

Weston Store

Report on the
salvage of
materials from the
Weston Storage
Facility

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Archaeology and
Natural History,
Australian National
University



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Accompanying data:

Part 2: Provenance information for the A squares	A1-A37
Part 3: Provenance information for the B squares	B1-B37
Part 4: Provenance information for the C squares	C1-C37
Part 5: Provenance information for the D squares	D1-D37
Part 6: Provenance information for the E squares	E1-E37
Part 7: Provenance information for the F squares	F1-F31
Part 8: Provenance information for the G squares	G1-G27
Details of material collected along the outer edge of the site.....	G28-G29

This information can be obtained on compact disc by contacting Mary Clare Swete Kelly at maryclare@coombs.anu.edu.au or by downloading from the Center for Archaeological Research web site at <http://car.anu.edu.au>.

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Other Volunteers:	Sally Brockwell Geoff Swete Kelly	Professor Jack Golson Peter White

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Steven Hardy (Site Manager, Technical Services) managed the building during the recovery efforts and provided maps and building plans for this report.

Executive Summary

On the 18th of January 2003 a firestorm swept through the western suburbs of Canberra. The fire was pushed by strong winds and fuelled by the drought conditions prevalent at the time. Due to a lack of forewarning there was little time in which Canberrans were able to prepare. The fires devastated public and private property; including the Department of Archaeology and Natural History's stores at the Weston Campus (owned by the Australian National University). This report details the salvage efforts that were subsequently implemented to retrieve the surviving materials.

The stores held materials that had been collected by archaeologists and natural historians for almost fifty years. The collections were diverse and covered sites from across Australia as well as the islands of the Pacific. The devastation caused by the fire was extensive: the roof and walls collapsed and compacted the materials beneath. Hence it was months before an accurate assessment of retrievable items was possible. Once this occurred it was realised that a systematic recovery of items using archaeological techniques would be beneficial, as many archaeological items such as stone and pottery, had survived the fires. There was an obligation therefore to retrieve objects that might still inform us about the prehistory of Australia and the Pacific.

The disaster at Weston, and the subsequent salvage operation lead to the realisation that in order to prevent similar future occurrences the Department of Archaeology and Natural History needs to implement appropriate collection policies, collections' management systems and disaster plans. Our recommendations are:

1. Discard and retention policies for archaeological archives within the department need to be revised.
2. Appropriate storage facilities must be allocated to all incoming collections.
3. Collections' management systems --such as inventories and archiving-- need to be reviewed.
4. A disaster management plan needs to be properly formulated and implemented.
5. Training needs to be provided concerning disaster response strategies, in order to raise awareness of appropriate procedures.
6. The Department of Archaeology & Natural History should immediately undertake to join DisACT (Disaster ACT).

Implementing these changes will not prevent another disaster occurring but they will increase our preparedness. Should a disaster, such as that of January 18th, occur again more materials and archives will consequently be saved.

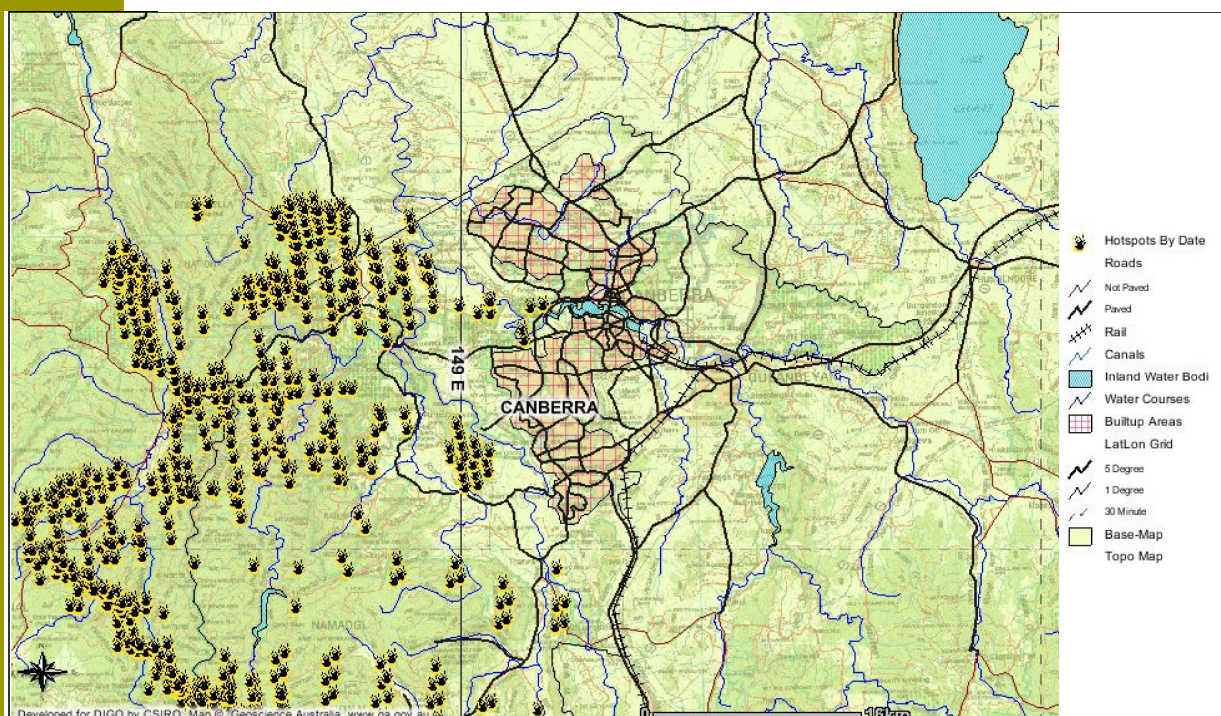
1.1 Incident Background

1.1.1 The Fires

On 18th January 2003, a devastating firestorm swept through Canberra, the capital city of Australia. Previous to this on January 8th, a large dust storm had generated lightning that ignited drought-stricken bushland across southeast Australia. These fires continued to blaze to the south and west of Canberra throughout Namadgi National Park and the Brindabella Ranges. Other major fires were scattered across areas under the administrations of the Australian Capital Territory, New South Wales and Victoria. However before January 18th, the fires around Canberra were not expected to directly threaten the city.

On the day that Canberra was affected by the fires, hot dry weather conditions with strong winds caused two large fronts to join. Gale force winds not only pushed the fire toward Canberra, but also fuelled the fire's intensity, creating an uncontrollable momentum. These winds also carried sparks ahead of the front creating numerous spot fires. Of the properties that were damaged in the fire, 91% were completely destroyed (Geosciences Australia 2003). Only 9% sustained lesser damage.

There was little warning before the fire reached Canberra. Subsequently, when a State of Emergency was declared in the early afternoon of January 18, many Canberrans were taken by surprise. As such, there was little preparation time for residents, and readiness was limited to securing personal property, domestic animals, and personal safety. Late in the evening of the 18th (after the fires had passed through) ABC News reported the loss of about 60 properties (ABC 2003). It was not until the following morning that the full extent of the catastrophe could really be appreciated, and the figure





Inspecting the storage area soon after the fire. The debris from the collapsed upper floor still covers the remains from the Department of Archaeology & Natural History. This image and that at the top of the following page are courtesy of Darren Boyd, Coombs Photography.

increased to a loss of around 500 properties (McLeod 2003). Tragically, four people also lost their lives. The total monetary loss was estimated at about \$300 million dollars (McLeod 2003).

Two properties belonging to the Australian National University (ANU) suffered severe damages as a result of the fire: Mt Stromlo Astronomical Observatory and the Weston research facilities. This report details the recovery efforts of the Department of Archaeology and Natural History

1.1.2 The Weston Store

The Weston Store occupied a small part of a building that was primarily used by researchers from the Research School of Biological Sciences (RSBS). RSBS had been in the process of moving to another facility, and as such most of their materials and equipment had been removed. In contrast, ANH were still using the Weston Store, and the room was densely packed with collections.

The Store held material that had been collected by academics and students (mostly archaeologists and natural historians) of ANH since its foundation in the 1950's. This included many important archaeological collections from Australia, Southeast Asia, and the Pacific. Many of these collections were from seminal sites used in the archaeological interpretations of these regions, and were comprised of irreplaceable artefacts and archives. While not all collections were under active research, they were stored at Weston in anticipation of future research projects by PhD students and academics.

The fire at Weston was ignited by embers igniting the roof and spot fires around the building. The fire burned for between 20 minutes to 2 hours, at which point a water bomb was dropped on the building, right above the store room. This caused the concrete slab (the floor) of the room above to collapse, bringing the lower walls in with it. As a consequence, the room and its surviving contents were compacted. These ruins were initially inaccessible, and safety concerns prevented any attempt at salvaging material.

The map opposite was created using the Sentinel Hotspots Database (CSIRO 2004). This uses satellite information to detect areas of intense heat on the Earth's surface. This diagram shows the data for the 18 January 2003, the urban areas are indicated by the red hatching.



Artefacts and other retrievable remains could be seen wedged in between the upper and lower slabs where the storage room was previously been located.

1.1.3 ANH's Post-Fire Response

The post-fire response in the department was one of disappointment and loss. Yet there was no disaster plan in place to guide an active response. Many of the collections were not under existing research and belonged to past members of the department. Furthermore, there was no collections' management system in the department, and an inventory of materials housed at the Store (compiled four years previously) was known to be incomplete. The exact materials housed at Weston were thus unknown. In light of these factors, the execution of a recovery project at Weston was not an immediate priority for many in the ANU community.

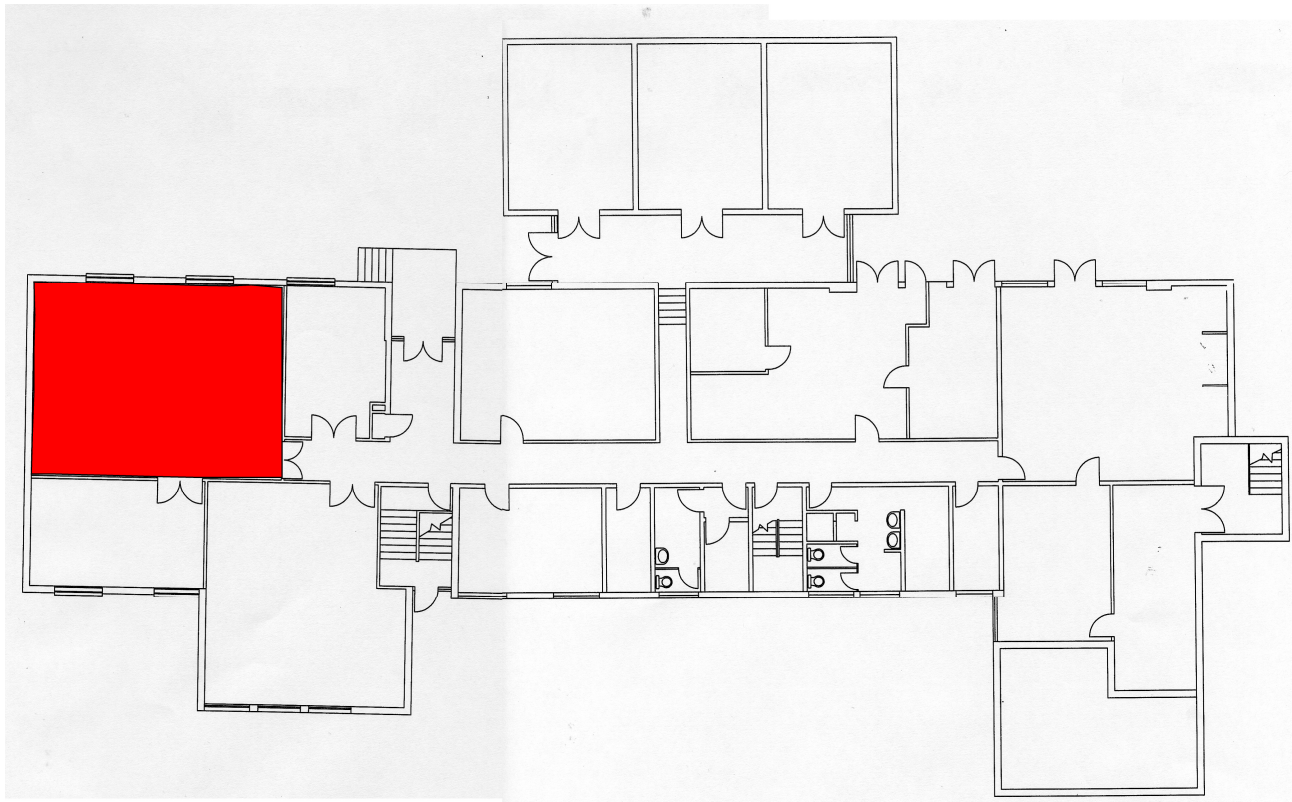
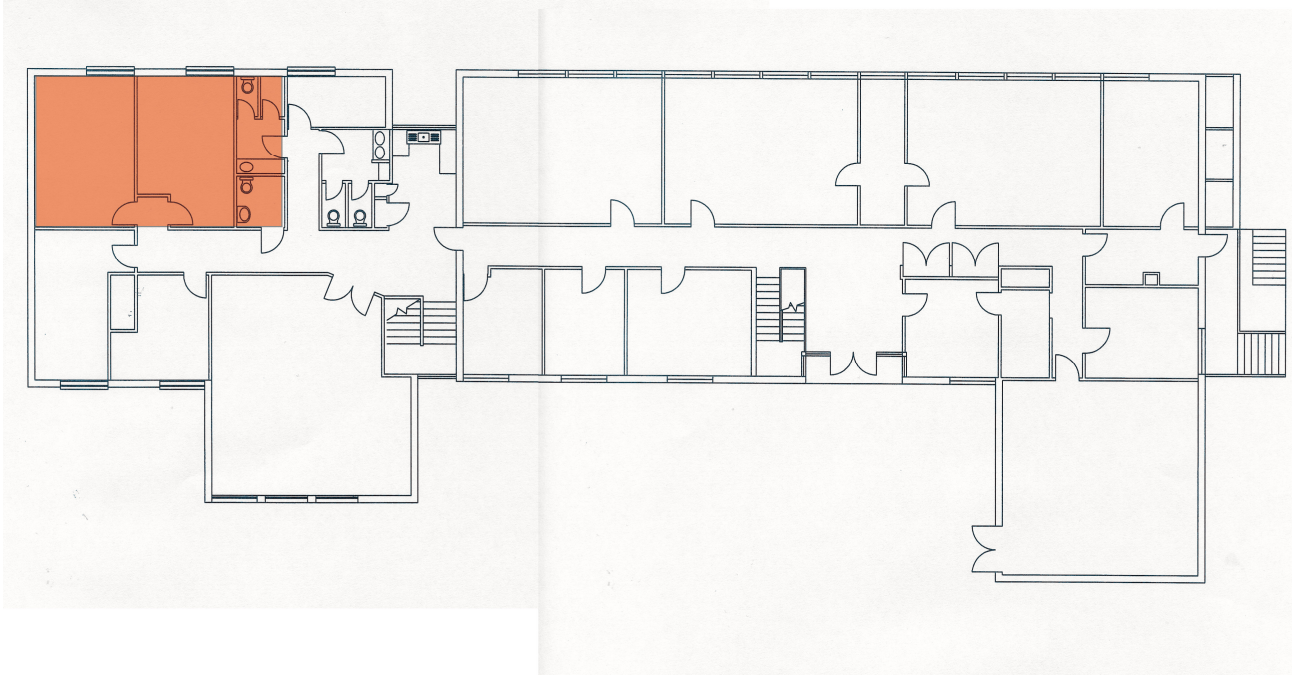
Some weeks after the fire, members of ANH, associates from the Department of Archaeology and Anthropology, and University delegates visited the site to assess the damage. The initial response was that little more could be done until the collapsed slab was removed. It was requested that the slab be lifted in sections (as far as practicable) to prevent further damage to any retrievable items underneath. Prior to this, however, all artefacts visible around the edge of the ruins were removed to prevent damage by heavy moving equipment. However, as the recovery of the Mt Stromlo facilities were the first priority of the ANU, it was almost six months before salvage efforts began at Weston.

The east side of the storage area after the rubble from the upper floor was eventually cleared away and the building was braced. However the area was still hazardous due to protruding cement reinforcing and unstable bricks. It was necessary to wear a hard hat when doing work on the slab.





Top: A rear view of the main building before the fire. Middle and Bottom: Views of the building after the fire. The archaeological stores were located at the far end. The top photograph was taken from the Egan Insurance Report (2003).



Layout plans for the main building on the Weston property. The upper floor (top) contained mostly offices, the red shading indicates the area directly over the stores. The ground floor (bottom) contained mostly laboratories and storage space, the solid red shaded indicates the area retained by the Department of Archaeology and Natural History for storage (these plans were provided by Steven Hardy of ANU Building and Facilities Division).

2.1 Planning the Recovery

2.1.1 Salvage Decisions

After the slab had been lifted, the authors accompanied Gillian Atkin (Head Technician for ANH) and other volunteers, to help clear cement rubble. As the clean-up began, many objects- including prehistoric stone artefacts and pottery- were uncovered, some surprisingly intact. It was at this point that the authors identified the need for a systematic recovery of surviving materials. As the store housed seminal collections from Australia and beyond, there was an obligation within the wider region to systematically recover the surviving materials.

2.1.2 Proposal for a Systematic Recovery

The authors prepared a short (6 page) proposal based on observations of the site and how it should be treated. This proposal was approved by Professor Atholl Anderson (acting Head of Department) and the Vice-Chancellor of the ANU Professor Ian Chubb. Mr Wallace Ambrose was appointed to oversee the recovery because of his long association with ANH and its work.

While the details of the proposal are discussed in the following section, it is of note that the proposal took into consideration both immediate and post-recovery elements of an archaeological project, including the dissemination of information. A distinguishing aspect of this proposal was the opportunity the incident presented to examine the taphonomic effects of fire on artefactual remains. This includes the selective preservation of material, as well as changes to its composition and shape. The potential here is for efficacious results that can assist archaeological interpretation of the effects of fires in the past, as well as future recovery efforts from similar catastrophes. However, while this research was included in the proposal as a prospective outcome of the work, funding was initially sought only for the retrieval and re-provenancing of materials.

To summarise, the full aims of the project were to:

- Stage 1, Phase 1: Recover archaeological remains buried in the rubble of the ANU stores.
- Stage 1, Phase 2: Sort the material based on site reports, accession numbers and reconstruction of the fire-damaged areas.
- Stage 2: Examine the taphonomic effects of the fire by analysing the preservation and alteration of artefactual materials.

Repercussions for Our Region & Beyond

Losses to the Archaeology of South-East Asia & the Pacific Islands

While many of the collections housed at Weston had been studied by PhD students and other researchers, there was still a great deal of potential for further analysis. One case in particular concerns the remains from Wahgi Valley excavated by Christensen in the early 1970s, which contained stone adzes and axes among other artefacts. Tragically, Christensen was killed in a road accident before he could finish his doctorate. While other people have worked on some elements of Christensen's collections, there was still work to be done. The Massim material from PNG is another case of point. Excavated in the late 1960s by two PhD students, this material was to be studied by a current PhD student the Department of Archaeology and Natural History.

Many people are surprised at exactly how many artifacts survived the devastating fire at Weston, yet the amount of material irretrievable lost certainly outnumbers those materials recovered. Thus, significant collections from sites across the Pacific, SE Asian and Australia have been lost, not only to the academic community, but to the communities to whom the remains are related. Perhaps one outcome of this unfortunate occurrence could be a research project that returns to many of the sites and undertakes new excavations. In this way we may be able to recover much of the priceless information that was lost to many across the region.



3.1 Stage 1, Phase 1: Retrieving the Surviving Materials

In most instances, the fire had destroyed the bags and boxes that housed the collections. Consequently, most remains were inter-mingled. Therefore archaeological techniques were applied. This project implemented an archaeological grid and recording system to generate information to correlate with inventory lists.

3.1.1 Grid System and Record Sheets

Once surface rubble had been removed from the overlying slab as far as was practicable, a one square meter grid was laid over the site.

- The grid squares were recorded on an XY basis (eg A1, A2,...., B1, B2 etc). The reference point referred to the lower right-hand corner.
- During the recovery, proforma site sheets were used to provide recording consistency for each square.

3.1.2 Provenances

Originally, the room contained three rows of densely packed floor to ceiling shelving, between 2 and 3 meters high. This had been compacted to an average depth of about 60 cm. Most of what survived had been placed near ground level before the fire, or had fallen to the floor when the shelving collapsed. Related materials were usually found where the box or bag that held them had disintegrated or collapsed.

- These concentrations were given a unique provenance number during the recovery and removed together.

Provenance numbers were used in recovering the materials, as it was impractical to 'excavate' the materials using arbitrary levels of 5 or 10 cm. The provenance system worked well, and we were able to reconstruct the material distributions quite accurately (Diagram 1 shows the provenances as recorded for the surface level).

3.1.3 Excavation Techniques

In summary:

- The material was removed using spades, shovels, dustpans and brushes.
- Labelled or distinctive materials (such as lithics, pottery and notebooks) were placed in a tray labelled with the square and provenance. These were placed in bags by the sorting team, and an inventory was made at the end of every day.
- The rubble and other building materials that were intermingled with the artefacts were noted (in the case of fixtures) and removed to the rubbish pile.

- Other materials that were too mixed to provenance were placed in a 'bulk' category. The bulk material was taken out in buckets, then sieved and sorted. Any labelled and distinctive items were placed in bags and added to the aforementioned inventory.
- Artefacts that were unlabelled and concentrated (particularly collections such as the Tasmanian collections or the pottery from Tonga) were placed in a storage area that had been set aside on an adjacent slab.

The materials on the slab were in most instances no longer useful for archaeological projects due to a lack of provenance details. Where we receive permission from the stakeholders to keep the materials (see section 4.1.2), these will be sorted and retained as teaching collections. So far, Dr Peter Hiscock of the Department of Archaeology and Anthropology has taken the remaining stone artefacts, and Dr Betty Meehan has taken a small selection of materials for community education.

- Before removing the bulk materials for use elsewhere, details such as weight of materials and notes on condition were recorded for later reference purposes.
- Large bags and boxes of sediments, gravel or midden that had been destroyed were cleared and discarded. Small samples were retained of specific materials.
- Bulk pottery sherds (i.e. those that had no distinguishing features and were unlabelled) were sorted, weighed, described in a general fashion, and discarded. However, a small sub-sample was taken to be described in Phase 2.

To précis, after the completion of Phase 1, the materials kept included:

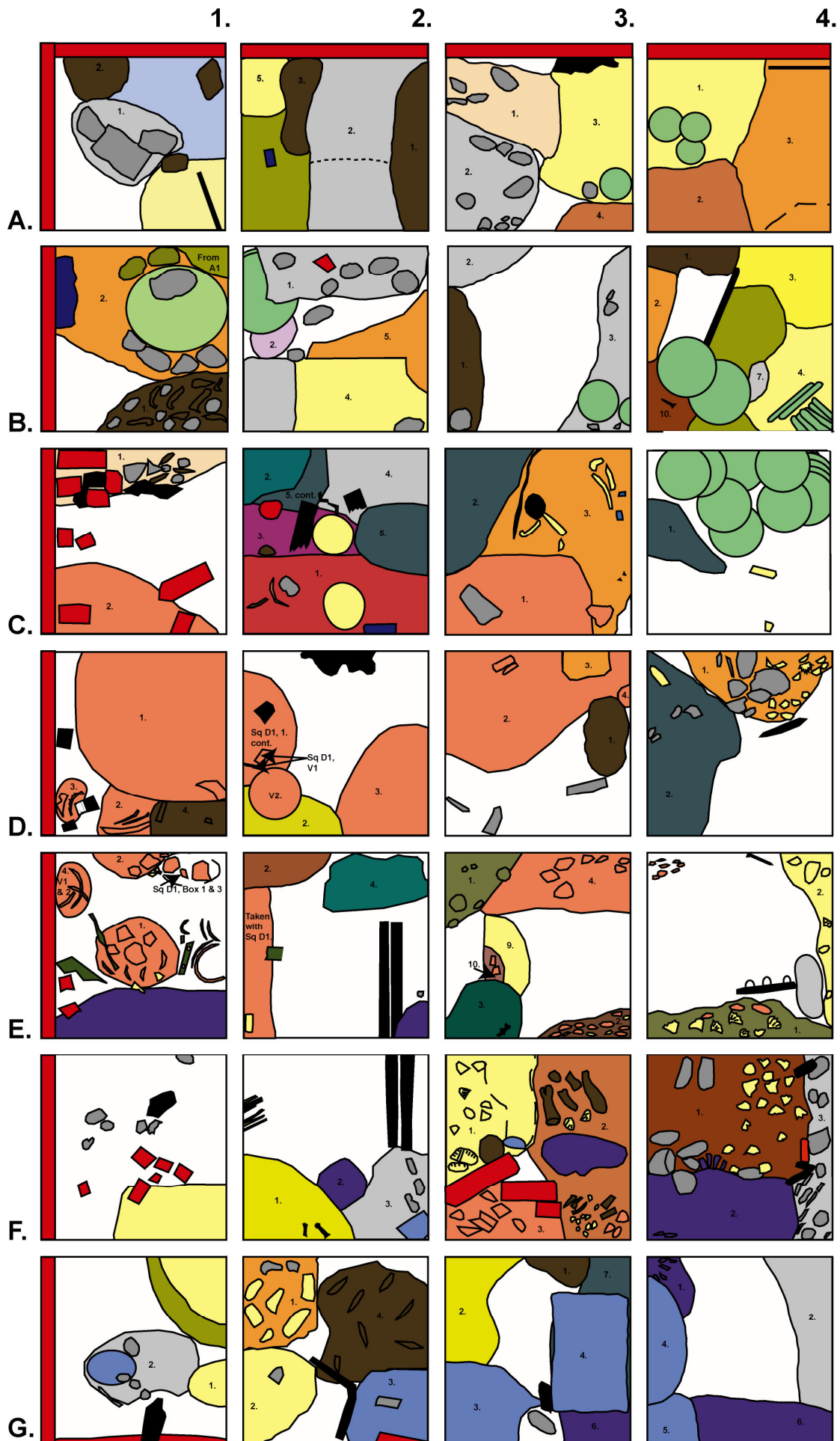
- All materials that contained provenance details or could be traced.
- Artefacts (including stone, pottery, shell etc).
- Sub-samples of shell and sediments.
- Sub-samples of such items as storage containers, bottles, metals, for future work on the taphonomic conditions of the fire.



Volunteers sorting retrieved materials at the Weston site

Following pages: Provenances of materials found on the surface of the archaeological store area at Weston. Material types have been colour coded to show their distribution (see key below). In Sections 2-8 of this report all the provenance graphics can be found along with detailed content information for each provenance, photographs and notes for every grid square.

Provenance Key			
	Unprovenanced and/or bulk materials		Shell (midden) concentration
	Insulation, window blinds, shelving or other large building materials		Bone and shell concentration
	Brick		Bone and lithics (sometimes with sediment)
	Storage tins		Bone, lithics and shell concentration
	Glass		Bone
	Cardboard boxes		Sediment samples/clay
	Plastic		Sediment and bone
	Film canister		Sediment and pottery
	Metal (non-structural)		Sediment and lithics
	Paper		Shell and sediments
	Wood artefacts or boxes		Pottery
	Plant material (herbarium specimens)		Pottery and sediment
	Lithic concentration		Pottery, bone, shell and lithics
	Single large lithic remains usually within a provenance		Pottery and bone
	Lithics, shell and pottery (sometimes with sediment)		Pottery and shell
	Lithics, bone and pottery		Pottery and lithics
	Lithics and shell		Pottery, bone and shell



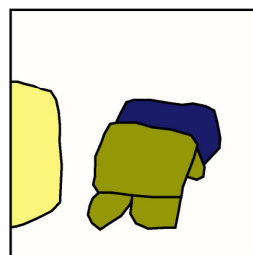
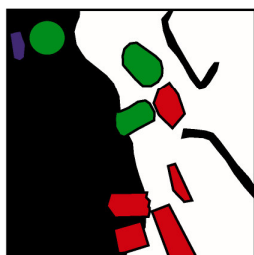
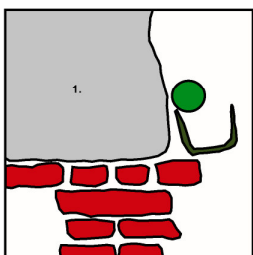
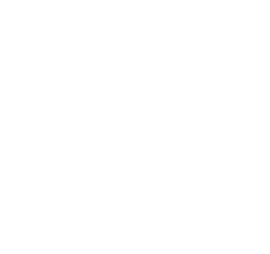
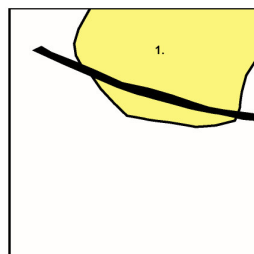
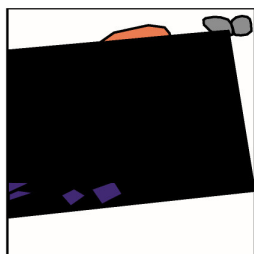
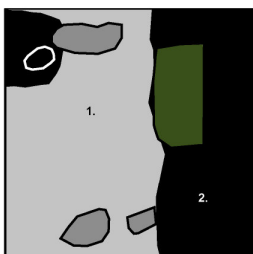
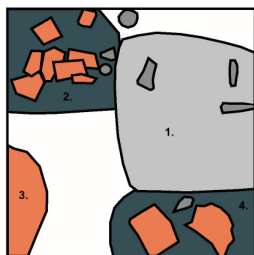
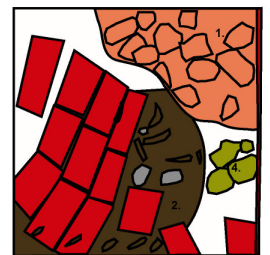
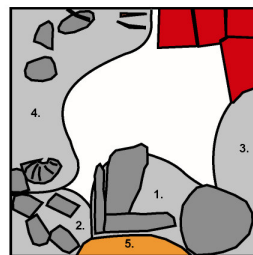
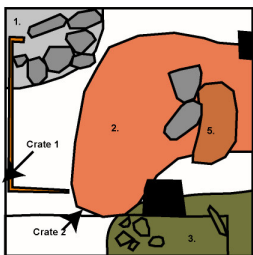
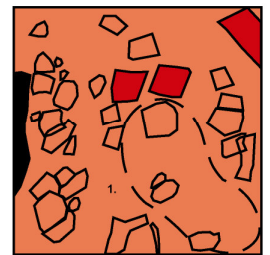
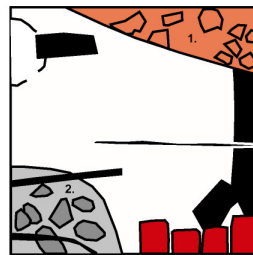
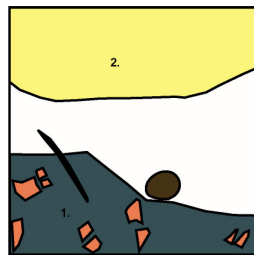
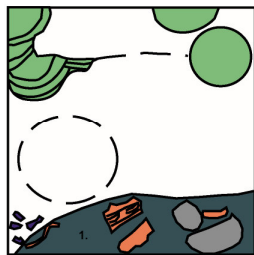
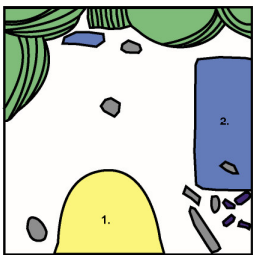
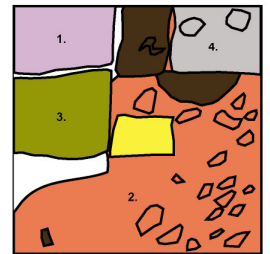
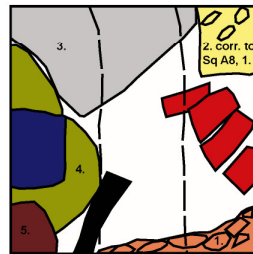
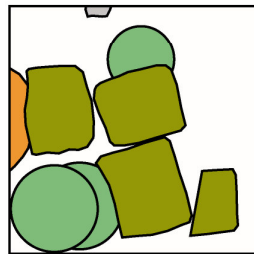
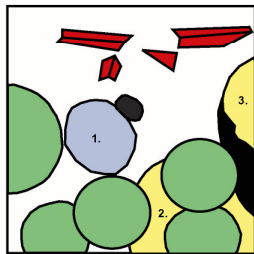
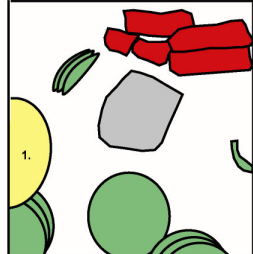
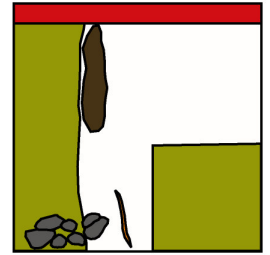
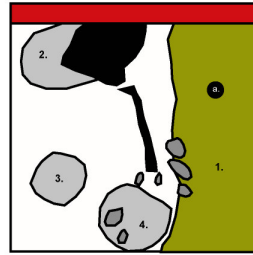
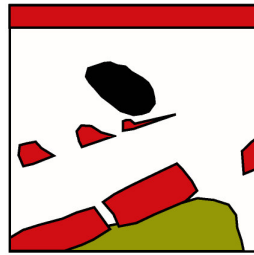
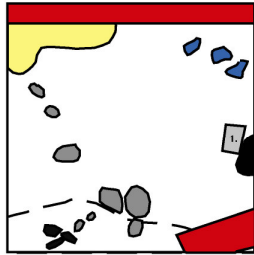
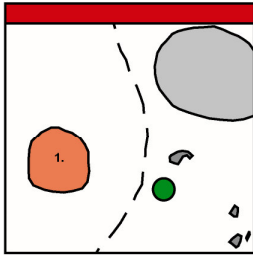
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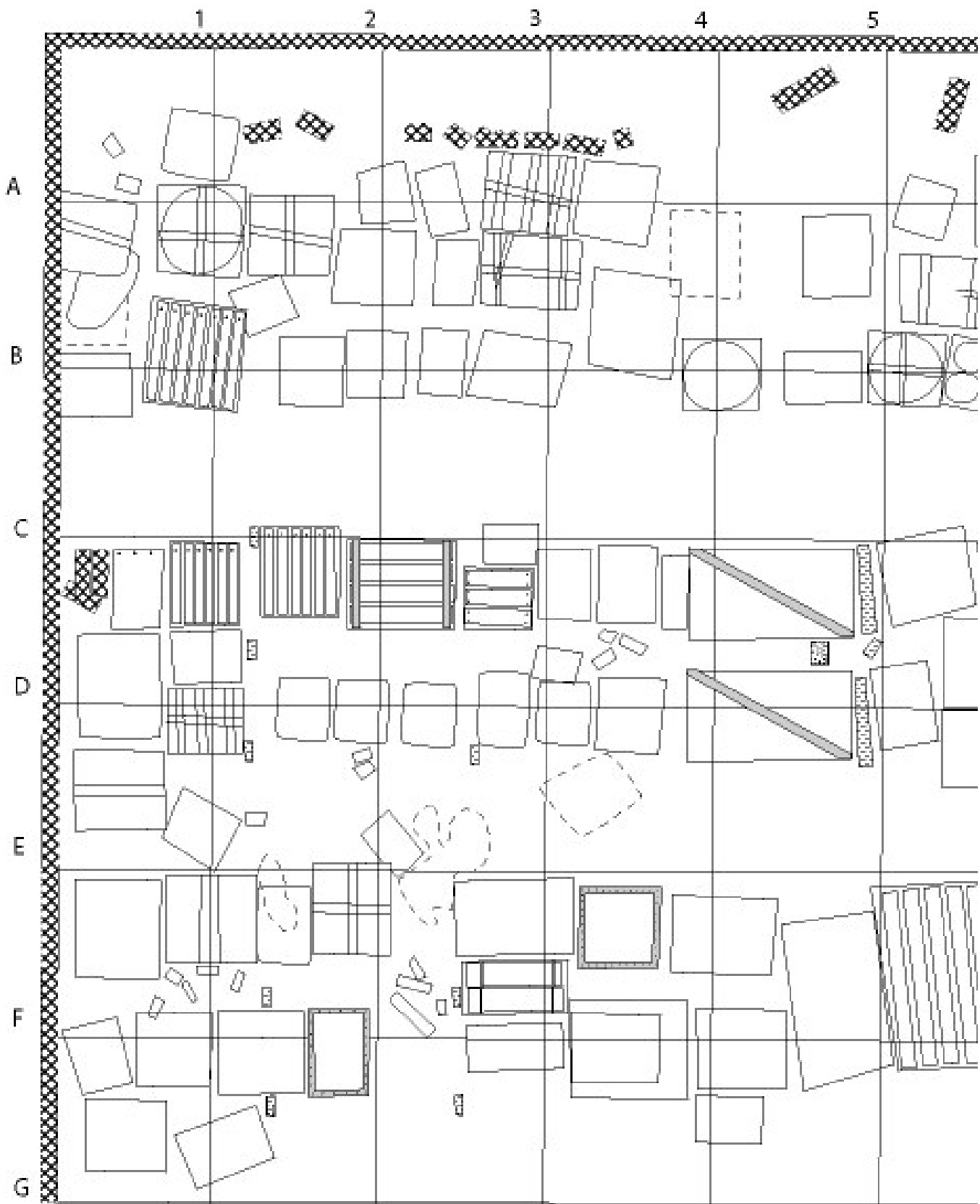
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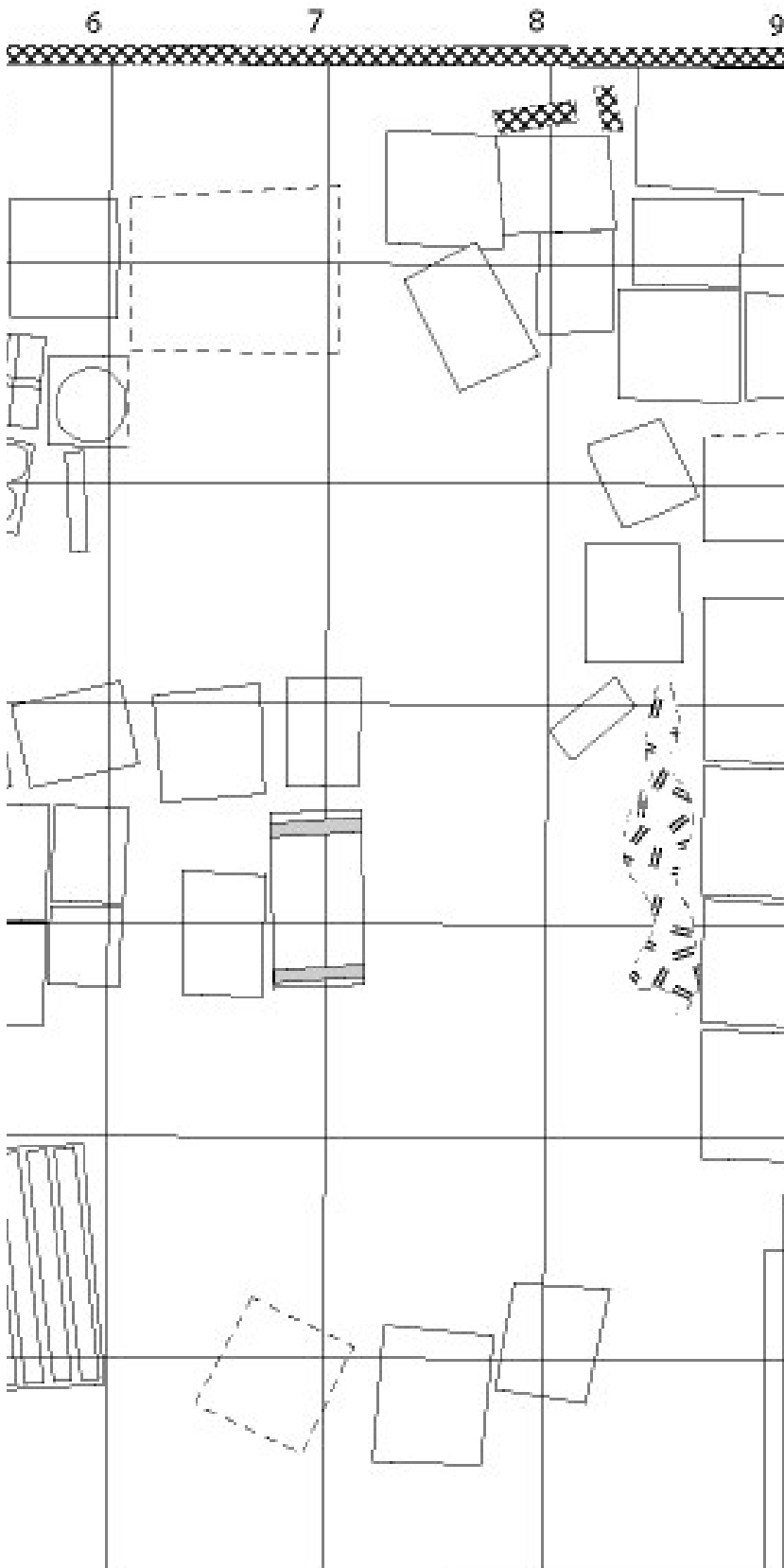
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Fire Impressions

As material was removed from the slab it was possible to see impressions of objects left by the fire (below). These impressions were carefully recorded for reference when provenancing the salvaged objects (left and on the opposite page).



4.1 Stage 1, Phase 2: Sorting and Sampling of Materials

At the time of writing this report Stage 1, Phase 1 has been completed, and Phase 2 has commenced. We have kept Stage 2 (the taphonomic analyses) in mind when maintaining records and samples of the retrieval process, and this will be completed as funding becomes available. Before detailing the analytical procedures of Phase 2, it is pertinent to discuss two significant issues: Storage and Stakeholders.

4.1.1 Storage

As there was no available storage space on the main campus for the salvaged materials, the remains were temporarily stored in industrial site offices placed at the Weston site. Subsequently there have been many discussions over the future of the material. The current management of RSPAS puts some emphasis on a policy of no storage and the repatriation of materials, and this is an issue that needs to be addressed by the department (see section 7.1 Recommendations). However, the urgency of the circumstances was realised during the salvage, and suitable facilities were found at Spring Vale Farm (a property of the ANU). Due to the requirements of the facility to accommodate analytical work, the site was subsequently renovated. Adequate shelving was erected, as well as bench and storage space. These facilities are in fact much larger and better organised than the Weston Store, and this will allow for improved collections' management.

However, the issue of fire safety is an ongoing concern for the new storage facilities at Spring Vale Farm. It has the important advantage though of having a permanent on-site manager who can detect, notify, and act if there is a problem. Despite this, increased insulation of the building, and especially the installation of sprinkler systems, would assist in disaster management.

4.1.2 Stakeholder Responses

Letters to the stakeholders are being prepared by the ANH senior administration to inform the stakeholders of the current state-of-affairs. The authors' responsibilities are limited to co-ordinating the recovery efforts, however we have been informed that letters will be forwarded to the Vice-chancellor for signatures and distribution. The stakeholders are the relevant authorities (who had given permission for the excavations and were responsible for making decisions about the fate of the material), and/or the person that had excavated the materials. These letters outlined the collections that were held by ANH and the circumstances surrounding the fire. The stakeholders will be asked to communicate their wishes for the future management of any salvaged materials.

Due to the large amount of time that has elapsed since many collections first came to the ANU, it has been difficult to derive the circumstances pertaining to the continued storage of each collection. Although attempts were made to discuss the collections with the archaeologists responsible, many have since left the university, and some are no longer contactable. Additionally, in a minority of instances the appropriate stakeholder could not be identified, as the authority had been changed or dissolved since the time of excavation. However, in some cases the relevant archaeologists are still at the university or in regular contact with staff members. Their responses included:

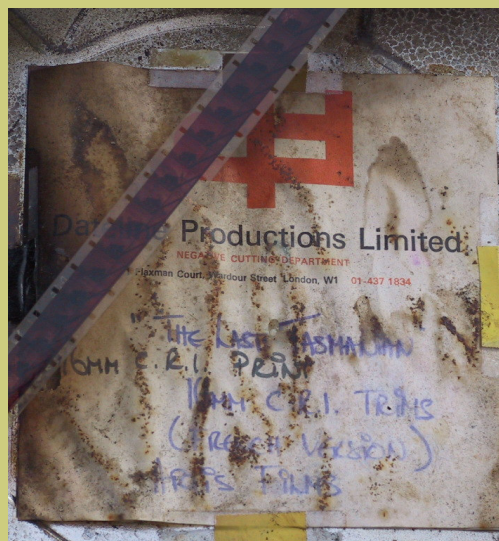
- Authorities wanted the recovered materials to be returned.
- The facilities were not available to adequately care for the materials at the point of origin, and ANH has been asked to retain any salvaged items.
- The ANH could discard or retain the salvaged items as the department saw fit.

Appropriate actions are being taken for these collections, and will of course be taken for all collections, once every stakeholder has been fully informed.

The Loss of “The Last Tasmanian”

Unedited footage of the AFI awarded film destroyed

An interesting and somewhat controversial collection housed at Weston was the documentary film made by Brian Hayden entitled, “Last Tasmanian”. This was due to be relocated when the fire destroyed the building. While some of the reels (those at the bottom of boxes on the floor of the room) still have surviving images, others were completely destroyed, leaving only the tin cases in which they were stored. It is hoped that the reels that survived can be conserved, as many document interviews that have not been recorded elsewhere. Alternatively, conservation experts may be able to create still-life photos from frames of the film.



Left: Northern edge of Sq B6 showing stacks of films containers within the rubble.
Right: Although the majority was destroyed, some short lengths of film had clear images. These were mostly located near the building slab.

4.1.3 Analysis: Stage One, Phase Two

This stage involves the detailed sorting of the materials in order to provenance the remains, that is, to identify the original assemblage/s to which the remains belonged. This involves:

1. The determination and allocation of artefacts to their original provenance through any surviving accession numbers on the artefacts/material.
2. Matching items to the provenances given to the materials during recovery, as well as to the spatial records.
3. Examining published field and analytical reports concerning the excavations where the material originated, then matching the recovered items to any recorded specimen finds.
4. Where possible contacting the original archaeologists and material analysts who excavated and/or analysed the material. If possible, acquiring documentation such as field and laboratory reports, photos and drawings. Such documentation could be invaluable in helping to make accurate identifications of the surviving materials.

4.1.4 Impact of Fire on Materials: Stage Two

If suitable funding can be acquired, a sub-sample of provenanced and well-documented material will be selected for detailed taphonomic analysis. These would be used to examine the fire impact on, and subsequent alteration to, materials (including stone, ceramics, shell, glass). With this in mind, material from several squares (A1, A2, B1, B2) was retained in its entirety (including bulk materials), to provide a complete sample of the survival and condition of materials.

Taphonomic studies will employ techniques such as X-ray Diffraction (XRD), General Area Detection Diffraction System (GADDS), Scanning Electron Microscopy (SEM), thin-sectioning, and petrographic analysis. These techniques are ideal for investigating clay/mineral identification, as well as the transformation and structural alteration which result from exposure to high temperatures. The results would subsequently be collated for submission to peer-reviewed journals.

A Great Loss for Australian Archaeology

The Collections of Professor Rhys Jones

The late Rhys Jones had a distinguished academic career in Australia (see Anderson, et al. 2001 for a collection of essays on Rhys's life and work). One of his collections housed at Weston was material from his excavations at Tasmania - Rocky Cape and West point - that Rhys excavated in the 1960's (see Jones 1967 for further details). Rhys's analyses provided significant insight into the lives and culture of Tasmanian Aborigines in prehistory.

The cave sites excavated at Rocky Cape indicate a settlement history back to around 8,000 years ago. People appeared to have been eating mostly seal, with some fish and birds and land animals. While salvaging the Weston site we came across many of the seal bones, most remarkably unscathed. In the upper layers at Rocky Cape (dated to around 450 years ago) Rhys reported on a remarkable difference in diet, with marsupial and sea bird remains more common. (Continued on opposite page)

5.1 Dissemination of Information

Soon after the initial recovery, the authors hosted a 'discussion group' in the Department of Archaeology & Natural History outlining the achievements so far. A poster entitled, *Rescuing the Remains: Examining the aftermath of fire at the Australian National University archaeological stores*, (Mary Clare Swete Kelly & Sarah Phear), was presented at the annual conference of the Australian Archaeological Association (AAA) in December 2003. Small news articles were also placed in the Center for Archaeological Research (CAR), and the Canberra Archaeological Society (CAS) newsletters. These measures were all designed to keep interested members of the community up-to-date.

Two larger presentations have also been given. Mary Clare Swete Kelly gave a presentation entitled, *After the Fire: salvaging the stores of the Department of Archaeology & Natural History, Australian National University, Canberra* (Mary Clare Swete Kelly & Sarah Phear), at the 19th Annual Meeting of the Society for the Preservation of Natural History Collections, entitled, *Emergency Preparedness, Response and Salvage*, on the 15 May 2004 in New York. Sarah Phear presented *Rescuing the Remains: the salvage of the Archaeology and Natural History Stores in Weston* (Sarah Phear & Mary Clare Swete Kelly) to the Canberra Archaeological Society on the 19th May 2004.

Most recently we presented the recommendations made in this report at a seminar for CAR. The reporting is a continuing process and will be kept up-to-date as the material is further processed.

Rhys's excavation at West Point, in contrast, was a large open shell midden. Dated to around 1900 BP, this site showed many similarities to Rocky Cape, although like the contemporary deposits at the latter site, there was an absence of fish bones in the upper layers. Stone tools were also recovered, mostly flaked stone, the raw material being fine sponge chert.

These remains and others represent only a small part of Rhys's outstanding work over the years, and the housing of his collections in the future is of immediate consideration.



Square A2 contained remains of archaeological collections made by Rhys Jones in Tasmania

6.1 *Planning for the Future: Our Recommendations*

Planning and implementing risk management strategies for future disasters is imperative. Given Canberra's history of bushfires in close proximity to the city there is a high risk that a similar fire emergency will occur in the future.

Canberra is—and always will be—prone to occasional serious bushfire attack, and the realisation of this needs to pervade the psyche of the city, its inhabitants, and those who govern it (McLeod 2003).

If such a fire was to reach the main department or the new storage facilities, it could be even more catastrophic than the January 18th bushfires. At that time there was no disaster management strategy that guided post-fire response. Nor was there a suitable risk management system to minimise the loss, and the risk that this posed to the university.

The recommendations that follow take three forms. The first are those that deal with the retention of materials for deposition in the archaeological archives. The second, concerns the management of collections, and the third are those that deal with response procedures and recovery when disaster strikes. These recommendations are not specific; they are broad issues that need to be opened up to a wider audience and dealt with by the department and the university.

6.1.1 Recommendation One

Discard and retention policies for archaeological archives within the department need to be revised.

The long-term management of a collection needs to be considered before archaeologists excavate artefacts. Furthermore these considerations need to be explicitly stated in the project development. In order to plan for the future the role of a repository within the university context has to be re-evaluated. In the past the Weston stores were supposed to be a resource for teaching purposes and collections care. However, there has been some discussion of late indicating that this may not be the best role for the material. In recent times, ANH has investigated the possibility of sending the material back to the relevant authorities who governed the collection. This may or may not be the best course of action however, and all potential policies should be considered. In some instances the stakeholders may not have the resources to care for the materials, thus provision would need to be made, in advance of the excavation, for the long-term storage and management of the associated collections.

Given ANH's commitment to work in South-East Asia and the Pacific, we have an obligation to establish explicit guidelines for material collection and upkeep, in association with our stakeholders.

In devising policy, the department needs to identify the priorities for its research and collection availability. This includes the role the department wants for itself in providing access to research collections, and promoting itself as a centre of collaborative research, on both a local and a global scale.

6.1.2 Recommendation Two

Appropriate storage facilities must be allocated to all incoming collections.

Space for storage needs to become a priority for the department and across the rest of the university. Nevertheless this will be ineffectual unless the decisions are targeted to the department's policies on material collections. Storage facilities are a pressing concern for all archaeological projects, and this is not an isolated case. However given present circumstances this needs to be redressed with some urgency. This should include issues such as shelving, selection of storage containers and appropriate rooms.

In addition to the space in which objects are stored, consideration needs to be given to the way in which materials are placed. Furthermore, consideration of how materials are stored needs to address how they will be affected given a disaster situation. For instance,

- Heavy items should not be stored above or in close proximity to lighter items which can be easily damaged.
- Different types of material in the same box or close proximity can easily become intermingled when storage containers are damaged, therefore consideration needs to be given to the types of materials stored in close proximity.
- Consideration needs to be given to how items are labelled. For instance, metal aluminium tags are reasonably fire resistant, unlike paper ones. Additionally some pens and correction fluids used to mark the surface of artefacts flake off at high temperatures.
- Some types of plastic storage containers will adhere to artefacts at high temperatures making their recovery impossible. In contrast, quality metal cabinets can withstand quite high temperatures and have the additional benefit of easier access for collections management and research purposes.

6.1.3 Recommendation Three

Collections management systems –such as inventories and archiving– need to be reviewed.

Some of the losses were exacerbated by the lack of catalogues and inventories. This is not a unique problem however. Sullivan and Childs (2003) report,

Another type of repository in some academic institutions is a place for long-term storage of collections generated by its facility and students, as well as for research on those collections. Its mission, when stated, does not include public education through exhibits and programs. It fulfils its basic educational goal when faculty use the repository for

teaching and research. This type of repository requires all the features of an academic museum but without the public outreach: up-to-date collections management, an inventory system, adequate research space, conservation, security, and fire protection. Unfortunately, some of these features are often not available due to lack of funding and inadequate staffing.

This is exactly the situation of the Weston Store and in retrospect it is easy to see how inadequate the management and protection systems actually were. This is a consequence of the unfortunate fact that the maintenance of collections is often seen as peripheral to their excavation. However it is important to understand that,

When curatorial practices are poor or nonexistent, everyone loses: Archaeologists suffer loss of irreplaceable research data, the general public suffers loss of an expensive and valuable educational resource, and those whose heritage may be linked to the collections lose that part of themselves (Sullivan and Childs 1993).

Thus, management of a collection is an ongoing process, and planning should begin when implementing the policy (as addressed in recommendation one).

Planning for All Contingencies



It is important to remember when planning recovery operations that there will inevitably be unforeseen events causing delays. Although the building at Weston had partially been demolished, braced and the rubble removed to allow us relatively safe access it was still necessary to wear hard-hats and other safety equipment. Several weeks after the recovery began we noticed that a near-by wall was bowing outwards. We contacted the site manager and a building contractor who investigated the structure. Although they did not perceive any imminent danger (the walls were braced on the inside) they decided that the wall should be removed as a precaution. This stopped work on the storage area for two days while demolition equipment was brought in. During this time the recovery personnel sorted some of the bulk material that had been placed on the storage area. Thus, when planning a recovery it is imperative that the team is flexible and that there are alternative plans to allow work to continue when problems arise.

The first step in forming an appropriate collections' management system is to catalogue and database materials as they enter the department. As the materials from Weston are sorted, this can be easily implemented across the department. Furthermore, if the department decides to make their research collections more widely accessible the database can be easily adapted for on-line accessibility. However, in order that the database is properly maintained, procedures need to be implemented for the easy and affordable addition of catalogued items by all members of the department, or a designated manager.

6.1.4 Recommendation Four

A disaster management plan needs to be properly formulated and implemented.

The lack of a disaster management plan before the fires was a serious oversight and the preparation of such a plan should be a high priority. This may be best approached by combining our efforts with a review of other collections held at the university. Archaeology & Natural History is not the only department after all, to hold collections without an adequate disaster management plan. Such a plan would address issues such as:

- The person responsible for mobilising a task force.
- Immediate post-disaster response.
- Clean-up procedures.
- Media co-ordination.

A good disaster plan will also allow for better co-ordination across the university community, should another broad-scale disaster occur.

6.1.5 Recommendation Five

Training needs to be provided concerning disaster response strategies to raise awareness of appropriate procedures.

Inadequate training in disaster response exacerbates the losses that occur. A one-day workshop could therefore be beneficial in demonstrating disaster response procedures. This might include details on how to deal with different archival materials, including how to handle them (or otherwise) in a disaster. It could also include details of how to mitigate the chances of losing valuable data before a disaster occurs. Additionally it could inform participants about potential hazards and how to ensure personnel safety, both during the event and during the post-disaster recovery. While research was done before the clean-up commenced, if such a workshop had been available in advance, we believe that more materials could have been retrieved. Not only would such knowledge help save valuable data, it would feed into a more efficient overall response.

6.1.6 Recommendation Six

The Department of Archaeology & Natural History should immediately undertake to join DisACT.

DisACT (Disaster ACT) is a local association of museums and government repositories that aid each other in case of an emergency, and provide expertise for the recovery efforts. The ANU is eligible to join, and such assistance would have been invaluable at the time of the fire.

7.1 Conclusions

The fire that destroyed the storage facilities at Weston on January 18th 2003 inflicted great losses on the Department of Archaeology and Natural History. However, the wider Australian and Pacific community also suffered from this loss, because the archaeological archives that were destroyed concerned their heritage. The events were tragic and uncontrollable, however we as archaeologists have an obligation to this wider community to retrieve as many items as possible, and to implement new procedures to mitigate any damage that might be caused by disasters in the future.

Some of the recommendations made in this report are ambitious. However, if strategically approached, there are simple, economically feasible, short-term measures that can minimise risk in the future. Even appointing one of the current staff to oversee the collections, and be alert in case of catastrophe, would help. Such a person could have liase with authorities, and alert colleagues to potential problems. Others may argue that our recommendations are not extensive enough. However, we must begin somewhere, and within the financial constraints of an academic institution. By making some- or all of the changes suggested- a solid basis would be formed for future development.

That said, it is also important to disseminate our experiences beyond the university, and raise awareness of disaster management and mitigation in the context of university collections, through outside forums. Changes can be better implemented by working in conjunction with other institutions, and in this way the impact of future disasters can be minimised.

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