

Activity sheet 1

Scientific techniques used in archaeology

Use information from reliable print and digital resources, to complete the summary table.

Technique	Description	Example of use in an ancient Australian site	Reference(s)
Radiocarbon or C14 dating			
Thermoluminescence dating			
Lidar or airborne laser scanning technology			
Residue analysis			



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Activity sheet 2

Narabeen Man

Instructions

- A. Read the transcript of the ABC news report on the discovery of Narabeen Man
<http://www.abc.net.au/news/2007-12-21/speared-man-unearthed-after-4000-years/994510>
- B. View three film clips from the Catalyst program on Narrabeen Man
<http://www.abc.net.au/catalyst/forensics/>
'The mystery of Narabeen Man' (7 mins),
'Interview with Dr Denise Donlon' (3 mins) and
'Extended interview with Allen Madden' (3 mins)
- C. Use information from the transcript and the film clips to answer the following questions in complete sentences.
1. **WHERE** was the body found and under what circumstances?
 2. **WHO** led the excavation and what did archaeologists uncover?
 3. **WHEN** did Narabeen Man die and how do we know this?
 4. **HOW** did Narabeen Man die and what evidence supports your explanation?
 5. **WHAT** theory has been offered to explain the death and what evidence supports the theory?
 6. **WHY** is the discovery of Narabeen Man significant for Australian archaeology and Australian history?



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Activity sheet 3

Site study

Instructions

Read the archaeologist's report on the Elizabeth Macarthur Creek and Caddies Creek hilltop site.

Create a poster or flow diagram to show what artefacts were found and how archaeologists interpreted those objects to explain aspects of Aboriginal life at the site over time.

Hilltop between Elizabeth Macarthur Creek and Caddies Creek

An analysis of the landform features along the route of the Sydney Metro identified a hilltop west of Old Windsor Road between Samantha Riley Drive and Windsor Road as having the potential for buried Aboriginal archaeological objects. The area is prominently situated above the banks of Caddies Creek and Elizabeth Macarthur Creek, which flows to the east and west before joining in a confluence to the north of the site. Salvage excavation conducted by archaeologists and Aboriginal community members during the Sydney Metro program uncovered a concentration of approximately 500 Aboriginal stone artefacts at the site. Artefacts were made from raw materials including silcrete, tuff, quartz and hornfels. However, it was the discovery of an elouera, a ground-edge axe and several elongated bipolar quartz flakes that made this site unique amongst the archaeological sites excavated during the Sydney Metro project.

The elouera was produced from a flake of tuff that had been shaped by the removal of multiple flakes along the left lateral margin creating a blunt backed edge. The artefact had been broken into two pieces in antiquity; however, careful excavation successfully recovered the entire artefact. Analysis of residue and usewear on eloueras from other archaeological sites have suggested that these artefacts were utilised for scraping, adzing or cutting activities.

Eloueras from other archaeological sites in the Sydney region have been dated from about 1,600 years ago and it is likely that this site was intermittently used over a similar time span.

A number of elongated bipolar quartz flakes were also discovered during the salvage excavation. Quartz artefacts are uncommon in archaeological sites of western Sydney because the material is difficult to knap and more easily flaked silcrete is readily available. The use of quartz to make elongated flakes at this site suggests that the material was intentionally selected and that the elongated form was significant. It is likely they were produced for a function specific to the utilisation of the area around the site. They were probably not made to be used as everyday tools. Based on the hilltop location, range of artefacts and ethnographic information it is possible the quartz blades were used for ceremonial activities. Further insights should be revealed as the analysis of the site continues.

The ground-edge axe uncovered at the site during the salvage excavation was constructed from a water worn pebble of hornfels. The artefact was shaped by narrowing one edge through knapping off flakes and grinding against an abrasive surface, such as exposed sandstone bedrock. Axe grinding grooves have been identified on Caddies Creek to the north of the study area.



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Figure 8: (L-R) Ground axe found at a hill top site within the Sydney Metro Northwest area and an example of Sydney Region Aboriginal rock art with a mythical figure holding an axe. *Sydney Metro Northwest Archaeological Salvage Program*, Plate 10, page 22.

Several accounts of the use of ground-edge axes by Aboriginal people were documented by early British settlers in the Sydney region. Uses for ground-edge axes included: general woodworking, the removal of bark during the construction of canoes, shelters and shields and as weapons.

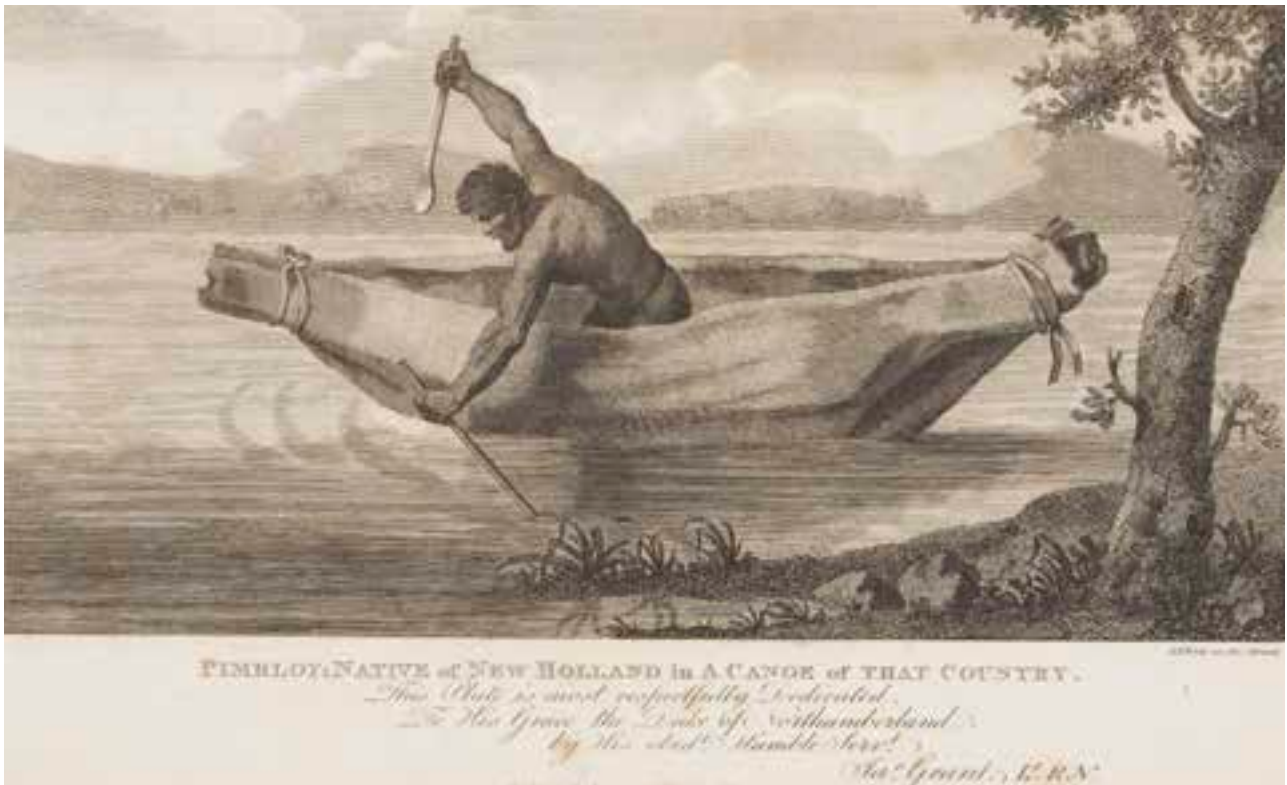
Many ground-edge axes, including the artefact found at this site, show evidence of battering and pecking opposite the ground edge. It is believed that, in addition to being used as an axe, the opposite edge was used as a hammer, making this a true multi-purpose tool. In many instances, the use of ground-edge axes as hammers resulted in the accidental removal of large flakes. The damage caused by accidental flaking to this ground-edge axe may be the reason for its discard at the site.

The artefacts uncovered at this site provide a valuable insight into the range of activities that were being conducted in the area by past Aboriginal people. Archaeological research has found that eloueras, quartz blades and ground-edge axes were used for both mundane and selective tasks. The landscape context and relatively selective array of archaeological material from the hilltop site however suggests that the place was a special location where selective activities were undertaken as opposed to utilitarian tasks. Selective activities may include leisure, initiations or ritual functions.

Source: *Sydney Metro Northwest Early Works Project, aboriginal cultural heritage interim highlight report*, October 2014

Activity sheet 4

Pemulwuy's spear – historians and archaeologists working together



Source A

Pimblooy (Pemulwuy) by Samuel Neele.

<http://handle.slv.vic.gov.au/10381/255652>

Source B

Description of Pemulwuy's spear, used to kill John McIntyre, Governor Phillip's Gamekeeper in 1790

"When he extracted the spearhead, Surgeon General John White found that it was barbed with 'small pieces of red stone' which confirmed that Pemulwuy belonged to one of the woods tribes."

Cited in the *Sydney Metro Northwest Interim Highlight Report*

Activity sheet 4

Pemulwuy's spear – historians and archaeologists working together



Source C

Bi-ni-long (Bennelong) by Samuel Neele.

<https://nla.gov.au/nla.obj-135681648/view>

This portrait of Bennelong shows on the upper left a spear very similar to that likely used by Pemulwuy to spear John McIntyre, although this spear is barbed with shell.

Source D

“Spears used by Aboriginal people from coastal groups were barbed with pieces of shell, while spears of the inland groups were barbed with stone flakes. ‘Similar red silcrete flakes as described on Pemulwuy’s spear, were recovered from the Sydney Metro excavations, suggesting that Bediagal (Bidjigal) people had been making their spears that way for a long time.’”

Sydney Metro Northwest Interim Highlight Report 2014

Instructions

After examining the four sources, write a brief explanation of how historians, who work mainly with written and pictorial remains, and archaeologists, who work mainly with physical remains, can work together to provide a more complete understanding of the past.



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