A2. 2 Statistical Testing

Principal Component Analysis

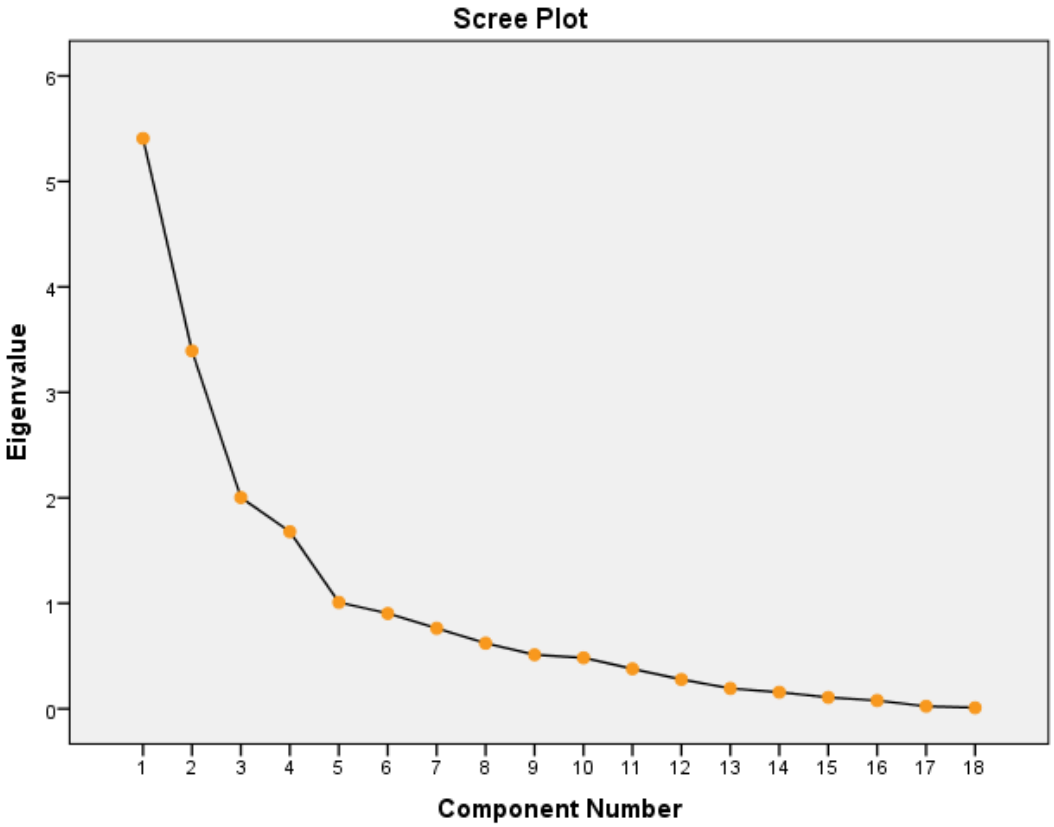
All standardised (Z-score) data

Rotated Component Matrix

	Principal Component					
	1	2	3	4	5	6
ZSn	-.059	.217	.032	.011	.076	.926
ZAg	-.001	.038	.017	.034	.942	.086
ZSr	.197	-.066	-.153	.760	-.065	.028
ZRb	.716	-.135	.178	.148	.008	-.102
ZPb	-.116	.950	.009	.016	-.007	.112
ZZn	-.093	.421	.425	.013	.331	-.222
ZCu	-.142	.945	.015	.016	.017	.123
ZFe	.056	.110	.899	-.069	.035	.021
ZMn	-.097	-.161	.772	.275	-.190	.072
ZCr	.478	.088	.714	-.149	.162	-.042
ZV	.467	.081	.795	-.228	.094	-.001
ZTi	.878	-.159	.195	-.034	.009	-.062
ZCa	.093	.028	.070	.858	.084	.009
ZK	.920	-.157	.132	-.003	-.026	-.028
ZAl	.930	-.073	.118	.071	.033	.025
ZP	-.546	.316	.032	.558	.049	-.093
ZSi	.793	-.213	-.276	.237	-.073	.076
ZS	-.291	.808	.063	-.005	.059	.061
Interpretation	Clay / Soil Matrix	Non-ferrous metal working	Hydromorphic soil processes	Organic waste	Silver	Tin

Total Variance Explained

Component	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings		
	Cumulative %	Total	% of Variance	Cumulative %
1	30.041	4.558	25.322	25.322
2	48.895	2.950	16.389	41.712
3	60.022	2.939	16.326	58.038
4	69.350	1.865	10.362	68.400
5	74.957	1.100	6.112	74.512
6	79.978	.984	5.466	79.978



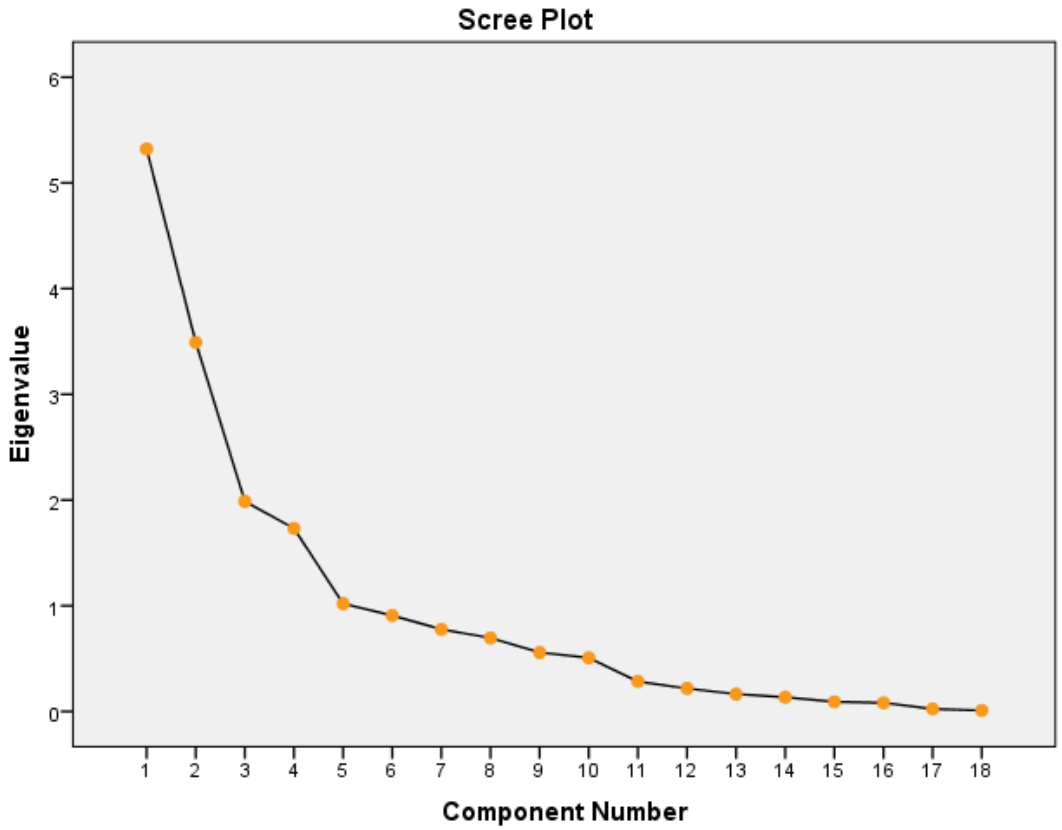
PCA Z score Archaeology only

Rotated Component Matrix

	Component					
	1	2	3	4	5	6
ZSn	-.055	.206	.037	-.005	.074	.936
ZAg	-.003	.039	.034	.011	.926	.084
ZSr	.299	-.104	-.108	.718	-.107	-.011
ZRb	.678	-.155	.137	.137	-.017	-.104
ZPb	-.148	.950	.007	-.013	-.022	.112
ZZn	-.212	.458	.344	.122	.330	-.186
ZCu	-.183	.945	.005	-.016	.000	.124
ZFe	-.054	.134	.895	-.046	.021	.018
ZMn	-.197	-.170	.736	.268	-.232	.067
ZCr	.442	.120	.766	-.082	.218	-.049
ZV	.385	.115	.850	-.142	.125	.013
ZTi	.864	-.159	.189	-.024	.038	-.081
ZCa	.046	.030	.062	.874	.098	.014
ZK	.913	-.170	.049	.001	-.028	-.018
ZAl	.923	-.066	.075	.100	.032	.043
ZP	-.570	.318	.015	.529	.048	-.067
ZSi	.767	-.228	-.342	.208	-.093	.086
ZS	-.222	.893	.132	-.012	.088	.077
Interpretation	Clay / Soil Matrix	Non-ferrous metal working	Hydromorphic soil processes	Organic waste	Silver	Tin

Total Variance Explained

	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings		
Component	Cumulative %	Total	% of Variance	Cumulative %
1	29.559	4.433	24.628	24.628
2	48.956	3.168	17.599	42.227
3	59.997	2.985	16.583	58.811
4	69.616	1.749	9.719	68.530
5	75.278	1.132	6.290	74.819
6	80.321	.990	5.502	80.321



PCA Zscore Topsoil only minus Ag

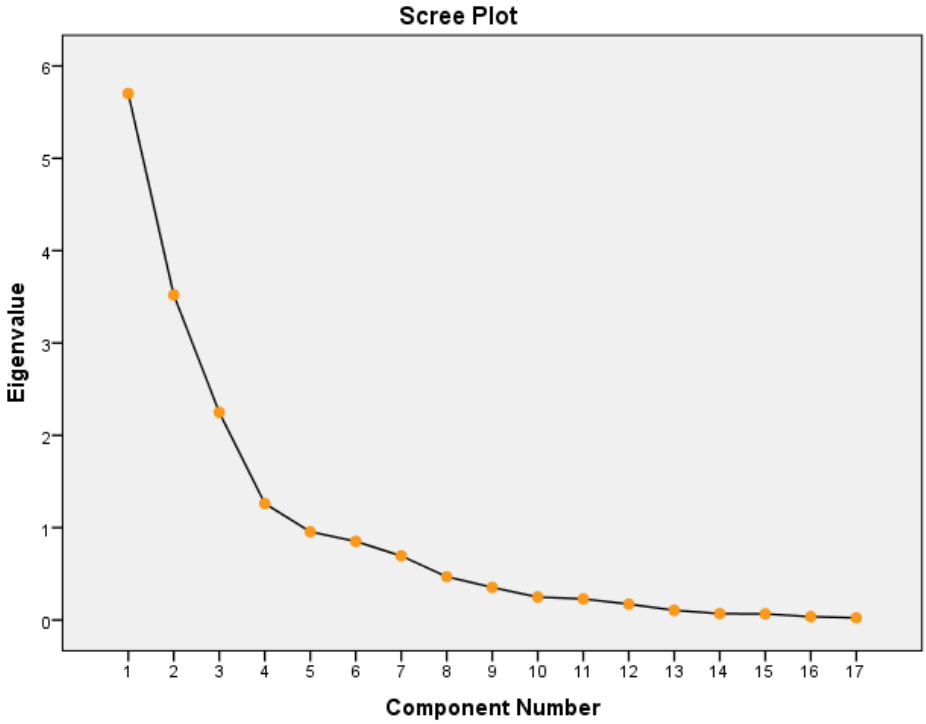
Rotated Component Matrix

	Component					
	1	2	3	4	5	6
ZSn	.262	.092	-.141	.049	.039	.871
ZSr	.101	.124	.081	.839	-.127	.126
ZRb	.029	.159	.103	.810	.069	-.448
ZPb	.037	-.306	-.726	.015	.283	.340
ZZn	.349	-.115	.016	.036	.814	.065
ZCu	.229	-.272	-.754	-.032	.280	.380
ZFe	.875	-.021	.227	.107	.206	.097
ZMn	.165	.183	.801	.345	.155	.235
ZCr	.918	.129	-.006	.171	-.004	.119
ZV	.912	.226	-.125	-.132	.048	.099
ZTi	.550	.566	.274	.262	-.003	.058
ZCa	.341	.435	.639	-.164	-.213	-.046
ZK	.218	.592	.511	.275	-.138	-.373
ZAl	.325	.882	.242	.008	-.067	-.008
ZP	.031	-.097	.004	.876	-.007	.093
ZSi	-.055	.922	.246	.028	-.156	.095
ZS	.103	.104	.277	.122	-.786	-.003

Interpretation	Hydromorphic soil processes	Clay matrix	Disturbed archaeology? Fertilizers? Organic?	See text	Tin

Total Variance Explained

Component	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings		
	Cumulative %	Total	% of Variance	Cumulative %
1	33.539	3.308	19.457	19.457
2	54.245	2.839	16.698	36.155
3	67.476	2.781	16.358	52.513
4	74.896	2.497	14.690	67.203
5	80.515	1.624	9.555	76.757
6	85.522	1.490	8.765	85.522



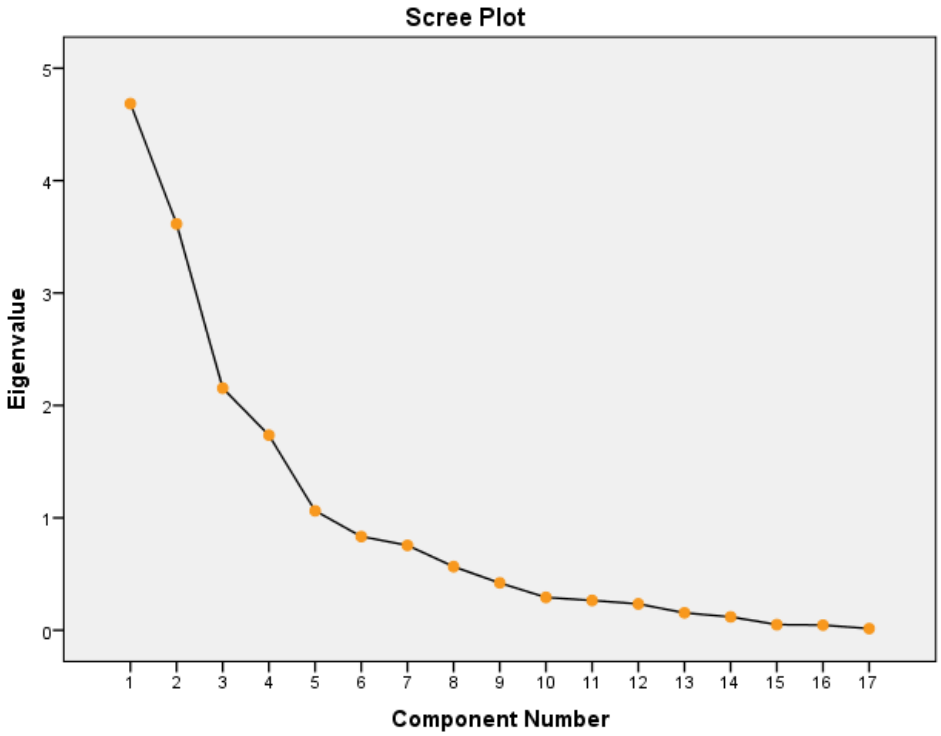
PCA Zscore Subsoil only minus Ag

Rotated Component Matrix

	Component					
	1	2	3	4	5	6
ZSn	-.003	-.119	.078	.101	.044	.944
ZSr	.308	-.137	.747	-.064	.290	-.089
ZRb	.713	.150	-.025	-.149	-.442	-.182
ZPb	-.012	.192	.147	.886	-.012	.001
ZZn	-.019	.150	-.769	-.008	.338	-.235
ZCu	.034	.050	-.215	.906	-.028	.134
ZFe	-.136	.896	-.074	.060	-.022	-.036
ZMn	-.005	.749	.327	.386	-.106	-.092
ZCr	.253	.728	-.278	-.013	.149	-.083
ZV	.340	.778	-.382	.089	-.012	-.052
ZTi	.878	.084	.243	.068	-.184	-.083
ZCa	.360	-.061	.852	-.003	.197	.003
ZK	.839	.275	.183	-.110	-.314	-.046
ZAl	.912	.037	.059	.052	-.019	.084
ZP	-.327	-.180	.210	.122	.761	.096
ZSi	.737	-.296	.393	.157	.042	.198
ZS	-.212	.318	-.053	-.264	.659	-.047
Interpretation	Clay/soil Matrix	Hydromorphic soil processes	Leaching?	Leaching	Organic matter, reducing conditions	Tin

Total Variance Explained

	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings		
Component	Cumulative %	Total	% of Variance	Cumulative %
1	27.556	3.935	23.148	23.148
2	48.820	2.926	17.212	40.359
3	61.488	2.583	15.193	55.552
4	71.695	1.931	11.360	66.912
5	77.942	1.617	9.515	76.427
6	82.846	1.091	6.419	82.846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