PART 1

MELROSE VALLEY PRELIMINARY ABORIGINAL ARCHAEOLOGY SITE FIELD SURVEY REPORT

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INTRODUCTION

1.1 AIM

The aim of this survey is to provide an indication of the nature and spatial distribution of Aboriginal cultural sites on the property known as *Melrose Valley* and to compile a field report describing the land use patterning of sites and features.

1.2 RATIONALE

Dr. Josephine Flood (2003) has stated that sites should be regarded in relation to the question of why they are located where they are. For example, the ethnographic record shows that possums were prevalent in the trees around the Birrigai rock shelter in the mid 1980s. But at 21,000 years, the date of first occupation of the site, the environment of the region was that of treeless plains, meaning no trees and no possums, and prompting a question about what people were doing at Birrigai 700m above present day sea level? Therefore it is important to map sites spatially to understand the pattern of ethnographic land use before temporal investigation can meaningfully test current archaeological models of the region. Such mapping of sites should note directional and contour aspects as an indication of possible seasonal usage (Flood, J. 2003, pers. comm., 6 December). The ANUTECH Pty Ltd (1984: 16-17) survey of South Tuggeranong Valley report results show that environmental areas of "flat, horizontal ground at a median elevation in relation to surrounding terrain" had the most Aboriginal archaeological potential. The report also refers to the research of Flood (1981), Attenbrow and Hughs (1983), Koettig (1981), Witter (1980) and Barz and Winston-Gregson (1981) for contextual regional information. This information suggests that there may be "micro-regional variations in the archaeology of the southern tablelands" and that evidence of this should be confirmed by "in-depth study of a micro-region" particularly concerning the location of sites in relation to water sources and site aspect and elevation (ANUTECH Pty Ltd 1984:18). However, when dealing at a micro scale, local events will have a larger impact on the archaeological interpretation of a place than at a larger scale (refer to Dincauze 2000: 198-200). Therefore, it will be important to note evidence of palaeoenvironments through recording geomorphology, remnant vegetation, fauna, local climate conditions and water drainage at each site or immediate surrounding environment.

It is equally important to understand local Aboriginal cultural practice and ideology in relation to the palaeoenvironment. Some land use such as pathways, ideologically significant vistas, vegetation, landforms and activities are archaeologically invisible in that they leave no physical evidence behind. Investigating this social dimension of a cultural landscape is reliant on knowledge of the past landscape and community values of the time. This can largely be obtained ethnographically from historic journals, through surface finds and by talking with descendants of local early settlers and elders of relevant Aboriginal communities. In this case the local Aboriginal tribe was the Ngunawal people but the region is generally understood to also

be at a junction of Ngrio (Ngarigo) and Walgulu and to be a meeting place. Pathways, therefore, were significant as people moved from place to place. As Moore has said, sites reflect their significance in the management of Country, that is, their location in relation to boundaries, level of business carried on there, and protocols of land care including responsibilities to threatened species, and understanding soil types (Moore, G. 2003). Pathways may be means of access across the region or, in the case of the main ranges visible from *Melrose Valley*, as a link to major spiritual centres and gathering places in the Snowy Mountains (Mason, R. 2003, pers. comm. 7 December).

For Aboriginal culture there are inextricable links between sacred and secular landscape values, for example, trees and contrasting mountain peaks, pathways etc. Objects retain the power of the place in which they were produced or brought from. Stone arrangements, burial mounds, rock crystals and rock art all serve to mark significant places and grinding grooves may be found in association with a significant natural feature, yet other suitable rock has not been used in other places (Boot, P. 2003). Open sites such as stone artefact scatters should be perceived in the context of knowing that Aboriginal people always did things with a witness. It may be the spirits of a mountain, the water, the flowers. Therefore, a scatter will be related to other landscape features by story and association (Mason, R. 2003, pers. comm. 7 Dec). Put into the local context Ngunawal Dreaming refers to people emerging from their origins beneath the rocks (Bell, D., pers. comm.).

2 METHODOLOGY

The survey consisted of 21 site visits over a period of 13 months between March 2003-April 2004. It was conducted under a range of seasonal environmental conditions with the majority being in the warm to very hot range with a break during the cold weather of May to August. Harold Adams conducted an initial site tour of areas that were accessible by vehicle in March 2003.

Random sampling of the archaeology was carried out over most of the 900 acres (Melrose Valley 650 acres and adjacent block 34) on foot with some concentration on sites noted on previous surveys and other known historical sites. Two short transects (MV36 to MV44.1 and MV13 to MV10.1-MV10.2) were traversed across contours and a variety of terrain to discount any bias in the sampling.

Artefacts and features were noted in a field diary with compass bearings or GPS readings taken at significant finds. Measurements were taken at the artefact or centre of a cluster or feature and were in paces or estimated metres. These were then converted to millimetres for plotting on Map 208-582 of the Australian Capital Territory 1:10,000 Planning Series using the Australian map grid.

Artefacts and features were designated a number prefixed by the *Melrose Valley* initials (MV) and according to the sequence in which items were found. Recorded artefacts were measured by Length (L), Width (W) and, in some

instances, Thickness (T). Terms used to describe artefact type refer to the stage of the reduction process in which they were produced. The term "flake/core" refers to a flake that has been used as a core but started life during the primary or secondary flaking process.

Tables, Diagrams and photographs were used to record significant finds. Note that the figures and tables show recorded information that is incomplete in some instances, hence, corresponding totals do not always tally.

Note regarding the spelling of "Ngun(n)awal: in this report. I acknowledge the official spelling that makes use of an additional "n". This has been a relatively recent variation on the English interpretation of an Aboriginal word. I also acknowledge that the spelling of the word Ngun(n)awal is politically sensitive and that the variation is significant to Aboriginal groups concerned. However, I also acknowledge the spelling of Ngun(n)awal with a single "n" and cite its use by historical contemporaries such as G A Robinson, Matthews, Howitt and others. This report will use the single "n" interpretation as a more historically sound usage.

3 PREVIOUS STUDIES

GEOLOGY AND GEOMORPHOLOGY

Melrose Valley is situated on an area comprising the Deakin Volcanics, a Late Silurian formation that is exposed particularly in the Weston Creek, Tuggeranong and Lanyon areas of the Canberra block. The Deakin Volcanics was deposited during a return to volcanic activity on the Canberra-Yass Shelf. The earlier stage of development occurred at a time when shallow marine conditions were present in the region, changing to a terrestrial environment in the later stages. The Deakin Volcanics may have been a separate volcanic centre of activity with the thickest stratigraphic section of lava and volcanic ash deposition being situated in the Tuggeranong area and measuring 1500 metres in depth. There are possible links with the Colinton Volcanics of the Michelago area and with the Laidlaw Volcanics in the Yass area (Abell 1991: 33).

Abell (1991: 31, 32 and 1992 sheet map) has divided the Deakin Volcanics into two main rock types – rhyodacitic ignimbrite and lava often containing pink potash and feldspar and

> Volcaniclastic and waterlaid epiclastic sediments comprising tuff, tuffaceous quartz sandstone" … The Deakin Volcanics have a multicoloured appearance in the field and a relatively high proportion of interbedded Volcaniclastic and sedimentary units.

The colour variations of shades of purple, red and green found in the rhyodacitic rock are thought to be due to weathering and oxidation. However, the colours found in outcrops north of the Tuggeranong railway siding site are said to be due to "red haematitic pigment and possibly green clay minerals" (Abell 1991:32). The rocky hills between Mount Rob Roy and Pemberton Hill are formed from harder rhyodacitic ignimbrite with areas of

bare rock exposed where the thin soil overlay has been eroded from the higher slopes. However, the mainly gently folded landscape indicates that the formation is made up of a "high proportion of softer tuffaceous sediment" (Abell 1991:32). Good examples of tuff can be seen on the western and northern boundaries of *Melrose Valley.* One instance being in a road cutting located on the Monaro Highway approximately one kilometre south of Isabella Drive and, the other, in cuttings along the Queanbeyan-Cooma railway line on the northern boundary. One railway cutting on the eastern boundary displays

> beds of polymict volcanic conglomerate containing volcanic clasts and a few cobbles of limestone (some fossiliferous) (Abell 1991: 31 –33 and 1992 sheet map).

ENVIRONMENTAL HISTORY

A study by Martin Worthy (former Honours Student Dept. Geology ANU) requires further work to be conclusive. It looked at the formation of and extent of change in the floodplains of the Dunn's Creek catchment system as determined by environmental indicators and indicates the processes involved in the formation of the channel of Dunn's Creek and Monk's Creek.

ABORIGINAL SITES

The ANUTECH Pty Ltd survey report (1984: 2) included recommendations that were relevant to sites located on the western edge of the *Melrose Valley* survey area (Refer to Figure 2):

- The scatters of stone artefacts (sites TV7, 8, 12 & 13) should be protected as locally representative examples of their type.

- The complex of axe grinding grooves (site CT4) should be nominated to the Register of the National Estate and a management plan should be devised that ensured complete protection of the site. The complex is of local (ACT) and regional (Southern Tablelands) importance.

TV7 is a stone artefact scatter covering an area of at least 60-70m x 200m and is situated at the junction of Dunn's Creek and Tuggeranong Creek. The area is elevated, flat ground sloping slightly northwards. Sample density was 13 artefacts in an area of 3m x 3m. TV8 is located on the western bank of the Tuggeranong Creek 200m north of Dunn's Creek. It is eight stone artefacts in an area of 7m x 3m that is elevated, flat ground sloping slightly eastwards. The stone artefact scatter TV12 is located on the eastern bank of the Tuggeranong Creek just north of its junction with Dunn's Creek. It also is situated on elevated, flat ground but slopes slightly westward and covers an area of 5m x 3m and consists of 29 stone artefacts. TV13 is 150m north of TV12 and is situated similarly to that site. The site measures 4m x 3m and consists of 23 stone artefacts.

The complex of axe grinding grooves (CT4) is located about 200 metres to the west of TV7, TV8, TV12 & TV13, directly across the Monaro Highway.

Such a large number of distinctive grinding grooves in one complex are rare in the southern tablelands region, largely because of the scarcity of suitable grinding quality quartz sandstone. As a result this site is considered by archaeologists to have been a significant focus of stone grinding activity and would, therefore, be a significant factor when considering human activity in the local area. A large stone artefact scatter was found in association with the grinding groove complex. Grinding grooves on granite exist near Gibralter Falls and on volcanic rock at Latham. However, they are neither as distinctive nor as many as the sandstone complex at Theodore. Sandstone outcrops also appear on the eastern side of the Monaro highway closer to the Tuggeranong Creek (ANUTECH Pty Ltd 1984: 18-19, 31-34).

Further contextual information about Aboriginal land use patterns of the immediate region to *Melrose Valley* is found in the Barz and Winston-Gregson (1981:22) report on the archaeological survey of the Murrumbidgee River Corridor. Large numbers of individual artefacts were found, the most common of which being chopper/chopping tools made from quartzite river cobbles. Cores were second in prevalence including flake cores and chert horsehoof cores. Other cores were mainly of either chert or quartzite. Flakes were rare as individual artefacts. Most sites found were stone artefact scatters usually of sparse densities spread over large areas. These had a large incidence of larger tool types in conjunction with flakes and flake tools and the occasional small core.

According to the Barz and Winston-Gregson (1981:23-24) report, mid to late summer occupation was suggested by the unusual presence of “sandstone grinding plates and a number of pebbles with silica gloss” indicating the availability of plant seeds for grinding. Quartz scatters were noted but not identified as sites because it is difficult to recognise quartz artefacts when they are not in association with ‘finished’ tool types. Some archaeological deposits were found in eroded sections of shelters, open campsites and workshop areas. Cultural scars on trees were usually found on dead *E. melliodora* (Yellow Box). One disturbed example of a possible stone arrangement, three quartz quarries and a possible jasper source were also found. The stone arrangement was found in association with some quartz retouched flakes and was located on the flattened top of a hill. Earthen ring ceremonial sites, identical to some found in the Five Forests area and in the Bega region, were also found. These rings are unique in the region and were usually grouped in twos and threes on the shoulder or slope of a hillside with a generally westerly aspect. They total seven definitely and possibly 12 in number.

A search of *Sites of Significance in the ACT* Vol. 4 (NCDC 1988: 62-67), revealed that there were a number of sites located near the western boundary of *Melrose Valley*, and on paddocks leased as an extension to the property. One site (T17) is a stand of old Scribbly Gums (called White Gums in Costermans 1981:346) located on a ridge above the old Monaro Highway near the suburb of Gilmore (Theodore). They have a base circumference of 4-6m and bear signs of historic use as supports for fence rails and possibly telegraph lines. These are recorded as being some of the largest and oldest

surviving trees of their type in the Canberra district, thus providing an important context indicative of past environments for cultural sites such as the axe grinding groove complex and artefact scatters that are nearby. The axe-grinding grooves (T18) and stone artefact scatters (T19) on Tuggeranong Creek and Dunn's Creek are listed in this volume and are recorded as per the ANUTECH Pty Ltd (1984) report.

4 RESULTS

4.1 FIELD CONDITIONS

Weather conditions were characteristic of the prevailing drought - mainly fine, clear skies and sunny, with one day presenting some showers that cleared later in the day. Breeze/wind conditions on four days enabled some determination of sheltered areas on both high and low ground. Temperatures ranged from cool-cold to very hot. Ground surface visibility was good, averaging at 50% but was generally at 50-75%. Only occasionally was visibility poor at 0-20% due to thick grass and excellent at 100% as on tracks, sheep trails and patches of erosion or ungrassed areas. Grass cover was generally very close to the ground due to prolonged drought conditions and the grazing of sheep, deteriorating to very thin to sparse in April 2004. Site accessibility was generally easy, but in some areas, particularly in the SE area of the property, was moderately difficult on foot because of the terrain.

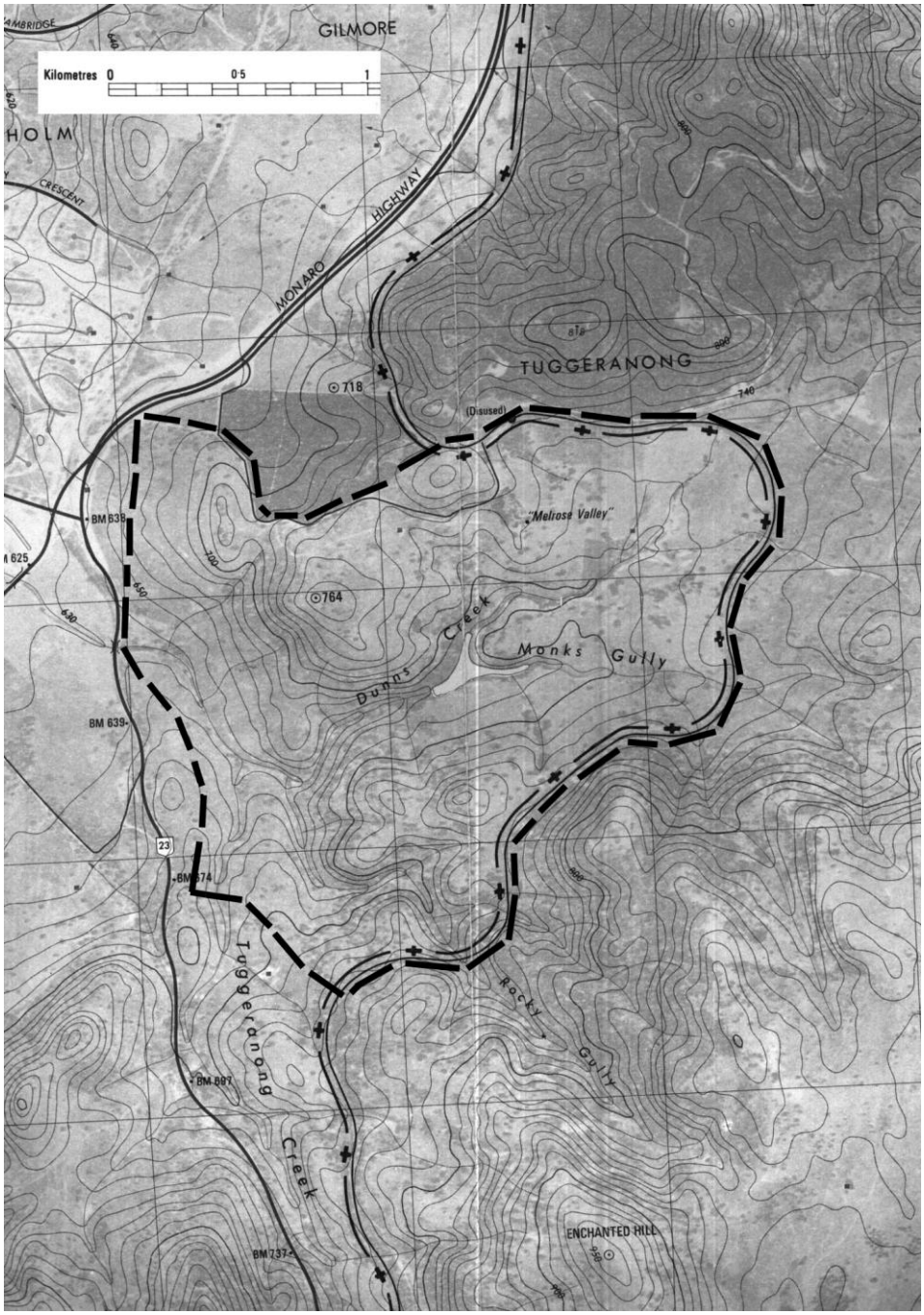
4.2 ENVIRONMENTAL DESCRIPTION

Melrose Valley covers an area of 900 acres (640 acres plus leased paddocks of block 34 adjacent to the Monaro Highway) and is situated in a natural drainage basin that forms the catchment for the Tuggeranong Creek. Dunn's Creek and Monk's Creek flow across this basin, generally from east to west, merging near the centre of the basin to eventually drain into the Tuggeranong Creek near the western boundary of the property. Tuggeranong Creek flows south to northwest along the leased agistment paddocks that extend the property holdings to the Monaro Highway. All of the creeks are heavily eroded (10m deep in places), with railway culverts obviously contributing to this problem. Some erosion control measures have been put in place including stone dam walls on a number of locations along Dunn's Creek. Monk's Creek is fed by springs and has flowed continuously for the past 18 years till 2003 when extended drought conditions caused it to stop flowing in late 2003 and early 2004 (Adams, H., 2004, pers. comm. 25/3/04).

The basin is characterised by wide relatively flat, slightly undulating flood plain bounded by ridges on the eastern and western sides and by rocky hills, ridges, spurs, knolls, saddles and gullies to the north and south. These features help to provide pockets of shelter from prevailing winds and create a frost hollow effect across the property that causes a sudden change in temperature to occur about a quarter of the way up the slope from the valley floor (Adams, H., 2004, pers. comm. 27 February). The ridge that runs in a north-south direction on the eastern side of the railway line, Enchanted Hill being its highest point at an elevation of 950 metres, is part of the adjoining

property known as *Tralee*. A low saddle at the northern end of the basin provides easy access to the Jerrabomberra Creek corridor and the Queanbeyan region. The highest point on *Melrose Valley* is a central hill that commands 360˚ views of the entire property and the Tuggeranong Valley beyond and is marked by *Melrose* trig. station at an elevation of 764 metres.

Figure 3. Tuggeranong 8727-111-S Orthophoto Map 1:25000 1st Edition. *Melrose Valley* Map grid reference: 947760.



The geological material is generally of the Deakin Volcanics with evidence of the Colinton Volcanics occurring in the southeastern corner of the property (Mayer, W. 2003, pers. comm., 21 November). The material is generally siliceous in nature with a high quartz content, Deakin Volcanic rock types

include rhyodacite, rhyolite; dacitic and rhyodacitic crystal tuff; tuff; minor agglomerate, ashstone, tuffaceous sandstone and shale (Henderson 1981: 4). Most of these types are common on the property and veins of siltstone and ashstone interbedded with rhyodacitic ignimbrite have been noted at site MV39 and 44.2. Sandstone outcrops containing veins of quartz are situated near (MV59) just south of the Tuggeranong Creek and Dunn's Creek confluence.

There are moderately dense areas of river cobbles exposed at several locations along the railway easement. While it is possible that these stones were brought to the site by the railway they may also be part of a palaeo-channel or remnants of eroded tuff and conglomerate material. In at least one instance they are the result of an alluvial fan formed by down hill run-off (located at first half-kilometre post north of "McAlister's" cutting). Bob Parker said, during discussions at the site, that river cobbles may have been used for ballast in the early days of the railway, but were unsuitable to use for railway beds because they caused slippage and did not drain well (Parker, B., 2004, pers. comm. 4 March).

The area receives moderate rainfall (approx. 650mm) and is situated in the Savannah Woodland vegetation zone of the ACT (NPA ACT 1983: 2, 46-47). Typical tree species of this area are Yellow Box (*E. melliodora*), Red Box (*E. polyanthemos*), Blakely's Red Gum (*E. blakelyi*) and Apple Box (*E. bridgesiana*) (Abell 1991: 2). These species as well as groups of Brittle Gums (*E. mannifera*) (MV65.1, 38.1), and the occasional Mealy Bundy (*E. nortonii*) (MV36) and Candlebark (*E. rubida*) (MV73), and a Scribbly Gum (*E. Rossii*) or White Gum (MV38.1) Peppermint Gums have been noted on the property. Although it has been affected by a history of grazing since the early to mid 1800s the property has maintained an open scattered woodland character, particularly on the floodplains with their deeper soil. There are examples of trees that appear to be upwards of 200-300 years old, several bearing cultural scarring. They range in size from 1.5-2 metres in diameter at the base generally and, in two instances, 3-4 metres (eg. sites MV7.1, 8.2, 12, 22, 38.1, 54, 56, 59, 60, 65, 66, 77.5).

There is evidence (visible from Melrose Hill Trig. station) of past ploughing activity and a planted windbreak on the flats on the northern side of Dunn's Creek near its confluence with Monk's Creek and across the northern end of the property adjacent to the railway line. A number of disused tracks and formed track/roads, some of 19th century railway origins, are evident on the property.

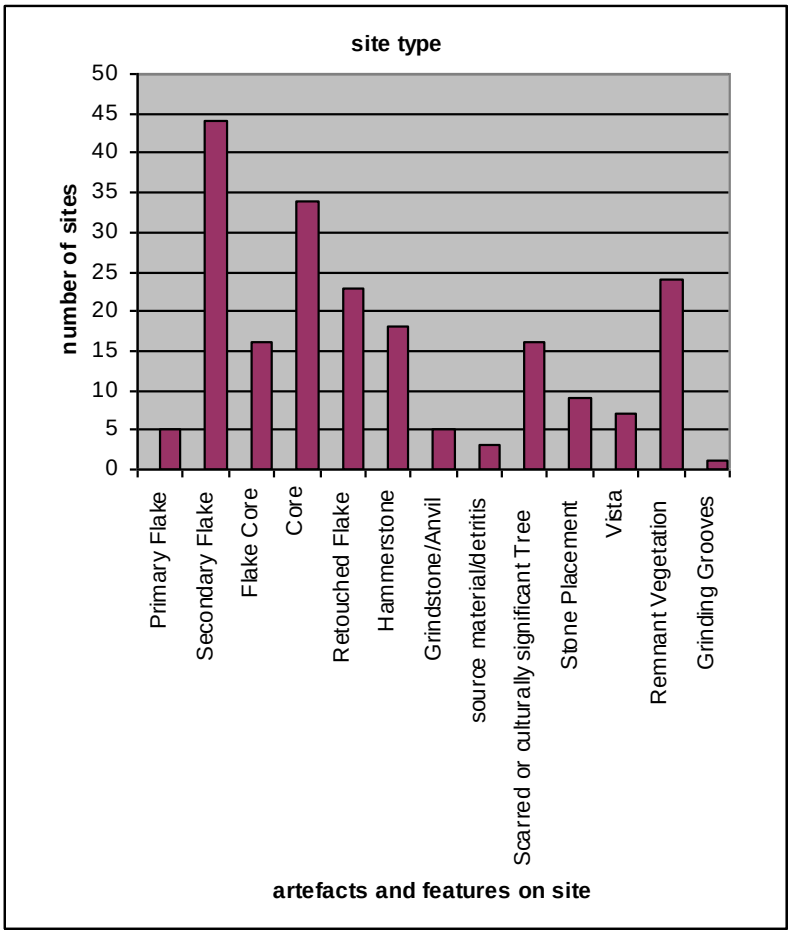
There has been an increase in trees in the last 20 years due to the award winning efforts of the current leasee Harold Adams as part of the Landcare and Greening Australia programs. Some remnant vegetation is found around isolated rocky knolls and gullies, where the soil is shallow and the stock is less prevalent. It tends to consist of eucalypts and prickly-leaved shrubs, forbs, lilies, orchids, sedges, brushes, grasses including Kangaroo Grass and Yellow Button (eg. site MV29.1 and MV77.5).

Groups of kangaroos usually occupy the northern paddocks and central knolls of the property. Two Red -Bellied Black snakes, an Eastern Long-Neck Tortoise and an echidna were seen adjacent to Dunn's Creek near its confluence with Monk's Creek. Webbing and spiders were prevalent in the southwest corner of the property. Refer to the attached table for bird species noted on 9 January 2004.

4.3 SITE DESCRIPTION AND INTERPRETATION

The Site Type chart (Figure 4) is a crude summary of Aboriginal artefact or feature type found in the Table of Data (refer to Appendix 1). It shows that from a total of 80 sites just over 50% contain stone artefacts, 20% consist of scarred trees or culturally significant trees, 11% have evidence of stone placements, 30% are areas of remnant vegetation and 6% offer open views over long distances. There is one site containing grinding grooves.

Figure 4. Site Type



The Table of Data (Appendix 1) shows the distribution of types of artefacts and features and the Table of Cultural Features and Sites (Appendix 2) gives a description and location of sites. Together they show that stone artefact scatters vary in density and include 3 knapping floors (MV36, 44.2 & 61). The knapping floor at (MV44.2) is located at the source of raw material.

Sites containing stone placement include features of circles and semicircles of stones. The circles are singular (MV42.1, 56, 64, 66.2, 70, 73.2) and grouped (MV66.2). In at least one instance the circle signifies a burial site (MV8.3) and, in one other, a circle has a pile a few metres away (MV 56).

Scarred or culturally significant trees appear to have been used bark procurement, as a vantage point, for hunting animals and birds (MV8.2, 66.1) and for ritual and other purposes (MV7.1, 10.1, 68.1).

Several sites provide unimpeded views of the Tuggeranong Valley and the ranges beyond - views of culturally significant features like Booroomba Rocks (MV10.4); Tidbinbilla, Bullen and Brindabella Ranges, Camel Back, Mt Coree, Mt Taylor, Tuggeranong Hill, saddle of Rob Roy Range (MV55). 360º views take in the top of Mt Painter to the north (MV38.1, 56); 180º views of the main features of the Tuggeranong Valley and the distant peaks of the Great Dividing Range beyond (MV66). Site (MV55) provides an important view across *the Melrose Valley* property that makes it possible to see the location of sites in their environmental context. It is also possible to see how people would have moved or navigated around the landscape using median contours to link saddles and spurs. The location of sites on these points and the absence of sites on others confirm this.

Pockets of mature woodland grassland (MV, 29.1, 77.5) dominate sites of remnant vegetation. Mature eucalypts, measuring up to 3-4 metres in diameter across the base, some with cultural scarring, are scattered over most of the property. They stand individually and in small clusters (MV7.1, 8.2, 10.1, 12, 22, 47.1, 54, 60, 66.1, 66.2, 66.3, 68, 70, 79.1).

Two grooves were found in an exposed outcrop of volcanic rock in the Tuggeranong Creek (MV52). Despite not finding any grooves on sandstone outcrops nearby, the possibility of grooves existing on rock covered by soil should not be discounted.

Table 1. Type - Material Correlation

Type	Material											
Stone Artefact	Quartz	Cryptocystaline	Porphyry	Course volcanic	Medium volcanic	Fine volcanic	Silcrete	Rhyodacitic Ignimbrite	Ashstone	Hematite	Sandstone	Total
Primary Flake	2				1	2		2	2			9
Secondary Flake	88	1		1		46		4	85			225
Retouched Flake	18	2			2	10		3	5			40
Flake/Core	8				2	8	1	2	2			23
Core	26	3	1		1	22		5	10			68
Hammerstone	2				6	6		7	1		1	23
Anvil/Grindstone					2	1						3
Other	7			1		1				1		10
Total	151	6	1	2	14	96	1	23	105	1	1	401

Table 1 shows that from a total of 401 stone artefacts 2% are primary flakes, 56% are secondary flakes, 10% are retouched flakes, 6% are flake/cores, 17% are Cores, 6% are hammerstones, 1% are anvil/grindstones and 3% are other types. The majority of flakes were made from quartz (39%) ashstone (34%) or some other fine grained siliceous volcanic material (21%). Cores are mainly of quartz (37%), fine grained siliceous volcanic material (33%) and ashstone (13%). Hammerstones and anvil/grindstones are generally of a fine to medium grained volcanic material (58%) or rhyodacitic ignimbrite (30%).

Figure 5. Recorded Material

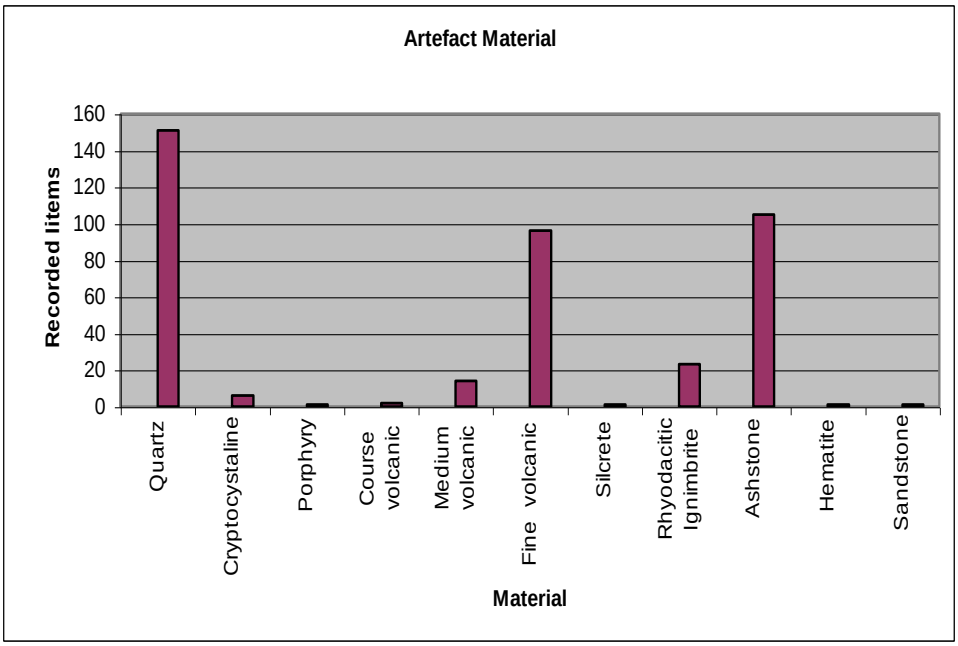


Figure 5 indicates recorded stone artefacts are mostly made using quartz (38%), siliceous ashstone (26%) fine grained siliceous volcanic material (24%). Table 2 shows the recorded colour range of this material. Most artefacts, where their colour was recorded, are white/cream/pink (36%) or red (17%), grey (12%).

Table 2. Type - Colour Correlation

Type	Colour										
Stone Artefact	Grey/Brown	Brown/white/pink	Brown	White/Cream/ Pink	Grey	Black/Grey/White	Grey/Black	Red	Purple	Green	Coloured Quartz
Primary Flake											
Secondary Flake	1	5	3	46	14	8	6	31	4	6	3
Retouched Flake	1	1	4	16	5	1	4	4		1	
Flake/Core					1						
Core	12	4	10	21	5	4	2	6	2	2	1
Hammerstone	2		2	4	4	3	1				
Anvil/Grindstone											
Other											
Total	**16**	**10**	**19**	**87**	**29**	**16**	**13**	**41**	**6**	**9**	**4**

Table 3 shows that the size of stone artefacts recorded ranges in length from <5mm to greater than 100mm. An analysis of this information shows that the median length of flakes is <35mm, median width is <20mm and median thickness is <10mm. The median length of retouched flakes is <20mm and <35mm, median width is <20mm and <35mm, and median thickness is <10mm. The median length of cores is <35mm, median width is <35mm and

median thickness is <20mm. The median length of hammerstones and anvil/grindstones is <100mm, median width is <100mm and median thickness is <35mm and <50mm.

Table 3. Type - Size Correlation

Type	Size																				
Stone Artefact	<5			<10			<20			<35			<50			<100			>100		
	L	W	T	L	W	T	L	W	T	L	W	T	L	W	T	L	W	T	L	W	T
Primary Flake					1	4	4	4		3	2		1	1		1	1				
Secondary Flake			15	4	9	15	25	26	4	21	21		8	2		1					
Retouched Flake			7	1	7	16	18	14	3	14	11		4	3	1	1	3				
Flake/Core			1			4	5	8	9	13	13	5	6	4		2	1				
Core		1	1		2	3	9	8	14	19	22	9	11	7	2	8	4				
Hammerstone									1		1	5		4	6	15	12		3	1	
Anvil/Grindstone																2			1	3	
Other					1		1			1	1		1	1			1	1	2	1	
Total		**1**	**24**	**5**	**20**	**42**	**62**	**60**	**31**	**71**	**71**	**19**	**31**	**22**	**9**	**30**	**22**	**1**	**6**	**5**	

Figure 6 graphically illustrates that the majority of artefact length measurements are <35mm, the majority of width measurements are <35mm and the majority of thickness measurements are <10mm.

Figure 6. Artefact Size

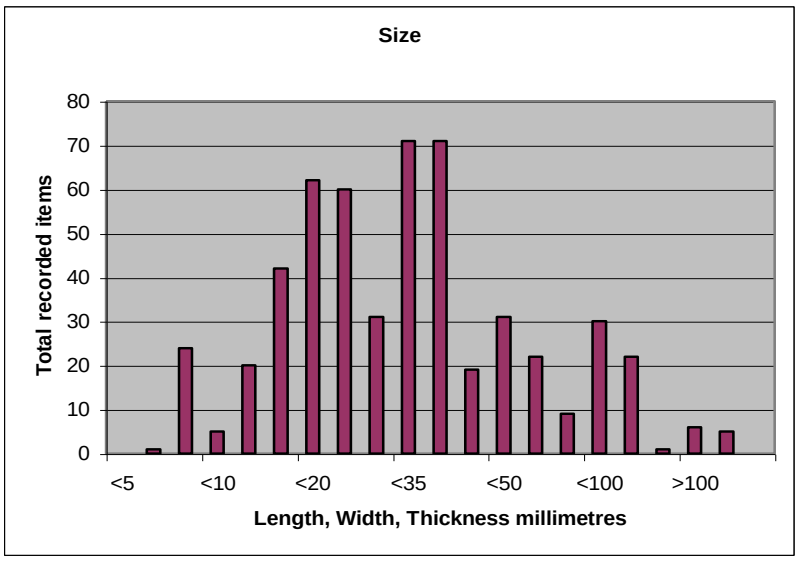
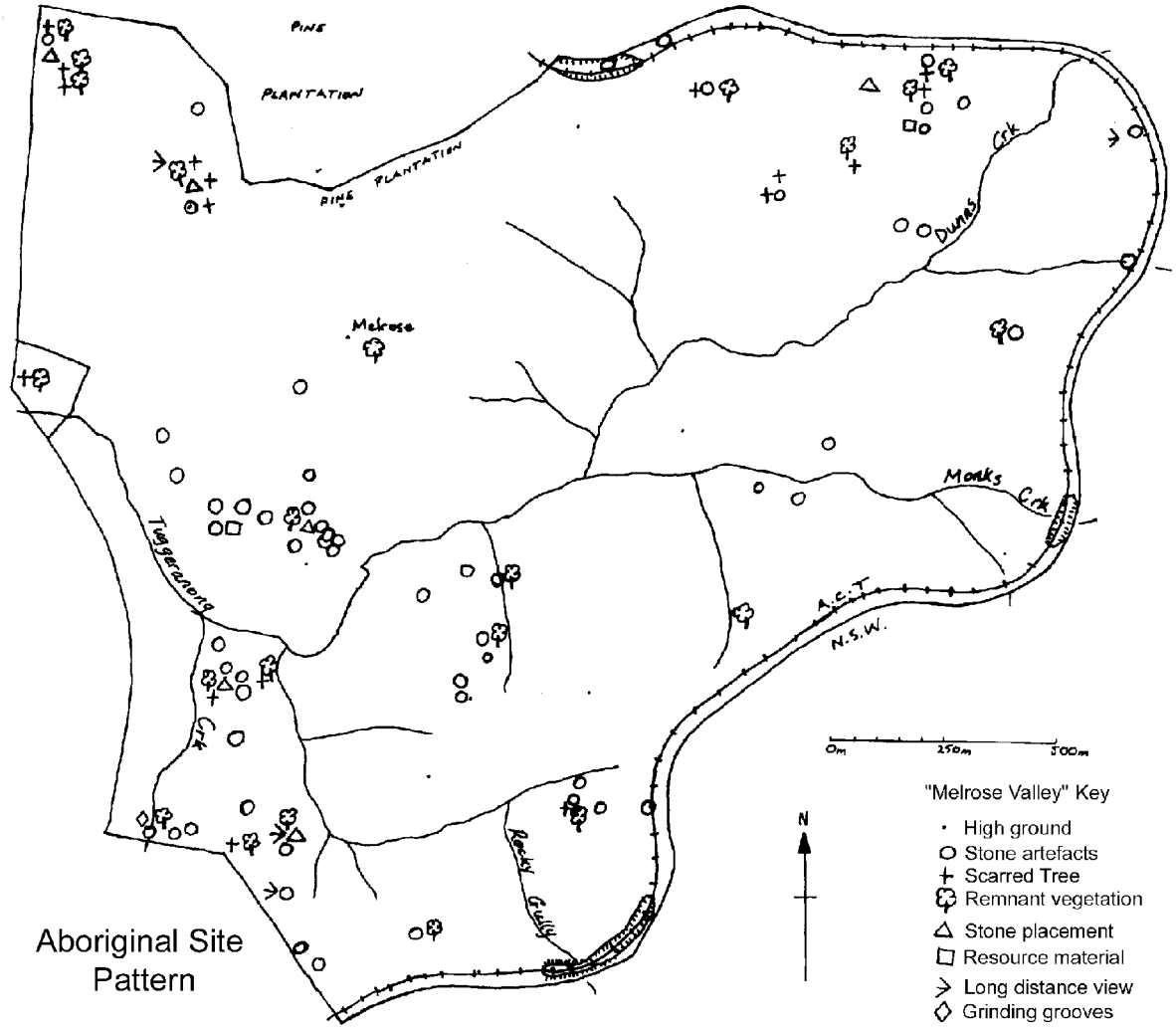


Figure 7.



Refer to figure 2 and figure 3 for sites in relation to topographic features of the *Melrose Valley* and its immediate surrounding environment. Sites are generally clustered on spurs or on a series of aligned ridges at the southern, western and northern portions of the property. In the north they are on the alluvial slopes at the bottom of two spurs of Pemberton Hill ridge. In the south and southeast they are on spurs of Enchanted Hill and in the west and northwest they are located on a ridge that links the Pemberton Hill spurs to the Enchanted Hill spurs.

Figure 7 shows the pattern of site types across *Melrose Valley*. In the northern portion they are located on the sheltered, low spurs of gently sloping alluvial flats within 500m distance of Dunn's Creek and spring fed water courses and soaks. The area in the north/northeastern portion of the property was used for camping and ritual activity. This is suggested by the combination of an extensive, dense stone artefact scatter (MV7, 8), a cluster of scarred trees (MV7.1,8.2,10.1,12) some of which have ritual significance, a possible burial site (MV8.3), sandy soils on gently sloping sheltered ground, and its close proximity to water and associated rich vegetation and food resources. Where remnant vegetation is still extant, these stone artefact scatters are found in close proximity to scarred or culturally significant trees

and, in at least five instances, stone circle/s including a burial site. Artefact scatters and scarred trees tend to be more sparsely located and less dense towards the middle of the property where creek channels have cut deeply into the broad alluvial flats. Again, artefact scatters generally tend to be found in association with remnant vegetation. Open long distance views feature at sites that are on high ground with open north, south and westerly aspects.

In the southern portion stone artefact scatters tend to be on flatter areas at the top or median contour of the ridges slopes, and spurs and saddles linked to Enchanted Hill and the Rob Roy Range. These sites tend to be on the flat or slightly sloping areas situated within a 1000m radius of the confluence of Tuggeranong Creek and Dunn's Creek. There is one site of knapping (MV44.2) at the source location of the tool material (vein of siliceous ashstone). This site is situated in the midst of a dense artefact scatter about 250m from the Tuggeranong Creek and Dunn's Creek confluence. This site also had a sample of a silcrete flake that does not naturally occur in the Tuggeranong region. The other two knapping sites are also in the midst of dense scatters (MV36, MV61).

The activity that occurred on the ridges, saddles and spurs of the west/southwestern portion of the property is largely of the secondary flaking process of stone reduction. Sites centre on main watercourses, rich flora and fauna resources that surround them. Evidence of activity is found along the range of ridges, spurs and saddles that generally run in a north-south direction and are linked to a network of ranges that form the eastern side of the Tuggeranong Valley and the western side of the Jerrabomberra Creek corridor. The densest artefact scatters, three of which contain small knapping floors, indicate that the most heavily travelled routes were along ridges and spurs. One of the most extensive and densest scatters is located on the eastern bank of the Tuggeranong Creek and surrounds sources of siliceous ashstone of tool making quality. Scatters are generally shifting down hill with water flow, erosion action and sheep and kangaroo movement. A sandy area at the base of a spur on the southern side of the Tuggeranong Creek and Dunn's Creek confluence was probably used for camping. It is characterised by a dense artefact scatter, scarred trees and at least one small stone circle. There are sandstone outcrops situated in this area but there was no evidence of grinding grooves visible. However, two grooves were found in volcanic rock in the Tuggeranong Creek channel on the southern boundary of the property on the spur linking Enchanted to the saddle on the Rob Roy Range.

5 DISCUSSION AND CONCLUSION

The previous studies of the Tuggeranong Valley (cited above) indicate that the region was used extensively by Aboriginal people as evidenced by scarred trees, large artefact scatters, grinding grooves and ceremonial rings. The ridges and slopes closest to the Murrumbidgee River and Tuggeranong Creek are the most intensively used. *Melrose Valley* being situated at the headwaters of the Tuggeranong Creek and surrounded by ridges, spurs and saddles that form the eastern perimeter of the Tuggeranong Valley and western perimeter of the Jerrabomberra Creek corridor provides a watershed and natural pathway between the two valleys and the coast. The patterning and density of Aboriginal sites, that include knapping floors, along these ridges and their close proximity to the Theodore axe grinding grooves indicates that this pathway was well used.

The long views from the hill and ridge tops and across major landmarks of the Tuggeranong Valley to the distant pathways on the ranges west of the Murrumbidgee River can not be archaeologically measured but are of equal importance to the archaeology that can be. The availability of these views provided protection by early visibility of approaching groups, as well as a link between Country and Dreaming song lines, nodes and pathways. They also make it possible to appreciate *Melrose Valley* sites in their surrounding environmental context, gain a sense of what influenced movement across the landscape, and links with Aboriginal sites outside of *Melrose Valley* before artificial boundaries such as roadways, railway lines, State/Territory and property boundaries and fences were created. Some scatters and features such as scarred trees and stone circles and a stone mound were found at some of these lookout points. These sites require further investigation in regard to possible links between feature, location and outlook. This is a point that should be borne in mind in relation to the comments made by Mason (cited above) about the land bearing witness to cultural activities.

Many of the artefact scatters found during this survey were found in the context of remnant vegetation, particularly mature eucalypts. A relatively substantial number of the trees had cultural scars on them and at least three others are believed to have cultural associations but no scarring. Some of these eucalypts are of similar or equal size to the Scribbly Gums (White Gums) noted in the suburb of Theodore (refer to Previous Studies) and would be of ample age to have witnessed many events. Mapping them in relation to the Scribbly Gums (White Gums) will provide a broader context for cultural activity in the region.

Alluvial deposits are undervalued as sources of information about changes to the cultural landscape generally. *Melrose Valley* bears deep erosion scars that provide good opportunities to study the formation process of the alluvial flood plain around Dunn's Creek and early land use, adding a temporal environmental context to the cultural record. There are strong indications that artefact scatters are shifting down slopes of knolls and ridges or erosion gullies to collect among alluvial deposits. At a number of sites artefacts are

emerging from below the surface as grass cover decreases or becomes non-existent and wind and rain erode the soil.

Stone artefact scatters were also found in association with the material source or were made from local materials indicating that tools were not generally brought from outside the Tuggeranong Valley. However, the single flake sample of silcrete found was not of the Tuggeranong region, but was similar to material found at Reidsdale by Lyall Gillespie and at Pialligo. Analysis of finds and sites needs to continue to locate samples of materials not found in the Tuggeranong Valley. The geology of the *Melrose Valley* and the stone artefacts found all represent siliceous volcanism as evidenced in exposures of rhyodacitic Ignimbrite and deep lava flows and the stone artefacts worked from various forms of siliceous volcanic material found in the Tuggeranong region. This is particularly significant when considered in relation to Ngunawal Dreaming and an appreciation of its meaning. Further ethnographic investigation is necessary to understand whether the Ngunawal Dreaming story is a map of source materials with volcanic origins and of appropriate quality for tool making.

Conclusion

The Dunn's Creek, Monk's Creek, Rocky Gully basin is an alluvial catchment that drains into the Tuggeranong Creek and, a few kilometres downstream, into the Murrumbidgee River. The ethnographic evidence indicates that it was well used by Aboriginal people. Deep erosion gullies on Dunn's Creek expose evidence of the palaeo-flood planes that formed over time and the surviving remnant vegetation provides clues to what the landscape once looked like. The current creek channels and spring-fed soaks, although currently in drought condition, still support vegetation, bird and animal life that is indicative of food resources available in the past. Scarred trees and stone artefact scatters confirm that there was exploitation of these food and water resources and the presence of a locally rare source of grinding quality sandstone provides a reason for people to want to utilise the resources. The valley provides a relatively sheltered environment for camping, away from an otherwise wind-swept Tuggeranong Plain, as it benefits from the protection of the surrounding ridges and hills. The presence of culturally significant grand, old gnarled eucalypts, and one scarred tree in particular, and some small stone circles hint that some ritual activity was conducted. The long views gained from the high vantage points scattered about the valley provide opportunities for observation and teaching sites and lookouts to the Dreaming trails that pass beyond the Tuggeranong Valley and are part of the network of Dreaming places, song lines and pathways that cross the entire continent. The sites identified during this survey need to be further investigated to understand them in terms of local and universal significance and physical and spiritual qualities so that their social value can be fully appreciated. The value of these features is enhanced by the fact that they can still be investigated and measured in their relatively intact landscape context inclusive of evidence of early European occupation and activity. Vital factors for the analysis of overlapping cultural land use.