Report to the South African Heritage Resource Agency

Dating of 100 shell samples from 63 sites on the Vredenburg Peninsula

Permit nos. 80/02/04/004/51-80/02/04/066/51

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22 July 2004

During January 2003, 63 archaeological sites on the Vredenburg Peninsula (VP) of the Western Cape province were visited, and 100 shell samples were collected from the surfaces of these sites. The aim was to date these and to obtain an age estimate for the terminal occupation at these sites. The sites had been discovered in a survey carried out in 1992 by myself and others then attached to the Archaeology Department at UCT. At the time, using the technique of seriation, we had proposed a five-phase sequence of occupation on the VP (Sadr et al., 1992). We wished to test our seriated sequence with absolute dates.

The collected shell samples were sent to the Quaternary Dating Research Unit (QUADRU) of the CSIR in Pretoria. Of the 100 samples submitted, 97 have been fully processed by the laboratory, and the results are attached. The remaining three results will become known shortly. On the table, the calibrated dates expressed as negative numbers represent dates BC.

The dates that have been generated now require to be carefully examined, and this analysis will continue for some time. For one thing, it is obvious that the seriated sequence we had obtained in 1992 needs to be revised. The last column of the attached table, which contains a series of numbers from 1-5, represents the phases to which we had assigned the sites by the technique of seriation (Sadr et al., 1992). If the seriated sequence were correct, we should see the five's clustered at the bottom of the table and the one's at the top. In fact, we find the phase numbers are somewhat jumbled, but not completely un-patterned. For example, the majority of the five's do in fact show up at the bottom of the table suggesting that we had picked on some time-sensitive traits in the seriation. Other seriated phases, however, are more problematic. In examining why the seriated phases do not match the dates, a number of factors have to be taken into account. These include the effect of rodent disturbance on multi-component sites, whereby deeper shell may have been brought to the surface and dated. Other factors to examine are the

variables used in the seriation, and the extent to which these may or may not have been adequately diagnostic. Time and in-depth examinations will tell.

For the time being, adding the new dates to the corpus of dates already available from the VP allows us to see an interesting pattern, shown here in the attached figure. Assuming that the numbers of dates from any one period represents a proxy for population size in that period (e.g., Deacon 1984; Vogel & Fuls 1999) it is evident the VP experienced a major and very rapid population increase in the second half of the first millennium AD. This correlates with the period when sheep-rich sites are found in this landscape (Sadr et al., 2003). However, it does not correlate with the earliest appearance of livestock here. Whatever the meaning of the population peak, it clearly represents a major event in the history of this area and one that requires to be studied further.

Works cited

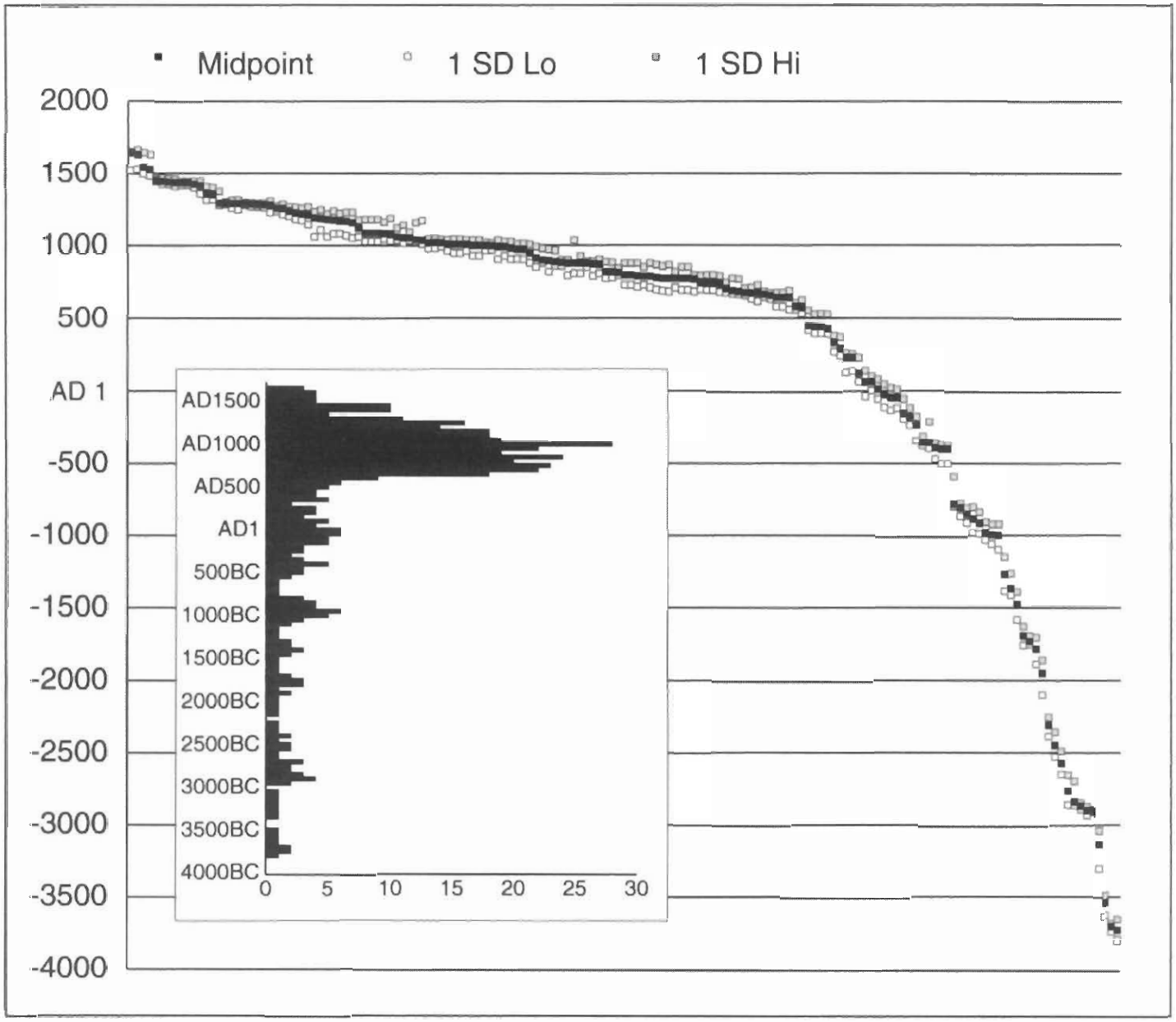
Deacon, Janette 1984. Later Stone Age people and their descendants in southern Africa. In *Southern African prehistory and palaeoenvironments*, edited by R.G. Klein, pp. 221-329. Rotterdam and Boston: A.A.Balkema.

Sadr, Karim, John Gribble & Gail Euston-Brown 1992. The Vredenburg peninsula survey, 1991 / 1992 season. In *Guide to the archaeological sites in the southwestern Cape*, compiled by A.B. Smith & B. Mütti, pp. 41-43. Cape Town: University of Cape Town.

Sadr, K., A.B. Smith, I. Plug, J. Orton & B. Mütti 2003. Herders and foragers on Kasteelberg. *South African Archaeological Bulletin*.

Vogel, John & Annemarie Fuls 1999. The spatial distribution of radiocarbon dates fro the Iron Age in southern Africa. *The South African Archaeological Bulletin* 54:97-101.

No. Pta-	Sample	δ13C	yrs BP	SD	Calibrated From	Calibrated Midpoint	Calibrated To	Group
9144	KBE-2	-0.5	MODERN					3
9145	DKE 2-2	0.1	MODERN					2
9031	SKK1-N	1.4	860	60	1529	1634	1670	3
8962	KBH	0.1	900	60	1499	1547	1648	1
9065	KBK	0.2	920	60	1485	1529	1634	4
9083	DKE3	1.4	1035	20	1443	1453	1464	2
9106	KFS4	0.2	1050	40	1426	1446	1467	1
8957	KBV	-0.2	1070	45	1412	1436	1458	4
9006	KFS5	1	1090	45	1401	1426	1448	3
8952	RND2	-0.4	1110	60	1359	1415	1446	1
9001	CCL1-1	0.5	1170	50	1316	1359	1410	2
9064	HLB3-1	-1.1	1270	50	1259	1292	1315	2
9090	KFS2-1	0.3	1270	60	1248	1292	1319	3
9045	KFS10	-0.5	1290	60	1230	1282	1310	3
9017	KFS 11	0.6	1320	20	1239	1259	1276	2
8942	KBB1	0.5	1320	45	1216	1258	1288	2
9062	KBG1	0.4	1370	60	1145	1213	1268	4
9116	KBT-1	-0.4	1390	60	1108	1189	1248	1
9026	PTN3-1	-0.2	1400	60	1082	1179	1239	2
9054	SKK1-S	0.8	1410	60	1070	1170	1230	3
8979	KFS7	-0.1	1410	50	1085	1170	1221	3
9141	KBA W-2	0	1420	70	1054	1160	1230	1
9190	RND 1-2	-0.5	1420	50	1070	1160	1213	3
9046	RND1-1	1.4	1440	40	1061	1122	1179	3
8950	KBS	-0.7	1460	45	1046	1085	1164	1
9132	KFS 2-2	0.1	1460	70	1032	1082	1189	3
9109	SKK3	0.2	1480	40	1037	1061	1122	4
8958	RND3N	-0.4	1490	60	1019	1056	1143	1
9012	KBBN1	-0.2	1490	35	1034	1054	1093	1
9197	PTN 3-2	0.7	1500	70	1007	1048	1145	2
9206	DKE 4-2	0.7	1540	70	972	1026	1070	2
9072	DKE4-1	0.7	1550	50	981	1020	1048	2
9172	RND 3S 2	-0.3	1550	80	948	1020	1070	1
8983	UTK4-1	-0.2	1580	35	966	999	1022	3
8965	KBDe1	-0.2	1580	60	928	999	1037	3
8963	KBAw1	0.1	1580	60	928	999	1037	1
9146	CCL 1	-1.3	1590	50	928	990	1026	2
9143	KBA-2	-1.1	1590	70	904	990	1037	3
9039	KFS12	0.4	1600	60	904	981	1026	3
9115	RND3S-1	-0.4	1610	50	904	972	1014	1
9027	KBW	0.4	1630	60	879	948	1007	1
9171	KBBn 2	0.1	1650	80	819	913	1007	1
9020	KBA1	-0.1	1670	60	819	895	972	3
9168	KBT 2	-0.8	1680	70	798	888	972	1
9076	KBD1	-0.3	1730	50	774	819	888	3
9088	KBN	0.1	1730	45	778	819	884	4
9029	KBP1	0.1	1750	60	729	798	879	1
9066	KBO1	-0.1	1750	60	729	798	879	3
9135	KBG-2	-0.4	1760	70	711	789	879	4
9134	KBD-2	-0.8	1780	70	695	774	852	3
9138	UTK 4-2	-0.1	1780	70	695	774	852	3
9174	KBJ 2	0	1790	80	683	763	852	4
9014	KBL	-0.1	1800	50	695	744	798	3
9107	KBE-1	0.2	1800	50	695	744	798	3
9074	DKE1-1	2	1890	60	633	672	711	2
9137	KBDe-2	-1	1890	80	615	672	729	3
9061	GPN1-1	0.5	1940	60	581	642	677	2
9140	KBP-2	-0.2	1940	80	559	642	689	1
8948	KBU	-0.3	2110	60	393	445	529	4
9207	DKE 1-2	0.1	2140	80	332	422	513	2
9002	RHW 2	0.5	2220	35	268	332	376	4
9130	SWR1-2	-1.1	2450	80	-34	63	139	4
8940	KBQ1	0	2540	50	-116	-44	12	4
9117	PTN5	0	2450	80	-34	-63	139	3
9176	KBB 2	0.2	2590	70	-190	-114	-23	2
9068	DKE2-1	1.2	2640	50	-230	-174	-114	2
9093	SKK5	-0.5	2690	50	-338	-230	-174	4
9024	KFS1	0	2760	45	-375	-351	-310	4
9118	PTN 4	0.9	2760	80	-393	-351	-209	3
9186	HLB 3-2	-0.4	2820	90	-500	-383	-331	2
9110	SWR1-1	0.3	2830	60	-466	-388	-356	4
9057	KBM1	0.3	2850	60	-500	-398	-367	4
9209	GPN 1-2	1.3	2880	80	-582	-430	-373	2
9208	TTB 1-2	0.7	3090	80	-812	-771	-726	2
9086	SNF1-1	0.3	3160	60	-866	-806	-777	4
8967	DKR1-1	-0.7	3210	50	-909	-849	-808	4
9127	SWR3 ??	1.1	3230	80	-979	-882	-801	1
9101	KZB4	0.2	3330	60	-1096	-999	-917	4
9148	TTB 5-2	0.7	3700	90	-1582	-1470	-1385	5
9189	HLB 1-2	0.5	3710	90	-1594	-1487	-1392	2
9193	SWT 5-2	0.8	3760	80	-1638	-1522	-1440	5
9091	KZB3	0.6	3920	25	-1752	-1732	-1695	4
8961	TTB5-1	1	3970	70	-1888	-1784	-1705	5
9129	DKR1-2	-0.4	4090	90	-2100	-1950	-1859	4
9114	KBX	0.3	4340	45	-2387	-2310	-2253	4
8970	WTK1	0.1	4440	70	-2529	-2448	-2356	4
9011	KBJ 1	1.5	4670	60	-2858	-2765	-2656	4
9111	TTB1-1	1.4	4690	50	-2862	-2839	-2698	2
9008	HLB 1-1	0.7	4750	50	-2891	-2867	-2845	2
9049	TTB7-1	2.6	4810	50	-2931	-2897	-2871	5
9147	SWT 3-2	0.7	4990	70	-3302	-3134	-3041	5
9004	SWT 3-1	1.6	5290	70	-3625	-3538	-3486	5
9016	SWT 5-1	0.9	5460	25	-3737	-3703	-3683	5
9112	SWT4-1	0.3	5480	70	-3794	-3728	-3655	5
9198	SWT 4-2	-0.2	5580	100	-3954	-3830	-3728	5
9178	SNF 1-2	0.3	6270	100	-4714	-4586	-4466	4
9205	TTB 7-2	-1.6	8190	80	-6574	-6472	-6416	5



The distribution of recently obtained and older published radiocarbon dates in the Vredenburg Peninusla