

卷末資料 9 土壤地化学探查分析結果  
**Apéndice 9 Análisis geoquímico de suelos**









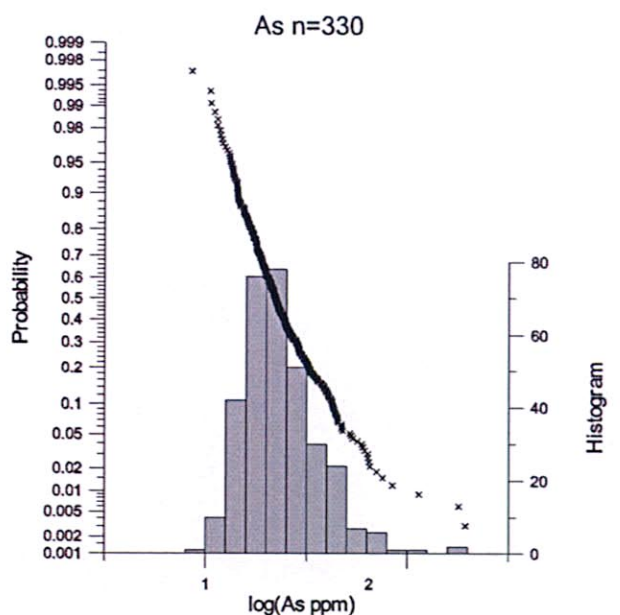
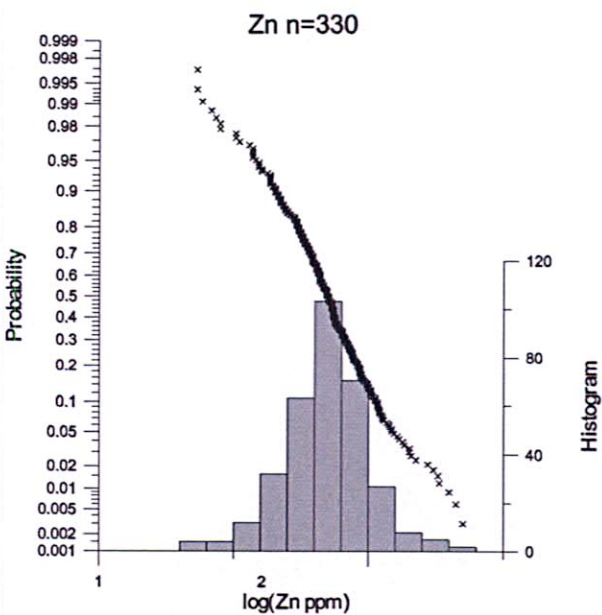
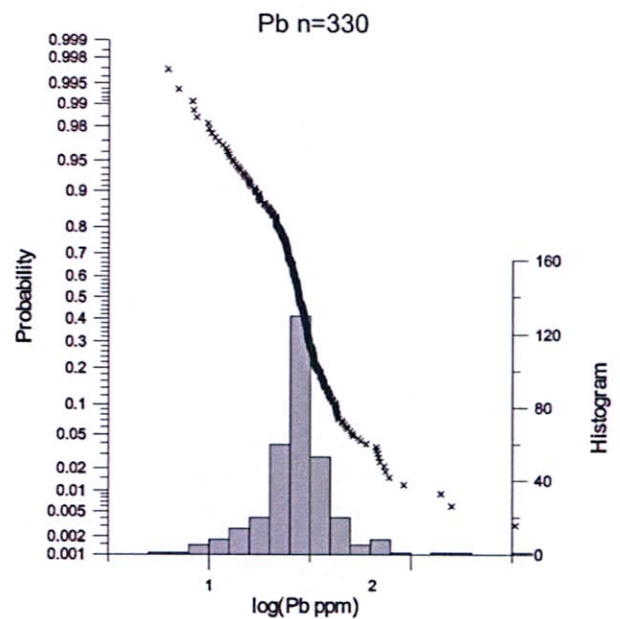
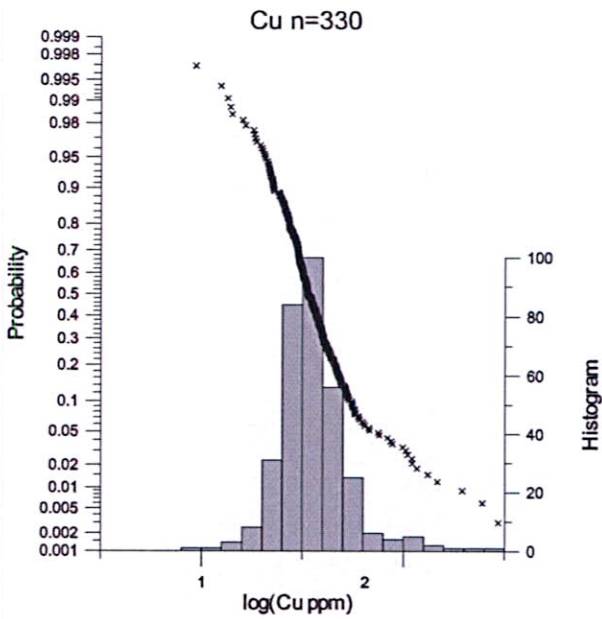
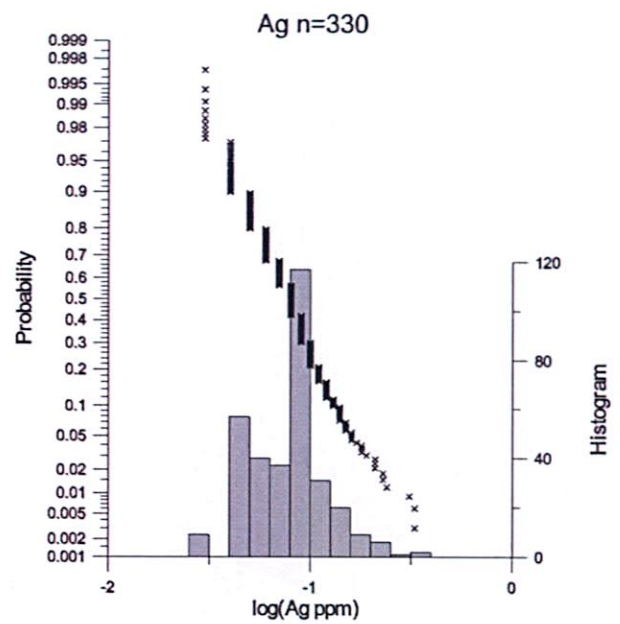
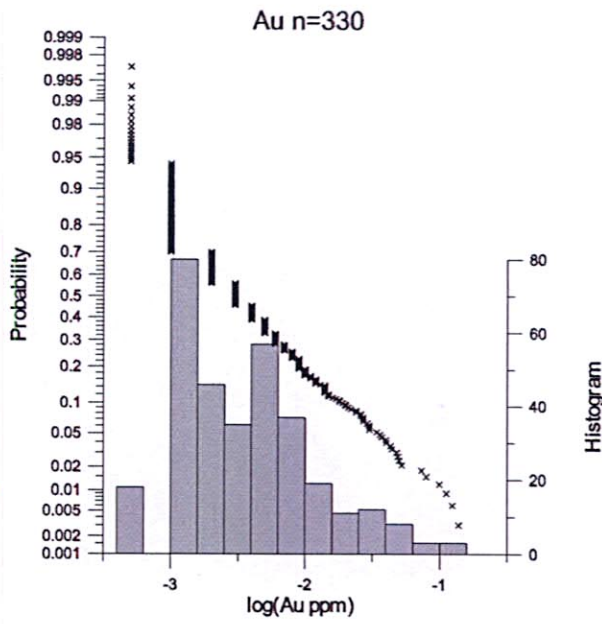




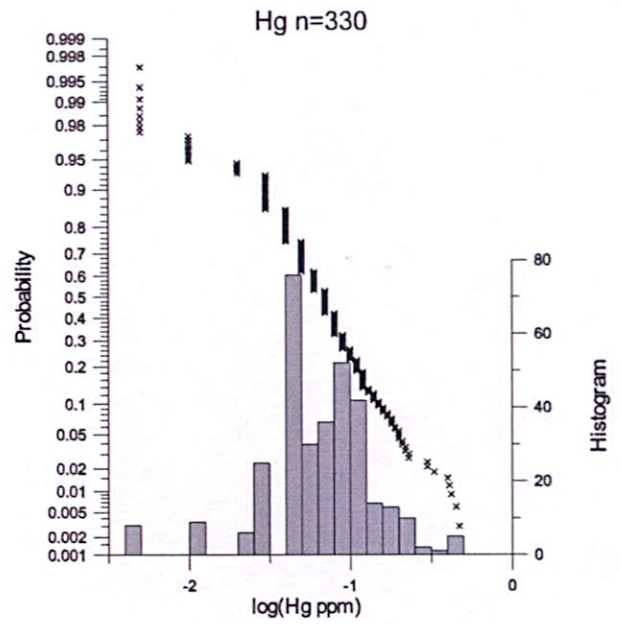
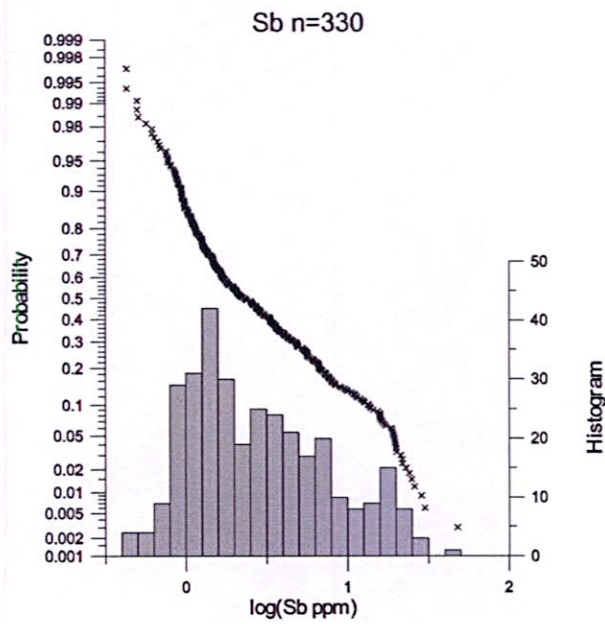
土壤分析值記述統計結果  
Estadística descriptiva (suelos)

Element	Mean	Std. Deviation	Min	Max	Unit
Au	0.008	0.016	<0.001	0.138	ppm
Ag	0.086	0.043	<0.01	0.33	ppm
Cu	39.603	26.463	<0.2	295	ppm
Pb	30.504	22.104	<1	328	ppm
Zn	74.618	28.554	21	224	ppm
As	26.548	17.907	0.9	194	ppm
Sb	4.826	6.078	<0.05	47.9	ppm
Hg	0.082	0.066	<0.01	0.47	ppm
Ga	7.097	2.339	<0.05	14.3	ppm
In	0.051	0.020	0.012	0.184	ppm
Sn	0.765	0.275	<0.2	2	ppm
W	0.157	0.129	<0.05	1.52	ppm
Al	2.585	0.863	0.95	5.39	%
B	5.045	0.475	<10	10	ppm
Ba	112.455	52.890	30	300	ppm
Be	1.549	0.515	<0.05	3.84	ppm
Bi	0.593	0.244	<0.01	2.97	ppm
Ca	0.075	0.092	<0.01	0.68	%
Cd	0.053	0.039	<0.01	0.4	ppm
Ce	32.807	22.892	<0.02	109.5	ppm
Co	23.231	16.355	<0.1	218	ppm
Cr	45.879	23.911	18	164	ppm
Cs	7.575	2.849	<0.05	20.2	ppm
Fe	4.398	1.112	2.54	15	%
Ge	0.073	0.029	<0.05	0.17	ppm
Hf	0.071	0.059	<0.02	0.55	ppm
K	0.222	0.054	0.09	0.46	%
La	14.806	10.529	<0.2	48.6	ppm
Li	40.743	14.784	<0.1	104.5	ppm
Mg	0.305	0.147	0.06	0.77	%
Mn	821.270	549.639	98	4280	ppm
Mo	1.086	0.556	<0.05	5.22	ppm
Na	0.020	0.012	<0.01	0.08	%
Nb	0.627	0.561	<0.05	2.83	ppm
Ni	29.604	10.329	11.3	88.8	ppm
P	861.121	439.508	260	4130	ppm
Rb	25.644	8.453	<0.1	45.9	ppm
Re	0.001	0.001	<0.001	0.016	ppm
S	0.023	0.020	<0.01	0.12	%
Sc	3.668	1.238	0.2	9.9	ppm
Se	0.808	0.988	<0.2	5.2	ppm
Sr	19.401	15.867	<0.2	87.4	ppm
Ta	0.006	0.002	<0.01	0.02	ppm
Te	0.071	0.076	<0.02	0.5	ppm
Th	6.140	3.448	<0.2	18.2	ppm
Ti	0.013	0.013	<0.005	0.059	%
Tl	0.188	0.073	<0.02	0.45	ppm
U	1.087	0.445	<0.05	4.22	ppm
V	32.091	12.873	9	112	ppm
Y	4.775	2.456	<0.05	16.85	ppm
Zr	1.703	1.558	<0.5	14.2	ppm

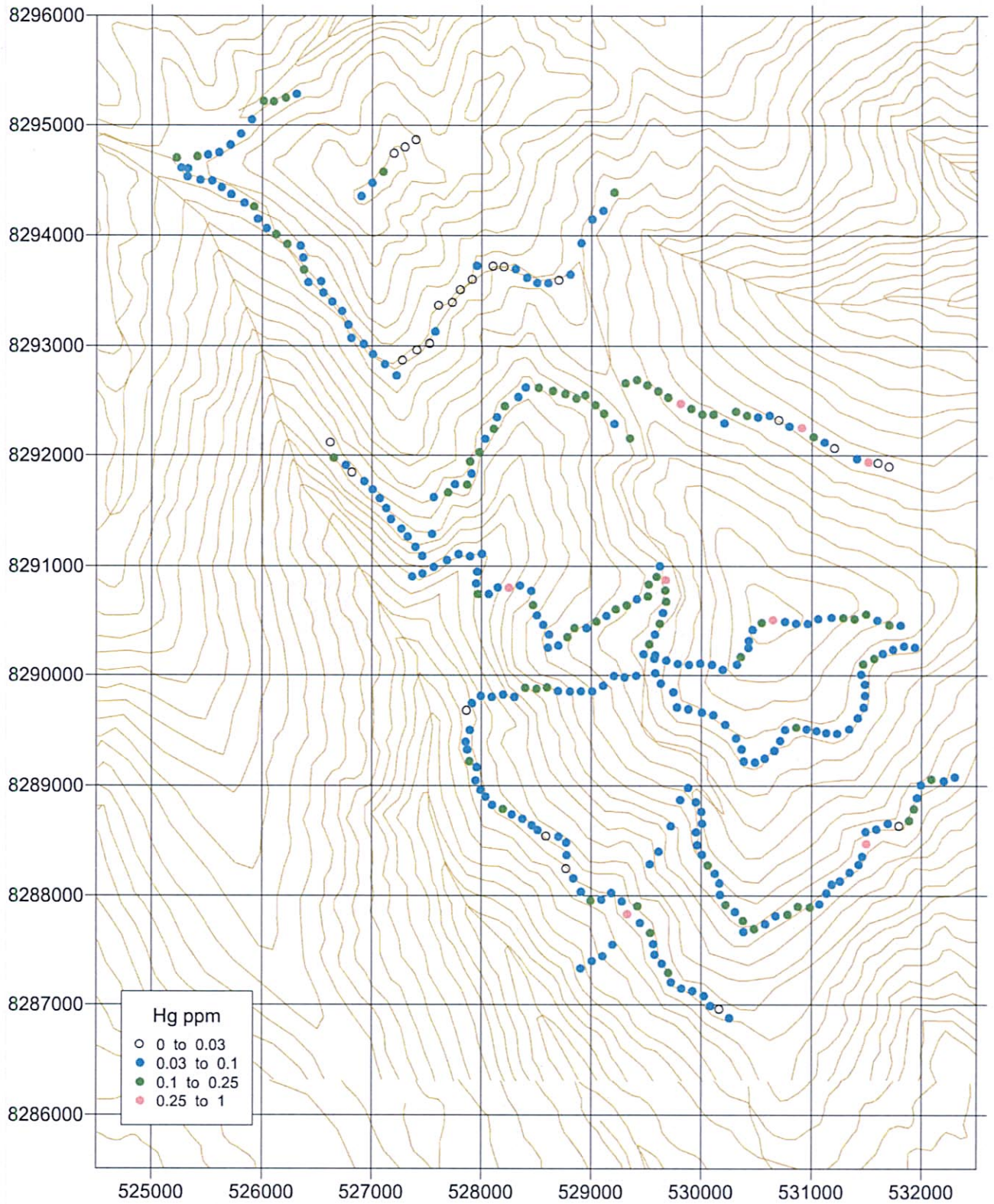




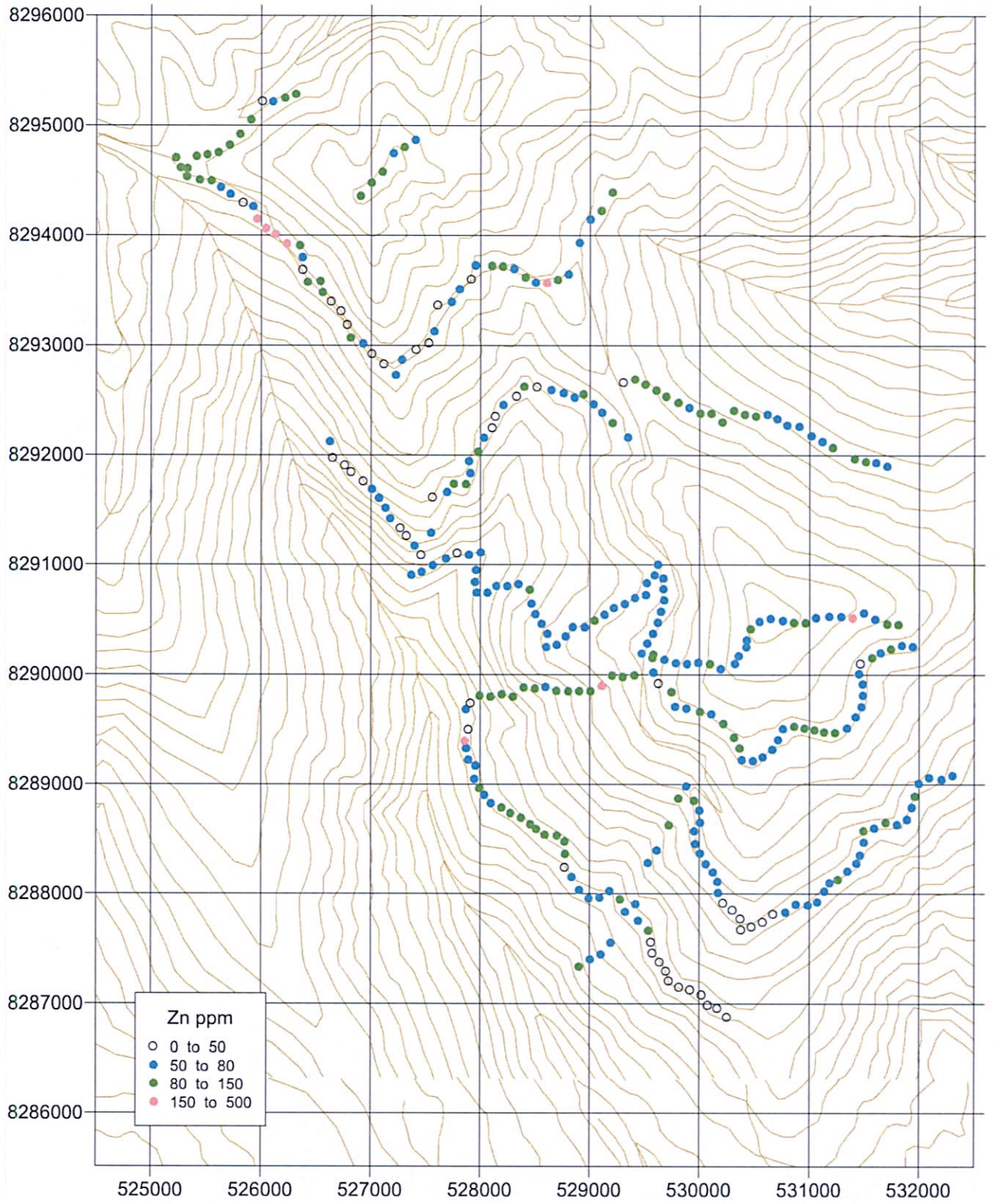
Histogram of soil geochemistry (1)



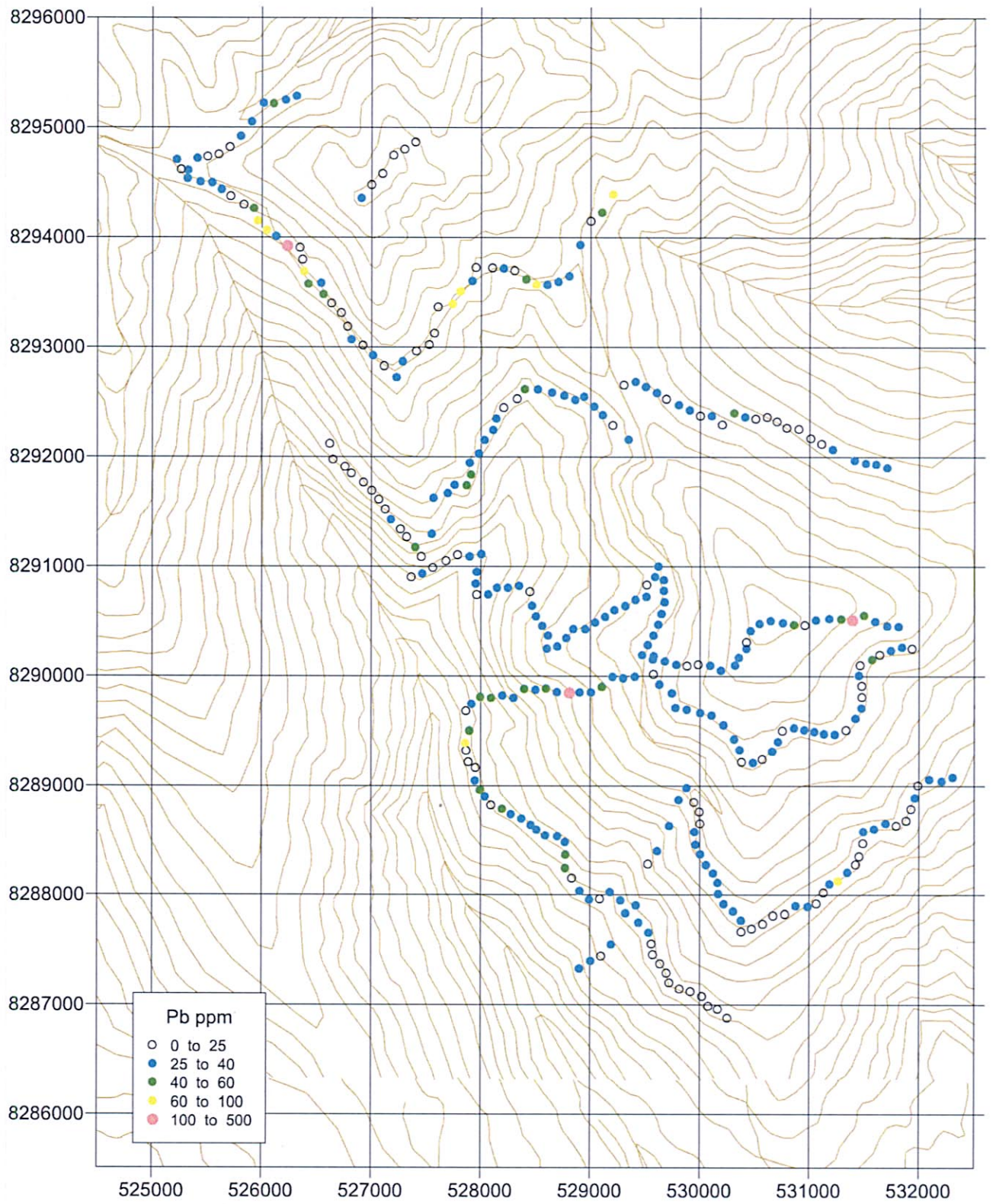
Histogram of soil geochemistry (2)



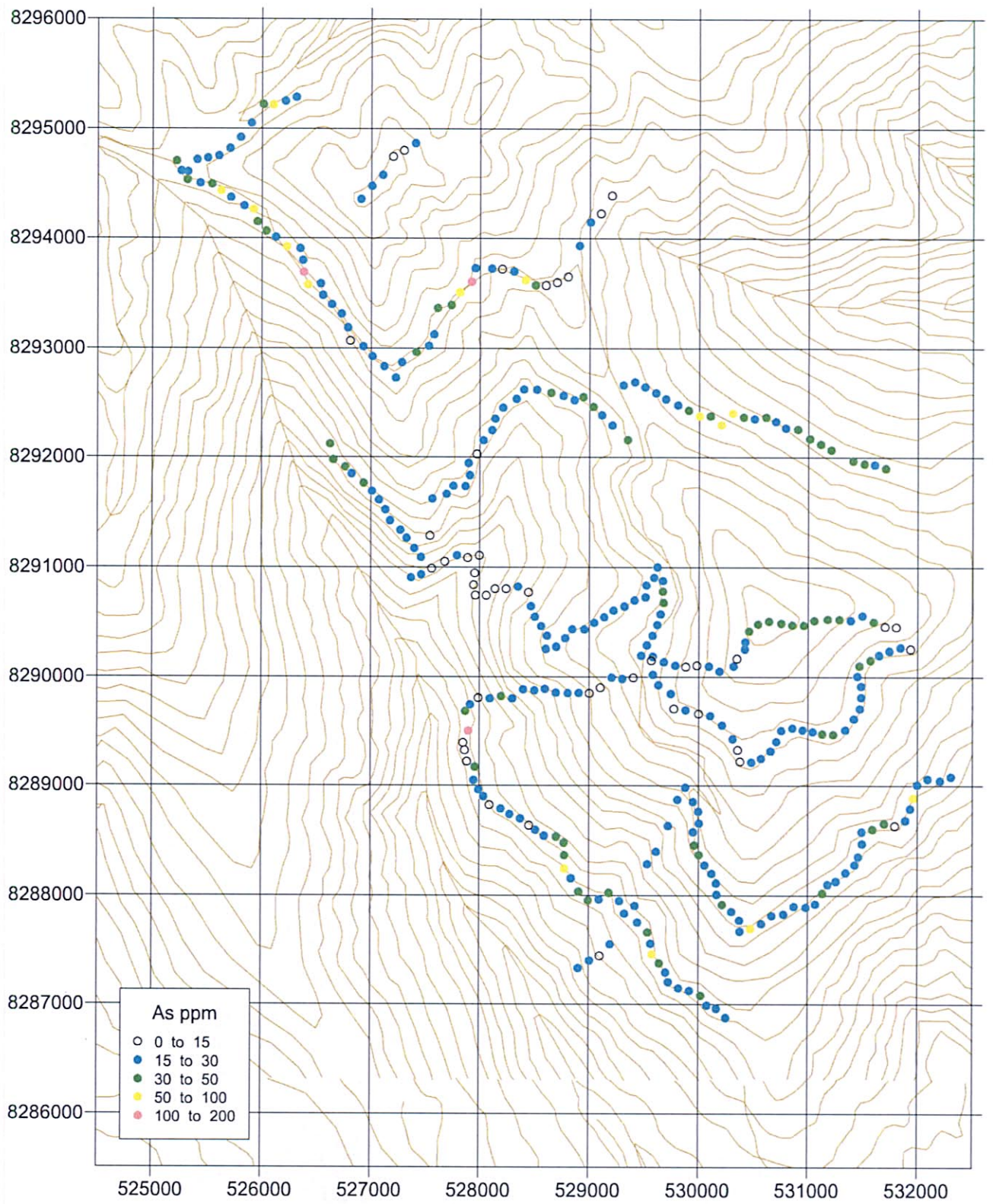
Soil geochemistry Aucapata



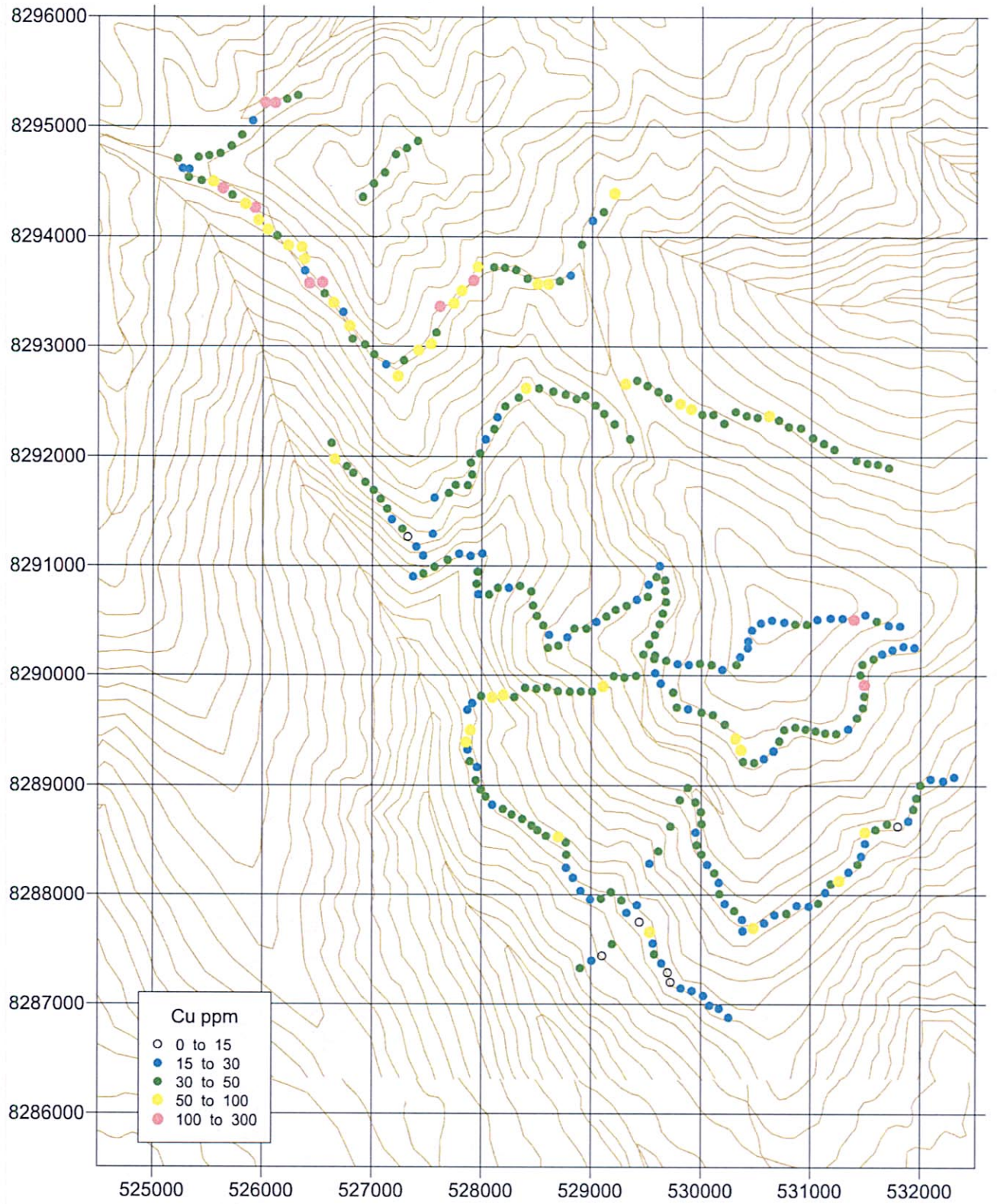
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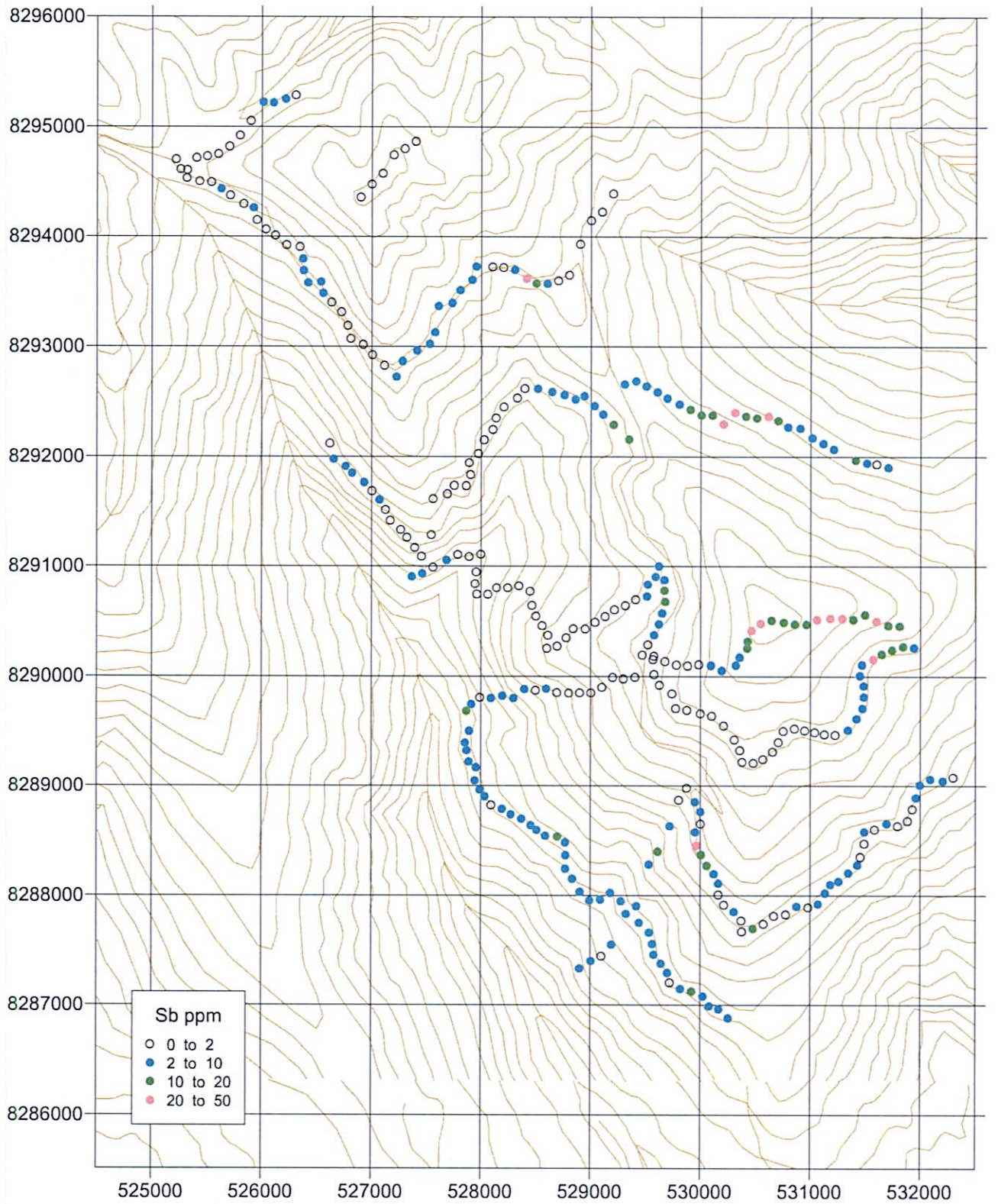
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Soil geochemistry Aucapata

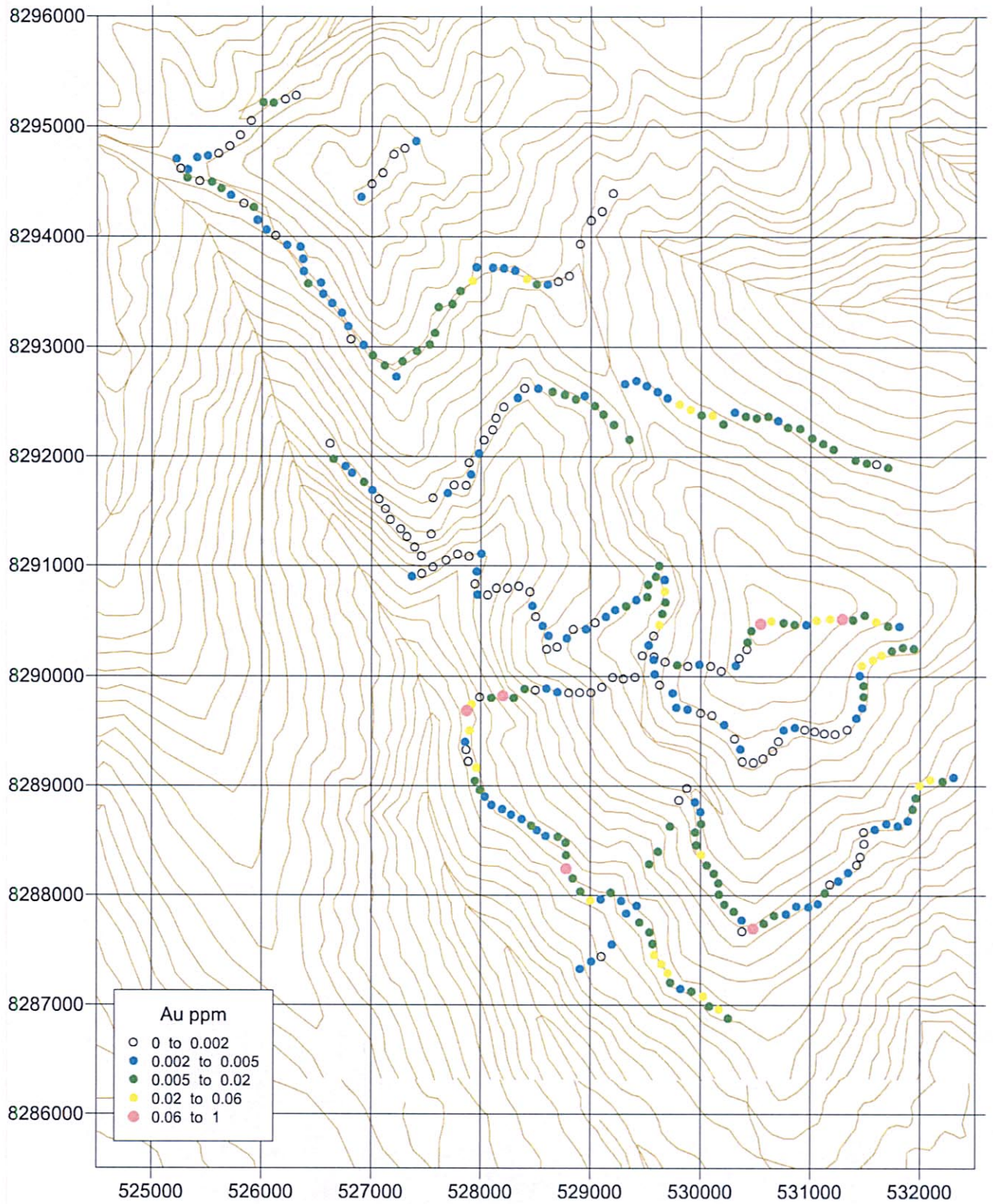


Soil geochemistry Aucapata

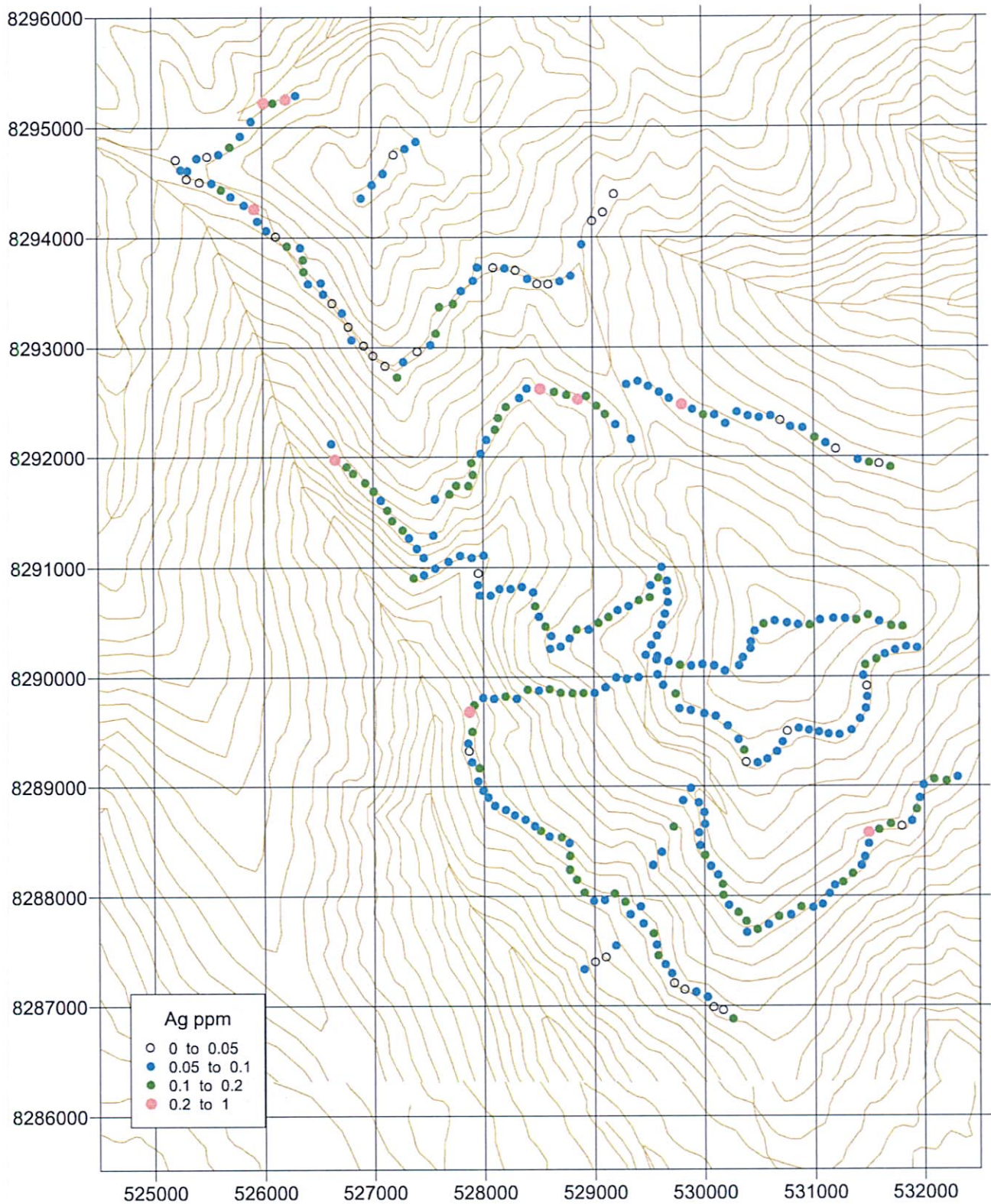


Soil geochemistry Aucapata





Soil geochemistry Aucapata



Soil geochemistry Aucapata

卷末資料 10 岩石地化学探查分析結果  
**Apéndice 10 Análisis geoquímico de rocas**



# 岩石地化学分析结果一览表

## Analisis geoquimico de rocas 2 / 3

Sample No.	Sample No. district	Au	Ag	Ni	As	B	Be	Bo	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Re	Rb	S	Sb	Se	Sn	Sr	Ta	Tb	Te	Th	Ti	U	V	W	Y	Zn	Zr			
304	10381 Patehuco	0.001	0.05	2.23	11.2	10	50	0.17	0.19	0.12	0.01	40.1	6.5	104	2.24	8.1	0.54	7.89	0.14	0.02	0.01	0.016	0.26	18.5	18.8	0.31	285	0.71	0.02	0.02	25.81	10.2	26.1	0.0001	0.01	0.4	5.8	1.2	0.8	7.8	0.01	0.07	9.5	0.08	0.08	0.58	28	0.32	4.48	55	0.5		
314	11078 Patehuco	0.001	0.04	1.28	11	10	10	0.12	0.14	0.08	0.01	138.5	8	98	0.28	3.8	2.14	6.71	0.17	0.03	0.01	0.012	0.22	62.8	23.4	0.08	140	0.08	0.05	20.5	3.8	0.3	0.02	0.5	3.8	0.3	0.02	8.2	0.01	0.01	12.8	0.005	0.02	0.88	58	0.12	4.18	15	0.5				
315	11079 Patehuco	0.001	0.03	1.58	78	10	20	0.02	0.03	0.03	0.01	47.2	9.5	81	0.71	10.8	1.1	4.72	0.07	0.02	0.01	0.015	0.13	24.7	23.1	0.02	474	0.5	0.01	0.05	18.4	470	8.8	7.4	0.0001	0.03	0.47	2.5	0.2	0.4	15.2	0.01	0.01	12.8	0.005	0.02	0.42	18	0.1	3.88	48	0.5	
316	11080 Patehuco	0.001	0.03	2.29	11.5	10	40	0.55	0.4	0.01	0.01	61	94	91	0.32	10.1	0.2	10.95	0.08	0.02	0.01	0.012	0.19	26.5	55	0.53	248	0.48	0.02	0.05	26.4	520	11.5	10.7	0.0001	0.02	1.44	2.5	0.2	0.3	5.8	0.01	0.02	11	0.005	0.02	0.68	18	0.07	2.88	80	0.8	
317	11081 Patehuco	0.016	0.54	3.72	124.5	10	10	0.85	1.22	0.84	0.05	151	132.5	90	0.32	226	116.0	6.06	0.37	0.04	0.01	0.002	0.21	62.8	78.8	1.08	383.9	2.48	0.01	0.08	179.5	4880	317	0.8	0.0001	0.05	11	20	1.4	0.02	17	0.001	0.42	8.8	0.008	0.08	208	0.15	8.28	181	0.9		
318	11082 Patehuco	0.001	0.03	2.01	124	10	40	0.8	0.42	0.29	0.01	51.8	132	91	1.16	28.8	3.88	5.67	0.08	0.03	0.01	0.016	0.23	26.8	61.8	1.08	383.9	2.48	0.01	0.08	179.5	4880	317	0.8	0.0001	0.05	11	20	1.4	0.02	17	0.001	0.42	8.8	0.008	0.08	208	0.15	8.28	181	0.9		
319	11083 Patehuco	0.001	0.01	2.12	65	10	30	0.48	0.29	0.12	0.01	48.5	66	44	0.8	17.4	8.7	8.81	0.07	0.02	0.01	0.01	0.14	17.8	88.8	0.82	482	0.47	0.02	0.05	27.2	590	4.1	10.4	0.0001	0.02	2.8	2.4	0.2	0.3	6.7	0.01	0.02	11.7	0.005	0.02	0.57	22	0.08	2.95	81	0.5	
320	11084 Patehuco	0.001	0.03	2.64	168	10	30	0.37	0.29	0.09	0.01	88.3	78	42	1.24	13.4	5.18	6.81	0.11	0.02	0.01	0.017	0.14	17.8	88.8	0.82	482	0.47	0.02	0.05	27.2	590	4.1	10.4	0.0001	0.02	2.8	2.4	0.2	0.3	6.7	0.01	0.02	11.7	0.005	0.02	0.57	22	0.08	2.95	81	0.5	
321	11085 Patehuco	0.001	0.02	1.78	32	10	60	0.78	0.48	0.08	0.01	87.1	42	47	2.77	10.8	3.84	4.95	0.1	0.08	0.01	0.011	0.36	39.7	14	0.85	180	0.48	0.01	0.08	26.4	410	11.2	22.1	0.0001	0.01	0.7	2.1	0.2	0.4	8.1	0.01	0.01	0.95	16.8	0.02	0.65	18	0.22	2.02	87	0.5	
322	11086 Patehuco	0.002	0.02	1.82	83	10	40	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
323	11087 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
324	11088 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
325	11089 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
326	11090 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
327	11091 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
328	11092 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
329	11093 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
330	11094 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
331	11095 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
332	11096 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
333	11097 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
334	11098 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0.02	2.28	2.1	0.3	0.3	7.6	0.01	0.01	14.4	0.005	0.02	1.05	17	0.08	2.78	28	0.8
335	11099 Patehuco	0.001	0.02	2.29	7	10	60	0.77	0.44	0.11	0.01	72.1	84	47	1.8	13.4	3.97	6.21	0.14	0.04	0.01	0.008	0.21	42.4	12	0.8	124	0.02	0.02	0.01	0.01	28.2	460	3.8	11.4	0.0001	0																

# 岩石地化学分析结果一览表

## Análisis geoquímico de rocas 3 / 3

Social No.	Sample No.	district	Au	Ag	Al	As	B	Ba	Be	Bi	Cd	Ce	Co	Cr	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Se	Sn	Sr	Ta	Tb	Ti	Tl	U	V	W	Y	Zn	Zr				
			ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
417	11477	Hilo, Hilo	0.001	0.02	2.28	18.4	<10	40	0.65	0.2	0.1	<0.01	80	8.2	80	0.97	11.6	4.14	7.37	0.12	<0.02	<0.01	0.018	0.21	33.2	87.2	0.88	308	0.68	0.03	0.05	28	540	7.5	14.4	<0.001	<0.01	0.59	2.6	0.3	0.4	11.2	<0.01	0.04	13	<0.005	0.06	0.78	20	0.08	2.84	78	<0.5
418	11478	Hilo, Hilo	<0.001	0.04	2.07	19	<10	40	0.6	0.22	0.08	0.01	81.7	7.9	83	0.92	9.5	3.91	8.11	0.12	<0.02	<0.01	0.013	0.2	29.8	87.8	0.75	198	0.48	0.01	0.05	24.7	430	20	12.8	<0.001	<0.01	0.31	2.4	0.3	0.4	7.8	<0.01	0.03	13.8	<0.005	0.07	1.86	17	0.07	2.82	83	1.1
419	11479	Hilo, Hilo	0.001	0.03	3.43	4.5	<10	40	0.98	0.27	0.11	<0.01	22.3	8.3	83	1.16	7.5	5.69	10.4	0.1	<0.02	<0.01	0.023	0.17	17.3	182	1.23	485	0.48	0.02	0.05	23.8	890	12.4	10.7	<0.001	0.03	0.21	4	0.2	0.3	0.6	<0.01	0.04	15	<0.005	0.05	1.12	28	<0.05	2.28	109	<0.5
420	11480	Hilo, Hilo	0.005	0.01	2.25	11.8	<10	50	0.78	0.84	0.11	<0.01	41.8	4.4	48	1.65	12.2	3.25	8.27	0.1	<0.02	<0.01	0.023	0.2	21.5	114	0.75	215	0.74	0.04	0.05	8.7	890	8.5	14	<0.001	0.1	0.41	3.1	0.2	0.4	11	<0.01	0.04	13.2	<0.005	0.07	0.81	17	<0.05	1.82	54	<0.5
421	11481	Hilo, Hilo	0.003	0.01	2.08	8.4	<10	20	0.61	0.2	0.11	<0.01	44.9	13.1	88	0.98	6.5	4.78	8.25	0.11	<0.02	<0.01	0.014	0.13	21.9	50.3	0.74	338	0.48	0.01	0.11	25	820	5.2	8.8	<0.001	<0.01	0.25	3.4	0.2	0.4	8.6	<0.01	0.03	10.8	<0.005	0.05	0.77	24	0.09	4.08	78	<0.5
422	11482	Hilo, Hilo	0.001	0.02	2.37	8.6	<10	50	0.4	0.38	0.04	<0.01	70.6	6.5	82	2.08	7.3	3.88	8.86	0.11	<0.02	<0.01	0.018	0.28	38.2	81.2	0.88	314	0.72	0.04	0.05	18.8	360	10.7	17	<0.001	<0.01	0.29	2.8	0.2	0.4	11.4	<0.01	0.03	18.4	<0.005	0.06	0.88	24	0.05	2.42	87	<0.5
423	11483	Hilo, Hilo	0.002	0.01	1.27	7.1	<10	30	0.93	0.14	0.08	0.01	59.8	10.6	41	0.92	9.3	3.18	3.94	0.09	<0.02	<0.01	0.024	0.17	28.1	33.5	0.4	297	0.35	0.05	0.05	23.2	520	2.7	10.8	<0.001	<0.01	0.28	2.4	0.2	0.3	8.7	<0.01	0.01	13	<0.005	0.06	0.88	10	0.05	3.54	51	0.8
424	11484	Hilo, Hilo	0.002	0.02	2.51	11.7	<10	40	0.88	0.23	0.1	<0.01	67.1	10.2	64	2.19	14.3	4.38	5.87	0.11	<0.02	<0.01	0.02	0.18	31.4	86.7	0.83	189	0.51	0.03	0.05	23.1	880	13.8	11.8	<0.001	<0.01	0.31	2.8	0.3	0.3	8.8	<0.01	0.03	14.2	<0.005	0.05	1.04	17	0.08	3.13	84	<0.5
438	11813	Hilo, Hilo	<0.001	0.01	3.71	0.8	<10	20	1.34	0.01	0.14	<0.01	92.1	10.2	104	0.78	15.2	5.57	13.85	0.08	0.03	<0.01	0.028	0.11	35.4	78.7	2.78	292	0.38	0.03	0.05	53.9	730	0.7	5.8	<0.001	0.01	0.32	8.5	0.2	1	7	<0.01	0.01	8.8	<0.005	<0.02	0.45	71	0.1	8.04	23	<0.5
439	11814	Hilo, Hilo	0.002	0.02	1.4	13	<10	80	0.24	0.38	0.01	<0.01	94.1	1.7	37	1.16	8.4	2.64	4.08	0.06	<0.02	<0.01	0.008	0.18	18.9	37.8	0.86	240	0.28	0.04	0.05	3.8	340	2.8	10.2	0.001	0.05	0.32	1.8	0.5	0.2	7.8	<0.01	0.04	11.1	<0.005	0.06	0.82	73	0.08	1.32	94	<0.5

岩石分析值記述統計結果  
Estadística descriptiva (rocas)

Element	Mean	Std. Deviation	Min	Max	Unit
Au	0.004	0.016	<0.001	0.181	ppm
Ag	0.033	0.054	<0.02	0.54	ppm
Cu	14.991	20.873	1.4	229	ppm
Pb	14.154	38.224	0.7	317	ppm
Zn	67.152	30.434	2	202	ppm
As	37.375	262.610	<1	3020	ppm
Sb	0.911	1.681	0.09	11	ppm
Hg	0.009	0.011	<0.01	0.06	ppm
Ga	6.678	2.732	1.46	23.6	ppm
In	0.020	0.023	<0.005	0.218	ppm
Sn	0.398	0.189	<0.2	1.4	ppm
W	0.133	0.199	<0.05	1.74	ppm
Al	2.216	0.751	0.34	6.79	%
B	5.038	0.435	<10	10	ppm
Ba	39.962	20.652	<10	200	ppm
Be	0.633	0.300	<0.05	2.45	ppm
Bi	0.409	0.670	<0.01	7.22	ppm
Ca	0.249	0.732	<0.02	6.62	%
Cd	0.018	0.063	<0.01	0.72	ppm
Ce	60.163	28.180	14.25	229	ppm
Co	10.576	12.031	<5	132.5	ppm
Cr	71.455	31.645	37	186	ppm
Cs	1.395	2.025	<0.2	22	ppm
Fe	4.410	2.205	0.39	15	%
Ge	0.118	0.117	<0.05	1.05	ppm
Hf	0.023	0.030	<0.02	0.28	ppm
K	0.185	0.063	<0.02	0.35	%
La	29.133	13.484	6.2	108	ppm
Li	60.977	48.536	2.1	219	ppm
Mg	0.833	0.369	<0.5	2.94	%
Mn	425.008	537.132	19	4790	ppm
Mo	0.673	1.179	0.13	12.35	ppm
Na	0.027	0.013	<0.01	0.1	%
Nb	0.136	0.330	<0.05	2.28	ppm
Ni	26.095	15.626	3.6	170.5	ppm
P	919.924	1540.823	230	>10000	ppm
Rb	11.863	4.741	0.7	32.7	ppm
Re	0.001	0.001	<0.001	0.009	ppm
S	0.111	0.477	<0.01	4	%
Sc	3.446	3.046	1.1	23.3	ppm
Se	0.408	0.365	<0.2	2.4	ppm
Sr	18.851	68.350	4.5	699	ppm
Ta	0.006	0.004	<0.01	0.03	ppm
Te	0.056	0.172	<0.01	1.78	ppm
Th	14.114	6.316	4.1	75.1	ppm
Ti	0.012	0.020	<0.005	0.086	%
Tl	0.042	0.032	<0.02	0.19	ppm
U	1.001	0.705	<0.5	5.76	ppm
V	38.705	135.167	<10	1515	ppm
Y	5.025	7.015	1.09	56.6	ppm
Zr	0.526	0.740	<0.5	7.9	ppm