8 PINE GAP

Near Alice Springs the MacDonnell ranges are made up of a spectacular series of parallel sandstone or quartzite ridges. These strike east-west across the grain of the landscape and watercourses in the region have cut transverse gaps through them. The southernmost of the ranges forms the northern edge of the Brewer plain and here, near Pine Gap, is a locality known as Kweyunpe (cf. Spencer and Gillen 1899:288 Quiurnpa; Strehlow 1971:379 Kujunba; Smith 1983:32 Kuyunba).

Ceremonies associated with Kweyunpe were a prominent part of the large series of ceremonies witnessed in 1896 by Spencer and Gillen in Alice Springs (see Spencer and Gillen 1899:288-294,312-316 for a description of the ceremonies associated with the ilpmerke of Kweyunpe). Despite this there is little information regarding Aboriginal use of the Kweyunpe area. Spencer and Gillen record that;

> ...one particular group of "plum-tree" people [of Kweyunpe] is only, at the present day, represented by one solitary individual, and he is the proprietor of only a few square miles. (1899:9)

This suggests that the area was originally the reference site for an estate but that by 1896 the fortunes of the local descent group had already begun to decline. Presumably traditional land tenure was undergoing some rationalisation under the impact of European settlement, with neighbouring groups expanding their rights in land as demographic imbalances reduced the clan responsible for

Kweyunpe to a single individual. In light of this process it is not surprising that there is little information on traditional land use around Kweyunpe.

Although Kweyunpe may have been the reference site for an estate the area seems to lack the requisites for a basecamp as there is no reliable watersource nearby. Presumably Roe creek, a few kilometres to the east, is the more likely focus of occupation. Against this must be set statements by an informant[1] that the Kweyunpe area was a main camp during the wet season when water could be easily collected as runoff.

THE ARCHAEOLOGICAL SITES

The archaeological sites at Kweyunpe are located along a narrow valley separating the Mt Ertwa range from a low foothill ridge of Mereenie sandstone to the south. The low-lying areas at the western and eastern ends of the ridge consist of spinifex sandplain with groves of Acacia aneura, grasses such as Eragrostis eriopoda and scattered trees such as Eucalyptus terminalis (Bloodwood) and Capparis mitchellii (Native orange). The rocky slopes support Callitris columellaris, Eucalyptus papuana and Ficus platypoda.

At the western end of the ridge there are a series of small rockshelters which open to the north facing the main range. Several of these contain paintings (see Spencer and Gillen 1899:632 fig. 92) and some have sandy floors with debris from occupation. There is also an extensive light scatter of chipped stone artefacts and grindstones in this area with a grey, ashy

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1. Davey Hayes.

horizon present on the sandy flat near the rockshelters. In 1980 Napton and Greathouse (1985) excavated two of the rockshelters, Kweyunpe 1 and 2[1], at the western end of the ridge. Both are sites mentioned in the 1896 account. For instance, Kweyunpe 1 is identified as a rock formation representing the body of an ancestral being (1899:393 fig. 92) - one of the principal protagonists in the totemic accounts associated with the area - and Kweyunpe 2 contains the paintings illustrated by Spencer and Gillen (1899:393 fig. 92).

Halfway along the ridge there are a few very weathered engravings - mainly tracks and circles - near an ephemeral rockhole in the bed of a small creek.

At the eastern end of the ridge, about two kilometres from Kweyunpe 1 and 2, there is a second cluster of archaeological remains. This consists of a scatter of chipped stone artefacts and grindstones on a sandy flat below two small rockshelters. In July 1982 I excavated Kweyunpe 6, the largest of these rockshelters (see Smith 1983 for a preliminary report).

KWEYUNPE 6

Kweyunpe 6 is a small rockshelter (fig. 8.1) which overlooks the valley at a point where it begins to open out towards the east. A gap in the main range nearby provides easy access to country north of the range whilst the Brewer plain, to the south, is accessible with a short walk around the eastern end of the ridge.

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1. In the numbering scheme originally used by L. K. Napton and A. Albee in 1973 Kweyunpe 1 is site 106 and Kweyunpe 2 is site 107.

The rockshelter is formed by a single slab of sandstone, inclined at 45°, and has no obvious dripline (see fig. 8.2). It does not provide much shelter during wet weather nor, given its northerly aspect, does it provide much shade. Presumably its main attraction is that it provides a windbreak from the bitterly cold southeasterly winds that are a feature of winter weather.

The last phase of use of the shelter is recorded by a number of artefacts lying on the sandy floor. These include two metal dishes, pebble cores, grinding slabs, fire wood and a millstone (see fig. 8.2). One of the metal dishes is clearly a factory manufactured item as it has a pressed rim and a surface embossed with a "blister" texture. The other is a shallow dish roughly cut out of a fuel drum, and beaten into shape with the rim folded over. It is probably the product of a station workshop. A third dish, a metal plate, was also found further up the valley. Together these specimens suggest a date around 1930-1945 for the last use of the shelter. Quite possibly this reflects use of site during the period when there was widespread movement of Aboriginal people in towards the railway line and the military camps.

The rear wall of the shelter has a series of paintings in red, purple, yellow, grey and white pigment. The principal motifs are the polychrome arcs and ellipses familiar from Kweyunpe 2. There are also tracks and non-figurative motifs painted in red or yellow ochre.

EXCAVATION OF PIT F19

In July 1982 I excavated a 1 m^2 pit - designated F19 on a nominal site grid. In excavating at Kweyunpe 6 I sought to determine whether the sequence of occupation at this site showed

the same pattern of change that was evident at Kweyunpe 1 and 2. I had in mind the possibility that changes in use of these three obviously related sites might be complementary. In other words, I set out to investigate whether the focus of occupation had merely shifted from one site to another.

Stratigraphy and chronology.

In Pit F19 I distinguish three layers (fig. 8.3). Layer I is about 55 cm thick and contains the bulk of the charcoal, chipped stone artefacts and bone. The top 25-26 cm of the deposit, shown as layer Ia in figure 8.3 and table 8.1, is a consolidated fine dark grey to black sand with large amounts of charcoal (Munsell 5YR 4/4). This grades into layer Ib, a loose fine brown sand (Munsell 5YR 5/4) and this into layer II, a loose fine pink sand (Munsell 5YR 6/4). Layer II is 20 cm thick and has an abrupt texture boundary with layer III which consists of rounded sandstone rubble and large rocks in a matrix of fine orange sand (Munsell 5YR 6/6). Pit F19 reached bedrock at a maximum depth of 130 cm below the surface.

From my initial field observations I judged that the fill of the shelter would be simply an extension of the sandplain that it overlooks. However, this is clearly not the case. Throughout the deposit the sediment matrix is fine textured (70-80% fine to very fine sand; 12% silt/clay) and powdery and is weakly alkaline (pH 8.0 - 8.5) rather than acidic. My interpretation is that the

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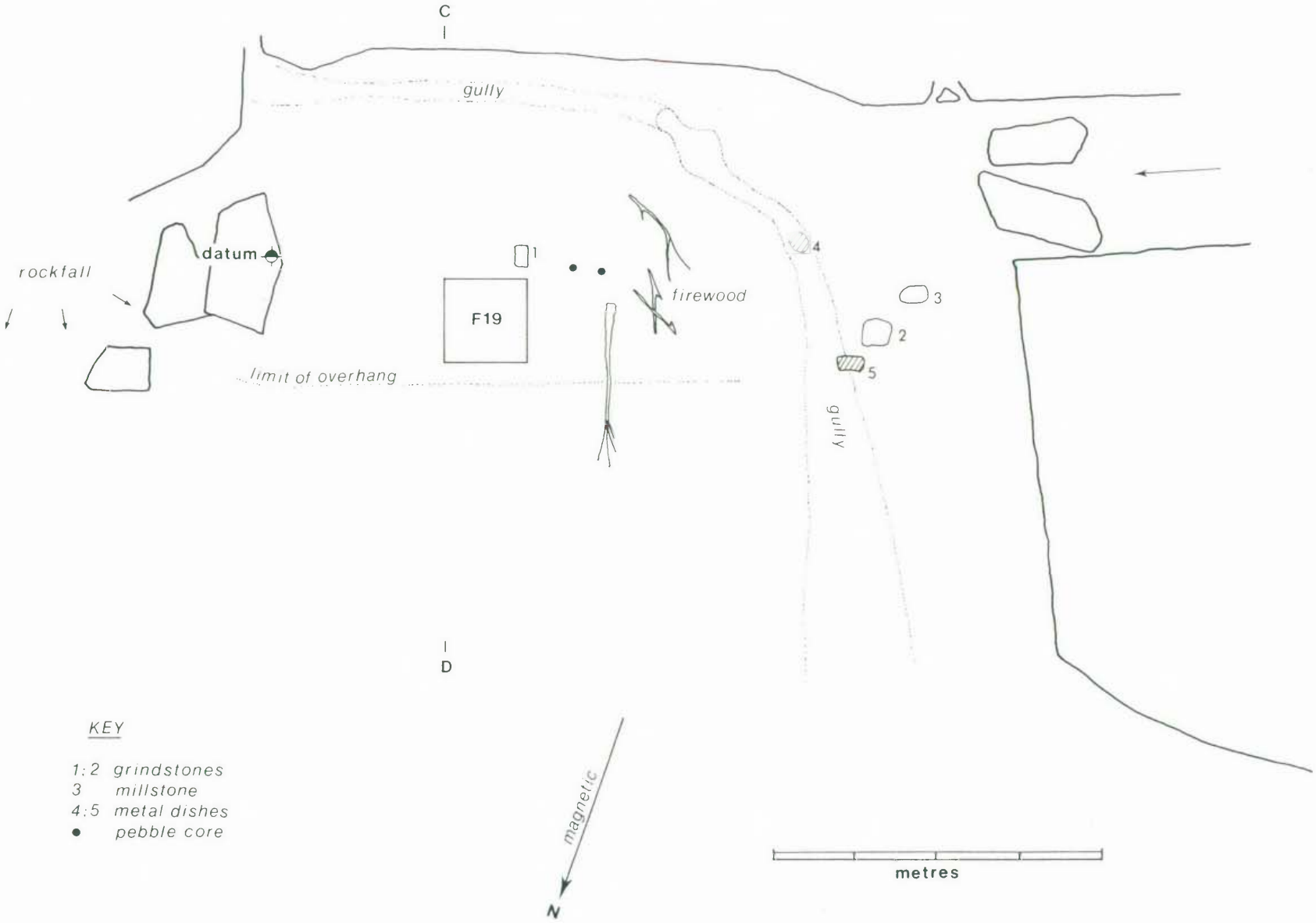
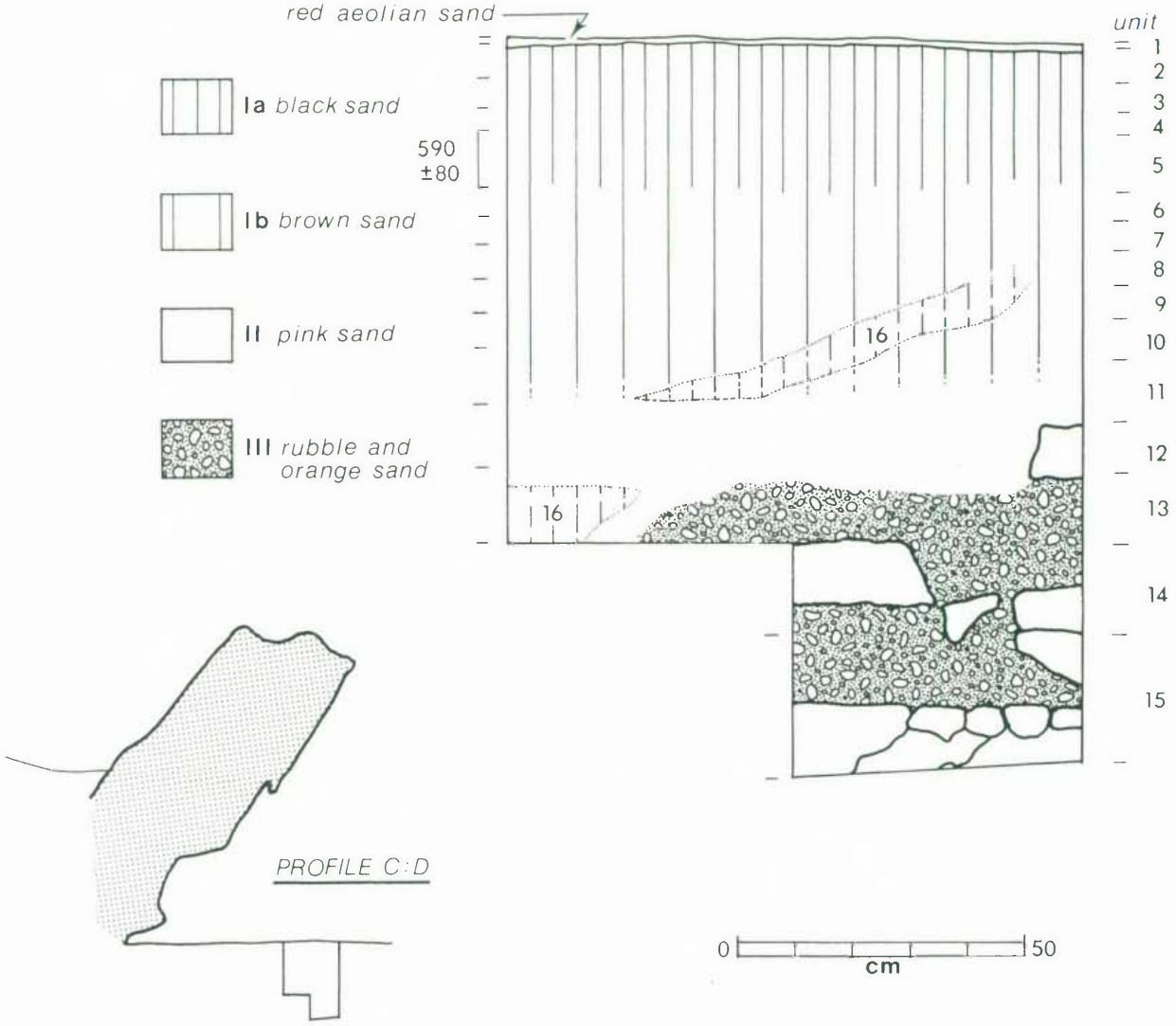
Overleaf **Figure 8.1 :** Kweyunpe 6 rockshelter. July 1982. View looking west. **Figure 8.2 :** Plan of the rockshelter showing the location of Pit F19 and the distribution of large grindstones, cores and metal dishes on the surface of the deposit. **Figure 8.3 :** Section drawing showing the stratigraphy in Pit F19, Kweyunpe 6.


C
gully
rockfall
datum
1
F19
firewood
4
3
2
5
limit of overhang
gully
D
KEY
1:2 grindstones
3 millstone
4:5 metal dishes
• pebble core
magnetic
N
metres

F19 west face



greater proportion of the sediment in the shelter is derived from the calcareous, stony, skeletal soils that are present on rocky slopes in the area (see Jackson 1962: map). The morphology of the shelter suggests that this sediment would wash into it (see fig. 8.2 and profile C:D in fig. 8.3)).

Tables 8.1 and 8.2 illustrate the differences in the constituents of the various layers.

Several other stratigraphic features warrant mention. The first is a thin layer of loose, red aeolian sand (Munsell 5YR 5/6), up to 20 mm thick, which covers the surface of the site. This did not contain any chipped stone artefacts, bone or charcoal. The large grindstones shown in fig. 8.2 rest on the surface of layer Ia and this aeolian layer has accumulated around them. This contrasts with the provenance of the metal dishes, the firewood and the pebble cores all of which appear to sit on the surface of the red sand. The significance of this is that it indicates that Kweyunpe 6 had already been unoccupied for some time prior to the occupation that left the pebble cores and dishes. Furthermore, the latest use of the site must have been fleeting because it did not result in the obliteration of this thin aeolian veneer.

The second feature is a burrow, labelled as unit 16, which extends into the western edge of Pit F19. It was infilled with dark sediment from layer Ia, and first appeared in the excavation in unit 9. It was ultimately traced to a point where it cut into the top of layer III.

Two radiocarbon samples were submitted from this site (table 8.3). Beta-5348, from unit 16 at the base of layer II, gave a date

Table 8.1 : Composition of the deposits. The terms rocks and rubble are defined in chapter 3. Depths are in cm below site datum.

unit	mean depth cm.	sediment gross wt kg.	rocks no.	rocks wt. kg.	rubble wt. kg	charcoal wt. g.	charcoal wt. g/kg sediment	bone wt. g.	bone wt. g/100kg sediment
aeolian veneer									
1	50	19.2	-	-	0.50	-	-	-	-
layer Ia									
2	53	75.2	8	0.5	0.25	577.5	7.7	5.6	7.5
3	59	64.6	10	0.5	1.60	433.3	6.7	4.3	6.7
4	64	57.1	-	-		461.1	8.1	4.9	8.6
5	71	104.5	42	3.6	2.90	574.2	5.5	25.7	24.6
layer Ib									
6	78	85.8	27	2.1	1.11	131.3	1.5	14.6	17.0
7	83	75.2	42	4.1	1.24	85.5	1.1	14.7	19.6
8	89	64.1	30	2.6	0.07	78.9	1.2	15.4	24.0
9	95	76.2	46	3.1	1.54	132.6	1.7	20.6	27.0
10	101	66.6	50	3.1	2.60	191.3	2.9	9.6	14.4
layer II									
11	110	136.7	97	11.6	5.84	177.5	1.3	9.3	6.8
12	120	125.6	126	11.1	8.37	93.5	0.7	1.6	1.3
layer III									
13	130	121.0	253	41.9	14.06	7.8	0.1	0.4	0.3
14	144	115.4	171	17.2	23.27	0.8	-		
15	161	85.6	--- figures not available ---						
burrow									
16	115		--- figures not available ---						

Table 8.2 : Summary of the differences between layers in Pit F19, Kweyunpe 6.

layer	rocks	rubble	charcoal	bone
	%	%	total wt g/kg	total wt g/100kg
Ia	1.4	1.6	6.4	12.6
Ib	4.1	1.8	1.7	20.4
II	8.7	5.4	1.0	4.2
III	25.0	15.8	-	-

Table 8.3 : Radiocarbon dates from Kweyunpe 6. Depths are in cm below datum. Figures in brackets give depths below surface.

unit	depth cm.		lab. no.	yrs. BP.
F19/5	66-75	(17-26)	SUA 2096	590+/-80
F19/16	134	(85)	Beta 5348	400+/-70

of 400+/-70 yrs BP. When this sample was submitted I could not be certain whether the lower part of unit 16 was an extension of the burrow or the remains of a small fireplace. During excavation a charcoal sample was carefully collected from this feature but due to an oversight I did not collect a complementary sample - absolutely excluding any material from the feature - from the sediment matrix of unit 13. At the time the sample was submitted for dating I considered it preferable to date charcoal from a specific feature rather than a general sample which might contain a mixture of charcoal from both the feature and the surrounding sediments. However, the resulting date is unsatisfactory in two respects. Firstly, it is clearly too young. Secondly, the uncertainty surrounding the identity of the feature limits the usefulness of the date.

To clarify both of these aspects I submitted a second sample, SUA 2096, from unit 5. My hypothesis was that if the feature was part of the burrow, infilled with charcoal rich sediment from layer Ia, then Beta-5348 should prove to be no older than SUA 2096. This turned out to be the case and I now dismiss Beta-5348 as a reliable estimate of the age of layer II.

SUA 2096 from F19/5 at the base of layer Ia implies a rate of sediment accumulation of about 37mm/100yr. By extrapolation I estimate that layer Ib began accumulating about 1400 yrs BP and that the basal age of layer II is about 2000 yrs BP.

The degree of latitude in calculations of this nature suggests that precise age estimates should not be taken too seriously. Nevertheless it is interesting to calculate the length of the occupation hiatus represented by the aeolian veneer on the

surface of the site. For instance, I estimate that this layer of red sand would have taken roughly 54 years to accumulate. If use of the shelter ceased in 1890, six years before Spencer and Gillen's visit, then the metal dishes and pebble cores on the surface represent brief use of the site in about 1944. This is in accord with my assessment of the age of the dishes (see above).

Charcoal.

Figure 8.4 and table 8.2 show that layer Ia has a very high concentration of charcoal compared to the other layers. This is made up of large pieces of charcoal as well as finely comminuted material. Unlike other sites, the distribution of charcoal does not closely correspond with the distribution of either bone or chipped stone artefacts.

Chipped stone artefacts.

density

The distribution of chipped stone artefacts is shown in tables 8.4 and 8.5 and figure 8.4. The greatest concentration is in layer I which has about three times the number of artefacts per m^3 as layer II. Within layer I the density of chipped stone artefacts remains fairly constant throughout, with a small peak in unit 8 registering the presence of three large cores.

size

Table 8.5 shows the mean weight of chipped stone artefacts in each excavation unit. These values are consistently around 1 to 3 g. throughout the deposit, except for units 8 and 14. The former contains three cores which skew the values for mean weight in this

unit.

raw material

The most common raw materials in this assemblage are local silicified sandstone, fine grained grey to buff silcrete and chert (see table 8.6).

The silicified sandstone occurs as a low grade silcrete outcropping just east of the shelter. In its characteristics it is essentially a weak form of orthoquartzite.

There are two other types of silcrete present. The most common form is a grey or buff variety with a clear vitreous silica matrix, densely packed quartz grains and an excellent conchoidal fracture. The second type is present in only small amounts and consists of dispersed quartz grains set in an opaque, yellow/brown matrix. The three large silcrete cores from unit 8 are of the latter type of silcrete. Both types of silcrete are widely available near Kweyunpe 6 and are often found together. For instance, there are extensive outcrops about 5 km northeast of the site and a smaller outcrop 6 km west of the site.

The chert includes a variety of different types of raw material, including a grey chert, a greasy red chert and yellow/brown chert. The grey chert is available as nodules in the Bitter Springs formation of which the nearest outcrop is 4-5 km north of the site. The sources of the other cherts, and of the chalcedony, are not known but they are likely to derive from the

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Overleaf **Figure 8.4 :** Kweyunpe 6, Pit F19. Graphs showing the distribution of chipped stone artefacts, expressed in g. per kg. of sediment and number per kg. sediment; and charcoal in g. per kg. sediment; and of bone in g. per 100 kg. of sediment. Depths are in cm below site datum.

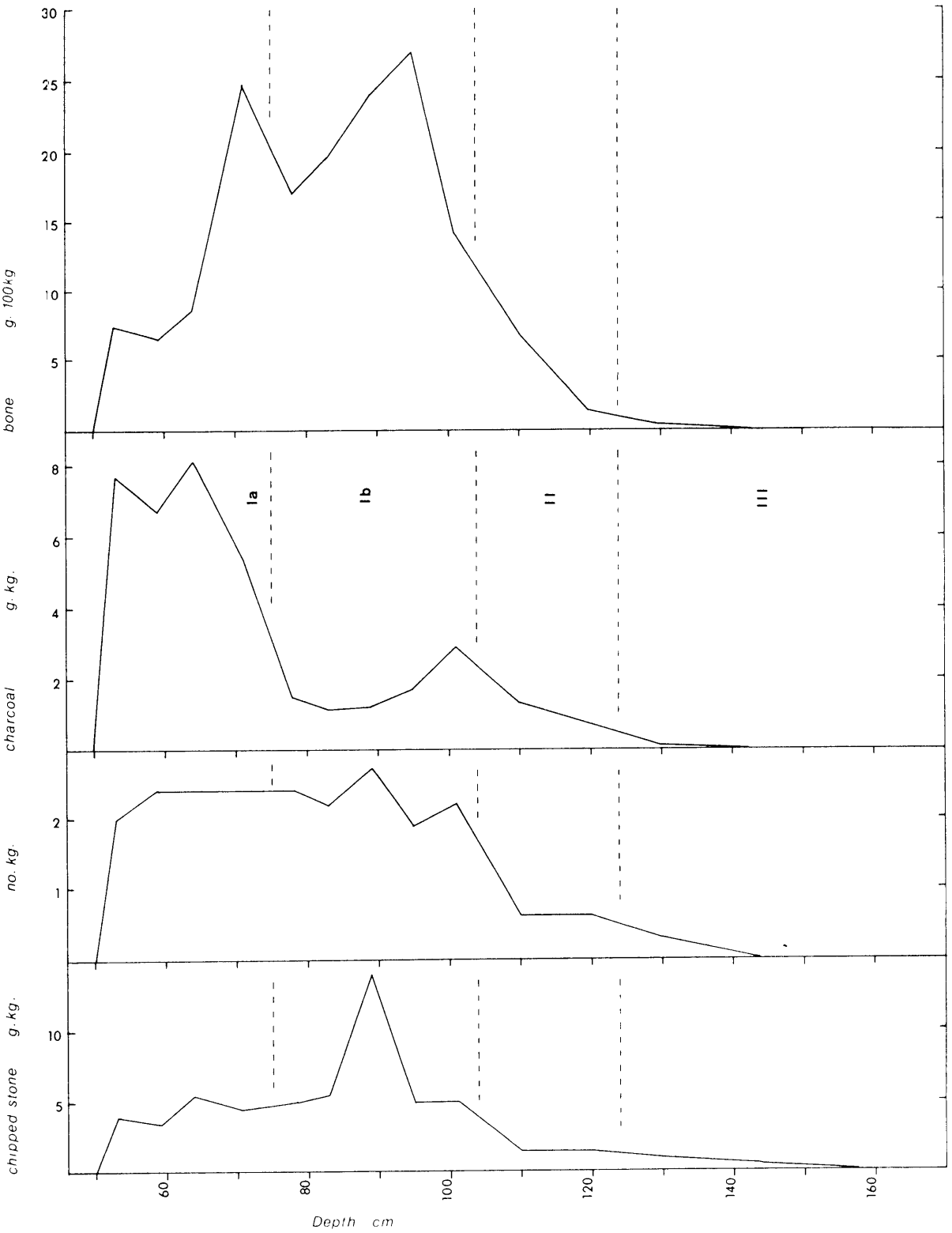
bone g. 100kg
charcoal g. kg.
no. kg.
chipped stone g. kg.
Ia
Ib
II
III
Depth cm

Table 8.4 : Comparative density of chipped stone artefacts in layers I-III.

layer	volume m^3	no. artefacts.	estimated no./m^3
Ia	0.26	696	2677
Ib	0.29	842	2903
II	0.20	159	795
III	0.28	38	136

Table 8.5 : The distribution of chipped stone artefacts, grindstones and ochre. (6mm sieve fraction).

unit	mean depth cm.	chipped stone artefacts					grindstones		ochre
		no.	wt g.	mean wt.g	wt. g/kg. sediment	no./kg sediment	no.	wt. g	wt. g
aeolian veneer									
1	50	-	-	-	-	-	-	-	-
layer Ia									
2	53	150	296.3	2.0	3.9	2.0	2	605.1	9.0
3	59	156	235.0	1.5	3.6	2.4	1	18.4	-
4	64	135	307.4	2.3	5.4	2.4	3	1064.5	0.1
5	71	255	469.8	1.8	4.5	2.4	1	399.7	0.4
layer Ib									
6	78	206	433.1	2.1	5.1	2.4	4	18405.2	1.0
7	83	168	412.0	2.5	5.5	2.2	2	593.0	10.7
8	89	175	884.4	5.1	13.8	2.7			
9	95	146	394.5	2.7	5.1	1.9			
10	101	147	324.5	2.2	4.5	2.2			
layer II									
11	110	86	194.1	2.3	1.4	0.6			
12	120	73	196.3	2.7	1.6	0.6			
layer III									
13	130	35	110.8	3.2	0.9	0.3			
14	144	3	35.3	11.8	0.3	-			
15	161								

Table 8.6 : The proportion of different raw materials, calculated as % of the total weight in each excavation unit. (6mm sieve fraction only).

unit	total wt. g.	quartz	chalcedony	chert	silcrete	silicified sandstone
2	296.3	11.5	1.6	7.4	30.6	48.9
4	307.4	1.3	3.6	14.1	34.5	46.5
6	433.1	2.7	2.7	6.2	29.9	59.0
8	884.4	1.5	1.3	7.0	70.6	19.5
10	324.5	0.4	3.4	5.3	11.5	79.5
12	196.3	-	2.1	10.6	14.0	73.1
13	110.8	0.2	2.6	22.6	5.0	69.6
14	35.3	-	-	-	41.5	58.5

Table 8.7 : Mean weight of artefacts in g. in Pit F19, comparing the different raw materials. Units 2,4,6,8,10,12,13 and 14 only. Note that the figures for silcrete exclude the three large cores of this material from unit 8.

raw material	mean wt.
chalcedony	0.7
chert	2.0
silcrete	2.1
quartz	1.5
silicified sandstone	3.2

various limestone and dolomite formations in the neighbouring ranges.

The quartz includes crystal, opaque white and ~~smokey~~ smoky varieties. The nearest source of the white quartz is in the Teppa Hill metamorphics which form the Sadadeen range on the outskirts of Alice Springs. No artefacts made of metaquartzite were recovered in the excavation. However, the two pebble cores on the surface of the site are probably of metaquartzite from the Chewings range.

There is little evidence for changes in raw material in the Kweyunpe 6 sequence. The overall proportion of cryptocrystalline materials (chert and chalcedony) to granular materials (silcrete and silificied sandstone) is stable throughout the occupation of the site. However, two minor changes are evident. Firstly, the use of quartz was most common in layer I and increased substantially in the closing phase of occupation represented by unit 2. Secondly, the use of silicified sandstone declined in layer I as more silcrete was used (see table 8.6).

manufacture

This small excavation recovered nine cores, made on chert, silcrete and silicified sandstone - the most common raw materials in the assemblage. These were reduced as either bifacial cores, multiplatform cores or as blade cores. Only one of the cores, a small blade core of silcrete from unit 11, was from below layer I. Unretouched blades are also present throughout layer I and in unit 11 of layer II.

As table 8.7 shows there is little difference in the use of different raw materials except for a weak trend towards greater reduction of high grade materials such as chalcedony.

typology

Table 8.8 shows the distribution of cores, redirecting flakes and retouched artefacts.

backed blades: The 11 backed blades in this assemblage are all from layer I and they are evenly distributed throughout the layer. These specimens include several irregular artefacts with short lengths of blunting retouch. These are best described as either informal backed artefacts or, in at least one case, as unfinished backed blades. In contrast to the low use of quartz at this site, four of the backed blades from layer Ib are made of this material suggesting that the quartz has been brought into the site as finished artefacts. Only one of the backed blades in this assemblage - KYB6/F19/3-1 (illustrated in fig. 3.7) - appears to have been made on a blade segment. The remainder are simply on small flakes.

tula adzes: Three tula adze slugs, all of chert, were recovered from layer I.

endscrapers: There are three endscrapers in this assemblage, one of them from unit 12 - the lowest unit with any retouched artefacts.

use-polished flakes: The single use-polished flake came from unit 3. It has a distinct bevel along one edge with transverse striations indicating use with a scraping rather than cutting action. Like most of the use-polished flakes in Central

Australian assemblages it is of fine-grained silcrete.

Grindstones.

The excavation produced 11 fragments of grindstones and 2 complete specimens (tables 8.5 and 8.9). Of this assemblage only one artefact can be positively identified as a seedgrinding implement. This is a muller from unit 4 (see fig. 8.5). However, almost all of the undiagnostic fragments have smooth well-ground surfaces with minor use-polish or silica gloss and are probably fragments of seedgrinding implements.

A complete millstone, with a shallow milling surface and rejuvenation stippling, was also found, face down, on the surface of the site (see fig. 8.2). Other specimens can be found in the valley below the rockshelter.

Of the three excavated specimens that I have classified as amorphous grindstones the most interesting is KYB6/F19/6-4. This is a large sandstone slab weighing 18 kg. It has a smooth well-ground patch in the centre of one face. Davey Hayes ventured that in his opinion it was used for "sharpening wood and grinding up things" and that it was not a seedgrinding implement.

During excavation the position of several grindstones in units 4 and 5 suggested some functional association. Two flat grindstone fragments, from different implements, were found laying face down. Nearby there was the muller and a small amorphous grindstone. In addition, the top of KYB6/F19/6-4, a large amorphous grinding slab, was exposed at this level. In a

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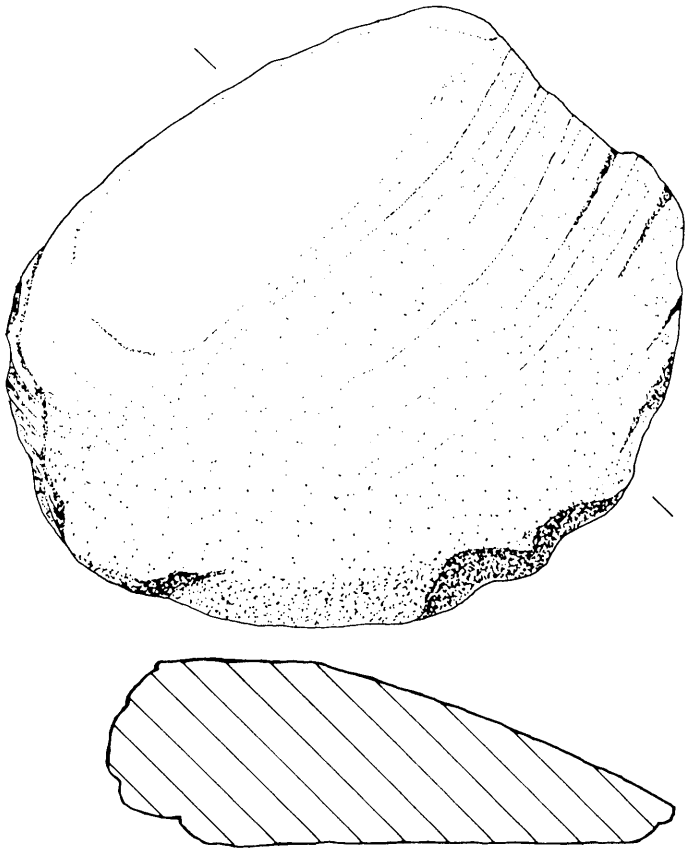
Overleaf **Figure 8.5 :** Complete muller from F19/4.



KYB6·F19·4·2

CM

Table 8.8 : The distribution of retouched artefacts, cores and redirecting flakes by excavation unit.

unit	backed blades	tula adzes	endscrapers	amorphous retouched	cores	redirecting flakes	use-polished flakes
layer Ia							
1	-	-	-	-	-	-	-
2	2	-	1	4	-	-	-
3	2	-	-	-	-	-	1
4	-	-	1	3	2	-	-
5	1	2	-	4	1	1	-
layer Ib							
6	-	-	-	10	-	1	-
7	2	-	-	5	-	1	-
8	4	-	-	-	5	-	-
9	-	1	-	3	-	-	-
10	-	-	-	3	-	-	-
layer II							
11	-	-	-	2	1	-	-
12	-	-	1	2	-	-	-

Table 8.9 : The typology of excavated grindstones.

unit	muller	amorphous artefact	undiagnostic fragment
layer Ia			
2	-	-	2
3	-	-	1
4	1	1	1
5	-	-	1
layer Ib			
6	-	1	3
7	-	1	1

preliminary account of the site I described this as an occupation floor (see Smith 1983:33-34) but it should be noted that this interpretation is based entirely upon the position of the artefacts rather than upon any microstratigraphic features.

Ochre.

Small pieces of ochre were present throughout layer I. The distribution of this material is shown in table 8.5. The most common type of ochre is a hard, bright yellow material with a sandy texture. However there is also a piece of fine, orange/red pigment from unit 6 and a piece of hard, fine textured, dark red pigment from unit 7.

Bone.

density

The distribution of bone is shown in table 8.1. The bone mainly consists of fragments, less than 30 mm long, of hard compact bone. There is little evidence of burning and no calcined bone is present. In contrast to the distribution of charcoal, the concentration of bone is greatest in layer Ib.

species identification

The only readily identifiable fragments are three teeth from units 5, 8 and 13. These are all from medium to large macropods, probably Macropus robustus.

THE KWEYUNPE SEQUENCE

At Kweyunpe 6 there is evidence of a substantial increase in intensity of site use from about 1400 yrs BP. This is marked by a

threefold increase in the density of chipped stone artefacts in layer I, and by the concentration of grindstones, ochre and bone in this layer. There is also an increase in the amount of charcoal in the deposit, though this is not as marked here as in other sites. The change is also registered in the proportions of different raw materials in the assemblage of chipped stone artefacts. For instance, small amounts of quartz are introduced in layer I and there is an increase in the use of silcrete in preference to the local silicified sandstone.

To judge from the stone artefacts the new pattern of site use was stable once established. For instance, there is little variation in the density of chipped stone artefacts throughout layer I. Furthermore, retouched artefacts, cores, grindstones and ochre are evenly distributed throughout the layer. However, a change in the proportion of charcoal and bone in the deposit is evident at about 600 yrs BP and indicates that some reorganisation of activities did occur within the accumulation of layer I. This is marked by a decrease in the amount of bone in layer Ia and a large increase in the quantity of charcoal. There are no corresponding changes in the stone artefacts within layer I and the significance of this change is not clear. It is unlikely to be simply the product of postdepositional weathering. For instance, whilst the charcoal might be expected to become more finely divided with depth and to be less efficiently recovered during excavation, the change in the colour of the deposits from dark grey to brown suggests that there is actually less charcoal in layer Ib. Nor does the increase in density of bone in layer Ib fit the pattern expected if postdepositional decay were the explanation. One could postulate that the presence of large

amounts of charcoal in the deposit has created conditions unfavourable for the preservation of bone in layer Ia. However, the evidence from other excavated sites, where the greatest densities of charcoal and bone occur together in the same levels, refutes this.

It is also unlikely that the change with layer I represents a simple shift in the focus of certain activities within the shelter - such as a change in the preferred location for hearths. For instance, the rockshelter has a floor area of only 35 m^2 and, where it is exposed, the charcoal rich deposit of layer Ia clearly extends across the site.

A comparison of Kweyunpe 6 with Kweyunpe 1 and 2 shows that all three sites record intensive occupation within the last 1400 years and that a simple lateral shift between the sites in the focus of occupation has not occurred.

Kweyunpe 1 is much lower than the other two sites and the deposit is essentially an extension of the sandplain rather than slopewash. The excavation (see Greathouse 1985:169-177; Napton and Greathouse 1985) reached a maximum depth of 130 cm and revealed a rich occupation layer resting on a layer of rockfall and weathered bedrock. If one allows for the reduction in the size of the excavation in the lower levels the density of chipped stone artefacts, grindstones and bone is fairly constant throughout the deposit. However, Greathouse (1985:172) also notes that the upper 40 cm of the deposit was rich in charcoal, with pieces more than 2 cm long present, and that the charcoal in the underlying levels was finely comminuted. A single radiocarbon date of 265+/-75 (Beta-4895) was obtained from charcoal at a depth of 40-50 cm

below the surface. From this I estimate that major use of the shelter began at about 600 yrs BP. It is worth noting here that over a hundred artefacts were recovered from the underlying rockfall layer indicating that the shelter was lightly used before this time.

The fill of Kweyunpe 2 rests on a rocky ledge about 3 m above the sandplain. The deposit is loose and dusty and appears to be mainly derived from weathering of the shelter walls. The 1980 excavation (see Greathouse 1985:184-195; Napton and Greathouse 1985) showed that about 50 cm of ashy occupation deposit rests on bedrock. Joint lines and crevices in the bedrock are filled with brown sand and rubble and a few artefacts. A radiocarbon date of 320+/-55 yrs BP (Beta-4896) from the basal rubble at a depth of 75-80 cm provides a terminus post quem for major use of this site.

The three excavated sites at Kweyunpe show that there has been a progressive increase in use of rockshelters in this area. At Kweyunpe 6 major occupation began about 1400 yrs BP, at Kweyunpe 1 at about 600 yrs BP and at Kweyunpe 2 sometime after 300 yrs BP. As the last two are known to be within the precincts of an important totemic site, increased use of the two rockshelters may mark an intensification of painting and other ritual activities associated with the area.