

Roman-indigenous interaction in the Salas River valley (Northwest Iberia): the Roman camp of Alto da Raia and its archaeological landscape

INTERACCIÓN ROMANO-INDÍGENA EN EL VALLE DEL RÍO SALAS (NOROESTE PENINSULAR): EL CAMPAMENTO
ROMANO DEL ALTO DA RAIA Y SU PAISAJE ARQUEOLÓGICO

APPENDIX: CHEMICAL AND MINERALOGICAL COMPOSITION OF THE SAMPLES

Chemical and mineralogical composition of the samples				
sample	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃ (T)	MnO
AR1#1	70.80	15.60	1.49	0.03
AR1#2	71.84	14.45	1.63	0.02
AR1#3	70.23	13.38	1.30	0.02
AR1#4	78.36	10.86	0.51	0.01
AR1#5	72.02	15.02	1.50	0.03
AR1#6	69.11	14.84	1.48	0.02
AR1#7	71.63	15.25	1.79	0.04
AR1#8	62.16	20.91	2.58	0.06
AR1#9	72.36	15.54	1.87	0.05
AR1#10	59.33	22.05	2.84	0.09
AR1#11	72.21	13.24	1.88	0.02
AR1#12	64.20	16.77	2.14	0.04
AR1#13	71.18	16.10	1.96	0.04
AR1#14	74.64	12.44	1.83	0.06
AR1#15	57.00	24.30	3.44	0.04
AR1#16	64.04	13.32	1.76	0.05
AR2#1	71.00	15.78	1.19	0.10
AR2#2	72.12	14.58	1.88	0.06
AR2#3	76.61	13.43	1.48	0.07
AR2#4	63.62	19.35	2.47	0.06
AR2#5	63.38	18.94	2.65	0.08
AR2#6	67.94	16.56	1.86	0.06
AR2#7	72.11	14.57	1.95	0.06
AR2#8	71.38	14.46	1.84	0.04
AR2#9	66.64	15.10	1.67	0.05
AR2#10	63.48	13.16	1.55	0.08

MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Sc	Be	V	Ba	Sr	Y	Zr	Co
0.16	0.03	0.19	5.57	0.17	0.10	5.09	4.00	1.00	8.00	235.00	33.00	15.00	62.00	1.00
0.15	0.03	0.27	4.43	0.19	0.10	5.37	5.00	2.00	12.00	187.00	28.00	23.00	78.00	1.00
0.17	0.06	0.49	3.98	0.26	0.12	9.10	5.00	3.00	17.00	223.00	34.00	29.00	88.00	1.00
0.07	0.08	0.67	4.97	0.20	0.09	2.65	3.00	2.00	10.00	265.00	43.00	32.00	104.00	n.d.
0.13	0.03	0.24	5.08	0.17	0.11	4.98	5.00	4.00	10.00	202.00	29.00	21.00	88.00	2.00
0.20	0.06	0.49	4.26	0.28	0.11	7.69	6.00	2.00	18.00	232.00	36.00	26.00	86.00	1.00
0.18	0.03	0.28	4.66	0.21	0.17	5.48	6.00	2.00	11.00	197.00	29.00	26.00	110.00	3.00
0.23	0.04	0.29	5.56	0.28	0.13	7.13	8.00	3.00	15.00	220.00	34.00	34.00	157.00	5.00
0.17	0.03	0.26	4.99	0.20	0.11	5.33	6.00	2.00	11.00	198.00	30.00	33.00	118.00	3.00
0.30	0.04	0.35	4.83	0.28	0.15	10.06	9.00	3.00	18.00	202.00	32.00	37.00	176.00	5.00
0.16	0.04	0.30	4.36	0.19	0.11	5.85	5.00	2.00	11.00	173.00	26.00	31.00	95.00	2.00
0.21	0.04	0.31	4.94	0.23	0.13	10.04	6.00	2.00	13.00	202.00	30.00	30.00	122.00	3.00
0.20	0.03	0.23	4.71	0.19	0.11	6.07	6.00	4.00	12.00	181.00	27.00	26.00	116.00	3.00
0.16	0.06	0.34	4.33	0.16	0.11	5.14	6.00	2.00	83.00	164.00	27.00	27.00	78.00	2.00
0.29	0.04	0.24	5.12	0.36	0.14	9.51	9.00	3.00	20.00	228.00	31.00	41.00	220.00	5.00
0.17	0.04	0.28	4.08	0.19	0.15	14.42	5.00	2.00	12.00	171.00	25.00	23.00	70.00	3.00
0.11	0.03	0.20	5.93	0.08	0.11	4.18	5.00	2.00	n.d.	124.00	30.00	13.00	27.00	1.00
0.15	0.07	0.30	4.47	0.12	0.12	4.87	5.00	2.00	6.00	125.00	26.00	19.00	51.00	1.00
0.13	0.03	0.25	4.71	0.09	0.12	4.02	5.00	2.00	n.d.	116.00	25.00	19.00	50.00	1.00
0.28	0.04	0.32	4.13	0.22	0.11	8.13	6.00	3.00	16.00	198.00	30.00	19.00	79.00	2.00
0.31	0.07	0.33	3.96	0.25	0.11	10.06	7.00	3.00	18.00	199.00	28.00	22.00	94.00	3.00
0.19	0.04	0.32	4.08	0.16	0.12	7.71	5.00	2.00	11.00	143.00	26.00	19.00	74.00	2.00
0.16	0.03	0.30	4.20	0.12	0.11	6.06	5.00	2.00	8.00	135.00	25.00	22.00	63.00	2.00
0.15	0.04	0.29	4.14	0.12	0.12	5.77	5.00	2.00	8.00	124.00	25.00	18.00	66.00	1.00
0.15	0.03	0.36	3.83	0.12	0.13	10.53	5.00	2.00	9.00	113.00	24.00	20.00	70.00	2.00
0.13	0.05	0.31	3.62	0.12	0.15	18.17	4.00	2.00	6.00	115.00	21.00	18.00	75.00	2.00

Cu	Zn	Ga	Ge	As	Rb	Nb	Sn	Cs	La	Ce	Pr	Nd	Sm	Eu
n.d.	40.00	14.00	1.00	8.00	194.00	3.00	4.00	3.90	18.30	36.80	4.58	15.10	3.60	0.41
n.d.	n.d.	15.00	1.00		160.00	4.00	5.00	5.90	14.90	32.50	3.62	12.80	3.10	0.29
n.d.	30.00	17.00	2.00	6.00	146.00	4.00	10.00	7.90	24.60	54.10	5.83	21.20	5.00	0.41
n.d.	n.d.	12.00	1.00	n.d.	164.00	4.00	7.00	7.10	20.00	42.40	4.70	17.30	4.10	0.34
20.00	50.00	16.00	1.00	5.00	176.00	5.00	6.00	5.00	17.00	37.10	4.26	14.40	3.50	0.35
n.d.	n.d.	19.00	1.00	n.d.	161.00	4.00	8.00	8.60	24.40	53.50	5.71	21.10	4.80	0.45
n.d.	30.00	16.00	1.00	n.d.	170.00	7.00	7.00	5.60	17.00	41.90	4.16	14.70	3.70	0.33
n.d.	50.00	21.00	2.00	10.00	205.00	10.00	9.00	7.50	24.40	59.20	6.09	21.20	5.40	0.42
n.d.	40.00	16.00	1.00	10.00	185.00	6.00	6.00	5.80	20.30	46.50	5.06	17.30	4.30	0.35
10.00	50.00	23.00	1.00	8.00	210.00	11.00	10.00	10.30	24.00	63.90	6.26	22.70	5.40	0.48
30.00	70.00	14.00	1.00	14.00	158.00	5.00	5.00	5.90	14.70	32.30	3.62	13.20	3.40	0.30
n.d.	70.00	18.00	1.00	13.00	181.00	7.00	6.00	6.90	15.80	34.30	3.88	13.90	3.30	0.31
30.00	90.00	16.00	1.00	7.00	171.00	6.00	6.00	6.50	13.40	38.50	6.11	28.50	3.00	0.28
n.d.	80.00	13.00	1.00	8.00	158.00	3.00	7.00	6.00	17.80	38.10	4.05	15.10	3.40	0.27
n.d.	70.00	25.00	2.00	28.00	201.00	14.00	8.00	6.30	28.60	69.90	6.89	24.60	5.90	0.40
n.d.	n.d.	16.00	1.00	13.00	158.00	4.00	5.00	6.70	15.80	34.10	3.80	14.20	3.40	0.29
n.d.	30.00	16.00	2.00	12.00	193.00	2.00	4.00	5.70	7.50	19.10	2.03	7.90	2.30	0.27
10.00	50.00	16.00	1.00	n.d.	175.00	3.00	6.00	6.00	9.20	22.00	2.47	9.20	2.70	0.25
20.00	100.00	14.00	1.00	9.00	165.00	3.00	5.00	5.30	8.20	19.20	2.20	9.10	2.30	0.23
100.00	420.00	23.00	1.00	12.00	213.00	9.00	10.00	10.30	13.90	29.30	3.59	13.50	3.20	0.35
n.d.	40.00	23.00	2.00	12.00	212.00	9.00	13.00	11.70	18.00	39.20	4.41	16.00	3.80	0.40
n.d.	40.00	19.00	1.00	8.00	195.00	6.00	10.00	7.60	13.10	28.90	3.37	12.70	3.20	0.32
30.00	90.00	16.00	1.00	9.00	174.00	4.00	6.00	6.10	9.50	22.50	2.49	9.80	2.60	0.24
20.00	80.00	16.00	1.00	10.00	168.00	4.00	6.00	5.80	10.90	25.00	2.94	10.60	2.90	0.25
40.00	110.00	17.00	1.00	9.00	155.00	4.00	9.00	5.80	9.90	22.10	2.58	9.50	2.60	0.24
n.d.	n.d.	16.00	n.d.	n.d.	149.00	6.00	7.00	5.60	5.00	14.10	1.81	7.30	2.40	0.18

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
2.20	0.40	2.80	0.50	1.50	0.21	1.40	0.19	1.90	0.30	3.00	0.90	25.00	6.10	2.80
2.70	0.50	3.60	0.70	2.20	0.33	2.10	0.31	2.40	0.60	5.00	0.80	27.00	7.40	4.80
4.10	0.80	5.10	1.00	2.80	0.43	2.90	0.44	2.70	0.90	9.00	0.70	25.00	10.50	6.30
3.80	0.80	5.20	1.10	3.20	0.48	3.20	0.49	3.40	5.20	6.00	0.80	28.00	8.60	4.90
2.90	0.60	3.80	0.70	2.10	0.33	2.10	0.32	2.20	0.70	2.00	1.00	31.00	7.50	5.00
4.10	0.70	4.40	0.90	2.60	0.39	2.60	0.38	2.60	0.90	6.00	0.70	20.00	10.90	6.60
3.20	0.60	4.30	0.90	2.60	0.39	2.60	0.40	2.90	0.60	3.00	1.00	29.00	8.40	5.40
4.00	0.80	5.50	1.10	3.30	0.53	3.30	0.50	4.90	0.80	13.00	1.20	38.00	12.60	8.30
3.90	0.80	5.50	1.10	3.30	0.46	3.10	0.47	3.30	0.60	4.00	1.10	33.00	9.70	6.00
4.70	0.90	6.40	1.30	3.70	0.55	3.70	0.56	5.00	1.20	6.00	1.50	33.00	13.10	8.50
3.20	0.70	5.00	1.00	3.00	0.48	3.30	0.52	2.50	0.60	3.00	0.90	26.00	7.40	5.20
3.00	0.60	4.70	0.90	2.80	0.44	2.80	0.44	3.10	0.70	4.00	1.20	25.00	7.50	5.30
2.80	0.70	4.90	0.90	2.60	0.38	2.50	0.39	3.00	0.60	4.00	1.10	32.00	7.40	5.00
3.10	0.60	4.30	0.90	2.50	0.38	2.40	0.36	2.40	0.50	4.00	0.80	46.00	7.20	5.00
4.90	1.00	7.00	1.40	4.10	0.63	4.20	0.65	7.10	1.00	22.00	1.30	42.00	18.10	9.60
3.10	0.60	4.00	0.80	2.30	0.36	2.30	0.33	2.20	2.20	4.00	0.80	11.00	7.50	5.00
1.70	0.40	2.30	0.50	1.40	0.22	1.40	0.20	1.00	0.30	4.00	1.00	41.00	3.10	3.70
2.30	0.50	3.30	0.70	1.90	0.31	2.00	0.31	1.90	0.50	3.00	0.90	52.00	5.40	5.20
2.20	0.50	3.50	0.70	2.10	0.33	2.30	0.36	1.90	0.40	3.00	1.10	32.00	4.70	4.90
2.80	0.60	3.50	0.70	2.00	0.31	2.20	0.34	2.20	1.00	5.00	1.60	23.00	7.60	6.10
3.20	0.60	3.70	0.80	2.30	0.34	2.40	0.38	3.00	1.20	6.00	1.40	25.00	9.90	6.50
2.70	0.60	3.60	0.70	2.20	0.34	2.30	0.35	2.10	0.70	4.00	1.40	24.00	7.30	5.80
2.50	0.60	3.80	0.80	2.30	0.36	2.40	0							
2.50	0.50	3.40	0.60	1.90	0.32	2.10	0.33	1.80	0.50	3.00	1.20	25.00	6.30	5.90
2.40	0.50	3.70	0.70	2.10	0.33	2.30	0.36	1.90	0.50	3.00	1.10	18.00	5.70	5.40
2.20	0.50	3.00	0.60	1.90	0.30	1.90	0.30	2.60	0.70	2.00	0.80	n.d.	6.10	5.20

Semiquantification (%)			
Quartz	K-feldspars	Plagioclase	Phyllosilicates
38	56	0	6
42	52	4	2
51	41	4	4
26	66	6	2
58	32	0	10
50	32	7	11
62	29	2	7
26	65	2	7
49	45	1	5
55	33	2	10
63	28	2	7
36	52	2	10
57	36	1	6
35	55	2	8
41	52	0	7
59	27	2	12
29	67	1	4
47	38	2	13
66	22	1	11
52	27	4	18
40	24	3	33
65	24	3	8
65	28	1	6
68	23	1	8
39	49	4	8
62	22	3	13