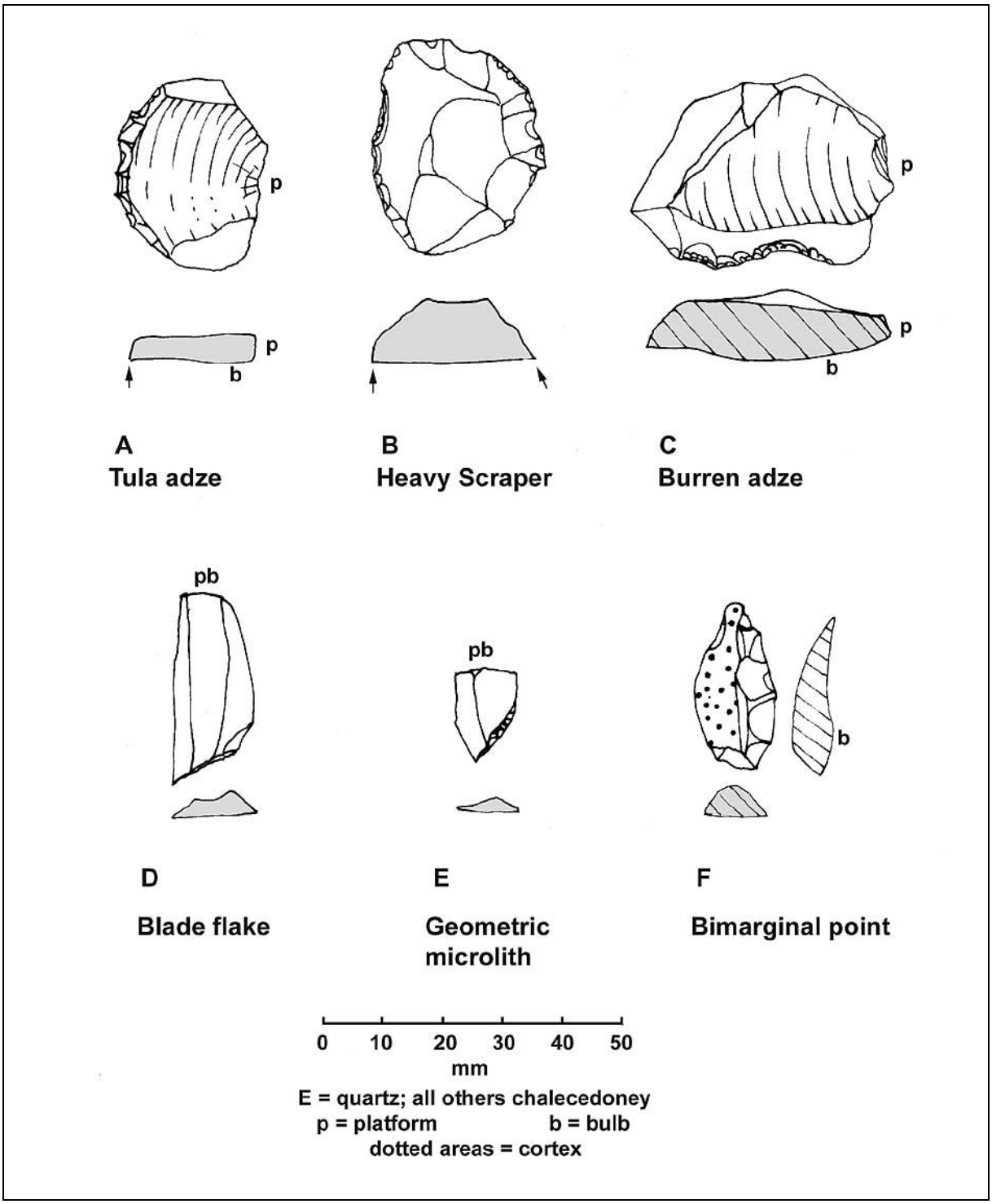


FIGURE 13: ***Anthere*** **select stone artefacts**

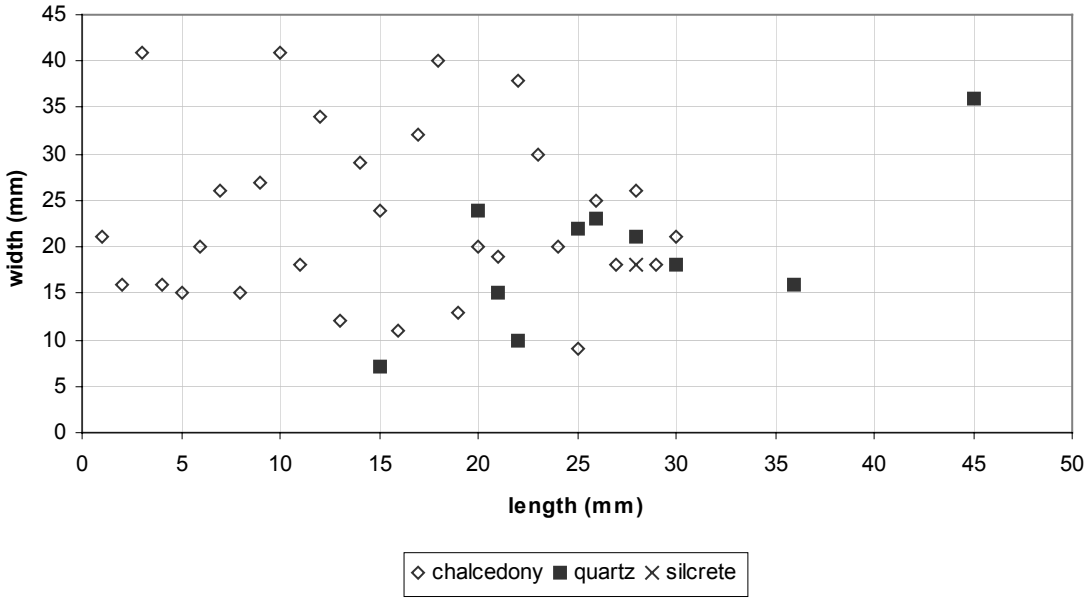


FIGURE 14: AC-1 flake length by width (whole flakes only)

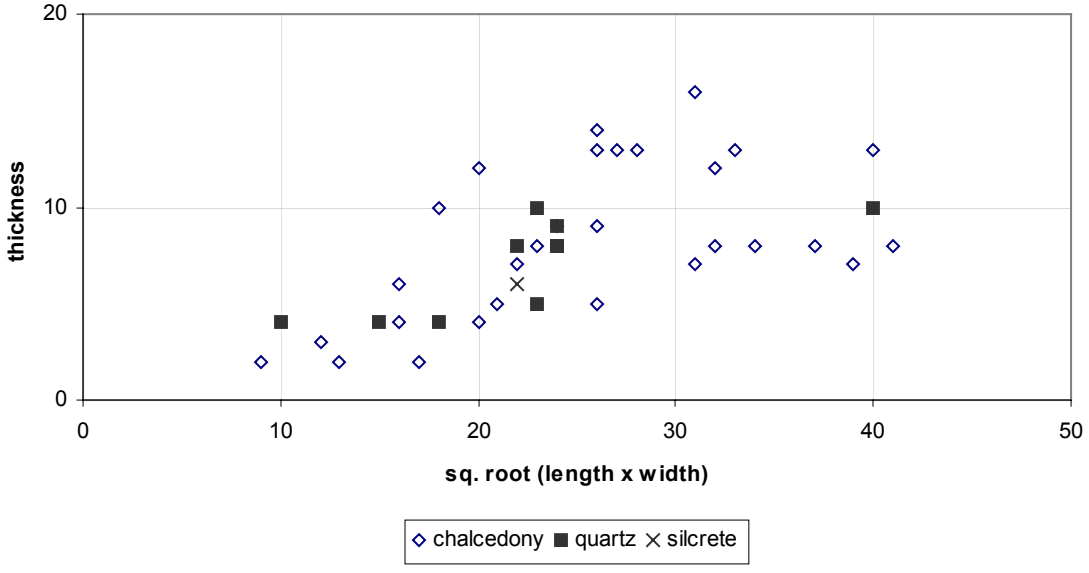


FIGURE 15: AC-1: reduction chart for flakes (whole flakes only)

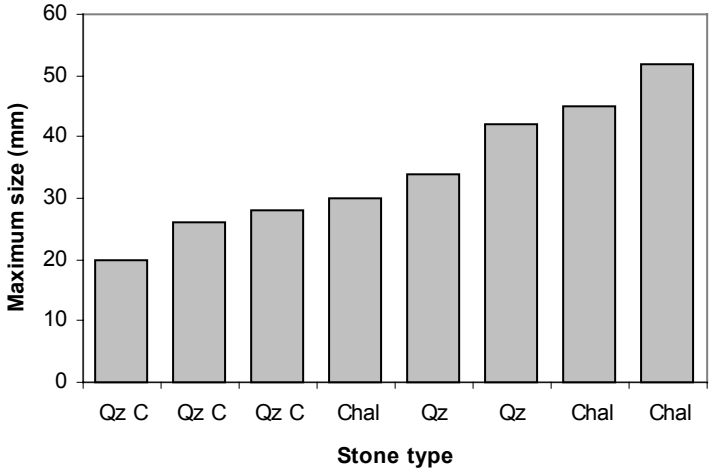


FIGURE 16: AC-1 cores: maximum lengths by stone type

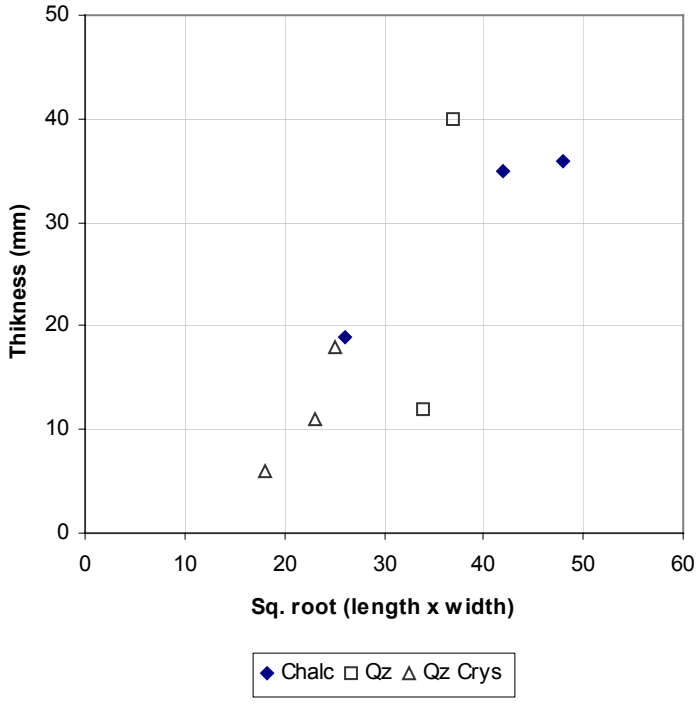


FIGURE 17: AC-1 reduction chart for cores

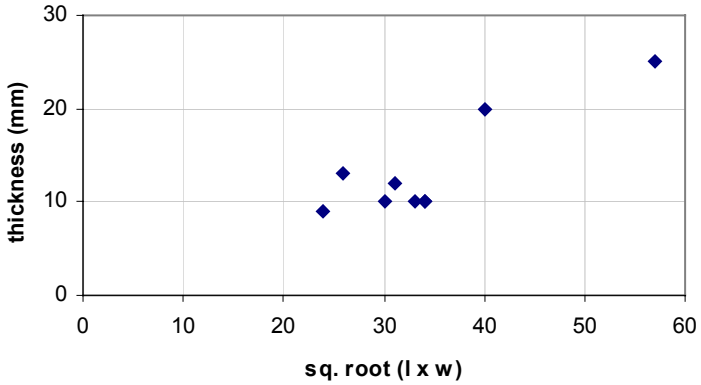


FIGURE 18: AC-1 reduction chart for "scrapers"

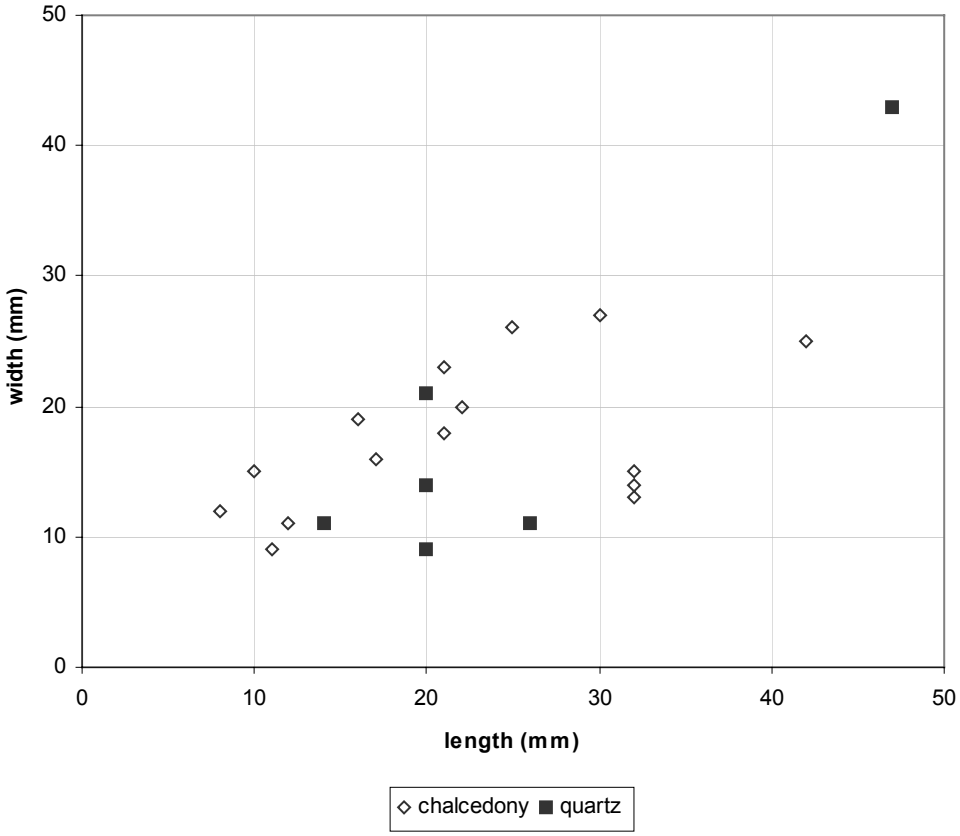


FIGURE 19: *Anthere* flake length by width (whole flakes only)

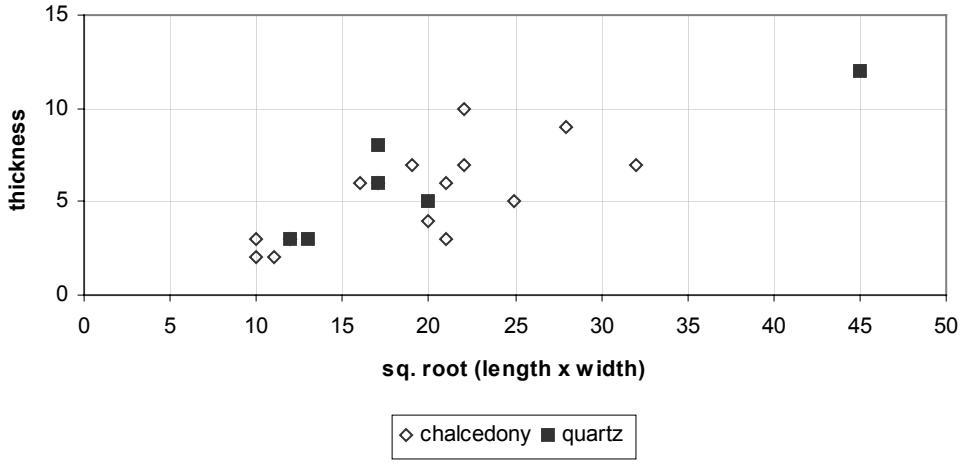


FIGURE 20: *Anthere* flake reduction chart (whole flakes only)

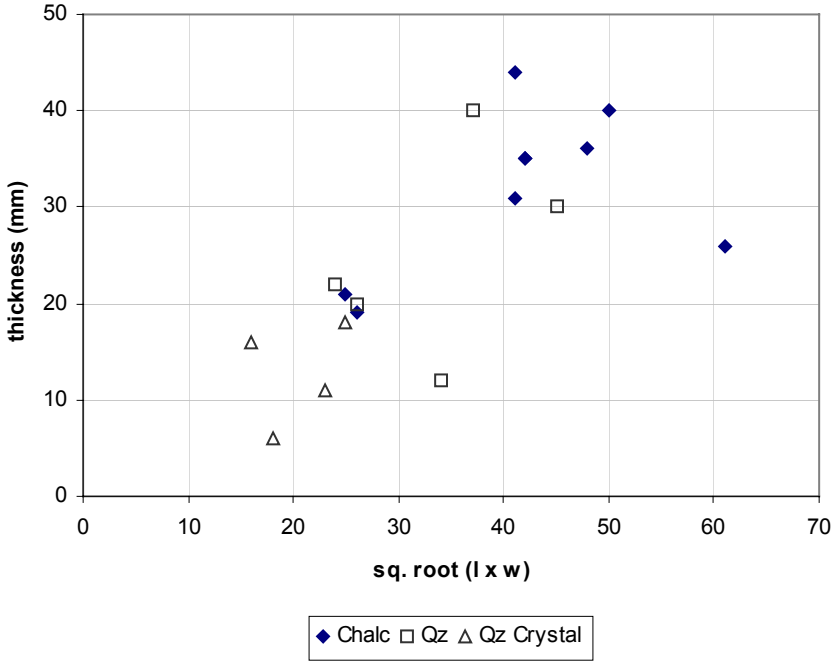
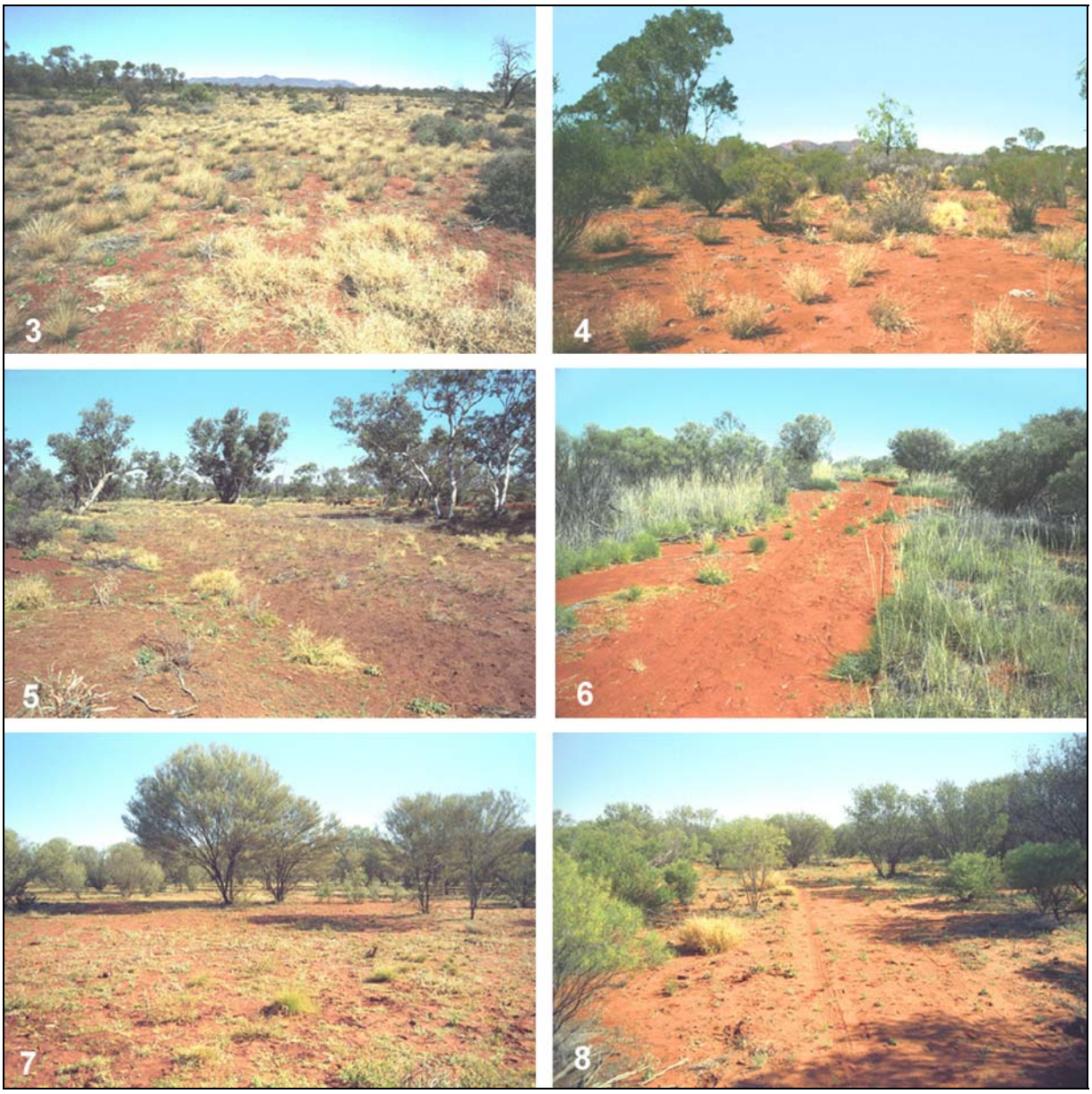


FIGURE 21: Core reduction chart (all cores)

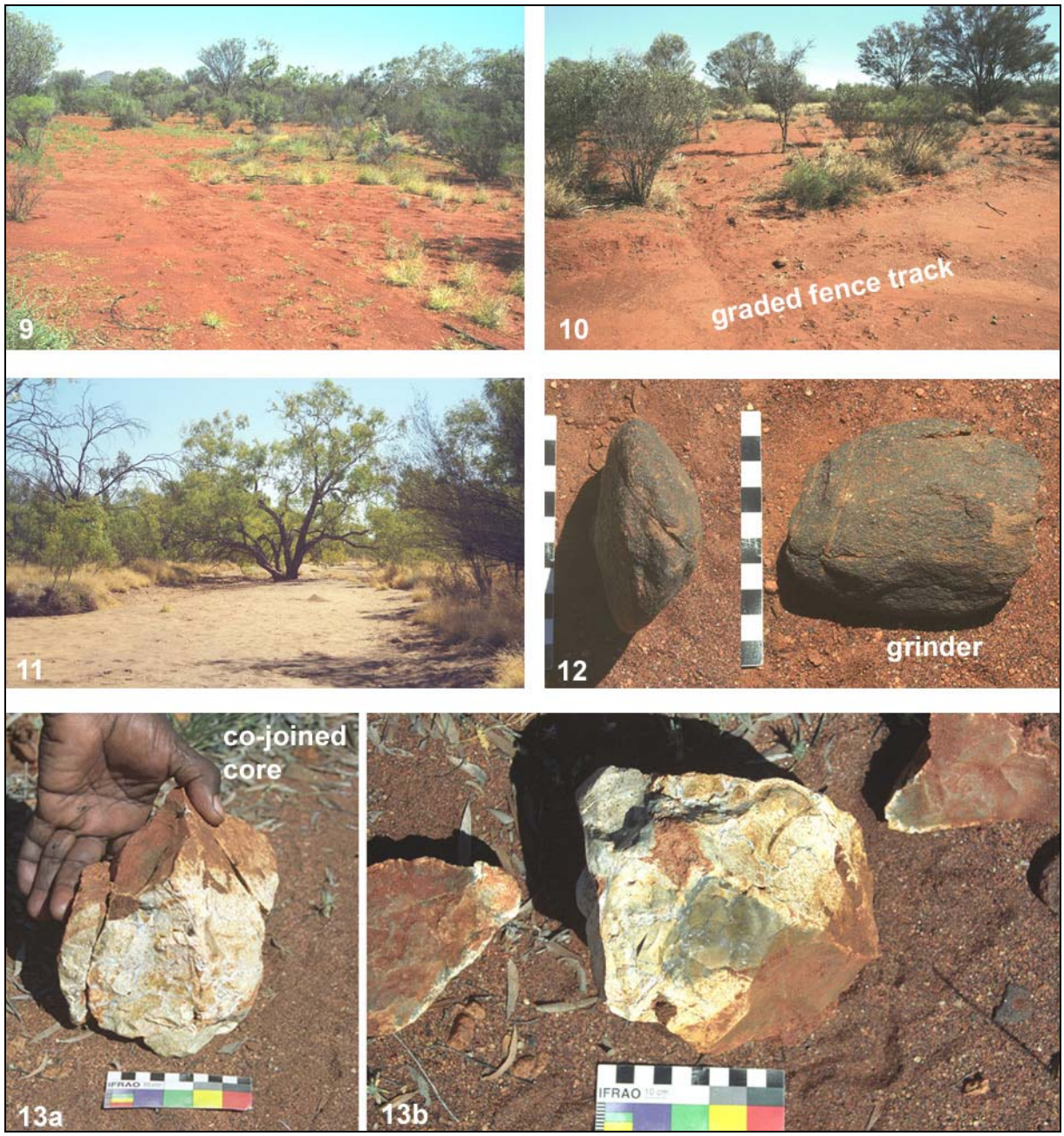
PLATE 1: The survey area looking west from the sand dunes across the sand plains to Aturga Creek with the Harts Range and Mt Riddock on the southern horizon

PLATE 2: Aturga Creek at the northern end of the survey area and adjacent to AC-2



LANDFORMS OF THE PROJECT AREA

PLATE 3: Floodplain with buffel grass
PLATE 4: Creek margin with scrub
PLATE 5: Floodplain adjacent to creek
PLATE 6: Sand dune with spinifex
PLATE 7: Sand plain with mulga stand
PLATE 8: Sand dune with scrub



ATURGA CREEK SITE AC-1

PLATE 9: Area of densest scatter to the east of the creek
PLATE 10: Eroded area exposing artefacts on the west side of the creek
PLATE 11: The coolibah tree at the heart of the site
PLATE 12: Gneiss grinder: profile and ventral surface
PLATE 13a: Chalcedony core with co-joined flakes
PLATE 13b: Core with flakes removed

PLATE 14: AC-2 knapping floor
Chalcedony core and flakes

PLATE 15: Potential site (PHS) in and around a stand of gidgee

PLATE 16: Scarred tree site AC-3.
An old coolibah tree within the bed of Aturga Creek

PLATE 17: Anthere claypan from the north

PLATE 18: Anthere: eroded eastern gully with principal surface scatter

PLATE 19: Grinder and two grindstone fragments (left dished; right flat)

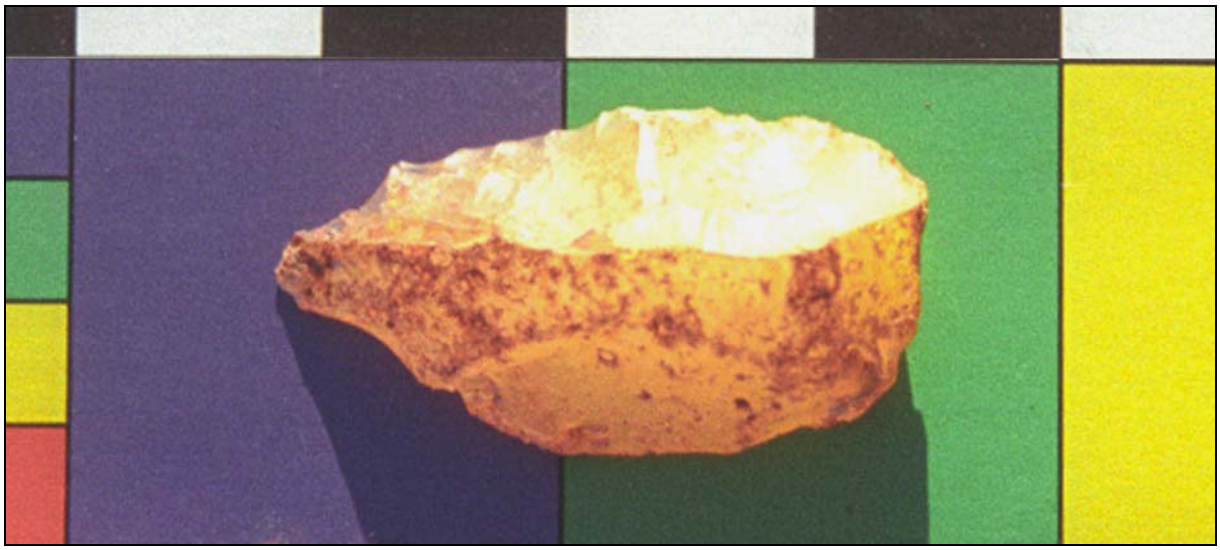


PLATE 20: Anthere: chalcedony bimarginal point with pebble cortex

8 SIGNIFICANCE ASSESSMENT

8.1 Aboriginal significance

Today, none of the archaeological sites along Aturga Creek have particular Aboriginal significance.

8.2 Archaeological significance

Anthere is accorded a high archaeological significance on account of its considerable archaeological potential, both in regard to its sub-surface deposits and in the nature of its surface material.

Site AC-3 is accorded a high archaeological significance, as few scarred trees have been recorded in the region. This significance may decrease with further archaeological survey within the region.

Site AC-1 is accorded a moderate significance pending an assessment of its sub-surface content. Further analysis of the surface material is also warranted.

Site AC-2 is accorded a low significance on account of the low number of artefacts it contains and doubtful sub-surface potential.

The areas of background scatter are not of particular academic significance as they reflect the stone types located within the greater concentrations mentioned above.

8.3 Heritage significance

The archaeological sites do not have Heritage significance nor do they have potential for educational purposes.

9 CONCLUSION

The survey located two light concentrations of stone artefacts (AC-1 & 2), a scarred tree (AC-3) and a potential occupation site (PHS) within the survey area, and a sizable scatter at *Anthere* claypan. A very light scatter of stone artefacts was recorded in most exposed areas along the margins of Aturga Creek. These were not seen as representing any repeated focus of Aboriginal occupation or activity and are therefore considered to be "background scatter". Such artefacts are of little archaeological value.

The pattern of occupation represented here reflects the proposed model of Aboriginal occupation of the Central Australian ranges (Smith 1988; Thorley 1998a & b; Barton 2003). Site AC-1 equates with Barton's "camp: short term" and *Anthere* his "camp: extended (wet), short-term (dry)". However all of the sites here are well below the artefact densities recorded by Barton from his sample sites in the Simpson Desert (Barton 2003).

A scarred tree was recorded just south of the highway crossing of Aturga Creek. It most probably was produced in the preparation of a coolamon (carrying dish). While these were probably cut by men, they were mostly used by women and therefore suggest a family group camped in the vicinity at the time of the scarring.

10 RECOMMENDATIONS

From the findings of this survey, it is recommended that the development proceed within the designated area but that:

- **Sites AC-1 and AC-3 be avoided by the development**.
- **If** destruction of site **AC-1** cannot be avoided, then a complete and systematic recovery of all surface material be undertaken and a series of at least four test pits be excavated across the site to ascertain the depth and integrity of its deposit and to attempt to recover and date any charcoal that might reflect the period of the sites occupation.
- Prior to the destruction of site **AC-2**, a complete and systematic recovery of all surface material be undertaken and a series of at least four test pits be excavated across the site to ascertain the depth and integrity of its deposit and to attempt to recover and date any charcoal that might reflect the period of the sites occupation.
- **Site AC-3 (scarred tree)** be preserved with no sand mining occurring under the tree canopy and not to within 50 m of the tree trunk.
- The deposits of **PHS** (at the gidgee stand east of AC-3) be test excavated to assess its potential.
- That an area of 500 m radius around ***Anthere* claypan** be designated a restricted area for the life of the mining project. This would prohibit any mining, access tracks, thoroughfare, or other associated works, within the designated area.

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APPENDICES

Appendix 1: AC-1 stone artefacts

Stone type	Artefact type	l (mm)	w	d	COMMENT			
Chalcedony	adze	58	56	25	tula adze			
Chalcedony	adze slug	35	45	20	tula adze slug			
Chalcedony	chip	17	15	5				
Chalcedony	chip	22	11	11				
Chalcedony	chip	12	11	3				
Chalcedony	chip	12	8	6				
Chalcedony	chip	15	11	3				
Chalcedony	chip	20	12	12				
Chalcedony	core	45	40	35	cube, prepared platform			
Chalcedony	core	52	45	36	prismatic core			
Chalcedony	core	22	30	19				
Chalcedony	flake	33	21	9	rejuvenation flake	p	b	
Chalcedony	flake	9	16	3	snapped flake	p	b	
Chalcedony	flake	26	41	13		p		
Chalcedony	flake	27	16	5		p	b	
Chalcedony	flake	32	15	8		p	b	
Chalcedony	flake	28	20	9				
Chalcedony	flake	29	26	13		p	b	
Chalcedony	flake	17	15	4		p	b	
Chalcedony	flake	36	27	7	decortification flake	p	b	ctx
Chalcedony	flake	25	41	8		p		ctx
Chalcedony	flake	23	18	4		p	b	
Chalcedony	flake	35	34	8		p	b	
Chalcedony	flake	22	12	6	decortification flake			ctx
Chalcedony	flake	46	29	8		p	b	
Chalcedony	flake	14	24	10	rejuvenation flake	p	b	ctx
Chalcedony	flake	16	11	2				
Chalcedony	flake	50	32	13	decortification flake			ctx
Chalcedony	flake	43	40	8		p	b	
Chalcedony	flake	32	13	12		p	b	
Chalcedony	flake	34	20	13	wedge shape			peb ctx
Chalcedony	flake	10+	19	5	snapped flake	p		
Chalcedony	flake	41	38	7			b	
Chalcedony	flake	32	30	16		p		peb ctx
Chalcedony	flake	25	20	7				
Chalcedony	flake	10	9	2		p	b	
Chalcedony	flake	1104	81	24	decortification flake			ctx
Chalcedony	flake	96	78	48	decortification flake			ctx
Chalcedony	flake	27	25	14	rejuvenation flake	p	b	
Chalcedony	flake	37	18	5	irregular shape	p		
Chalcedony	flake	40	26	12				
Chalcedony	flake	45	18	13				ctx
Chalcedony	flake	13	21	2	hinge flake, small platform	p	b	
Chalcedony	piece	13	11	2	ctx on narrow face			ctx
Chalcedony	piece	25	22	10				
Chalcedony	piece	31	12	6				
Chalcedony	piece	22	25	15				
Chalcedony	scraper	36	24	10	convex uniface			
Chalcedony	scraper	25	28	13	nosed, steep-edged uniface			
Chalcedony	scraper	30	37	10	notched, steep-edged uniface			
Chalcedony	scraper	38	25	12	convex uniface			
Chalcedony	scraper	29	20	9	convex uniface			
Chalcedony	scraper	32	22+	13	retouched flake; snapped			
Chalcedony	core	1350	1300	1200	nodule tested. Two cojoined flakes by core.			ctx

(cont).

Appendix 1: *(cont).*

Stone type	Artefact type	l (mm)	w	d	COMMENT			
Jasper	flake	28	18	6		p		
Jasper	piece	26	11	11	wedge shape			peb ctx
Quartz	core	42	32	40	prismatic core			
Quartz	core	34	34	12	split nodule			
Quartz	flake	28	21	9		p		
Quartz	flake	25	22	5				
Quartz	flake	36	16	8		p		
Quartz	flake	20	24	8		p		
Quartz	flake	45	36	10		p		
Quartz	flake	21	15	4				
Quartz	flake	15	7	4		p		
Quartz	flake	30	18	10				
Quartz	scraper	43	27	10	steep-edged uniface			
Quartz	scraper	43	27	10	convex uniface			
Quartz crystal	flake	22	10	4	crystal facet	p		
Quartz crystal	flake	26	23	8	crystal facet			
Quartz crystal	core	21	26	11				
Quartz crystal	core	22	28	18				
Quartz crystal	core	16	20	6	crystal facet			
Schist	grinder	90+	85	19	nardoo type			
Gniess	grinder	90	78	35	unifacial; two bevelled facets			

Appendix 2: AC-2 artefacts

Stone type	Artefact type	l (mm)	w	d	COMMENT			
Chalcedony	chip	15	14	4				
Chalcedony	chip	14	8	6				
Chalcedony	flake	33	20	11				
Chalcedony	flake	22+	35	7	snapped blade-flake	p	b	
Chalcedony	flake	55	36	15		p	b	ctx
Chalcedony	flake	54	47	13		p	b	ctx
Chalcedony	flake	50	48	13		p	b	ctx
Chalcedony	flake	43	35	10		p	b	ctx
Chalcedony	flake	40	39	11		p	b	
Chalcedony	flake	34	25	8	decortification flake	p	b	
Chalcedony	flake	34	30	18		p	b	ctx
Chalcedony	flake	31	31	9	hinge flake, small platform	p	b	ctx
Chalcedony	flake	30	25	6		p	b	ctx
Chalcedony	flake	26	21	3			b	
Chalcedony	flake	66	55	12	decortification flake	p	b	
Chalcedony	flake	40	23	10		p	b	ctx
Chalcedony	core	50	34	31	Multi-directional			
Chalcedony	core	33	50	44	Multi-directional plus workshop			ctx
Quartz	chip	15	14	9				
Quartz	flake	38	35	12		p		
Quartz	piece	18	12	8				
Qz-sandstone	grindstone	118+	77 +	26	bifacial saddle, polished			

p = platform, b = bulb, ctx = cortex

Appendix 3: PHS and isolated artefacts

PHS (Gidgee stand in loose sand with cow pats and leaf litter)

Flakes	Description	l	w	d	COMMENT			
Chalcedony	flake	24	25	7		p		
Chalcedony	flake	45	28	15		p	b	
Chalcedony	flake	15	12	2		p	b	
Quartz	flake	18	20	11	split pebble	p		peb ctx
Quartz	core	30	19	22	unidirectional			

Isolated artefacts

Flakes	Description	l	w	d	COMMENT			
Quartz	core	26	26	20	multidirectional			
Quartz	core	27	34	30	unidirectional			
Quartz	chopper	63	54	28	unifacial			ctx
Quartz	flake	26	23	8	Crystal qz			
Chalcedony	Scraper	32	22+	13	Retouched flake; snapped			
Chalcedony	Flake	43	31	10		p	b	
Chalcedony	Flake	40	26	12				
Chalcedony	Flake	26	32	7		p	b	
Chalcedony	Flake	26	16	5		p	b	

Appendix 4: Anthere stone artefacts

Cores and tools

	Description	l	w	d		Cortex	COMMENT	Easting	Northing
Cores									
Chalcedony	unidirectional	25	25	21		ctx	split nodule	75537	58998
Chalcedony	unidirectional	56	45	40		ctx		75724	58808
Chalcedony	unidirectional	62	60	26		ctx	seam	75645	58845
Qz	multidirectional	19	14	16			crystal	75644	58852
Qz	unidirectional	50	40	30				75666	58847
Tools									
Chalcedony	chopper	95	50	28			split nodule, steep-edged	75161	59073
Qz	geometric	15	11	4	p	b	microlith	75681	58836
Gneiss	grinder	80	87	32			unifacial; dished	75727	58802
Schist-qz	grinder	160	125	25			discoidal; unifacial; two facets	75579	58868
SSQz	grinder	60	53	18			bifacial	75628	58845
SSQz	grinder	95	75	22			unifacial, flat	75591	58863
granite	grindstone	210	185	50			unifacial; flat; bevelled edges	75661	58807
SSQz	grindstone	200	140	30			bifacial; flat	75400	58795
SSQz	grindstone	145	120	20			bifacial; one dished	75400	58795
unknown	grindstone	200	70	60			unifacial; flat; banded stone	75378	58717
unknown	grindstone	150+	113	30			unifacial; dished & pecked; banded	75661	58807
Chalcedony	point	25	14	8	b	p	bimarginal unifacial point	75661	58807
Chalcedony	scraper	24	30	7	p	b	tula adze	75705	58838
Chalcedony	scraper	10	6	2			unimargial retouch	75687	58841
Chalcedony	scraper	34	29	10	p	b	steep-edged	75624	58856
Qz	scraper	30	44	12	p	b	burren slug	75653	58813

(Cont.)

Appendix 4: Anthere stone artefacts (Cont.)

Flakes

Flakes	Description	l	w	d		Cortex	COMMENT	Easting	Northing
Chalcedony	chip	17	14	6				75679	58837
Chalcedony	chip	11	7	4				75685	58843
Chalcedony	chip	13	13	5				75666	58847
Chalcedony	chip	15	24	5				75636	58855
Qz	chip	15	9	5				75674	58846
Chalcedony	flake	22	20	3p	b	ctx		75719	58809
Chalcedony	flake	12	11	2p	b			75698	58831
Chalcedony	flake	32	13	4p	b		blade flk	75688	58832
Chalcedony	flake	21	18	7p				75680	58837
Chalcedony	flake	30	27	9p	b			75687	58841
Chalcedony	flake	16	19	6p	b			75675	58845
Chalcedony	flake	25	26	5p	b			75674	58846
Chalcedony	flake	10	15	3p	b			75666	58847
Chalcedony	flake	32	15	10			rejuvenation	75666	58847
Chalcedony	flake	8	12	3p	b			75666	58847
Chalcedony	flake	21	23	7p	b		hinge flk	75652	58849
Chalcedony	flake	11	9	2p	b		hinge flk	75652	58849
Chalcedony	flake	17	16	6				75653	58813
Chalcedony	flake	42	25	7p	b	ctx		75649	58818
Chalcedony	flake	32	14	6p	b			75197	58831
Qz	flake	26	11	8p			crystal quartz	75530	58878
Qz	flake	14	11	3p	b		crystal quartz	75530	58878
Qz	flake	20	21	5p				75745	58801
Qz	flake	47	43	12p				75727	58802
Qz	flake	20	9	3p	b		crys, blade flk	75698	58831
Qz	flake	20	14	6				75644	58852
Chalcedony	piece	42	23	15				75727	58802
Qz	piece	35	45	18				75727	58802
Qz	piece	22	15	8			crystal facet	75707	58817
Qz	piece	40	22	17				75686	58834
Qz	piece	40	30	30				75674	58846

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