APPENDIX 1.

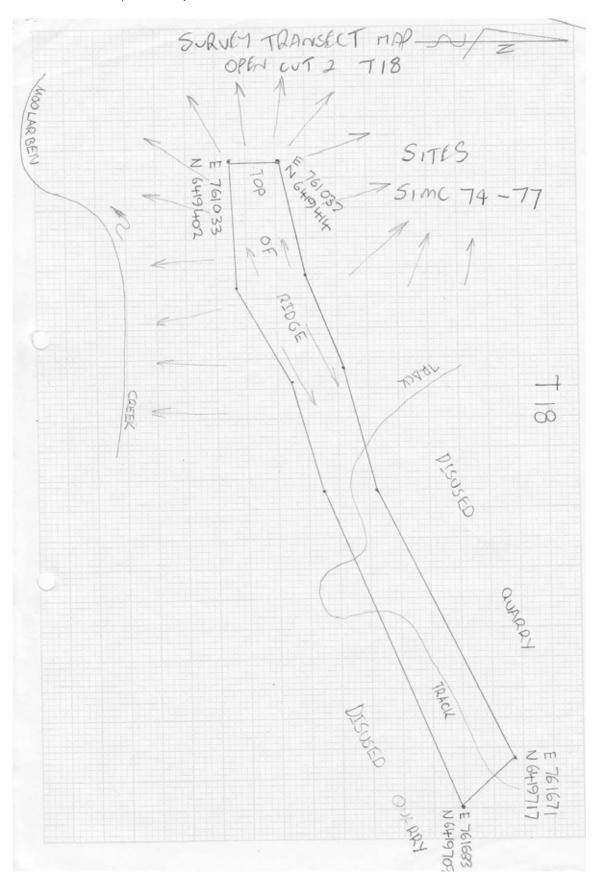
RELEVANT PREVIOUSLY RECORDED ABORIGINAL SITE RECORDS¹

¹ Courtesy OEH AHIMS and extracted from Hamm (2006a, 2008a) where information available.

Site Name	OEH AHIMS #	Site Type	MGA (GDA) Easting	MGA (GDA) Northing	Recorder	Significance	Current Management Status	Notes
S1MC077	36-3-0882	Isolated Find	761597	6419653	Hamm		Insitu ongoing risk for MCO	PPR says surface collection (but not reported as increased change). Stage 1 approval says conservation.
PAD 6 Moolarben Coal	36-3-0885	Rock shelter with PAD	761341	6420748	Hamm		Insitu ongoing risk for MCO	AHIMS listed with incorrect Datum, should be GDA not AGD. PPR says test excavation where monitoring indicates impacts are likely, Stage 1 approval says conservation.
PAD 12 Moolarben Coal	36-3-0958	Rock shelter with PAD	761318	6420832	Hamm		Insitu ongoing risk for MCO	AHIMS listed with incorrect Datum, should be GDA not AGD.

^{*}Extracted from MCC Aboriginal Site Database Revision 1, August 2012.

OEH #36-3-0882 (S1MC077)



OEH #36-3-0885 (PAD 6 Moolarben Coal)

No OEH site record.

OEH #36-3-0958 (PAD 12 Moolarben Coal)

No OEH site record.

APPENDIX 2.

ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

Key:

Vegetation: 1 = cleared/grass/crop; 2 = forest/bush/regrowth;

Land Surface: 1 = sheet erosion; 2 = gully erosion; 3 = stream bank erosion; 4 = vegetated; 5 = modified;

Erosion = E, Depositional = D, Uncertain = U;

Detection Limiting Factors: 1 = vegetation; 2 = leaf litter/gravel; 3 = sediment deposition; 4 = other.

of artefacts: Only relates to sites within present investigation area as recorded during current survey.

MOOLARBEN STAGE I OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

			_								.5										
Соттепс		tuff, gravel/tabular	open ironbark forest; minor natural tuff fragments, low quality	low potential; no major rock formations		dense leaf litter; some near level	creek; moderate potential: very	gentle in places, 2nd order lower	portion	tuff but mostly not good quality	abused and toloribe to the Court and and	to north area OC1						vegetated; tuff and cobbles			
Artefact Density/m² of Effective Survey Coverage													,		,						
Extent of Rock Outerop (%)	<10	V10	V10	<10	10-50	V10				10-50	10.50	00-00	10-50	<10	10-50	<10		10-50	10-50	10-50	<10
Воск Оитегор Готт	outcrop	outcrop	outcrop	outcrop	open surface, 1	open surface,	outcrop			open surface, 1	Ť		outcrop	boulder	outcrop	boulder	outcrop			outcrop	outerop
Воск Опістор Маїетіаї	sandstone, tuff	sandstone, tuff	sandstone	sandstone, tuff	sandstone	sandstone, tuff				sandstone, tuff	West conditions	SandSone, tun	sandstone, tuff	unknown	sandstone, tuff	sandstone, tuff	sandstone, tuff	sandstone, tuff cobbles	sandstone, tuff	tuff	sandstone
(sofie nogo) etoelofte to #	0	0	0	0	0	0				0	<	•	0	0	0	0	0	0	0	0	0
Effective Survey Coverage	_	20	06	420	20	06				240	60	00	30	150	24	15	120	06	80	09	64
Ground Disturbance	wol	wol	wol	wol	wol	wol				wo	To an	A C	wol	wol	wol	wol	wol	wol	wol	wol	wol
% vilidiziV lasigolosadəvA	2%	5%5	2%9	2%	2%	2				2%9	×87	0.00	2%9	2%9	2%6	2%9	10%	2%9	10%	2%	10%
Detection Limiting Factors	1,2	1,2	1,2	1,2	1,2	1,2				1,2		7,1	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Surface Visibility (%)	S	50	80	s	s	61				so.	v	n	S	S	S	80	10	'n	01	'n	10
(m) sərA əlqma8 latoT	200	400	1800	8,400	400	4500				4,800	1 200	00541	009	3,000	480	300	1,200	008'1	800	1,200	640
Exposure Type (Horizon)	A	4	<	<	<					4	4	<	٧	<	۷	<	<	<	<	4	<
Land Surface	4	4	4	1,4	4	4				1,4	4	7	7	2,3	4	3	4	4	1,4	4	4
Vegetation	2	5	7	7	7	7				63	,	4	2	2	7	7	5	2	7	2	5
Order of Watercourse	N N	K				2nd				Jsc.				IX					K	<u>15</u>	1st
Distance to Water (metres)	\$0	<\$0	>50	>50	<\$0	0\$>				0\$	260	000	>50	<\$0	0\$>	<\$0	\$0	>50	<\$0	\$0 \$0	<\$0
Stope	moderate	moderate	level - very gentle	moderate	moderate	gentle				moderate	an ordered assets	modelate	gentle	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate
Landform Element	sbar crest	drainage depression	ridge crest	simple slope	drainage depression	drainage	nebression			simple slope	proses assess	spur crest	sbnr crest	drainage depression	simple slope	drainage depression	simple slope	sbar crest	drainage depression	simple slope	drainage depression
вэлу хэлтгэ	_	2	3	4	\$	9				7	0	¢	6	10	Ξ	12	13	14	12	91	11

MOOLARBEN STAGE I OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

				_		_	_					_		_	_
Соттепія	abundant tuff, but mostly low quality, several minor rock walls, no shelters, high disturbance in places from former roads to quarry	ironbark, mostly regrowth; good view from west end; minor tuff extraction at end; tracks, fair bit of sandstone at spur 6423050N; quarry at 9780:3037; vehicle track; boulder outcrop begins at 106.476, ends	no durable surfaces for grooves	30m wide modified from quarry				high disturbance from old quarry; tabular sandstone/tuff	low potential, several rock walls and open surfaces, all straight-walled						
Artefact Density/m² of Effective Survey Coverage		<0.001										١.			
Extent of Rock Outerop (%)	0-20	10-50	10-50	10-50	10-50	10-50	10-50	10-50	10-50	10-50	10-50	0[>	01×	<10	<10
жоск Оиterop Form	do	open surface, outcrop	outcrop	outcrop	outerop	outcrop	douttoo	outcrop	open surface, l outcrop, rock walls	scarp, rock walls,	boulder, outcrop	outcrop	dougno	outcrop	outcrop
Rock Outerop Material	sandstone, tuff	sandstone, tuff	sandstone tuff	sandstone tuff	sandstone, tuff	sandstone, tuff	sandstone, tuff	sandstone, tuff	sandstone	sandstone, tuff	sandstone, tuff	sandstone	sandstone	sandstone	sandstone
(sotis noqo) stanlotte (o	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Effective Survey Coverage	10	1,600	210	52	30	140	40	520	140	30	320	20	80	50	15
Ground Disturbance	low, high	low- high	low	wol	low	low	wol	low, high	low	wol	wol	wol	wol	wol	low
Archaeological Visibility %	2%	is.	9601	29%	10%	2%	2%	10%	23%	3%	9601	2%	%5	29%	5%
Petection Limiting Factors	1,2	1.2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Surface Visibility (%)	v2	5	9	s.	15	S	S	10	8	s,	2	S	s	s	S
(m) sərA əlqma2 IstoT	000'9	32,000	2,100	1,040	300	2,800	800	5,200	2,800	009	3,200	400	1,000	1,000	300
Exposure Type (Horizon)	<	<	<	<	<	<	٧	٧	٧	<	<	<	<	٧	<
Land Surface	4	8,5	4	4,5	4	4	4	4	+	4	4	4	4	*	4
Vegetation	2	2	2	61	2	2	2	2	5	2	2	61	61	23	2
Order of Watercourse			18		18										
Distance to Water (metres)	>50	>20	0\$0	280	-20	0≎	>20	>50	->0		900	×50	0\$	0\$	>50
Slope	moderate	gende	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate	moderate
Landform Element	simple slope	ridge crest	drainage depression	simple slope	drainage depression	simple slope	spur crest	simple slope	drainage depression	simple slope	simple slope	spur crest	drainage	simple slope	spur crest
Bary yayıng	81	<u>6</u>	20	21	22	23	24	25	26	27	28	29	30	31	32

MOOLARBEN STAGE I OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

Соптепт	a number of boulders; low rock walls but no shelters; overlooks Moolarben Valley		some large boulders, outcrops and overhangs; several rock shelters but not habitable; several trees with scars but not Aboriginal; old fences			wombat burrows; low to moderate potential but long way from main creek; lower portion of slope outside mine lease	wombat burrows	exposure, abundant natural quartz gravel - waterworn, mostly small; low spur, open near draininge; several shattered quartz pieces but no definite artefact attributes		some bedrock in creek but no grooves	number of large rocks, walls/scarps mostly straight; some hollows but roos/wombats only - rocky floors/no PADs
Artefact Density/m ² of Effective Survey Coverage	١.		0.012								
Extent of Rock Outerop (%)	10-50	10-50	10-50	<10	<10	<10	<10		10-50	10-50	>50
Воск Опістор Ротп	boulder, outcrop	boulder, outcrop	boulder, outcrop	boulder, outcrop	boulder, outcrop	outcrop	douptno		scarp, open surface, boulder, outcrop	open surface, boulder, outcrop	scarp, boulder, outcrop, rock shelter, overhang
Rock Outerop Material	sandstone	sandstone	sandstone	sandstone	sandstone	sandstone	sandstone		sandstone	sandstone	sundstone
(sotis nope) storiotra to 2	0	0	-	0	0	0	0	0	0	0	0
Effective Survey Coverage	160	64	80	20	150	32	09	96	100	80	120
Ground Disturbance	low	wol	low	low	low	low	low	low	low	how	low
Archaeological Visibility %	3%	10%	5%	5%	5%	5%	2%5	10%	5%	%8	3%
Detection Limiting Factors	1,2	1,2	1,2	1,2	1,2	1,2	1,2	-	1,2	1,2	1,2
галдасе Дігірійіў (%)	s.	10	s	5	5	S	5	10	5	s.	S
Total Sample Area (m²)	3,200	640	1,600	400	3,000	640	1,200	096	2,000	1,600	2,400
Exposure Type (Horizon)	<	<	<	٧	٧	٧	<	<	<	₹	<
Land Surface	4	4	4	4	4	4	4	1,4	4	4	1,4
Vegetation	7	2	2	2	2	1,2	1,2	1,2	2	2	2
Order of Watercourse		<u>#</u>			<u>R</u>					<u>18</u>	
Distance to Water (metres)	>50	<\$0	<\$0	>50	<50	<\$0	<\$0	<\$0	<\$0	<\$0	<\$0
Slope	moderate	moderate	moderate	moderate	moderate	gentle	gentle	gentle	moderate	moderate	moderate
Landform Element	simple slope	drainage depression	simple slope	spur crest	drainage depression	simple slope	drainage depression	spur crest	simple slope	drainage	simple slope
выгуеу Агев	33	34	35	36	37	38	39	40	41	42	43

MOOLARBEN STAGE I OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

					due:	2544	and but	small	rest				۸,		
Соттепт		no open surfaces/grooves			gnassy paddocks at base of steep slope/valley side; minor exposure; animals, erosion	ML border peg at 760311.6422544	some large boulders, outcrops and overhangs, some rock shelters but not habitable	grass trees, regrowth forest in small portion	dense grass, minor regrowth forest				quarry (712/393) - no horizon A, modified		
Ейесйче Survey Coverage	H	ou			S S S	M	08 8 08	ns od	de				B W		
Artefact Density/m ¹ of	١.				•			•	•	•					•
Extent of Rock Outerop (%)		>20	>20	10-50		10-50	10-50	10-50	10-50	10-50		10-50	>20	10-50	
вточ Оптегор Рогт	outcrop	boulder, outcrop	scarp, boulder, outcrop, rock shelter	open surface, boulder, outcrop		scarp, open surface, boulder, outcrop	boulder, outcrop	boulder, outcrop	outcrop	ontcrop		boulder		boulder, outcrop	outcrop
Воск Опестор Мяента	sandstone	sandstone	sandstone	sandstone		sandstone, tuff	sundstone	sandstone, basalt	sandstone, basalt	sandstone, basalt		sandstone, tuff	sandstone, tuff	sandstone	sandstone
# of Artefacts (open sites)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Effective Survey Coverage	00	13	45	09	80	280	32	14	9	4	6	240	50	140	82
Ground Disturbance	wol	wol	how	low	low	low	low	wol	wol	wol	wol	wol	low, high	wol	wol
Атспаеододіса! Уізібійіуу %	5%	8%8	8%8	5%6	2%	5%6	5%6	2%	1%	1%	1%	10%	0-5%	10%	2%
Detection Limiting Factors	1,2	1,2	2	1,2	-	1,2	1,2	1,2	_	_	-	1,2	1, 2, 4	1,2	1,2
Surface Visibility (%)	s	s	s.	s.	2	s,	v.	2	_	_	_	01	2-90	10	2
(m) sənA əlqms2 lstoT	3,600	300	006	1,200	4,000	2,600	800	720	009	480	300	2,400	2,000	1,400	4,100
Exposure Type (Horizon)	ď	٧	<	∢	<	<	<	٧	٧	٧	<	<	٧	٧	٧
Land Surface	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4
Vegetation	2	5	2	2	2	2	2	1,2	1,2	1,2	1,2	2	1,2	2	2
Order of Watercourse		7d		18							-	-		-	
Distance to Water (metres)	×50	0\$	0\$>	0\$0	>20	>20	0\$○	>20	>20	>20	0≎	0≎	>20	-20	0\$○
Slope	gentle	moderate	moderate	moderate	gentle	moderate	moderate	moderate	gentle	moderate	gentle	moderate	gentle	moderate	gentle
Landform Element	ridge crest	drainage depression	spur crest, simple slope	drainage depression	simple slope	simple slope	sbar crest	simple slope	sbar crest	simple slope	drainage depression	simple slope	ridge crest	simple slope	drainage depression
выгу лея	44	45	46	47	48	49	90	51	52	53	54	55	99	57	88

MOOLARBEN STAGE 1 OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

ı														
	Сопппепе			abundant tabular tuffaceous stone, sandstone; high quality tabular tuff			pine regrowth			possible nodular ochre source; high quality tuff	large rock wall 5-10m high, scarp mid-slope; one shelter but mostly straight-walled		rock walls, few searps, very few shelters, mostly straight-walled	
	Artefact Density/m² of Effective Survey Coverage													
İ	Extent of Rock Outerop (%)	10-50		>50	<10	<10	<10	<10	<10		10-50	>20	>20	>50
	Воск Опетор Form	scarp, boulder, outuerop	onterop	boulder, outcrop	scarp, boulder, outcrop	scarp, boulder, outcrop	onterop	scarp, boulder, outcrop	scarp, boulder, outerop	onterop	scarp, boulder, outcrop	boulder, outcrop	scarp, boulder, outcrop	scarp, open surface, boulder, outcrop
	Rock Outerop Material	sandstone, tuff	sandstone	sandstone, tuff	sandstone	sandstone	sandstone	sandstone	sandstone	sandstone, tuffaceous	sandstone	sundstone	sandstone, conglomerate	sandstone, conglomerate
	(estis nsqo) stanistik lo #	0	0	0	0	0	0	0	0	0	0	0	0	0
	Effective Survey Coverage (m.)	36	53	420	84	120	160	180	210	120	108	48	180	72
	Ground Disturbance	low	wol	low	low	low	wol	low	low	low	low	wol	low	low
	Archaeological Visibility %	5%6	2-5%	10%	5%6	8%	20%	S%6	5%6	20%	5%6	2%9	8%8	5%5
	Petection Limiting Factors	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
İ	Surface Visibility (%)	S	2-5	01	v	v,	20	'n	S	20	9	v,	v.	S.
Ì	Total Sample Area (m²)	1,120	1,400	4,200	096	2,400	800	3,600	4,200	009	2,160	096	3,600	1,440
	Exposure Type (Horizon)	٧	٧	٧	<	<	<	<	٧	<	٧	<	٧	<
	Land Surface	4	4	4	4	4	4	4	4	4	4	4	4	4
	Vegetation	2	2	2	7	61	7	2	2	73	2	6	2	2
	Order of Watercourse	-	-								-	-		-
	Distance to Water (metres)	0\$0	<50	>20	>20	>50	>20	>\$0	>50	>20	0\$○	0\$	0\$○	0\$
	ədols	moderate	moderate	doots	gentle	gentle	level - very gentle	gentle	gentle	moderate	doots	daots	steep	steep
	Landform Element	simple slope	drainage depression	simple slope	drainage depression	simple slope	hillock	ridge crest	ridge crest	spur crest	simple slope	drainage depression	simple slope	drainage
	гаглеў Агея	59	09	19	62	63	64	65	99	29	89	69	70	71

MOOLARBEN STAGE 1 OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

Соппиевіз	large wall at east end	large rock walls, pagodas at east end but all straight-walled	dense leaf litter, understorey	broad crest come simple slope on ridge					vehicle track, old logging area; conglomente pebbles	straight walled, low scarp at top	sandy; conglomerate gravels		large rock, boulders, rock walls but only small holes
Artefact Density/m² of Effective Survey Coverage													
Extent of Rock Outcrop (%)	0 0	10-50	01>	0I>	>50	>50	0 0	10-50	10-50	\$	<10	>20	>20
Воск Оцетор Form	scarp, boulder, outcrop	boulder, outcrop	dougeno	outcrop	searp, boulder, outcrop	scarp, open surface, boulder, outcrop	ontcrop	scarp, boulder, outcrop	scarp, boulder, outcrop	scarp, boulder, outcrop	dougno	searp, boulder, outcrop	searp, boulder, outcrop
Rock Outerop Material	sandstone	sandstone	sandstone	sandstone	sandstone, conglomerate	sandstone, conglomerate	sandstone	sandstone	sandstone	sandstone, conglomerate	sandstone	sandstone, conglomerate	sandstone, conglomerate
(estis naqo) statistita (open sites)	0	0	0	0	0	0	0	0	0	0	0	0	0
Effective Survey Coverage		48	30	120	78	30	180	75	1,460	240	200	55	180
Ground Disturbance	low	low	low	low	low	low	wol	wol	low, mod	low	low	low	low
Archaeological Visibility %	S%6	5%6	5%6	5%6	5%5	5%5	10%	S%S	30- 70%	5%5	10%	5%5	S%S
Petection Limiting Factors	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Surface Visibility (%)	s	s	s	S	2	5	92	S	30-80	v.	30	S	s.
Total Sample Area (m²)	720	096	009	2,400	1,560	009	1,800	1,500	3,800	4,800	2,000	1,080	3,600
Exposure Type (Horizon)	A	A	A	Α	٧	٧	Y	A	٧	٧	٧	A	V
Land Surface	4	4	4	4	4	4	4	4	4	4	7	4	4
Vegetation	61	6	7	2	7	2	61	61	2	6	2	2	62
Order of Watercourse	-		-		-	-	-	-				-	
Distance to Water (metres)	\$0	<\$0	0\$	>50	<50	<50	>20	\$ <	>50	<\$0	<\$0	<\$0	0\$>
adops	gentle	gende	Sende	gende	steep	steep	Sende	moderate	gende	steep	moderate	steep	steep
Landform Element	drainage	ridge crest	drainage depression	ridge crest	simple slope	drainage	drainage depression	simple slope	ridge crest	simple slope	simple slope	drainage	simple slope
Sulvey Area	72	73	74	7.5	76	77	78	79	80	18	82	83	84

MOOLARBEN STAGE I OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

					_				_		_	_	
	Сопппепія	above is ampitheatre with several shelters	ampitheatre		above ampitheatre			cluster of shelters outside study area	wombat holes and dead trees	cleared at lowest level, forest up higher, major rock higher, but mostly boulders	wombat holes; cleared area on edge of pastoral land		abundant loose rock
Γ	Ещесиле Заплеу Солегаве												
\mathbf{F}	Artefact Density/m ² of		10-50	9	0	9.	0.	0.		10-50	0	10-50	20
ŀ	Extent of Rock Outerop (%)			>50	V10	>50	> > 0	> > 20	L	<u>ė</u>	01>	<u>0</u>	10-50
	Коск Опістор Готп	open surface, boulder, outcrop	scarp, open surface, boulder, outcrop	scarp, boulder, outcrop	onterop	searp, boulder, outcrop	scarp, open surface, boulder, outcrop	scarp, open surface, boulder, outcrop		searp, boulder, outcrop	ontcrop	outcrop	scarp, open surface, boulder, outcrop
	Rock Outerop Material	sandstone, conglomerate	sandstone	sandstone	sandstone	sandstone	sandstone, conglomerate	sandstone, conglomerate		sandstone	sandstone	tuff	sandstone, tuff
	(estis neqo) storisties)	0	0	0	0	0	0	0	0	0	0	0	0
	Effective Survey Coverage	1,080	288	09	252	50	108	96	65	360	30	01	009
	Ground Disturbance	low	low	low	low	low	low	low	wol	low	low	low	low
	Archaeological Visibility %	10%	10%	10%	30%	10%	10%	10%	1%	10%	5%	2%	10%
	Detection Limiting Factors	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1, 2, 4	1,2	1,3	1,2	1,2
ľ	Surface Visibility (%)	0	01	01	93	01	01	01	-	0	s	2	10
ľ	(m) sərıA əlqmıs2 latoT	10,800	2,880	009	840	200	1,080	096	300	3,600	009	480	6,000
	(HorizoH) 9q7T 97usoqz	٧	<	<	<	<	<	<	<	<	<	<	٧
	Land Surface	4	4	4	4,1	4	4	4	4,5	4	4	4	4
	noits1929/	61	2	23	61	2	2	2	-	1,2	-	2	1,2
	Order of Watercourse	-	1				-		-			_	
	Distance to Water (metres)	0\$0	<50	<\$0	0\$>	<\$0	<\$0	0\$>	<\$0	<\$0	<\$0	<\$0	>50
	ədops	steep	moderate	moderate	gentle	moderate	deeps	moderate	gentle	deeps	gentle	moderate	moderate
	Landform Element	drainage depression	drainage de pression	simple slope	simple slope	simple slope	simple slope	drainage	simple slope	simple slope	drainage depression	drainage depression	simple slope
	гэлү льси	88	98	87	88	68	06	91	92	93	94	98	96

MOOLARBEN STAGE I OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

																_
	Соттепіз	regrowth ironbark, abundant leaf litter; some conglomerate pebbles; extensive views	very unstable scarp 10m high; mostly conglomerate (and sandstone) rock fall everywhere; all straight walls; no shelters		large boulders/conglomerate at top level	very gravelly, few boulders	dense grass, trees all cleared		highly impacted by excavation, quarrying	grassy; small boulders, open surfaces	steep channel, boulders rolled down possibly due to adjacent quarry	rocks rolled down from adjacent quarry; large quantity of excavated rock forming slope above (modified area)	tuffaceous rock washing down from quarry adjacent			
	Artefact Density/m ² Effective Survey Co						١.								,	,
-	Extent of Rock Out	8	> 20	10-50	10-50		01>	10-50	> 20	<10	10-50	10-50	10-50			10-50
	Коск Оитстор Form	face, er, yp	scarp, open surface, boulder, outcrop	boulder, 1	scarp, 1 boulder, outcrop	boulder	douptno	open surface, 1	onterop	open surface, boulder	boulder	boulder, I	open surface, 1 boulder, outcrop	donomo		outcrop
lsir	Rock Outerop Mate	sandstone, tuff	sandstone, conglomerate, tuff	sandstone, conglomerate	sandstone, conglomerate	sandstone	sandstone	sandstone	sandstone, tuff	sandstone	sandstone	sandstone	sandstone, tuff	sandstone, tuff	fuff	sandstone, tuff
(sətiz	m9qo) stanfattA to #	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
verage	Effective Survey Co	720	700	12	20	9	81	v.	30	20	30	80	320	009'1	40	400
а	Ground Disturbanc	how	wo	wor	wor	how	wol	wol	high	wol	wor	low, mod	low, mod	wol	wol	wol
% Хэнн	isiV IssigolosafərA	10%	300	2%	2%	%1	%	1%	10%	2%6	2%5	10%	40%	9609	10%	9098
Eactors	Detection Limiting	1,2	1,2	1,2	-	-	-	1,2	1,4	-	-	_	1,2	1,2	1,2	1,2
(9	Surface Visibility (9	10	01	61	61	-	-	-	06	S	S	01	04	20	10	20
(^f m)	Total Sample Area	7,200	2,000	009	1,000	009	008,1	240	300	400	009	008	008	3,200	400	800
(nosin	Exposure Type (Ho	A/B	<	<	<	4	<	<	<	<	<	<	<	<	٧	V
	Land Surface	4,5	4	4	4	4,5	4	4,5	5,5	4	4	4	4,5	4	4	4
	Vegetation	1,2	61	1,2	1,2	-	-	1,2	1,2	1,2	1,2	1,2	1,2	2	2	2
ass	Order of Watercom					-		-						-		
(sa.tjati	Distance to Water (>50	×50	\$0	0Ş	050	8	<\$0	>20	05	<50	05>	\$0	0\$≎	05>	<50
	edole	gentle	daops	moderate	daots	moderate	doots	moderate	moderate	steep	moderate	deots	doots	moderate	moderate	moderate
	Landform Element	ridge crest	simple slope	drainage depression	simple slope	drainage depression	simple slope	drainage depression	ridge crest	simple slope	drainage depression	simple slope	drainage depression	simple slope	drainage depression	simple slope
	гаглей үлев	97	86	66	100	101	102	103	104	105	901	107	108	100	110	111

MOOLARBEN STAGE I OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE

	Соттепе	modified area adj quarry activities, spoil, rock mount tuffaceous materi has dense leaf litt microtopograaph; gravel, pebbles, p places.			dead rabbits, possible fresh dog or fox seats in some rock hollows; nock holes in outcrop walls 761204;6419348		some hollows in scarp wall, but too low/small to record as PADS; 10m high rock wall			minor flat surface, no grooves		2 adjacent shelters at 1632-9377 but rocky floors (not PADs); abundant ironstone
	Artefact Density/m² of Effective Survey Cove											
	Extent of Rock Outero	0	10-50	10-50	10-50	10-50	> 20	>50	10-50	10-50	10-50	10-50
	коск Опістор Готп	face, op	scarp, boulder, outcrop	scarp, open surface, outcrop	scarp, boulder, outcrop	boulder, outcrop	scarp, boulder, outcrop	boulder, outcrop	scarp, boulder, outcrop	open surface, boulder, outcrop	ontcrop	scarp, boulder, outcrop
р	Rock Outerop Materia	andstone	sandstone	sandstone	sandstone	sandstone	sandstone	sandstone	sandstone	sandstone	sandstone, tuff	sandstone, tuff
(sə)	tiz neqo) stanletaf. lo #	0	0	0	0	0	0	0	0	0	0	0
1.926	Effective Survey Cover	1,560	108	30	138	15	30	12	30	84	12	113
	Ground Disturbance	low, high	how	how	how	wol	wol	wol	how	wol	wol	low
% Á1	ilidisiV læsigolo9æfs1A	5-40%	%01	%01	%01	2%	2%	2%	2%	2%	2%	2-5%
8.1013	Detection Limiting Fac	4	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
	Surface Visibility (%)	5-40	10	10	10	S	2	5	s	67	S	2-5
ć	Total Sample Area (m	14,400	1,080	300	1,380	300	009	240	009	2,400	240	3,840
(uo	Exposure Type (Horizo	<	<	<	<	A	<	٧	٧	⋖	<	٧
	Land Surface	۶, ۶	4	4	4	4	4	4	4	4	4	4
	Tegetation	1,2	2	61	1,2	2	61	7	61	62	61	2
	Order of Watercourse			-		-	-	1	-	_	-	1
(sə.1)	Distance to Water (me	>50	0\$>	0\$>	>20	0€>	0\$○	0\$>	0\$0	0\$0	30	<50
	Slope	gende	doots	doots	deets	steep	daots	daots	daots	doots	doots	deets
	Landform Element	ridge crest	simple slope	drainage depression	simple slope	drainage depression	simple slope	drainage depression	simple slope	drainage	simple slope	simple slope
	галдай үлсв	1112	113	114	3115	116	117	118	119	120	121	122

colluvial slopewash deposits; almost very steep; outcrops but no shelters, walls of rock, outcrops and small boulders; rock shelters A and B moderate slope; ringbarked trees; no shelters up high large enough, MOOLARBEN STAGE 1 OPTIMISATION MODIFICATION - ARCHAEOLOGICAL SURVEY COVERAGE DATABASE ome small animal dens; mostly gnored microtopography - gully shelters, some animal hollows; blocky/straight walls but few colluvial slope wash; farm addocks, grass, thistles ronbark/pine regrowth vegetated, rock shelter Comments ower down ead trees eny steep Ецесиле 2шлеў Солегаде Artefact Density/m° of 10-50 10-50 Extent of Rock Outerop (%) 100 8 <10 Š Š >20 0 10 open Surface, pen surface, open surface, scarp, open outcrop onterop outcrop boulder, scarp, boulder, outerop outcrop boulder, outrop boulder, outcrop boulder. boulder outcrop boulder. outcrop surface, outcrop sandstone sundstone sandstone sandstone sundstone sandstone sundstone Ē Rock Outerop Material # of Artefacts (open sites) 0 0 0 0 0 0 0 0 0 0 0 (m) 320 160 300 170 80 8 8 8 9 4 Ецесиле эпглеу Сотегаде w. mod wo wo wo O.W. wo S. W.O low wo Foround Disturbance 5-10% 5-10% 8 -5% š š 28 3% 28% Archaeological Visibility % and Surface - 1 = sheet erosion; 2 = gully erosion; 3 = stream bank erosion; 4 = vegetated; 5 = modified 1,2 2 7 2 2 2 2 1,2 Detection Limiting Factors 2 2-10 5-10 0.5 2 7 5-5 'n Surface Visibility (%) C1 v) 13,200 1,560 4,200 6,400 3,400 999 480 8 Z Total Sample Area (m') ŝ > Exposure Type (Horizon) < < < < < < < < < < 2,5 2,4 4 4 + Land Surface Vegetation - 1 = cleaned/grass/crop; 2 = forest/bush/regrowth1,2 1,2 1,2 nointingaV 🛂 Ċ1 Ċ1 c) Ċ1 C) Order of Watercourse 200 \$00 Distance to Water (metres) ×50 >50 ŝ ŝ ŝ ŝ >50 evel - very moderate gentle gentle gentle gentle gentle steep steep steep steep steep Slope simple slope simple slope simple slope simple slope simple slope drainage depression ridge crest depression spur crest drainage depression Landform Element 125 126 128 129 130 133 2 127 В Заптеу Лгея 3

Detection Limiting Factors - 1 = vegetation; 2 = leaf litter/gravel; 3 = sediment deposition; 4 = other

APPENDIX 3.

ABORIGINAL HERITAGE SITE DATA¹

¹ For new sites identified and recording during the present survey (including several marginally outside of the investigation area) and re-recordings of several previously reported sites.

Site Name	Site Type / Features	MGA Easting	MGA Northing	Survey Area	Landform
S1MC325	Isolated artefact	760137	6423587	19	ridge crest
S1MC326	Rock shelter with PAD	759832	6422848	35	simple slope
S1MC327	Rock shelter with PAD	759841	6422853	35	simple slope
S1MC328	Isolated artefact	759847	6422847	35	simple slope
S1MC329	Rock shelter with PAD	760119	6422761	43	simple slope
S1MC330	Rock shelter with PAD	760097	6422739	43	simple slope
S1MC331	Rock shelter with artefacts	760843	6421283	59	simple slope
S1MC332	Rock shelter with PAD	762299	6418767	132	spur crest
S1MC333	Rock shelter with PAD	762086	6418954	128	simple slope
S1MC334	Rock shelter with PAD	761975	6418915	128	simple slope
S1MC335	Rock shelter with PAD	761874	6419277	125	simple slope
S1MC336	Rock shelter with PAD	761725	6418961	125	simple slope
S1MC337	Rock shelter with PAD	761575	6419390	119	simple slope
S1MC338	Rock shelter with PAD	761564	6419379	119	simple slope
S1MC339	Rock shelter with PAD	761544	6419370	119	simple slope
S1MC340	Rock shelter with PAD	761472	6419251	116	drainage depression
S1MC341	Rock shelter with PAD	761009	6420337	96	simple slope
S1MC342	Rock shelter with PAD	761252	6420370	93	simple slope
S1MC343	Rock shelter with PAD	761430	6420424	91	drainage depression
S1MC344	Rock shelter with artefacts	761434	6420500	91	drainage depression
S1MC345	Rock shelter with PAD	761438	6420476	91	drainage depression
S1MC346	Rock shelter with PAD	761423	6420537	90	simple slope
S1MC347	Rock shelter with PAD	760928	6420913	70	simple slope
S1MC348	Rock shelter with PAD	760901	6420914	70	simple slope
S1MC349	Rock shelter with PAD	760793	6420933	68	simple slope
S1MC350	Rock shelter with PAD	760746	6420946	68	simple slope
S1MC351	Rock shelter with PAD	761070	6421070	65	ridge crest
S1MC352	Rock shelter with PAD	761168	6421080	73	ridge crest
S1MC353	Rock shelter with PAD	761421	6420743	86	drainage depression
S1MC354	Rock shelter with PAD	761448	6420591	89	simple slope
36-3-885	Rock shelter with PAD	761370	6420748	80	ridge crest
36-3-958	Rock shelter with PAD	761323	6420825	79	simple slope

Site Type: Isolated artefact MGA Grid Reference: 760137:6423587

Date Recorded: 15/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Ridge crest Vegetation: Forest/bush/regrowth

Slope: Gentle Ground Disturbance: High

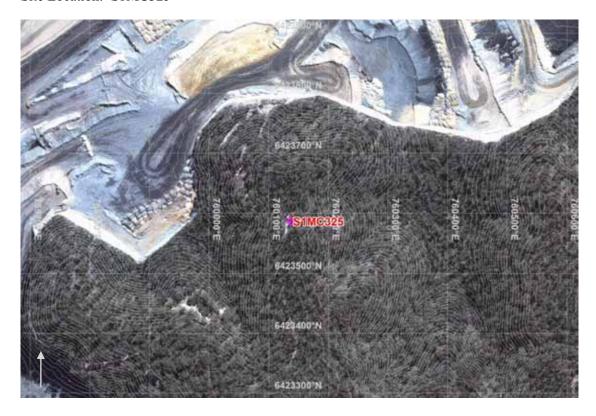
Distance to Water: >50

Visible	Visible	Visible	Visible	Visible	Mean	Mean	Effective	# of	# of	Sub-Surface
Extent of	Extent of	Extent of	Extent of	Locus	Surface	Arch.	Locus	Artefacts	Artefacts	Deposit
Surface	Surface	Evidence:	Evidence:	Area	Visibility	Visibility	Area (m ²)		per m ² of	
Exposures:	Exposures:	Length (m)	Width	(m^2)	of Locus	of Locus			Effective	
Length (m)	Width (m)		(m)		(%)	(%)			Locus Area	
50+	4	1	1	1	80	80	0.8	1	1.25	unlikely

Artefact Database:

Artefact #	Colour	Stone	Lithic Item Type	Size	Dimensions	Comments
		Material		Class	(mm)	
1	white	quartz	flake - proximal	2	16x13x5	possible backing

- □ Low research potential;
- Disturbance from well formed vehicle track and mulched clearing.



Photograph: S1MC325 (view north)



Site Type: Rock shelter with PAD MGA Grid Reference: 759832:6422848

Date Recorded: 14/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Scarp
Aspect: South
Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Silt, sand, gravel

Disturbance to Deposit: Moderate

Causes of Disturbance: Erosion, animal burrows

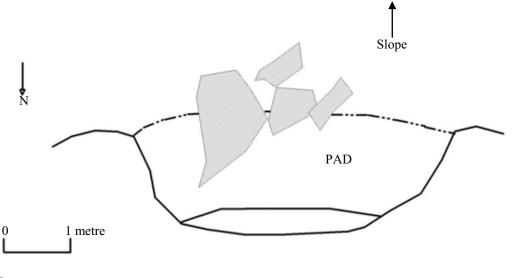
Possible Extent of Potential Archaeological Deposit: 2 x 2 metres
Possible Depth of Potential Archaeological Deposit: 0.02 metres

of Artefacts:
Visible Extent of Artefacts:

Archaeological Visibility: 30%

Shelter Floor Area: 1.5 x 5 metres
Habitable Shelter Area (roof 1+ metres above floor): 1.5 x 5 metres

- □ Low research potential, small, very shallow deposit;
- □ Large rocks at entrance;
- □ Steep slope.



KEY:

Back wall at floor

Dripline

Overhang & dripline/overhang

Artefact

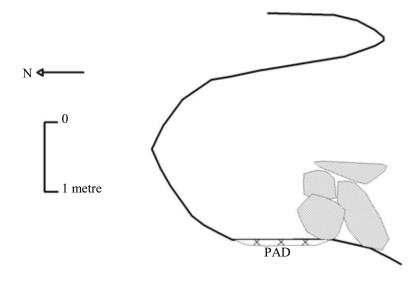
Artefact

Artefact concentration

Nock Shelf

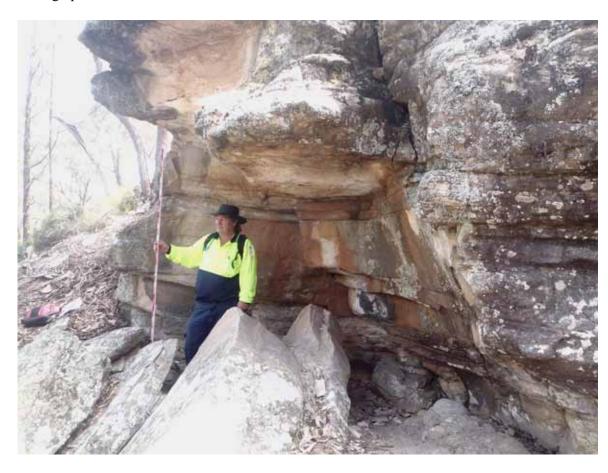
Deposit/PAD

Animal burrow





Photograph: S1MC326



Site Type: Rock shelter with PAD MGA Grid Reference: 759841:6422853

Date Recorded: 14/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: >50 metres

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Scarp

Aspect: South south east Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Silt, sand
Disturbance to Deposit: Moderate

Causes of Disturbance: Animal burrows

Possible Extent of Potential Archaeological Deposit: 1.5 x 2 metres and 1.5 x 2 metres

Possible Depth of Potential Archaeological Deposit: 0.01 metres

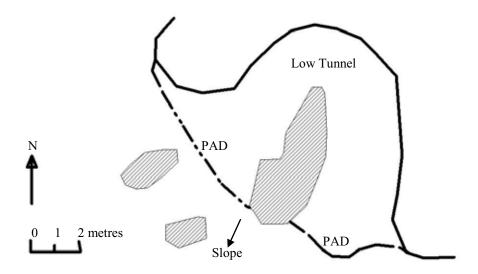
of Artefacts: 0
Visible Extent of Artefacts: -

Archaeological Visibility: 50%

Shelter Floor Area: 8 x 4 metres

Habitable Shelter Area (roof 1+ metres above floor): 1.5 x 2 metres and 1.5 x 2 metres

- ☐ Two large rocks at entrance;
- □ Tunnel under rock, with two entrances;
- □ Low potential, very small habitable floor area, low roof and shallow deposit.



KEY:

Back wall at floor

Dripline Artefact X

Back wall at *x* metres

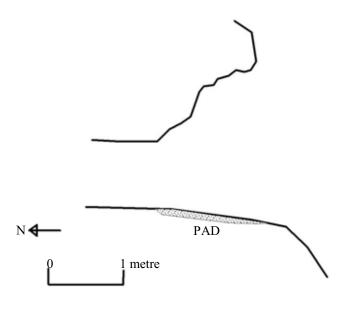
Overhang & dripline/overhang

Artefact concentration

X

Rock Shelf
Deposit/PAD
Animal burrow







Photograph: S1MC327



Site Type: Isolated artefact MGA Grid Reference: 759847:6422847

Date Recorded: 14/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Open forest

Slope: Moderate Ground Disturbance: Low

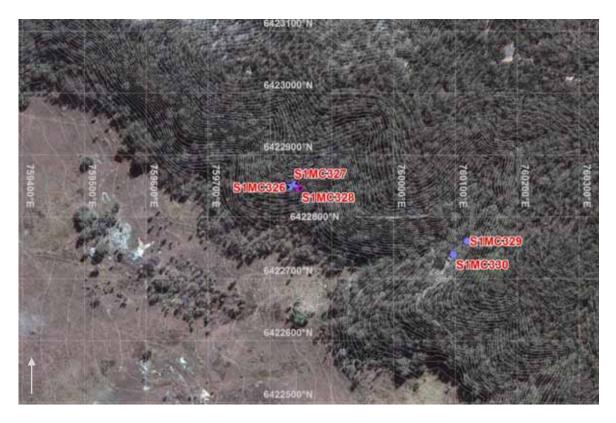
Distance to Water: <50

Visible	Visible	Visible	Visible	Visible	Mean	Mean	Effective	# of	# of	Sub-Surface
Extent of	Extent of	Extent of	Extent of	Locus	Surface	Arch.	Locus	Artefacts	Artefacts	Deposit
Surface	Surface	Evidence:	Evidence:	Area	Visibility	Visibility	Area (m ²)		per m ² of	
Exposures:	Exposures:	Length (m)	Width	(m^2)	of Locus	of Locus			Effective	
Length (m)	Width (m)		(m)		(%)	(%)			Locus Area	
varies	varies	1	1	1	50	50	0.5	1	2.000	unlikely

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Size Class	Dimensions (mm)	Comments
1	white	quartz	flake	2	23x19x9	

- □ Low research potential as steep slope, isolated;
- □ Open forest;
- □ 20 metres south of rock shelter S1MC327.



Photograph: S1MC328 (view north to shelter S1MC327)



Site Type: Rock shelter with PAD MGA Grid Reference: 760119:6422761

Date Recorded: 14/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: <50 metres

Rock Outcrop Material:

Outcrop Type:

Outcrop Form:

Aspect:

Erosion:

Sandstone

Rock shelter

Scarp

West

Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Silt
Disturbance to Deposit: Moderate

Causes of Disturbance: Erosion, animal burrows

Possible Extent of Potential Archaeological Deposit: 2 x 1.5 metres
Possible Depth of Potential Archaeological Deposit: <0.1 metres

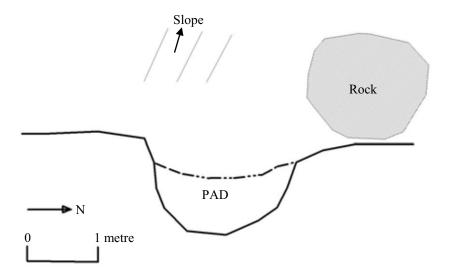
of Artefacts: 0
Visible Extent of Artefacts: -

Archaeological Visibility: 50%

Shelter Floor Area: 1 x 2 metres
Habitable Shelter Area (roof 1+ metres above floor): 1 x 2 metres

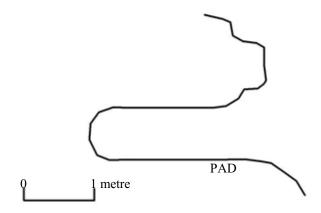
Additional Comments:

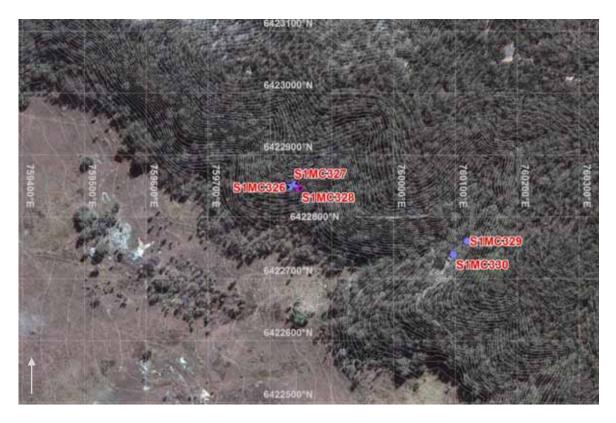
□ Low research potential as very low, small shelter.



KEY:

Back wall at floor ______ Back wall at x metres _____ Rock Shelf ______ Dripline _____ Overhang & dripline/overhang _____ Deposit/PAD _____ Artefact x Artefact concentration X Animal burrow _____





Photograph: S1MC329



Site Type: Rock shelter with PAD MGA Grid Reference: 760097:6422739

Date Recorded: 14/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: >50 metres

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Scarp, boulder

Aspect: West

Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Rocky, sand, gravel

Disturbance to Deposit: *Moderate*Causes of Disturbance: *Animal burrows*

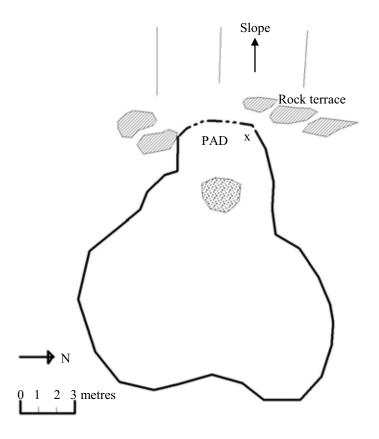
Possible Extent of Potential Archaeological Deposit: 2 x 2 metres
Possible Depth of Potential Archaeological Deposit: 0.02 metres

of Artefacts:

Visible Extent of Artefacts: Archaeological Visibility:

Shelter Floor Area: $15 \times 12 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $15 \times 12 \text{ metres}$

- □ Rock terrace and steep slope at entrance;
- □ Narrow low entrance, but shelter opens up inside to large cavern 15 metres deep and up to 12 metres wide;
- Roof mostly low and very shallow deposit, hence low research potential.



KEY:

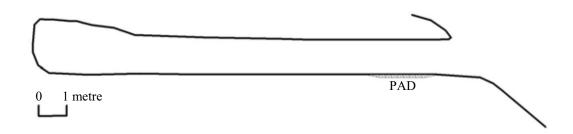
Back wall at floor
Dripline
Dripline
Artefact

Back wall at x metres
Overhang & dripline/overhang
Artefact

Artefact concentration

Rock Shelf
Deposit/PAD

Animal burrow





Photograph: S1MC330





Site Type: Rock shelter with artefacts MGA Grid Reference: 760843:6421283

Date Recorded: 16/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Scarp

Outcrop Form: Scarp
Aspect: South

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating
Soil: Clay, sand
Disturbance to Deposit: Low

Causes of Disturbance:

Possible Extent of Potential Archaeological Deposit: 4 x 5 metres
Possible Depth of Potential Archaeological Deposit: >0.3 metres

of Artefacts:

Visible Extent of Artefacts: 4 x 2 metres

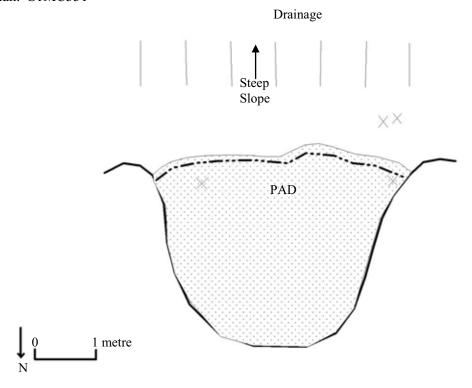
Archaeological Visibility: 80 %

Shelter Floor Area: 4×5 metres Habitable Shelter Area (roof 1+ metres above floor): 4×5 metres

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Size Class	Dimensions (mm)	Comments
1	white	quartz	core	3	30x22x11	1 metre in front of dripline
2	white	quartz	proximal flake	3	24x13x7	at west corner of shelter
3	white	quartz	lithic fragment	3	24x22x11	1 metre from east corner
4	white	quartz	distal flake	3	21x12x5	next to #1

- □ Shelter 5 metres deep, 4 metres wide and 2 metres high at entrance, this is also the potential extent of the PAD;
- ☐ Minor water seepage at back;
- □ Animal scats;
- Minor roof fall;
- Moderate potential.



KEY:

Back wall at floor

Dripline

Overhang & dripline/overhang

Artefact

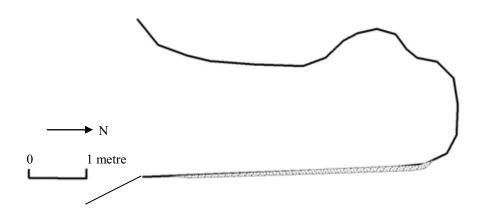
X

Artefact concentration

Back wall at x metres

Overhang & dripline/overhang

Animal burrow

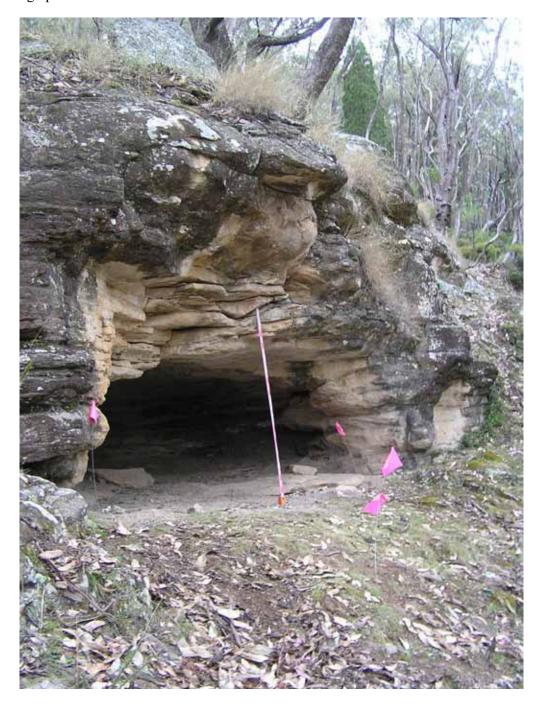




Photograph: S1MC331



Photograph: S1MC331



Site Type: Rock shelter with PAD MGA Grid Reference: 762299:6418767

Date Recorded: 26/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Spur crest Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Scarp

Aspect: West

Erosion: Exfoliation, cavernous

Surface Condition:

Soil: Sand
Disturbance to Deposit: Low

Causes of Disturbance: Animal burrows

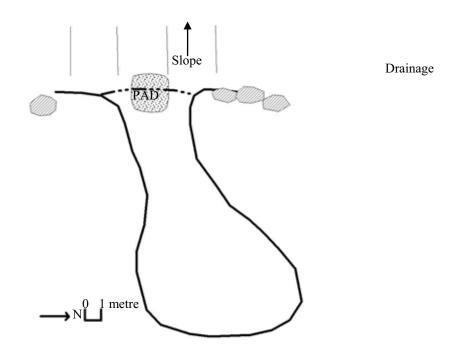
Possible Extent of Potential Archaeological Deposit: 2 x 2 metres
Possible Depth of Potential Archaeological Deposit: <0.05 metres

of Artefacts:

Visible Extent of Artefacts: Archaeological Visibility:

Shelter Floor Area: 15×2.5 metres Habitable Shelter Area (roof 1+ metres above floor): 15×2.5 metres

- □ Shelter 2.5 metres across x 15 metres deep x 1.6 metres high;
- \square PAD 2 x 2 metres;
- □ Abundant animal scats;
- □ Steep entrance;
- ☐ Mostly very low roof, small PAD, low potential.



KEY:

Back wall at floor

Dripline

Overhang & dripline/overhang

Artefact

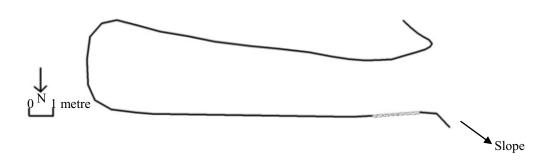
Artefact

Artefact

Concentration

Deposit/PAD

Animal burrow





Photograph: S1MC332





Site Type: Rock shelter with PAD MGA Grid Reference: 762086:6418954
Date Recorded: 26/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material:

Outcrop Type:

Outcrop Form:

Aspect:

Erosion:

Surface Condition:

Soil:

Sandstone

Rock shelter

Outcrop

East

Exfoliation

Stable

Rocky, sand

Disturbance to Deposit: Low

Causes of Disturbance: Animal burrows

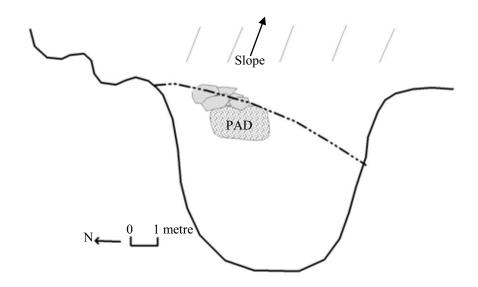
Possible Extent of Potential Archaeological Deposit: 2 x 1 metres
Possible Depth of Potential Archaeological Deposit: <0.05 metres

of Artefacts:

Visible Extent of Artefacts: Archaeological Visibility:

Shelter Floor Area: $7 \times 7 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $7 \times 7 \text{ metres}$

- □ Shelter 7 metres across x 7 metres deep x 1.8 metres high;
- □ PAD area 2 x 1 metre;
- □ Wasps;
- □ Animal scats;
- □ Large rock in centre;
- □ Front low.



KEY:

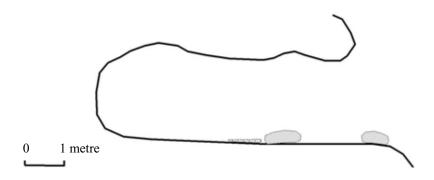
Back wall at floor

Dripline Artefact

Back wall at *x* metres

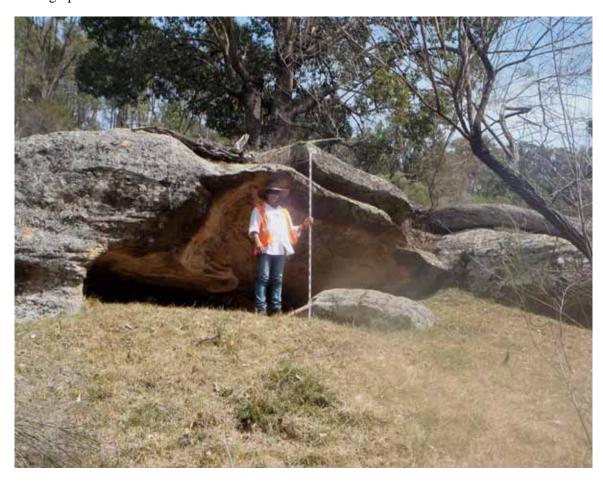
Overhang & dripline/overhang Artefact concentration X

Rock Shelf Deposit/PAD
Animal burrow





Photograph: S1MC333



Site Type: Rock shelter with PAD MGA Grid Reference: 761975:6418915 Wollar 8833-2N

Date Recorded: 26/11/12 Topographic Map:

Recorder: Birgitta Stephenson

Landform Element: Vegetation: Forest/bush/regrowth Simple slope

Ground Disturbance: Slope: Steep

Distance to Water: < 50

Rock Outcrop Material: Sandstone Outcrop Type: Rock shelter Outcrop Form: Scarp Aspect: South **Erosion:** Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Sand Disturbance to Deposit: Moderate

Causes of Disturbance: Erosion, animals

Possible Extent of Potential Archaeological Deposit: 3.3 x 1.5 metres Possible Depth of Potential Archaeological Deposit: 0.05 metres

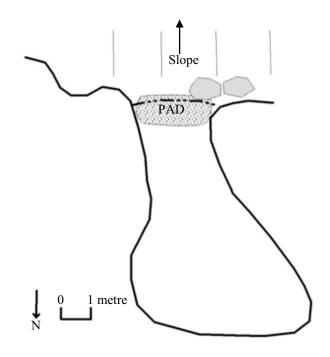
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 80 %

Shelter Floor Area: 3.4 x 3.6 metres Habitable Shelter Area (roof 1+ metres above floor): 3.4 x 3.6 metres

- Shelter 3.4 metres across x 3.6 metres deep x 1.25 metres high;
- PAD area 3.3 x 1.5 metres;
- Undulating floor.

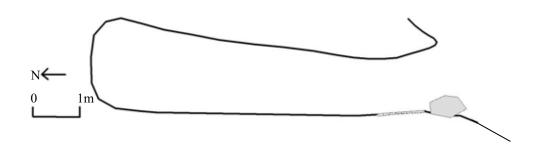


KEY:

Back wall at floor
Dripline
Artefact x

Back wall at x metres
Overhang & dripline/overhang
Artefact concentration X

Rock Shelf Deposit/PAD Animal burrow





Photograph: S1MC334



Site Type: Rock shelter with PAD MGA Grid Reference: 761874:6419277

Date Recorded: 26/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone

Outcrop Type: Rock shelter, overhang

Outcrop Form: Scarp
Aspect: West

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating, exposed/weathered

Soil: Silt, sand
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: $20 \times 1.5 \text{ metres}$ Possible Depth of Potential Archaeological Deposit: >0.15 metres

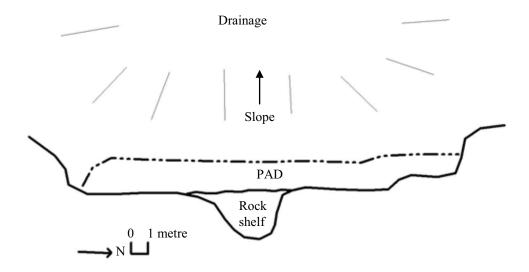
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 60 %

Shelter Floor Area: 23 x 3 metres
Habitable Shelter Area (roof 1+ metres above floor): 23 x 1.5 metres

- □ Shelter 23 metres across x 1.5 metres deep x 3 metres high;
- ☐ Lower portion of moderate slope, start of drainage above;
- □ Run-off probably frequent into shelter;
- □ Black staining on walls;
- □ Wasps;
- Narrow, more of an overhang, but some areas 3 metres wide;
- Low to moderate potential due to erosion and narrow dimensions;
- No art, some good surfaces but weathering rates probably high;
- □ Abundant animal scats.

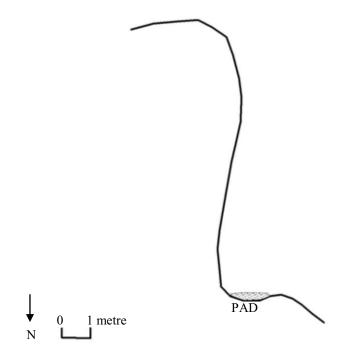


KEY:

Back wall at floor _____ Back wall at x metres ____ Rock Shelf _____

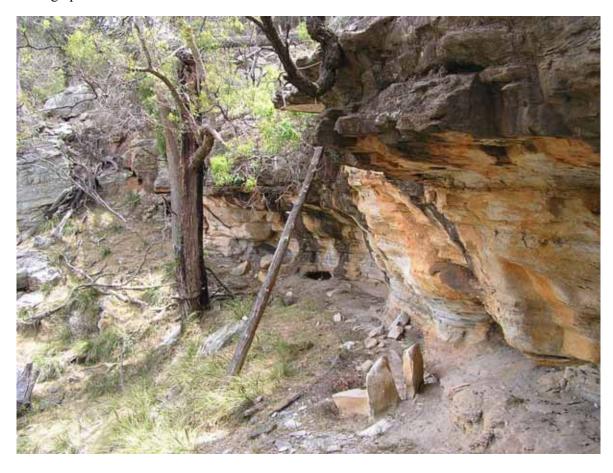
Dripline ____ Overhang & dripline/overhang ____ Deposit/PAD _____

Artefact x Artefact concentration X Animal burrow _____





Photograph: S1MC335



Photograph: S1MC335



Site Type: Rock shelter with PAD MGA Grid Reference: 761725:6418961 Topographic Map: Wollar 8833-2N

Date Recorded: 26/11/12

Recorder: Birgitta Stephenson

Landform Element: Vegetation: Forest/bush/regrowth Simple slope

Ground Disturbance: Slope: Steep

Distance to Water: >50

Rock Outcrop Material: Sandstone Outcrop Type: Rock shelter Outcrop Form: Open surface

Aspect: South

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating, exposed/weathered

Soil:

Disturbance to Deposit:

Causes of Disturbance: Erosion, animal burrows

Possible Extent of Potential Archaeological Deposit: 2.4 x 1.5 metres Possible Depth of Potential Archaeological Deposit: 0.13 metres

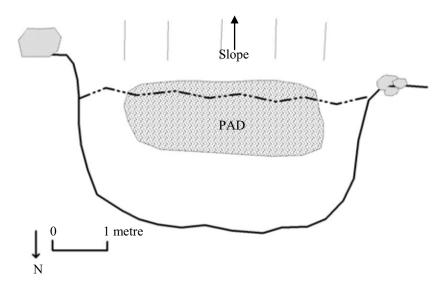
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 80 %

Shelter Floor Area: 5.2 x 2.8 metres Habitable Shelter Area (roof 1+ metres above floor): 5.2 x 2.8 metres

- Shelter 5.2 metres across x 2.8 metres deep x 1.4 metres high;
- PAD area 2.4 x 1.5 metres;
- Small animal skeletons.



KEY:

Back wall at floor

Dripline

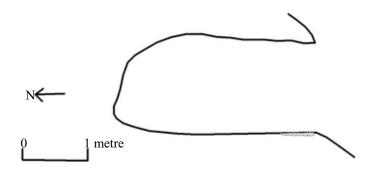
Overhang & dripline/overhang

Artefact

Artefact

Artefact concentration

Control of the c





Photograph: S1MC336



Site Type: Rock shelter with PAD MGA Grid Reference: 761575:6419390 Date Recorded: 27/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material:

Outcrop Type:

Outcrop Form:

Aspect:

West

Erosion: Cavernous

Surface Condition: Exfoliating, exposed/weathered

Soil: Rocky, sand
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: 2 x 1 metres
Possible Depth of Potential Archaeological Deposit: <0.1 metres

of Artefacts:

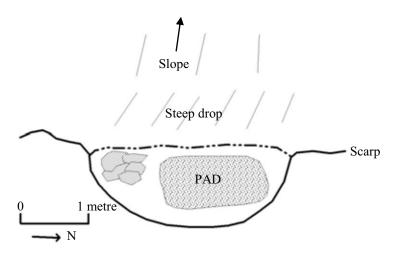
Visible Extent of Artefacts:

Archaeological Visibility: 50 %

Shelter Floor Area: $3 \times 1 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $3 \times 1 \text{ metres}$

- \Box Shelter 3 metres across x 1 metre deep x 1.9 metres high;
- □ PAD area 2 x 1 metre;
- □ Small, low potential;
- □ Several metres up from base of scarp/rock wall.



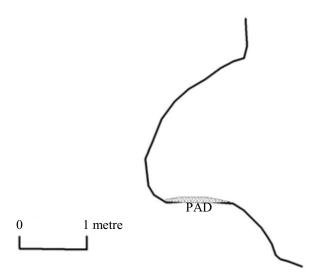


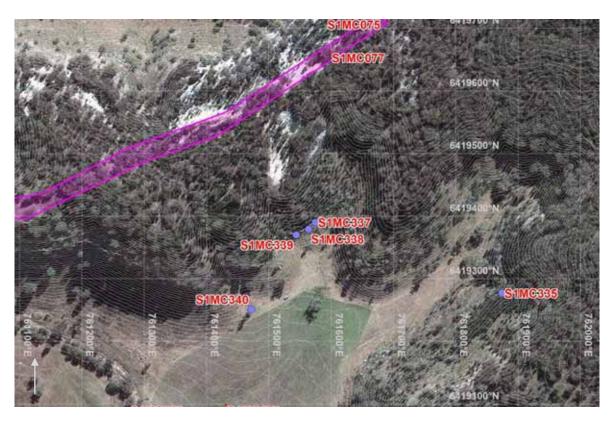
KEY:

Back wall at floor _____ Back wall at x metres ____ Rock Shelf _____

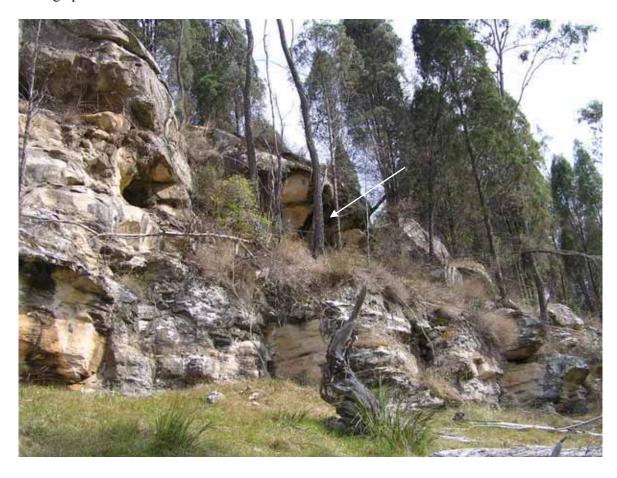
Dripline ____ Overhang & dripline/overhang ____ Deposit/PAD _____

Artefact x Artefact concentration X Animal burrow _____



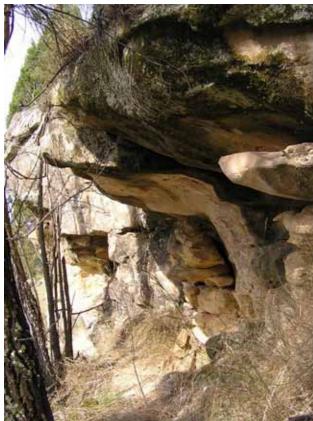


Photograph: S1MC337



Photograph: S1MC337





Site Type: Rock shelter with PAD MGA Grid Reference: 761564:6419379

Date Recorded: 27/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone
Outcrop Type: Overhang
Outcrop Form: Outcrop
Aspect: Southeast
Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Sand
Disturbance to Deposit: Low
Causes of Disturbance: Animals

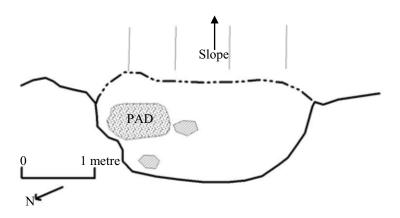
Possible Extent of Potential Archaeological Deposit: 1 x 1 metres
Possible Depth of Potential Archaeological Deposit: 0.03 metres

of Artefacts:

Visible Extent of Artefacts: Archaeological Visibility:

Shelter Floor Area: 3 x 1 metres
Habitable Shelter Area (roof 1+ metres above floor): 3 x 1 metres

- □ Shelter 3 metres across x 1.1 metres deep x 1.95 metres high;
- □ PAD area 1 x 1 metre;
- □ 10 metres from a rocky floor shelter (without PAD).



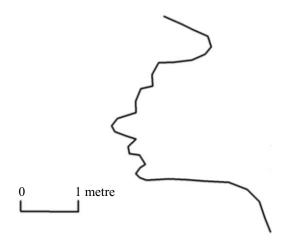
KEY:

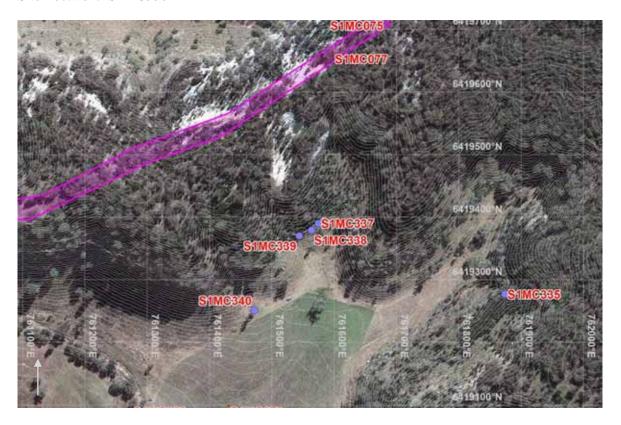
Back wall at floor
Dripline
Overhang & dripline/overhang
Overhang & Artefact

Artefact

Concentration

Back wall at x metres
Overhang & dripline/overhang
Overhang
Animal burrow





Photograph: S1MC338



Site Type: Rock shelter with PAD MGA Grid Reference: 761544:6419370 Date Recorded: 27/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Overhang
Outcrop Form: Scarp
Aspect: South
Erosion: Exfoliation

Surface Condition:

Soil: Silt
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: 7 x 1.5 metres
Possible Depth of Potential Archaeological Deposit: <0.5 metres

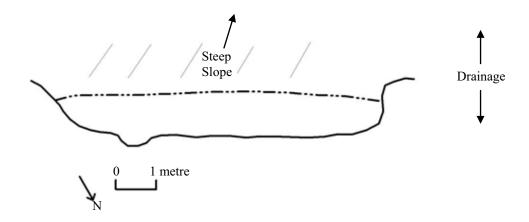
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 70 %

Shelter Floor Area: 8 x 1.5 metres
Habitable Shelter Area (roof 1+ metres above floor): 8 x 1.5 metres

- □ Shelter 8 metres across x 1.5 metres deep x 3.2 metres high;
- □ PAD area 7 x 1.5 metres;
- □ Very flakey, shale type walls;
- □ Shallow deposit;
- □ Affected by erosion.

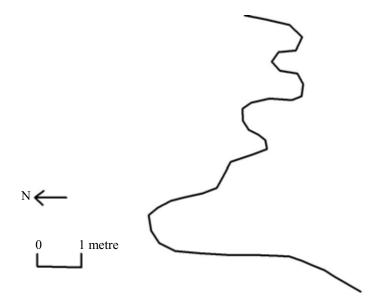


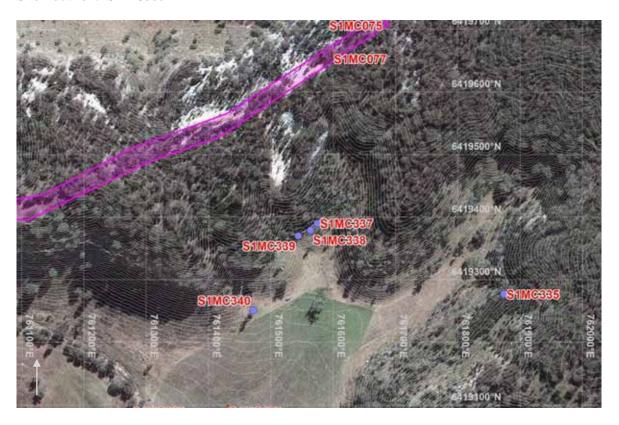
KEY:

Back wall at floor Back wall at x metres Rock Shelf

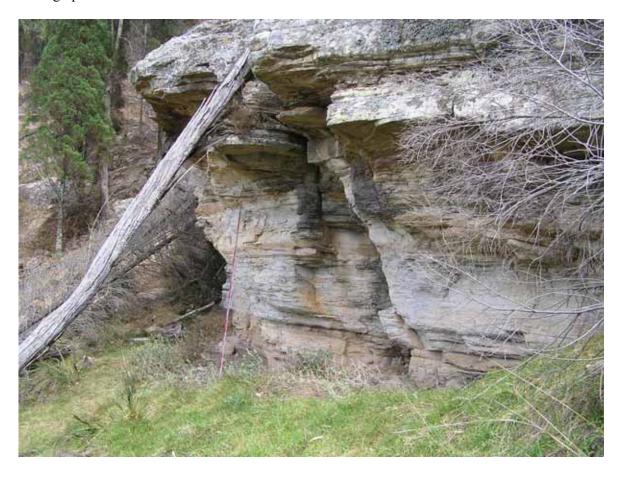
Dripline Overhang & dripline/overhang Deposit/PAD

Artefact x Artefact concentration X Animal burrow





Photograph: S1MC339



Site Type: Rock shelter with PAD MGA Grid Reference: 761472:6419251

Date Recorded: 27/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Drainage depression Vegetation: Cleared Slope: Steep Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Overhang
Outcrop Form: Boulder
Aspect: South
Erosion: Exfoliation

Surface Condition: Exposed/weathered

Soil: Rocky, sand
Disturbance to Deposit: Low
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: $1 \times 1 \text{ metres}$ Possible Depth of Potential Archaeological Deposit: 0.1 metres

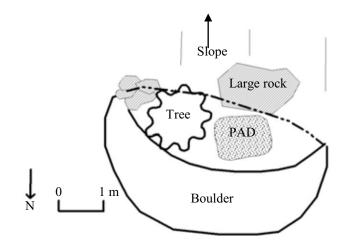
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 30%Shelter Floor Area: 4×1 metres

Habitable Shelter Area (roof 1+ metres above floor): 4 x 1 metres

- \Box Overhang 4 metres across x 1 metre deep x 3.2 metres high;
- □ PAD area 1 x 1 metres;
- □ Fossil plants visible in shelter;
- ☐ Huge tree at front occupying half of overhang;
- □ Small, low potential;
- □ Overlooks Moolarben valley.

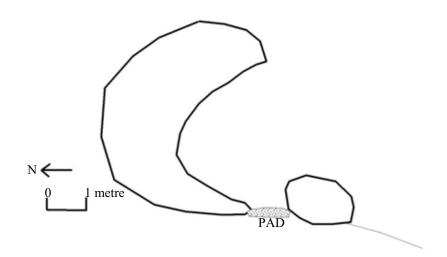


KEY:

Back wall at floor Back wall at x metres Rock Shelf

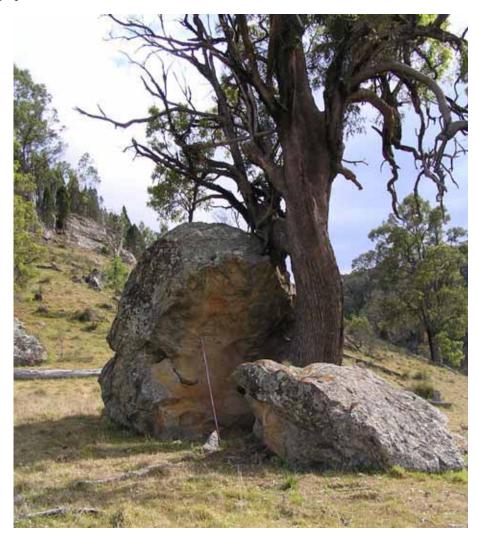
Dripline Overhang & dripline/overhang Deposit/PAD

Artefact x Artefact concentration X Animal burrow





Photograph: S1MC340



Site Type: Rock shelter with PAD MGA Grid Reference: 761009:6420337

Date Recorded: 28/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Overhang

Outcrop Form:

Aspect: North
Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Rocky, sand
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: 1 x 1 metres
Possible Depth of Potential Archaeological Deposit: <0.05 metres

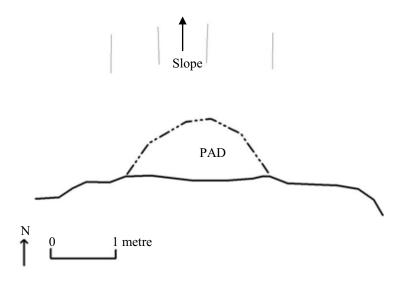
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 40 %

Shelter Floor Area: $2 \times 1.5 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $2 \times 1.5 \text{ metres}$

- \Box Shelter 2 metres across x 1.5 metres at deepest x 1.5 metres high;
- □ PAD area 1 x1 metres;
- □ Small, low roof, low potential;
- □ Upper part of slope.



KEY:

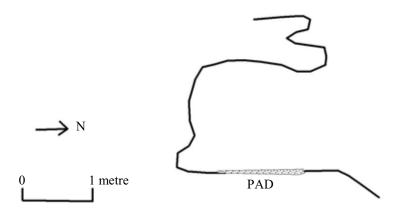
Back wall at floor

Dripline Artefact ____

Back wall at x metres
Overhang & dripline/overhang
Artefact concentration X

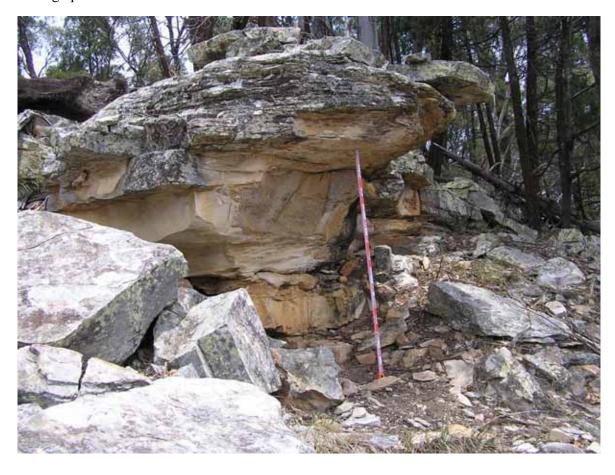
Rock Shelf Deposit/PAD Animal burrow







Photograph: S1MC341



Site Type: Rock shelter with PAD MGA Grid Reference: 761252:6420370 Date Recorded: 28/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone, tuffaceous

Outcrop Type: Overhang
Outcrop Form: Scarp
Aspect: West
Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Rocky, silt
Disturbance to Deposit: High
Causes of Disturbance: Erosion

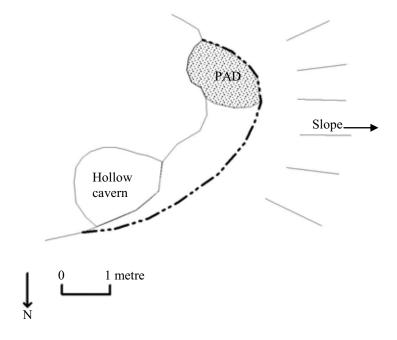
Possible Extent of Potential Archaeological Deposit: 1 x 1 metres
Possible Depth of Potential Archaeological Deposit: <0.05 metres

of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 90 % Shelter Floor Area: $4 \times 1 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $4 \times 1 \text{ metres}$

- ☐ Shelter 4 metres across x 1 metre at deepest x 2.1 metres high;
- \square PAD area is 1 x 1 metres;
- □ Small shelter, erosion/runoff impacts, low potential.



KEY:

Back wall at floor

Dripline

Overhang & dripline/overhang

Artefact

Artefact

Artefact

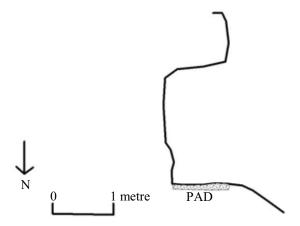
Dripline

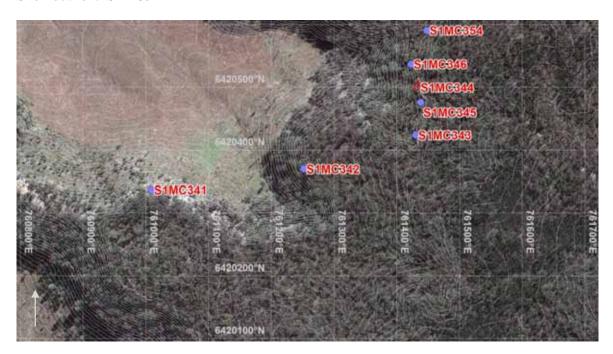
Artefact

Artefact

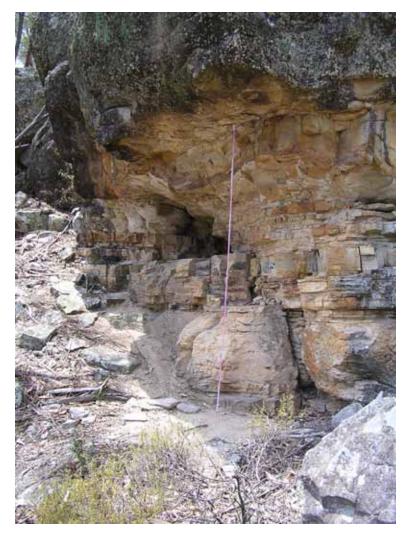
Deposit/PAD

Animal burrow





Photograph: S1MC342



Site Type: Rock shelter with PAD MGA Grid Reference: 761430:6420424

Date Recorded: 28/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Drainage depression Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Conglomerate
Outcrop Type: Rock shelter
Outcrop Form: Scarp
Aspect: West

Erosion: Exfoliation, cavernous, honeycomb

Surface Condition: *Exfoliating, exposed/weathered, accretions*

Soil: Sand
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: 12 x 4 metres

Possible Depth of Potential Archaeological Deposit:

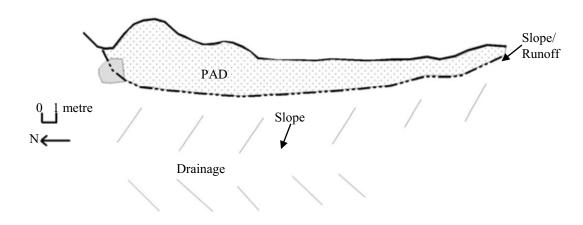
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 80 %

Shelter Floor Area: 16 x 4 metres
Habitable Shelter Area (roof 1+ metres above floor): 16 x 4 metres

- □ Overhang extending along scarp face;
- □ 16 metres across x 4 metres deep x 1.3 metres high at centre;
- □ PAD area is similarly 12 x 4 metres;
- □ Large shelter at head of drainage;
- □ Located 80 metres east of study area;
- Moderate potential.

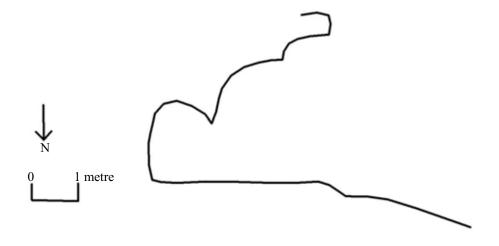


KEY:

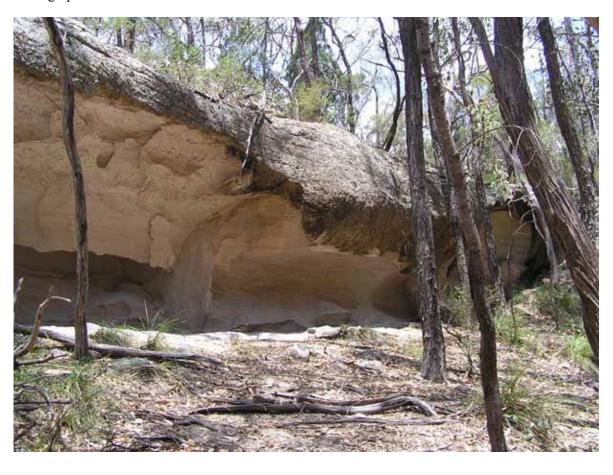
Back wall at floor Back wall at x metres Rock Shelf

Dripline Overhang & dripline/overhang Deposit/PAD

Artefact x Artefact concentration X Animal burrow









Site Type: Rock shelter with artefacts MGA Grid Reference: 761434:6420500 Date Recorded: 27/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Drainage depression Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone, conglomerate

Outcrop Type: Rock shelter
Outcrop Form: Scarp
Aspect: West
Erosion: Cavernous

Surface Condition: Exfoliating
Soil: Sand
Disturbance to Deposit: Low

Causes of Disturbance: Animals, roof fall

Possible Extent of Potential Archaeological Deposit: 2 x 2 metres
Possible Depth of Potential Archaeological Deposit: 0.1 metres

of Artefacts:

Visible Extent of Artefacts: 10 x 2.5 metres

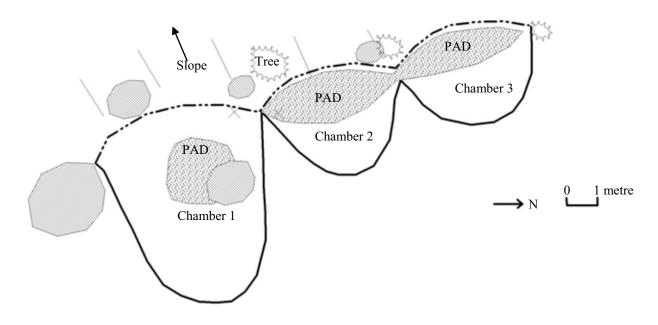
Archaeological Visibility: 70 %

Shelter Floor Area: (1) 5.8 x 4.7m, (2) 4.9 x 2.7m, (3) 4.6 x 2.5m Habitable Shelter Area (roof 1+ metres above floor): (1) 5.8 x 4.7m, (2) 4.9 x 2.7m, (3) 4.6 x 2.5m

Summary of Artefact Types and Stone Materials:

Artefact #	Colour	Stone	Lithic Item Type	Size	Dimensions	Comments
		Material		Class	(mm)	
1	white	quartz	distal flake	3	30x20x5	chamber 2 near drip line
2	white	quartz	lithic fragment	2	20x10x10	chamber 2, 1 metre from artefact #1
3	white	quartz	lithic fragment	1	10x10x10	chamber 1 outside dripline, 1 metre from artefact #1

- □ Large shelter 30 metres outside of study area;
- □ Shelter has 3 chambers:
 - (1) 5.8 metres across x 4.7 metres deep x 2.2 metres high; PAD area 2 x 2 metres;
 - (2) 4.9 metres across x 2.7 metres deep x 2.2 metres high, PAD area 4 x 3 metres;
 - (3) 4.6 metres across x 2.4 metres deep x 2.2 metres high, PAD area 4 x 1 metres;
- Charcoal present;
- □ Red and yellow ochre;
- □ Eagles nest.

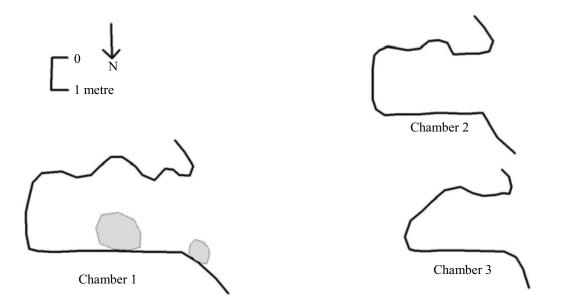


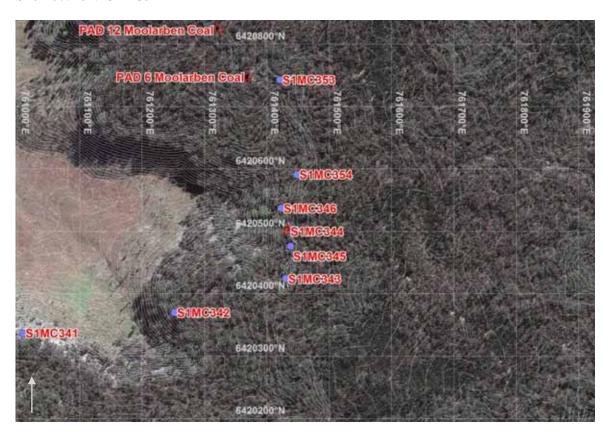
KEY:

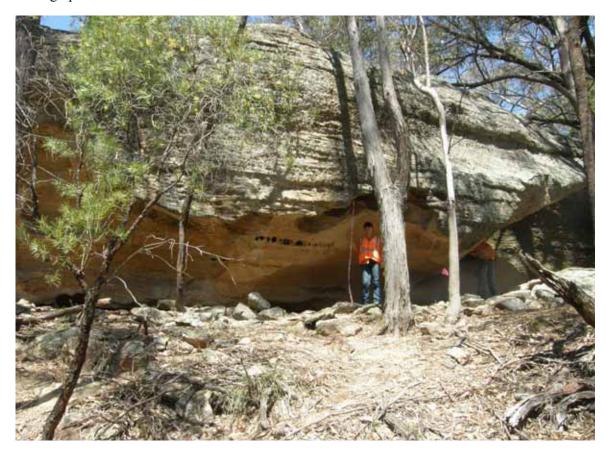
Back wall at floor _____ Back wall at x metres ____ Rock Shelf _____

Dripline ____ Overhang & dripline/overhang ____ Deposit/PAD _____

Artefact x Artefact concentration X Animal burrow _____







Site Type: Rock shelter with PAD MGA Grid Reference: 761438:6420476

Date Recorded: 28/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Drainage depression Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone, conglomerate

Outcrop Type: Rock shelter
Outcrop Form: Scarp
Aspect: Southwest

Erosion: Exfoliation, honeycomb

Surface Condition: *Exfoliating, exposed/weathered, accretions*

Soil: Sand Disturbance to Deposit: High

Causes of Disturbance: Erosion, animal burrows

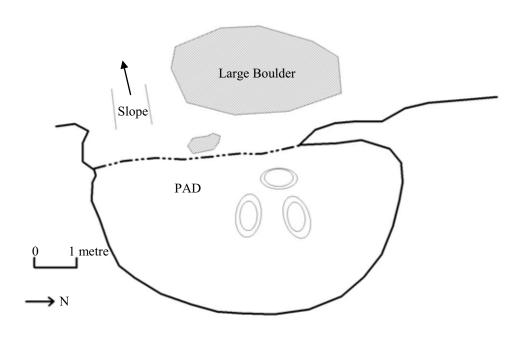
Possible Extent of Potential Archaeological Deposit: $7 \times 4 \text{ metres}$ Possible Depth of Potential Archaeological Deposit: >0.5 metres

of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 80 % Shelter Floor Area: $7 \times 4 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $7 \times 4 \text{ metres}$

- □ Outside study area by about 50 metres;
- □ Complex of shelters in large conglomerate boulders and scarp;
- □ Shelter 7 metres across x 4 metres deep x 3.5 metres high;
- □ PAD area 7 x 4 metres.
- □ Large wombat burrow;
- □ Highly impacted deposit;
- □ Some great surfaces for art but none present, only natural iron oxide staining;
- Research potential reduced to low due to disturbance from wombat burrows.

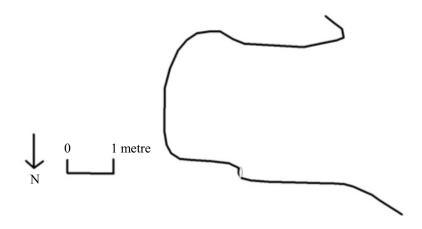


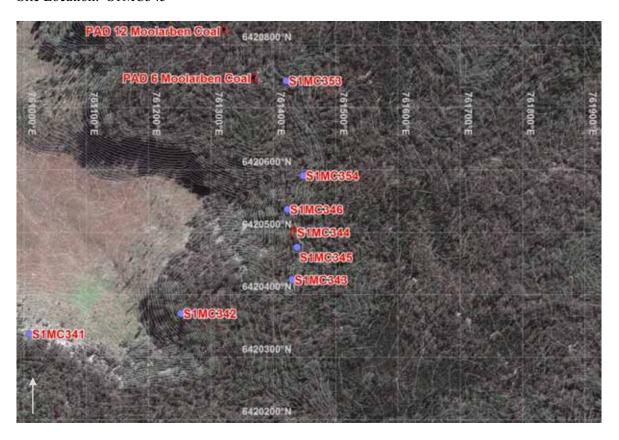
KEY:

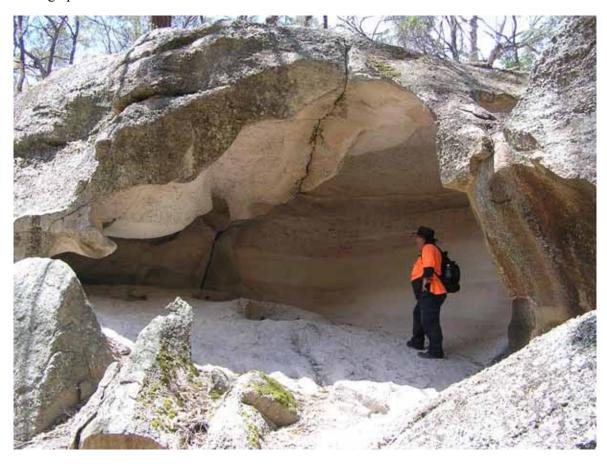
Back wall at floor _____ Back wall at x metres ____ Rock Shelf

Dripline ____ Overhang & dripline/overhang ____ Deposit/PAD

Artefact x Artefact concentration X Animal burrow _____











Site Type: Rock shelter with PAD MGA Grid Reference: 761423:6420537

Date Recorded: 28/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Conglomerate
Outcrop Type: Rock shelter
Outcrop Form: Boulder
Aspect: West

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating
Soil: Sand, gravel
Disturbance to Deposit: High
Causes of Disturbance: Erosion

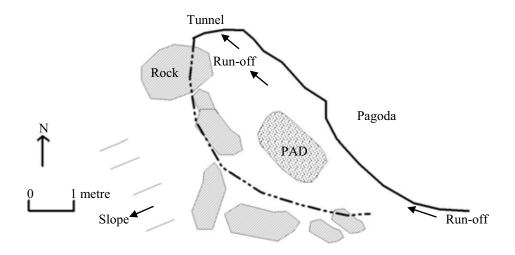
Possible Extent of Potential Archaeological Deposit: 2 x 1 metres
Possible Depth of Potential Archaeological Deposit: >0.1 metres

of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 20 % Shelter Floor Area: $6 \times 3 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $6 \times 3 \text{ metres}$

- □ Pagoda;
- □ Shelter 6 metres across x 3 metres deep x 1.3 metres high;
- \square PAD 2 x 1 metres;
- ☐ High disturbance from erosion and water runoff;
- □ Small, mostly low roof, high disturance, low potential.

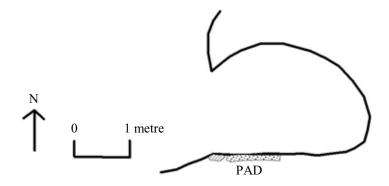


KEY:

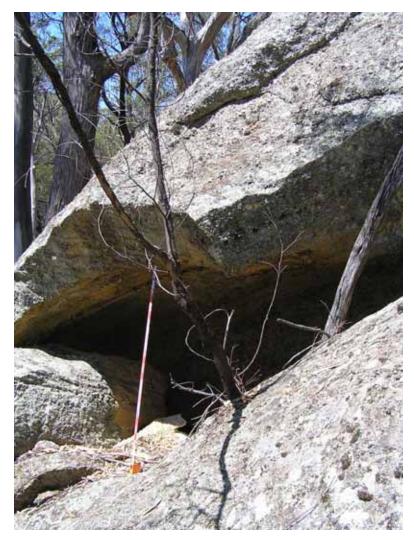
Back wall at floor _____ Back wall at x metres ____ Rock Shelf _____

Dripline ____ Overhang & dripline/overhang ____ Deposit/PAD _____

Artefact x Artefact concentration X Animal burrow _____







Site Type: Rock shelter with PAD MGA Grid Reference: 760928:6420913

Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material:

Outcrop Type:

Outcrop Form:

Aspect:

Erosion:

Sandstone

Rock shelter

Scarp

South

Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Rocky, clay
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: $1.5 \times 1 \text{ metres}$ Possible Depth of Potential Archaeological Deposit: <0.1 metres

of Artefacts:

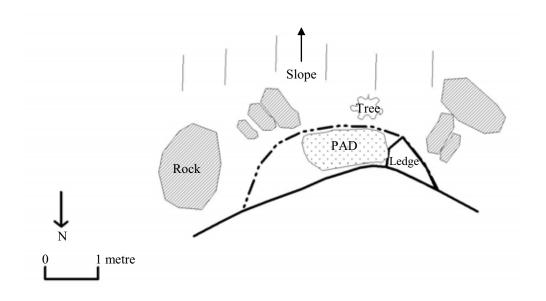
Visible Extent of Artefacts:

Archaeological Visibility: 30 %

Shelter Floor Area: 2.5 x 1 metres
Habitable Shelter Area (roof 1+ metres above floor): 2.5 x 1 metres

- \Box Shelter 2.5 metres across x 1 metre deep x 1.6 metres high;
- \square PAD area is 1.5 x 1 metres;
- □ Small, low roof, runoff through shelter, low potential.





KEY:

Back wall at floor

Dripline

Overhang & dripline/overhang

Artefact

Artefact

Artefact

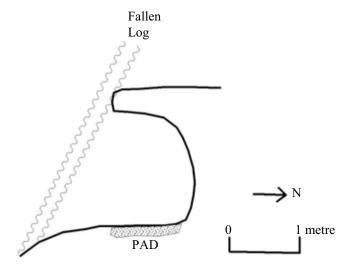
Dripline

Artefact

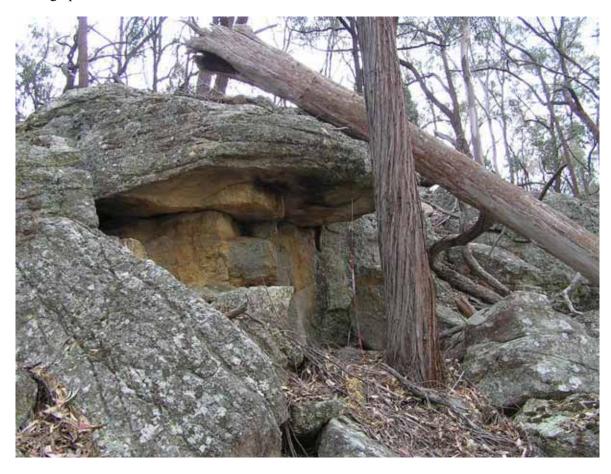
Artefact

Deposit/PAD

Animal burrow







Site Type: Rock shelter with PAD MGA Grid Reference: 760901:6420914

Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Scarp

Aspect: South

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating
Soil: Rocky, sand
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: 1 x 1 metres
Possible Depth of Potential Archaeological Deposit: <0.1 metres

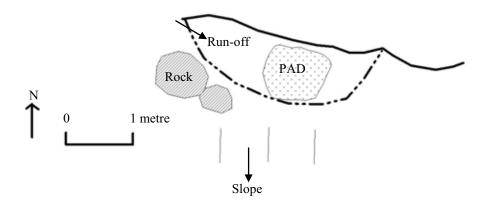
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 70 %

Shelter Floor Area: 3 x 1 metres
Habitable Shelter Area (roof 1+ metres above floor): 3 x 1 metres

- \Box Shelter 3 metres across x 1 metre deep x 1.3 metres high;
- □ PAD area 1 x 1 metres;
- □ Small, low shelter, low potential.

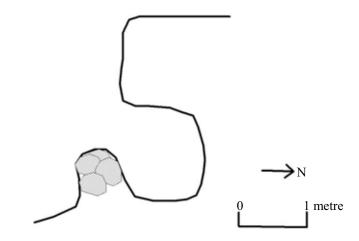


KEY:

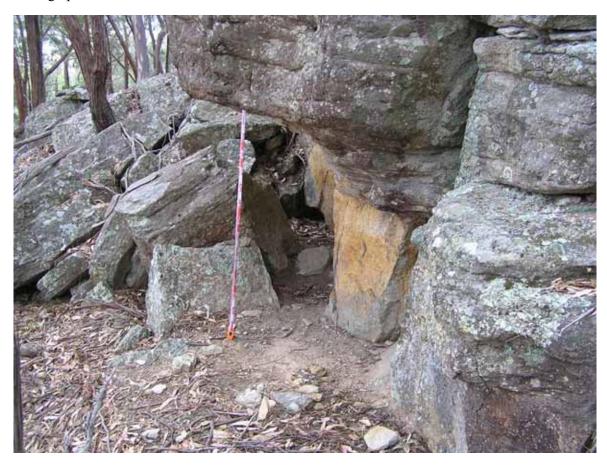
Back wall at floor Back wall at x metres Rock Shelf

Dripline Overhang & dripline/overhang Deposit/PAD

Artefact x Artefact concentration X Animal burrow







Site Type: Rock shelter with PAD MGA Grid Reference: 760793:6420933

Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Outcrop
Aspect: South

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating, exposed/weathered

Soil: Sand
Disturbance to Deposit: Moderate

Causes of Disturbance: Erosion, animal burrows

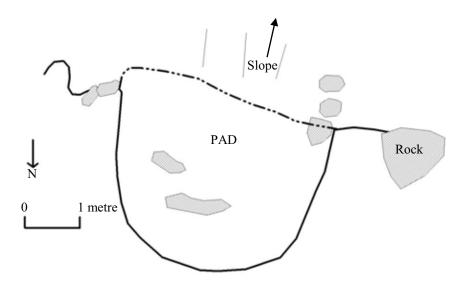
Possible Extent of Potential Archaeological Deposit: 2.9 x 2.7 metres
Possible Depth of Potential Archaeological Deposit: 0.25 metres

of Artefacts:

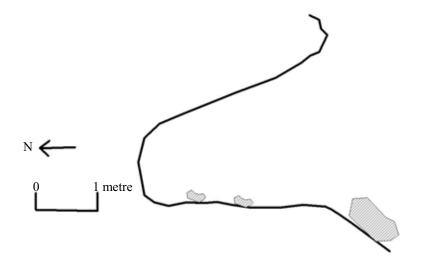
Visible Extent of Artefacts: Archaeological Visibility:

Shelter Floor Area: 3.9 x 2.9 metres
Habitable Shelter Area (roof 1+ metres above floor): 3.9 x 2.9 metres

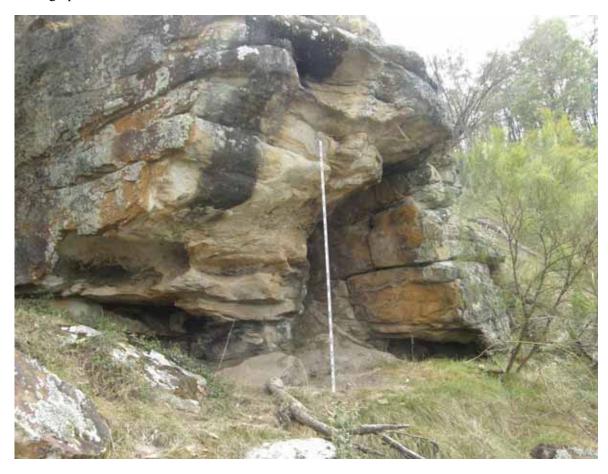
- □ Shelter 3.9 metres across x 2.9 metres deep x 2.6 metres high;
- □ PAD area is 2.9 x 2.7 metres;
- □ Animal scats;
- □ Roof fall.



KEY:			
Back wall at floor		Back wall at x metres	Rock Shelf
Dripline		Overhang & dripline/overhang	Deposit/PAD
Artefact	X	Artefact concentration X	Animal burrow







Site Type: Rock shelter with PAD MGA Grid Reference: 760746:6420946

Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Steep Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Rock shelter
Outcrop Form: Scarp
Aspect: South
Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Sand
Disturbance to Deposit: Moderate
Causes of Disturbance: Animal burrows

Possible Extent of Potential Archaeological Deposit: $1.5 \times 1.5 \text{ metres}$ Possible Depth of Potential Archaeological Deposit: >0.3 metres

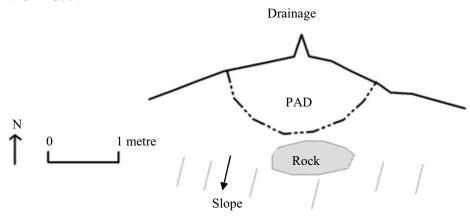
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 90 %

Shelter Floor Area: $2 \times 1.5 \text{ metres}$ Habitable Shelter Area (roof 1+ metres above floor): $2 \times 1.5 \text{ metres}$

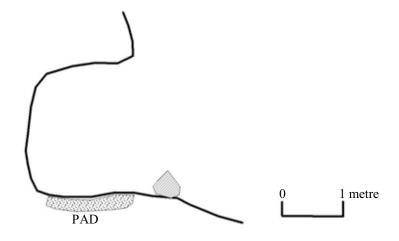
- □ Shelter 2 metres x 1.5 metres deep x 2.2 metres high at rear;
- □ PAD area 1.5 x 1.5 metres.



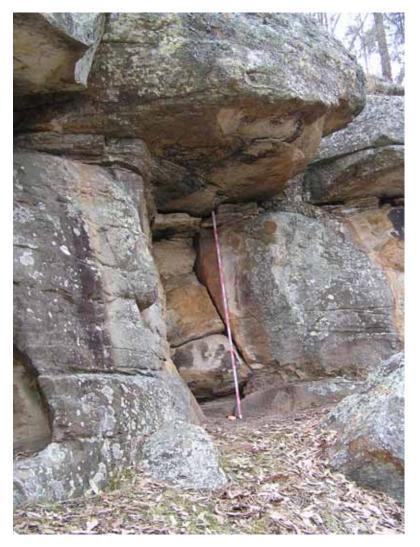
KEY:

Back wall at floor Back wall at x metres Rock Shelf
Dripline Overhang & dripline/overhang Deposit/PAD

Artefact x Artefact concentration X Animal burrow







Site Type: Rock shelter with PAD MGA Grid Reference: 761070:6421070 Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Ridge crest Vegetation: Forest/bush/regrowth

Slope: Gentle Ground Disturbance: Low

Distance to Water: >50

Rock Outcrop Material: Sandstone
Outcrop Type: Overhang
Outcrop Form: Boulder
Aspect: South
Erosion: Exfoliation

Surface Condition: Exfoliating, exposed/weathered

Soil: Sand
Disturbance to Deposit: Low

Causes of Disturbance: Erosion, rock fall

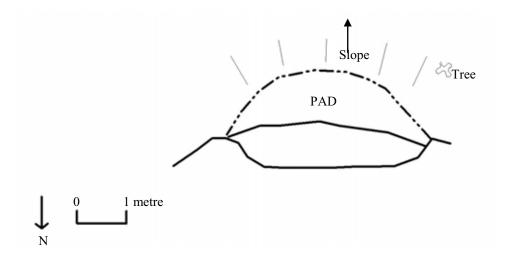
Possible Extent of Potential Archaeological Deposit: 1 x 2 metres
Possible Depth of Potential Archaeological Deposit: 0.14 metres

of Artefacts:

Visible Extent of Artefacts: Archaeological Visibility:

Shelter Floor Area: 3.5 x 1.9 metres
Habitable Shelter Area (roof 1+ metres above floor): 3.5 x 1.9 metres

- □ Shelter 3.5 metres across x 1.9 metres deep x 2.4 metres high at entrance;
- \square PAD area is 2 x 1 metres.



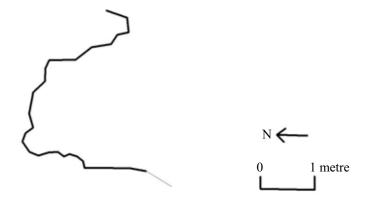
KEY:

Back wall at floor
Dripline
Overhang & dripline/overhang
Overhang & dripline/overhang
Artefact

Artefact

Deposit/PAD

Animal burrow







Site Type: Rock shelter with PAD MGA Grid Reference: 761168:6421080 Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Ridge crest Vegetation: Forest/bush/regrowth

Slope: Gentle Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Sandstone, conglomerate

Outcrop Type: Overhang
Outcrop Form: Boulder
Aspect: North

Erosion: Exfoliation, cavernous

Surface Condition:

Soil: Sand, leaf litter
Disturbance to Deposit: Moderate

Causes of Disturbance: Erosion, animals, vegetation

Possible Extent of Potential Archaeological Deposit: 1 x 1 metres
Possible Depth of Potential Archaeological Deposit: 0.2 metres

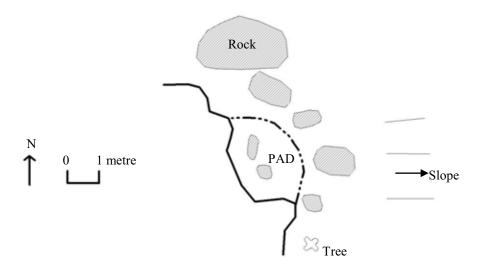
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 40 %

Shelter Floor Area: 2×1.5 metres Habitable Shelter Area (roof 1+ metres above floor): 2×1.5 metres 2×1.5 metres

- ☐ Shelter 2 metres across x 1.5 metres deep x 3.1 metres high;
- \Box PAD area is 1 x 1 metres;
- □ Rock falls;
- □ Outside study area by approximately 30 metres.

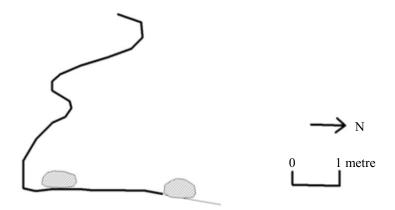


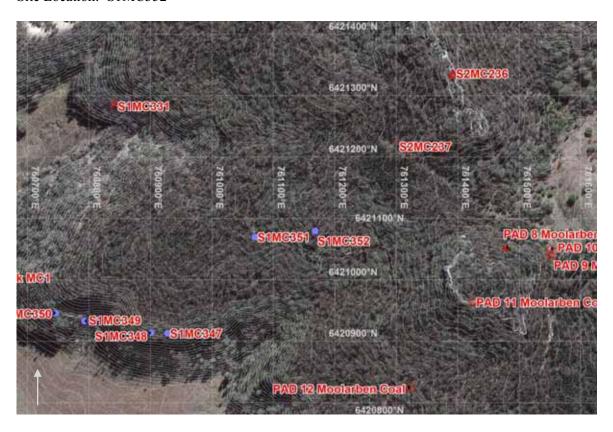
KEY:

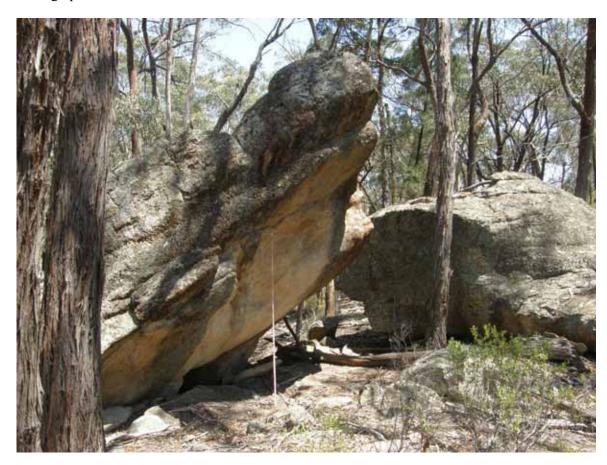
Back wall at floor _____ Back wall at x metres ____ Rock Shelf _____

Dripline ____ Overhang & dripline/overhang ____ Deposit/PAD _____

Artefact x Artefact concentration X Animal burrow _____







Site Type: Rock shelter with PAD MGA Grid Reference: 761421:6420743

Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Drainage depression Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material:SandstoneOutcrop Type:Rock shelterOutcrop Form:Scarp, Boulder

Aspect: South

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating, exposed/weathered, accretion

Soil: Rocky, sand
Disturbance to Deposit: Moderate
Causes of Disturbance: Erosion

Possible Extent of Potential Archaeological Deposit: 3 x 1 metres
Possible Depth of Potential Archaeological Deposit: <0.1 metres

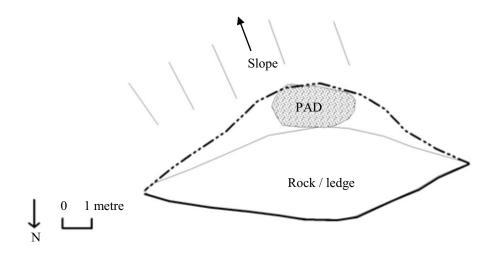
of Artefacts:

Visible Extent of Artefacts:

Archaeological Visibility: 90 %

Shelter Floor Area: 11 x 4 metres
Habitable Shelter Area (roof 1+ metres above floor): 11 x 4 metres

- □ Shelter curves around scarp;
- Approximately 11 metres across and 4 metres deep in centre x 2.7 metres high at entrance but closes in to 0.8 metres high;
- □ PAD area 3 x 1 metres in front of shelter;
- □ Mostly rocky floor;
- □ Relatively small, runoff from side, low potential.

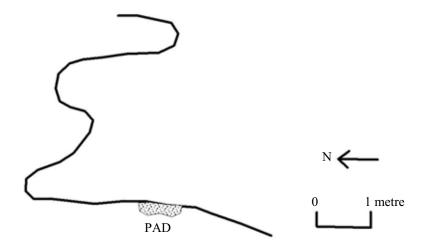


KEY:

Back wall at floor Back wall at x metres Rock Shelf

Dripline Overhang & dripline/overhang Deposit/PAD

Artefact x Artefact concentration X Animal burrow







Photograph: S1MC353



SITE NAME: S1MC354

Site Type: Rock shelter with PAD MGA Grid Reference: 761448:6420591 Date Recorded: Topographic Map: Wollar 8833-2N

29/11/12

Recorder: Birgitta Stephenson

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Moderate Ground Disturbance: Slope:

Distance to Water: < 50

Rock Outcrop Material: Sandstone, conglomerate

Outcrop Type: Overhang Outcrop Form: Boulder Aspect: Southwest

Erosion: Exfoliation, cavernous

Surface Condition: Exfoliating, exposed/weathered

Soil: Sand Disturbance to Deposit: Moderate

Causes of Disturbance: Animals, dead trees

Possible Extent of Potential Archaeological Deposit: 4 x 2 metres Possible Depth of Potential Archaeological Deposit: 0.44 metres

of Artefacts:

Visible Extent of Artefacts:

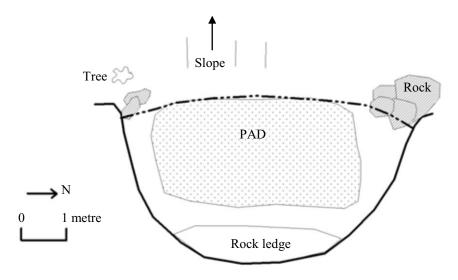
Archaeological Visibility: 90 %

Shelter Floor Area: 6.5 x 3.2 metres Habitable Shelter Area (roof 1+ metres above floor): 6.5 x 3.2 metres

Additional Comments:

- Shelter 6.5 metres across x 3.2 metres deep x 2.6 metres high;
- PAD area 4 x 2 metres.

Site Plan: S1MC354



KEY:

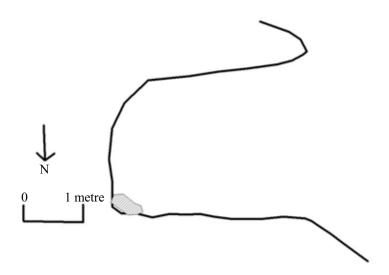
Back wall at floor
Dripline
Overhang & dripline/overhang
Overhang & Artefact

Artefact

Artefact

Back wall at x metres
Overhang & dripline/overhang
Deposit/PAD
Animal burrow

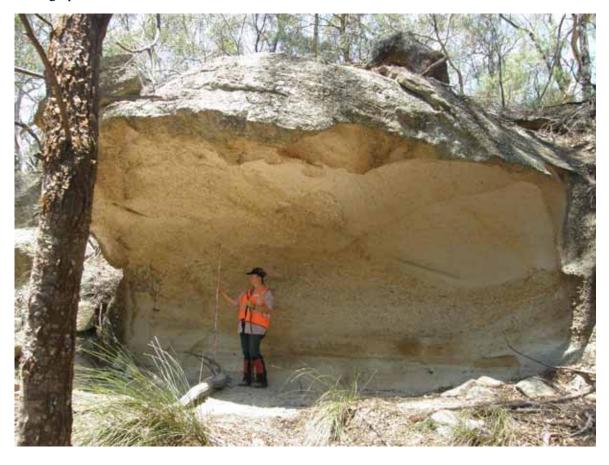
Cross-section: S1MC354



Site Location: S1MC354



Photograph: S1MC354



SITE NAME: #36-3-885

Site Type: Rock shelter with PAD MGA Grid Reference: 761370:6420748

Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Birgitta Stephenson

Landform Element: Ridge crest Vegetation: Forest/bush/regrowth

Slope: Gentle Ground Disturbance: Low - moderate

Distance to Water: >50

Rock Outcrop Material: Sandstone, conglomerate

Outcrop Type: Rock shelter
Outcrop Form: Boulder, outcrop

Aspect: West
Erosion: Cavernous

Surface Condition: Exposed/weathered

Soil: Sand
Disturbance to Deposit: Moderate

Causes of Disturbance: Erosion, leaf litter, roof fall

Possible Extent of Potential Archaeological Deposit: $1 \times 0.5 \text{ metres}$ Possible Depth of Potential Archaeological Deposit: 0.3 metres

of Artefacts:

Visible Extent of Artefacts:

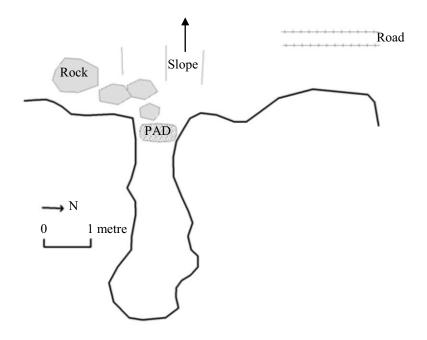
Archaeological Visibility: 90 %

Shelter Floor Area: 1.5 x 4.3 metres
Habitable Shelter Area (roof 1+ metres above floor): 1.5 x 4.3 metres

Additional Comments:

- □ Probably equates to Giles Hamm's 'PAD 6';
- Shelter 6 metres across at entrance but narrows to around 1.5 metres a small way in, 4.3 metres deep x 2.2 metres high;
- \square PAD 1 x 0.5 metres;
- □ Leaf litter;
- □ Roof fall;
- □ Very low potential.

Site Plan: #36-3-885



KEY:

Back wall at floor

Dripline

Artefact

Dripline

Artefact

Dripline

Artefact

Dripline

Artefact

Artefact

Dripline

Artefact

Artefact

Dripline

Artefact

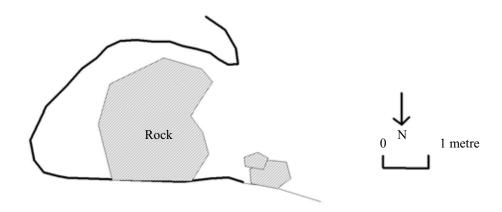
Artefact

Artefact

Dripline

Artefact

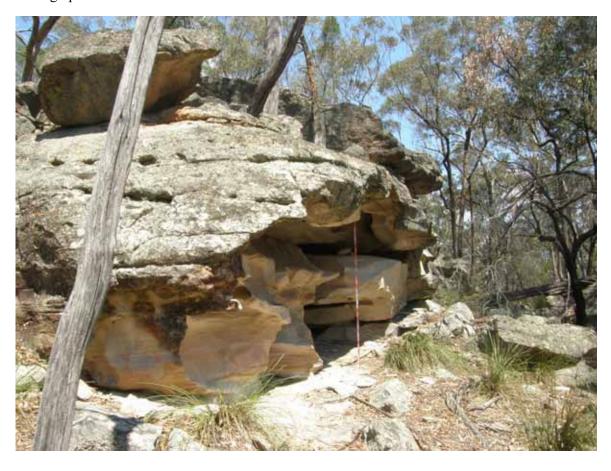
Cross-section: #36-3-885



Site Location: #36-3-885 (PAD 6 Moolarben Coal)



Photograph: #36-3-885



SITE NAME: #36-3-958

Site Type: Rock shelter with PAD MGA Grid Reference: 761323:6420825

Date Recorded: 29/11/12 Topographic Map: Wollar 8833-2N

Recorder: Peter Kuskie

Landform Element: Simple slope Vegetation: Forest/bush/regrowth

Slope: Moderate Ground Disturbance: Low

Distance to Water: <50

Rock Outcrop Material: Conglomerate
Outcrop Type: Rock shelter
Outcrop Form: Scarp, boulder

Aspect: West

Erosion: Exfoliation
Surface Condition: Exfoliating
Soil: Rocky, sand

Disturbance to Deposit: High

Causes of Disturbance: Erosion, animal burrows

Possible Extent of Potential Archaeological Deposit: $2 \times 1 \text{ metres}$ Possible Depth of Potential Archaeological Deposit: 0.1 metres

of Artefacts:

Visible Extent of Artefacts:

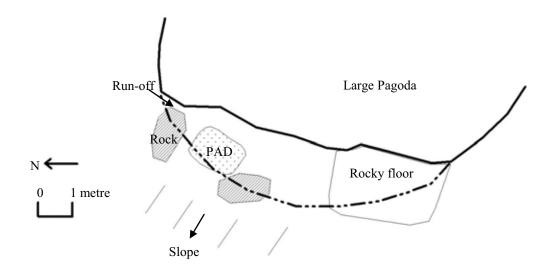
Archaeological Visibility: 90 %

Shelter Floor Area: 10 x 3 metres
Habitable Shelter Area (roof 1+ metres above floor): 10 x 3 metres

Additional Comments:

- □ Probably equates to Giles Hamm's 'PAD 12';
- □ Shelter 10 metres across x 3 metres deep x 2.8 metres at highest;
- \Box PAD area 2 x 1 metres;
- □ Mostly rocky floor;
- □ Very small PAD;
- □ Erosion and runoff from north side;
- □ Wombats;
- □ Very low potential.

Site Plan: #36-3-958

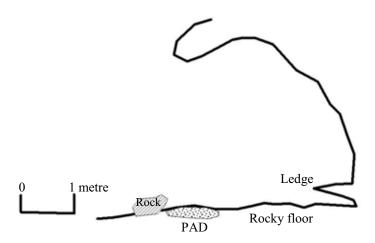


KEY:

Back wall at floor
Dripline
Overhang & dripline/overhang
Overhang & Artefact concentration

Back wall at x metres
Overhang & dripline/overhang
Deposit/PAD
Animal burrow

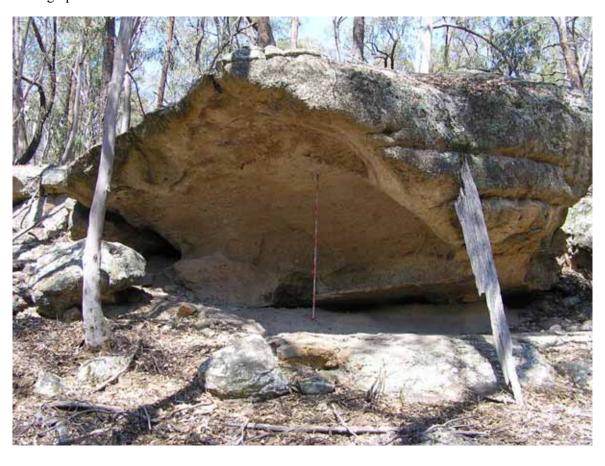
Cross-section: #36-3-958



Site Location: #36-3-958 (PAD 12 Moolarben Coal)



Photograph: #36-3-958



APPENDIX 4.

PLATES



Plate 1: View from Survey Area 4 north across existing OC1.



Plate 2: Example of totally modified area adjacent to Survey Area 112 in OC2 Extension Area.



Plate 3: Example of natural occurance of tabular tuff and tuffaceous stone (Survey Area 8).

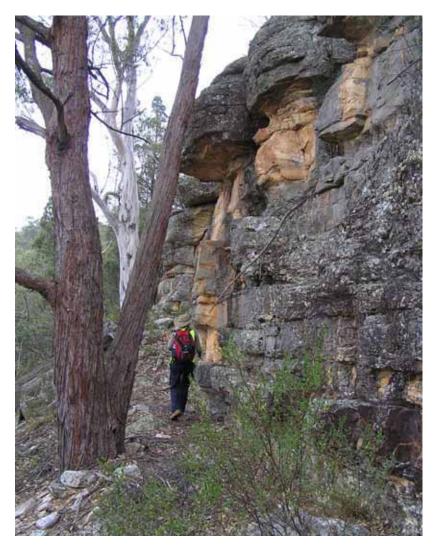


Plate 4: Example of straight-walled sandstone formation, typical of extension area (Survey Area 98).



Plate 5: View north-west to Survey Area 25 (moderate simple slope) in OC1 Extension Area, bordering existing Open Cut 1 pit.



Plate 6: Survey Area 43 (moderate simple slope) in OC1 Extension Area, hosting rock formations with mostly straight walls (no rock shelters with PADs present, only hollows suitable for animals or with rocky floors and no deposit).



Plate 7: Example of moderate drainage depression (Survey Area 47 in OC1 Extension Area).



Plate 8: Survey Area 19, the broad gentle ridge crest that occupies a substantial portion of the OC1 Extension Area.



Plate 9: View south-east across Survey Area 48 (gentle simple slope on the eastern margin of the Moolarben Creek valley) to the moderate simple slope (Survey Area 49) in the south-western portion of the OC1 Extension Area.



Plate 10: View north-west across Survey Area 52 (gentle spur crest - foreground) and 51 (moderate simple slope) to the forested moderate simple slope (Survey Area 49) and gentle ridge crest (Survey Area 44) at the southern boundary of the OC1 Extension Area.



Plate 11: View north-west from Survey Area 52 (gentle spur crest - foreground) across the Moolarben Creek valley, location of the approved Open Cut 2.



Plate 12: View north from Survey Area 97 across the Moolarben Creek valley, location of the approved Open Cut 2, to the OC2 Extension Area, particularly the grassy and forested steep simple slopes of Survey Areas 67 - 70 and 81.



Plate 13: View south-west from Survey Area 102 across the Moolarben Creek valley, location of the approved Open Cut 2, to the OC2 Extension Area, particularly the grassy and forested simple slopes of Survey Area 109, which borders the former quarry (Modified area).



Plate 14: Survey Area 100 (steep simple slope) in OC2 Extension Area, hosting rock formations with mostly straight walls (no rock shelters with PADs present).



Plate 15: View north-east to Survey Areas 102 and 105 (steep simple slopes) and 103 and 106 (moderate drainage depressions) in the OC2 Extension Area.



Plate 16: Survey Area 112, the broad gentle ridge in the OC2 Extension Area.



Plate 17: View north from Moolarben Creek to Survey Area 124 (gentle simple slope) at base of steep side-slopes of ridge (Survey Areas 113-120, 122 and 125).



Plate 18: View south-east of Survey Area 115 (steep simple slope) in OC2 Extension Area, hosting rock formations with mostly straight walls.



Plate 19: Survey Area 120 (steep drainage depression) in OC2 Extension Area.



Plate 20: Survey Area 126 (gentle ridge crest) in the OC2 Extension Area.



Plate 21: Steep simple slope (Survey Area 125) in southern portion of OC2 Extension Area.



Plate 22: View north-west across gentle simple slope (Survey Area 133) marginally east of Moolarben Creek to Survey Area 128 (steep simple slope) at base of steep side-slopes of ridge.

APPENDIX 5. ABORIGINAL COMMUNITY CONSULTATION

Consultation Database (Modification only):

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
12/11/12	Kevin Williams,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
	Coral Williams,	North-east Wiradjuri,		B. Stephenson		Modification investigation
	Christine Maynard,	Mudgee LALC,		L. Syme	MCO	area.
	Larry Foley	MGATSIC				
13/11/12	Wendy Lewis,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Inductions and field
	Kelsey Williams,	North-east Wiradjuri,		B. Stephenson		inspection of Stage 1
	Christine Maynard,	Mudgee LALC,				Modification investigation
	Shannon Foley,	MGATSIC				area.
	Larry Foley					
14/11/12	Wendy Lewis,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
	Kelsey Williams,	North-east Wiradjuri,		B. Stephenson		Modification investigation
	John Newton, Larry Foley	Mudgee LALC, MGATSIC				area.
15/11/12	Wendy Lewis,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
15/11/12	Coral Williams,	North-east Wiradjuri,	Ticiuwork	B. Stephenson	SEA	Modification investigation
	John Newton,	Mudgee LALC,		B. Stephenson		area.
	Larry Foley	MGATSIC				arca.
16/11/12	Kevin Williams,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
10,11,12	Coral Williams,	North-east Wiradjuri,	1 Total World	B. Stephenson	J.L.	Modification investigation
	John Newton,	Mudgee LALC,		D. Stephenson		area.
	Larry Foley	MGATSIC				
26/11/12	Kevin Williams,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
	Coral Williams,	North-east Wiradjuri,		B. Stephenson		Modification investigation
	Christine Maynard,	Mudgee LALC,		*		area.
	Steven Flick	MGATSIC				
27/11/12	Larry Foley	MGATSIC	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
				B. Stephenson		Modification investigation
				_		area. Other personnel (one
						or more representatives
						from each group) inducted.
28/11/12	Donna Whillock,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
	Shaen Morgan,	North-east Wiradjuri,		B. Stephenson		Modification investigation
	Tammy Newton,	Mudgee LALC,				area.
	Larry Foley	MGATSIC				
29/11/12	Kevin Williams,	Warrabinga NTCAC,	Fieldwork	P. Kuskie	SEA	Field inspection of Stage 1
	Donna Whillock,	North-east Wiradjuri,		B. Stephenson		Modification investigation
	Larry Foley,	Mudgee LALC,				area.
7/2/12	Shannon Foley	MGATSIC	M4:	D 1/21-:-	CEA	Marting at Martalan
7/2/13	Kelsey Williams, Shaen Morgan,	Warrabinga NTCAC, North-east Wiradjuri,	Meeting	P. Kuskie, P. English,	SEA, MCO	Meeting at Moolarben office, discussed progress
	John Newton,	Mudgee LALC,		L. Bowden	WICO	of Stage 1 Optimisation
	Larry Foley	MGATSIC		L. Dowden		Modification, Stage 1
	Larry Toley	WOATSIC				ACHMP and other MCO
						projects.
3/4/13	Aleshia Lonsdale	Mudgee LALC	Letter	Julie Thomas	MCO	Provision of draft Stage 1
5, 1, 15						Optimisation Modification
						report and request for
						comment.
3/4/13	Larry Foley	MGATSIC	Letter	Julie Thomas	MCO	Provision of draft Stage 1
						Optimisation Modification
						report and request for
						comment.
3/4/13	Lyn Syme	North-east Wiradjuri	Letter	Julie Thomas	MCO	Provision of draft Stage 1
						Optimisation Modification
						report and request for
						comment.
3/4/13	Robin Williams	Warrabinga NTCAC	Letter	Julie Thomas	MCO	Provision of draft Stage 1
						Optimisation Modification
						report and request for
15/4/12		MGO	ļ., .,	ļ.,	MOARGIC	comment.
15/4/13	Luke Bowden	MCO	Email	Larry Foley	MGATSIC	Provided response to draft
						Stage 1 Optimisation
						Modification report
2/5/12	T 1 D 1	1160	ļ., .,	ļ , , ,	N 4	supporting the assessment.
3/5/13	Luke Bowden	MCO	Email	Lyn Syme	North-east Wiradjuri	Provided response to draft
						Stage 1 Optimisation
						Modification report
		1				supporting the assessment.

Murong Gialinga Aboriginal and Torres Strait Islander

Corporation

C/O PO Box 1097 Mudgee NSW 2850 Ph: 02 63720859

Email: muronggialinga@hotmail.com

15/4/13

To

Whom it may concern

We are writing to you in regards to the DRAFT STAGE 1 OPTIMISATION PROJECT REPORT after a discussion after viewing the report at our general meeting held on the 9//4/13 our comments are as follows Firstly we don't support mining but after reading the Draft Report We agree and support the recommendations in the Draft Report. We at Murong Gialinga have been working with Peter Kuskie for the last fifteen years in different mines in this local area we have always had a good working relationship also with his employees. Peter always gives 100% on every job. We pleased he will be the Archeologist for Moolarben .We would like to add that when drilling happens an Aboriginal Stakeholder representative from each group be present. As was discussed with Moolarben at one of our Stakeholders meetings We have been told via the Koori grape vine that there was work done without the Aboriginal stakeholders knowledge could we please have a written reply on what work was carried out or if this work was not carried out without the Aboriginal stakeholders Murong Gialinga Community would like to know as this is a concern. Also we need 28days to comment on further correspondence e.g. Reports as we need time to call a meeting to have the communities input in future it was only luck that we had a general meeting planned.

Regards

Larry Foley

Chairperson



3rd May, 2013.

Mr. L. Bowden, Environmental and Community Relations Manager, Moolarben Coal Pty Limited, 4250 Ulan Road, ULAN, NSW, 2850

Dear Mr. Bowden,

Moolarben Coal Project – Stage 1 Optimisation Modification, Draft Aboriginal Cultural Heritage Assessment,

We support the above Draft Aboriginal Cultural Heritage Assessment.

We note that archaeological survey(s) will occur for all potential impact areas that could not be sampled during the present investigation.

We further note that archaeological investigations will only be undertaken by archaeologists qualified and experienced in Aboriginal heritage, in consultation with the registered Aboriginal stakeholder organisations and occur prior to any development impacts occurring to those specific areas or sites.

Yours sincerely,

Lyn Syme

Co Secretary / Director

PO Box 29 Kandos. NSW. 2848 0425332434

ABN: 18125329526