	1975-1977
9FU83	Battlefield	Civil War	1975-1977
9FU84	Battlefield	Civil War	1975-1977
9FU85	Battlefield	Civil War	1975-1977
9FU88	Midden	1900	1975-1977
9FU89	Dump	1877-1885	1978-1979
9FU90	Dump	1890-1900	1978-1979

Site Number	Site Type	Cultural Components	Survey
9FU91	Dump	1892-1915	1978-1979
9FU92	Dump	1890-1900	1978-1979
9FU93	Dump (Redeposited from 9FU91)	1890-1900	1978-1979
9FU94	Dump (Redeposited from 9FU91)	1890-1900	1978-1979
9FU95	Dump (Redeposited from 9FU91)	1890-1900	1978-1979
9FU96	Battlefield	Civil War	1978-1979
9FU97	Battlefield/Campsite	Civil War/Precontact	1978-1979
9FU102	Redeposited from 9FU 91	1890-1900	1978-1979
9FU107	Dump	1911-1920	1978-1979
9FU110	Pit	1890	1978-1979
9FU112	Well	1880-1900	1978-1979
9FU113	Storm Drain	1890-1910	1978-1979
9FU114	Water Pipe	1880-1910	1978-1979
9FU115	Historic Sign	1899-1911	1978-1979

only took the documentation associated with the MARTA collection, not the artifacts themselves. While there was some contesting of ownership of the collection, portions of the collection were eventually also transferred to UNC on loan, with GSU declared the owner of the collection (Thompson 2016).

Other portions of the collection between 1984 and 1988 were on loan to the Dekalb County Historical Society Museum for display purposes, and a stoneware drainpipe was on loan to the Atlanta Historical Society (Thompson 2016). The majority of the collection was transferred from UNC to the University of Georgia (UGA) Museum of Natural History in 2000. The artifacts were then transferred again from UGA back to GSU between 2011 and 2012, with some additional documentation material transferred back to GSU in 2015 (Thompson 2016). Some materials are still elsewhere, however, with materials appearing to still be held at the Atlanta History Center (AHC), and at the A. Waring Lab at West Georgia (Thompson 2016).

5.2 Survey Methodologies Employed

Similar archaeological field methodologies were employed on both the North-South line archaeological field survey and the East-West line archaeological field survey. Cataloguing and curation procedures were also similar across surveys. Therefore, for simplicity, the archaeological methods of the MARTA surveys are described together below.

5.2.1 Field Survey Methodologies

Fieldwork for both projects consisted first of systematic surface survey of all contract construction units, or CCUs. The field crew would walk in parallel paths across the area five feet apart. If portions of survey areas were obscured by existing structures or pavement, survey was carried out following the demolition and grading of that structure or pavement. At least a representative sample of artifacts was collected, which were recorded by parcel and CCU (Dickens et al. 1979).

After surface inspection, areas that were considered to have potential for subsurface features were tested at "uniform intervals" (Dickens et al. 1979:17). It should be noted that neither report specifies what intervals were used, or how it was determined if areas had potential for subsurface features. Most subsurface testing was conducted with a bucket auger, but posthole diggers, shovels, and power equipment were also used to excavate tests. A backhoe operator assisted on especially deep tests (Dickens et al. 1979). Areas also underwent metal detection when prior historical research or surface inspection indicated the need for additional testing. Reasons for metal detection were mainly if there were indications that Civil War related activities occurred in the area.

The majority of archaeological sites were not identified during the above survey processes, but were instead identified during the monitoring of demolition, grading, and excavation (Dickens et al. 1979). During construction, archaeological teams would visit construction areas periodically to observe trenches and exposed soils (Figure 4). Nine sites were

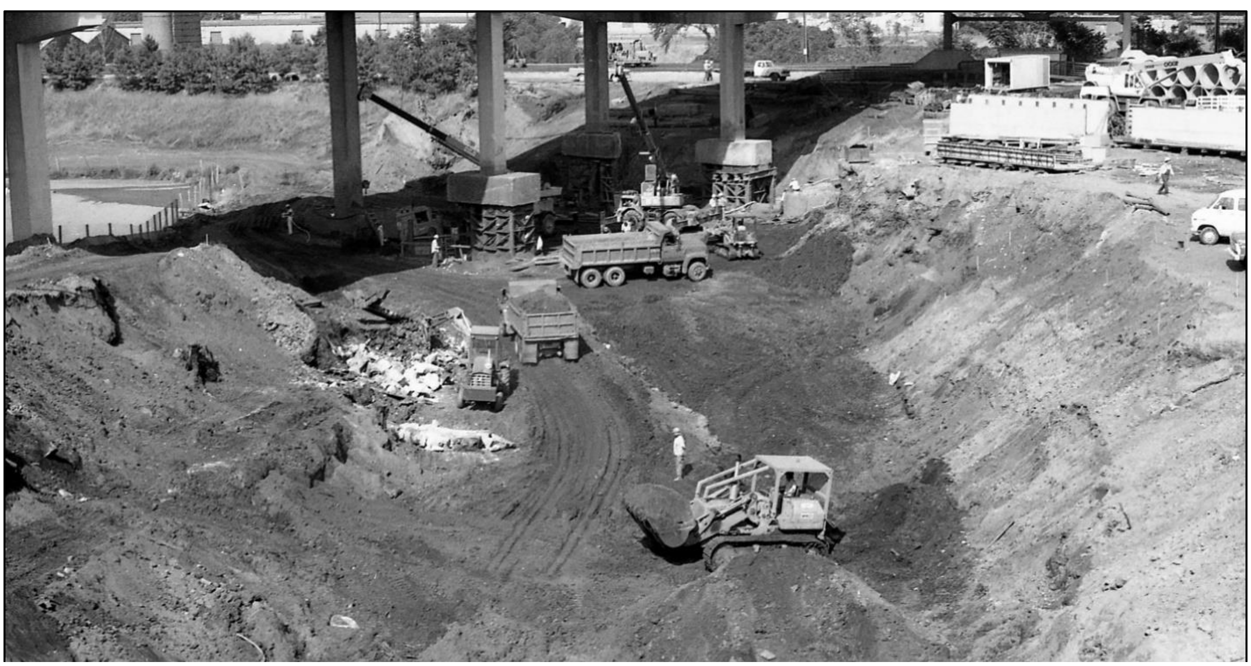


Figure 4. Photo of Construction Activities at 9FU91.

discovered through monitoring during the North-South line survey, and four sites were discovered during monitoring during the East-West line survey.

When sites were discovered after construction was already underway, these excavations were referred to as salvage, or extraordinary, excavations. Field archaeologists had to work with construction operators in order to get the opportunity to excavate large test units or inspect existing trenches. Oftentimes, construction would pause on areas where archaeological excavation was necessary, and the construction team would work elsewhere on the project (Dickens et al. 1979).

Fieldwork was documented through black-and-white and color photography, all of which were accessioned and catalogued, and are now housed in the GSU Archaeology Laboratory (See Figure 4). These photographs documented everything from field excavation to construction activities and laboratory work. Fieldwork was additionally documented through field notebooks and survey/parcel forms, as well as unit data forms when excavation units were employed. In the report it is stated that the fieldnotes contain descriptions of which areas were investigated, what techniques were employed and where, and other field observations (Dickens et al. 1979).

5.2.2 Laboratory Methods

Artifact cataloguing and curation techniques employed by the MARTA archaeological team for both the East-West and North-South surveys were very detailed. Artifacts recovered during survey or mitigative excavations were labeled in the field with their respective CCU number, parcel number, date collected, and provenience, as well as who collected the artifacts (Dickens et al. 1979). This is very similar to the level of data archaeological surveys collect in the field today (Pappas et al. 2021).

Artifacts in the laboratory were carefully cleaned and treated with preservatives. These preservatives included the following (Dickens et al. 1979):

- Polyethelene glycol (wood)
- Manganese phospholene (iron, steel, tin)
- Ammonia (brass and copper)
- Oil based preservative (Leather)
- Magnesium bicarbonate/fungicide (paper)
- Soapy water (glass, ceramics, plastic, hard rubber)

This level of chemical treatment is not common today when cleaning archaeological collections that return from the field. Artifacts were then assigned an accession number. Artifacts were typically grouped by sites or CCU. Each artifact (or group of artifacts) then received an individual catalog number, which was listed in the specimen catalog (Dickens et al. 1979). In addition to the laboratory procedures described above, every artifact was individually labeled with their accession and catalog number. The specimen catalog includes sub-categories for different materials as well, broken down as either falling into category P (pottery), A (artifacts), M (miscellaneous), EB (ethnobotanical), EZ (ethnozoological), or H (human remains) (MARTA Cataloguing Procedures 1978). While not specified in the report, all artifacts were stored in paper bags, which was not uncommon at the time.

5.3 Testing the ADEM

With a firm understanding of the field methodologies employed during the MARTA survey, and an understanding of the laboratory procedures, the MARTA collection could then be tested with the Artifact Discard Eligibility Model; however, due to the very large size of the collection, I had to choose a sample. In order to have a complete data set, I chose to focus on one site in particular. In choosing a site for study, a number of conditions came to mind. For one, I wanted an archaeological site with primarily historic materials. Of course, all sites that are part of the MARTA collection fit that criterion. I also wanted a site with a large amount of materials in order to have a large sample size. While historic Civil War battlefield sites would be interesting, they are more limited in terms of what types of artifacts I could expect to work with. In the end, I settled on 9FU91, an archaeological site consisting of a historic dump in downtown Atlanta (Dickens et al. 1979).

5.3.1 9FU91

Site 9FU91 was located within the West Line CCU 140, parcels 516 and 517. The site consists of a historic dump. Sanborn Fire Insurance Maps of Atlanta from 1899 describe the area as the "City Garbage Crematory." The site was discovered during excavations for sewer relocations. After the pavement was removed, a linear feature was revealed that appeared to be a garbage dump. A sample portion of the dump area was then excavated (Dickens et al. 1978). Sites 9FU93 and 9FU94 both consist of redeposited fill from 9FU91. The site is further described on its NRHP nomination form. When extant, the dump was in a low, swampy area that was filled in after the dump was no longer used in the early twentieth century. Predating its use as a city dump starting in 1890, the area was used by locals as a dumping ground. The deposit stretched between 30-50 ft vertically and covered over six acres. The original dump was sealed in the 1920s, but people continued to dump garbage at the site into the 1940s. The site was capped with a thick layer of slag and converted to a rail yard in the mid-twentieth century (NRHP Inventory 1978). The site is currently housed in 94 artifact boxes (16.5 in x 12.5 in x 10.5 in) at the Georgia State University archaeology laboratory. As site 9FU91 consists of a significant portion (roughly

20%) of the overall artifact assemblage from the MARTA collection and consists of a large variety of materials, I believed that the site would act as an excellent test case for the ADEM.

5.3.2 Data Collected

With 9FU91 chosen as the site that I would test; I began collecting data. As the MARTA collection is a legacy collection, additional data points had to be collected compared to data collection on a modern CRM collection. The lack of a complete digital catalog necessitated some of these additional data points, and the varying degrees in which the project has been brought up to modern curation standards had to be documented as well. As artifact weights and bag weights were not documented within the initial specimen catalog, all artifact classes eligible for discard were weighed. In order to come up with a weight for the collection as a whole, individual artifact boxes were weighed.

When I began collecting data in order to determine artifact discard eligibility, I started with a process that involved taking every artifact through the artifact discard eligibility flowchart

	B	C	D
1	Specimen No	Artifact Class	
2	p475	Glass Fragments	
3	p476	Clear Glass	
4	p477	Aqua Glass	
5	p478	Green Glass	
6	p479	Burned Glass	
7	a482	Nail	
8	a484	Slate Roofing	
9	p494-500	Glass Fragments	
10	p515-517	Glass Fragments	
11	a523	Misc. Metal	
12	p534-540	Glass Fragments	
13	p558	Amber Glass Fragments	
14	p559	Aqua Glass Fragments	
15	p560	Clear Glass Fragments	
16	p561-566	Glass Fragments Various	
17	a571	Misc. Metal	
18	a581	wire pieces	
19	p592	Clear Glass Fragments	

Figure 5. Sample of Excel Table of Artifacts Potentially Eligible for Discard (Full Table included as Appendix A.1).

one by one, without first identifying artifact classes potentially eligible for discard. This process was very slow, and very redundant. As artifact classes such as stoneware were never going to be eligible for discard, it did not seem prudent to take them all the way through the process. Instead, I used the paper specimen catalog first to identify classes of artifacts potentially eligible for discard and compiled these into an excel table (Figure 5).

I used the artifact discard eligibility flowchart to make determinations on artifact classes listed in the specimen catalog. It is in this process that it becomes clear how necessary it is to determine just how “diagnostic” an artifact needs to be in order for it to be considered a “diagnostic artifact.” As discussed in Chapter 3, all artifacts are diagnostic to some extent. I felt that if I am going to be discarding objects that are not diagnostic, I should keep a looser definition of “diagnostic” than just objects that can be attributed to a very specific place or time. These decisions are discussed by class below.

- Ceramic: With any type of ceramic, it is difficult to discern whether the object was created by hand, or by machine with the majority of vessels having been created by hand to some degree. This becomes even more difficult when only a small portion of the plate, jar, or other vessel is available. Therefore, all stoneware, whiteware, creamware, pearlware and ironstone fragments were considered ineligible for discard on the basis of a high likelihood that they were not entirely created by a machine, and therefore are unique to some extent. Other ceramic objects, such as toilet parts, were not considered for discard. This is a decision that will likely be revisited in future work with the ADEM.
- Glass: Glass objects from site 9FU91 had been sorted during initial artifact cataloguing efforts by type, with basal sherds, body sherds, neck sherds and finish

sherds receiving their own specimen numbers. I considered all glass fragments with the exception of body fragments to have enough diagnostic traits to be considered ineligible for discard. While finish fragments and basal sherds do not always contain maker's marks or other diagnostic embossing, they can be very beneficial in identifying bottle shape and type, which can lead to a better understanding of the vessel's use. I therefore considered them diagnostic, and ineligible for discard. Body sherds of glass bottles can also allow for an understanding of a vessel's shape, but less so than a finish fragment or a basal fragment. Therefore, if a body sherd lacked any other diagnostic traits such as a decorative motif, paper label, embossing, or a maker's mark, it was considered eligible for discard. Window glass, unless it had a diagnostic trait, was considered eligible for discard.

- Metal: Determining discard eligibility for metal objects was conducted on a case-by-case basis. Generally, if the original specimen catalog could identify a metal object as a specific item that was not redundant in the collection (such as a light bulb base, or a "decorative cabinet hinge fragment"), the object was determined to be ineligible for discard. This was determined because the object was not redundant in the collection and was diagnostic in the sense that the original laboratory technician was able to identify its specific function. This broad decision is one that I later questioned after completing my work, and one I discuss further in Chapter 6.
- Building Materials: Building materials were the artifact group most broadly eligible for discard. All brick-and-mortar fragments were considered to be eligible unless the brick fragment had a specific diagnostic trait. Nails were broadly considered to be eligible for discard as well unless the nail was hand-wrought. While the type of

machine-made nail (i.e., cut nail, square nail, wire nail) could be helpful in determining a broad date range, the objects are redundant enough that I felt that preserving 10% of each nail type would suffice.

- Biological remains: This should go without saying, but any human or animal remains were considered ineligible for discard. Other organic materials such as bark fragments were collected for 9FU91. These objects were considered on a case-by-case basis.

Overall, 207 specimen numbers out of 2835 total specimen numbers were identified as artifact classes potentially eligible for discard. With these classes identified, I began to work with

Figure 6. Example Photo of Artifacts Eligible for Discard (Specimen Number P496)

the physical materials of 9FU91 to determine how many of the identified specimen numbers were actually eligible for discard.

As all artifact boxes and artifact bags in the MARTA collection are labeled on the exterior with a range of specimen numbers that are within each box, it was relatively easy to identify which boxes and artifact bags contained the materials I had identified in the specimen catalog as potentially eligible for discard. I began with box 169, sequentially the first box in the MARTA collection related to 9FU91, I then pulled artifact bags that contained the specimen numbers I was searching for.

Specimen numbers were bagged separately in "mother" bags containing multiple specimen numbers. I identified "mother" bags that contained specimen number bags that were relevant. I would then open the relevant specimen number bags and examine the artifacts. If all artifacts from each specimen number thought to be eligible for discard were indeed eligible, I would then weigh the entire bag. If some artifacts from that specimen number did have diagnostic traits, I would separate these out and weigh the artifacts that were determined to be eligible. The artifacts that were determined to be eligible were then photographed with a scale bar (see Figure 6). Artifact weights for each specimen number were documented in an excel catalog along with other information regarding that specimen number including:

- Box Number: For this I used the sequential box number starting with box 169 and ending with box 263.
- Bag Number: Bags in the MARTA collection do not have individual numbers. Each "mother" bag is labeled with the specimen numbers that fall within them though, so I used this range as a designator.

- Collection Method: Here I listed what method was used during initial collection of that artifact as designated by the original specimen catalog.
- Specimen Number: For this I documented the specimen numbers as they appeared on the original specimen catalog.
- Eligible Count: In this category I listed the number of artifacts in each specimen number that I found to be eligible for discard.
- Material: This category was used for broad artifact classes (Glass, Metal, Ceramic, etc.)
- Type: This category was used to define the more specific type of artifact (Aqua Glass, Wire Nail, etc.). Some specimen numbers had a mix of different artifact types, such as a bag with all glass body sherds but a mix of aqua glass, green glass etc.
- Object: This category was used to define the type of object in each specimen number. This could be something like a glass body sherd, or a wire nail fragment, etc. Some specimen numbers would contain multiple object types, such as bags with both glass body fragments and finish fragments, though it appears that the original intent of the laboratory technicians was to separate everything by object type.
- Eligible Artifact Weight: This category consisted of the weight of artifacts eligible for discard from the collection.
- Bag Type: This category was to note whether the artifact was stored in a paper bag or a curation quality bag.
- Object Not Eligible: This category was used to list whether or not any artifacts within the specimen number were not eligible for discard.
- Not Eligible Count: This category lists the number of artifacts considered to be not eligible for discard in each specimen number.

- Reason: This category lists the reason that an object was determined to be not eligible for discard.
- Notes/Comments: Any additional notes about oddities found for each specimen number.

After returning home from the lab each day that I worked with the 9FU91 artifact collection, I would upload the photos I took, and label the files. At the end of each day working with the collection, I would document the hours that I worked, separating the time by task.

5.4 Results of Data Collection on 9FU91 of the MARTA Collection

With the collection fully tested using the Artifact Discard Eligibility Model, I then began to analyze what effect the model had on the overall artifact assemblage of 9FU91 in terms of size. When working with the collection, all artifacts included under some specimen numbers initially flagged as potentially eligible for discard were found to be diagnostic and therefore those specimen numbers were not included in the eligible for discard table at all. A small percentage of specimen numbers that had been flagged as potentially eligible for discard could not be located in the collection. This may have been due to the artifacts having been misplaced in the wrong box during past projects. I elected to not spend time trying to track down artifacts that had been misplaced, as this would have added a significant amount of time to the overall data collection process. As the MARTA collection is considered a legacy collection and a significant amount of work still needs to happen to bring the collection up to current curation standards (Thompson 2016), artifacts that are currently misplaced might be more readily available in the future and an assessment of their discard eligibility could be more easily made at that time.

With that in mind, of the 216 specimen numbers initially identified as potentially eligible for discard, 160 were located and found to contain artifacts eligible for discard. A total of 1111 artifacts were considered to be eligible for discard, with a total weight of 131.39 kilograms (kg). By weight, the amount of artifacts eligible for discard comprise 1.78% of the total weight of the 9FU91 artifact assemblage (737.21 kg) (Figure 7).

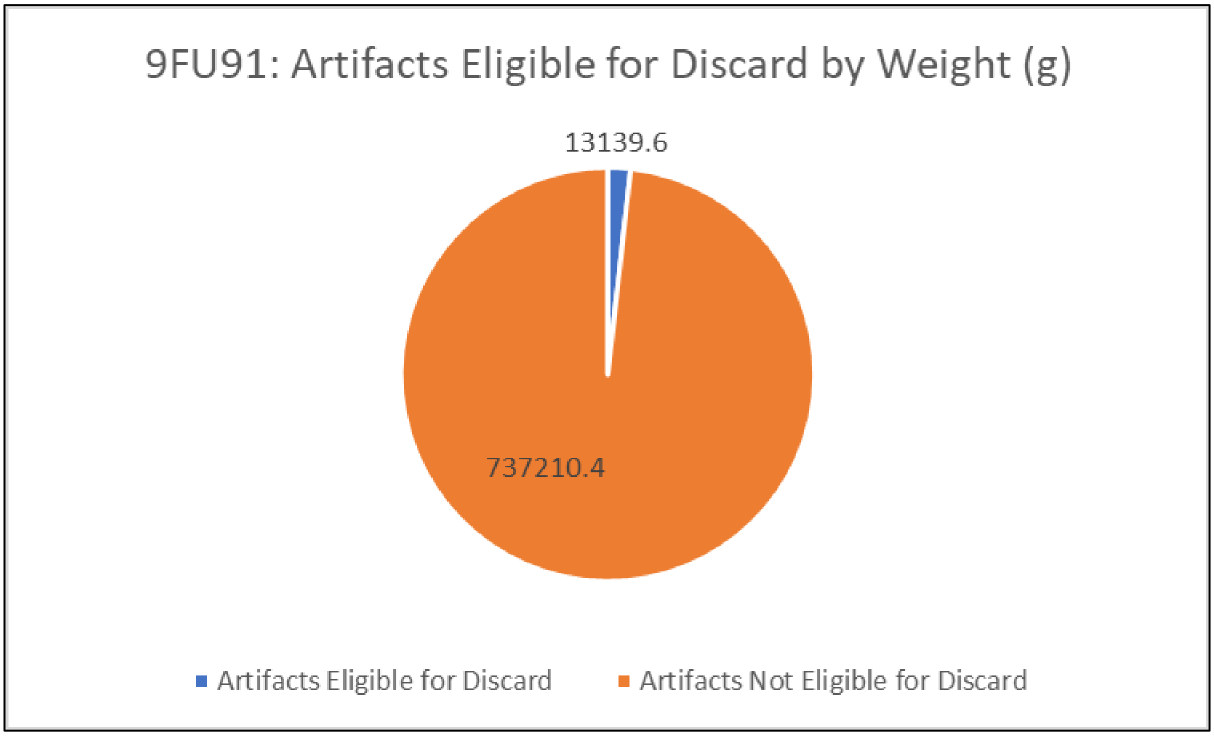


Figure 7. Artifacts Eligible for Discard by Weight.

This is overall not a significant impact on the size of the 9FU91 artifact assemblage. As each artifact box in the collection weighs on average 7982 g, only fewer than two boxes would be removed from the collection after the discard process is complete. Had I been able to locate all objects flagged as potentially eligible for discard, that number may have been slightly higher, but it is doubtful that any more than three boxes from the collection would be culled.

Why was the Artifact Discard Eligibility Model ineffective at creating more space with this legacy collection? One thing to consider is the initial sampling methods used during archaeological field efforts in the late 1970s. The report states that a "representative sample" of all surface collections was taken, but the report does not specify what this representative sample was comprised of. A further hint at the sampling method can be found in the field notes for site 9FU91. In regards to collecting materials for 9FU91, a field archaeologist writes in his notes; "We are having to be very selective about what we bring in since it would be impossible to recover even a small portion of this material. Therefore, we are making a representative sample, by 5' levels (where possible) from this area" (MARTA Project Field Notes 1977). While this note was in relation to a specific excavation at 9FU91, similar representative samples were likely taken from other units as well as from surface collections at the site. If the samples were "very selective", it is likely that the archaeological field crew targeted the recovery of diagnostic materials first. Clearly some non-diagnostic materials were recovered, but this very selective sampling method might account for the overall dearth of objects eligible for discard.

A consideration of the artifact assemblage by material might provide some further answers regarding why the effect of the was so minimal. Through class projects, the original specimen catalog was digitized by students into a Microsoft Access database. Students transcribed the specimen catalog verbatim into the database, and also added a material type category. I used this digitized specimen catalog in order to determine how the overall artifact assemblage for 9FU91 breaks down in terms of material (Figure 8),

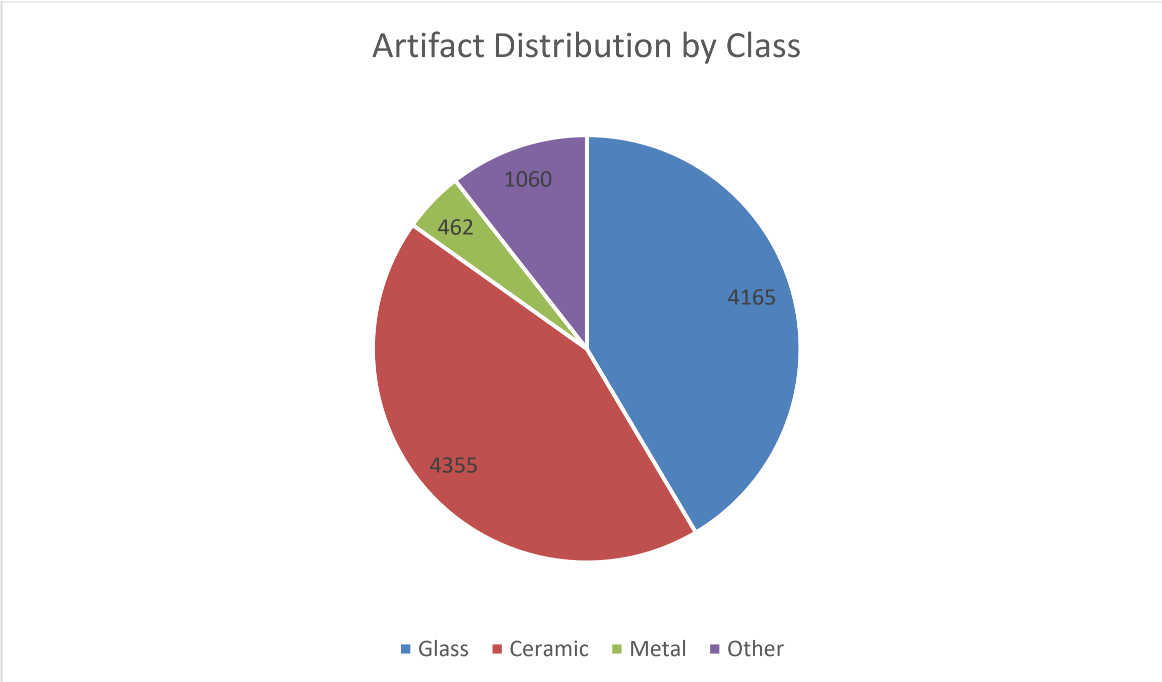
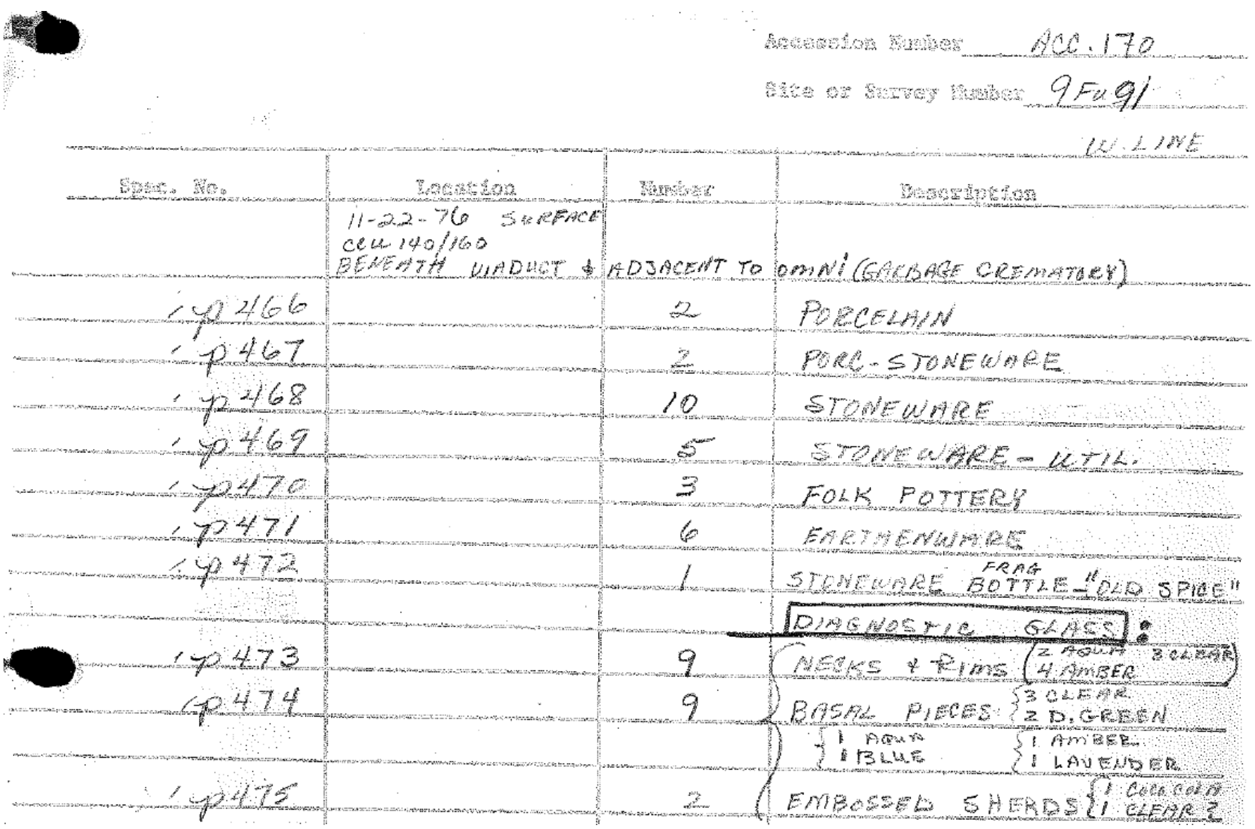


Figure 8. Total Artifact Counts in Site 9FU91 by Class.

Glass and ceramic materials make up the vast majority of artifacts in the 9FU91 collection, with ceramic materials making up 43% (n=4355) of the total artifacts in the collection. As no ceramic materials were considered eligible for discard, over 1/3 of the collection was immediately not considered. While glass materials made up the largest portion of the collection, a large portion of these glass materials were diagnostic, with a large collection of whole glass bottles. These complete glass bottles were not eligible for discard and were quite heavy when compared to the other glass artifacts. Intact ceramic bottles also would weigh a significant amount. It should be noted that while the distribution of artifact classes is useful, exact weights of all artifacts in the collection would be an even better point of comparison. As the specimen catalog was copied, rather than a full inventory of the site being completed by looking at the artifacts, no weights were collected. A weight comparison of complete bottles vs. glass fragments in 9FU91 would also be a helpful statistic; however, the lack of documented artifact weights for the assemblage makes this difficult. Weighing every individual artifact class in the 9FU91 collection was considered beyond the scope of this thesis. It should also be noted that because the digital catalog was copied by students and has yet to be checked for accuracy, outside of collecting these numbers for the entire collection, I relied on the original paper catalog for data collection (Figure 9).



Accession Number ACC. 170
Site or Survey Number 9Fu91
W. LINE

Spec. No.	Location	Number	Description
	11-22-76 SURFACE CELL 140/160 BENEATH VIADUCT & ADJACENT TO OMNI (GARBAGE CREMATORY)		
.p466		2	PORCELAIN
.p467		2	PORC.-STONEWARE
.p468		10	STONEWARE
.p469		5	STONEWARE - UTIL.
.p470		3	FOLK POTTERY
.p471		6	EARTHENWARE
.p472		1	STONEWARE BOTTLE FRAG "OLD SPICE"
			DIAGNOSTIC GLASS:
.p473		9	NECKS & RIMS (2 AQUA, 3 CLEAR, 4 AMBER)
.p474		9	BASAL PIECES {3 CLEAR, 2 D. GREEN, 1 AQUA, 1 BLUE, 1 AMBER, 1 LAVENDER}
.p475		2	EMBOSSED SHERDS {1 COCA COLA, 1 CLEAR}

Figure 9. Example of Original Specimen Catalog.

Regardless of the overall effect of that the ADEM had on the overall 9FU91 artifact assemblage, a breakdown of the artifacts found eligible for discard is helpful in understanding what items would be discarded from a legacy collection when using this model. For 9FU91, glass made up the vast majority of objects eligible for discard (82%), with metal making up the majority of the remainder of artifact types (Figures 10 and 11). Other objects that were found

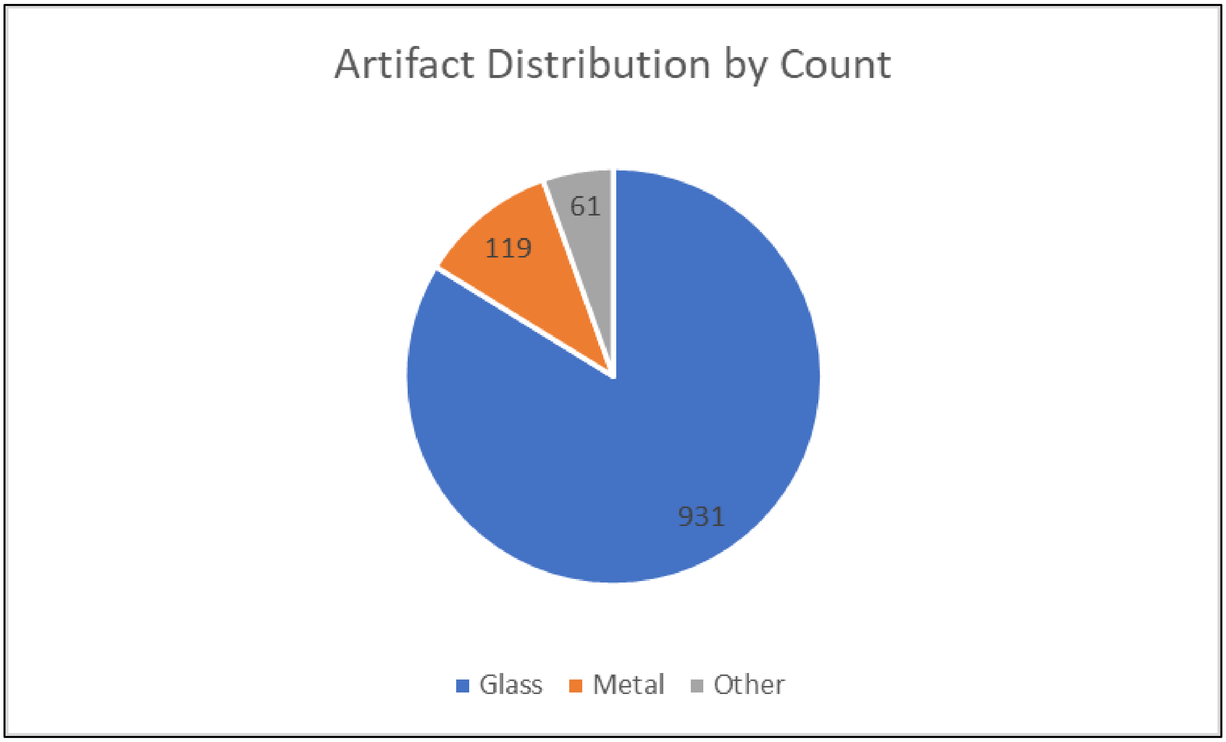


Figure 11. Artifacts Eligible for Discard by Count.

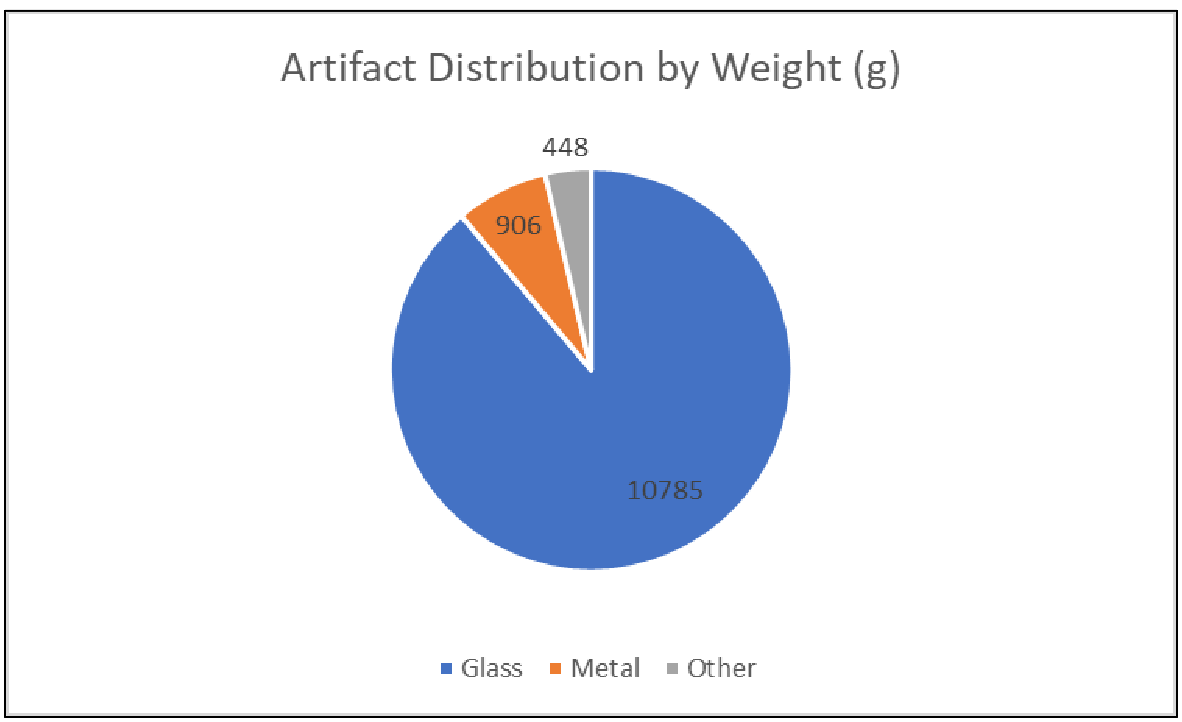


Figure 10. Artifacts Eligible for Discard by Weight.

to be eligible for discard included things such as plastic fragments and pine mulch. As glass objects appear to be more common in the artifact assemblage according to the sample specimen number distribution (see Figure 8), it is not surprising that the majority of artifacts eligible for discard were also glass. As previously stated, it is possible that additional metal artifacts may be eligible for discard that were not identified during the initial search of the specimen catalog. Further, additional metal categories may be considered for potential eligibility in future applications of the ADEM, which will be discussed further in Chapter 6. It should also be noted that 10% of the artifacts identified as eligible would remain in the collection as a representative sample of the discarded materials.

Another important metric in determining the success of the ADEM is considering how much time it takes to perform tasks associated with the model. Performing these tasks in the context of a legacy collection took more time than they did with a modern CRM collection. Part of this can of course be attributed to the fact that more artifacts were examined in the legacy collection test case than the modern CRM collection, but part of the reason was also related to the lack of digital documentation available for the collection. A breakdown of the time I spent testing the model can be seen below (Table 8).

Table 8. Hours Spent Testing the Artifact Discard Eligibility Model on 9FU91.

Task	Hours
Identifying Artifacts Potentially Eligible for Discard	10
Confirming Eligible Artifacts/Artifact Photography/Artifact Discard Eligibility Table Creation	40
Additional Photo Processing Tasks	5

In terms of cost, it is difficult to predict the cost per hour for tasks at a curation facility. Some collections are housed in facilities at universities like GSU. Class projects and student involvement could be employed for many of the stages in the ADEM. Other facilities may have internships, and others may receive grants to undergo the process. Overall, 55 hours is not a significant amount of time to process nearly 100 boxes of artifacts, but other sites may prove to take much longer if a more significant number of materials are identified as potentially eligible for discard. Still, the simplicity of the process does seem to allow for the model to be relatively quick to complete.

6 ANALYZING THE OVERALL USABILITY OF THE ARTIFACT DISCARD ELIGIBILITY MODEL

The artifact discard eligibility model was found, through testing in this thesis, to be more effective in a CRM context then a legacy context. In this chapter I first discuss whether I felt that the results gathered in this thesis are an accurate representation of the efficacy of my model in each respective setting. I then discuss the effects I feel this model would have on the long-term usability of each collection tested. Finally, I develop potential ways to tweak the model to make it more effective.

6.1 Accuracy of the Artifact Discard Eligibility Model Testing.

All archaeological collections are unique. This should be an obvious statement, but still a statement worth making. The SR 17 CRM collection and the 9FU91 artifact assemblage of the MARTA collection both went through a series of field techniques and laboratory techniques that in the end created the final collection. These techniques were employed by archaeologists who made their own set of different decisions regarding the collection. Beyond just technique, these artifact assemblages are also from different places in space and time, representing diverse groups of peoples archaeologically. This is all to say that no matter how many legacy or CRM collections I test using this model, I will never be able to say that the model will be effective for all archaeological sites. I chose the two case studies that I did because I felt that they were good representations of historical archaeological collections in the United States. I still believe that this is mostly true after testing the collections, and in that sense the collections provide an accurate sample.

After completing the process, however, my thoughts have changed in regard to how representative these two case studies are. While the curation crisis is a concern for federal facilities and collections created from federal projects across the nation, I feel that the sample data collected in this thesis can only speak to whether or not the ADEM is effective for historic collections in the Southeast. Southwestern historic collections are often related to mining activities. Aluminum can scatters are also common in the Southwest (Lyons et al. 2008). Other regionally specific historic collections would be found in the Midwest and the Northeast as well. Historic house sites are a common occurrence on CRM projects in the Southeast, particularly during archaeological survey related to roadways. Urban dump sites are an archaeological site type encountered in cities throughout the United States, and while the artifacts from 9FU91 are likely reflective of similar historic dump sites throughout the United States, additional regional data from areas such as the Southwest and the Northeast would help to substantiate this.

Sampling strategies employed in the field at site 9FU91 are a concern when trying to determine whether or not the site acts as a good representation of a legacy collection when testing the ADEM. On the one hand, the sampling strategies employed at 9FU91 are not unlike those employed during other archaeological surveys conducted at the time (Butler 1979); however, even within the MARTA collection itself it appears that at other archaeological sites, much more general material was collected than just the “very selective” sample that constitutes 9FU91 (MARTA Field Notes 1977). Testing of additional sites within the MARTA collection would help to reveal whether or not 9FU91 represents an accurate sample of a legacy collection with regards to ADEM.

6.2 Artifact Discard Eligibility Model and Future Usability of the Collection

6.2.1 SR 17 Collection

Employing the ADEM had a significant effect on the overall size of the SR 17 collection. With over 30% of the collection discarded under this model, an important question to answer is how much the ADEM would affect the future usability of the SR 17 collection. This is a difficult question to answer, as it is not possible to predict what archaeological techniques will exist in the future. In terms of the present, it is difficult to imagine what research questions would be better answered with the materials eligible for discard remaining in the collection.

One possibility is that unknown iron artifacts could undergo electrolysis to remove rust, which could potentially lead to better artifact identification; but no metal artifact in the collection had such a large amount of rust that the overall shape of the artifact was indiscernible. Therefore, it is unlikely that electrolysis would reveal anything new. Nails could be analyzed further, with an analysis of nail length and width helping to determine what the nails were specifically used for; however, this analysis could also be performed based solely on photographs of the discarded nails as long as the photographs were of a high quality.

Bottle glass body sherds are an interesting case, especially when the artifacts are often related to diagnostic basal glass fragments, or finish fragments in the collection. By keeping glass body fragments, it is conceivable that these fragments could later be refitted to glass basal fragments or finish fragments in the collection that belong to the same bottle. This is not a common practice with glass fragments during initial laboratory processing as it is a time-consuming process with little positive impact in terms of artifact research potential; however, it is worth noting in this context because if artifact body sherds are discarded, there is no potential to reconstruct vessels in the future. In the future, it may even be possible to recreate bottles digitally using scans of glass fragments, but this is speculative. Photographs can help in determining the shape of glass fragments, but studies concerning fragment shapes would be more difficult without the actual object.

Overall, materials discarded from the SR 17 collection seem to contribute little to future research potential, but it is difficult to state this definitively. It would be beneficial to have the input of additional archaeologists regarding this question as part of an ongoing conversation on artifact discard eligibility.

6.2.2 The 9FU91 Artifact Assemblage of the MARTA Collection

Far less of the 9FU91 artifact assemblage was considered to be eligible for discard. With only 1.75% of the artifact assemblage considered eligible for discard, the overall effect on the artifact collection should be considered minimal. With that in mind, it is still important to consider the effect of discarding each artifact class. Metal objects such as wire fragments and sheet metal contribute little to the collection's research potential. With artifacts such as these, it is difficult to see how the preservation of the artifact itself is necessary for future study. Nails eligible for discard could be studied further, but most research questions concerning nails could be addressed using photographs of the nails and do not require the physical object. It should also be noted that the treatment of metal artifacts with chemicals such as manganese phospholene (Dickens et al. 1979) could preclude future chemical analyses of metal materials in the collection (Singley 2015).

As with the SR 17 collection, glass body sherds are the most questionable artifact class that was considered eligible for discard. For the 9FU91 collection, the majority of artifacts that were considered eligible for discard consisted of glass body sherds. These artifacts, while catalogued separately, often were clearly related to other specimen numbers containing glass basal sherds and finish fragments. Other glass body sherds were not clearly related to any diagnostic fragment but were clearly related to one another. Still other fragments appeared to be completely unrelated to other glass fragments in the same specimen number, or other specimen numbers with glass artifacts. Glass body fragments that can be clearly connected to diagnostic fragments do have some research potential, as reconstructions of those bottles could help in determining the bottle's former function. A thesis has specifically been written about glass medicine bottles in the MARTA collection (Cook 2014). While only diagnostic bottles were used for this thesis, it is not hard to see how non-diagnostic bottle glass fragments might contribute to this work. Discarding glass fragments is therefore a controversial practice. This topic should be revisited in future conversations on the ADEM.

6.3 Improvements to the Artifact Discard Eligibility Model

The ADEM proved to be effective in reducing the size of the SR 17 collection with what I perceive as minimal effects to the future usability of that collection. I believe that the way in which I designed the model is ideal for incoming CRM collections in the Southeast with a high percentage of historic artifacts. I am interested to hear upon completion of this thesis opinions from other archaeologists regarding the efficacy of the process, and whether or not they feel that the model would damage collections similar to the SR 17 collection.

In terms of efficacy with reducing the size of legacy collections, testing the model on site 9FU91 did not have the desired goal of significantly reducing the size of the collection. While further testing on additional archaeological sites within the MARTA collection might prove that site 9FU91 was an outlier, there may be systemic issues with the model concerning its application to a legacy collection. One potential way to improve the model would be to include a more diverse number of artifact types in the initial flagging of artifacts potentially eligible for discard, specifically in the case of metal artifacts. While I initially targeted unidentified metal artifacts, nails, wire fragments and other clearly non-diagnostic metal elements, other metal artifacts such as metal hinges, machine parts and others could be potentially eligible for discard as well. By flagging them initially, physically checking artifacts that are in this "gray area" would likely lead to a larger number of artifacts eligible for discard.

This biggest problem with applying the ADEM to legacy collections is the lack of documentation in legacy collection settings. This lack of documentation presents something of a Catch-22 situation. By discarding large portions of non-diagnostic materials, a legacy collection can more easily be brought up to curation standards; however, without detailed documentation that legacy collections so often lack, determining what can be discarded can be much more difficult. By initially casting a wider net of potential eligibility, more artifacts will be successfully identified, but it is difficult to tell if that will be enough to make the model viable. Additional testing of the model in a legacy collection setting is needed.

7 CONCLUSION

This thesis has identified key issues that the curation crisis presents to curatorial facilities throughout the United States and proposed a model that could potentially alleviate this crisis by identifying artifacts that could potentially be discarded without damaging a collection's future usability. This model was then tested both in the setting of an incoming CRM collection, and a legacy collection. The model was found to be very effective in reducing the size of an incoming CRM collection, but relatively ineffective in reducing the size of a legacy collection.

I feel that the ADEM as proposed in this thesis could be very useful in reducing the size of incoming CRM collections with only small changes to the workflow already used in the processing of artifacts at CRM labs. I hope that the dissemination of this thesis can facilitate ongoing discussions concerning systematic artifact discard prior to the curation of an archaeological collection. Further refinement of the flowchart process will only improve the method in this setting.

While the ADEM was less effective when used in a legacy collection setting, the concept of systematically discarding materials from a legacy collection should still be considered as a potential alleviation to curation concerns. Input from more curation experts could go a long way in improving the ADEM in this setting. Further testing also may prove that the model is more effective than this initial test on site 9FU91 indicates.

Refinement of the ADEM can perhaps occur through additional testing. I am interested in testing further CRM collections both at VHB and at other companies such as New South Associates to see if results are similar in these different work conditions. When conducting additional testing on modern CRM collections, I will continue to focus on collections with primarily historic materials; however, by testing Phase II and Phase III level CRM collections, additional information regarding the efficacy of the ADEM in different situations can be collected. Similarly, by testing the ADEM on both different MARTA collection sites and completely different legacy collections, a better understanding of whether or not 9FU91 should be considered an outlier can be obtained. It would also be beneficial to have others employ the model, rather than me doing the testing myself. For modern CRM collections, testing would include having a lab technician perform the initial artifact determinations, a lab manager perform a series of checks and final catalog preparation, and a principal investigator conduct the final check. For the MARTA collection, students would be potentially capable of performing artifact discard eligibility checks, with a teacher reviewing the work. Having both students and teachers employing the ADEM would help in determining whether or not this could be effective.

Regardless of whether or not the ADEM is employed to combat the curation crisis, a continued dialogue surrounding issues of curation space, cost, and time is necessary in our discipline. Countless collections with a large amount of research potential sit unused due to the collections having poor digitization, and lacking proper curation.

Additionally, without adequate storage space for collections, it may be more difficult to curate important future collections. Continued research into potential solutions for the curation crisis is necessary. Some will undoubtedly feel that discarding artifacts is not a good solution to the issue, but I hope that by proposing this model I at least promote discussion that can help to create even better solutions in the future.

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APPENDICES

Appendix A: SR 17 Collection Data

Appendix A.1: SR 17 Artifacts Identified as Eligible for Discard

State Site #	**Cat #**	**Prov.**	**Depth**	**Ct.**	**Wt.**	**Class**	**Material**	**Object**
9WS215	1.31H5.5	31H5	0-40	4	8.3	Glass	Glass	Melted Glass
9WS215	1.31H5.9	31H5	0-40	1	0.4	Glass	Cobalt Glass	Glass shard(s)
9WS215	1.31H5.10	31H5	0-40	1	0.5	Glass	Green Glass	Glass shard(s)
9WS215	1.31H5.11	31H5	0-40	7	21.8	Glass	Amber Glass	Beer bottle
9WS215	1.31H5.14	31H5	0-40	6	5.8	Glass	Clear Glass	Glass shards
9WS215	1.31H5.15	31H5	0-40	1	0.5	Glass	Clear Glass	Window Glass
9WS215	1.31G2.2	31G2	0-10	1	1.6	Glass	Clear Glass	Window Glass
9WS215	1.31I4.1	31I4	0-15	3	2.1	Glass	Clear Glass	Glass shards
9WS215	1.31H3.1	31H3	0-10	1	2.3	Glass	Greenish Aqua Glass	Glass shard(s)
9WS216	2.30H4.3	30H4	0-10	5	39	Building Material	Metal	Wire Nails
9WS216	2.30H4.4	30H4	0-10	1	1.6	Glass	Clear Glass	Window Glass

9WS217	3.30P1.1	30P1	0-10	1	0.7	Glass	Amber Glass	Glass shard(s)
9WS217	3.30P1.2	30P1	0-10	2	13.2	Building Material	Metal	Wire Nails
9WS217	3.30P2.5	30P2	0-10	1	0.6	Glass	Amber Glass	Glass shard(s)
9WS217	3.30P2.7	30P2	0-10	5	8.5	Glass	Clear Glass	Glass shard(s)
9WS217	3.30P3.2	30P3	0-15	2	1.1	Glass	Aqua Glass	Glass shards
9WS217	3.30P3.3	30P3	0-15	9	7	Glass	Clear Glass	Glass shards
9WS217	3.30O3.2	30O3	0-15	1	3	Glass	Greenish Aqua Glass	Glass shard
9WS217	3.30O3.3	30O3	0-15	1	1.5	Glass	Clear Glass	Glass shard
9WS420	4.30A8.1	30A8	0-10	1	1.5	Glass	Clear Glass	Glass shard(s)
9WS420	4.30A8.2	30A8	0-10	1	8.4	Building Material	Metal	Wire Nail
9WS420	4.30A815SE.4	30A8.15SE	0-20	1	24.8	Glass	Clear Glass	Glass shard(s)
9WS420	4.30A815SE.5	30A8.15SE	0-20	2	12.2	Building Material	Metal	Wire Nails
9WS420	4.30A9.4	30A9	0-15	2	3.6	Glass	Clear Glass	Glass shards
9WS420	4.30A915W.5	30A9.15W	0-10	8	4.9	Glass	Clear Glass	Glass shards
9WS420	4.30A915W.6	30A9.15W	0-10	3	14.7	Building Material	Metal	Wire Nails
9WS420	4.30A915W15NW.2	30A9.15W.15NW	0-10	11	18.6	Glass	Clear Glass	Glass shards

9WS420	4.30A930W15NW.1	30A9.30W.15NW	0-10	1	20.9	Glass	Aqua Glass	Glass shard
9WS218	5.29G3.2	29G3	0-20	2	38.9	Building Material	Metal	Wire Nails
9WS218	5.29G3.3	29G3	0-20	2	11.1	Building Material	Metal	Nail fragments
9WS421	6.27E13.3	27E.13	0-40	2	3.8	Metal	Metal	Unidentified fragments
9WS421	6.27E13.4	27E.13	0-40	1	2.1	Building Material	Metal	Nail fragment
9WS421	6.27E1315N.1	27E13.15N	0-40	1	0.9	Building Material	Metal	Nail fragment
9WS421	6.27F13.1	27F13	0-20	2	1.4	Glass	Clear Glass	Glass shards
9WS421	6.27F13.2	27F13	0-20	1	1.1	Glass	Clear Glass	Window Glass
N/A	IF3.25E10.2	25E.10	0	1	2.2	Glass	Aqua Glass	Melted Glass
9WS422	9.SC1.4	SC1	0	1	4.9	Glass	Clear Glass	Glass shard
9WS422	9.SC3.6	SC3	0	1	2.7	Glass	Aqua Glass	Glass shard
9WS422	9.SC3.10	SC3	0	2	5	Glass	Clear Glass	Clear glass shards
9WS423	10.SC1.4	SC1	0	2	3	Glass	Clear Glass	Glass shards
9WS423	10.SC1.7	SC1	0	2	4.4	Glass	Light Green Glass	Glass shards
9WS423	10.SC1.8	SC1	0	2	32.4	Building Material	Metal	Wire nails
9WS424	12.22E2315W.1	22E23.15W	0-10	5	12.7	Building Material	Metal	Nail fragments

9WS424	12.22E2315W.2	22E23.15W	0-10	4	26.1	Building Material	Metal	Wire nails
9WS426	14.21F10.4	21F10	0-35	1	0.4	Glass	Clear Glass	Glass shard
9WS426	14.21F1015S.1	21F10.15S	0-35	1	<.1	Glass	Amber Glass	Glass shard
9WS426	14.21F1015S.2	21F10.15S	0-35	2	13.5	Building Material	Metal	Wire nail fragments
9WS426	14.21F1015S30E.1	21F10.15S.30E	0-35	1	9.6	Building Material	Metal	Nail fragment
9WS426	14.21F1045S30E.2	21F10.45S.30E	0-80	3	2.1	Glass	Aqua Glass	Glass Shards
9WS426	14.21F1045S30E.4	21F10.45S.30E	0-80	3	13.1	Glass	Clear Glass	Glass shards
9WS426	14.21F1045S30E.5	21F10.45S.30E	0-80	2	9.4	Building Material	Metal	Wire Nails
9WS426	14.21F1045S30E.6	21F10.45S.30E	0-80	5	18.9	Building Material	Metal	Nail fragments
9WS426	14.21F1045S30E.7	21F10.45S.30E	0-80	9	66.6	Metal	Metal	Unidentified metal fragments
9WS426	14.21F1045S45E.1	21F10.45S.45E	10-30	1	0.04	Glass	Aqua Glass	Glass shard
9WS426	14.21F1045S45E.2	21F10.45S.45E	10-30	2	3.1	Glass	Clear Glass	Window glass
9WS426	14.21F1045S45E.3	21F10.45S.45E	10-30	1	60.7	Metal	Metal	Unidentified metal
9WS426	14.21F1060S15E.3	21F10.60S.15E	0-45	2	7.3	Glass	Clear Glass	Glass Shards
9WS426	14.21F1060S15E.4	21F10.60S.15E	0-45	1	1.4	Glass	Clear Glass	Window glass

9WS426	14.21F1060S15E.5	21F10.60S.15E	0-45	1	3.7	Glass	Amber Glass	Glass shard
9WS426	14.21F1060S15E.6	21F10.60S.15E	0-45	2	19.8	Building Material	Metal	Wire Nails
9WS427	15.20E715E.2	20E7.15E	0-30	1	0.5	Glass	Clear Glass	Glass shard
9WS427	15.20E715E.3	20E7.15E	0-30	1	2.3	Metal	Metal	Unidentified fragment
9WS427	15.20E715W30S.1	20E7.15W.30S	0-60	1	1.1	Glass	Clear Glass	Window Glass shard
9WS427	15.20E715W30S.2	20E7.15W.30S	0-60	2	4.8	Building Material	Metal	Wire nails
9WS427	15.20E715W30S.3	20E7.15W.30S	0-60	8	27.6	Metal	Metal	Unidentified fragments
9WS427	15.20E745N.2	20E7.45N	0-15	2	3.4	Building Material	Metal	Wire nail fragments
9WS427	15.20E745N15E.2	20E7.45N.15E	0-15	1	3	Building Material	Metal	Nail fragment
9WS427	15.20E745S30W.4	20E7.45S.30W	0-20	1	0.9	Building Material	Metal	Nail fragment
9WS427	15.20E8.3	20E.8	20-60	5	6.6	Glass	Greenish aqua glass	Window glass shards
9WS427	15.20E8.4	20E.8	20-60	1	9.5	Glass	Clear Glass	Melted Glass fragment
9WS427	15.20E8.6	20E.8	20-60	12	39.8	Building Material	Metal	nail fragments
9WS427	15.20E8.7	20E.8	20-60	24	61.4	Metal	Metal	Unidentified metal fragments
9WS427	15.20F7.1	20F7	0-15	1	2.1	Slag	Slag	Slag
9WS427	15.20F8.2	20F8	0-30	1	2.6	Glass	Clear Glass	Glass shard
9WS427	15.20F8.3	20F8	0-30	3	10.1	Building Material	Metal	Nail fragments

9WS427	15.20F8.4	20F8	0-30	3	2.9	Metal	Metal	Unidentified metal fragments
9WS427	15.20D8.2	20D8	0-30	1	7	Glass	Clear Glass	Embossed glass shard
9WS427	15.20D8.3	20D8	0-30	1	2.6	Coal	Coal	Coal
9WS428	16.20B2215W.1	20B22.15W	0-15	1	9.1	Building Material	Metal	Nail
9WS428	16.20B2215W.2	20B22.15W	0-15	2	41.3	Metal	Metal	Unidentified Metal
9WS428	16.20B2215W15N.3	20B22.15W.15N	0-40	2	9.4	Building Material	Metal	Nail fragments
				21				
9WS429	17.17B4.4	17B4	0-35	2	16.6	Building Material	Metal	Wire nails
9WS429	17.17B415W.1	17B4.15W	15-25	1	3	Metal	Metal	Unidentified Metal
9WS429	17.17B415S.1	17B4.15S	0-20	3	6.5	Glass	Clear Glass	Glass shards
9WS429	17.17B415S.2	17B4.15S	0-20	1	18.2	Building Material	Metal	wire nail
9WS429	17.17B415S15E.3	17B4.15S.15E	0-25	2	4	Glass	Amber Glass	Glass shards
9WS429	17.17B415W30S.4	17B4.15W.30S	0-20	2	3	Glass	Clear Glass	Glass shards
9WS429	17.17B415W30S.5	17B4.15W.30S	0-20	1	4	Glass	Clear Glass	Window glass shard
9WS429	17.17B415W30S.6	17B4.15W.30S	0-20	1	6.8	Building Material	Metal	Wire nail
9WS429	17.17B415W30S.7	17B4.15W.30S	0-20	3	9.5	Building Material	Metal	Nail fragments
9WS429	17.17B415E30S.2	17B4.15E.30S	0-20	1	4.5	Building Material	Metal	nail
9WS429	17.17B5.4	17B5	0-25	1	2.4	Glass	Aqua Glass	Window glass shard

9WS429	17.17B5.8	17B5	0-25	4	8.4	Building Material	Metal	Nail fragments
9WS429	17.17B460S.1	17B4.60S	43-60	2	21.1	Glass	Clear Glass	Glass shards
9WS429	17.17B460S.2	17B4.60S	43-60	1	22.9	Building Material	Metal	Nail
9WS429	17.17B415E45S.3	17B4.15E.45S	0-15	3	6.5	Glass	Clear Glass	Glass shards
9WS429	17.17B415E45S.4	17B4.15E.45S	0-15	1	3.3	Building Material	Metal	Nail fragment
9WS429	17.17A5.3	17A5	0-30	2	56.6	Glass	Aqua Glass	Glass shards
9WS429	17.17A5.4	17A5	0-30	3	12	Glass	Clear Glass	Glass shards
9WS429	17.17A5.5	17A5	0-30	1	2.6	Glass	Clear Glass	Window glass shard
9WS429	17.17A5.7	17A5	0-30	4	32.2	Building Material	Metal	Wire nails
9WS429	17.17A5.8	17A5	0-30	2	5	Building Material	Metal	Nail fragments
9WS429	17.17A5.9	17A5	0-30	4	4.3	Metal	Metal	Unidentified Metal fragments
9WS430	18.SC1.2	SC1	0	2	5.1	Glass	Light green glass	Glass shards
9WS430	18.SC1.3	SC1	0	1	36.4	Metal	Iron	Unidentified fragment
9WS430	18.19F5.3	19F5	0-25	6	17.3	Glass	Clear Glass	Glass shards
9WS430	18.SC2.4	SC2	0	1	1.8	Building Material	Metal	Wire nail fragment
9WS431	19.SC4.29	SC4	0	4	5	Glass	Cobalt Glass	Glass shards

9WS431	19.SC4.30	SC4	0	5	9.1	Glass	Deep Aqua Glass	Glass shards
9WS431	19.SC4.32	SC4	0	3	5.1	Glass	Aqua Glass	Flat glass shards
9WS431	19.SC4.34	SC4	0	7	168.6	Glass	Green Glass	Thick glass shards
9WS431	19.SC4.35	SC4	0	1	1.1	Glass	Green Glass	Thin flat glass shard
9WS431	19.SC4.45	SC4	0	5	36.9	Glass	Clear Glass	Glass shards
9WS431	19.SC4.47	SC4	0	1	31.8	Metal	Metal	Metal fragment
9WS431	19.SC5.27	SC5	0	2	6.1	Glass	Aqua Glass	Glass shards
9WS431	19.SC5.28	SC5	0	3	34.2	Glass	Deep Aqua Glass	Glass shards
9WS431	19.SC5.29	SC5	0	2	30.1	Glass	Amber Glass	Glass shards
9WS431	19.SC5.30	SC5	0	2	41.3	Glass	Clear Glass	Melted glass fragments
9WS431	19.SC5.36	SC5	0	1	1.6	Glass	Clear Glass	Glass shard
9WS431	19.SC6.5	SC6	0	1	4.1	Glass	Deep Aqua Glass	Glass shard
9WS431	19.SC6.8	SC6	0	2	8.4	Glass	Clear Glass	Glass shards
9WS431	19.19F23.3	19F23	0-25	1	0.8	Glass	Clear Glass	Glass shard
9WS431	19.19F23.4	19F23	0-25	1	3.7	Building Material	Metal	Nail Fragment

9WS431	19.19E24.3	19E.24	0-20	1	4.7	Building Material	Metal	Wire Nail
9WS431	19.19E22.1	19E.22	0-30	1	4.3	Metal	Metal	Unidentified Metal fragment
9WS431	19.19F22.1	19F22	0-25	1	8.9	Building Material	Metal	Nail
9WS431	19.19D24.3	19D24	0-45	1	1.2	Glass	Greenish aqua glass	glass shard
9WS431	19.19E2315W.2	19E23.15W	0-35	1	0.8	Glass	Greenish aqua glass	Window glass shard
9WS431	19.19E2315W.3	19E23.15W	0-35	1	<.1	Glass	Clear Glass	Glass shard
9WS431	19.19E2315N.2	19E23.15N	0-40	1	2.2	Glass	Clear Glass	Glass shard
9WS431	19.19E2315N.4	19E23.15N	0-40	1	0.8	Building Material	Metal	Nail fragment
9WS431	19.19E2315W15S.5	19E23.15W.15S	0-40	1	0.7	Glass	Greenish aqua glass	glass shard
9WS431	19.19E2315W15S.6	19E23.15W.15S	0-40	1	1.6	Glass	Greenish aqua glass	glass shard
9WS431	19.19E2315W15S.7	19E23.15W.15S	0-40	1	0.4	Glass	Milk Glass	Glass shard
9WS431	19.19E2315W15S.9	19E23.15W.15S	0-40	1	5.3	Glass	Clear Glass	Glass shard
9WS431	19.19E2315W15S.10	19E23.15W.15S	0-40	1	1.7	Glass	Clear Glass	Glass shard
9WS431	19.19E2315W15S.11	19E23.15W.15S	0-40	1	122.8	Building Material	Metal	Hinge with 3 nails

9WS431	19.19E2315W15S.12	19E23.15W.15S	0-40	6	23.2	Building Material	Metal	Wire Nails
9WS431	19.19E2315W15S.13	19E23.15W.15S	0-40	9	24.7	Building Material	Metal	Nail fragments
9WS431	19.19E2315W30N.3	19E23.15W.30N	0-50	4	9.3	Glass	Clear Glass	Glass shards
9WS431	19.19E2315W30N.5	19E23.15W.30N	0-50	4	13	Building Material	Metal	Nail fragments
9WS431	19.19E2315W30N.6	19E23.15W.30N	0-50	1	4.8	Metal	Metal	Unidentified Metal object
9WS431	19.19E2330S15W.7	19E23.30S.15W	15-30	1	4.2	Glass	Medium olive amber glass	glass shard
9WS431	19.19E2330S15W.10	19E23.30S.15W	15-30	3	7.5	Glass	Aqua-tinted Glass	Flat glass shards
9WS431	19.19E2330S15W.11	19E23.30S.15W	15-30	1	4	Glass	Amber Glass	Glass shard
9WS431	19.19E2330S15W.13	19E23.30S.15W	15-30	1	0.9	Glass	Clear Glass	Base shard
9WS431	19.19E2330S15W.14	19E23.30S.15W	15-30	12	84.7	Building Material	Metal	Nail fragments
9WS431	19.19E2330S15W.15	19E23.30S.15W	15-30	2	186.7	Metal	Metal	Unidentified Metal Objects
9WS431	19.19E2315S30E.1	19E23.15S.30E	0-20	1	7.9	Glass	Dark olive amber glass	Glass shard
9WS431	19.19E2315E45S.3	19E23.15E.45S	0-10	1	3.3	Building Material	Metal	Nail fragment
9WS431	19.19E2330W45S.2	19E23.30W.45S	15-30	1	0.7	Glass	Clear Glass	Glass shard

9WS431	19.19E2330W45S.3	19E23.30W.45S	15-30	1	12.6	Metal	Metal	Unidentified metal fragment
9WS432	20.19E18.6	19E.18	0-40	1	4.7	Mineral	Mineral	Coal
9WS432	20.19E19.1	19E.19	0-40	2	3.7	Glass	Clear Glass	Glass shards
9WS432	20.19E19.2	19E.19	0-40	1	2	Mineral	Mineral	Coal
9WS432	20.19F19.1	19F19	0-40	1	2.4	Glass	Clear Glass	Glass shard
9WS432	20.19F19.2	19F19	0-40	1	1.9	Mineral	Mineral	Coal
9WS432	20.SC2.2	SC2	0	1	1.4	Glass	Clear Glass	Glass shard
9WS432	20.19E1815S15E.9	19E18.15S.15E	20-50	4	8.6	Glass	Clear Glass	Glass shards
9WS432	20.19E1815S15E.10	19E18.15S.15E	20-50	2	5.8	Building Material	Metal	Wire nails
9WS432	20.19E1815S15E.11	19E18.15S.15E	20-50	4	5.9	Building Material	Metal	Nail fragments
9WS432	20.19E1845S.1	19E18.45S	0-20	2	2.2	Glass	Deep Blue Aqua Glass	Glass shards
9WS432	20.19E1845S.2	19E18.45S	0-20	1	4.8	Building Material	Metal	Nail fragment
9WS432	20.19E1845S15W.3	19E18.45S.15W	20-60	1	2.4	Glass	Clear Glass	Glass shard
9WS433	21.18F19.3	18F19	0-30	2	3.1	Glass	Clear Glass	Glass shards
9WS230	22.17I6.2	17I6	0-60	1	4.5	Glass	Deep Blue Aqua Glass	Glass shard

9WS230	22.17I6.4	17I6	0-60	1	15	Glass	Clear Glass	Glass shard
9WS230	22.17I6.5	17I6	0-60	3	6.9	Building Material	Metal	Nail fragments
9WS230	22.17I6.6	17I6	0-60	6	9.7	Metal	Metal	Unidentified fragments
9WS230	22.17H6.5	17H6	0-25	1	8.1	Glass	Clear Glass	Glass shard
9WS230	22.17H5.2	17H5	0-20	7	53.1	Building Material	Metal	Wire nails
9WS340	23.16J4.1	16J4	0-20	1	24.7	Glass	Clear Glass	Glass shard
9WS340	23.16J5.2	16J5	10-30cm	5	9.4	Glass	Clear Glass	Glass shards
9WS340	23.16J5.3	16J5	10-30cm	1	17.8	Building Material	Metal	Bolt fragment
9WS337	25.15L4.2	15L4	0-30cm	3	7.8	Glass	Clear Glass	Glass shards
9WS337	25.15L4.3	15L4	0-30cm	2	12.3	Glass	Light green tinted glass	Glass shards
9WS434	26.15C12.3	15C12	0-20	1	3.2	Building Material	Metal	Square/cut nail

9WS434	26.15C1215N.2	15C12.15N	0-25	2	17.5	Glass	Clear Glass	glass shards
9WS434	26.15C1215E.2	15C12.15E	0-30	1	2.2	Glass	Light green tinted glass	Glass Shard
9WS434	26.15C1215E.3	15C12.15E	0-30	1	2.8	Glass	Clear Glass	Glass Shard
9WS434	26.15C1215E.4	15C12.15E	0-30	1	6.2	Building Material	Metal	Square/cut nail
9WS434	26.15C1215N15E.1	15C12.15N.15E	0-30	2	3	Building Material	Metal	Nail fragments
9WS434	26.15C1215N15E.2	15C12.15N.15E	0-30	1	23.2	Metal	Metal	UID Metal
9WS232	27.14E1.1	14E.1	0-25	2	18.3	Building Material	Metal	Wire nail
9WS435	28.14M6.5	14M6	0-15	1	2.8	Glass	Clear Glass	Glass shard
9WS435	28.14M6.6	14M6	0-15	2	15.6	Building Material	Metal	Wire nails
9WS435	28.14M7.5	14M7	0-30	10	23.2	Glass	Clear Glass	Glass shards
9WS435	28.14M7.8	14M7	0-30	5	54.4	Building Material	Metal	Wire nails
9WS435	28.14M8.3	14M8	0-30	1	2	Glass	Clear Glass	Glass shard
9WS437	30.12E1715E.5	12E17.15E	0-20	1	1.9	Glass	Clear Glass	Glass shard

9WS437	30.12E1715W.3	12E17.15W	0-20	2	10.1	Glass	Clear Glass	Glass shards
9WS437	30.12D17.3	12D17	0-20	2	5	Glass	Greenish aqua glass	Glass shards
9WS439	34.17E4.2	17E.4	0-40	6	15.9	Glass	Clear Glass	Glass shards
9WS439	34.17E6.4	17E.6	0-40	1	3.5	Metal	Metal	Spring
9WS439	34.17E6.5	17E.6	0-40	6	26.4	Building Material	Metal	Nail fragments
9WS439	34.17E6.6	17E.6	0-40	6	9.4	Metal	Metal	Unidentified fragments
9WS440	35.4I545W.3	4I5.45W	0-20	2	19.5	Building Material	Metal	Wire nails

Appendix A.2. SR 17 10% of Eligible Artifacts Kept

State Site #	Cat #	Prov.	Depth	Ct.	Wt.	Class	Material	Object
9WS431	19.19E2315W.5	19E23.15W	0-35	1	1.3	Building Material	Metal	Wire nail
9WS432	20.19E18.5	19E.18	0-40	1	2.2	Glass	Deep Blue Aqua Glass	Glass shard
9WS432	20.19E1845S15W.4	19E18.45S.15W	20-60	1	6.9	Building Material	Metal	Wire nail
9WS433	21.18F20.3	18F20	0-30	1	1	Glass	Clear Glass	Glass shard
9WS230	22.17H6.3	17H6	0-25	1	9	Glass	Milk Glass	Glass shard
9WS230	22.17H7.2	17H7	40-60	1	3.9	Building Material	Metal	Wire nail
9WS340	23.16K6.1	16K6	0-20	1	15.7	Building Material	Metal	Wire Nail

9WS340	23.16J5.1	16J5	10-30cm	1	1.7	Glass	Amber Glass	Glass shard
9WS337	25.15M4.4	15M4	0-45	1	8.3	Building Material	Metal	Wire nail
9WS337	25.15M4.3	15M4	0-45	1	2	Glass	Clear Glass	Glass shard
9WS434	26.15C12.2	15C12	0-20	1	2.5	Glass	Deep Blue Aqua Glass	Glass shard
9WS434	26.15C12.4	15C12	0-20	1	1.3	Building Material	Metal	Wire nail
9WS232	27.14E115N.1	14E1.15N	0-30	1	7.6	Building Material	Metal	Wire nail
9WS435	28.14N5.2	14N5	0-10	1	1.6	Glass	Clear Glass	Glass shard
9WS435	28.14M8.4	14M8	0-30	1	6.3	Building Material	Metal	Wire nail
9WS436	29.14E1915N.3	14E19.15N	0-40	1	3.2	Building Material	Metal	Square Nail fragment
9WS437	30.12E17.2	12E.17	0-15	1	1	Glass	Amber Glass	Glass shard
9WS439	34.17E6.3	17E.6	0-40	1	7.8	Glass	Amber Glass	Weathered shard
9WS440	35.4I545W.1	4I5.45W	0-20	1	7.7	Glass	Greenish aqua glass	Glass shard

Appendix B. Site 9FU91 MARTA Collection Data

Appendix B.1 9FU91 Artifacts Identified as Potentially Eligible for Discard

Specimen No	Artifact Class
p475	Glass Fragments
p476	Clear Glass
p477	Aqua Glass
p478	Green Glass
p479	Burned Glass
a482	Nail
a484	Slate Roofing
p494-500	Glass Fragments

p515-517	Glass Fragments
a523	Misc. Metal
p534-540	Glass Fragments
p558	Amber Glass Fragments
p559	Aqua Glass Fragments
p560	Clear Glass Fragments
p561-566	Glass Fragments Various
a571	Misc. Metal
a581	wire pieces
p592	Clear Glass Fragments
p606-612	Misc. Glass Fragments
p627-629	Misc. Glass Fragments
a631	Misc. Metal
p641	Glass Frags
a642	nail
p662-667	Glass Frags
a673	nail frags
p686-690	glass frags
a698	misc. metal frags
p705	glass frags
p715-p717	glass frags
a718	nail
a721	misc metal pieces
a740	misc. metal frags
p754	misc. Glass frags
p783-p787	misc. glass frags
a788	architectural glass
a796	misc. metal pieces
p812-818	misc. glass frags
a828	misc metal frags
p846-848	glass frags
a850	plate glass
a854	nail frags
a857	misc. metal frags

m858	misc???
p869-p872	glass frags
a879	nail frags
a880	uild metal
a882	misc. metal
p892-894	glass frags
p912-916	glass frags
p938	glass frags
p950-954	glass frags
a966	misc. metal
p985	misc. light green?
p1007	misc. glass frags
p1036	misc. glass frags
p1060-1061	misc. glass frags
p1086-1087	glass frags
p1106	glass frags
p1131-1134	misc. glass frags
p1182	glass frags
p1207	misc. glass frags
a1222	misc. metal frags
p1236-1240	misc. glass frags
p1264-1269	misc. glass frags
p1300	misc. glass frags
p1318	misc. glass frags
p1369	misc. glass frags
p1370	plate glass
a1371	glass frag
p1427	misc. glass frag
p1457	misc. glass frags
p1504-1506	misc. glass frags
p1537	misc. glass frags
p1553	misc. glass frags
p1562	misc. glass frags
p1584	misc. glass frags

a1614	misc. metal frags
p1826	misc. glass frags
a1917	misc. metal strip
p2037	misc. glass frag
p3066	misc. glass frags
a3067	window glass frags
a3170	nail
p3280	glass frags
a3285	nails
p3305-3310	lots of misc. glass frags
a3311	plate glass frags
a3312	stained glass frags (lots)
a3321	wood frags?
a3325	misc rubber
a3330	nails
a3338	misc metal strips
a3329	msic wire pieces
a3339	scrap tin
a3341	brick frags
m3342	coal
mm3343	charcoal
m3344	slag
m3345	soil samples
p3518	misc glass frag
p3562	misc glass frag
p3572	misc glass frag
a3593	plate glass frags
p3604	burned misc glass
p3630	misc. glass
p3631	window glass frags
a3634	plastic
p3646	misc glass frag
p3658	misc. glass
p3675	misc glass frag

p3683	misc. glass frags
a3684	architectural glass
p3698	misc. jglass frags
p3728	misc glass frags
p3736	misc. glass frags

Appendix B.2 9FU91 MARTA Collection Artifacts Found to be Eligible for Discard.

Box No.	Collection Method/Prov.	Spec. No.	Count Eligible for Discard	Material	Type	Object	Wt.	Paper/Curation Bag?
169	Surface (ccu 140/160)	p476	5	Glass	Clear Glass	Body Fragment	187.8	Paper
169	Surface (ccu 140/160)	p477	6	Glass	Light Green Glass	Body Fragment	211.8	Paper
169	Surface (ccu 140/160)	p478	1	Glass	Olive Green glass	Body Fragment	25.7	Paper
169	Surface (ccu 140/160)	p479	1	Glass	Light Green Glass	Body Fragment	14.1	Paper
169	Surface (ccu 140/160)	a482	1	Metal	Nail	Cut Nail	24.7	Paper
169	Surface (ccu 140/160)	a484	1	Rock	Slate	Roofing Fragment	40.6	Paper
169	Surface (Parcel 517)	p494	5	Glass	Clear Glass/SCA Glass	Body Fragment	57.7	Paper
169	Surface (Parcel 517)	p495	3	Glass	Light Green Glass	Body Fragment	40.2	Paper
169	Surface (Parcel 517)	p496	5	Glass	Ligh Aqua glass	Body Fragment	157.2	Paper
169	Surface (Parcel 517)	p497	2	Glass	Aqua Glass	Body Fragment	24.9	Paper
169	Surface (Parcel 517)	p498	2	Glass	Olive Green glass	Body Fragment	19.5	Paper

169	Surface (Parcel 517)	p499	0	N/A	N/A	N/A	0	Paper
169	Surface (Parcel 517)	p500	1	Glass	Clear Glass	Body Fragment	26.9	Paper
169	Surface (Parcel 517)	p515	2	Glass	Light Aqua Glass	Body Fragment	32.4	Paper
169	Surface (Parcel 517)	p516	2	Glass	Amber Glass	Body Fragment	38.5	Paper
169	Surface (Parcel 517)	p517	1	Glass	Aqua Glass	Body Fragment	19.6	Paper
169	Surface (Parcel 517)	a523	1	Metal	Steel?	Metal Fragment	538.7	Paper
169	Surface (Parcel 517)	p534	8	Glass	Clear Glass	Body Fragment	78.7	Paper
169	Surface (Parcel 517)	p535	4	Glass	Aqua Glass	Body Fragment	50	Paper
169	Surface (Parcel 517)	p536	11	Glass	Light Aqua Glass	Body Fragment	111.11	Paper
169	Surface (Parcel 517)	p537	3	Glass	Green Glass	Body Fragment	15.2	Curation
169	Surface (Parcel 517)	p538	2	Glass	Olive Green glass	Body Fragment	21.5	Curation
169	Surface (Parcel 517)	p539	7	Glass	Amber Glass	Body Fragment	44.1	Paper
169	Surface (Parcel 517)	p540	18	Glass	Misc. Glass	Body Fragment	200.1	Paper
171	Surface (Cell 140/160) (Beneath Viaduct)	p560	0	Glass	SCA Glass	Body and base Fragments	0	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	p556	0	Glass	Light Green Glass	Bottle Fragments	0	Curation

171	Surface (Cell 140/160) (Beneath Viaduct)	p560	20	Glass	Clear Glass	Body Fragment	233.2	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	p562	16	Glass	Amber Glass	Body Fragment	230.3	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	p561	13	Glass	Olive Green glass	Body Fragment	226.3	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	p559	29	Glass	Light Green/Aqua Glass	Body Fragment, Neck Fragment	541.5	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	p563	2	Glass	Green Glass	Body Fragment	20.9	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	p564	3	Glass	Cobalt Glass	Body Fragment	31.6	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	p565	0	Glass	Light Aqua Glass	Body Fragment	0	Curation
171	Surface (Cell 140/160) (Beneath Viaduct)	a571	0	Metal	Misc. Metal	Pipe?		Curation
172	Surface (Cell 140/160)	p606	1	Glass	Amber Glass	Body Fragment	24.1	Curation

	(Beneath Viaduct)							
172	Surface (Cell 140/160) (Beneath Viaduct)	p607	3	Glass	Light Green Glass	Body Fragment	56.2	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p608	4	Glass	Aqua Glass	Body Fragment	70.2	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p609	1	Glass	Cobalt Glass	Body Fragment	16.8	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p610	2	Glass	Olive Green glass	Body Fragment	32.7	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p611	4	Glass	Clear Glass	Body Fragment	24.4	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p612	3	Glass	Misc. Glass	Body Fragment	63.6	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p627	1	Glass	Clear Glass	Body Fragment	54.7	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p628	2	Glass	Olive Green glass	Body Fragment	17.4	Curation

172	Surface (Cell 140/160) (Beneath Viaduct)	p629	1	Glass	Amber Glass	Body Fragment	9	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	p641	1	Glass	Light Green Glass	Body Fragment	55	Curation
172	Surface (Cell 140/160) (Beneath Viaduct)	a631	1	Metal	Misc Metal	Misc. Unknown	17	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p662	2	Glass	Amber Glass	Body Fragment	24.1	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p663	1	Glass	Olive Green glass	Body Fragment	30.3	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p664	2	Glass	Clear Glass	Body Fragment	7.2	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p665	6	Glass	Light Green Glass	Body Fragment	139.1	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p666	4	Glass	Aqua Glass	Body Fragment	93	Curation
173	Surface (Cell 140/160)	p667	1	Glass	Aqua Glass	Body Fragment	25.1	Curation

	(Beneath Viaduct)							
173	Surface (Cell 140/160) (Beneath Viaduct)	a673	2	Metal	UID	UID Fragment	7.8	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p686	3	Glass	Aqua Glass	Body Fragment	90	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p687	1	Glass	Light Green Glass	Body Fragment	16.2	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p688	3	Glass	Clear Glass	Body Fragment	81.2	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p689	1	Glass	Olive Green glass	Body Fragment	33.3	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p690	1	Glass	Amber Glass	Body Fragment	16.9	Curation
173	Surface (Cell 140/160) (Beneath Viaduct)	p698	6	Metal	UID Metal	UID Fragment	18.7	Curation
173	Test Trench A (0-3 ft)	p705	1	Glass	Clear Glass	Body Fragment	12	Curation
175	Test Square (6'-8')	a828	15	Metal	Misc. Metal	UID Fragments	139.9	Curation

175	Test Square (6'-8')	p813	2	Glass	Olive Green glass	Body Fragment	30.5	Curation
175	Test Square (6'-8')	p814	2	Glass	Cobalt Glass	Body Fragment	15.11	Curation
175	Test Square (6'-8')	p817.1	3	Glass	Light Green Glass	Body Fragment	47.6	Curation
175	Test Square (6'-8')	p817.2	3	Glass	Aqua Glass	Body Fragment	42.5	Curation
175	Test Square (6'-8')	p816	5	Glass	Light Green Glass	Body Fragment	98.2	Curation
175	Test Square (6'-8')	p818	1	Glass	Clear Glass	Body Fragment	6.2	Curation
176	Test Square (8'-10')	a854	9	Metal	Iron Nail	Nail Fragment	61.4	Curation
176	Test Square (8'-10')	m858	1	UID	UID Object	UID	9.5	Curation
176	Test Square (8'-10')	a857	10	Metal	UID Metal Fragments	UID	85.2	Curation
176	Test Square (8'-10')	a850	8	Glass	Misc. Plate Glass	Body Fragment	93.5	Curation (Multiple)
176	Test Square (8'-10')	p848	11	Glass	Misc. Bottle Glass	Body Fragment	156.4	Curation (Multiple)
176	Test Square (8'-10')	p847	6	Glass	Amber Glass	Body Fragment	114.3	Curation
176	Test Square (8'-10')	p846	9	Glass	Clear Glass	Body Fragment	40.3	Curation
176	Test Square (8'-10')	p845	2	Glass	Plate Glass	Body Fragment	12.4	Curation
177	Surface After Heavy Rain	p953	3	Glass	Amber Glass	Body Fragment	101.7	Curation
177	Surface After Heavy Rain	p954	34	Glass	Clear Glass	Body Fragment	560.5	Curation

177	Surface After Heavy Rain	a966	2	Metal	Metal Wiring	Metal Wire	20.6	Curation
177	Disturbed In Bulldozer Cut	p985	2	Glass	Green Glass	Body Fragment	21.9	Curation
180	Surface After Heavy Rain	p754	12	Glass	Misc. Glass	Body Fragment	205.8	Curation
181	Test Trench B	p715	3	Glass	Clear Glass	Body Fragment	37.1	Curation
181	Test Trench B	p716	1	Glass	Cobalt Glass	Body Fragment	6.6	Curation
181	Test Trench B	p717	2	Glass	Milk Glass	Body Fragment	20.3	Curation
181	Test Trench B	a718	1	Metal	Iron Nail	Cut Nail	9.8	Curation
181	Test Trench B	p710	3	Metal	UID Metal	UID	9.4	Curation
181	Clearing Profile Test Square	p912	3	Glass	Clear Glass	Body Fragment	29.2	Curation
181	Clearing Profile Test Square	p913	5	Glass	Amber Glass	Body Fragment	94.3	Curation
181	Clearing Profile Test Square	p914	5	Glass	Aqua/Green Glass	Body Fragment	82.9	Curation
181	Clearing Profile Test Square	p915	1	Glass	Cobalt Glass	Body Fragment	10.4	Curation
181	Clearing Profile Test Square	p916	1	Glass	Olive Green glass	Body Fragment	10.9	Curation
181	Clearing Profile Test Square	a923	1	Metal	UID Object	UID	25.6	Curation
181	Clearing Profile Test Square	a924	3	Metal	Wire	Metal Wire	7.9	Curation
181	Clearing Profile Test Square	a927	1	Metal	Casing	Bullet Casing	2.2	Curation
181	Clearing Profile Test Square	a929	9	Metal	UID Object	UID	44.4	Curation
181	Clearing Profile Test Square	a928	1	Metal	Wire	Wiring	84.3	Curation
181	Surface After Heavy Rain	p938	6	Glass	Clear Glass	Body Fragment	13.5	Curation

182	Mixed Sample - Wall Collapsed	p869	4	Glass	Clear Glass	Body Fragment	82.5	Curation
182	Mixed Sample - Wall Collapsed	p870	2	Glass	Olive Green glass	Body Fragment	27.3	Curation
182	Mixed Sample - Wall Collapsed	p871	7	Glass	Light Green Glass	Body Fragment	34.2	Curation
182	Mixed Sample - Wall Collapsed	a879	2	Metal	Iron Nail	Nail Fragment	13.2	Curation
182	Mixed Sample - Wall Collapsed	a880	1	Metal	UID	UID Metal	20.7	Curation
182	Mixed Sample - Wall Collapsed	a881	4	Metal	Misc Metal	Metal Wiring	40.1	Curation
182	Mixed Sample - Wall Collapsed	p892	6	Glass	Aqua Glass	Body Fragment	247.2	Curation
182	Mixed Sample - Wall Collapsed	p893	13	Glass	Light Green Glass	Body Fragment	229.1	Curation
182	Mixed Sample - Wall Collapsed	p894	4	Glass	Clear Glass	Body Fragment	29.8	Curation
189	Disturbed Fill	p1106	6	Glass	Misc. Glass	Body Fragment	392.2	Curation
193	Surface	p1207	3	Glass	Misc. Glass	Body Fragment	85	Curation
193	Surface	a1222	9	Metal	Misc. Metal	Canning Lid	28.3	Curation
197	Surface	p1265	6	Glass	Misc. Glasss	Body Fragment	66.77	Curation
197	Surface	a1269	3	Metal	Wire	Wiring	5.6	Curation
198	Surface	p1300	2	Glass	Aqua Glass	Body Fragment	155.1	Curation
201	Surface	p1318	3	Glass	Misc. Glass	Body Fragment	75.3	Curation
204	From Hole With Circular Concrete Feature	p1369	7	Glass	Misc. Glass	Body Fragment	48.5	Curation
204	From Hole With Circular Concrete Feature	p1370	7	Glass	Clear Glass	Plate Fragment	54.7	Curation

204	From Hole With Circular Concrete Feature	a1371	1	Glass	Misc. Glass	Small Fragment	9.1	Curation
205	Casson A Below Top of Filling	p1504	1	Glass	Amber Glass	Body Fragment	30.8	Curation
205	Casson A Below Top of Filling	p1505	1	Glass	Cobalt Glass	Body Fragment	9.4	Curation
205	Casson A Below Top of Filling	p1506	1	Glass	Light Green Glass	Window Glass	12.3	Curation
206	Pile "D" Casson Excavation 25'-30' Below Top of "D" Footing	p1537	2	Glass	Misc. Glass	Body Fragment	35.8	Curation
207	Excavations for Casson C	p1562	1	Glass	Clear Glass	Body Fragment	14.2	Curation
210	Surface to 7' Newly Graded Area	p1584	4	Glass	Misc. Glass	Body Fragment	38.5	Curation
239	Below Ground Grading Between Techwood Viaduct and new RR Spur	a1917	1	Metal	UID Metal	UID Metal	12	Curation
243	Sewer Hole 48' 75' Into Hole	p2058	1	Metal	Strip	UID Metal	6.7	Curation
243	Concrete Foundation	p2037	1	Glass	Light Green Glass	Body Fragment	37.9	Curation
250	Grading Beneath Techood Viaduct	a3170	2	Metal	Iron	Square Nail	17.8	Curation
250	Farm N Profile Near Cisson	a3201	1	Metal	Iron	Pipe?	295.2	Curation
250	Below Top of Excavation for Casson "D"	a3284	4	Metal	Iron	Misc. Nails	89.5	Curation

257	Sifted Material	p3305	18	Glass	Light Green Glass	Body Fragment	100.9	Curation
257	Sifted Material	p3306	14	Glass	Light Green Glass	Body Fragment	182.7	Curation
257	Sifted Material	p3307	107	Glass	Clear Glass	Body Fragment	692.5	Curation
257	Sifted Material	p3308	16	Glass	Amber Glass	Body Fragment	93.7	Curation
257	Sifted Material	p3309	1	Glass	Cobalt Glass	Body Fragment	4.5	Curation
257	Sifted Material	p3311	51	Glass	Light Green Glass	Window Glass	324.3	Curation
257	Sifted Material	p3312	222	Glass	Misc. Glass	Window Glass	1051.4	Curation
259	Collected During Sloping Operation	p3067	2	Glass	Misc. Glass	Window Glass	35.8	Curation
259	Sifted Material	a3321	26	Wood	Misc. Wood	Wood Fragments	179.5	Curation
259	Sifted Material	a3328	6	Wiring	Insulated Wiring	Wiring Fragments	20.1	Curation
259	Sifted Material	a3329	4	Wiring	Misc. Wire Pieces	Wire Fragments	32.6	Curation
259	Sifted Material	a3330	12	Metal	Misc. Nails	Nail Fragments/Whole Nails	45.1	Curation
259	Sifted Material	a3338	5	Metal	Misc. Metal Bands	Metal Band Fragments	129.9	Curation
259	Sifted Material	a3339	8	Metal	Tin Scraps	Tin Scraps	104.3	Curation
259	Sifted Material	a3341	2	Brick	Brick Fragment	Brick Fragment	118.5	Curation
259	Sifted Material	a3342	2	Coal	Coal Fragment	Coal Fragment	11	Curation
259	Sifted Material	a3343	2	Coal	Coal Fragment	Coal Fragment	16.1	Curation

259	Sifted Material	a3344	1	Coal	Coal Fragment	Coal Fragment	2.8	Curation
259	Sifted Material	eb3349	15	Wood	Bark	Pine Bark	12.4	Curation
256	Sifted Material	p3562	3	Glass	Misc Glass	Body Fragment	142.6	Curation
256	25' Just East of Techwood Viaduct	a3593	1	Glass	Clear Glass	Window Glass	121.8	Curation
260	Surface Parcel 516	p3604	11	Glass	Misc. Glass	Body Fragment	78.1	Curation
260	General Fill	P3630	15	Glass	Misc. Gllass	Body Fragment	202.7	Curation
260	General Fill	a3631	3	Glass	Clear Glass	Window Glass	45.9	Curation
260	General Fill	a3634	1	Plastic	UID Plastic	Plastic Fragment	5.5	Curation
260	General Surface	p3646	8	Glass	Misc. Glass	Body Fragment	111.4	Curation
260	Fill Deposit	a3658	2	Glass	Misc. Glass	Body Fragment	52.8	Curation
260	Disturbed Fill	p3683	7	Glass	Misc. Glass	Body fragment	114.3	Curation
260	Disturbed Fill	p3684	1	Glass	Clear Glass	Body Fragment	22.7	Curation
263	Disturbed Fill W. Line	p3698	5	Glass	Misc. Glass	Body Fragment	52.6	Curation
263	Disturbed Fill Parking Lot	p3728	4	Glass	Misc. Glass	Body Fragment	47.1	Curation
263	Disturbed Fill	p3736	7	Glass	Amber Glass	Body Fragment	86.1	Curation