



Creswell Crags Limestone Heritage Area Management Action Plan

Volume 3, Appendices

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APPENDICES

Appendix 2.1 - Nottinghamshire Information on the GIS Index

Special Areas of Conservation - SAC

National Nature Reserves - NNR

Sites of Special Scientific Interest - SSSI

Sites of Importance for Nature Conservation - SINC

Ancient Woodlands

Statutory Local Nature Reserves - LNR

Informal Nature Reserves

Nottinghamshire Wildlife Trust

Woodlands Trust

RSPB

Scheduled Ancient Monuments – SAM

Listed Buildings

Conservation Areas

Sites and Monuments Record - SMR

Appendix 3.1 Costs for Production of Information Guides

	Sc	Sp	Per Day	Days	Cost	Total
ARCUS staff						
James Symonds	OR3	2	178.00	5	890.00	
Glyn Davies	OR1	5	135.00	30	4050.00	
site assistant	Tech D	2	93.41	3	280.23	
Illustrator	Tech D	2	93.41	9	840.69	
					Sub-total a	6060.92

External Specialists						
					Sub-total b	0.00

Non-staff cost ARCUS						
Travel			30.00	6	180.00	
Consumables			1.00	200	200.00	
					Sub-total c	380.00

Non-staff cost external						
travel					0.00	
Printing 30 copies of each			20.00	9	180.00	
					0.00	
					Sub-total d	180.00

Overheads						
ARCUS Overheads at 25% a+c					1610.23	
External Overheads at 10% b+d					18.00	
					Sub-total e	1628.23

Capital Equipment						
					Sub-total f	0.00

Gross Total						8249.15
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Appendix 3.2 Costs for the Monitoring Programme

Monitoring 4 yearly

	Per Day	Days	Cost	Total
Creswell Heritage Trust staff				
Nigel Mills	340.00	2	680.00	
Ranger	225.00	14	3150.00	
			Total	£3830.00

Monitoring 2 yearly

	Per Day	Days	Cost	Total
Creswell Heritage Trust staff				
Nigel Mills	340.00	1	340.00	
Ranger	225.00	6	1350.00	
			Total	£1690.00

Appendix 3.3 Costs for Backfilling Trenches at Thorpe Common Rock Shelter

	Sc	Sp	Per Day	Days	Cost	Total
ARCUS staff						
James Symonds	OR3	2	178.00		0.00	
Glyn Davies	OR1	5	135.00	2	270.00	
site assistant	Tech D	2	93.41	1	93.41	
					Sub-total a	363.41

External Specialists						
					0.00	
					Sub-total b	0.00

Non-staff cost ARCUS						
Travel			30.00	2	60.00	
					Sub-total c	60.00

Non-staff cost external						
					0.00	
					Sub-total d	0.00

Overheads						
ARCUS Overheads at 25% a+c					105.85	
External Overheads at 10% b+d					0.00	
					Sub-total e	105.85

Capital Equipment						
					Sub-total f	0.00

Gross Total						529.26
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Appendix 3.4 Terrain Unit Database CD

Appendix 4.1 Discriminat analysis for cave sites

Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		6	4.0
Excluded	Missing or out-of-range group codes	19	12.6
	At least one missing discriminating variable	7	4.6
	Both missing or out-of-range group codes and at least one missing discriminating variable	118	78.1
	Unselected	1	.7
	Total	145	96.0
Total		151	100.0

Group Statistics

Archaeology1_none0		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
0	Valley_location_1_high_2_mid_3_low	1.3333	.57735	3	3.000
	Altitude (m)	118.3333	10.40833	3	3.000
	arch_cave_vacinity1_none2	1.6667	.57735	3	3.000
	Light Zone Extent (depth m)	5.0000	3.00000	3	3.000
	Groundslope Inside (deg)	28.3333	24.66441	3	3.000
	General Slope Above (deg)	90.0000	.00000	3	3.000
	General Slope Below (deg)	23.3333	20.81666	3	3.000
	General Slope Left (deg)	73.3333	28.86751	3	3.000
	newasp	63.3333	85.04901	3	3.000
	Cave_area	70.0000	69.54135	3	3.000
	Cave Depth (m)	37.6667	50.63925	3	3.000
	Cave_entrance_size	4.9333	4.42869	3	3.000
1	Valley_location_1_high_2_mid_3_low	1.6667	1.15470	3	3.000
	Altitude (m)	115.6667	6.02771	3	3.000
	arch_cave_vacinity1_none2	1.0000	.00000	3	3.000
	Light Zone Extent (depth m)	2.3333	1.52753	3	3.000
	Groundslope Inside (deg)	20.0000	34.64102	3	3.000
	General Slope Above (deg)	60.0000	51.96152	3	3.000
	General Slope Below (deg)	33.3333	30.55050	3	3.000
	General Slope Left (deg)	80.0000	17.32051	3	3.000
	newasp	108.3333	27.53785	3	3.000
	Cave_area	15.3333	11.71893	3	3.000

Total	Cave Depth (m)	6.0000	5.56776	3	3.000
	Cave_entrance_size	3.9333	.11547	3	3.000
	Valley_location_1_high_2_mid_3_low	1.5000	.83666	6	6.000
	Altitude (m)	117.0000	7.74597	6	6.000
	arch_cave_vacinity1_none2	1.3333	.51640	6	6.000
	Light Zone Extent (depth m)	3.6667	2.58199	6	6.000
	Groundslope Inside (deg)	24.1667	27.27942	6	6.000
	General Slope Above (deg)	75.0000	36.74235	6	6.000
	General Slope Below (deg)	28.3333	24.01388	6	6.000
	General Slope Left (deg)	76.6667	21.60247	6	6.000
	newasp	85.8333	61.67793	6	6.000
	Cave_area	42.6667	53.72026	6	6.000
	Cave Depth (m)	21.8333	36.59189	6	6.000
	Cave_entrance_size	4.4333	2.85494	6	6.000

Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
Valley_location_1_high_2_mid_3_low	.952	.200	1	4	.678
Altitude (m)	.964	.147	1	4	.721
arch_cave_vacinity1_none2	.500	4.000	1	4	.116
Light Zone Extent (depth m)	.680	1.882	1	4	.242
Groundslope Inside (deg)	.972	.115	1	4	.751
General Slope Above (deg)	.800	1.000	1	4	.374
General Slope Below (deg)	.948	.220	1	4	.664
General Slope Left (deg)	.971	.118	1	4	.749
newasp	.840	.760	1	4	.432
Cave_area	.689	1.803	1	4	.251
Cave Depth (m)	.775	1.159	1	4	.342
Cave_entrance_size	.963	.153	1	4	.716

Pooled Within-Groups Matrices(a)

		Valley_location_1_high_2_mid_3_low	Altitude (m)	arch_cave_vacinity1_one2	Light Zone Extent (depth m)	Groundslope Inside (deg)	General Slope Above (deg)	General Slope Below (deg)	General Slope Left (deg)	newasp	Cave_area	Cave Depth (m)	Cave_entrance_size
Covariance	Valley_location_1_high_2_mid_3_low	.833	1.083	.083	.583	12.917	-30.000	-22.500	9.167	-2.500	1.833	-3.417	1.200
	Altitude (m)	1.083	72.333	.833	-17.667	174.167	-142.500	-37.500	84.167	523.750	299.333	262.583	-18.400
	arch_cave_vacinity1_one2	.083	.833	.167	.000	-4.167	.000	-4.167	8.333	8.333	16.000	8.167	.483
	Light Zone Extent (depth m)	.583	-17.667	.000	5.667	-35.000	7.500	-10.833	-12.500	-134.583	-57.333	-62.250	6.167
	Groundslope Inside (deg)	12.917	174.167	-4.167	-35.000	904.167	-900.000	-245.833	-58.333	991.667	150.000	305.833	-55.083
	General Slope Above (deg)	-30.000	-142.500	.000	7.500	-900.000	1350.000	750.000	-225.000	-600.000	-195.000	-135.000	3.000
	General Slope Below (deg)	-22.500	-37.500	-4.167	-10.833	-245.833	750.000	683.333	-408.333	-16.667	-148.333	45.833	-41.167
	General Slope Left (deg)	9.167	84.167	8.333	-12.500	-58.333	-225.000	-408.333	566.667	629.167	765.000	415.833	23.667
	newasp	-2.500	523.750	8.333	-134.583	991.667	-600.000	-16.667	629.167	3995.833	2499.167	2133.333	-141.167
	Cave_area	1.833	299.333	16.000	-57.333	150.000	-195.000	-148.333	765.000	2499.167	2486.667	1694.500	-40.133
	Cave Depth (m)	-3.417	262.583	8.167	-62.250	305.833	-135.000	45.833	415.833	2133.333	1694.500	1297.667	-62.717
	Cave_entrance_size	1.200	-18.400	.483	6.167	-55.083	3.000	-41.167	23.667	-141.167	-40.133	-62.717	9.813
Correlation	Valley_location_1_high_2_mid_3_low	1.000	.140	.224	.268	.471	-.894	-.943	.422	-.043	.040	-.104	.420

Altitude (m)	.140	1.000	.240	-.873	.681	-.456	-.169	.416	.974	.706	.857	-.691
arch_cave_vacinity1_none2	.224	.240	1.000	.000	-.339	.000	-.390	.857	.323	.786	.555	.378
Light Zone Extent (depth m)	.268	-.873	.000	1.000	-.489	.086	-.174	-.221	-.894	-.483	-.726	.827
Groundslope Inside (deg)	.471	.681	-.339	-.489	1.000	-.815	-.313	-.081	.522	.100	.282	-.585
General Slope Above (deg)	-.894	-.456	.000	.086	-.815	1.000	.781	-.257	-.258	-.106	-.102	.026
General Slope Below (deg)	-.943	-.169	-.390	-.174	-.313	.781	1.000	-.656	-.010	-.114	.049	-.503
General Slope Left (deg)	.422	.416	.857	-.221	-.081	-.257	-.656	1.000	.418	.644	.485	.317
newasp	-.043	.974	.323	-.894	.522	-.258	-.010	.418	1.000	.793	.937	-.713
Cave_area	.040	.706	.786	-.483	.100	-.106	-.114	.644	.793	1.000	.943	-.257
Cave Depth (m)	-.104	.857	.555	-.726	.282	-.102	.049	.485	.937	.943	1.000	-.556
Cave_entrance_size	.420	-.691	.378	.827	-.585	.026	-.503	.317	-.713	-.257	-.556	1.000

a The covariance matrix has 4 degrees of freedom.

Covariance Matrices(a)

Archaeology1_none0		Valley_location_1_high_2_mid_3_low	Altitude (m)	arch_cave_vacinity1_none2	Light Zone Extent (depth m)	Groundslope Inside (deg)	General Slope Above (deg)	General Slope Below (deg)	General Slope Left (deg)	newasp	Cave_area	Cave Depth (m)	Cave_entrance_size
0	Valley_location_1_high_2_mid_3_low	.333	-4.167	.167	1.500	-14.167	.000	-11.667	8.333	31.667	-5.000	-12.833	2.533
	Altitude (m)	-4.167	108.333	1.667	-30.000	158.333	.000	108.333	83.333	883.333	580.000	501.667	-36.167

1	arch_cave_vacinity1_none2	.167	1.667	.333	.000	-8.333	.000	-8.333	16.667	16.667	32.000	16.333	.967
	Light Zone Extent (depth m)	1.500	-30.000	.000	9.000	-60.000	.000	-45.000	.000	240.000	126.000	126.000	12.300
	Groundslope Inside (deg)	-14.167	158.333	-8.333	-60.000	608.333	.000	508.333	416.667	1183.333	40.000	431.667	-106.167
	General Slope Above (deg)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	General Slope Below (deg)	-11.667	108.333	-8.333	-45.000	508.333	.000	433.333	416.667	783.333	170.000	221.667	-85.667
	General Slope Left (deg)	8.333	83.333	16.667	.000	-416.667	.000	-416.667	833.333	833.333	1600.000	816.667	48.333
	newasp	-31.667	883.333	16.667	240.000	1183.333	.000	783.333	833.333	7233.333	4960.000	4176.667	-279.667
	Cave_area	-5.000	580.000	32.000	126.000	40.000	.000	-170.000	1600.000	4960.000	4836.000	3332.000	-79.400
	Cave Depth (m)	-12.833	501.667	16.333	126.000	431.667	.000	221.667	816.667	4176.667	3332.000	2564.333	-124.833
	Cave_entrance_size	2.533	-36.167	.967	12.300	-106.167	.000	-85.667	48.333	279.667	-79.400	124.833	19.613
	Valley_location_1_high_2_mid_3_low	1.333	6.333	.000	-.333	40.000	-60.000	-33.333	10.000	26.667	8.667	6.000	-.133
	Altitude (m)	6.333	36.333	.000	-5.333	190.000	-285.000	-183.333	85.000	164.167	18.667	23.500	-.633
	arch_cave_vacinity1_none2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Light Zone Extent (depth m)	-.333	-5.333	.000	2.333	-10.000	15.000	23.333	-25.000	29.167	11.333	1.500	.033
	Groundslope Inside (deg)	40.000	190.000	.000	-10.000	1200.000	1800.000	1000.000	300.000	800.000	260.000	180.000	-4.000
	General Slope Above (deg)	-60.000	285.000	.000	15.000	-1800.000	2700.000	1500.000	450.000	1200.000	390.000	270.000	6.000

Total	General Slope Below (deg)	-33.333	183.333	.000	23.333	-1000.000	1500.000	933.333	400.000	816.667	126.667	130.000	3.333
	General Slope Left (deg)	10.000	85.000	.000	-25.000	300.000	-450.000	-400.000	300.000	425.000	-70.000	15.000	-1.000
	newasp	26.667	164.167	.000	-29.167	800.000	-	-816.667	425.000	758.333	38.333	90.000	-2.667
	Cave_area	8.667	18.667	.000	11.333	260.000	-390.000	-126.667	-70.000	38.333	137.333	57.000	-.867
	Cave Depth (m)	6.000	23.500	.000	1.500	180.000	-270.000	-130.000	15.000	90.000	57.000	31.000	-.600
	Cave_entrance_size	-.133	-.633	.000	.033	-4.000	6.000	3.333	-1.000	-2.667	-.867	-.600	.013
	Valley_location_1_high_2_mid_3_low	.700	.600	.000	.200	9.500	-27.000	-17.000	8.000	2.500	-4.000	-5.900	.860
	Altitude (m)	.600	60.000	1.200	-12.000	146.000	-90.000	-38.000	62.000	383.000	283.200	235.400	-13.920
	arch_cave_vacinity1_none2	.000	1.200	.267	.533	-1.667	6.000	-5.333	5.333	-2.333	23.733	12.867	.587
	Light Zone Extent (depth m)	.200	-12.000	.533	6.667	-21.333	30.000	-16.667	-15.333	143.667	-2.133	-24.467	5.733
	Groundslope Inside (deg)	9.500	146.000	-1.667	-21.333	744.167	-645.000	-221.667	-63.333	680.833	256.667	323.833	-41.567
	General Slope Above (deg)	-27.000	-90.000	6.000	30.000	-645.000	1350.000	510.000	240.000	885.000	336.000	177.000	11.400
	General Slope Below (deg)	-17.000	-38.000	-5.333	-16.667	-221.667	510.000	576.667	306.667	121.667	282.667	-58.333	-35.933
	General Slope Left (deg)	8.000	62.000	5.333	-15.333	-63.333	-240.000	-306.667	466.667	593.333	502.667	269.333	16.933
	newasp	2.500	383.000	-2.333	-	680.833	-885.000	121.667	593.333	3804.167	1261.333	1279.167	-126.433
	Cave_area	-4.000	283.200	23.733	-2.133	256.667	336.000	-282.667	502.667	1261.333	2885.867	1874.933	-15.707
	Cave Depth (m)	-5.900	235.400	12.867	-24.467	323.833	177.000	-58.333	269.333	1279.167	1874.933	1338.967	-40.673

Cave_entrance_ size	.860	-13.920	.587	5.733	-41.567	11.400	-35.933	16.933	126.43 3	-15.707	-40.673	8.151
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a The total covariance matrix has 5 degrees of freedom.

Box's Test of Equality of Covariance Matrices

Log Determinants

Archaeology1_none0	Rank	Log Determinant
0	.(a)	.(b)
1	.(a)	.(b)
Pooled within-groups	4	1.166

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

a Rank < 3

b Too few cases to be non-singular

Test Results(a)

Tests null hypothesis of equal population covariance matrices.

a No test can be performed with fewer than two nonsingular group covariance matrices.

Variables Failing Tolerance Test(a)

	Within-Groups Variance	Tolerance	Minimum Tolerance
Groundslope Inside (deg)	904.167	.000	.000
General Slope Above (deg)	1350.000	.000	.000
General Slope Below (deg)	683.333	.000	.000
General Slope Left (deg)	566.667	.000	.000
newasp	3995.833	.000	.000
Cave_area	2486.667	.000	.000
Cave Depth (m)	1297.667	.000	.000
Cave_entrance_size	9.813	.000	.000

All variables passing the tolerance criteria are entered simultaneously.

a Minimum tolerance level is .001.

Summary of Canonical Discriminant Functions

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	11.417(a)	100.0	100.0	.959

a First 1 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.081	5.038	4	.283

Standardized Canonical Discriminant Function Coefficients

	Function
	1
Valley_location_1_high_2_mid_3_low	-1.525
Altitude (m)	3.598
arch_cave_vacinity1_none2	-.227
Light Zone Extent (depth m)	3.752

Structure Matrix

	Function
	1
Cave_area(a)	.488
Cave Depth (m)(a)	.393
arch_cave_vacinity1_none2	.296
General Slope Below (deg)(a)	.266
Light Zone Extent (depth m)	.203
General Slope Left (deg)(a)	-.169
newasp(a)	.142
Cave_entrance_size(a)	-.108
Valley_location_1_high_2_mid_3_low	-.066
Altitude (m)	.057
General Slope Above (deg)(a)	.045
Groundslope Inside (deg)(a)	-.025

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

a This variable not used in the analysis.

Functions at Group Centroids

	Function
Archaeology1_none0	1
0	2.759
1	-2.759

Unstandardized canonical discriminant functions evaluated at group means

Classification Statistics

Classification Processing Summary

Processed		151
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	30
Used in Output		121

Prior Probabilities for Groups

Archaeology1_ none0	Prior	Cases Used in Analysis	
		Unweighte d	Weighted
0	.500	3	3.000
1	.500	3	3.000
Total	1.000	6	6.000

Casewise Statistics

	Case Number	Actual Group	Highest Group					Second Highest Group			Discriminant Scores
			Predicted Group	P(D>d G=g)		P(G=g D=d)	Squared Mahalanobis Distance to Centroid	Group	P(G=g D=d)	Squared Mahalanobis Distance to Centroid	Function 1
				p	df						
Original	AST12	ungrouped	1	.000	1	1.000	197.555	0	.000	383.108	-16.814
	AST20	1	1	.179	1	1.000	1.804	0	.000	17.427	-1.416
	AST26	ungrouped	1	.000	1	1.000	96.531	0	.000	235.399	-12.584
	AST33	ungrouped	1	.000	1	1.000	247.296	0	.000	451.281	-18.485
	AST9	ungrouped	1	.000	1	1.000	72.213	0	.000	196.436	-11.257
	ATT12	1	1	.942	1	1.000	.005	0	.000	31.257	-2.832
	EWT21	ungrouped	0	.061	1	.993	3.503	1	.007	13.294	.887
	EWT37	ungrouped	1	.000	1	1.000	155.733	0	.000	323.893	-15.238
	EWT46	ungrouped	1	.000	1	1.000	104.284	0	.000	247.423	-12.971
	LBT7	1	1	.007	1	1.000	7.153	0	.000	67.112	-5.433
	MGT102	ungrouped	1	.070	1	1.000	3.273	0	.000	53.683	-4.568
	MGT106	ungrouped	0	.128	1	.999	2.311	1	.001	15.979	1.239
	MGT108	ungrouped	0	.039	1	.979	4.241	1	.021	11.960	.699
	MGT118	ungrouped	1	.000	1	1.000	36.476	0	.000	133.571	-8.798
	MGT125	ungrouped	1	.760	1	1.000	.094	0	.000	27.161	-2.453
	MGT52	ungrouped	1	.178	1	1.000	1.815	0	.000	47.128	-4.106
	MGT54	ungrouped	1	.002	1	1.000	9.459	0	.000	73.844	-5.834
	MGT74	ungrouped	1	.204	1	1.000	1.613	0	.000	46.074	-4.029
	MGT81	0	0	.629	1	1.000	.234	1	.000	25.346	2.276
	MGT82	1	1	.204	1	1.000	1.613	0	.000	46.074	-4.029

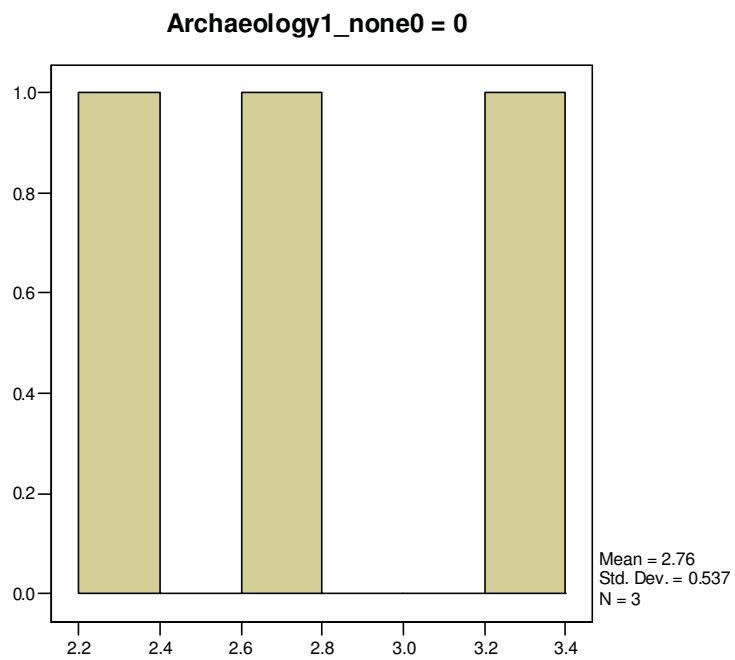
PLT20	ungrouped	1	.016	1	.876	5.785	0	.124	9.688	-.354
PLT23	ungrouped	0	.031	1	1.000	4.644	1	.000	58.870	4.914
PLT30	0	0	.563	1	1.000	.335	1	.000	37.168	3.338
PLT31	ungrouped	0	.124	1	.999	2.360	1	.001	15.851	1.222
PLT5	0	0	.924	1	1.000	.009	1	.000	29.400	2.663
RAT25	ungrouped	1	.000	1	1.000	116.837	0	.000	266.565	-13.568
RHT1	ungrouped	1	.000	1	1.000	99.144	0	.000	239.471	-12.716

Unselected case were deleted from the table

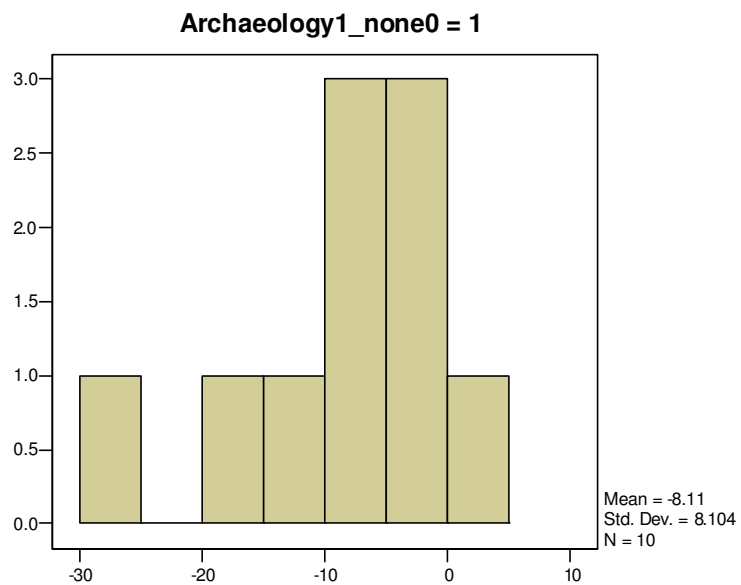
** Misclassified case

Separate-Groups Graphs

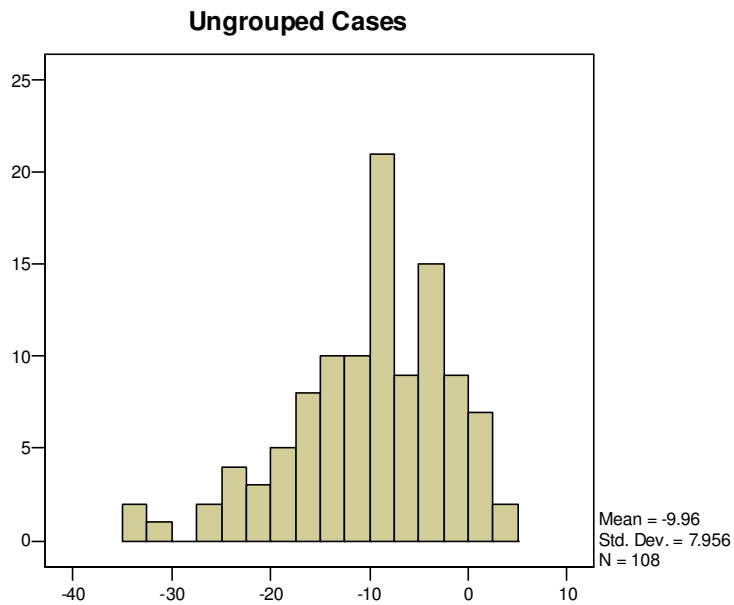
Canonical Discriminant Function 1



Canonical Discriminant Function 1



Canonical Discriminant Function 1



Classification Results (a,b)

			Archaeology1_ none0	Predicted Group Membership		Total
				0	1	
Cases Selected	Original	Count	0	3	0	3
			1	0	4	4
			Ungrouped cases	5	15	20
		%	0	100.0	.0	100.0
			1	.0	100.0	100.0
			Ungrouped cases	25.0	75.0	100.0
Cases Not Selected	Original	Count	0	0	0	0
			1	1	5	6
			Ungrouped cases	4	84	88
		%	0	.0	.0	100.0
			1	16.7	83.3	100.0
			Ungrouped cases	4.5	95.5	100.0

a 100.0% of selected original grouped cases correctly classified.

b 83.3% of unselected original grouped cases correctly classified.

Appendix 4.2 Discriminat analysis for all sites

Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		11	7.3
Excluded	Missing or out-of-range group codes	99	65.6
	At least one missing discriminating variable	3	2.0
	Both missing or out-of-range group codes and at least one missing discriminating variable	38	25.2
	Total	140	92.7
Total		151	100.0

Group Statistics

Archaeology1_none0		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
0	Valley_location_1_high_2_mid_3_low	1.3333	.57735	3	3.000
	Altitude (m)	118.3333	10.40833	3	3.000
	arch_cave_vacinity1_none2	1.6667	.57735	3	3.000
	Light Zone Extent (depth m)	5.0000	3.00000	3	3.000
	Groundslope Inside (deg)	28.3333	24.66441	3	3.000
	General Slope Above (deg)	90.0000	.00000	3	3.000
	General Slope Below (deg)	23.3333	20.81666	3	3.000
	General Slope Left (deg)	73.3333	28.86751	3	3.000
	newasp	63.3333	85.04901	3	3.000
	site_depth	37.6667	50.63925	3	3.000
	site_area	70.0000	69.54135	3	3.000
1	Valley_location_1_high_2_mid_3_low	1.5000	.75593	8	8.000
	Altitude (m)	99.0000	23.41550	8	8.000
	arch_cave_vacinity1_none2	1.1250	.35355	8	8.000
	Light Zone Extent (depth m)	2.9000	1.33951	8	8.000
	Groundslope Inside (deg)	8.7500	21.00170	8	8.000
	General Slope Above (deg)	67.5000	41.66190	8	8.000
	General Slope Below (deg)	31.2500	19.03943	8	8.000
	General Slope Left (deg)	57.5000	29.76095	8	8.000
	newasp	88.1250	63.24202	8	8.000
	site_depth	4.1500	3.42387	8	8.000
	site_area	60.7800	101.63289	8	8.000

Total	Valley_location_1_high_2_mid_3_low	1.4545	.68755	11	11.000
	Altitude (m)	104.2727	22.06849	11	11.000
	arch_cave_vacinity1_none2	1.2727	.46710	11	11.000
	Light Zone Extent (depth m)	3.4727	2.00454	11	11.000
	Groundslope Inside (deg)	14.0909	22.67357	11	11.000
	General Slope Above (deg)	73.6364	36.40679	11	11.000
	General Slope Below (deg)	29.0909	18.81730	11	11.000
	General Slope Left (deg)	61.8182	29.00627	11	11.000
	newasp	81.3636	66.18500	11	11.000
	site_depth	13.2909	27.67979	11	11.000
	site_area	63.2945	90.64336	11	11.000

Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
Valley_location_1_high_2_mid_3_low	.987	.117	1	9	.740
Altitude (m)	.833	1.810	1	9	.211
arch_cave_vacinity1_none2	.707	3.737	1	9	.085
Light Zone Extent (depth m)	.761	2.834	1	9	.127
Groundslope Inside (deg)	.837	1.750	1	9	.219
General Slope Above (deg)	.917	.818	1	9	.389
General Slope Below (deg)	.961	.362	1	9	.562
General Slope Left (deg)	.935	.626	1	9	.449
newasp	.969	.284	1	9	.607
site_depth	.680	4.233	1	9	.070
site_area	.998	.020	1	9	.890

Pooled Within-Groups Matrices(a)

		Valley_location_1_high_2_mid_3_low	Altitude (m)	arch_cave_vacinity1_none2	Light Zone Extent (depth m)	Groundslope Inside (deg)	General Slope Above (deg)	General Slope Below (deg)	General Slope Left (deg)	newasp	site_depth	site_area
Covariance	Valley_location_1_high_2_mid_3_low	.519	-2.148	.093	.267	6.296	-10.000	-9.815	11.296	10.463	-1.363	21.653
	Altitude (m)	-2.148	450.519	-4.519	-22.444	211.852	-280.000	-32.037	99.074	393.148	127.370	1439.867
	arch_cave_vacinity1_none2	.093	-4.519	.171	.233	-2.824	2.500	-.324	2.315	12.801	3.613	33.691
	Light Zone Extent (depth m)	.267	-22.444	.233	3.396	-19.222	16.000	.444	-16.444	-30.500	-27.716	34.359
	Groundslope Inside (deg)	6.296	211.852	-2.824	-19.222	478.241	-425.000	-85.648	76.852	477.546	146.981	300.511
	General Slope Above (deg)	-10.000	-280.000	2.500	16.000	-425.000	1350.000	425.000	-50.000	412.500	-59.000	883.200
	General Slope Below (deg)	-9.815	-32.037	-.324	.444	-85.648	425.000	378.241	-248.148	181.713	26.648	209.978
	General Slope Left (deg)	11.296	99.074	2.315	-16.444	76.852	-50.000	-248.148	874.074	836.574	202.815	302.600
	newasp	10.463	-393.148	12.801	-30.500	477.546	412.500	181.713	836.574	4718.171	993.065	3783.344
	site_depth	-1.363	127.370	3.613	-27.716	146.981	-59.000	26.648	202.815	993.065	578.970	730.826
Correlation	site_area	21.653	1439.867	33.691	34.359	-300.511	883.200	209.978	302.600	3783.344	730.826	9108.523
	Valley_location_1_high_2_mid_3_low	1.000	-.141	.311	.201	.400	-.378	-.701	.531	.212	-.079	.315
	Altitude (m)	-.141	1.000	-.514	-.574	.456	-.359	-.078	.158	-.270	.249	-.711
	arch_cave_vacinity1_none2	.311	-.514	1.000	.306	-.312	.164	-.040	.189	.450	.363	.853

Light Zone Extent (depth m)	.201	-.574	.306	1.000	-.477	.236	.012	-.302	-.241	-.625	.195
Groundslope Inside (deg)	.400	.456	-.312	-.477	1.000	-.529	-.201	.119	.318	.279	-.144
General Slope Above (deg)	-.378	-.359	.164	.236	-.529	1.000	.595	-.046	.163	-.067	.252
General Slope Below (deg)	-.701	-.078	-.040	.012	-.201	.595	1.000	-.432	.136	.057	.113
General Slope Left (deg)	.531	.158	.189	-.302	.119	-.046	-.432	1.000	.412	.285	.107
newasp	.212	-.270	.450	-.241	.318	.163	.136	.412	1.000	.601	.577
site_depth	-.079	.249	.363	-.625	.279	-.067	.057	.285	.601	1.000	.318
site_area	.315	-.711	.853	.195	-.144	.252	.113	.107	.577	.318	1.000

a The covariance matrix has 9 degrees of freedom.

Covariance Matrices(a)

Archaeology1_non e0		Valley_location_1_high_2_mid_3_low	Altitude (m)	arch_cave_vacinity1_none2	Light Zone Extent (depth m)	Groundslope Inside (deg)	General Slope Above (deg)	General Slope Below (deg)	General Slope Left (deg)	newasp	site_depth	site_area
0	Valley_location_1_high_2_mid_3_low	.333	-4.167	.167	1.500	-14.167	.000	-11.667	8.333	-31.667	-12.833	-5.000
	Altitude (m)	-4.167	108.333	1.667	-30.000	158.333	.000	108.333	83.333	883.333	501.667	580.000
	arch_cave_vacinity1_none2	.167	1.667	.333	.000	-8.333	.000	-8.333	16.667	16.667	16.333	32.000
	Light Zone Extent (depth m)	1.500	-30.000	.000	9.000	-60.000	.000	-45.000	.000	-	-	-
	Groundslope Inside (deg)	-14.167	158.333	-8.333	-60.000	608.333	.000	508.333	-	240.000	126.000	126.000
	General Slope Above (deg)	.000	.000	.000	.000	.000	.000	.000	416.667	1183.333	431.667	40.000
										.000	.000	.000

1	General Slope Below (deg)	-11.667	108.333	-8.333	-45.000	508.333	.000	433.333	416.667	783.333	221.667	170.000
	General Slope Left (deg)	8.333	83.333	16.667	.000	-416.667	.000	-416.667	833.333	833.333	816.667	1600.00
	newasp	-31.667	883.333	16.667	-240.000	1183.333	.000	783.333	833.333	7233.33	4176.66	4960.00
	site_depth	-12.833	501.667	16.333	-126.000	431.667	.000	221.667	816.667	4176.66	2564.33	3332.00
	site_area	-5.000	580.000	32.000	-126.000	40.000	.000	-170.000	1600.00	4960.00	3332.00	4836.00
	Valley_location_1_ high_2_mid_3_low	.571	-1.571	.071	-.086	12.143	-12.857	-9.286	12.143	22.500	1.914	29.269
	Altitude (m)	-1.571	548.286	-6.286	-20.286	227.143	-360.000	-72.143	103.571	757.857	20.429	2016.97
	arch_cave_vacinit y1_none2	.071	-6.286	.125	.300	-1.250	3.214	1.964	-1.786	11.696	-.021	34.174
	Light Zone Extent (depth m)	-.086	-20.286	.300	1.794	-7.571	20.571	13.429	-21.143	29.357	.366	80.176
	Groundslope Inside (deg)	12.143	227.143	-1.250	-7.571	441.071	-546.429	-255.357	217.857	275.893	65.643	397.800
	General Slope Above (deg)	-12.857	-360.000	3.214	20.571	-546.429	1735.714	546.429	-64.286	530.357	-75.857	1135.54
	General Slope Below (deg)	-9.286	-72.143	1.964	13.429	-255.357	546.429	362.500	200.000	9.821	-29.071	318.543
	General Slope Left (deg)	12.143	103.571	-1.786	-21.143	217.857	-64.286	-200.000	885.714	837.500	27.429	-68.086
	newasp	22.500	-757.857	11.696	29.357	275.893	530.357	9.821	837.500	3999.55	83.464	3447.15
	site_depth	1.914	20.429	-.021	.366	65.643	-75.857	-29.071	27.429	83.464	11.723	-12.367
	site_area	29.269	2016.971	34.174	80.176	-397.800	1135.543	318.543	-68.086	3447.15	-12.367	10329.2
	Valley_location_1_ high_2_mid_3_low	.473	-2.636	.064	.164	4.955	-9.818	-8.545	9.591	10.318	-2.445	19.153
Total												

Altitude (m)	-2.636	487.018	-1.782	-11.342	273.273	-157.091	-62.227	155.955	-458.409	256.013	-1256.988
arch_cave_vacinity1_none2	.064	-1.782	.218	.458	-.227	4.909	-1.227	3.955	8.591	7.213	31.412
Light Zone Extent (depth m)	.164	-11.342	.458	4.018	-8.327	24.709	-3.227	-7.545	-38.809	-9.587	35.148
Groundslope Inside (deg)	4.955	273.273	-.227	-8.327	514.091	-286.364	-110.909	136.818	323.864	275.491	-231.065
General Slope Above (deg)	-9.818	-157.091	4.909	24.709	-286.364	1325.455	343.636	32.727	249.545	111.436	840.142
General Slope Below (deg)	-8.545	-62.227	-1.227	-3.227	-110.909	343.636	354.091	-250.682	206.364	-33.909	173.055
General Slope Left (deg)	9.591	155.955	3.955	-7.545	136.818	32.727	-250.682	841.364	667.273	298.318	304.191
newasp	10.318	-458.409	8.591	-38.809	323.864	249.545	206.364	667.273	4380.455	712.464	3355.138
site_depth	-2.445	256.013	7.213	-9.587	275.491	111.436	-33.909	298.318	712.464	766.171	725.167
site_area	19.153	-1256.988	31.412	35.148	-231.065	840.142	173.055	304.191	3355.138	725.167	8216.218

a The total covariance matrix has 10 degrees of freedom.

Box's Test of Equality of Covariance Matrices

Log Determinants

Archaeology1_none0	Rank	Log Determinant
0	.(a)	.(b)
1	.(c)	.(b)
Pooled within-groups	9	30.108

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

a Rank < 3

b Too few cases to be non-singular

c Rank < 8

Test Results(a)

Tests null hypothesis of equal population covariance matrices.

a No test can be performed with fewer than two nonsingular group covariance matrices.

Variables Failing Tolerance Test(a)

	Within-Groups Variance	Tolerance	Minimum Tolerance
newasp	4718.171	.000	.000
site_area	9108.523	.000	.000

All variables passing the tolerance criteria are entered simultaneously.

a Minimum tolerance level is .001.

Summary of Canonical Discriminant Functions

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	19.593(a)	100.0	100.0	.975

a First 1 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.049	13.612	9	.137

Standardized Canonical Discriminant Function Coefficients

	Function
	1
Valley_location_1_high_2_mid_3_low	-4.302
Altitude (m)	.044
arch_cave_vacinity1_none2	1.871
Light Zone Extent (depth m)	1.700

Groundslope Inside (deg)	3.233
General Slope Above (deg)	.665
General Slope Below (deg)	-2.020
General Slope Left (deg)	1.553
site_depth	-.997

Structure Matrix

	Function
	1
newasp(a)	.413
site_depth	.155
arch_cave_vacinity1_none2	.146
site_area(a)	-.136
Light Zone Extent (depth m)	.127
Altitude (m)	.101
Groundslope Inside (deg)	.100
General Slope Above (deg)	.068
General Slope Left (deg)	.060
General Slope Below (deg)	-.045
Valley_location_1_high_2_mid_3_low	-.026

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

a. This variable not used in the analysis.

Functions at Group Centroids

Archaeology1_none0	Function
	1
0	6.538
1	-2.452

Unstandardized canonical discriminant functions evaluated at group means

Classification Statistics

Classification Processing Summary

Processed		151
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	41
Used in Output		110

Prior Probabilities for Groups

Archaeology1_none0	Prior	Cases Used in Analysis
--------------------	-------	------------------------

		Unweighted	Weighted
0	.500	3	3.000
1	.500	8	8.000
Total	1.000	11	11.000

Casewise Statistics

	Case Number	Actual Group	Highest Group					Second Highest Group			Discriminant Scores
			Predicted Group	P(D>d G=g)		P(G=g D=d)	Squared Mahalanobis Distance to Centroid	Group	P(G=g D=d)	Squared Mahalanobis Distance to Centroid	Function 1
				p	df						
Original	AST10	ungrouped	1	.055	1	1.000	3.682	0	.000	119.006	-4.371
	AST14	ungrouped	1	.000	1	1.000	15.140	0	.000	165.919	-6.343
	AST20	1	1	.752	1	1.000	.100	0	.000	86.602	-2.768
	AST22	ungrouped	1	.034	1	1.000	4.485	0	.000	123.382	-4.570
	AST26	ungrouped	1	.000	1	1.000	24.299	0	.000	193.749	-7.381
	AST27	ungrouped	1	.000	1	1.000	14.454	0	.000	163.630	-6.254
	AST28	ungrouped	1	.000	1	.982	16.394	0	.018	24.414	1.597
	AST29	ungrouped	0	.001	1	1.000	10.563	1	.000	32.947	3.288
	AST32	ungrouped	1	.047	1	1.000	3.954	0	.000	49.023	-.463
	AST33	ungrouped	1	.000	1	1.000	155.298	0	.000	460.182	-14.914
	AST35	ungrouped	1	.952	1	1.000	.004	0	.000	81.900	-2.512
	AST38	ungrouped	1	.145	1	1.000	2.129	0	.000	56.715	-.993
	AST39	ungrouped	1	.563	1	1.000	.334	0	.000	70.765	-1.874
	AST40	ungrouped	1	.015	1	1.000	5.945	0	.000	130.605	-4.890
	AST41	ungrouped	1	.518	1	1.000	.417	0	.000	69.622	-1.806
	AST42	ungrouped	1	.000	1	1.000	14.296	0	.000	163.099	-6.233
	AST54	ungrouped	0	.002	1	1.000	9.900	1	.000	34.147	3.392
	AST55	ungrouped	0	.001	1	1.000	10.702	1	.000	32.702	3.267
	AST67	ungrouped	1	.113	1	1.000	2.512	0	.000	54.834	-.867
	AST69	ungrouped	1	.028	1	1.000	4.798	0	.000	125.001	-4.642
	AST71	ungrouped	1	.391	1	1.000	.736	0	.000	96.984	-3.310
	AST74	ungrouped	1	.003	1	1.000	8.933	0	.000	143.491	-5.441

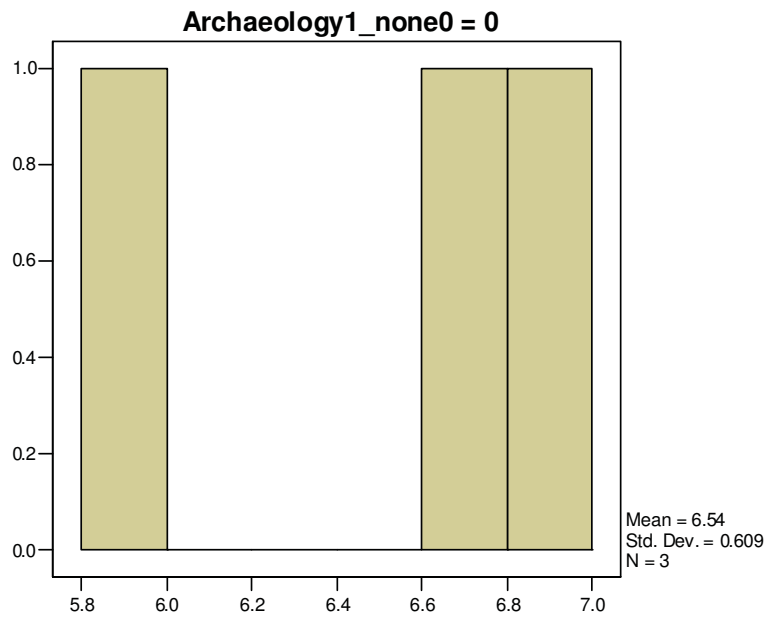
AST75	ungrouped	1	.000	1	1.000	14.977	0	.000	165.380	-6.322
AST77	ungrouped	1	.000	1	1.000	53.172	0	.000	265.101	-9.744
AST8	ungrouped	1	.000	1	1.000	54.491	0	.000	268.036	-9.834
AST80	ungrouped	1	.711	1	1.000	.137	0	.000	87.611	-2.822
AST9	ungrouped	1	.024	1	1.000	5.119	0	.000	126.617	-4.714
ATT10	ungrouped	1	.004	1	1.000	8.305	0	.000	140.942	-5.334
ATT12	1	1	.500	1	1.000	.454	0	.000	69.155	-1.778
ATT32	ungrouped	1	.000	1	1.000	14.414	0	.000	163.497	-6.248
EWT37	ungrouped	1	.001	1	1.000	10.921	0	.000	151.157	-5.756
EWT6	1	1	.355	1	1.000	.854	0	.000	98.294	-3.376
MGT1	ungrouped	1	.003	1	1.000	8.554	0	.000	141.962	-5.377
MGT102	ungrouped	0	.057	1	1.000	3.609	1	.000	50.270	4.638
MGT105	ungrouped	1	.611	1	1.000	.258	0	.000	90.211	-2.960
MGT106	ungrouped	0	.000	1	.908	17.975	1	.092	22.565	2.298
MGT107	ungrouped	1	.004	1	1.000	8.380	0	.000	141.250	-5.347
MGT108	ungrouped	1	.000	1	.995	15.278	0	.005	25.820	1.457
MGT109	ungrouped	1	.000	1	1.000	43.397	0	.000	242.663	-9.039
MGT111	ungrouped	1	.000	1	1.000	38.890	0	.000	231.837	-8.688
MGT112	ungrouped	1	.000	1	1.000	16.581	0	.000	170.615	-6.524
MGT114	ungrouped	1	.216	1	1.000	1.531	0	.000	60.102	-1.214
MGT115	ungrouped	1	.117	1	1.000	2.457	0	.000	55.093	-.884
MGT116	ungrouped	0	.001	1	1.000	10.441	1	.000	33.163	3.307
MGT117	ungrouped	1	.000	1	1.000	28.075	0	.000	204.163	-7.750
MGT118	ungrouped	1	.996	1	1.000	.000	0	.000	80.914	-2.457
MGT119	ungrouped	1	.000	1	1.000	29.701	0	.000	208.508	-7.902
MGT12	ungrouped	1	.000	1	1.000	163.674	0	.000	474.521	-15.245
MGT121	ungrouped	1	.023	1	1.000	5.155	0	.000	45.153	-.181
MGT122	ungrouped	1	.000	1	1.000	29.767	0	.000	208.685	-7.908
MGT123	ungrouped	1	.000	1	1.000	29.634	0	.000	208.332	-7.896
MGT125	ungrouped	1	.581	1	1.000	.304	0	.000	71.207	-1.900

MGT126	ungrouped	1	.000	1	1.000	24.534	0	.000	194.413	-7.405
MGT127	ungrouped	1	.000	1	1.000	39.928	0	.000	234.360	-8.771
MGT128	ungrouped	1	.387	1	1.000	.749	0	.000	97.132	-3.317
MGT21	ungrouped	1	.550	1	1.000	.357	0	.000	70.428	-1.854
MGT30	ungrouped	1	.782	1	1.000	.077	0	.000	75.915	-2.175
MGT47	ungrouped	1	.064	1	1.000	3.442	0	.000	117.622	-4.307
MGT50	ungrouped	1	.827	1	1.000	.048	0	.000	76.943	-2.234
MGT52	ungrouped	0	.946	1	1.000	.005	1	.000	79.613	6.471
MGT53	ungrouped	0	.665	1	1.000	.188	1	.000	73.216	6.105
MGT54	ungrouped	1	.279	1	1.000	1.173	0	.000	62.522	-1.369
MGT55	ungrouped	1	.831	1	1.000	.046	0	.000	84.712	-2.666
MGT63	ungrouped	1	.000	1	.983	16.370	0	.017	24.444	1.594
MGT69	ungrouped	1	.171	1	1.000	1.872	0	.000	107.294	-3.820
MGT70	ungrouped	1	.818	1	1.000	.053	0	.000	85.016	-2.682
MGT74	ungrouped	1	.001	1	1.000	10.908	0	.000	32.345	.851
MGT75	ungrouped	1	.425	1	1.000	.636	0	.000	67.113	-1.654
MGT77	1	1	.955	1	1.000	.003	0	.000	79.811	-2.396
MGT79	ungrouped	1	.733	1	1.000	.116	0	.000	74.813	-2.111
MGT8	ungrouped	1	.100	1	1.000	2.701	0	.000	53.969	-.808
MGT81	0	0	.488	1	1.000	.481	1	.000	68.826	5.844
MGT82	1	1	.456	1	1.000	.556	0	.000	67.969	-1.706
MGT85	ungrouped	1	.002	1	1.000	10.075	0	.000	147.967	-5.626
MGT87	ungrouped	1	.000	1	1.000	56.565	0	.000	272.611	-9.973
MGT89	ungrouped	1	.000	1	1.000	42.100	0	.000	239.582	-8.940
MGT93	ungrouped	1	.030	1	1.000	4.688	0	.000	124.438	-4.617
MGT94	ungrouped	1	.000	1	1.000	40.293	0	.000	235.243	-8.799
MGT95	ungrouped	1	.000	1	1.000	34.893	0	.000	221.921	-8.359
MGT97	ungrouped	1	.482	1	1.000	.493	0	.000	93.944	-3.154
PLT10	ungrouped	0	.797	1	1.000	.066	1	.000	76.254	6.281
PLT11	ungrouped	1	.001	1	1.000	11.758	0	.000	30.924	.977

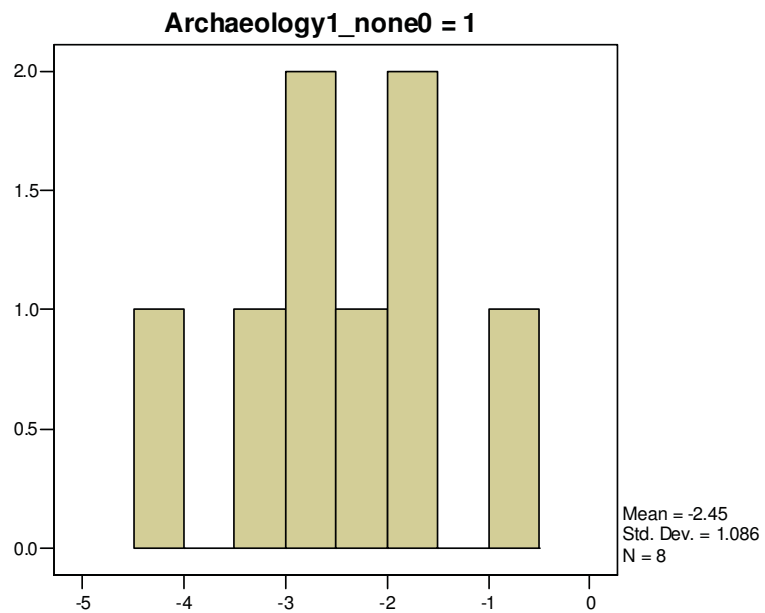
PLT20	ungrouped	1	.066	1	1.000	3.390	0	.000	51.104	-.610
PLT23	ungrouped	0	.000	1	1.000	21.920	1	.000	186.919	11.220
PLT30	0	0	.806	1	1.000	.060	1	.000	85.295	6.784
PLT31	ungrouped	0	.908	1	1.000	.013	1	.000	82.915	6.654
PLT41	ungrouped	1	.253	1	1.000	1.306	0	.000	102.672	-3.595
PLT44	ungrouped	1	.749	1	1.000	.102	0	.000	75.177	-2.132
PLT47	ungrouped	1	.000	1	1.000	26.718	0	.000	200.477	-7.621
PLT5	0	0	.654	1	1.000	.201	1	.000	89.081	6.986
PLT8	ungrouped	1	.000	1	.999	13.540	0	.001	28.200	1.228
RAT10	1	1	.880	1	1.000	.023	0	.000	83.568	-2.603
RAT11	ungrouped	1	.000	1	1.000	48.518	0	.000	254.577	-9.417
RAT14	ungrouped	0	.000	1	.941	17.524	1	.059	23.077	2.352
RAT17	ungrouped	1	.000	1	1.000	57.354	0	.000	274.342	-10.025
RAT18	ungrouped	1	.000	1	1.000	19.543	0	.000	179.848	-6.873
RAT19	ungrouped	1	.000	1	1.000	14.613	0	.000	164.166	-6.275
RAT2	ungrouped	1	.000	1	1.000	30.233	0	.000	209.916	-7.950
RAT21	ungrouped	1	.774	1	1.000	.082	0	.000	86.066	-2.739
RAT22	ungrouped	1	.000	1	1.000	62.303	0	.000	285.042	-10.345
RAT23	ungrouped	1	.593	1	1.000	.285	0	.000	90.708	-2.986
RAT25	ungrouped	1	.713	1	1.000	.135	0	.000	74.337	-2.084
RAT5	ungrouped	1	.000	1	1.000	24.819	0	.000	195.214	-7.434
RAT6	ungrouped	1	.000	1	1.000	16.176	0	.000	169.311	-6.474
RAT7	ungrouped	1	.000	1	1.000	141.100	0	.000	435.496	-14.330
RHT1	ungrouped	0	.132	1	1.000	2.268	1	.000	56.012	5.032
TLT11	ungrouped	1	.000	1	1.000	72.782	0	.000	306.994	-10.983
TLT17	1	1	.084	1	1.000	2.985	0	.000	52.742	-.724
TLT18	ungrouped	1	.000	1	1.000	58.867	0	.000	277.638	-10.124
TLT5	1	1	.070	1	1.000	3.282	0	.000	116.675	-4.263

Separate-Groups Graphs

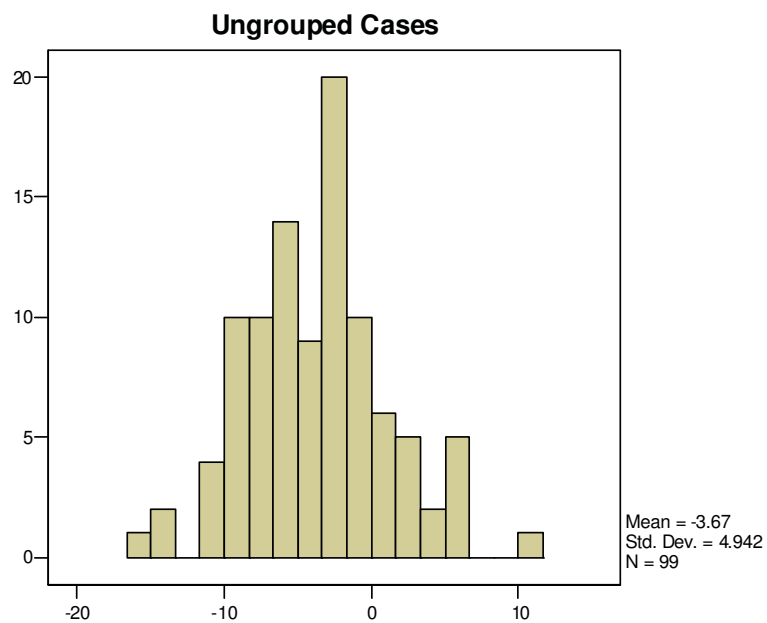
Canonical Discriminant Function 1



Canonical Discriminant Function 1



Canonical Discriminant Function 1



Classification Results(a)

		Archaeology 1 None0	Predicted Group Membership		Total
			0	1	
Original	Count	0	3	0	3
		1	0	8	8
		Ungrouped cases	13	86	99
	%	0	100.0	.0	100.0
		1	.0	100.0	100.0
		Ungrouped cases	13.1	86.9	100.0

a 100.0% of original grouped cases correctly classified.

Appendix 4.3 Costs for Revising Predictive Model

	Sc	Sp	Per Day	Days	Cost	Total
ARCUS staff						
James Symonds	OR3	2	178.00	1	178.00	
Glyn Davies	OR1	5	135.00	8	1080.00	
Andrew Chamberlain			230.00	2	460.00	
					Sub-total a	1718.00

External Specialists						
					0.00	
					Sub-total b	0.00

Non-staff cost ARCUS						
Travel			30.00	1	30.00	
Consumables			150.00	1	150.00	
					Sub-total c	180.00

Non-staff cost external						
					0.00	
					Sub-total d	0.00

Overheads						
ARCUS Overheads at 25% a+c					474.50	
External Overheads at 10% b+d					0.00	
					Sub-total e	474.50

Capital Equipment						
					Sub-total f	0.00

Gross Total						2372.50
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Appendix 5.1 – List of Historic Maps Consulted

Derbyshire:

Whitwell:

Estate map, 1799,
Whitwell Parish Old Inclosures, 1814,
Sanderson's map of 20 miles around Mansfield, 1835,
Whitwell Tithe map, 1839,
Parliamentary Enclosure map, 1843.

Elmton:

Map of Elmton and Creswell, 1793,
Sanderson, 1835,
Elmton Common Parliamentary Enclosure map, 1850,
Elmton Tithe map, 1850.

Whaley:

Bolsover, Oxcroft and Clowne Parliamentary Enclosure map, 1780,
Sanderson, 1835,
OS 1890 25 inch: 1 mile,
Senior map of Bolsover, 1630.

Scarcliffe (Langwith):

Estate map of lands in Scarcliffe (Earl of Bathurst), 1791,
Sanderson, 1835,
Scarcliffe Tithe map, 1850.

Shirebrook (Langwith and Pleasley):

Senior map of the Manor of Langwith, 1611,
Shirebrook and Langwith Estate map, 1792,
Sanderson, 1835,
Tithe map of Shirebrook and Pleasley, 1841,
Senior map of Houghton, 1611,
Pleasley Parliamentary Enclosure map, 1748.

South Yorkshire:

North and South Anston:

Sanderson, 1835,
Tithe Map, 1850 (South Anston),
Anston Valuation, 1865 (North Anston).
1890 OS 25 inch: 1 mile map.

Firbeck:

Sanderson, 1835,
Firbeck Tithe map, 1842.
1890 OS 25 inch: 1 mile map.

Laughton-en-le-Morthen:

Parliamentary Enclosure Award, 1771,
Sanderson 1835.
1890 OS 25 inch: 1 mile map.

Wales:

Wales Parliamentary Enclosure map, 1768.

Sanderson, 1835,

Confirmed apportionment for the Manor of Wales, n.d. (1850s?).

1890 OS 25 inch: 1 mile map.

Thorpe Salvin:

1890 OS 25 inch: 1 mile map.

Roche/Stone (Maltby):

1890 OS 25 inch: 1 mile map.

Appendix 6.1 National Collections Database CD

Appendix 7.1 Test pitting programme

The test pitting programme will investigate the caves and talus slopes. These will be used to examine the issues identified in **sections 7.3.2.3 and 7.3.2.7**.

A7.1.1 Strategy

It is proposed that a total of 50 test pits will be excavated to be up to as follows:

- 30 uninvestigated caves or rock shelters (proposed 10 caves and 20 rock shelters),
- 15 slopes below uninvestigated caves or rock shelters (proposed 5 below caves and 10 below rock shelters),
- 5 slopes below previously investigated caves or rock shelters.

The choice of which sites are investigated will be determined by a number of factors including access to, and the characteristics of, the site. It is proposed that the caves and rock shelters chosen should represent the range of sites identified in the survey taking into account archaeological potential, size, location and condition.

For the test pits on slopes below caves and rock shelters it is proposed that these should include both steep and shallow slopes and that the test pits should be located some 5–10m below the site, although this will depend on the individual characteristics of the slopes themselves. The test pits on slopes below sites should be located below sites that either have been previously investigated or are to be investigated by the test pitting programme.

To aid our understanding of the distribution of sites within valleys, and how this may relate to their use, it is preferable to concentrate on selected valleys rather than scatter the test pits across all the valleys.

A7.1.2 Location of test pits and arranging access

It is not possible to identify which sites will be investigated by test pits at this stage as this will depend on access agreements with the land owners and tenets. However, valleys which are considered to be most appropriate for the test pitting programme, and the numbers of sites within them, are:

Vale or Gorge	No. of caves	No of rock shelters
Roche Abbey Vale	2	14
Anston Stones Wood and Lindrick Dale	7	29
Thorpe Common and Lob Wells Wood	0	5
Ash Tree Gorge	1	3
Markland and Hollinhill Grips	13	41
Elmton and Whaley Valleys	3	7
Langwith Vale	3	3
Pleasley Vale	11	6

The valleys above were identified as appropriate for the test pitting survey based on the number and type of sites available, the location and land use around the sites and likely ease of access.

Prior to agreeing the list of sites, and starting the fieldwork, it will be necessary to arrange access to the sites and gain permission to excavate the test pits.

A7.1.3 Methodology

The test pits will measure 1m by 1m and will be excavated to a depth of 1m or bedrock if shallower. All of the test pits will be hand excavated. Excavation will take place stratigraphically by context. Within contexts excavation will be by 5cm spits.

In caves the test pits will be located towards the front of the cave so as to avoid the need for artificial lighting. In rock shelters the test pits will be located near to the centre of the sites.

If structural features are identified in a test pit these will be cleaned and recorded but will not be removed.

On completion of a test pit it will be backfilled with the spoil removed from it. and the ground surface will be made level.

All of the material excavated from the test pits will be sieved to maximise the retrieval of artefacts and bones. This will be undertaken on site using a 5mm mesh sieve.

If cemented breccia or flowstone deposits are encountered these will be investigated to determine their thickness and will be removed by hand, if possible within the available timeframe. If they are too difficult to remove by hand they will be left *in situ*.

During the fieldwork the test pits will be fenced off with 1m high orange plastic fencing supported on road pins.

A7.1.3.1 Surveying

The test pits will be surveyed in using an EDM with the four corners of the test pit and height at top and bottom of the test pit being recorded. The test pits will be planned in relation to fixed points and plotted onto the CAD maps produced for each valley as part of the survey undertaken in the Management Action Plan.

A7.1.3.2 Recording

Each context will be described in full on a pro forma context record sheet in accordance with the accepted context record conventions. Each context will be given a unique number. These field records will be checked and indexes compiled.

A section will be drawn of each test pit at 1:10. If the stratigraphy is complex, and not all features are visible in one section, further sections will be drawn to illustrate all the relevant features. Plans will not normally be drawn of the test pits. However, if any features are identified in the test pits plans will be drawn at a scale of 1:10. All drawings will be drawn on inert materials. All drawings will adhere to accepted drawing conventions and will be checked on completion by supervisory staff. All drawings will be related to Ordnance Datum.

A photographic record will be made of each test pit showing it before, during and after excavation. The photographic register will comprise 35mm format colour slides and black and white prints. All site photography will adhere to accepted photographic record guidelines.

Registers for contexts, drawings, samples, photographs, levels and recorded finds will be kept on pro forma sheets.

A7.1.3.3 Finds collection policy

All finds will be collected according to an explicit strategy. All finds will be retained except those that are obviously modern in date. Material discarded as a consequence of this policy will be described and quantified in the field. This will involve basic analyses such as counting artefacts, and assigning finds to broad categories, e.g. plastics, glass etc. All other finds will be retained.

All retained material will be individually bagged and recorded to context and spit. Finds of particular interest or fragility will be retrieved as Small Finds, and recorded three dimensionally. This would include all prehistoric material except material from sieving which will be recorded to context and spit.

All retained finds will be cleaned, marked, catalogued and packed in materials suitable for long-term storage, as detailed in the Institute of Field Archaeologists (IFA) guidelines for finds work. Conservation, if required, will be undertaken by approved conservators. The United Kingdom Institute of Conservation (UKIC) guidelines will apply. The artefacts will be analysed by appropriately qualified specialists.

In the event of human remains being discovered during the excavation these will be left *in-situ*, covered and protected, in the first instance. The removal of human remains will only take place under appropriate Home Office and environmental health regulations, and in compliance with the *Burial Act 1857*. If human remains are identified, the SMR and Coroner will be informed immediately. A Home Office licence will be obtained prior to the removal of the remains. Contingency provision will be made for specialist reports on the remains by a recognised osteo-archaeologist.

All finds that fall within the purview of the Treasure Act 1996 will be reported to HM Coroner according to the procedures outlined in the Act.

A7.1.3.4 Sampling

Palaeo-environmental samples will be collected according to an explicit sampling strategy. The sampling strategy will take the form of both the systematic and judgement methodology, as defined in the English Heritage guidelines for Environmental Archaeology (English Heritage, 2002).

Samples will be taken of all contexts containing undisturbed prehistoric flints or Pleistocene bones. This will require a degree of judgement in the field but if the status of a deposit is uncertain it will be sampled. Additional samples will be taken from any contexts which appear to be of interest.

The sample will be assessed to determine the potential of the deposits for, micro palaeontology, palaeoentomology, and molluscs. The assessment will identify the presence, abundance and condition of micro fauna and molluscs in the samples and their potential for palaeoenvironmental reconstruction.

A total of 40 sample will be assessed from the test pits.

A contingency provision will be made for collecting samples for C14 dating.

Jim Williams (EH Regional Scientific Advisor) will be consulted for additional advice, as necessary.

A7.1.3.5 Staffing

The following is a provisional list of specialists for the test pitting programme

Mr James Symonds	Project manager
Dr Glyn Davies	Senior project archaeologist
to be appointed	Field archaeologists (x3)
Dr H. Willmott	Material culture co-ordinator
to be appointed	Worked stone
Dr Andrew Chamberlain	Human remains
to be appointed	Animal bones
Dr Glynis Jones	Palaeoenvironmental consultant
to be appointed	Palaeoenvironmental assistant
Dr H. Willmott	Medieval and post-medieval small finds
Dr Chris Cumberpatch	Medieval and post-medieval ceramics
to be appointed	Metalwork

A7.1.4 Reporting

An assessment report will be produced in accordance with English Heritage guidelines as outlined in *Management of Archaeological Projects* (1991), IFA standards and current best archaeological practice. The assessment report will be of a standardised format and will synthesise all elements of the evaluation work. It will contain:

- date and duration of fieldwork;
- author of report, and report date;
- name of Project Manager and Project Archaeologist;
- a non-technical summary and introductory statement;
- summary background information;
- a summary account of the techniques employed during the project;
- a detailed plan of the position of all test pits, related to fixed points;
- a summary stratigraphy for all test pits with section drawings;
- a summary record of all artefactual material recovered or recorded;
- summary assessment of all material and samples recovered and their potential for further analysis (including scientific dating) and need for illustration;
- a selection of images, which may include work in progress on site and selected artefacts recovered;
- a context index,

- an evaluation of the potential of the sites with recommendations for further work.

A7.1.5 Costs

	Sc	Sp	Per Day	Days	Cost	Total
ARCUS staff						
James Symonds	OR3	2	178.00	8	1424.00	
Glyn Davies	OR1	5	135.00	60	8100.00	
Hugh Willmott	OR1	5	135.00	9	1215.00	
site assistant	Tech D	2	93.41	30	2802.30	
site assistant	Tech D	2	93.41	25	2335.25	
site assistant	Tech D	2	93.41	25	2335.25	
Illustrator	Tech D	2	93.41	8	747.28	
palaeoenviromental assistant	Tech D	2	93.41	20	1868.20	
Andrew Chamberlain			230.00	2	460.00	
Glynis Jones			230.00	2	460.00	
					Sub-total a	21747.28
External Specialists						
Worked stone to be appointed			230.00	8	1840.00	
Animal Bones to be appointed			160.00	10	1600.00	
Chris Cumberpatch			160.00	3	480.00	
Meatwork to be appointed			160.00	2	320.00	
					Sub-total b	3920.00
Non-staff cost ARCUS						
SiteTravel			30.00	35	1050.00	
Consumables			1.00	200	200.00	
Field Consumables			50.00	5	250.00	
Films			15.00	8	120.00	
C14					1500.00	
					Sub-total c	3120.00
Non-staff cost external						
travel			100.00	3	300.00	
					Sub-total d	300.00
Overheads						
ARCUS Overheads at 25% a+c					6216.82	
External Overheads at 10% b+d					422.00	
					Sub-total e	6638.82
Capital Equipment						
					Sub-total f	0.00
Gross Total						35726.10

A7.1.6 Timetable

Week	Person	Activity	Days
1	Project Archaeologist	arranging access	2
2	Project Archaeologist	arranging access	2
3	Project Archaeologist	arranging access	2
4	Project Archaeologist	arranging access and set up	4
5-9	Project Archaeologist Field Archaeologists (x3)	fieldwork	25 25 (x3)
10	Project Archaeologist Field Archaeologist Finds Officer	collation of field data	5 5 3
11-20	Specialists	stone tool assessment other finds animal bones assessment environmental assessment	5 8 10 20
21-25	Project Archaeologist Finds Officer	reporting	15 3
1-25	Project manager Project Officer	management	8 5

Appendix 7.2 Section Cleaning

The section cleaning programme will investigate exposed sections of cave fill identified in the field survey. These will be used to examine the issues identified in **section 7.3.2.4**.

A7.2.1 Strategy

It is proposed to investigate three sections, two in Pleasley Vale and one in Markland Grips. Subject to agreeing access the sections to be examined will be PLT13, PLT17 and MGT101. These sections have been chosen as they are the largest external sections that are the most vulnerable to damage. If access can not be gained to any of these sections alternative sections will be investigated.

A7.2.3 Methodology

A 2m wide section will be cleaned on each site. This will entail cutting deposits back 0.1m to expose clean, unweathered sediment.

All cleaning will be by hand and will be undertaken stratigraphically by context.

If structural features are identified during cleaning these will be cleaned and recorded but will not be removed.

All of the material cleaned from the sections will be sieved to maximise the retrieval of artefacts and bones. This will be undertaken on site using a 5mm mesh sieve.

If cemented breccia or flowstone deposits are encountered these will be investigated to determine their thickness and they will be removed by hand, if possible within the available timeframe. If they are too difficult to remove by hand they will be left *in situ*.

During the fieldwork the sections will be fenced off with 1m high orange plastic fencing supported on road pins.

A7.2.3.1 Surveying

The sections will be surveyed using an EDM. The sections will be recorded in relation to the site and plotted onto the CAD maps produced for each valley as part of the survey undertaken in the Management Action Plan.

A7.2.3.2 Recording

Each context will be described in full on a pro forma context record sheet in accordance with the accepted context record conventions. Each context will be given a unique number. These field records will be checked and indexes compiled.

The cleaned sections will be drawn after cleaning at a scale of 1:10. All drawings will be drawn on inert materials. All drawings will adhere to accepted drawing conventions and will be checked on completion by supervisory staff. All drawings will be related to the Ordnance Datum.

A photographic record will be made of each section showing it before, during and after cleaning. The photographic register will comprise 35mm format colour slides and black and white prints. All site photography will adhere to accepted photographic record guidelines.

Registers for contexts, drawings, samples, photographs, levels and recorded finds will be kept on current pro forma sheets

A7.2.3.3 Finds collection policy

All finds will be collected according to an explicit strategy. All finds will be retained except those that are obviously modern in date. Material discarded as a consequence of this policy will be described and quantified in the field. This will involve basic analyses such as counting artefacts, and assigning finds to broad categories, e.g. plastics, glass etc. All other finds will be retained.

All retained material will be individually bagged and recorded to context. Finds of particular interest or fragility will be retrieved as Small Finds, and recorded three dimensionally. This would include all prehistoric material.

All retained finds will be cleaned, marked, catalogued and packed in materials suitable for long-term storage, as detailed in the Institute of Field Archaeologists (IFA) guidelines for finds work. Conservation, if required, will be undertaken by approved conservators. The United Kingdom Institute of Conservation (UKIC) guidelines will apply. The artefacts will be analysed by appropriately qualified specialists.

In the event of human remains being discovered during the excavation these will be left *in-situ*, covered and protected, in the first instance. The removal of human remains will only take place under appropriate Home Office and environmental health regulations, and in compliance with the *Burial Act 1857*. If human remains are identified, the SMR and Coroner will be informed immediately. A Home Office licence will be obtained prior to the removal of the remains. Contingency provision will be made for specialist reports on the remains by a recognised osteo-archaeologist.

All finds that fall within the purview of the Treasure Act 1996 will be reported to HM Coroner according to the procedures outlined in the Act.

A7.2.3.4 Sampling

Palaeo-environmental samples will be collected according to an explicit sampling strategy. The sampling strategy will take the form of both the systematic and judgement methodology, as defined in the English Heritage guidelines for Environmental Archaeology (English Heritage, 2002).

Samples will be taken of all major contexts recorded in the cleaned section. Also any contexts containing prehistoric flints or bones will be sampled. This will require a degree of judgement in the field but if the status of a deposit is uncertain it will be sampled.

The sample will be assessed to determine the potential of the deposits for, micro palaeontology, palaeoentomology, and snails. The assessment will identify the presence, abundance and condition of micro fauna and snails in the samples and their potential.

A total of 15 samples will be assessed from the section cleaning.

Contingency provision will be made for collecting samples for C14 dating.

Jim Williams (EH Regional Scientific Advisor) will be consulted for additional advice, as necessary.

A7.2.3.5 Staffing

The following is a provisional list of specialists for the section cleaning project:

Mr James Symonds	Project manager
Dr Glyn Davies	Senior project archaeologist
to be appointed	Field archaeologists (x2)
Dr H. Willmott	Material culture co-ordinator
to be appointed	Worked stone
Dr Andrew Chamberlain	Human remains
to be appointed	Animal bones
Dr Glynis Jones	Palaeoenvironmental consultant
to be appointed	Palaeoenvironmental assistant
Dr H. Willmott	Medieval and post-medieval small finds
Dr Chris Cumberpatch	Medieval and post-medieval ceramics
to be appointed	Metalwork

A7.2.4 Reporting

An assessment report will be produced in accordance with English Heritage guidelines as outlined in *Management of Archaeological Projects* (1991), IFA standards and current best archaeological practice. The assessment report will be of a standardised format and will synthesise all elements of the evaluation work. It will contain:

- date and duration of fieldwork;
- author of report, and report date;
- name of Project Manager and Project Officer;
- a non-technical summary and introductory statement;
- summary background information;
- a summary account of the techniques employed during the project;
- a detailed plan of the position of all sections cleaned, related to fixed points;
- a summary stratigraphy for all sections with section drawings;
- a summary record of all artefactual material recovered or recorded;
- summary assessment of all material and samples recovered and their potential for further analysis (including scientific dating) and need for illustration;
- a selection of images, which may include work in progress on site and selected artefacts recovered;
- a context index,
- an evaluation of the potential of the sites with recommendations for further work.

A7.2.5 Costs

	Sc	Sp	Per Day	Days	Cost	Total
ARCUS staff						
James Symonds	OR3	2	178.00	2	356.00	
Glyn Davies	OR1	5	135.00	20	2700.00	
Hugh Willmott	OR1	5	135.00	1	135.00	
site assistant	Tech D	2	93.41	9	840.69	
site assistant	Tech D	2	93.41	9	840.69	
illustrator	Tech D	2	93.41	3	280.23	
palaeoenvironmental assistant	Tech D	2	93.41	8	747.28	
Andrew Chamberlain			230.00	1	230.00	
Glynis Jones			230.00	1	230.00	
					Sub-total a	6359.89

External Specialists						
Worked stone to be appointed			230.00	2	460.00	
Animal Bones to be appointed			160.00	3	480.00	
Chris Cumberpatch			160.00	1	160.00	
metalwork to be appointed			160.00	1	160.00	
					Sub-total b	1100.00

Non-staff cost ARCUS						
Site Travel			30.00	12	360.00	
Consumables			1.00	200	200.00	
Field Consumables			50.00	2	100.00	
Films			15.00	4	60.00	
Scaffold hire			200.00	1	200.00	
					Sub-total c	920.00

Non-staff cost external						
travel			100.00	1	100.00	
					Sub-total d	100.00

Overheads						
ARCUS Overheads at 25% a+c					1819.97	
External Overheads at 10% b+d					120.00	
					Sub-total e	1939.97

Capital Equipment						
					Sub-total f	0.00

Gross Total						10419.86
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A7.2.6 Timetable

Week	Person	Activity	Days
1	Project archaeologist	arranging access	1
2-4	Project archaeologist	arranging access	1
5	Project archaeologist	arranging access and set up	1
6-7	Project archaeologist Field archaeologists (x3)	fieldwork	9 9 (x2)
8	Project archaeologist Field Archaeologist	collation of field data	2 2
9-15	Specialists	worked stone finds assessment animal bones assessment environmental assessment	2 2 3 6
16-17	Project archaeologist	reporting	5
1-17	Project manager Project archaeologist	management	2 1

Appendix 7.3 Borehole survey

The borehole survey is designed to identify the depth and character of deposits in the base of the valleys. This is to be undertaken to examine the issues identified in **section 7.3.2.5**.

A7.3.1 Strategy

There are seven valleys that have the potential to contain a significant depth of deposits in the bottom of the valley.

Roche Abbey Vale

Lindrick Dale

Ash Tree

Markland and Hollinhill Grips

Elmton and Whaley Valley

Langwith Vale

Pleasley Vale

This survey is an evaluation survey aimed at identifying the depth of deposits in the valley bottoms and determining which, if any, contain deposits with palaeoenvironmental potential and to develop simple deposit models for the valleys.

If deposit sequences are identified with palaeoenvironmental potential these will be the subject of a separate programme of sampling and analysis. The techniques to be employed in obtaining samples for in this programme would be dependant on the location, character and depth of deposits to be sampled.

A7.3.2 Location of boreholes and arranging access

The boreholes will be located to obtain profiles across and along the valleys. The exact locations will depend on where access can be arranged.

A7.3.3 Methodology

It is proposed that the coring is undertaken by hand using a bucket auger. This is proposed for two reasons;

- vehicle access to the bottom of many of the valleys is very difficult and use of a machine would limit the areas that can be sampled.
- most of the valleys are not thought to contain deep deposits and it should be possible to core through most area using a hand auger.

Up to 40 cores will be bored in total with five cores being bored in the selected valleys. Further cores will be located to test specific questions raised by the desk top study of the potential for open air sites **section 4.8**.

7.3.3.1 Surveying

The borehole locations will be surveyed in using a hand held GPS and plotted onto the CAD maps produced for each valley as part of the survey undertaken in the Management Action Plan.

7.3.3.2 Recording

The deposit sequence will be recorded using standard soil descriptions with the depth and thickness of each layer being recorded.

7.3.3.3 Finds collection policy

It is not expected that finds will be recovered from the coring programme but any finds recovered will be retained.

All retained material will be individually bagged and recorded by layer and depth.

All retained finds will be cleaned, marked, catalogued and packed in materials suitable for long-term storage, as detailed in the Institute of Field Archaeologists (IFA) guidelines for finds work. Conservation, if required, will be undertaken by approved conservators. The United Kingdom Institute of Conservation (UKIC) guidelines will apply. The artefacts will be analysed by appropriately qualified specialists.

All finds that fall within the purview of the Treasure Act 1996 will be reported to HM Coroner according to the procedures outlined in the Act.

7.3.3.4 Sampling

Palaeo-environmental samples will be collected according to an explicit sampling strategy. The sampling strategy will take the form of both the systematic and judgement methodology, as defined in the English Heritage guidelines for Environmental Archaeology (English Heritage, 2002).

Samples will be taken of all major contexts recorded in the cleaned section. Also any contexts containing prehistoric flints or bones will be sampled. This will require a degree of judgement in the field but if the status of a deposit is uncertain it will be sampled.

The sample will be assessed to determine the potential of the deposits for, palynology, palaeoentomology, and snails. The assessment will identify the presence, abundance and condition of pollen, insect remains and snails in the samples and their potential.

A total of 15 samples will be assessed from the cores.

Contingency provision will be made for collecting samples for C14 dating.

Jim Williams (EH Regional Scientific Advisor) will be consulted for additional advice, as necessary.

7.3.3.5 Staffing

The following is a provisional list of specialists for the borehole project:

Mr James Symonds	Project Manager
Dr Glyn Davies	Project Officer
to be appointed	Palaeoenvironmental assistant
to be appointed	Field archaeologists (x2)
Dr Glynis Jones	Palaeoenvironmental consultant (CHECK)

A7.3.4 Reporting

An assessment report will be produced in accordance with English Heritage guidelines as outlined in *Management of Archaeological Projects* (1991), IFA standards and current best archaeological practice. The assessment report will be of a standardised format and will synthesise all elements of the evaluation work. It will contain:

- date and duration of fieldwork;
- author of report, and report date;
- name of Project Manager and Project Officer;
- a non-technical summary and introductory statement;
- summary background information;
- a summary account of the techniques employed during the project;
- a detailed plan of the position of all boreholes cored, related to fixed points;
- a summary stratigraphy for all boreholes with logs,
- a summary record of all artefactual material recovered or recorded;
- summary assessment of all material and samples recovered and their potential for further analysis (including scientific dating) and need for illustration;
- an evaluation of the potential of the sites with recommendations for further work.

A7.3.5 Costs

	Sc	Sp	Per Day	Days	Cost	Total
ARCUS staff						
James Symonds	OR3	2	178.00	2	356.00	
Glyn Davies	OR1	5	135.00	19	2565.00	
site assistant	Tech D	2	93.41	8	747.28	
site assistant	Tech D	2	93.41	8	747.28	
palaeoenviromental assistant	Tech D	2	93.41	20	1868.20	
Glynis Jones			230.00	1	230.00	
					Sub-total a	6513.76

External Specialists						
					0.00	
					Sub-total b	0.00

Non-staff cost ARCUS						
Travel			30.00	13	390.00	
Consumables			1.00	200	200.00	
Field Consumables			50.00	2	100.00	
Films			15.00	2	30.00	
C14					500.00	
					Sub-total c	1220.00

Non-staff cost external						
					0.00	
					Sub-total d	0.00

Overheads						
ARCUS Overheads at 25% a+c					1933.44	
External Overheads at 10% b+d					0.00	
					Sub-total e	1933.44

Capital Equipment						
					Sub-total f	0.00

Gross Total						9667.20
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A7.3.6 Timetable

Week	Person	Activity	Days
1	Project archaeologist	arranging access	1
2-4	Project archaeologist	arranging access	1
5	Project archaeologist	arranging access and set up	1
6-7	Project archaeologist	Fieldwork	8
	Field palaeoenviromentalist		8

	Field archaeologists (x2)		8 (x2)
8	Project Officer	collation of field data	2
	Field palaeoenvironmentalist		2
9-15	Specialists	environmental assessment	10
16-17	Project archaeologist	reporting	5
1-17	Project manager	Management	2
	Project archaeologist		1

Appendix 7.4 Cave excavation

As was identified in **sections 7.3.2.8 and 7.3.2.9** it is only through the excavation of cave or rock shelter sites that some themes within the research priorities can be investigated. The test pitting and section cleaning programmes will both aid in the management of the archaeological resource, and will also act as a site evaluation programme to determine which sites have the best potential for further research.

Until the test pitting and section cleaning programmes have been completed it is impossible to determine which site or sites would be appropriate for excavation. Detailed methodologies and costs will be site-specific, and will be produced on a site-by-site basis, as appropriate.

Appendix 8.1 Promoted Routes in the Limestone Heritage Area

PROMOTED ROUTES IN THE LIMESTONE HERITAGE AREA				
Name of route	Distance (miles)	Produced by	General information	Current/ Out of print
STRATEGIC PROMOTED ROUTES				
Creswell Archaeological Way	13	Derbyshire County Council	A waymarked linear route from Pleasley Park to Whitwell	Current
Robin Hood Way	88	Nottinghamshire County Council	Book detailing this long distance walk route which passes through Creswell Crag.	Current
Meander through the Meden Valley	4 each	Action Mansfield	Two circular walks around Sookholme and Pleasley Vale	Out of print
Discover the Pleasley Trails Network	1-4	District of Bolsover	Map of the different routes making up Pleasley Trails including the <u>Meden Trail</u> , Rowthorne Trail and Teversal Trail. Multi-use trails	Current
The Lady Lee Cuckoo Way circular	4	Chesterfield Canal Trust	Circular walk following part of the Chesterfield Canal near Workshop	Current
Rotherham Ring Route	50	Rotherham Borough Council	A circular walk through the countryside around Rotherham	Current
LOCALLY PROMOTED ROUTES				
1 st Barlborough Walk Fox and Magpie Heritage Trail	3	Barlborough Parish Council	A circular walk along lanes and footpaths around the Parish of Barlborough	Current
2 nd Barlborough Heritage Trail	4	Barlborough Parish Council	A circular trail taking in 22 points of interest	Current
The Chaffinch Trail (3 rd Barlborough Walk)	4.6	Barlborough Parish Council	Links the historic villages of Barlborough and Spinkhill	Current
Bolsover Town Trail	2	Bolsover Civic Society	A trail covering points of interest	Current

New Bolsover Trail	2	Bolsover Society	Civic	Discover the housing provided for coal miners in Bolsover	Current
Clowne 1 st heritage trail	3.25	Clowne Council	Parish	A circular trail taking in points of interest around Clowne.	Current
Clowne 2 nd heritage trail	2.75	Clowne Council	Parish	A circular trail taking in points of interest around Clowne.	Current
Crags Loop	7	Whitwell Council	Parish	A way marked circular trail from Creswell Crags	Current
Markland Loop	6	Whitwell Council	Parish	A circular walk in the south west of Whitwell Parish	Current
Whitwell Churches Loop	5	Whitwell Council	Parish	A circular addition to the archaeological way, linking two churches	Current
Whitwell Village Loop	3	Whitwell Council	Parish	A walk around the village streets	Current
Holbeck Walk	3	Creswell visitor centre	Crags	A short walk through Creswell Crags and surrounding countryside	Out of print
Walking in the Creswell Limestone Heritage Area	4.5 – 8	Creswell Heritage Trust		5 walks exploring the archaeology of the Magnesium Limestone Landscape	Current
Creswell Village Trail	1.5	Pride of Place		A short walk around the past of Creswell	Current
A Walk from Welbeck	3	Pride of Place		A shot walk linking three attractions on the Welbeck Estate	Out of print
Greenwood Walks	Various	Nottinghamshire County Council.		6 walks around Nottinghamshire's Community Forest	Current
Exploring Greenwood	3.5 - 6	Nottinghamshire County Council		Five Countryside walks in Nottinghamshire's Community Forest	Current
Exploring the Robin Hood line	4.5 – 6.5	Nottinghamshire County Council		Folder containing 6 walks between stations £2.50	Current
Hodthorpe Butterfly Trails	3 & 4	Hodthorpe school		A circular route around Whitwell, Hodthorpe and Creswell Crags	Out of print
Poulter Country Park loop	5	Pride of Place?		A spur of the Heritage Way connecting to Whaley Thorns Heritage centre	Out of print
Walks in the Meden Valley	4	Pride of Place		3 short heritage walks from the Robin Hood line – Creswell and Whaley Thorns link, Creswell Loop, Whaley Thorns loop	Out of print
Walking the River Maun in Mansfield	7	Mansfield District Council		A walk from the source of the River Maun	Out of print
Whaley Thorns to Shirebrook rail trail	6.5	Pride of Place		Journey back through time with Frank as he guides you between the villages of	Current

			Whaley Thorns and Shirebrook	
Whaley Thorns and Langwith Village Trail	3	Pride of Place	Journey through time with Tommo	Current
Six centenary walks around Warsop, Nether Langwith and Cuckney	Various	?		?
Warsop working with the Parish Paths Partnership	Various	Warsop footpaths and countryside group	A leaflet showing the network of paths in the Parish	Out of Print
A Walk Round Warsop	Not stated	Old Warsop Society	A short walk around the villages old town	Out of print
Whitwell Village Trail	2	Pride of Place	Explore war time Whitwell with John and Josie	Current
Whitwell Wood	6	Forest Enterprise?	3 waymarked routes through ancient woodland	?
Waymarked Walks Around the Five Pits Trail	2.5 – 5.5	Derbyshire County Council	4 waymarked circular walks off the Five Pits trail	Out of print
Five Pits Trail	7.5	Derbyshire County Council	A multi use route from Tibshelf to Grassmoor country park	Current
Pleasley Park	Unknown	Shirebrook History Group	Exploring this historical woodland area	Out of print
The Lady Chatterley Trail	6	Teversal Visitor Centre	A figure of 8 walk through the literary landscape	Current
The Pleasley Trails: Industrial heritage 1200s – 1992	1 - 4	Teversal Visitor Centre	Multi-user trail network	Current
The Teversal Nature Trail	5	Teversal Visitor Centre	A circular route from Teversal to Pleasley	Current
The Teversal Running Trail	3-10	Teversal Visitor Centre	A number of circular routes identified for runners along the Teversal Trails network	Current
The Teversal Sculpture Trail	4	Teversal Visitor Centre	A circular walk past 10 sculptures	Current
Teversal Trail circular walks	3 - 4.5		Three circular walks	Out of print
Teversal Trail visitor centre	5.5		A short circular walk from the visitor centre	Current
Brierley Forest Park, Discover the Park and Visitor Centre	3	Ashfield District Council	Information on Brierley Forest Park showing the 3 miles of trails	Current
The Three Centres Trail	6.8	Groundwork Ashfield and	A linear walk linking Portland, Brierley and	Current

		Mansfield	Teversal visitor centres	
Mansfield Timberland Trail	4.75	Mansfield District Council	A linear trail through Mansfield (walk and cycle)	Current
Mansfield Town Centre Trail	Various	Mansfield Town Centre Partnership	Explores Mansfield's historical, cultural and educational interest	Current
Kelky's Forest Town	1.5	Pride of Place	A short walk around Forest Town with local Kelky.	Current
Mansfield Woodhouse Village Trail	2	Pride of Place	A short look at the history of this ancient village	Current
Tibshelf Town Trail	4.5	Groundwork Creswell	A circular waymarked trail exploring the features of Tibshelf and its surrounding area.	?
An introduction to the Chesterfield Canal	46	Chesterfield Canal Trust	Outlines the route of the Cuckoo Way from Chesterfield to the River Trent at West Stockwith	Current
Peveril Way	13	Groundwork Creswell	A linear route from Bolsover south to Pinxton on footpaths and country lanes.	?
Langold Country Walk	8 and 3	Groundwork Creswell	An 8 mile circular waymarked walk along footpaths, bridleways and roads which can be extended by a further 3 miles.	Current
Favourite Walks of the Bolsover Ramblers	4 – 8	Bolsover District Group of the Ramblers	A series of five walk leaflets covering the Bolsover area.	Current
Carr Vale – changing places	Various	Groundwork Creswell	A map showing paths and trails around Carr Vale and New Bolsover	Current
Anston Stones Wood geological trail	Various	Anston Parish Council	A guide to Anston Stone woods showing the routes through the site.	Current
Shirebrook Town Trail	4	Pride of Place	Explore historic Shirebrook	Current
Laughton en le Morthen Historical Walk	Not stated	Rotherham Borough Council	A short historic walk around the village	Current
Maltby Area, Waymarked Circular Walk	15	Rotherham Borough Council	A marked route around this rural area including Roche Abbey	Current
The Five Churches Waymarked Circular Walk	10	Rotherham Borough Council	A circular route linking the churches of Wales, Harthill Thorpe Salvin, South Anston and Todwick	Current
Doorstep Walk No: 1 Laughton en le Morthen	Not stated	Rotherham Borough Council	A short walk in the countryside around Laughton	Current

Doorstep Walk No: 2 Laughton walk around Roche Abbey	Not stated	Rotherham Borough Council	A short walk in the countryside around Roche Abbey	Current
Doorstep Walk No: 3 A Family Friendly Walk at Letwell	Not stated	Rotherham Borough Council	A short walk in the countryside of Letwell	Current
Short Circular Walks in the Dukeries	Various	A J.N.M publication	A small booklet of walks ranging from 2 to 14 miles by John Merrill	Current
Door Step Walks	2.5 - 4	Bassetlaw District Council	Short health walks around Bassetlaw	Current
PROMOTED CYCLE ROUTES				
Dukeries cycle trail 1 & 2	13.5 – 22	Bassetlaw District Council	A circular cycle route with short cuts using roads and bridleways	Out of print
Rotherham Round Rides	10 – 40	Rotherham Borough Council	A series of seven circular cycling and horse riding routes using roads and bridleways	Current
Sherwood Forest and the Maun Valley	15	?	A published route showing a suggested cycle ride	Out of print
Pleasley and the Five Pits Trail	22	Derbyshire County Council??	A published route showing a suggested cycle ride	?
National Cycle Network	45 (in Notts.)	Sustrans	Route 6 of the National Cycle Network passes through the area - Worksop to Killamarsh, where it joins the Trans Pennine Trail southern spur (route 67)	Current

PROMOTED HORSE RIDING ROUTES				
Ducal Nottinghamshire Western Circuit Creswell to Carburton	18	Nottinghamshire County Council	Circular route using bridleways and roads, available also to walkers and cyclists.	Out of print. Due to traffic conditions no reprint is planned.
Rotherham Round Rides (see above)				
OTHER PROMOTIONAL LEAFLETS				
Leaflet Name	Produced by	General information		Current / out of print
Great Days Out pocket guide	District of Bolsover	Guide to facilities and attractions in the area		Current
Symmetry and Light	District of Bolsover	A tourist trail linking historic architecture of the Smythson family		Current
Whitwell a short history	Whitwell Local History Group	Outlines the history of the parish of Whitwell		out of print
Laughton en le Morthen	Rotherham Borough Council	An historical guide		Current

Appendix 8.2

Vales and Gorges Checklist

Roche Abbey Vale (Rotherham)

Historical Features

Cave
Abbey
Commons



Ecological Features

Maltby Low Common
Maltby High Common
Kings Wood is the best example of limestone woodland in South Yorkshire
River course
Lakes and ponds with marginal vegetation
Mixed coniferous woodland
Broadleaf woodland
Hedgerow habitats

Landscape Features

Commons
Limestone buttresses
Heading north along this path through the gorge there are good views of the Abbey and outcrops of limestone.
Capability Brown landscape

Key communities

Maltby
Dinnington

Other stakeholders

Scarborough Estate
English Heritage
English Nature
Rotherham MBC
Yorkshire Wildlife Trust
(There is an access forum with representatives from the above organisations).

Issues

Already well visited (over 9000 p.a. who purchase tickets from English Heritage). Actual number to the

vale much more. The Abbey car park is used by day visitors to the area; approx. 4000 non-paying visitors use the car park and gorge who do not pay. Congestion along access road at busy periods.

Vandalism – litter, dislodging of rocks etc.

Evidence of car break-ins broken glass in the lay by

Sewage works in Nor Wood

Vegetation obscures much of the limestone outcrops

Promoted routes

Roche Abbey 5.5mile walk (contained in booklet *Walking in the Creswell Limestone Heritage Area*).

Maltby Area waymarked circular walk (15miles)

Laughton walk around Roche Abbey (Doorstep walk No 2)

Short circular walks in the Dukeries by John Merrill

Rotherham Ring Route

Firbeck Vale (Rotherham)

Historical Features

Firbeck Hall

Ecological Features

No site specific ecological reports found. On site field work revealed various habitats including: broad leaf woodland, river course, ponds, hedgerows, improved grassland (pasture) and estate and domestic gardens



Landscape Features

Historic parkland

Existing rights of way well signed and in good condition

Key communities

Firbeck village

Other stakeholders

Firbeck Parish Council

Village pub (Black Lion)

Village hall

Woodsetts local history society

SK58 birders

Issues Mainly in private ownership with no direct rights of way / access to vale
No potential viewpoints as a whole

Promoted routes

Maltby Area waymarked circular walk (15miles)
Round Rotherham Rides
Rotherham Ring Route
(Nearby)

Anston Stones and Lindrick Vale (Rotherham)

Historical Features

Dead Mans Cave
Late Palaeolithic
campsite
Chesterfield Canal

Ecological Features

SSSIs
LNR (Anston Stones
wood only)



Anston Stone Woods contains the second best example of limestone woodland in South Yorkshire. (The best example is Kings Wood, near Roche Abbey). Bee orchids and skylarks are amongst the species recorded in adjacent field which is under the countryside stewardship scheme. All fields around the recreation ground are now in Stewardship.

Lindrick golf course, once common land, away from the greens and fairways, supports the largest and one of the most diverse areas of limestone grassland in South Yorkshire.

There are many significant species recorded for Anston Stones wood (see Ecus report for lists).

Landscape Features

Gorges
Vales
River Ryton
Disused quarries
Exposure of Magnesian limestone evident in both wood and vale

Condition of paths generally very good

Key communities

North Anston

South Anston

Shireoaks

Woodsetts

Lindrick Dale (neighbourhood watch)

Other stakeholders

Anston Parish Council (landowner Anston Stones wood)

Consultants appointed to do management plan

Anston Stones Wood Management Partnership

English Nature

Rotherham Metropolitan Borough Council

Local residents

Sorby Natural History Society

Rotherham Naturalists Society

Yorkshire Wildlife Trust

Lindrick Golf club

Groundwork Creswell's 'Breakaway' Project

Defra

Issues

Sites are bisected by busy A57 road

Attracts lots of visitors

Anston Stones wood is the largest 'leisure' facility in the parish of Anston.

Very limited parking in Lindrick Dale

Potential for improvements, including easy access routes.

Bullens consultants have just been commissioned to undertake a new management plan for Anston Stones wood.

Field in countryside stewardship (SK529 835) provides open access to the public. Access into Anston Stones Wood can be gained from this field. Another countryside stewardship site exists adjacent to Lindrick Dale (SK535 823). There are permissive footpaths of 1.8 miles as well as an area of open access.

In Lindrick Dale there is such a mix of building materials and styles so as to detract from the landscape character of the area.

Houses and gardens incorporated into the gorge walls (Lindrick Vale).

Instability of path along top of quarry near steel grill bridge.

Promoted routes

Anston Stones and Lindrick Dale 7.25 mile walk (contained in booklet *Walking in the Creswell Limestone Heritage Area*).

Rotherham Ring Route

Proposed Doorstep Walk (RMBC)

Cuckoo Way (Chesterfield Canal) is nearby

Anston Stones Wood geological trail (out of print?)

Short walks in the Dukeries by John Merrill

Red Hill Valley (Rotherham)

Historical Features

Desk top research revealed no site specific historical reports. Nearby features include the Chesterfield Canal that runs parallel to the site



Ecological Features

Scrubland, tall ruderal grassland, hedgerow and broadleaf woodland observed during the field study.

Desk top research revealed no site specific ecological reports

Landscape Features

Limestone cliff

Woodland

Key Communities Kiveton Park

Other stakeholders Local farmer

Issues

Landowner unknown

No public rights of way / formal access although desire lines exist into the woods from opposite the lay by on the B6059.

Evidence at base of woods of fires, rubbish and rope swing.

Not visible from road (B6059) or canal towpath

Promoted routes

The Cuckoo Way, Chesterfield Canal (passes nearby but the site cannot be seen from the canal towpath).

Thorpe Common and Lob Wells Wood (Rotherham)

Historical Features Prehistoric cave and shelter sites

Ecological Features

Unimproved magnesian limestone grassland

Moor Hill Farm (SK529 801) has been in countryside stewardship scheme for 10 years. Farmer has just entered into new agreement for another 10 years.

Although nearby Whitwell Woods has a history of biological recording, there are no records for Thorpe Common and Lob Wells wood that we are aware of.

Other habitats noted on site include broadleaf woodland, hedgerows, ditches and pond adjacent to the site used for private fishing with marginal vegetation

Landscape Features

Woodland

Wildflowers

Far reaching views

Hamlet is representative of the vernacular building style characteristic of the Heritage Area

Key communities Thorpe Salvin
Bondhay
Whitwell



Other stakeholders

Rotherham Borough Council

Yorkshire Wildlife Trust

Defra

Private landowners

Issues

No public access to wood. It is under private ownership and the owner is not keen on public access. However, under the countryside stewardship scheme there is concessionary access to unimproved grassland area where limestone flora is abundant in spring and summer. There is the potential for installing an interpretation point showing the types of wildflowers this uncommon habitat supports.

Vandalism/problems rare. Farmer reports occasional burnt out cars.

Cave and shelter sites cannot be seen from rights of way in the area.

Promoted routes

Rotherham Ring Route

(Cuckoo Way, Chesterfield Canal nearby)

Ash Tree Gorge (Bolsover District)

Historical Features

Known prehistoric cave and shelter sites

Ecological Features

ECUS (2000) report little information other than the species list obtained from the Derbyshire Biological Records list which includes the notable species below:

Sorbus torminalis wild service

Cirsium acaule dwarf thistle

Further field research is recommended for example a Phase 1 Habitat Survey

Landscape Features

Regionally Important Geological Site (RIGS)



	Views over surrounding landscape
Key communities	Whitwell Clowne
Other stakeholders	Chatsworth Estate Tenant Farmer
Issues	No public access – can only be seen from the road (Highwood Lane), which is on the Archaeological Way. The lay-by off this road is not suitable for car parking as it is used as a passing point and road is a single lane. Evidence of cattle trampling around cliff edge
Promoted routes	The Creswell Archaeological Way (13 miles, passes along the road with a view of the site).

Markland and Hollinhill Grips (Bolsover District)

Historical Features

Cave and shelter sites
Iron Age Hill Fort
Railway viaduct



Ecological Features

SSSI
Semi-natural ancient woodland
Unimproved magnesian limestone grassland
Notable species include bee orchids *Ophrys apifera* on the north plateau, the nationally rare large leaved lime *Tilia platyphyllos* along the cliff top and the abundance of yew *Taxus baccata* along the cliff edge. The scarce wood barley *Hordelymus europaeus* is scattered throughout the woodland, the nationally rare mountain currant *Ribes alpinum* is also present. In places the nationally rare soft-leaved sedge *Carex montana* occurs. Importantly, Markland Grips supports the only Derbyshire population of the nationally scarce plant rare spring-sedge *Carex ericetorum* (ref: English Nature).

The marsh area of South Markland supports great-crested and smooth newts.

Outside the SSSI four SINC's exist reinforcing the ecological importance of the area

(Many more have been recorded. The full species lists are contained in the ECUS report).

Landscape Features

Gorges, limestone crags, stream

Regionally Important Geological Site (RIGS)

Key communities

Creswell

Clowne

Other stakeholders

Chatsworth Estates (landowners)

English Nature

Derbyshire Wildlife Trust (manage the site)

Landmarks

Clowne Natural History Society

Tenant farmers

Issues

Landmarks wish to develop in gorge bottom

Dumping of manure at top of gorge changing ecology of limestone grassland

Proposed Greenway will improve access to site

Shooting tenancy covering the reserve

Derbyshire Wildlife Trust concern re encouraging visitors, except in Middle Markland.

Vegetation obscuring cliff faces

Narrow, overgrown footpaths (Derbyshire Wildlife Trust responsible as outlined in licence agreement with Chatsworth Estates)

Litter in stream – Markland Grips

Greenway proposals linking NCN67 to Creswell

Additional railway line not in Greenway proposals

In many places brambles and scrub are now taking

over

Nitrogen pollution from the adjacent sewage works

Promoted routes

The Markland Loop (6 miles)

The Creswell Archaeological Way (13 miles)

Creswell Crags, Elmtun and Markland Grips 7mile walk (contained in booklet '*Walking in the Creswell Limestone Heritage Area*').

Creswell Crags (Bolsover and Bassetlaw Districts)

Historical features

Palaeolithic cave site

A potential World Heritage Site and

Scheduled Ancient Monument

Literary/artistic connections



Ecological features

Habitats include semi-natural deciduous woodland, mixed plantation, scattered scrub, unimproved calcareous grassland, single species dominant swamp and open water. The habitats support a variety of important flora and fauna including several species of bat, notable populations of breeding birds. Plant species of restricted distribution include giant bell flower, mountain melick (ECUS report 2000 p6), and wetland species consist of blue water speedwell and mares tail (Oliver, 2001).

Landscape features

SSSI - for geological reasons

Limestone gorge, caves and cliffs

On stream lake and river course

Open space

Education Centre

Dramatic landscape views

Good access

Key communities

Creswell communities

Whitwell

Holbeck

Other stakeholders

Welbeck Estate

English Nature

English Heritage

Creswell Village Company

Creswell History Group

Issues

Pending re-development of visitor facilities to provide a focus for interpretations of ice age period, visitor figures approx 30000 per annum .

B6042 road is being re routed and will be downgraded to bridleway status in 2004.

Promoted routes

The Craggs Loop (7 miles)

Holbeck Walk (3 miles)

Creswell Craggs, Elmton and Markland Grips (7 miles)
(contained in booklet *Walking in the Creswell Limestone Heritage Area*)

A walk from Welbeck (3 miles)

Short walks in the Dukeries by John Merrill

Doorstep walk 1 Creswell Craggs

Dukeries cycle trail

Robin Hood Way

Walks in the Meden Valley – Creswell & Whaley Thorns

Out of print:

Hodthorpe School Butterfly Trails (7.5 miles)

Elmton and Whaley Vales (Bolsover District)

Historical features

Whaley Shelter

Elmton village

Scarcliffe Park

Whaley Pit

Langwith Bassett church



Ecological features

ECUS ecological report (2000), confirms that little accurate ecological information exists for this site but species records have been obtained from the Derbyshire Biological Centre. However, ECUS identifies difficulties in correlating the results from the list with the area of interest as the records are taken from 1km grid squares 'between the east of Scarcliffe Park and Nether Langwith'. It is recommended that further site specific investigation is carried out which is beyond the scope of this report. (see Ecus report for comprehensive list of recorded species)

Landscape features

Vales
Valley bottom pasture
Old field boundaries
Good views from road (Oxpasture Lane)

Key communities

Creswell
Langwith / Whaley

Other stakeholders

Chatsworth Estate
Elmton / Creswell local history group
Elmton Village company
Derbyshire County Council countryside service
Whaley Thorns heritage committee

Issues

Good walking area – regular led walks
Aesthetics good
Car parking at Poulter Country Park which is a gateway to surrounding countryside

Promoted routes

The Creswell Archaeological Way (13 miles)
Creswell Crags, Elmton and Markland Grips (7miles)
(contained in booklet *Walking in the Creswell Limestone Heritage Area*).

Langwith Vale (Bolsover District)

Historical features

Langwith Bassett Cave
Possible site of chapel

Ecological features

Site of importance for nature conservation - (SINCs)

Langwith Wood and railway site is noted as a good site for moths and birds

Scarcliffe Lanes Common includes the following habitats: scrub, bracken, bramble, woodland and open space. Indicator species include: *Brachypodium*, *Pimpinella saxifraga*, *Linum catharticum*, *centaureum erythraea*, *Clinopodium* sp. and *Arabis hirsuta*

Other interest reported by ECUS: 'badger setts, part of a major grassland corridor'

(See ECUS report for list of recorded species)

Landscape features

Langwith Junction railway line (SK524 689) and Langwith Bassett Cave (SK518 695) are both Regionally Important Geological Site (RIGS)

Distant views

Key communities

Scarcliffe
Upper Langwith

Other stakeholders

Chatsworth Estate

Issues

Dogs mess on along the path from Scarcliffe to Langwith Wood. Dog bin in village would be better sited where path meets road.

Proposed 'Greenway' along disused railway line north side of Langwith wood.

Promoted routes

The Creswell Archaeological Way (13 miles)
Scarcliffe and Upper Langwith (4 miles)



Pleasley Vale (Bolsover and Mansfield Districts)

Historical features

Yew tree cave
Vale house cave
Pleasley pit
Vale house
Pleasley mills
Pleasley mills
model village
Pleasley Park
Roman villa



Ecological features

Pleasley Park – botanical interest (angiosperms), and good bird population
Ancient woodland
Calcareous woodland
Calcareous grassland - Meden Trail said to contain some of the best remaining calcereous grassland within Nottinghamshire
Neutral grassland
Unimproved grassland
Calcareous pasture with rocky outcrops
Roadside bank with calcareous flora
Pond and lake habitats with marginal vegetation
River course ditches and streams with marginal vegetation
Marshland
Scrubland
There are numerous biological records for Pleasley Vale which is a diverse species rich environment with eight potential Nottinghamshire SINCS
(see Ecus report for details and precise location)

Landscape features

Pleasley Vale RIGS
Pleasley Gorge
Little Matlock Gorge

Magnesian limestone quarry
Other distinct rocky outcrops
Pleasley Vale rail cutting
Historic mills of architectural importance
Disused quarry and working quarry

Key communities

Pleasley
Mansfield Woodhouse
Shirebrook

Other stakeholders

Bolsover DC
Nottinghamshire Wildlife Trust
Friends of Pleasley Pits
Pleasley Park Natural History Group
Mansfield DC
Tony Barton (local landowner)
Shirebrook local history group

Issues

park

Pleasley Pit reclamation
Plethora of trails – no co-ordinated approach
Maintenance of trails and car parks
Large lorries using the lane to access the business

Evidence of motorbike use on Meden Trail
Evidence of horse riders on footpath – Little Matlock
Dumping at car park entrance on Common Lane

Promoted routes

The Creswell Archaeological Way (13 miles)
The Meden Trail and Little Matlock (6.5 miles)
(Exploring the Robin Hood Line series)
Pleasley Trails network (Meden Trail)
Short walks in the Dukeries by John Merrill
Out of print:
Meander through the Meden Valley (4 miles)
Pleasley Park

Appendix 8.3 Nature Conservation Sites

Sites of Special Scientific Interest (SSSI)	OS Grid reference
Anston Stones and Lindrick Dale	SK 537 829
Dovedale Wood	SK 466 632
Teversal – Pleasley Railway	SK 470 636
Doe Lea Stream Section	SK 460 692
Creswell Crags	SK 534 742
Hollinhill and Markland Grips	SK 510 750
Crabtree Wood	SK 490 785
Ginny Spring, Whitwell Wood	SK 520 788

Regionally Important Geological and Geomorphological Sites (RIGS)

Quarry north of The Hurst, Tibshelf	SK 451 618
Hardwick Park Quarry	SK 462 634
B6417 cutting, Pleasley	SK 502 647
Pleasley Vale	SK 523 652
Balkham Lane Quarry	SK 502 666
Hodhill Farm Quarry	SK 506 668
Bradshaw Wood Quarry	SK 526 688
Langwith Junction railway line	SK 524 689
Langwith Bassett Cave	SK 518 695
Station Road, Bolsover	SK 472 707
Oxcroft Quarry	SK 482 737
Hollinhill and Markland Grips	SK 510 750
Clowne Crags/Broughton Lane Railway cutting	SK 496 755
Whitwell Quarry	SK 530 752
Ash Tree Cave, Burnhill Wood	SK 515 762

Local Nature Reserves (LNR)

Rowthorne Trail	SK 491 637
Doe Lea Nature Reserve	SK 459 666

Appendix 8.4 Form

Archaeological Way Condition Survey

Path survey sheet – self-guided walk leaflets

Walk Title Archaeological Way

Surveyor's name(s) Carol Parsons

Date walk checked Wednesday 27 August 2003

Problem	State condition or OK	Location
Ground conditions / grass / crop length	Very good	
Vegetation overgrowth	Horse hop overgrown Footpath overgrown Way mark post obscured	SK515653 SK514751 to 510750 SK514752
Stiles	Good overall Step damaged	SK510750
Gates	Good	
Bridges	OK	
Steps	Old steps need backfilling	SK515649
Way Markers	Slight damage to several Overall good	Throughout
Litter	Quite a bit along the length of Forge Lane In stream	SK511657 to 506668 Markland Grips
Fly tipping	Tyres in river Soil Manure	SK513649 SK506668 SK514752
	Slight damage to several	

Vandalism / eyesore	way mark discs Interpretation board very faded and unreadable	SK509649
Other	New road widening – concern how it will affect route	SK511657

Appendix 8.5 Archaeological Way Leaflet Amendments

1. Significance of limestone crags and gorges to be made clearer.
2. Concentrate on what is special or unique about the place e.g. a Roman coin was found in fields near here is too general.
3. Under A the car park is signed as Archaeological Way not the Meden Valley Trail car park
4. Under B the distance to Outgang Lane along the road is nearer 20m not 200m
5. Spelling error under E woodland is spelt woodlamd
6. Under G replace abbreviations with the full name of the former railway if this text is to remain.
7. Public transport information should be included on the reverse of the leaflet.
8. The information refers to Pathfinder maps which have now been replaced by Explorer maps
9. The paragraph for people with disabilities should be rephrased
10. Under K reference is made to visiting the Whaley Thorns Heritage Centre. This is currently closed.
11. A better map is required showing distances at various points.
12. Reference could be made to food and accommodation providers on or near the route.
13. Refreshment symbols could be shown on the map.
14. Under Q There should be a space between the words 'the' and 'track'. The last sentence is not clear.

15. Paragraphs O and P are labelled back to front so that the sequence runs N P O instead of N O P.

Appendix 8.6 List of Contributors

Daniel Abrahams, English Nature

Anna Chapman, Greenways Officer, Derbyshire County Council

Brian Davies, English Nature

Michael Gazur, Clerk to the Council, Anston Parish Council

Pete Jarman, Nottinghamshire County Council

Nigel Mills, Creswell Heritage Trust

Richard Pett, Rights of Way Officer, Rotherham Metropolitan Borough Council

John Scott, Pride of Place Project

David Ward, Head Custodian, English Heritage's Roche Abbey

Appendix 8.7 Documents Consulted

Babtie Group (March 1998) Groundwork Creswell Robin Hood Rail Trails Feasibility Study

Countryside Agency (May 2000) Sense and Accessibility CAX 26

Countryside Agency (January 2001) Towards tomorrow's countryside CA40

Countryside Agency (2002) East Midlands
The state of the countryside 2002. CA127

Countryside Agency (2002) Yorkshire and the Humber , The state of the countryside 2002. CA126

Countryside Agency (2001b) The Rights of Way condition survey 2000
Cheltenham: Countryside Agency. CA94

Countryside Commission, CCP457, Growing in confidence - understanding people's perceptions of urban-fringe woodlands.

Creswell Heritage Trust, A New Vision for the Rural Coalfield

Creswell Heritage Trust (August 1999) Bolsover Town Tourism Appraisal, Interpretive Strategy and Plan

Creswell Heritage Trust (April 2001) Creswell Craggs Conservation Plan

Creswell Limestone Strategy steering group, (January 2000)
Creswell Limestone Strategy

Curry, N (1994) Countryside, Access and Land Use Planning, E & F N Spon, London.

Derbyshire County Council (June 2000) Draft Landscape Character Types

District of Bolsover (February 2000) Bolsover District Local Plan

Ecus (April 2000) Limestone Heritage Area Ecological Assessment of key sites Appendices

HMSO (2000) UK Day Visits Survey 1998

Mansfield District Council (undated) A Trails Network for Mansfield District

Mansfield District Council (undated) A Trails Strategy for Mansfield

Nottinghamshire County Council (August 2002) Access study for the Greenwood / Sherwood Area (North) 1st draft full consultation

Nottinghamshire and Nottingham joint structure plan, Deposit Draft 2003

Rotherham Metropolitan Borough Council (June 1999) Rotherham Unitary Development Plan

The Royal Institution of Chartered Surveyors (1993) Tomorrow's Countryside management, conservation and enjoyment

South Yorkshire Forest (2002) South Yorkshire Forest Plan 2002

Greenwood Community Forest (September 2000) Strategic Plan for Greenwood

<http://English-nature.org/>

Appendix 8.8 List of Consultees

Dan Abrahams (English Nature)
Anna Chapman (DCC, Greenways Officer)
Glyn Davis (Arcus)
Glynis Foster (DCC, landscape character assessment)
Michael Gazur, clerk to Anston Parish Council
Pete Jarman (Notts CC - countryside) / Neil Lewis 01623 861406
Gill Millward (DCC, Rights of Way officer – Bolsover & NEDDC)
Nigel Mills, Creswell Heritage Trust
Richard Pett (Rotherham MBC, Rights of way officer) 01709 822168
Diane Priest (English Heritage) 01904 601961
John Scott (Pride of Place) 01623 742448
Steve Singleton (Bolsover DC, tourism)
Angela Stanfield (DCC, re condition of rights of way)
Ian Wall, Creswell Heritage Trust

Further consultation may be required with the following:

Tony Barton re Pleasley Vale
Nick Broomhead (Notts CC – head of countryside)
Kim Carlen (Bolsover DC, conservation officer)
Phil Colbourne (Bassetlaw, disabled access officer?) 01909 533195
Derbyshire Wildlife Trust
Terry Foye (Barlborough leaflets – 44 West Street, Creswell, tel 720067)
Phil Goodman 01623 812626 or Eric Copley 810920 Bolsover District RA
Simon Horton (Notts CC – rights of way improvement plan - 01623 861406)
Steve Jones (Notts County Council, rights of way)
Barbara Littlewood, Anston Stones wood management committee, tel 01709 548858
Nottinghamshire Wildlife Trust
Kate Richardson (DCC, tourism officer)
Daphne Roe re ecology 42 Skinner Street, Creswell S80 4JW – write for info
Andy Savage (Rotherham MBC, undertaking ROWIP) 01709 822932
Helen Sisson (Mansfield DC, tourism)
Dean Skrabania, Project Manager, Greenwood Community Forest
Greenwood House, 1 – 3 Diamond Avenue, Kirkby-in-Ashfield, Notts NG17 7GN
SK58 birders (www.SK58.freeserve.co.uk)

Sorby Natural History Society
South Yorkshire Forest
George Sycamore (Bassetlaw, Interpretive trails policy)
Dave Wood (Notts. County Council)
Andy Wickham (Notts County Council) – digital maps
Whitwell Woods Natural History Group
Yorkshire Wildlife Trust

Appendix 8.9 Potential Funding Agencies For Implementation

HERITAGE LOTTERY FUND

One of the current priorities for grants are countryside projects (either at nature reserves or through area-based schemes which, involving a number of separate small projects, boost the appeal of rural landscapes). The Landscape Heritage Grants provide an excellent opportunity to take forward the Heritage Area proposals.

ROTHERHAM METROPOLITAN BOROUGH COUNCIL

May have some money for suitable projects 2004-5 (Contact Richard Pett).

WOODLAND GRANT SCHEME - Community Woodland supplement as an incentive to encourage public access.

COUNTRYSIDE STEWARDSHIP SCHEME.

ENGLISH NATURE

EUROPEAN REGIONAL DEVELOPMENT FUND (OBJECTIVE 2)

SPORTS LOTTERY FUND

NEW OPPORTUNITIES FUND

LANDFILL TAX (Environmental Trusts such as WREN and Derbyshire Environmental Trust)

AGGREGATES LEVY SUSTAINABILITY FUND

COALFIELD REGENERATION TRUST

ENGLISH PARTNERSHIPS

SUSTRANS - Sustrans may consider the addition of loops and links to its Millennium Routes so that access can be created to other features. The potential of such linkages should be attractive to many potential funding partners.

Appendix 8.10 Cost Estimates: Physical and Visual Access Proposals & Intellectual Access Proposals

APPENDIX 8.10

PHYSICAL & VISUAL ACCESS COST ESTIMATES

SITE 1 ROCHE ABBEY

Item	Description	Location	Quantity	Unit	Rate	Cost
1.0	Site Establishment					
1.1	<u>Insurance/Health and Safety Provision</u> Allow for setup on site including insurances, personnel, equipment, site security, welfare facilities, all Health and Safety provisions including that under C.D.M Regulations and for work described in the Specification preliminaries and preambles.					200.00
1.2	<u>Temporary fencing.</u> Supply and erect temporary protective safety fencing around site areas which are deemed to present a hazard and site conditions which could be reasonably foreseen to present a hazard. Allow for removal after completion of the works.					500.00
1.3	<u>Protective measures.</u> Allow for working around, protection of any, reinstatement of all manholes, telegraph poles, lamp posts, fences, pavings, kerbings etc. including for re-bedding and the like.					200.00
1.4	<u>Service Location & Identification.</u> Allow for all work to identify the precise location of all the services within the proposed area of work. Record all such locations and depths until the works are completed, and provide Landscape Architect with satisfactory records.					500.00
1.5	<u>Site Cleanliness.</u> Allow for maintaining all roads and pedestrian areas free from debris and tools/equipment					300.00

1.6	Specification, Preambles & Preliminaries. Allow for any work described in the specification, drawings, preliminaries or preambles not already identified in this bill					-
2.0	Car Park and access road improvements					
2.1	Define parking bays with bollards.	SK545898	item			1,000.00
2.2	Scrape and resurface with limestone.	From end of cobbles to fence at Abbey entrance gate	194m l x 4m w			5,000.00
2.3	Access road. Scrape and resurface with limestone.	From new gate to cobbles at the car park				
2.4	Replace catch on existing new entrance gate with one complying with DDA standards.	entrance gate	item			50.00
3.0	Signage					
3.1	Supply and Install route circulation signs denoting easy access routes, distance of walks etc..	location to confirm subject to survey/consultation				500.00
3.2	Supply & install entrance welcome sign on approach road		1	no.	500.00	500.00
4.1	Footpath Construction					
4.2	Construct 1.8m wide limestone easy access footpaths including excavation, TERRAM edging boards, pegs, limestone base course and topping	From Abbey entrance fence to kissing gate.	141	lin.m	20.00	2,820.00
5.0	Fencing and Gates					
5.1	Remove existing post & wire fence and replace with timber post n rail with mesh	From first gate to kissing gate	141	lin.m	30.00	4,230.00
5.2	Install 4m wide timber field gate		1	no.	350.00	350.00
5.3	Remove chain link fence and replace with timber post n rail with mesh		98	lin.m	30.00	2,940.00
	Replace existing kissing gate with		1	no.		

5.4	DDA requirements				400.00	400.00
5.5	Remove redundant stile and install new post and rail fence	From kissing gate to cliff	9	m	17.00	153.00
6.0	Drainage Works					
6.1	Allow PC sum	Subject to detailed survey	item			500.00
7.0	Site Furniture					
7.1	Supply and install standard type timber benches	Subject to survey/consultation	2	no.	300.00	600.00
8.0	Interpretation					
8.1	Supply and install interpretation panels including all research design and artwork (refer to Intellectual access)	Subject to survey/consultation				-
9.0	Planting					
	Allow PC sum	Subject to survey/consultation	item			500.00
10.0	Specialist Consultants					
10.1	Allow PC sum for commissioning specialist consultancy work ie Landscape Architects, archaeologists, ecologists, geologists as may be required due to the sensitive nature of the site. SSSI / Scheduled Ancient Monument consent may be required.		item			1,000.00
11.0	Project Design & Management Fees					
11.1	Allow for all project design & management costs including detailed design planning supervisor duties planning consents SSSI, SAM consents		item			1,000.00
					Sub total	23,243.00

**SITE 2 ANSTON STONES WOOD &
LINDRICK DALE**

Item	Description	Location	Quantity	Unit	Rate	Cost
1.0	Site Establishment					
1.1	<u>Insurance/Health and Safety Provision</u> Allow for setup on site including insurances, personnel, equipment, site security, welfare facilities, all Health and Safety provisions including that under C.D.M Regulations and for work described in the Specification preliminaries and preambles.		item			200.00
1.2	<u>Temporary fencing.</u> Supply and erect temporary protective safety fencing around site areas which are deemed to present a hazard and site conditions which could be reasonably foreseen to present a hazard. Allow for removal after completion of the works.		item			500.00
1.3	<u>Protective measures.</u> Allow for working around, protection of any, reinstatement of all manholes, telegraph poles, lamp posts, fences, pavings, kerbings etc. including for re-bedding and the like.		item			200.00
1.4	<u>Service Location & Identification.</u> Allow for all work to identify the precise location of all the services within the proposed area of work. Record all such locations and depths until the works are completed, and provide Landscape Architect with satisfactory records.		item			500.00
1.5	<u>Site Cleanliness.</u> Allow for maintaining all roads and pedestrian areas free from debris and tools/equipment		item			300.00
1.6	<u>Specification, Preambles & Preliminaries.</u> Allow for any work described in the specification, drawings, preliminaries or preambles not already identified in this bill		item			-
2.0	Car Park improvements					

2.1	Create disabled car park adjacent to or within existing corner of park. Include for clearance, excavation and limestone surfacing. Allow for RADAR key system. Remove 5 concrete bollards. Define with 10 timber bollards. Subject to Parish Approval.	SK522841	item (10m x10m)				3,000.00
3.0	Signage						
3.1	Supply and Install route circulation signs denoting easy access routes, distance of walks etc..	Subject to site survey	15	no.	50.00		750.00
3.2	Supply & install entrance welcome signs	SK537828, SK518841, SK528839	3	no.	300.00		900.00
3.3	Install way marker post & disc	Lindrick Quarry	1	no.	25.00		25.00
4.0	Footpath Construction						
4.1	Construct 1.8m wide easy access footpaths including excavation, TERRAM edging boards, pegs, limestone base course and topping.	SK522840 From the B6060 to interpretation board at path fork.	192	lin.m	20.00		3,840.00
4.2	Construct 1.8m wide easy access footpaths including excavation, TERRAM edging boards, pegs, limestone base course and topping.	From interpretation board north to kissing gate entrance at track.	82	lin.m	20.00		1,640.00
4.3	Construct 1.8m wide easy access footpaths including excavation, TERRAM edging boards, pegs, limestone base course and topping.	From interpretation to next path fork.	485	lin.m	20.00		9,700.00
4.4	Construct 1.8m wide easy access footpath with or without surfacing to provide alternative return loop. *(Cost represents PC sum for using surfacing material)	*Across open field to entrance adjacent to recreation ground	185	lin.m	20.00		3,700.00
4.5	Scrape & re-top main access paths to original width of 1.8m	Allow PC sum (subject to consultantion)		item			3,500.00
5.0	Fencing and Gates						
5.1	Install 3 rail morticed timber post & rail fence to prevent bank erosion	Position adjacent to existing path to prevent access desire line down slope	22	lin.m	17.00		374.00

5.3	Install 4m wide timber field gate	Locations subject to detailed survey	1	no.	400.00	400.00
5.4	Supply and install motorcycle prevention barrier and remove existing steel barriers. Make good tarmac footpath	Entrance adjacent to main road	1	no.	700.00	700.00
5.5	Supply and install motorcycle prevention barrier and remove stile. Make good surrounding path surface	SK524838. Entrance adjacent to railway	1	no.	620.00	620.00
5.6	Move stile entrance closer to A57 road	SK537828. Near A57	1	no.	300.00	300.00
5.7	Supply and install tubular handrail to replace missing handrail		8	m		
5.8	Replace kissing gate with motorcycle barrier or install gate to DDA standards.	Recreation ground entrance to site, off track.	1	no.	650.00	650.00
6.0	Drainage Works					
6.1	Allow PC sum to construct french drains adjacent to footpath	Locations subject to detailed survey	item			1,000.00
6.2	Allow PC sum to construct open ditch constructed to 'V' shape 300mm depth adjacent to footpath	Locations subject to detailed survey	item			600.00
7.0	Site Furniture					
7.1	Supply and install 'standard type' timber picnic tables and benches		3	no.	500.00	1,500.00
7.2	Supply and install 'disabled type' timber picnic tables and benches		2	no.	500.00	1,000.00
7.3	Supply and install standard type timber benches		6	no.	300.00	1,800.00
8.0	Interpretation					
8.1	Supply and install interpretation panels including all research design and artwork (refer to Intellectual access)				2,500.00	-
8.2	Remove existing interpretation boards to licensed tip		3	no	70.00	210.00
9.0	Planting					
9.1	Allow PC sum		item			500.00

10.0	Specialist Consultants	item				
	Allow PC sum for commissioning specialist consultancy work ie Landscape Architects, archaeologists, ecologists, geologists as may be required due to the sensitive nature of the site					
10.1						1,000.00
11.0	Project Design & Management Fees					
	Allow for all project design & management costs including detailed design planning supervisor duties planning consents SSSI, SAM consents					
11.1						1,500.00
Sub total						40,909.00

SITE 3 PLEASLEY VALE

Item	Description	Location	Quantity	Unit	Rate	Cost
1.0	Site Establishment					
1.1	<u>Insurance/Health and Safety Provision</u> Allow for setup on site including insurances, personnel, equipment, site security, welfare facilities, all Health and Safety provisions including that under C.D.M Regulations and for work described in the Specification preliminaries and preambles.					200.00
1.2	<u>Temporary fencing.</u> Supply and erect temporary protective safety fencing around site areas which are deemed to present a hazard and site conditions which could be reasonably foreseen to present a hazard. Allow for removal after completion of the works.					500.00
1.3	<u>Protective measures.</u> Allow for working around, protection of any, reinstatement of all manholes, telegraph poles, lamp posts, fences, pavings, kerbings etc. including for re-bedding and the like.					200.00

	<u>Service Location & Identification.</u>					
1.4	Allow for all work to identify the precise location of all the services within the proposed area of work. Record all such locations and depths until the works are completed, and provide Landscape Architect with satisfactory records.					500.00
	<u>Site Cleanliness.</u>					
1.5	Allow for maintaining all roads and pedestrian areas free from debris and tools/equipment					300.00
	<u>Specification, Preambles & Preliminaries.</u>					
1.6	Allow for any work described in the specification, drawings, preliminaries or preambles <u>not</u> already identified in this bill					-
2.0	Car Park improvements					
2.1	Remove debris and litter from existing car park	Car Park @ Outgang Lane SK508648	item		300.00	300.00
2.2	Resurface car park	Car Park @ Outgang Lane SK508648	item		1,500.00	1,500.00
3.0	Traffic Signage					
3.1	Signs to indicate where to park/not to park	Little Matlock SK527647	item			500.00
3.2	Signage to prevent lorries entering the Pleasley Mill site from Little Matlock direction	Little Matlock SK534638	1	no.	500.00	500.00
4.0	Footpath Construction					
4.1	Cut back vegetation to 1m either side of footpath	Meden Valley Trail SK512647	2000	lin.m	0.50	1,000.00
4.2	Repair existing steps (Archaeological Way)	Outgang Lane SK512649	item			300.00
4.3	Repair existing steps (north of church)	North of Church SK527651	item			300.00
4.4	Cut back vegetation to 1m either side of footpath	Little Matlock SK530652 south of river	item			600.00
5.0	Fencing and Gates					

5.1	Supply and install kissing gate to replace existing	Location confirm to	1	no.		400.00
5.2	Supply and install motorcycle prevention barrier	SK508648	1	no		700.00
5.3	Remove gates & fencing (Archaeological Way)	Outgang Lane SK514649	item			200.00
5.4	Install timber post & rail fence (PC sum)	Adjacent to barrier and kissing gate	item			300.00
5.5	Install post & wire fence (PC sum)	Around new planting areas	item			500.00
5.6	Install 4m wide timber field gate (PC sum)	Outgang Lane car park SK514649	1	no	500.00	500.00
6.0	Drainage Works					
6.1	Allow provisional sum	Subject to detailed survey	item		500.00	500.00
7.0	Site Furniture					
7.1	Supply and install 'standard type' timber picnic tables and benches	SK509648, Outgang Lane	1	no.	550.00	550.00
7.2	Supply and install 'disabled type' timber picnic tables and benches	SK509648, Outgang Lane	1	no.	550.00	550.00
7.3	Supply and install standard type timber benches	Meden Trail	6	no.	300.00	1,800.00
7.4	Supply and install litter bins	SK509648, Outgang Lane	1	no.	450.00	450.00
8.0	Interpretation					
8.1	Supply and install interpretation panels including all research design and artwork (refer to Intellectual access)	Outgang Lane car park and Poulter Country Park car park		no.	2,500.00	-
8.2	Remove existing interpretation boards to licensed tip	Outgang Lane Car Park and Poulter Country Park car park	2	no.	75.00	150.00
8.3	Supply and install interpretation panel including all research design and artwork (refer to Intellectual access)	Mansfield Woodhouse Station		no.	2,500.00	-
9.0	Planting					
	Allow PC sum for native tree/shrub	PC sum	item			

9.1	planting				500.00	500.00
10.0	Specialist Consultants					
10.1	Allow PC sum for commissioning specialist consultancy work ie Landscape Architects, archaeologists, ecologists, geologists as may be required due to the sensitive nature of the site	PC sum	item			1,000.00
11.0	Project Design & Management Fees					
11.1	Allow for all project design & management costs including detailed design planning supervisor duties planning consents SSSI, SAM consents		item			1,500.00
Sub total						16,300.00

SITE 4 ARCHAEOLOGICAL WAY - PROPOSED NORTHERN EXTENSION

Item	Description	Location	Quantity	Unit	Rate	Cost
1.0	Site Establishment					
1.1	<u>Insurance/Health and Safety Provision</u> Allow for setup on site including insurances, personnel, equipment, site security, welfare facilities, all Health and Safety provisions including that under C.D.M Regulations and for work described in the Specification preliminaries and preambles.					200.00
1.2	<u>Temporary fencing.</u> Supply and erect temporary protective safety fencing around site areas which are deemed to present a hazard and site conditions which could be reasonably foreseen to present a hazard. Allow for removal after completion of the works.					500.00
1.3	<u>Protective measures.</u> Allow for working around, protection of any, reinstatement of all manholes, telegraph poles, lamp posts, fences, pavings, kerbings etc. including for re-bedding and the like.					200.00

<u>Service Location & Identification.</u>					
1.4	Allow for all work to identify the precise location of all the services within the proposed area of work. Record all such locations and depths until the works are completed, and provide Landscape Architect with satisfactory records.				500.00
<u>Site Cleanliness.</u> Allow for					
1.5	maintaining all roads and pedestrian areas free from debris and tools/equipment				300.00
<u>Specification, Preambles & Preliminaries.</u> Allow for any work described in the specification, drawings, preliminaries or preambles <u>not</u> already identified in this bill					-
Signage					
2.0					
	Way marking from Whitwell to Roche Abbey (discs)	50	no.	5.00	250.00
2.1					
	Way mark posts (finger posts)	4		150.00	600.00
2.2					
Interpretation					
3.0					
	Supply and install interpretation panels including all research design and artwork	4		2,500.00	10,000.00
3.1					
Access and Footpath Works					
4.0					
	Likely to be entrance improvements to existing paths. Allow for a PC sum	item			5,000.00
4.1					
	Small wooden sleeper footbridge	1	North of Whitwell Wood		600.00
4.2					
Project Design & Management Fees					
5.0					
	Allow for all project design & management costs including detailed design planning supervisor duties planning consents SSSI, SAM consents	item			1,500.00
5.1					
Sub total					19,650.00

VIEW POINT LOCATION WORKS

Item	Description	Location	Quantity	Unit	Rate	Cost
1.0	Site Establishment					
1.1	<u>Insurance/Health and Safety Provision</u> Allow for setup on site including insurances, personnel, equipment, site security, welfare facilities, all Health and Safety provisions including that under C.D.M Regulations and for work described in the Specification preliminaries and preambles.					200.00
1.2	<u>Temporary fencing.</u> Supply and erect temporary protective safety fencing around site areas which are deemed to present a hazard and site conditions which could be reasonably foreseen to present a hazard. Allow for removal after completion of the works.					500.00
1.3	<u>Protective measures.</u> Allow for working around, protection of any, reinstatement of all manholes, telegraph poles, lamp posts, fences, pavings, kerbings etc. including for re-bedding and the like.					200.00
1.4	<u>Service Location & Identification.</u> Allow for all work to identify the precise location of all the services within the proposed area of work. Record all such locations and depths until the works are completed, and provide Landscape Architect with satisfactory records.					500.00
1.5	<u>Site Cleanliness.</u> Allow for maintaining all roads and pedestrian areas free from debris and tools/equipment					300.00
1.6	<u>Specification, Preambles & Preliminaries.</u> Allow for any work described in the specification, drawings, preliminaries or preambles <u>not</u> already identified in this bill					-
2.0	Pull Ins					
2.1	Resurface and extend existing pull ins a required including PCC edging	Creswell Crags A	1	item	3,500.00	3,500.00

2.2	Resurface and extend existing pull in as required including PCC edging	Whitwell	1	item	3,000.00	3,000.00
2.3	Resurface and extend existing pull in as required including PCC edging	Ash Tree Gorge	1	item	3,000.00	3,000.00
3.0	Interpretation					
2.1	Supply and install interpretation panels including all research design and artwork (<u>refer to Intellectual access</u>)	N/A	3	item		-
3.0	Site Furniture					
3.1	Supply and install litter bin	Creswell Craggs	1	no	500.00	500.00
3.2	Supply and install seat	Creswell Craggs & Whitwell	2	no	500.00	1,000.00
4.0	Project Design & Management Fees					
4.1	Allow for all project design & management costs including detailed design planning supervisor duties planning consents SSSI, SAM consents			item		1,500.00
Sub total						14,200.00

OTHER ASSOCIATED ELEMENTS

Item	Description	Location	Quantity	Unit	Rate	Cost
1.0	Community Consultation	N/A		item		
1.1	Consultation with local communities including events with schools & other local groups to promote the Heritage Area	Throughout the Heritage Area		item		20,000.00
2.0	Preparation of Funding Bids			item		
2.1	Prepare and submit funding applications including all supporting information	N/A		item		10,000.00

3.0	Access Groups	item	
	Commission Access Bolsover to Pleasley Vale, undertake an easy access survey at Anston Stones, each of the 4 key sites. Creswell Craggs, Roche Abbey		3,000.00
3.1			
Sub total			33,000.00

COST SUMMARY		
PAGE	DESCRIPTION	COST
1	Roche Abbey	23,243.00
2	Anston Stones/Lindrick	40,909.00
3	Pleasley Vale	16,300.00
4	Archaeological Way Northern Extension	19,650.00
5	View Point Location Works	14,200.00
6	Other Associated Elements	33,000.00
	WORKS INCLUDING FEES	114,302.00
	VAT	20,002.85
	GRAND TOTAL	134,304.85

APPENDIX 8.10

INTELLECTUAL ACCESS PROPOSALS

Item	Project Description	Qty	Unit	Rate	Cost
1.0	Project Studies				
1.1	Market Research - Trails user survey		item		15,000.00
1.2	Pleasley Vale Interpretation Plan Interpretation plan for the whole site		item		15,000.00
1.3	Community Project 'Pride of Place' style community project	1	per/year		50,000.00
2.0	Heritage Area Guides				
2.1	Heritage Area full colour guide summarising landscape & its history (£2.50/unit + copy right cost)	3000	each	3.34	10,020.00
2.2	Archaeological Way revised guidebook & route map (£2.00/unit + copy right cost)	3000	each	2.67	8,010.00
2.3	<u>Pilot Action Area guides</u> (£1.00/unit + copy right cost)				
	Detailed 'ology' guide for Roche Abbey	5000	each	1.40	7,000.00
	Detailed 'ology' guide for Anston Stones	5000	each	1.40	7,000.00
	Detailed 'ology' guide for Pleasley Vale	5000	each	1.40	7,000.00
	Detailed 'ology' guide for Creswell Hub	5000	each	1.40	7,000.00
2.4	Heritage Area Walks revised booklet	3000	no	2.33	7,000.00
2.5	Creswell Hub Walks produce walks booklet around the Creswell Hub (£2.00/uni + copy right cost)	3000	each	2.67	8,010.00
2.6	Family walks guide. Produce family walks in the Heritage Area booklets- short walks including activity sheets (£2.00/uni + copy right cost)	3000	each	2.67	8,010.00
2.7	Landowner guide Produce short guide for landowners and tenants	500	no	item	1,000.00
2.8	Professional photographer. Produce high quality photo images for guides (5 days @ £200/day)	5	days	200.00	1,000.00
3.0	Heritage Area Display				
3.1	Portable exhibition Introduces & summarises landscape & its history	1		item	3,000.00
4.0	Interpretation/Orientation Panels/Signage				
4.1	<u>Creswell Archaeological Way</u>				

	Pleasley Vale (Outgang Lane) - replace existing panel. Install new panel at Mansfield Station	2	no	2,500.00	5,000.00
	Poulter Country Park - replace existing panel	1	no	item	2,500.00
	Creswell Crags - install new panel	1	no	item	2,500.00
	Anston Stones - install new panel	1	no	item	2,500.00
	Roche Abbey - install new panel	1	no	item	2,500.00
4.2	<u>Anston Stones</u>				
	Replace three existing panels	3	no	2,500.00	7,500.00
	Install one new panel in park	1	no	item	2,500.00
	Install two 'gateway' panels at main entrances	2	no	2,500.00	5,000.00
				Page Total	184,050.00

Item	Project Description	Qty	Unit	Rate	Cost
4.3	<u>Other sites'</u>				
	Thorpe Common - Moor Mill Farm	1	no	item	2,500.00
	Thorpe Salvin	1	no	item	2,500.00
	Firbeck	1	no	item	2,500.00
	Scarcliffe Village	1	no	item	2,500.00
	Langwith Vale	1	no	item	2,500.00
	North Anston	1	no	item	2,500.00
	Car pull ins Creswell locations (small panels)	3	no	1,500.00	4,500.00
4.4	<u>Directional Signage</u>				
	Creswell Hub Signs to & from car park station etc	6	no	500.00	3,000.00
				Page Total	22,500.00

Costs excluding VAT

COST SUMMARY		
PAGE	DESCRIPTION	COST
1	Items 1.0 to 4.2	184,050.00
2	Items 4.3 to 4.4	22,500.00
	TOTAL	206,550.00
	VAT	36,146.25
	GRAND TOTAL	242,696.25

Appendix 8.11 'Pride of Place' Project Outline

The Pride of Place community heritage project was developed by Creswell Heritage Trust following several pilot schemes. The project has been running for six years in the southern part of the Creswell Heritage Area. The project aims to:

- encourage communities to take an interest and pride in their local natural and cultural heritage through training, development of education resources and awareness raising, promoting diversity of opportunity through engagement in cultural and natural heritage activity
- provide a central resource (advice, training, co-ordination, assistance, funding) to help support and empower communities to develop, community based events and activities and interpretative materials with a cultural and natural heritage focus
- assist in providing capacity building and training opportunities for local people focussed on developing transferable interpersonal, numeracy, literacy and IT skills through workshops, work experience and training in cultural and natural heritage activity

Evidence of Need and of potential Benefit for the project had been demonstrated in numerous recent reports concerned with the process of community and economic regeneration in the coalfield and with the potential role of cultural and natural heritage based activity in this process: the Coalfields Task Force Report, the Opportunity for All Report, the National Strategy for Neighbourhood Renewal, The Coalfield Alliance (Draft) Delivery Plan, the Image of the Coalfield Survey by MORI, the DCMS report on Lottery Funding in the Coalfields, and the Meden Valley Millennium Villages project proposal.

The project is designed to take forward the concept of 'Heritage Led Regeneration' and meet key targets of relevant local strategies including the Coalfield Alliance Economic Development Strategy, the Bolsover Community Strategy and the Economic and Social Strategies of the Sub Regional Strategic Partnership. It is supported by numerous community groups and works closely alongside and in partnership with other agencies and initiatives including community economic development workers, countryside management staff etc.

The key element of the project is a Heritage Outreach Officer supported by other staff from Creswell Heritage Trust and supplied with an adequate resources budget. Other elements of the budget included overheads and administration, travel costs, and equipment.

The project has been funded through a variety of sources including HLF, SRB, ERDF.

The project has achieved, and in most case significantly exceeded, all its targets and developed an innovative and robust method of working that is serving as a model for community based heritage activity elsewhere. The success of the project in

demonstrating the potential of heritage based activity to contribute to wider social and regeneration objectives has led to the project securing SRB and ERDF funding.

Key achievements over the last two years have included:

- delivered a wide range of community based events and activities (16 in total) including festivals, photographic displays, interpreted walks delivered in a range of venues including supermarkets, farmers markets, halls and village greens attracting nearly 3000 visitors.
- engaged local people in twelve communities in developing and delivering their own programmes of heritage activity including events, guided walks, interpretative leaflets and heritage research, resulting in four interpretative leaflets and eight work experience projects for local unemployed people.
- delivered 32 heritage workshops to over 200 participants, developing capacity of local people to explore and study their own heritage. Topics included oral history, landscape history, hedgerow history, archives, interpretation, building history.
- worked with several local schools to develop local heritage resources linked to the national curriculum, adding heritage value to existing curriculum projects the schools were engaged in. Developed a 'mobile' landscape history role play project and produced four education resource packages.

Outline Annual Budget

Item	Outline Cost (£)
Project Officer (incl NI)	18,000
Support staff	8,000
Travel & Expenses	5,000
Resources	8,000
Overheads	8,000
Equipment	3,000
TOTAL	50,000

Appendix 8.12 Visual Access Video CD

Appendix 8.13 Plans & Maps

Drawing List

Map 1-8	Public Rights of Way Vales & Gorges
Map 1	Roche Abbey & Firbeck
Map 2	Red Hill
Map 3	Anston Stones Wood & Lindrick Dale
Map 4	Lob Wells & Thorpe Common
Map 5	Whaley & Elmton Valleys Gorge
Map 6	Creswell Crags, Markland Gripps and Ash Tree
Map 7	Langwith
Map 8	Pleasley Vale
Map 9-12	Strategic Promoted Routes
Map 9	Derbyshire County Council Green Way Proposals
Map 10	Nottinghamshire County Council Proposals
Map 11	Rotherham Recreational Routes
Map 12	Derbyshire County Council Cycle Proposals
Map 13	National Cycle Network
Map 13	Route 67
Map 14-16	Archaeological Way Proposed Northern Extension
Map 14	All
Map 15	Phase 1
Map 16	Phase 2
Map 17-18	Revised Routes
Map 17	Archaeological Way - Proposed Creswell Loop
Map 18	Roche Abbey Revised Route
Map 19-21	Site Analysis Plans
Map 19	Roche Abbey
Map 20	Anston Stones Wood & Lindrick Dale
Map 21	Pleasley Vale

Map 22 Walking In Limestone Heritage Area - Walks Booklet

Map 22 Local Promoted Walks

Map 23 Creswell Hub

Map 23 Creswell Hub Concept Plan

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