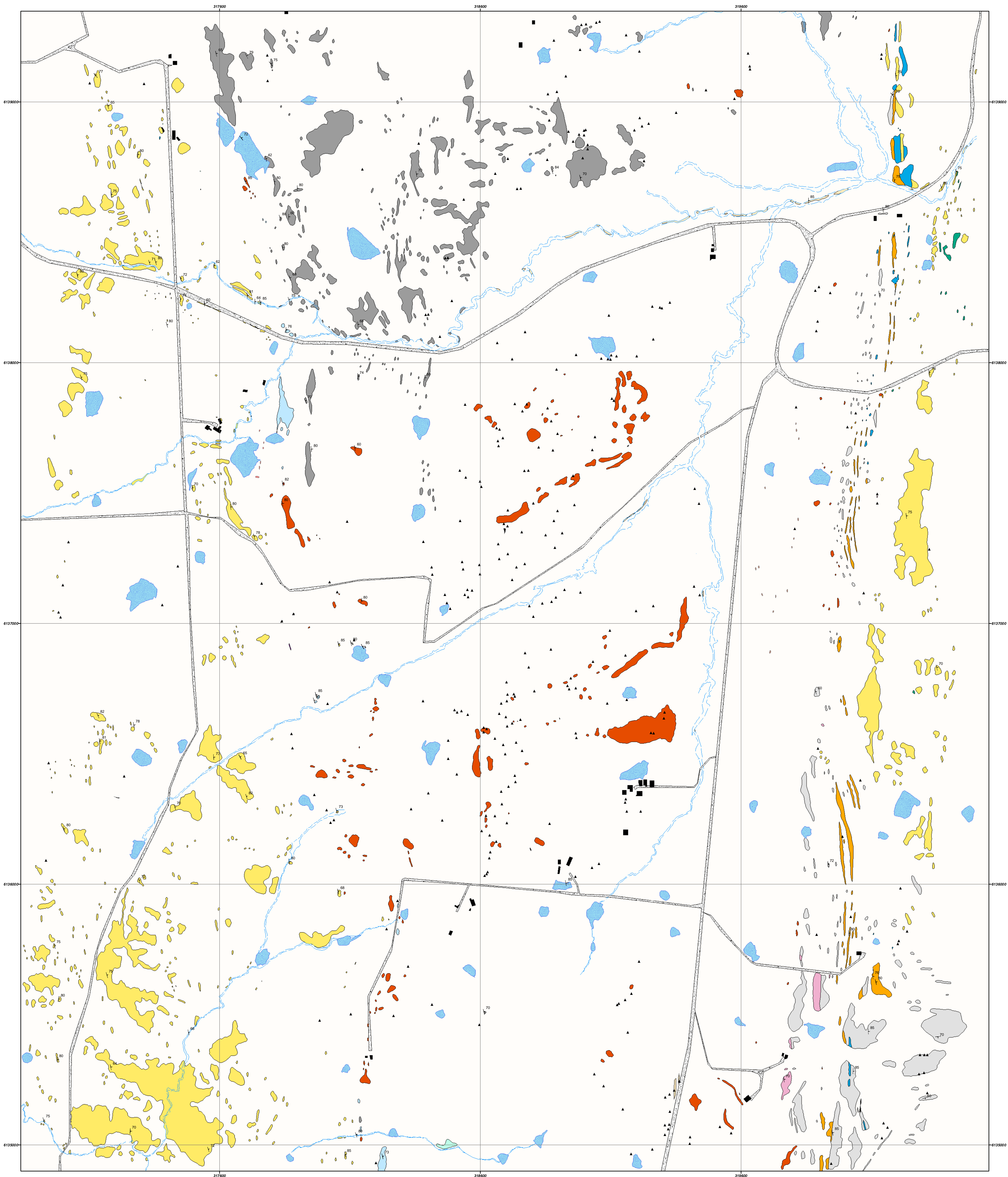


APPENDIX 1.

Geological map of the Mount Torrens prospect

GEOLOGICAL MAP OF THE DAIRY CREEK AREA, MT TORRENS, MT LOFTY RANGES, SOUTH AUSTRALIA



REGOLITH

- ferricrete
- ferruginous saprolite
- saprolite
- gossan

LARGE QUARTZ VEINS

- quartz and iron oxide veining
- zone of quartz veining

INTRUSIVE ROCKS & UNITS OF UNCERTAIN AFFINITY

- pegmatite
- mafic rock with felsic immiscibility textures

- mafic amphibolite

- tremolite-rich lenses in Backstairs Passage sandstone
- muscovite schist

TAPANAPPA FORMATION

- quartz-feldspar-biotite schist
- greywacke
- chert

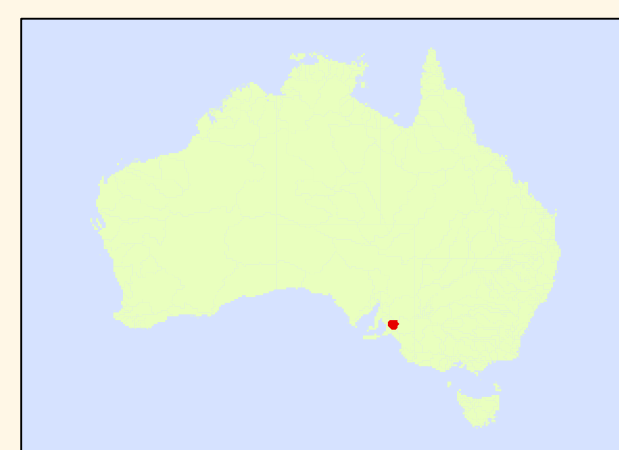
TALISKER CALC-SILTSTONE

- sulfidic metasedimentary rocks and calc-silicate rocks

BACKSTAIRS PASSAGE FORMATION

- sandstone

- Foliation with dip
- Quartz vein outcrop
- Creek
- Dam
- Building
- Road



Geological mapping by Marian Skwarnecki (CRC LEME), 2000.
GIS by Phil Davies. Based on interpretation of aerial photographs
and field observations.

Published by CRC LEME & CSIRO, 2002

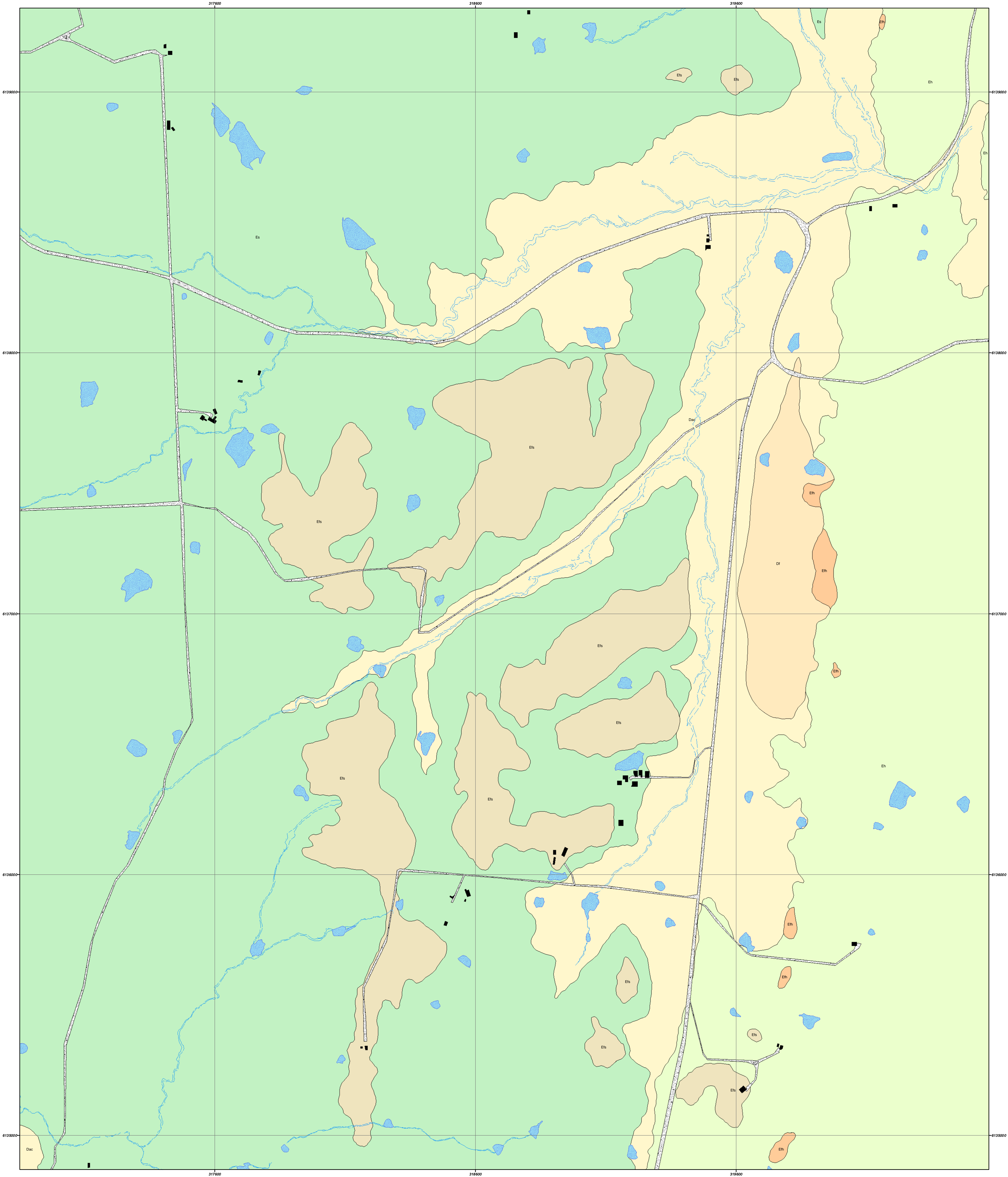
Projection: UTM Zone54 Datum GDA94
Scale 1:5000



APPENDIX 2.

Regolith-landform map of the Mount Torrens prospect

REGOLITH-LANDFORM MAP OF THE DAIRY CREEK AREA,
MT TORRENS, MT LOFTY RANGES, SOUTH AUSTRALIA



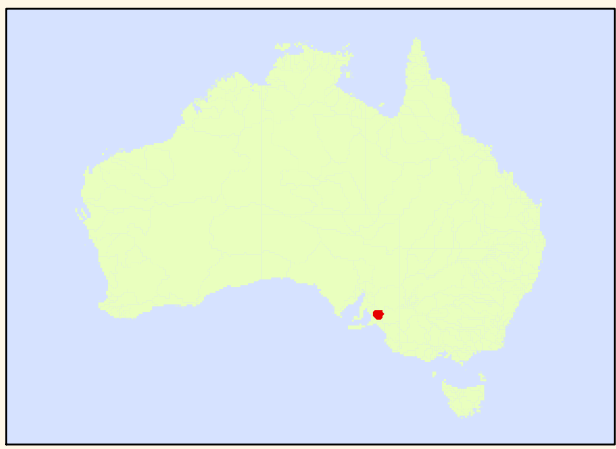
EROSIONAL REGIME

- Eh Hills; thin soils overlying fresh bedrock and saprock (Backstairs Passage and Tapanappa Formations)
- Efh Western slopes of hills; ferruginous saprolite developed dominantly on quartz-feldspar-biotite schists
- Efs Low hills; ferruginous saprolite on Talisker Calc-siltstone and Tapanappa Formation
- Es Low hills; thin soils overlying fresh bedrock or saprock (Backstairs Passage Formation sandstones, Talisker Calc-siltstone and Tapanappa Formation)

DEPOSITIONAL REGIME

- Dac Alluvium and colluvium; along valley floors
- Df Ferricrete; developed in alluvium and colluvium along valley floors and western slopes of hills

- Creek
- Dam
- Building
- Road



Regolith and landforms by Marian Skwarnecki (CRC LEME), 2000.
GIS by Phil Davies. Based on interpretation of aerial photographs
and field observations.

Published by CRC LEME & CSIRO, 2002

Projection: UTM Zone54 Datum GDA94
Scale 1:5000



APPENDIX 3

Tabulated geochemistry

Units

SiO₂, TiO₂, Al₂O₃, Fe₂O₃, MnO, MgO, CaO, K₂O, Na₂O, P₂O₅, Al, Ca, Cl, Fe, K, Mg, Na and LOI –
per cent

Au - ppb

Ag, As, Ba, Bi, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Ga, Gd, Hf, Hg, Ho, In, La, Lu, Mn, Mo, Nb, Nd,
Ni, P, Pb, Pr, Rb, S, Sb, Se, Sm, Sn, Sr, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr - ppm

Alluvium

Sample_no	Sample_id	Zone	Eastings_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0943	N34.1	54	319871.8	6138618.2	Alluv	0.3		sandy alluvium with layering
15-0944	N34.2	54	319871.8	6138618.2	Alluv	1.025		stronger layering
15-0968	MT034.1	54	317782.8	6137619.2	Alluv	0.25		sandy alluvium with high organic content (0-0.5m)
15-0971	MT035.2	54	318314.8	6138090.2	Alluv	0.55		sandy alluvium with high organic content (0.3-0.8m)
15-0973	MT037.2	54	318499.8	6138076.2	Alluv	0.7		alluvium with varves (0.1-1.3m)
15-0976	MT038.1	54	318579.8	6138246.2	Alluv	0.25		soil and alluvium (0-0.5m)
15-0977	MT038.2	54	318579.8	6138246.2	Alluv	0.75		partly cemented clay-rich alluvium (0.5-1m)
15-0981	MT046.1	54	317661.8	6137773.2	Alluv	0.2		alluvium
15-0983	MT047.1	54	317654.8	6137735.2	Alluv	0.12		alluvium (5-30cm)
15-0985	MT049.1	54	317710.8	6137797.2	Alluv	0.07		alluvium (5-10cm)
15-0990	MT053.1	54	317818.8	6137901.2	Alluv	0.15		alluvium with clay lenses (0-30cm)
15-0994	MT054.1	54	317863.8	6138024.2	Alluv	0.12		alluvium (5-30cm)
15-1014	MT051.1	54	317751.8	6137838.2	Alluv	0.1		alluvium (0-20cm)

[illegible]

Alluvium

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe
15-0943	3.3	5.5	2	290	0.2	0.33	<0.1	62		3	21	1.4	11	2.2	1	0.93	1.34
15-0944	3.24	6	1	210	0.3	0.36	<0.1	71		2.4	22	1.5	14	2	0.9	0.81	1.51
15-0968	3.89	12.5	<1	650	0.2	0.5	2.1	100		6	16	1.5	10	3.8	1.85	1.65	1.35
15-0971	3.8	8.5	<1	450	0.2	0.41	0.2	93		6	19	2.1	12	3.6	1.85	1.45	1.53
15-0973	2.23	4	<1	320	0.1	0.23	<0.1	56		2.5	10	1	8	1.85	0.85	0.82	0.93
15-0976	4.56	4.5	1	550	0.3	0.48	<0.1	97		5.5	24	2.2	14	3.3	1.65	1.5	1.52
15-0977	5.12	5.5	<1	500	0.2	0.33	<0.1	105		8	34	3.1	14	3.7	1.85	1.6	2.17
15-0981	2.57	3.5	<1	390	0.2	0.19	<0.1	69		2.7	11	0.9	6	2.1	0.95	0.98	1.17
15-0983	3.3	3	<1	460	0.2	0.24	<0.1	80		3.3	13	1.3	6	2.6	1.25	1.2	1.14
15-0985	4.13	3	<1	550	0.2	0.32	<0.1	99		4.4	22	1.6	7	3.2	1.6	1.4	1.47
15-0990	2.72	4	2	420	0.1	0.22	<0.1	68		2.5	14	0.9	10	2	0.9	0.96	1.01
15-0994	3.39	6.5	<1	490	0.2	0.3	0.2	72		3.1	16	1.2	10	2.4	1.1	1.1	1.19
15-1014	3.3	3.5	<1	470	0.1	0.24	<0.1	80		3.2	12	1.1	7	2.5	1.15	1.1	1.28

Sample_no	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P
15-0943	8	3.9	3		0.4	<0.05	0.82	35	0.13	0.15	125	0.7	0.78	3	31	5	135
15-0944	9	4	4		0.31	<0.05	0.67	40	0.11	0.13	65	0.9	0.73	5.5	33.5	5	125
15-0968	10	6.5	3		0.71	<0.05	1.59	55	0.21	0.19	220	1.4	1.22	3.5	48.5	5	150
15-0971	10.5	6	3		0.67	<0.05	1.2	47	0.24	0.33	280	0.9	0.92	3.5	42.5	10	220
15-0973	5.5	3.3	2		0.32	<0.05	0.81	28	0.12	0.13	150	0.6	0.65	1.5	25	5	115
15-0976	11.5	5.5	3		0.6	<0.05	1.62	49	0.19	0.28	420	0.8	1.24	6	42.5	9	240
15-0977	14	6	3		0.69	<0.05	1.52	51	0.24	0.43	210	0.7	0.96	7.5	45	14	115
15-0981	6.5	3.8	2		0.39	<0.05	1.03	34	0.12	0.12	150	0.7	0.66	2	29.5	5	160
15-0983	8.5	4.6	3		0.44	<0.05	1.34	42.5	0.15	0.17	155	0.6	0.81	4	35	8	170
15-0985	10.5	6	3		0.57	<0.05	1.68	50	0.19	0.21	290	0.7	1	5.5	42.5	10	270
15-0990	6.5	3.9	3		0.36	<0.05	1.14	34	0.12	0.11	200	0.7	0.82	2	29.5	5	175
15-0994	8	4.2	3		0.42	<0.05	1.4	37	0.15	0.17	165	1.4	1	4	32.5	4	230
15-1014	7	4.6	2		0.42	<0.05	1.13	40.5	0.14	0.15	160	0.5	0.82	2.5	39	7	240

Alluvium

Sample_no	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl	Tm	U	V
15-0943	24	7.5	29	100	<0.5	<0.5	5.5	1.3	64	0.4	<0.2	11.5	1750	0.4	0.15	1.5	31
15-0944	77	8.5	27	2600	<0.5	<0.5	6	1.5	51	0.37	<0.2	15.5	2250	0.4	0.1	1.9	36
15-0968	230	14	56	100	<0.5	<0.5	10	1.7	96	0.67	<0.2	14.5	2100	0.6	0.25	2.9	30
15-0971	68	12	56	150	<0.5	<0.5	9	1.7	87	0.62	<0.2	12.5	2100	0.6	0.25	2.6	37
15-0973	35	7	29	<50	<0.5	<0.5	5	1	55	0.32	<0.2	7.5	1350	0.3	0.15	1.5	22
15-0976	47.5	12	64	100	<0.5	1	9	2.1	105	0.58	<0.2	15	2550	0.7	0.2	2.5	38
15-0977	40.5	12.5	69	50	<0.5	1	9.5	2.6	89	0.65	<0.2	15.5	3150	0.7	0.25	2.7	54
15-0981	25.5	8.5	38.5	100	<0.5	1	6	1.2	58	0.36	<0.2	9	1550	0.3	0.15	1.8	24
15-0983	22	10	52	150	<0.5	0.5	7.5	1.8	71	0.47	<0.2	11	1900	0.4	0.15	2.5	28
15-0985	29	12	65	200	<0.5	1	9	1.8	89	0.59	<0.2	14	2350	0.5	0.2	2.5	36
15-0990	23.5	8.5	36	100	<0.5	0.5	6	1.7	67	0.37	<0.2	9.5	1450	0.4	0.15	1.7	23
15-0994	38.5	9	45	250	<0.5	1	6.5	2	80	0.43	<0.2	11	1800	0.5	0.15	2.2	28
15-1014	30.5	9.5	55	250	<0.5	<0.5	7	1.6	77	0.59	<0.2	10.5	1650	0.4	0.15	2.2	25

Sample_no Zr_XRF

Sample_no	W	Y	Yb	Zn
15-0943	0.3	9	1	17.5
15-0944	0.6	7	0.8	20.5
15-0968	0.2	18	1.7	26.5
15-0971	0.4	18	1.75	34.5
15-0973	0.2	8.5	0.8	80
15-0976	0.7	16	1.4	25.5
15-0977	0.9	18	1.65	27.5
15-0981	<0.1	10	0.8	7.5
15-0983	0.3	12.5	1.05	7
15-0985	0.7	15.5	1.35	12
15-0990	0.4	9.5	0.85	17
15-0994	1	11	1.05	22.5
15-1014	0.3	11	0.95	12

Black mud

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0937	N32.5	54	320527.8	6138886.2	BlkMud			black wetter sample from stream bed in wet area 15m upstream
15-0939	N32.6	54	320527.8	6138886.2	BlkMud		0	as above but in stream & smells sulfidic (water pH 6)
15-0940	N33.1	54	321655.8	6138821.2	BlkMud		0.025	4m south of N33.2 by cow path
15-0941	N33.2	54	321655.8	6138821.2	BlkMud		0.7	black sediment with orange distinct mottles (30 mm in diam)
15-0961	MT034.2	54	317777.8	6138221.2	BlkMud			black clay-rich sed with gravel above weathered sst (0.7-1m)
15-0979	MT038.4	54	318579.8	6138246.2	BlkMud		1.7	coarse sand with organic material and ?sulfidic muds (1.5-1.9m)
15-0986	MT049.2	54	317710.8	6137797.2	BlkMud		0.65	black muds (50-80cm)
15-0988	MT049.3	54	317710.8	6137797.2	BlkMud		1.05	black muds (1-1.1m)
15-0997	MT056.6	54	317999.8	6136662.2	BlkMud		0.23	grey to black clays with ?jarosite on roots (20-25cm); Prices
15-1003	N32.3b	54	320527.8	6138886.2	BlkMud		1.8	black layer
15-1004	N32.4	54	320527.8	6138886.2	BlkMud		2.15	deep sample taken at creek level; saturated black but not smelly
15-1006	N32.1	54	320527.8	6138886.2	BlkMud		0.1	just outside Willison catchment in river bank on S side of road
15-1015	MT051.2	54	317751.8	6137838.2	BlkMud		0.5	black muds (30-70cm)
15-1016	MT053.3	54	317818.8	6137901.2	BlkMud		0.5	black muds about 5m south in bank
15-1123	W16.1	54	318386	6136843.2	BlkMud		0.05	ferrug/organic soil. Edge of wetland - sedge and rushes
15-1125	W25.1	54	318395	6136843.2	BlkMud		0.05	ferrug/organic soil. Centre of wetland - sedge and rushes
15-1167	MT048	54	317706.8	6137782.2	BlkMud		0.65	black muds

[illegible][illegible]

Black mud

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0937	4.28	32	2	320	0.3	0.59	0.1	80		4.8	38	2.4	18	3.5	1.85	1.4
15-0939	4.65	5.5	2	320	0.3	0.4	<0.1	85		4.8	33	2.6	16	3.5	1.85	1.4
15-0940	1.9	12	1	175	0.2	0.38	0.2	49.5	0.01	2	10	0.5	15	1.65	0.7	0.7
15-0941	4.36	4.5	<1	260	0.2	0.8	<0.1	63		4.4	37	8	13	3.2	1.6	1.25
15-0961	4.82	150	<1	800	1.5	0.33	21.5	100		10	33	2.4	67	3.7	1.95	1.55
15-0979	3.12	8	<1	350	0.5	0.14	<0.1	65		4.4	19	1.5	11	2.2	1.05	0.98
15-0986	3.74	2.5	<1	550	0.2	0.35	<0.1	93		4.5	21	1.4	9	3.4	1.7	1.4
15-0988	2.8	4	<1	420	0.2	0.21	<0.1	70		2.6	18	1	8	2.5	1.25	1.05
15-0997	9.24	8.5	1	260	0.6	0.21	<0.1	110	0.09	18	62	5.5	24	4.4	1.95	1.6
15-1003	4.63	4	<1	320	0.2	0.52	<0.1	86		3.9	29	1.8	13	3.2	1.6	1.25
15-1004	5.32	1.5	<1	310	0.2	0.56	<0.1	115		4.2	36	2.1	10	4.2	1.95	1.35
15-1006	2.71	4	2	270	0.2	0.23	<0.1	87		2.5	12	1	10	2.3	1	1.05
15-1015	3.58	3	1	480	0.2	0.29	<0.1	86		3.5	15	1.1	8	2.9	1.4	1.2
15-1016	3.81	5	1	500	0.2	0.27	0.4	90		4.5	12	1.3	11	3.2	1.55	1.3
15-1123	1.08	8.5	<1	290	0.2	10.2	<0.1	23.5		3.3	15	0.7	7	0.93	0.35	0.41
15-1125	0.38	10	4	330	<0.1	17.9	<0.1	9		7	5	0.3	<2	0.32	0.15	0.24
15-1167	4.89	4.5	<1	600	0.2	0.41	<0.1	100		5.5	22	1.8	10	4	1.7	1.5

Black mud

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni
15-0937	2.21	13	5.5	3		0.66	<0.05	1.22	46	0.23	0.38	125	2.6	0.89	8	41.5	12
15-0939	1.72	13	6	3		0.65	<0.05	1.17	48	0.24	0.36	115	1	0.89	6	43.5	13
15-0940	1.2	4.4	3	2		0.27	<0.05	0.55	28.5	0.09	0.14	115	2.6	0.8	1.5	24.5	4
15-0941	2	12	5	3		0.64	<0.05	1.18	37.5	0.22	0.56	115	1.3	1.29	5	35	9
15-0961	3.43	14.5	6	3	0.05	0.73	<0.05	1.31	51	0.26	0.36	310	5	0.69	4.5	43.5	14
15-0979	2.03	9	3.8	2		0.38	<0.05	1.08	32	0.14	0.23	135	2	0.56	2	28	9
15-0986	1.39	9.5	6	3		0.63	<0.05	1.47	48	0.21	0.2	250	0.7	1	3.5	42	9
15-0988	1.17	7	4.3	2		0.45	<0.05	1.12	36	0.15	0.15	140	0.7	0.76	2	31.5	4
15-0997	4.33	20	7	3		0.79	0.05	0.77	66	0.2	0.38	90	2.2	0.42	8	49	46
15-1003	1.77	11	6	3		0.6	<0.05	1.1	46.5	0.2	0.3	90	0.6	1.01	5.5	47	10
15-1004	2.31	13	6.5	5		0.76	<0.05	1.18	58	0.26	0.41	100	0.3	1.02	7.5	57	11
15-1006	1.12	6	4.6	3		0.38	<0.05	0.7	43	0.13	0.14	95	0.5	0.72	2.5	41.5	6
15-1015	1.27	8	5.5	3		0.5	<0.05	1.19	44.5	0.17	0.17	230	0.6	0.93	3	43.5	8
15-1016	1.2	8.5	5	3		0.6	<0.05	1.34	45.5	0.2	0.17	95	0.6	1.03	4	44	10
15-1123	2.12	2.5	1.65	1		0.13	<0.05	0.51	14	0.06	1.44	185	0.9	1.81	0.5	10.5	4
15-1125	5.4	0.9	0.55	<1		0.05	<0.05	0.18	6	<0.02	1.57	1250	0.3	1.19	<0.5	3.5	5
15-1167	1.64	9.5	6	3		0.64	<0.05	1.59	51	0.2	0.27	330	0.5	1.11	5	41.5	11

Black mud

Sample_no	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl	Tm
15-0937	180	350	10	58	500	<0.5	1.5	7.5	2.1	88	0.59	<0.2	15	2350	1.1	0.25
15-0939	140	88	10.5	57	250	<0.5	1	8	2	78	0.61	<0.2	14	2450	0.7	0.25
15-0940	195	1850	6	16	1000	0.5	<0.5	4.3	0.7	46	0.29	<0.2	8	1050	0.4	0.1
15-0941	110	155	8.5	52	350	<0.5	<0.5	6.5	1.8	80	0.51	<0.2	12.5	2200	0.5	0.25
15-0961	260	8650	12	61	450	1.5	1	9	2.3	70	0.62	<0.2	15	2450	6	0.25
15-0979	135	34.5	8	40.5	<50	<0.5	<0.5	6	1.9	48	0.39	<0.2	9.5	1750	0.4	0.15
15-0986	220	27.5	11.5	57	100	<0.5	0.5	9	1.5	95	0.57	<0.2	12.5	2050	0.4	0.2
15-0988	130	31	9	40.5	<50	<0.5	0.5	6.5	1.3	63	0.42	<0.2	10	1650	0.3	0.15
15-0997	300	66	12.5	120	4000	<0.5	1.5	9.5	3.2	54	0.99	<0.2	21	3700	1	0.3
15-1003	240	19	11	63	250	<0.5	0.5	8.5	2	86	0.72	<0.2	15	2450	0.5	0.2
15-1004	270	18.5	13.5	77	200	<0.5	1.5	10	2.6	86	0.87	<0.2	27.5	3550	0.6	0.3
15-1006	155	14	10	35	100	<0.5	0.5	7.5	1.1	59	0.59	<0.2	11.5	1450	0.3	0.15
15-1015	180	35.5	10	62	100	<0.5	<0.5	8	1.5	87	0.67	<0.2	11.5	1750	0.4	0.2
15-1016	130	37	10	71	300	<0.5	0.5	8	1.5	86	0.71	<0.2	11.5	1900	0.8	0.25
15-1123	230	13	3.2	15.5	10200	<0.5	1	2.2	0.5	440	0.16	<0.2	5	800	0.2	0.05
15-1125	210	3	1.15	4.4	6950	<0.5	0.5	0.84	0.2	1300	0.05	<0.2	1.25	250	<0.1	<0.05
15-1167	210	35	11	62	100	<0.5	0.5	8	2.1	97	0.69	<0.2	14	2350	0.5	0.25

Black mud

Sample_no	U	V	W	Y	Yb	Zn	Zr_XRF
15-0937	4.8	39	1.3	16.5	1.6	33.5	
15-0939	3.4	38	0.7	16.5	1.65	35.5	
15-0940	1.65	17	0.1	6	0.65	28.5	335
15-0941	1.95	33	1.3	14	1.55	18.5	
15-0961	4.5	53	0.6	19	1.8	750	
15-0979	1.7	41	0.3	10	0.95	15	
15-0986	3.1	32	0.4	17	1.45	7.5	
15-0988	2.5	28	0.6	11.5	1.05	6	
15-0997	2.4	94	1.2	21	1.6	19.5	207
15-1003	3.5	39	0.7	15.5	1.4	27	
15-1004	3.6	46	0.6	20	1.9	23.5	
15-1006	1.9	22	0.3	9.5	0.9	14.5	
15-1015	3	26	0.2	13	1.15	9.5	
15-1016	2.9	28	0.4	15.5	1.35	21.5	
15-1123	1.1	23	0.1	3.7	0.35	12	
15-1125	1.05	6	<0.1	1.6	0.1	12.5	
15-1167	3.5	36	0.5	16.5	1.55	10	

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0952	N35.3	54	319286.8	6138520.2	Carb		0.4	Ca CO3 1st layer
15-0955	N35.8	54	319286.8	6138520.2	Carb			Ca CO3 2nd layer

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0952	4.18	5.5	<1	480	0.3	23.7	<0.1	68		5.5	21	2.6	17	6.5	3.7	2.3
15-0955	2.79	4.5	<1	1000	0.1	20.1	0.2	52		5.5	13	1.5	9	3.2	1.9	1.35

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0952	9	90	33	16	51	650	<0.5	0.5	13.5	1.7	600	1	<0.2	9.5	1950	0.6
15-0955	5	60	14.5	9.5	24	550	<0.5	0.5	7	0.9	340	0.51	<0.2	5.5	1100	0.2

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0952	0.45	3.4	42	0.2	43	2.9	15.5	
15-0955	0.25	1.6	29	<0.1	23.5	1.5	15	

Clays

Sample_no	Sample_id	Zone	Eastings_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0953	N35.5	54	319286.8	6138520.2	Clay		2/2 deep clay	
15-0954	N35.6	54	319286.8	6138520.2	Clay		deep mottled clay	
15-0956	N35.10	54	319286.8	6138520.2	Clay	0.55	Bt natric 40-70	
15-0967	MT031.4	54	317782.8	6137619.2	Clay	0.25	soil over gossan: soil (B horizon) and gossan frags (20-30cm)	
15-0995	MT054.3	54	317863.8	6138024.2	Clay	0.09	mottled grey & black gley above and below gravel (3-15cm)	
15-1000	N27.8	54	319801	6138616.8	Clay	1.3	bl-gy gleyed layer over weath. rock (~3 m upsteam from N27)	
15-1001	N32.2	54	320527.8	6138886.2	Clay	0.65	mottled clay	
15-1002	N32.3a	54	320527.8	6138886.2	Clay	1.5	yell clayey layer above blk material smooth irregular boundary	
15-1054	A1 18-24 E/B	54	319149.9	6136872.2	Clay	0.21	Herrm topo; top of red B; wkly bleached; E matrix in cracks	
15-1055	A1 30-42 B[r]	54	319149.9	6136872.2	Clay	0.36	Herrmanns topo; red B clay layer with few platy ferrug nodules	
15-1057	A1 120-132 BC[r-y-w]	54	319149.9	6136872.2	Clay	1.26	Herrm topo; red-yell-white mott BC layer; aligned ferrug nodules	
15-1062	A3 45-52 B[r]	54	319109.1	6136989.2	Clay	0.48	Herrmanns topo; red B layer with rare platy ferricrete nodules	
15-1063	A3 80-92 B[r-y]	54	319109.1	6136989.2	Clay	0.86	Herrmanns topo; red-yellow mottled B layer	
15-1068	A7 60-72 B[r-y]	54	319064.2	6137113.2	Clay	0.66	Herrmanns topo; red-yellow mottled B layer	
15-1074	A8 50 B[w]	54	319056.7	6137136.2	Clay	0.5	Herrmanns topo; white-yellow mottled light clay (35-40% clay)	
15-1075	A8 82-92 B[y]	54	319056.7	6137136.2	Clay	0.88	Herrmanns topo; yellow medium clay (45% clay)	
15-1076	A8 120-132 B/C[y-w]	54	319056.7	6137136.2	Clay	1.26	Herrmanns topo; yellow-red mottled medium clay (45% clay)	
15-1081	A9 20-30 Ec[w]	54	319048	6137162.2	Clay	0.25	Herrmanns topo	
15-1082	A9 42-56 B[y]	54	319048	6137162.2	Clay	0.49	Herrmanns topo; yellow clay	
15-1083	A9 82-94 B[y]	54	319048	6137162.2	Clay	0.86	Herrmanns topo; yellow clay	
15-1092	A10 30-40 B[y-w]	54	319039.1	6137188.2	Clay	0.35	Herrmanns topo; saline yellow & white clayey	
15-1093	A10 55-67 B[y-w]	54	319039.1	6137188.2	Clay	0.61	Herrmanns topo; saline yellow & white clayey	
15-1101	A11 33-48 E/B[w-y]	54	319022.3	6137234.2	Clay	0.41	Herrmanns topo; saline clayey mottled white-yellow	
15-1102	A11 112-122 B[y-w]	54	319022.3	6137234.2	Clay	1.17	Herrmanns topo; saline yellow & white clay	
15-1103	A11 170-182 G	54	319022.3	6137234.2	Clay	1.76	Herrmanns topo; saline clayey gleyed	
15-1104	A11 75-83 B[y-w]	54	319022.3	6137234.2	Clay	0.79	Herrmanns topo; yellow & white clay	
15-1116	W0.5	54	318370	6136843.2	Clay	0.45	clay B2-horizon; at dry edge of discharge zone; tall wheat grass	
15-1122	W11.3	54	318381	6136843.2	Clay	0.25	clay B-horizon; inner edge of discharge zone; Mimulus plants	

[illegible]

Clays

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	CL_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0953	8.83	17.5	2	480	0.8	0.09	<0.1	160		3.9	47	0.6	28	3.7	1.6	1.15
15-0954	5.02	12	1	360	0.3	0.6	<0.1	105		5.5	24	3	19	3	1.4	1.35
15-0956	10.7	9	<1	440	0.5	0.32	<0.1	145		14.5	67	6.5	27	5.5	2.9	2
15-0967	2.95	650	2	550	0.9	0.07	1.6	270		4.1	54	0.9	650	4.9	1.95	2.6
15-0995	4.72	7.5	<1	450	0.2	0.32	0.2	98		5.5	27	2.6	18	3.6	1.85	1.4
15-1000	10.2	6.5	1	700	0.4	0.32	<0.1	150		8.5	59	5.5	21	6	2.8	2.4
15-1001	3.26	4	<1	310	0.3	0.26	<0.1	87		3.2	15	1.4	11	2.5	1.15	1.05
15-1002	4.11	4.5	1	430	0.2	0.3	<0.1	125		4.2	19	2.1	13	3.6	1.5	1.55
15-1054	7.69	7	3	260	0.6	0.12	<0.1	40		4.8	63	1.7	7	1.7	0.95	0.68
15-1055	15.4	9.5	<1	180	0.7	0.14	<0.1	56		10.5	59	4.3	7	2.6	1.6	0.92
15-1057	13.2	7	<1	260	0.6	0.09	<0.1	22.5		5.5	52	3.3	7	2.1	1.25	0.9
15-1062	17.1	8.5	1	240	0.7	0.2	<0.1	53		10.5	57	4.8	10	2.5	1.5	0.84
15-1063	14.9	7	<1	220	0.6	0.15	<0.1	61		8	46	3.5	8	2.5	1.35	0.85
15-1068	12.2	5.5	<1	260	0.6	0.14	<0.1	74		9	69	8	42	2.9	1.5	1.1
15-1074	3.27	3.5	1	190	0.4	0.14	<0.1	74		2	34	1.4	7	2.1	1	0.83
15-1075	10.6	5	<1	280	0.6	0.14	<0.1	76		7	46	3.9	19	3.1	1.55	1.2
15-1076	9.56	9	2.5	310	0.6	0.14	<0.1	56		8	65	3.5	39	3.3	1.8	1.35
15-1081	3.23	2.5	<1	200	0.4	0.14	<0.1	72		2.5	29	1.3	8	2	0.95	0.77
15-1082	10.2	6.5	5	230	0.6	0.14	<0.1	155		9.5	59	8	29	5.5	2.6	2.3
15-1083	8.74	8.5	5	1050	0.4	0.2	<0.1	370		9	65	18.5	64	12	5	6
15-1092	10.7	7.5	2	310	0.6	0.2	<0.1	66		6.5	69	3.9	15	2.5	1.1	0.9
15-1093	11.4	5	1	260	0.6	0.17	<0.1	93		6.5	58	3.3	14	3.6	1.55	1.3
15-1101	5.92	8	<1	380	0.4	0.15	<0.1	64		3.4	44	2.6	17	2.4	1.05	0.98
15-1102	3.57	6	<1	290	0.3	0.16	<0.1	72		2.9	21	1.9	13	2.9	1.2	1.15
15-1103	3.91	58	2	135	0.7	0.08	<0.1	42		7	110	1.5	18	2	0.95	0.77
15-1104	3.97	5	1	280	0.3	0.17	<0.1	110		3.4	24	1.9	15	3.5	1.5	1.3
15-1116	7.59	19.5	1	330	0.5	0.16	<0.1	57		9	64	6.5	23	2.9	1.4	0.93
15-1122	6.72	29.5	1	380	0.6	0.16	<0.1	47.5		9.5	70	5.5	17	2.8	1.35	1

Clays

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0953	1.63	24.5	6.5	6		0.61	0.1	0.8	64	0.22	0.14	45	1.1	0.12	17.5	45.5
15-0954	2.35	13	5.5	4		0.54	<0.05	1.24	49.5	0.18	0.47	155	0.6	0.81	4.5	43
15-0956	4.7	29	8.5	4		1.05	0.05	1.74	54	0.38	0.88	310	1	0.56	14.5	52
15-0967	2.38	31.5	9.5	3	<0.05	0.74	0.15	0.44	140	0.19	0.05	135	69	0.1	10.5	90
15-0995	1.84	11.5	6	3		0.68	<0.05	1.32	48.5	0.22	0.36	370	0.8	0.93	5	48
15-1000	2.66	25	9.5	5		1.05	0.05	2.27	73	0.36	0.73	165	0.6	1.07	16	77
15-1001	1.2	7.5	4.8	3		0.42	<0.05	0.81	43.5	0.14	0.17	105	0.5	0.82	2.5	43
15-1002	1.54	9.5	7	4		0.6	<0.05	1.15	63	0.19	0.27	115	0.4	0.9	4.5	63
15-1054	5.15	19.5	2.7	5		0.32	0.1	0.95	20	0.13	0.12	70	1.1	0.22	13	16
15-1055	5.5	33.5	3.5	5		0.52	0.1	0.75	19.5	0.23	0.23	65	1.7	0.1	13	16.5
15-1057	5.22	31	2.9	5		0.45	0.1	0.98	16	0.2	0.19	45	0.9	0.1	14	16
15-1062	5.24	36.5	3.4	5		0.52	0.1	0.84	23	0.21	0.28	60	1.6	0.1	14.5	17.5
15-1063	4.57	33.5	3.7	5		0.53	0.1	0.59	28.5	0.18	0.22	45	1.3	0.08	13	20
15-1068	7.17	30	4.9	4		0.53	0.1	1.04	39	0.23	0.36	65	1.1	0.11	14	28.5
15-1074	5.37	9.5	4.7	3		0.35	0.05	0.59	42.5	0.13	0.07	60	0.9	0.32	2	30
15-1075	4.47	25.5	5	4		0.55	0.05	0.8	42.5	0.22	0.29	55	1.1	0.24	12	29.5
15-1076	7.71	23.5	5.5	4		0.66	0.05	0.52	42.5	0.24	0.37	50	0.8	0.19	10	31
15-1081	3.36	8	4.5	4		0.35	<0.05	0.64	40	0.12	0.07	70	0.5	0.33	2	28.5
15-1082	6.03	26	10	4		1	0.05	0.9	57	0.3	0.43	70	1.1	0.24	12.5	60
15-1083	5.67	24	26	4		1.95	0.1	1.36	165	0.5	0.83	125	0.7	0.27	12.5	170
15-1092	3.49	24.5	3.6	4		0.39	0.05	0.86	34.5	0.17	0.32	60	1.6	0.26	13	23.5
15-1093	2.21	23.5	5.5	5		0.58	0.05	0.72	45.5	0.26	0.32	60	1	0.2	13	35.5
15-1101	2.19	15	4	4		0.35	<0.05	1.11	38	0.17	0.23	85	1.5	0.36	12	26
15-1102	1.76	8.5	5	4		0.44	<0.05	0.78	43	0.15	0.19	75	0.6	0.39	4	35.5
15-1103	14.2	14	3.2	3		0.32	0.1	0.3	24	0.12	0.14	80	2.9	0.12	4	19.5
15-1104	1.8	10	6	4		0.53	<0.05	0.77	46	0.2	0.18	70	0.9	0.4	4.5	36.5
15-1116	4.59	19.5	4.1	4		0.47	0.05	1.13	32	0.21	0.44	130	1.7	0.26	11.5	23.5
15-1122	6.1	17.5	4.1	4		0.49	0.05	1.29	32.5	0.21	0.41	140	2.6	0.25	10	25

Clays

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0953	10	190	25	13	18.5	100	<0.5	0.5	9.5	4.5	39.5	0.64	<0.2	27	5250	0.2
15-0954	14	110	73	12.5	53	50	<0.5	0.5	9	2.3	83	0.55	<0.2	16	2800	0.6
15-0956	33	150	43	14.5	120	100	<0.5	1.5	12	4.6	75	0.88	<0.2	20.5	4800	1
15-0967	<2	950	15800	28.5	16.5	7900	36	2.5	18	3.8	26	0.95	<0.2	23	4400	7
15-0995	22	115	38.5	11	89	150	<0.5	<0.5	8.5	1.9	90	0.81	<0.2	12.5	2300	0.7
15-1000	21	135	67	17.5	170	150	<0.5	<0.5	14.5	4.2	115	1.3	<0.2	24	4700	1.3
15-1001	8	125	15.5	10	43	50	<0.5	<0.5	7.5	1.3	68	0.6	<0.2	12	1600	0.4
15-1002	8	155	16.5	14.5	63	50	<0.5	0.5	11	1.6	82	0.86	<0.2	18.5	2200	0.5
15-1054	15	95	18.5	4.5	30.5	100	<0.5	0.5	3.1	3.3	35	0.3	<0.2	25	4000	0.3
15-1055	28	125	19.5	4.5	46	150	<0.5	0.5	3.4	5	42	0.4	<0.2	22	4550	0.5
15-1057	15	60	16	4.2	38	100	<0.5	<0.5	3.2	4.9	29.5	0.33	<0.2	18	4750	0.5
15-1062	29	125	26	4.9	52	100	<0.5	<0.5	3.4	5	53	0.39	<0.2	22	5150	0.5
15-1063	27	110	21	6	33.5	100	<0.5	<0.5	3.7	5	49.5	0.39	<0.2	20.5	4750	0.5
15-1068	25	150	14.5	8	61	100	<0.5	<0.5	5.5	4.7	44	0.5	<0.2	19.5	4800	0.5
15-1074	3	120	23	9	28	50	<0.5	<0.5	5	3.5	38.5	0.43	<0.2	18.5	3350	0.2
15-1075	16	105	16	8.5	42.5	50	<0.5	1	5.5	4.2	48	0.52	<0.2	17.5	4400	0.4
15-1076	16	190	16	9	30	100	<0.5	<0.5	6	3.6	46.5	0.56	<0.2	21	3750	0.3
15-1081	6	130	12	8.5	28	<50	<0.5	<0.5	5	1.7	38	0.44	<0.2	15	3200	0.2
15-1082	19	125	18.5	15.5	64	100	<0.5	<0.5	11.5	4	41.5	0.98	<0.2	16.5	4400	0.8
15-1083	22	240	13.5	45.5	98	300	<0.5	<0.5	30.5	4.1	69	2.4	<0.2	16	4250	1.2
15-1092	24	100	20	7.5	48	100	<0.5	<0.5	4.9	3.8	37	0.41	<0.2	20.5	4000	0.3
15-1093	27	95	19.5	11	37.5	100	<0.5	<0.5	7.5	4	29.5	0.62	<0.2	20	4200	0.3
15-1101	11	100	26	8	54	50	<0.5	<0.5	5.5	3	46.5	0.41	<0.2	17	4100	0.5
15-1102	8	90	22.5	11	32.5	50	<0.5	<0.5	7	1.8	41.5	0.54	<0.2	14.5	2350	0.4
15-1103	9	155	67	6	18	100	2	<0.5	4.3	2	23	0.32	<0.2	27	1950	0.2
15-1104	8	100	19	11.5	33.5	50	<0.5	1	8	2	42	0.63	<0.2	15	2650	0.4
15-1116	26	110	43.5	7	78	100	1	1.5	4.9	3.1	47	0.44	<0.2	18.5	3900	1.2
15-1122	23	110	52	7.5	74	150	1	1	5	3.3	48.5	0.47	<0.2	18.5	3600	0.9

Clays

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0953	0.2	4.1	100	2.3	15.5	1.6	9.5	
15-0954	0.2	2.1	52	0.4	13.5	1.35	26	
15-0956	0.4	2.8	105	1.9	26	2.6	40	
15-0967	0.25	4.5	63	1	13.5	1.55	490	
15-0995	0.25	4.5	42	0.6	17.5	1.6	26.5	
15-1000	0.4	5	80	2.1	25.5	2.7	36	
15-1001	0.15	2	27	0.4	11	1	17.5	
15-1002	0.2	2.7	32	0.5	14.5	1.35	21.5	
15-1054	0.1	2.1	92	2.3	7.5	0.9	12	
15-1055	0.25	2.4	120	2.4	13	1.7	23	
15-1057	0.2	1.55	110	3	11.5	1.3	14	
15-1062	0.25	2.4	125	2.8	12.5	1.55	25	
15-1063	0.2	1.9	105	2.5	13	1.25	20.5	
15-1068	0.2	3.6	120	2.5	12	1.55	29	
15-1074	0.15	2.4	73	<0.1	8.5	0.95	8	
15-1075	0.2	2.9	96	2	13	1.45	28.5	
15-1076	0.25	2.4	120	1.5	16	1.65	20.5	
15-1081	0.1	2.3	51	0.1	8.5	0.8	7	
15-1082	0.35	2.3	105	2.1	21.5	2.2	31.5	
15-1083	0.55	2.3	89	2.2	43	3.6	60	
15-1092	0.2	2.1	100	1.5	9	1.1	16.5	
15-1093	0.25	2.1	92	1.4	13	1.5	15.5	
15-1101	0.15	3.5	69	1.1	9	1.1	17.5	
15-1102	0.15	2	41	0.4	10.5	1.1	16.5	
15-1103	0.15	2.1	220	0.3	7.5	0.8	14	
15-1104	0.2	2.3	43	0.3	12.5	1.45	14.5	
15-1116	0.25	2.6	94	1	12	1.5	28.5	
15-1122	0.2	2.3	110	0.9	12	1.45	22.5	

Clays

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-1128	W25.4	54	318395	6136843.2	Clay	0.35		Clay B horizon. Centre of wetland - sedge and rushes
15-1157	N34.3.1	54	319871.8	6138618.2	Clay	1.595		Clay layer
15-1158	N34.5	54	319871.8	6138618.2	Clay	2		As above but to eastern side
15-1160	N35.9	54	319286.8	6138520.2	Clay	0.33		E 25-40cm
15-1162	N27.7	54	319801	6138616.8	Clay	1.1		gleyed yellow mottles (coarse)
15-1164	N35.7	54	319286.8	6138520.2	Clay	0.7		Clay ~70cm
15-1165	N35.4	54	319286.8	6138520.2	Clay			1/2 deep clay

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-1128													0.1
15-1157													0.3
15-1158													0.1
15-1160													0.2
15-1162													0.1
15-1164													0.4
15-1165													0.4

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1128	1.89	7	<1	330	0.3	0.29	<0.1	54		1.7	13	0.9	5	1.8	0.8	0.71
15-1157	6.76	7.5	<1	410	0.5	0.41	1.3	74		4.1	42	3.1	15	2.5	1	1.05
15-1158	3.42	34.5	1	250	1.2	0.18	0.4	50		4.7	98	1	16	2	0.8	0.77
15-1160	5.18	4.5	<1	550	0.4	0.35	0.2	95		3.4	25	2	8	3.1	1.3	1.3
15-1162	5.01	18	<1	430	0.6	0.16	0.1	99		4.8	64	2.2	17	3.3	1.4	1.3
15-1164	11.5	8	<1	700	0.5	1.85	<0.1	135		9.5	69	6	23	5.5	2.3	2
15-1165	11.1	13.5	<1	1200	0.6	0.09	<0.1	105		3.9	57	0.9	21	2.9	1.35	1.2

Clays

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1128	1.09	3.9	3.5	3		0.28	<0.05	0.77	31.5	0.12	0.09	85	1.1	0.42	5	24
15-1157	2.28	16	4	4		0.37	0.05	1.24	39.5	0.14	0.38	95	1.3	1.21	10.5	31.5
15-1158	12.1	11	3.1	3		0.29	0.05	0.38	25	0.11	0.14	85	2.4	0.56	3	23.5
15-1160	1.76	10.5	5.5	4		0.5	<0.05	1.51	47	0.2	0.23	230	0.7	1.04	5	37.5
15-1162	6.25	12.5	5.5	4		0.51	0.05	0.88	47	0.18	0.24	95	1.7	0.48	6	39.5
15-1164	4.23	24	8	5		0.83	0.05	2.07	58	0.33	1.04	280	1.1	0.82	15.5	53
15-1165	1.51	25	4.5	5		0.48	0.15	2.21	47.5	0.22	0.23	55	0.6	0.15	18.5	29
Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1128	4	75	19	7.5	25.5	1900	<0.5	1	4.9	1.1	49	0.34	<0.2	10.5	2150	0.3
15-1157	11	160	28.5	8.5	52	2200	<0.5	1	6	3.2	88	0.45	<0.2	19	3600	0.8
15-1158	9	170	63	6.5	15.5	1600	1	1	4.5	1.6	32	0.34	<0.2	28	1600	0.4
15-1160	6	130	28	10.5	54	100	<0.5	0.5	7	2.3	91	0.57	<0.2	18.5	3350	0.6
15-1162	9	150	37	11	37.5	2450	1	<0.5	7.5	2.2	48.5	0.57	<0.2	24	2550	0.5
15-1164	27	155	47.5	14	105	200	0.5	<0.5	10.5	5	125	0.86	<0.2	23.5	4950	1.2
15-1165	7	185	14.5	8.5	43	150	0.5	<0.5	6	7.5	60	0.49	<0.2	24	5350	0.4
Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF								
15-1128	0.1	1.6	28	0.7	7	0.75	11									
15-1157	0.15	2.8	54	1.7	9	1.05	92									
15-1158	0.15	3.7	185	0.5	6	0.85	36.5									
15-1160	0.15	3.1	54	0.2	11.5	1.3	24									
15-1162	0.2	3.8	115	1.1	11	1.4	26									
15-1164	0.3	3.5	94	2.3	19	2.2	33.5									
15-1165	0.2	3.8	105	4.5	11.5	1.4	11									

Crusts (hardened)

Sample_no	Sample_id	Zone	Eastng_GDA94	Northng_GDA94	Code	Depth_fr	Depth_to	Description
15-0949	N34.5	54	319871.8	6138618.2	Crust	1.4		Cemented ground by western side (pH 3.5-4)
15-1018	MT056.2	54	317999.8	6136662.2	Crust	0.15		Fe crust (0-3cm) - Prices
15-1129	W11.0	54	318381	6136843.2	Salt crust	0		Salt crust. Inner edge of discharge zone - Mimulus plants
15-1140	G1 crust	54	320174.8	6141712.2	Crust	0.15		Guthries: hard surface crust (3 mm thick)
15-1142	G2 soft layer	54	320174.8	6141712.2	Crust			Guthries: soft or-yell layer (2 cm thick) 2 cm under G1
15-1146	G5 crust	54	320174.8	6141712.2	Crust			Guthries: hard surface crust (3 mm thick)
15-1244	G3	54	320174.8	6141712.2	Crust			greyish brown bleached layer below crust
15-1245	G4	54	320174.8	6141712.2	Crust			grey clay below orange-bn (ferrug) layer
15-1246	G6	54	320174.8	6141712.2	Crust			soft dk grey layer with orange-bn mottling below crust

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-0949	77.9	0.22	2.82	5.21	0.01	0.14	0.15	0.52	0.46	0.07	7.87	95.37	1.7
15-1018													<0.1
15-1129													0.2
15-1140													0.2
15-1142													0.3
15-1146													0.1
15-1244	78.22	0.58	4.81	2.53	0.01	0.20	0.12	0.43	0.44	0.04	12.18	99.56	0.4
15-1245	75.27	0.43	5.59	7.52	0.01	0.18	0.06	0.16	0.44	0.02	6.48	96.16	0.3
15-1246	72.33	0.56	7.36	6.19	0.02	0.27	0.39	2.44	0.67	0.11	6.83	97.17	0.4

Crusts (hardened)

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0949	3.57	56	<1	220	1.5	0.15	<0.1	70		6.5	89	1.3	27	2.3	1.1	1
15-1018	1.61	3	<1	220	<0.1	0.1	0.2	28	0.00	2.9	10	0.9	7	0.87	0.45	0.39
15-1129	0.79	2	1	290	<0.1	14	0.1	13.5		2.1	10	0.4	9	0.65	0.3	0.26
15-1140	1.28	57	6	90	0.1	0.2	0.1	220		1.7	15	3.3	3	25	11.5	1.6
15-1142	2.33	51	2	105	0.3	0.14	<0.1	145		1.7	18	4.2	5	12	6	0.87
15-1146	3.63	13.5	3	240	0.3	0.76	<0.1	83		11.5	28	1.1	24	3.7	1.75	1.05
15-1244	2.9	25	3	110	0.2	0.07	<0.1	160	0.19	1.4	22	5.5	10	13	7	0.9
15-1245	3.46	77	5	90	0.3	0.05	<0.1	280	0.01	2	21	4	15	22.5	12	1.5
15-1246	4.48	28.5	4	260	0.5	0.27	<0.1	100	0.50	7	38	1.1	28	4.1	2.2	1.25

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0949	11.1	14	4.1	3		0.4	0.1	0.45	37.5	0.14	0.17	115	5	0.67	3	31
15-1018	3.46	3.6	1.6	1	<0.05	0.17	<0.05	0.41	16	0.06	0.08	55	0.7	0.38	1	14
15-1129	0.69	1.4	1.05	<1		0.1	<0.05	0.34	7.5	0.04	2.27	165	0.4	4.38	0.5	6.5
15-1140	16.6	3.3	36	2		4.2	<0.05	0.19	105	1.5	0.15	55	1.2	0.44	7	155
15-1142	7.18	6.5	16	4		2.1	<0.05	0.29	81	0.73	0.12	60	2.1	0.25	15.5	81
15-1146	5.35	6.5	5.5	2		0.64	<0.05	0.6	41	0.25	0.57	125	1.5	2.76	5	35
15-1244	1.86	8	17.5	3		2.5	<0.05	0.4	105	0.91	0.14	50	2.4	0.35	20	95
15-1245	5.44	9.5	28.5	3		4.5	<0.05	0.385	170	1.35	0.1	80	3.1	0.115	15	160
15-1246	4.49	10	6.5	2		0.78	0.1	0.6	55	0.27	0.16	110	2.2	1.93	5	43.5

Crusts (hardened)

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0949	11	200	99	9	21	1450	1	2.5	6.5	2.3	37.5	0.4	<0.2	28	1750	0.4
15-1018	6	260	12.5	3.2	25	1550	<0.5	<0.5	2.4	0.7	36.5	0.22	<0.2	4.2	1100	0.2
15-1129	<2	180	8.5	1.85	8.5	23400	<0.5	1	1.4	0.4	750	0.09	<0.2	2	600	0.1
15-1140	<2	800	6.5	39	14	7050	1	0.5	42.5	1	27.5	4	<0.2	6	1200	0.1
15-1142	4	85	17.5	22	23.5	1300	1.5	1	16.5	2	22.5	1.9	<0.2	11	2200	0.2
15-1146	12	1050	105	9.5	22	6600	1	1.5	6.5	1.2	87	0.59	<0.2	11	1800	0.5
15-1244	6	185	15	25.5	38	1300	1.5	<0.5	23.5	2.5	19.5	2.6	0.6	15	3000	0.3
15-1245	6	55	30	43	41	300	2	<0.5	31.5	3.1	14	4.4	0.6	15.5	2450	0.3
15-1246	13	500	240	12	30	550	1	<0.5	7.5	1.6	63	0.81	0.6	17.5	2550	0.8

Sample_no

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0949	0.15	4	170	0.8	9	0.95	26.5	
15-1018	0.05	0.74	16	<0.1	5	0.4	9	219
15-1129	<0.05	1	15	0.2	2.5	0.25	15.5	
15-1140	1.55	5.5	60	0.3	100	10.5	20.5	
15-1142	0.85	2.7	63	0.6	63	5	16.5	
15-1146	0.25	2.2	46	0.6	20.5	1.55	59	
15-1244	0.95	5.5	59	1.8	68	5	14	530
15-1245	1.6	3.9	77	1.3	120	7.5	17	380
15-1246	0.3	2.6	82	0.9	22	1.4	79	341

Ferricrete

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0926	MT022	54	320045.8	6138255.2	Ferr	0	0	ferricrete (with spherical Fe oxide nodules)
15-0927	MT023	54	319913.8	6138331.2	Ferr	0	0	ferricrete (in part cementing gravel)
15-0928	MT024	54	319808.8	6137737.2	Ferr	0	0	ferricrete
15-0929	MT026	54	319739.8	6136888.2	Ferr	0	0	ferricrete (with oval ferruginous concretions)

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-0926	32.39	0.39	12.08	46.55	0.02	0.14	0.08	0.16	0.04	0.05	7.98	99.88	0.1
15-0927	73.81	0.19	2.69	18.91	0.01	0.07	0.02	0.06	0.03	0.12	3.93	99.84	<0.1
15-0928	76.07	0.2	1.7	18.28	0.02	0.06	0.05	0.05	0.03	0.47	3.9	100.83	<0.1
15-0929	34.34	0.45	13.73	40.6	0.02	0.11	0.05	0.09	0.05	0.03	10.93	100.41	0.2

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Er	Dy	Eu
15-0926	5.68	125	2	25	1.8	0.06	<0.1	20	0.00	4.9	240	1.1	14	0.35	0.72	0.29
15-0927	1.32	19	3	30	0.1	0.02	<0.1	15	0.00	8	25	0.4	12	0.5	0.93	0.32
15-0928	0.82	17	3	45	0.1	0.03	<0.1	27	0.01	6	25	0.5	35	1.55	2.9	0.8
15-0929	6.75	105	2	25	2.1	0.04	<0.1	11	0.01	3.1	270	0.8	7	0.4	0.72	0.26

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0926	30.1	26.5	1.25	4		0.12	0.2	0.12	11.5	0.05	0.06	25	3.5	0.02	4	9.5
15-0927	12.1	3.6	1.25	1		0.18	0.05	0.04	8	0.08	0.02	50	1	0.01	0.5	8.5
15-0928	11.3	2.3	3.8	<1		0.57	<0.05	0.03	12.5	0.22	0.03	85	0.7	0.01	<0.5	16
15-0929	25.5	43	1.05	6		0.14	0.3	0.07	6.5	0.06	0.04	25	6	0.03	6.5	7

Ferricrete

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0926	<2	115	52	2.5	8	300	1	2.5	1.85	5	12.5	0.13	0.3	96	1450	<0.1
15-0927	20	390	21	2	2.5	300	<0.5	<0.5	1.85	3.8	4	0.15	<0.2	5	800	<0.1
15-0928	21	1650	12.5	3.5	2	150	<0.5	<0.5	3.9	0.5	9.5	0.44	<0.2	4.3	750	<0.1
15-0929	<2	60	45	1.7	6	650	0.5	2.5	1.45	2.8	6	0.11	0.2	94	2250	0.1

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0926	<0.05	1.9	360	0.7	2.4	0.35	7.5	178
15-0927	0.05	1.45	16	<0.1	3	0.6	130	289
15-0928	0.2	7	21	<0.1	10.5	1.6	43.5	144
15-0929	0.05	2.3	390	1.6	2.9	0.4	11	266

Ferruginous saprolite

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0903	MT001	54	317552.8	6138506.2	FeSap	0	0	ferrug saprolite (minor qv)
15-0904	MT002	54	317683.8	6138664.2	FeSap	0	0	ferrug saprolite
15-0907	MT005	54	317896.8	6137447.2	FeSap	0	0	ferrug saprolite (over greywacke)
15-0908	MT005A	54	318044.8	6137122.2	FeSap	0	0	ferrug saprolite
15-0909	MT006	54	318212.8	6136661.2	FeSap	0	0	ferrug saprolite with boxworks after pyrite
15-0910	MT007	54	318162.8	6136429.2	FeSap	0	0	ferrug saprolite
15-0911	MT008	54	318156.8	6136111.2	FeSap	0	0	ferrug saprolite with boxworks after pyrite
15-0912	MT009	54	317995.8	6136425.2	FeSap	0	0	ferrug saprolite
15-0913	MT010	54	318317.8	6136150.2	FeSap	0	0	ferrug saprolite(with minor quartz veining)
15-0914	MT011	54	318639.8	6136466.2	FeSap	0	0	ferrug saprolite (with minor quartz veining)
15-0915	MT012	54	318860.8	6136154.2	FeSap	0	0	ferrug saprolite
15-0916	MT013	54	319120.8	6136563.2	FeSap	0	0	ferrug saprolite
15-0918	MT014	54	318811.8	6137714.2	FeSap	0	0	ferrug saprolite
15-0919	MT015	54	319121.8	6137748.2	FeSap	0	0	ferrug saprolite
15-0920	MT016	54	318288.8	6135925.2	FeSap	0	0	purple & siliceous with boxworks after pyrite
15-0921	MT017	54	318170.8	6135433.2	FeSap	0	0	or-bn siliceous to or-bn yell-bn or red-bn ferrug
15-0923	MT019	54	318207.8	6135519.2	FeSap	0	0	micaceous ferrug saprolite (after greywacke)
15-0924	MT020	54	319067.8	6135298.2	FeSap	0	0	ferrug saprolite
15-0925	MT021	54	319979.8	6139027.2	FeSap	0	0	ferrug saprolite
15-0930	MT027	54	318066.8	6135834.2	FeSap	0	0	ferrug saprolite
15-0931	MT028	54	319808.8	6135121.2	FeSap	0	0	ferrug saprolite (red-bn to yell-bn & somewhat earthy)
15-0932	MT029	54	319573.8	6135193.2	FeSap	0	0	ferrug saprolite and ferricrete
15-0933	MT030	54	319436.8	6135157.2	FeSap	0	0	ferrug saprolite
15-1033	MT025	54	319926.8	6137222.2	FeSap			ferruginous saprolite
15-1169	MTG2	54	317846.8	6137803.2	FeSap	0.3	0.3	white goethitic pitted metasilstone
15-1171	MTG2	54	317846.8	6137803.2	FeSap	0.6	0.6	white goethitic pitted metasilstone
15-1175	MTG2	54	317846.8	6137803.2	FeSap	2.6	2.6	white goethitic pitted metasilstone
15-1181	MTG2	54	317846.8	6137803.2	FeSap	8.3	8.3	white goethitic pitted metasilstone
15-1207	MTG3	54	317787.8	6137553.2	FeSap	4.95	6.7	weakly goethitic pitted metasilstone
15-1208	MTG3	54	317787.8	6137553.2	FeSap	6.7	7.7	weakly goethitic pitted metasilstone

Ferruginous saprolite

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-0903	28.36	0.33	11.83	44.29	0.04	3.11	0.31	0.06	1.07	0.12	5.96	95.48	<0.1
15-0904	64.16	0.61	8.84	17.37	0.01	0.07	0.21	0.11	4.42	0.07	3.44	99.31	0.2
15-0907													0.2
15-0908	54.76	0.69	15.2	20.43	0.02	0.2	0.06	1.28	0.1	0.05	6.53	99.32	0.3
15-0909	69.75	0.56	9.35	9.53	0.01	0.08	0.11	2.21	0.14	0.08	6.6	98.42	0.3
15-0910	30.27	0.26	8.08	51.87	0.03	0.09	0.08	0.07	0.06	0.47	8.38	99.66	0.2
15-0911	41.55	0.55	10.22	40.1	0.02	0.08	0.05	0.19	0.03	0.04	6.99	99.82	0.2
15-0912	27.28	0.29	6.39	52.9	0.03	0.24	0.06	0.38	0.07	1.5	10.41	99.55	0.1
15-0913	20.05	0.27	9.59	58.03	0.03	0.16	0.12	0.27	0.08	0.86	8.84	98.30	0.1
15-0914	42.31	0.58	12.94	36.72	0.02	0.14	0.06	0.91	0.13	0.06	5.87	99.74	0.4
15-0915	52.38	0.58	15	24.29	0.02	0.2	0.09	1.15	0.17	0.05	5.62	99.55	0.3
15-0916	64.09	0.36	8.78	21.82	0.02	0.08	0.1	0.43	0.09	0.03	3.55	99.35	0.1
15-0918	46.21	0.52	13.11	31.37	0.03	0.14	0.14	0.16	0.16	0.08	8.42	100.34	0.3
15-0919	49.34	0.55	9.06	35.49	0.02	0.06	0.06	0.11	0.07	0.03	5.15	99.94	0.2
15-0920	55.99	0.54	12.37	16.1	0.01	0.08	0.05	2.29	0.19	0.06	12.1	99.78	0.3
15-0921	67.14	1.04	10.7	11.15	0.02	0.08	0.17	0.14	3.08	0.04	5.54	99.1	0.5
15-0923	57.49	0.52	12.5	22.35	0.02	0.18	0.1	1.13	0.19	0.05	5.88	100.41	0.2
15-0924	40.82	0.57	13.44	36.7	0.01	0.07	0.06	0.06	0.03	0.04	8.15	99.95	0.2
15-0925	49.98	0.43	10.18	31.1	0.02	0.16	0.15	0.18	0.21	0.16	8.15	100.72	0.2
15-0930	73.09	0.52	7.23	11.67	0.01	0.07	0.33	0.21	3.12	0.22	3.46	99.93	0.2
15-0931	40.98	0.55	1.63	30.41	0.02	0.1	0.02	2.64	1.74	0.12	23.75	101.96	0.7
15-0932	55.46	0.72	12.07	24.57	0.02	0.15	0.1	0.1	0.06	0.05	6.69	99.99	0.4
15-0933	7.68	0.06	1.74	73.35	0.03	0.1	0.1	0.05	0.05	2.9	11.55	97.61	0.1
15-1033	59.17	0.68	11.36	17.05	0.01	0.21	0.42	0.87	5.21	0.1	4.31	99.39	0.3
15-1169	55.73	0.92	9.74	23.24	0.00	0.53	0.07	2.10	0.22	0.04	7.39	99.98	0.7
15-1171	59.02	0.80	10.02	20.31	0.00	0.10	0.01	0.03	0.01	0.03	9.42	99.75	1.1
15-1175	56.36	0.67	2.78	32.74	0.00	0.16	0.04	0.58	0.03	0.04	6.67	100.07	7
15-1181	51.04	0.68	9.90	25.73	0.01	0.30	0.02	0.68	0.36	0.05	10.22	98.99	4.9
15-1207	34.78	0.51	3.75	50.06	0.01	0.32	0.05	0.47	0.22	0.13	9.53	99.83	35.5
15-1208	56.27	1.06	4.44	28.75	0.02	0.35	0.06	1.07	0.15	0.18	7.52	99.87	29

Ferruginous saprolite

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0903	3.53	36	3	35	0.9	0.15	<0.1	10	0.01	440	68	0.1	250	1.2	0.75	0.35
15-0904	4.31	38	<1	95	0.9	0.14	<0.1	35	0.03	4.4	97	0.2	125	1.65	0.9	0.55
15-0907	5.84	32	<1	260	0.1	0.07	<0.1	84		3.4	105	0.3	38	1.55	0.65	0.81
15-0908	7.58	16	<1	360	0.3	0.04	<0.1	19.5	0.01	1.6	180	0.3	11	0.74	0.35	0.37
15-0909	4.55	120	<1	2600	0.9	0.08	<0.1	41	0.01	0.8	62	1.4	65	0.74	0.35	1.1
15-0910	3.99	21.5	<1	80	0.4	0.06	<0.1	49	0.00	2.6	48	0.4	49	1.6	0.95	0.53
15-0911	5.16	33	<1	100	0.6	0.04	<0.1	16	0.00	1	240	0.2	8	0.79	0.35	0.33
15-0912	3.18	70	<1	300	0.4	0.04	0.2	54	0.01	6.5	36	35.5	135	3.5	2.2	1
15-0913	4.84	29.5	<1	220	0.2	0.08	<0.1	240	0.01	6.5	165	0.7	300	4.8	2.5	2.2
15-0914	6.39	19	<1	260	0.5	0.04	<0.1	28	0.00	1.4	195	1.2	21	1.1	0.55	0.49
15-0915	7.23	15	<1	330	0.6	0.05	<0.1	8.5	0.02	1.3	310	0.7	12	0.68	0.4	0.3
15-0916	4.55	9	<1	155	0.4	0.07	<0.1	7.5	0.01	0.9	135	0.6	8	0.51	0.25	0.37
15-0918	6.59	30.5	2	105	0.6	0.09	<0.1	14.5	0.02	2.4	150	0.2	11	0.92	0.45	0.35
15-0919	4.55	22	27.5	45	1.3	0.04	<0.1	11.5	0.02	1.8	230	0.2	9	0.8	0.4	0.29
15-0920	6.01	185	6	220	0.6	0.03	<0.1	9.5	0.00	0.6	120	1.8	105	0.43	0.25	0.21
15-0921	5.42	18	9	240	0.7	0.12	<0.1	14.5	0.00	1.8	74	0.2	230	0.68	0.5	0.28
15-0923	6.01	18.5	5	350	0.3	0.07	<0.1	15.5	0.03	1.4	89	0.8	12	1	0.55	0.48
15-0924	6.62	33.5	5	15	0.4	0.05	<0.1	2.5	0.00	1.3	65	0.3	6	0.48	0.3	0.12
15-0925	5	27	3	600	0.2	0.1	<0.1	20.5	0.03	2.9	83	0.7	71	1.05	0.6	0.49
15-0930	3.45	22	4	340	20.5	0.21	<0.1	300	0.03	2.8	26	1.2	120	2.5	1.25	2.1
15-0931	0.73	140	4	60	4.5	0.02	<0.1	45.5	0.01	0.7	34	0.5	17	1.25	0.6	0.39
15-0932	5.99	145	1	35	1.6	0.07	<0.1	5.5	0.01	1.6	240	1.6	9	0.5	0.35	0.12
15-0933	0.85	22	1	190	0.1	0.06	<0.1	39	0.00	8.5	7	0.2	22	2	1	0.75
15-1033	5.92	480	14	200	17	0.28	<0.1	95	0.01	0.6	50	0.3	340	1.9	0.65	0.96
15-1169	6.05	28	6	90	0.2	0.032	<0.1	72	0.07	1.2	105	0.8	350	1.35	0.55	0.57
15-1171	6.38	26	1	20	0.3	0.0145	<0.1	22.5	0.01	1.1	69	1	600	0.52	0.35	0.13
15-1175	1.73	45.5	1	260	0.2	0.0095	<0.1	100	0.01	1	72	0.5	500	1.9	0.85	0.7
15-1181	6.02	69	2	105	0.5	0.0165	<0.1	32.5	0.02	0.8	87	0.9	850	0.7	0.35	0.2
15-1207	1.78	195	10	500	0.4	0.032	0.4	42	0.02	2.1	25	0.4	1700	1.9	0.95	0.73
15-1208	2.33	700	13	350	7	0.038	0.3	76	0.02	1.3	50	0.5	1150	2.7	1.4	1

Ferruginous saprolite

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0903	28	52	1.3	<1		0.25	<0.05	0.03	6	0.13	0.98	195	4.4	0.38	<0.5	6
15-0904	11.1	21.5	2.5	3		0.32	<0.05	0.07	19	0.12	0.02	55	3.7	3.03	4	18.5
15-0907	15.3	17.5	2.7	4		0.24	0.15	0.53	53	0.09	0.07	50	1.3	0.04	8.5	27
15-0908	13.3	24	1.1	4		0.14	0.15	1.09	15	0.07	0.1	65	0.8	0.05	12.5	8
15-0909	6.37	18.5	1.35	3		0.12	0.1	1.85	26.5	0.06	0.04	65	23	0.1	10	12.5
15-0910	34.1	10	2	1		0.32	0.15	0.06	32.5	0.15	0.03	65	5.5	0.02	4	17
15-0911	26.3	15	1.1	5		0.14	0.1	0.15	10	0.05	0.02	20	0.8	0.01	7.5	7
15-0912	35	9.5	4.3	<1		0.72	<0.05	0.31	36	0.39	0.1	105	3.5	0.02	3.5	28
15-0913	38.9	9.5	8.5	2		0.85	0.3	0.21	150	0.34	0.05	85	0.6	0.02	4.5	88
15-0914	23.8	20	1.65	4		0.19	0.15	0.74	18.5	0.1	0.06	65	1.1	0.07	11.5	11.5
15-0915	15.6	23.5	0.75	3		0.13	0.1	0.94	6	0.06	0.09	90	0.7	0.06	12	4
15-0916	14.6	12	0.7	2		0.1	0.1	0.37	4.5	0.04	0.04	95	1.2	0.04	3.5	4
15-0918	20.1	18	1.2	4		0.17	0.1	0.12	11.5	0.09	0.06	105	0.5	0.02	8	7.5
15-0919	22.9	26	1.05	4		0.15	0.1	0.09	7	0.06	0.02	75	0.6	0.01	5.5	5.5
15-0920	10.5	21.5	0.6	3		0.08	0.25	1.87	8	0.06	0.02	25	16	0.14	11	4
15-0921	7.27	24.5	0.75	6		0.16	<0.05	0.12	6	0.14	0.04	75	36.5	2.29	19.5	6
15-0923	14.1	18	1.15	4		0.19	0.1	0.9	9.5	0.08	0.09	70	1	0.05	9.5	6.5
15-0924	23.1	17	0.5	2		0.11	0.1	0.05	2	0.06	0.02	10	1.5	0.02	10.5	2.8
15-0925	19.6	15.5	1.3	3		0.22	0.05	0.14	15.5	0.1	0.07	80	0.9	0.03	7	8
15-0930	7.38	20.5	7	4		0.37	0.05	0.17	140	0.15	0.04	35	12.5	2.24	3.5	130
15-0931	18.9	9	2.3	4		0.21	0.1	2.11	30.5	0.08	0.03	110	48	1.18	1	19
15-0932	15.5	23.5	0.5	3		0.1	0.25	0.09	2.5	0.06	0.06	55	7.5	0.03	10	2.8
15-0933	49.6	2.7	2.8	<1		0.36	<0.05	0.04	22	0.14	0.02	60	1.2	0.01	<5	19.5
15-1033	11.1	25	4.8	2		0.27	0.1	0.62	47	0.06	0.12	20	34	3.87	1	44.5
15-1169	17.2	22	3.4	3		0.2	<0.05	1.8	34	0.08	0.335	15	12	0.06	<5	36.5
15-1171	15.4	31	1.05	4		0.11	<0.05	0.031	12.5	0.07	0.07	10	12	0.026	<5	10
15-1175	24.1	19.5	4.2	3		0.34	<0.05	0.48	53	0.16	0.11	10	7.5	0.026	<5	46
15-1181	18.5	22.5	1.35	3		0.12	<0.05	0.605	20	0.06	0.155	5	7.5	0.285	<5	14
15-1207	33.7	9.5	2.2	2		0.31	0.1	0.37	29	0.15	0.105	60	82	0.11	<5	18.5
15-1208	19.9	21.5	3.6	4		0.48	0.15	0.865	67	0.22	0.175	100	28	0.12	15	31.5

Ferruginous saprolite

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0903	79	380	10	1.55	1.3	400	1.5	4	1.5	18.5	85	0.16	1	2.3	1250	<0.1
15-0904	<2	210	6.5	4.6	1.9	850	0.5	2.5	3.5	2.5	54	0.26	<0.2	14.5	2000	3.7
15-0907	<2	420	55	8	11.5	350	0.5	1	4.3	2.7	50	0.28	<0.2	30.5	3050	<0.1
15-0908	4	150	43.5	2.3	21.5	250	0.5	1	1.7	4.1	22.5	0.12	<0.2	51	4100	0.1
15-0909	3	280	210	3.7	51	700	8	5.5	3.1	3.9	105	0.13	<0.2	14.5	3450	2
15-0910	<2	1650	220	5	3.6	700	1	3	2.9	1.7	30.5	0.24	<0.2	12	1600	<0.1
15-0911	<2	100	52	1.85	3.6	350	0.5	3	1.5	1.9	19	0.13	<0.2	76	3300	<0.1
15-0912	16	5050	79	6.5	88	450	<0.5	0.5	5.5	1.3	67	0.48	<0.2	10	1750	2.7
15-0913	21	3000	85	24.5	9	600	<0.5	3	12.5	1.4	96	0.87	<0.2	9	1550	0.1
15-0914	7	160	51	3	17.5	250	<0.5	4.5	2.3	3.4	19	0.18	<0.2	40.5	3450	0.1
15-0915	4	155	54	1.05	22	150	<0.5	1.5	0.91	3.4	21.5	0.09	<0.2	58	3300	0.1
15-0916	4	90	66	0.95	8.5	150	<0.5	2.5	0.94	14.5	20	0.09	<0.2	45	2100	<0.1
15-0918	4	260	35	2	4.2	400	0.5	1	1.6	2.1	28.5	0.14	<0.2	44	3000	<0.1
15-0919	5	65	24.5	1.45	4	300	<0.5	2	1.25	1.6	13.5	0.13	<0.2	62	2750	<0.1
15-0920	<2	195	125	1.05	41	15700	7	8	0.78	3.8	82	0.06	<0.2	17.5	3150	2.7
15-0921	<2	140	11.5	1.55	2.5	400	<0.5	3.5	1.3	5.5	39	0.1	0.6	22.5	6250	<0.1
15-0923	6	145	15.5	1.8	24	250	<0.5	1	1.5	3	30.5	0.14	<0.2	33.5	2950	0.2
15-0924	<2	75	26.5	0.7	1.9	400	0.5	2	0.65	2.8	6	0.06	<0.2	15.5	3300	<0.1
15-0925	10	500	48.5	2.2	7.5	600	<0.5	1.5	1.85	2	45.5	0.15	<0.2	37	2400	<0.1
15-0930	<2	800	94	37	3.8	3000	1	7	13.5	6.5	260	0.59	<0.2	14.5	1500	0.9
15-0931	<2	400	430	4.9	57	71100	2	2	3.2	10	165	0.22	<0.2	6	1400	3.9
15-0932	3	120	55	0.7	7.5	350	1	4	0.58	3.8	11.5	0.06	<0.2	40.5	3700	0.2
15-0933	7	10100	10	4.9	1.4	450	<0.5	<0.5	3.9	0.2	20.5	0.31	0.3	2.5	390	<0.1
15-1033	<2	340	46.5	10.5	26.5	6050	<0.5	2.5	8	1.3	115	0.58	0.2	20	480	0.5
15-1169	4	130	60	10	44.5	1450	<0.5	6.5	6.5	1.8	7	0.36	0.4	33	850	0.3
15-1171	3	100	40	2.8	2.7	2350	<0.5	5.5	1.5	1.6	1.6	0.11	0.3	24	3600	0.1
15-1175	15	125	65	13	19.5	2700	<0.5	3.5	7	0.9	2.2	0.46	0.4	23	1100	0.3
15-1181	3	155	45	4	25.5	3750	0.5	7	2.4	0.4	10.5	0.15	0.7	37	1150	0.5
15-1207	6	500	2950	5	14	7100	2.5	3.5	4.4	1.4	9	0.35	0.2	10.5	2550	2.6
15-1208	7	700	8100	9	45.5	8400	11	2	6.5	1.4	15.5	0.52	<0.2	20	6700	6.5

Ferruginous saprolite

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0903	0.1	7.5	165	2.4	5.5	0.85	10.5	48
15-0904	0.1	3	160	0.8	6.5	0.85	26	185
15-0907	0.1	2.5	110	1.3	3.9	0.6	6	
15-0908	0.05	2	200	1.5	2.7	0.45	11	265
15-0909	<0.05	2.2	97	2.4	2.2	0.35	29	124
15-0910	0.15	2.5	110	0.9	5.5	1.15	55	51
15-0911	<0.05	1.75	340	0.3	2.9	0.35	8.5	283
15-0912	0.35	5	52	0.4	14.5	2.7	125	80
15-0913	0.35	8	110	0.6	14.5	2.5	100	61
15-0914	0.1	2.5	160	2.1	4.1	0.6	19.5	129
15-0915	0.05	1.95	480	1.6	3.1	0.45	13	174
15-0916	<0.05	0.95	140	0.8	2	0.3	8.5	139
15-0918	0.1	1.7	160	0.6	3.2	0.6	12.5	236
15-0919	0.05	1.45	310	0.1	3	0.45	6	287
15-0920	<0.05	3.1	165	2	1.85	0.35	24	137
15-0921	0.1	3.5	230	1	3.7	0.8	9.5	255
15-0923	0.1	1.45	110	1.3	3.7	0.6	10.5	208
15-0924	0.05	1.55	125	1.2	2.3	0.4	7.5	166
15-0925	0.1	3.7	130	0.6	4.6	0.7	35.5	193
15-0930	0.15	1.95	74	2.3	7.5	0.95	17.5	191
15-0931	0.05	0.97	42	3.6	4.4	0.6	27	151
15-0932	0.05	1.3	650	1.9	2.5	0.4	23	270
15-0933	0.15	2.2	9	<0.1	7.5	1	94	<5
15-1033	0.1	2.5	125	0.8	6.5	0.45	7	160
15-1169	0.1	1.4	220	1.6	4.5	0.4	32	218
15-1171	<0.05	2.8	220	1.6	6.5	0.3	36	212
15-1175	0.15	1.75	190	1.8	9.5	0.85	34	222
15-1181	<0.05	2.2	175	1	2.8	0.3	19	173
15-1207	0.15	4.3	33	12	5.5	0.85	57	190
15-1208	0.2	7	78	4.9	8.5	1.25	99	312

Ferruginous saprolite

Sample_no	Sample_id	Easting	Northing	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-1209	MTG3	317666	6137375	54	317787.8	6137553	FeSap	7.7	8.5	weakly goethitic pitted metasilstone
15-1210	MTG3	317666	6137375	54	317787.8	6137553	FeSap	8.5	9.5	weakly goethitic pitted metasilstone
15-1211	MTG3	317666	6137375	54	317787.8	6137553	FeSap	9.5	10.5	weakly goethitic pitted metasilstone
15-1233	MTG4	317666	6137375	54	317787.8	6137553	FeSap	4.6	5.5	weathered yellow-brown metasilstone
15-1234	MTG4	317666	6137375	54	317787.8	6137553	FeSap	5.5	6.5	weathered yellow-brown metasilstone
15-1235	MTG4	317666	6137375	54	317787.8	6137553	FeSap	6.5	7.5	weathered yellow-brown metasilstone
15-1236	MTG4	317666	6137375	54	317787.8	6137553	FeSap	7.5	8.5	weathered yellow-brown metasilstone
15-1237	MTG4	317666	6137375	54	317787.8	6137553	FeSap	8.5	9.3	weathered yellow-brown metasilstone
15-1238	MTG4	317666	6137375	54	317787.8	6137553	FeSap	9.3	10.3	weathered yellow-brown metasilstone
15-1239	MTG4	317666	6137375	54	317787.8	6137553	FeSap	10.3	10.95	weathered yellow-brown metasilstone
15-1249	RKH1	317512	6141279	54	317633.8	6141457	FeSap			red-brown ferrug saprolite over TC
15-1250	MT058ry	319700	6134950	54	319821.8	6135128	FeSap			red and yellow ferrug saprolite
15-1251	MT058ry	319700	6134950	54	319821.8	6135128	FeSap			red ferrug saprolite
15-1252	MT058y	319700	6134950	54	319821.8	6135128	FeSap			yellow ferrug saprolite
15-1253	616724	317660.7	6137408	54	317782.5	6137586	FeSap			grey bedded metasilstone
15-1254	616725	317661.2	6137408	54	317783	6137586	FeSap			grey bedded metasilstone
15-1255	616726	317661.8	6137408	54	317783.6	6137586	FeSap			grey bedded metasilstone
15-1256	616727	317662.3	6137409	54	317784.1	6137587	FeSap			grey bedded metasilstone
15-1268	699399	317723	6137531	54	317844.8	6137709	FeSap			weathered metasilstone (TC)
15-1270	700602	317732.8	6137534	54	317854.6	6137712	FeSap			weathered metasilstone (TC)
15-1271	700607	317785	6137230	54	317906.8	6137408	FeSap			ferrug metasilstone
15-1272	700609	317767.5	6137273	54	317889.3	6137451	FeSap			leached ferrug micaceous metasilstone
15-1273	700610	317745	6137300	54	317866.8	6137478	FeSap			mottled yell-bn micaceous metasilstone
15-1274	700611	317742.5	6137305	54	317864.3	6137483	FeSap			white iron-stained metasilstone
15-1275	700614	317737.5	6137340	54	317859.3	6137518	FeSap			vermiform ferrug saprolite on metasilstone
15-1276	700615	317707.5	6137335	54	317829.3	6137513	FeSap			siliceous laterite on metasilstone

Ferruginous saprolite

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-1209	60.19	1.10	5.47	22.78	0.02	0.49	0.07	1.45	0.22	0.13	7.57	99.49	14
15-1210	45.85	0.92	3.46	28.83	0.02	0.24	0.03	2.29	0.61	0.16	13.34	95.75	14
15-1211	32.29	0.60	3.63	37.72	0.04	0.55	0.07	1.57	1.26	0.33	15.54	93.60	16
15-1233	32.73	0.46	3.79	44.68	0.01	0.32	0.03	1.28	0.84	0.33	13.92	98.39	32
15-1234	30.52	0.43	2.21	55.75	0.01	0.20	0.04	0.56	0.11	0.17	8.66	98.66	59
15-1235	19.86	0.25	2.18	65.92	0.01	0.14	0.09	0.34	0.40	0.15	10.30	99.64	47.5
15-1236	23.22	0.30	2.80	45.51	0.00	0.05	0.07	0.93	0.85	1.08	17.77	92.58	8.5
15-1237	31.84	0.58	1.89	38.87	0.01	0.07	0.04	1.44	1.08	0.57	17.63	94.02	22.5
15-1238	35.96	0.59	1.59	32.65	0.01	0.08	0.08	2.40	0.87	0.42	18.80	93.45	18.5
15-1239	39.78	0.67	1.42	28.69	0.01	0.10	0.07	3.25	0.69	0.18	19.57	94.43	5.5
15-1249	30.10	1.04	16.62	41.75	0.07	0.17	0.09	0.06	0.13	0.15	10.16	100.34	0.4
15-1250	56.99	0.74	5.06	18.85	0.02	0.56	0.19	3.80	0.08	0.14	7.28	93.71	0.3
15-1251	22.02	0.28	1.18	43.35	0.02	0.17	0.05	3.53	0.92	0.26	23.65	95.43	0.2
15-1252	23.83	0.31	1.59	41.49	0.02	0.17	0.05	3.59	1.16	0.26	24.14	96.61	0.1
15-1253	54.57	0.8	6.24	28.32	0.01	0.08	0.13	0.27	0.1	0.1	8.09	98.71	8
15-1254	51.71	0.75	7.71	27.86	<0.01	0.08	0.12	0.42	0.07	0.08	9.98	98.78	6
15-1255	64.61	0.83	6.11	18.46	<0.01	0.08	0.11	0.34	0.06	0.09	7.87	98.56	5
15-1256	58	0.74	8.14	22.13	<0.01	0.12	0.13	0.64	0.06	0.08	9.12	99.16	2
15-1268	71.17	0.57	8.85	11.37	<0.01	0.17	0.12	0.42	0.08	0.04	9.31	102.10	3.1
15-1270	40.18	0.67	11.18	38.61	0.01	0.17	0.18	0.32	0.05	0.1	8.60	100.07	<0.1
15-1271	55.23	0.38	11.43	29.14	0.01	0.11	0.13	0.52	0.07	0.06	2.72	99.80	<0.1
15-1272	48.27	0.44	13.46	27.01	<0.01	0.14	0.09	1.9	0.11	0.22	7.38	99.02	<0.1
15-1273	53.6	0.44	11.28	24.95	<0.01	0.08	0.09	0.38	0.04	0.1	8.24	99.20	0.1
15-1274	55.21	0.5	11.24	23.18	<0.01	0.07	0.11	0.14	0.04	0.19	8.54	99.22	0.2
15-1275	46.53	0.56	11.96	28.72	<0.01	0.14	0.16	0.55	0.05	0.37	9.97	99.01	0.2
15-1276	35.27	0.31	5.67	47	<0.01	0.1	0.12	0.03	0.04	0.24	10.51	99.29	<0.1

Ferruginous saprolite

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1209	2.69	1000	9	350	13.5	0.05	0.5	84	0.05	1.1	50	0.8	650	3	1.55	0.9
15-1210	1.74	1350	6.5	105	20	0.022	0.2	45	0.10	1.1	39	0.4	750	0.97	0.6	0.41
15-1211	1.7	1250	7	90	21.5	0.038	0.2	47	0.05	2.2	34	0.2	900	1.2	0.7	0.45
15-1233	2.09	800	3	185	8	0.025	0.4	165	0.03	2.1	25	0.5	1100	4.1	1.65	1.75
15-1234	1.18	1450	5	550	4.7	0.033	0.2	140	0.02	1.4	20	0.5	1050	4.3	1.7	1.85
15-1235	1.19	1700	<1	1400	2	0.03	0.4	80	0.10	2.2	29	0.3	1300	2.2	0.95	1
15-1236	1.53	3100	4	115	7	0.024	0.1	390	0.02	1.1	59	<0.1	900	6	2.2	1.95
15-1237	1.01	1750	14	95	6.5	0.021	<0.1	160	0.06	0.9	50	0.2	700	2.7	1.05	0.94
15-1238	0.87	1200	9	90	1.9	0.018	<0.1	115	0.06	0.7	54	0.3	600	2.4	1	0.73
15-1239	0.8	900	7	90	0.6	0.018	0.1	31.5	0.05	0.4	55	0.5	480	1.15	0.5	0.36
15-1249	9.79	1550	3	70	0.3	0.065	<0.1	26.5	0.02	12.5	350	0.6	150	1	0.6	0.29
15-1250	3.32	35	13	220	10.5	0.15	<0.1	110	0.00	0.7	15	1.8	10	3.8	1	1.9
15-1251	0.74	500	9	40	11.5	0.042	<0.1	51	0.00	0.3	130	0.7	78	1.2	0.3	0.55
15-1252	0.94	500	4.5	45	8.5	0.039	<0.1	48	0.00	0.3	100	0.8	120	1.35	0.35	0.65
15-1253	3.57	700	4	850	0.5	0.045	0.3	20.5		0.9	130	0.3	750	0.44	0.3	0.2
15-1254	4.43	700	12	1150	0.9	0.047	0.6	13		1	155	0.5	2150	0.37	0.25	0.23
15-1255	3.64	390	5	1600	1	0.043	0.3	30		0.8	145	0.4	1000	0.49	0.3	0.36
15-1256	3.37	410	4	500	1.5	0.043	0.7	16.5		1.3	140	0.7	1300	0.49	0.3	0.19
15-1268	1.11	700	9	600	0.1	0.023	1.5	90		1.6	92	0.3	360	0.77	0.3	0.38
15-1270	4.13	58	2	155	1.3	0.065	<0.1	40		4	110	0.5	440	1.2	0.55	0.27
15-1271	4.47	64	2	185	0.3	0.042	<0.1	10.5		1.8	290	0.2	13	0.53	0.3	0.18
15-1272	5.46	72	1	350	1.3	0.018	<0.1	175		1	79	0.7	140	1.65	0.65	0.81
15-1273	4.83	115	<1	70	<0.1	0.0165	<0.1	14		2.1	105	0.3	43	0.55	0.35	0.14
15-1274	4.48	19	5	180	<0.1	0.039	<0.1	99		1.4	135	0.2	49	1.55	0.65	0.58
15-1275	4.77	68	3	145	<0.1	0.06	<0.1	82		3.7	145	0.5	195	2.9	1.3	0.87
15-1276	2.22	78	4.5	60	3.2	0.031	0.2	43.5		4.4	150	0.3	360	1.25	0.5	0.4

Ferruginous saprolite

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1209	15.6	22	3.3	5		0.52	0.1	1.07	60	0.29	0.235	125	25	0.16	15	25
15-1210	20.1	12.5	1.15	4		0.18	0.15	1.72	48.5	0.13	0.115	90	31.5	0.44	10	11
15-1211	26.2	8.5	1.45	2		0.22	0.2	1.29	52	0.13	0.165	200	61	0.85	<5	12.5
15-1233	30.8	13.5	6	2		0.64	0.15	1.07	135	0.18	0.165	80	190	0.67	<5	64
15-1234	38.2	9.5	6	2		0.66	0.1	0.455	83	0.19	0.1	80	230	0.06	<5	64
15-1235	45.3	9	3.1	1		0.35	0.15	0.225	56	0.12	0.055	60	105	0.035	<5	32.5
15-1236	31.8	48	8.5	1		0.91	0.9	0.83	390	0.22	0.022	30	110	0.685	<5	66
15-1237	26.9	27	3.7	3		0.45	0.4	1.18	185	0.14	0.032	25	64	0.875	<5	32
15-1238	22.8	29.5	3.3	3		0.42	0.3	2.04	125	0.13	0.046	30	21	0.78	<5	24.5
15-1239	19.9	21.5	1.4	3		0.21	0.2	2.74	34.5	0.09	0.06	40	6.5	0.61	<5	10
15-1249	29.4	30	1.1	3		0.2	0.3	0.11	23.5	0.09	0.07	410	12.5	0.022	<5	9
15-1250	14.2	13	8.5	2		0.45	<0.05	0.07	69	0.05	0.345	90	7	2.98	<5	52
15-1251	31.7	55	2.4	<1		0.15	0.1	0.83	47	0.03	0.07	15	9	2.71	<5	16
15-1252	29.5	46.5	2.7	<1		0.17	0.1	0.99	45	<0.02	0.075	10	7	2.66	<5	18.5
15-1253	21.1	26.5	0.5	3		0.08	0.1	0.245	19	0.06	0.055	40	7	0.065	5	4.4
15-1254	20.6	44	0.45	3		0.09	0.1	0.375	10.5	0.07	0.06	45	6.5	0.05	5	4.1
15-1255	14.1	29	0.65	4		0.11	0.05	0.325	27	0.08	0.065	30	8.5	0.055	10	6.5
15-1256	15.3	29.5	0.55	3		0.1	0.1	0.57	13	0.08	0.08	60	9	0.047	10	4.5
15-1268	23.6	12.5	1.15	2		0.1	0.1	0.35	77	0.05	0.042	125	88	0.14	<5	16
15-1270	24.9	18.5	2	3		0.19	0.05	0.265	23	0.09	0.115	85	31	0.048	<5	20
15-1271	19	15	0.6	1		0.09	0.15	0.44	9.5	0.05	0.06	60	1.2	0.055	<5	4.6
15-1272	18.2	14.5	2.7	2		0.24	0.25	1.61	98	0.11	0.09	35	11	0.085	<5	52
15-1273	17.9	13	0.5	3		0.11	0.1	0.35	10.5	0.09	0.055	60	0.9	0.031	<5	5.5
15-1274	15.6	13.5	2.1	3		0.22	0.1	0.125	84	0.1	0.05	25	3	0.055	<5	25.5
15-1275	19.2	16.5	2.9	3		0.46	0.15	0.465	66	0.22	0.09	45	0.8	0.037	<5	25.5
15-1276	31.3	8.5	1.65	<1		0.2	0.05	0.029	30	0.06	0.06	40	0.9	0.035	<5	15.5

Ferruginous saprolite

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1209	3	460	7850	7	59	9650	11	2.5	5.5	1.6	18.5	0.51	0.5	13	6400	9.5
15-1210	9	600	11700	4.1	70	34500	10	10	2.2	1.4	22	0.17	0.5	5.5	5450	16.5
15-1211	7	1250	21500	4.4	33.5	45100	11	15.5	2.6	5.5	24	0.23	0.7	11	3550	9.5
15-1233	6	1400	5700	19	49.5	28800	6	3	12	7.5	36.5	0.86	0.5	19.5	2850	12
15-1234	5	700	4850	18.5	27	5250	6	4	12.5	7	15	0.88	<0.2	20	2550	8.5
15-1235	5	600	4500	9.5	14	3900	6	2.5	6.5	3.7	18.5	0.45	<0.2	24.5	1500	5
15-1236	3	4700	33500	27.5	11.5	39500	8	3.5	11.5	13.5	45.5	1.2	<0.2	14.5	1950	7.5
15-1237	<2	2400	24300	12.5	44.5	51000	10.5	6.5	5.5	5.5	36.5	0.54	0.4	12	3750	32.5
15-1238	3	1800	18800	9.5	69	61100	9.5	5	4	1.9	28.5	0.45	0.5	8.5	3800	44
15-1239	3	800	10800	3.2	88	65800	7	2	1.85	1.8	22	0.21	<0.2	5.5	4300	56
15-1249	10	550	1850	2.9	7.5	350	8.5	2	1.8	2.9	17.5	0.18	0.7	32.5	6600	0.3
15-1250	<2	600	70	14.5	2.1	19600	0.5	5	11	6.5	67	1	0.7	21.5	4100	0.5
15-1251	5	1050	60	4.8	20.5	80400	<0.5	28.5	3.4	1.1	150	0.33	0.9	16	700	15.5
15-1252	2	1050	55	5	20	78500	<0.5	37.5	3.9	0.9	125	0.36	0.8	22	750	15.5
15-1253	<2	320	3200	1.6	14	2850	6.5	2	0.94	20	16.5	0.08	<0.2	19.5	5300	7
15-1254	<2	250	2100	1.3	21	2400	8	5	1	3.3	15	0.07	0.4	26.5	4950	11.5
15-1255	2	320	2250	2.4	17.5	1700	7	2	1.45	3.5	24	0.09	<0.2	18	5800	9.5
15-1256	<2	240	1700	1.55	25.5	1300	5	3	1	3.5	15.5	0.09	0.4	26	4950	17
15-1268	4	1050	14100	7	8	8600	33	<0.5	2.3	1.9	16.5	0.16	<0.2	9.5	3000	10
15-1270	5	320	90	5.5	10	1950	10.5	7	3.8	1	14	0.26	0.8	42.5	1100	0.2
15-1271	4	140	55	1.35	9	650	1.5	<0.5	0.86	2.2	9	0.11	0.6	76	2400	<0.1
15-1272	2	800	55	18.5	26	650	1.5	<0.5	6.5	3	45	0.36	0.4	10	2850	0.3
15-1273	4	350	55	1.65	8	600	1	0.5	0.92	1.9	7	0.08	0.7	67	3050	<0.1
15-1274	4	700	70	9.5	3.9	400	0.5	<0.5	3.8	2.4	41.5	0.3	0.5	32	3200	<0.1
15-1275	17	1500	40	8.5	11	400	1	<0.5	4.7	2.1	40.5	0.49	0.6	17.5	3600	<0.1
15-1276	8	900	125	4.9	1.9	1250	1.5	4.5	2.7	1.3	17	0.22	0.7	24.5	1050	0.1

Ferruginous saprolite

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-1209	0.25	7	93	4.5	9.5	1.55	70	324
15-1210	0.1	6	66	3.8	3.6	0.65	82	258
15-1211	0.1	6	52	11.5	4.5	0.75	130	222
15-1233	0.25	9.5	31	8.5	10.5	1.3	65	161
15-1234	0.25	9.5	26	5.5	11	1.25	78	158
15-1235	0.15	7	36	3.3	5.5	0.7	105	103
15-1236	0.25	6	58	6	14.5	1.3	140	189
15-1237	0.15	6	60	4.5	8	0.75	130	248
15-1238	0.15	4.9	58	3	8	0.65	76	215
15-1239	0.1	5	72	2.3	4.5	0.45	36	213
15-1249	0.1	3.8	290	2	3.7	0.5	88	124
15-1250	0.1	7.5	87	0.6	9	0.35	19	139
15-1251	<0.05	2.6	310	0.6	3.5	0.15	<2	24
15-1252	<0.05	2.9	300	0.2	3.6	0.15	<2	43
15-1253	<0.05	5	130	2.9	2.2	0.3	23	
15-1254	<0.05	5.5	145	3.4	1.85	0.35	35	
15-1255	0.05	6	140	3.5	2.5	0.35	24	
15-1256	0.05	5	120	3.8	2.7	0.35	39	
15-1268	<0.05	2.2	40	1.1	3.2	0.25	360	
15-1270	0.1	2.6	130	3.1	5	0.45	38	
15-1271	<0.05	1.45	600	1.8	2.6	0.2	<2	
15-1272	0.1	2.5	125	2.4	4.8	0.55	<2	
15-1273	0.05	3.2	115	1.3	2.9	0.4	7	
15-1274	0.1	3.5	105	1.1	5	0.5	5	
15-1275	0.2	4.9	125	1.5	8.5	1.3	7	
15-1276	0.05	3.6	320	0.4	5.5	0.35	19	

Gels

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0999	2.92	3.5	<1	300	0.2	0.15	<0.1	58		1.9	16	1.2	9	1.5	0.65	0.75
15-1138	2.75	2.5	<1	270	0.2	0.52	0.5	155		14.5	31	1.1	14	7	3	2.6
15-1139	4.12	1.5	2	75	0.1	0.58	2.1	85	9.71	25.5	20	0.4	9	8	4.9	1.6
15-1150	2.75	850	6	480	0.2	1.6	21	42		10	24	2.9	6	2.8	1.7	0.8
15-1151	0.35	150	7	140	<0.1	0.74	1.8	5		7	<2	0.6	<2	0.42	0.25	0.14
15-1152	1.88	18.5	3	340	0.1	0.83	0.6	39.5		9.5	11	1.7	<2	1.55	0.65	0.66
15-1153	0.92	34	10	120	<0.1	0.7	0.5	76		7.5	10	0.5	<2	2.4	1	0.85
15-1154	0.66	135	2	950	0.1	2.07	0.3	130		25	5	0.3	<2	4.3	2.2	1.7
15-1159	3.9	6	<1	300	0.4	0.33	0.3	77		4.5	22	1.5	12	2.8	1.15	0.98

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0999	1.24	7	3.1	3		0.26	<0.05	0.77	30	0.1	0.12	65	0.7	0.62	3	28.5
15-1138	1.69	5.5	11.5	3		1.1	0.05	0.77	64	0.35	0.39	165	0.3	2.5	3.5	77
15-1139	0.69	2.1	8	<1		1.6	<0.05	0.28	42	0.78	2.52	250	0.1	11.3	<0.5	37
15-1150	14.5	6.5	3.4	<1	<0.05	0.55	<0.05	1.01	22	0.26	0.45	410	1	0.78	2	21
15-1151	35.3	0.9	0.45	<1	<0.05	0.08	<0.05	0.15	3.5	0.03	0.18	240	0.7	0.47	<0.5	3.2
15-1152	18.2	3.8	2.5	<1		0.24	<0.05	0.49	19.5	0.09	0.38	440	2.1	0.64	0.5	17.5
15-1153	23.9	1.8	4	<1	<0.05	0.39	<0.05	0.2	60	0.11	0.27	360	1.1	0.56	<0.5	30
15-1154	35.6	1.9	6.5	<1		0.83	<0.05	0.12	59	0.25	0.24	5450	1.2	0.32	<0.5	49
15-1159	2.01	8	4.3	3		0.42	<0.05	0.79	37	0.15	0.17	125	0.5	0.72	3.5	30.5

Gels

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0999	6	90	19.5	7	40	1300	<0.5	<0.5	5	1.3	55	0.42	<0.2	10	1550	0.3
15-1138	18	100	26	20	26.5	11000	<0.5	1	14.5	1.5	75	1.15	<0.2	14	1700	0.3
15-1139	37	50	22	10	10	103000	<0.5	<0.5	7.5	0.5	83	1.05	<0.2	4	550	0.1
15-1150	10	14700	59	5.5	39.5	1200	2.5	0.5	4.2	1.2	300	0.43	<0.2	7	1400	2.2
15-1151	<2	4400	33	0.85	5	750	0.5	1	0.61	0.1	160	0.05	<0.2	1.1	170	9.5
15-1152	4	3250	10	4.8	18.5	2300	<0.5	1	3.5	0.6	145	0.28	<0.2	6.5	800	0.6
15-1153	5	490	14	8.5	9.5	2750	<0.5	1.5	4.2	0.7	130	0.39	<0.2	3.2	490	0.2
15-1154	17	410	17.5	12.5	5.5	550	<0.5	1.5	8	0.3	420	0.7	<0.2	2.7	320	0.1
15-1159	9	160	23	8.5	28.5	150	<0.5	1	5.5	1.7	62	0.46	<0.2	13	2100	0.4

Sample_no Zr_XRF

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0999	0.1	1.45	22	0.5	6	0.6	11	
15-1138	0.4	5.5	29	0.5	23.5	2.7	18.5	
15-1139	0.75	5	15	0.1	48	5	27	145
15-1150	0.25	5.5	31	0.6	16.5	1.75	950	
15-1151	<0.05	0.24	5	0.2	3.2	0.2	1200	
15-1152	0.1	0.87	17	1	6	0.6	36.5	
15-1153	0.1	0.5	36	<0.1	16.5	0.7	26	
15-1154	0.3	4.5	24	<0.1	31.5	1.7	26	
15-1159	0.15	2.1	37	0.3	10	1.05	29.5	

Gossans

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0934	MT031.1	54	317782.8	6137619.2	Goss	0	0	gossan outcrop near fenceline
15-0935	MT032	54	317761.8	6137716.2	Goss	0	0	outcrop gossan near MT031
15-0936	MT033	54	317770.8	6138225.2	Goss	0	0	cerussite-rich vein in Dairy Creek
15-0948	MT045	54	317786.8	6137554.2	Goss			gossan
15-1228	MTG4	54	317787.8	6137553.2	Goss	0	0.9	cellular gossan
15-1229	MTG4	54	317787.8	6137553.2	Goss	0.9	1.9	cellular gossan
15-1230	MTG4	54	317787.8	6137553.2	Goss	1.9	2.9	cellular gossan
15-1231	MTG4	54	317787.8	6137553.2	Goss	2.9	3.9	cellular gossan
15-1258	699378	54	317781.6	6137589.2	Goss			edge of gossan
15-1261	699386	54	317786.8	6137552.2	Goss			massive yellow gossan

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-0934	52.16	0.72	2.3	34.53	0.02	0.06	0.03	0.2	0.18	0.14	8.55	98.89	2.4
15-0935	49.85	0.47	3.57	41.01	0.02	0.1	0.06	0.44	0.06	0.13	3.91	99.62	0.9
15-0936	26.78	0.23	2.72	23.75	0.14	0.17	0.28	1.11	0.66	0.09	25.81	81.74	39
15-0948	11.20	0.09	4.90	66.56	0.04	0.20	0.10	0.22	0.16	0.27	11.20	94.94	57
15-1228	14.14	0.15	4.60	68.65	0.03	0.30	0.05	0.24	0.11	0.06	10.65	98.98	32
15-1229	11.65	0.08	2.83	73.77	0.03	0.36	0.07	0.11	0.09	0.05	8.84	97.88	60
15-1230	21.99	0.26	3.78	63.73	0.01	0.30	0.04	0.23	0.12	0.08	10.02	100.56	36
15-1231	19.29	0.26	2.41	66.57	0.01	0.15	0.04	0.29	0.62	0.10	10.74	100.48	44.5
15-1258	15.91	0.22	4.6	34.78	<0.01	2.8	0.09	0.79	0.05	0.09	28.25	87.58	81
15-1261	12.13	0.09	4.28	71.57	<0.01	0.18	0.14	0.12	0.06	0.1	10.19	98.86	100

Gossans

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0934	1.12	600	2	370	0.3	0.02	1	34	0.00	1.4	28	0.2	440	0.51	0.3	0.26
15-0935	1.73	1100	<1	340	0.1	0.03	0.2	5	0.00	1.1	42	0.7	200	0.32	0.2	0.2
15-0936	1.38	900	8.5	125	7.5	0.19	27.5	35.5	0.10	3.6	14	0.4	800	1.9	1	0.62
15-0948	2.5	1200	2	210	25.5	0.07	0.2	380	0.02	82	19	0.3	7250	6	2.4	3.3
15-1228	2.45	400	12.5	290	1.5	0.033	0.7	60	0.03	72	10	0.2	4450	3.1	1.5	1.1
15-1229	1.54	100	7	260	2	0.045	0.2	39	0.02	51	<2	0.2	3400	1.8	0.85	0.65
15-1230	1.95	115	9	260	2.9	0.037	0.2	60	0.02	40.5	12	0.2	3900	2.9	1.2	1.05
15-1231	1.27	185	8	500	2.8	0.025	0.3	66	0.13	24.5	13	0.2	2500	2.7	1.25	1
15-1258	1.75	9900	9	60	3.6	0.021	0.4	73		1	105	0.3	650	0.71	0.35	0.4
15-1261	1.63	440	35.5	380	4.1	0.05	0.2	40.5		51	18	<0.1	5050	2.5	1	0.84

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0934	24.9	8	0.75	3	0.05	0.11	0.1	0.15	25	0.06	0.02	85	270	0.12	7	7
15-0935	29.5	9	0.4	2	<0.05	0.07	<0.05	0.34	3.5	0.04	0.04	65	23.5	0.02	7.5	2
15-0936	16.5	7	2.8	1	3.1	0.35	0.1	0.56	23.5	0.13	0.06	850	89	0.73	2.5	21.5
15-0948	48.7	12.5	10.5	1	<0.05	0.89	0.45	0.17	190	0.23	0.08	135	125	0.01	1	125
15-1228	45	6	4	<1		0.52	0.15	0.19	29	0.19	0.12	80	64	0.014	<5	37
15-1229	50.7	4	2.3	<1		0.3	0.1	0.085	19	0.12	0.15	35	74	0.023	<5	20.5
15-1230	42.9	7.5	3.6	<1		0.47	0.2	0.185	35	0.16	0.13	35	79	0.031	<5	31
15-1231	45.5	7	3.7	1		0.47	0.15	0.21	33.5	0.17	0.06	40	93	0.075	<5	33
15-1258	26.1	24	1.15	1		0.11	0.2	0.715	46.5	0.05	0.037	25	54	2.26	<5	20.5
15-1261	47.2	5.5	3	<1		0.36	0.15	0.1	19.5	0.11	0.115	45	115	0.016	<5	28.5

Gossans

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0934	<2	440	12000	2.3	3.4	8400	36.5	1	1.2	2.7	7.5	0.08	<0.2	7	4250	2.2
15-0935	<2	450	5200	0.55	13.5	900	1.5	<0.5	0.64	2.2	14	0.04	<0.2	37.5	2800	22
15-0936	5	220	243000	5.5	17.5	37200	10	11.5	3.8	1.5	46	0.29	<0.2	3.5	1300	36.5
15-0948	51	950	5950	42	11.5	1900	2.5	6	25.5	22.5	27.5	1.1	1.1	20	650	3.5
15-1228	94	170	900	10	10	1050	1	2.5	7.5	0.8	12.5	0.6	0.7	14	750	1.8
15-1229	110	90	750	5.5	4.9	1750	0.5	3.5	4.2	0.6	25.5	0.36	1.1	5.5	360	0.9
15-1230	74	280	900	8.5	8.5	2200	1	6.5	7	0.6	17	0.57	1.2	10.5	1150	1.5
15-1231	48	380	1400	9	7	5250	1.5	5	7	0.6	10.5	0.55	1.1	10.5	1450	1.6
15-1258	3	190	28200	6.5	23.5	60100	8	4	3.1	2.8	64	0.15	0.3	12	1550	68
15-1261	95	220	900	7.5	3.4	1000	1	4.5	6	1.7	16.5	0.45	0.8	10.5	490	1.2

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0934	<0.05	3	42	1.3	2.6	0.4	320	326
15-0935	<0.05	4.5	170	0.4	1.4	0.25	125	262
15-0936	0.15	15.5	22	0.6	8	0.9	2100	<5
15-0948	0.3	13	18	2.4	14	1.9	180	<5
15-1228	0.2	4.9	13	2.8	10	1.15	200	99
15-1229	0.1	2.6	4	3.7	5.5	0.6	105	54
15-1230	0.2	4.6	18	8	7.5	1.1	165	74
15-1231	0.2	5	16	4.6	7	1	97	90
15-1258	<0.05	2.7	77	5.5	2.8	0.25	46	
15-1261	0.15	3.1	3	2.2	7.5	0.7	155	

Gossanous metasilts

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-1202	MTG3	54	317787.8	6137553.2	Goss/silts	0	1.25	gossanous metasilts
15-1203	MTG3	54	317787.8	6137553.2	Goss/silts	1.25	1.95	gossanous metasilts
15-1204	MTG3	54	317787.8	6137553.2	Goss/silts	1.95	2.95	gossanous metasilts
15-1205	MTG3	54	317787.8	6137553.2	Goss/silts	2.95	3.95	gossanous metasilts
15-1206	MTG3	54	317787.8	6137553.2	Goss/silts	3.95	4.95	gossanous metasilts
15-1232	MTG4	54	317787.8	6137553.2	Goss/silts	3.9	4.6	weakly gossanous metasilts
15-1260	699381	54	317781.3	6137586.7	Goss/silts			grey metasilts and gossan
15-1262	699390	54	317777.8	6137617.2	Goss/silts			quartz-rich gossan and yellow metasilts

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-1202	22.04	0.18	6.20	59.07	0.02	0.31	0.04	0.20	0.26	0.07	11.49	99.88	67
15-1203	16.16	0.18	5.43	67.94	0.03	0.29	0.07	0.10	0.08	0.08	8.42	98.78	27
15-1204	27.83	0.29	6.42	55.65	0.01	0.43	0.06	0.15	0.08	0.05	9.06	100.03	48
15-1205	36.29	0.47	5.71	48.89	0.00	0.43	0.07	0.12	0.06	0.05	8.06	100.15	13.5
15-1206	54.27	0.25	1.90	36.57	0.01	0.15	0.03	0.06	0.06	0.04	5.94	99.28	12.5
15-1232	23.96	0.52	3.26	59.57	0.01	0.42	0.07	0.28	0.10	0.12	11.49	99.80	10.5
15-1260	23.09	0.44	3.34	41.77	0.01	2.1	0.11	0.68	0.06	0.09	22.13	93.82	6
15-1262	50.1	0.48	2.89	33.31	0.02	0.06	0.09	0.41	0.21	0.26	6.89	94.72	0.1

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1202	3.26	330	5	140	1.5	0.025	0.3	63	0.01	40.5	17	0.2	4250	2.8	1.25	1
15-1203	2.87	87	10	110	0.9	0.05	0.1	69	0.02	54	4	0.2	3450	2.2	1	0.83
15-1204	2.81	56	10	480	0.3	0.033	0.2	49.5	0.01	36	9	0.2	3050	2	0.85	0.7
15-1205	2.73	89	6	105	0.1	0.03	<0.1	28.5	0.02	9.5	17	0.2	3200	2.3	1.1	0.72
15-1206	0.95	64	7	55	0.3	0.026	0.2	19	0.03	2.6	15	0.2	1400	1.05	0.5	0.37
15-1232	1.48	240	5	500	1.6	0.034	0.2	30	0.01	4.9	20	0.2	2300	1.4	0.7	0.55
15-1260	1.28	4850	7	80	1.4	0.036	<0.1	360		1.2	89	0.3	500	1.2	0.4	1.3
15-1262	3.54	13	4	195	0.2	0.038	<0.1	46		0.9	66	0.8	240	1.05	0.4	0.33

Gossanous metasilstones

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1202	38.3	8	3.7	<1		0.47	0.2	0.14	34.5	0.15	0.115	45	67	0.0145	<5	33.5
15-1203	45.4	5.5	3.2	<1		0.36	0.15	0.08	37	0.11	0.1	50	53	0.026	<5	31
15-1204	32.9	6.5	2.5	1		0.31	0.15	0.105	31.5	0.11	0.14	35	68	0.022	<5	21.5
15-1205	33	8	2.5	1		0.38	0.15	0.095	14	0.17	0.095	30	67	0.027	<5	18
15-1206	25.5	4.3	1.3	<1		0.16	0.05	0.05	9.5	0.08	0.044	50	68	0.022	<5	9.5
15-1232	41.9	6.5	1.65	2		0.24	0.1	0.285	23.5	0.12	0.115	30	77	0.22	<5	13.5
15-1260	30.4	25	3.7	2		0.13	0.2	0.6	190	0.06	0.046	95	120	1.71	<5	100
15-1262	7.87	17.5	2	3		0.14	<0.05	0.37	27	0.08	0.105	25	6	0.075	<5	23

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1202	70	180	950	9.5	9	1050	1.5	2	7	1.1	8.5	0.54	0.4	15	1000	1.3
15-1203	135	200	900	9	5.5	1250	1	4	6	23.5	26	0.45	0.7	10	1000	0.9
15-1204	77	175	750	6.5	7	1050	1	3.5	4.5	1	19.5	0.4	0.4	7.5	1050	0.9
15-1205	24	165	600	4.7	4.6	1600	1	2.5	4.6	0.7	7.5	0.41	0.6	7	1800	0.8
15-1206	8	170	750	2.6	3.3	1350	1	2	2.3	1.8	5	0.2	0.5	5.5	1200	0.9
15-1232	12	500	1550	3.7	9.5	10000	3.5	6	3.2	1.4	12	0.25	1.1	12	2450	2.3
15-1260	<2	210	17200	35	16.5	44600	11	2	12	4.8	220	0.37	0.6	30	2950	25.5
15-1262	<2	110	35	6	11.5	1000	<0.5	4.5	4.2	0.4	9	0.22	0.6	16	1150	0.2

Sample_no

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-1202	0.2	4.1	18	4.5	8.5	0.9	120	63
15-1203	0.15	3.7	11	3.3	7.5	0.75	80	133
15-1204	0.1	4.5	18	8.5	5.5	0.65	56	87
15-1205	0.2	6.5	23	14	6	1.05	61	147
15-1206	0.1	3.7	11	11.5	2.8	0.45	39	77
15-1232	0.1	6.5	30	13.5	3.8	0.65	49	138
15-1260	<0.05	3.6	38	3.7	2.6	0.25	24	
15-1262	0.05	1.45	94	1.4	4.3	0.4	16	

Gravel

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0957	N34.5	54	319871.8	6138618.2	Grav	1.4	Gravel; >2 mm fraction	
15-0958	MT038.3	54	318579.8	6138246.2	Grav	1.25	>2 mm fraction	
15-0963	MT038.3	54	318579.8	6138246.2	Grav	1.25	sand and gravel (1-1.5m)	
15-1067	A7 29-39 Ec	54	319064.2	6137113.2	Grav	0.34	Herrm topo; brn-gy mottled grav cem by Fe/Mn oxides	
15-1161	N27.6	54	319801	6138616.8	Grav	0.9	Iron cemented gravel layer (~3 m upstream from N27	
15-1163	N25 b	54	319749.8	6138596.2	Grav		Ferruginous gravel with lots of charcoal in this layer	
15-1166	N35.2	54	319286.8	6138520.2	Grav		Mn enriched gravel	

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-0957													0.1
15-0958													0.2
15-0963													0.2
15-1067	86.94	0.52	5.05	3.91	0.01	0.09	0.14	0.73	0.45	0.08	2.12	100.04	<0.1
15-1161													0.2
15-1163													0.1
15-1166													0.2

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0957	3.01	52	<1	155	1.4	0.21	<0.1	51		4.8	110	0.8	21	1.55	0.75	0.69
15-0958	3.26	19.5	<1	340	0.3	0.14	<0.1	57		5	43	1.5	15	2.2	1.1	0.87
15-0963	4.47	14	<1	470	0.4	0.23	1	87		6	30	2.5	16	3.1	1.5	1.3
15-1067	2.87	4.5	<1	175	0.4	0.12	<0.1	67		2.6	48	1.5	12	2.1	0.9	0.72
15-1161	4.32	95	3	500	1.9	0.12	<0.1	62		6	170	0.8	30	3.6	1.6	1.45
15-1163	3.42	36.5	1	390	1.3	0.07	0.1	51		3.8	110	1	23	2.3	1	0.92
15-1166	3.96	65	2	1350	0.8	0.24	0.5	76		110	120	1.7	75	4.1	1.7	1.8

Gravel

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0957	15.3	14	2.7	2		0.25	0.1	0.25	30.5	0.09	0.1	70	2.4	0.28	2	22
15-0958	4.25	10.5	3.4	3		0.41	<0.05	0.78	28	0.14	0.23	155	1.7	0.46	3	24.5
15-0963	2.64	13	5.5	3		0.54	<0.05	1.16	43.5	0.2	0.35	165	0.9	0.68	4.5	38.5
15-1067	6.79	7.5	4.2	4		0.34	<0.05	0.54	40	0.12	0.07	80	0.6	0.29	3.5	28
15-1161	24.3	19	5	4		0.59	0.15	0.26	35.5	0.22	0.14	105	5.5	0.24	4	36.5
15-1163	12.9	11.5	3.4	3		0.38	0.1	0.52	25.5	0.13	0.09	70	2.8	0.21	3	24.5
15-1166	16.1	15.5	6	3		0.65	0.1	0.45	55	0.23	0.31	4250	3.8	0.24	5	44

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0957	8	160	70	6.5	11.5	600	1	2	4.4	2.7	22	0.26	<0.2	32.5	1450	0.2
15-0958	9	150	50	7	34.5	50	<0.5	1	5.5	1.8	45.5	0.37	<0.2	14.5	1950	0.3
15-0963	13	140	440	11	53	100	<0.5	0.5	8	2.2	66	0.54	<0.2	14.5	2700	0.7
15-1067	5	180	16.5	8	24	50	<0.5	<0.5	5	1.4	32.5	0.42	<0.2	16	2750	0.1
15-1161	9	210	92	9.5	11.5	350	2.5	1.5	7	2.4	44	0.57	0.3	51	1750	0.2
15-1163	6	160	87	6.5	18	450	1.5	1	4.7	1.7	29.5	0.38	<0.2	28.5	1650	0.3
15-1166	71	175	90	11.5	23	300	1.5	<0.5	8.5	2.2	72	0.7	0.2	29	2050	0.5

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0957	0.1	2.3	230	0.8	6	0.6	18	
15-0958	0.15	2.4	75	0.3	10	1.1	15.5	
15-0963	0.2	2.6	54	0.5	14	1.35	59	
15-1067	0.15	2.1	66	0.3	8	0.85	10.5	
15-1161	0.2	3.6	340	0.9	12.5	1.5	22	
15-1163	0.15	2.3	200	0.5	8	1	19.5	
15-1166	0.25	2.9	280	0.8	16	1.6	30	

Gravel with sulfidic material

Sample_no	Sample_id	Zone	Eastings_GDA94	Northings_GDA94	Code	Depth_fr	Depth_to	Description
15-0959	MT047.2	54	317654.8	6137735.2	Grav/SulfMud	0.4	>2 mm fraction	
15-0960	MT046.2	54	317661.8	6137773.2	Grav/SulfMud	0.4	>2 mm fraction	
15-0982	MT046.2	54	317661.8	6137773.2	Grav/SulfMud	0.4	gravel (quartz & ferricrete) and black sulfidic muds	
15-0984	MT047.2	54	317654.8	6137735.2	Grav/SulfMud	0.4	gravel (quartz & ferricrete) and black sulfidic muds	
Sample_no SiO2_XRF TiO2_XRF Al2O3_XRF Fe2O3_XRF MnO_XRF MgO_XRF CaO_XRF K2O_XRF Na2O_XRF P2O5_XRF LOI TOTAL Ag								
15-0959								0.2
15-0960								0.1
15-0982								0.1
15-0984								0.2

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0959	3.47	93	<1	500	1.5	0.33	<0.1	84	105	16	105	0.9	105	3.4	1.8	1.25
15-0960	2.71	79	<1	550	0.4	0.14	<0.1	105	61	10.5	61	1	33	5	2.7	1.85
15-0982	3.69	18	<1	550	0.3	0.27	<0.1	115	27	7.5	27	1.4	12	4.5	2.2	1.75
15-0984	3.96	22	<1	500	0.6	0.36	<0.1	92	36	8.5	36	1.7	27	3.7	2	1.45
Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0959	13.5	13.5	5.5	3		0.65	0.1	0.75	43	0.23	0.19	190	3.2	0.47	3.5	36
15-0960	9.85	10.5	7.5	2		0.95	<0.05	0.61	52	0.32	0.14	600	3.6	0.34	2.5	49.5
15-0982	3.3	10	7.5	3	<0.05	0.85	<0.05	1.36	57	0.26	0.21	440	1.2	0.87	2.5	51
15-0984	3.92	11.5	6	3	<0.05	0.71	<0.05	1.34	48.5	0.25	0.28	220	1.2	0.81	4.5	43

Gravel with sulfidic material

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0959	12	500	600	10.5	33.5	250	2	2	8	1.9	71	0.53	0.4	32.5	2150	0.4
15-0960	11	230	420	13.5	26	350	2	2.5	11	1.6	46	0.8	<0.2	16.5	1450	0.8
15-0982	6	210	105	14.5	53	150	<0.5	1.5	10.5	1.7	78	0.74	<0.2	13	2000	0.5
15-0984	14	310	100	12	60	200	0.5	1.5	9	2	83	0.6	<0.2	17.5	2500	0.5

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0959	0.25	4.7	230	0.4	16	1.75	10.5	
15-0960	0.35	5.5	140	0.4	24.5	2.3	11.5	
15-0982	0.3	4	58	0.2	22.5	1.85	8.5	
15-0984	0.25	5.5	75	0.4	18	1.8	10.5	

Loams

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0964	MT031.2	54	317782.8	6137619.2	Loam	0.03		soil over gossan soil (0-5cm)
15-0965	MT031.3a	54	317782.8	6137619.2	Loam	0.07		soil and gossan frags (5-10cm)
15-1011	MT031.3	54	317782.8	6137619.2	Loam	0.07		soil over gossan 5-10cm
15-1052	A1 0<10 A	54	319149.9	6136872.2	Loam	0.05		Herrm topo; dark brn loamy sand with 15% clay
15-1053	A1 10-32 E	54	319149.9	6136872.2	Loam	0.2		Herrm topo; red brn sandy loam; 10-15% clay and grav
15-1060	A3 0<1 A	54	319109.1	6136989.2	Loam	0.05		Herrmanns topo; dark brn loamy sand with 10-15% clay
15-1066	A7 0<10 A	54	319064.2	6137113.2	Loam	0.05		Herrm topo; dk brn loamy sand (10% clay)
15-1071	A8 0<10 A	54	319056.7	6137136.2	Loam	0.05		Herrm topo; dark brn mottled loamy sand (10-15% clay)
15-1080	A9 0<10 A	54	319048	6137162.2	Loam	0.05		Herrmanns topo - brown massive
15-1090	A10 0<10 A	54	319039.1	6137188.2	Loam	0.05		Herrmanns topo - saline grey sandy loam
15-1099	A11 0<10 C	54	319022.3	6137234.2	Loam	0.05		Herrmanns topo - saline loamy grey
15-1100	A11 10<20 A	54	319022.3	6137234.2	Loam	0.15		Herrmanns topo - saline loamy grey
15-1112	W0.1	54	318370	6136843.2	Loam	0.05		Loamy A1; dry edge of discharge zone; tall wheat grass
15-1113	W0.2	54	318370	6136843.2	Loam	0.15		Loamy A1; dry edge of discharge zone; tall wheat grass
15-1117	W8.1	54	318378	6136843.2	Loam	0.05		Salt-rich loam; outer edge of discharge zone; Mimulus
15-1118	W8.2	54	318378	6136843.2	Loam	0.15		Loam; outer edge of discharge zone; Mimulus plants
15-1120	W11.1	54	318381	6136843.2	Loam	0.05		Salt-rich loam; inner edge of discharge zone; Mimulus
15-1121	W11.2	54	318381	6136843.2	Loam	0.15		Loamy soil; inner edge of discharge zone; Mimulus
15-1135	E1.1	54	319777.8	6138617.2	Loam	0.2	0.3	20 - 30 cm
15-1136	E1.2	54	319777.8	6138617.2	Loam	0.3	0.4	with dry crystals on surface
15-1137	E1.3	54	319777.8	6138617.2	Loam	0.6	0.8	Blk sulf material (20 cm above white and red flocs)

[illegible]

Loams

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	CL_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0964	5.37	350	<1	1050	0.7	0.32	0.7	92		3.5	63	2.2	150	2.2	1.05	1.15
15-0965	5.51	490	<1	700	0.8	0.17	0.6	120		3.7	68	2	250	2.8	1.2	1.25
15-1011	6.57	480	<1	1100	0.8	0.2	0.6	105		3.7	67	2.1	220	2.7	1.2	1.3
15-1052	4.56	2.5	<1	190	0.4	0.2	<0.1	44.5		3.7	32	1.4	7	1.7	0.85	0.66
15-1053	3.05	8.5	<1	155	0.4	0.1	<0.1	67		3.1	70	1.3	14	2.1	0.85	0.76
15-1060	3.46	2	<1	230	0.3	0.27	0.2	56		3	24	1.2	8	1.75	0.85	0.71
15-1066	2.13	<0.5	<1	165	0.3	0.21	0.2	64		1.7	16	1	9	1.8	0.8	0.62
15-1071	2.2	<0.5	<1	165	0.3	0.19	0.1	57		1.5	14	1.1	8	1.7	0.75	0.55
15-1080	2.26	<0.5	<1	165	0.2	0.18	<0.1	65		1.8	18	1.1	7	1.9	0.85	0.64
15-1090	2.76	4	3	240	0.3	0.24	0.1	73		1.8	39	1.3	10	2.5	0.95	0.91
15-1099	2.57	3.5	1	195	0.3	0.2	<0.1	67		1.7	32	1.3	11	2.2	0.85	0.8
15-1100	2.55	17.5	<1	130	0.5	0.1	<0.1	42		2.5	91	1	11	1.55	0.65	0.57
15-1112	2.15	7	<1	290	0.3	0.22	<0.1	55		2.2	22	1.3	9	1.7	0.7	0.74
15-1113	2.29	10	<1	320	0.4	0.21	<0.1	59		2.4	25	1.2	9	2.1	0.8	0.84
15-1117	1.63	13.5	<1	270	0.3	2.55	<0.1	55		1.8	24	0.7	8	1.75	0.65	0.67
15-1118	2.01	25	1	175	0.4	0.23	<0.1	39		2.2	46	0.8	20	1.3	0.6	0.53
15-1120	1.47	9.5	<1	280	0.3	3.99	<0.1	37		2.4	17	0.7	12	1.3	0.55	0.57
15-1121	2.54	9	<1	370	0.3	0.26	<0.1	59		2.6	27	1.6	8	2.3	0.95	0.89
15-1135	5.44	3.5	<1	480	0.3	0.28	<0.1	91		4.2	41	2.3	12	3.2	1.35	1.45
15-1136	3.9	2.5	1	380	0.2	0.23	<0.1	67		2.8	23	1.5	9	2.4	0.95	1.05
15-1137	4.7	3.5	1	400	0.3	0.27	<0.1	75		5.5	31	2	12	3.1	1.3	1.2

Loams

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0964	6.25	21.5	3.8	4		0.4	0.1	1.03	52	0.15	0.14	400	14.5	0.15	18	30.5
15-0965	10.4	24.5	4.6	4	<0.05	0.46	0.1	0.99	65	0.14	0.12	290	24	0.17	17	38
15-1011	8.51	23	4.5	4		0.46	0.1	1.05	58	0.16	0.12	360	18.5	0.16	19	41.5
15-1052	2.44	11	3.2	4		0.33	<0.05	0.64	23.5	0.14	0.1	130	0.7	0.3	6.5	19
15-1053	9.36	8.5	3.9	4	<0.05	0.35	0.05	0.47	38.5	0.12	0.06	85	0.8	0.26	4.5	27
15-1060	1.94	8.5	3.3	4		0.31	<0.05	0.69	29.5	0.12	0.1	130	0.5	0.35	6	21.5
15-1066	1.54	4.9	3.9	3		0.32	<0.05	0.49	35.5	0.11	0.07	105	0.4	0.32	3	26
15-1071	1.18	5	3.5	3		0.26	<0.05	0.51	32	0.11	0.07	95	0.5	0.31	4.5	22.5
15-1080	1.67	5.5	4	3		0.29	<0.05	0.48	36.5	0.12	0.07	95	0.3	0.32	3	26.5
15-1090	1.95	7.5	4.5	3		0.39	<0.05	0.53	41	0.13	0.12	85	0.8	0.41	7	30
15-1099	2.49	6.5	4.1	3		0.32	<0.05	0.52	39.5	0.11	0.1	100	0.8	0.33	5	27
15-1100	12.1	9	2.9	3		0.24	0.05	0.34	24.5	0.09	0.07	90	1.6	0.18	4	18.5
15-1112	1.66	5	3.3	3		0.27	<0.05	0.69	30.5	0.11	0.12	160	0.9	0.35	4	22
15-1113	2.46	5.5	3.9	3		0.31	<0.05	0.77	35	0.12	0.1	135	1.1	0.36	3	26.5
15-1117	2.49	4.2	3.3	3		0.25	<0.05	0.59	30.5	0.1	0.5	130	1.2	0.76	2	23
15-1118	5.61	6.5	2.4	2		0.2	<0.05	0.41	21.5	0.09	0.09	100	1.9	0.18	2	16
15-1120	1.61	3.6	2.4	2		0.2	<0.05	0.57	21.5	0.08	0.68	170	0.9	1.65	1.5	16
15-1121	2	6	4	3		0.34	<0.05	0.98	34.5	0.14	0.17	135	0.9	0.43	3.5	25.5
15-1135	1.64	11.5	5.5	4		0.5	<0.05	1.41	44.5	0.19	0.34	115	0.5	1.19	7.5	43
15-1136	1.24	7.5	4.4	3		0.35	<0.05	1.09	35	0.12	0.21	90	0.3	1.01	5	34
15-1137	1.68	9.5	5	3		0.51	<0.05	1.24	37.5	0.19	0.3	125	0.7	0.91	6	35.5

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0964	7	800	6350	9.5	45	4200	7	1	6.5	4.2	56	0.39	<0.2	16.5	5250	9
15-0965	4	650	9850	12	41.5	5850	12	1	8	4.3	42	0.47	<0.2	19	5350	11
15-1011	8	700	8500	10.5	58	4750	10	<0.5	7.5	4.4	50	0.6	<0.2	19.5	5500	10.5
15-1052	9	210	15.5	5.5	24	250	<0.5	<0.5	3.6	1.9	38.5	0.29	<0.2	13.5	3200	0.2
15-1053	8	230	20	8	21.5	100	<0.5	<0.5	4.9	1.3	31.5	0.37	<0.2	22.5	2550	0.1
15-1060	5	270	18	6.5	24.5	300	<0.5	<0.5	4	1.7	48.5	0.33	<0.2	12.5	3400	0.2
15-1066	4	300	11	7.5	19	400	<0.5	<0.5	4.5	1.1	38	0.34	<0.2	10.5	2100	0.1
15-1071	5	250	11.5	6.5	21	300	<0.5	<0.5	4.1	1.2	35.5	0.31	<0.2	10	2300	0.1
15-1080	2	170	8.5	7.5	20.5	100	<0.5	<0.5	4.8	1	36	0.35	<0.2	11.5	2150	0.1
15-1090	8	160	15.5	9.5	23.5	250	<0.5	<0.5	6	1.6	40.5	0.45	<0.2	14	2700	0.2
15-1099	8	210	15.5	8.5	24	350	<0.5	<0.5	5.5	1.6	35.5	0.41	<0.2	13.5	2700	0.2
15-1100	6	240	29	6	16.5	150	0.5	<0.5	3.9	1.3	22	0.28	<0.2	21.5	2200	0.1
15-1112	6	195	33.5	7	28.5	350	<0.5	0.5	4.7	1.1	45	0.31	<0.2	10.5	2050	0.3
15-1113	7	165	32.5	8.5	30.5	200	0.5	<0.5	5.5	1.1	46	0.36	<0.2	12.5	2250	0.3
15-1117	5	140	29	7	19	1150	0.5	0.5	4.6	0.8	135	0.33	<0.2	11.5	1550	0.2
15-1118	5	100	45	5	15.5	100	1	0.5	3.4	1.2	34	0.25	<0.2	14	1550	0.2
15-1120	4	145	20	5	18	2150	<0.5	0.5	3.3	0.7	210	0.23	<0.2	7.5	1250	0.2
15-1121	7	100	30.5	8	37.5	100	<0.5	0.5	5.5	1.2	57	0.41	<0.2	12	2300	0.4
15-1135	8	150	24.5	11.5	56	1000	<0.5	1	8	2.3	80	0.59	<0.2	17	2950	0.6
15-1136	7	110	19	9	36.5	700	<0.5	<0.5	6	1.4	65	0.46	<0.2	13	2100	0.4
15-1137	11	115	26	9.5	48.5	3700	<0.5	1	6.5	2	70	0.53	<0.2	12.5	2450	0.5

Loams

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0964	0.15	3.2	87	2.2	9.5	1.05	175	
15-0965	0.15	3.5	91	2.3	10.5	1.1	220	
15-1011	0.15	3.8	87	2.6	10	1.1	195	
15-1052	0.15	1.65	52	0.7	8	0.8	12.5	
15-1053	0.1	2.2	115	0.4	7.5	0.8	8.5	
15-1060	0.1	1.75	42	0.6	8	0.85	14.5	
15-1066	0.1	1.65	24	0.2	7	0.75	10.5	
15-1071	0.1	1.75	25	0.3	7	0.75	9	
15-1080	0.1	1.75	27	0.2	7.5	0.7	6	
15-1090	0.15	2	48	0.6	8.5	0.9	9	
15-1099	0.15	1.95	48	0.3	8	0.8	11	
15-1100	0.1	1.95	145	0.2	5.5	0.65	12.5	
15-1112	0.1	1.55	35	0.2	6.5	0.75	15	
15-1113	0.1	1.8	46	0.2	7	0.75	11	
15-1117	0.1	1.85	45	0.1	6	0.65	10	
15-1118	0.1	1.4	81	0.1	4.9	0.55	12	
15-1120	0.1	1.15	33	0.1	4.9	0.55	9	
15-1121	0.15	1.6	44	0.2	8.5	0.9	12	
15-1135	0.15	2.8	47	1.1	11	1.3	22.5	
15-1136	0.1	2	34	0.7	7.5	0.9	14.5	
15-1137	0.15	2.4	42	0.8	11.5	1.25	17	

Sample no						Description													
Sample_no	Sample_id	Zone	Eastng_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to												
15-1131	N27.2	54	319801	6138616.8	Loam/clay	0.125	Sandy clay-loam with loamy-clay lumps with mottles												
15-1134	N27.5	54	319801	6138616.8	Loam/clay	0.7	Sulfuric horizon. Clay loam with mottles.												
Sample_no SiO2_XRF TiO2_XRF Al2O3_XRF Fe2O3_XRF MnO_XRF MgO_XRF CaO_XRF K2O_XRF Na2O_XRF P2O5_XRF LOI TOTAL Ag																			
15-1131																	0.1		
15-1134																	0.2		
Sample_no																			
15-1131	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu			
15-1131	6.17	3.5	1	490	0.2	0.66	<0.1	77		6	37	2.3	12	3.6	1.6	1.45			
15-1134	4.25	5.5	2	400	0.3	0.3	<0.1	63		2.9	30	1.8	12	2.2	0.9	0.98			
Sample_no																			
15-1131	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd			
15-1131	1.92	11.5	5.5	4		0.59	<0.05	1.42	39	0.22	0.52	260	0.5	1.52	7	39.5			
15-1134	1.96	9	3.6	3		0.34	<0.05	1.12	31.5	0.14	0.29	95	0.7	1.19	5.5	28			
Sample_no																			
15-1131	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl			
15-1131	10	140	28	10.5	56	5750	<0.5	0.5	7.5	2.2	99	0.61	<0.2	14.5	2650	0.6			
15-1134	6	125	22.5	7.5	39.5	3700	<0.5	1	5	1.8	71	0.4	<0.2	13	2250	0.5			
Sample_no																			
15-1131	Tm	U	V	W	Y	Yb	Zn	Zr_XRF											
15-1131	0.2	2.8	46	1	14	1.5	21												
15-1134	0.1	2.8	40	1	8	0.95	14.5												

Sandy loams

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description					
15-1114	W0.3	54	318370	6136843.2	Loam/sand	0.25		E-hrzn; at dry edge of discharge zone; tall wheat grass					
15-1115	W0.4	54	318370	6136843.2	Loam/sand	0.35		E-hrzn. at dry edge of discharge zone; tall wheat grass					
15-1130	N27.1	54	319801	6138616.8	Loam/sand	0.05		Clayey sand matrix and loamy lumps with mottles					
15-1132	N27.3	54	319801	6138616.8	Loam/sand	0.175		Loamy sand matrix; sandy-clay loam lumps with mottles					
15-1133	N27.4	54	319801	6138616.8	Loam/sand	0.4		Sulfuric hrzn; loamy sand with lumps; jarosite					
Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-1114													0.3
15-1115													2.5
15-1130													0.2
15-1132													0.2
15-1133													0.1

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1114	2.34	13	<1	310	0.3	0.16	<0.1	59		2.1	32	1.3	8	2	0.8	0.8
15-1115	3.2	49.5	<1	290	0.6	0.1	<0.1	61		2.9	90	1.3	21	1.9	0.8	0.81
15-1130	7.85	4	<1	550	0.3	0.68	0.2	98		6	48	3	14	4	1.7	1.65
15-1132	3.7	2.5	<1	400	0.3	0.32	<0.1	64		2.6	28	1.5	10	2.4	0.95	1
15-1133	3.73	3	1	390	0.2	0.46	<0.1	65		2.5	23	1.4	9	2.2	0.9	1

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1114	3.1	6	4	3		0.29	<0.05	0.73	34.5	0.11	0.09	125	1.1	0.32	3	25.5
15-1115	10.7	11	3.3	4		0.29	0.05	0.69	35.5	0.11	0.09	95	3.3	0.2	5	24
15-1130	2.62	14.5	6.5	4		0.66	0.05	1.62	48	0.22	0.48	250	0.7	1.02	9.5	45.5
15-1132	1.48	7.5	4.1	3		0.35	<0.05	1.13	32.5	0.14	0.27	115	0.4	1.19	5	30.5
15-1133	1.46	7.5	4.2	3		0.32	<0.05	1.1	33	0.12	0.29	105	0.4	1.25	5	30.5

Sandy loams

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1114	5	125	33.5	8	30	100	1	0.5	5	1.2	41	0.36	<0.2	15	2200	0.4
15-1115	7	195	87	8	29	100	1.5	<0.5	4.9	1.6	40	0.36	<0.2	26.5	2400	0.5
15-1130	13	180	32	12.5	70	1550	<0.5	1	8.5	2.9	110	0.7	<0.2	17.5	3300	0.7
15-1132	7	115	18.5	8	38	1850	<0.5	1	5.5	1.6	75	0.42	<0.2	13.5	2000	0.4
15-1133	5	105	26.5	8	37	4900	<0.5	1	5.5	1.7	83	0.41	<0.2	12.5	2000	0.4

Sample_no

Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-1114	0.1	1.8	56	0.1	7	13.5	
15-1115	0.1	2.1	155	0.4	6.5	14	
15-1130	0.2	3	56	1.6	15.5	29.5	
15-1132	0.1	2.9	32	0.8	8	13	
15-1133	0.1	2.1	32	0.8	8	13.5	

Sample no	Sample id	Zone	Easting	GDA94 Northing	GDA94 Code	Depth fr	Depth to	Description
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15-1147	DD84KA2	54	318056.8	6136913.2	Ore	235.88	siliceous rock with fine-grained disseminated sulfides									
15-1148	DD84KA1	54	318154.8	6136540.2	Ore	311.27	coarse-grained sulfides (sphalerite and pyrite)									
15-1149	MT77DD1	54	318041.8	6137548.2	Ore	166.85	clastic rock with dissem pyr & sph (rare pyr-sph bands)									
Sample_no																
15-1147	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	CL_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag		
15-1147	69.16	0.24	9.31	3.02	0.14	0.58	3.74	2.34	1.72	0.09	0.09	1.51	91.85	22		
15-1148	12.8	0.09	2.11	22.54	0.55	0.38	12.22	0.62	1.79	0.05	0.05	21.53	74.68	6		
15-1149	29.69	0.21	4.92	8.91	0.51	0.49	11.83	1.05	1.44	0.08	0.08	13.6	89.71	3.2		
Sample_no																
15-1147	Al	As	Au	Ba	Bi	Ca	Cd	Ce	CL_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1147	5.11	135	1	290	0.4	2.88	1.2	59	0.11	5	23	3.7	60	3	1.65	0.97
15-1148	1.28	450	6	35	10	10.4	1950	30.5	0.06	8	11	0.3	110	2.2	1.1	0.49
15-1149	3.66	600	4	110	0.4	11.8	900	47.5	0.08	7.5	21	3.1	125	3.9	2.1	0.87
Sample_no																
15-1147	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1147	2.03	11	4	2	<0.05	0.55	<0.05	2.08	29.5	0.23	0.34	1050	2.8	1.4	5.5	26
15-1148	18	6	2.8	<1	<0.05	0.4	0.4	0.6	15.5	0.13	0.18	4900	24	0.21	1.5	14
15-1149	7.86	9	4.6	2	<0.05	0.74	0.05	1.23	22	0.26	0.32	4750	16	0.79	5.5	23
Sample_no																
15-1147	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1147	12	350	22900	7	63	16700	10	1	5	2.7	85	0.48	<0.2	8.5	1650	23
15-1148	25	185	5600	3.6	18.5	233000	2	1.5	2.8	0.8	160	0.32	0.9	2.9	700	30.5
15-1149	26	350	700	6	41	114000	0.5	0.5	4.8	2.3	200	0.54	<0.2	8.5	1850	88
Sample_no																
15-1147	Tm	U	V	W	Y	Yb	Zn	Zr_XRF								
15-1147	0.25	1.8	28	1.4	14.5	1.6	60	129								
15-1148	0.15	1.35	17	0.8	14	0.85	83100	<5								
15-1149	0.3	1.9	32	0.6	23	1.8	48300	79								

Sands

Sample_no	Sample_id	Zone	Eastings_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description					
15-0945	N34.3 red	54	319871.8	6138618.2	Sand		1.655	iron oxide rich sandy red					
15-0947	N34.4	54	319871.8	6138618.2	Sand		1.95	Fe-rich root channels; more sandy					
15-0991	MT051.3a	54	317751.8	6137838.2	Sand		0.78	or-bn ferruginous sands (70-95cm)					
15-0996	MT056.4	54	317999.8	6136662.2	Sand		0.15	sandy ?jarositic layer (~15cm) - Prices					
15-1005	N25.1 b	54	319749.8	6138596.2	Sand	0.2	0.5	sandy material with vertical roots with jar and natrojar					
15-1007	N34.3	54	319871.8	6138618.2	Sand		1.54	Sand yellow green (5-8cm thick					
15-1061	A3 10<20 E	54	319109.1	6136989.2	Sand		0.15	Herrm topo; red brn sandy loam; 10-15% clay and grav					
15-1072	A8 20-30 E[w]	54	319056.7	6137136.2	Sand		0.25	Herrm topo; brn-gy mott sand (5% clay); bleached zones					
15-1073	A8 40 E[w]	54	319056.7	6137136.2	Sand		0.4	Herrmanns topo - pale grey sand					
15-1091	A10 15<25 E[w]	54	319039.1	6137188.2	Sand		0.2	Herrmanns topo - saline sandy bleached grey.					
15-1277	A11 20-33	54	319022.3	6137234.2	Sand		0.265	Herrmanns topo - saline bleached horizon sandy					
Sample_no	SiO2_XRFTiO2_XRFAI2O3_XRFFe2O3_XRFMnO_XRFMgO_XRFCaO_XRFK2O_XRFNa2O_XRFP2O5_XRF	LOI	TOTAL	Ag									
15-0945	66.13	0.48	9.32	5.14	0.01	0.43	0.27	0.76	0.79	0.07	16.50	99.90	0.3
15-0947													0.2
15-0991													0.1
15-0996													0.3
15-1005													0.1
15-1007													0.1
15-1061	85.97	0.65	6.13	2.64	0.02	0.12	0.19	0.74	0.52	0.06	3.32	100.36	0.1
15-1072	90.63	0.45	3.72	2.46	0.01	0.08	0.15	0.64	0.47	0.04	1.33	99.97	<0.1
15-1073	86.53	0.61	5.53	3.13	0.01	0.10	0.14	0.74	0.50	0.05	2.04	99.38	<0.1
15-1091	76.01	0.64	9.90	6.94	<0.01	0.23	0.17	0.87	0.42	0.08	4.72	99.99	<0.1
15-1277	80.82	0.68	8.49	3.08	0.02	0.24	0.23	1.22	0.54	0.05	3.54	98.91	<0.1

Sands

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0945	1.95	8	<1	175	0.4	0.14	<0.1	87		1.7	20	0.7	9	1.85	0.75	0.94
15-0947	4.78	11	1	290	0.5	0.3	<0.1	87		5	37	3.1	21	2.4	1	1.05
15-0991	2.81	2.5	<1	430	0.2	0.24	<0.1	91		5	10	0.8	5	2.6	1.1	1.3
15-0996	5.38	7.5	<1	250	0.4	0.19	0.1	77	0.21	7.5	41	3.7	21	2.6	1.25	1
15-1005	2.8	3.5	<1	290	0.2	0.15	<0.1	63		1.8	14	1.2	12	1.6	0.7	0.77
15-1007	2.84	4.5	<1	210	0.3	0.2	<0.1	58		1.7	14	1	8	1.6	0.7	0.7
15-1061	4.3	12.5	<1	195	0.6	0.12	<0.1	40.5		4	120	0.9	5	1.35	0.7	0.56
15-1072	1.85	<0.5	1	165	0.3	0.12	<0.1	66		1.5	16	0.8	5	1.8	0.85	0.61
15-1073	3.14	1	2	220	0.4	0.14	<0.1	82		1.9	24	1.4	7	2.3	1	0.86
15-1091	3.03	11	<1	210	0.3	0.14	<0.1	67		1.6	56	1.1	7	2.3	0.9	0.75
15-1277	4.34	4	18.5	380	0.2	0.145	<0.1	60		1.8	29	1.5	5	1.65	0.75	0.82

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0945	2.07	5.5	4.2	2		0.29	<0.05	0.4	44.5	0.1	0.1	75	0.9	0.7	1.5	36.5
15-0947	3	14.5	4.5	4		0.39	<0.05	1.05	45	0.14	0.46	95	1	1.21	7	35
15-0991	1.02	6.5	5	3		0.46	<0.05	1.23	48.5	0.14	0.1	330	0.4	1.03	2.5	41.5
15-0996	3.38	14	4	2		0.47	<0.05	0.64	41.5	0.15	0.27	75	1.5	0.59	6	32
15-1005	1.25	6.5	3.2	3		0.24	<0.05	0.76	33	0.09	0.12	70	0.7	0.59	2.5	31.5
15-1007	1.43	6.5	3.2	3		0.27	<0.05	0.54	31	0.09	0.15	65	0.6	1	3	29.5
15-1061	10.7	16	2.5	4		0.25	0.1	0.55	22	0.1	0.07	130	1	0.21	6.5	16
15-1072	1.81	4.6	3.9	3		0.31	<0.05	0.49	36.5	0.13	0.05	75	0.3	0.33	3.5	26
15-1073	2.38	8	4.8	3		0.39	<0.05	0.66	47.5	0.14	0.07	70	0.2	0.35	1	31.5
15-1091	5.24	8.5	4.2	4		0.33	<0.05	0.51	40.5	0.13	0.08	70	1.6	0.27	6.5	29.5
15-1277	1.47	12.5	2.6	4		0.31	<0.05	1.14	37	0.14	0.135	80	1.2	0.415	10	25

Sands

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0945	5	125	58	10.5	14.5	850	<0.5	<0.5	7	1.2	34.5	0.38	<0.2	11	1500	0.2
15-0947	11	165	39.5	10	53	4950	<0.5	1	7	2.2	82	0.42	<0.2	16	2900	0.7
15-0991	7	115	22	12	37	<50	<0.5	0.5	8.5	1	76	0.51	<0.2	12	1600	0.3
15-0996	19	270	46	8	84	8150	<0.5	1	6	2.5	68	0.58	<0.2	12	2750	0.5
15-1005	8	95	16.5	7.5	39	850	<0.5	<0.5	5.5	1.5	54	0.4	<0.2	10.5	1550	0.3
15-1007	5	110	17	7	29	2750	<0.5	<0.5	4.9	1.2	62	0.39	<0.2	10	1650	0.3
15-1061	9	120	29	4.8	20	100	<0.5	<0.5	2.7	2.1	32	0.25	<0.2	32	3400	0.1
15-1072	4	100	10	7.5	19.5	<50	<0.5	<0.5	4.7	1	32.5	0.38	<0.2	11.5	2400	0.1
15-1073	6	100	13.5	9.5	31.5	<50	<0.5	<0.5	5.5	1.5	41	0.45	<0.2	14.5	3350	0.2
15-1091	5	135	20.5	9	20.5	50	<0.5	<0.5	6	1.9	31	0.43	<0.2	17.5	2900	0.1
15-1277	6	105	25	7	47	50	<0.5	0.5	4.1	2.9	49	0.36	<0.2	10	4000	0.3

Sample_no

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0945	0.1	1.55	40	0.4	7	0.7	18	
15-0947	0.15	2.9	61	1.1	9.5	0.95	39	
15-0991	0.15	1.9	22	0.3	11.5	1	6	
15-0996	0.15	1.65	68	0.8	12.5	1	26	205
15-1005	0.1	1.55	23	0.3	6.5	0.7	11	
15-1007	0.1	1.55	29	0.4	6.5	0.7	16	
15-1061	0.1	1.65	180	0.5	6	0.65	11	
15-1072	0.1	1.95	29	<0.1	7.5	0.85	6.5	
15-1073	0.15	2.5	41	<0.1	9.5	0.95	6.5	
15-1091	0.15	2	91	0.5	8	0.8	8.5	
15-1277	0.15	2.5	58	1.1	8.5	0.85	14	

Saprolite

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0906	MT004	54	317829.8	6137971.2	Sap	0		ferrug chert with boxworks after pyrite
15-0922	MT018	54	318165.8	6135068.2	Sap	0		sil ferrug saprolite with boxworks
15-0950	N34.6	54	319871.8	6138618.2	Sap	1.7		saprolite with some roots
15-0980	MT038.5	54	318579.8	6138246.2	Sap	1.95		saprolite (mottled grey/yell-bn)
15-1056	A1 75-87 C[r-y]	54	319149.9	6136872.2	Sap	0.81		Herrm topo; red-yell mottled C layer; ferricrete nodules
15-1058	A1 145-150 C[w]	54	319149.9	6136872.2	Sap	1.48		Herrm topo; white loose sap; sparse red-yell mottles
15-1059	A1 150-162 C[p-r-y]	54	319149.9	6136872.2	Sap	1.56		Herrm topo; bands of purp/red/yell/white micac. sap
15-1064	A3 115-127BC[r-y-w]	54	319109.1	6136989.2	Sap	1.21		Herrm topo - red-yellow-white mottled BC layer along fol
15-1065	A3 170-182 C[w]	54	319109.1	6136989.2	Sap	1.76		Herrmanns topo - white loose micaceous saprolite
15-1069	A7 112-123 C[y]	54	319064.2	6137113.2	Sap	1.18		Herrmanns topo - yellow saprolite
15-1070	A7 112-123 C[w]	54	319064.2	6137113.2	Sap	1.18		Herrmanns topo - white saprolite
15-1077	A8 183-195 C[w]	54	319056.7	6137136.2	Sap	1.87		Herrmanns topo - white saprolite
15-1078	A8 225-230 C[w]	54	319056.7	6137136.2	Sap	2.27		Herrmanns topo - white saprolite
15-1079	A8 225-230 C[r-y]	54	319056.7	6137136.2	Sap	2.27		Herrmanns topo - red and yellow mottled saprolite
15-1084	A9 120-130 C[g]/C[y-r]	54	319048	6137162.2	Sap	1.25		Herrmanns topo - saprolite (mottled red/yell/gn)
15-1085	A9 141-150 C[y-r](op)	54	319048	6137162.2	Sap	1.45		Herrmanns topo - saprolite (mottled red/yell)
15-1086	A9 153-160 C[w]/C[g]	54	319048	6137162.2	Sap	1.56		Herrmanns topo - saprolite (white/green)
15-1087	A9 153-160 C[r-y]	54	319048	6137162.2	Sap	1.56		Herrmanns topo - saprolite (mottled red/yell)
15-1088	A9 180-200 C[g]	54	319048	6137162.2	Sap	1.9		Herrmanns topo - saprolite
15-1089	A9 180-200 C[r-y]	54	319048	6137162.2	Sap	1.9		Herrmanns topo - saprolite (mottled red/yell)
15-1094	A10 95-105 C[w/rc]	54	319039.1	6137188.2	Sap	1		Herrmanns topo - saline saprolite (red/white)
15-1095	A10 150-160 C[g]	54	319039.1	6137188.2	Sap	1.55		Herrmanns topo - saline saprolite (grey)
15-1096	A10 150-160 GC[wm]	54	319039.1	6137188.2	Sap	1.55		Herrmanns topo - saline saprolite (white matrix)
15-1097	A10 150-160 GC[wq]	54	319039.1	6137188.2	Sap	1.55		Herrmanns topo - saline saprolite (white pores?)
15-1098	A10 150-160 GC[y-r]	54	319039.1	6137188.2	Sap	1.55		Herrmanns topo - saline saprolite (mottled red/yell)
15-1105	A11 228-232 C[g]	54	319022.3	6137234.2	Sap	2.3		Herrmanns topo - saline saprolite gleyed matrix
15-1106	A11 228-232 C[w]	54	319022.3	6137234.2	Sap	2.3		Herrmanns topo - saline white saprolite areas
15-1168	MTG2	54	317846.8	6137803.2	Sap	0.2		white goethitic pitted metasiltstone
15-1170	MTG2	54	317846.8	6137803.2	Sap	0.4		white goethitic pitted metasiltstone
15-1172	MTG2	54	317846.8	6137803.2	Sap	0.9		white goethitic pitted metasiltstone

Saprolite

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-0906	58.61	0.67	12.83	2.17	0.00	0.33	0.42	8.74	0.07	0.03	1.09	84.96	0.3
15-0922	70.19	0.7	14.32	3.22	0.01	0.09	0.35	0.26	8.09	0.08	2.03	99.34	0.4
15-0950													1.1
15-0980													0.2
15-1056	46.95	0.81	28.96	8.43	<0.01	0.34	0.14	0.69	0.11	0.17	13.55	100.17	0.3
15-1058	57.20	0.74	25.21	3.21	<0.01	0.47	0.10	1.55	0.17	0.04	10.14	98.82	0.2
15-1059	53.50	0.66	19.65	15.29	<0.01	0.18	0.05	1.46	0.12	0.03	7.92	98.85	0.3
15-1064	58.38	0.77	23.30	5.11	<0.01	0.25	0.10	0.66	0.10	0.06	10.09	98.83	0.3
15-1065	69.32	0.79	18.73	2.50	<0.01	0.14	0.05	0.46	0.08	0.40	7.62	100.10	0.2
15-1069	63.83	0.57	11.28	14.89	0.01	0.37	0.04	0.47	0.05	0.10	7.42	99.04	0.2
15-1070	65.34	0.96	21.75	1.32	<0.01	0.16	0.03	1.40	0.16	0.08	7.47	98.67	0.4
15-1077	62.44	0.66	19.59	4.37	<0.01	0.47	0.14	0.57	0.21	0.07	10.01	98.53	0.3
15-1078	60.35	0.81	24.43	2.11	<0.01	0.23	0.07	0.69	0.17	0.08	9.85	98.78	0.2
15-1079	69.75	0.67	16.89	3.98	0.01	0.41	0.08	0.42	0.09	0.09	7.34	99.73	0.2
15-1084	59.50	0.75	18.23	7.51	0.03	1.55	0.15	2.00	0.27	0.21	8.90	99.08	0.3
15-1085	69.43	0.68	16.30	4.48	0.01	0.35	0.07	0.69	0.14	0.05	6.96	99.15	0.4
15-1086	65.52	0.94	20.11	1.39	0.01	0.63	0.15	2.66	0.41	0.11	6.58	98.50	0.3
15-1087	52.20	0.75	18.77	12.61	0.03	1.89	0.34	5.07	0.46	0.09	6.63	98.84	0.2
15-1088	54.38	0.67	17.23	13.21	0.03	2.35	0.33	4.41	0.42	0.08	6.06	99.17	0.3
15-1089	51.66	0.67	17.15	15.91	0.04	2.50	0.20	4.04	0.38	0.22	6.24	99.01	0.3
15-1094	59.02	0.84	23.78	2.71	<0.01	0.61	0.13	2.26	0.31	0.06	9.14	98.86	0.4
15-1095	73.27	0.71	16.24	1.43	0.01	0.28	0.07	0.98	0.16	0.05	6.24	99.45	0.4
15-1096	60.59	0.91	25.55	0.83	<0.01	0.36	0.03	3.85	0.30	0.05	6.72	99.19	0.4
15-1097	76.11	0.73	15.39	0.76	<0.01	0.13	0.05	0.20	0.13	0.07	6.11	99.67	0.3
15-1098	73.11	0.67	15.77	3.35	<0.01	0.17	0.06	0.36	0.10	0.21	6.47	100.28	0.3
15-1105	60.84	0.68	19.92	5.25	0.01	0.81	0.18	1.25	0.34	0.04	9.97	99.29	0.3
15-1106	78.32	0.86	14.08	0.77	<0.01	0.12	0.05	0.20	0.10	0.11	5.86	100.46	0.3
15-1168	66.82	0.87	9.79	13.78	0.00	0.21	0.11	0.50	0.04	0.03	7.50	99.65	0.8
15-1170	66.95	0.71	8.71	14.65	0.00	0.11	0.02	0.26	0.04	0.02	8.25	99.72	1
15-1172	69.06	0.92	8.55	13.55	0.00	0.05	0.15	0.06	0.00	0.02	7.63	99.94	1

Saprolite

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	CL_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0906	4.28	5	<1	20	<0.1	0.25	<0.1	4	0.04	0.8	30	<0.1	11	0.55	0.5	0.11
15-0922	3.39	7.5	4	50	0.2	0.21	<0.1	19.5	0.02	0.6	38	0.1	27	1.55	0.9	0.38
15-0950	6.32	20.5	1	320	0.4	0.15	<0.1	300		11.5	39	2.7	115	14	6.5	6
15-0980	3.88	4.5	<1	370	0.3	0.21	<0.1	110		5	20	2.1	11	3.2	1.45	1.45
15-1056	14.8	9.5	1	150	0.7	0.11	<0.1	42.5		9	67	3.5	7	2.6	1.5	0.91
15-1058	13.5	7.5	3	1000	0.8	0.1	<0.1	30		3.4	55	1.8	7	1.9	1	1.2
15-1059	11.5	14	2	230	1.1	0.05	<0.1	27		2.9	98	0.6	10	1.5	0.7	0.95
15-1064	12.6	4	2	260	0.5	0.11	<0.1	60		5	30	2.2	7	2.9	1.45	0.99
15-1065	9.68	0.5	<1	125	0.4	0.06	<0.1	45		2.9	15	0.6	8	1.85	0.95	0.71
15-1069	5.69	4	2	135	0.3	0.07	<0.1	89		8	46	11	95	2.9	1.1	1
15-1070	11.7	<0.5	2	550	0.8	0.06	<0.1	130		1.1	28	1.1	11	3.3	1.2	1.35
15-1077	11.1	1.5	2	350	1	0.12	<0.1	130		5.5	38	2.5	21	3.2	1.4	1.25
15-1078	13	<0.5	4	240	1	0.11	0.1	125		2.9	23	1.9	19	3	1.4	1.2
15-1079	7.6	3	2	220	0.5	0.09	<0.1	77		6.5	65	8.5	34	2.7	1.25	0.88
15-1084	8.67	6.5	6	430	0.5	0.2	<0.1	400		8.5	61	27.5	74	16	6.5	8
15-1085	8.13	12	2	210	0.7	0.07	<0.1	145		4.4	60	4.2	36	4.9	2	1.95
15-1086	9.96	4	2	750	0.8	1.03	<0.1	330		8.5	74	19	69	15	4.9	8
15-1087	8.86	12	5	800	0.9	1.11	<0.1	190		10.5	90	30.5	125	10	3.5	4.9
15-1088	7.72	20.5	3	700	1.3	1.31	<0.1	330		11	82	20	145	16	5	7.5
15-1089	9.22	7	2	800	0.8	0.28	<0.1	280		11	80	17.5	130	12	4.1	6
15-1094	14.4	4	1	800	0.6	0.16	<0.1	89		6.5	85	3.9	11	4.6	2.1	2
15-1095	13.1	3	<1	700	1	0.12	<0.1	88		5.5	62	2.9	9	4.6	2.1	1.9
15-1096	14.4	1	2	750	1.1	0.07	<0.1	95		2.2	53	1.6	6	4.3	1.7	1.8
15-1097	8.45	1.5	<1	115	0.5	0.07	<0.1	97		1.4	31	1.1	6	3.5	1.45	0.94
15-1098	8.12	7.5	1	95	0.6	0.07	<0.1	70		1.4	45	1	13	2.4	0.95	0.98
15-1105	11.1	16.5	2	460	0.7	0.14	<0.1	70		4.7	79	3.2	19	2.9	1.35	1.15
15-1106	7.74	7	<1	115	0.5	0.07	<0.1	200		1.9	32	0.5	11	5	1.6	1.7
15-1168	5.86	16	2	35	0.3	0.046	<0.1	50	0.01	1	50	0.7	270	1.1	0.5	0.4
15-1170	5.58	7.5	<1	70	0.2	0.0145	<0.1	38	0.00	0.7	57	0.8	350	0.84	0.6	0.28
15-1172	5.46	16	2	15	0.3	0.0135	<0.1	32	0.01	0.9	45	0.9	410	0.72	0.4	0.17

Saprolite

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0906	1.39	24	0.45	5		0.15	<0.05	0.06	2	0.13	0.14	15	2.9	6.64	14.5	2.2
15-0922	1.9	21.5	1.75	4		0.33	<0.05	0.22	6	0.14	0.02	20	10.5	6.05	15.5	12
15-0950	4.17	16.5	22.5	4		2.5	<0.05	1.68	145	0.66	0.67	155	2.8	0.64	10.5	150
15-0980	1.76	11	6	4		0.53	<0.05	1.17	54	0.17	0.28	150	1.1	0.75	3	47
15-1056	7.71	34	3.4	5		0.49	0.1	0.56	16	0.22	0.2	40	1.4	0.07	12.5	15.5
15-1058	4.06	30.5	3	4		0.37	0.1	1.51	27	0.15	0.24	35	0.6	0.12	15	15
15-1059	10.3	27	2.1	4		0.28	0.1	0.67	27	0.11	0.07	15	0.5	0.06	15	10
15-1064	2.81	31	4.2	5		0.58	0.05	0.59	41	0.18	0.15	35	0.8	0.07	14	25
15-1065	1.04	23	3	6		0.34	<0.05	0.18	27.5	0.13	0.07	30	0.2	0.04	15.5	16
15-1069	12.1	14.5	6.5	4		0.44	0.05	0.51	56	0.16	0.35	100	0.4	0.04	7.5	42
15-1070	0.74	31	8	5		0.48	0.05	1.61	83	0.17	0.11	25	0.2	0.15	21	57
15-1077	2.18	26	6.5	5		0.53	<0.05	0.49	110	0.18	0.21	50	0.4	0.12	15.5	46
15-1078	1.11	22.5	6.5	5		0.48	<0.05	0.34	125	0.19	0.13	35	0.2	0.08	15.5	48
15-1079	4.77	19	4.9	5		0.45	0.05	0.45	56	0.17	0.33	100	0.2	0.08	11	30.5
15-1084	5.01	25.5	33.5	4		2.5	0.05	1.48	210	0.54	0.92	165	0.5	0.2	14	210
15-1085	4.39	20.5	9	5		0.76	<0.05	0.39	76	0.25	0.15	65	0.4	0.1	13.5	56
15-1086	4.78	26	27.5	4		1.95	0.1	2.54	185	0.44	1.05	155	0.5	0.27	15	185
15-1087	11.4	24.5	17.5	3		1.4	0.15	3.06	105	0.35	1.2	185	0.6	0.28	12.5	105
15-1088	11.8	22.5	28.5	4		2.1	0.1	2.76	170	0.46	1.3	200	1.3	0.24	12.5	180
15-1089	9.53	25	22	3		1.6	0.15	3.16	145	0.38	1.41	220	1.3	0.27	14.5	140
15-1094	2.11	33	7.5	5		0.75	0.1	2.27	56	0.25	0.55	65	0.8	0.27	19	45
15-1095	1.47	33.5	7	6		0.77	0.1	1.76	58	0.26	0.39	50	0.7	0.19	20	48
15-1096	0.51	34	7	5		0.66	0.1	2.43	51	0.23	0.21	35	0.4	0.18	21.5	45
15-1097	0.4	21.5	6	6		0.49	<0.05	0.17	54	0.18	0.07	35	0.3	0.07	15.5	44.5
15-1098	1.55	19.5	4.2	5		0.36	<0.05	0.27	38	0.15	0.07	30	0.4	0.06	13.5	29.5
15-1105	3.23	27.5	5	4		0.49	0.1	1.27	35.5	0.2	0.46	60	0.8	0.25	15.5	29.5
15-1106	0.65	20	10.5	5		0.64	<0.05	0.17	125	0.18	0.11	25	0.4	0.08	19	75
15-1168	9.72	20	2.6	4		0.21	<0.05	0.425	25	0.1	0.145	10	12.5	0.044	<5	25.5
15-1170	11.1	22	1.8	3		0.13	<0.05	0.23	18.5	0.06	0.07	10	5.5	0.05	<5	18.5
15-1172	10.3	19	1.25	4		0.14	<0.05	0.05	18	0.09	0.04	10	10	0.031	10	13.5

Saprolite

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0906	<2	125	5.5	0.6	0.1	650	<0.5	2	0.45	2.5	65	0.06	<0.2	10.5	4300	0.1
15-0922	<2	280	3.5	3	1.2	2900	<0.5	0.5	2.4	4.3	76	0.21	<0.2	10.5	4300	0.1
15-0950	23	390	135	43	83	750	0.5	2	33	2.8	56	2.5	<0.2	17	3500	1.1
15-0980	11	130	25.5	13.5	48.5	50	<0.5	0.5	10	1.7	65	0.6	<0.2	15.5	2300	0.4
15-1056	28	90	22.5	4.1	33	200	<0.5	<0.5	3.4	5	36	0.4	<0.2	27.5	4650	0.4
15-1058	16	75	15.5	4.5	41	300	<0.5	<0.5	3.1	5.5	49	0.3	<0.2	18	4600	0.3
15-1059	19	110	24	3.3	17.5	250	<0.5	1.5	2	3.7	27.5	0.23	<0.2	33.5	4350	<0.1
15-1064	26	130	17	7.5	27	50	<0.5	<0.5	4.4	4.4	57	0.44	<0.2	17	4550	0.4
15-1065	21	95	12	5	6.5	<50	<0.5	<0.5	2.9	3.9	31.5	0.32	<0.2	11	4900	<0.1
15-1069	16	290	7	12	52	300	<0.5	<0.5	7.5	1.8	22.5	0.59	<0.2	23	3300	0.5
15-1070	6	140	6	16.5	32	<50	<0.5	<0.5	10	6.5	28	0.71	<0.2	23	5700	0.2
15-1077	13	185	11.5	15	20	50	<0.5	<0.5	7.5	4.1	40.5	0.67	<0.2	20.5	4800	0.3
15-1078	13	190	24	16	13	<50	<0.5	<0.5	7.5	3.4	44	0.59	<0.2	15.5	4600	0.2
15-1079	18	280	10.5	9	40	100	<0.5	<0.5	5.5	2.6	27.5	0.48	<0.2	32	3950	0.5
15-1084	23	320	12.5	55	165	100	<0.5	<0.5	38.5	4	54	3.2	<0.2	16.5	4650	1.9
15-1085	21	120	18	17.5	22.5	50	<0.5	<0.5	12	3.4	21	0.93	<0.2	25.5	4550	0.2
15-1086	17	230	8	53	180	150	<0.5	<0.5	38	6	56	2.7	<0.2	14.5	4350	1.9
15-1087	19	260	12	30	240	200	<0.5	0.5	24	6	55	1.8	<0.2	12.5	3800	2.3
15-1088	19	700	10	50	200	200	0.5	<0.5	38.5	5.5	59	2.9	<0.2	19	3800	2
15-1089	17	550	8	40	210	150	<0.5	<0.5	30	6.5	42	2.2	<0.2	18	4100	2
15-1094	27	80	13.5	14	66	150	<0.5	<0.5	9.5	7	38.5	0.78	<0.2	19.5	5300	0.6
15-1095	34	90	13	14.5	55	100	<0.5	<0.5	10	7	27.5	0.77	<0.2	21	5950	0.4
15-1096	28	80	7.5	14	55	100	<0.5	<0.5	9.5	8	19	0.77	<0.2	22.5	5800	0.3
15-1097	22	85	8.5	13.5	7	50	<0.5	<0.5	9	3.2	10.5	0.64	<0.2	23.5	4800	<0.1
15-1098	19	105	18	9.5	13	50	<0.5	0.5	6	2.9	13	0.44	<0.2	20.5	4150	<0.1
15-1105	21	70	24.5	9	47.5	50	0.5	<0.5	6	5.5	34	0.48	<0.2	21.5	4500	0.4
15-1106	21	160	58	24	5.5	50	<0.5	<0.5	14	3.9	18.5	1.05	<0.2	27.5	5400	<0.1
15-1168	4	85	50	7	16	750	0.5	6.5	4.4	18.5	8.5	0.27	0.6	22	1500	0.3
15-1170	3	85	40	5	8	1400	<0.5	8	3.1	0.7	2.9	0.19	0.4	20.5	1600	0.2
15-1172	2	80	30	3.9	3.2	1600	<0.5	4.5	2.1	1.7	1.4	0.16	0.5	22	4350	0.2

Saprolite

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0906	0.1	1.45	48	1.2	3.1	0.75	7.5	150
15-0922	0.15	3.4	105	0.5	5.5	1.05	10	175
15-0950	0.8	5	76	0.7	53	5	93	
15-0980	0.15	2.2	39	0.2	14	1.2	15.5	
15-1056	0.2	2.1	145	2.1	13.5	1.55	19	
15-1058	0.15	1.5	110	3.7	9	1.1	13	
15-1059	0.1	1.45	175	1.7	6	0.65	10.5	
15-1064	0.2	1.75	73	2.7	14	1.2	27	
15-1065	0.15	1.8	31	1.1	8	0.85	7.5	
15-1069	0.1	3.8	120	0.2	9	1.05	30.5	
15-1070	0.15	5.5	63	4.3	11	1.05	8	
15-1077	0.2	4.1	57	1.8	12	1.25	16.5	
15-1078	0.15	4.4	40	1.1	12	1.25	19.5	
15-1079	0.15	3.3	105	0.6	10	1.2	34.5	
15-1084	0.75	2.6	78	1.5	54	4.3	76	
15-1085	0.3	3.6	110	0.6	18.5	1.9	41	
15-1086	0.65	2.7	95	2.5	41	3.5	76	
15-1087	0.5	2.4	125	2.4	31	2.6	86	
15-1088	0.7	4.2	125	2.3	39.5	3.9	87	
15-1089	0.55	3.5	105	2.8	32.5	3	86	
15-1094	0.3	2.5	125	2.7	20	1.9	17.5	
15-1095	0.3	3.2	125	2.2	18.5	1.9	18.5	
15-1096	0.25	3.1	135	3.1	15.5	1.55	9	
15-1097	0.2	2.4	82	0.8	11.5	1.25	8	
15-1098	0.15	2.2	84	0.8	8	1.05	14	
15-1105	0.2	3.3	115	1.6	11.5	1.4	17.5	
15-1106	0.2	4.5	73	0.6	14	1.2	16	
15-1168	0.1	1.75	135	3.4	4.9	0.5	26	238
15-1170	0.05	1.55	175	1.1	7.5	0.35	20	175
15-1172	0.1	3.1	99	2.9	3.2	0.45	30	225

Saprolite

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-1173	MTG2	54	317846.8	6137803.2	Sap	1.4		white goethitic pitted metasilstone
15-1174	MTG2	54	317846.8	6137803.2	Sap	1.7		white goethitic pitted metasilstone
15-1176	MTG2	54	317846.8	6137803.2	Sap	3.6		white goethitic pitted metasilstone
15-1177	MTG2	54	317846.8	6137803.2	Sap	4.7		white goethitic pitted metasilstone
15-1178	MTG2	54	317846.8	6137803.2	Sap	5.5		white goethitic pitted metasilstone
15-1179	MTG2	54	317846.8	6137803.2	Sap	6.9		white goethitic pitted metasilstone
15-1180	MTG2	54	317846.8	6137803.2	Sap	7.9		white goethitic pitted metasilstone
15-1182	MTG2	54	317846.8	6137803.2	Sap	9.8		white goethitic pitted metasilstone
15-1183	MTG2	54	317846.8	6137803.2	Sap	10.6		white goethitic pitted metasilstone
15-1184	MTG2	54	317846.8	6137803.2	Sap	12.6		white goethitic pitted metasilstone
15-1185	MTG2	54	317846.8	6137803.2	Sap	13.6		white goethitic pitted metasilstone
15-1186	MTG2	54	317846.8	6137803.2	Sap	14.5		white goethitic pitted metasilstone
15-1187	MTG2	54	317846.8	6137803.2	Sap	15.5		white goethitic pitted metasilstone
15-1212	MTG3	54	317787.8	6137553.2	Sap	10.5		weakly goethitic pitted metasilstone
15-1213	MTG3	54	317787.8	6137553.2	Sap	11.4		weathered metasilstone
15-1214	MTG3	54	317787.8	6137553.2	Sap	13.1		weathered metasilstone
15-1215	MTG3	54	317787.8	6137553.2	Sap	13.85		weathered metasilstone
15-1216	MTG3	54	317787.8	6137553.2	Sap	15.9		goethitic weathered metasilstone
15-1217	MTG3	54	317787.8	6137553.2	Sap	16.95		grey weathered metasilstone
15-1218	MTG3	54	317787.8	6137553.2	Sap	17.95		grey weathered metasilstone
15-1219	MTG3	54	317787.8	6137553.2	Sap	18.95		grey weathered metasilstone
15-1220	MTG3	54	317787.8	6137553.2	Sap	25.85		grey weathered metasilstone
15-1221	MTG3	54	317787.8	6137553.2	Sap	27.7		grey weathered metasilstone
15-1222	MTG3	54	317787.8	6137553.2	Sap	29.35		grey weathered metasilstone
15-1223	MTG3	54	317787.8	6137553.2	Sap	30.55		grey weathered metasilstone
15-1224	MTG3	54	317787.8	6137553.2	Sap	31.55		grey weathered metasilstone
15-1225	MTG3	54	317787.8	6137553.2	Sap	33.35		grey weathered metasilstone
15-1226	MTG3	54	317787.8	6137553.2	Sap	34.65		grey weathered metasilstone
15-1227	MTG3	54	317787.8	6137553.2	Sap	35.5		grey weathered metasilstone
15-1240	MTG4	54	317787.8	6137553.2	Sap	10.95		grey laminated weathered metasilstone

Saprolite

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-1173	61.08	0.84	10.77	17.59	0.00	0.28	0.03	0.74	0.29	0.03	8.01	99.66	0.3
15-1174	64.71	0.96	12.52	11.78	0.00	0.16	0.05	0.52	<0.01	0.02	8.42	99.14	0.3
15-1176	64.53	0.78	15.05	8.25	0.00	0.89	0.06	2.51	0.16	0.04	6.47	98.74	0.7
15-1177	61.90	0.60	10.08	17.30	0.00	0.38	0.05	2.13	0.05	0.05	6.80	99.34	1.7
15-1178	62.48	0.94	10.47	16.72	0.00	0.29	0.01	2.52	0.12	0.05	6.68	100.28	3.5
15-1179	67.23	0.99	14.03	8.25	0.00	0.35	0.03	1.10	0.67	0.04	7.26	99.95	8.5
15-1180	59.84	0.93	13.54	15.49	0.00	0.37	0.03	1.20	0.45	0.03	8.33	100.21	2
15-1182	69.82	0.88	11.71	7.86	0.00	0.18	0.06	2.99	0.76	0.03	5.30	99.59	9.5
15-1183	61.61	0.64	9.15	13.46	0.00	0.13	0.02	2.18	0.55	0.03	12.17	99.94	0.4
15-1184	65.82	0.81	11.85	11.50	0.00	0.14	0.10	1.25	0.31	0.02	8.68	100.48	0.5
15-1185	61.45	0.77	13.75	11.68	0.00	0.43	0.06	2.66	1.33	0.03	7.71	99.95	0.6
15-1186	56.02	0.78	8.64	17.80	0.00	0.13	0.02	2.84	0.90	0.06	12.76	100.47	6
15-1187	59.59	0.79	12.32	12.09	0.00	0.12	0.06	1.31	0.41	0.07	11.99	98.75	9.5
15-1212	74.06	0.28	2.54	12.56	0.06	0.51	0.07	0.78	0.44	0.11	6.12	97.53	8
15-1213	67.43	0.70	7.46	9.54	0.02	0.14	0.02	4.73	0.25	0.24	7.07	97.60	3.7
15-1214	67.80	0.74	13.04	7.36	0.01	0.24	0.05	3.18	0.20	0.25	5.83	98.70	11.5
15-1215	68.09	0.30	12.16	8.06	0.01	0.14	0.03	2.82	0.14	0.11	5.36	97.22	28.5
15-1216	76.45	0.32	13.62	1.83	0.01	0.10	0.04	2.03	0.09	0.05	5.12	99.66	15.5
15-1217	78.43	0.37	12.39	1.92	0.01	0.09	0.04	2.12	0.09	0.08	4.71	100.25	4.2
15-1218	77.23	0.30	9.86	3.45	0.01	0.10	0.05	2.28	0.06	0.07	4.27	97.68	41.5
15-1219	76.09	0.33	12.25	3.71	0.02	0.24	0.04	2.96	0.18	0.12	4.27	100.21	1.6
15-1220	76.01	0.26	11.48	2.82	0.02	0.16	0.03	3.19	0.10	0.25	3.89	98.21	3.9
15-1221	78.27	0.34	11.12	3.56	0.03	0.39	0.03	1.85	0.06	0.13	4.30	100.08	1.2
15-1222	78.41	0.38	11.60	2.47	0.03	0.30	0.04	2.09	0.09	0.14	4.15	99.70	1.6
15-1223	76.88	0.35	11.77	3.20	0.04	0.60	0.02	2.16	0.10	0.14	3.93	99.19	1.2
15-1224	75.41	0.60	11.68	4.81	0.05	0.82	0.03	1.83	0.10	0.11	4.24	99.68	0.6
15-1225	75.64	0.59	11.38	5.52	0.06	0.92	0.04	2.04	0.04	0.11	4.12	100.46	0.7
15-1226	76.27	0.33	11.43	4.01	0.03	0.66	0.05	2.33	0.10	0.13	4.42	99.76	0.5
15-1227	77.45	0.30	10.88	2.94	0.03	0.79	0.10	1.94	0.08	0.07	4.24	98.82	0.6
15-1240	52.21	0.74	4.65	19.10	0.01	0.17	0.06	2.89	0.41	0.17	15.50	95.91	16.5

Saprolite

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1173	6.85	17	2	45	0.3	0.0135	<0.1	53	0.09	1.1	74	1	400	1.1	0.6	0.32
15-1174	7.95	23	2	35	0.3	0.011	<0.1	41	0.01	0.6	49	1	380	1.05	0.55	0.29
15-1176	10.5	7.5	2	310	0.3	0.026	<0.1	63	0.02	0.4	28	1.2	165	1.5	0.95	0.35
15-1177	6.19	33	4	380	0.4	0.0115	<0.1	57	0.01	0.5	82	0.8	350	1.1	0.5	0.36
15-1178	6.41	42.5	6	330	0.6	0.0125	<0.1	57	0.01	0.5	68	1	230	1.1	0.5	0.27
15-1179	10.1	26	1.5	370	0.4	0.032	<0.1	61	0.01	0.3	31	1	155	1.3	0.6	0.34
15-1180	8.37	20.5	<1	80	0.3	0.022	<0.1	77	0.02	0.5	59	0.9	320	1.25	0.5	0.35
15-1182	6.63	7.5	9	550	0.3	0.034	<0.1	62	0.04	<0.2	31	0.9	115	1.1	0.5	0.36
15-1183	5.42	21	5	130	0.4	0.021	<0.1	42	0.04	0.3	46	1.1	550	1.05	0.5	0.22
15-1184	6.93	32.5	7	185	0.5	0.017	<0.1	42	0.06	0.4	57	1.4	350	1.05	0.5	0.26
15-1185	9.12	9	12	270	0.3	0.046	<0.1	39	0.07	0.4	64	1.5	370	0.81	0.4	0.26
15-1186	4.88	6	6	145	0.2	0.018	<0.1	61	0.07	0.4	62	1.1	450	1.15	0.55	0.47
15-1187	8.04	24.5	8	125	0.3	0.0185	<0.1	89	0.13	0.5	46	1.9	400	1.9	0.75	0.67
15-1212	1.04	320	4	270	5.5	0.038	0.3	26	0.06	2.5	31	0.2	370	0.75	0.4	0.27
15-1213	6.2	270	<1	220	1.5	0.022	0.1	120	0.07	1	37	1.1	210	3.3	1.25	1
15-1214	12.8	155	6	1400	1	0.035	0.3	280	0.05	0.9	31	1.2	650	9	3.6	3.1
15-1215	10.6	125	125	3100	0.3	0.033	0.4	67	0.04	1.5	42	0.8	410	2.2	0.95	1.1
15-1216	12.8	66	8	900	3	0.025	0.2	67	0.02	0.8	13	1	135	2.1	0.85	0.92
15-1217	11.8	110	4	800	0.9	0.028	0.3	77	0.06	0.5	3	0.8	110	2.5	1	0.95
15-1218	9.56	2100	28.5	1000	0.7	0.04	0.5	220	0.04	1.8	16	1.2	600	4.2	1.65	2.3
15-1219	9.61	290	3	1600	0.9	0.026	0.5	72	0.05	1	22	1.1	350	2.6	1.2	1.05
15-1220	8.46	270	7	3700	0.5	0.031	0.5	220	0.04	1.1	9	2.4	195	8	3.6	3.8
15-1221	8.15	95	3	850	0.4	0.031	0.2	100	0.06	1.4	12	2.8	150	4	1.8	1.5
15-1222	8.97	47.5	1	900	<0.1	0.026	<0.1	115	0.06	1.3	6	2.7	76	4.2	1.8	1.55
15-1223	9.32	38	2	1050	<0.1	0.027	0.1	100	0.08	1.8	9	5	89	3.8	1.75	1.5
15-1224	8.19	47.5	3	800	<0.1	0.035	0.1	110	0.12	3.9	32	5.5	155	4.6	2	1.8
15-1225	8.84	45	<1	1050	<0.1	0.037	0.1	80	0.09	4.1	28	6	240	4.4	2.1	1.45
15-1226	7.64	53	2	1400	<0.1	0.042	0.1	58	0.05	3.2	15	2.8	240	3.6	1.95	1.25
15-1227	7.59	18	2	1200	<0.1	0.037	<0.1	36	0.06	2.1	10	2.3	190	2.8	1.65	0.92
15-1240	2.55	3900	15	120	7	0.026	0.1	52	0.12	0.7	86	0.9	480	1.3	0.55	0.43

Saprolite

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1173	13.4	21	2.4	4		0.18	<0.05	0.63	28	0.1	0.165	5	9	0.03	<5	25
15-1174	8.8	21.5	2.1	4		0.18	<0.05	0.455	22	0.12	0.1	5	10	0.03	5	20
15-1176	6.09	23	2.5	6		0.29	<0.05	2.15	45.5	0.2	0.425	10	12.5	0.1	10	24
15-1177	12.8	21	2.4	3		0.18	<0.05	1.84	35	0.09	0.22	10	11	0.065	<5	26
15-1178	12.1	23	2.3	4		0.18	<0.05	2.16	34.5	0.09	0.17	5	10	0.105	<5	24
15-1179	5.74	21.5	2.7	4		0.22	<0.05	0.915	41.5	0.09	0.225	10	8	0.57	<5	28
15-1180	10.3	23	3.2	3		0.19	<0.05	0.96	40.5	0.08	0.215	5	6.5	0.395	<5	35.5
15-1182	5.22	16.5	2.4	3		0.19	<0.05	2.41	40	0.1	0.09	5	5.5	0.615	<5	26
15-1183	9.34	17.5	2	3		0.18	<0.05	1.81	26	0.08	0.085	10	7.5	0.48	<5	18.5
15-1184	7.91	22	2.2	3		0.2	<0.05	1.03	27	0.09	0.08	5	5	0.285	<5	18
15-1185	7.62	20.5	1.8	3		0.14	<0.05	2.1	23.5	0.08	0.25	10	6.5	1.1	<5	18.5
15-1186	11.9	21	2.8	3		0.19	<0.05	2.27	35.5	0.1	0.075	5	5	0.77	<5	29
15-1187	8	23.5	3.8	3		0.3	<0.05	1.01	67	0.11	0.075	10	6	0.35	<5	38
15-1212	8.86	4.6	1	<1		0.12	<0.05	0.645	26	0.07	0.175	340	22	0.29	<5	9.5
15-1213	6.84	18	4.4	3		0.54	0.1	3.8	130	0.15	0.085	100	6.5	0.195	5	34.5
15-1214	5.26	16.5	12.5	4		1.45	0.1	2.47	210	0.34	0.15	70	7.5	0.16	15	110
15-1215	5.5	12	2.8	2		0.38	<0.05	2.16	55	0.13	0.08	55	1.5	0.085	5	23
15-1216	1.23	12.5	3	2		0.32	<0.05	1.54	45	0.09	0.05	45	0.6	0.07	10	31
15-1217	1.32	13.5	3.4	2		0.39	<0.05	1.63	56	0.12	0.05	55	1	0.085	10	32.5
15-1218	2.37	9.5	7.5	2		0.64	<0.05	1.8	115	0.19	0.07	80	0.8	0.07	10	96
15-1219	2.48	14	3.5	2		0.44	<0.05	2.28	55	0.15	0.13	75	1.2	0.075	10	30
15-1220	1.89	12	12.5	2		1.35	<0.05	2.46	135	0.41	0.095	105	0.8	0.08	10	120
15-1221	2.35	12.5	5.5	2		0.7	<0.05	1.43	57	0.2	0.25	175	0.9	0.055	10	52
15-1222	1.6	13	5.5	2		0.69	<0.05	1.6	74	0.18	0.195	155	0.7	0.07	10	51
15-1223	2.04	13	5.5	2		0.69	<0.05	1.68	60	0.2	0.39	220	1	0.065	10	46.5
15-1224	3.16	14	7	3		0.74	<0.05	1.45	65	0.26	0.525	310	1.4	0.055	15	57
15-1225	4.04	14.5	6	3		0.76	<0.05	1.86	45.5	0.28	0.64	410	0.5	0.05	15	41.5
15-1226	2.46	12.5	4.2	2		0.69	<0.05	1.88	35.5	0.29	0.4	170	0.9	0.075	5	27
15-1227	1.74	11.5	3	1		0.57	<0.05	1.58	23	0.25	0.475	165	0.4	0.07	5	18
15-1240	13	25	1.8	3		0.26	0.2	2.42	52	0.09	0.095	55	6	0.34	10	14.5

Saprolite

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1173	<2	105	45	7	21.5	1950	<0.5	4.5	4.4	0.3	2.2	0.26	0.5	21.5	1650	0.2
15-1174	2	65	30	5.5	15	1450	1	5.5	3.5	1	3.2	0.23	0.5	19	2700	0.2
15-1176	<2	125	185	7	61	1000	0.5	2	4	0.8	13	0.3	0.4	18	1950	0.5
15-1177	3	185	110	7	49.5	1950	0.5	2.5	4.4	0.4	11	0.28	0.3	28.5	800	0.3
15-1178	6	185	70	7	53	1500	1	7.5	3.9	4.5	14.5	0.25	0.4	24	1650	0.4
15-1179	4	135	65	8	33.5	900	0.5	3.5	4.6	3.2	23.5	0.31	0.5	18	1100	0.6
15-1180	<2	105	35	9.5	37	1900	0.5	3.5	6	0.7	12.5	0.35	0.6	23.5	1300	0.4
15-1182	<2	100	30	7.5	51	1700	0.5	2	4.2	0.4	40	0.28	<0.2	16.5	1200	0.7
15-1183	<2	80	60	5.5	28.5	24200	<0.5	3.5	3.1	0.5	145	0.22	0.5	14	1050	2.9
15-1184	<2	80	35	5	25.5	7450	0.5	3.5	3.1	0.5	37.5	0.24	0.4	17	1900	1.6
15-1185	<2	80	25	5	70	6200	1	1.5	3.2	0.7	46.5	0.2	0.4	17	1050	1.8
15-1186	<2	190	35	8	58	25300	0.5	2.5	5	0.5	22.5	0.3	0.3	23	900	3.5
15-1187	<2	240	55	11	35	15500	0.5	2.5	6.5	0.7	74	0.42	0.3	19	1000	3.6
15-1212	8	480	8400	3.1	13	20500	8.5	7.5	1.85	1.3	14.5	0.14	<0.2	6.5	1500	5
15-1213	6	1050	5950	11.5	105	22600	2.5	1.5	6	1.9	36	0.65	0.2	18.5	1950	34
15-1214	7	1050	6000	34.5	97	7650	3	5.5	19.5	3.2	35	1.9	<0.2	35	3400	20
15-1215	10	420	2400	7	72	1900	1	1.5	4.9	15.5	33	0.43	<0.2	14	1250	11
15-1216	2	195	1100	9.5	53	350	<0.5	<0.5	5.5	1.6	22	0.41	<0.2	12	1600	14
15-1217	7	330	1150	10	48	250	1	<0.5	5.5	2.1	20.5	0.51	0.4	14	2050	11
15-1218	5	270	6200	30.5	76	2500	1	1.5	16	1.8	45.5	0.97	0.3	13.5	1700	22.5
15-1219	5	470	2150	9	83	650	0.5	<0.5	5.5	2.2	23.5	0.51	<0.2	9	1750	19
15-1220	5	1050	3900	32	105	1600	0.5	<0.5	22.5	1.6	55	1.7	<0.2	10	1400	54
15-1221	8	600	850	14.5	75	100	<0.5	<0.5	9.5	1.6	34.5	0.81	0.2	12.5	1850	18
15-1222	8	600	1000	14.5	89	<50	<0.5	<0.5	8.5	1.7	46	0.84	<0.2	14.5	2100	14.5
15-1223	12	550	800	13	125	<50	<0.5	<0.5	8.5	1.9	43	0.76	<0.2	11	1950	14.5
15-1224	13	470	390	15.5	130	<50	<0.5	<0.5	10.5	2.1	21	0.94	<0.2	18.5	3550	11.5
15-1225	17	550	430	11	160	<50	<0.5	<0.5	8	2.7	19.5	0.84	<0.2	20.5	4200	10.5
15-1226	12	490	490	7.5	175	<50	0.5	<0.5	5.5	2.3	38.5	0.65	<0.2	11	1800	14
15-1227	12	280	480	4.9	170	<50	<0.5	<0.5	3.5	2.3	35.5	0.47	<0.2	6.5	1650	16.5
15-1240	3	750	16800	4.9	91	39900	7.5	2	2.5	4.4	34	0.25	0.3	10.5	4800	57

Saprolite

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-1173	0.1	1.85	210	3.6	4.5	0.7	48	207
15-1174	0.1	2.8	155	2.6	4.5	0.55	17	263
15-1176	0.15	2.7	110	2.3	8	0.95	38	257
15-1177	0.05	2.3	250	2.1	4.6	0.5	38	155
15-1178	0.1	1.9	180	2.2	4.9	0.45	25	218
15-1179	0.1	1.55	120	1.1	5.5	0.45	11	224
15-1180	0.05	1.95	155	2.5	4.8	0.4	17	227
15-1182	0.1	1.75	76	2.4	4.8	0.45	6	213
15-1183	0.1	1.75	96	0.8	4.8	0.45	7	237
15-1184	0.1	2.7	115	2	5	0.4	8	239
15-1185	0.05	1.55	135	1.3	3.6	0.35	7	181
15-1186	0.1	1.4	120	1.7	4.8	0.45	3	196
15-1187	0.1	1.55	125	0.8	7	0.55	7	206
15-1212	0.05	2.5	55	3.8	2.6	0.35	68	76
15-1213	0.15	3.2	36	2	10.5	0.8	51	295
15-1214	0.45	13.5	61	2.7	28.5	2.2	62	460
15-1215	0.15	3.3	44	1.5	7	0.8	120	158
15-1216	0.1	3.1	26	0.8	6.5	0.55	39	178
15-1217	0.15	3.3	34	0.6	8.5	0.7	61	202
15-1218	0.2	8	31	0.6	12	1.1	130	164
15-1219	0.15	4.7	50	1.5	9.5	0.85	130	155
15-1220	0.45	10	34	0.8	29	2.5	200	138
15-1221	0.25	7	39	1.7	14	1.35	160	192
15-1222	0.2	4.7	39	0.8	15.5	1.05	120	226
15-1223	0.25	3.7	43	0.7	14.5	1.15	150	174
15-1224	0.25	5.5	62	1.6	15	1.55	220	269
15-1225	0.3	6	66	0.3	16	1.6	270	280
15-1226	0.3	5	38	0.1	17.5	1.55	195	152
15-1227	0.25	2.3	27	0.1	15.5	1.35	125	108
15-1240	0.1	6	96	2.3	5.5	0.5	45	235

Saprolite

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-1241	MTG4	54	317787.8	6137553.2	Sap	11.95	12.45	grey laminated weathered metasilstone
15-1257	616728	54	317784.5	6137587.4	Sap			grey weathered bedded metasilstone
15-1259	699380	54	317782	6137587.2	Sap			grey weathered metasilstone (wallrock)
15-1263	699391	54	317846.8	6137703.2	Sap			weathered metasilstone (TC)
15-1264	699393	54	317846.4	6137699.8	Sap			weathered metasilstone (TC)
15-1265	699394	54	317845.3	6137697.6	Sap			weathered metasilstone (TC)
15-1266	699396	54	317840.4	6137703.9	Sap			weathered metasilstone (TC)
15-1267	699397	54	317827.5	6137709.8	Sap			weathered metasilstone (TC)
15-1269	700601	54	317847.8	6137708.6	Sap			weathered metasilstone (TC)

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-1241	64.72	0.87	9.11	9.36	0.01	0.24	0.13	4.01	0.29	0.11	10.32	99.17	3.3
15-1257	64.67	0.85	8.39	16.51	0.01	0.12	0.14	0.73	0.05	0.05	8.10	99.62	1.2
15-1259	61.79	0.88	8.52	12.78	0.01	0.58	0.11	0.47	0.1	0.14	12.27	97.65	24
15-1263	66.11	0.68	11.16	11.63	<0.01	0.19	0.27	0.41	0.18	0.1	9.39	100.12	0.2
15-1264	65.55	0.78	11.87	11.95	0.03	0.18	0.19	0.79	0.11	0.05	8.11	99.61	0.3
15-1265	66.28	0.69	11.2	12.7	<0.01	0.13	0.19	0.15	0.12	0.05	8.36	99.87	<0.1
15-1266	57.62	0.74	13.92	15.22	<0.01	0.07	0.13	3.34	0.15	0.09	8.11	99.39	0.3
15-1267	69.61	0.57	10.72	8.19	<0.01	0.18	0.18	2.25	0.13	0.1	7.54	99.47	0.2
15-1269	74.01	0.66	9.13	5.23	<0.01	0.14	0.26	0.15	1.3	0.05	8.21	99.14	0.3

Saprolite

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1241	5.02	450	2	300	1.5	0.029	0.1	53	0.15	0.4	70	1.7	330	2.1	0.9	0.75
15-1257	3.46	900	7	550	3.1	0.06	0.8	11		1.3	120	0.7	900	0.58	0.3	0.21
15-1259	3.44	2700	3	380	0.9	0.034	<0.1	52		0.8	95	0.4	350	0.5	0.3	0.18
15-1263	4.43	28	4	600	0.2	0.135	0.2	35		1.5	90	0.7	240	1.05	0.5	0.32
15-1264	4.82	25.5	<1	350	0.2	0.08	0.1	38		2.7	63	0.4	250	0.96	0.45	0.34
15-1265	4.46	17	1	165	0.2	0.08	<0.1	23		3.9	70	0.7	240	1.05	0.5	0.31
15-1266	5.55	54	2	650	0.4	0.039	0.1	24.5		1	110	1.6	260	0.62	0.25	0.3
15-1267	4.17	43.5	4	1100	1.1	0.08	0.2	61		1.2	99	1.7	115	1.75	0.7	0.88
15-1269	3.73	10.5	1	490	0.2	0.125	<0.1	6		0.9	53	0.5	87	0.49	0.25	0.14

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1241	6.21	22.5	2.9	4		0.36	0.1	3.29	44.5	0.14	0.135	70	5.5	0.27	15	23.5
15-1257	11.7	25.5	0.55	4		0.1	0.05	0.66	8	0.08	0.095	75	11.5	0.05	15	5
15-1259	9.23	31.5	0.6	4		0.1	0.15	0.41	48	0.09	0.08	50	6.5	0.435	20	7
15-1263	7.86	22.5	1.65	3		0.18	<0.05	0.35	19	0.08	0.12	40	10	0.085	<5	17
15-1264	8.18	22.5	1.8	3		0.16	<0.05	0.685	21	0.08	0.125	240	7	0.095	<5	18
15-1265	8.55	23.5	1.45	3		0.16	<0.05	0.14	13	0.08	0.085	55	7.5	0.095	<5	12.5
15-1266	10.2	26	0.95	3		0.1	<0.05	2.88	14	0.07	0.055	30	6	0.11	10	10.5
15-1267	5.41	18	2.6	3		0.26	0.05	1.95	43	0.11	0.12	40	9.5	0.095	<5	23
15-1269	3.55	13.5	0.45	3		0.09	<0.05	0.135	3.5	0.05	0.065	10	7	1.08	15	3.1

Saprolite

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1241	<2	450	4750	7	140	17300	5.5	2	4.5	2.1	43.5	0.41	0.4	9.5	5500	66
15-1257	<2	145	1500	1.45	30.5	1800	4.5	3	1.15	4.6	15	0.09	0.6	34	5800	17
15-1259	<2	480	8700	3.3	16.5	13400	17.5	0.5	1.1	69	33	0.09	0.4	16	5800	34
15-1263	3	330	200	4.7	8.5	1150	0.5	2	3.1	2.3	36	0.19	0.5	18.5	1550	0.3
15-1264	3	100	95	4.9	12.5	600	<0.5	6.5	3.2	1	26	0.2	0.7	21	1850	0.3
15-1265	5	135	65	3.3	4.3	500	0.5	5.5	2.4	1.7	23.5	0.18	0.8	20.5	3200	0.2
15-1266	<2	210	70	2.9	65	550	2	<0.5	2	2.9	43	0.12	0.3	30	3950	1.9
15-1267	<2	360	270	7	55	500	12.5	4	4.2	17.5	70	0.34	0.4	12.5	1550	2.6
15-1269	<2	130	85	0.8	3.9	1200	0.5	2	0.77	3.9	40	0.07	0.5	10.5	4000	0.4

Sample_no

Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-1241	0.15	6.5	100	2.7	7	0.7	229
15-1257	0.05	6.5	130	4.8	2.6	0.4	29
15-1259	0.05	5	100	2.9	2.6	0.4	16
15-1263	0.1	1.75	190	1.8	5.5	0.45	27
15-1264	0.05	2.2	220	1.4	4.3	0.35	19
15-1265	0.1	2.8	185	0.9	4.7	0.45	14
15-1266	<0.05	2.4	195	2.9	3	0.3	15
15-1267	0.1	2.3	110	1.9	6.5	0.55	25
15-1269	<0.05	2.8	165	0.8	2.5	0.3	11

Siltstones

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-1242	MTG2	54	317846.8	6137803.2	Siltstone	15.85	16.3	pyritic grey metasiltstone
15-1188	MTG2	54	317846.8	6137803.2	Siltstone	16.3	16.7	pyritic grey metasiltstone
15-1189	MTG2	54	317846.8	6137803.2	Siltstone	16.7	17.4	pyritic grey metasiltstone
15-1190	MTG2	54	317846.8	6137803.2	Siltstone	17.4	17.95	pyritic grey metasiltstone
15-1191	MTG2	54	317846.8	6137803.2	Siltstone	17.95	18.85	pyritic grey metasiltstone
15-1192	MTG2	54	317846.8	6137803.2	Siltstone	18.85	19.8	pyritic grey metasiltstone
15-1193	MTG2	54	317846.8	6137803.2	Siltstone	19.8	20.8	pyritic grey metasiltstone
15-1194	MTG2	54	317846.8	6137803.2	Siltstone	20.8	21.7	pyritic grey metasiltstone
15-1195	MTG2	54	317846.8	6137803.2	Siltstone	21.7	22.6	pyritic grey metasiltstone
15-1196	MTG2	54	317846.8	6137803.2	Siltstone	22.6	23.6	pyritic grey metasiltstone
15-1197	MTG2	54	317846.8	6137803.2	Siltstone	23.6	24.4	pyritic grey metasiltstone
15-1198	MTG2	54	317846.8	6137803.2	Siltstone	24.4	25.4	pyritic grey metasiltstone
15-1199	MTG2	54	317846.8	6137803.2	Siltstone	25.4	26.4	pyritic grey metasiltstone

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-1242	61.52	0.80	11.04	14.49	0.00	0.16	0.02	2.11	0.51	0.05	9.76	100.46	0.6
15-1188	59.64	0.72	11.72	8.15	0.01	0.22	1.10	2.16	1.90	0.05	13.60	99.27	2.6
15-1189	54.57	0.62	14.56	8.01	0.01	0.16	1.75	2.25	2.85	0.08	15.43	100.29	3.2
15-1190	49.77	0.65	14.87	11.67	0.00	0.20	1.32	1.23	2.64	0.05	17.99	100.39	3.4
15-1191	55.00	0.63	12.70	7.52	0.00	1.56	2.61	2.88	3.32	0.09	13.15	99.46	5.5
15-1192	54.12	0.58	12.30	8.56	0.01	1.89	2.49	2.65	3.78	0.15	13.67	100.20	0.3
15-1193	53.21	0.59	12.19	9.45	0.01	2.01	2.55	2.17	4.09	0.12	13.52	99.91	0.4
15-1194	58.37	0.66	13.35	5.77	0.01	2.05	2.86	3.53	3.33	0.13	10.43	100.49	0.2
15-1195	56.02	0.62	12.96	6.30	0.01	2.17	2.47	3.03	3.90	0.14	12.18	99.80	0.2
15-1196	54.94	0.61	12.67	7.22	0.01	2.01	2.47	2.67	3.65	0.13	13.10	99.48	4.8
15-1197	54.78	0.60	12.20	8.27	0.01	2.07	2.07	3.54	3.07	0.14	13.58	100.33	6
15-1198	50.93	0.58	11.51	11.14	0.01	2.16	2.22	1.84	3.65	0.12	16.47	100.63	28.5
15-1199	55.38	0.63	12.89	7.41	0.00	2.03	2.35	1.73	4.15	0.13	12.26	98.96	1.1

Siltstones

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-1242	6.39	23	7	320	0.3	0.019	<0.1	99	0.13	0.6	73	1.7	500	1.9	0.75	0.89
15-1188	7.81	12.5	15	100	0.3	0.795	0.2	95	0.55	27.5	28	1.5	800	2.4	1.25	0.84
15-1189	13	11.5	8	150	0.2	1.36	0.2	93	0.93	38	34	0.9	490	2.5	1.25	1
15-1190	12.9	7.5	6	100	0.2	1.09	0.5	68	0.91	26.5	20	0.8	390	4.3	2.2	1.35
15-1191	8.47	28.5	9	110	0.2	1.81	5	72	1.24	90	35	2.2	280	4.8	2.7	1.4
15-1192	6.87	8	6	105	0.2	1.72	1.1	68	1.25	31	43	2.5	290	3.6	1.85	1.2
15-1193	7.31	43.5	19	90	0.3	1.75	1.1	61	1.32	125	37	2.3	220	3.5	2	1.15
15-1194	8.26	10	9	150	0.2	1.93	0.4	70	1.18	47	73	4.1	155	2.7	1.4	0.92
15-1195	9.16	7.5	8	135	0.2	1.8	0.6	56	1.34	48.5	86	3.5	175	2.6	1.25	0.78
15-1196	9.31	10	6	105	0.2	1.74	0.3	56	1.15	55	74	2.9	220	2.4	1.2	0.76
15-1197	9.02	7.5	10	110	0.2	1.47	0.2	60	0.98	53	87	3.8	210	2.3	1.1	0.58
15-1198	7.53	6.5	7	85	0.1	1.42	0.3	47	1.31	26	78	2.4	300	2.4	1.2	0.72
15-1199	9.44	3	6	90	0.1	1.71	0.6	53	1.38	19.5	54	2	240	4.1	2.3	1.05

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-1242	9.95	23	4.3	3		0.27	<0.05	1.74	53	0.12	0.095	10	4.7	0.455	<5	44
15-1188	5.43	16.5	4	3		0.45	<0.05	1.75	56	0.2	0.085	10	4.2	1.35	<5	38.5
15-1189	5.37	16	4	2		0.42	<0.05	1.81	50	0.18	0.07	10	3.2	1.99	<5	42
15-1190	7.7	15.5	6	2		0.8	<0.05	0.95	34	0.31	0.12	10	3.9	2.1	<5	41
15-1191	4.8	16.5	6	2		0.94	<0.05	2.15	37.5	0.39	0.86	20	3	2.52	10	41
15-1192	5.23	16.5	5	2		0.64	<0.05	2.07	36	0.29	1	20	2.8	2.63	5	36.5
15-1193	5.86	17	4.6	2		0.65	<0.05	1.67	32.5	0.28	1.08	25	3.7	2.86	5	32.5
15-1194	3.53	17.5	4.3	3		0.51	<0.05	2.6	39.5	0.21	1.12	30	4.1	2.51	10	33
15-1195	4.04	17	3.8	3		0.48	<0.05	2.37	33	0.2	1.12	35	3.8	2.65	5	28.5
15-1196	4.56	17.5	3.8	2		0.43	<0.05	1.96	30.5	0.16	1.12	35	3	2.71	5	29
15-1197	5.18	16	3.7	2		0.41	<0.05	2.55	35	0.17	1.09	40	4.4	2.26	<5	29
15-1198	6.6	17	3.7	2		0.44	<0.05	1.26	25	0.18	1.08	45	3.4	2.51	<5	27.5
15-1199	4.75	17	5.5	2		0.82	<0.05	1.3	25.5	0.31	1.12	40	4	3.17	<5	33

Siltstones

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-1242	<2	150	65	12.5	52	11000	1	1.5	8	0.9	24.5	0.47	0.7	22.5	1450	4.6
15-1188	57	145	30	11.5	45	55600	0.5	2	6.5	0.9	79	0.51	0.5	17	1350	4
15-1189	65	270	25	12.5	40.5	63400	0.5	1.5	7	0.7	125	0.51	0.4	15.5	1300	2.7
15-1190	130	145	25	10.5	26.5	87400	<0.5	3	8	0.6	79	0.82	0.4	16	750	1.4
15-1191	72	290	30	10.5	77	55300	0.5	2	8.5	1	120	0.89	0.3	16.5	1850	3.6
15-1192	72	500	20	9.5	82	58400	0.5	2.5	7.5	0.7	125	0.69	0.4	17.5	1400	1.3
15-1193	55	390	25	8.5	63	65700	0.5	1.5	6.5	1	120	0.64	0.4	16	1700	1.1
15-1194	52	460	25	9	105	36600	0.5	1.5	6.5	10	115	0.55	0.2	18	1350	1.1
15-1195	57	480	25	7.5	95	42300	0.5	1.5	5.5	0.8	105	0.52	0.3	16.5	1050	1
15-1196	56	440	20	7.5	78	44000	0.5	1.5	5.5	0.6	96	0.5	0.4	15.5	850	1
15-1197	55	470	25	8	97	52400	0.5	1.5	5.5	0.6	89	0.47	0.4	15	900	1.4
15-1198	86	390	40	7	58	63000	0.5	2.5	5.5	0.6	94	0.48	0.3	16.5	850	1
15-1199	65	460	20	8.5	55	49500	0.5	2	7	0.7	105	0.77	0.3	15.5	900	1

Sample_no Zr_XRF

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-1242	0.1	2.2	130	3.5	6.5	0.6	25	186
15-1188	0.2	3	54	2.4	12	0.95	16	221
15-1189	0.15	3.9	53	2	11	0.95	11	167
15-1190	0.35	4	69	1.6	20	1.7	20	155
15-1191	0.4	4.1	79	1.8	25.5	2.1	19	175
15-1192	0.25	3.8	80	1.4	16.5	1.55	35	169
15-1193	0.25	3.9	78	1.3	18.5	1.5	41	161
15-1194	0.2	3.5	80	2.3	13.5	1.05	31	179
15-1195	0.2	3.8	76	2	13	1	43	192
15-1196	0.15	3	72	1.5	12	0.85	53	161
15-1197	0.15	3.3	77	2.2	11.5	0.85	55	151
15-1198	0.2	3.6	71	1.3	12.5	0.9	87	163
15-1199	0.3	3.5	85	1.3	22.5	1.65	59	161

Soils

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0942	N34	54	319871.8	6138618.2	Soil	0.15		recent terrace with wetland plant roots
15-0962	MT037.1	54	318499.8	6138076.2	Soil	0.05		soil (0-0.1m)
15-0970	MT035.1	54	318314.8	6138090.2	Soil	0.15		soil (0-0.3m)
15-1008	N35.11	54	319286.8	6138520.2	Soil	0.12		A horizon; 0-25 cm

Sample_no	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	TOTAL	Ag
15-0942													0.2
15-0962													0.2
15-0970													0.6
15-1008													0.1

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0942	3.82	6.5	1	290	0.3	0.31	<0.1	69		5	28	1.7	13	2.5	1.25	1.05
15-0962	2.41	9.5	2	340	0.2	0.23	0.2	74		3	14	1	14	2.2	1.05	0.97
15-0970	4.17	30	<1	550	0.2	0.41	0.3	96		5	26	2.2	29	3.2	1.5	1.4
15-1008	3.61	3	1	420	0.1	0.31	<0.1	78		3.2	17	1.3	10	2.4	1.1	1

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0942	1.9	10	4.5	3		0.45	<0.05	0.88	37.5	0.16	0.17	120	0.8	0.73	5	33.5
15-0962	1.48	6	4.2	3		0.41	<0.05	0.92	37	0.14	0.13	175	1.1	0.71	1.5	30.5
15-0970	2.14	12	5.5	3		0.57	<0.05	1.46	48.5	0.2	0.3	270	2.8	1.09	5.5	39.5
15-1008	1.44	8	4.3	3		0.42	<0.05	1.1	38	0.16	0.16	170	0.6	0.93	2.5	38

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0942	10	155	47.5	8	34	150	<0.5	<0.5	6	1.6	63	0.44	<0.2	13.5	2150	0.4
15-0962	7	155	84	9	30.5	100	<0.5	<0.5	6.5	1.4	54	0.4	<0.2	9	1600	0.4
15-0970	14	220	550	11	58	350	1	0.5	8.5	2	92	0.55	<0.2	13.5	2450	0.8
15-1008	8	185	20.5	9	54	150	<0.5	<0.5	7	1.6	83	0.57	<0.2	12.5	1850	0.4

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0942	0.15	1.9	40	0.7	10.5	1.2	23	
15-0962	0.15	1.6	29	0.1	10	0.95	18.5	
15-0970	0.2	2.3	42	0.7	15	1.4	44	
15-1008	0.15	1.95	28	0.1	10.5	0.95	15.5	

Sulfidic materials

Sample_no	Sample_id	Zone	Easting_GDA94	Northing_GDA94	Code	Depth_fr	Depth_to	Description
15-0972	MT035.3	54	318314.8	6138090.2	SulfMud	1		sulfidic muds with crust (white to pale yell)
15-0975	MT037.3	54	318499.8	6138076.2	SulfMud	1.45		sulfidic muds (1.3-1.6m)
15-0993	MT053.2	54	317818.8	6137901.2	SulfMud	0.5		black sulfidic muds
15-0998	MT057	54	318092.8	6136721.2	SulfMud			fossil' sulfidic mud (with crust)
15-1009	N35.12	54	319286.8	6138520.2	SulfMud			sulfidic material stream bed 2 m upstream from waterfall
15-1010	N35.13	54	319286.8	6138520.2	SulfMud			sulfidic material stream channel 3m upstream from waterfall
15-1012	MT036.1	54	318299	6138142	SulfMud			sulfidic muds in seep (old spring)
15-1013	MT050	54	317739.8	6137818.2	SulfMud	0.1		sulfidic black muds (0-20cm)
15-1017	MT054.2	54	317863.8	6138024.2	SulfMud	0.5		black sulfidic muds (30-70cm)
15-1019	MT056.3	54	317999.8	6136662.2	SulfMud	0.09		mott & Fe-rich with some blk sulfidic mud (3-15cm); Prices
15-1020	MT056.5	54	317999.8	6136662.2	SulfMud	0.17		black sulfidic layer (15-20cm) - Prices
15-1111	W16.3	54	318386	6136843.2	SulfMud	0.25		Sulfidic material. Edge of wetland - sedge and rushes
15-1119	W8.3	54	318378	6136843.2	SulfMud	0.25		black clay; outer edge of discharge zone - Mimulus plants
15-1124	W16.2	54	318386	6136843.2	SulfMud	0.15		sulfidic material. Edge of wetland - sedge and rushes
15-1126	W25.2	54	318395	6136843.2	SulfMud	0.15		sulfidic material. Centre of wetland -sedge and rushes
15-1127	W25.3	54	318395	6136843.2	SulfMud	0.25		sulfidic material. Centre of wetland -sedge and rushes

Sulfidic materials

[illegible]

Sulfidic materials

Sample_no	Al	As	Au	Ba	Bi	Ca	Cd	Ce	CL_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
15-0972	4.87	7	<1	410	0.3	0.35	0.2	88		5	32	3	18	3.2	1.65	1.25
15-0975	3.89	3	1	420	0.2	0.33	0.2	79		3.5	21	2.1	12	2.9	1.4	1.25
15-0993	3.34	4	2	470	0.2	0.25	<0.1	90		3.8	19	1.4	11	3.2	1.5	1.4
15-0998	5.69	4	<1	550	0.3	0.53	<0.1	98		6	36	5	13	3.3	1.55	1.4
15-1009	2.72	23	<1	460	0.6	0.19	0.1	170		5.5	72	0.8	11	4.4	1.8	2.1
15-1010	3	19.5	<1	550	0.4	0.24	0.1	250		6.5	54	1	11	6	2.2	2.8
15-1012	6.67	8	2	800	0.4	0.68	0.2	125		33	54	6.5	32	4.8	2.4	1.85
15-1013	5.41	12	2	700	0.3	0.42	0.6	100		6	27	2.3	22	4	1.95	1.7
15-1017	4.39	4.5	<1	500	0.2	0.41	0.3	97		4.8	22	2.2	15	3.7	1.8	1.5
15-1019	3.13	3.5	<1	230	0.2	0.1	0.1	37	0	3.4	19	2	11	1.15	0.6	0.52
15-1020	8.3	8.5	<1	260	0.6	0.18	0.1	125	0.16	22	55	5.5	26	4.8	2.3	1.7
15-1111	2.19	8	<1	340	0.2	0.3	<0.1	59		4	21	1.3	8	2.2	0.9	0.88
15-1119	5.47	55	1	350	1	0.14	<0.1	67		7.5	76	3.8	22	2.8	1.3	0.99
15-1124	2.01	10.5	<1	330	0.2	0.64	<0.1	51		5	22	1.2	9	1.8	0.75	0.72
15-1126	1.2	7.5	<1	290	0.1	13	<0.1	27.5		7	11	0.7	4	0.97	0.45	0.42
15-1127	2.16	13	2	320	0.3	2.95	<0.1	54		8.5	18	1.3	8	1.9	0.8	0.76

Sulfidic materials

Sample_no	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
15-0972	2.14	13	5.5	2	<0.05	0.63	<0.05	1.23	40	0.21	0.48	155	0.8	0.86	4	35.5
15-0975	1.31	10.5	4.8	2		0.53	<0.05	1.14	39.5	0.17	0.32	120	0.5	0.81	3.5	35
15-0993	1.16	9	5.5	3		0.58	<0.05	1.33	46.5	0.2	0.17	100	0.9	0.97	3.5	41
15-0998	2.21	14	5.5	4	<0.05	0.58	0.05	1.56	51	0.19	0.58	210	0.8	1.15	8.5	47
15-1009	8.46	10	9.5	5		0.72	<0.05	0.57	91	0.21	0.12	175	1.9	0.45	4	90
15-1010	6.62	9.5	13	6		0.91	<0.05	0.72	130	0.24	0.15	200	1.5	0.57	4.5	120
15-1012	4.21	18	7	3		0.88	<0.05	1.82	52	0.33	1.14	340	1.2	1.43	10	56
15-1013	1.78	13	6	3		0.71	<0.05	1.63	52	0.24	0.34	350	1.9	1.09	8	50
15-1017	1.56	10.5	6.5	3		0.72	<0.05	1.41	48.5	0.25	0.29	210	0.8	1.08	6.5	49
15-1019	2.68	7.5	2.1	2	<0.05	0.23	<0.05	0.54	19.5	0.08	0.14	65	1.1	0.39	2.5	17.5
15-1020	3.21	21.5	7	3	0.05	0.87	0.05	0.69	65	0.25	0.33	75	3.7	0.48	8.5	54
15-1111	1.65	5	4	3		0.34	<0.05	0.9	33.5	0.13	0.17	90	1	0.45	5	25.5
15-1119	6.56	15	4.3	4		0.46	0.05	1	37	0.19	0.28	115	3.2	0.26	9	26.5
15-1124	2.87	4.6	3.2	3		0.27	<0.05	0.8	29	0.1	0.23	160	1.1	0.56	2.5	21
15-1126	2.47	2.6	1.8	1		0.15	<0.05	0.45	17.5	0.07	0.84	550	0.8	0.87	0.5	12
15-1127	2.92	4.7	3.3	2		0.28	<0.05	0.74	32.5	0.11	0.32	410	1.2	0.64	3	22

Sulfidic materials

Sample_no	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl
15-0972	14	150	100	10	67	150	<0.5	0.5	7.5	2.2	74	0.56	<0.2	11	2250	0.7
15-0975	12	105	52	10	52	100	<0.5	1	7.5	1.8	76	0.48	<0.2	10.5	2100	0.5
15-0993	9	155	30	11.5	50	150	<0.5	1	8.5	1.5	78	0.57	<0.2	12	1950	0.7
15-0998	13	150	28	11	105	250	<0.5	<0.5	8.5	2.9	130	0.76	<0.2	17	3350	0.7
15-1009	9	200	56	21	28	1950	0.5	<0.5	15.5	1.6	53	1.15	<0.2	28	2350	0.2
15-1010	7	230	51	29	35	2850	0.5	<0.5	21	1.8	65	1.5	<0.2	32	3000	0.2
15-1012	39	550	28.5	13	150	1250	<0.5	<0.5	11	3.1	190	1.05	<0.2	14.5	3250	0.8
15-1013	14	460	200	11.5	105	1100	<0.5	<0.5	9.5	6	130	0.84	<0.2	15	3050	0.8
15-1017	15	180	32.5	11.5	86	200	<0.5	<0.5	9	1.9	110	0.86	<0.2	13.5	2250	0.7
15-1019	11	165	23	4.1	51	1000	<0.5	0.5	3.2	1.4	37.5	0.29	<0.2	8	1800	0.3
15-1020	44	320	93	13.5	120	6250	<0.5	1	10	12	54	1.05	<0.2	17.5	3400	0.9
15-1111	4	125	24	7.5	33	2300	0.5	1	5	1.1	53	0.41	<0.2	10.5	2000	0.3
15-1119	13	135	77	8.5	53	100	2.5	1	5.5	2.5	49	0.46	0.2	23.5	3300	0.7
15-1124	7	180	23	6.5	28	1100	<0.5	1	4.4	1	72	0.32	<0.2	10	1800	0.3
15-1126	9	170	11.5	3.8	15	11100	<0.5	0.5	2.5	0.6	800	0.19	<0.2	5.5	900	0.2
15-1127	10	135	24	7	28.5	10300	<0.5	1	4.4	1.1	175	0.32	<0.2	8.5	1800	0.3

Sulfidic materials

Sample_no	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
15-0972	0.2	1.25	39	0.5	16.5	1.5	52	
15-0975	0.2	3.6	33	0.4	14	1.2	34.5	
15-0993	0.2	2.5	31	0.5	15.5	1.4	16	
15-0998	0.2	1.9	53	1.5	16	1.35	28	
15-1009	0.25	3.9	140	0.4	16.5	1.55	16.5	
15-1010	0.3	5	115	0.4	21.5	1.75	19.5	
15-1012	0.35	2.4	62	1.6	20.5	2.3	67	
15-1013	0.3	3.8	44	1	19	1.8	57	
15-1017	0.25	4	35	0.8	19	1.65	19	
15-1019	0.1	1.05	35	0.2	6	0.55	12.5	203
15-1020	0.3	2.4	85	1.1	22.5	1.8	31.5	200
15-1111	0.15	1.7	34	0.4	8.5	0.85	15.5	
15-1119	0.2	2.6	125	0.9	10	1.3	22	
15-1124	0.1	1.45	35	0.2	7	0.7	13	
15-1126	0.05	3.4	15	0.1	4.3	0.4	11.5	
15-1127	0.1	2.1	28	1.1	8	0.8	18.5	

APPENDIX 4

Standards

Units

see appendix 3

Analysis by XRF

Sample	Standard	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Zr	Cl
Recomm		42.83	1.48	16.72	28.07	0.05	0.24	0.21	0.03	0.14	0.01	11.01	183	
15-1200	Std 7	47.98	1.50	17.75	30.79	0.04	0.25	0.21	0.05	0.18	0.04	10.02	185	0.00
Sample	Standard	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Zr	Cl
Recomm		13.78	0.7	7.54	65.05	0.2	0.15	0.13	0.04	0.2	0.05	8.1	88	
15-1022	Std 9	15.20	0.54	7.68	72.02	0.26	0.20	0.11	0.04	0.18	0.23	7.84	81	0.00
15-1243	Std 9	14.18	0.50	7.21	67.21	0.24	0.19	0.10	0.08	0.17	0.21		53	0.04
Sample	Standard	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Zr	Cl
Recomm		42.42	1.6	19.1	26.1	0.01	0.07	0.04	0.04	0.1	0.01	11.48	270	
15-1201	Std 11	45.98	1.72	19.81	29.30	0.03	0.09	0.02	0.13	0.14	0.04	10.56	255	0.02
15-0917	Std 11	42.10	1.58	18.25	26.96	0.03	0.09	0.01	0.05	0.12	0.03		228	0.01

Analysis By ICP

Sample	Standard	Ag	Al	As	Au	Au Dp1	Au Dp2	Ba	Bi	Ca	Cd	Ce	Co	Cr
Recomm	Std 7	1.46	8.85	66	576			49	2.52	0.133	0.42	9	9.9	407
15-0987	Std 7	0.5	9.08	59	990	200	210	35	2.9	0.145	<0.1	10.5	8.5	350
15-1200	Std 7	7.5	11.1	58	240	83		30	2.4	0.155	<0.1	9	8.5	340
Sample	Standard	Ag	Al	As	Au	Au Dp1	Au Dp2	Ba	Bi	Ca	Cd	Ce	Co	Cr
Recomm	Std 9	0.83	3.99	438	87			354	1.32	0.082	0.48	18	18.5	471
15-1022	Std 9	0.6	3.96	370	41	98	55	290	1.6	0.075	0.4	19.5	17	380
15-1243	Std 9	0.8	4.16	380	97	55		290	1.2	0.07	0.4	18	16	480
Sample	Standard	Ag	Al	As	Au	Au Dp1	Au Dp2	Ba	Bi	Ca	Cd	Ce	Co	Cr
Recomm	Std 11	0.96	10.11	74	3165			664	7.85	0.025	0.27	19	19	433
15-0917	Std 11	0.8	9.27	74	3690	2990	3280	480	9.5	0.0125	<0.1	21.5	4	340
15-1201	Std 11	5.5	10.9	67	3750			500	8.5	0.0115	<0.1	18.5	3.6	330

Analysis By ICP

Sample	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La
Recomm	1.7	50			0.3	19.83	33		5.6			0.19	0.116	5.3
15-0987	1.2	42	0.73	0.5	0.26	17.6	34.5	0.9	4		0.17	0.15	0.13	4
15-1200	0.9	44	0.82	0.5	0.2	18.6	32.5	0.8	3		0.15	0.2	0.125	4
Sample	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La
Recomm	0.5	141			0.8	45.49	25		3			0.26	0.166	11.7
15-1022	0.4	135	2.1	1.5	0.69	43.8	26	2.3	3		0.46	0.2	0.13	10
15-1243	0.3	145	2.1	1.3	0.64	48.4	25	2	2		0.44	0.2	0.145	11
Sample	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La
Recomm	0.9	35			0.3	18.25	53		7.3			0.27	0.083	13.8
15-0917	0.8	36	0.82	0.5	0.44	17.1	55	1.05	7		0.16	0.25	0.095	12.5
15-1201	0.6	34	0.72	0.45	0.27	17.8	49	0.8	5		0.14	0.2	0.085	11.5

Analysis By ICP

Sample	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb
Recomm	0.2	0.145	181	6	0.026	6		40	44	23		12	290	1.1
15-0987	0.09	0.13	200	2.7	0.049	8.5	5	34	100	27	1.3	8	250	1
15-1200	0.08	0.145	210	2.5	0.049	<5	4.1	40	70	40	1.1	9	300	1

Sample	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb
Recomm	0.1	0.09	1543	5	0.035	5		30	218	53		6	410	0.6
15-1022	0.22	0.075	1450	4.3	0.0185	1.5	13.5	40	700	55	3	6.5	450	0.5
15-1243	0.22	0.08	1550	3.7	0.0145	<5	11.5	53	800	65	3.1	4.4	400	1

Sample	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb
Recomm	0.2	0.042	90	3	0.035	3		22	44	76		9	850	5.3
15-0917	0.09	0.034	145	3.2	0.026	11	8.5	16	90	91	2.4	6	850	4.5
15-1201	0.08	0.039	145	2.9	0.026	<5	7	21	55	95	2.2	7	850	5

Analysis By ICP

Sample	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y
Recomm	3	1.4	2.52	11			26.5	8870			4	851	11	5
15-0987	2.5	1.3	2.7	13	0.12	<0.2	25.5	7900	0.1	0.05	4.5	650	13.5	3.4
15-1200	0.5	1.05	7.5	11.5	0.13	0.4	25	8000	<0.1	0.05	4.8	650	12.5	3
Sample	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y
Recomm	3	2.8	1.12	12			10	4200			1	932	9	13
15-1022	<0.5	3.1	1.1	21.5	0.38	0.6	10.5	3000	0.1	0.2	2.3	550	9.5	13.5
15-1243	<0.5	2.6	0.9	16	0.34	1	12	3200	0.3	0.2	2.5	650	9.5	12.5
Sample	Se	Sm	Sn	Sr	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y
Recomm	3	1.6	3.04	14			24.3	9600			1	1645	4	7
15-0917	6	1.7	3.2	17	0.12	0.2	25.5	9150	0.1	0.1	1.15	1200	5.5	3.5
15-1201	1	1.35	2.9	14.5	0.13	<0.2	25	9250	<0.1	0.05	1.25	1250	5	3.3

Analysis By ICP

Sample	Yb	Zn
Recomm	0.8	20
15-0987	0.55	24.5
15-1200	0.45	13

Sample	Yb	Zn
Recomm	1.3	295
15-1022	1.45	350
15-1243	1.15	340

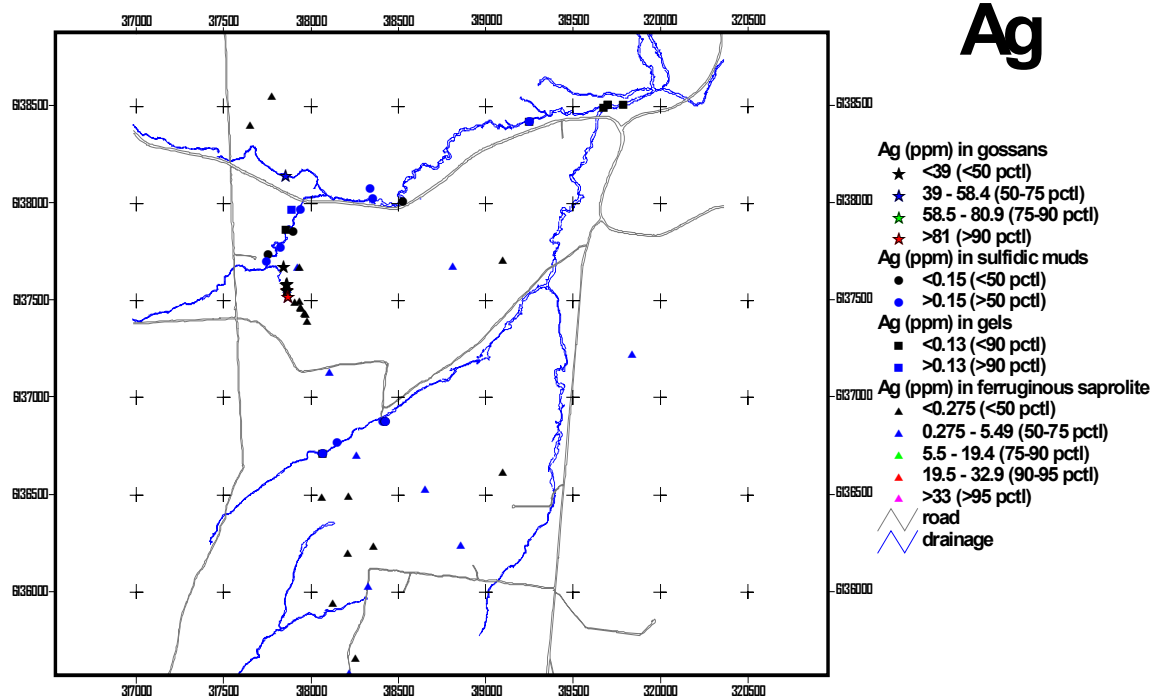
Sample	Yb	Zn
Recomm	0.9	8
15-0917	0.6	20
15-1201	0.4	5

APPENDIX 5.

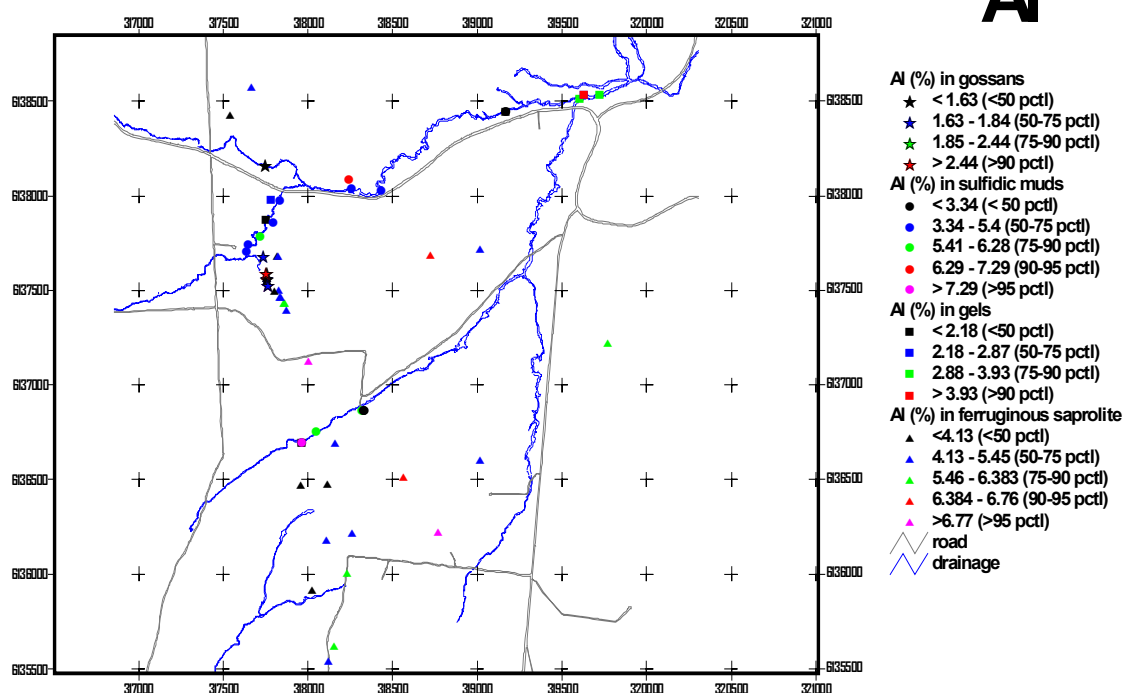
Element plots

Element distribution maps

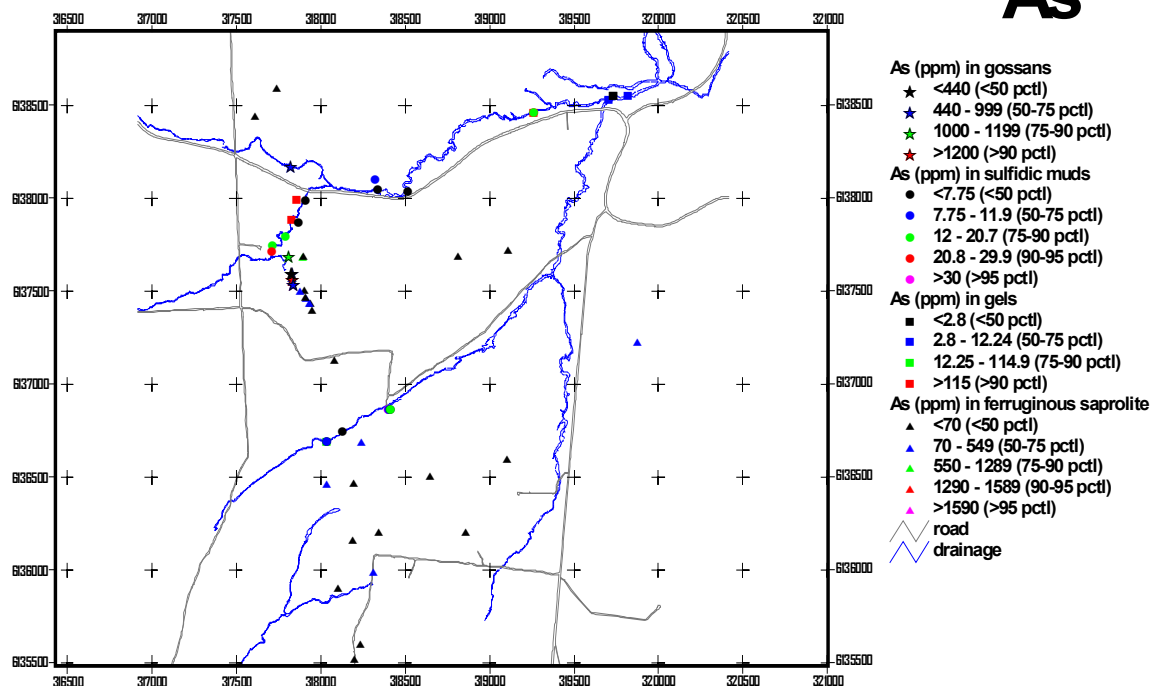
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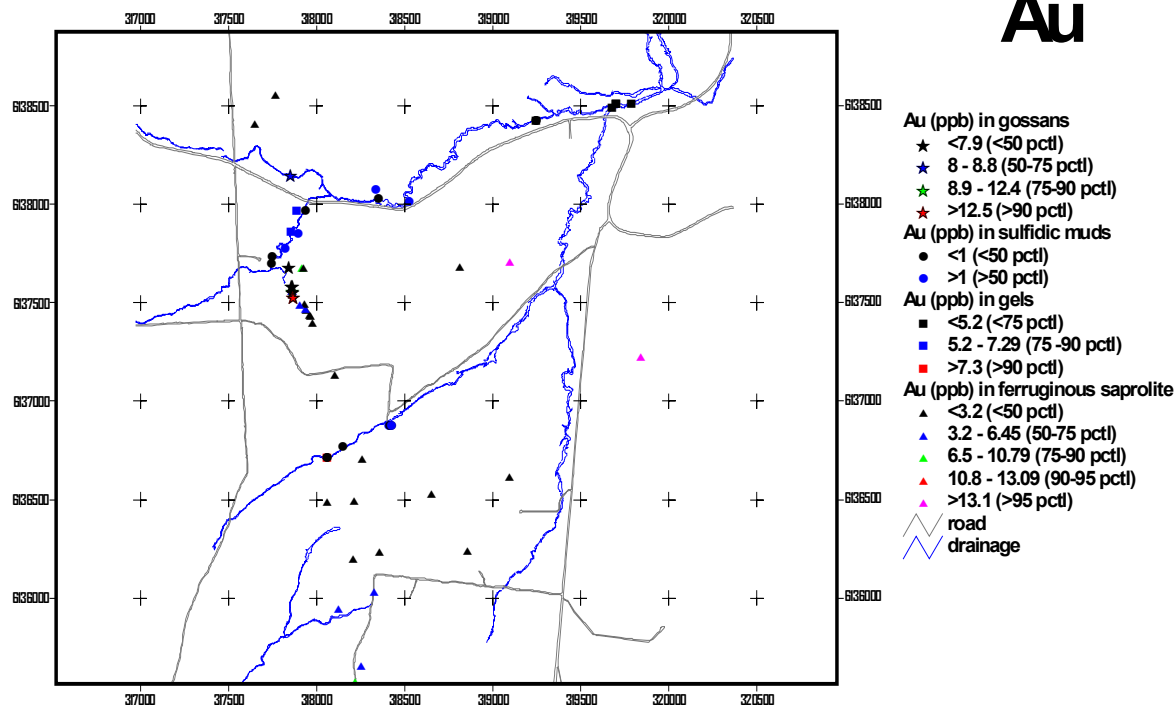
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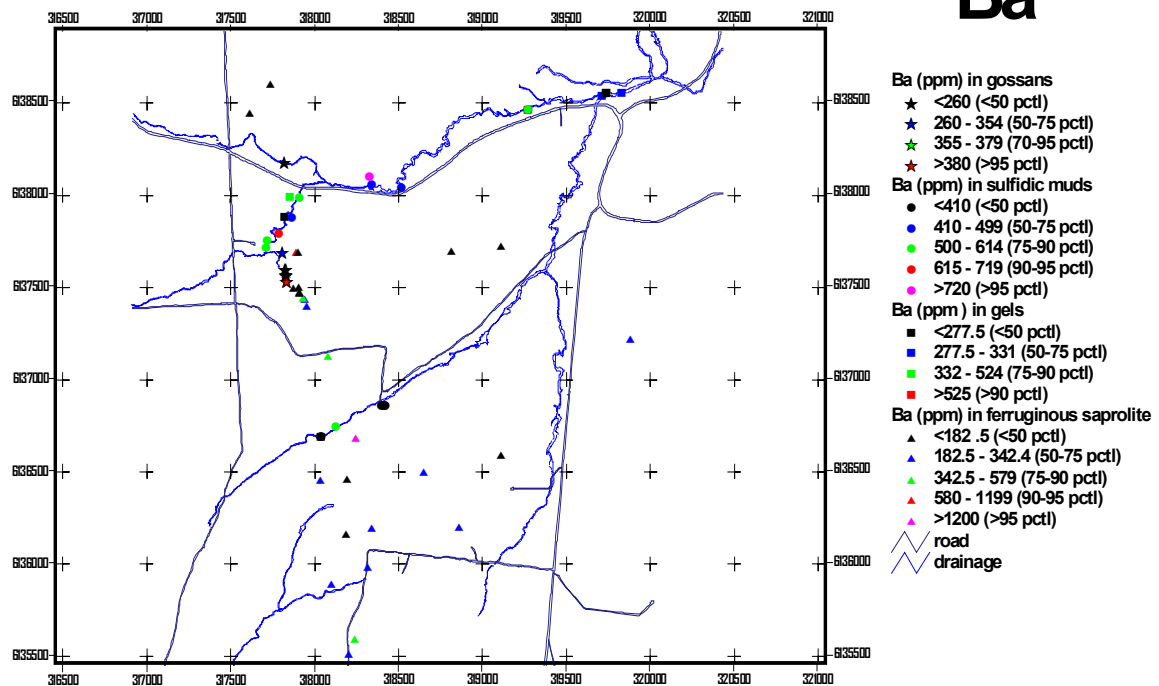
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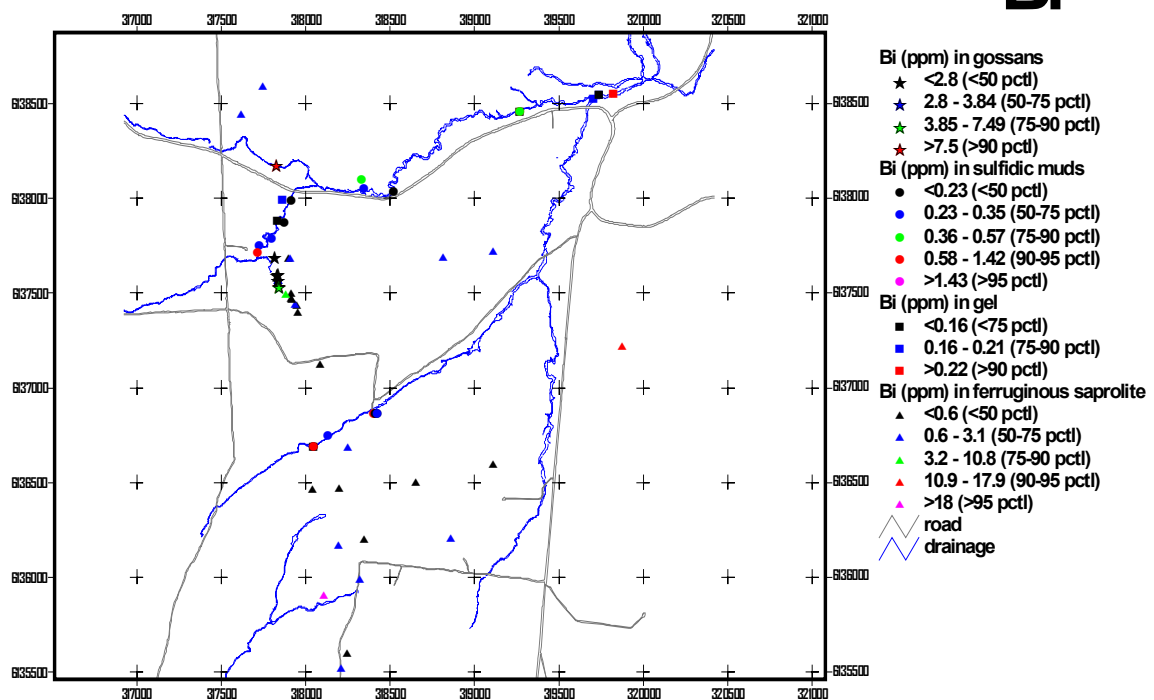
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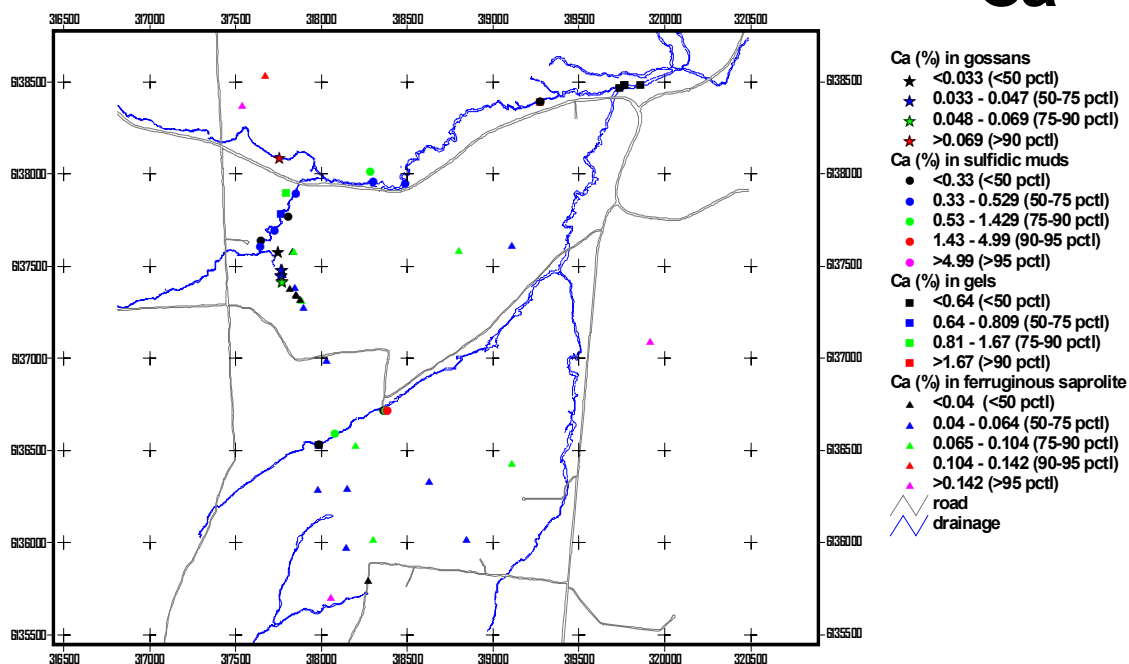
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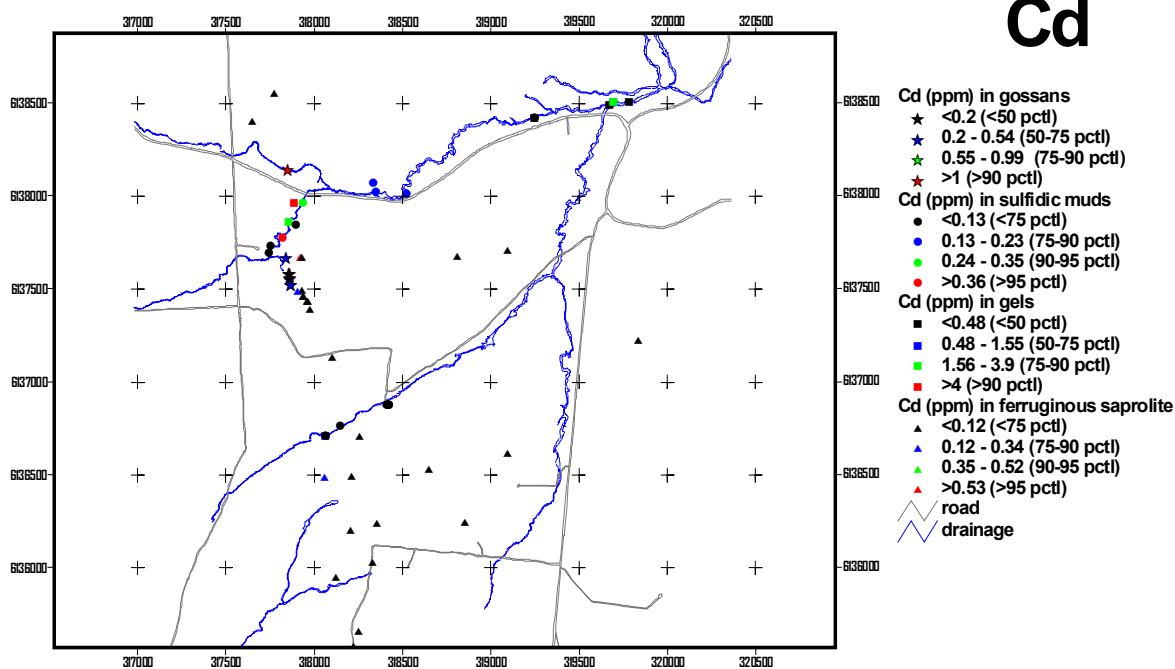
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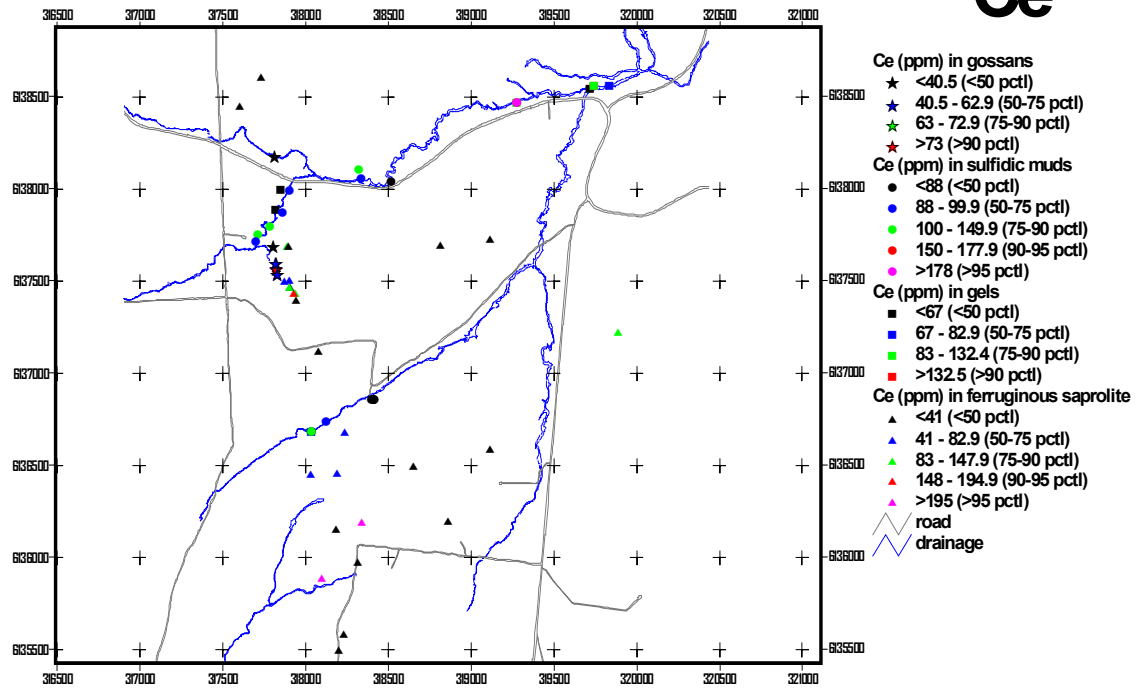
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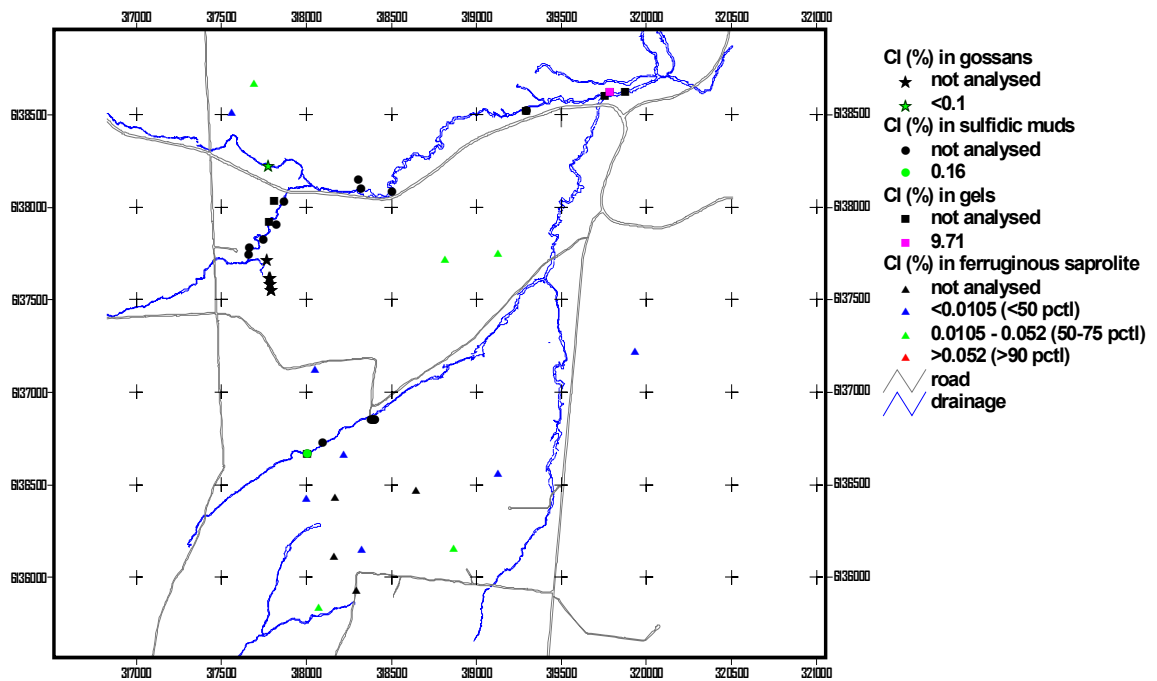
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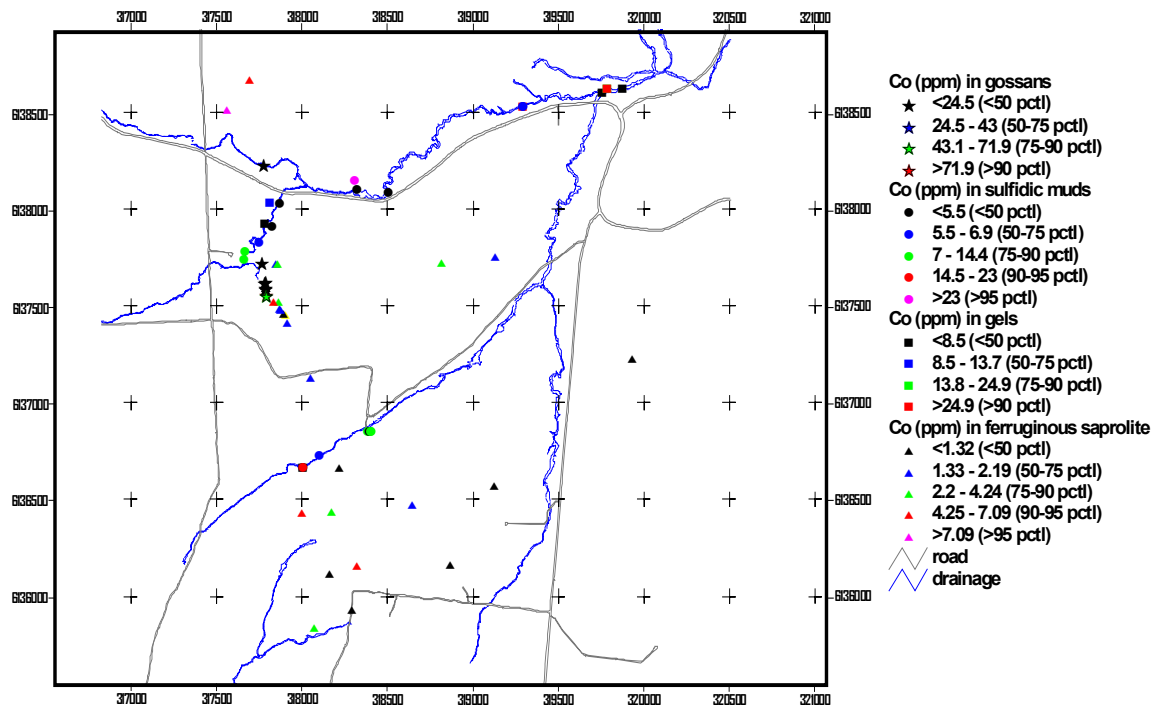
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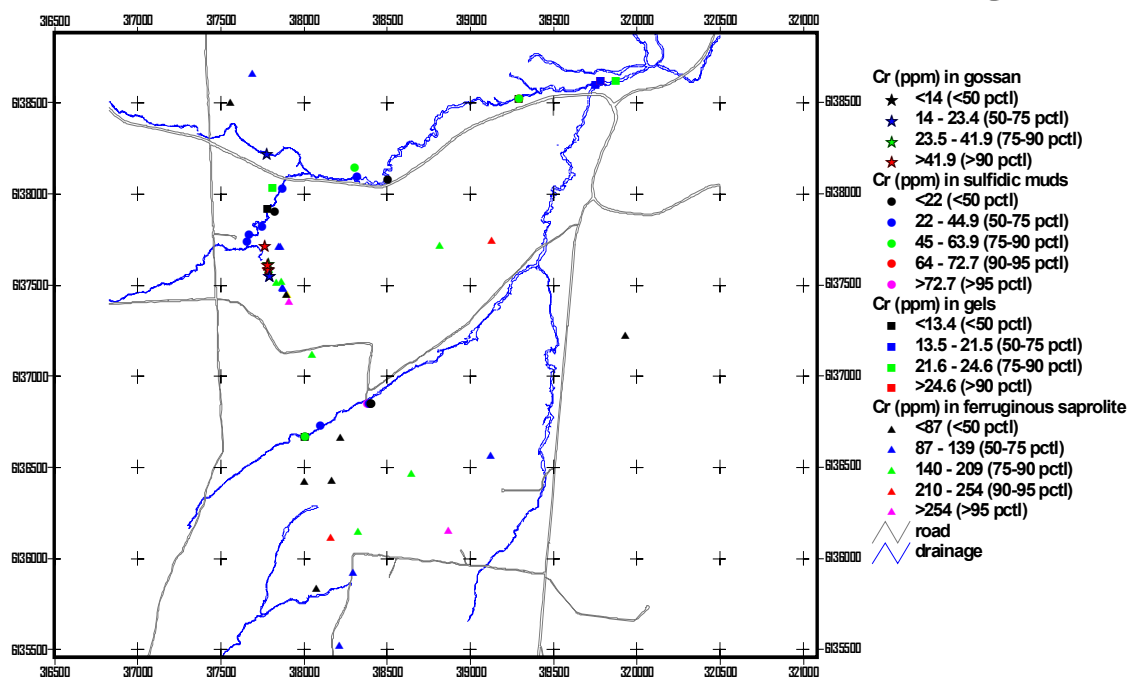
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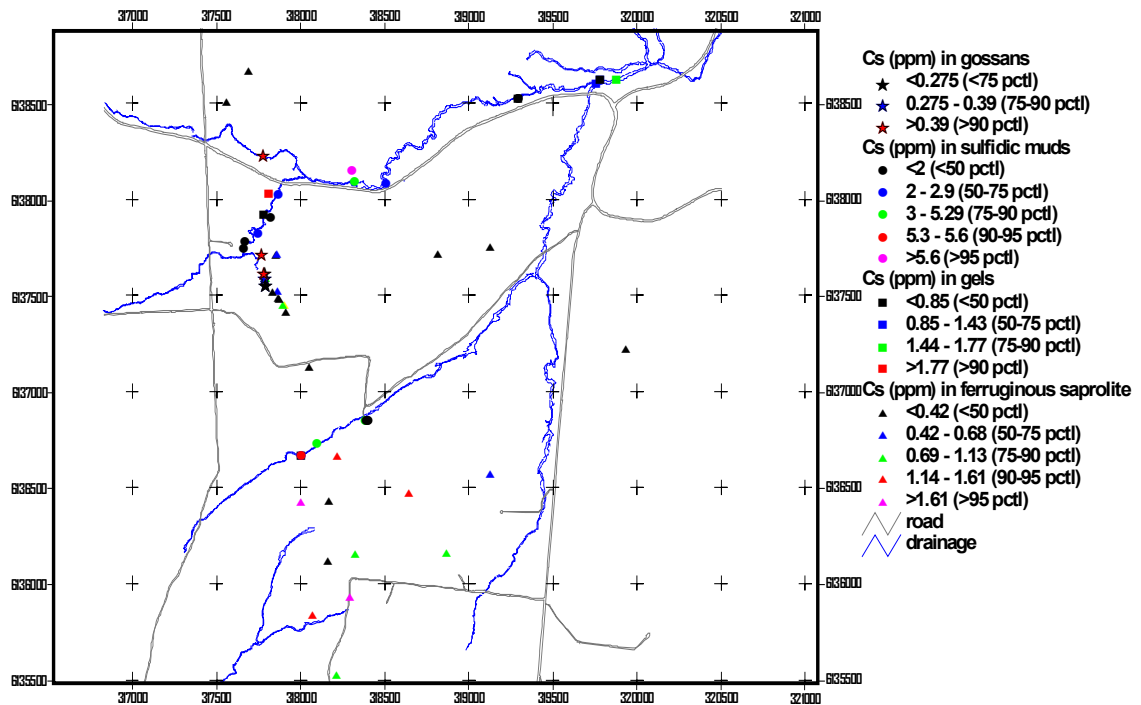
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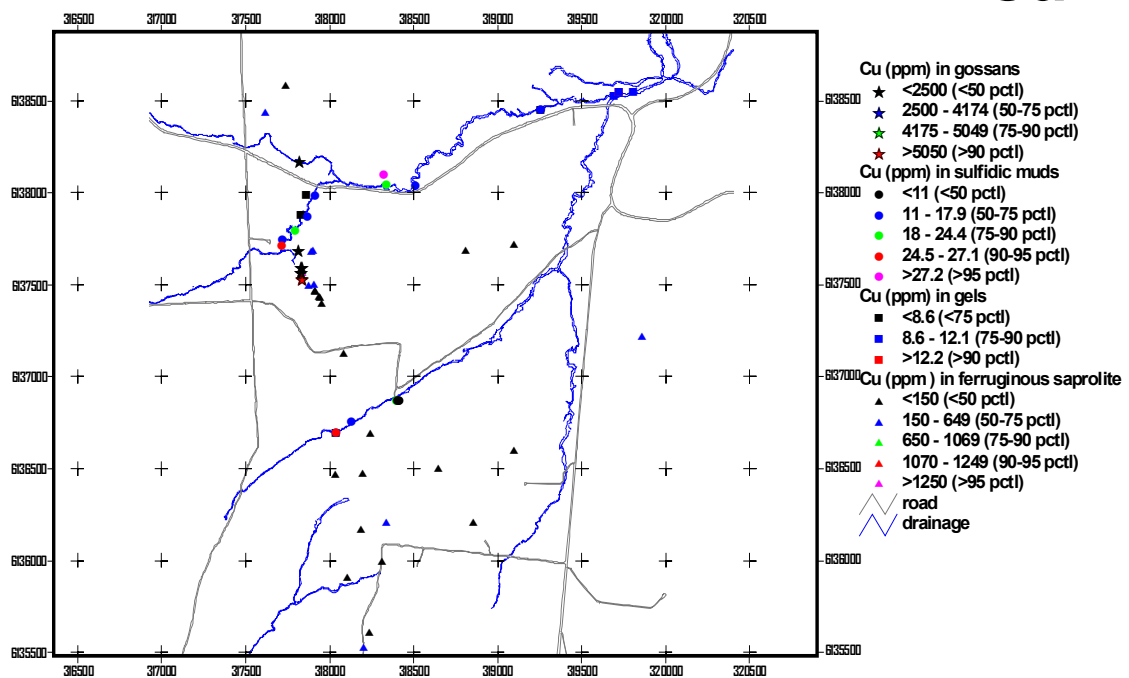
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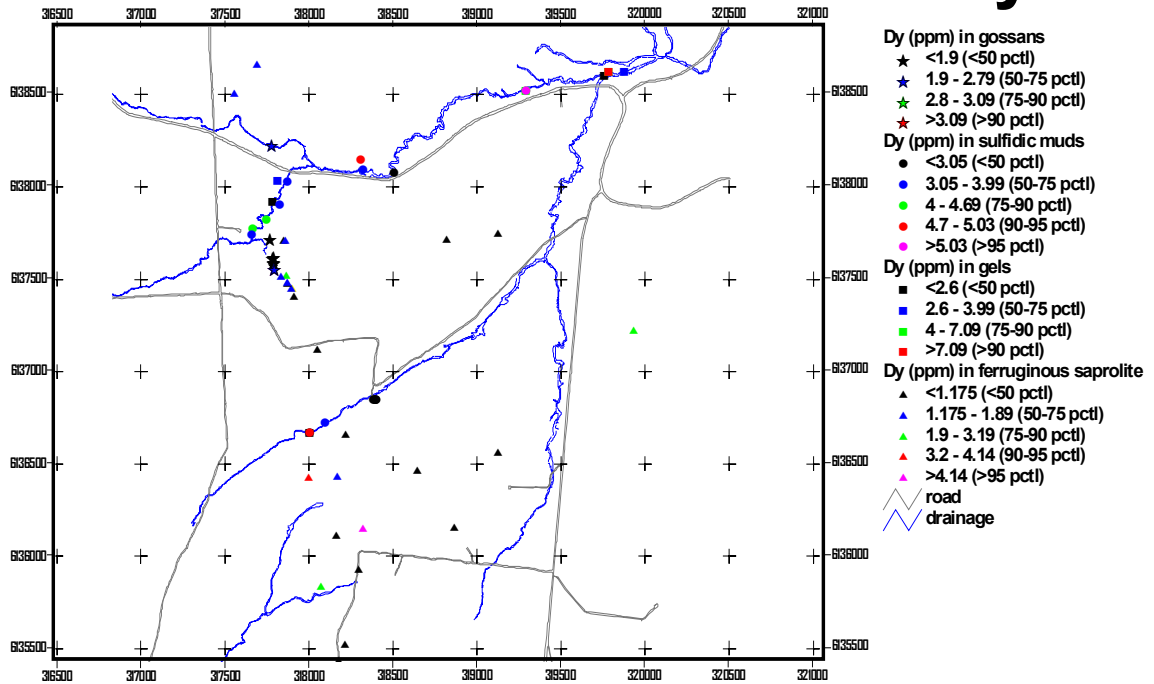
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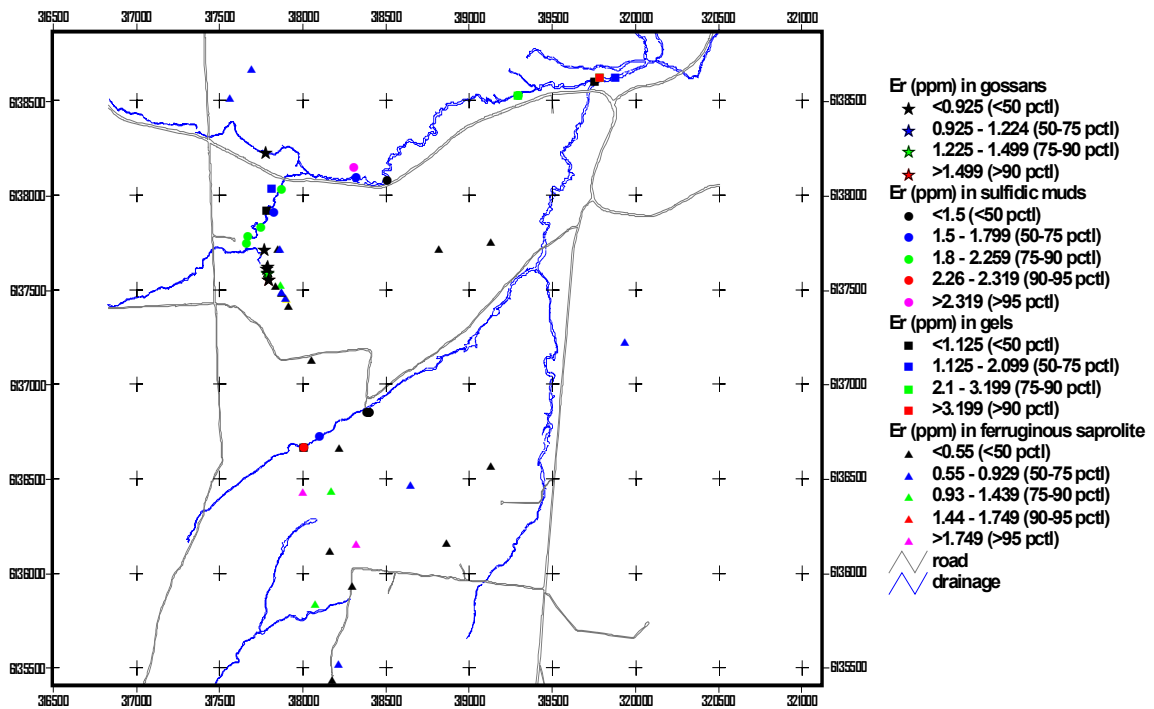
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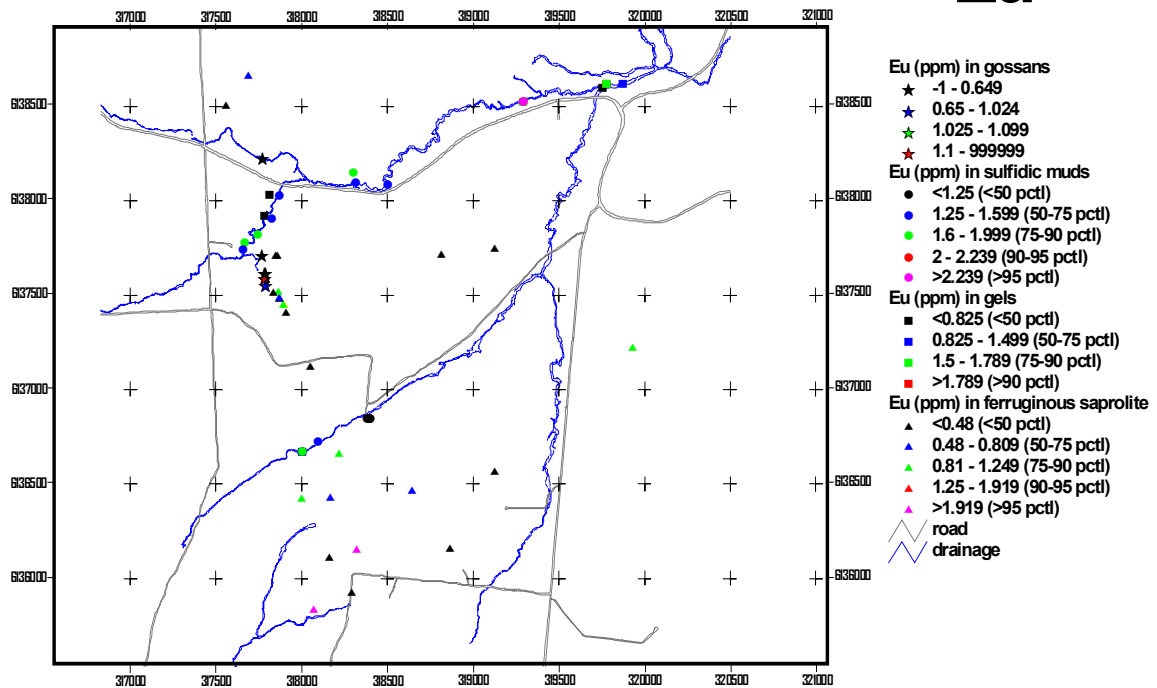
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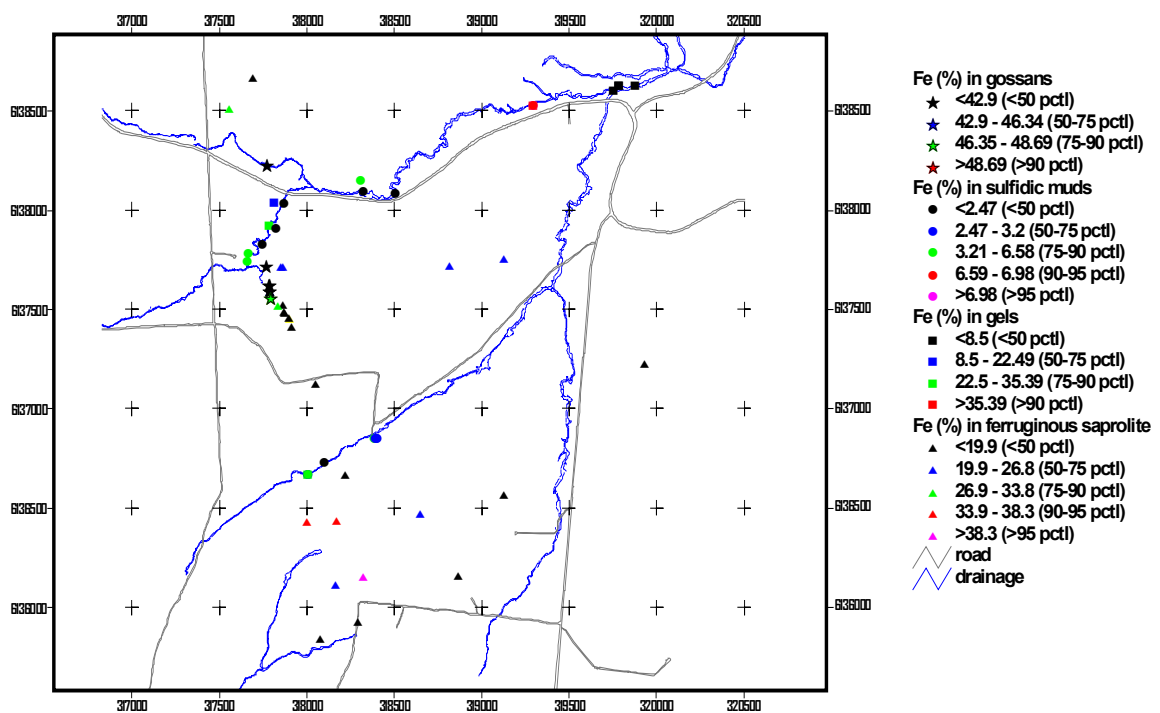
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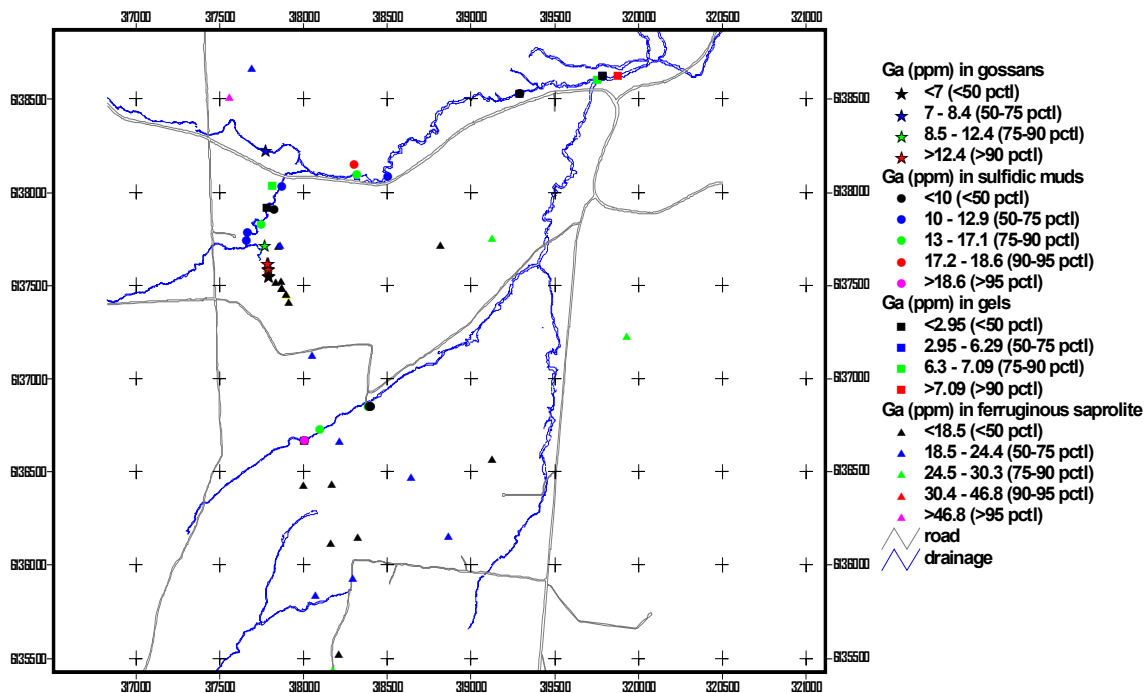
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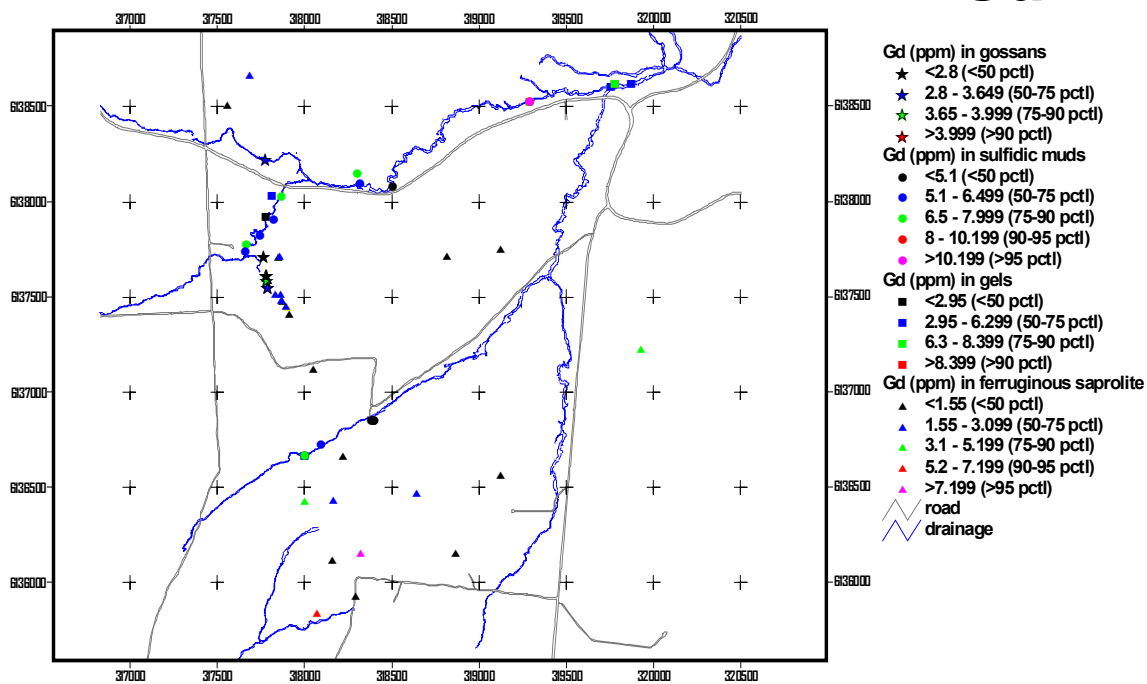
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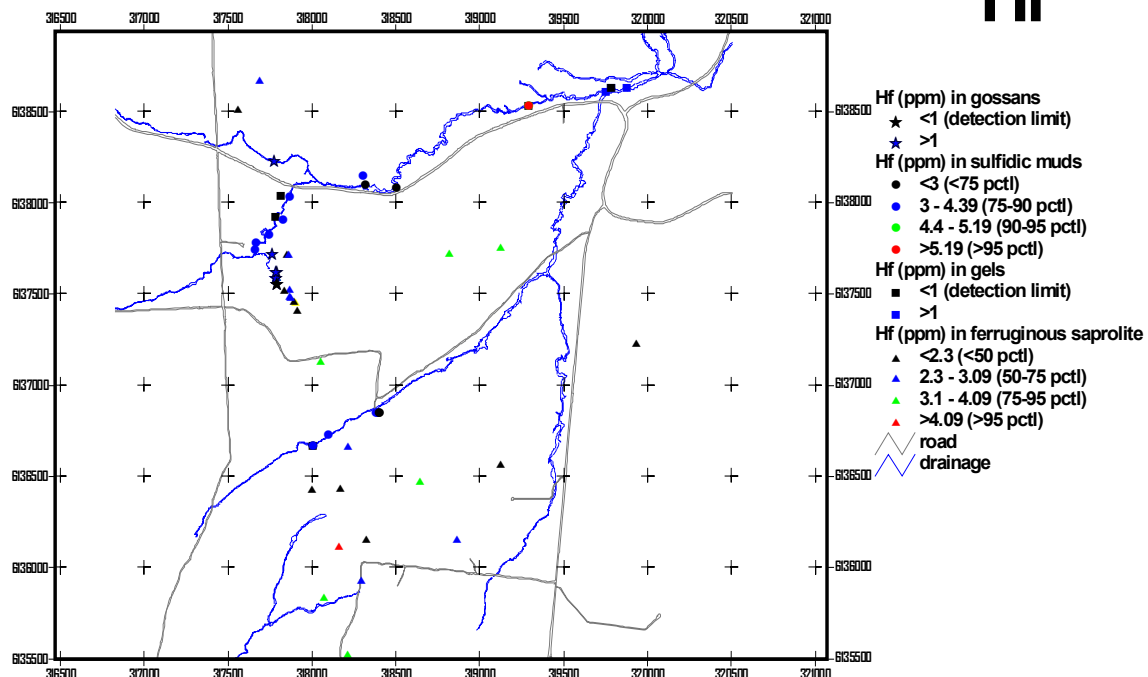
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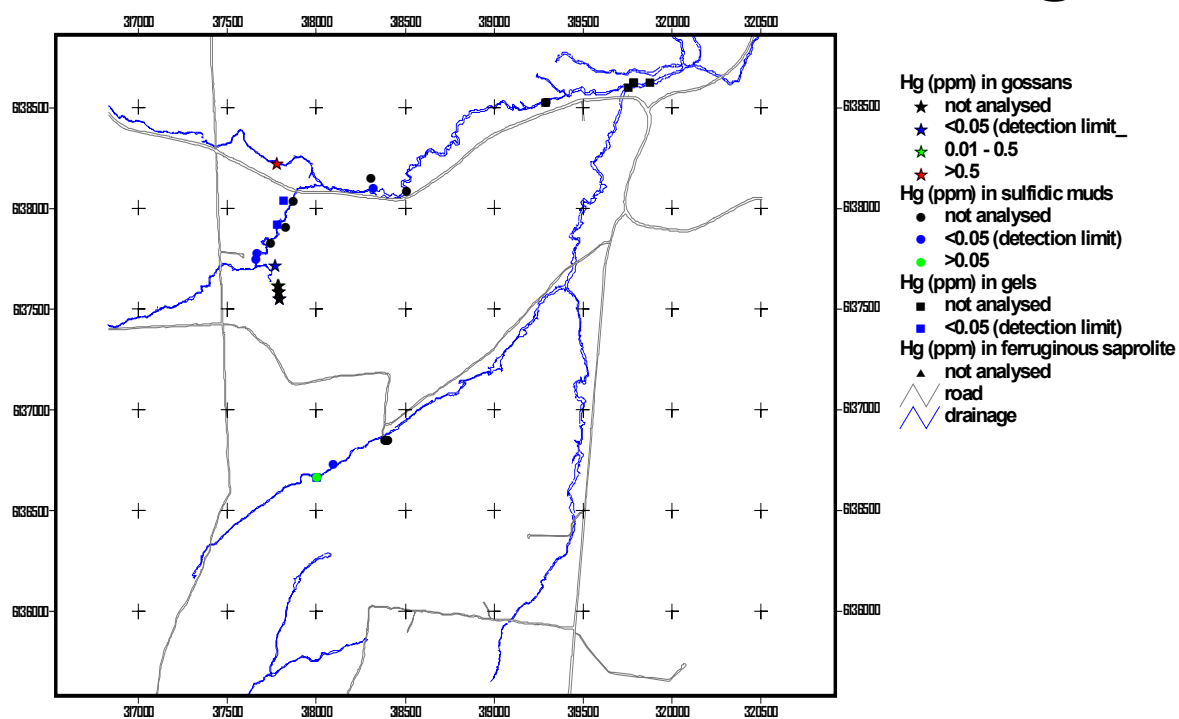
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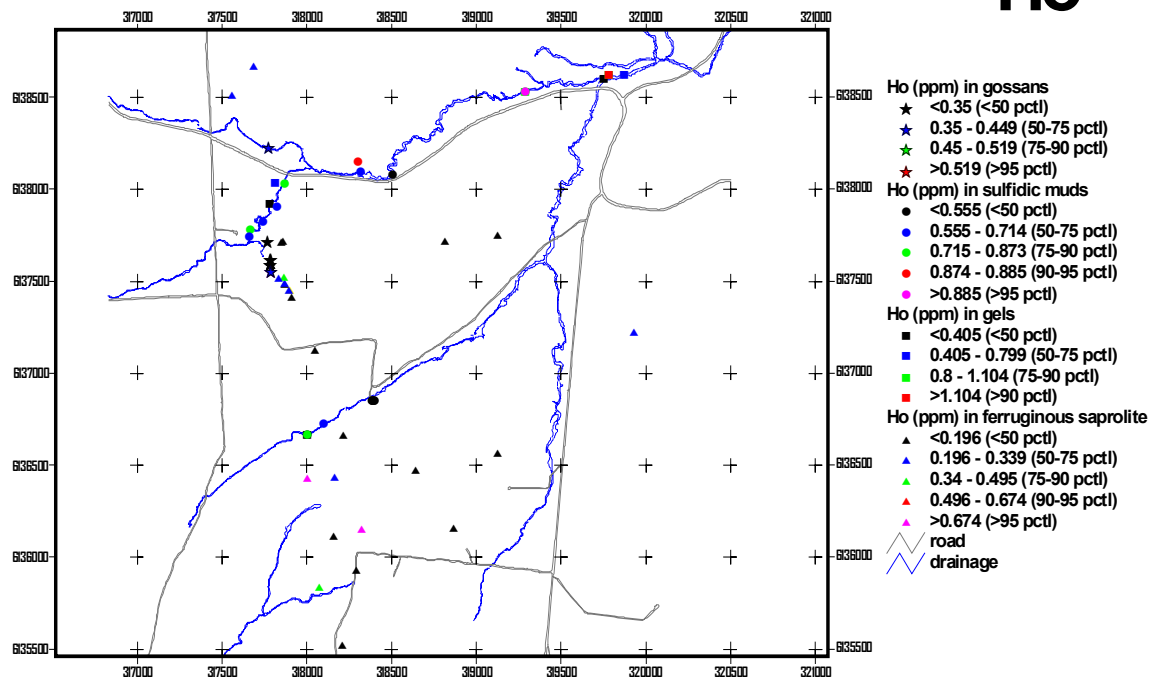
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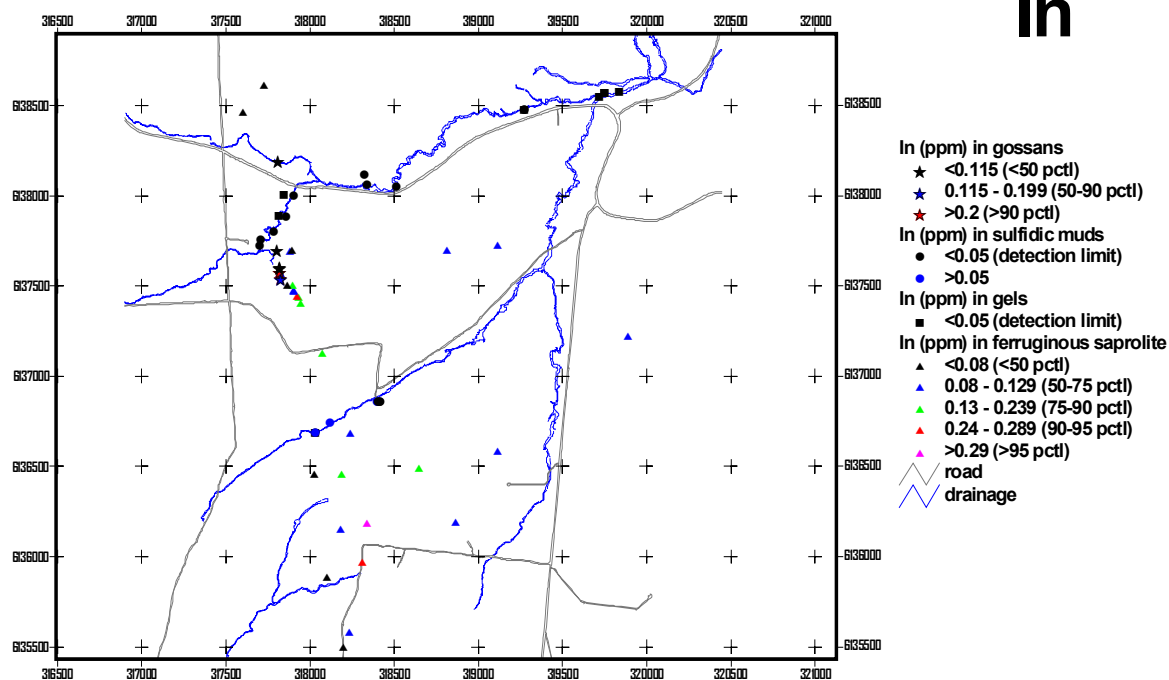
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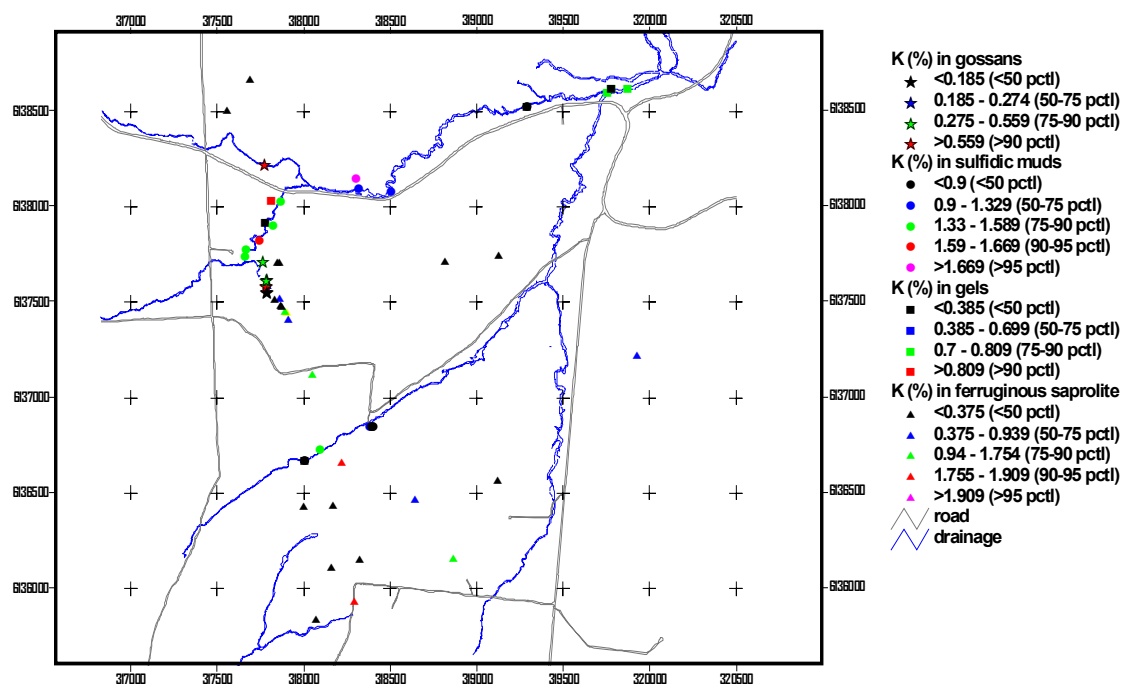
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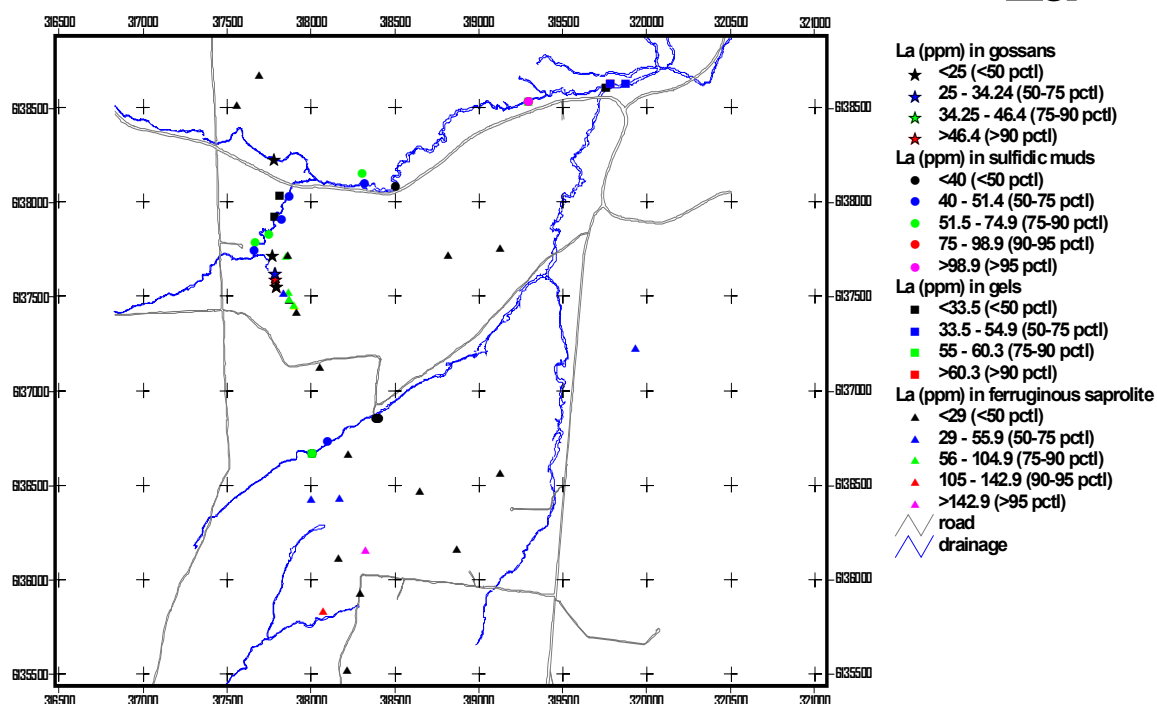
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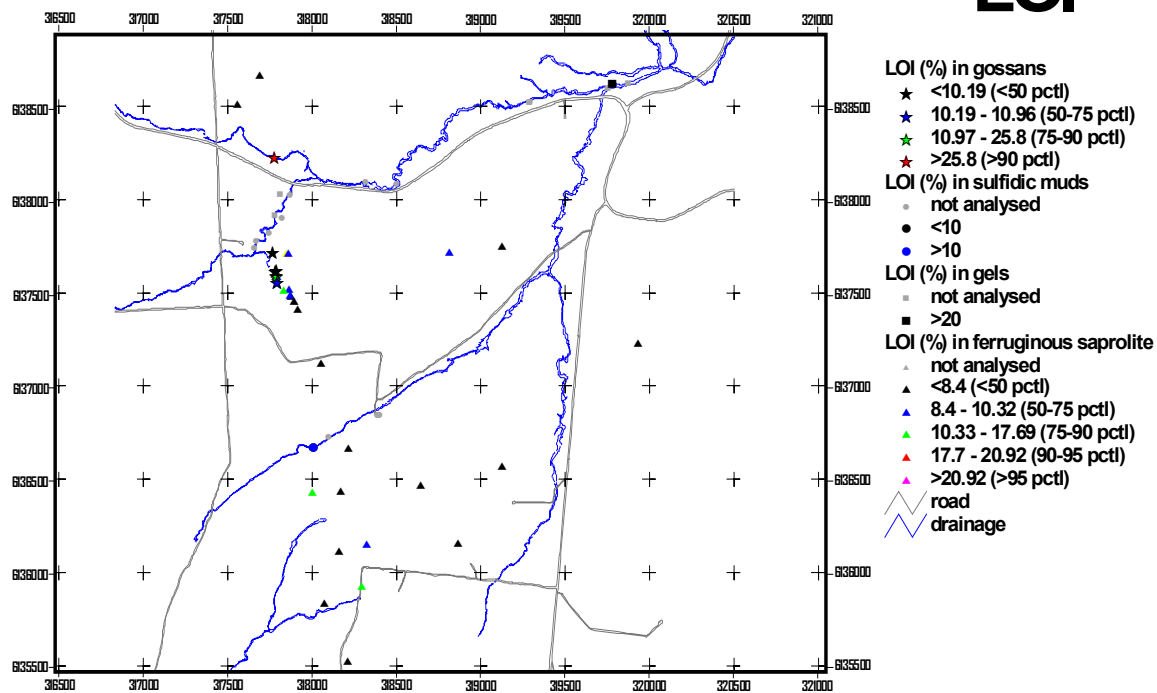
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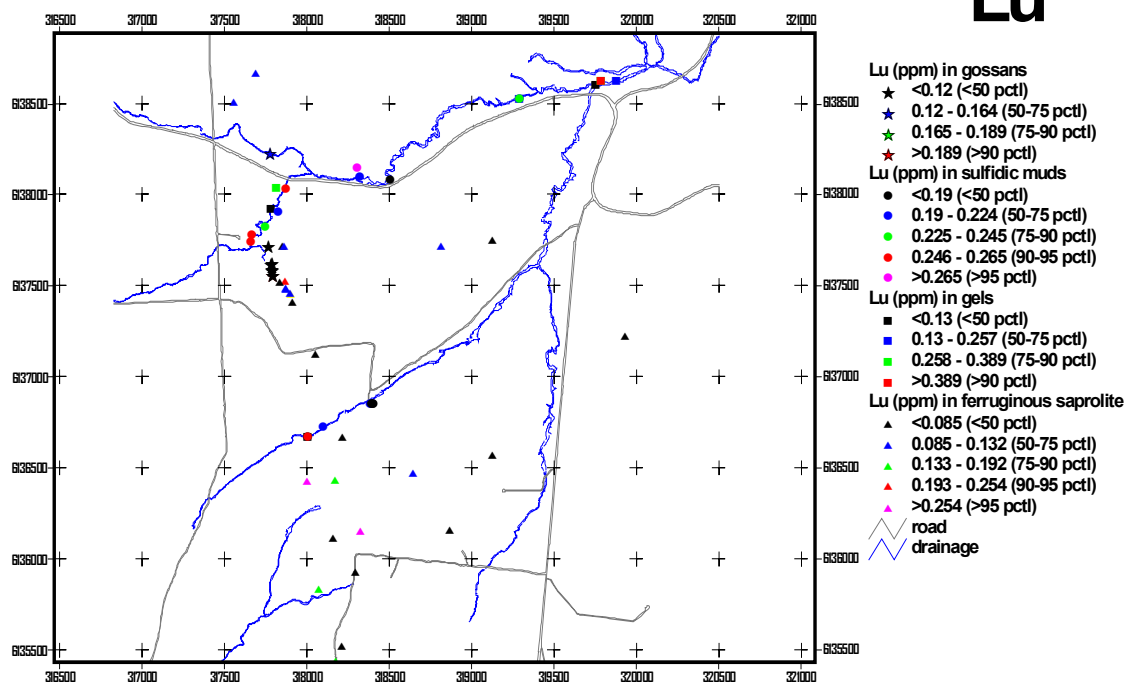
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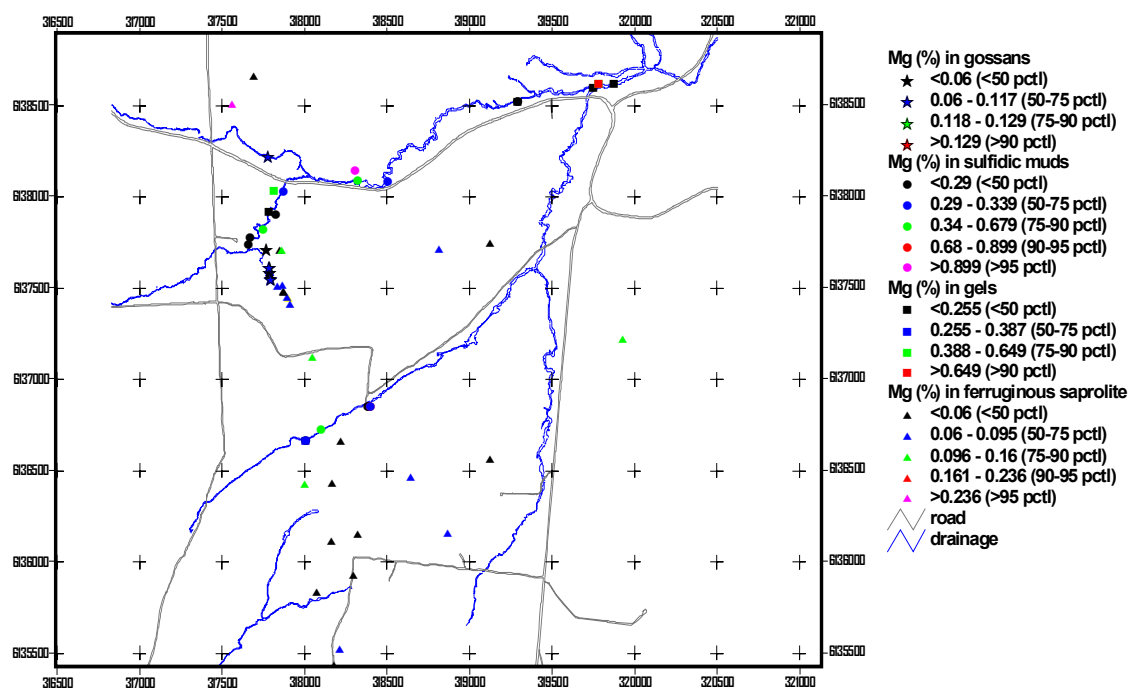
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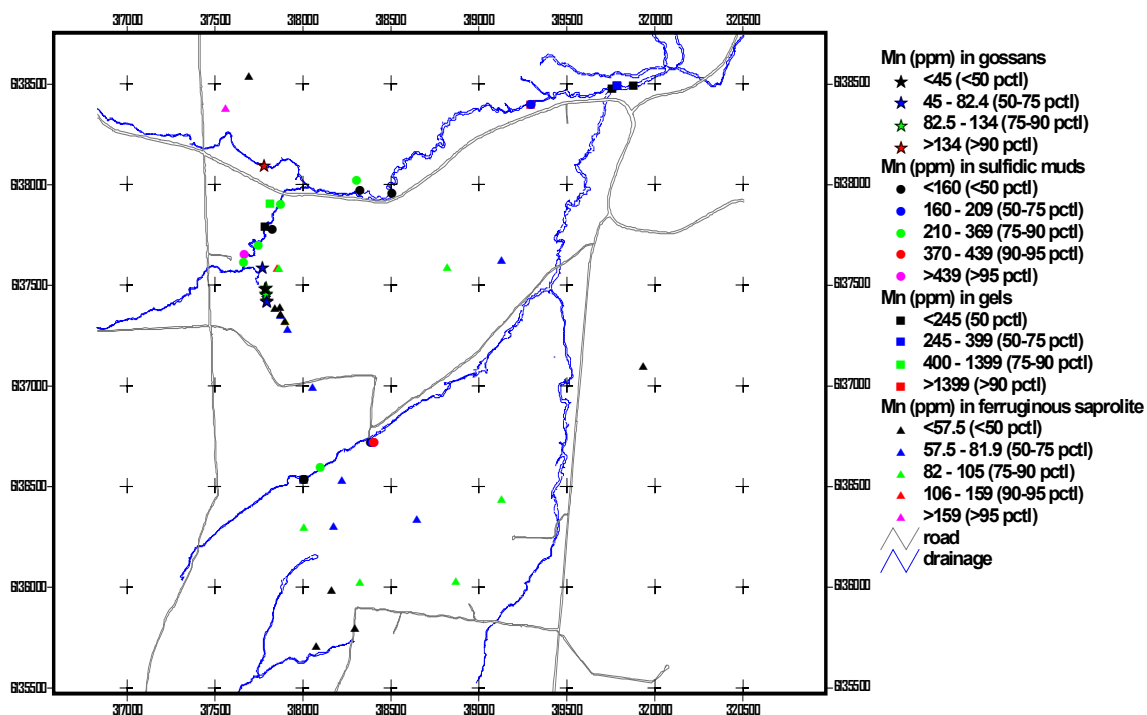
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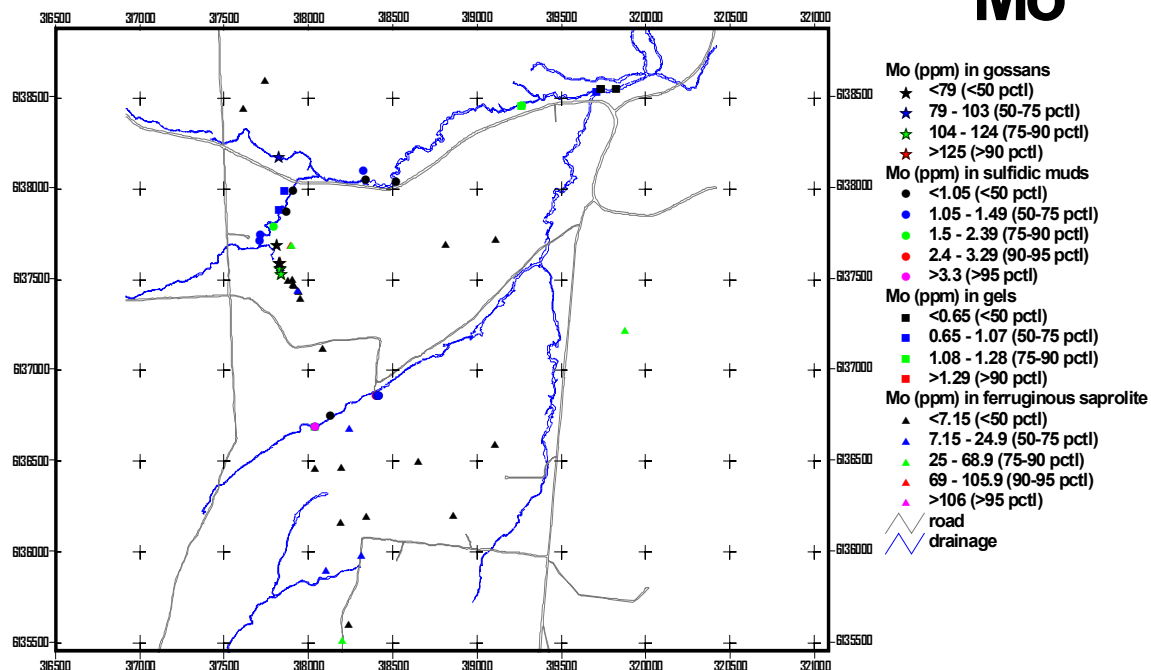
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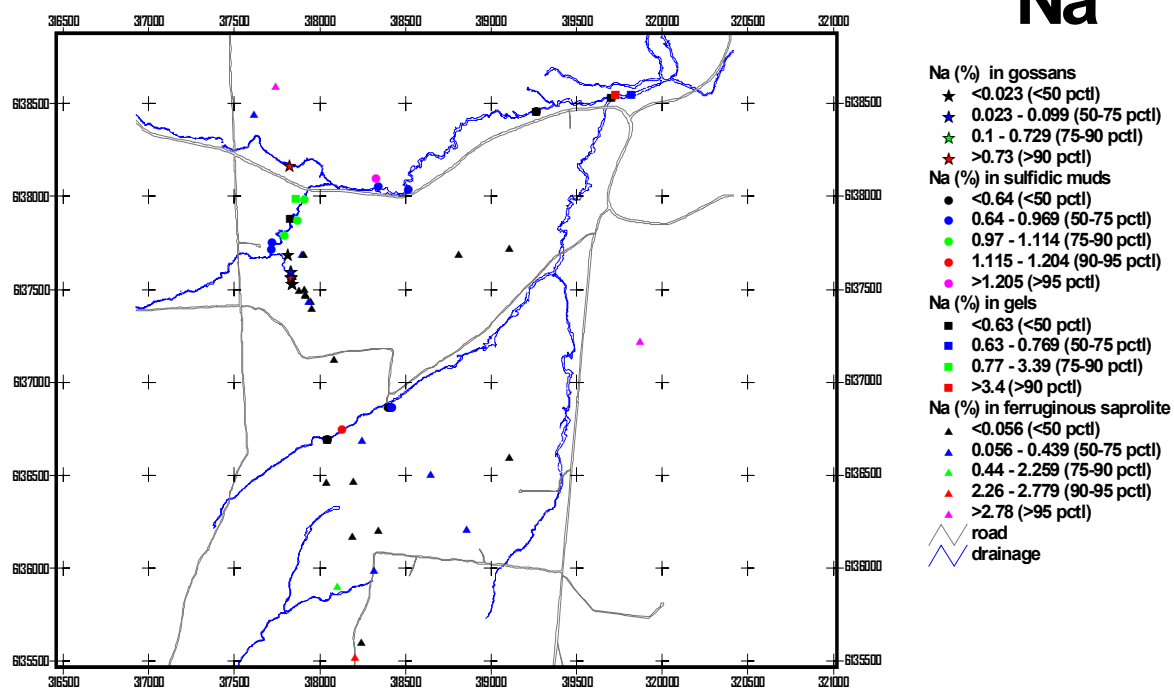
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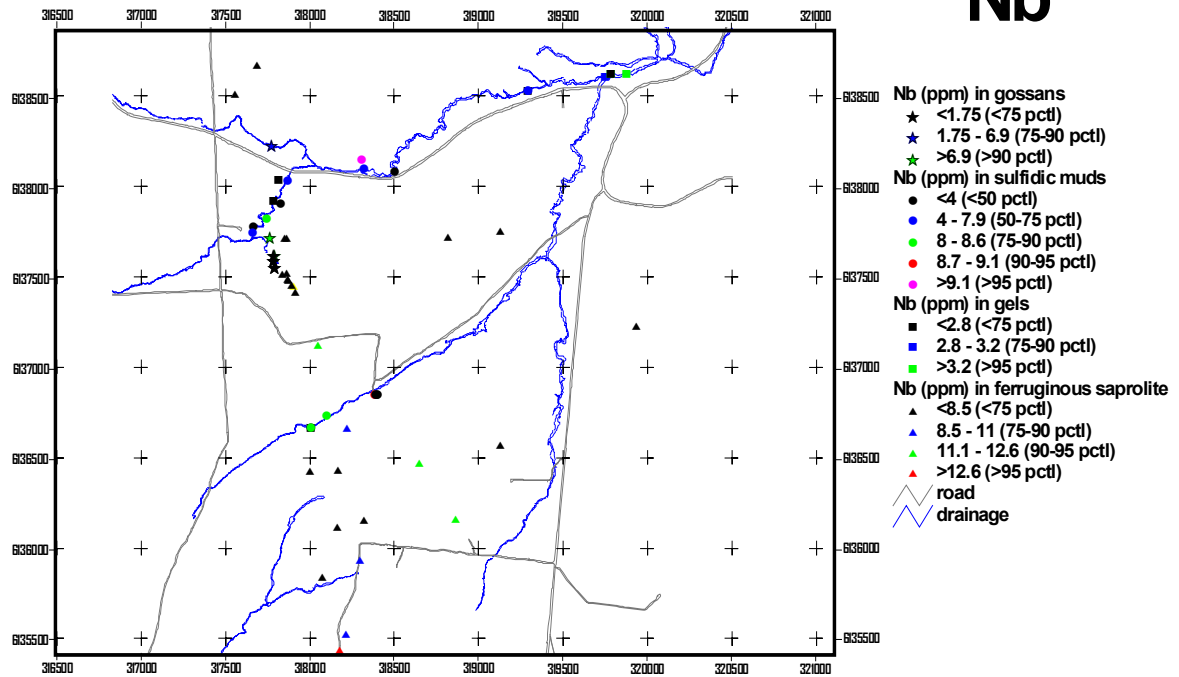
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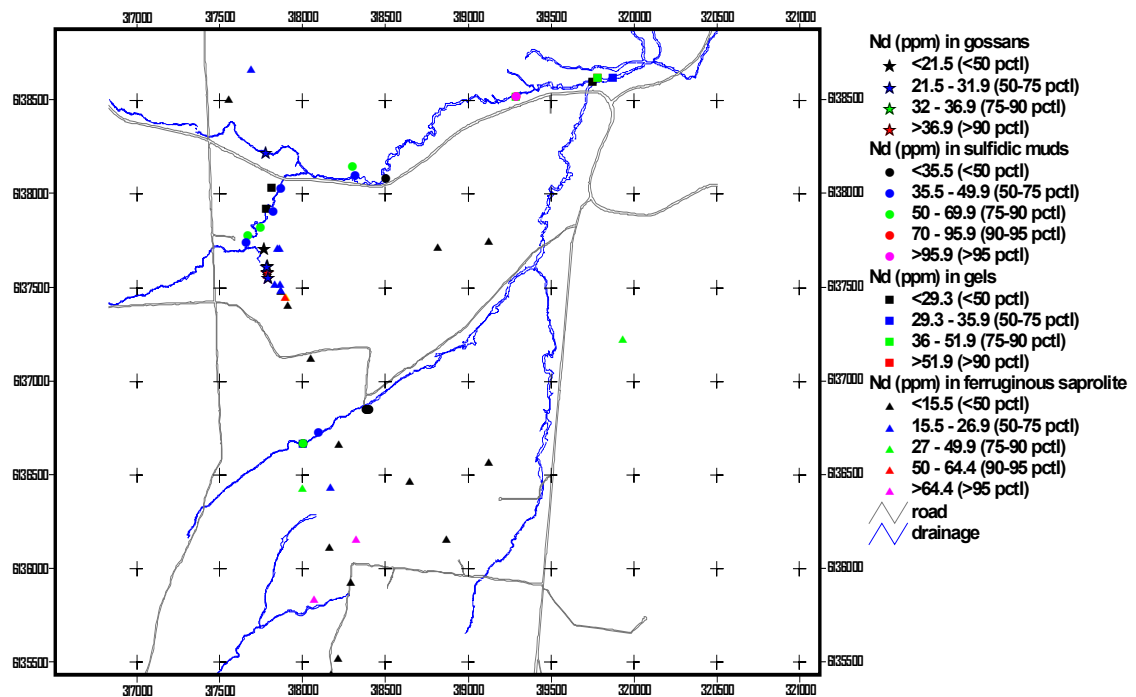
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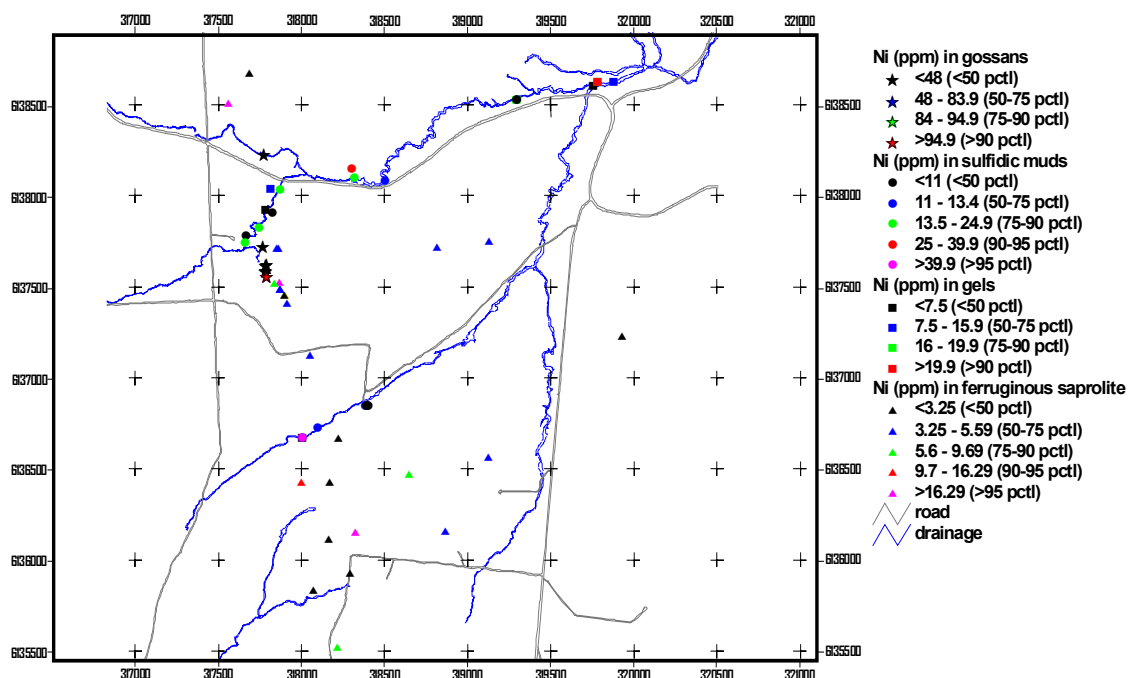
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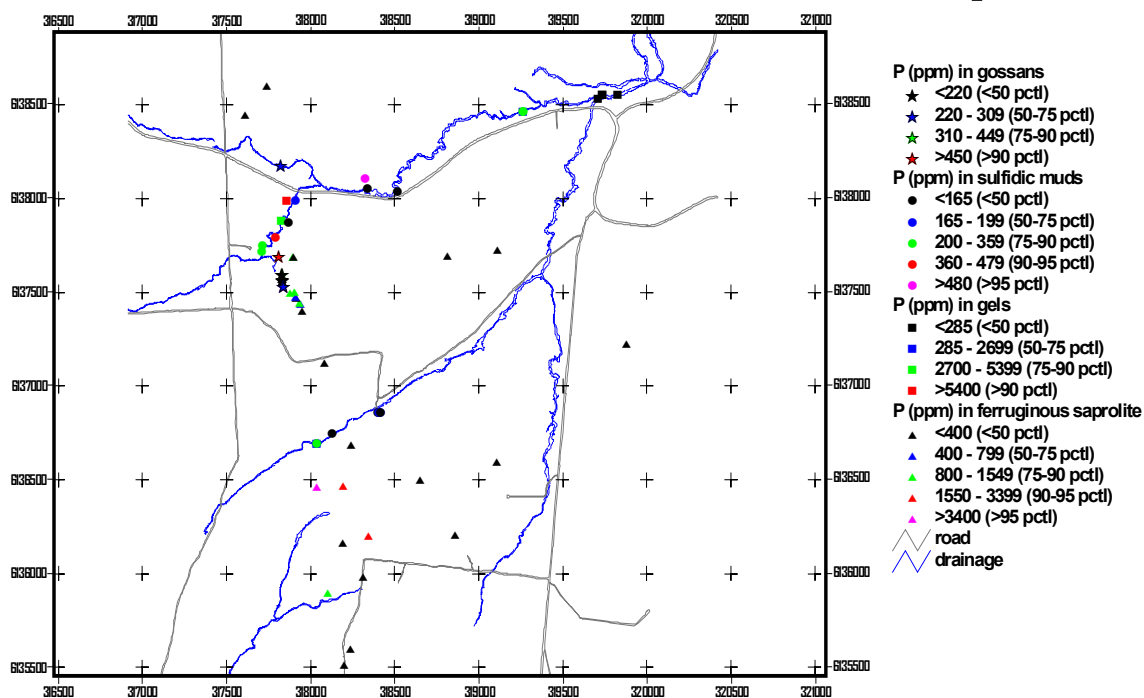
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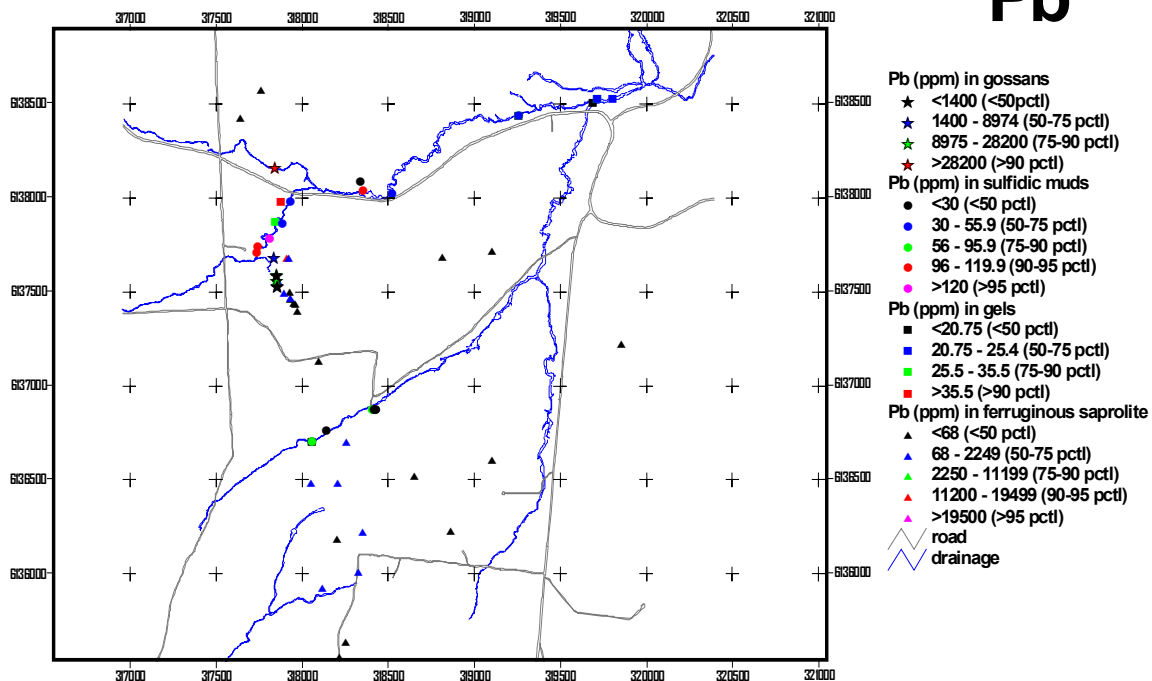
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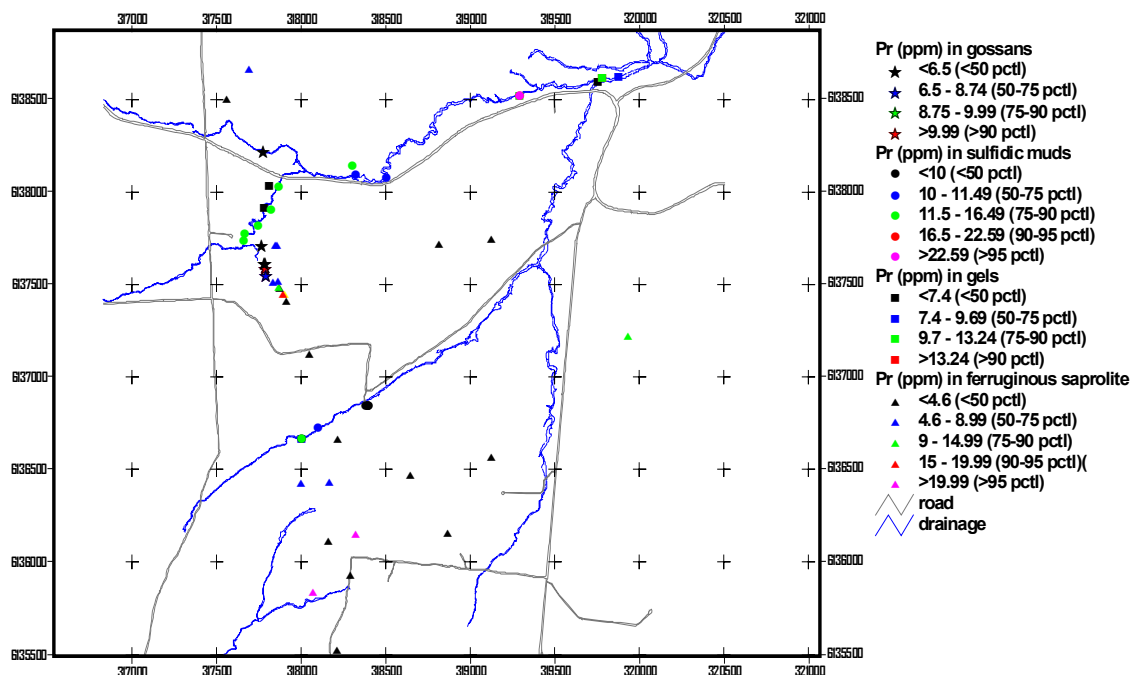
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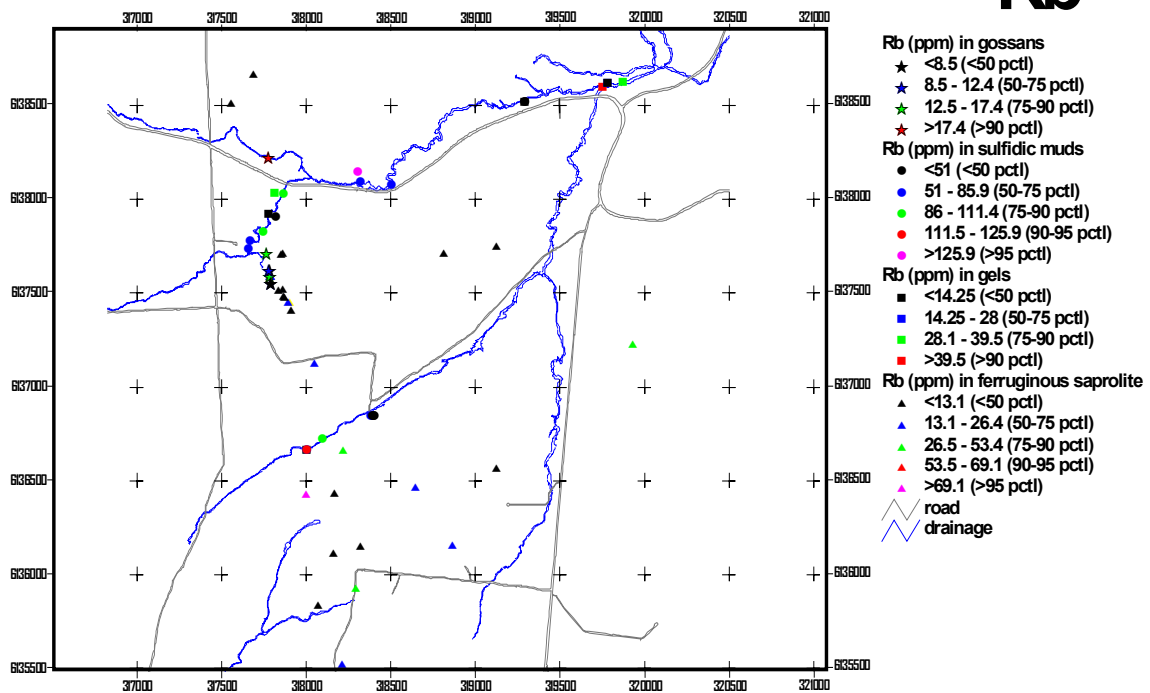
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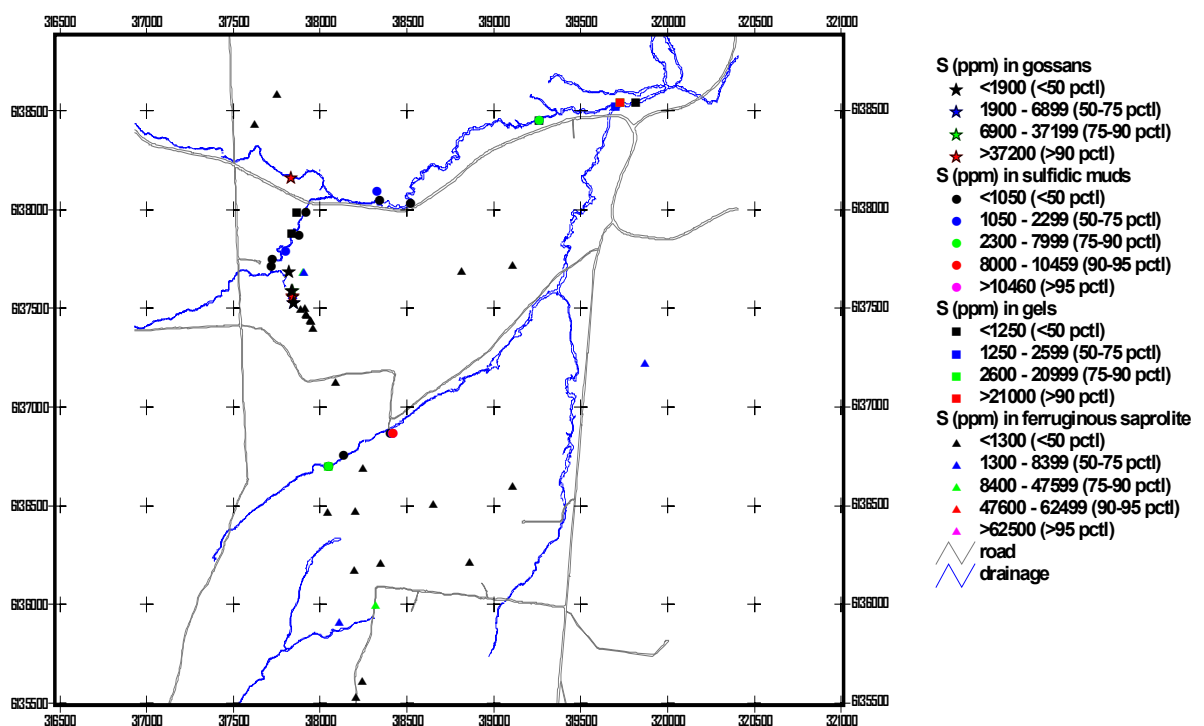
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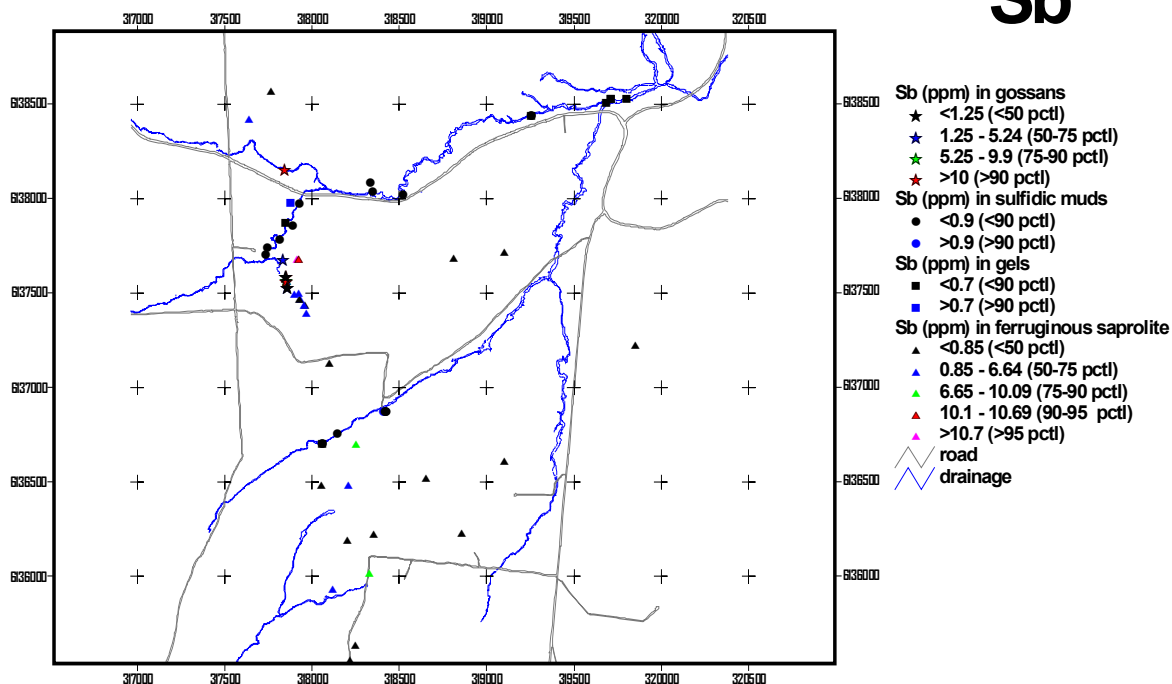
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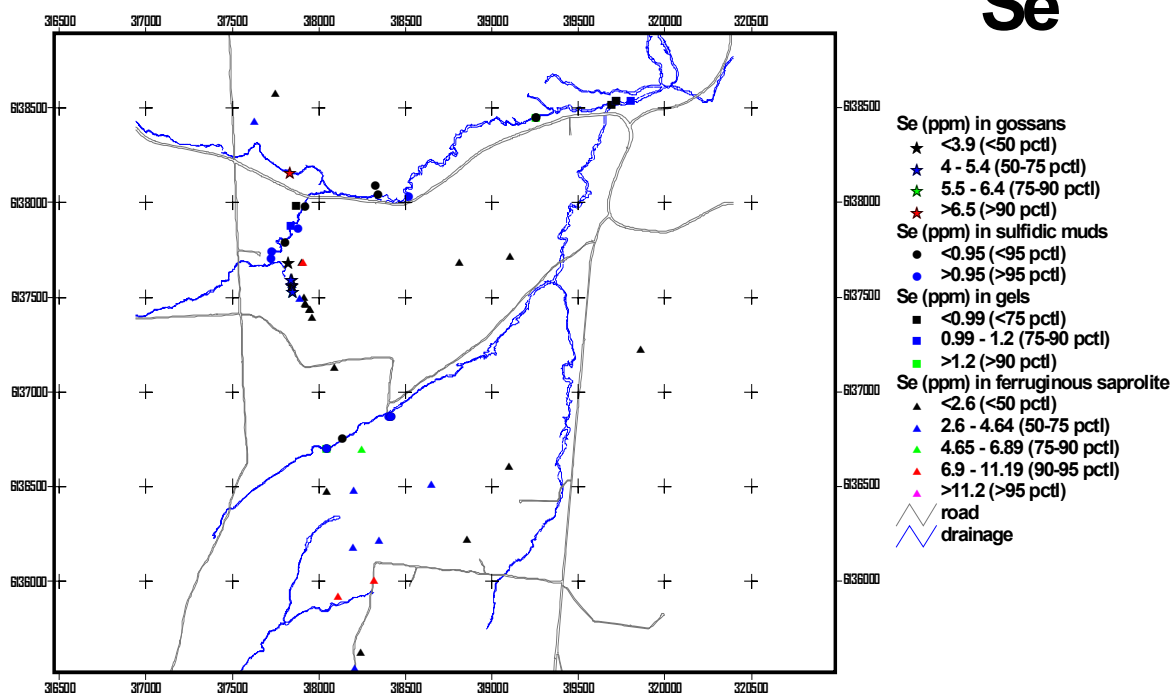
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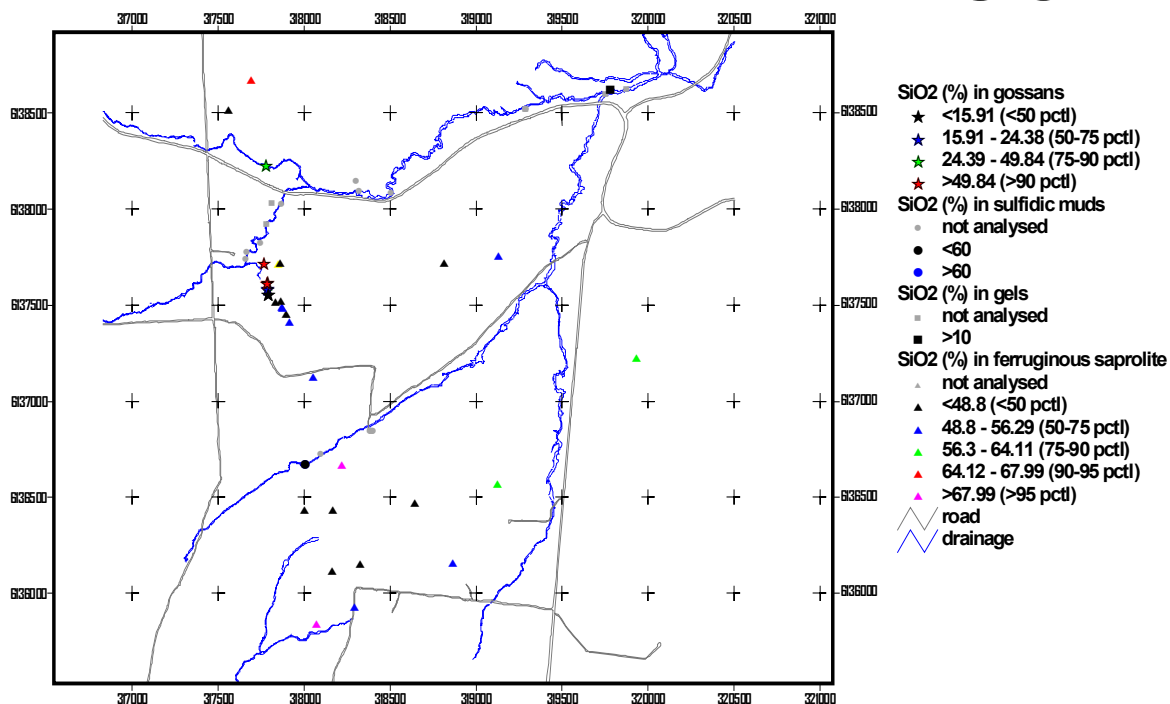
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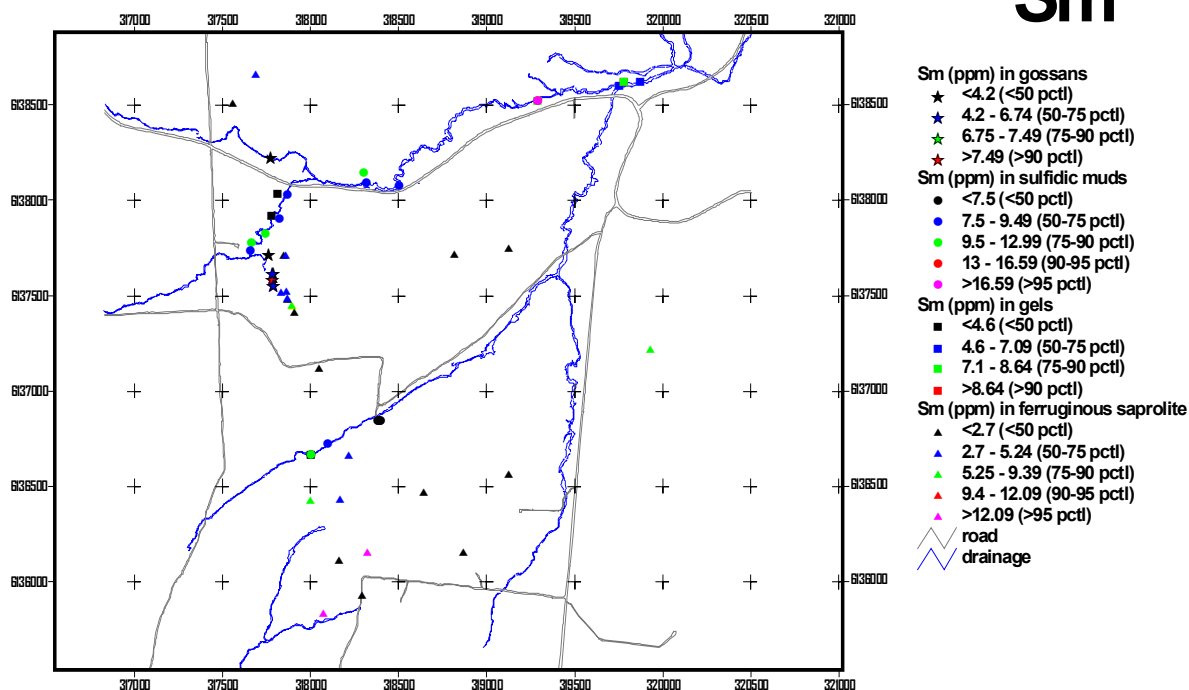
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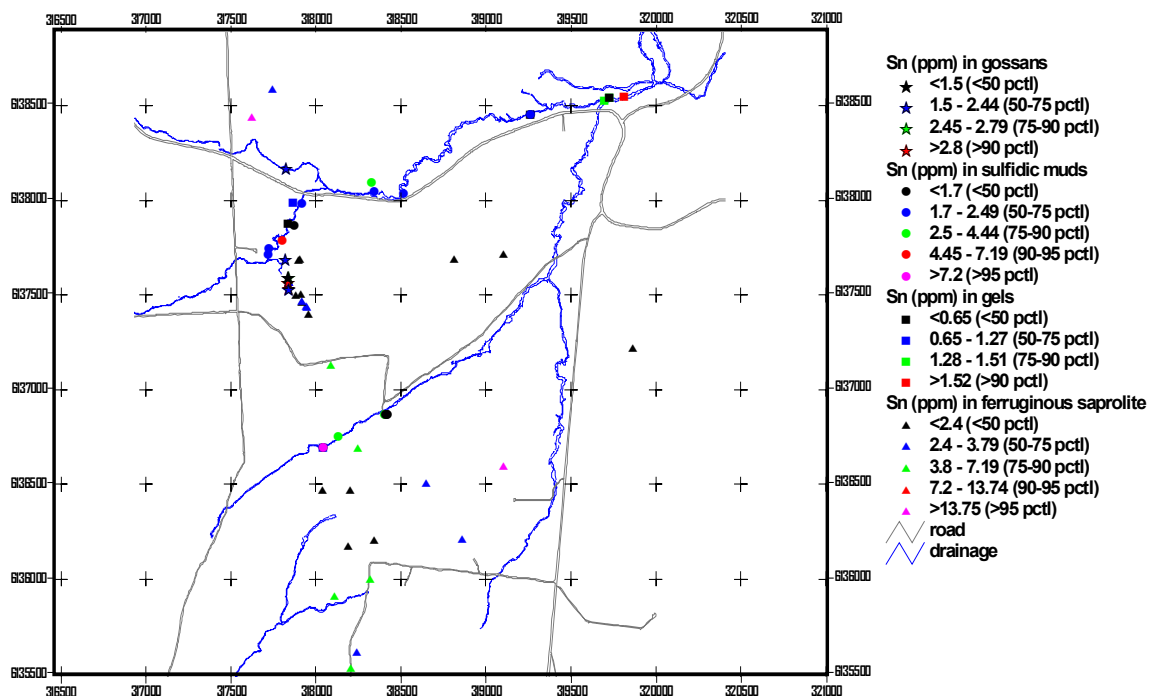
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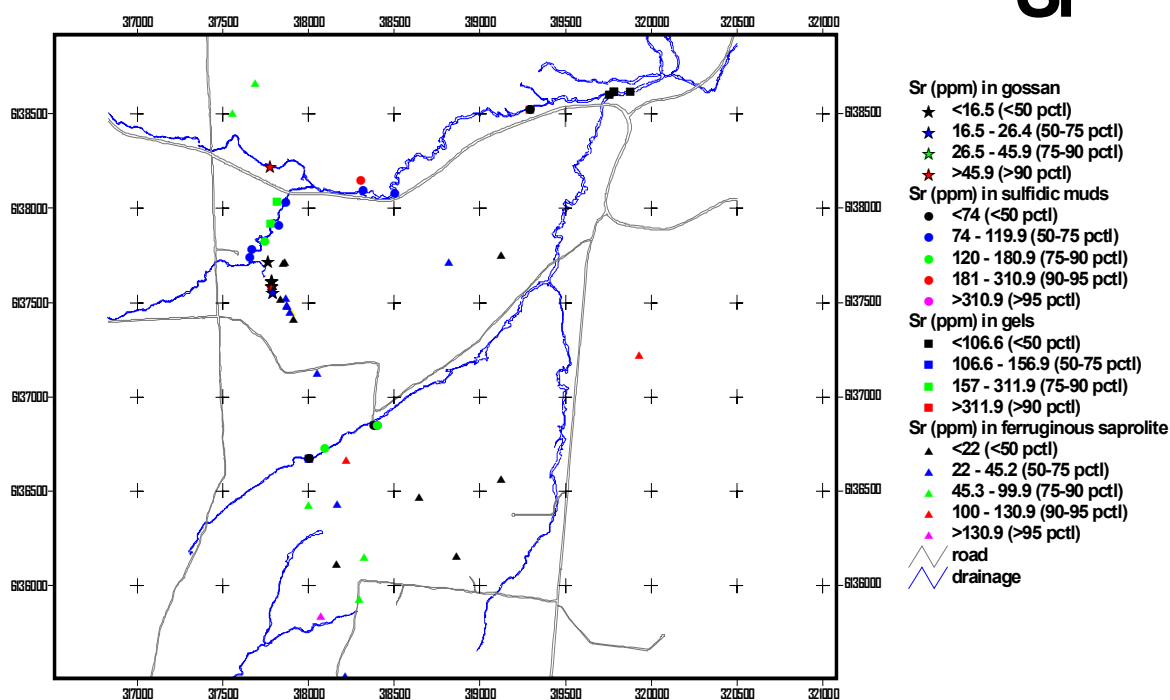
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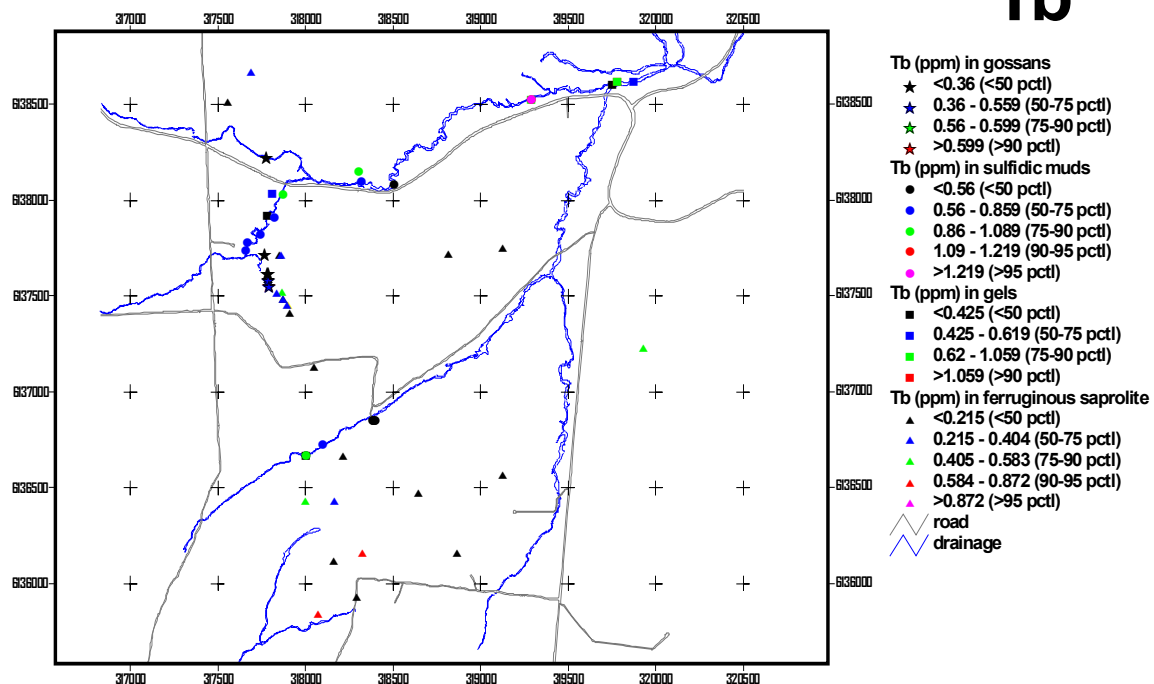
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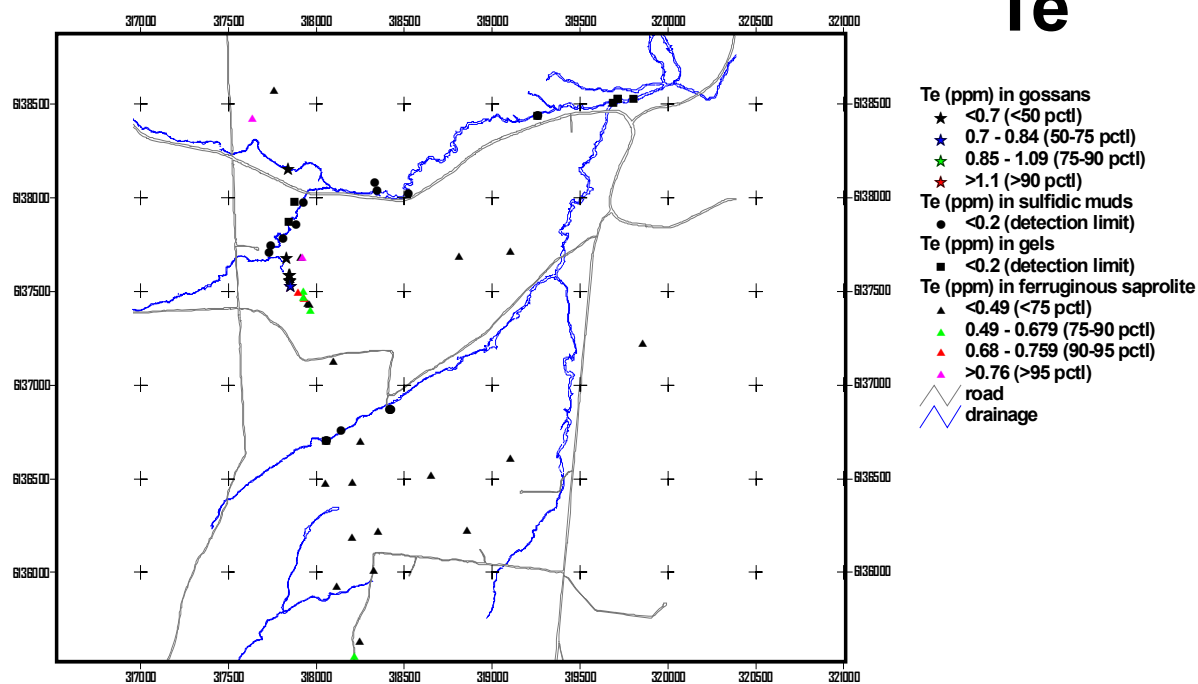
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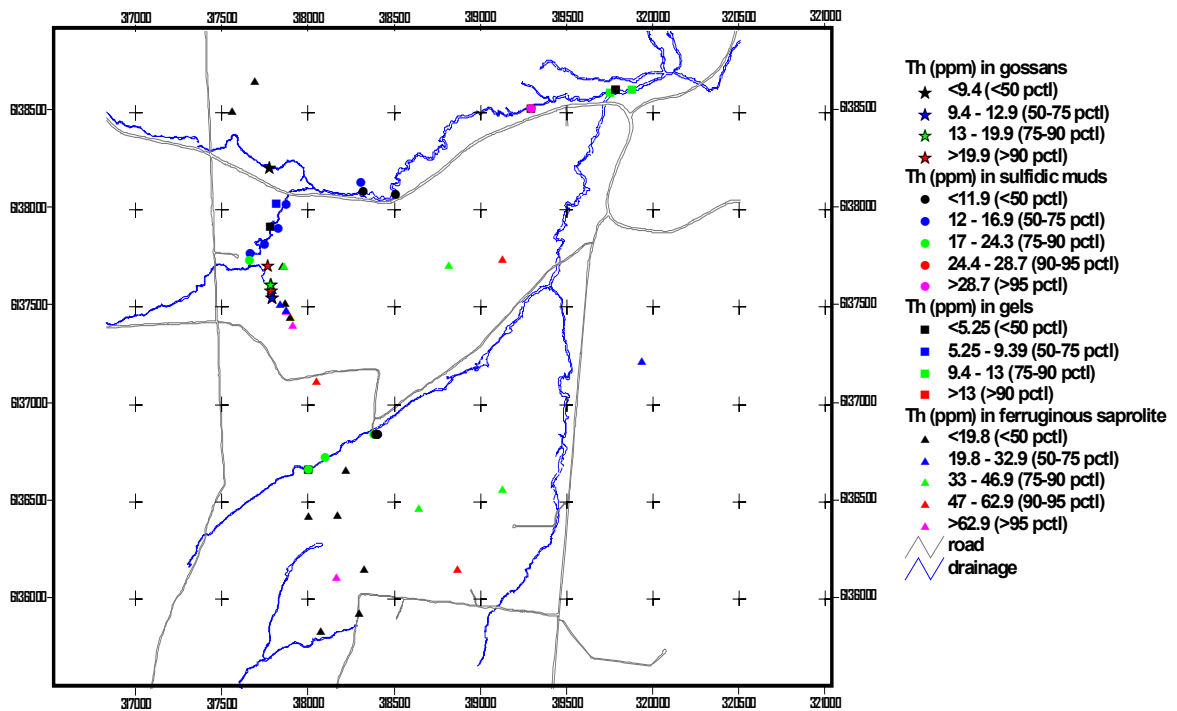
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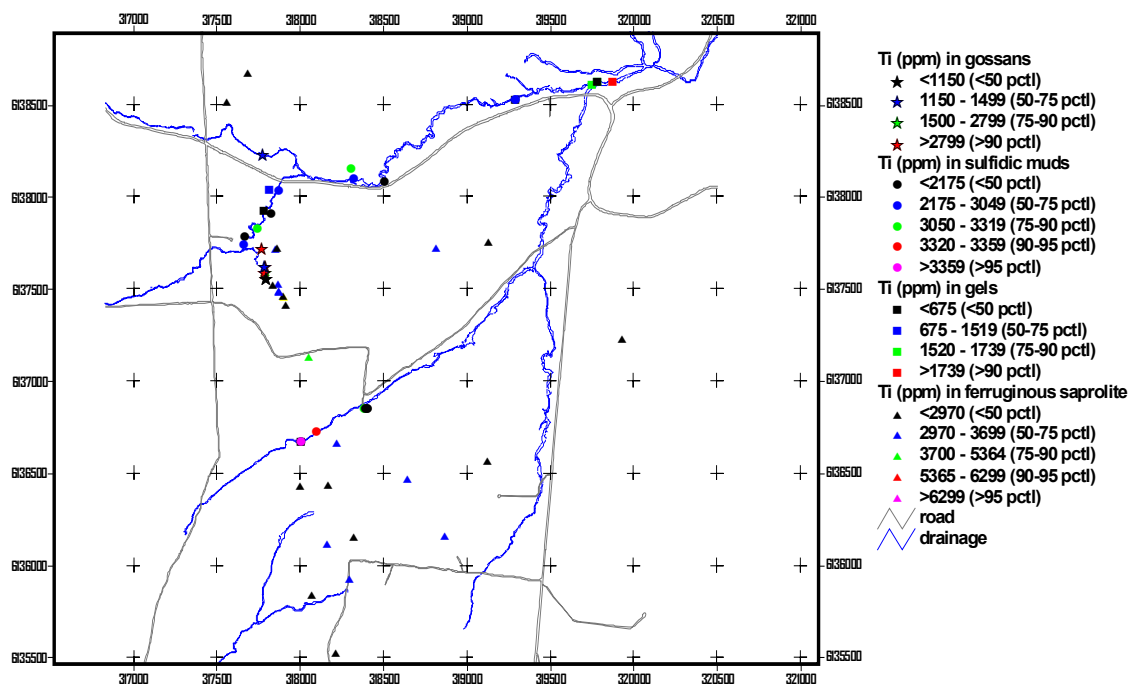
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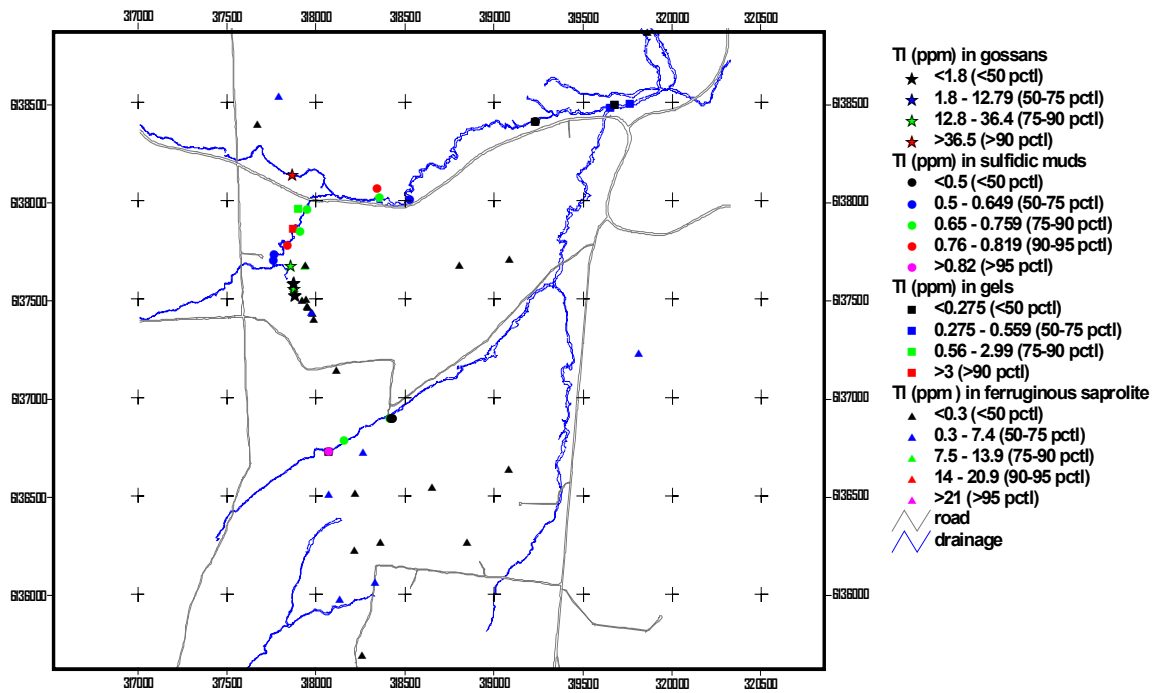
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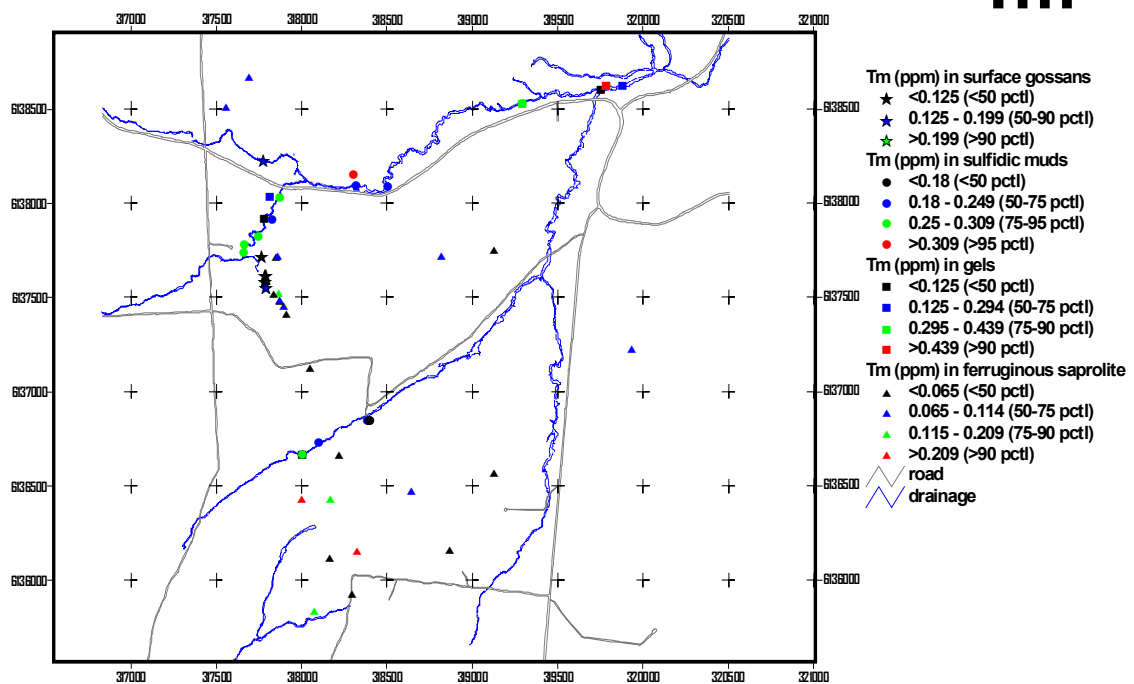
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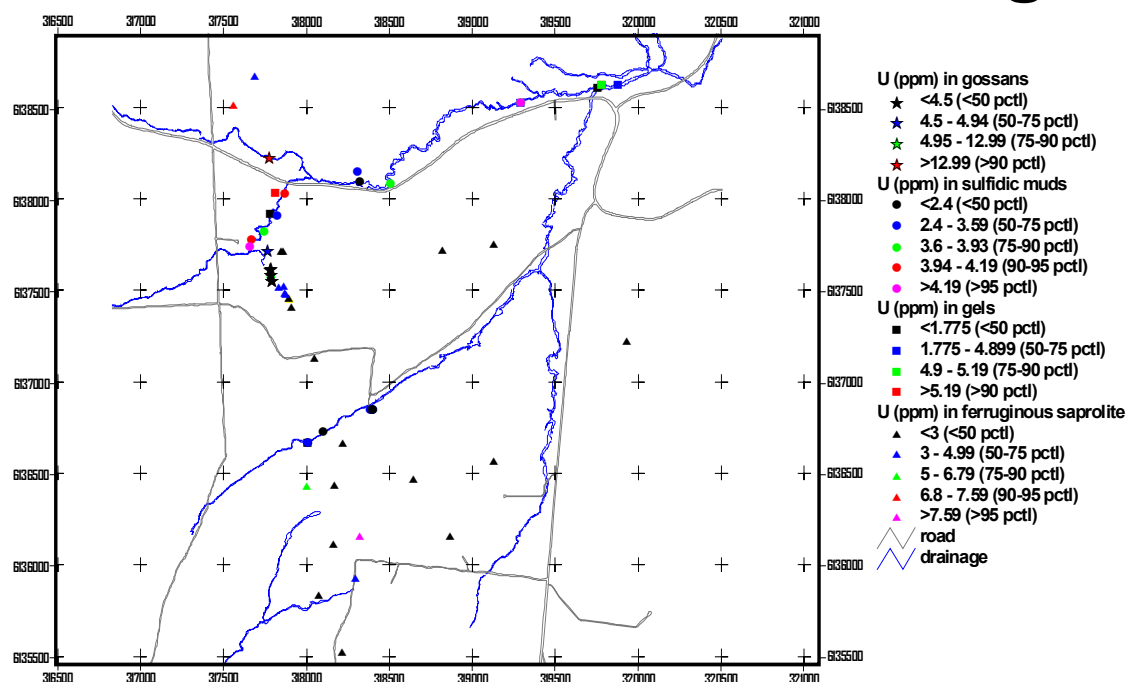
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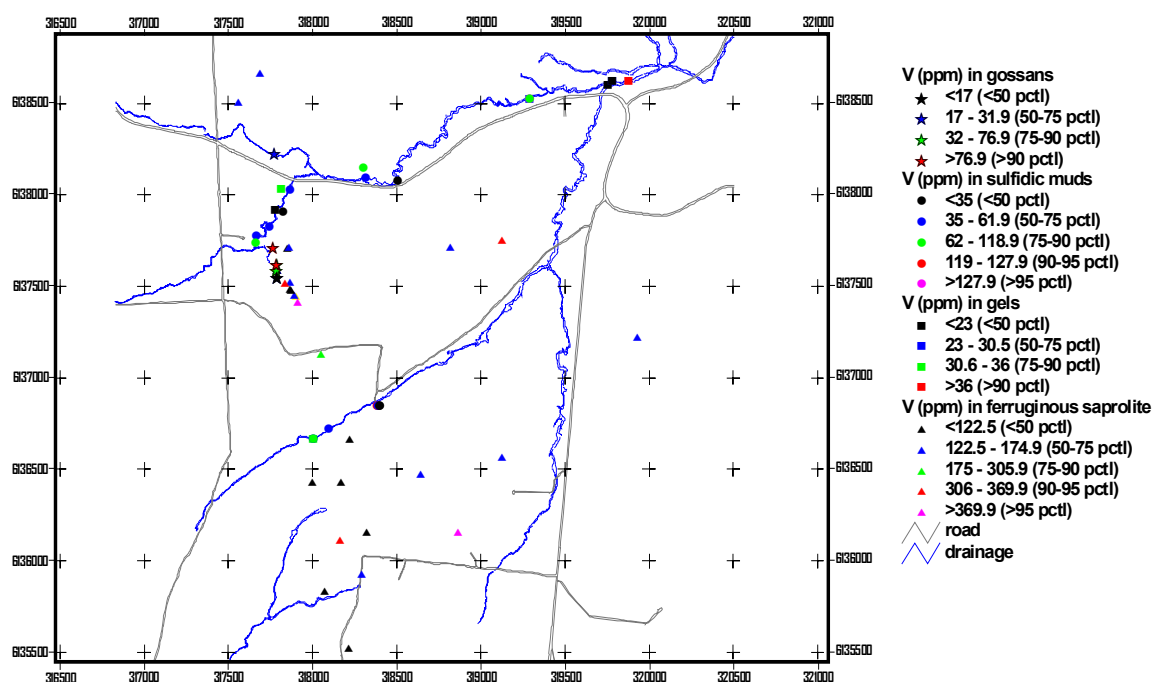
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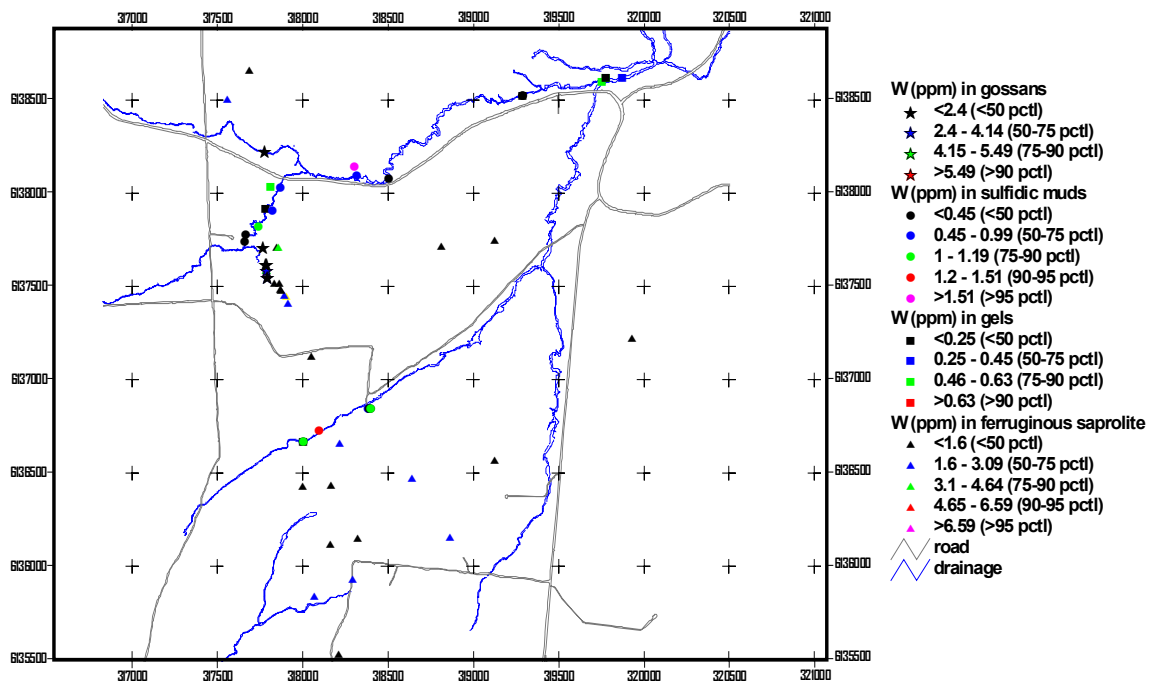
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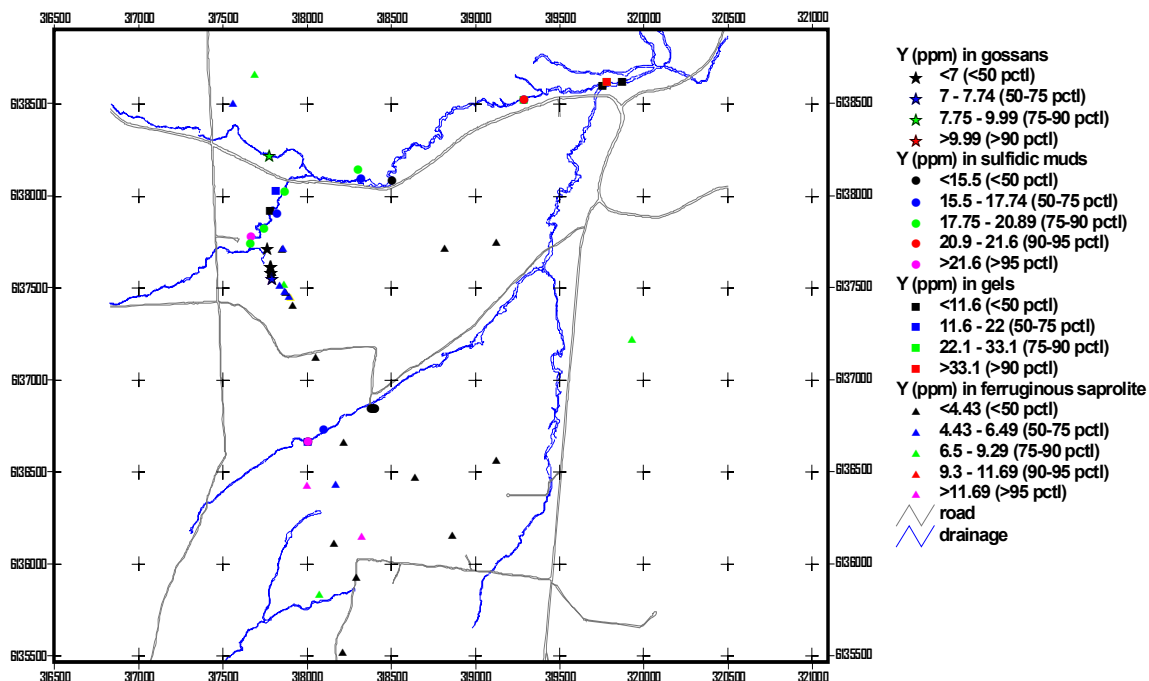
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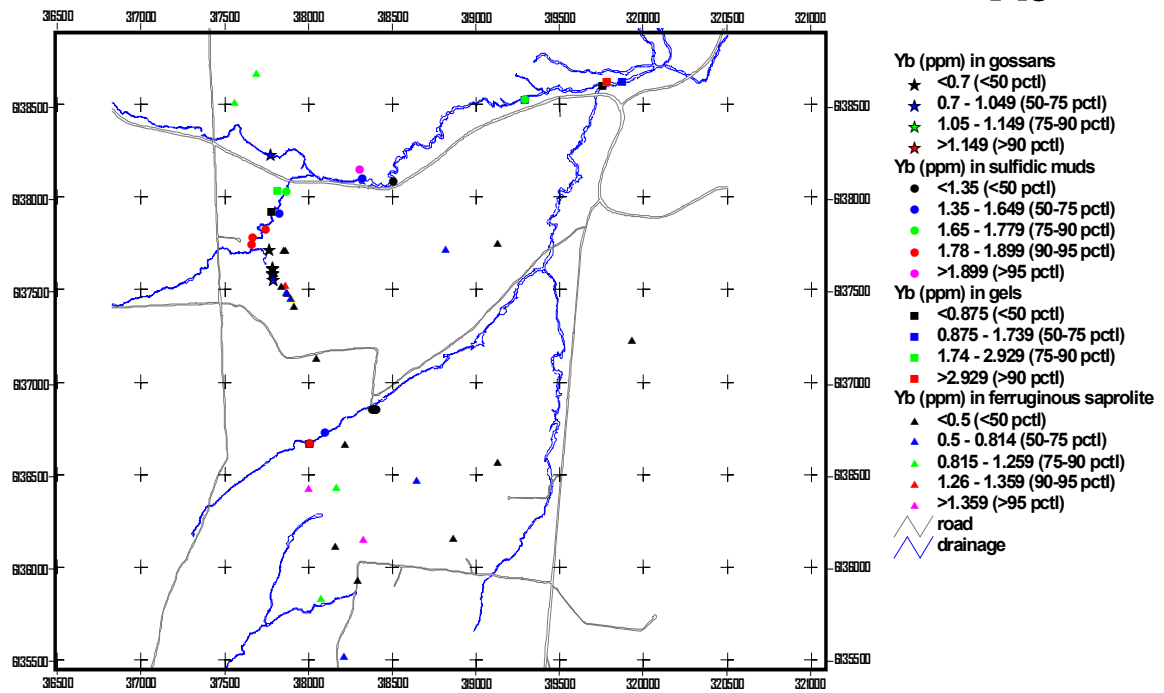
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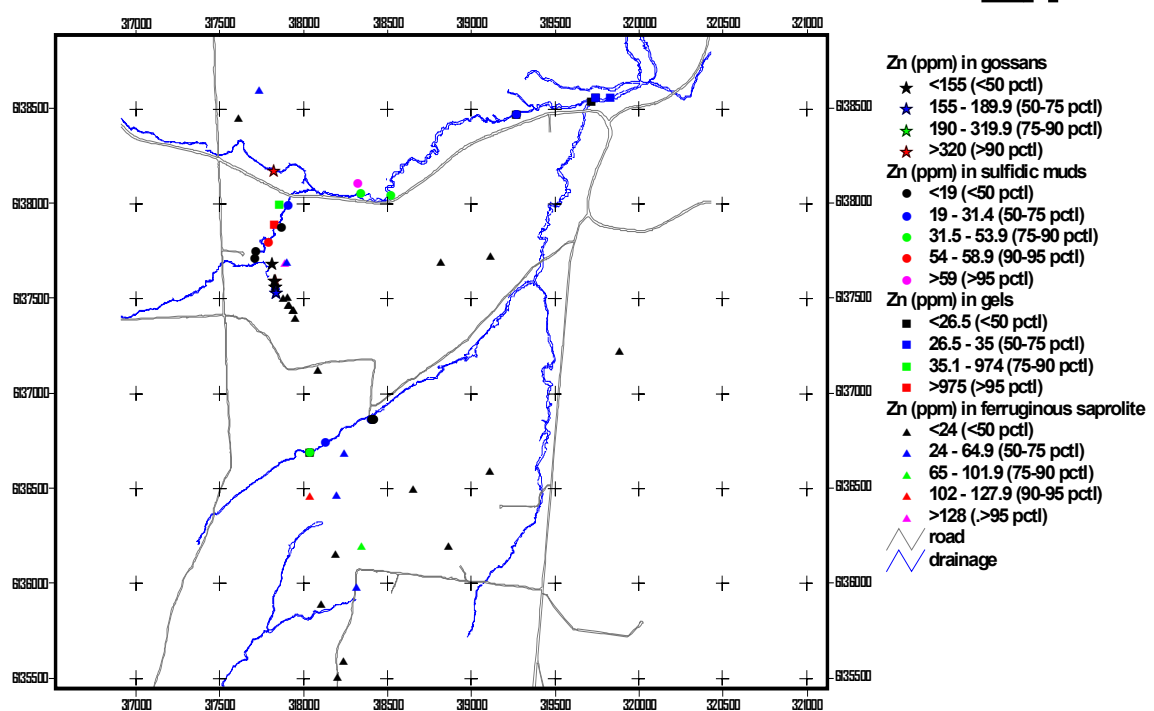
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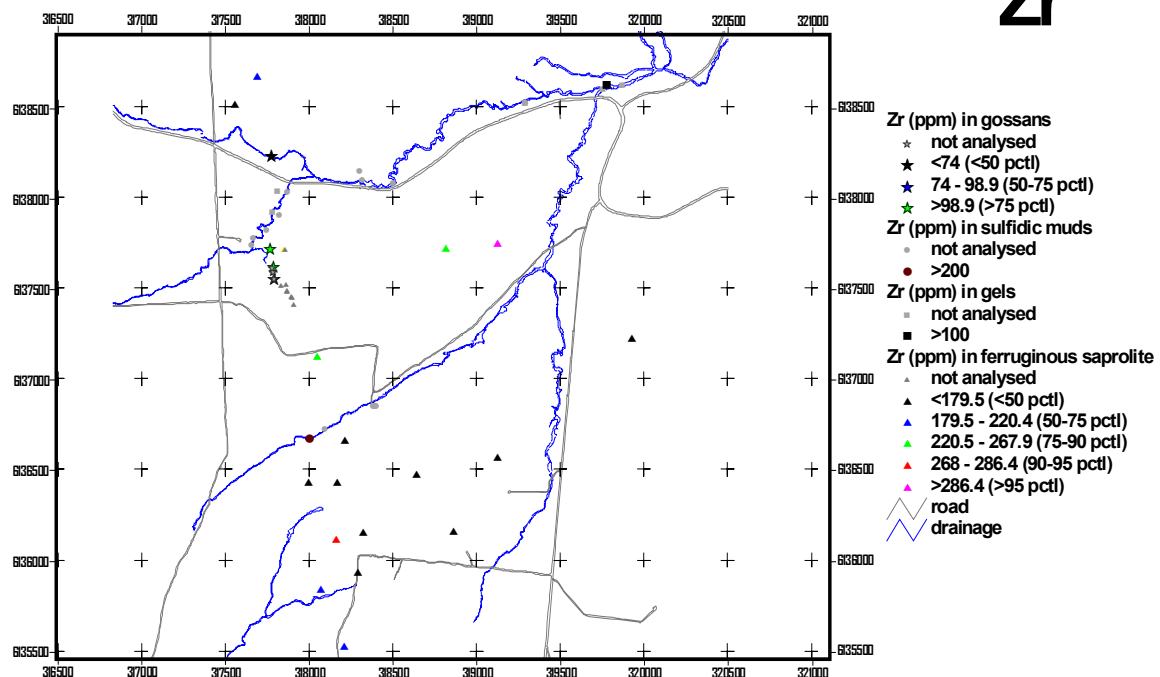
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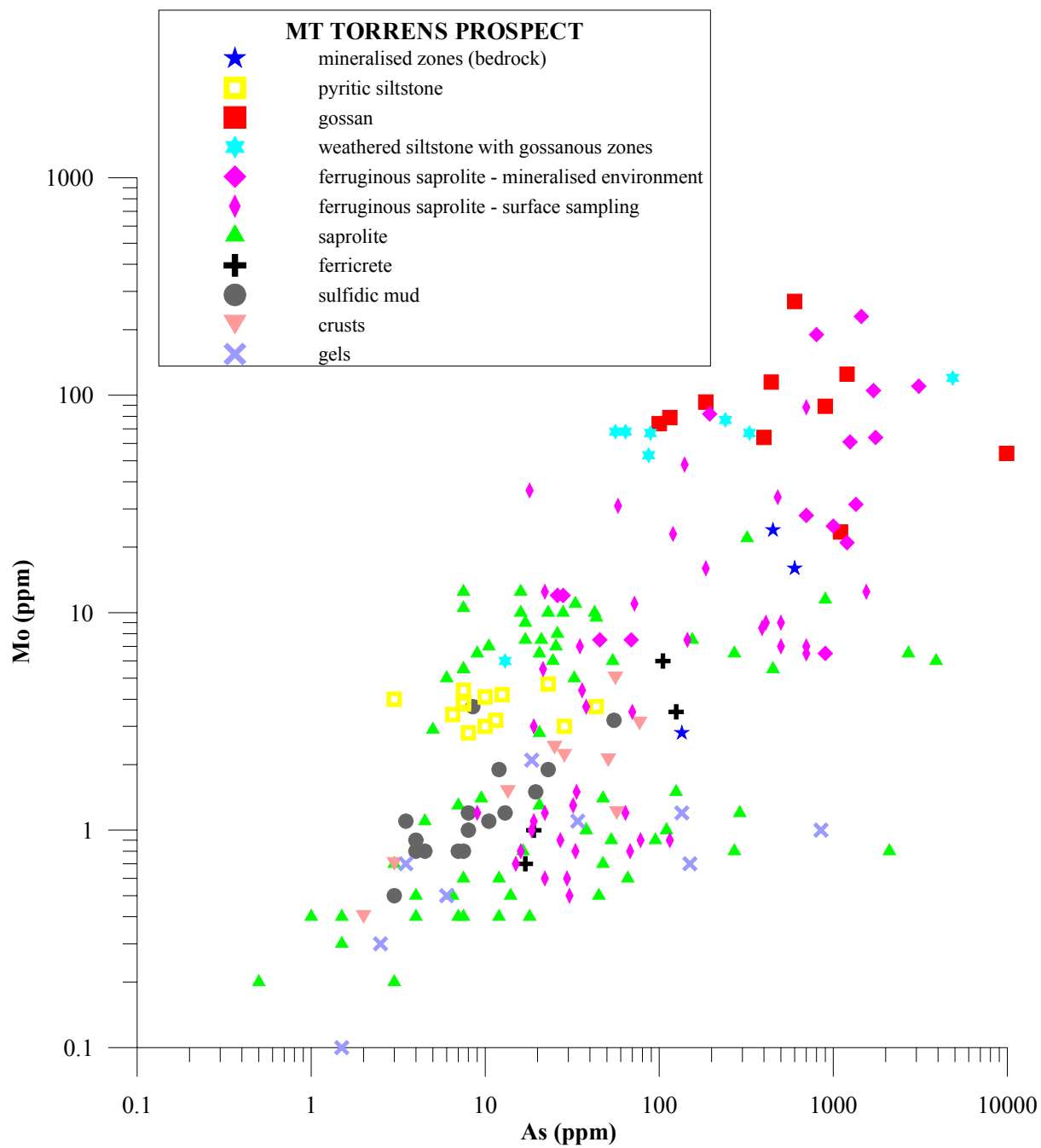
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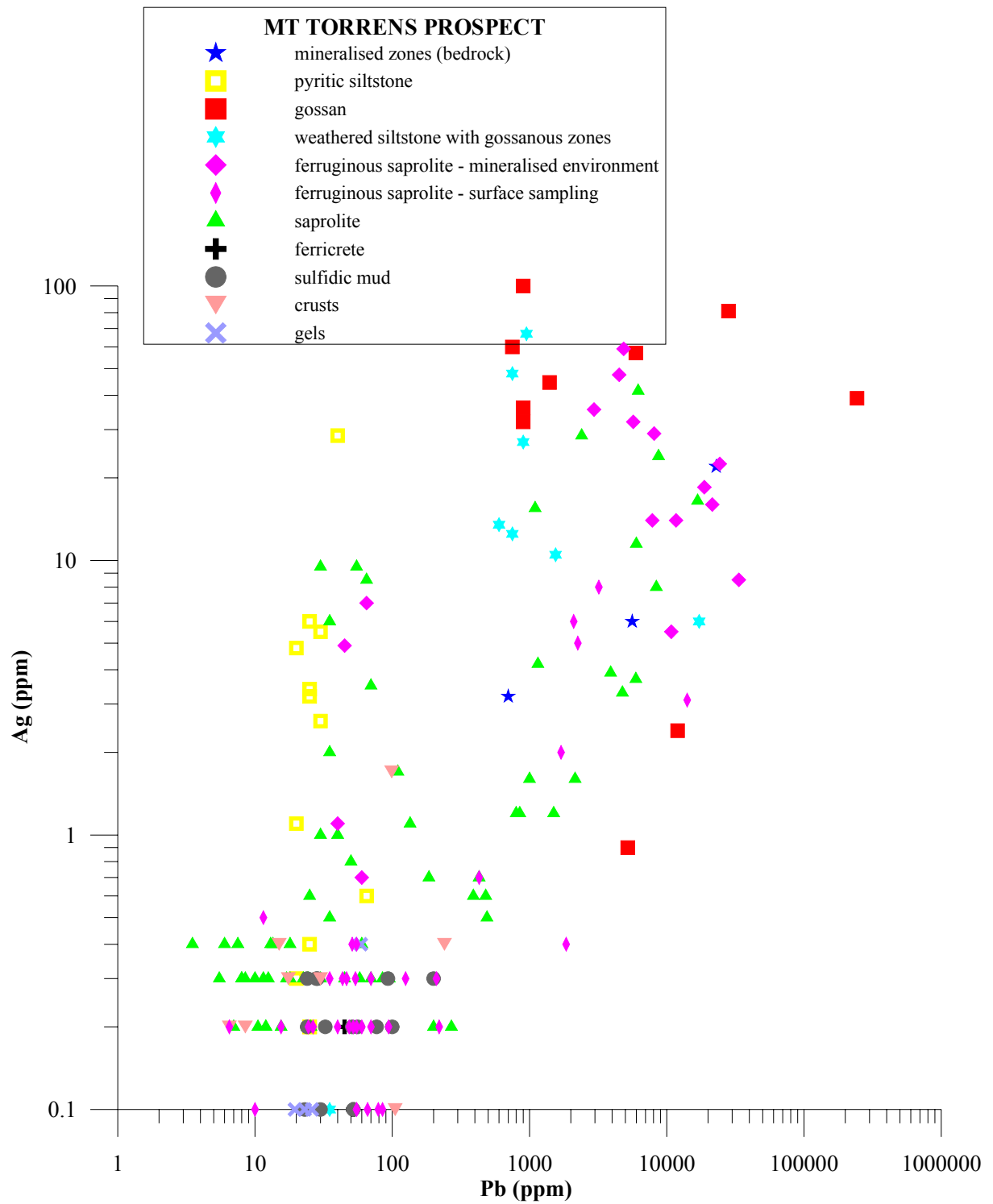


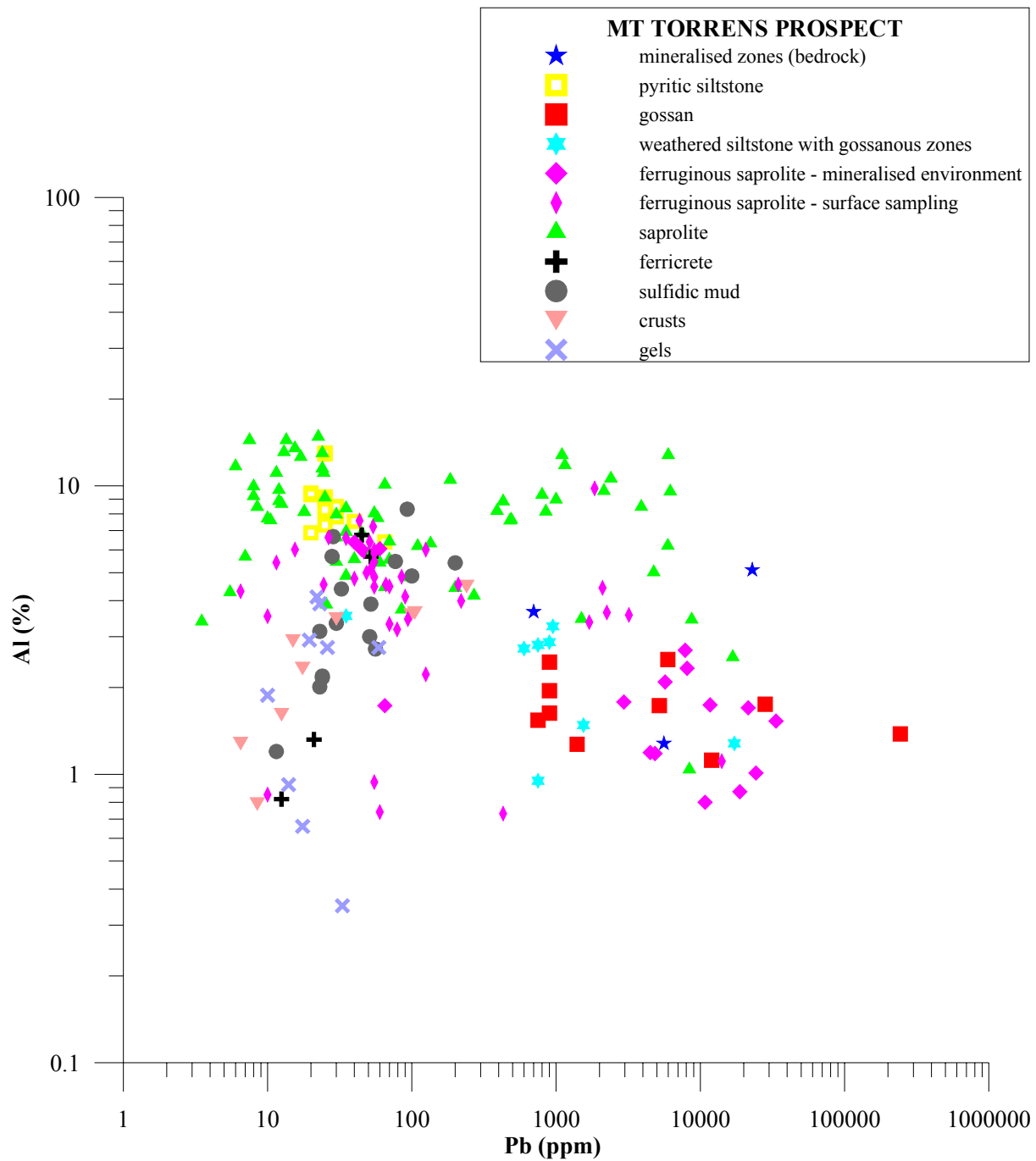
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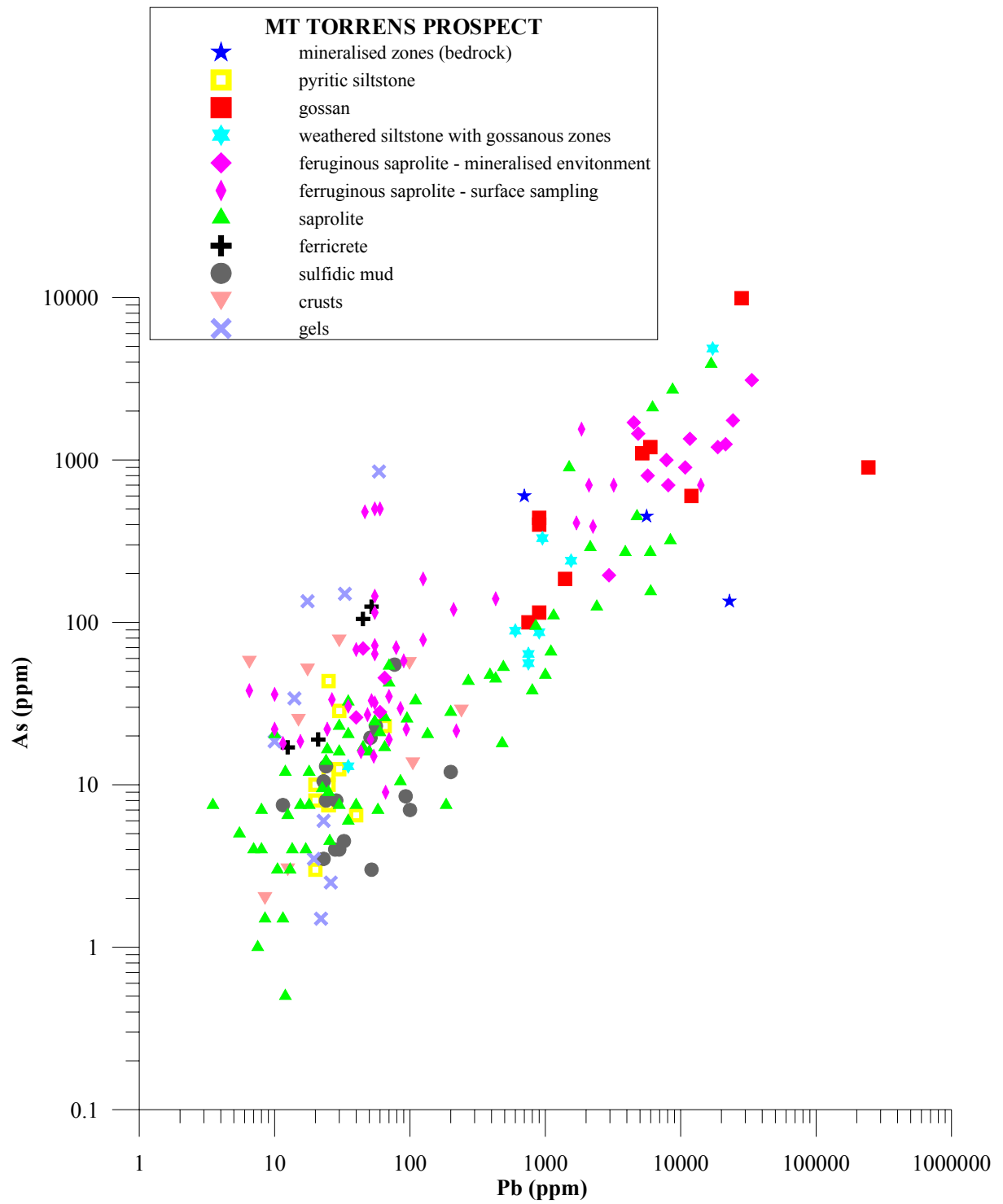


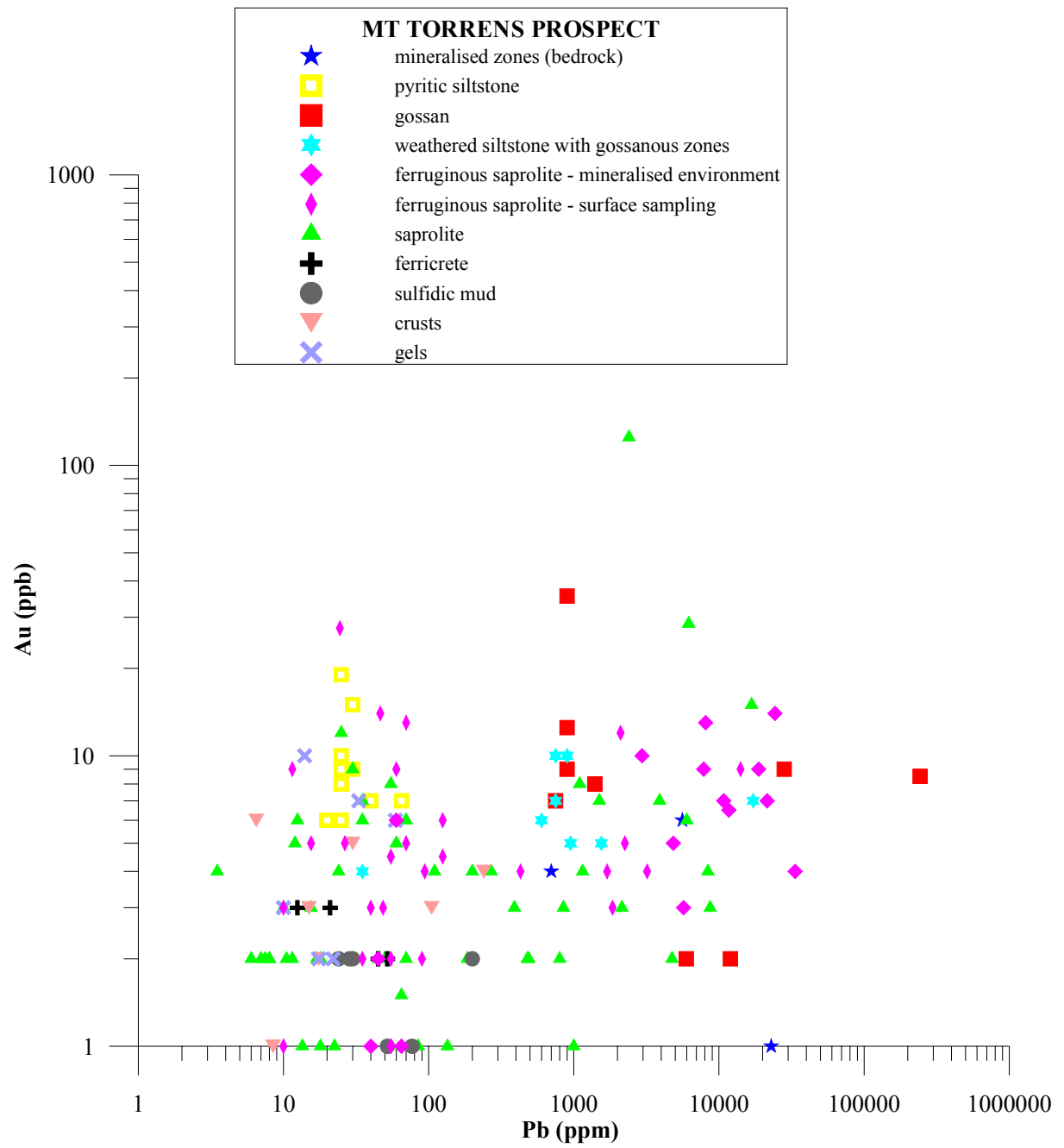
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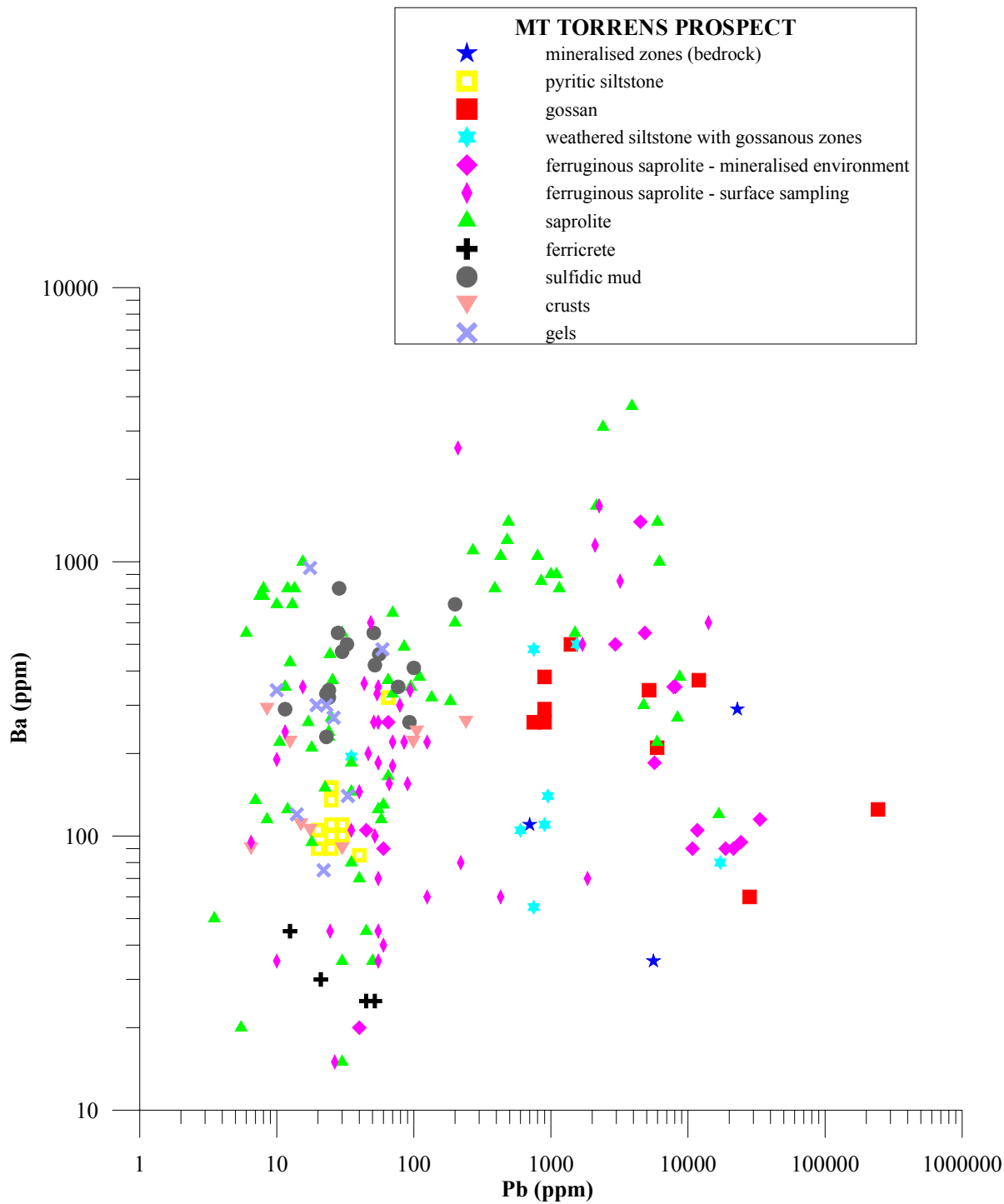


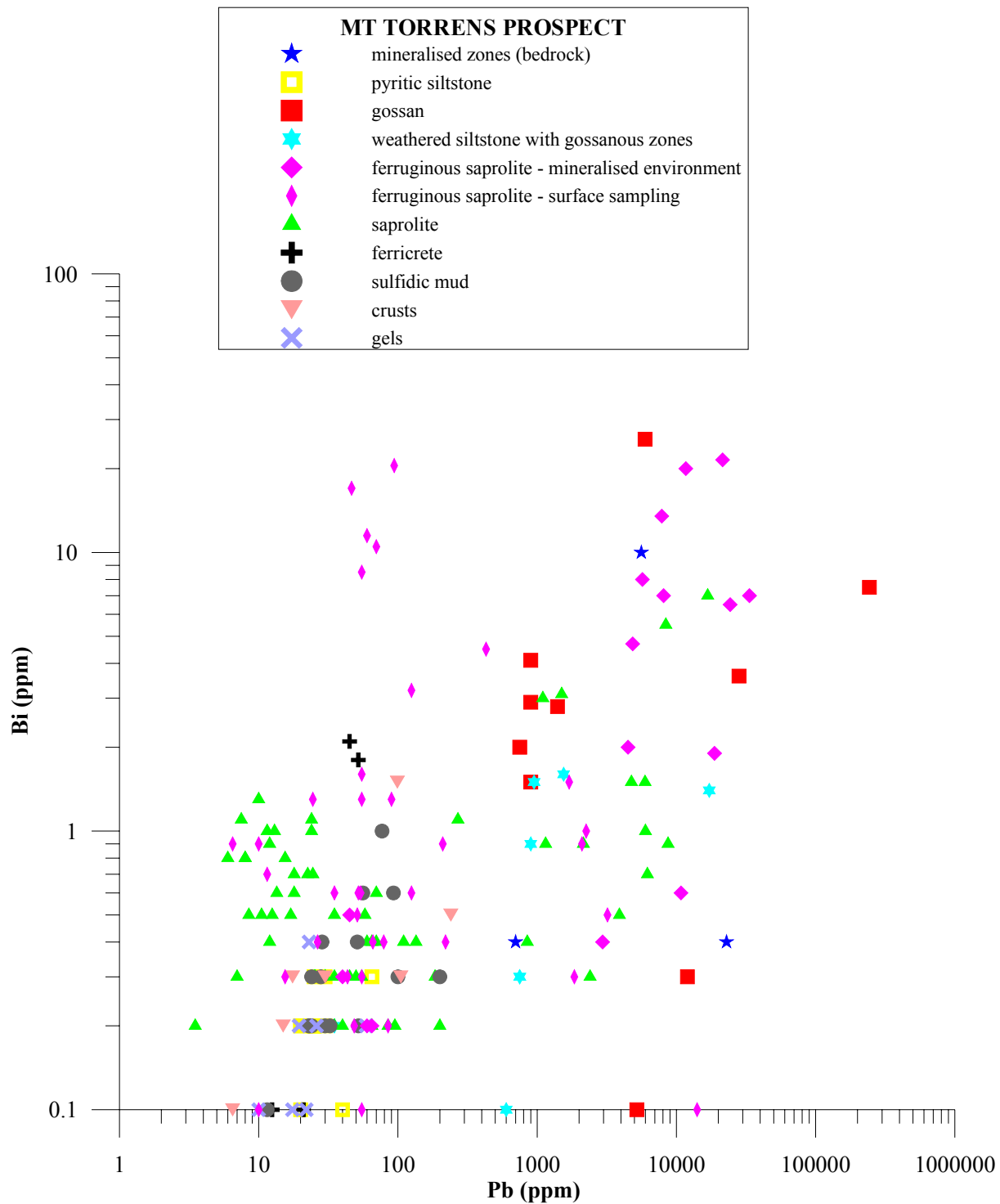


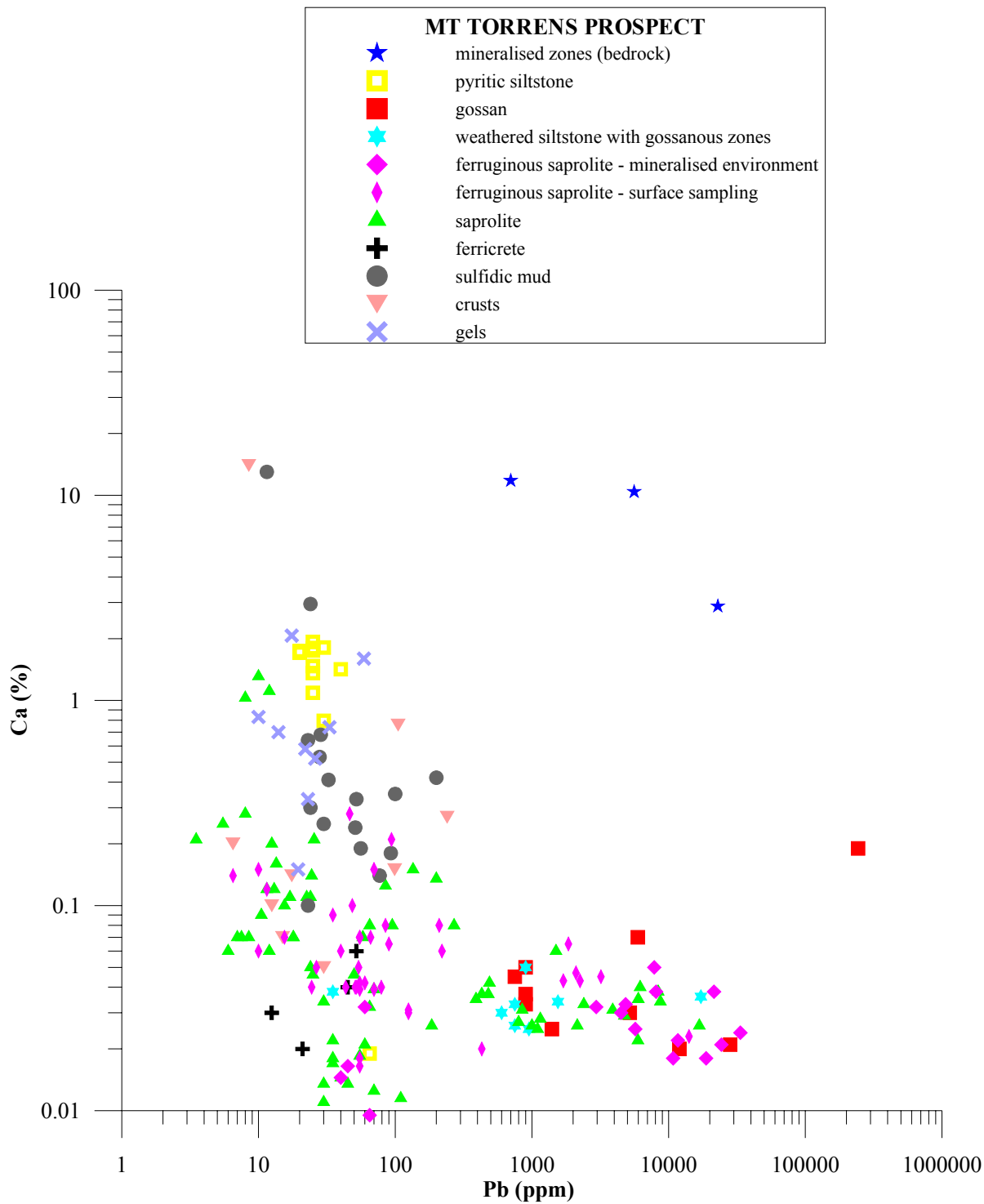


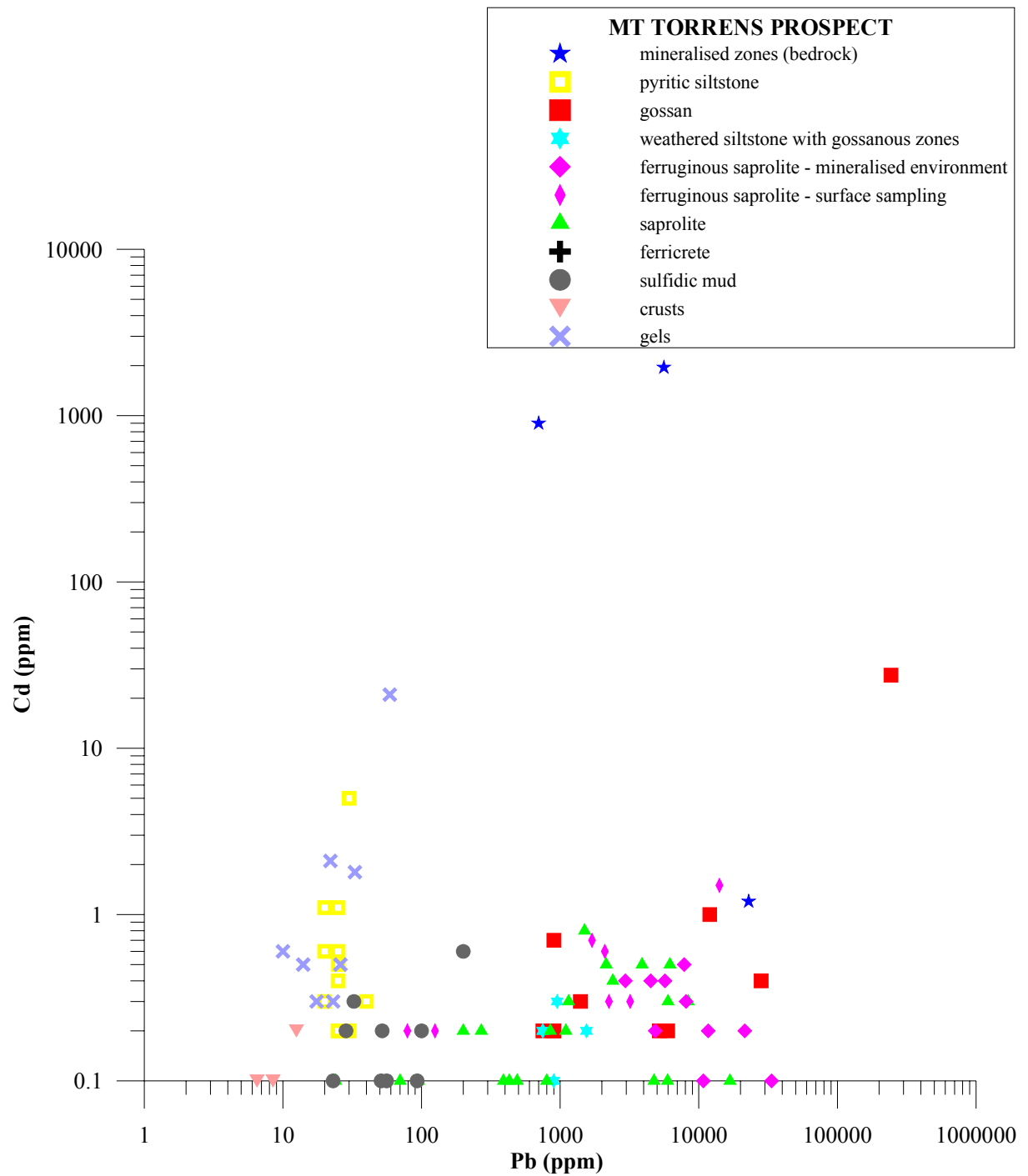


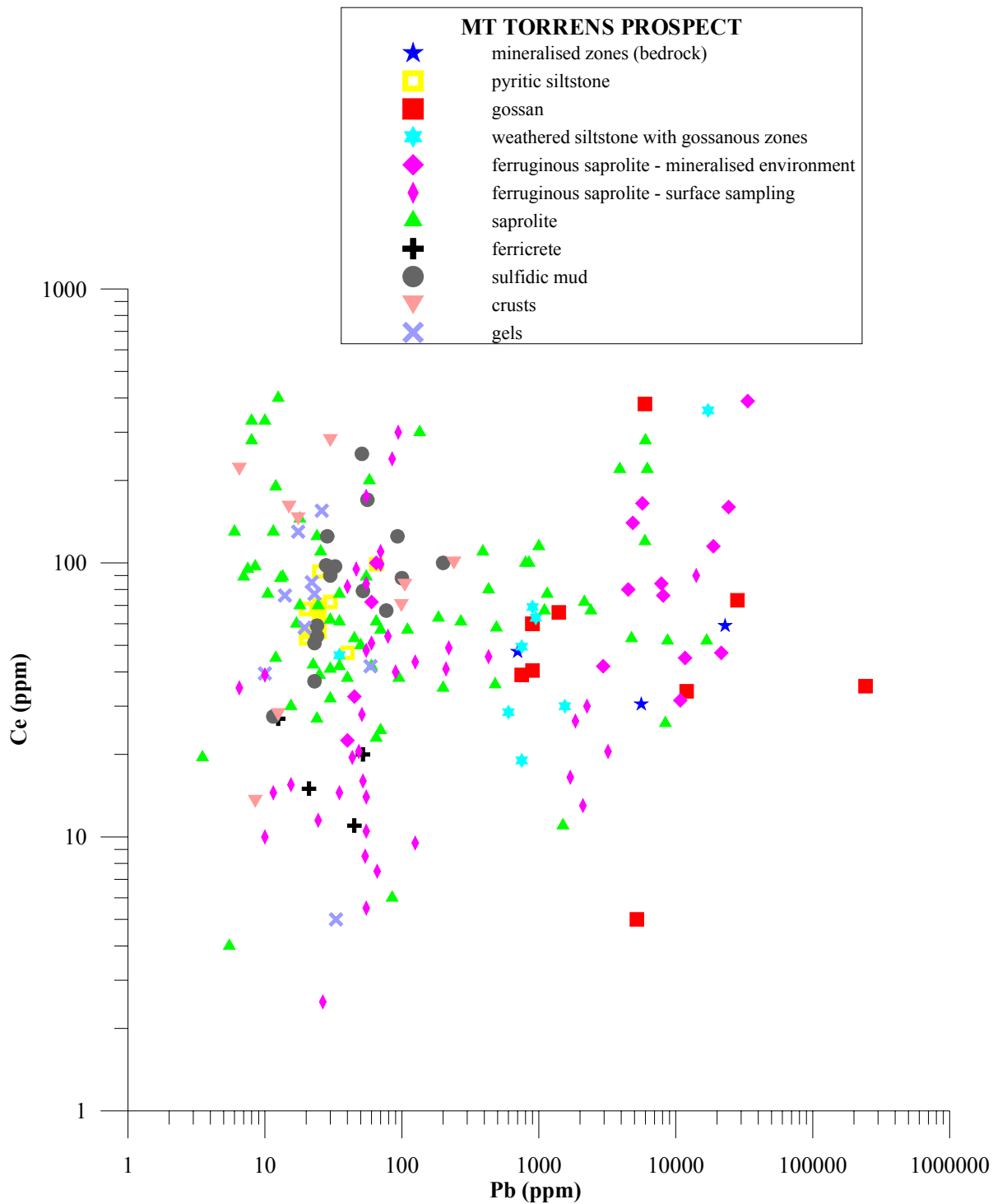


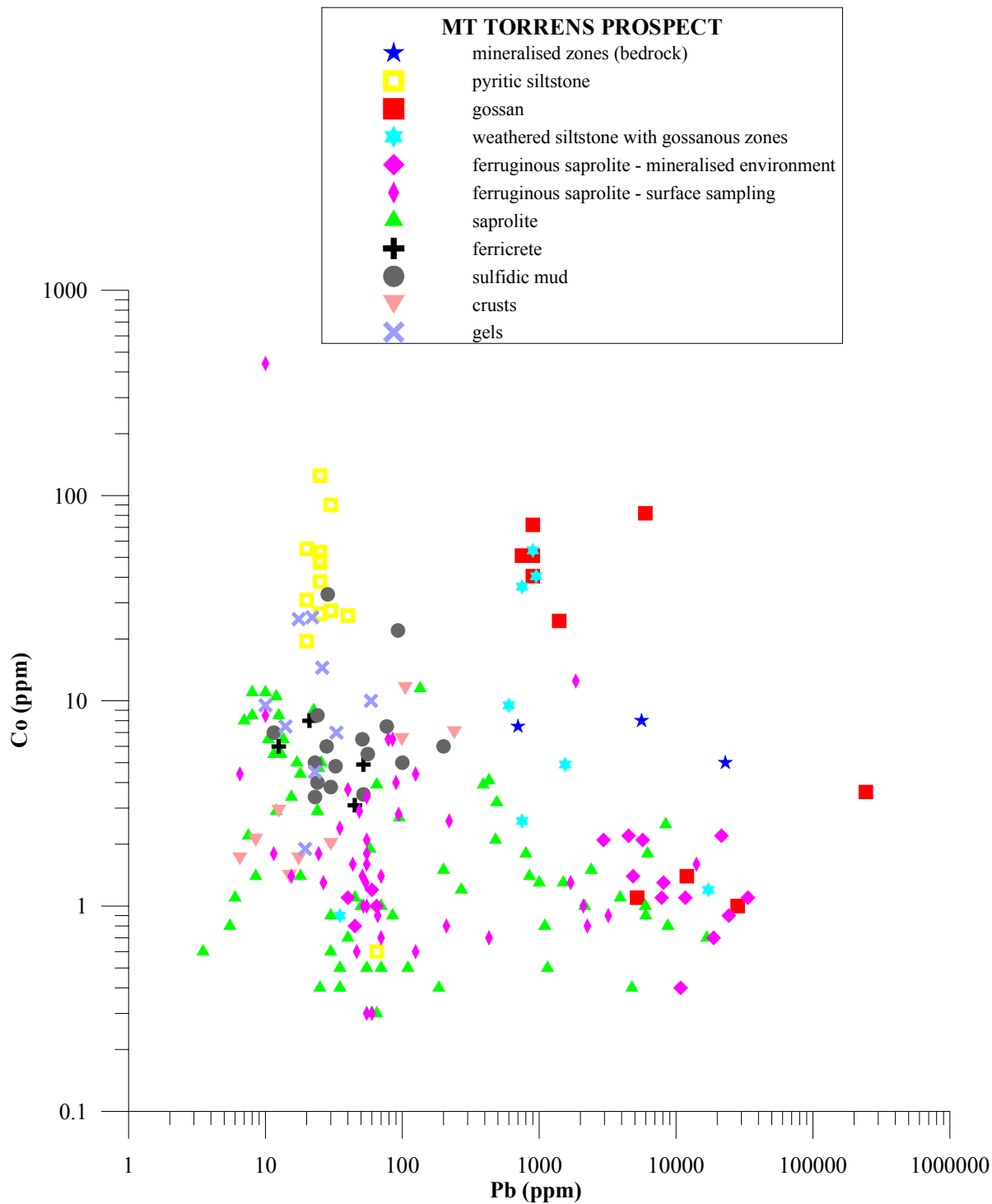


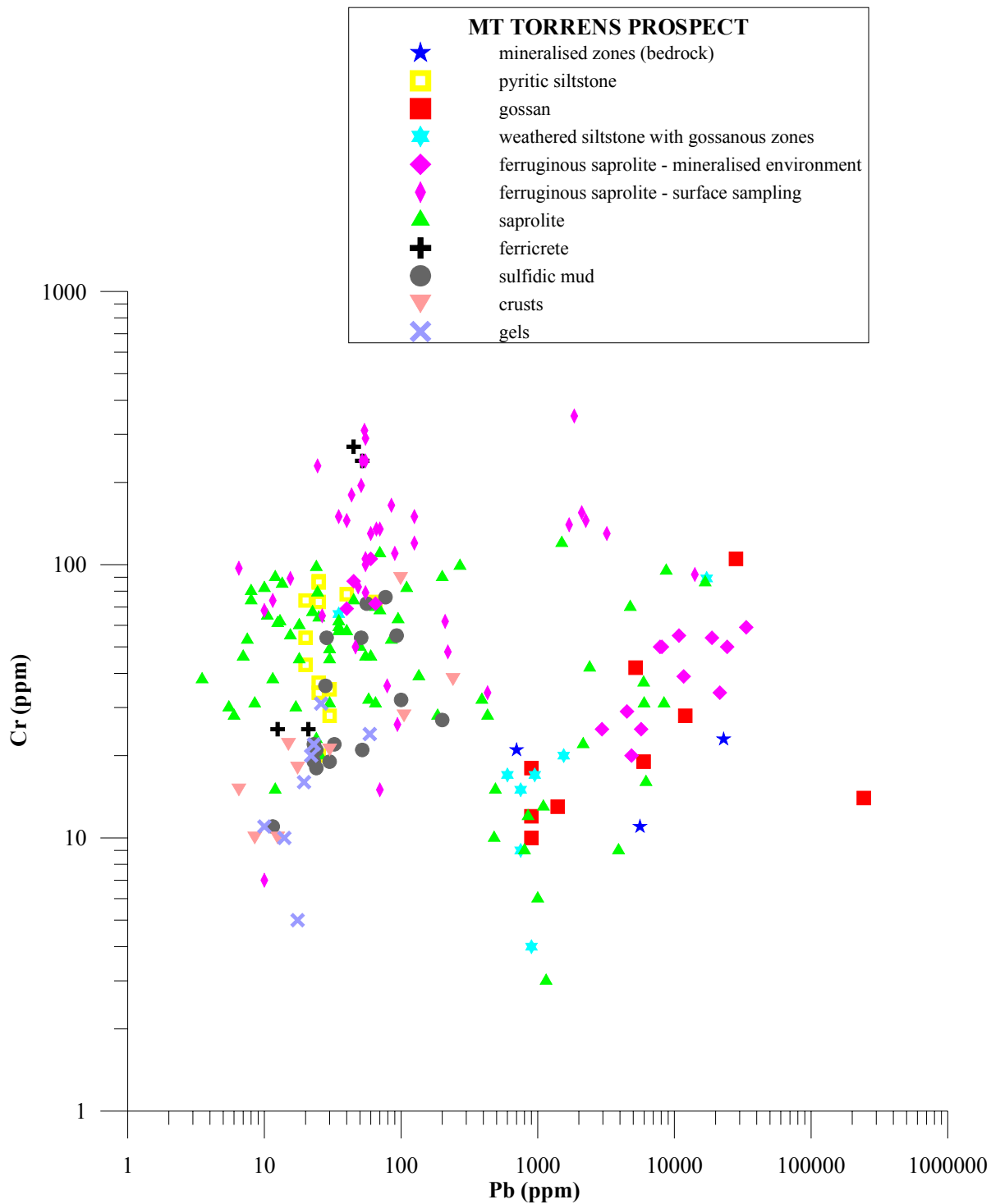


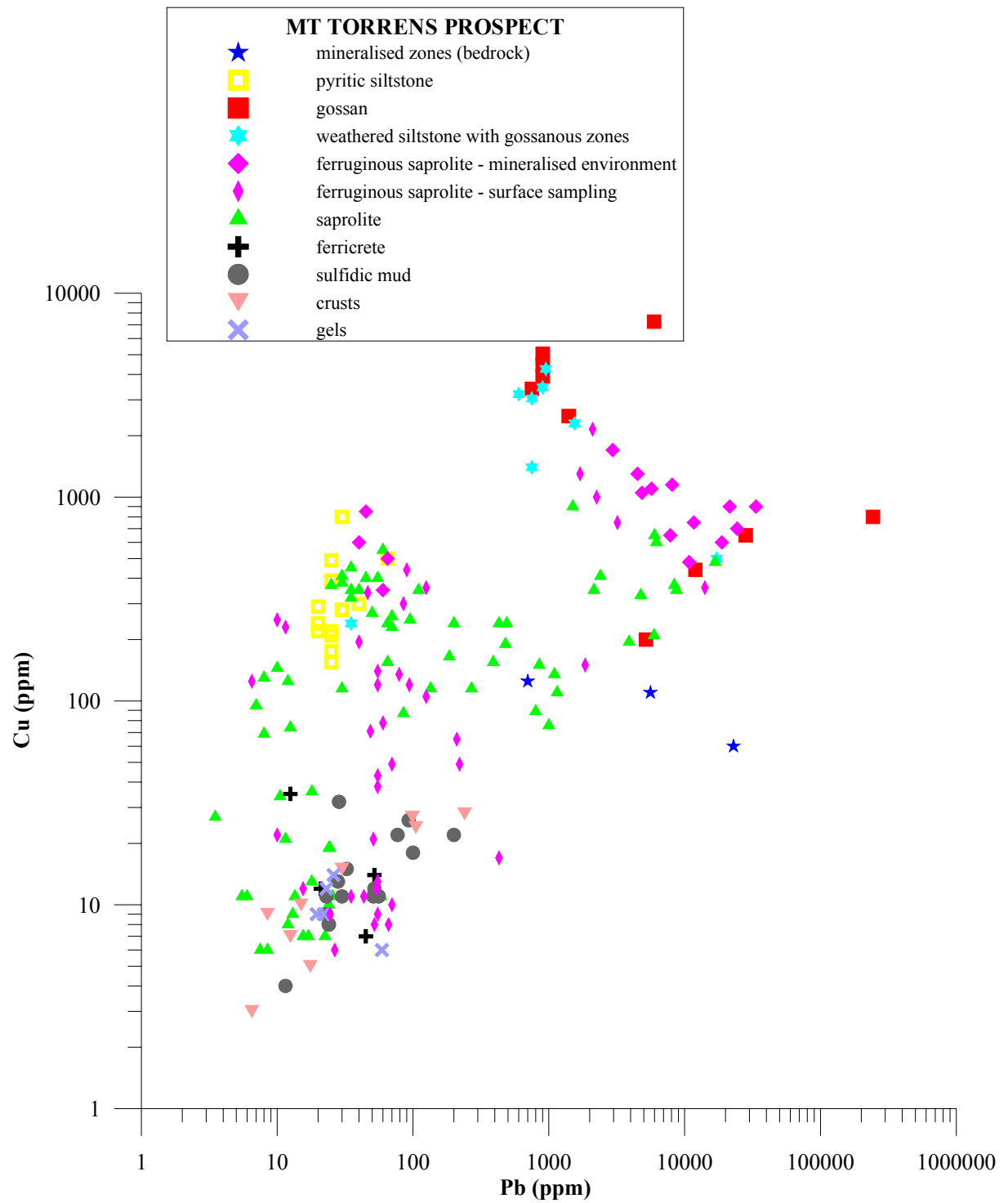


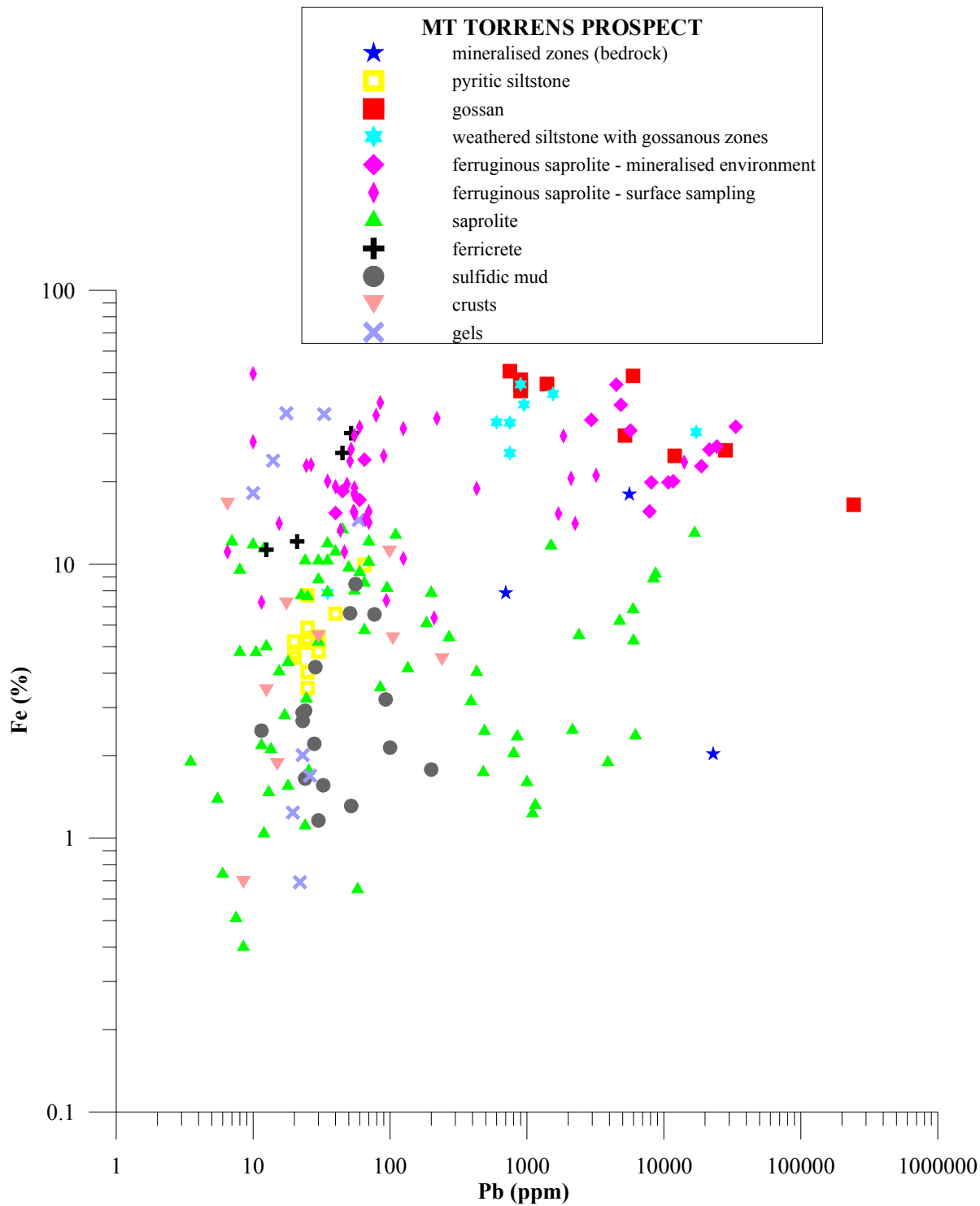


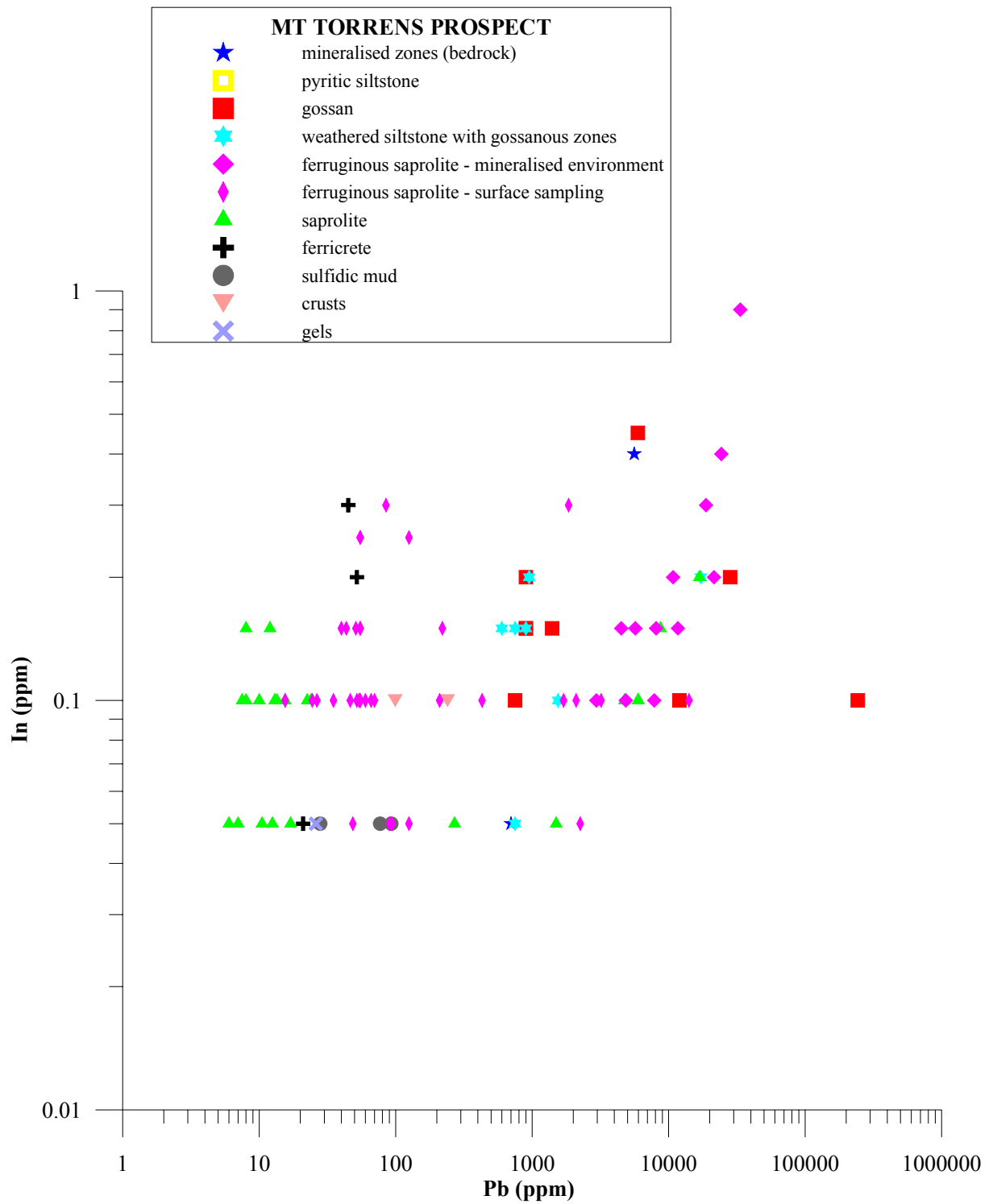


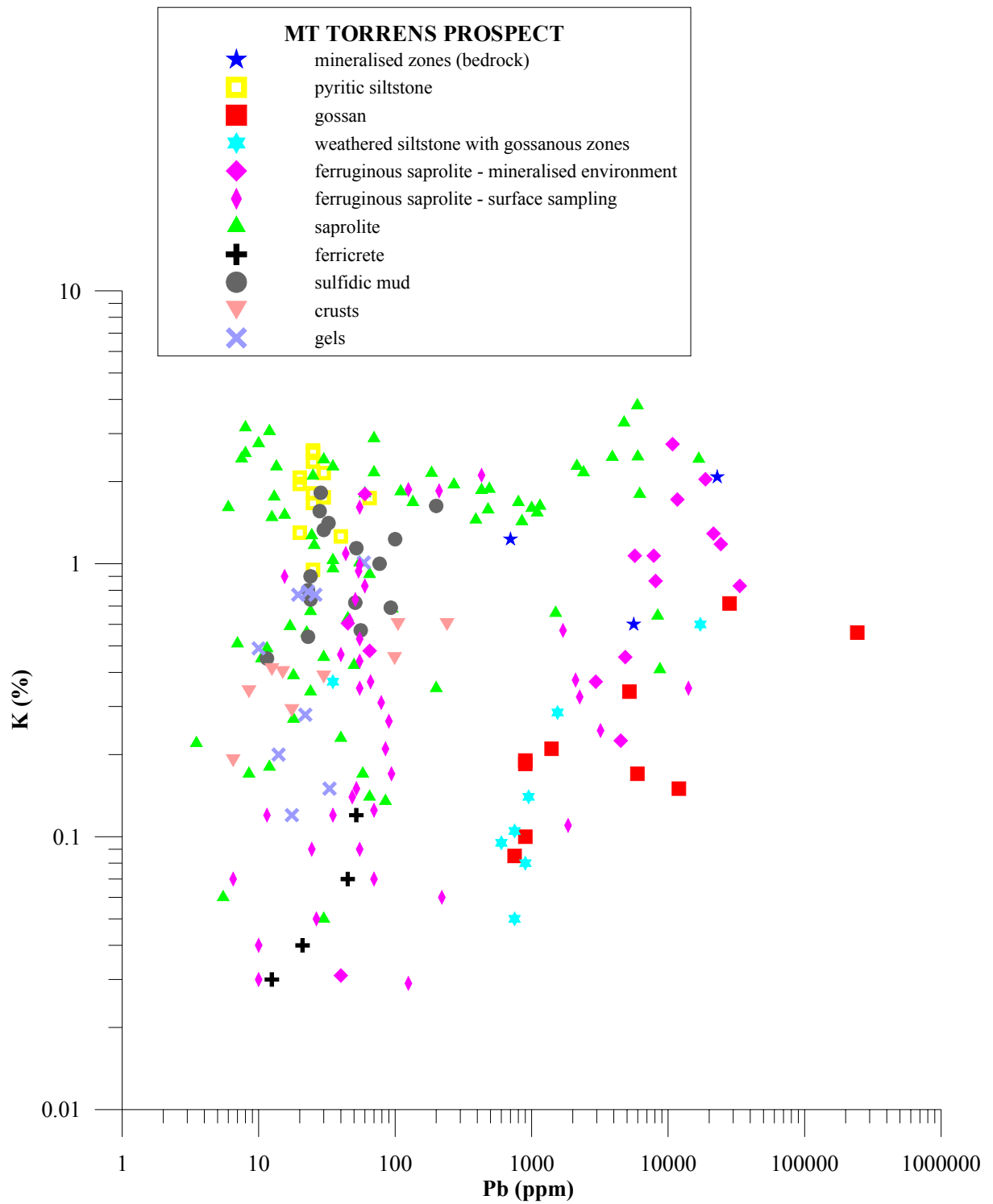


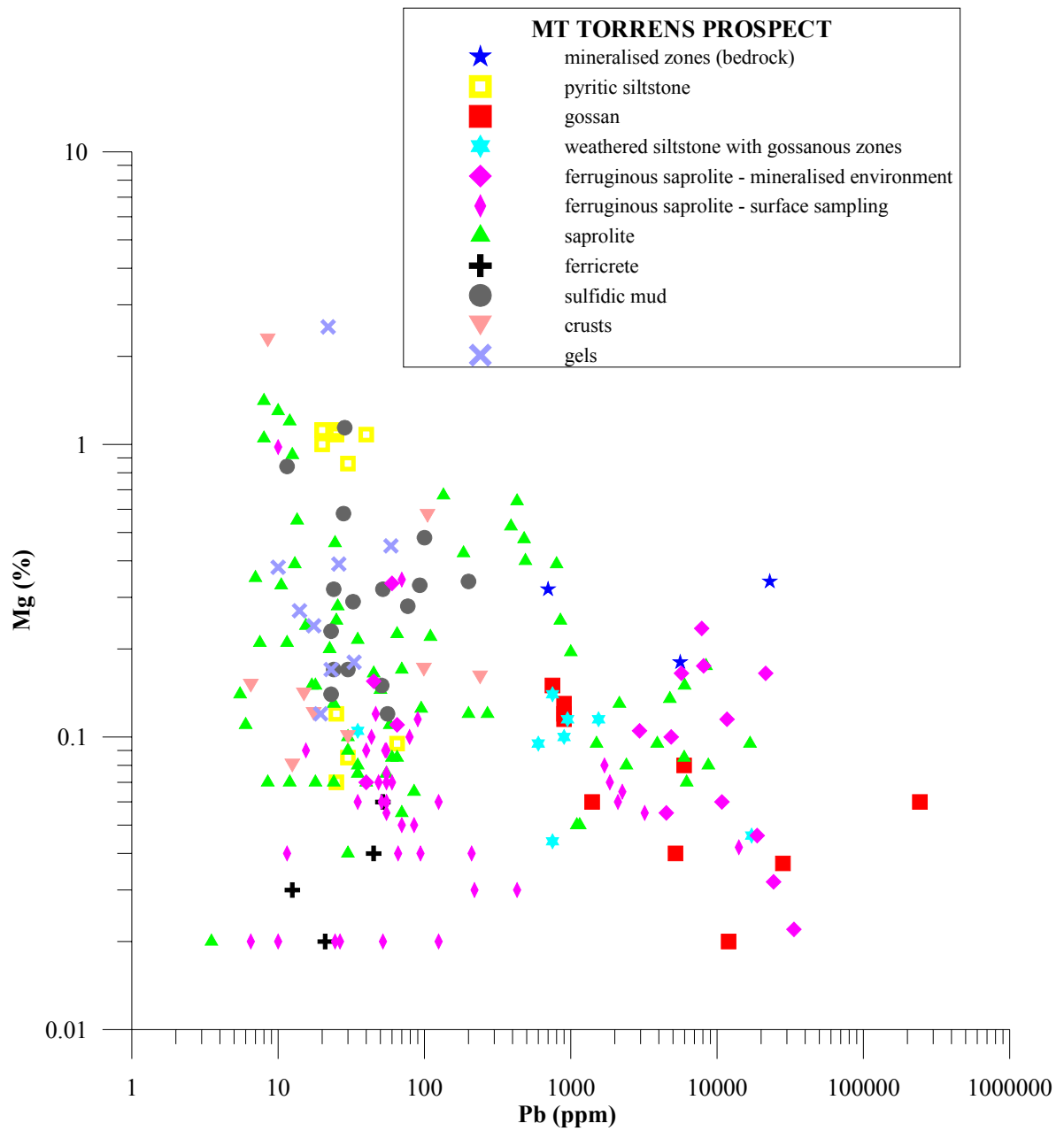


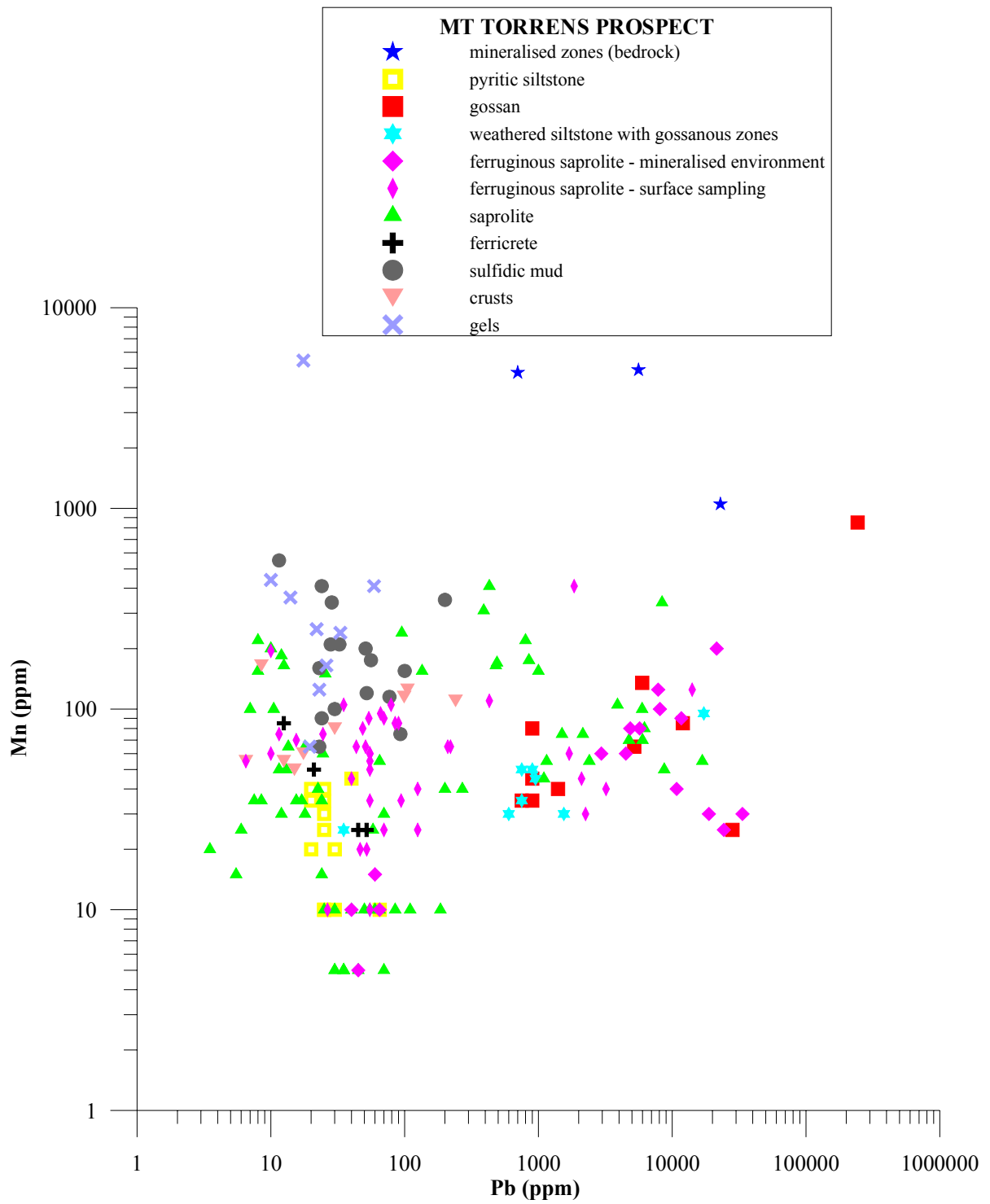


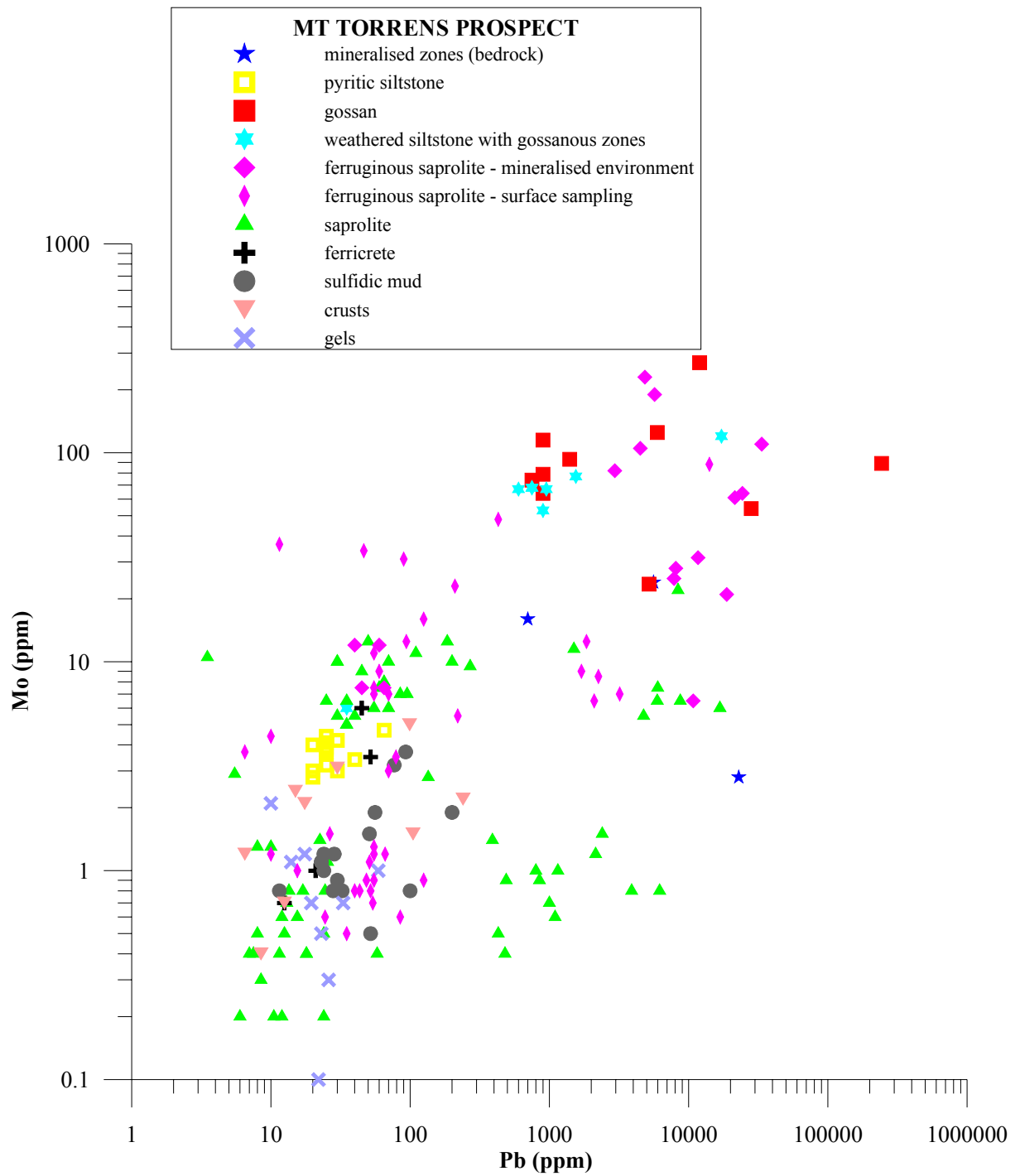


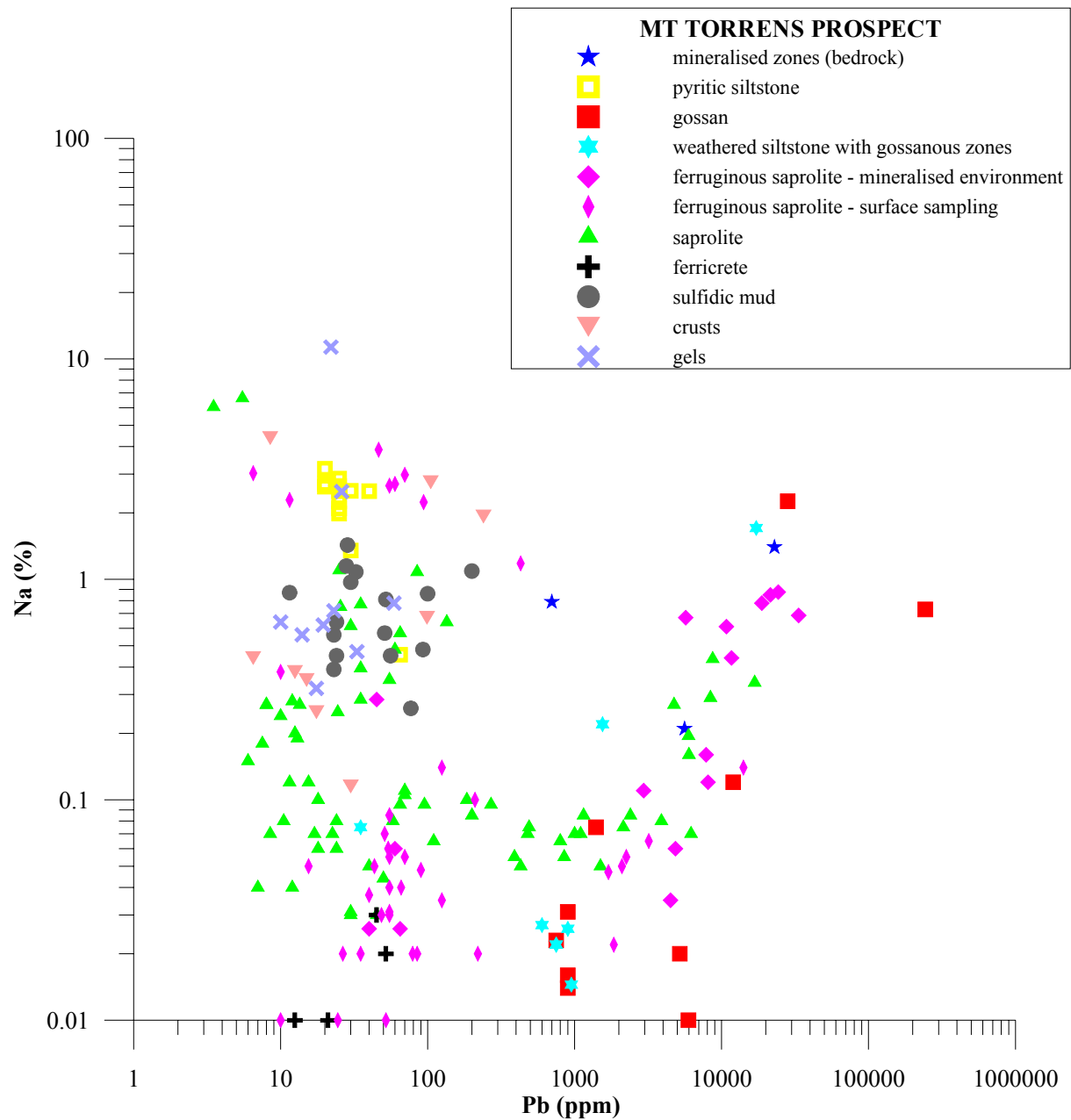


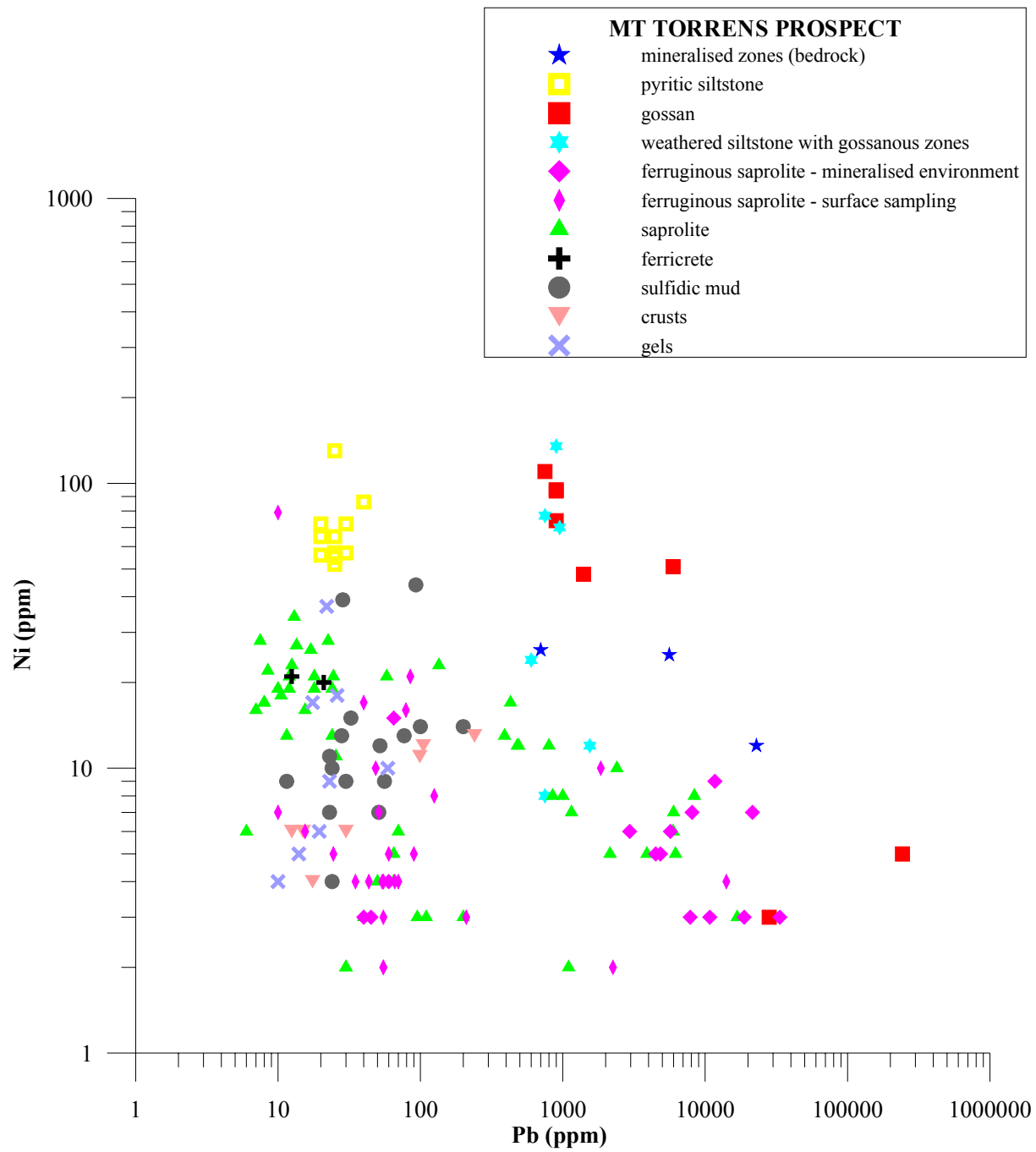


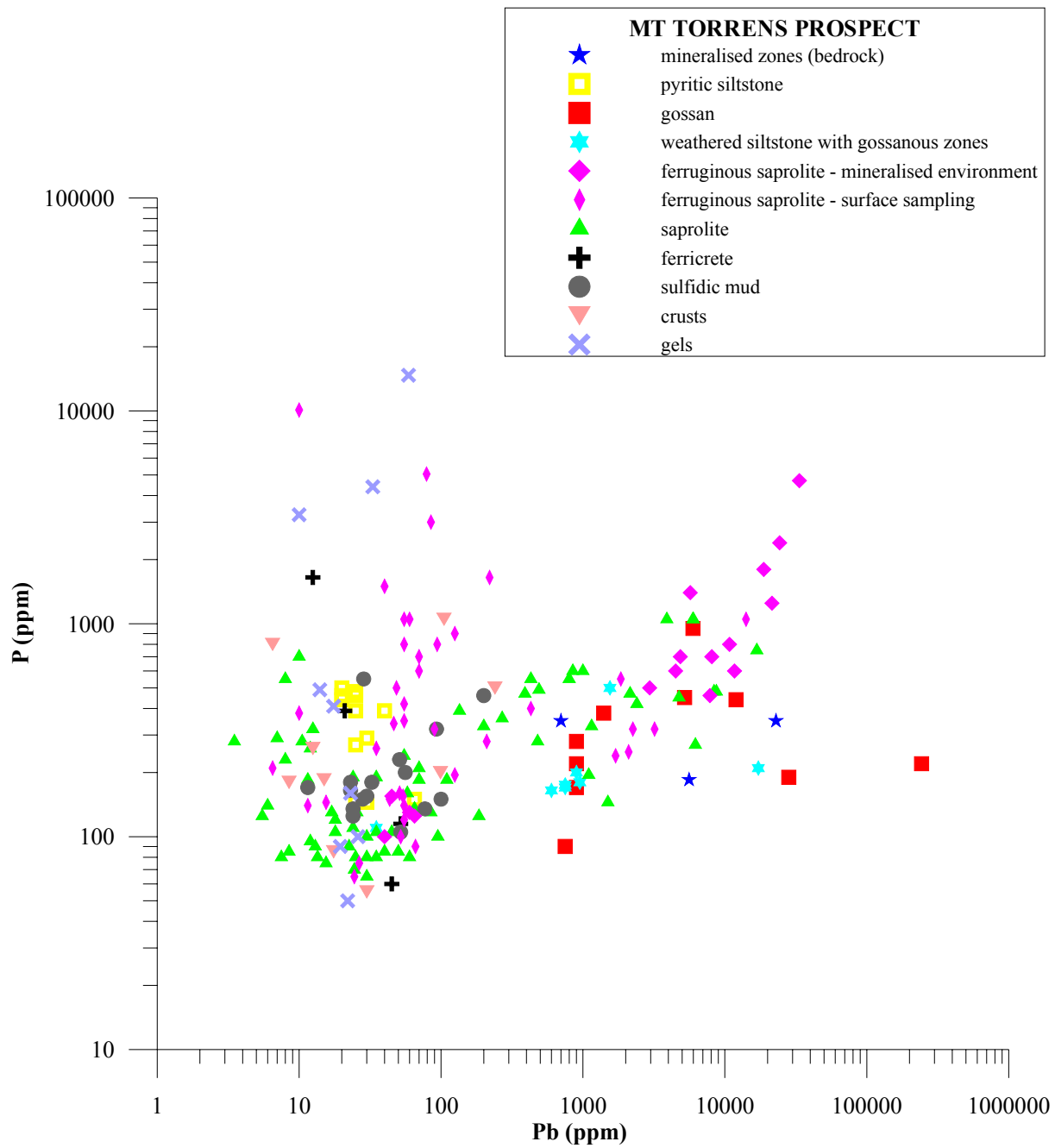


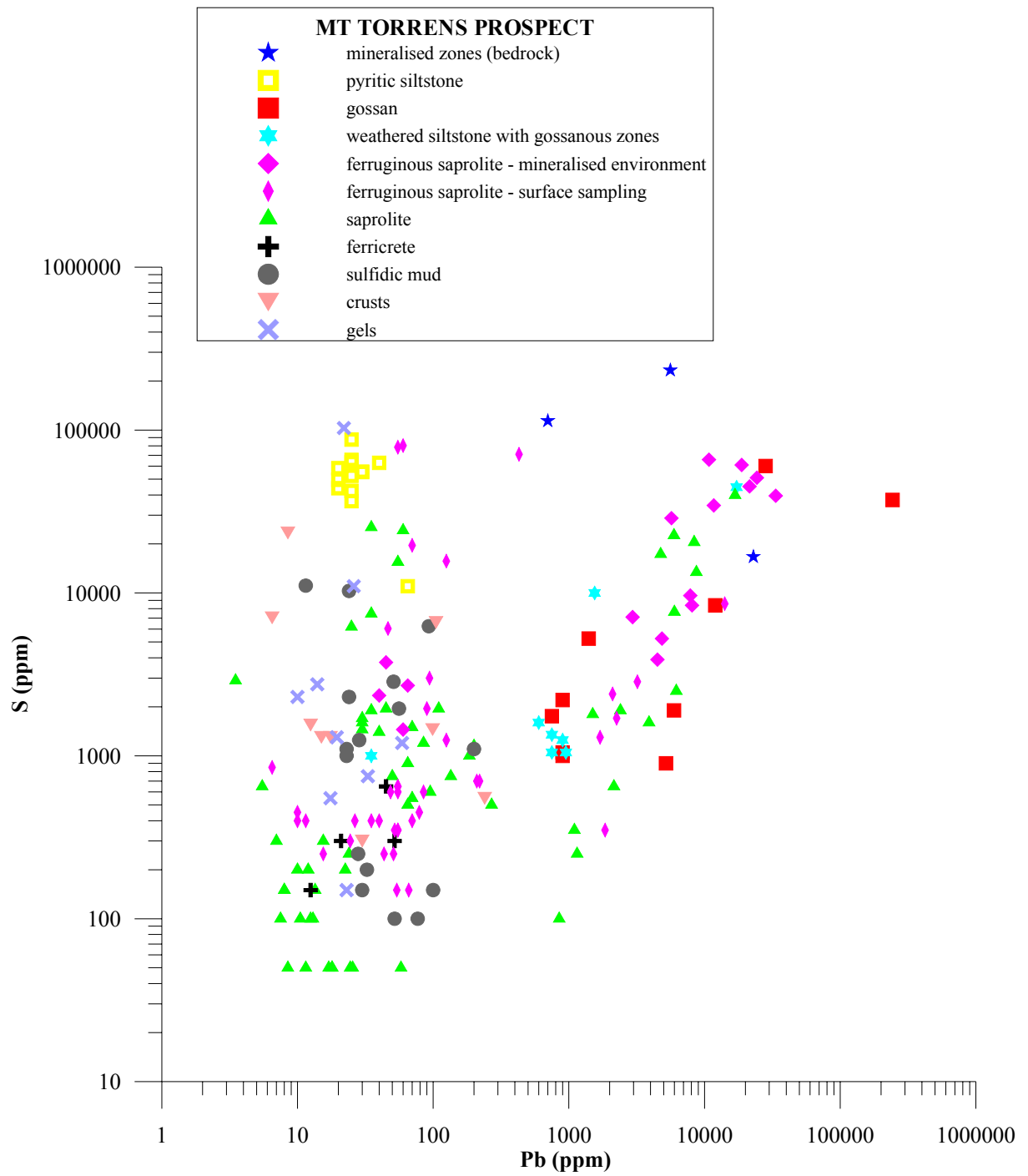


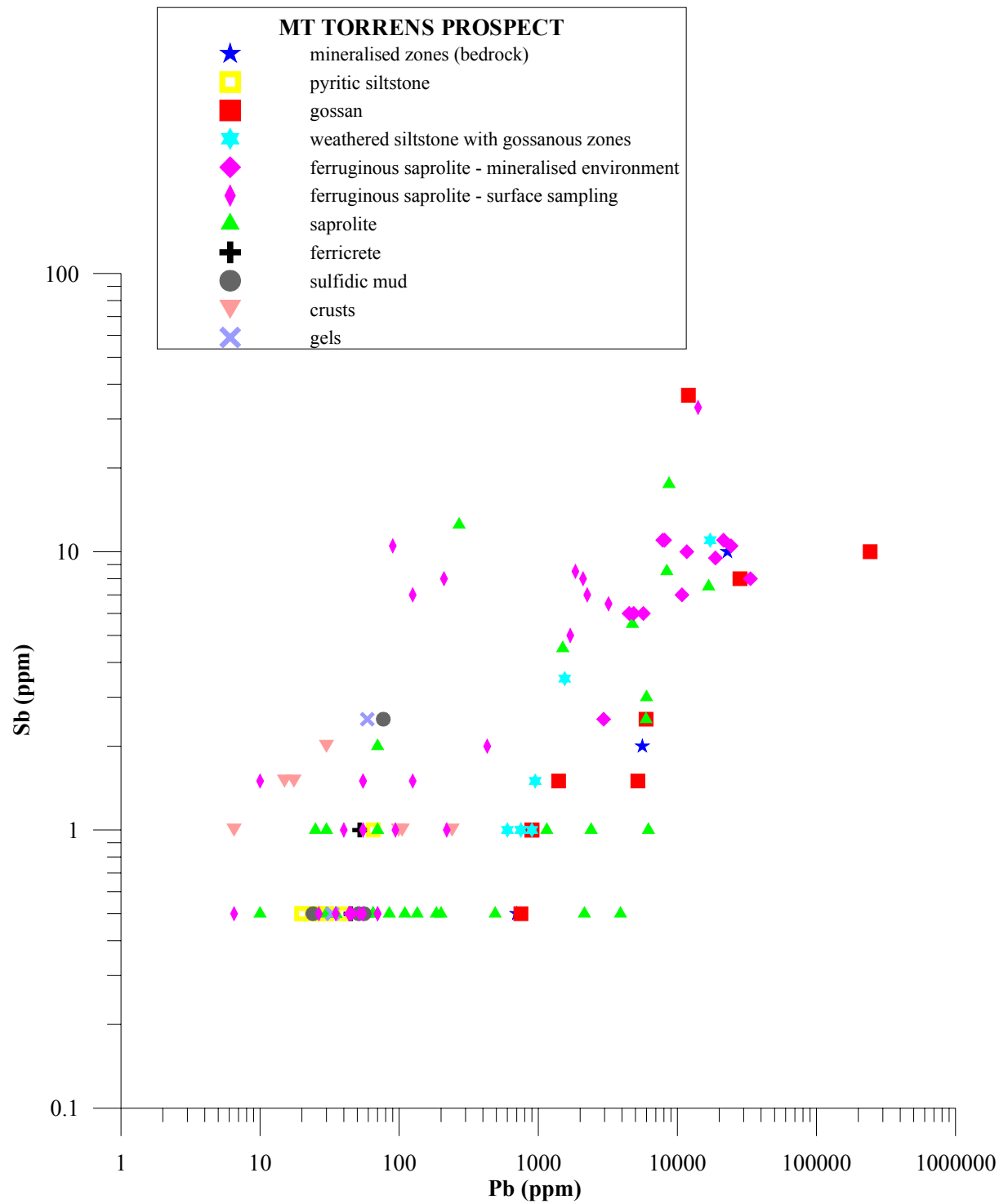


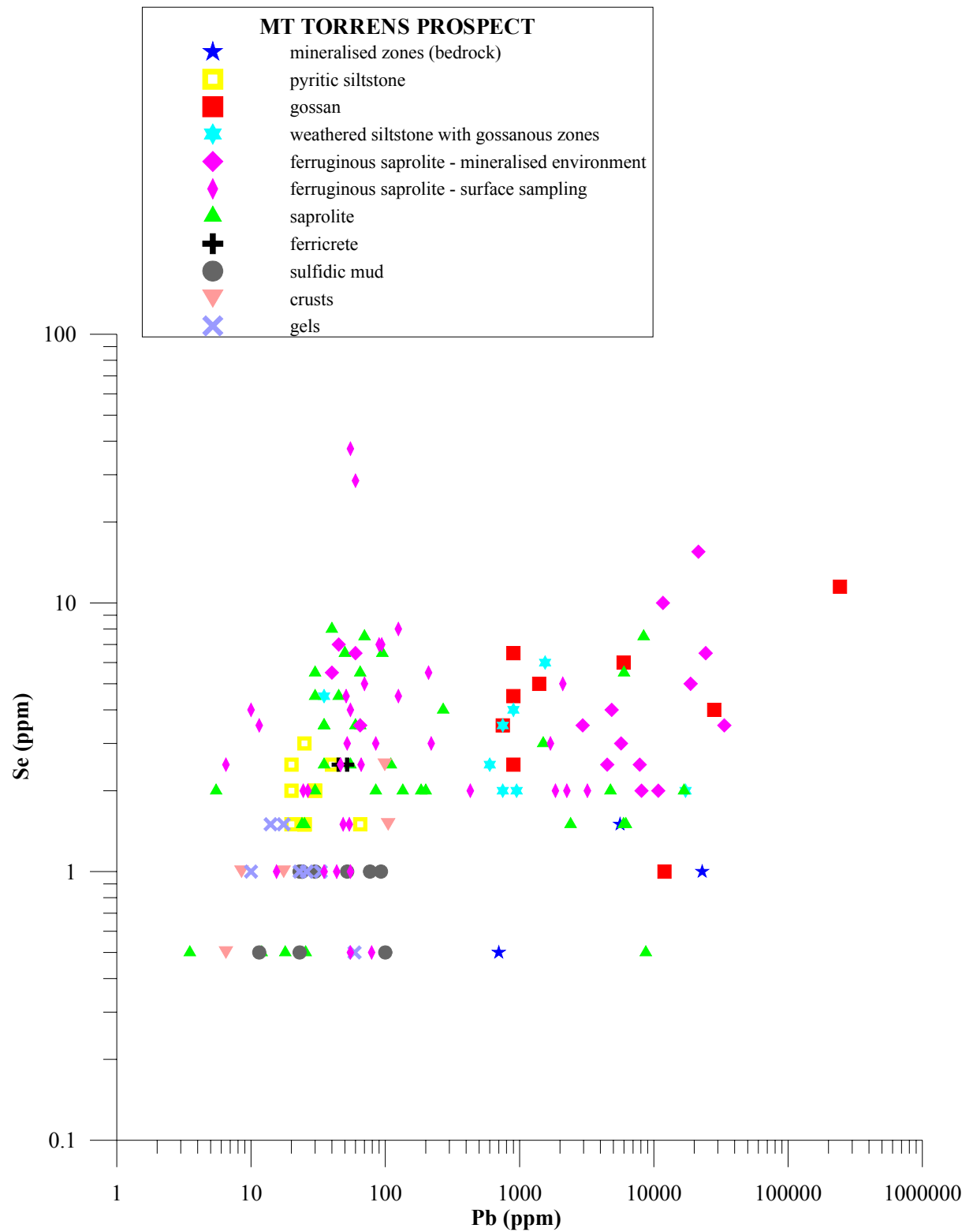


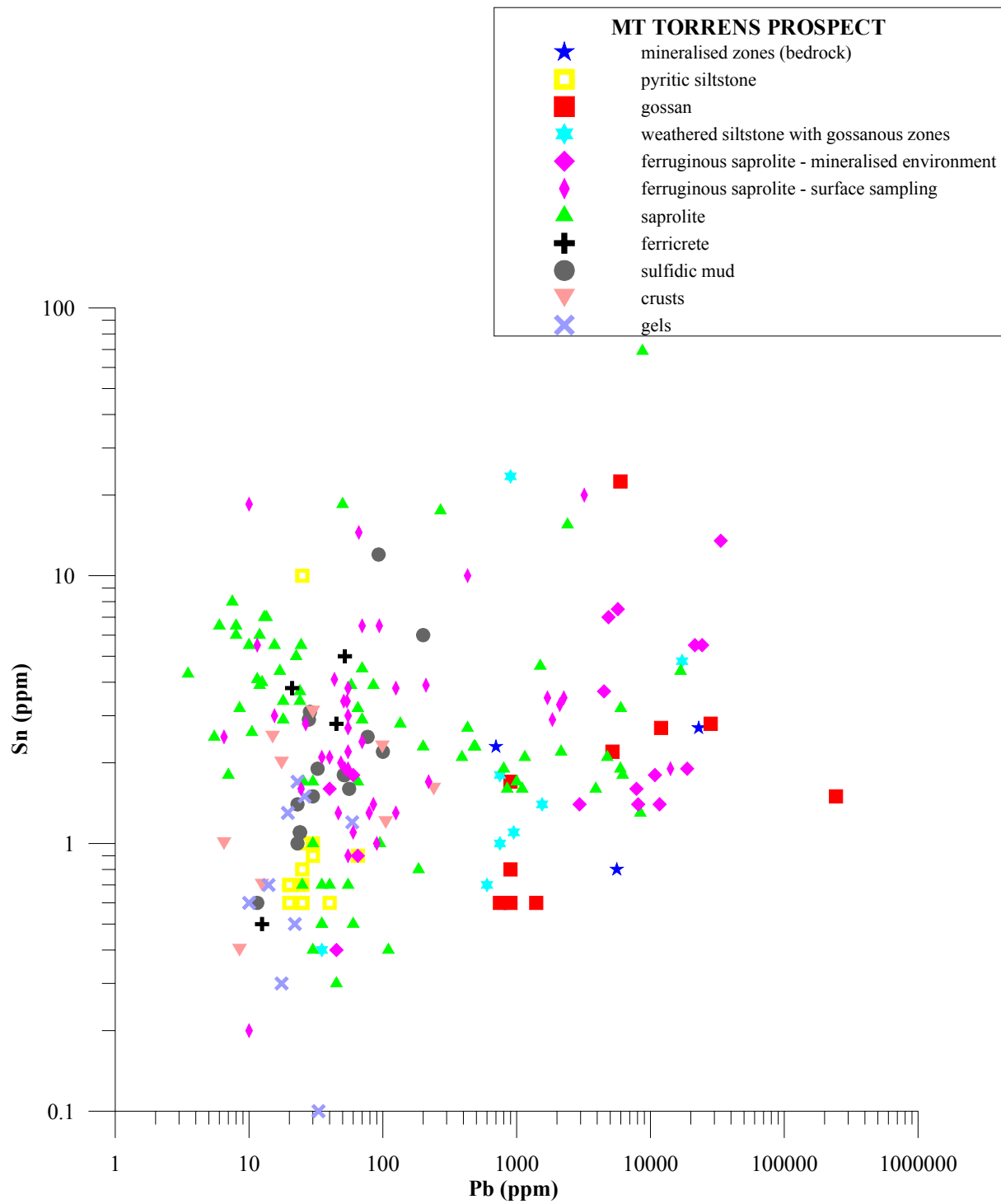


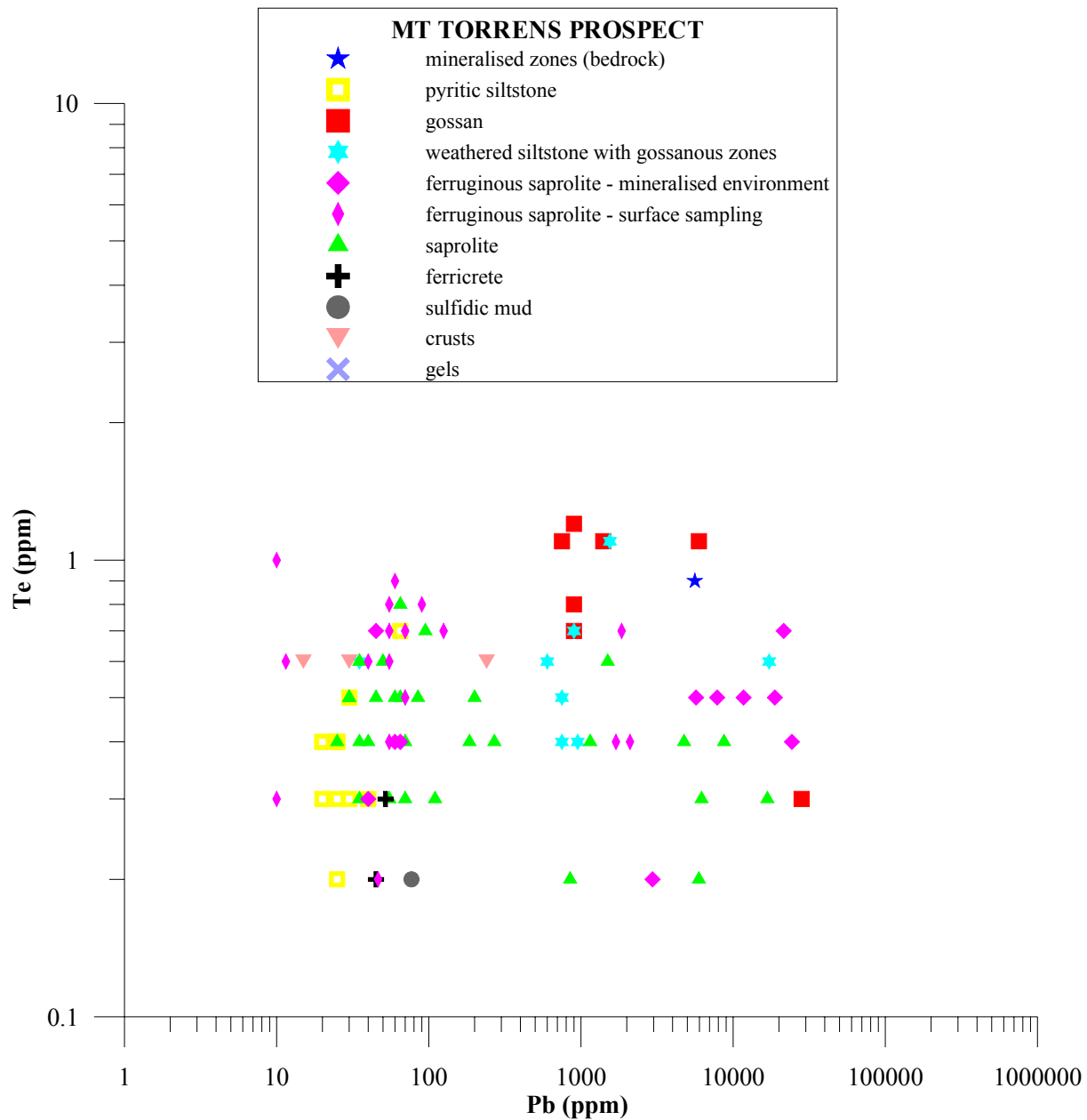


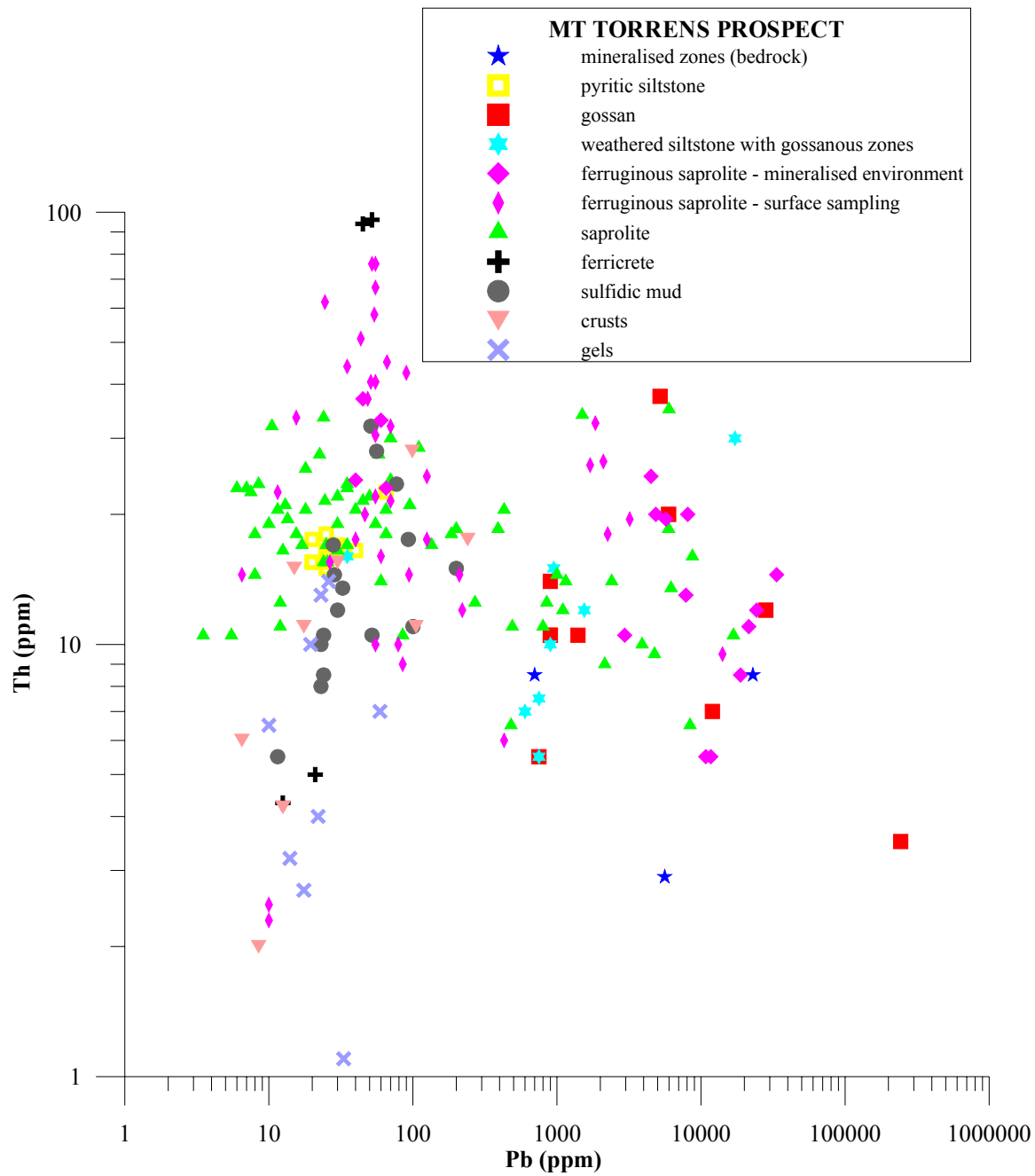


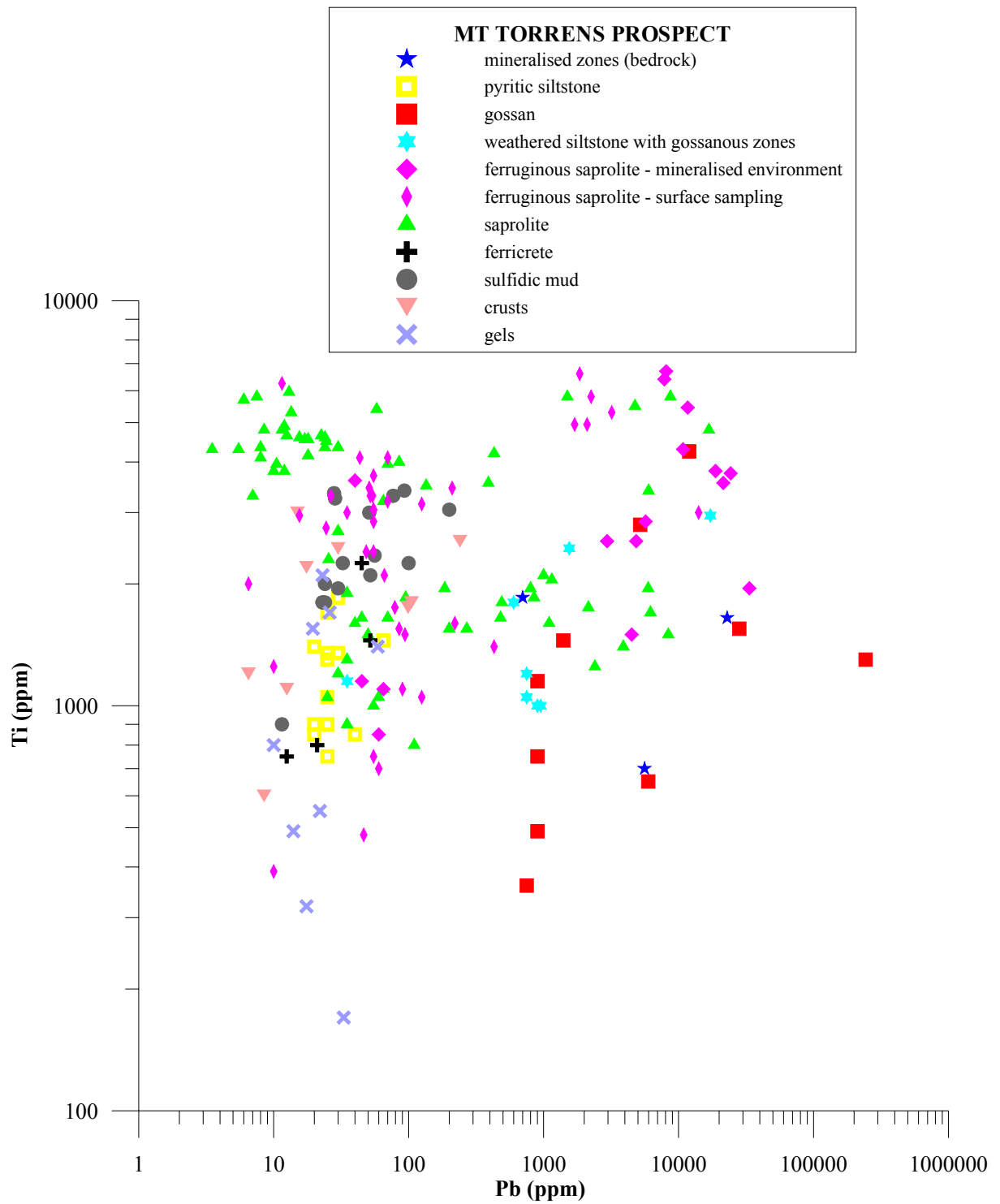


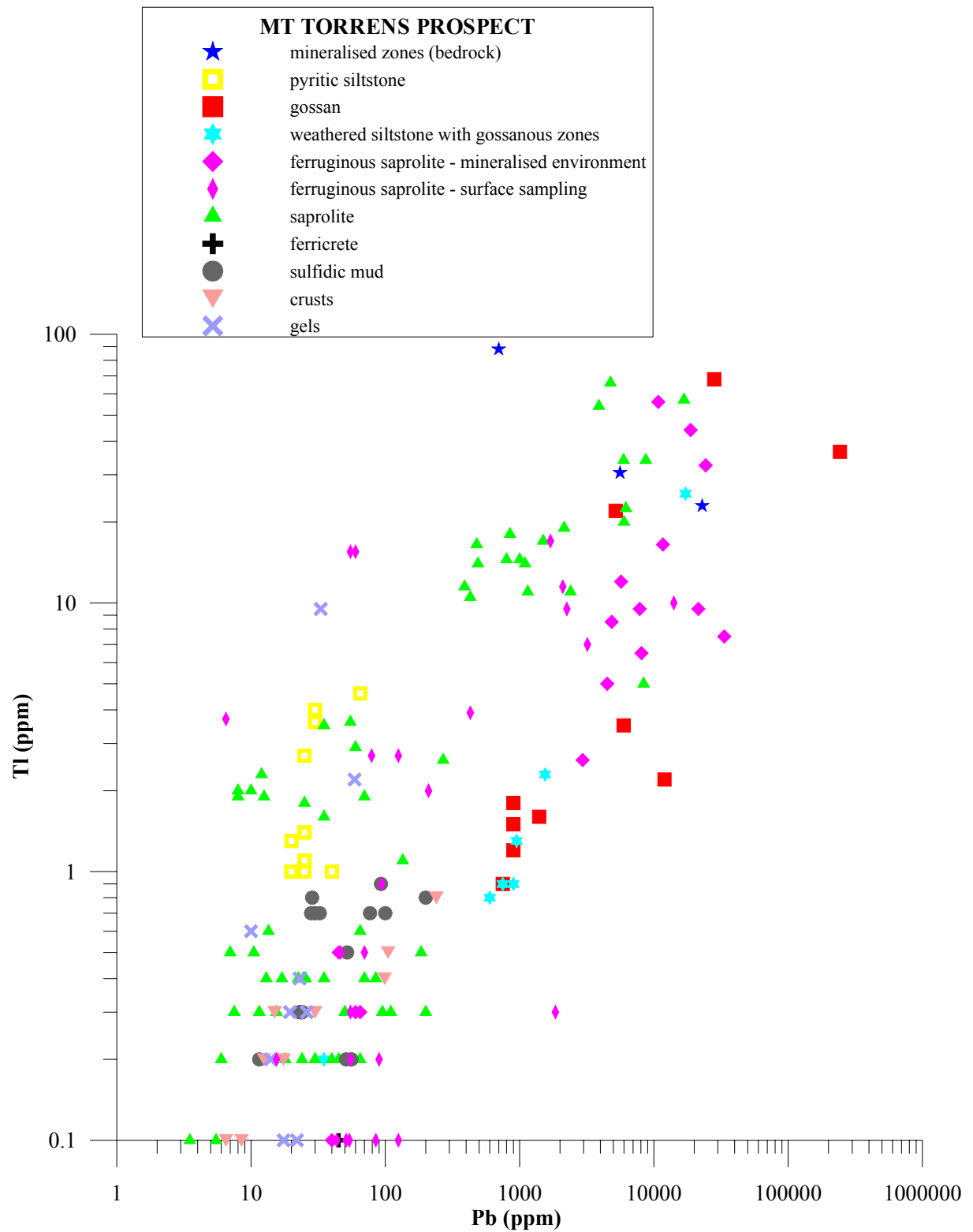


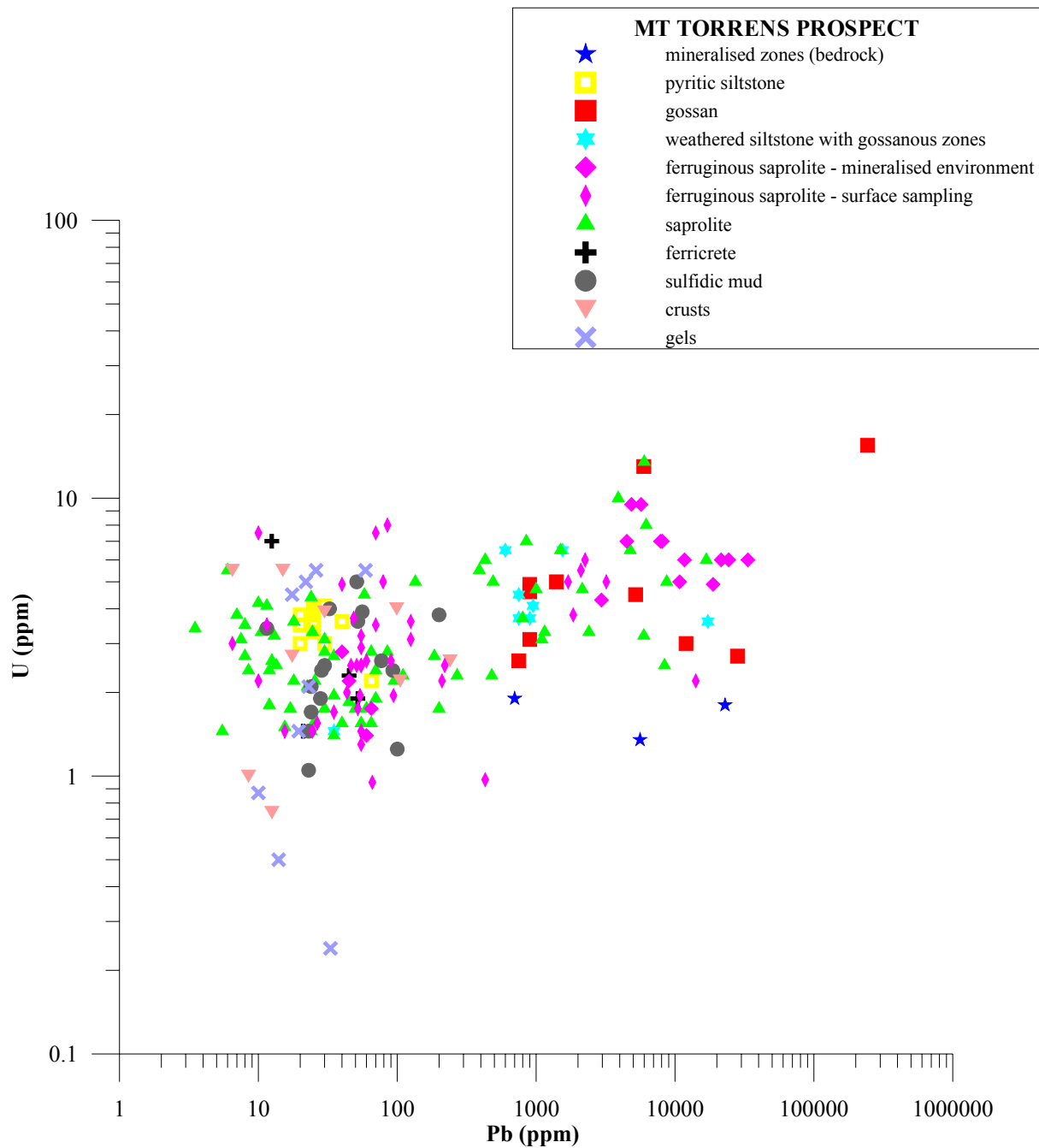


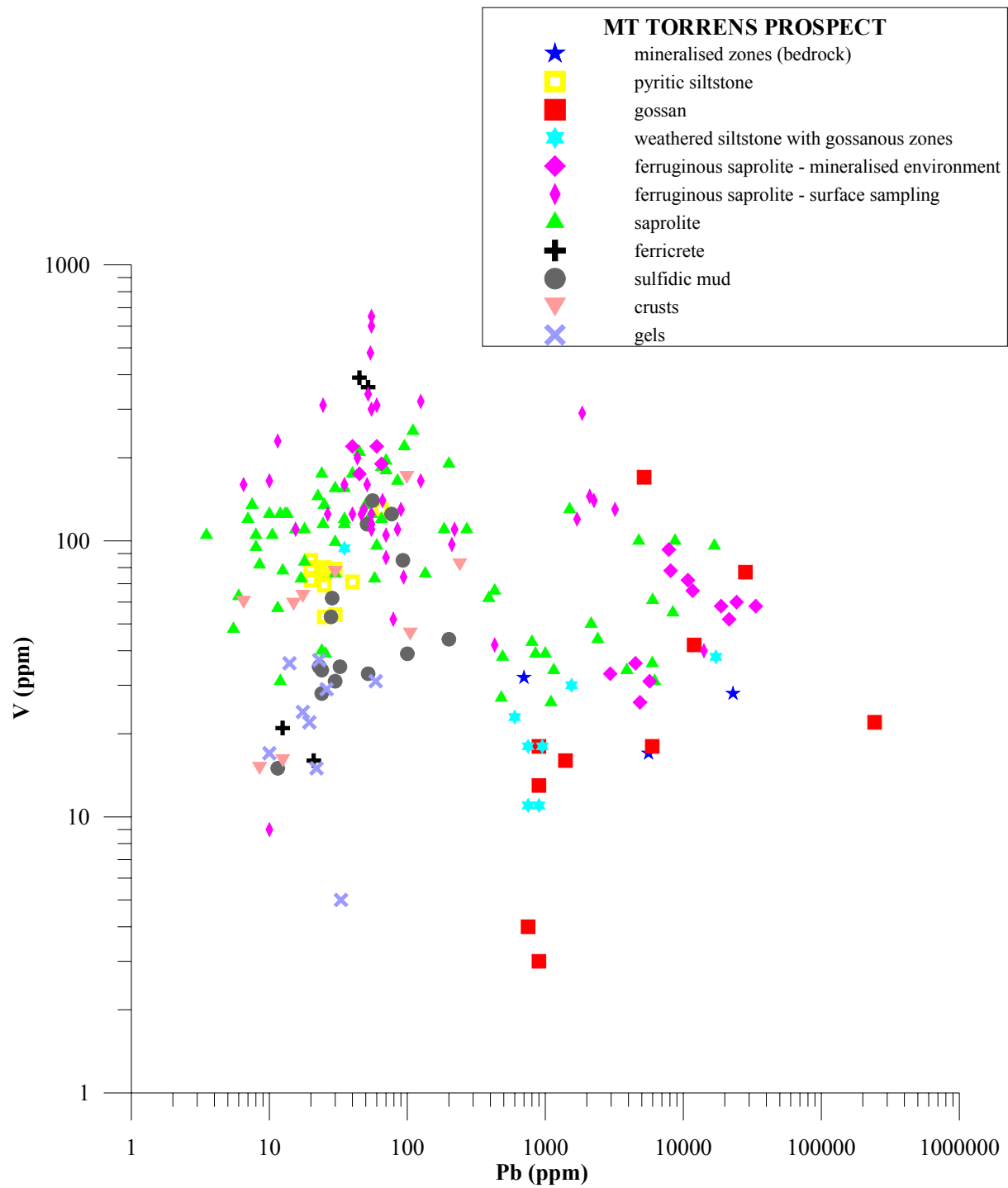


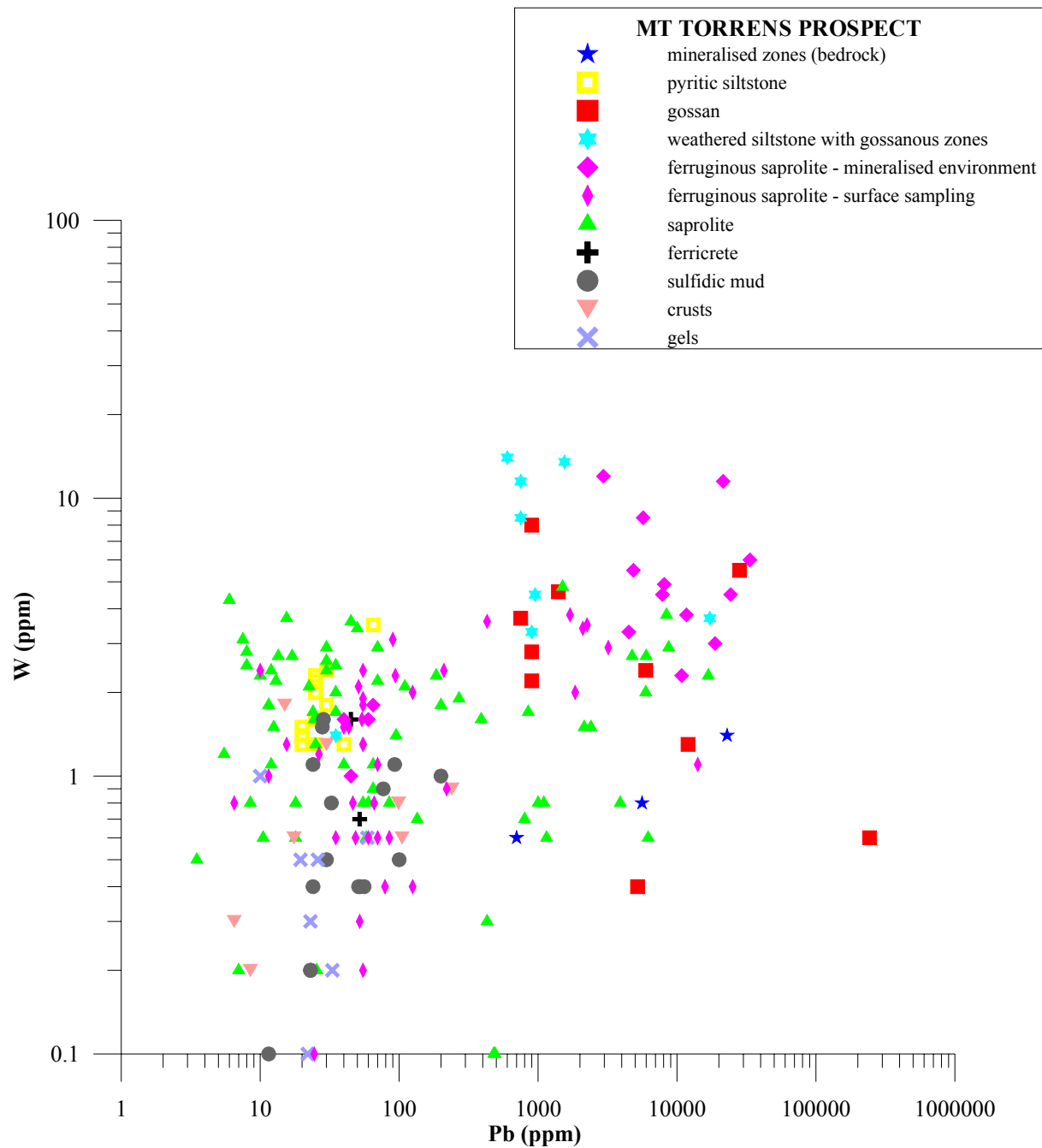


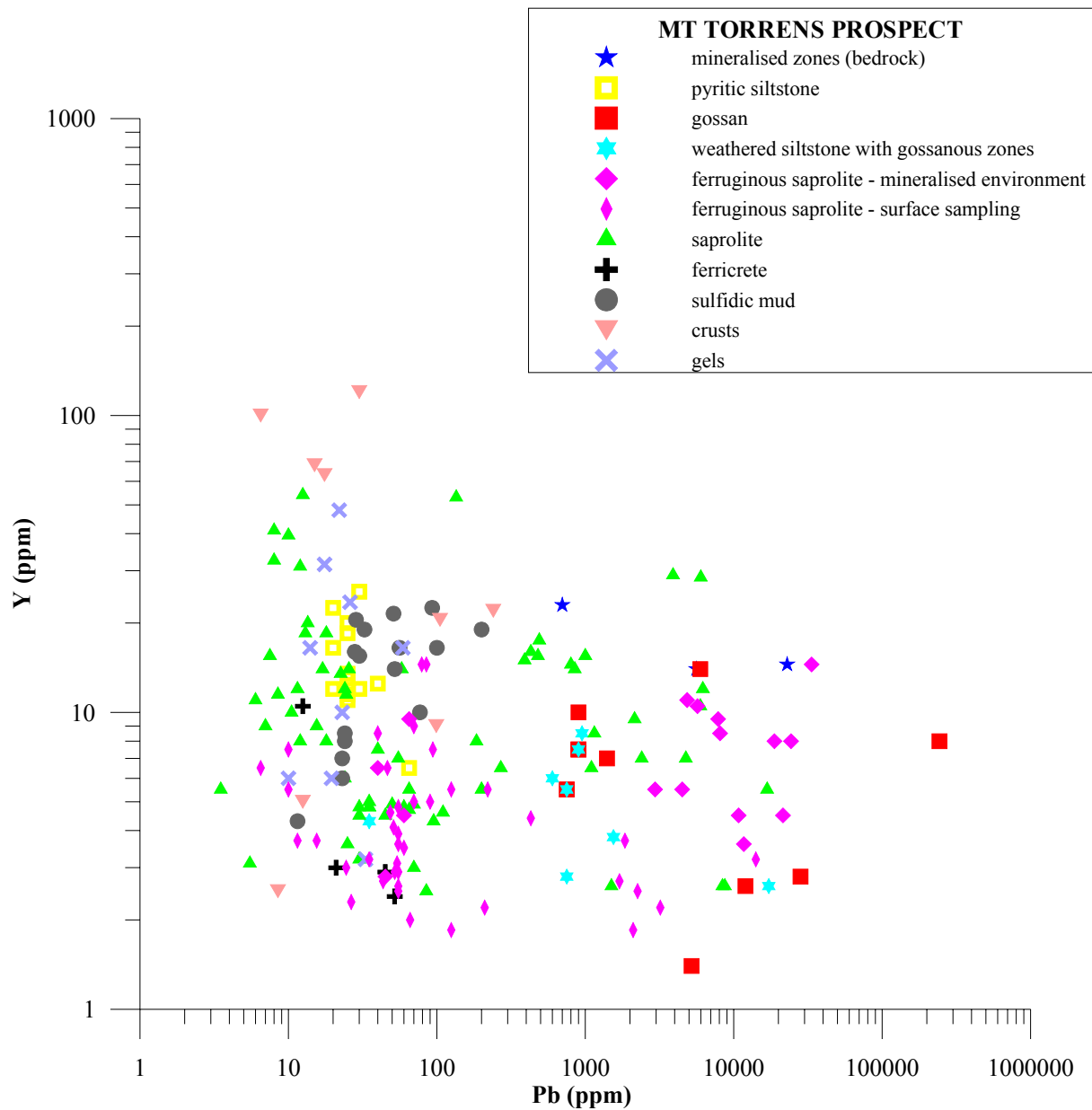


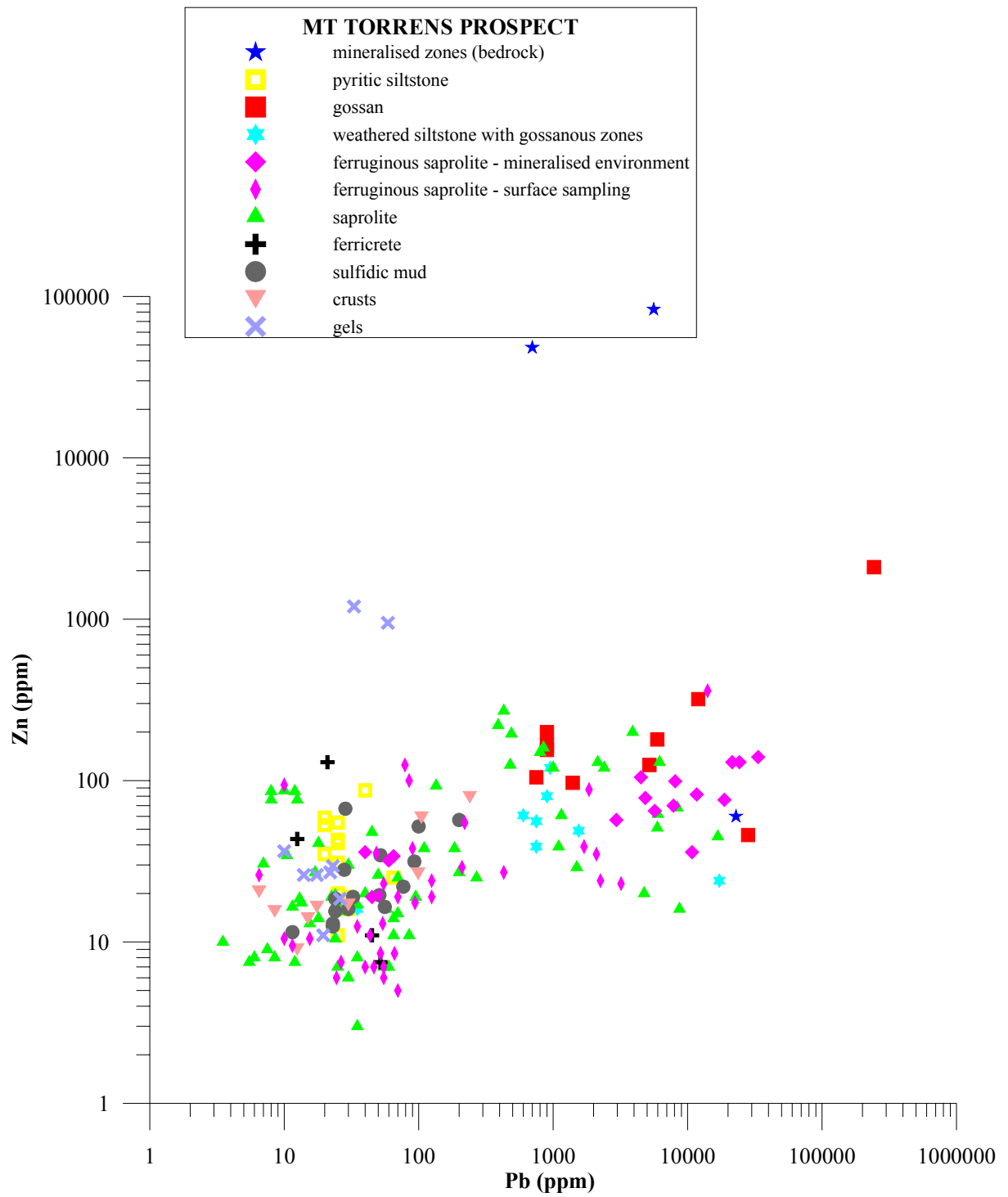








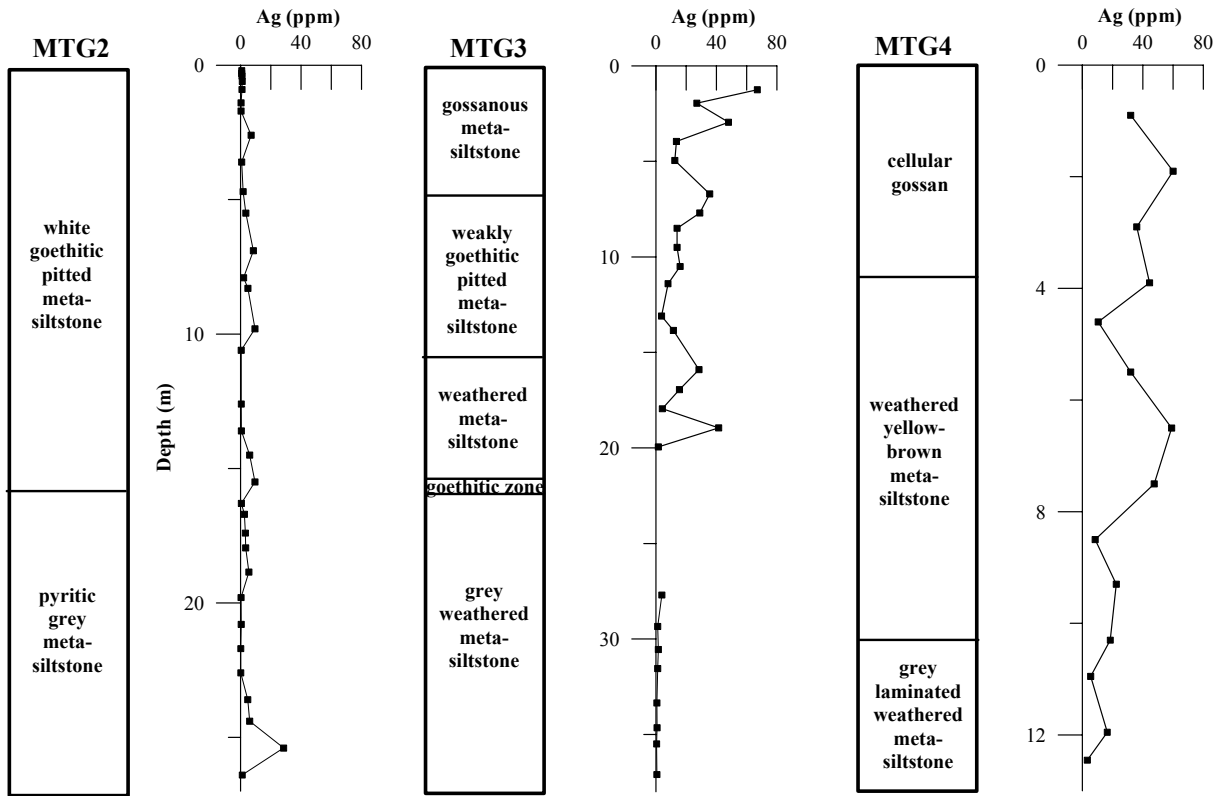




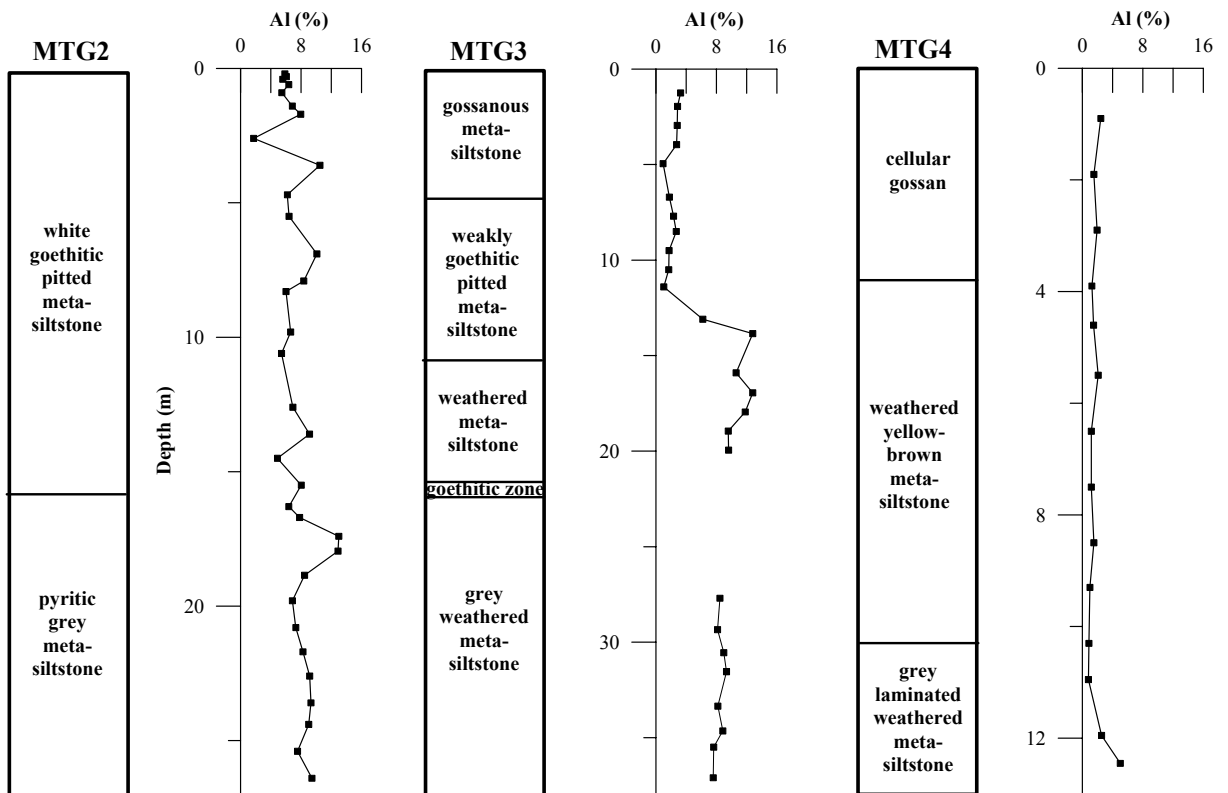
APPENDIX 6

Geochemical profiles

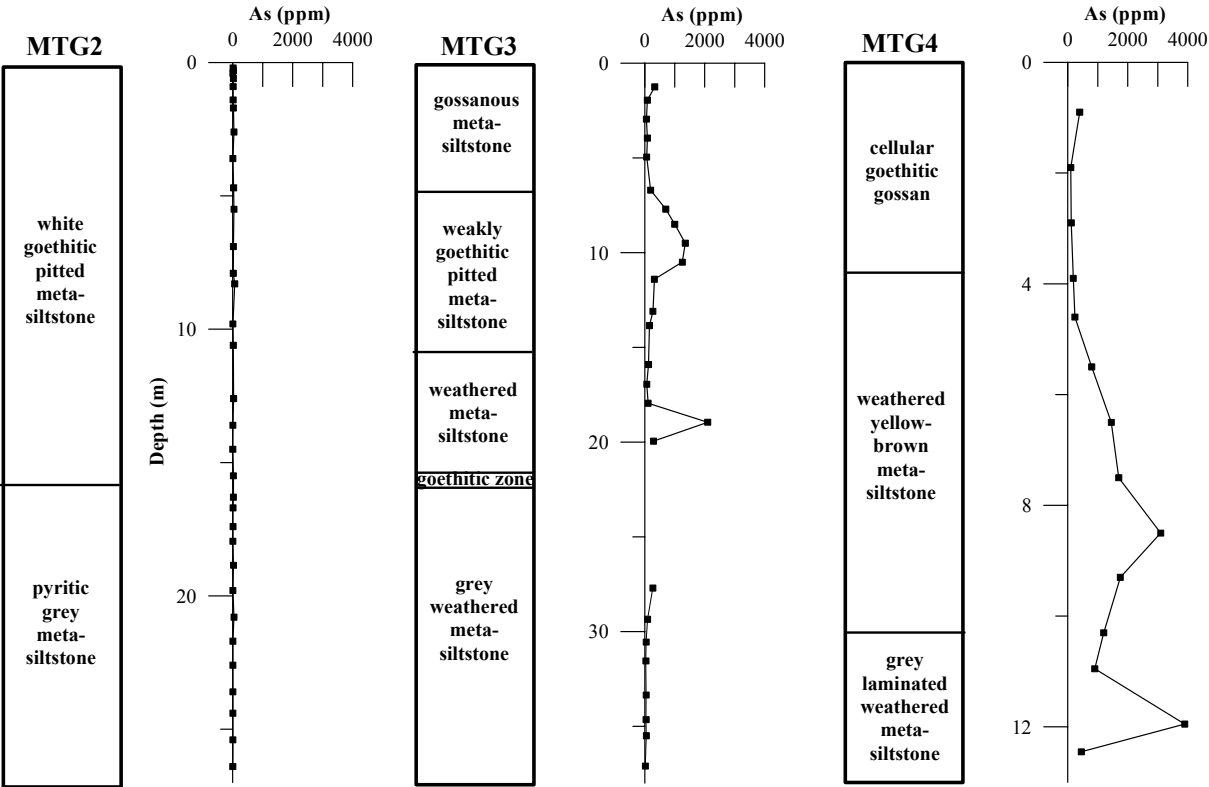
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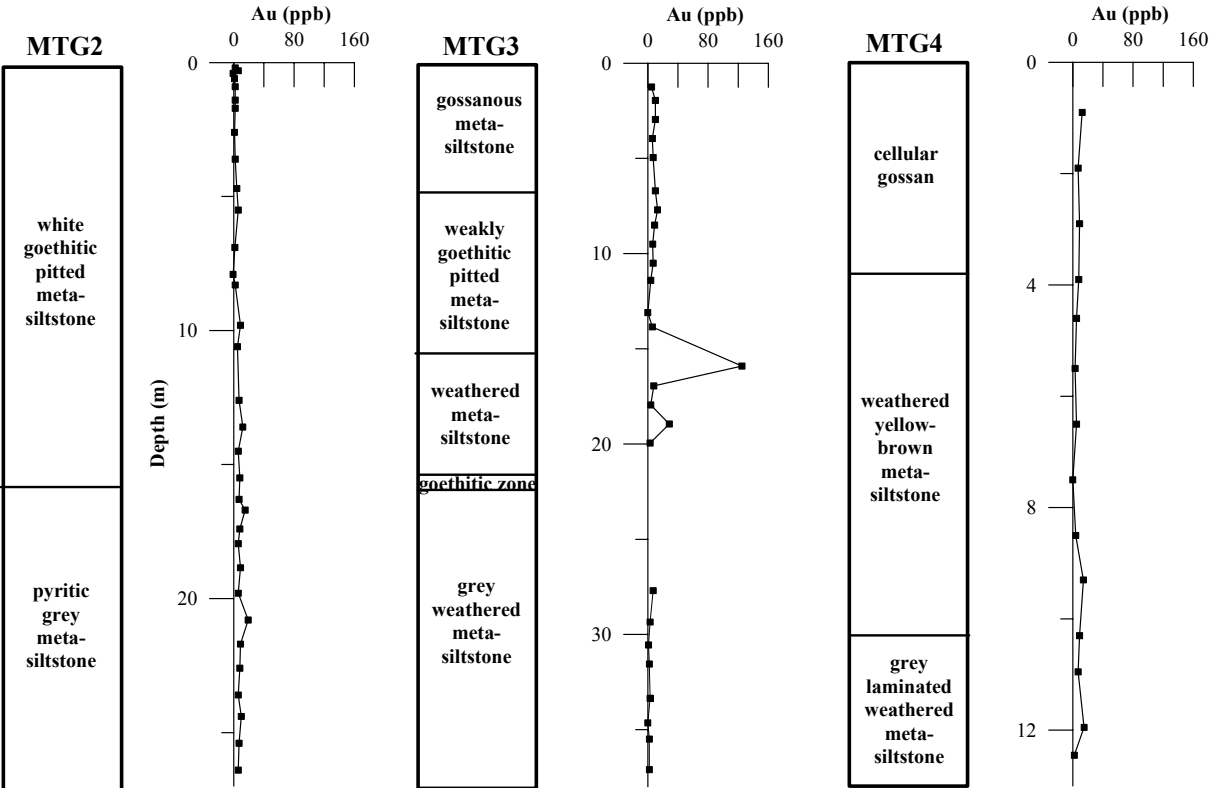
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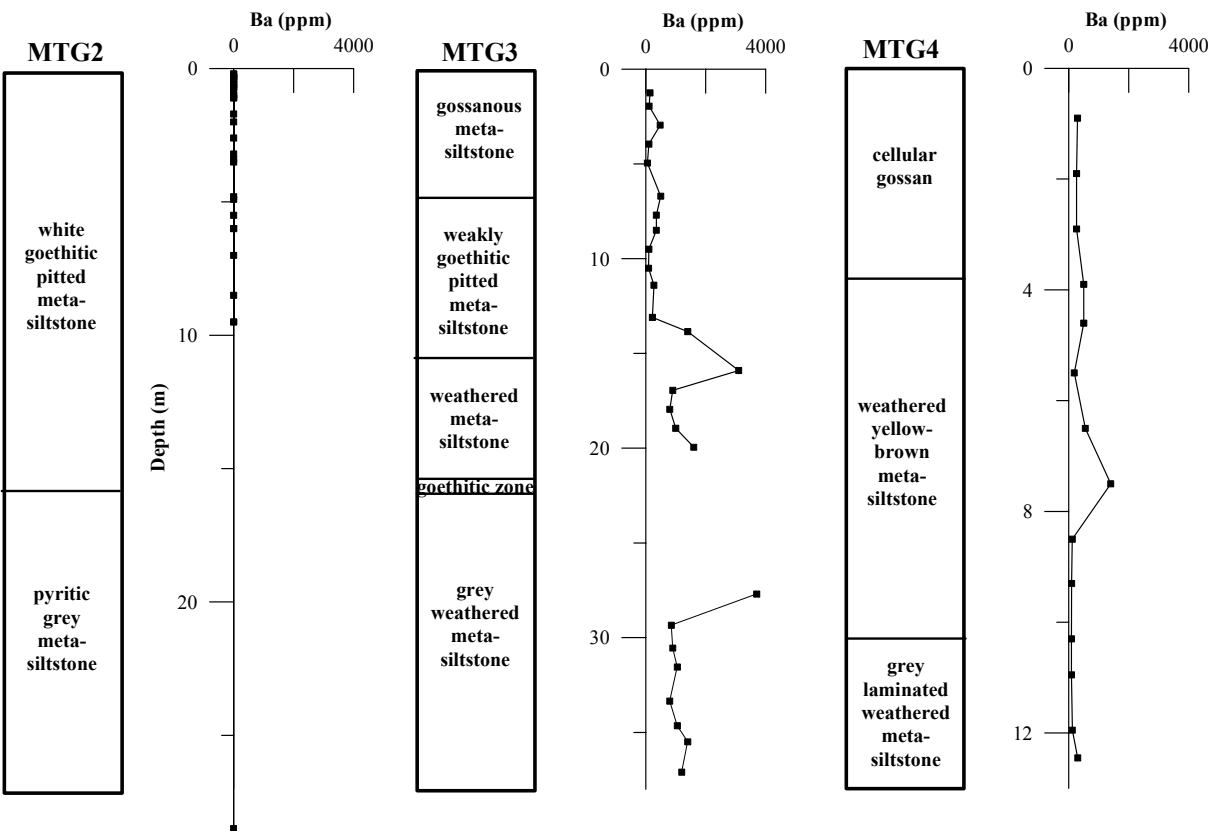
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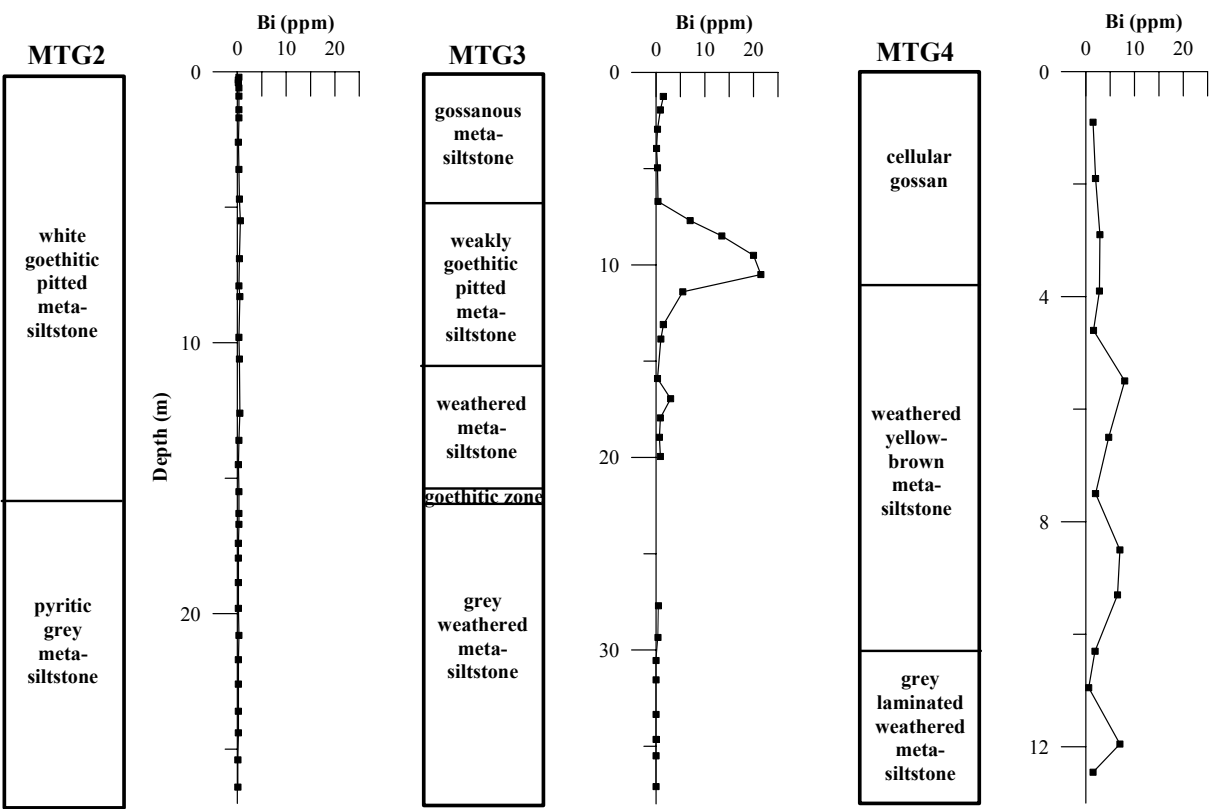
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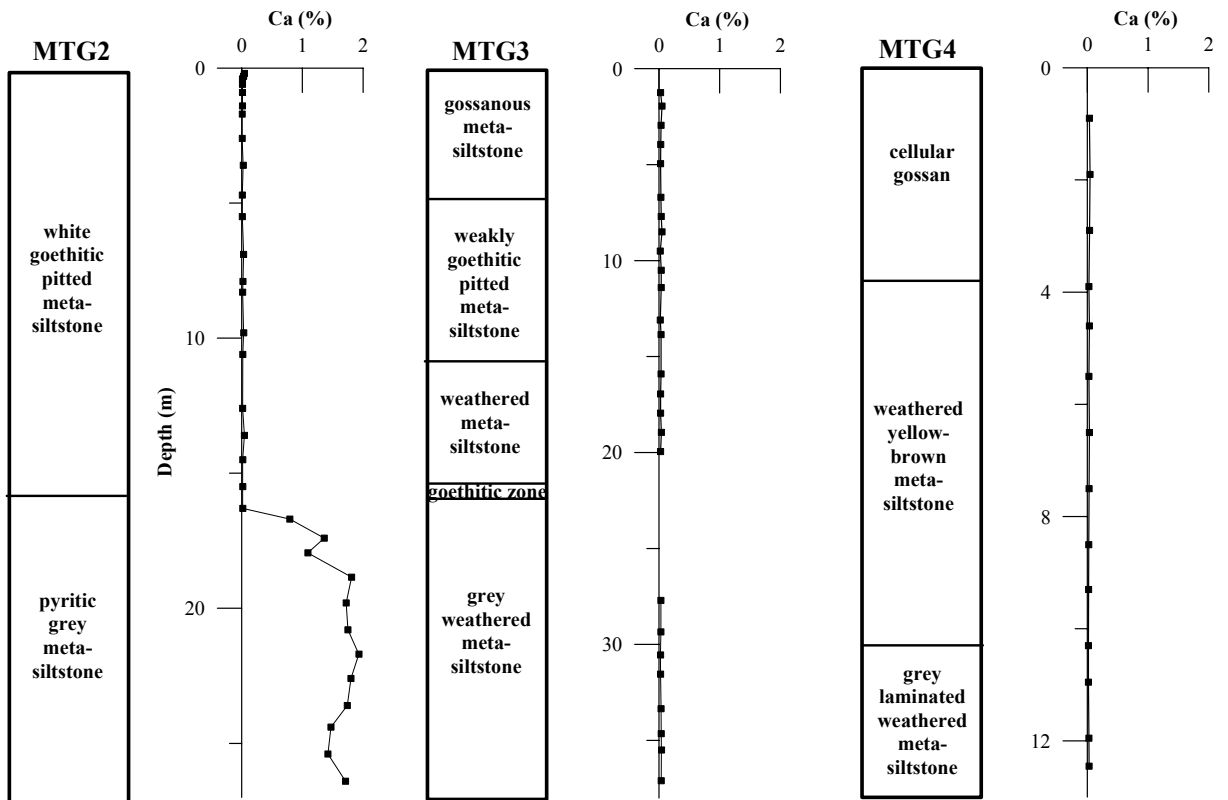
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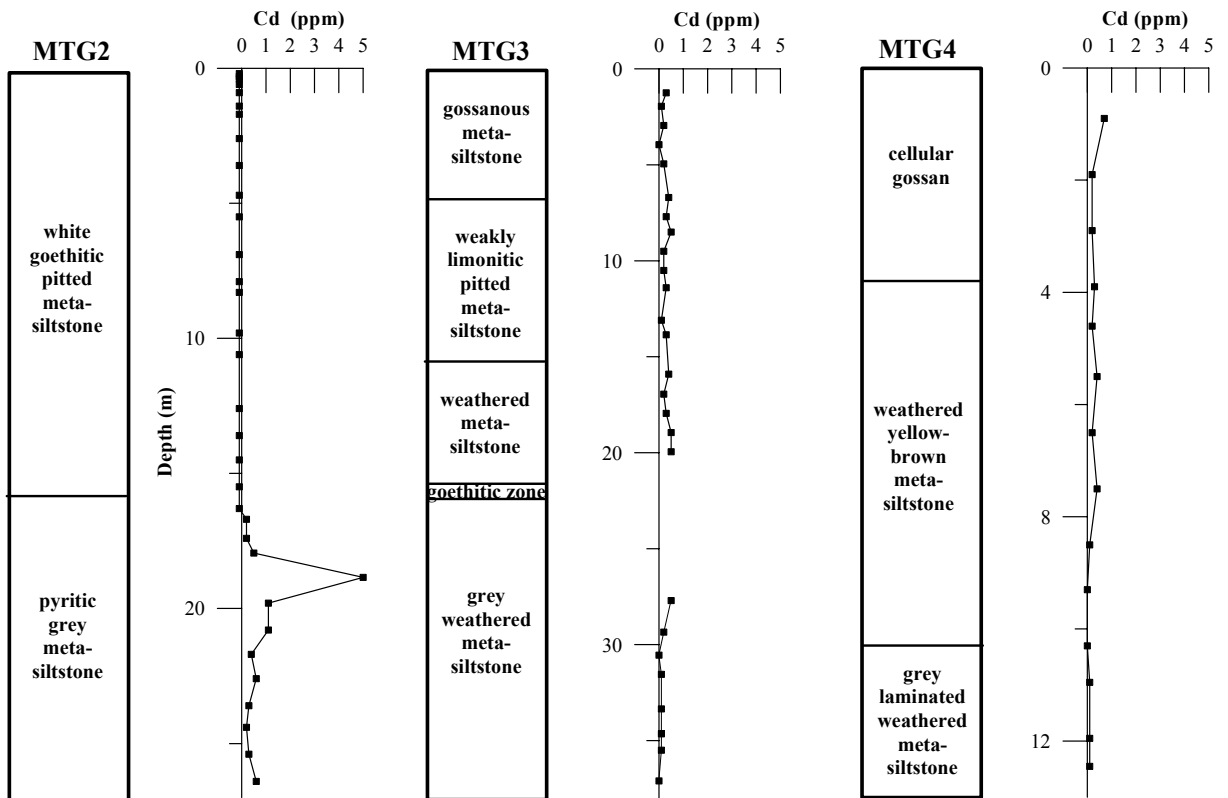
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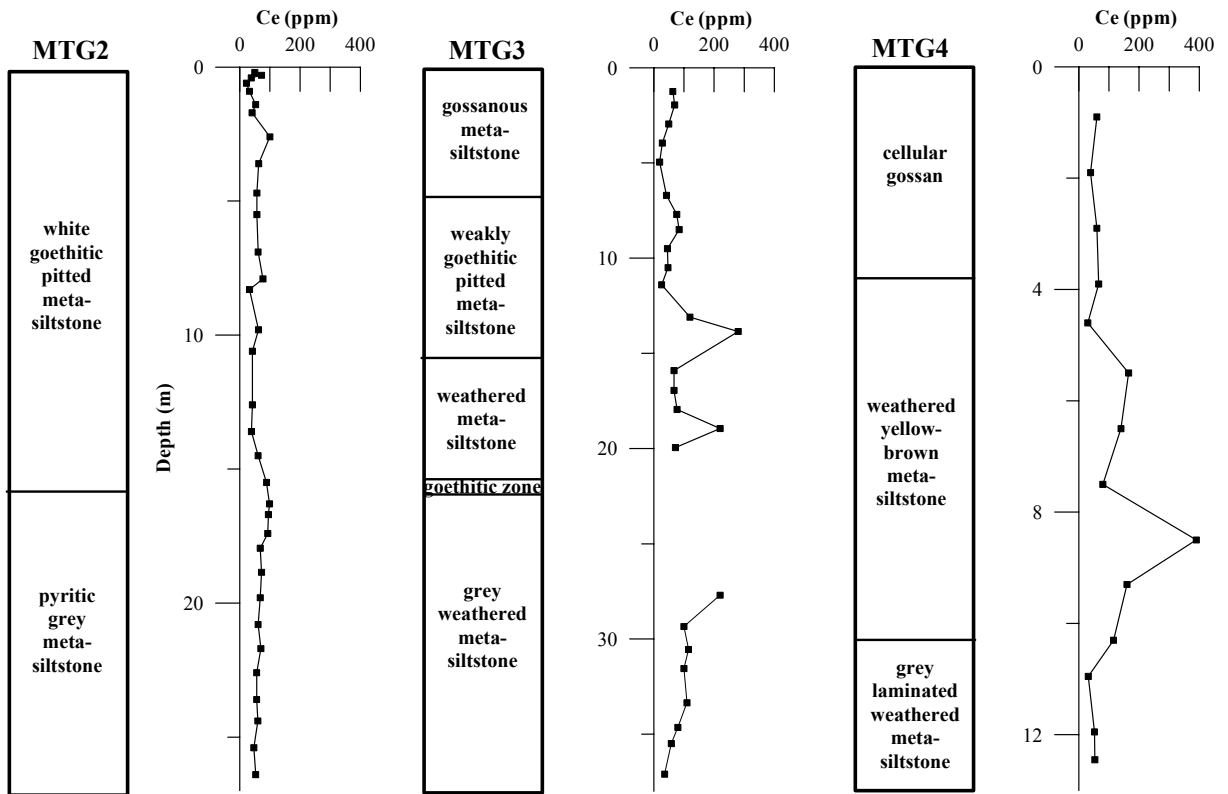
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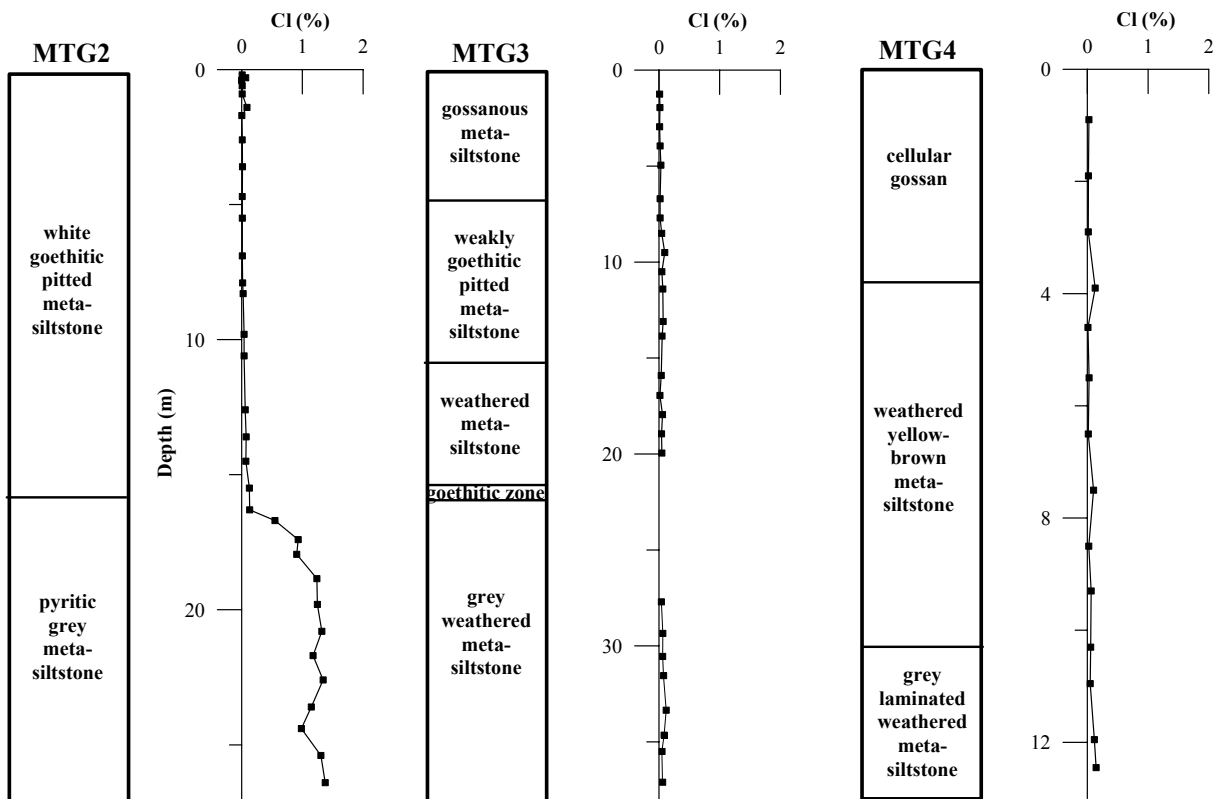
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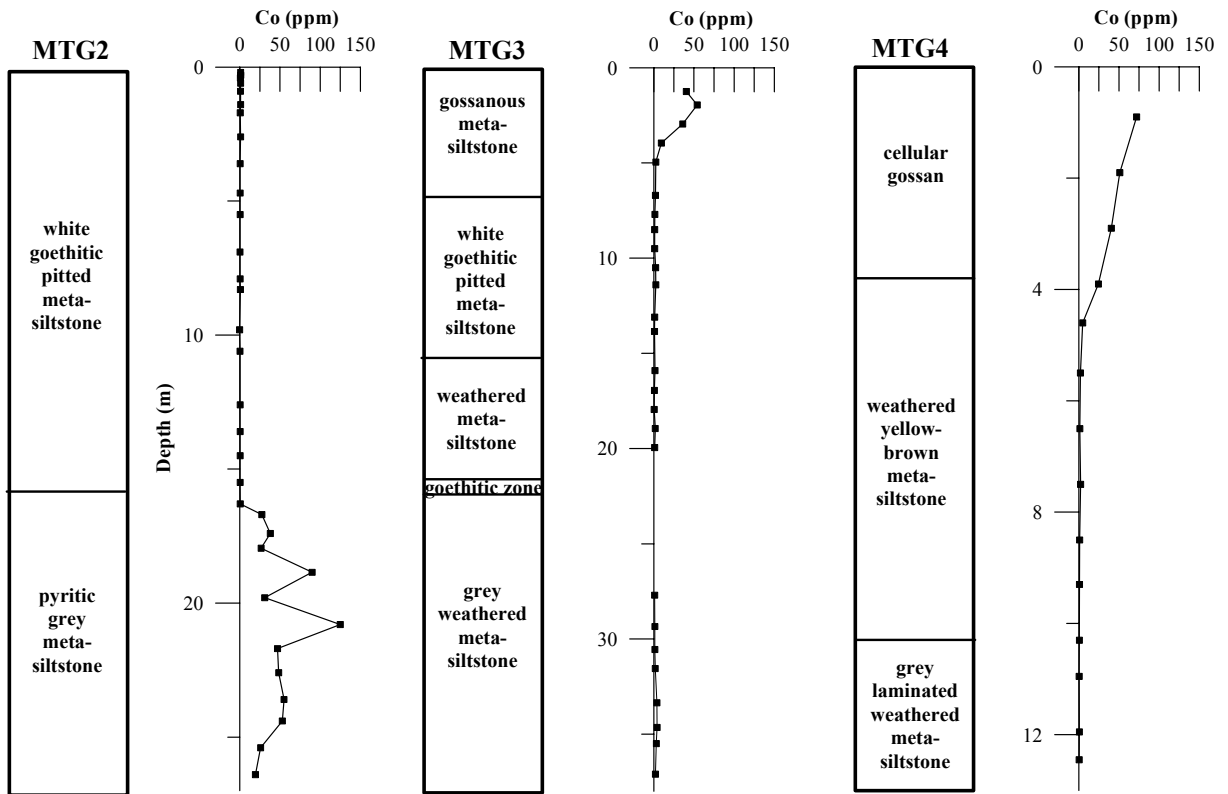
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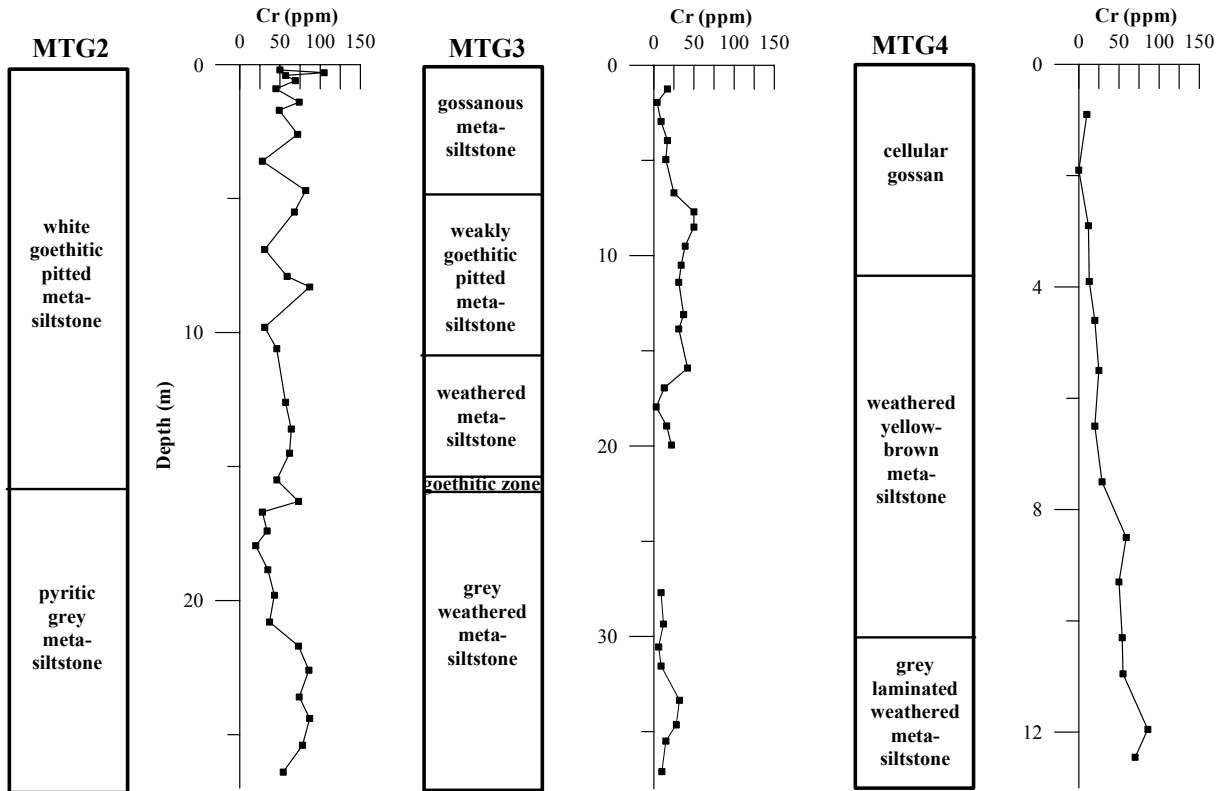
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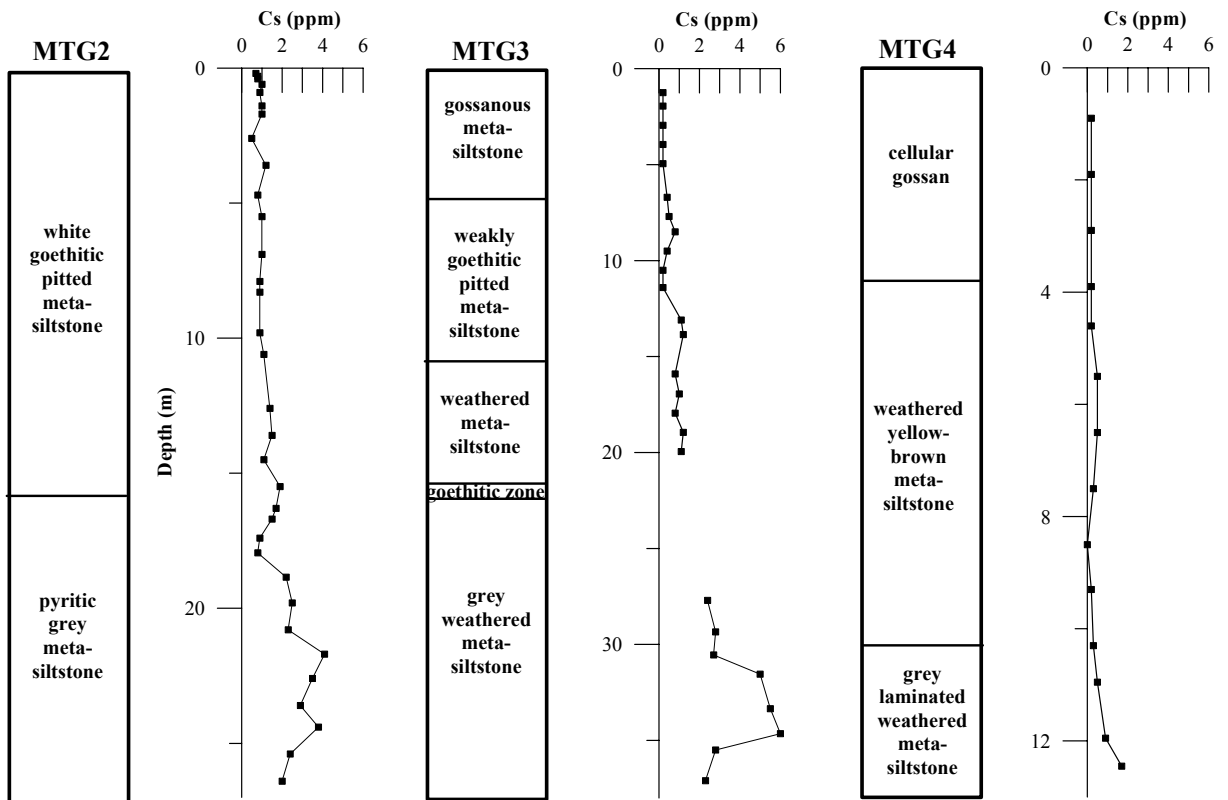
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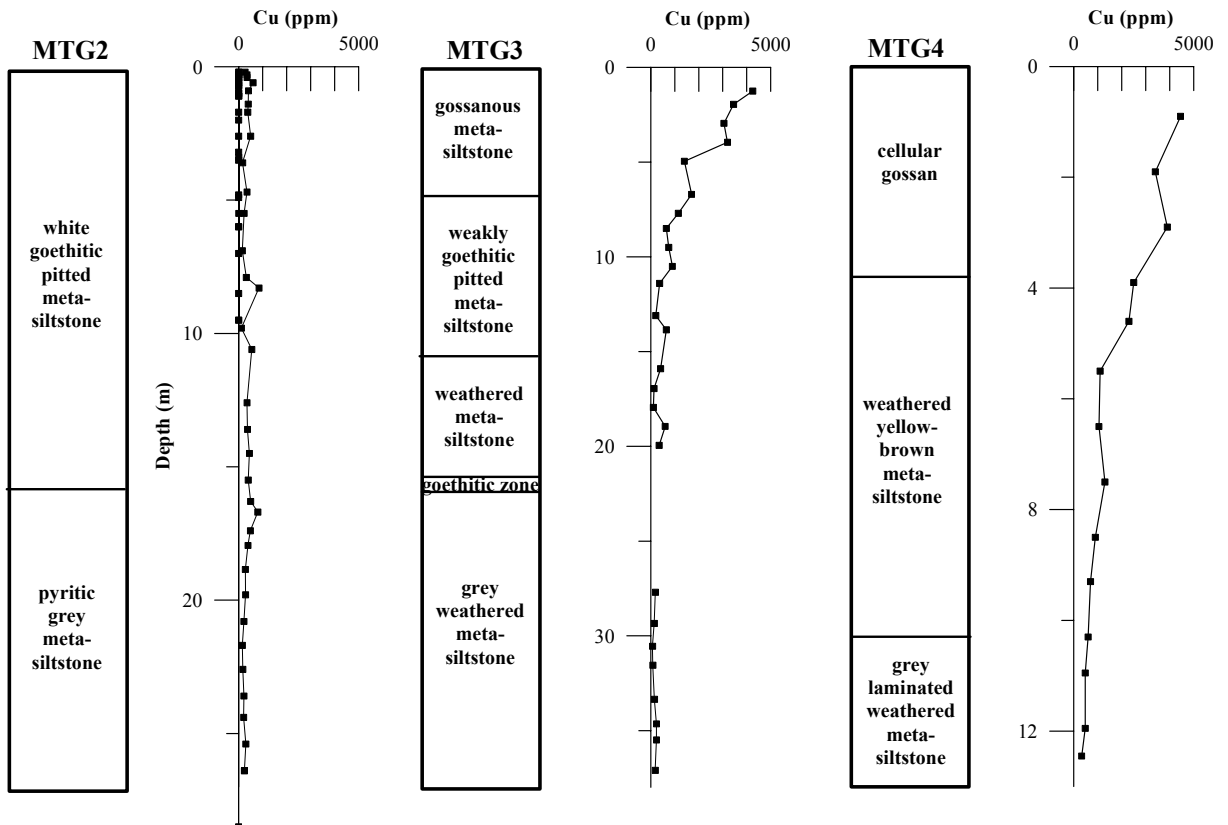
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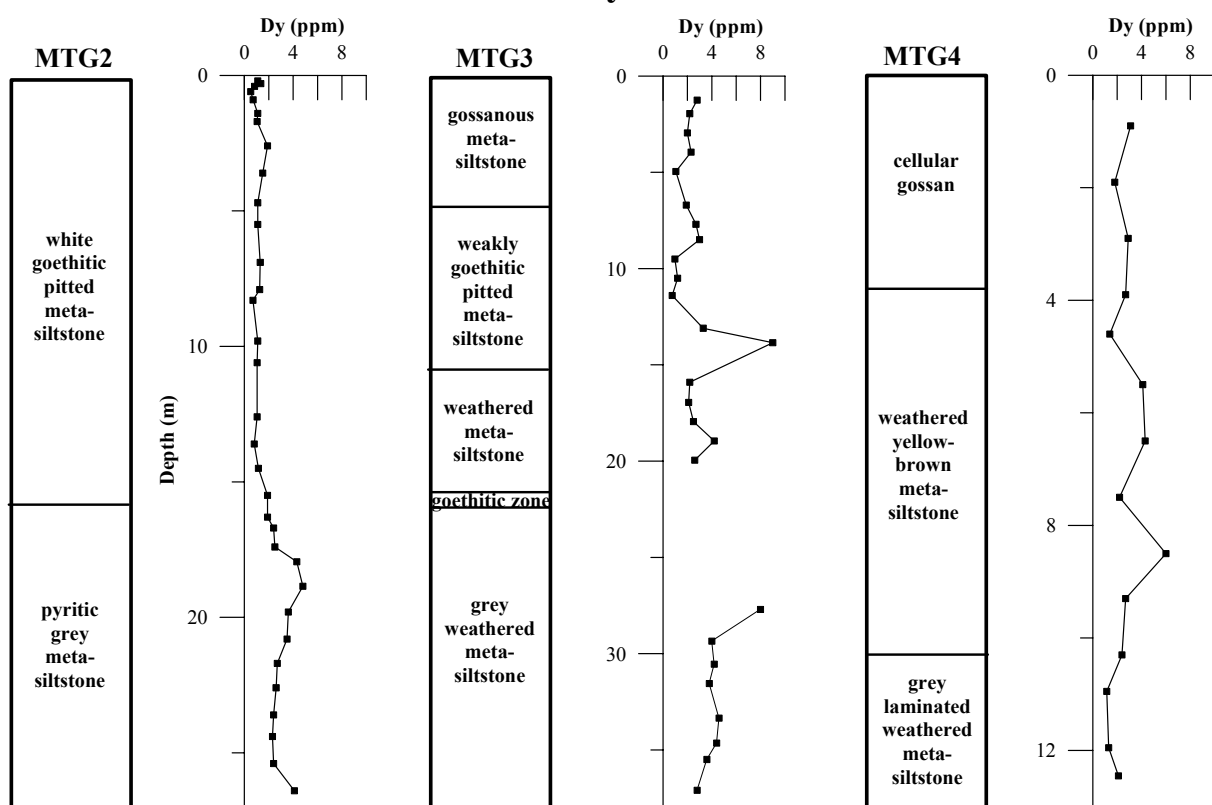
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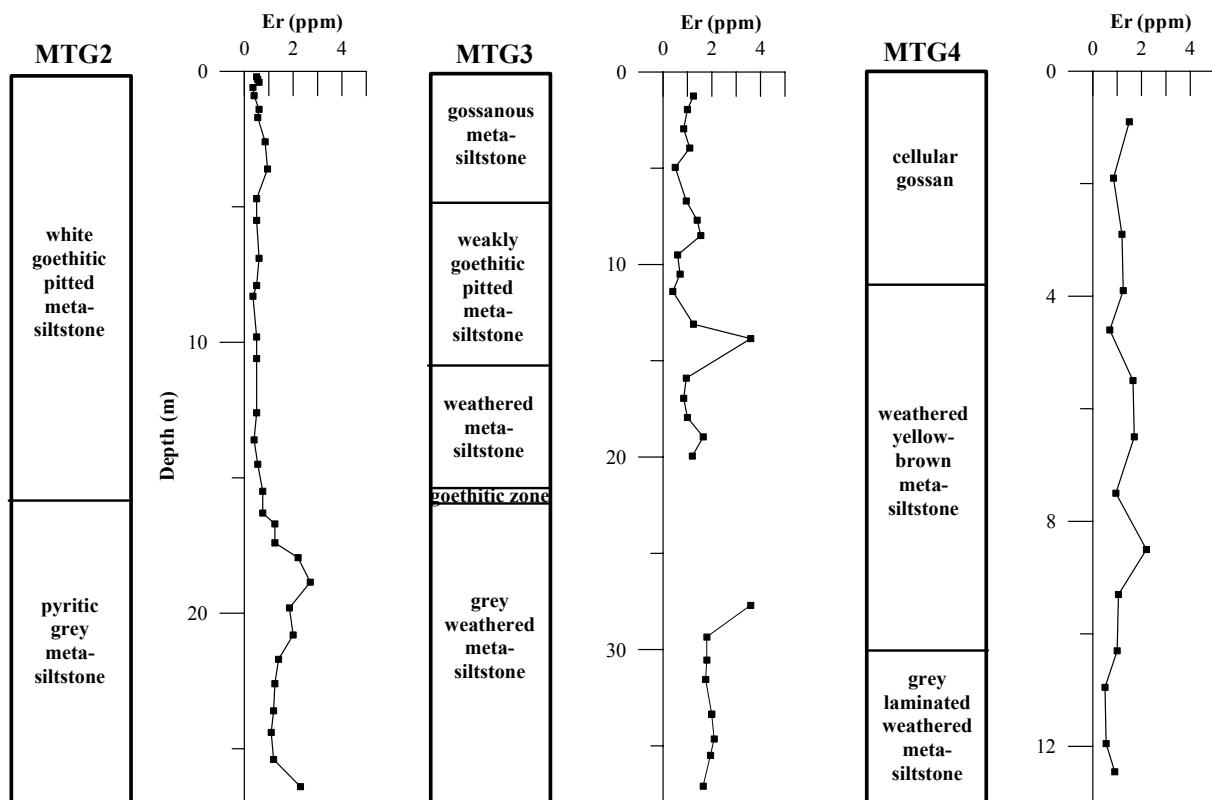
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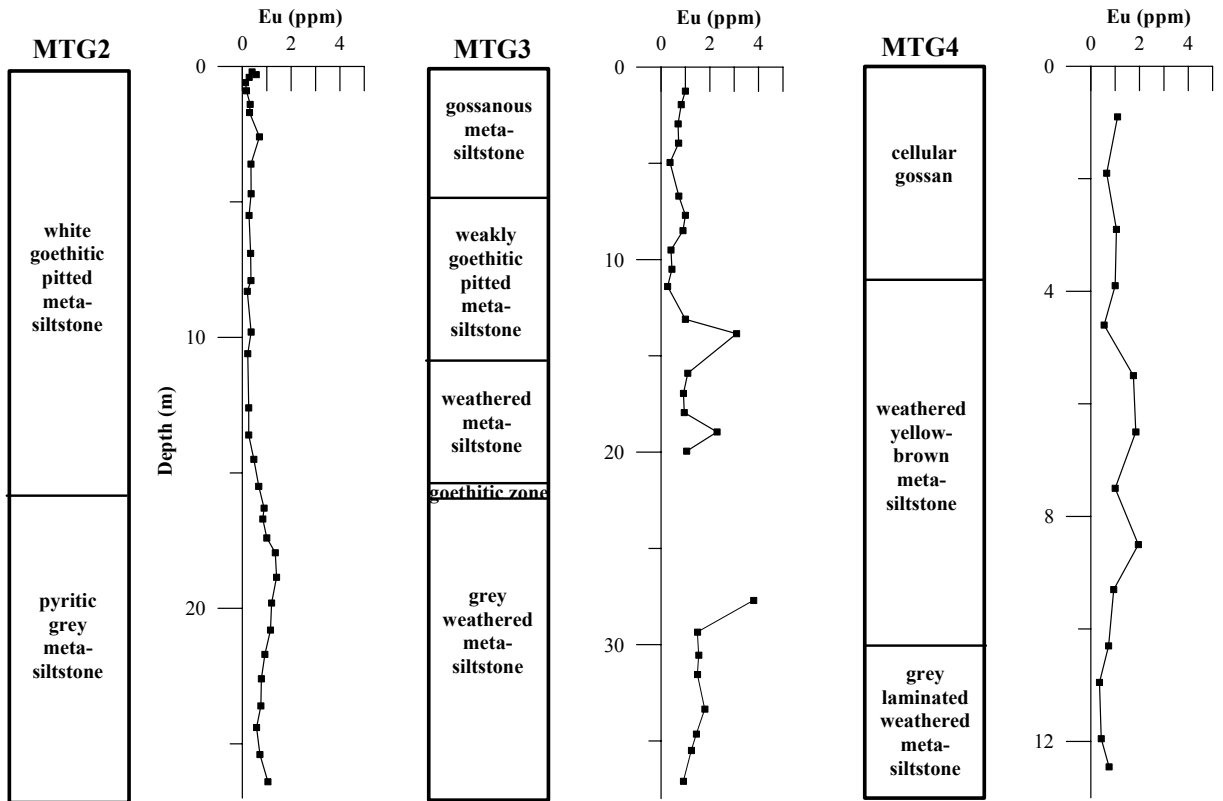
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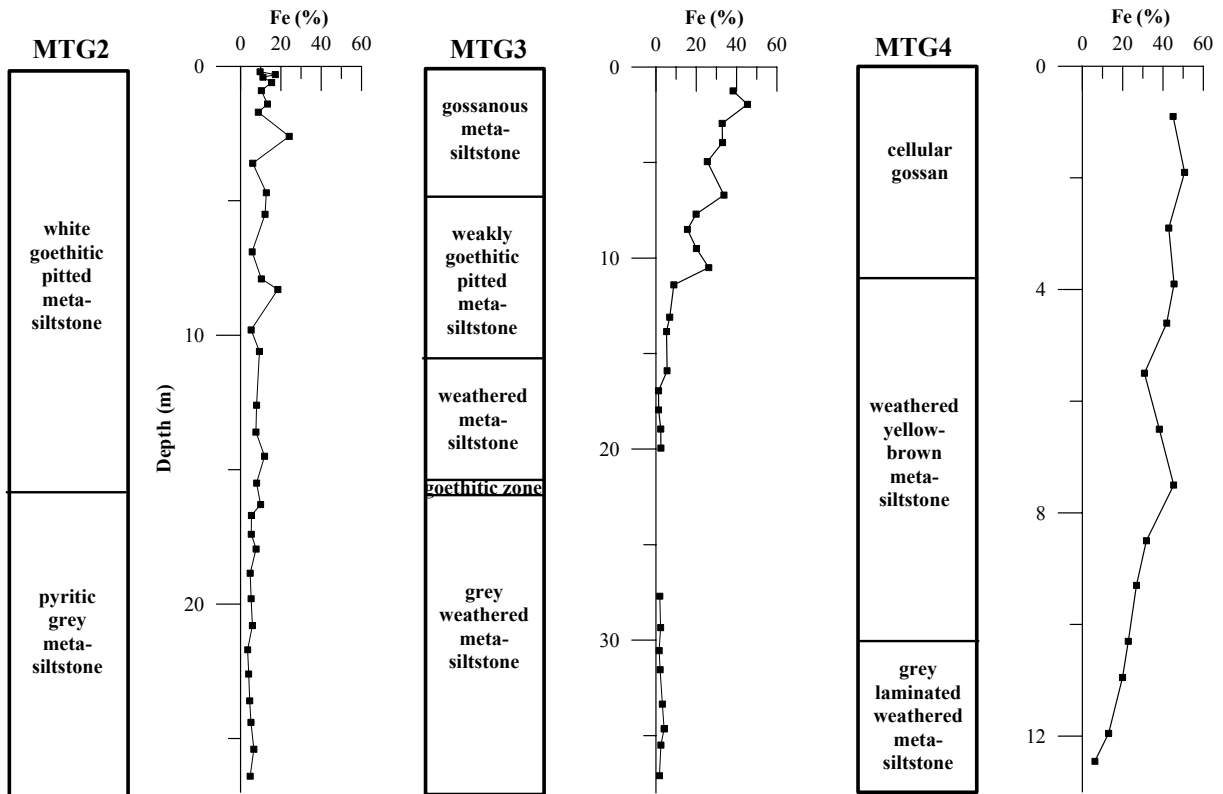
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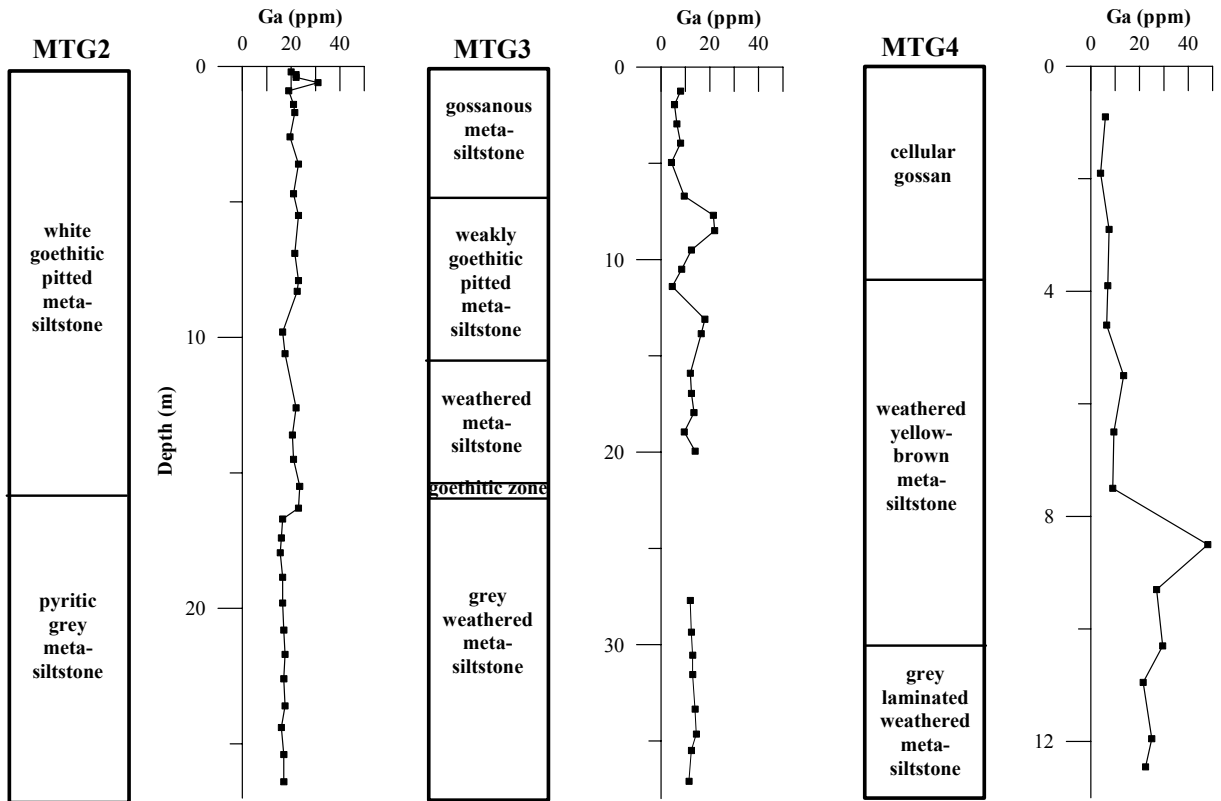
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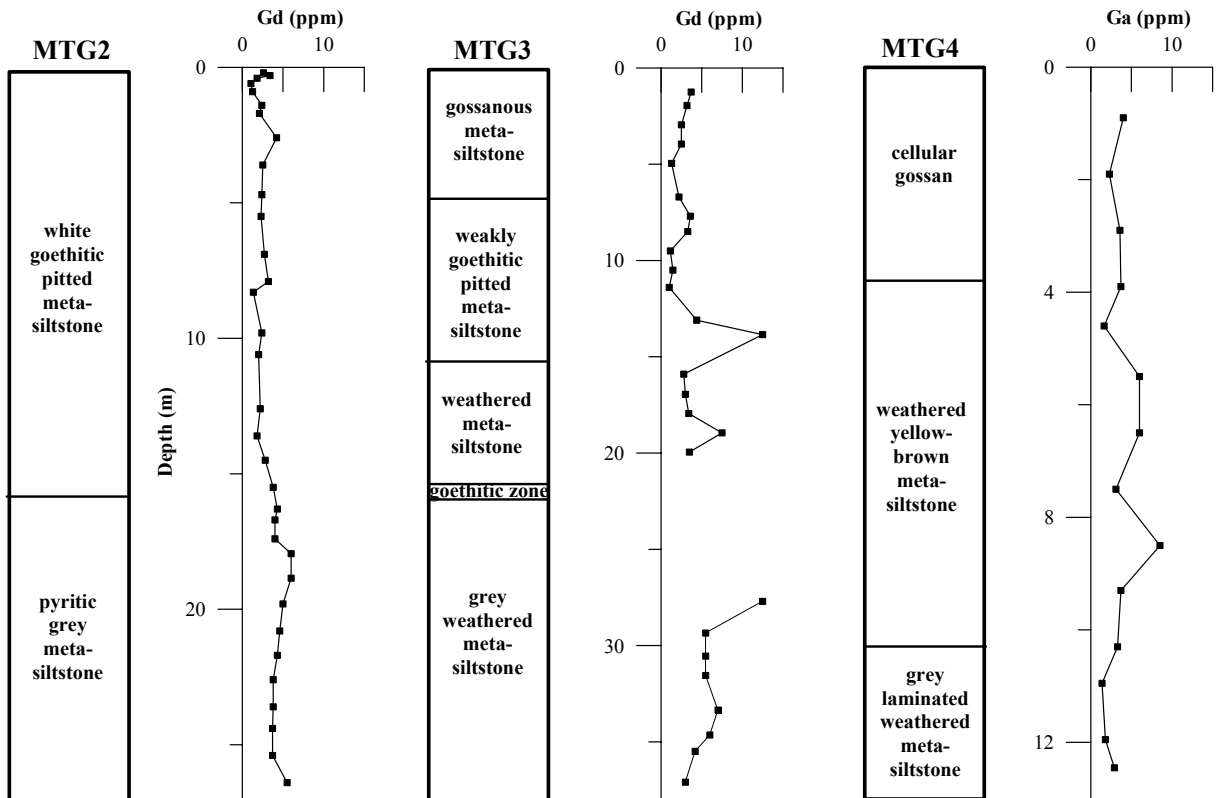
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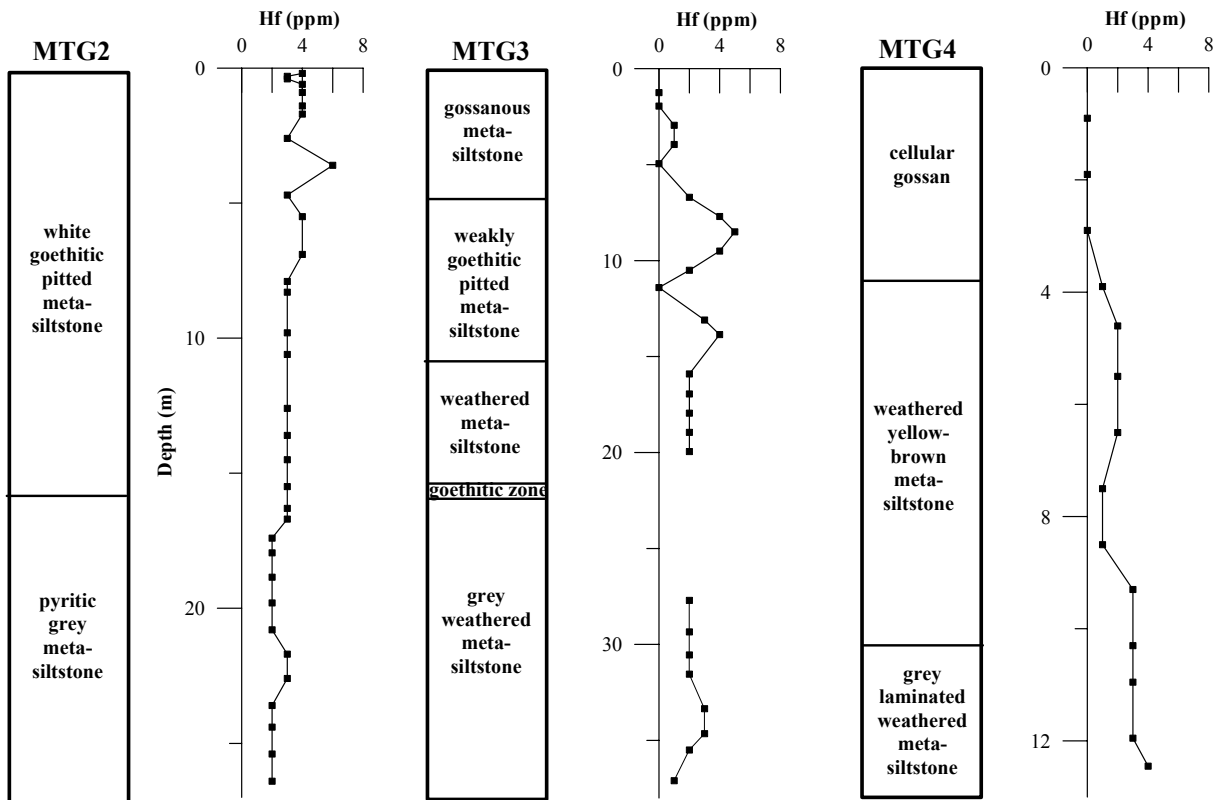
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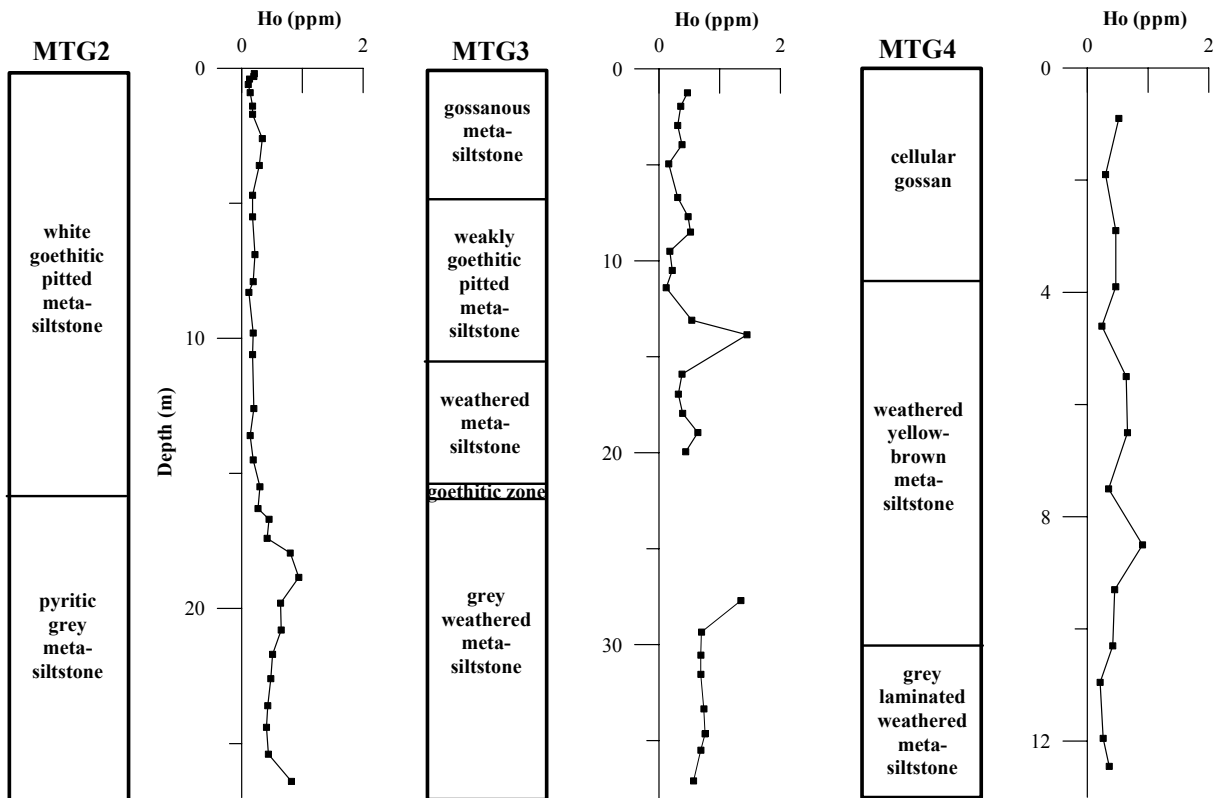
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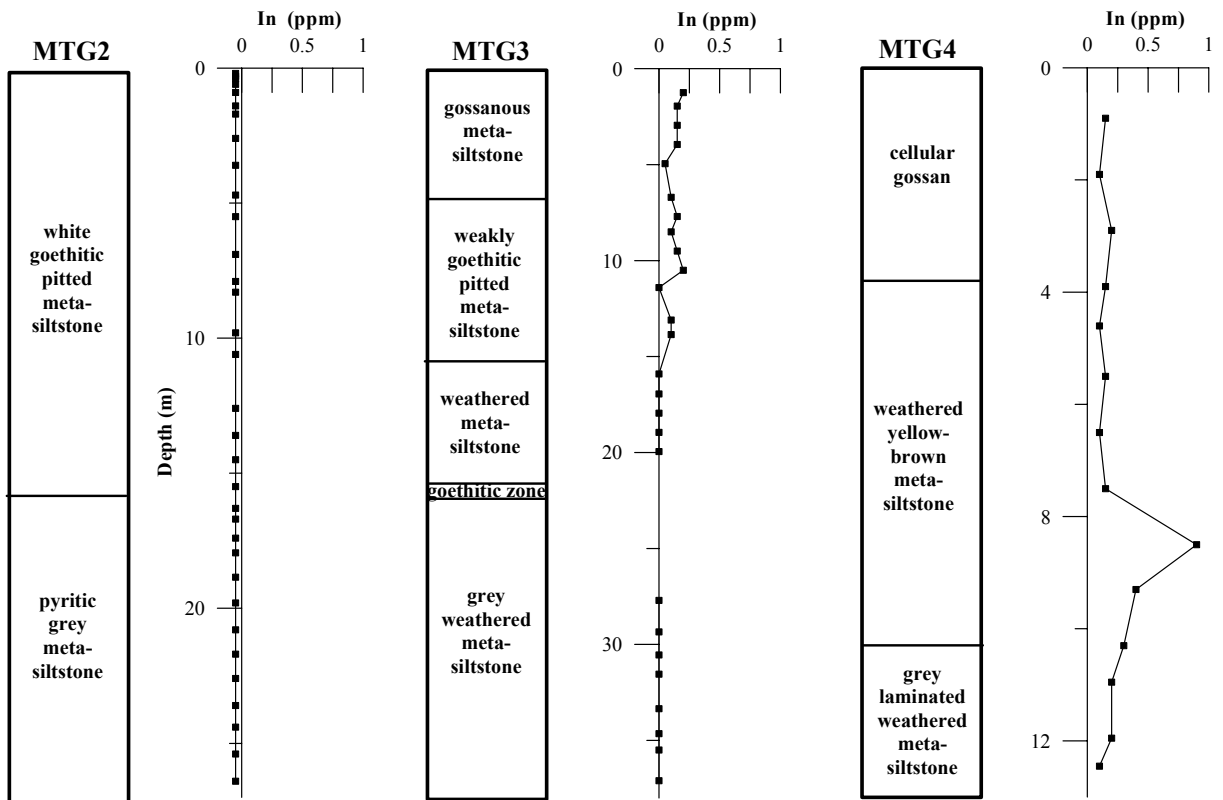
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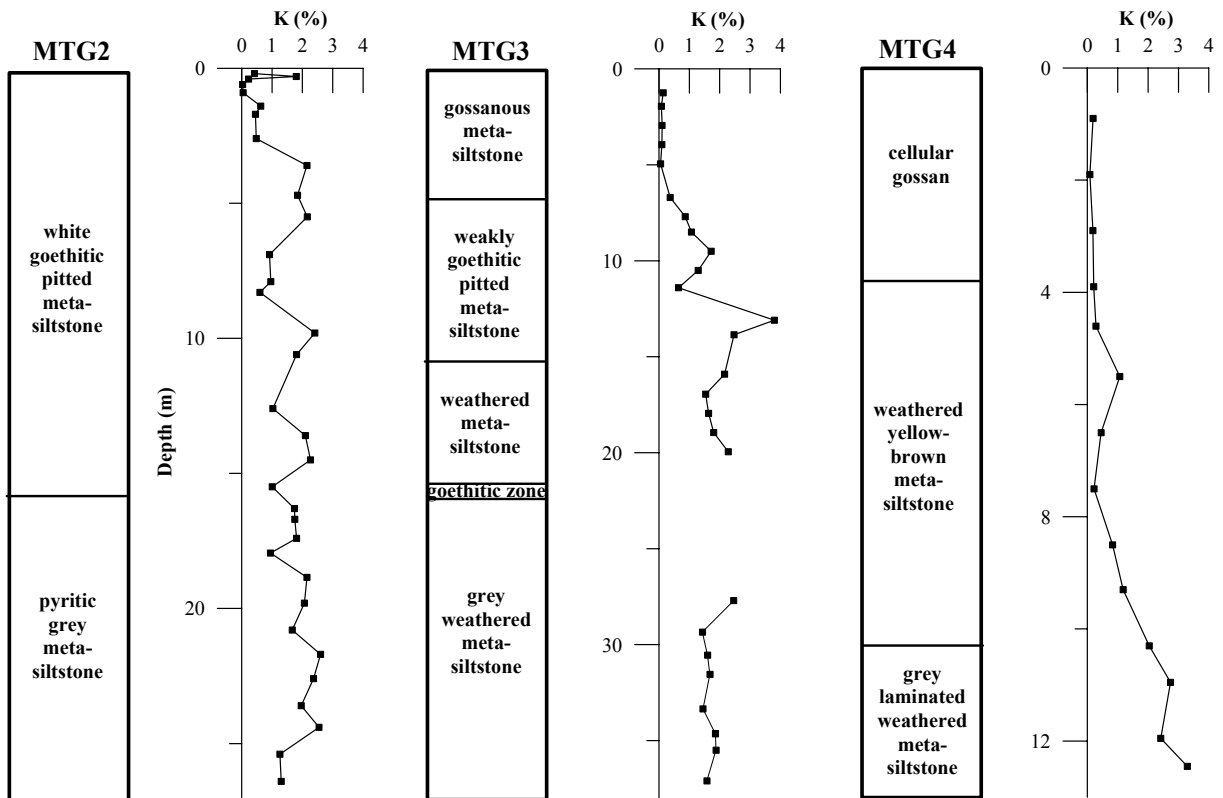
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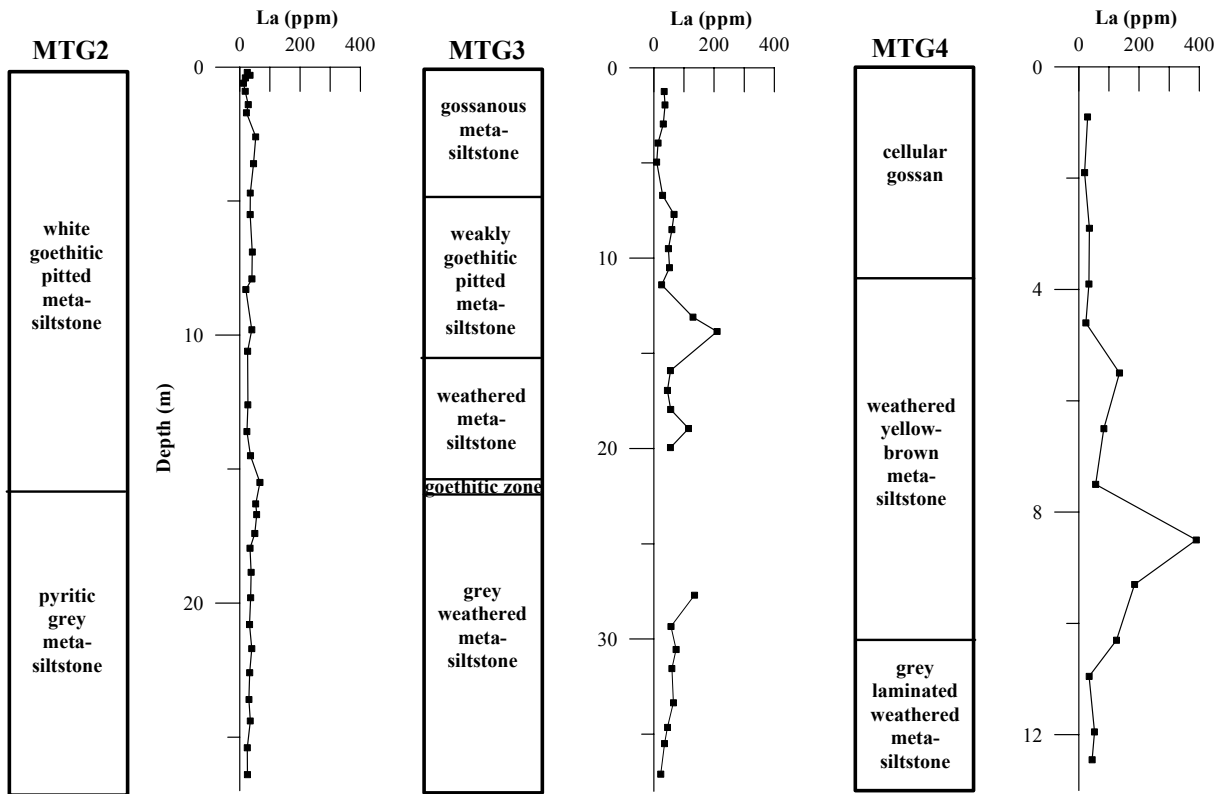
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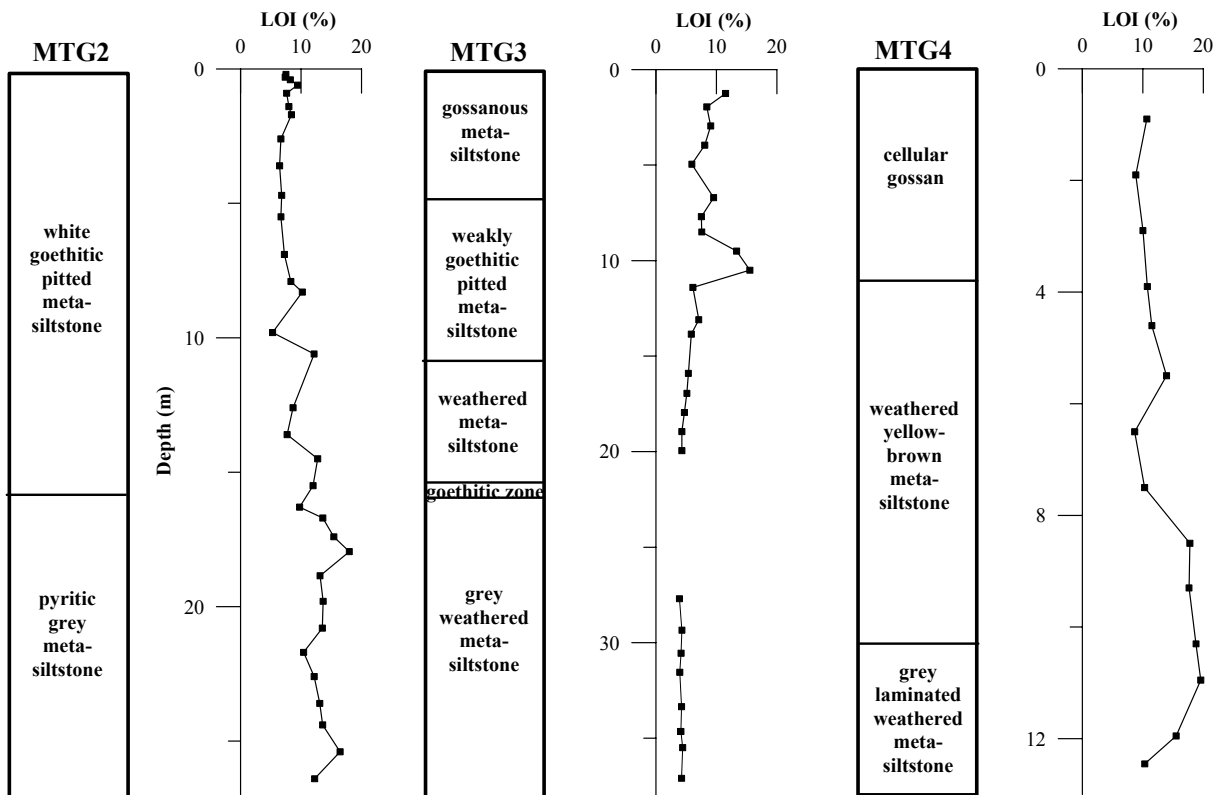
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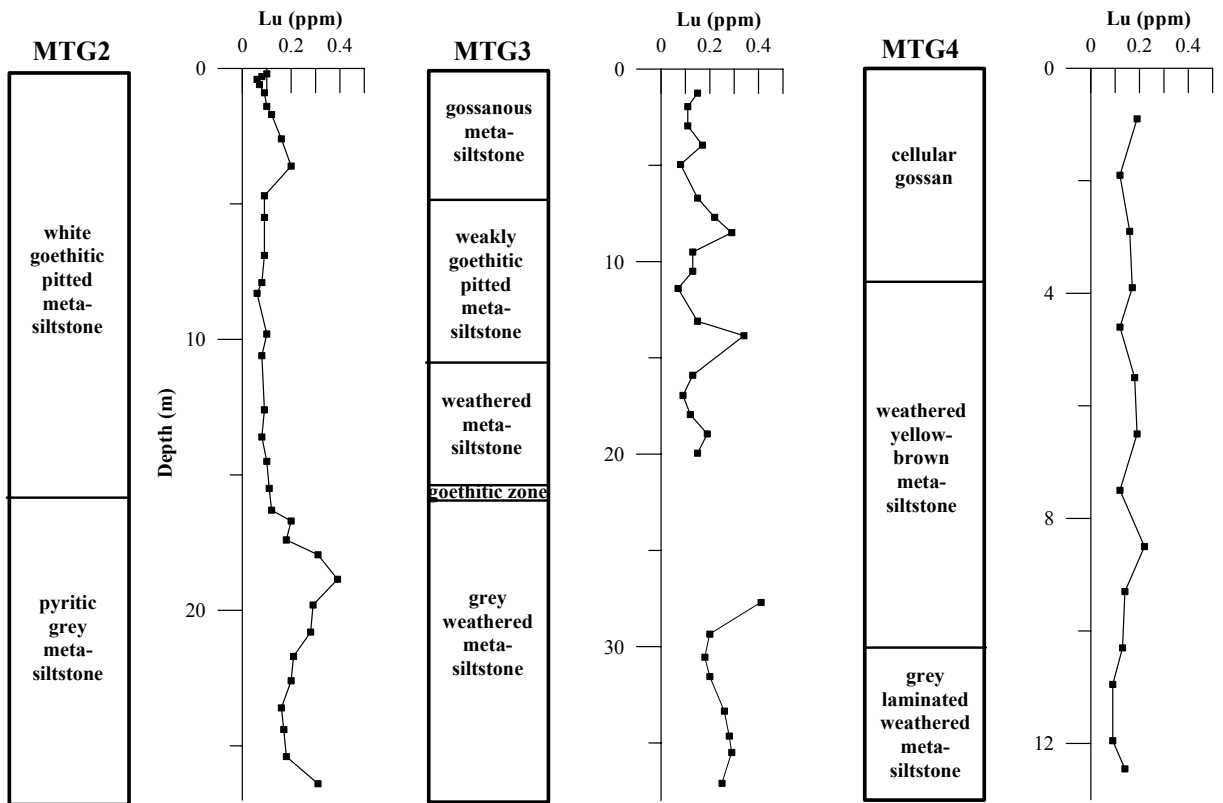
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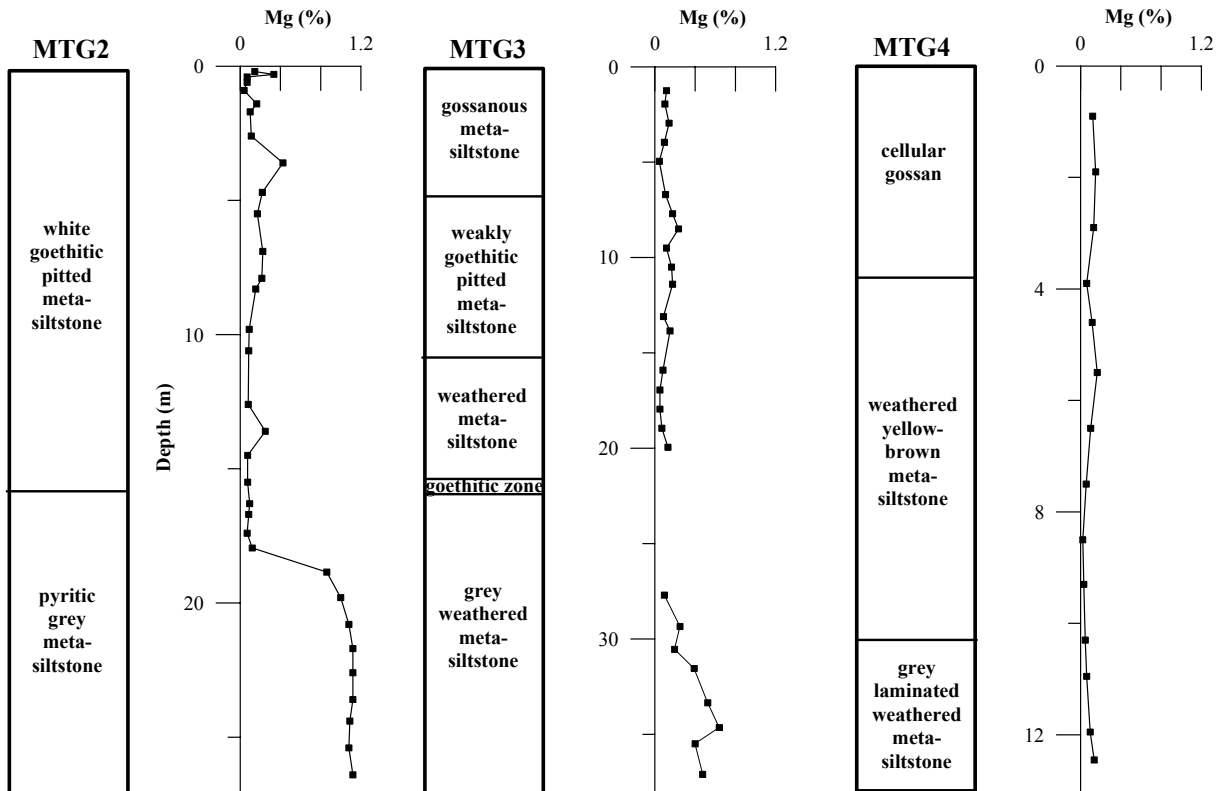
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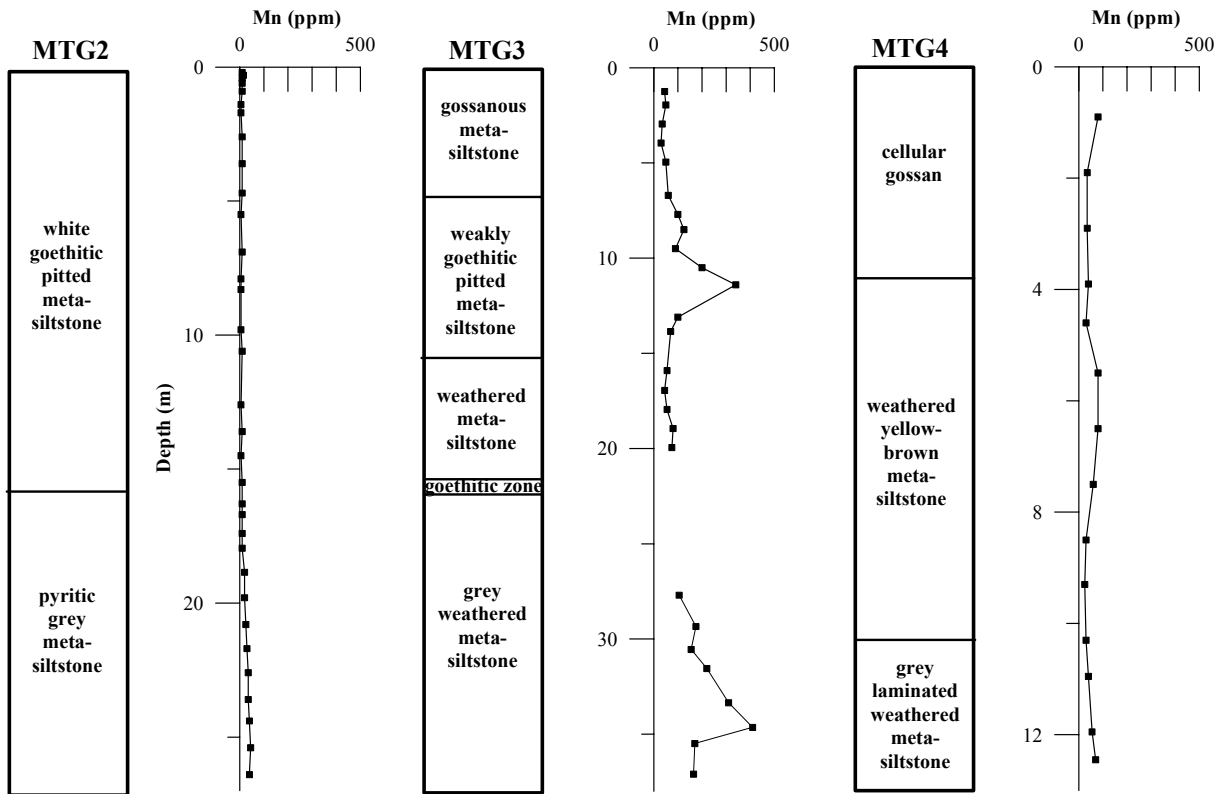
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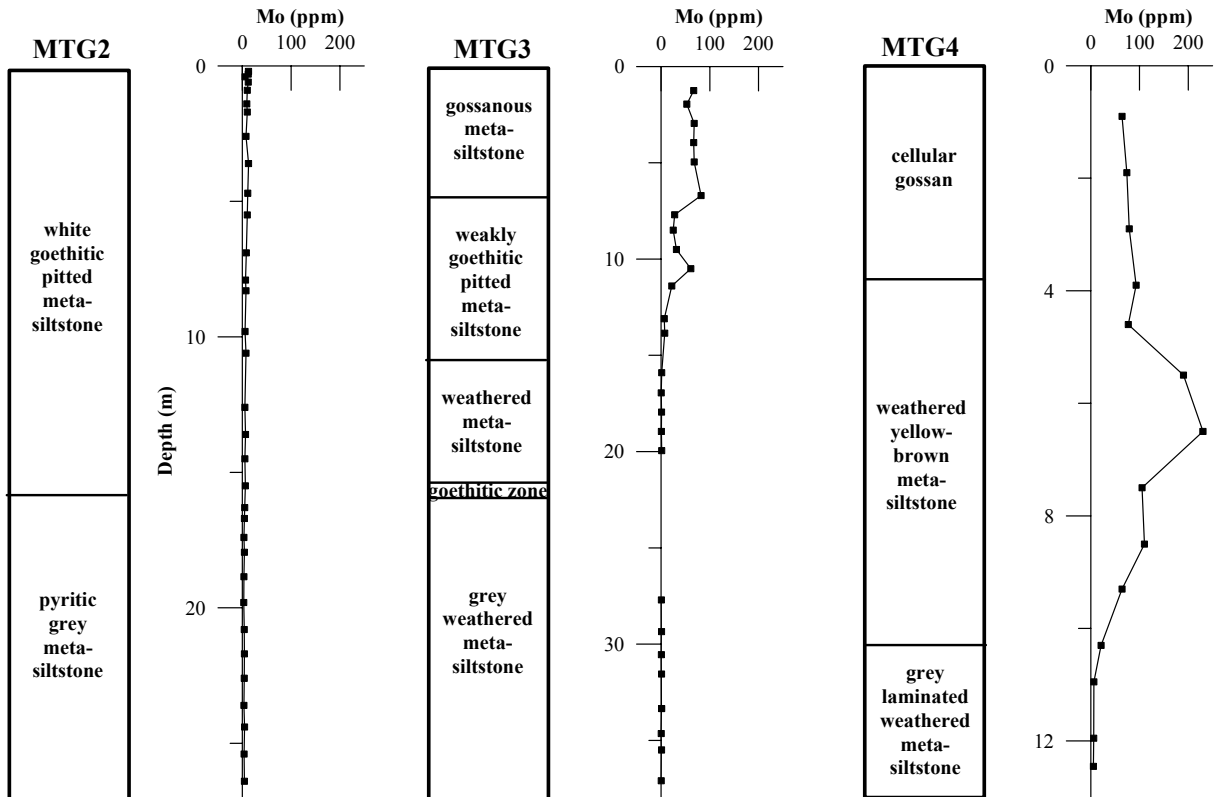
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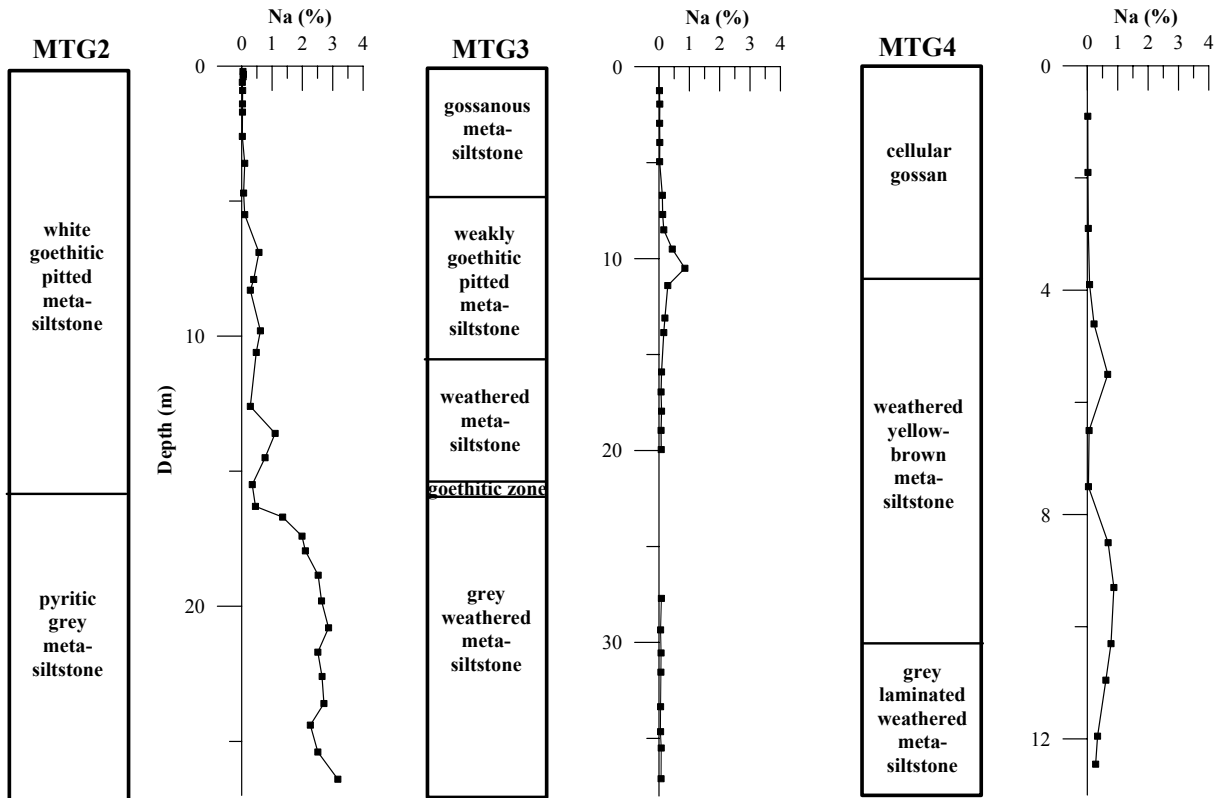
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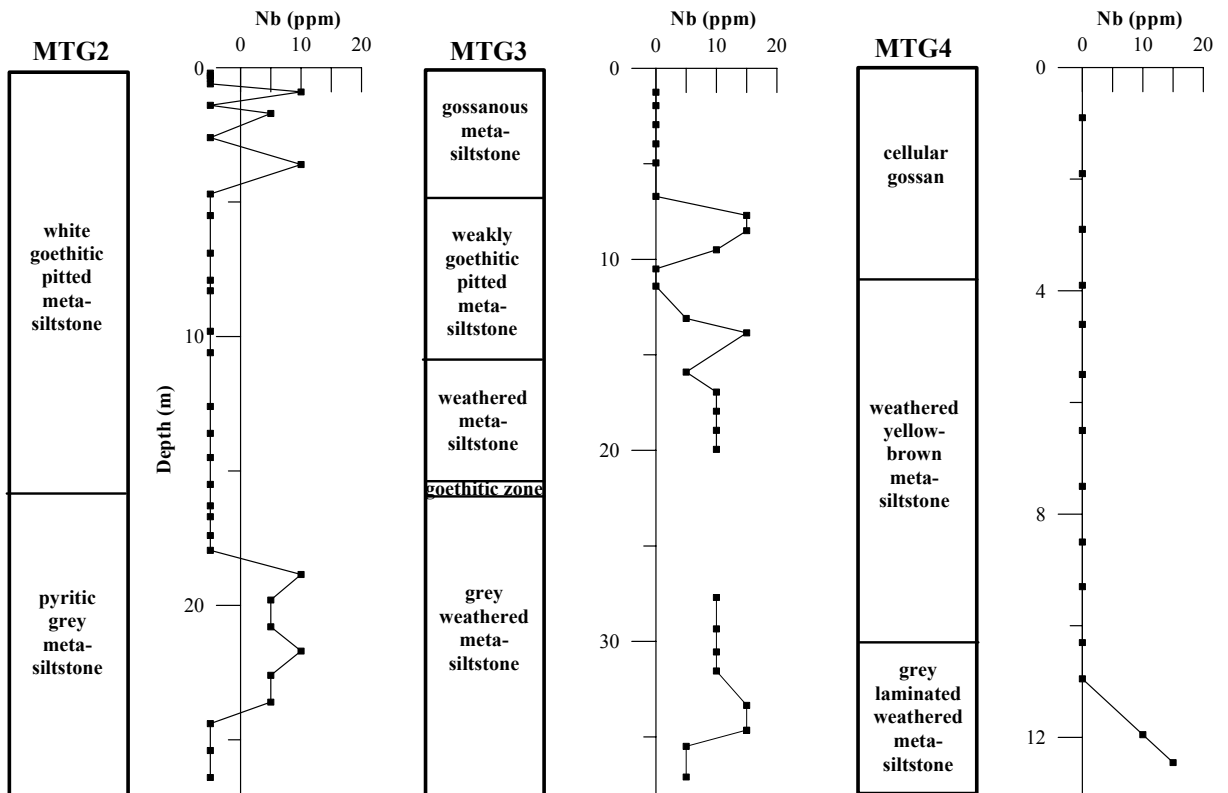
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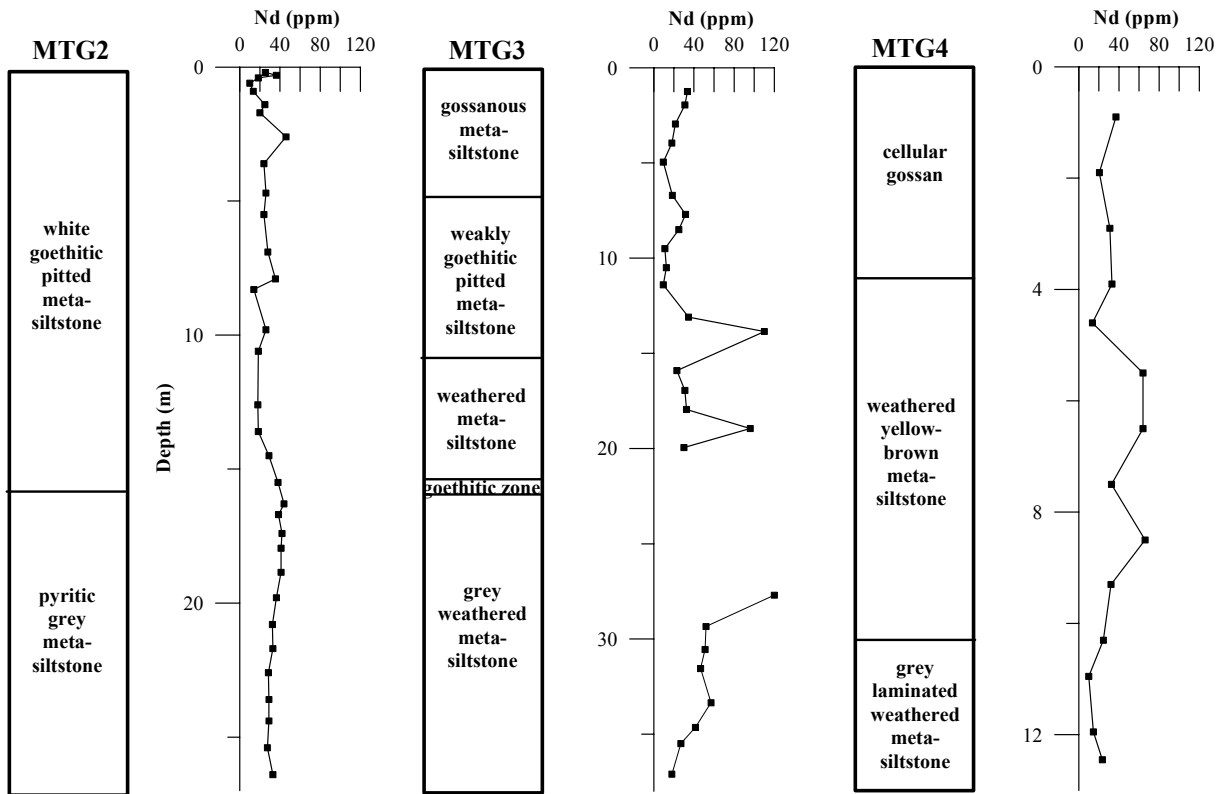
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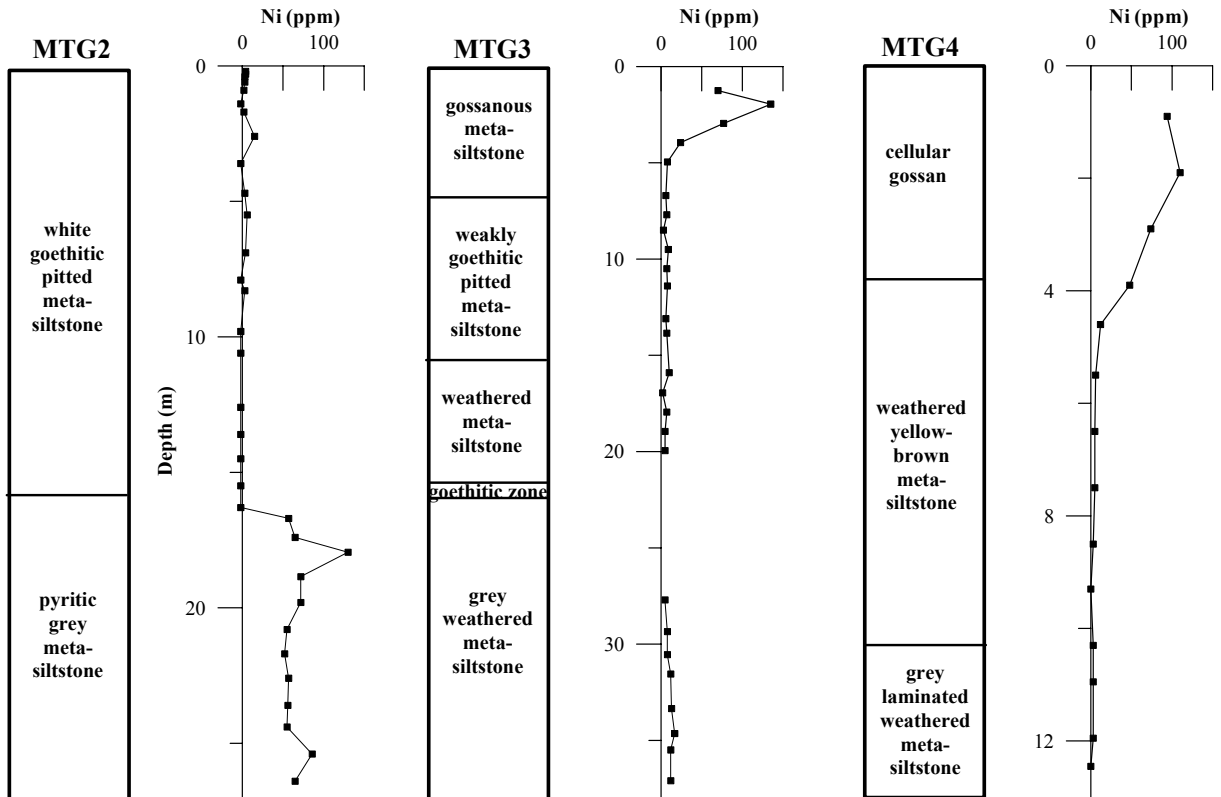
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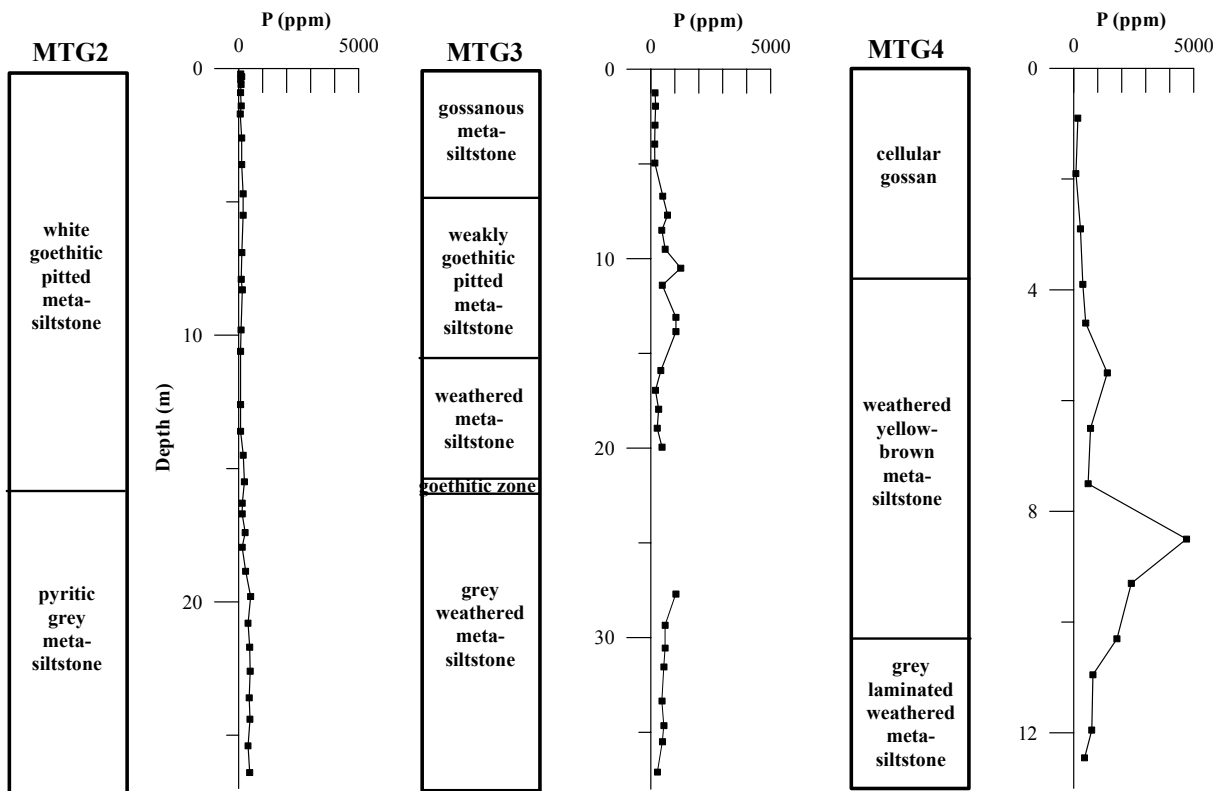
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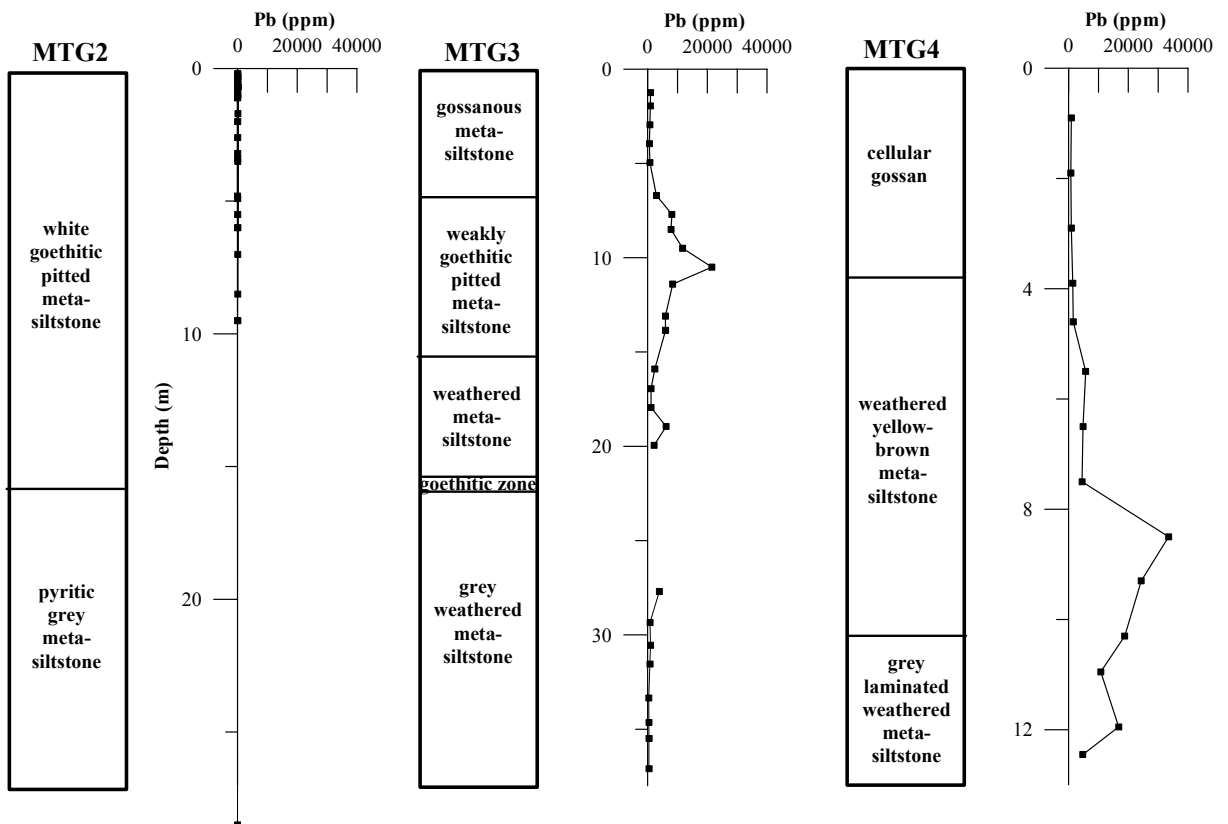
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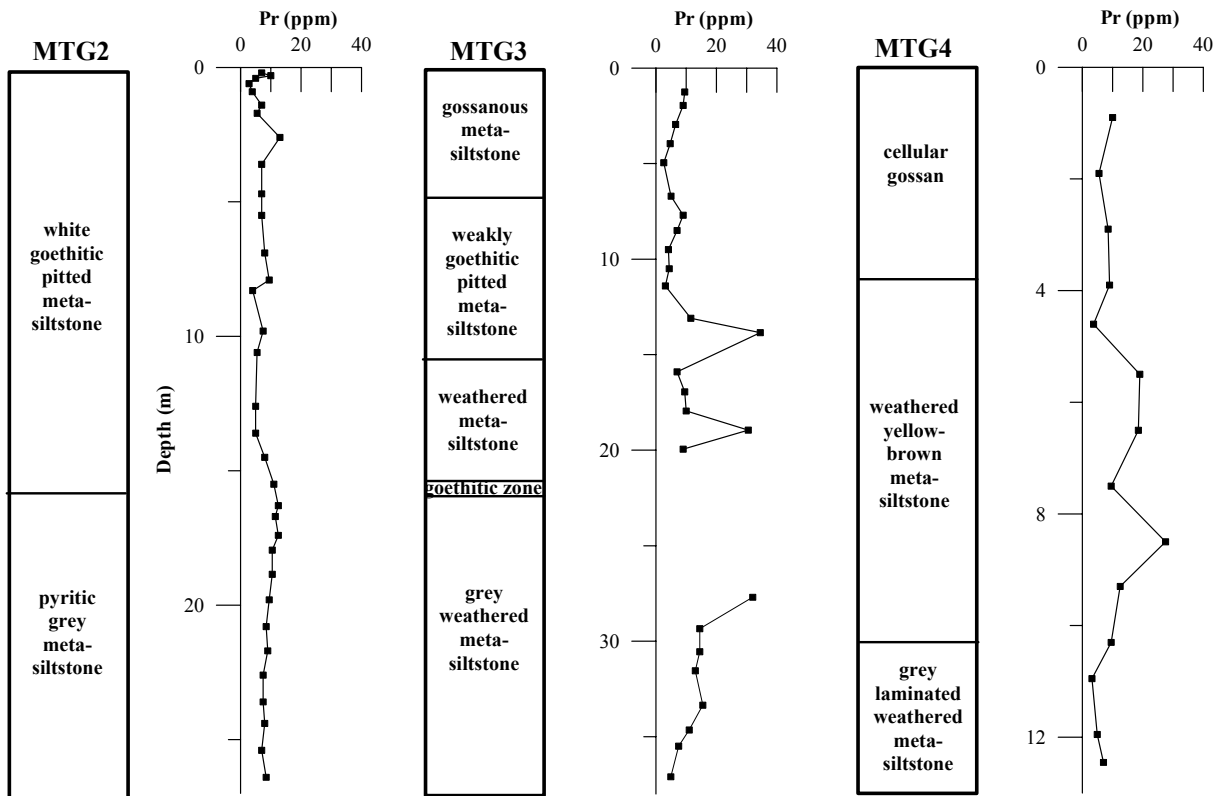
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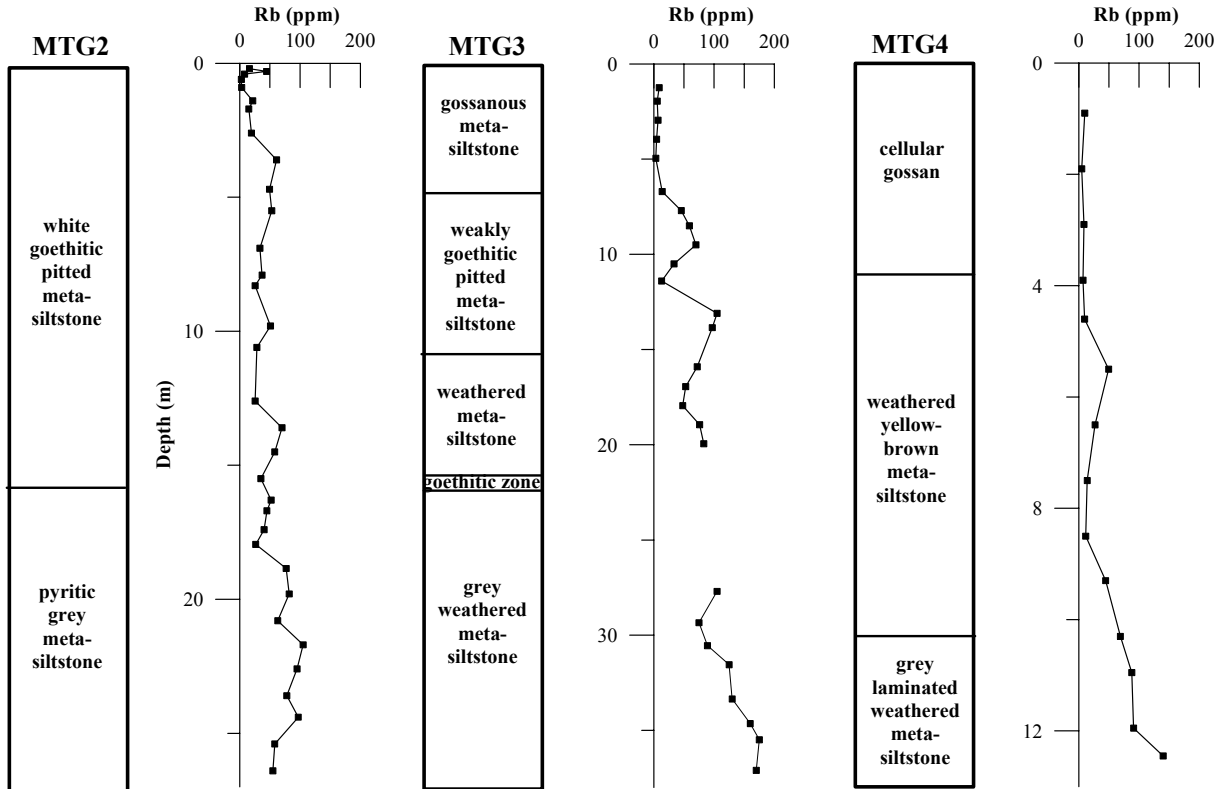
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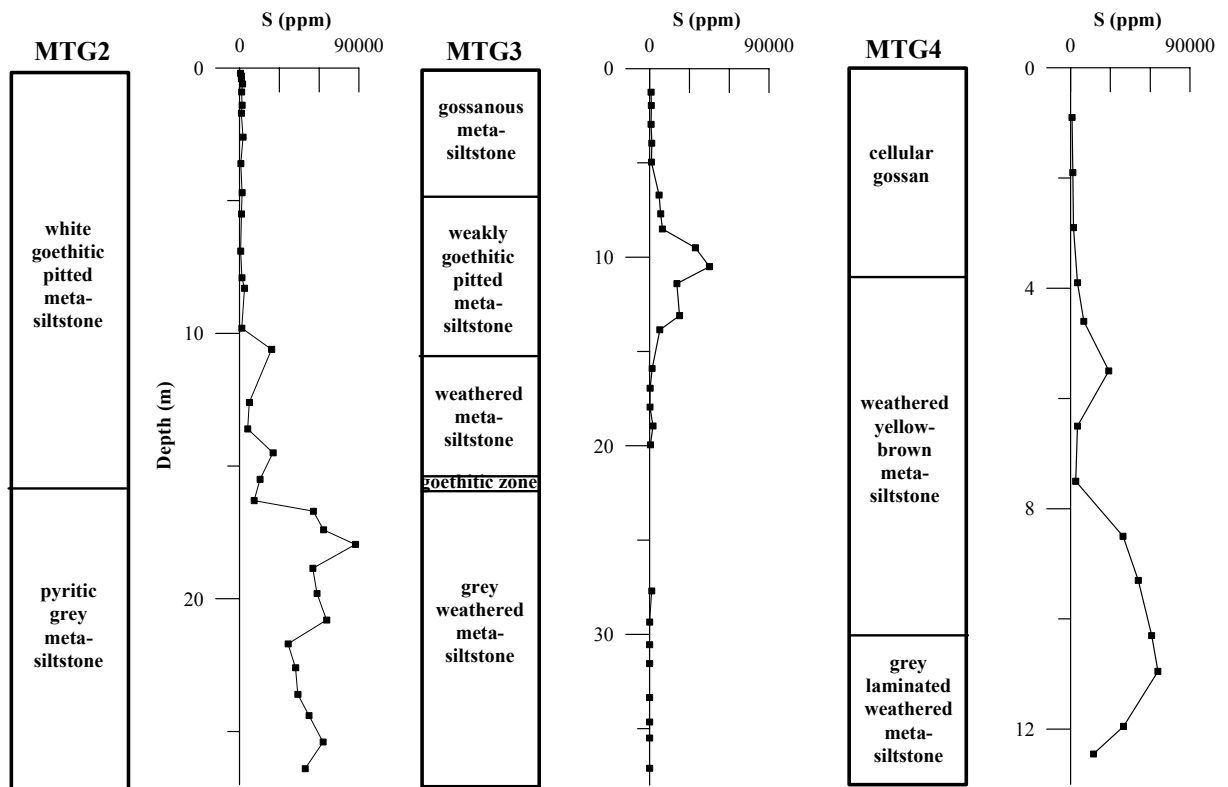
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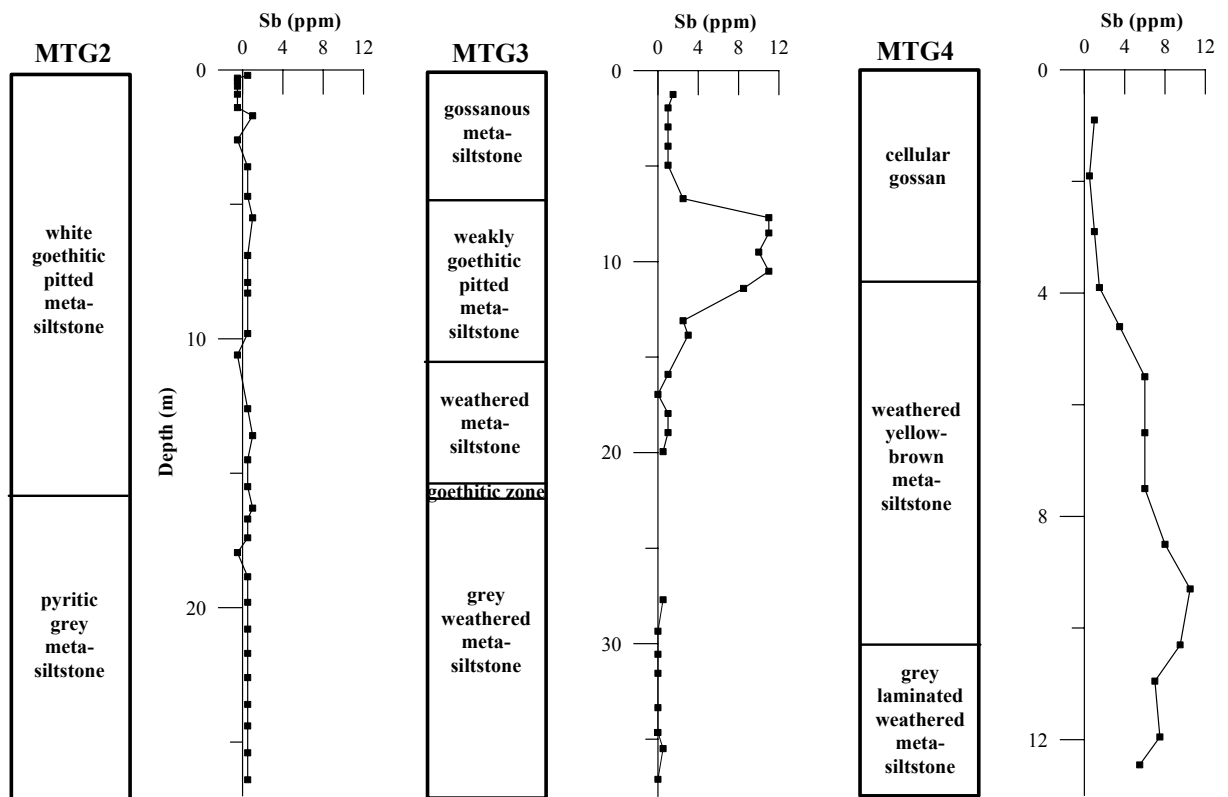
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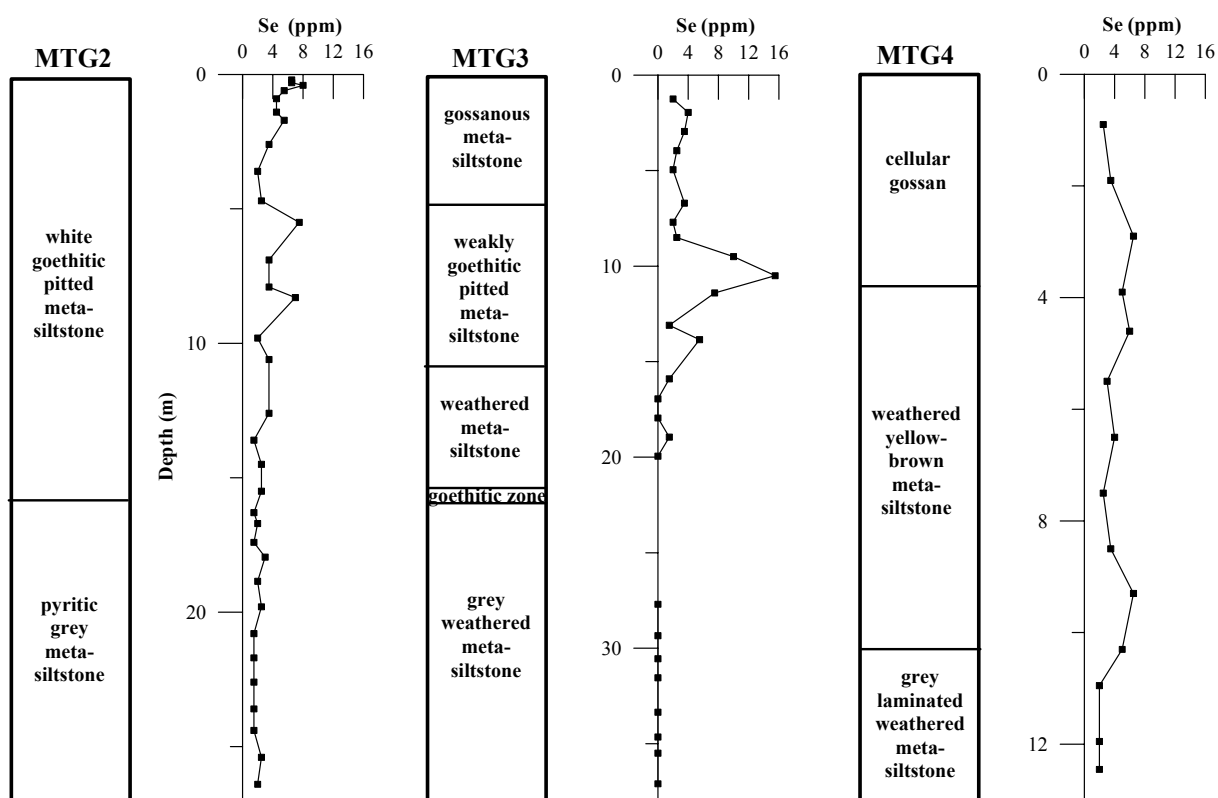
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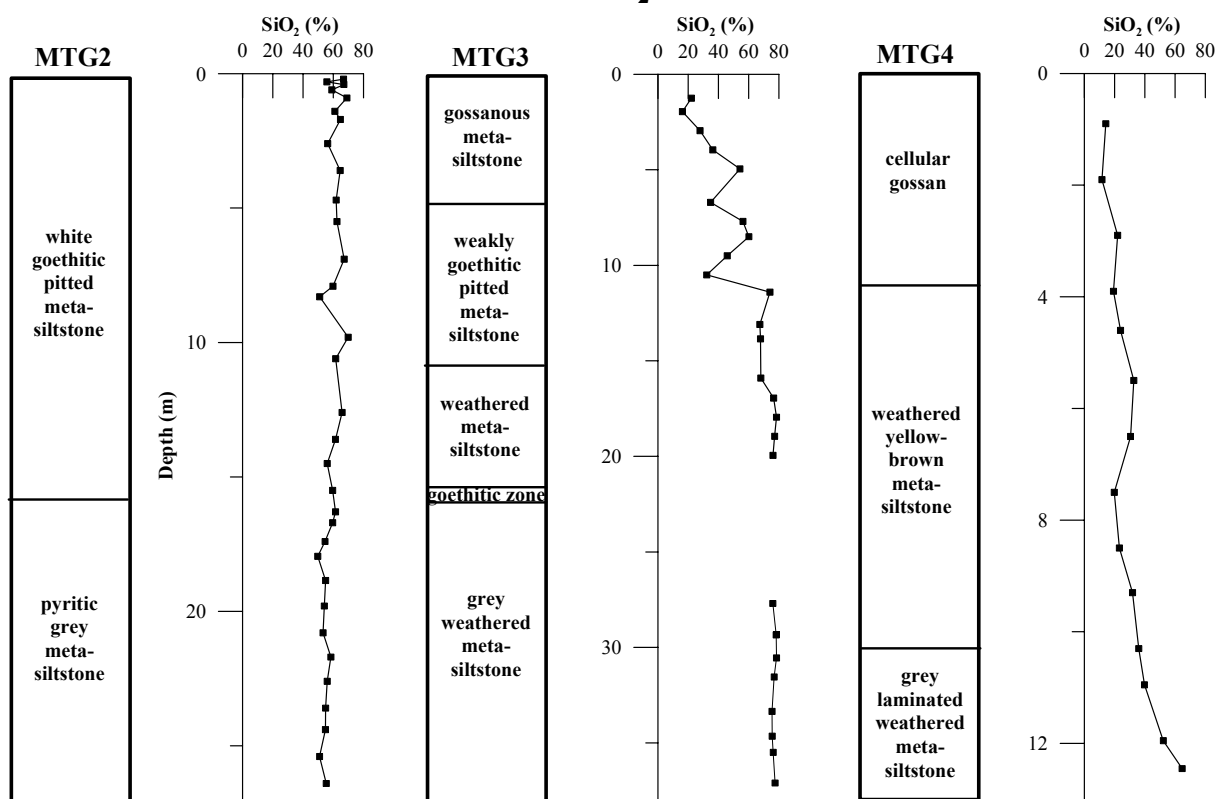
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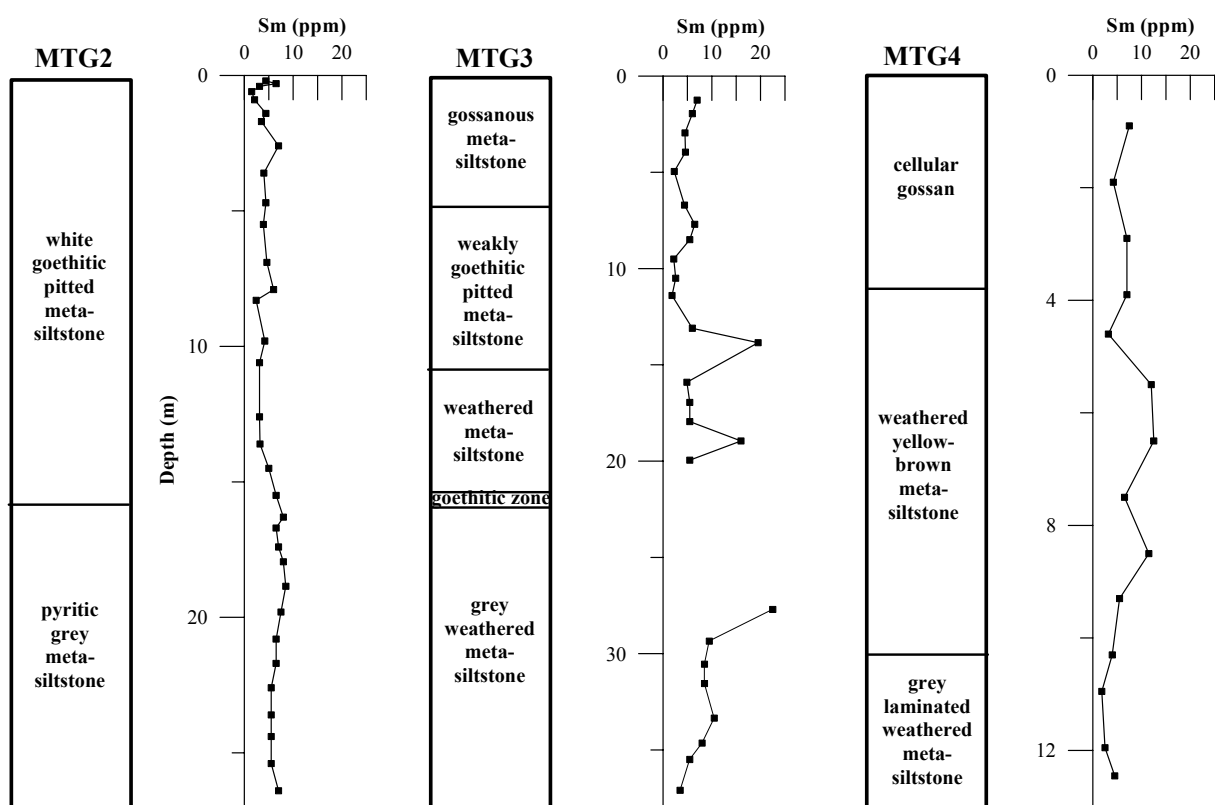
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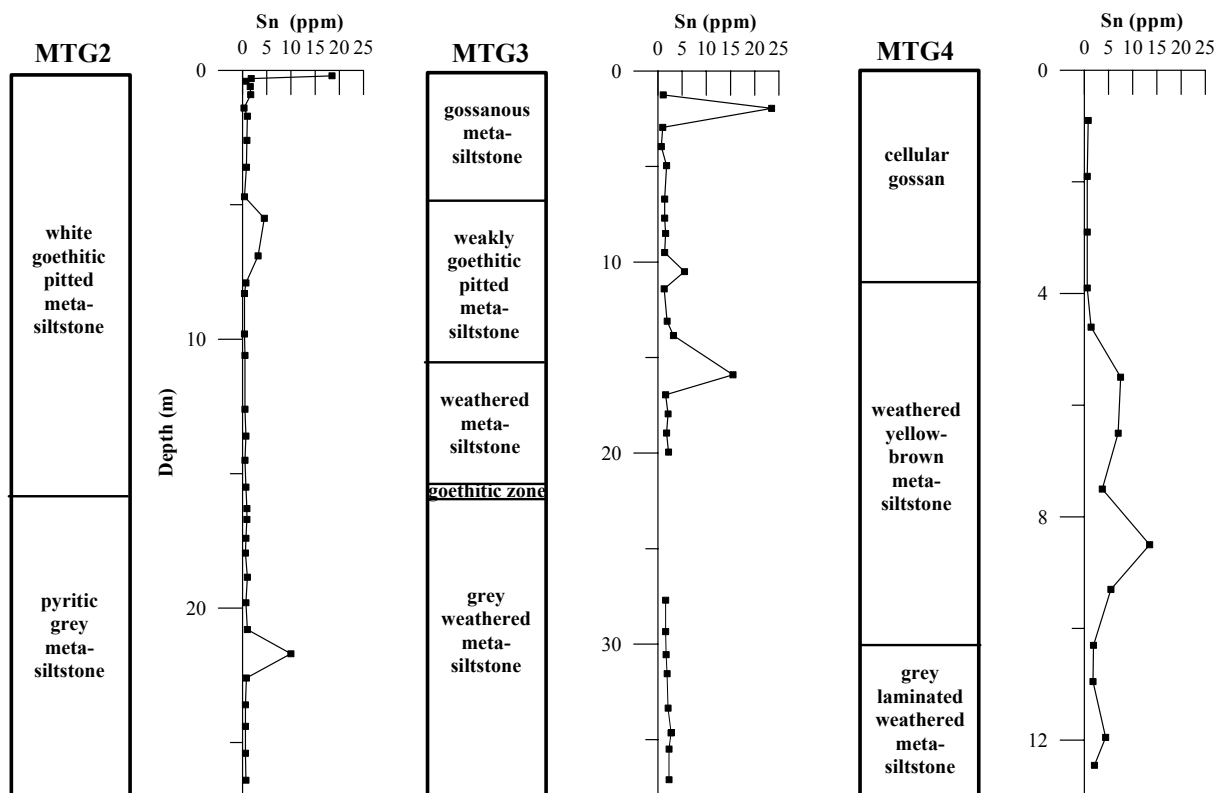
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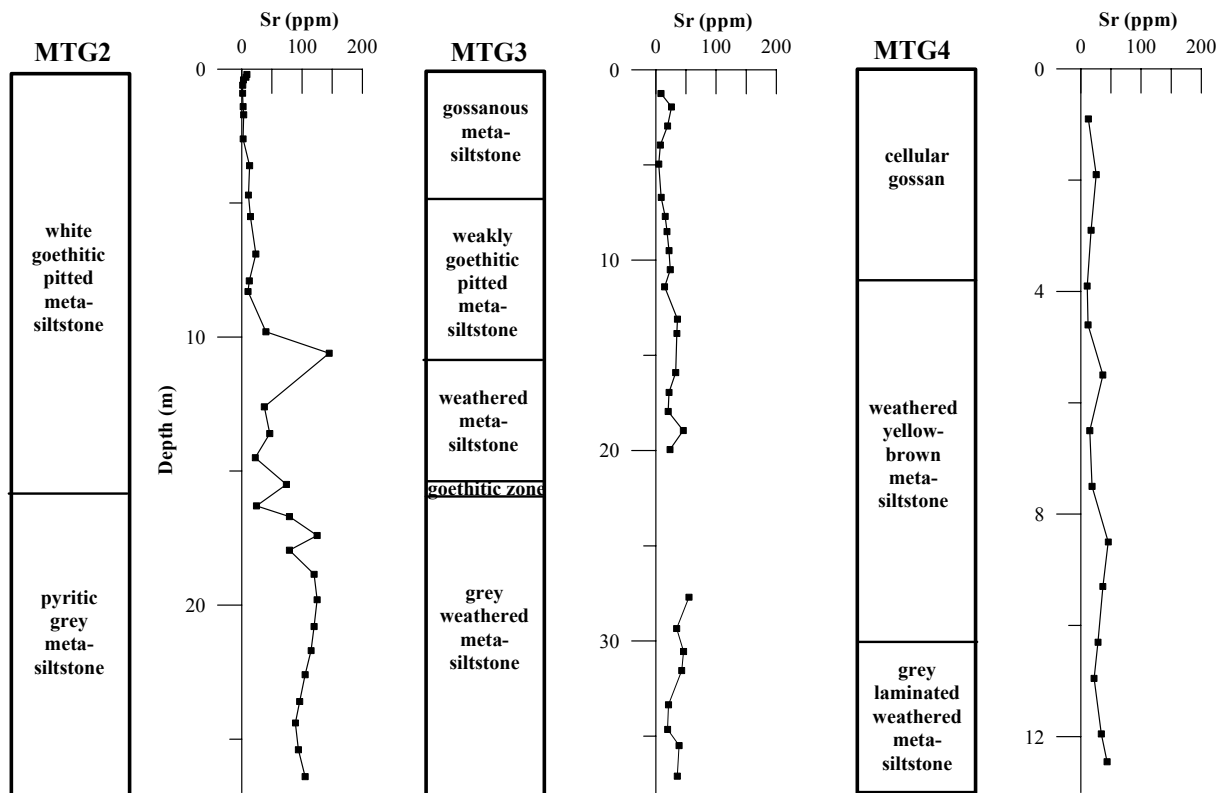
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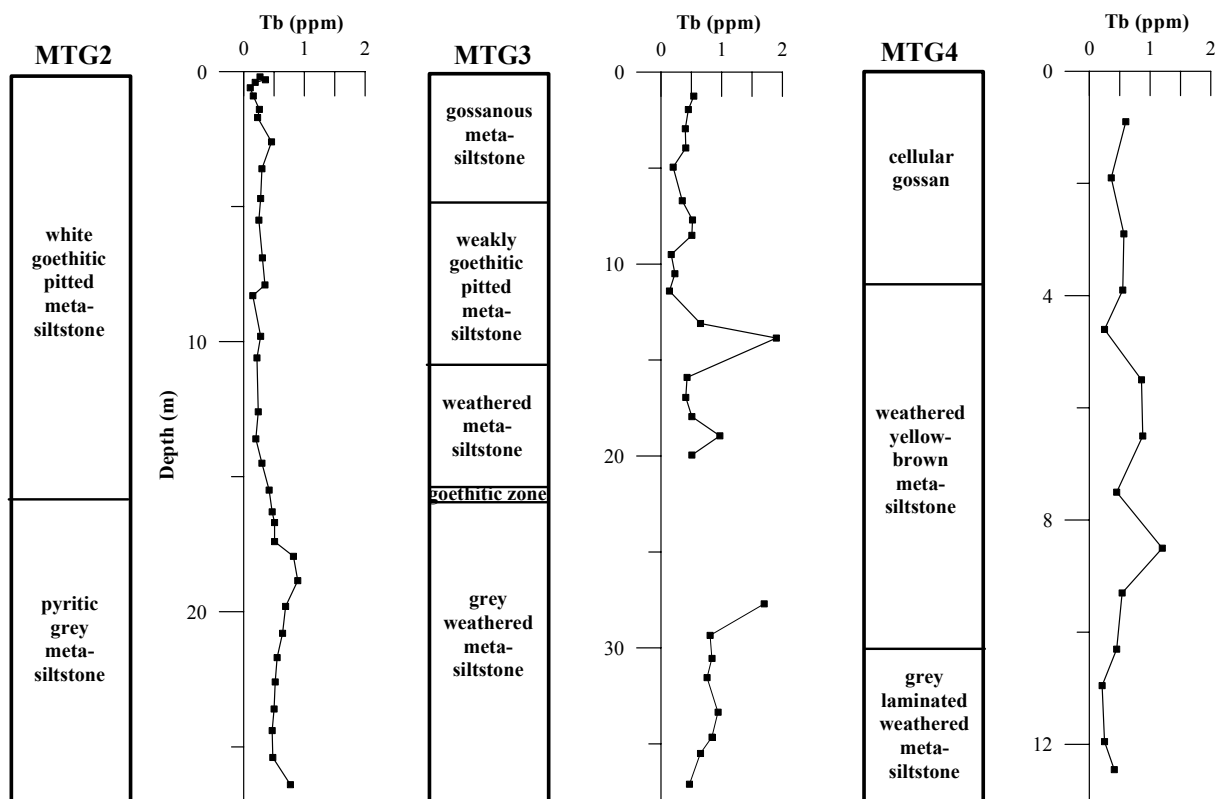
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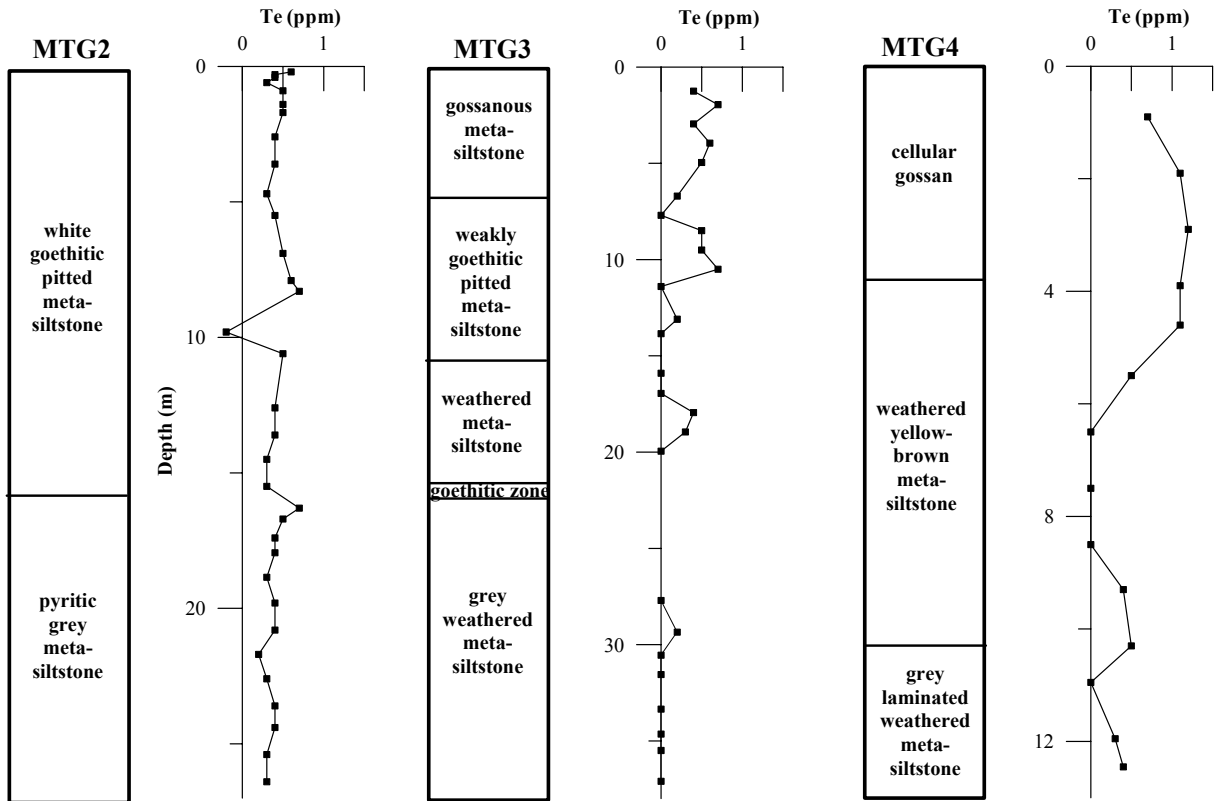
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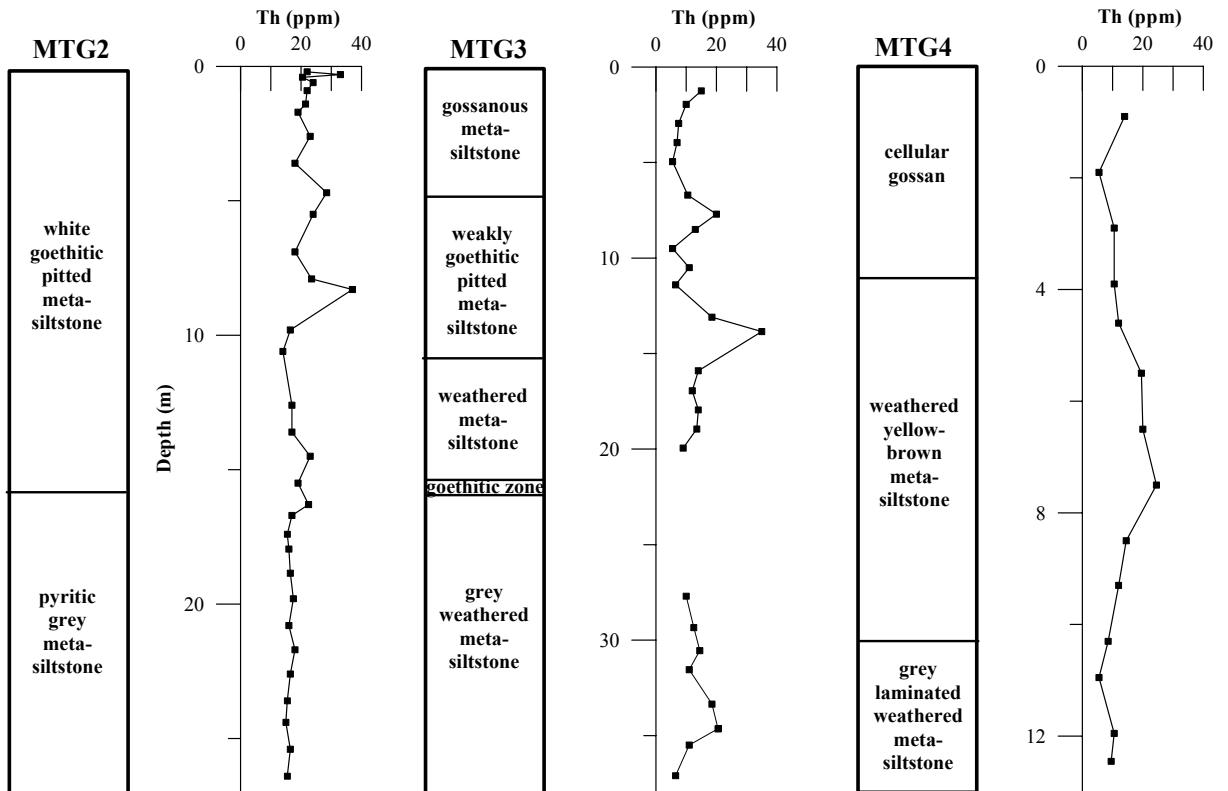
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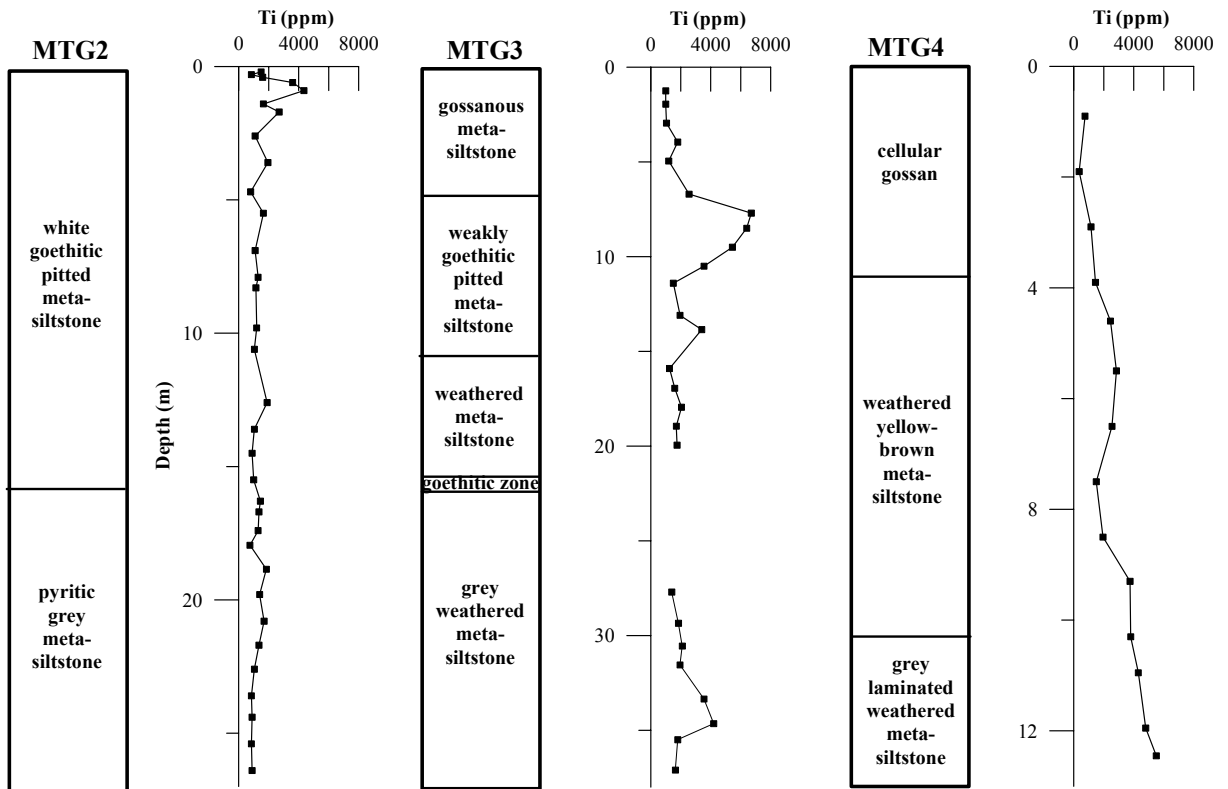
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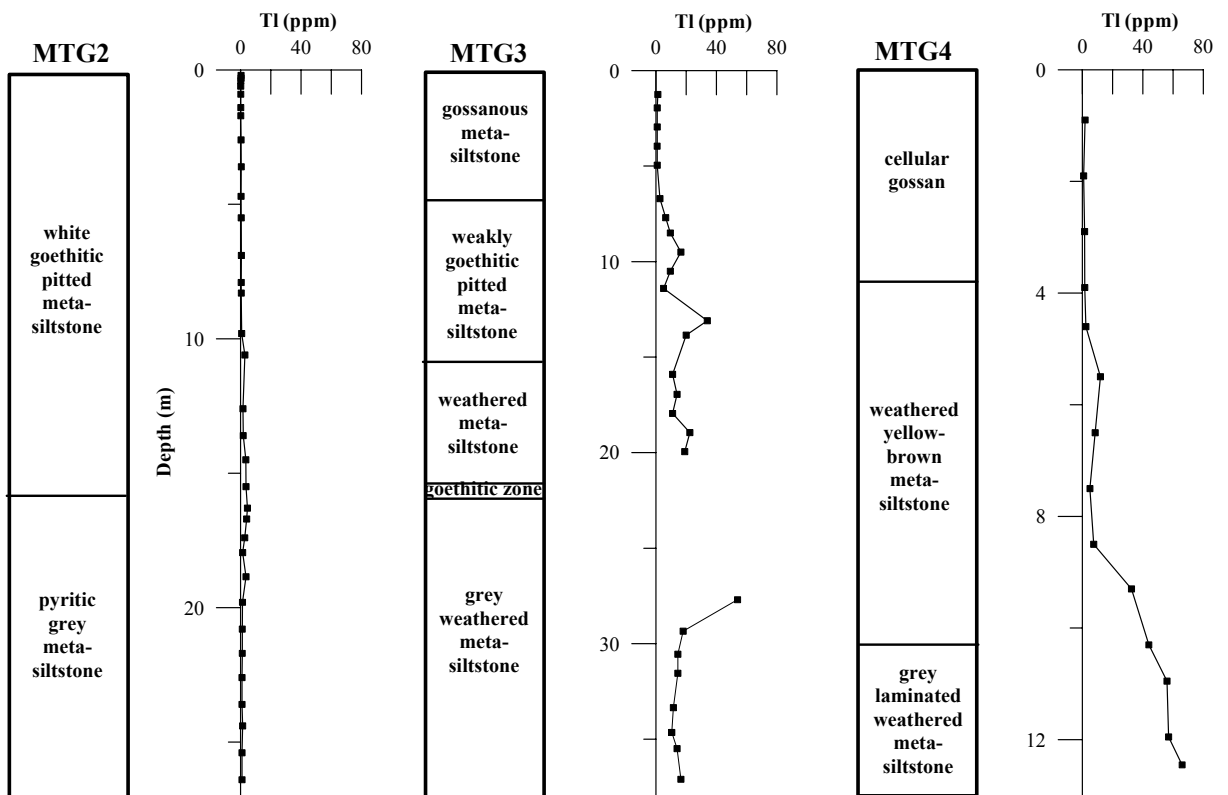
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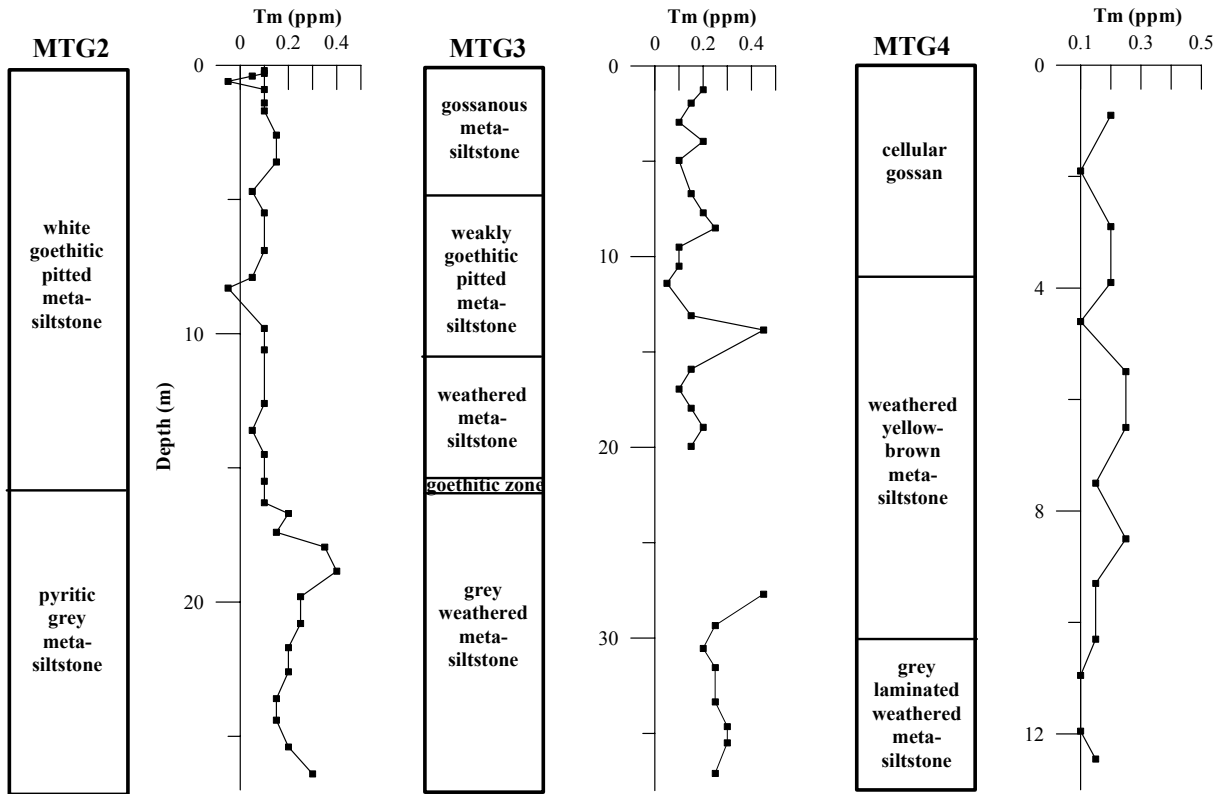
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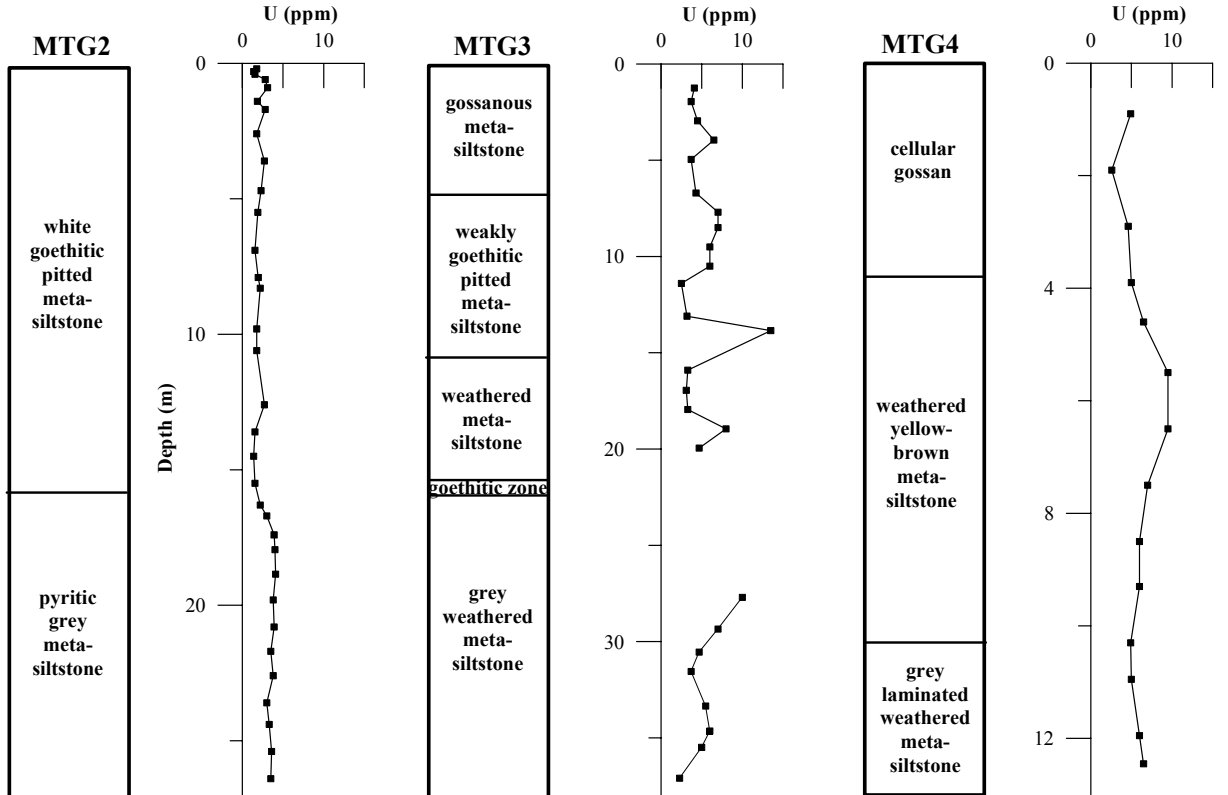
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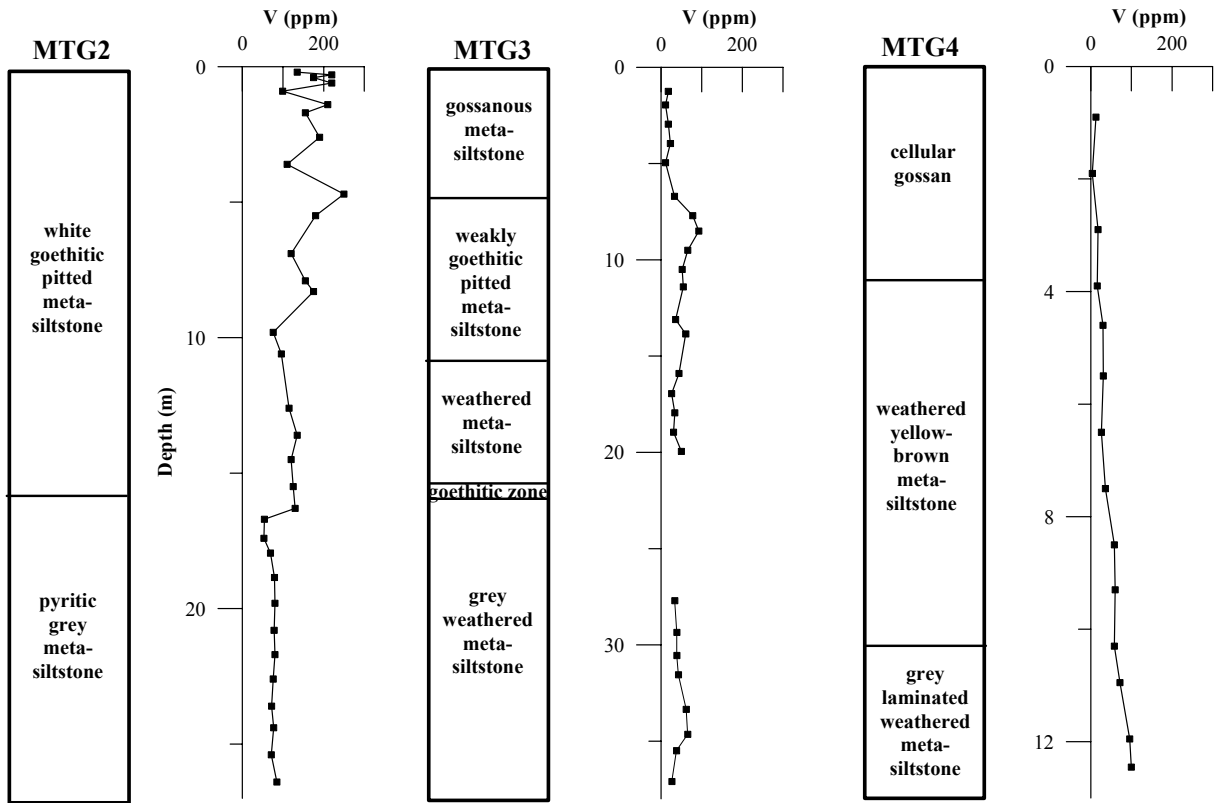
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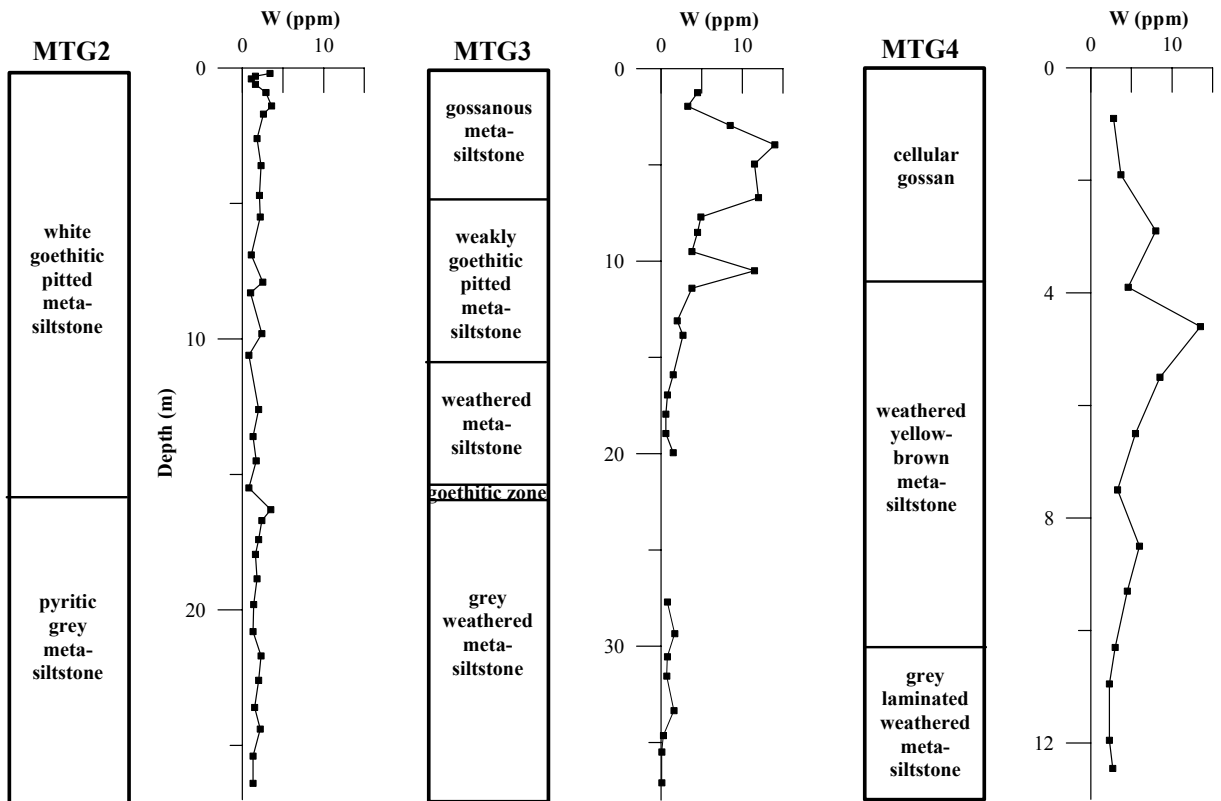
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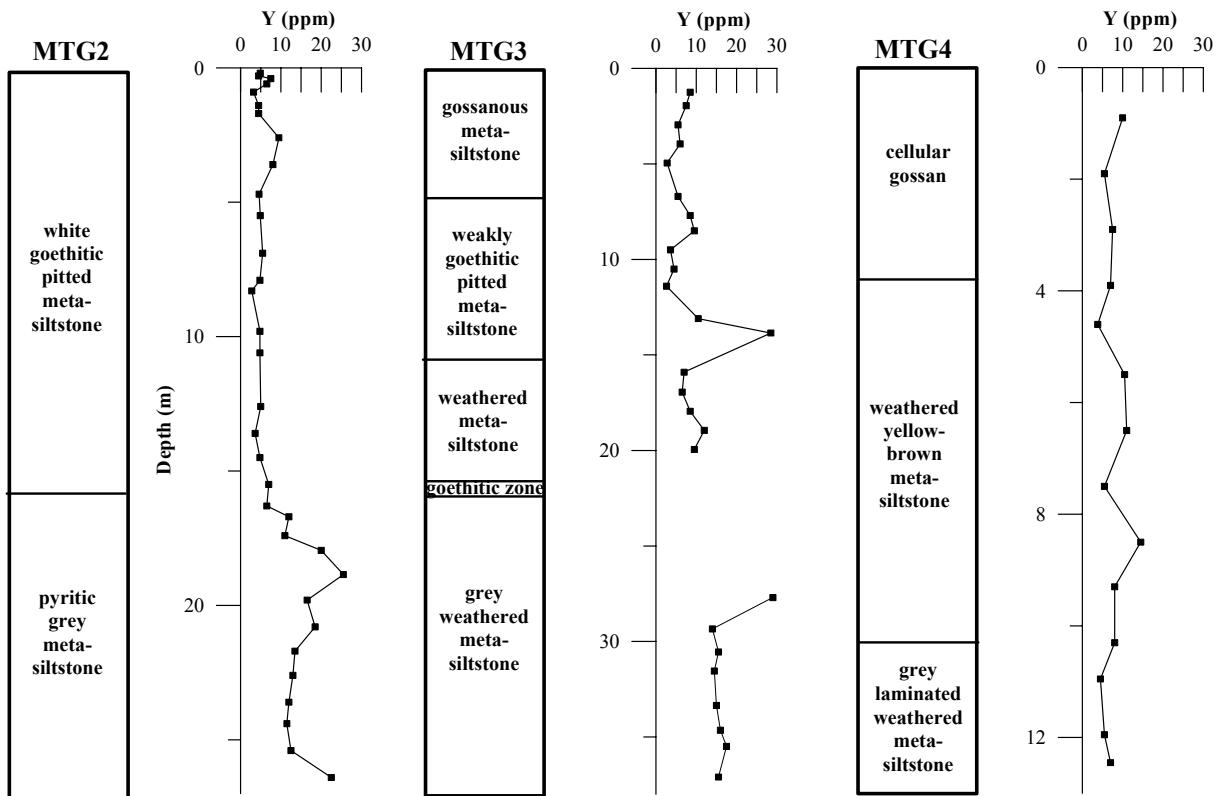
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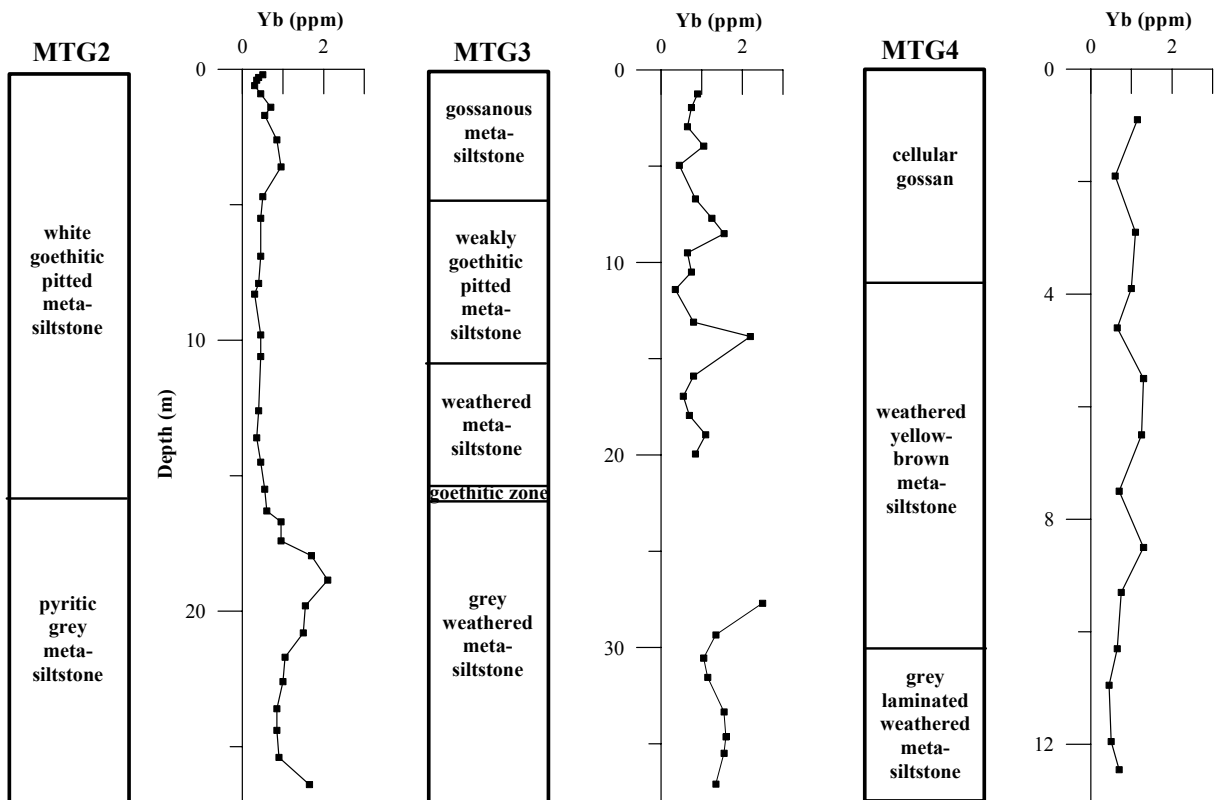
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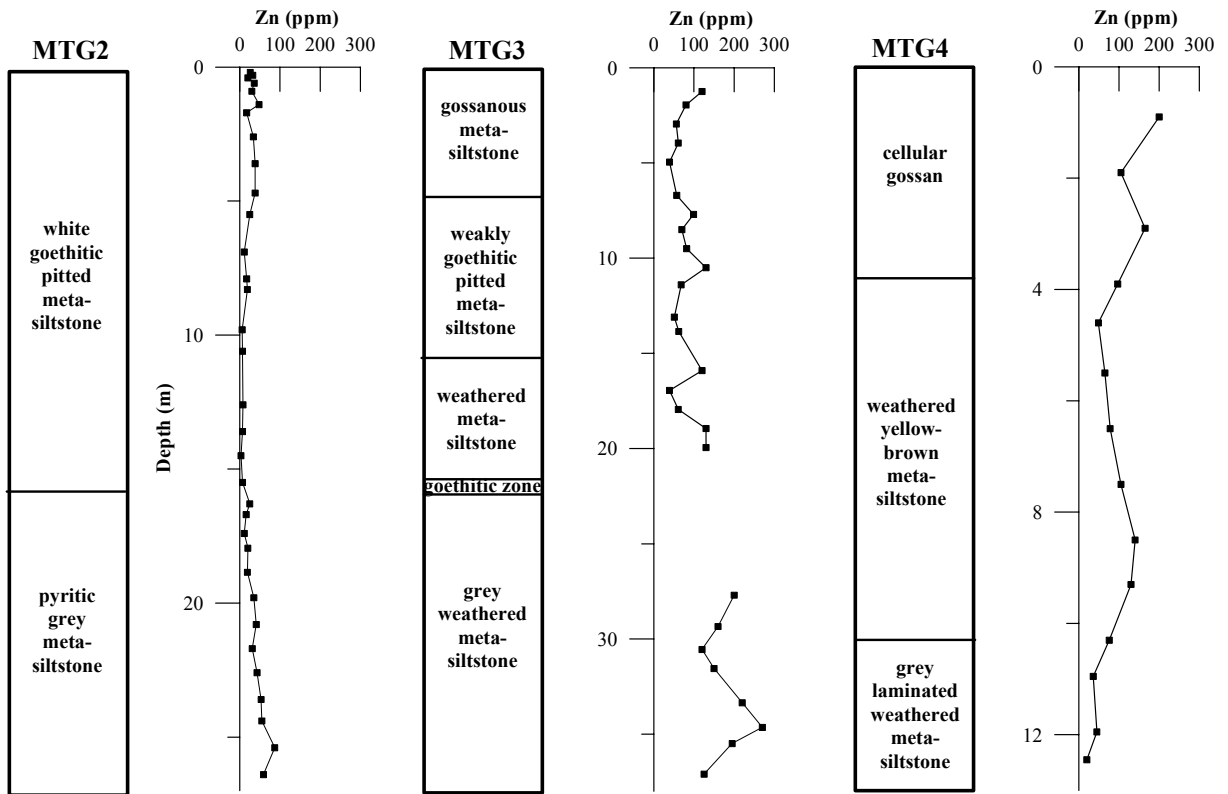
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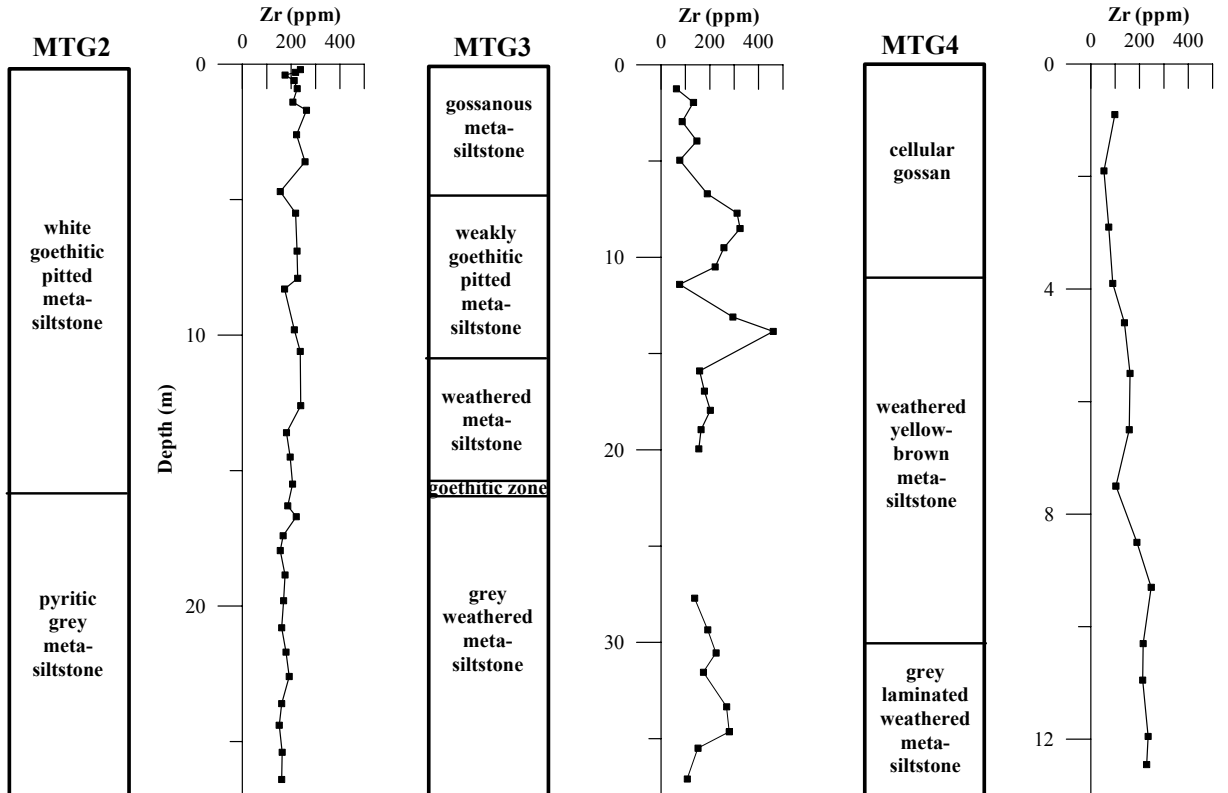
Yb



Zn



Zr



APPENDIX 7

Statistical summaries

Alluvium - statistical summary

	AG	AL	AS	AU	BA
N of cases	13	13	13	13	13
Minimum	0.100	2.230	3.000	-1.000	210.000
Maximum	0.300	5.120	12.500	2.000	650.000
Range	0.200	2.890	9.500	3.000	440.000
Median	0.200	3.300	4.500	-1.000	460.000
Mean	0.177	3.504	5.385	-0.231	442.308
Std. Error	0.023	0.222	0.738	0.343	32.859
Standard Dev	0.083	0.800	2.663	1.235	118.473
Variance	0.007	0.639	7.090	1.526	14035.897

	BI	CA	CD	CE	CL_XRF
N of cases	13	13	13	13	0
Minimum	0.100	0.190	-0.100	56.000	.
Maximum	0.300	0.500	2.100	105.000	.
Range	0.200	0.310	2.200	49.000	.
Median	0.200	0.320	-0.100	80.000	.
Mean	0.192	0.319	0.115	80.923	.
Std. Error	0.018	0.027	0.168	4.489	.
Standard Dev	0.064	0.098	0.607	16.184	.
Variance	0.004	0.010	0.368	261.910	.

	CO	CR	CS	CU	DY
N of cases	13	13	13	13	13
Minimum	2.400	10.000	0.900	6.000	1.850
Maximum	8.000	34.000	3.100	14.000	3.800
Range	5.600	24.000	2.200	8.000	1.950
Median	3.200	16.000	1.400	10.000	2.500
Mean	4.046	18.000	1.523	9.923	2.712
Std. Error	0.494	1.847	0.173	0.828	0.197
Standard Dev	1.781	6.658	0.625	2.985	0.712
Variance	3.173	44.333	0.390	8.910	0.507

	ER	EU	FE	GA	GD
N of cases	13	13	13	13	13
Minimum	0.850	0.810	0.930	5.500	3.300
Maximum	1.850	1.650	2.170	14.000	6.500
Range	1.000	0.840	1.240	8.500	3.200
Median	1.150	1.100	1.340	8.500	4.600
Mean	1.300	1.192	1.355	8.885	4.792
Std. Error	0.111	0.082	0.087	0.658	0.296
Standard Dev	0.400	0.296	0.313	2.373	1.067
Variance	0.160	0.087	0.098	5.631	1.137

	HF	HO	IN	K	LA
N of cases	13	13	13	13	13
Minimum	2.000	0.310	-0.050	0.670	28.000
Maximum	4.000	0.710	-0.050	1.680	55.000
Range	2.000	0.400	0.000	1.010	27.000
Median	3.000	0.420	-0.050	1.200	40.500
Mean	2.846	0.485	-0.050	1.227	41.769
Std. Error	0.154	0.040	0.000	0.092	2.253
Standard Dev	0.555	0.144	0.000	0.332	8.123
Variance	0.308	0.021	0.000	0.111	65.984

	LU	MG	MN	MO	NA
N of cases	13	13	13	13	13
Minimum	0.110	0.110	65.000	0.500	0.650
Maximum	0.240	0.430	420.000	1.400	1.240
Range	0.130	0.320	355.000	0.900	0.590
Median	0.150	0.170	165.000	0.700	0.820
Mean	0.162	0.198	199.231	0.815	0.893
Std. Error	0.013	0.026	24.948	0.078	0.052
Standard Dev	0.046	0.095	89.950	0.282	0.188
Variance	0.002	0.009	8091.026	0.080	0.035

	NB	ND	NI	P	PB
N of cases	13	13	13	13	13
Minimum	1.500	25.000	4.000	115.000	22.000
Maximum	7.500	48.500	14.000	270.000	230.000
Range	6.000	23.500	10.000	155.000	208.000
Median	3.500	35.000	5.000	170.000	35.000
Mean	3.885	36.615	7.077	180.385	53.154
Std. Error	0.497	1.990	0.820	14.833	15.476
Standard Dev	1.793	7.177	2.957	53.481	55.798
Variance	3.215	51.506	8.744	2860.256	3113.433

	PR	RB	S	SB	SE
N of cases	13	13	13	13	13
Minimum	7.000	27.000	-50.000	-0.500	-0.500
Maximum	14.000	69.000	2600.000	-0.500	1.000
Range	7.000	42.000	2650.000	0.000	1.500
Median	9.500	52.000	100.000	-0.500	0.500
Mean	10.077	47.808	315.385	-0.500	0.231
Std. Error	0.607	4.071	191.685	0.000	0.201
Standard Dev	2.188	14.676	691.130	0.000	0.725
Variance	4.785	215.397	477660.256	0.000	0.526

	SM	SN	SR	TB	TE
N of cases	13	13	13	13	13
Minimum	5.000	1.000	51.000	0.320	-0.200
Maximum	10.000	2.600	105.000	0.670	-0.200
Range	5.000	1.600	54.000	0.350	0.000
Median	7.000	1.700	77.000	0.470	-0.200
Mean	7.385	1.692	76.077	0.494	-0.200
Std. Error	0.474	0.114	4.639	0.035	0.000
Standard Dev	1.710	0.411	16.726	0.126	0.000
Variance	2.923	0.169	279.744	0.016	0.000

	TH	TI	TL	TM	U
N of cases	13	13	13	13	13
Minimum	7.500	1350.000	0.300	0.100	1.500
Maximum	15.500	3150.000	0.700	0.250	2.900
Range	8.000	1800.000	0.400	0.150	1.400
Median	11.500	1900.000	0.400	0.150	2.200
Mean	12.077	1996.154	0.477	0.177	2.192
Std. Error	0.733	138.497	0.038	0.013	0.130
Standard Dev	2.645	499.359	0.136	0.048	0.470
Variance	6.994	249358.974	0.019	0.002	0.221

	V	W	Y	YB	ZN
N of cases	13	13	13	13	13
Minimum	22.000	-0.100	7.000	0.800	7.000
Maximum	54.000	1.000	18.000	1.750	80.000
Range	32.000	1.100	11.000	0.950	73.000
Median	30.000	0.400	11.000	1.050	20.500
Mean	31.692	0.454	12.615	1.165	23.846
Std. Error	2.411	0.086	1.104	0.100	5.202
Standard Dev	8.693	0.310	3.980	0.360	18.757
Variance	75.564	0.096	15.840	0.129	351.808

	ZR_XRF
N of cases	0
Minimum	.
Maximum	.
Range	.
Median	.
Mean	.
Std. Error	.
Standard Dev	.
Variance	.

Black mud - statistical summary

	AG	AL	AS	AU	BA
N of cases	17	17	17	17	17
Minimum	-0.100	0.380	1.500	-1.000	175.000
Maximum	0.600	9.240	150.000	4.000	800.000
Range	0.700	8.860	148.500	5.000	625.000
Median	0.300	3.810	5.000	-1.000	320.000
Mean	0.224	3.842	15.735	0.294	385.588
Std. Error	0.050	0.475	8.560	0.381	37.832
Standard Dev	0.208	1.960	35.292	1.572	155.984
Variance	0.043	3.842	1245.535	2.471	24330.882

	BI	CA	CD	CE	CL_XRF
N of cases	17	17	17	17	2
Minimum	-0.100	0.140	-0.100	9.000	0.010
Maximum	1.500	17.900	21.500	115.000	0.090
Range	1.600	17.760	21.600	106.000	0.080
Median	0.200	0.380	-0.100	86.000	0.050
Mean	0.312	1.988	1.229	77.176	0.050
Std. Error	0.082	1.150	1.267	6.909	0.040
Standard Dev	0.339	4.743	5.226	28.485	0.057
Variance	0.115	22.493	27.306	811.373	0.003

	CO	CR	CS	CU	DY
N of cases	17	17	17	17	17
Minimum	2.000	5.000	0.300	-2.000	0.320
Maximum	18.000	62.000	8.000	67.000	4.400
Range	16.000	57.000	7.700	69.000	4.080
Median	4.400	21.000	1.500	11.000	3.200
Mean	5.288	24.529	2.082	14.588	2.888
Std. Error	0.912	3.439	0.468	3.532	0.272
Standard Dev	3.759	14.178	1.931	14.565	1.122
Variance	14.134	201.015	3.728	212.132	1.259

	ER	EU	FE	GA	GD
N of cases	17	17	17	17	17
Minimum	0.150	0.240	1.120	0.900	0.550
Maximum	1.950	1.600	5.400	20.000	7.000
Range	1.800	1.360	4.280	19.100	6.450
Median	1.600	1.250	1.770	9.500	5.500
Mean	1.388	1.155	2.136	9.518	4.847
Std. Error	0.136	0.094	0.289	1.137	0.422
Standard Dev	0.562	0.386	1.193	4.687	1.740
Variance	0.316	0.149	1.424	21.967	3.029

	HF	HO	IN	K	LA
N of cases	17	17	17	17	17
Minimum	-1.000	0.050	-0.050	0.180	6.000
Maximum	5.000	0.790	0.050	1.590	66.000
Range	6.000	0.740	0.100	1.410	60.000
Median	3.000	0.600	-0.050	1.170	45.500
Mean	2.588	0.521	-0.044	1.039	41.265
Std. Error	0.298	0.052	0.006	0.090	3.603
Standard Dev	1.228	0.216	0.024	0.373	14.856
Variance	1.507	0.047	0.001	0.139	220.691

	LU	MG	MN	MO	NA
N of cases	17	17	17	17	17
Minimum	-0.020	0.140	90.000	0.300	0.420
Maximum	0.260	1.570	1250.000	5.000	1.810
Range	0.280	1.430	1160.000	4.700	1.390
Median	0.200	0.300	125.000	0.700	0.930
Mean	0.173	0.425	221.765	1.318	0.948
Std. Error	0.018	0.103	66.930	0.298	0.076
Standard Dev	0.075	0.423	275.958	1.227	0.314
Variance	0.006	0.179	76152.941	1.505	0.098

	NB	ND	NI	P	PB
N of cases	17	17	17	17	17
Minimum	-0.500	3.500	4.000	110.000	3.000
Maximum	8.000	57.000	46.000	300.000	8650.000
Range	8.500	53.500	42.000	190.000	8647.000
Median	4.000	41.500	9.000	195.000	35.000
Mean	4.000	36.882	10.882	193.824	672.176
Std. Error	0.615	3.322	2.325	13.494	509.940
Standard Dev	2.537	13.696	9.584	55.636	2102.536
Variance	6.437	187.579	91.860	3095.404	4420656.467

	PR	RB	S	SB	SE
N of cases	17	17	17	17	17
Minimum	1.150	4.400	-50.000	-0.500	-0.500
Maximum	13.500	120.000	10200.000	1.500	1.500
Range	12.350	115.600	10250.000	2.000	2.000
Median	10.000	57.000	250.000	-0.500	0.500
Mean	9.285	52.465	1455.882	-0.324	0.529
Std. Error	0.782	6.514	702.371	0.128	0.169
Standard Dev	3.222	26.858	2895.950	0.529	0.695
Variance	10.383	721.365	8386525.735	0.279	0.483

	SM	SN	SR	TB	TE
N of cases	17	17	17	17	17
Minimum	0.840	0.200	46.000	0.050	-0.200
Maximum	10.000	3.200	1300.000	0.990	-0.200
Range	9.160	3.000	1254.000	0.940	0.000
Median	8.000	1.800	86.000	0.590	-0.200
Mean	7.020	1.665	168.412	0.556	-0.200
Std. Error	0.606	0.185	74.002	0.058	0.000
Standard Dev	2.497	0.762	305.117	0.238	0.000
Variance	6.236	0.580	93096.382	0.057	0.000

	TH	TI	TL	TM	U
N of cases	17	17	17	17	17
Minimum	1.250	250.000	-0.100	-0.050	1.050
Maximum	27.500	3700.000	6.000	0.300	4.800
Range	26.250	3450.000	6.100	0.350	3.750
Median	12.500	2050.000	0.500	0.200	2.900
Mean	12.632	2008.824	0.824	0.191	2.738
Std. Error	1.411	211.361	0.331	0.022	0.266
Standard Dev	5.818	871.463	1.365	0.092	1.096
Variance	33.845	759448.529	1.862	0.009	1.201

	V	W	Y	YB	ZN
N of cases	17	17	17	17	17
Minimum	6.000	-0.100	1.600	0.100	6.000
Maximum	94.000	1.300	21.000	1.900	750.000
Range	88.000	1.400	19.400	1.800	744.000
Median	33.000	0.500	15.500	1.400	18.500
Mean	35.353	0.541	13.341	1.235	61.441
Std. Error	4.566	0.100	1.359	0.123	43.089
Standard Dev	18.828	0.412	5.603	0.508	177.659
Variance	354.493	0.170	31.389	0.258	31562.715

	ZR_XRF
N of cases	2
Minimum	207.000
Maximum	335.000
Range	128.000
Median	271.000
Mean	271.000
Std. Error	64.000
Standard Dev	90.510
Variance	8192.000

Carbonates - statistical summary

	AG	AL	AS	AU	BA
N of cases	2	2	2	2	2
Minimum	0.200	2.790	4.500	-1.000	480.000
Maximum	0.200	4.180	5.500	-1.000	1000.000
Range	0.000	1.390	1.000	0.000	520.000
Median	0.200	3.485	5.000	-1.000	740.000
Mean	0.200	3.485	5.000	-1.000	740.000
Std. Error	0.000	0.695	0.500	0.000	260.000
Standard Dev	0.000	0.983	0.707	0.000	367.696
Variance	0.000	0.966	0.500	0.000	135200.000

	BI	CA	CD	CE	CO
N of cases	2	2	2	2	2
Minimum	0.100	20.100	-0.100	52.000	5.500
Maximum	0.300	23.700	0.200	68.000	5.500
Range	0.200	3.600	0.300	16.000	0.000
Median	0.200	21.900	0.050	60.000	5.500
Mean	0.200	21.900	0.050	60.000	5.500
Std. Error	0.100	1.800	0.150	8.000	0.000
Standard Dev	0.141	2.546	0.212	11.314	0.000
Variance	0.020	6.480	0.045	128.000	0.000

	CR	CS	CU	DY	ER
N of cases	2	2	2	2	2
Minimum	13.000	1.500	9.000	3.200	1.900
Maximum	21.000	2.600	17.000	6.500	3.700
Range	8.000	1.100	8.000	3.300	1.800
Median	17.000	2.050	13.000	4.850	2.800
Mean	17.000	2.050	13.000	4.850	2.800
Std. Error	4.000	0.550	4.000	1.650	0.900
Standard Dev	5.657	0.778	5.657	2.333	1.273
Variance	32.000	0.605	32.000	5.445	1.620

	EU	FE	GA	GD	HF
N of cases	2	2	2	2	2
Minimum	1.350	1.230	7.000	5.000	2.000
Maximum	2.300	1.700	11.500	10.000	2.000
Range	0.950	0.470	4.500	5.000	0.000
Median	1.825	1.465	9.250	7.500	2.000
Mean	1.825	1.465	9.250	7.500	2.000
Std. Error	0.475	0.235	2.250	2.500	0.000
Standard Dev	0.672	0.332	3.182	3.536	0.000
Variance	0.451	0.110	10.125	12.500	0.000

	HO	IN	K	LA	LU
N of cases	2	2	2	2	2
Minimum	0.660	-0.050	0.570	42.000	0.220
Maximum	1.350	-0.050	0.890	62.000	0.370
Range	0.690	0.000	0.320	20.000	0.150
Median	1.005	-0.050	0.730	52.000	0.295
Mean	1.005	-0.050	0.730	52.000	0.295
Std. Error	0.345	0.000	0.160	10.000	0.075
Standard Dev	0.488	0.000	0.226	14.142	0.106
Variance	0.238	0.000	0.051	200.000	0.011

	MG	MN	MO	NA	NB
N of cases	2	2	2	2	2
Minimum	1.060	150.000	0.400	0.330	-0.500
Maximum	1.670	155.000	0.600	0.380	1.000
Range	0.610	5.000	0.200	0.050	1.500
Median	1.365	152.500	0.500	0.355	0.250
Mean	1.365	152.500	0.500	0.355	0.250
Std. Error	0.305	2.500	0.100	0.025	0.750
Standard Dev	0.431	3.536	0.141	0.035	1.061
Variance	0.186	12.500	0.020	0.001	1.125

	ND	NI	P	PB	PR
N of cases	2	2	2	2	2
Minimum	34.000	5.000	60.000	14.500	9.500
Maximum	62.000	9.000	90.000	33.000	16.000
Range	28.000	4.000	30.000	18.500	6.500
Median	48.000	7.000	75.000	23.750	12.750
Mean	48.000	7.000	75.000	23.750	12.750
Std. Error	14.000	2.000	15.000	9.250	3.250
Standard Dev	19.799	2.828	21.213	13.081	4.596
Variance	392.000	8.000	450.000	171.125	21.125

	RB	S	SB	SE	SM
N of cases	2	2	2	2	2
Minimum	24.000	550.000	-0.500	0.500	7.000
Maximum	51.000	650.000	-0.500	0.500	13.500
Range	27.000	100.000	0.000	0.000	6.500
Median	37.500	600.000	-0.500	0.500	10.250
Mean	37.500	600.000	-0.500	0.500	10.250
Std. Error	13.500	50.000	0.000	0.000	3.250
Standard Dev	19.092	70.711	0.000	0.000	4.596
Variance	364.500	5000.000	0.000	0.000	21.125

	SN	SR	TB	TE	TH
N of cases	2	2	2	2	2
Minimum	0.900	340.000	0.510	-0.200	5.500
Maximum	1.700	600.000	1.000	-0.200	9.500
Range	0.800	260.000	0.490	0.000	4.000
Median	1.300	470.000	0.755	-0.200	7.500
Mean	1.300	470.000	0.755	-0.200	7.500
Std. Error	0.400	130.000	0.245	0.000	2.000
Standard Dev	0.566	183.848	0.346	0.000	2.828
Variance	0.320	33800.000	0.120	0.000	8.000

	TI	TL	TM	U	V
N of cases	2	2	2	2	2
Minimum	1100.000	0.200	0.250	1.600	29.000
Maximum	1950.000	0.600	0.450	3.400	42.000
Range	850.000	0.400	0.200	1.800	13.000
Median	1525.000	0.400	0.350	2.500	35.500
Mean	1525.000	0.400	0.350	2.500	35.500
Std. Error	425.000	0.200	0.100	0.900	6.500
Standard Dev	601.041	0.283	0.141	1.273	9.192
Variance	361250.000	0.080	0.020	1.620	84.500

	W	Y	YB	ZN
N of cases	2	2	2	2
Minimum	-0.100	23.500	1.500	15.000
Maximum	0.200	43.000	2.900	15.500
Range	0.300	19.500	1.400	0.500
Median	0.050	33.250	2.200	15.250
Mean	0.050	33.250	2.200	15.250
Std. Error	0.150	9.750	0.700	0.250
Standard Dev	0.212	13.789	0.990	0.354
Variance	0.045	190.125	0.980	0.125

Clay - statistical summary

	AG	AL	AS	AU	BA
N of cases	35	35	35	35	35
Minimum	-0.100	1.890	2.500	-1.000	135.000
Maximum	17.000	17.100	650.000	5.000	1200.000
Range	17.100	15.210	647.500	6.000	1065.000
Median	0.200	7.590	7.500	1.000	310.000
Mean	0.691	7.843	29.200	0.471	389.571
Std. Error	0.480	0.686	18.348	0.291	38.502
Standard Dev	2.841	4.060	108.548	1.719	227.778
Variance	8.073	16.486	11782.621	2.955	51882.899

	BI	CA	CD	CE	CO
N of cases	35	35	35	35	35
Minimum	0.200	0.070	-0.100	22.500	1.700
Maximum	1.200	1.850	1.600	370.000	14.500
Range	1.000	1.780	1.700	347.500	12.800
Median	0.600	0.160	-0.100	74.000	5.500
Mean	0.529	0.246	0.026	97.514	6.171
Std. Error	0.034	0.051	0.063	11.279	0.503
Standard Dev	0.202	0.300	0.374	66.730	2.977
Variance	0.041	0.090	0.140	4452.919	8.862

	CR	CS	CU	DY	ER
N of cases	35	35	35	35	35
Minimum	13.000	0.600	5.000	1.700	0.800
Maximum	110.000	18.500	650.000	12.000	5.000
Range	97.000	17.900	645.000	10.300	4.200
Median	57.000	3.000	17.000	2.900	1.400
Mean	50.971	3.657	36.314	3.394	1.579
Std. Error	3.759	0.556	18.158	0.316	0.133
Standard Dev	22.241	3.292	107.424	1.867	0.788
Variance	494.676	10.838	11539.869	3.486	0.622

	EU	FE	GA	GD	HF
N of cases	35	35	35	35	35
Minimum	0.680	1.090	3.900	2.700	3.000
Maximum	6.000	14.200	36.500	26.000	6.000
Range	5.320	13.110	32.600	23.300	3.000
Median	1.150	4.230	19.500	4.900	4.000
Mean	1.369	4.266	19.640	5.820	4.114
Std. Error	0.159	0.492	1.513	0.677	0.128
Standard Dev	0.941	2.912	8.952	4.005	0.758
Variance	0.886	8.478	80.130	16.036	0.575

	HO	IN	K	LA	LU
N of cases	35	35	35	35	35
Minimum	0.280	-0.050	0.300	16.000	0.110
Maximum	1.950	0.150	2.270	165.000	0.500
Range	1.670	0.200	1.970	149.000	0.390
Median	0.520	0.050	0.880	42.500	0.200
Mean	0.579	0.040	1.021	47.486	0.210
Std. Error	0.052	0.011	0.081	4.989	0.014
Standard Dev	0.310	0.064	0.481	29.514	0.082
Variance	0.096	0.004	0.231	871.066	0.007

	MG	MN	MO	NA	NB
N of cases	35	35	35	35	35
Minimum	0.050	45.000	0.400	0.080	2.000
Maximum	1.040	370.000	69.000	1.210	18.500
Range	0.990	325.000	68.600	1.130	16.500
Median	0.240	80.000	1.100	0.270	11.500
Mean	0.317	108.714	3.100	0.415	9.800
Std. Error	0.039	13.135	1.941	0.055	0.831
Standard Dev	0.233	77.709	11.482	0.327	4.914
Variance	0.054	6038.739	131.831	0.107	24.150

	ND	NI	P	PB	PR
N of cases	35	35	35	35	35
Minimum	16.000	-2.000	60.000	12.000	4.200
Maximum	170.000	33.000	950.000	15800.000	45.500
Range	154.000	35.000	890.000	15788.000	41.300
Median	31.000	15.000	125.000	22.500	9.000
Mean	39.657	15.543	154.000	480.000	11.017
Std. Error	4.803	1.526	24.210	450.598	1.278
Standard Dev	28.415	9.027	143.229	2665.771	7.558
Variance	807.408	81.491	20514.412	7106337.426	57.123

	RB	S	SB	SE	SM
N of cases	35	35	35	35	35
Minimum	15.500	-50.000	-0.500	-0.500	3.100
Maximum	170.000	7900.000	36.000	2.500	30.500
Range	154.500	7950.000	36.500	3.000	27.400
Median	43.000	100.000	-0.500	-0.500	6.000
Mean	52.357	544.286	0.843	0.129	7.694
Std. Error	5.501	241.596	1.040	0.138	0.877
Standard Dev	32.544	1429.303	6.151	0.817	5.189
Variance	1059.097	2042907.563	37.835	0.667	26.922

	SN	SR	TB	TE	TH
N of cases	35	35	35	35	35
Minimum	1.100	23.000	0.300	-0.200	10.500
Maximum	7.500	125.000	2.400	-0.200	28.000
Range	6.400	102.000	2.100	0.000	17.500
Median	3.500	47.000	0.520	-0.200	19.000
Mean	3.403	54.900	0.620	-0.200	19.529
Std. Error	0.240	4.188	0.065	0.000	0.725
Standard Dev	1.419	24.775	0.383	0.000	4.287
Variance	2.014	613.776	0.146	0.000	18.382

	TI	TL	TM	U	V
N of cases	35	35	35	35	35
Minimum	1600.000	0.200	0.100	1.550	27.000
Maximum	5350.000	7.000	0.550	5.000	220.000
Range	3750.000	6.800	0.450	3.450	193.000
Median	4000.000	0.500	0.200	2.400	94.000
Mean	3705.714	0.743	0.219	2.787	88.886
Std. Error	186.990	0.191	0.016	0.149	6.958
Standard Dev	1106.250	1.132	0.092	0.880	41.165
Variance	1223789.916	1.281	0.009	0.774	1694.575

	W	Y	YB	ZN
N of cases	35	35	35	35
Minimum	-0.100	6.000	0.750	7.000
Maximum	4.500	43.000	3.600	490.000
Range	4.600	37.000	2.850	483.000
Median	1.400	12.000	1.400	22.500
Mean	1.440	13.643	1.474	37.871
Std. Error	0.175	1.165	0.100	13.565
Standard Dev	1.037	6.894	0.591	80.249
Variance	1.075	47.523	0.349	6439.873

Hardened crusts - statistical summary

	AG	AL	AS	AU	BA
N of cases	9	9	9	9	9
Minimum	-0.100	0.790	2.000	-1.000	90.000
Maximum	1.700	4.480	77.000	6.000	290.000
Range	1.800	3.690	75.000	7.000	200.000
Median	0.300	2.900	28.500	3.000	220.000
Mean	0.389	2.672	34.778	2.444	180.556
Std. Error	0.172	0.415	8.868	0.818	26.880
Standard Dev	0.516	1.245	26.604	2.455	80.640
Variance	0.266	1.549	707.757	6.028	6502.778

	BI	CA	CD	CE	CO
N of cases	9	9	9	9	9
Minimum	-0.100	0.050	-0.100	13.500	1.400
Maximum	1.500	14.000	0.200	280.000	11.500
Range	1.600	13.950	0.300	266.500	10.100
Median	0.300	0.150	-0.100	100.000	2.100
Mean	0.333	1.749	-0.022	122.167	4.089
Std. Error	0.160	1.533	0.040	29.311	1.164
Standard Dev	0.480	4.599	0.120	87.933	3.493
Variance	0.230	21.153	0.014	7732.250	12.199

	CR	CS	CU	DY	ER
N of cases	9	9	9	9	9
Minimum	10.000	0.400	3.000	0.650	0.300
Maximum	89.000	5.500	28.000	25.000	12.000
Range	79.000	5.100	25.000	24.350	11.700
Median	21.000	1.300	10.000	4.100	2.200
Mean	27.889	2.422	14.222	9.347	4.700
Std. Error	8.184	0.613	3.244	3.107	1.545
Standard Dev	24.553	1.839	9.731	9.321	4.635
Variance	602.861	3.382	94.694	86.872	21.481

	EU	FE	GA	GD	HF
N of cases	9	9	9	9	9
Minimum	0.260	0.690	1.400	1.050	-1.000
Maximum	1.600	16.600	14.000	36.000	4.000
Range	1.340	15.910	12.600	34.950	5.000
Median	1.000	5.350	6.500	6.500	2.000
Mean	0.980	6.241	6.978	12.972	2.111
Std. Error	0.150	1.642	1.304	4.165	0.484
Standard Dev	0.450	4.925	3.911	12.495	1.453
Variance	0.202	24.255	15.294	156.121	2.111

	HO	IN	K	LA	LU
N of cases	9	9	9	9	9
Minimum	0.100	-0.050	0.190	7.500	0.040
Maximum	4.500	0.100	0.600	170.000	1.500
Range	4.400	0.150	0.410	162.500	1.460
Median	0.780	-0.050	0.400	55.000	0.270
Mean	1.710	-0.017	0.407	68.667	0.583
Std. Error	0.571	0.022	0.044	17.280	0.187
Standard Dev	1.712	0.066	0.133	51.841	0.562
Variance	2.931	0.004	0.018	2687.438	0.316

	MG	MN	MO	NA	NB
N of cases	9	9	9	9	9
Minimum	0.080	50.000	0.400	0.115	0.500
Maximum	2.270	165.000	5.000	4.380	20.000
Range	2.190	115.000	4.600	4.265	19.500
Median	0.150	80.000	2.100	0.440	5.000
Mean	0.418	90.556	2.067	1.253	8.000
Std. Error	0.237	13.397	0.464	0.491	2.353
Standard Dev	0.710	40.191	1.393	1.474	7.058
Variance	0.504	1615.278	1.940	2.173	49.812

	ND	NI	P	PB	PR
N of cases	9	9	9	9	9
Minimum	6.500	-2.000	55.000	6.500	1.850
Maximum	160.000	13.000	1050.000	240.000	43.000
Range	153.500	15.000	995.000	233.500	41.150
Median	43.500	6.000	200.000	17.500	12.000
Mean	69.000	6.000	368.333	59.333	18.339
Std. Error	19.249	1.833	115.226	25.939	5.009
Standard Dev	57.748	5.500	345.679	77.817	15.026
Variance	3334.813	30.250	119493.750	6055.500	225.791

	RB	S	SB	SE	SM
N of cases	9	9	9	9	9
Minimum	8.500	300.000	-0.500	-0.500	1.400
Maximum	41.000	23400.000	2.000	2.500	42.500
Range	32.500	23100.000	2.500	3.000	41.100
Median	23.500	1450.000	1.000	0.500	7.500
Mean	24.778	4833.333	0.889	0.500	15.367
Std. Error	3.476	2468.834	0.286	0.363	4.782
Standard Dev	10.429	7406.501	0.858	1.090	14.345
Variance	108.757	5.48563E+07	0.736	1.187	205.782

	SN	SR	TB	TE	TH
N of cases	9	9	9	9	9
Minimum	0.400	14.000	0.090	-0.200	2.000
Maximum	3.100	750.000	4.400	0.600	28.000
Range	2.700	736.000	4.310	0.800	26.000
Median	1.600	36.500	0.810	-0.200	11.000
Mean	1.644	117.500	1.668	0.067	12.244
Std. Error	0.300	79.439	0.552	0.133	2.650
Standard Dev	0.899	238.317	1.655	0.400	7.951
Variance	0.808	56794.875	2.740	0.160	63.225

	TI	TL	TM	U	V
N of cases	9	9	9	9	9
Minimum	600.000	0.100	-0.050	0.740	15.000
Maximum	3000.000	0.800	1.600	5.500	170.000
Range	2400.000	0.700	1.650	4.760	155.000
Median	1800.000	0.300	0.300	2.700	60.000
Mean	1850.000	0.322	0.628	3.127	65.333
Std. Error	259.674	0.074	0.211	0.579	15.268
Standard Dev	779.022	0.222	0.634	1.738	45.804
Variance	606875.000	0.049	0.403	3.020	2098.000

	W	Y	YB	ZN
N of cases	9	9	9	9
Minimum	-0.100	2.500	0.250	9.000
Maximum	1.800	120.000	10.500	79.000
Range	1.900	117.500	10.250	70.000
Median	0.600	22.000	1.550	17.000
Mean	0.711	45.556	3.617	28.556
Std. Error	0.193	14.592	1.203	7.979
Standard Dev	0.580	43.777	3.610	23.938
Variance	0.336	1916.465	13.033	573.028

Ferricrete - statistical summary

	SIO2_XRF	TIO2_XRF	AL2O3_XRF	FE2O3_XRF	MNO_XRF
N of cases	4	4	4	4	4
Minimum	32.390	0.190	1.700	18.280	0.010
Maximum	76.070	0.450	13.730	46.550	0.020
Range	43.680	0.260	12.030	28.270	0.010
Median	54.075	0.295	7.385	29.755	0.020
Mean	54.153	0.308	7.550	31.085	0.018
Std. Error	12.017	0.066	3.117	7.314	0.003
Standard Dev	24.034	0.132	6.233	14.628	0.005
Variance	577.645	0.017	38.852	213.967	0.000

	MGO_XRF	CAO_XRF	K2O_XRF	NA2O_XRF	P2O5_XRF
N of cases	4	4	4	4	4
Minimum	0.060	0.020	0.050	0.030	0.030
Maximum	0.140	0.080	0.160	0.050	0.470
Range	0.080	0.060	0.110	0.020	0.440
Median	0.090	0.050	0.075	0.035	0.085
Mean	0.095	0.050	0.090	0.037	0.167
Std. Error	0.018	0.012	0.025	0.005	0.103
Standard Dev	0.037	0.024	0.050	0.010	0.205
Variance	0.001	0.001	0.002	0.000	0.042

	LOI	TOTAL	AG	AL	AS
N of cases	4	4	4	4	4
Minimum	3.900	99.840	-0.100	0.820	17.000
Maximum	10.930	100.830	0.200	6.750	125.000
Range	7.030	0.990	0.300	5.930	108.000
Median	5.955	100.145	0.000	3.500	62.000
Mean	6.685	100.240	0.025	3.643	66.500
Std. Error	1.709	0.236	0.075	1.505	28.300
Standard Dev	3.418	0.471	0.150	3.009	56.601
Variance	11.681	0.222	0.023	9.056	3203.667

	AU	BA	BI	CA	CD
N of cases	4	4	4	4	4
Minimum	2.000	25.000	0.100	0.020	-0.100
Maximum	3.000	45.000	2.100	0.060	-0.100
Range	1.000	20.000	2.000	0.040	0.000
Median	2.500	27.500	0.950	0.035	-0.100
Mean	2.500	31.250	1.025	0.037	-0.100
Std. Error	0.289	4.732	0.538	0.009	0.000
Standard Dev	0.577	9.465	1.075	0.017	0.000
Variance	0.333	89.583	1.156	0.000	0.000

	CE	CL_XRF	CO	CR	CS
N of cases	4	4	4	4	4
Minimum	11.000	0.000	3.100	25.000	0.400
Maximum	27.000	0.010	8.000	270.000	1.100
Range	16.000	0.010	4.900	245.000	0.700
Median	17.500	0.005	5.450	132.500	0.650
Mean	18.250	0.005	5.500	140.000	0.700
Std. Error	3.449	0.003	1.026	66.677	0.158
Standard Dev	6.898	0.006	2.051	133.354	0.316
Variance	47.583	0.000	4.207	17783.333	0.100

	CU	DY	ER	EU	FE
N of cases	4	4	4	4	4
Minimum	7.000	0.720	0.350	0.260	11.300
Maximum	35.000	2.900	1.550	0.800	30.100
Range	28.000	2.180	1.200	0.540	18.800
Median	13.000	0.825	0.450	0.305	18.800
Mean	17.000	1.317	0.700	0.417	19.750
Std. Error	6.178	0.530	0.285	0.128	4.744
Standard Dev	12.356	1.060	0.570	0.256	9.489
Variance	152.667	1.123	0.325	0.066	90.037

	GA	GD	HF	HO	IN
N of cases	4	4	4	4	4
Minimum	2.300	1.050	-1.000	0.120	-0.050
Maximum	43.000	3.800	6.000	0.570	0.300
Range	40.700	2.750	7.000	0.450	0.350
Median	15.050	1.250	2.500	0.160	0.125
Mean	18.850	1.838	2.500	0.253	0.125
Std. Error	9.782	0.656	1.555	0.107	0.078
Standard Dev	19.564	1.312	3.109	0.213	0.155
Variance	382.737	1.721	9.667	0.045	0.024

	K	LA	LU	MG	MN
N of cases	4	4	4	4	4
Minimum	0.030	6.500	0.050	0.020	25.000
Maximum	0.120	12.500	0.220	0.060	85.000
Range	0.090	6.000	0.170	0.040	60.000
Median	0.055	9.750	0.070	0.035	37.500
Mean	0.065	9.625	0.103	0.037	46.250
Std. Error	0.020	1.420	0.040	0.009	14.197
Standard Dev	0.040	2.839	0.079	0.017	28.395
Variance	0.002	8.062	0.006	0.000	806.250

	MO	NA	NB	ND	NI
N of cases	4	4	4	4	4
Minimum	0.700	0.010	-0.500	7.000	-2.000
Maximum	6.000	0.030	6.500	16.000	21.000
Range	5.300	0.020	7.000	9.000	23.000
Median	2.250	0.015	2.250	9.000	9.000
Mean	2.800	0.017	2.625	10.250	9.250
Std. Error	1.238	0.005	1.612	1.984	6.498
Standard Dev	2.475	0.010	3.224	3.969	12.997
Variance	6.127	0.000	10.396	15.750	168.917

	P	PB	PR	RB	S
N of cases	4	4	4	4	4
Minimum	60.000	12.500	1.700	2.000	150.000
Maximum	1650.000	52.000	3.500	8.000	650.000
Range	1590.000	39.500	1.800	6.000	500.000
Median	252.500	33.000	2.250	4.250	300.000
Mean	553.750	32.625	2.425	4.625	350.000
Std. Error	372.477	9.437	0.394	1.434	106.066
Standard Dev	744.954	18.874	0.789	2.869	212.132
Variance	554956.250	356.229	0.622	8.229	45000.000

	SB	SE	SM	SN	SR
N of cases	4	4	4	4	4
Minimum	-0.500	-0.500	1.450	0.500	4.000
Maximum	1.000	2.500	3.900	5.000	12.500
Range	1.500	3.000	2.450	4.500	8.500
Median	0.000	1.000	1.850	3.300	7.750
Mean	0.125	1.000	2.262	3.025	8.000
Std. Error	0.375	0.866	0.554	0.954	1.882
Standard Dev	0.750	1.732	1.108	1.909	3.764
Variance	0.562	3.000	1.227	3.643	14.167

	TB	TE	TH	TI	TL
N of cases	4	4	4	4	4
Minimum	0.110	-0.200	4.300	750.000	-0.100
Maximum	0.440	0.300	96.000	2250.000	0.100
Range	0.330	0.500	91.700	1500.000	0.200
Median	0.140	0.000	49.500	1125.000	-0.100
Mean	0.208	0.025	49.825	1312.500	-0.050
Std. Error	0.078	0.131	26.085	350.817	0.050
Standard Dev	0.156	0.263	52.171	701.635	0.100
Variance	0.024	0.069	2721.789	492291.667	0.010

	TM	U	V	W	Y
N of cases	4	4	4	4	4
Minimum	-0.050	1.450	16.000	-0.100	2.400
Maximum	0.200	7.000	390.000	1.600	10.500
Range	0.250	5.550	374.000	1.700	8.100
Median	0.050	2.100	190.500	0.300	2.950
Mean	0.062	3.163	196.750	0.525	4.700
Std. Error	0.052	1.291	103.100	0.405	1.938
Standard Dev	0.103	2.582	206.200	0.810	3.876
Variance	0.011	6.666	42518.250	0.656	15.020

	YB	ZN	ZR_XRF
N of cases	4	4	4
Minimum	0.350	7.500	144.000
Maximum	1.600	130.000	289.000
Range	1.250	122.500	145.000
Median	0.500	27.250	222.000
Mean	0.737	48.000	219.250
Std. Error	0.293	28.510	34.659
Standard Dev	0.585	57.019	69.318
Variance	0.342	3251.167	4804.917

Ferruginous saprolite - statistical summary

	SIO2_XRF	TIO2_XRF	AL2O3_XRF	FE2O3_XRF	MNO_XRF
N of cases	55	55	55	55	55
Minimum	7.680	0.060	1.178	9.530	-0.010
Maximum	73.090	1.098	16.623	73.350	0.072
Range	65.410	1.038	15.445	63.820	0.082
Median	49.340	0.560	8.840	28.833	0.011
Mean	46.019	0.576	7.971	32.237	0.013
Std. Error	2.027	0.030	0.577	1.878	0.002
Standard Dev	15.034	0.225	4.282	13.931	0.015
Variance	226.026	0.050	18.338	194.063	0.000

	MGO_XRF	CAO_XRF	K2O_XRF	NA2O_XRF	P2O5_XRF
N of cases	55	55	55	55	55
Minimum	0.050	0.008	0.030	0.009	0.027
Maximum	3.110	0.420	3.802	5.210	2.900
Range	3.060	0.412	3.772	5.201	2.873
Median	0.140	0.090	0.520	0.130	0.120
Mean	0.223	0.103	0.952	0.572	0.249
Std. Error	0.056	0.010	0.138	0.143	0.061
Standard Dev	0.416	0.076	1.024	1.062	0.451
Variance	0.173	0.006	1.048	1.127	0.203

	LOI	TOTAL	AG	AL	AS
N of cases	55	55	56	56	56
Minimum	2.720	92.580	-0.100	0.730	9.000
Maximum	24.140	102.100	59.000	9.790	3100.000
Range	21.420	9.520	59.100	9.060	3091.000
Median	8.420	99.320	0.300	4.220	71.000
Mean	9.723	98.639	6.193	3.904	412.589
Std. Error	0.679	0.292	1.664	0.286	82.594
Standard Dev	5.035	2.166	12.453	2.144	618.074
Variance	25.355	4.691	155.083	4.596	382015.674

	AU	BA	BI	CA	CD
N of cases	56	56	56	56	56
Minimum	-1.000	15.000	-0.100	0.010	-0.100
Maximum	27.500	2600.000	21.500	0.280	1.500
Range	28.500	2585.000	21.600	0.270	1.600
Median	4.000	185.000	0.650	0.041	-0.100
Mean	4.464	318.036	3.373	0.057	0.048
Std. Error	0.711	59.511	0.746	0.007	0.039
Standard Dev	5.319	445.337	5.583	0.049	0.289
Variance	28.290	198325.162	31.170	0.002	0.083

	CE	CL_XRF	CO	CR	CS
N of cases	56	43	56	56	56
Minimum	2.500	0.000	0.300	7.000	-0.100
Maximum	390.000	0.102	440.000	350.000	35.500
Range	387.500	0.102	439.700	343.000	35.600
Median	41.500	0.016	1.400	88.000	0.500
Mean	64.964	0.023	9.916	105.411	1.180
Std. Error	9.892	0.004	7.825	10.219	0.626
Standard Dev	74.025	0.024	58.556	76.469	4.687
Variance	5479.635	0.001	3428.862	5847.519	21.970

	CU	DY	ER	EU	FE
N of cases	56	56	56	56	56
Minimum	6.000	0.370	0.250	0.120	6.370
Maximum	2150.000	6.000	2.500	2.200	49.600
Range	2144.000	5.630	2.250	2.080	43.230
Median	172.500	1.200	0.575	0.485	20.000
Mean	405.571	1.589	0.740	0.654	22.043
Std. Error	64.899	0.164	0.070	0.071	1.231
Standard Dev	485.657	1.228	0.527	0.528	9.209
Variance	235862.649	1.509	0.278	0.279	84.807

	GA	GD	HF	HO	IN
N of cases	56	56	56	56	56
Minimum	2.700	0.450	-1.000	0.080	-0.050
Maximum	55.000	8.500	6.000	0.910	0.900
Range	52.300	8.050	7.000	0.830	0.950
Median	19.000	1.650	3.000	0.200	0.100
Mean	20.834	2.429	2.571	0.268	0.120
Std. Error	1.490	0.280	0.215	0.026	0.020
Standard Dev	11.150	2.092	1.605	0.194	0.146
Variance	124.324	4.376	2.577	0.038	0.021

	K	LA	LU	MG	MN
N of cases	56	56	56	56	56
Minimum	0.029	2.000	-0.020	0.020	5.000
Maximum	2.740	390.000	0.390	0.980	410.000
Range	2.711	388.000	0.410	0.960	405.000
Median	0.408	29.500	0.090	0.062	60.000
Mean	0.653	48.482	0.112	0.099	68.036
Std. Error	0.087	8.279	0.010	0.018	8.258
Standard Dev	0.650	61.951	0.074	0.137	61.796
Variance	0.423	3837.981	0.006	0.019	3818.799

	MO	NA	NB	ND	NI
N of cases	56	56	56	56	56
Minimum	0.500	0.010	-5.000	2.800	-2.000
Maximum	230.000	3.870	19.500	130.000	79.000
Range	229.500	3.860	24.500	127.200	81.000
Median	7.500	0.060	1.000	15.750	4.000
Mean	25.055	0.511	2.000	22.593	5.214
Std. Error	5.979	0.125	0.970	3.193	1.507
Standard Dev	44.740	0.939	7.259	23.893	11.275
Variance	2001.676	0.881	52.700	570.887	127.117

	P	PB	PR	RB	S
N of cases	56	56	56	56	56
Minimum	65.000	6.500	0.700	1.300	150.000
Maximum	10100.000	33500.000	37.000	88.000	80400.000
Range	10035.000	33493.500	36.300	86.700	80250.000
Median	410.000	70.000	4.700	14.000	1375.000
Mean	916.875	3258.732	6.816	22.220	12074.107
Std. Error	213.382	923.136	0.973	2.962	2953.163
Standard Dev	1596.802	6908.118	7.280	22.167	22099.445
Variance	2549776.875	4.77221E+07	52.998	491.391	4.88385E+08

	SB	SE	SM	SN	SR
N of cases	56	56	56	56	56
Minimum	-0.500	-0.500	0.580	0.200	1.600
Maximum	33.000	37.500	13.500	20.000	260.000
Range	33.500	38.000	12.920	19.800	258.400
Median	1.000	3.000	2.800	2.450	22.250
Mean	3.598	4.339	3.951	3.863	41.791
Std. Error	0.755	0.844	0.460	0.550	6.306
Standard Dev	5.648	6.312	3.439	4.118	47.187
Variance	31.904	39.846	11.825	16.955	2226.609

	TB	TE	TH	TI	TL
N of cases	56	56	56	56	56
Minimum	0.060	-0.200	2.300	390.000	-0.100
Maximum	1.200	1.000	76.000	6700.000	56.000
Range	1.140	1.200	73.700	6310.000	56.100
Median	0.220	0.000	20.000	3000.000	0.400
Mean	0.307	0.175	25.380	2993.214	5.614
Std. Error	0.035	0.054	2.376	217.387	1.436
Standard Dev	0.259	0.404	17.784	1626.778	10.748
Variance	0.067	0.163	316.267	2646407.662	115.511

	TM	U	V	W	Y
N of cases	56	56	56	56	56
Minimum	-0.050	0.950	9.000	-0.100	1.850
Maximum	0.350	9.500	650.000	12.000	14.500
Range	0.400	8.550	641.000	12.100	12.650
Median	0.100	3.050	125.000	1.700	4.500
Mean	0.089	3.818	157.214	2.427	5.386
Std. Error	0.013	0.298	17.388	0.328	0.431
Standard Dev	0.099	2.232	130.116	2.455	3.222
Variance	0.010	4.982	16930.281	6.027	10.384

	YB	ZN	ZR_XRF
N of cases	56	56	43
Minimum	0.150	-2.000	-5.000
Maximum	2.700	360.000	324.000
Range	2.550	362.000	329.000
Median	0.525	25.000	185.000
Mean	0.683	45.196	175.258
Std. Error	0.067	7.714	12.034
Standard Dev	0.498	57.728	78.913
Variance	0.248	3332.497	6227.244

Gels - statistical summary

	AG	AL	AS	AU	BA
N of cases	9	9	9	9	9
Minimum	-0.100	0.350	1.500	-1.000	75.000
Maximum	0.400	4.120	850.000	10.000	950.000
Range	0.500	3.770	848.500	11.000	875.000
Median	-0.100	2.750	18.500	2.000	300.000
Mean	0.022	2.250	133.444	3.000	330.556
Std. Error	0.057	0.460	91.630	1.312	88.004
Standard Dev	0.172	1.379	274.889	3.937	264.013
Variance	0.029	1.902	75564.153	15.500	69702.778

	BI	CA	CD	CE	CO
N of cases	9	9	9	9	9
Minimum	-0.100	0.150	-0.100	5.000	1.900
Maximum	0.400	2.070	21.000	155.000	25.500
Range	0.500	1.920	21.100	150.000	23.600
Median	0.100	0.700	0.500	76.000	9.500
Mean	0.122	0.836	3.000	74.167	11.711
Std. Error	0.052	0.205	2.263	15.394	2.815
Standard Dev	0.156	0.615	6.789	46.182	8.445
Variance	0.024	0.378	46.088	2132.750	71.314

	CR	CS	CU	DY	ER
N of cases	9	9	9	9	9
Minimum	-2.000	0.300	-2.000	0.420	0.250
Maximum	31.000	2.900	14.000	8.000	4.900
Range	33.000	2.600	16.000	7.580	4.650
Median	16.000	1.100	6.000	2.800	1.150
Mean	15.222	1.133	4.667	3.419	1.722
Std. Error	3.419	0.276	2.230	0.854	0.490
Standard Dev	10.256	0.829	6.690	2.563	1.470
Variance	105.194	0.687	44.750	6.570	2.159

	EU	FE	GA	GD	HF
N of cases	9	9	9	9	9
Minimum	0.140	0.690	0.900	0.450	-1.000
Maximum	2.600	35.600	8.000	11.500	3.000
Range	2.460	34.910	7.100	11.050	4.000
Median	0.850	14.500	3.800	4.000	-1.000
Mean	1.120	14.792	4.167	4.861	0.333
Std. Error	0.243	4.810	0.880	1.105	0.667
Standard Dev	0.730	14.430	2.640	3.315	2.000
Variance	0.533	208.221	6.970	10.992	4.000

	HO	IN	K	LA	LU
N of cases	9	9	9	9	9
Minimum	0.080	-0.050	0.120	3.500	0.030
Maximum	1.600	0.050	1.010	64.000	0.780
Range	1.520	0.100	0.890	60.500	0.750
Median	0.420	-0.050	0.490	37.000	0.150
Mean	0.608	-0.039	0.509	37.444	0.236
Std. Error	0.162	0.011	0.111	6.940	0.076
Standard Dev	0.487	0.033	0.334	20.820	0.228
Variance	0.237	0.001	0.112	433.465	0.052

	MG	MN	MO	NA	NB
N of cases	9	9	9	9	9
Minimum	0.120	65.000	0.100	0.320	-0.500
Maximum	2.520	5450.000	2.100	11.300	3.500
Range	2.400	5385.000	2.000	10.980	4.000
Median	0.270	250.000	0.700	0.640	0.500
Mean	0.524	833.889	0.856	1.990	1.167
Std. Error	0.252	578.584	0.197	1.184	0.607
Standard Dev	0.757	1735.751	0.592	3.551	1.820
Variance	0.573	3012829.861	0.350	12.607	3.313

	ND	NI	P	PB	PR
N of cases	9	9	9	9	9
Minimum	3.200	-2.000	50.000	10.000	0.850
Maximum	77.000	37.000	14700.000	59.000	20.000
Range	73.800	39.000	14650.000	49.000	19.150
Median	30.000	9.000	410.000	22.000	8.500
Mean	32.633	11.556	2627.778	24.889	8.628
Std. Error	6.987	3.805	1600.000	4.811	1.802
Standard Dev	20.960	11.414	4799.999	14.433	5.406
Variance	439.322	130.278	2.30400E+07	208.299	29.227

	RB	S	SB	SE	SM
N of cases	9	9	9	9	9
Minimum	5.000	150.000	-0.500	-0.500	0.610
Maximum	40.000	103000.000	2.500	1.500	14.500
Range	35.000	102850.000	3.000	2.000	13.890
Median	18.500	1300.000	-0.500	1.000	5.000
Mean	20.333	13666.667	-0.056	0.722	5.890
Std. Error	4.627	11221.179	0.338	0.252	1.299
Standard Dev	13.881	33663.537	1.014	0.755	3.896
Variance	192.687	1.13323E+09	1.028	0.569	15.178

	SN	SR	TB	TE	TH
N of cases	9	9	9	9	9
Minimum	0.100	55.000	0.050	-0.200	1.100
Maximum	1.700	420.000	1.150	-0.200	14.000
Range	1.600	365.000	1.100	0.000	12.900
Median	0.700	130.000	0.430	-0.200	6.500
Mean	0.878	158.889	0.548	-0.200	6.833
Std. Error	0.188	41.180	0.119	0.000	1.540
Standard Dev	0.563	123.540	0.357	0.000	4.620
Variance	0.317	15262.111	0.128	0.000	21.342

	TI	TL	TM	U	V
N of cases	9	9	9	9	9
Minimum	170.000	0.100	-0.050	0.240	5.000
Maximum	2100.000	9.500	0.750	5.500	37.000
Range	1930.000	9.400	0.800	5.260	32.000
Median	800.000	0.300	0.150	2.100	24.000
Mean	1008.889	1.522	0.233	2.851	24.000
Std. Error	230.208	1.021	0.078	0.747	3.500
Standard Dev	690.624	3.062	0.235	2.241	10.500
Variance	476961.111	9.374	0.055	5.021	110.250

	W	Y	YB	ZN
N of cases	9	9	9	9
Minimum	-0.100	3.200	0.200	11.000
Maximum	1.000	48.000	5.000	1200.000
Range	1.100	44.800	4.800	1189.000
Median	0.300	16.500	1.050	27.000
Mean	0.333	17.911	1.589	258.278
Std. Error	0.119	4.842	0.498	155.763
Standard Dev	0.357	14.526	1.495	467.290
Variance	0.127	210.996	2.234	218360.007

Gossans - statistical summary

	SIO2_XRF	TIO2_XRF	AL2O3_XRF	FE2O3_XRF	MNO_XRF
N of cases	10	10	10	10	10
Minimum	11.200	0.080	2.300	23.746	-0.010
Maximum	52.160	0.720	4.900	73.770	0.138
Range	40.960	0.640	2.600	50.024	0.148
Median	17.599	0.227	3.673	65.146	0.020
Mean	23.510	0.258	3.598	54.492	0.027
Std. Error	4.845	0.063	0.310	5.921	0.013
Standard Dev	15.321	0.200	0.982	18.723	0.042
Variance	234.748	0.040	0.964	350.534	0.002

	MGO_XRF	CAO_XRF	K2O_XRF	NA2O_XRF	P2O5_XRF
N of cases	10	10	10	10	10
Minimum	0.060	0.030	0.110	0.050	0.050
Maximum	2.800	0.282	1.108	0.663	0.270
Range	2.740	0.252	0.999	0.613	0.220
Median	0.190	0.065	0.233	0.115	0.095
Mean	0.462	0.091	0.374	0.211	0.111
Std. Error	0.262	0.024	0.103	0.073	0.020
Standard Dev	0.827	0.075	0.325	0.230	0.062
Variance	0.684	0.006	0.106	0.053	0.004

	LOI	TOTAL	AG	AL	AS
N of cases	10	10	10	10	10
Minimum	3.910	81.740	0.900	1.120	100.000
Maximum	28.250	100.560	100.000	2.500	9900.000
Range	24.340	18.820	99.100	1.380	9800.000
Median	10.420	98.875	41.750	1.680	520.000
Mean	12.816	95.953	45.280	1.732	1494.000
Std. Error	2.465	1.995	9.852	0.146	942.342
Standard Dev	7.794	6.309	31.154	0.461	2979.946
Variance	60.745	39.807	970.560	0.212	8880076.667

	AU	BA	BI	CA	CD
N of cases	10	10	10	10	10
Minimum	-1.000	60.000	0.100	0.020	0.200
Maximum	35.500	500.000	25.500	0.190	27.500
Range	36.500	440.000	25.400	0.170	27.300
Median	8.250	275.000	2.850	0.035	0.250
Mean	9.250	279.500	5.030	0.052	3.090
Std. Error	3.192	40.596	2.371	0.016	2.714
Standard Dev	10.095	128.376	7.497	0.051	8.581
Variance	101.903	16480.278	56.207	0.003	73.634

	CE	CL_XRF	CO	CR	CS
N of cases	10	8	10	10	10
Minimum	5.000	0.000	1.000	-2.000	-0.100
Maximum	380.000	0.131	82.000	105.000	0.700
Range	375.000	0.131	81.000	107.000	0.800
Median	50.250	0.019	32.500	16.000	0.200
Mean	79.300	0.039	32.810	25.900	0.260
Std. Error	33.994	0.017	9.777	9.524	0.064
Standard Dev	107.498	0.049	30.917	30.116	0.201
Variance	11555.844	0.002	955.852	906.989	0.040

	CU	DY	ER	EU	FE
N of cases	10	10	10	10	10
Minimum	200.000	0.320	0.200	0.200	16.500
Maximum	7250.000	6.000	2.400	3.300	50.700
Range	7050.000	5.680	2.200	3.100	34.200
Median	2950.000	2.200	1.000	0.745	43.950
Mean	2864.000	2.244	1.005	0.942	37.700
Std. Error	746.537	0.526	0.208	0.281	3.854
Standard Dev	2360.759	1.664	0.657	0.889	12.186
Variance	5573182.222	2.769	0.432	0.790	148.500

	GA	GD	HF	HG	HO
N of cases	10	10	10	4	10
Minimum	4.000	0.400	-1.000	-0.050	0.070
Maximum	24.000	10.500	3.000	3.100	0.890
Range	20.000	10.100	4.000	3.150	0.820
Median	7.250	2.900	1.000	0.000	0.355
Mean	9.050	3.220	0.500	0.762	0.365
Std. Error	1.810	0.903	0.453	0.780	0.078
Standard Dev	5.723	2.856	1.434	1.559	0.246
Variance	32.747	8.155	2.056	2.431	0.060

	IN	K	LA	LU	MG
N of cases	10	10	10	10	10
Minimum	-0.050	0.085	3.500	0.040	0.020
Maximum	0.450	0.715	190.000	0.230	0.150
Range	0.500	0.630	186.500	0.190	0.130
Median	0.150	0.187	27.000	0.125	0.070
Mean	0.155	0.270	42.450	0.126	0.081
Std. Error	0.040	0.066	16.787	0.020	0.014
Standard Dev	0.126	0.209	53.084	0.063	0.045
Variance	0.016	0.044	2817.914	0.004	0.002

	MN	MO	NA	NB	ND
N of cases	10	10	10	10	10
Minimum	25.000	23.500	0.010	-5.000	2.000
Maximum	850.000	270.000	2.260	7.500	125.000
Range	825.000	246.500	2.250	12.500	123.000
Median	55.000	84.000	0.027	-5.000	25.000
Mean	139.500	98.650	0.330	-1.200	32.600
Std. Error	79.629	21.156	0.225	1.660	10.845
Standard Dev	251.810	66.902	0.713	5.250	34.294
Variance	63408.056	4475.892	0.508	27.567	1176.044

	NI	P	PB	PR	RB
N of cases	10	10	10	10	10
Minimum	-2.000	90.000	750.000	0.550	3.400
Maximum	110.000	950.000	243000.000	42.000	23.500
Range	112.000	860.000	242250.000	41.450	20.100
Median	49.500	250.000	3300.000	7.000	9.250
Mean	47.600	339.000	29920.000	9.735	10.320
Std. Error	14.034	77.609	23828.921	3.703	2.045
Standard Dev	44.380	245.423	75353.663	11.710	6.467
Variance	1969.600	60232.222	5.67817E+09	137.127	41.817

	S	SB	SE	SM	SN
N of cases	10	10	10	10	10
Minimum	900.000	0.500	-0.500	0.640	0.600
Maximum	60100.000	36.500	11.500	25.500	22.500
Range	59200.000	36.000	12.000	24.860	21.900
Median	2050.000	1.500	4.250	5.100	1.600
Mean	11975.000	6.350	4.400	6.594	3.600
Std. Error	6389.567	3.507	1.043	2.234	2.117
Standard Dev	20205.586	11.091	3.298	7.065	6.696
Variance	4.08266E+08	123.003	10.878	49.915	44.831

	SR	TB	TE	TH	TI
N of cases	10	10	10	10	10
Minimum	7.500	0.040	-0.200	3.500	360.000
Maximum	64.000	1.100	1.200	37.500	4250.000
Range	56.500	1.060	1.400	34.000	3890.000
Median	16.750	0.405	0.750	10.500	1225.000
Mean	24.100	0.419	0.570	13.100	1475.000
Std. Error	5.667	0.099	0.187	3.078	380.328
Standard Dev	17.921	0.314	0.593	9.732	1202.703
Variance	321.156	0.099	0.351	94.711	1446494.444

	TL	TM	U	V	W
N of cases	10	10	10	10	10
Minimum	0.900	-0.050	2.600	3.000	0.400
Maximum	68.000	0.300	15.500	170.000	8.000
Range	67.100	0.350	12.900	167.000	7.600
Median	2.000	0.150	4.550	18.000	2.600
Mean	13.920	0.115	5.890	38.300	3.150
Std. Error	7.095	0.039	1.435	16.161	0.749
Standard Dev	22.435	0.125	4.539	51.106	2.369
Variance	503.331	0.016	20.601	2611.789	5.614

	Y	YB	ZN	ZR_XRF
N of cases	10	10	10	8
Minimum	1.400	0.250	46.000	-5.000
Maximum	14.000	1.900	2100.000	326.000
Range	12.600	1.650	2054.000	331.000
Median	7.250	0.800	160.000	82.000
Mean	6.630	0.825	349.300	111.875
Std. Error	1.196	0.159	195.906	42.497
Standard Dev	3.782	0.503	619.509	120.199
Variance	14.305	0.253	383791.122	14447.839

Gossanous siltstones - statistical summary

	SIO2_XRF	TIO2_XRF	AL2O3_XRF	FE2O3_XRF	MNO_XRF
N of cases	8	8	8	8	8
Minimum	16.160	0.180	1.897	33.310	0.004
Maximum	54.265	0.519	6.420	67.940	0.030
Range	38.105	0.339	4.524	34.630	0.026
Median	25.896	0.364	4.385	52.271	0.011
Mean	31.717	0.350	4.394	50.347	0.014
Std. Error	4.915	0.050	0.613	4.340	0.003
Standard Dev	13.901	0.141	1.735	12.274	0.008
Variance	193.224	0.020	3.010	150.659	0.000

	MGO_XRF	CAO_XRF	K2O_XRF	NA2O_XRF	P2O5_XRF
N of cases	8	8	8	8	8
Minimum	0.060	0.031	0.063	0.056	0.043
Maximum	2.100	0.110	0.680	0.260	0.260
Range	2.040	0.079	0.617	0.204	0.217
Median	0.364	0.066	0.175	0.082	0.075
Mean	0.524	0.067	0.250	0.114	0.095
Std. Error	0.230	0.009	0.073	0.027	0.025
Standard Dev	0.651	0.025	0.207	0.077	0.071
Variance	0.424	0.001	0.043	0.006	0.005

	LOI	TOTAL	AG	AL	AS
N of cases	8	8	8	8	8
Minimum	5.940	93.820	0.100	0.950	13.000
Maximum	22.130	100.150	67.000	3.540	4850.000
Range	16.190	6.330	66.900	2.590	4837.000
Median	8.740	99.540	13.000	2.770	88.000
Mean	10.435	98.308	23.075	2.365	716.125
Std. Error	1.810	0.899	8.180	0.347	591.747
Standard Dev	5.118	2.542	23.137	0.981	1673.713
Variance	26.195	6.463	535.302	0.962	2801315.839

	AU	BA	BI	CA	CD
N of cases	8	8	8	8	8
Minimum	4.000	55.000	0.100	0.025	-0.100
Maximum	10.000	500.000	1.600	0.050	0.300
Range	6.000	445.000	1.500	0.025	0.400
Median	6.500	125.000	0.600	0.034	0.150
Mean	6.750	208.125	0.787	0.034	0.088
Std. Error	0.796	63.252	0.226	0.003	0.058
Standard Dev	2.252	178.904	0.638	0.008	0.164
Variance	5.071	32006.696	0.407	0.000	0.027

	CE	CL_XRF	CO	CR	CS
N of cases	8	6	8	8	8
Minimum	19.000	0.010	0.900	4.000	0.200
Maximum	360.000	0.032	54.000	89.000	0.800
Range	341.000	0.022	53.100	85.000	0.600
Median	47.750	0.014	7.200	17.000	0.200
Mean	83.125	0.016	18.700	29.625	0.288
Std. Error	40.020	0.003	7.533	10.820	0.074
Standard Dev	113.195	0.008	21.307	30.603	0.210
Variance	12813.054	0.000	454.000	936.554	0.044

	CU	DY	ER	EU	FE
N of cases	8	8	8	8	8
Minimum	240.000	1.050	0.400	0.330	7.870
Maximum	4250.000	2.800	1.250	1.300	45.400
Range	4010.000	1.750	0.850	0.970	37.530
Median	2675.000	1.700	0.775	0.710	32.950
Mean	2298.750	1.750	0.775	0.725	31.909
Std. Error	513.932	0.234	0.116	0.114	4.110
Standard Dev	1453.620	0.663	0.327	0.323	11.626
Variance	2113012.500	0.439	0.107	0.104	135.153

	GA	GD	HF	HO	IN
N of cases	8	8	8	8	8
Minimum	4.300	1.300	-1.000	0.130	-0.050
Maximum	25.000	3.700	3.000	0.470	0.200
Range	20.700	2.400	4.000	0.340	0.250
Median	7.250	2.500	1.000	0.275	0.150
Mean	10.163	2.569	0.750	0.274	0.119
Std. Error	2.557	0.320	0.559	0.045	0.030
Standard Dev	7.234	0.906	1.581	0.126	0.084
Variance	52.326	0.821	2.500	0.016	0.007

	K	LA	LU	MG	MN
N of cases	8	8	8	8	8
Minimum	0.050	9.500	0.060	0.044	25.000
Maximum	0.600	190.000	0.170	0.140	95.000
Range	0.550	180.500	0.110	0.096	70.000
Median	0.122	29.250	0.110	0.103	40.000
Mean	0.216	45.875	0.110	0.095	45.000
Std. Error	0.067	20.866	0.013	0.012	7.906
Standard Dev	0.191	59.019	0.037	0.034	22.361
Variance	0.036	3483.268	0.001	0.001	500.000

	MO	NA	NB	ND	NI
N of cases	8	8	8	8	8
Minimum	6.000	0.015	-5.000	9.500	-2.000
Maximum	120.000	1.710	-5.000	100.000	135.000
Range	114.000	1.695	0.000	90.500	137.000
Median	67.500	0.027	-5.000	22.250	18.000
Mean	65.750	0.265	-5.000	31.250	40.250
Std. Error	11.032	0.208	0.000	10.228	17.365
Standard Dev	31.203	0.588	0.000	28.930	49.114
Variance	973.643	0.346	0.000	836.929	2412.214

	P	PB	PR	RB	S
N of cases	8	8	8	8	8
Minimum	110.000	35.000	2.600	3.300	1000.000
Maximum	500.000	17200.000	35.000	16.500	44600.000
Range	390.000	17165.000	32.400	13.200	43600.000
Median	177.500	825.000	6.250	8.000	1300.000
Mean	213.750	2841.875	9.625	8.363	7737.500
Std. Error	42.223	2056.485	3.722	1.509	5377.464
Standard Dev	119.426	5816.617	10.528	4.269	15209.765
Variance	14262.500	3.38330E+07	110.845	18.228	2.31337E+08

	SB	SE	SM	SN	SR
N of cases	8	8	8	8	8
Minimum	-0.500	2.000	2.300	0.400	5.000
Maximum	11.000	6.000	12.000	23.500	220.000
Range	11.500	4.000	9.700	23.100	215.000
Median	1.000	3.000	4.550	1.250	10.500
Mean	2.438	3.313	5.475	4.338	38.438
Std. Error	1.283	0.517	1.067	2.780	26.055
Standard Dev	3.630	1.462	3.018	7.863	73.694
Variance	13.174	2.138	9.111	61.834	5430.746

	TB	TE	TH	TI	TL
N of cases	8	8	8	8	8
Minimum	0.200	0.400	5.500	1000.000	0.200
Maximum	0.540	1.100	30.000	2950.000	25.500
Range	0.340	0.700	24.500	1950.000	25.300
Median	0.385	0.600	11.000	1175.000	0.900
Mean	0.355	0.612	12.875	1575.000	4.100
Std. Error	0.043	0.079	2.785	266.089	3.064
Standard Dev	0.121	0.223	7.877	752.614	8.667
Variance	0.015	0.050	62.054	566428.571	75.123

	TM	U	V	W	Y
N of cases	8	8	8	8	8
Minimum	-0.050	1.450	11.000	1.400	2.600
Maximum	0.200	6.500	94.000	14.000	8.500
Range	0.250	5.050	83.000	12.600	5.900
Median	0.100	3.900	20.500	6.500	4.900
Mean	0.106	4.256	30.375	7.550	5.125
Std. Error	0.029	0.584	9.653	1.760	0.758
Standard Dev	0.082	1.651	27.302	4.979	2.143
Variance	0.007	2.725	745.411	24.789	4.594

	YB	ZN	ZR_XRF
N of cases	8	8	6
Minimum	0.250	16.000	63.000
Maximum	1.050	120.000	147.000
Range	0.800	104.000	84.000
Median	0.650	52.500	110.000
Mean	0.637	55.625	107.500
Std. Error	0.094	11.694	14.687
Standard Dev	0.266	33.075	35.976
Variance	0.071	1093.982	1294.300

Gravel - statistical summary

	AG	AL	AS	AU	BA
N of cases	7	7	7	7	7
Minimum	-0.100	2.870	4.500	-1.000	155.000
Maximum	0.200	4.470	95.000	3.000	1350.000
Range	0.300	1.600	90.500	4.000	1195.000
Median	0.200	3.420	36.500	-1.000	390.000
Mean	0.129	3.616	40.929	0.286	482.857
Std. Error	0.042	0.241	12.107	0.644	153.040
Standard Dev	0.111	0.637	32.033	1.704	404.906
Variance	0.012	0.405	1026.119	2.905	163948.810

	BI	CA	CD	CE	CO
N of cases	7	7	7	7	7
Minimum	0.300	0.070	-0.100	51.000	2.600
Maximum	1.900	0.240	1.000	87.000	110.000
Range	1.600	0.170	1.100	36.000	107.400
Median	0.800	0.140	-0.100	62.000	5.000
Mean	0.929	0.161	0.171	64.429	19.743
Std. Error	0.233	0.025	0.161	5.051	15.050
Standard Dev	0.616	0.065	0.427	13.365	39.818
Variance	0.379	0.004	0.182	178.619	1585.463

	CR	CS	CU	DY	ER
N of cases	7	7	7	7	7
Minimum	30.000	0.800	12.000	1.550	0.750
Maximum	170.000	2.500	75.000	4.100	1.700
Range	140.000	1.700	63.000	2.550	0.950
Median	110.000	1.500	21.000	2.300	1.100
Mean	90.143	1.400	27.429	2.707	1.221
Std. Error	19.317	0.229	8.243	0.346	0.141
Standard Dev	51.109	0.606	21.809	0.915	0.374
Variance	2612.143	0.367	475.619	0.837	0.140

	EU	FE	GA	GD	HF
N of cases	7	7	7	7	7
Minimum	0.690	2.640	7.500	2.700	2.000
Maximum	1.800	24.300	19.000	6.000	4.000
Range	1.110	21.660	11.500	3.300	2.000
Median	0.920	12.900	13.000	4.200	3.000
Mean	1.107	11.754	13.000	4.314	3.143
Std. Error	0.158	2.904	1.397	0.463	0.261
Standard Dev	0.418	7.683	3.697	1.225	0.690
Variance	0.175	59.032	13.667	1.501	0.476

	HO	IN	K	LA	LU
N of cases	7	7	7	7	7
Minimum	0.250	-0.050	0.250	25.500	0.090
Maximum	0.650	0.150	1.160	55.000	0.230
Range	0.400	0.200	0.910	29.500	0.140
Median	0.410	0.100	0.520	35.500	0.140
Mean	0.451	0.043	0.566	36.857	0.161
Std. Error	0.055	0.034	0.120	3.882	0.021
Standard Dev	0.145	0.089	0.318	10.270	0.055
Variance	0.021	0.008	0.101	105.476	0.003

	MG	MN	MO	NA	NB
N of cases	7	7	7	7	7
Minimum	0.070	70.000	0.600	0.210	2.000
Maximum	0.350	4250.000	5.500	0.680	5.000
Range	0.280	4180.000	4.900	0.470	3.000
Median	0.140	105.000	2.400	0.280	3.500
Mean	0.184	699.286	2.529	0.343	3.571
Std. Error	0.043	591.970	0.647	0.064	0.385
Standard Dev	0.113	1566.204	1.712	0.170	1.018
Variance	0.013	2452995.238	2.932	0.029	1.036

	ND	NI	P	PB	PR
N of cases	7	7	7	7	7
Minimum	22.000	5.000	140.000	16.500	6.500
Maximum	44.000	71.000	210.000	440.000	11.500
Range	22.000	66.000	70.000	423.500	5.000
Median	28.000	9.000	160.000	87.000	8.000
Mean	31.143	17.286	167.857	120.786	8.571
Std. Error	3.199	9.005	8.719	54.178	0.798
Standard Dev	8.464	23.824	23.068	143.342	2.110
Variance	71.643	567.571	532.143	20546.821	4.452

	RB	S	SB	SE	SM
N of cases	7	7	7	7	7
Minimum	11.500	50.000	-0.500	-0.500	4.400
Maximum	53.000	600.000	2.500	2.000	8.500
Range	41.500	550.000	3.000	2.500	4.100
Median	23.000	300.000	1.000	1.000	5.500
Mean	25.071	271.429	0.714	0.714	6.157
Std. Error	5.548	80.812	0.461	0.360	0.628
Standard Dev	14.678	213.809	1.220	0.951	1.662
Variance	215.452	45714.286	1.488	0.905	2.763

	SN	SR	TB	TE	TH
N of cases	7	7	7	7	7
Minimum	1.400	22.000	0.260	-0.200	14.500
Maximum	2.700	72.000	0.700	0.300	51.000
Range	1.300	50.000	0.440	0.500	36.500
Median	2.200	44.000	0.420	-0.200	28.500
Mean	2.057	44.500	0.463	-0.071	26.571
Std. Error	0.169	7.063	0.056	0.084	4.987
Standard Dev	0.447	18.686	0.148	0.221	13.195
Variance	0.200	349.167	0.022	0.049	174.119

	TI	TL	TM	U	V
N of cases	7	7	7	7	7
Minimum	1450.000	0.100	0.100	2.100	54.000
Maximum	2750.000	0.700	0.250	3.600	340.000
Range	1300.000	0.600	0.150	1.500	286.000
Median	1950.000	0.300	0.150	2.400	200.000
Mean	2042.857	0.329	0.171	2.600	177.857
Std. Error	190.996	0.078	0.018	0.193	43.195
Standard Dev	505.329	0.206	0.049	0.510	114.284
Variance	255357.143	0.042	0.002	0.260	13060.810

	W	Y	YB	ZN
N of cases	7	7	7	7
Minimum	0.300	6.000	0.600	10.500
Maximum	0.900	16.000	1.600	59.000
Range	0.600	10.000	1.000	48.500
Median	0.500	10.000	1.100	19.500
Mean	0.586	10.643	1.143	24.929
Std. Error	0.094	1.375	0.136	6.113
Standard Dev	0.248	3.637	0.361	16.175
Variance	0.061	13.226	0.130	261.619

Sulfidic mud with gravel - statistical summary

	AG	AL	AS	AU	BA
N of cases	4	4	4	4	4
Minimum	0.100	2.710	18.000	-1.000	500.000
Maximum	0.200	3.960	93.000	-1.000	550.000
Range	0.100	1.250	75.000	0.000	50.000
Median	0.150	3.580	50.500	-1.000	525.000
Mean	0.150	3.458	53.000	-1.000	525.000
Std. Error	0.029	0.269	19.283	0.000	14.434
Standard Dev	0.058	0.537	38.566	0.000	28.868
Variance	0.003	0.288	1487.333	0.000	833.333

	BI	CA	CD	CE	CO
N of cases	4	4	4	4	4
Minimum	0.300	0.140	-0.100	84.000	7.500
Maximum	1.500	0.360	-0.100	115.000	16.000
Range	1.200	0.220	0.000	31.000	8.500
Median	0.500	0.300	-0.100	98.500	9.500
Mean	0.700	0.275	-0.100	99.000	10.625
Std. Error	0.274	0.049	0.000	6.868	1.897
Standard Dev	0.548	0.097	0.000	13.736	3.794
Variance	0.300	0.010	0.000	188.667	14.396

	CR	CS	CU	DY	ER
N of cases	4	4	4	4	4
Minimum	27.000	0.900	12.000	3.400	1.800
Maximum	105.000	1.700	105.000	5.000	2.700
Range	78.000	0.800	93.000	1.600	0.900
Median	48.500	1.200	30.000	4.100	2.100
Mean	57.250	1.250	44.250	4.150	2.175
Std. Error	17.466	0.185	20.726	0.366	0.193
Standard Dev	34.932	0.370	41.452	0.733	0.386
Variance	1220.250	0.137	1718.250	0.537	0.149

	EU	FE	GA	GD	HF
N of cases	4	4	4	4	4
Minimum	1.250	3.300	10.000	5.500	2.000
Maximum	1.850	13.500	13.500	7.500	3.000
Range	0.600	10.200	3.500	2.000	1.000
Median	1.600	6.885	11.000	6.750	3.000
Mean	1.575	7.643	11.375	6.625	2.750
Std. Error	0.138	2.448	0.774	0.515	0.250
Standard Dev	0.275	4.895	1.548	1.031	0.500
Variance	0.076	23.966	2.396	1.062	0.250

	HO	IN	K	LA	LU
N of cases	4	4	4	4	4
Minimum	0.650	-0.050	0.610	43.000	0.230
Maximum	0.950	0.100	1.360	57.000	0.320
Range	0.300	0.150	0.750	14.000	0.090
Median	0.780	-0.050	1.045	50.250	0.255
Mean	0.790	-0.013	1.015	50.125	0.265
Std. Error	0.068	0.038	0.196	2.947	0.019
Standard Dev	0.136	0.075	0.391	5.893	0.039
Variance	0.018	0.006	0.153	34.729	0.002

	MG	MN	MO	NA	NB
N of cases	4	4	4	4	4
Minimum	0.140	190.000	1.200	0.340	2.500
Maximum	0.280	600.000	3.600	0.870	4.500
Range	0.140	410.000	2.400	0.530	2.000
Median	0.200	330.000	2.200	0.640	3.000
Mean	0.205	362.500	2.300	0.623	3.250
Std. Error	0.029	96.814	0.640	0.129	0.479
Standard Dev	0.058	193.628	1.281	0.258	0.957
Variance	0.003	37491.667	1.640	0.066	0.917

	ND	NI	P	PB	PR
N of cases	4	4	4	4	4
Minimum	36.000	6.000	210.000	100.000	10.500
Maximum	51.000	14.000	500.000	600.000	14.500
Range	15.000	8.000	290.000	500.000	4.000
Median	46.250	11.500	270.000	262.500	12.750
Mean	44.875	10.750	312.500	306.250	12.625
Std. Error	3.430	1.702	66.128	123.244	0.875
Standard Dev	6.860	3.403	132.256	246.488	1.750
Variance	47.063	11.583	17491.667	60756.250	3.063

	RB	S	SB	SE	SM
N of cases	4	4	4	4	4
Minimum	26.000	150.000	-0.500	1.500	8.000
Maximum	60.000	350.000	2.000	2.500	11.000
Range	34.000	200.000	2.500	1.000	3.000
Median	43.250	225.000	1.250	1.750	9.750
Mean	43.125	237.500	1.000	1.875	9.625
Std. Error	8.001	42.696	0.612	0.239	0.688
Standard Dev	16.002	85.391	1.225	0.479	1.377
Variance	256.062	7291.667	1.500	0.229	1.896

	SN	SR	TB	TE	TH
N of cases	4	4	4	4	4
Minimum	1.600	46.000	0.530	-0.200	13.000
Maximum	2.000	83.000	0.800	0.400	32.500
Range	0.400	37.000	0.270	0.600	19.500
Median	1.800	74.500	0.670	-0.200	17.000
Mean	1.800	69.500	0.667	-0.050	19.875
Std. Error	0.091	8.211	0.062	0.150	4.317
Standard Dev	0.183	16.422	0.124	0.300	8.635
Variance	0.033	269.667	0.015	0.090	74.563

	TI	TL	TM	U	V
N of cases	4	4	4	4	4
Minimum	1450.000	0.400	0.250	4.000	58.000
Maximum	2500.000	0.800	0.350	5.500	230.000
Range	1050.000	0.400	0.100	1.500	172.000
Median	2075.000	0.500	0.275	5.100	107.500
Mean	2025.000	0.550	0.287	4.925	125.750
Std. Error	218.422	0.087	0.024	0.361	38.984
Standard Dev	436.845	0.173	0.048	0.723	77.967
Variance	190833.333	0.030	0.002	0.522	6078.917

	W	Y	YB	ZN
N of cases	4	4	4	4
Minimum	0.200	16.000	1.750	8.500
Maximum	0.400	24.500	2.300	11.500
Range	0.200	8.500	0.550	3.000
Median	0.400	20.250	1.825	10.500
Mean	0.350	20.250	1.925	10.250
Std. Error	0.050	1.963	0.127	0.629
Standard Dev	0.100	3.926	0.253	1.258
Variance	0.010	15.417	0.064	1.583

Loam - statistical summary

	AG	AL	AS	AU	BA
N of cases	21	21	21	21	21
Minimum	-0.100	1.470	-0.500	-1.000	130.000
Maximum	4.400	6.570	490.000	3.000	1100.000
Range	4.500	5.100	490.500	4.000	970.000
Median	0.100	2.570	7.000	-1.000	270.000
Mean	0.514	3.291	68.571	-0.429	354.762
Std. Error	0.284	0.324	34.359	0.245	59.898
Standard Dev	1.303	1.487	157.454	1.121	274.488
Variance	1.698	2.210	24791.657	1.257	75343.690

	BI	CA	CD	CE	CO
N of cases	21	21	21	21	21
Minimum	0.200	0.100	-0.100	37.000	1.500
Maximum	0.800	3.990	0.700	120.000	5.500
Range	0.600	3.890	0.800	83.000	4.000
Median	0.300	0.220	-0.100	64.000	2.500
Mean	0.386	0.506	0.052	66.167	2.752
Std. Error	0.038	0.207	0.058	4.630	0.221
Standard Dev	0.174	0.948	0.264	21.219	1.013
Variance	0.030	0.899	0.070	450.233	1.027

	CR	CS	CU	DY	ER
N of cases	21	21	21	21	21
Minimum	14.000	0.700	7.000	1.300	0.550
Maximum	91.000	2.300	250.000	3.200	1.350
Range	77.000	1.600	243.000	1.900	0.800
Median	31.000	1.300	10.000	2.100	0.850
Mean	37.619	1.386	38.286	2.098	0.890
Std. Error	4.745	0.105	15.786	0.118	0.049
Standard Dev	21.743	0.483	72.342	0.539	0.224
Variance	472.748	0.233	5233.314	0.290	0.050

	EU	FE	GA	GD	HF
N of cases	21	21	21	21	21
Minimum	0.530	1.180	3.600	2.400	2.000
Maximum	1.450	12.100	24.500	5.500	4.000
Range	0.920	10.920	20.900	3.100	2.000
Median	0.760	2.000	7.500	3.900	3.000
Mean	0.850	3.820	9.271	3.829	3.238
Std. Error	0.060	0.746	1.339	0.172	0.136
Standard Dev	0.277	3.418	6.138	0.788	0.625
Variance	0.077	11.681	37.673	0.621	0.390

	HO	IN	K	LA	LU
N of cases	21	21	21	21	21
Minimum	0.200	-0.050	0.340	21.500	0.080
Maximum	0.510	0.100	1.410	65.000	0.190
Range	0.310	0.150	1.070	43.500	0.110
Median	0.320	-0.050	0.640	35.000	0.120
Mean	0.336	-0.019	0.738	36.476	0.126
Std. Error	0.020	0.013	0.066	2.453	0.006
Standard Dev	0.090	0.058	0.301	11.240	0.029
Variance	0.008	0.003	0.090	126.337	0.001

	MG	MN	MO	NA	NB
N of cases	21	21	21	21	21
Minimum	0.060	85.000	0.300	0.150	1.500
Maximum	0.680	400.000	24.000	1.650	19.000
Range	0.620	315.000	23.700	1.500	17.500
Median	0.120	125.000	0.800	0.330	4.500
Mean	0.174	148.810	3.419	0.481	6.286
Std. Error	0.035	19.451	1.462	0.087	1.129
Standard Dev	0.159	89.133	6.702	0.396	5.176
Variance	0.025	7944.762	44.913	0.157	26.789

	ND	NI	P	PB	PR
N of cases	21	21	21	21	21
Minimum	16.000	2.000	100.000	8.500	5.000
Maximum	43.000	11.000	800.000	9850.000	12.000
Range	27.000	9.000	700.000	9841.500	7.000
Median	26.500	7.000	195.000	24.500	8.000
Mean	27.119	6.381	257.619	1195.452	8.000
Std. Error	1.692	0.455	43.945	653.916	0.431
Standard Dev	7.755	2.085	201.380	2996.618	1.975
Variance	60.148	4.348	40554.048	8979719.448	3.900

	RB	S	SB	SE	SM
N of cases	21	21	21	21	21
Minimum	15.500	100.000	-0.500	-0.500	3.300
Maximum	58.000	5850.000	12.000	1.000	8.000
Range	42.500	5750.000	12.500	1.500	4.700
Median	24.000	350.000	-0.500	-0.500	4.900
Mean	29.952	1259.524	1.167	0.024	5.276
Std. Error	2.856	387.446	0.801	0.140	0.312
Standard Dev	13.090	1775.501	3.672	0.642	1.430
Variance	171.348	3152404.762	13.483	0.412	2.044

	SN	SR	TB	TE	TH
N of cases	21	21	21	21	21
Minimum	0.700	22.000	0.230	-0.200	7.500
Maximum	4.400	210.000	0.600	-0.200	22.500
Range	3.700	188.000	0.370	0.000	15.000
Median	1.300	45.000	0.360	-0.200	13.000
Mean	1.781	57.905	0.384	-0.200	14.048
Std. Error	0.245	9.206	0.022	0.000	0.854
Standard Dev	1.123	42.187	0.103	0.000	3.914
Variance	1.261	1779.765	0.011	0.000	15.323

	TI	TL	TM	U	V
N of cases	21	21	21	21	21
Minimum	1250.000	0.100	0.100	1.150	24.000
Maximum	5500.000	11.000	0.150	3.800	145.000
Range	4250.000	10.900	0.050	2.650	121.000
Median	2300.000	0.200	0.100	1.850	46.000
Mean	2754.762	1.662	0.121	2.081	57.048
Std. Error	263.468	0.780	0.006	0.151	6.972
Standard Dev	1207.363	3.576	0.025	0.692	31.948
Variance	1457726.190	12.784	0.001	0.479	1020.648

	W	Y	YB	ZN
N of cases	21	21	21	21
Minimum	0.100	4.900	0.550	6.000
Maximum	2.600	11.500	1.300	220.000
Range	2.500	6.600	0.750	214.000
Median	0.300	7.500	0.800	12.000
Mean	0.671	7.848	0.850	38.405
Std. Error	0.166	0.406	0.045	14.551
Standard Dev	0.761	1.861	0.208	66.679
Variance	0.579	3.462	0.043	4446.065

Sulfidic zones in bedrock (mineralisation) - statistical summary

	SIO2_XRF	TIO2_XRF	AL2O3_XRF	FE2O3_XRF	MNO_XRF
N of cases	3	3	3	3	3
Minimum	12.800	0.090	2.110	3.020	0.140
Maximum	69.160	0.240	9.310	22.540	0.550
Range	56.360	0.150	7.200	19.520	0.410
Median	29.690	0.210	4.920	8.910	0.510
Mean	37.217	0.180	5.447	11.490	0.400
Std. Error	16.699	0.046	2.095	5.781	0.131
Standard Dev	28.924	0.079	3.629	10.012	0.226
Variance	836.600	0.006	13.168	100.250	0.051

	MGO_XRF	CAO_XRF	K2O_XRF	NA2O_XRF	P2O5_XRF
N of cases	3	3	3	3	3
Minimum	0.380	3.740	0.620	1.440	0.050
Maximum	0.580	12.220	2.340	1.790	0.090
Range	0.200	8.480	1.720	0.350	0.040
Median	0.490	11.830	1.050	1.720	0.080
Mean	0.483	9.263	1.337	1.650	0.073
Std. Error	0.058	2.764	0.517	0.107	0.012
Standard Dev	0.100	4.787	0.895	0.185	0.021
Variance	0.010	22.918	0.801	0.034	0.000

	LOI	TOTAL	AG	AL	AS
N of cases	3	3	3	3	3
Minimum	1.510	74.680	3.200	1.280	135.000
Maximum	21.530	91.850	22.000	5.110	600.000
Range	20.020	17.170	18.800	3.830	465.000
Median	13.600	89.710	6.000	3.660	450.000
Mean	12.213	85.413	10.400	3.350	395.000
Std. Error	5.821	5.402	5.856	1.116	137.022
Standard Dev	10.082	9.357	10.143	1.934	237.329
Variance	101.642	87.548	102.880	3.739	56325.000

	AU	BA	BI	CA	CD
N of cases	3	3	3	3	3
Minimum	1.000	35.000	0.400	2.880	1.200
Maximum	6.000	290.000	10.000	11.800	1950.000
Range	5.000	255.000	9.600	8.920	1948.800
Median	4.000	110.000	0.400	10.400	900.000
Mean	3.667	145.000	3.600	8.360	950.400
Std. Error	1.453	75.664	3.200	2.770	563.134
Standard Dev	2.517	131.053	5.543	4.797	975.377
Variance	6.333	17175.000	30.720	23.013	951360.480

	CE	CL_XRF	CO	CR	CS
N of cases	3	3	3	3	3
Minimum	30.500	0.060	5.000	11.000	0.300
Maximum	59.000	0.110	8.000	23.000	3.700
Range	28.500	0.050	3.000	12.000	3.400
Median	47.500	0.080	7.500	21.000	3.100
Mean	45.667	0.083	6.833	18.333	2.367
Std. Error	8.278	0.015	0.928	3.712	1.048
Standard Dev	14.338	0.025	1.607	6.429	1.815
Variance	205.583	0.001	2.583	41.333	3.293

	CU	DY	ER	EU	FE
N of cases	3	3	3	3	3
Minimum	60.000	2.200	1.100	0.490	2.030
Maximum	125.000	3.900	2.100	0.970	18.000
Range	65.000	1.700	1.000	0.480	15.970
Median	110.000	3.000	1.650	0.870	7.860
Mean	98.333	3.033	1.617	0.777	9.297
Std. Error	19.650	0.491	0.289	0.146	4.666
Standard Dev	34.034	0.850	0.501	0.253	8.081
Variance	1158.333	0.723	0.251	0.064	65.308

	GA	GD	HF	HG	HO
N of cases	3	3	3	3	3
Minimum	6.000	2.800	-1.000	-0.050	0.400
Maximum	11.000	4.600	2.000	-0.050	0.740
Range	5.000	1.800	3.000	0.000	0.340
Median	9.000	4.000	2.000	-0.050	0.550
Mean	8.667	3.800	1.000	-0.050	0.563
Std. Error	1.453	0.529	1.000	0.000	0.098
Standard Dev	2.517	0.917	1.732	0.000	0.170
Variance	6.333	0.840	3.000	0.000	0.029

	IN	K	LA	LU	MG
N of cases	3	3	3	3	3
Minimum	-0.050	0.600	15.500	0.130	0.180
Maximum	0.400	2.080	29.500	0.260	0.340
Range	0.450	1.480	14.000	0.130	0.160
Median	0.050	1.230	22.000	0.230	0.320
Mean	0.133	1.303	22.333	0.207	0.280
Std. Error	0.136	0.429	4.045	0.039	0.050
Standard Dev	0.236	0.743	7.006	0.068	0.087
Variance	0.056	0.552	49.083	0.005	0.008

	MN	MO	NA	NB	ND
N of cases	3	3	3	3	3
Minimum	1050.000	2.800	0.210	1.500	14.000
Maximum	4900.000	24.000	1.400	5.500	26.000
Range	3850.000	21.200	1.190	4.000	12.000
Median	4750.000	16.000	0.790	5.500	23.000
Mean	3566.667	14.267	0.800	4.167	21.000
Std. Error	1259.078	6.181	0.344	1.333	3.606
Standard Dev	2180.787	10.706	0.595	2.309	6.245
Variance	4755833.333	114.613	0.354	5.333	39.000

	NI	P	PB	PR	RB
N of cases	3	3	3	3	3
Minimum	12.000	185.000	700.000	3.600	18.500
Maximum	26.000	350.000	22900.000	7.000	63.000
Range	14.000	165.000	22200.000	3.400	44.500
Median	25.000	350.000	5600.000	6.000	41.000
Mean	21.000	295.000	9733.333	5.533	40.833
Std. Error	4.509	55.000	6733.581	1.009	12.846
Standard Dev	7.810	95.263	11662.904	1.747	22.250
Variance	61.000	9075.000	1.36023E+08	3.053	495.083

	S	SB	SE	SM	SN
N of cases	3	3	3	3	3
Minimum	16700.000	0.500	0.500	2.800	0.800
Maximum	233000.000	10.000	1.500	5.000	2.700
Range	216300.000	9.500	1.000	2.200	1.900
Median	114000.000	2.000	1.000	4.800	2.300
Mean	121233.333	4.167	1.000	4.200	1.933
Std. Error	62545.086	2.949	0.289	0.702	0.578
Standard Dev	108331.267	5.107	0.500	1.217	1.002
Variance	1.17357E+10	26.083	0.250	1.480	1.003

	SR	TB	TE	TH	TI
N of cases	3	3	3	3	3
Minimum	85.000	0.320	-0.200	2.900	700.000
Maximum	200.000	0.540	0.900	8.500	1850.000
Range	115.000	0.220	1.100	5.600	1150.000
Median	160.000	0.480	-0.200	8.500	1650.000
Mean	148.333	0.447	0.167	6.633	1400.000
Std. Error	33.706	0.066	0.367	1.867	354.730
Standard Dev	58.381	0.114	0.635	3.233	614.410
Variance	3408.333	0.013	0.403	10.453	377500.000

	TL	TM	U	V	W
N of cases	3	3	3	3	3
Minimum	23.000	0.150	1.350	17.000	0.600
Maximum	88.000	0.300	1.900	32.000	1.400
Range	65.000	0.150	0.550	15.000	0.800
Median	30.500	0.250	1.800	28.000	0.800
Mean	47.167	0.233	1.683	25.667	0.933
Std. Error	20.531	0.044	0.169	4.485	0.240
Standard Dev	35.561	0.076	0.293	7.767	0.416
Variance	1264.583	0.006	0.086	60.333	0.173

	Y	YB	ZN	ZR_XRF
N of cases	3	3	3	3
Minimum	14.000	0.850	60.000	-5.000
Maximum	23.000	1.800	83100.000	129.000
Range	9.000	0.950	83040.000	134.000
Median	14.500	1.600	48300.000	79.000
Mean	17.167	1.417	43820.000	67.667
Std. Error	2.920	0.289	24076.013	39.095
Standard Dev	5.058	0.501	41700.878	67.715
Variance	25.583	0.251	1.73896E+09	4585.333

Sand - statistical summary

	AG	AL	AS	AU	BA
N of cases	11	11	11	11	11
Minimum	-0.100	1.850	-0.500	-1.000	165.000
Maximum	0.300	5.380	12.500	18.500	430.000
Range	0.400	3.530	13.000	19.500	265.000
Median	0.100	3.030	4.500	-1.000	220.000
Mean	0.073	3.384	5.909	1.409	255.909
Std. Error	0.047	0.347	1.316	1.741	25.600
Standard Dev	0.156	1.151	4.364	5.774	84.906
Variance	0.024	1.325	19.041	33.341	7209.091

	BI	CA	CD	CE	CL_XRF
N of cases	11	11	11	11	1
Minimum	0.200	0.120	-0.100	40.500	0.210
Maximum	0.600	0.300	0.100	91.000	0.210
Range	0.400	0.180	0.200	50.500	0.000
Median	0.300	0.145	-0.100	67.000	0.210
Mean	0.345	0.171	-0.082	70.773	0.210
Std. Error	0.039	0.017	0.018	4.665	.
Standard Dev	0.129	0.056	0.060	15.472	.
Variance	0.017	0.003	0.004	239.368	.

	CO	CR	CS	CU	DY
N of cases	11	11	11	11	11
Minimum	1.500	10.000	0.700	5.000	1.350
Maximum	7.500	120.000	3.700	21.000	2.600
Range	6.000	110.000	3.000	16.000	1.250
Median	1.800	24.000	1.100	7.000	1.850
Mean	3.045	34.636	1.473	9.545	2.005
Std. Error	0.610	9.513	0.300	1.826	0.134
Standard Dev	2.023	31.551	0.994	6.056	0.446
Variance	4.091	995.455	0.988	36.673	0.199

	ER	EU	FE	GA	GD
N of cases	11	11	11	11	11
Minimum	0.700	0.560	1.020	4.600	2.500
Maximum	1.250	1.300	10.700	16.000	5.000
Range	0.550	0.740	9.680	11.400	2.500
Median	0.850	0.820	2.070	8.000	4.000
Mean	0.882	0.851	3.068	9.373	3.827
Std. Error	0.056	0.064	0.847	1.231	0.255
Standard Dev	0.186	0.213	2.808	4.081	0.845
Variance	0.035	0.045	7.885	16.658	0.714

	HF	HO	IN	K	LA
N of cases	11	11	11	11	11
Minimum	2.000	0.240	-0.050	0.400	22.000
Maximum	4.000	0.470	0.100	1.230	48.500
Range	2.000	0.230	0.150	0.830	26.500
Median	3.000	0.310	-0.050	0.640	40.500
Mean	3.182	0.337	-0.036	0.725	38.818
Std. Error	0.226	0.024	0.014	0.086	2.405
Standard Dev	0.751	0.080	0.045	0.286	7.976
Variance	0.564	0.006	0.002	0.082	63.614

	LU	MG	MN	MO	NA
N of cases	11	11	11	11	11
Minimum	0.090	0.050	65.000	0.200	0.210
Maximum	0.150	0.460	330.000	1.600	1.210
Range	0.060	0.410	265.000	1.400	1.000
Median	0.130	0.100	75.000	0.900	0.590
Mean	0.123	0.146	103.182	0.855	0.609
Std. Error	0.007	0.036	23.338	0.140	0.103
Standard Dev	0.023	0.120	77.404	0.466	0.340
Variance	0.001	0.014	5991.364	0.217	0.116

	NB	ND	NI	P	PB
N of cases	11	11	11	11	11
Minimum	1.000	16.000	4.000	95.000	10.000
Maximum	10.000	41.500	19.000	270.000	58.000
Range	9.000	25.500	15.000	175.000	48.000
Median	3.500	31.500	6.000	115.000	22.000
Mean	4.545	30.364	7.727	130.909	27.000
Std. Error	0.849	2.009	1.287	15.148	4.508
Standard Dev	2.815	6.664	4.268	50.240	14.950
Variance	7.923	44.405	18.218	2524.091	223.500

	PR	RB	S	SB	SE
N of cases	11	11	11	11	11
Minimum	4.800	14.500	-50.000	-0.500	-0.500
Maximum	12.000	84.000	8150.000	-0.500	1.000
Range	7.200	69.500	8200.000	0.000	1.500
Median	8.000	31.500	100.000	-0.500	-0.500
Mean	8.436	35.909	1600.000	-0.500	-0.045
Std. Error	0.604	6.048	807.887	0.000	0.196
Standard Dev	2.004	20.060	2679.459	0.000	0.650
Variance	4.015	402.391	7179500.000	0.000	0.423

	SM	SN	SR	TB	TE
N of cases	11	11	11	11	11
Minimum	2.700	1.000	31.000	0.250	-0.200
Maximum	8.500	2.900	82.000	0.580	-0.200
Range	5.800	1.900	51.000	0.330	0.000
Median	5.500	1.500	49.000	0.400	-0.200
Mean	5.627	1.727	51.091	0.414	-0.200
Std. Error	0.473	0.193	5.628	0.025	0.000
Standard Dev	1.569	0.639	18.667	0.084	0.000
Variance	2.462	0.408	348.441	0.007	0.000

	TH	TI	TL	TM	U
N of cases	11	11	11	11	11
Minimum	10.000	1500.000	0.100	0.100	1.550
Maximum	32.000	4000.000	0.700	0.150	2.900
Range	22.000	2500.000	0.600	0.050	1.350
Median	12.000	2750.000	0.300	0.150	1.900
Mean	14.273	2545.455	0.282	0.127	1.973
Std. Error	1.924	262.631	0.055	0.008	0.140
Standard Dev	6.381	871.050	0.183	0.026	0.465
Variance	40.718	758727.273	0.034	0.001	0.217

	V	W	Y	YB	ZN
N of cases	11	11	11	11	11
Minimum	22.000	-0.100	6.000	0.650	6.000
Maximum	180.000	1.100	12.500	1.000	39.000
Range	158.000	1.200	6.500	0.350	33.000
Median	41.000	0.400	8.000	0.850	11.000
Mean	58.364	0.473	8.455	0.832	14.773
Std. Error	13.783	0.121	0.638	0.039	3.026
Standard Dev	45.713	0.403	2.115	0.131	10.036
Variance	2089.655	0.162	4.473	0.017	100.718

	ZR_XRF
N of cases	1
Minimum	205.000
Maximum	205.000
Range	0.000
Median	205.000
Mean	205.000
Std. Error	.
Standard Dev	.
Variance	.

Saprolite - statistical summary

	SIO2_XRF	TIO2_XRF	AL2O3_XRF	FE2O3_XRF	MNO_XRF
N of cases	67	67	67	67	67
Minimum	46.950	0.259	2.543	0.760	-0.010
Maximum	78.433	0.987	28.960	19.098	0.059
Range	31.483	0.728	26.417	18.338	0.069
Median	65.821	0.710	12.320	7.861	0.001
Mean	66.137	0.684	13.877	8.194	0.008
Std. Error	0.953	0.024	0.629	0.669	0.002
Standard Dev	7.802	0.197	5.149	5.474	0.017
Variance	60.865	0.039	26.508	29.964	0.000

	MGO_XRF	CAO_XRF	K2O_XRF	NA2O_XRF	P2O5_XRF
N of cases	67	67	67	67	67
Minimum	0.052	0.011	0.057	-0.005	0.019
Maximum	2.500	0.424	8.740	8.090	0.400
Range	2.448	0.413	8.682	8.095	0.381
Median	0.243	0.062	1.834	0.140	0.070
Mean	0.412	0.098	1.845	0.358	0.092
Std. Error	0.059	0.011	0.185	0.121	0.009
Standard Dev	0.482	0.089	1.513	0.994	0.070
Variance	0.232	0.008	2.289	0.988	0.005

	LOI	TOTAL	AG	AL	AS
N of cases	67	67	69	69	69
Minimum	1.090	84.960	-0.100	1.040	-0.500
Maximum	15.500	100.480	41.500	14.800	3900.000
Range	14.410	15.520	41.600	13.760	3900.500
Median	7.340	99.340	0.400	8.120	17.000
Mean	7.348	99.064	3.277	8.064	183.638
Std. Error	0.326	0.238	0.859	0.382	74.470
Standard Dev	2.670	1.951	7.136	3.170	618.592
Variance	7.126	3.805	50.921	10.048	382656.595

	AU	BA	BI	CA	CD
N of cases	69	69	69	69	69
Minimum	-1.000	15.000	-0.100	0.011	-0.100
Maximum	125.000	3700.000	7.000	1.310	0.800
Range	126.000	3685.000	7.100	1.299	0.900
Median	2.000	370.000	0.500	0.046	-0.100
Mean	5.014	561.812	0.757	0.115	0.010
Std. Error	1.840	75.493	0.135	0.028	0.023
Standard Dev	15.287	627.089	1.120	0.231	0.193
Variance	233.698	393241.155	1.255	0.054	0.037

	CE	CL_XRF	CO	CR	CS
N of cases	69	36	69	69	69
Minimum	4.000	-0.002	-0.200	3.000	-0.100
Maximum	400.000	0.146	11.500	120.000	30.500
Range	396.000	0.148	11.700	117.000	30.600
Median	67.000	0.049	1.400	46.000	1.200
Mean	94.790	0.052	2.814	49.957	3.403
Std. Error	10.165	0.006	0.364	3.329	0.717
Standard Dev	84.439	0.037	3.025	27.656	5.956
Variance	7129.966	0.001	9.149	764.866	35.475

	CU	DY	ER	EU	FE
N of cases	69	69	69	69	69
Minimum	6.000	0.490	0.250	0.110	0.400
Maximum	900.000	16.000	6.500	8.000	13.400
Range	894.000	15.510	6.250	7.890	13.000
Median	150.000	2.400	1.000	0.940	5.220
Mean	198.899	3.434	1.445	1.433	5.801
Std. Error	22.467	0.444	0.164	0.219	0.474
Standard Dev	186.625	3.686	1.363	1.823	3.936
Variance	34829.063	13.587	1.859	3.322	15.490

	GA	GD	HF	HO	IN
N of cases	69	69	69	69	69
Minimum	4.600	0.450	-1.000	0.090	-0.050
Maximum	34.000	33.500	6.000	2.500	0.200
Range	29.400	33.050	7.000	2.410	0.250
Median	21.500	3.400	4.000	0.380	-0.050
Mean	20.791	5.859	3.580	0.547	-0.001
Std. Error	0.776	0.814	0.154	0.065	0.009
Standard Dev	6.443	6.757	1.277	0.540	0.073
Variance	41.507	45.664	1.630	0.292	0.005

	K	LA	LU	MG	MN
N of cases	69	69	69	69	69
Minimum	0.050	2.000	0.050	0.020	5.000
Maximum	3.800	210.000	0.660	1.410	410.000
Range	3.750	208.000	0.610	1.390	405.000
Median	1.480	45.000	0.150	0.145	50.000
Mean	1.383	58.906	0.180	0.261	78.478
Std. Error	0.114	5.831	0.014	0.036	10.437
Standard Dev	0.947	48.436	0.119	0.300	86.693
Variance	0.897	2346.083	0.014	0.090	7515.665

	MO	NA	NB	ND	NI
N of cases	69	69	69	69	69
Minimum	0.200	0.030	-5.000	2.200	-2.000
Maximum	22.000	6.640	21.500	210.000	34.000
Range	21.800	6.610	26.500	207.800	36.000
Median	1.400	0.100	10.000	29.000	7.000
Mean	4.135	0.385	8.072	43.628	9.261
Std. Error	0.534	0.128	1.044	5.299	1.175
Standard Dev	4.439	1.064	8.671	44.017	9.761
Variance	19.703	1.132	75.186	1937.522	95.284

	P	PB	PR	RB	S
N of cases	69	69	69	69	69
Minimum	65.000	3.500	0.600	0.100	-50.000
Maximum	1050.000	16800.000	55.000	240.000	39900.000
Range	985.000	16796.500	54.400	239.900	39950.000
Median	185.000	50.000	8.000	48.500	500.000
Mean	278.696	1096.464	12.669	61.597	3424.638
Std. Error	28.990	330.248	1.487	6.853	907.783
Standard Dev	240.808	2743.245	12.352	56.925	7540.609
Variance	57988.715	7525391.311	152.580	3240.473	5.68608E+07

	SB	SE	SM	SN	SR
N of cases	69	69	69	69	69
Minimum	-0.500	-0.500	0.450	0.300	1.400
Maximum	17.500	8.000	38.500	69.000	145.000
Range	18.000	8.500	38.050	68.700	143.600
Median	-0.500	0.500	5.500	2.700	34.000
Mean	0.877	1.449	8.352	4.513	35.054
Std. Error	0.366	0.289	1.083	1.037	2.686
Standard Dev	3.037	2.403	8.996	8.611	22.309
Variance	9.224	5.773	80.931	74.155	497.702

	TB	TE	TH	TI	TL
N of cases	69	69	69	69	69
Minimum	0.060	-0.200	6.500	800.000	-0.100
Maximum	3.200	0.800	35.000	5950.000	66.000
Range	3.140	1.000	28.500	5150.000	66.100
Median	0.430	-0.200	18.000	3400.000	0.600
Mean	0.659	0.067	18.406	3164.493	7.291
Std. Error	0.083	0.039	0.781	191.519	1.646
Standard Dev	0.690	0.328	6.488	1590.877	13.674
Variance	0.476	0.108	42.098	2530889.812	186.986

	TM	U	V	W	Y
N of cases	69	69	69	69	69
Minimum	-0.050	1.400	26.000	0.100	2.500
Maximum	0.800	13.500	250.000	4.800	54.000
Range	0.850	12.100	224.000	4.700	51.500
Median	0.150	2.800	100.000	1.700	8.500
Mean	0.196	3.451	101.391	1.748	12.236
Std. Error	0.021	0.255	6.354	0.129	1.338
Standard Dev	0.173	2.119	52.778	1.072	11.114
Variance	0.030	4.492	2785.565	1.148	123.521

	YB	ZN	ZR_XRF
N of cases	69	69	36
Minimum	0.300	3.000	76.000
Maximum	5.000	270.000	460.000
Range	4.700	267.000	384.000
Median	0.950	25.000	206.500
Mean	1.165	50.645	207.694
Std. Error	0.116	7.001	10.724
Standard Dev	0.966	58.153	64.345
Variance	0.932	3381.810	4140.275

Siltstone (fresh to slightly weathered) - statistical summary

	SIO2_XRF	TIO2_XRF	AL2O3_XRF	FE2O3_XRF	MNO_XRF
N of cases	13	13	13	13	13
Minimum	49.770	0.578	11.044	5.766	0.000
Maximum	61.516	0.800	14.870	14.488	0.010
Range	11.746	0.222	3.826	8.721	0.010
Median	54.940	0.620	12.670	8.150	0.006
Mean	55.250	0.637	12.689	8.766	0.006
Std. Error	0.891	0.017	0.305	0.667	0.001
Standard Dev	3.213	0.062	1.099	2.404	0.004
Variance	10.321	0.004	1.207	5.781	0.000

	MGO_XRF	CAO_XRF	K2O_XRF	NA2O_XRF	P2O5_XRF
N of cases	13	13	13	13	13
Minimum	0.157	0.024	1.227	0.510	0.045
Maximum	2.170	2.856	3.541	4.154	0.150
Range	2.013	2.832	2.314	3.644	0.105
Median	2.006	2.345	2.250	3.325	0.124
Mean	1.437	2.022	2.445	3.142	0.107
Std. Error	0.245	0.219	0.191	0.281	0.011
Standard Dev	0.882	0.791	0.688	1.013	0.039
Variance	0.778	0.625	0.473	1.025	0.002

	LOI	TOTAL	AG	AL	AS
N of cases	13	13	13	13	13
Minimum	9.760	98.960	0.200	6.390	3.000
Maximum	17.990	100.630	28.500	13.000	43.500
Range	8.230	1.670	28.300	6.610	40.500
Median	13.520	100.200	2.600	8.470	10.000
Mean	13.472	99.975	4.369	8.882	13.769
Std. Error	0.619	0.149	2.094	0.566	3.143
Standard Dev	2.231	0.536	7.549	2.040	11.333
Variance	4.976	0.287	56.986	4.163	128.442

	AU	BA	BI	CA	CD
N of cases	13	13	13	13	13
Minimum	6.000	85.000	0.100	0.019	-0.100
Maximum	19.000	320.000	0.300	1.930	5.000
Range	13.000	235.000	0.200	1.911	5.100
Median	8.000	105.000	0.200	1.710	0.400
Mean	8.923	126.923	0.208	1.432	0.800
Std. Error	1.083	17.149	0.018	0.148	0.363
Standard Dev	3.904	61.831	0.064	0.533	1.308
Variance	15.244	3823.077	0.004	0.284	1.712

	CE	CL_XRF	CO	CR	CS
N of cases	13	13	13	13	13
Minimum	47.000	0.133	0.600	20.000	0.800
Maximum	99.000	1.377	125.000	87.000	4.100
Range	52.000	1.244	124.400	67.000	3.300
Median	68.000	1.177	38.000	54.000	2.300
Mean	69.077	1.050	45.200	55.538	2.354
Std. Error	4.660	0.100	8.945	6.594	0.284
Standard Dev	16.800	0.361	32.250	23.775	1.025
Variance	282.244	0.130	1040.070	565.269	1.051

	CU	DY	ER	EU	FE
N of cases	13	13	13	13	13
Minimum	155.000	1.900	0.750	0.580	3.530
Maximum	800.000	4.800	2.700	1.400	9.950
Range	645.000	2.900	1.950	0.820	6.420
Median	280.000	2.600	1.250	0.920	5.230
Mean	328.462	3.038	1.573	0.972	5.615
Std. Error	49.699	0.253	0.160	0.069	0.467
Standard Dev	179.192	0.913	0.575	0.249	1.682
Variance	32109.936	0.834	0.331	0.062	2.830

	GA	GD	HF	HO	IN
N of cases	13	13	13	13	13
Minimum	15.500	3.700	2.000	0.270	-0.050
Maximum	23.000	6.000	3.000	0.940	-0.050
Range	7.500	2.300	1.000	0.670	0.000
Median	17.000	4.300	2.000	0.480	-0.050
Mean	17.154	4.515	2.308	0.558	-0.050
Std. Error	0.514	0.235	0.133	0.054	0.000
Standard Dev	1.853	0.846	0.480	0.196	0.000
Variance	3.433	0.716	0.231	0.039	0.000

	K	LA	LU	MG	MN
N of cases	13	13	13	13	13
Minimum	0.950	25.000	0.120	0.070	10.000
Maximum	2.600	56.000	0.390	1.120	45.000
Range	1.650	31.000	0.270	1.050	35.000
Median	1.810	35.000	0.200	1.080	25.000
Mean	1.860	37.500	0.231	0.766	25.385
Std. Error	0.138	2.725	0.022	0.131	3.601
Standard Dev	0.499	9.823	0.078	0.473	12.984
Variance	0.249	96.500	0.006	0.224	168.590

	MO	NA	NB	ND	NI
N of cases	13	13	13	13	13
Minimum	2.800	0.455	-5.000	27.500	-2.000
Maximum	4.700	3.170	10.000	44.000	130.000
Range	1.900	2.715	15.000	16.500	132.000
Median	3.800	2.510	-5.000	33.000	57.000
Mean	3.708	2.286	0.385	35.038	63.077
Std. Error	0.163	0.197	1.741	1.604	7.919
Standard Dev	0.589	0.710	6.279	5.782	28.552
Variance	0.347	0.504	39.423	33.436	815.244

	P	PB	PR	RB	S
N of cases	13	13	13	13	13
Minimum	145.000	20.000	7.000	26.500	11000.000
Maximum	500.000	65.000	12.500	105.000	87400.000
Range	355.000	45.000	5.500	78.500	76400.000
Median	390.000	25.000	9.000	63.000	55300.000
Mean	353.077	28.846	9.462	67.231	52661.538
Std. Error	37.828	3.357	0.523	6.634	4957.247
Standard Dev	136.390	12.103	1.887	23.920	17873.609
Variance	18602.244	146.474	3.561	572.151	3.19466E+08

	SB	SE	SM	SN	SR
N of cases	13	13	13	13	13
Minimum	-0.500	1.500	5.500	0.600	24.500
Maximum	1.000	3.000	8.500	10.000	125.000
Range	1.500	1.500	3.000	9.400	100.500
Median	0.500	1.500	6.500	0.700	105.000
Mean	0.462	1.885	6.731	1.469	98.192
Std. Error	0.089	0.140	0.292	0.712	7.611
Standard Dev	0.320	0.506	1.053	2.568	27.444
Variance	0.103	0.256	1.109	6.592	753.147

	TB	TE	TH	TI	TL
N of cases	13	13	13	13	13
Minimum	0.470	0.200	15.000	750.000	1.000
Maximum	0.890	0.700	22.500	1850.000	4.600
Range	0.420	0.500	7.500	1100.000	3.600
Median	0.520	0.400	16.500	1300.000	1.300
Mean	0.602	0.385	16.769	1207.692	1.938
Std. Error	0.040	0.034	0.533	97.377	0.363
Standard Dev	0.146	0.121	1.922	351.097	1.310
Variance	0.021	0.015	3.692	123269.231	1.716

	TM	U	V	W	Y
N of cases	13	13	13	13	13
Minimum	0.100	2.200	53.000	1.300	6.500
Maximum	0.400	4.100	130.000	3.500	25.500
Range	0.300	1.900	77.000	2.200	19.000
Median	0.200	3.600	77.000	1.800	13.000
Mean	0.223	3.508	77.231	1.892	15.000
Std. Error	0.024	0.147	5.143	0.173	1.470
Standard Dev	0.086	0.528	18.543	0.624	5.299
Variance	0.007	0.279	343.859	0.389	28.083

	YB	ZN	ZR_XRF
N of cases	13	13	13
Minimum	0.600	11.000	151.000
Maximum	2.100	87.000	221.000
Range	1.500	76.000	70.000
Median	1.000	35.000	167.000
Mean	1.204	38.077	172.385
Std. Error	0.123	5.946	5.226
Standard Dev	0.443	21.438	18.844
Variance	0.196	459.577	355.090

Soil - statistical summary

	AG	AL	AS	AU	BA
N of cases	4	4	4	4	4
Minimum	0.100	2.410	3.000	-1.000	290.000
Maximum	0.600	4.170	30.000	2.000	550.000
Range	0.500	1.760	27.000	3.000	260.000
Median	0.200	3.715	8.000	1.000	380.000
Mean	0.275	3.503	12.250	0.750	400.000
Std. Error	0.111	0.382	6.064	0.629	56.716
Standard Dev	0.222	0.764	12.128	1.258	113.431
Variance	0.049	0.584	147.083	1.583	12866.667

	BI	CA	CD	CE	CL_XRF
N of cases	4	4	4	4	0
Minimum	0.100	0.230	-0.100	69.000	.
Maximum	0.300	0.410	0.300	96.000	.
Range	0.200	0.180	0.400	27.000	.
Median	0.200	0.310	0.050	76.000	.
Mean	0.200	0.315	0.075	79.250	.
Std. Error	0.041	0.037	0.103	5.879	.
Standard Dev	0.082	0.074	0.206	11.758	.
Variance	0.007	0.005	0.043	138.250	.

	CO	CR	CS	CU	DY
N of cases	4	4	4	4	4
Minimum	3.000	14.000	1.000	10.000	2.200
Maximum	5.000	28.000	2.200	29.000	3.200
Range	2.000	14.000	1.200	19.000	1.000
Median	4.100	21.500	1.500	13.500	2.450
Mean	4.050	21.250	1.550	16.500	2.575
Std. Error	0.550	3.400	0.260	4.252	0.217
Standard Dev	1.100	6.801	0.520	8.505	0.435
Variance	1.210	46.250	0.270	72.333	0.189

	ER	EU	FE	GA	GD
N of cases	4	4	4	4	4
Minimum	1.050	0.970	1.440	6.000	4.200
Maximum	1.500	1.400	2.140	12.000	5.500
Range	0.450	0.430	0.700	6.000	1.300
Median	1.175	1.025	1.690	9.000	4.400
Mean	1.225	1.105	1.740	9.000	4.625
Std. Error	0.101	0.100	0.169	1.291	0.298
Standard Dev	0.202	0.199	0.338	2.582	0.597
Variance	0.041	0.040	0.114	6.667	0.356

	HF	HO	IN	K	LA
N of cases	4	4	4	4	4
Minimum	3.000	0.410	-0.050	0.880	37.000
Maximum	3.000	0.570	-0.050	1.460	48.500
Range	0.000	0.160	0.000	0.580	11.500
Median	3.000	0.435	-0.050	1.010	37.750
Mean	3.000	0.462	-0.050	1.090	40.250
Std. Error	0.000	0.037	0.000	0.132	2.758
Standard Dev	0.000	0.074	0.000	0.265	5.515
Variance	0.000	0.005	0.000	0.070	30.417

	LU	MG	MN	MO	NA
N of cases	4	4	4	4	4
Minimum	0.140	0.130	120.000	0.600	0.710
Maximum	0.200	0.300	270.000	2.800	1.090
Range	0.060	0.170	150.000	2.200	0.380
Median	0.160	0.165	172.500	0.950	0.830
Mean	0.165	0.190	183.750	1.325	0.865
Std. Error	0.013	0.038	31.317	0.502	0.090
Standard Dev	0.025	0.075	62.633	1.005	0.180
Variance	0.001	0.006	3922.917	1.009	0.032

	NB	ND	NI	P	PB
N of cases	4	4	4	4	4
Minimum	1.500	30.500	7.000	155.000	20.500
Maximum	5.500	39.500	14.000	220.000	550.000
Range	4.000	9.000	7.000	65.000	529.500
Median	3.750	35.750	9.000	170.000	65.750
Mean	3.625	35.375	9.750	178.750	175.500
Std. Error	0.966	2.065	1.548	15.462	125.509
Standard Dev	1.931	4.131	3.096	30.923	251.019
Variance	3.729	17.062	9.583	956.250	63010.500

	PR	RB	S	SB	SE
N of cases	4	4	4	4	4
Minimum	8.000	30.500	100.000	-0.500	-0.500
Maximum	11.000	58.000	350.000	1.000	0.500
Range	3.000	27.500	250.000	1.500	1.000
Median	9.000	44.000	150.000	-0.500	-0.500
Mean	9.250	44.125	187.500	-0.125	-0.250
Std. Error	0.629	6.941	55.434	0.375	0.250
Standard Dev	1.258	13.883	110.868	0.750	0.500
Variance	1.583	192.729	12291.667	0.562	0.250

	SM	SN	SR	TB	TE
N of cases	4	4	4	4	4
Minimum	6.000	1.400	54.000	0.400	-0.200
Maximum	8.500	2.000	92.000	0.570	-0.200
Range	2.500	0.600	38.000	0.170	0.000
Median	6.750	1.600	73.000	0.495	-0.200
Mean	7.000	1.650	73.000	0.490	-0.200
Std. Error	0.540	0.126	8.765	0.041	0.000
Standard Dev	1.080	0.252	17.531	0.083	0.000
Variance	1.167	0.063	307.333	0.007	0.000

	TH	TI	TL	TM	U
N of cases	4	4	4	4	4
Minimum	9.000	1600.000	0.400	0.150	1.600
Maximum	13.500	2450.000	0.800	0.200	2.300
Range	4.500	850.000	0.400	0.050	0.700
Median	13.000	2000.000	0.400	0.150	1.925
Mean	12.125	2012.500	0.500	0.162	1.937
Std. Error	1.068	184.136	0.100	0.013	0.143
Standard Dev	2.136	368.273	0.200	0.025	0.287
Variance	4.562	135625.000	0.040	0.001	0.082

	V	W	Y	YB	ZN
N of cases	4	4	4	4	4
Minimum	28.000	0.100	10.000	0.950	15.500
Maximum	42.000	0.700	15.000	1.400	44.000
Range	14.000	0.600	5.000	0.450	28.500
Median	34.500	0.400	10.500	1.075	20.750
Mean	34.750	0.400	11.500	1.125	25.250
Std. Error	3.637	0.173	1.173	0.109	6.437
Standard Dev	7.274	0.346	2.345	0.218	12.874
Variance	52.917	0.120	5.500	0.048	165.750

	ZR_XRF
N of cases	0
Minimum	.
Maximum	.
Range	.
Median	.
Mean	.
Std. Error	.
Standard Dev	.
Variance	.

Sulfidic mud - statistical summary

	AG	AL	AS	AU	BA
N of cases	16	16	16	16	16
Minimum	-0.100	1.200	3.000	-1.000	230.000
Maximum	0.300	8.300	55.000	2.000	800.000
Range	0.400	7.100	52.000	3.000	570.000
Median	0.200	3.615	8.000	-1.000	415.000
Mean	0.175	4.028	11.937	0.000	436.250
Std. Error	0.032	0.482	3.199	0.342	39.316
Standard Dev	0.129	1.929	12.797	1.366	157.263
Variance	0.017	3.722	163.762	1.867	24731.667

	BI	CA	CD	CE	CO
N of cases	16	16	16	16	16
Minimum	0.100	0.100	-0.100	27.500	3.400
Maximum	1.000	13.000	0.600	250.000	33.000
Range	0.900	12.900	0.700	222.500	29.600
Median	0.300	0.340	0.100	89.000	5.750
Mean	0.344	1.294	0.075	94.844	8.219
Std. Error	0.056	0.798	0.050	13.759	1.981
Standard Dev	0.225	3.193	0.198	55.036	7.923
Variance	0.051	10.196	0.039	3028.991	62.768

	CR	CS	CU	DY	ER
N of cases	16	16	16	16	16
Minimum	11.000	0.700	4.000	0.970	0.450
Maximum	76.000	6.500	32.000	6.000	2.400
Range	65.000	5.800	28.000	5.030	1.950
Median	24.500	2.050	11.500	3.200	1.525
Mean	34.938	2.506	14.562	3.195	1.459
Std. Error	5.145	0.447	1.877	0.350	0.154
Standard Dev	20.580	1.787	7.510	1.399	0.616
Variance	423.529	3.193	56.396	1.958	0.380

	EU	FE	GA	GD	HF
N of cases	16	16	16	16	16
Minimum	0.420	1.160	2.600	1.800	1.000
Maximum	2.800	8.460	21.500	13.000	6.000
Range	2.380	7.300	18.900	11.200	5.000
Median	1.325	2.575	10.250	5.500	3.000
Mean	1.327	3.238	10.525	5.562	3.063
Std. Error	0.156	0.538	1.284	0.700	0.309
Standard Dev	0.624	2.154	5.137	2.799	1.237
Variance	0.390	4.639	26.390	7.833	1.529

	HG	HO	IN	K	LA
N of cases	4	16	16	16	16
Minimum	-0.050	0.150	-0.050	0.450	17.500
Maximum	0.050	0.910	0.050	1.820	130.000
Range	0.100	0.760	0.100	1.370	112.500
Median	-0.050	0.580	-0.050	0.950	43.250
Mean	-0.025	0.554	-0.031	1.033	49.031
Std. Error	0.025	0.061	0.010	0.106	6.982
Standard Dev	0.050	0.245	0.040	0.425	27.928
Variance	0.003	0.060	0.002	0.180	779.982

	LU	MG	MN	MO	NA
N of cases	16	16	16	16	16
Minimum	0.070	0.120	65.000	0.500	0.260
Maximum	0.330	1.140	550.000	3.700	1.430
Range	0.260	1.020	485.000	3.200	1.170
Median	0.195	0.305	167.500	1.100	0.725
Mean	0.186	0.369	207.812	1.400	0.754
Std. Error	0.018	0.069	34.263	0.223	0.082
Standard Dev	0.072	0.278	137.052	0.893	0.329
Variance	0.005	0.077	18783.229	0.797	0.109

	NB	ND	NI	P	PB
N of cases	16	16	16	16	16
Minimum	0.500	12.000	4.000	105.000	11.500
Maximum	10.000	120.000	44.000	550.000	200.000
Range	9.500	108.000	40.000	445.000	188.500
Median	4.250	38.250	11.500	167.500	31.250
Mean	5.219	43.875	14.375	213.125	53.344
Std. Error	0.706	6.999	2.760	31.338	11.794
Standard Dev	2.822	27.995	11.039	125.351	47.177
Variance	7.966	783.717	121.850	15712.917	2225.657

	PR	RB	S	SB	SE
N of cases	16	16	16	16	16
Minimum	3.800	15.000	100.000	-0.500	-0.500
Maximum	29.000	150.000	11100.000	2.500	1.000
Range	25.200	135.000	11000.000	3.000	1.500
Median	10.500	51.500	1100.000	-0.500	0.500
Mean	11.212	62.906	2509.375	-0.125	0.344
Std. Error	1.569	9.801	889.701	0.202	0.175
Standard Dev	6.274	39.203	3558.802	0.806	0.700
Variance	39.365	1536.874	1.26651E+07	0.650	0.491

	SM	SN	SR	TB	TE
N of cases	16	16	16	16	16
Minimum	2.500	0.600	37.500	0.190	-0.200
Maximum	21.000	12.000	800.000	1.500	0.200
Range	18.500	11.400	762.500	1.310	0.400
Median	8.000	1.800	75.000	0.565	-0.200
Mean	8.313	2.656	134.156	0.676	-0.175
Std. Error	1.182	0.698	45.814	0.093	0.025
Standard Dev	4.729	2.791	183.257	0.372	0.100
Variance	22.360	7.791	33582.991	0.138	0.010

	TH	TI	TL	TM	U
N of cases	16	16	16	16	16
Minimum	5.500	900.000	0.200	0.050	1.050
Maximum	32.000	3400.000	0.900	0.350	5.000
Range	26.500	2500.000	0.700	0.300	3.950
Median	12.750	2250.000	0.600	0.200	2.450
Mean	14.813	2409.375	0.519	0.203	2.691
Std. Error	1.842	183.099	0.063	0.022	0.285
Standard Dev	7.369	732.398	0.254	0.087	1.142
Variance	54.296	536406.250	0.064	0.007	1.303

	V	W	Y	YB	ZN
N of cases	16	16	16	16	16
Minimum	15.000	0.100	4.300	0.400	11.500
Maximum	140.000	1.600	22.500	2.300	67.000
Range	125.000	1.500	18.200	1.900	55.500
Median	37.000	0.500	15.750	1.375	19.250
Mean	56.813	0.694	14.050	1.306	27.125
Std. Error	9.581	0.116	1.484	0.131	4.296
Standard Dev	38.325	0.463	5.937	0.525	17.185
Variance	1468.829	0.214	35.253	0.276	295.317

Correlation coefficients

Alluvium - Spearman Rank Correlation

n=13 for all trace elements except Cl, Hg and Zr; Cl, Hg and Zr not analysed

	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	
Ag	1																											
Al	0.719	1																										
As	0.475	0.278	1																									
Au	-0.46	-0.18	0.112	1																								
Ba	0.707	0.805	0.051	-0.41	1																							
Bi	0.324	0.448	0.323	0.207	0.127	1																						
Ca	0.572	0.706	0.679	0.12	0.403	0.654	1																					
Cd	0.781	0.303	0.742	-0.356	0.38	0.084	0.471	1																				
Ce	0.701	0.896	0.169	-0.418	0.848	0.362	0.601	0.325	1																			
Cl_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥																		
Co	0.758	0.884	0.227	-0.441	0.789	0.219	0.58	0.409	0.894	¥	1																	
Cr	0.341	0.767	0.35	0.316	0.327	0.688	0.721	-0.006	0.571	¥	0.463	1																
Cs	0.561	0.867	0.374	-0.037	0.477	0.642	0.84	0.174	0.761	¥	0.735	0.876	1															
Cu	0.183	0.44	0.698	0.478	-0.001	0.514	0.704	0.136	0.229	¥	0.21	0.767	0.661	1														
Dy	0.778	0.894	0.292	-0.385	0.807	0.318	0.668	0.47	0.928	¥	0.978	0.501	0.748	0.682	1													
Er	0.782	0.893	0.288	-0.387	0.773	0.32	0.66	0.461	0.917	¥	0.983	0.512	0.766	0.25	0.994	1												
Eu	0.782	0.858	0.203	-0.428	0.89	0.233	0.539	0.448	0.919	¥	0.96	0.404	0.646	0.146	0.964	0.953	1											
Fe	0.437	0.785	0.456	0.007	0.363	0.638	0.802	0.19	0.713	¥	0.647	0.86	0.92	0.708	0.682	0.708	0.558	1										
Ga	0.632	0.913	0.311	-0.081	0.59	0.662	0.793	0.202	0.856	¥	0.786	0.866	0.971	0.573	0.816	0.829	0.742	0.902	1									
Gd	0.768	0.883	0.29	-0.357	0.804	0.316	0.704	0.473	0.954	¥	0.896	0.556	0.771	0.258	0.945	0.939	0.895	0.709	0.843	1								
Hf	0.331	0.388	0.449	0.444	0.041	0.658	0.611	0.179	0.278	¥	0.102	0.729	0.56	0.624	0.213	0.215	0.102	0.507	0.584	0.362	1							
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	
Ho	0.803	0.88	0.275	-0.415	0.832	0.236	0.611	0.492	0.897	¥	0.988	0.443	0.701	0.188	0.989	0.983	0.978	0.608	0.767	0.914	0.142	¥	1					
In	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	
K	0.744	0.845	0.003	-0.29	0.944	0.247	0.402	0.313	0.823	¥	0.782	0.463	0.556	0.05	0.79	0.772	0.869	0.407	0.679	0.787	0.203	¥	0.82	¥	1			
La	0.686	0.899	0.232	-0.305	0.793	0.429	0.728	0.336	0.97	¥	0.876	0.629	0.822	0.292	0.933	0.916	0.879	0.743	0.89	0.972	0.393	¥	0.89	¥	0.776	1		
Lu	0.835	0.89	0.3	-0.437	0.775	0.204	0.593	0.496	0.86	¥	0.981	0.484	0.743	0.25	0.95	0.964	0.932	0.641	0.784	0.891	0.164	¥	0.971	¥	0.796	0.842	1	
Mg	0.778	0.929	0.294	-0.362	0.693	0.4	0.687	0.359	0.848	¥	0.925	0.65	0.887	0.397	0.894	0.915	0.843	0.767	0.892	0.858	0.289	¥	0.892	¥	0.739	0.851	0.947	
Mn	0.677	0.772	0.102	-0.202	0.837	0.122	0.436	0.347	0.749	¥	0.757	0.428	0.559	0.197	0.738	0.748	0.826	0.476	0.642	0.76	0.122	¥	0.774	¥	0.886	0.69	0.792	
Mo	0.615	0.377	0.816	0.106	0.244	0.593	0.65	0.733	0.294	¥	0.212	0.457	0.393	0.545	0.323	0.313	0.288	0.463	0.425	0.368	0.605	¥	0.297	¥	0.29	0.324	0.297	
Na	0.76	0.87	0.312	-0.103	0.901	0.307	0.606	0.482	0.785	¥	0.733	0.558	0.601	0.318	0.777	0.759	0.817	0.529	0.693	0.803	0.332	¥	0.786	¥	0.906	0.766	0.765	
Nb	0.5	0.797	0.175	-0.014	0.494	0.742	0.622	0.017	0.718	¥	0.539	0.861	0.842	0.525	0.581	0.584	0.521	0.754	0.889	0.641	0.67	¥	0.519	¥	0.594	0.733	0.541	
Nd	0.681	0.893	0.303	-0.307	0.773	0.396	0.755	0.383	0.964	¥	0.889	0.613	0.821	0.341	0.943	0.932	0.881	0.78	0.878	0.978	0.354	¥	0.898	¥	0.73	0.989	0.855	
Ni	0.271	0.634	-0.243	-0.247	0.413	0.163	0.3	-0.218	0.678	¥	0.702	0.489	0.694	0.173	0.632	0.676	0.603	0.622	0.711	0.633	0.082	¥	0.611	¥	0.495	0.652	0.663	
P	0.299	0.327	-0.295	-0.083	0.492	0.016	0.014	0.112	0.291	¥	0.236	0.055	0.05	-0.253	0.257	0.28	0.305	0.074	0.16	0.329	-0.054	¥	0.258	¥	0.532	0.232	0.267	
Pb	0.464	0.425	0.76	-0.158	0.289	0.461	0.763	0.559	0.47	¥	0.355	0.424	0.576	0.635	0.424	0.415	0.369	0.648	0.521	0.499	0.332	¥	0.374	¥	0.17	0.495	0.377	
Pr	0.764	0.872	0.223	-0.409	0.862	0.316	0.61	0.429	0.982	¥	0.919	0.499	0.716	0.206	0.957	0.945	0.96	0.656	0.82	0.966	0.267	¥	0.937	¥	0.839	0.957	0.892	
Rb	0.646	0.875	-0.028	-0.454	0.874	0.163	0.402	0.207	0.919	¥	0.919	0.465	0.664	0.098	0.886	0.89	0.927	0.595	0.752	0.854	0.02	¥	0.897	¥	0.879	0.844	0.894	
S	0.131	0.031	-0.003	-0.056	-0.014	0.256	0.102	0.161	0.088	¥	-0.144	0.087	0.017	-0.092	-0.034	-0.014	-0.145	0.136	0.083	0.163	0.356	¥	-0.125	¥	-0.02	0.105	-0.104	
Sb	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	
Se	0.238	0.375	-0.326	-0.145	0.446	0.263	-0.202	-0.188	0.32	¥	0.231	0.285	0.136	-0.088	0.185	0.186	0.333	0.099	0.274	0.108	0.004	¥	0.22	¥	0.582	0.163	0.232	
Sm	0.764	0.872	0.223	-0.409	0.862	0.316	0.61	0.429	0.982	¥	0.919	0.499	0.716	0.206	0.957	0.945	0.96	0.656	0.82	0.966	0.267	¥	0.937	¥	0.839	0.957	0.892	
Sn	0.678	0.826	0.089	-0.129	0.747	0.344	0.376	0.18	0.744	¥	0.68	0.614	0.616	0.314	0.67	0.674	0.723	0.481	0.729	0.676	0.429	¥	0.679	¥	0.838	0.681	0.709	
Sr	0.757	0.913	0.207	-0.253	0.938	0.244	0.586	0.414	0.868	¥	0.888	0.509	0.662	0.239	0.895	0.884	0.937	0.567	0.742	0.865	0.163	¥	0.915	¥	0.933	0.84	0.889	
Tb	0.705	0.859	0.306	-0.372	0.774	0.165	0.648	0.471	0.912	¥	0.921	0.481	0.704	0.237	0.952	0.946	0.887	0.675	0.761	0.964	0.227	¥	0.928	¥	0.714	0.926	0.903	
Te	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	
Th	0.422	0.751	0.454	0.15	0.378	0.754	0.848	0.146	0.691	¥	0.519	0.912	0.899	0.722	0.606	0.598	0.487	0.884	0.9	0.685	0.757	¥	0.52	¥	0.43	0.772	0.508	
Ti	0.544	0.86	0.257	-0.057	0.545	0.741	0.753	0.106	0.821	¥	0.668	0.887	0.939	0.564	0.716	0.72	0.642	0.88	0.974	0.771	0.63	¥	0.65	¥	0.627	0.851	0.657	
Tl	0.762	0.949	0.48	-0.075	0.746	0.456	0.771	0.434	0.843	¥	0.837	0.765	0.852	0.608	0.854	0.859	0.835	0.793	0.893	0.854	0.476	¥	0.844	¥	0.785	0.841	0.865	
Tm	0.699	0.784	0.307	-0.364	0.727	0.107	0.55	0.453	0.787	¥	0.915	0.421	0.667	0.261	0.877	0.882	0.899	0.596	0.694	0.808	0.044	¥	0.914	¥	0.738	0.763	0.921	
U	0.808	0.822																										

Alluvium - Spearman Rank Correlation

n=13 for all trace elements except Cl, Hg and Zr; Cl, Hg and Zr not analysed

	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Tc	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
Ag																														
Al																														
As																														
Au																														
Ba																														
Bi																														
Ca																														
Cd																														
Ce																														
Cl_XRF																														
Co																														
Cr																														
Cs																														
Cu																														
Dy																														
Er																														
Eu																														
Fe																														
Ga																														
Gd																														
Hf																														
Hg																														
Ho																														
In																														
K																														
La																														
Lu																														
Mg	1																													
Mn	0.717	1																												
Mo	0.302	0.3	1																											
Na	0.722	0.872	<i>0.514</i>	1																										
Nb	0.723	0.427	0.375	<i>0.597</i>	1																									
Nd	0.856	0.694	0.343	0.764	<i>0.69</i>	1																								
Ni	0.722	<i>0.583</i>	-0.242	0.34	<i>0.527</i>	0.65	1																							
P	0.224	<i>0.586</i>	0.044	<i>0.551</i>	0.147	0.236	0.228	1																						
Pb	0.455	0.3	0.687	0.41	0.398	<i>0.559</i>	0.078	-0.138	1																					
Pr	0.837	0.793	0.339	0.811	0.634	0.957	0.638	0.306	<i>0.461</i>	1																				
Rb	0.852	0.859	0.095	0.776	<i>0.576</i>	0.841	0.769	0.43	0.253	0.908	1																			
S	-0.024	-0.082	0.218	0.111	0.258	0.114	-0.091	<i>0.524</i>	0.096	0.043	-0.081	1																		
Sb	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Se	0.25	0.402	0.073	0.389	0.446	0.095	0.223	0.338	-0.218	0.269	<i>0.467</i>	-0.082	¥	1																
Sm	0.837	0.793	0.339	0.811	0.634	0.957	0.638	0.306	<i>0.461</i>	1	0.908	0.043	¥	0.369	1															
Sn	0.735	0.709	0.284	0.809	0.787	0.646	<i>0.503</i>	0.386	0.16	0.733	0.752	0.093	¥	0.624	0.733	1														
Sr	0.831	0.915	0.341	0.948	<i>0.563</i>	0.842	<i>0.54</i>	<i>0.487</i>	0.369	0.896	0.91	-0.062	¥	0.377	0.896	0.783	1													
Tb	0.838	0.695	0.263	0.756	<i>0.53</i>	0.953	0.614	0.28	0.438	0.928	0.843	0.098	¥	0.028	0.928	0.62	0.846	1												
Tc	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Th	0.663	0.361	<i>0.525</i>	<i>0.543</i>	0.877	0.763	0.451	-0.057	0.628	0.63	<i>0.461</i>	0.173	¥	0.093	0.63	<i>0.548</i>	<i>0.509</i>	0.598	¥	1										
Ti	0.807	<i>0.537</i>	0.424	0.637	0.952	0.825	0.638	0.127	<i>0.528</i>	0.754	0.676	0.166	¥	0.329	0.754	0.709	0.653	0.665	¥	0.938	1									
Tl	0.888	0.8	<i>0.54</i>	0.889	0.75	0.857	<i>0.544</i>	0.267	<i>0.566</i>	0.851	0.794	-0.006	¥	0.295	0.851	0.823	0.894	0.819	¥	0.761	0.823	1								
Tm	0.825	0.823	0.289	0.693	0.339	0.782	0.633	0.149	0.413	0.834	0.854	-0.36	¥	0.19	0.834	<i>0.532</i>	0.846	0.814	¥	0.432	<i>0.552</i>	0.791	1							
U	0.84	0.709	0.375	0.733	0.636	0.94	<i>0.61</i>	0.219	<i>0.515</i>	0.98	0.847	0.089	¥	0.2	0.98	0.697	0.821	0.907	¥	0.632	0.749	0.817	0.795	1						
V	0.815	<i>0.477</i>	0.431	<i>0.55</i>	0.861	0.752	0.65	0.075	<i>0.518</i>	0.641	<i>0.594</i>	0.102	¥	0.204	0.641	<i>0.599</i>	<i>0.583</i>	0.63	¥	0.913	0.938	0.815	<i>0.566</i>	0.638	1					
W	<i>0.511</i>	0.435	0.368	<i>0.567</i>	0.762	0.348	0.308	0.32	0.233	0.337	0.396	0.328	¥	<i>0.507</i>	0.337	0.772	0.426	0.298	¥	<i>0.565</i>	0.633	0.642	0.185	0.312	<i>0.611</i>	1				
Y	0.869	0.825	0.287	0.771	<i>0.494</i>	0.869	0.656	0.315	0.365	0.948	0.924	-0.106	¥	0.29	0.948	0.699	0.903	0.897	¥	<i>0.462</i>	0.626	0.829	0.919	0.932	<i>0.581</i>	0.265	1			
Yb	0.917	0.792	0.429	0.806	<i>0.548</i>	0.858	<i>0.583</i>	0.28	0.418	0.878	0.816	-0.051	¥	0.143	0.878	0.698	0.886	0.896	¥	<i>0.571</i>	0.67	0.897	0.894	0.869	0.688	0.374	0.932	1		
Zn	0.402	0.256	0.409	0.21	0.101	0.23	0.074	-0.385	0.707	0.175	0.13	-0.416	¥	-0.259	0.175	0.079	0.236	0.218	¥	0.287	0.207	0.437	<i>0.466</i>	0.221	0.31	0.182	0.245	0.368	1	
Zr_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥

For all elements (except Cl, Hg and Zr), at the 99.9% level, all significant values ($\tau > 0.78$ or $\tau < -0.78$) are shown in **bold**; at the 99% level (0.612-0.779), all values are shown in normal type; at the 95% level (0.458-0.611), all values are shown in *italics*.

Black muds - Spearman Rank Correlation

n=17 for all trace elements except Cl and Zr; n=2 for Cl and Zr

	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu
Ag	1																										
Al	0.557	1																									
As	0.364	-0.129	1																								
Au	-0.23	-0.257	0.33	1																							
Ba	-0.034	0.12	-0.125	-0.252	1																						
Bi	0.753	<i>0.512</i>	<i>0.431</i>	-0.061	0.053	1																					
Ca	-0.121	-0.056	0.15	0.049	-0.217	<i>-0.435</i>	1																				
Cd	0.371	0.03	0.585	0.16	0.178	0.299	-0.069	1																			
Ce	0.179	0.775	-0.366	-0.206	0.32	0.329	-0.349	0.066	1																		
Cl_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Co	0.298	0.551	<i>0.4</i>	0.15	0.371	<i>0.424</i>	0.1	0.145	0.359	¥	1																
Cr	0.675	0.829	0.012	-0.263	-0.107	0.619	0.088	-0.071	<i>0.456</i>	¥	<i>0.476</i>	1															
Cs	0.681	0.867	0.029	-0.184	-0.047	0.645	0.013	0.008	<i>0.474</i>	¥	0.544	0.937	1														
Cu	0.81	0.598	<i>0.475</i>	0.089	-0.198	0.768	-0.169	<i>0.524</i>	0.296	¥	0.38	0.617	0.71	1													
Dy	<i>0.481</i>	0.958	-0.132	-0.177	0.185	<i>0.505</i>	-0.075	0.088	0.834	¥	0.576	0.812	0.81	0.549	1												
Er	0.597	0.934	-0.069	-0.186	0.178	0.598	-0.059	0.147	0.768	¥	0.576	0.863	0.855	0.623	0.972	1											
Eu	<i>0.457</i>	0.991	-0.012	-0.12	0.3	0.582	-0.151	0.195	0.799	¥	0.659	0.754	0.787	0.607	0.956	0.938	1										
Fe	0.368	0.324	<i>0.462</i>	-0.016	-0.085	0.317	<i>0.429</i>	-0.018	0.033	¥	0.652	<i>0.479</i>	0.388	0.227	0.277	0.35	0.218	1									
Ga	0.728	0.916	0.046	-0.176	0.052	0.711	-0.07	0.129	0.634	¥	0.584	0.929	0.945	0.747	0.9	0.958	0.876	<i>0.432</i>	1								
Gd	0.397	0.926	-0.304	-0.202	0.169	<i>0.434</i>	-0.114	-0.06	0.864	¥	<i>0.465</i>	0.747	0.742	<i>0.475</i>	0.941	0.926	0.895	0.218	0.856	1							
Hf	0.283	0.794	<i>-0.455</i>	-0.093	0.084	0.243	-0.05	0.046	0.812	¥	0.215	0.61	0.67	0.399	0.817	0.798	0.741	-0.01	0.722	0.846	1						
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥					
Ho	0.586	0.939	-0.052	-0.146	0.088	0.582	-0.041	0.14	0.739	¥	0.57	0.888	0.889	0.639	0.97	0.987	0.925	0.354	0.959	0.897	0.806	¥	1				
In	0.131	<i>0.408</i>	0.179	0.14	-0.333	<i>0.418</i>	-0.332	-0.137	0.358	¥	<i>0.409</i>	<i>0.409</i>	0.358	0.359	<i>0.41</i>	<i>0.359</i>	<i>0.41</i>	0.357	<i>0.41</i>	<i>0.414</i>	0.12	¥	<i>0.409</i>	1			
K	0.226	0.555	-0.28	-0.302	0.673	0.184	-0.09	0.277	0.591	¥	0.354	0.377	0.455	0.19	0.641	0.615	0.697	-0.162	<i>0.488</i>	0.561	0.639	¥	0.588	-0.204	1		
La	0.388	0.925	-0.222	-0.173	0.235	<i>0.472</i>	-0.16	0.046	0.918	¥	<i>0.521</i>	0.706	0.711	<i>0.493</i>	0.966	0.933	0.934	0.211	0.843	0.979	0.836	¥	0.905	<i>0.409</i>	0.602	1	
Lu	0.598	0.825	-0.128	-0.22	0.22	<i>0.483</i>	0.083	0.22	0.613	¥	<i>0.451</i>	0.795	0.835	0.574	0.85	0.921	0.817	0.248	0.888	0.794	0.808	¥	0.907	0.026	0.698	0.788	1
Mg	0.124	0.24	0.297	-0.036	-0.197	0.043	0.706	-0.201	-0.138	¥	<i>0.51</i>	<i>0.45</i>	0.37	0.026	0.185	0.233	0.102	0.873	0.302	0.111	-0.013	¥	0.268	0.179	-0.157	0.077	0.232
Mn	-0.187	-0.295	0.172	-0.136	0.608	-0.174	0.233	-0.018	-0.23	¥	0.246	-0.259	-0.307	<i>-0.448</i>	-0.205	-0.198	-0.115	0.159	-0.292	-0.275	-0.399	¥	-0.253	-0.384	0.21	-0.232	-0.149
Mo	0.675	0.108	0.651	-0.065	-0.17	0.742	-0.194	<i>0.498</i>	-0.165	¥	0.16	0.382	0.375	0.707	0.116	0.242	0.242	0.188	0.384	0.014	-0.142	¥	0.248	0.256	0.002	0.02	0.219
Na	<i>-0.477</i>	-0.136	-0.204	-0.144	0.021	<i>-0.699</i>	0.783	-0.193	-0.263	¥	-0.042	-0.17	-0.164	<i>-0.501</i>	-0.173	-0.236	-0.241	0.081	-0.305	-0.195	-0.046	¥	-0.208	<i>-0.408</i>	0.103	-0.23	-0.068
Nb	0.546	0.901	-0.099	-0.011	-0.068	<i>0.491</i>	0.054	0.048	0.636	¥	<i>0.467</i>	0.877	0.879	0.647	0.898	0.898	0.834	0.286	0.907	0.86	0.819	¥	0.923	0.383	<i>0.488</i>	0.838	0.824
Nd	0.269	0.793	-0.378	-0.074	0.131	0.329	-0.235	0.066	0.84	¥	0.276	<i>0.528</i>	0.577	<i>0.416</i>	0.776	0.771	0.712	0.075	0.707	0.876	0.856	¥	0.751	0.359	<i>0.467</i>	0.853	0.682
Ni	0.601	0.9	0.155	0.018	0.192	0.68	-0.067	0.207	0.688	¥	0.747	0.779	0.849	0.712	0.891	0.907	0.898	<i>0.456</i>	0.922	0.832	0.692	¥	0.899	<i>0.411</i>	0.508	0.864	0.8
P	0.09	0.367	0.081	-0.18	-0.028	0.136	0.214	-0.03	<i>0.462</i>	¥	0.297	0.267	0.099	0.105	0.39	0.385	0.333	0.566	<i>0.496</i>	<i>0.496</i>	0.206	¥	0.323	<i>0.409</i>	-0.082	<i>0.496</i>	0.159
Pb	0.685	<i>0.471</i>	0.076	0.007	0.609	-0.18	0.645	-0.112	<i>0.413</i>	¥	0.281	<i>0.53</i>	0.799	<i>0.46</i>	<i>0.496</i>	0.398	0.525	-0.001	<i>0.525</i>	0.258	0.245	¥	<i>0.491</i>	0.153	0.392	0.281	<i>0.486</i>
Pr	0.331	0.858	-0.334	-0.232	0.25	<i>0.407</i>	-0.21	0.013	0.942	¥	<i>0.405</i>	0.632	0.617	<i>0.412</i>	0.902	0.884	0.862	0.155	0.782	0.965	0.837	¥	0.839	0.36	0.561	0.975	0.75
Rb	0.335	0.85	-0.293	-0.178	0.225	0.331	-0.208	0.109	0.822	¥	0.384	0.581	0.611	<i>0.405</i>	0.825	0.779	0.756	0.144	0.714	0.853	0.796	¥	0.779	<i>0.409</i>	0.586	0.845	0.65
S	0.007	-0.067	<i>0.691</i>	0.332	<i>-0.437</i>	0.014	<i>0.557</i>	0.355	-0.286	¥	0.293	0.049	0.01	0.253	-0.074	-0.04	-0.048	0.567	0.016	-0.15	-0.244	¥	0.006	0.308	-0.387	-0.138	-0.094
Sb	<i>0.414</i>	-0.013	<i>0.527</i>	-0.077	0.035	0.287	-0.079	0.706	0.007	¥	<i>-0.004</i>	-0.107	-0.068	<i>0.457</i>	-0.013	0.066	0.066	0.044	-0.053	-0.113	¥	0.026	-0.091	-0.013	0.007	0.086	
Se	0.18	<i>0.482</i>	0.206	0.119	-0.057	0.387	0.199	0.097	<i>0.441</i>	¥	<i>0.451</i>	<i>0.535</i>	0.385	0.283	0.585	0.603	<i>0.532</i>	<i>0.524</i>	<i>0.535</i>	<i>0.508</i>	0.344	¥	0.592	0.375	0.069	0.567	<i>0.467</i>
Sm	0.289	0.828	-0.386	-0.23	0.261	0.365	-0.235	0.033	0.931	¥	0.369	0.584	0.589	0.38	0.86	0.853	0.821	0.128	0.752	0.951	0.848	¥	0.809	0.36	0.572	0.944	0.737
Sr	0.714	0.947	0.002	-0.239	0.123	<i>0.673</i>	-0.119	0.084	0.718	¥	0.559	0.869	0.863	0.658	0.914	0.924	0.848	<i>0.434</i>	0.941	0.864	0.716	¥	0.921	<i>0.41</i>	<i>0.494</i>	0.872	0.796
Sn	<i>-0.48</i>	-0.091	-0.131	0.003	0.364	<i>-0.504</i>	0.683	-0.188	-0.07	¥	0.246	-0.09	-0.171	<i>-0.539</i>	-0.017	-0.065	-0.016	0.247	-0.191	-0.021	-0.012	¥	-0.087	-0.307	0.261	-0.03	-0.002
Tb	0.245	0.836	-0.336	-0.083	0.141	0.297	-0.228	0.044	0.863	¥	0.311	<i>0.521</i>	0.57	<i>0.401</i>	0.804	0.74	0.732	0.063	0.672	0.862	0.835	¥	0.74	<i>0.408</i>	<i>0.485</i>	0.862	0.598
Te	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Th	0.552	0.929	-0.16	-0.163	0.033	<i>0.49</i>	0.009	0.063	0.775	¥	<i>0.444</i>	0.853	0.822	0.606	0.933	0.944	0.862	0.324	0.919	0.934	0.857	¥	0.939	0.359	<i>0.502</i>	0.922	0.85
Ti	0.623	0.972	-0.112	-0.217	0.065	<i>0.573</i>	-0.052	0.035	0.733	¥	<i>0.522</i>	0.869	0.882	0.655	0.932	0.951	0.869	0.366	0.957	0.936	0.787	¥	0.941	<i>0.41</i>	<i>0.485</i>	0.914	0.854
Tl	0.699	0.83	0.246	-0.005	0.125	0.676	-0.081	<i>0.512</i>	0.595	¥	0.574	0.729	0.809	0.83	0.825	0.864	0										

Black muds - Spearman Rank Correlation

n=17 for all trace elements except Cl and Zr; n=2 for Cl and Zr

	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Tc	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
Ag																														
Al																														
As																														
Au																														
Ba																														
Bi																														
Ca																														
Cd																														
Ce																														
Cl_XRF																														
Co																														
Cr																														
Cs																														
Cu																														
Dy																														
Er																														
Eu																														
Fe																														
Ga																														
Gd																														
Hf																														
Hg																														
Ho																														
In																														
K																														
La																														
Lu																														
Mg	1																													
Mn	0.147	1																												
Mo	0.01	-0.05	1																											
Na	<i>0.463</i>	0.233	<i>-0.501</i>	1																										
Nb	0.262	<i>-0.455</i>	0.154	-0.126	1																									
Nd	-0.031	<i>-0.518</i>	-0.114	-0.187	0.766	1																								
Ni	0.297	-0.233	0.245	-0.255	0.874	0.724	1																							
P	0.369	0.03	-0.026	-0.037	0.375	0.342	1																							
Pb	-0.139	-0.087	0.767	-0.368	<i>0.406</i>	0.177	<i>0.462</i>	-0.185	1																					
Pr	0.001	-0.252	-0.048	-0.265	0.761	0.879	0.774	0.545	0.169	1																				
Rb	0.023	-0.398	-0.075	-0.101	0.792	0.922	0.752	0.347	0.264	0.822	1																			
S	0.601	-0.058	0.311	0.269	0.019	-0.144	0.08	0.375	0.172	-0.211	-0.13	1																		
Sb	-0.204	0.167	0.545	-0.342	-0.171	-0.092	0.031	0.237	0.56	0.026	-0.132	0.295	1																	
Se	<i>0.49</i>	-0.161	0.076	-0.085	0.561	<i>0.433</i>	0.59	0.561	-0.023	<i>0.534</i>	0.372	0.373	-0.073	1																
Sm	-0.021	-0.294	-0.065	-0.227	0.734	0.932	0.74	<i>0.515</i>	0.169	0.981	0.868	-0.203	0.007	<i>0.465</i>	1															
Sn	0.253	-0.256	0.242	-0.305	0.885	0.718	0.917	0.388	<i>0.423</i>	0.807	0.796	-0.084	0.026	<i>0.521</i>	0.762	1														
Sr	<i>0.478</i>	<i>0.514</i>	<i>-0.485</i>	0.782	-0.042	-0.099	-0.061	0.209	<i>-0.428</i>	-0.054	-0.004	0.204	-0.399	0.189	-0.045	-0.162	1													
Tb	-0.041	<i>-0.487</i>	-0.175	-0.145	0.783	0.949	0.737	0.372	0.179	0.853	0.959	-0.151	-0.131	<i>0.402</i>	0.879	0.76	-0.063	1												
Tc	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥												
Th	0.226	-0.371	0.109	-0.197	0.944	0.825	0.867	<i>0.454</i>	0.326	0.897	0.815	-0.034	-0.013	0.598	0.861	0.92	-0.059	0.825	¥		1									
Ti	0.258	-0.372	0.178	-0.212	0.931	0.826	0.913	<i>0.404</i>	0.384	0.869	0.83	-0.039	-0.013	<i>0.542</i>	0.846	0.951	-0.128	0.815	¥	0.961	1									
Tl	0.161	-0.33	<i>0.43</i>	-0.251	0.844	0.696	0.907	0.192	0.7	0.666	0.75	0.161	0.23	<i>0.49</i>	0.662	0.845	-0.179	0.694	¥	0.812	0.844	1								
Tm	0.227	-0.35	0.122	-0.096	0.914	0.791	0.874	0.203	<i>0.467</i>	0.787	0.849	-0.018	-0.074	<i>0.5</i>	0.782	0.883	-0.076	0.813	¥	0.886	0.904	0.876	1							
U	0.027	-0.033	0.06	-0.096	0.759	0.677	0.719	0.259	0.353	0.765	0.696	-0.231	0.066	<i>0.469</i>	0.732	0.751	0.159	0.567	¥	0.824	0.762	0.734	0.705	1						
V	0.292	-0.257	0.359	-0.386	0.768	0.626	0.844	0.369	0.356	0.713	0.682	-0.096	0.031	<i>0.497</i>	0.678	0.943	-0.248	0.618	¥	0.82	0.889	0.767	0.757	0.638	1					
W	0.263	<i>-0.417</i>	0.331	-0.159	0.869	0.525	0.698	-0.007	<i>0.462</i>	<i>0.542</i>	0.554	-0.018	-0.15	<i>0.427</i>	<i>0.503</i>	0.744	-0.172	<i>0.522</i>	¥	0.794	0.801	0.726	0.761	0.629	0.717	1				
Y	0.161	-0.197	0.17	-0.229	0.855	0.807	0.874	<i>0.435</i>	0.381	0.928	0.821	-0.082	0.026	0.581	0.91	0.888	-0.035	0.774	¥	0.917	0.925	0.818	0.902	0.787	0.811	0.693	1			
Yb	0.269	-0.188	0.219	-0.157	0.894	0.73	0.882	0.28	<i>0.483</i>	0.823	0.728	-0.056	0.066	0.562	0.79	0.903	-0.058	0.694	¥	0.921	0.934	0.859	0.926	0.829	0.814	0.791	0.93	1		
Zn	0.2	<i>-0.424</i>	<i>0.474</i>	-0.242	<i>0.502</i>	0.357	0.582	0.172	0.576	0.26	0.265	<i>0.43</i>	<i>0.49</i>	0.375	0.243	<i>0.477</i>	-0.337	0.292	¥	<i>0.477</i>	<i>0.507</i>	0.711	<i>0.423</i>	0.391	<i>0.461</i>	<i>0.424</i>	0.347	<i>0.501</i>	1	
Zr_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥

For all elements (except Cl and Zr), at the 99.9% level, all significant values ($r > 0.708$ or $r < -0.708$) are shown in **bold**; at the 99% level (0.543-0.707), all values are shown in normal type; at the 95% level (0.4-0.542), all values are shown in *italics* .

n=35 for all trace elements except Cl and Zr; n=18 for all major oxides; Cl and Zr not analysed

	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
SiO2_XRF	1																											
TiO2_XRF	-0.805	1																										
Al2O3_XRF	-0.95	0.835	1																									
Fe2O3_XRF	-0.728	0.208	0.566	1																								
MnO_XRF	<i>0.428</i>	<i>-0.446</i>	<i>-0.498</i>	<i>-0.236</i>	1																							
MgO_XRF	-0.556	0.225	0.537	0.529	0	1																						
CaO_XRF	-0.054	0.031	0.166	-0.177	0.088	0.343	1																					
K2O_XRF	-0.098	0.275	0.112	-0.116	<i>0.409</i>	<i>0.489</i>	<i>0.484</i>	1																				
Na2O_XRF	0.825	-0.634	-0.792	-0.683	0.466	-0.227	0.319	0.348	1																			
P2O5_XRF	-0.146	-0.149	0.152	0.196	0.009	<i>0.425</i>	<i>0.431</i>	0.087	0.116	1																		
LOI	-0.979	0.77	0.969	0.701	-0.463	0.61	0.158	-0.789	0.148	0.148	1																	
Ag	-0.703	0.807	0.74	0.281	-0.252	0.235	0.198	0.248	-0.568	-0.276	0.716	1																
Al	-0.903	0.858	0.969	<i>0.443</i>	<i>-0.492</i>	<i>0.478</i>	0.127	0.13	-0.793	0.003	0.92	0.522	1															
As	<i>-0.474</i>	0.186	<i>0.468</i>	0.608	-0.174	<i>0.391</i>	0.297	-0.028	<i>-0.411</i>	0.29	<i>0.514</i>	<i>0.294</i>	0.079	1														
Au	0.052	-0.264	-0.06	0.234	0.348	0.379	0.35	0.141	0.148	0.373	-0.038	0.043	-0.06	0.267	1													
Ba	0.118	-0.058	-0.066	-0.222	0.062	<i>0.414</i>	0.531	0.555	<i>0.433</i>	-0.001	-0.03	0.469	-0.052	0.238	-0.066	1												
Bi	-0.694	0.53	0.679	0.676	-0.408	0.27	-0.16	-0.213	-0.821	-0.02	0.682	0.217	0.42	0.551	0.299	-0.29	1											
Ca	0	0.007	0.124	-0.346	0.228	0.422	0.772	0.56	0.326	<i>0.425</i>	0.068	0.042	-0.061	-0.178	-0.234	0.407	-0.59	1										
Cd	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	-0.017	<i>-0.353</i>	0.242	-0.134	0.285	0.116	0.188	1									
Ce	0.269	-0.33	-0.28	-0.256	<i>0.43</i>	0.369	0.107	<i>0.47</i>	<i>0.484</i>	0.267	-0.264	0.329	-0.044	-0.1	0.102	0.619	-0.269	0.259	0.13	1								
Cl_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥								
Co	-0.852	<i>0.496</i>	0.798	0.793	-0.163	0.745	0.178	0.205	-0.682	0.286	0.87	0.386	0.714	<i>0.365</i>	0.208	-0.051	0.399	0.075	-0.233	-0.011	¥	1						
Cr	<i>-0.493</i>	0.236	<i>0.435</i>	0.745	-0.061	0.571	-0.039	0.104	<i>-0.455</i>	0.199	<i>0.494</i>	0.171	0.426	0.568	0.362	-0.05	0.65	-0.209	-0.042	-0.17	¥	0.691	1					
Cs	-0.771	0.566	0.749	0.569	-0.113	0.873	0.305	0.554	-0.422	0.291	0.797	0.282	0.66	0.029	0.059	0.019	0.036	0.272	-0.285	0.071	¥	0.853	0.474	1				
Cu	-0.064	-0.251	-0.022	0.386	0.247	0.722	0.134	<i>0.431</i>	0.14	0.163	0.12	0.431	0.14	0.457	0.335	0.482	0.194	-0.067	0.067	0.561	¥	0.413	0.461	<i>0.351</i>	1			
Dy	-0.182	-0.098	0.215	0.103	0.113	0.75	0.307	0.369	0.06	0.288	0.262	0.395	0.215	0.059	0.195	0.603	-0.122	0.262	0.062	0.846	¥	0.367	0.094	0.4	0.681	1		
Er	-0.535	0.196	<i>0.512</i>	<i>0.397</i>	-0.092	0.792	0.236	0.265	-0.281	0.283	0.576	0.479	0.439	0.125	0.196	0.411	0.049	0.125	-0.075	0.673	¥	0.601	0.206	0.558	0.647	0.913	1	
Eu	-0.112	-0.142	0.131	0.082	0.713	0.233	0.358	0.138	0.219	0.19	<i>0.352</i>	0.1	0.027	0.131	0.31	0.153	0.843	¥	0.26	-0.002	<i>0.342</i>	0.668	0.949	0.216	-0.109	0.084	-0.156	
Fe	<i>-0.525</i>	0.143	0.348	0.909	-0.017	0.387	-0.204	-0.171	<i>0.549</i>	0.123	<i>0.465</i>	-0.143	0.276	<i>0.369</i>	0.324	-0.44	0.56	-0.316	-0.021	-0.354	¥	0.612	0.773	0.465	0.236	0.277	0.537	0.182
Ga	-0.941	0.865	0.962	0.572	<i>-0.453</i>	<i>0.501</i>	0.11	0.173	-0.797	0.053	0.938	0.647	0.825	<i>0.32</i>	0.122	-0.023	0.646	-0.314	-0.146	0.069	¥	0.709	0.481	0.535	<i>0.352</i>	0.277	0.537	0.182
Gd	0.202	<i>-0.451</i>	-0.238	-0.1	0.327	<i>0.495</i>	0.171	0.287	<i>0.412</i>	-0.064	-0.116	0.81	0.574	-0.314	0.265	0.075	0.917	¥	0.115	-0.092	0.218	0.626	0.931	0.782	0.926			
Hf	-0.561	0.66	0.656	-0.009	-0.308	0.042	0.195	-0.028	-0.557	-0.101	0.57	0.523	0.776	-0.002	-0.024	0.067	0.287	-0.107	-0.39	0.038	¥	<i>0.358</i>	0.153	<i>0.296</i>	-0.051	0.188	<i>0.299</i>	0.053
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Ho	<i>-0.434</i>	0.109	<i>0.412</i>	0.306	-0.051	0.748	0.202	0.229	-0.221	0.248	<i>0.471</i>	0.476	0.389	0.052	0.2	0.449	-0.024	0.192	-0.045	0.733	¥	0.533	0.128	0.511	0.638	0.934	0.971	0.877
In	-0.696	0.574	0.641	0.661	-0.12	0.193	-0.13	-0.078	-0.797	-0.098	0.643	0.463	0.542	0.468	0.287	-0.089	0.789	-0.587	-0.049	-0.085	¥	0.443	0.573	0.148	0.254	0.006	0.21	-0.093
K	-0.218	0.47	0.225	-0.032	0.276	0.313	0.217	0.811	0.105	-0.142	0.214	0.482	<i>0.296</i>	0.004	-0.213	0.698	-0.39	0.512	-0.013	0.38	¥	0.262	0.042	0.433	0.27	0.417	<i>0.334</i>	0.466
La	<i>0.415</i>	-0.588	<i>-0.432</i>	-0.255	<i>0.471</i>	<i>0.359</i>	0.175	0.291	0.567	0.262	-0.382	0.261	-0.153	-0.067	0.162	0.698	-0.334	0.286	0.142	0.958	¥	-0.056	-0.165	0.019	0.589	0.855	0.648	0.88
Lu	-0.588	0.301	0.565	<i>0.399</i>	-0.031	0.831	0.174	0.347	-0.329	0.206	0.615	0.498	0.649	0.083	0.098	0.383	0.093	0.103	-0.224	0.508	¥	0.677	<i>0.329</i>	0.678	0.586	0.803	0.911	0.707
Mg	-0.559	0.279	0.538	<i>0.48</i>	-0.051	0.98	0.292	<i>0.503</i>	-0.23	0.336	0.605	<i>0.375</i>	<i>0.509</i>	0.147	0.038	0.399	-0.158	0.531	-0.129	0.321	¥	0.708	<i>0.365</i>	0.842	0.53	0.593	0.609	0.586
Mn	<i>0.477</i>	<i>-0.521</i>	<i>-0.52</i>	-0.165	0.765	-0.004	0.141	<i>0.396</i>	0.557	0.191	<i>-0.462</i>	0.102	<i>-0.384</i>	0.16	-0.094	0.555	-0.468	0.646	0.385	0.349	¥	0.084	-0.007	0.148	0.242	<i>0.351</i>	0.201	0.444
Mo	<i>-0.416</i>	<i>0.453</i>	<i>0.493</i>	0.337	-0.28	0.164	0.081	0.115	<i>-0.409</i>	0.05	<i>0.442</i>	0.063	0.133	0.629	0.165	-0.218	0.697	-0.28	0.264	-0.379	¥	<i>0.348</i>	0.557	0.124	0.097	-0.242	-0.121	<i>-0.338</i>
Na	0.828	-0.655	-0.802	-0.675	<i>0.471</i>	-0.207	0.229	0.332	0.979	0.106	-0.167	-0.458	-0.264	-0.051	0.455	-0.715	0.796	<i>0.329</i>	0.332	¥	-0.3	<i>-0.323</i>	-0.066	-0.042	0.194	-0.066	<i>0.302</i>	
Nb	-0.797	0.891	0.87	0.325	-0.248	<i>0.393</i>	0.153	0.312	-0.671	-0.127	0.805	0.74	0.851	0.218	0.016	0.276	0.423	-0.107	-0.264	0.175	¥	0.556	0.408	0.458	<i>0.308</i>	<i>0.334</i>	0.492	0.207
Nd	0.371	-0.58	<i>-0.389</i>	-0.207	<i>0.44</i>	<i>0.397</i>	0.172	0.268	0.534	0.296	-0.333	0.182	-0.229	-0.12	0.128	0.648	-0.402	<i>0.384</i>	0.212	0.921	¥	-0.045	-0.2	0.067	0.545	0.839	0.636	0.886
Ni	-0.85	0.685	0.889	<i>0.478</i>	-0.271	0.679	0.29	0.273	-0.667	0.246	0.873	<i>0.384</i>	0.795	0.2	0.035	-0.092	0.266	0.2	<i>-0.299</i>	-0.096	¥	0.885	0.537	0.832	0.222	0.256	0.49	0.119
P	-0.307	-0.177	0.071	0.727	0.205	<i>0.416</i>	-0.041	-0.008	-0.182	<i>0.418</i>	0.249	0.236	-0.038	0.391	0.214	0.39	<i>0.291</i>	-0.042	<i>0.355</i>	0.448	¥	0.144	<i>0.332</i>	-0.053	0.58	0.394	<i>0.348</i>	0.401
Pb	0.194	-0.094	-0.041	-0.222	0.025	-0.189	0.199	-0.101	0.065	0.005	-0.144	0.204	-0.178	0.554	0.095	0.228	0.131	0.3	0.43	0.045	¥	0.171	0.223	0	0.196	0.127	0.053	0.115
Pr	0.439	-0.63	<i>-0.459</i>	-0.255	<i>0.492</i>	<i>0.342</i>	0.178	0.263	0.591	0.304	<i>-0.407</i>	0.162	-0.216	-0.123	0.195	0.6	<i>-0.382</i>											

Clay - Spearman Rank Correlation

n=35 for all trace elements except Cl and Zr; n=18 for all major oxides; Cl and Zr not analysed

	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb
SiO2_XRF																												
TiO2_XRF																												
Al2O3_XRF																												
Fe2O3_XRF																												
MnO_XRF																												
MgO_XRF																												
CaO_XRF																												
K2O_XRF																												
Na2O_XRF																												
P2O5_XRF																												
LOI																												
Ag																												
Al																												
As																												
Au																												
Ba																												
Bi																												
Ca																												
Cd																												
Ce																												
Cl_XRF																												
Co																												
Cr																												
Cs																												
Cu																												
Dy																												
Er																												
Eu																												
Fe	1																											
Ga	<i>0.369</i>	1																										
Gd	-0.204	0.03	1																									
Hf	-0.038	0.568		1																								
Hg	¥	¥	¥	¥	¥																							
Ho	0.02	0.477	0.839	<i>0.283</i>	¥	1																						
In	0.468	0.772	-0.184	0.415	¥	0.144	1																					
K	-0.227	0.105	<i>0.337</i>	<i>0.284</i>	¥	<i>0.35</i>	-0.11	1																				
La	<i>-0.358</i>	-0.054	0.948	-0.031	¥	0.726	-0.172	0.399	1																			
Lu	0.128	0.597	0.618	0.465	¥	0.86	0.271	0.473	0.481	1																		
Mg	0.194	<i>0.324</i>	0.432	0.242	¥	0.607	-0.052	0.676	<i>0.336</i>	0.709	1																	
Mn	-0.141	<i>-0.325</i>	0.41	<i>-0.384</i>	¥	0.223	<i>-0.423</i>	0.532	0.429	0.083	0.389	1																
Mo	0.502	<i>0.364</i>	-0.401	-0.071	¥	-0.221	0.448	<i>-0.317</i>	<i>-0.458</i>	-0.142	-0.079	-0.07	1															
Na	-0.389	-0.648	<i>0.33</i>	<i>-0.348</i>	¥	0.005	-0.754	0.467	0.407	-0.128	0.713	<i>-0.411</i>	1															
Nb	0.06	0.822	0.086	0.774	¥	0.436	0.621	0.42	0.078	0.656	0.406	-0.238	0.157	-0.393	1													
Nd	<i>-0.32</i>	-0.126	0.951	-0.151	¥	0.714	-0.271	<i>0.366</i>	0.969	0.44	<i>0.359</i>	0.523	<i>-0.44</i>	0.504	-0.034	1												
Ni	0.408	0.642	-0.006	0.483	¥	0.425	<i>0.303</i>	0.269	-0.167	0.614	0.688	-0.018	<i>0.278</i>	-0.246	0.615	-0.155	1											
P	0.201	0.16	0.403	-0.079	¥	<i>0.366</i>	<i>0.355</i>	0.076	0.472	0.248	0.13	0.186	0.027	0.048	0.093	0.449	-0.111	1										
Pb	0.106	0.002	0.064	-0.172	¥	0.057	-0.039	0.092	0.095	-0.084	0.167	0.559	0.469	0.266	-0.06	0.128	0.093	0.119	1									
Pr	<i>-0.306</i>	-0.113	0.963	-0.103	¥	0.716	-0.26	<i>0.312</i>	0.972	0.447	<i>0.337</i>	0.456	<i>-0.442</i>	0.445	-0.017	0.982	-0.158	0.398	0.116	1								
Rb	-0.015	0.23	0.4	0.204	¥	0.509	-0.156	0.853	<i>0.334</i>	0.626	0.852	0.539	-0.193	<i>0.381</i>	<i>0.374</i>	<i>0.363</i>	0.562	0.022	0.103	<i>0.309</i>	1							
S	0.217	0.277	0.031	0.008	¥	0.146	0.429	0.177	0.073	0.199	0.182	<i>0.278</i>	<i>0.464</i>	0.007	<i>0.315</i>	0.089	0.146	0.407	<i>0.344</i>	0.028	0.079	1						
Sb	<i>0.308</i>	0.011	-0.084	-0.229	¥	-0.132	<i>0.308</i>	-0.078	-0.023	-0.128	-0.067	0.271	0.557	-0.109	-0.086	-0.061	-0.13	<i>0.361</i>	0.508	-0.077	-0.152	0.486	1					
Se	-0.124	-0.046	0	-0.199	¥	-0.028	-0.063	-0.003	-0.012	-0.095	-0.055	<i>0.312</i>	0.14	-0.115	0.015	-0.113	0.033	<i>0.333</i>	0.333	0.012	-0.07	0.177	0.226	1				
Sm	<i>-0.321</i>	-0.061	0.957	-0.091	¥	0.745	-0.234	0.395	0.97	0.501	0.407	0.506	-0.409	0.452	0.047	0.985	-0.097	0.433	0.135	0.983	0.39	0.091	-0.043	0.036	1			
Sn	0.268	0.904	0.072	0.704	¥	0.459	0.733	0.234	0.023	0.655	<i>0.346</i>	-0.382	-0.169	-0.567	0.87	-0.087	0.598	0.158	-0.101	-0.061	0.27	0.209	-0.065	-0.186	-0.033	1		
Sr	<i>-0.323</i>	-0.073	<i>0.378</i>	0.088	¥	0.388	<i>-0.325</i>	0.731	0.415	<i>0.347</i>	0.596	0.553	-0.381	0.609	0.134	0.448	0.185	0.198	0.132	<i>0.355</i>	0.698	0.158	-0.179	0.022	0.418	0.05	1	
Tb	-0.249	0.036	0.979	-0.007	¥	0.834	-0.185	0.396	0.939	0.637	0.468	0.452	-0.404	<i>0.373</i>	0.116	0.956	0.034	0.411	0.055	0.948	0.459	0.084	-0.074	0.007	0.965	0.064	0.42	1
Te	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Th	0.395	<i>0.457</i>	-0.146	<i>0.385</i>	¥	0.046	0.668	-0.096	-0.082	0.103	-0.038	-0.174	0.47	<i>-0.317</i>	0.465	-0.175	0.199	0.489	<i>0.349</i>	-0.161	-0.201	0.432	0.466	0.026	-0.149	0.439	-0.202	-0.144
Ti	0.12	0.871	0.144	0.733	¥	0.472	0.661	0.295	0.111	0.652	<i>0.313</i>	<i>-0.331</i>	0.122	-0.519	0.917	-0.01	0.528	0.161	-0.116	0.023	<i>0.29</i>	0.158	-0.102	0.056	0.952	0.059	0.135	
Tl	0.072	<i>0.35</i>	0.443	0.055	¥	0.554	0.056	0.628	<i>0.381</i>	0.501	0.644	0.664	0.105	0.259	<i>0.283</i>	0.442	<i>0.363</i>	0.218	0.416	<i>0.378</i>	0.734	0.429	0.207	0.235	0.458	0.248	0.554	0.489
Tm	0.237	0.63	0.597	<i>0.317</i>	¥	0.869	<i>0.311</i>	<i>0.331</i>	0.464	0.884	0.697	0.18	0.035	-0.139	0.553	0.449	0.647	0.285	0.143	0.458	0.574	0.306	0.046	-0.063	0.5	0.581	0.272	0.617
U	-0.01	0.178	0.414	0.01	¥	<i>0.367</i>	0.129	<i>0.322</i>	0.462	<i>0.342</i>	0.191	<i>0.3</i>	0.119	0.221	0.251	0.413	-0.029	0.603	<i>0.333</i>	<i>0.365</i>	0.237	0.368	<i>0.302</i>	0.153	0.414	0.178	<i>0.286</i>	0.42
V	0.791	0.623	<i>-0.314</i>	<i>0.297</i>	¥	0.034	0.682	-0.168	-0.398	0.257	0.156	-0.393	0.574	-0.598	0.434	-0.452	0.491	0.253	0.088	-0.435	-0.066	0.293	<i>0.36</i>	-0.132	-0.403	0.555	<i>-0.309</i>	<i>-0.326</i>
W	0.214	0.841	-0.08	0.724	¥	<i>0.334</i>	0.713	<i>0.278</i>	-0.101	0.544	<i>0.32</i>	-0.394	0.191															

Clay - Spearman Rank Correlation

n=35 for all trace elements except Cl and Zr; n=18 for all major oxides; Cl and Zr not analysed

	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
SiO2_XRF												
TiO2_XRF												
Al2O3_XRF												
Fe2O3_XRF												
MnO_XRF												
MgO_XRF												
CaO_XRF												
K2O_XRF												
Na2O_XRF												
P2O5_XRF												
LOI												
Ag												
Al												
As												
Au												
Ba												
Bi												
Ca												
Cd												
Ce												
Cl_XRF												
Co												
Cr												
Cs												
Cu												
Dy												
Er												
Eu												
Fe												
Ga												
Gd												
Hf												
Hg												
Ho												
In												
K												
La												
Lu												
Mg												
Mn												
Mo												
Na												
Nb												
Nd												
Ni												
P												
Pb												
Pr												
Rb												
S												
Sb												
Se												
Sm												
Sn												
Sr												
Tb												
Te	¥											
Th	¥	1										
Ti	¥	0.39	1									
Tl	¥	-0.053	0.273	1								
Tm	¥	0.164	0.545	0.611	1							
U	¥	0.417	0.264	<i>0.359</i>	<i>0.304</i>	1						
V	¥	0.666	0.435	-0.04	<i>0.284</i>	0.119	1					
W	¥	0.416	0.848	0.228	0.465	0.13	0.527	1				
Y	¥	0.004	0.48	0.568	0.881	<i>0.302</i>	0.031	<i>0.357</i>	1			
Yb	¥	0.151	0.598	0.586	0.936	0.437	0.246	0.486	0.909	1		
Zn	¥	0.109	0.162	0.822	0.569	0.464	0.131	0.19	0.499	0.544	1	
Zr_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥

For all trace elements (except Cl and Zr), at the 99.9% level, all significant values (r >0.525 or <-0.525) are shown in **bold**; at the 99% level (0.386-0.524), all values are shown in normal type; at the 95% level (0.278-0.385), all values are shown in *italics* .

For major elements, at the 99.9% level, all significant values (r >0.693 or <-0.693) are shown in **bold**; at the 99% level (0.529-0.692), all values are shown in normal type; at the 95% level (0.389-0.528), all values are shown in *italics* .

n=56 for all trace elements except Cl and Zr; n=55 for all major oxides; n=43 for Cl and Zr

	SiO2_XRF	TiO2_XRF	Al2O3_XRF	XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
SiO2_XRF	1																												
TiO2_XRF	0.552	1																											
Al2O3_XRF	0.317	0.139	1																										
Fe2O3_XRF	-0.929	-0.56	-0.348	1																									
MnO_XRF	-0.346	-0.131	0.039	0.33	1																								
MgO_XRF	-0.135	0.148	-0.005	0.149	0.346	1																							
CaO_XRF	0.326	0.001	0.329	-0.32	-0.069	-0.126	1																						
K2O_XRF	0.025	0.149	-0.345	-0.171	-0.055	0.327	-0.358	1																					
Na2O_XRF	-0.076	0.034	-0.296	-0.066	0.255	0.202	-0.031	0.466	0.165	0.236	1																		
P2O5_XRF	-0.628	-0.425	-0.493	0.548	0.129	0.09	0.001	0.165	0.129	0.09	0.001	0.165	0.129	0.09	0.001	0.165	0.129	0.09	0.001	0.165	0.129	0.09	0.001	0.165	0.129	0.09	0.001	0.165	0.129
LOI	-0.628	-0.19	-0.565	0.477	-0.062	0.057	-0.062	-0.457	0.284	0.138	0.583	1																	
Ag	0.039	0.473	-0.448	-0.017	-0.161	0.159	-0.414	0.335	0.311	0.016	0.316	1																	
Al	0.353	0.257	0.917	-0.375	0.065	-0.032	0.186	-0.311	-0.271	-0.562	-0.555	-0.308	1																
As	-0.292	0.144	-0.531	0.239	-0.21	0.129	-0.248	0.366	0.315	0.417	0.609	0.596	-0.566	1															
Au	0.106	0.353	-0.348	-0.141	-0.146	0.098	-0.043	0.311	0.325	0.093	0.233	0.413	-0.355	0.416	1														
Ba	0.343	0.1	0	-0.255	-0.215	0.108	0.241	0.149	-0.019	-0.031	-0.242	0.276	-0.008	0.042	-0.031	1													
Bi	-0.084	0.131	-0.464	0.043	0.105	0.131	-0.096	0.401	0.544	0.294	0.184	0.334	-0.444	0.517	0.435	-0.072	1												
Ca	0.217	0	0.369	-0.191	0.424	0.017	0.73	-0.346	0.062	-0.067	-0.544	-0.419	0.344	-0.416	-0.119	0.142	-0.015	1											
Cd	-0.043	0.149	-0.446	0.126	-0.257	0.207	-0.09	0.093	0.024	0.194	0.331	0.578	-0.474	0.61	0.319	0.449	0.298	-0.285	1										
Ce	-0.205	-0.145	-0.508	0.215	-0.201	0.176	-0.11	0.34	0.257	0.64	0.326	0.26	-0.491	0.354	0.175	0.171	0.278	-0.229	0.182	1									
Cl_XRF	0.036	0.211	-0.235	-0.024	-0.263	0.16	-0.003	0.192	0.412	0.185	0.136	0.541	-0.195	0.418	0.237	0.17	0.224	-0.284	0.473	0.307	1								
Co	-0.256	-0.299	0.29	0.368	0.261	0.111	0.364	-0.663	-0.19	0.191	-0.154	-0.337	0.161	-0.275	-0.378	-0.018	-0.34	0.351	-0.003	-0.045	0.13	1							
Cr	0.169	0.127	0.592	-0.172	-0.069	-0.226	0.211	-0.246	-0.386	-0.446	-0.3	-0.369	0.572	-0.311	-0.263	-0.097	-0.373	0.168	-0.262	-0.525	-0.22	0.063	1						
Cs	0.223	0.146	0.085	-0.25	0.039	0.319	-0.161	0.338	-0.039	-0.07	-0.005	-0.014	0.197	-0.077	-0.11	0.183	0.048	0.035	-0.061	0.044	-0.153	-0.26	-0.008	1					
Cu	-0.123	0.253	-0.49	0.159	-0.386	0.221	-0.141	0.155	0.235	0.314	0.436	0.657	-0.451	0.675	0.358	0.301	0.318	-0.397	0.717	0.415	0.551	-0.071	-0.36	-0.045	1				
Dy	-0.403	-0.311	-0.45	0.449	0.11	0.281	-0.069	0.2	0.289	0.696	0.23	0.115	-0.465	0.213	0.085	0.039	0.251	-0.04	0.077	0.845	0.277	0.214	-0.567	-0.027	0.253	1			
Er	-0.37	-0.202	-0.325	0.43	0.207	0.67	-0.03	0.049	0.268	0.664	0.149	0.18	-0.345	0.162	0.023	0.065	0.193	0.026	0.087	0.724	0.365	0.374	-0.59	-0.069	0.278	0.933	1		
Eu	-0.212	-0.313	-0.451	0.246	0.055	0.207	-0.019	0.331	0.338	0.63	0.124	0.151	-0.413	0.184	0.063	0.309	0.269	0.06	0.118	0.846	0.212	0.052	-0.556	0.101	0.22	0.89	0.795	1	
Fe	-0.878	-0.515	-0.413	0.949	0.235	0.161	-0.312	-0.165	-0.093	0.519	0.535	0.072	-0.469	0.337	-0.032	-0.193	0.031	-0.286	0.273	0.265	-0.015	0.302	-0.186	-0.249	0.302	0.41	0.363	0.224	
Ga	0.185	0.438	0.113	-0.283	-0.103	-0.138	0.03	0.088	0.227	-0.22	-0.078	0.149	0.184	0.13	0.258	-0.14	0.192	0.081	-0.124	-0.201	-0.023	-0.369	0.337	0.053	0.142	-0.285	-0.299	-0.277	
Gd	-0.306	-0.255	-0.472	0.289	0.052	0.289	-0.095	0.302	0.347	0.619	0.135	0.135	-0.436	0.191	0.003	0.068	0.289	-0.055	0.018	0.888	0.219	0.063	-0.574	0.084	0.26	0.96	0.849	0.909	
Hf	0.54	0.653	0.258	-0.511	-0.007	-0.174	-0.087	0.026	0.002	-0.461	-0.307	0.252	0.38	-0.224	0.057	0.145	-0.047	0.036	-0.115	-0.209	0.195	-0.135	0.237	0.076	-0.105	-0.288	-0.153	-0.242	
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	
Ho	-0.407	-0.254	-0.396	0.456	0.182	0.258	-0.047	0.109	0.29	0.693	0.198	0.149	-0.4	0.178	0.061	0.046	0.219	0.016	0.079	0.762	0.332	0.295	-0.59	-0.065	0.269	0.968	0.978	0.843	
In	-0.324	-0.078	0.014	0.126	0.064	-0.107	-0.223	0.316	0.141	0.332	0.301	0.246	-0.032	0.426	0.026	-0.047	0.134	-0.231	0.085	0.171	0.227	-0.092	0.126	-0.097	0.067	0.109	0.123		
K	0.034	0.181	-0.24	-0.165	-0.136	0.209	-0.423	0.895	0.455	0.118	0.289	0.392	-0.203	0.385	0.208	0.186	-0.442	0.135	0.263	0.385	-0.56	-0.15	0.241	0.243	0.096	0.013	0.229		
La	-0.242	-0.116	-0.544	0.226	-0.205	0.165	-0.13	0.386	0.265	0.696	0.42	0.325	-0.544	0.463	0.23	0.175	0.299	-0.286	0.272	0.976	0.388	-0.866	-0.494	0.015	0.468	0.802	0.689	0.809	
Lu	-0.289	-0.092	-0.238	0.37	0.097	0.124	-0.063	-0.08	0.159	0.558	0.163	0.273	-0.268	0.16	-0.038	0.175	0.028	-0.066	0.235	0.51	0.353	0.455	-0.477	-0.119	0.44	0.672	0.835	0.546	
Mg	0.015	0.316	0.011	0.011	0.063	0.884	-0.057	0.337	0.125	0.07	-0.011	0.193	0.018	0.156	0.165	0.15	0.18	-0.034	0.237	0.2	0.27	0.01	-0.174	0.312	0.365	0.233	0.233	0.166	
Mn	-0.059	0.001	0.084	0.102	0.561	0.409	0.204	-0.039	0.112	0.086	-0.105	0.01	-0.059	-0.008	0.183	0.065	0.307	0.231	-0.097	0.171	0.457	-0.099	-0.013	-0.069	0.104	0.244	0.074		
Mo	-0.003	0.226	-0.463	-0.017	-0.205	0.179	-0.256	0.344	0.466	0.194	0.354	0.654	-0.475	0.67	0.43	0.15	0.532	-0.325	0.439	0.467	0.33	-0.268	-0.604	0.036	0.647	0.271	0.256	0.289	
Na	0.161	0.211	-0.357	-0.309	-0.088	0.166	0.003	0.617	0.792	0.192	0.126	0.32	-0.385	0.372	0.486	0.017	0.603	-0.068	0.104	0.351	0.168	-0.458	-0.392	0.028	0.3	0.226	0.134	0.288	
Nb	0.382	0.308	0.351	-0.344	0.341	-0.107	0.108	-0.102	-0.02	-0.36	-0.445	-0.013	0.42	-0.331	-0.105	0.301	0.016	0.441	-0.008	-0.463	-0.232	-0.005	0.244	0.122	-0.294	-0.387	-0.235	-0.21	
Nd	-0.241	-0.196	-0.436	0.275	-0.118	0.239	-0.092	0.258	0.25	0.59	0.232	0.163	-0.406	0.224	0.069	0.136	0.228	-0.151	0.072	0.95	0.253	0.074	-0.551	0.064	0.339	0.913	0.802	0.872	
Ni	-0.393	-0.276	0.02	0.492	0.274	0.484	-0.076	-0.128	-0.136	0.235	0.108	-0.091	-0.081	-0.021	-0.141	-0.013	-0.232	-0.083	0.096	0.064	0.208	0.506	0.037	0.02	0.111	0.273	0.322	0.182	
P	-0.554	-0.411	-0.521	0.465	0.059	0.127	0.008	0.191	0.242	0.941	0.621	0.072	-0.626	0															

Ferruginous saprolite - Spearman rank correlations

n=56 for all trace elements except Cl and Zr; n=55 for all major oxides; n=43 for Cl and Zr

	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	
SiO2_XRF																													
TiO2_XRF																													
Al2O3_XRF																													
Fe2O3_XRF																													
MnO_XRF																													
MgO_XRF																													
CaO_XRF																													
K2O_XRF																													
Na2O_XRF																													
P2O5_XRF																													
LOI																													
Ag																													
Al																													
As																													
Au																													
Ba																													
Bi																													
Ca																													
Cd																													
Ce																													
Cl_XRF																													
Co																													
Cr																													
Cs																													
Cu																													
Dy																													
Er																													
Eu																													
Fe	1																												
Ga	-0.266	1																											
Gd	0.314	-0.214	1																										
Hf	-0.562	0.252	-0.266	1																									
Hg	¥	¥	¥	¥	¥																								
Ho	0.389	-0.267	0.903	-0.212	¥	1																							
In	0.181	0.007	0.032	-0.022	¥	0.103	1																						
K	-0.172	0.114	0.186	0.159	¥	0.043	0.443	1																					
La	0.292	-0.19	0.827	-0.199	¥	0.726	0.288	0.32	1																				
Lu	0.324	-0.222	0.562	0.026	¥	0.784	0.149	0.039	0.509	1																			
Mg	-0.006	0.059	0.257	-0.081	¥	0.229	-0.165	0.246	0.16	1																			
Mn	0.108	-0.349	-0.017	0.081	¥	0.172	0.064	-0.066	-0.054	0.253	0.217	1																	
Mo	0.088	0.059	0.326	-0.09	¥	0.236	0.149	0.362	0.473	0.251	0.181	0.021	1																
Na	-0.259	0.27	0.315	-0.034	¥	0.165	0.043	0.494	0.364	-0.012	0.206	-0.059	0.565	1															
Nb	-0.429	0.158	-0.391	0.547	¥	-0.279	0.001	-0.003	-0.466	-0.043	-0.156	0.232	-0.275	-0.151	1														
Nd	0.28	-0.253	0.96	-0.217	¥	0.841	0.046	0.176	0.892	0.558	0.247	-0.067	0.401	0.277	-0.461	1													
Ni	0.483	-0.297	0.185	-0.239	¥	0.303	0.003	-0.075	0.096	0.363	0.393	0.411	-0.163	-0.313	-0.207	0.137	1												
P	0.526	-0.265	0.628	-0.479	¥	0.66	0.307	0.134	0.767	0.514	0.049	0.142	0.279	0.239	-0.424	0.622	0.236	1											
Pb	0.287	-0.101	0.244	-0.113	¥	0.225	0.461	0.43	0.588	0.263	0.068	0.151	0.642	0.29	-0.234	0.302	-0.028	0.504	1										
Pr	0.287	-0.237	0.929	-0.223	¥	0.806	0.102	0.203	0.938	0.536	0.238	-0.092	0.434	0.299	-0.495	0.987	0.115	0.662	0.39	1									
Rb	-0.046	0.068	0.231	0.116	¥	0.135	0.352	0.898	0.35	0.168	0.37	0.035	0.425	0.371	0.027	0.217	0.023	0.194	0.533	0.232	1								
S	0.202	0.067	0.414	-0.219	¥	0.255	0.124	0.45	0.582	0.109	0.157	-0.181	0.703	0.649	-0.423	0.426	-0.191	0.482	0.657	0.473	0.478	1							
Sb	0.112	0.005	-0.021	0.035	¥	0.052	0.441	0.306	0.334	0.202	0.051	0.231	0.583	0.276	-0.116	0.063	-0.09	0.328	0.776	0.142	0.35	0.496							
Se	0.076	0.281	0.145	-0.03	¥	-0.017	0.177	0.103	-0.08	0.144	-0.243	0.427	0.421	-0.128	0.102	-0.13	-0.003	0.257	0.109	0.165	0.493	0.143	1						
Sm	0.298	-0.234	0.974	-0.235	¥	0.862	0.031	0.193	0.873	0.568	0.292	-0.036	0.405	0.298	-0.417	0.987	0.168	0.62	0.307	0.968	0.247	0.434	0.059	0.147	1				
Sn	-0.276	0.08	-0.162	0.101	¥	-0.087	0.224	0.083	-0.081	-0.015	-0.167	0.235	0.198	0.256	0.176	-0.166	-0.298	-0.114	0.17	-0.154	-0.011	-0.088	0.253	0.003	-0.165	1			
Sr	-0.139	0.019	0.411	-0.127	¥	0.359	0.102	0.184	0.334	0.119	-0.117	0.087	0.025	0.457	0.083	0.327	-0.146	0.462	-0.034	0.303	0.097	0.165	-0.114	0.058	0.342	0.231	1		
Tb	0.376	-0.199	0.98	-0.29	¥	0.91	0.099	0.168	0.865	0.581	0.3	0.019	0.364	0.323	-0.456	0.954	0.223	0.678	0.312	0.938	0.22	0.446	0.065	0.125	0.968	-0.175	0.358	1	
Te	0.136	0.153	0.072	-0.259	¥	0.038	-0.159	0.004	0.118	-0.024	0.448	-0.072	0.153	0.273	-0.511	0.093	0.195	0.184	-0.01	0.113	-0.041	0.262	0.105	0.329	0.09	-0.245	-0.062	0.158	
Th	-0.266	0.147	-0.419	0.306	¥	-0.466	-0.118	-0.188	-0.504	-0.459	0.045	-0.083	-0.435	-0.39	0.146	-0.393	-0.011	-0.645	-0.396	-0.416	-0.246	-0.541	-0.355	-0.126	-0.407	0.004	-0.418	-0.419	
Ti	-0.341	0.256	-0.393	0.555	¥	-0.219	0.336	0.143	-0.092	0.042	0.032	0.199	0.064	0.029	0.42	-0.354	-0.2	-0.144	0.285	-0.299	0.182	-0.067	0.439	-0.102	-0.351	0.335	-0.191	-0.328	
Tl	0.115	0.241	0.254	-0.08	¥	0.137	0.235	0.569	0.487	0.094	0.194	-0.068	0.658	0.591	-0.18	0.26	-0.165	0.386	0.729	0.317	0.675	0.801	0.562	0.415	0.293	0.066	0.115	0.292	
Tm	0.366	-0.271	0.748	-0.1	¥	0.919	0.172	0.021	0.61	0.908	0.23	0.251	0.231	0.015	-0.129	0.703	0.365	0.568	0.248	0.679	0.364	0.153	0.123	0.104	-0.101	0.724	-0.056	0.18	0.768
U	0.329	0.023	0.338	-0.201	¥	0.482	0.184	0.041	0.489	0.518	0.318	0.206	0.369	0.267	-0.161	0.333	0.191	0.573	0.533	0.364	0.214	0.444	0.474	0.188	0.366	0.134	0.161	0.417	
V	-0.262	0.483	-0.51	0.177	¥	-0.573	-0.191	-0.245	-0.618	-0.557	-0.021	-0.277	-0.495	-0.216	0.203	-0.537	-0.069	-0.634	-0.559	-0.557	-0.346	-0.447	-0.428	0.105	-0.544	-0.137	-0.2	-0.522	
W	0.028	0.112	0.073	0.147	¥	0.144	0.386	0.483	0.293	0.39	0.271	0.141	0.673	0.348	-0.044	0.137	-0.021	0.128	0.668	0.179	0.523	0.431	0.741	0.233	0.152	0.426	-0.168	0.127	
Y	0.384	-0.222	0.872	-0.228	¥	0.937	-0.029	-0.055	0.7	0.742	0.268	0.107	0.148	-0.383	0.833	0.325	0.61	0.199	0.805										

Ferruginous saprolite - Spearman rank correlations

n=56 for all trace elements except Cl and Zr; n=55 for all major oxides; n=43 for Cl and Zr

	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
SiO2_XRF												
TiO2_XRF												
Al2O3_XRF												
Fe2O3_XRF												
MnO_XRF												
MgO_XRF												
CaO_XRF												
K2O_XRF												
Na2O_XRF												
P2O5_XRF												
LOI												
Ag												
Al												
As												
Au												
Ba												
Bi												
Ca												
Cd												
Ce												
Cl_XRF												
Co												
Cr												
Cs												
Cu												
Dy												
Er												
Eu												
Fe												
Ga												
Gd												
Hf												
Hg												
Ho												
In												
K												
La												
Lu												
Mg												
Mn												
Mo												
Na												
Nb												
Nd												
Ni												
P												
Pb												
Pr												
Rb												
S												
Sb												
Se												
Sm												
Sn												
Sr												
Tb												
Te	1											
Th	-0.015	1										
Ti	-0.08	0.042	1									
Tl	0.077	-0.466	0.203	1								
Tm	-0.04	-0.404	-0.07	0.089	1							
U	<i>0.254</i>	-0.423	0.313	0.479	0.479	1						
V	0.165	0.621	-0.022	-0.408	-0.587	-0.452	1					
W	0.033	<i>-0.281</i>	0.386	0.558	<i>0.262</i>	0.442	-0.43	1				
Y	0.126	-0.439	<i>-0.25</i>	0.132	0.856	0.478	-0.496	0.114	1			
Yb	-0.138	-0.429	-0.049	-0.013	0.928	0.402	-0.533	<i>0.259</i>	0.754	1		
Zn	-0.152	-0.459	0.145	0.507	0.488	0.504	-0.595	0.466	0.435	0.453	1	
Zr_XRF	-0.088	<i>0.285</i>	0.555	0.038	0.017	-0.143	0.157	0.232	-0.071	0.037	0.016	1

For all elements (except Cl and Zr), at the 99.9% level, all significant values (r >0.42 or <-0.42) are shown in **bold**; at the 99% level (0.305-0.419 and -0.305- -0.419), all values are shown in normal type; at the 95% level (0.22-0.304 and -0.22- -0.304), all values are shown in *italics*.

For Cl and Zr, at the 99.9% level, all significant values (r >0.474 or <-0.474) are shown in **bold**; at the 99% level (0.346-0.473 and -0.346- -0.473), all values are shown in normal type; at the 95% level (0.248-0.345 and -0.248- -0.345), all values are shown in *italics*.

n=10 for all elements except Cl, Hg and Zr; n=8 for Cl and Zr; n=4 for Hg

	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
SiO2_XRF	1																											
TiO2_XRF	0.939	1																										
Al2O3_XRF	<i>-0.657</i>	<i>-0.569</i>	1																									
Fe2O3_XRF	<i>-0.745</i>	<i>-0.683</i>	0.28	1																								
MnO_XRF	0.08	0.176	0.055	0.129	1																							
MgO_XRF	<i>-0.644</i>	<i>-0.676</i>	<i>0.625</i>	0.377	0.111	1																						
CaO_XRF	-0.45	<i>-0.618</i>	0.415	0.018	0.234	0.265	1																					
K2O_XRF	0.455	0.421	0	<i>-0.648</i>	0.061	-0.085	0.164	1																				
Na2O_XRF	0.286	0.309	<i>-0.53</i>	-0.316	<i>0.535</i>	-0.482	-0.183	0.128	1																			
P2O5_XRF	0.213	0.374	-0.052	-0.36	-0.022	<i>-0.685</i>	-0.009	0.006	0.193	1																		
LOI	-0.345	-0.335	0.395	-0.188	0.055	0.407	<i>0.523</i>	0.503	0.164	-0.073	1																	
Ag	<i>-0.721</i>	<i>-0.744</i>	0.359	0.43	-0.331	<i>0.559</i>	<i>0.59</i>	-0.261	-0.316	-0.165	<i>0.527</i>	1																
Al	-0.515	-0.402	0.93	0.224	0.08	<i>0.571</i>	0.213	0.042	-0.401	-0.11	0.236	0.079	1															
As	0.115	0.134	0.371	<i>-0.6</i>	0.037	-0.128	0.426	0.503	-0.195	<i>0.598</i>	0.406	0.018	0.236	1														
Au	-0.295	-0.388	0.358	0.299	-0.411	0.498	0.229	0.012	-0.232	<i>-0.543</i>	0.409	0.457	0.226	-0.244	1													
Ba	0.195	0.303	-0.439	0.377	-0.351	<i>-0.613</i>	-0.491	-0.371	0.104	0.275	<i>-0.547</i>	-0.213	-0.444	-0.426	-0.034	1												
Bi	-0.491	-0.5	0.419	-0.042	0.092	0.316	0.717	0.091	0.182	0.098	0.758	0.673	0.273	0.285	0.341	-0.48	1											
Ca	-0.479	<i>-0.604</i>	0.292	0.224	<i>0.522</i>	0.182	0.742	-0.115	0.201	-0.134	0.261	0.333	0.285	-0.067	0.177	-0.328	<i>0.673</i>	1										
Cd	0.472	0.351	-0.363	<i>-0.588</i>	0.255	-0.22	-0.078	0.485	0.473	-0.059	0.369	-0.278	-0.407	0.213	0.124	-0.149	-0.058	-0.252	1									
Ce	<i>-0.632</i>	-0.419	<i>0.625</i>	0.255	-0.191	<i>0.561</i>	-0.107	0.049	-0.037	-0.019	0.699	<i>0.535</i>	<i>0.547</i>	0.128	0.333	-0.284	<i>0.571</i>	0.061	-0.156	1								
Cl_XRF	-0.381	-0.383	-0.049	0.258	0.138	0.284	0.222	0.43	0.552	-0.356	0.798	0.479	-0.049	-0.246	<i>0.673</i>	-0.136	0.528	0.295	0.373	0.556	1							
Co	<i>-0.754</i>	<i>-0.682</i>	0.439	0.705	0.369	0.28	0.165	<i>-0.571</i>	0.149	-0.15	0.055	0.249	0.462	-0.395	0.239	0.082	0.322	<i>0.596</i>	-0.357	0.384	0.331	1						
Cr	0.345	0.396	0.116	<i>-0.612</i>	-0.307	-0.316	0.146	0.358	-0.292	0.707	0.103	-0.042	-0.018	0.879	-0.323	-0.128	0.042	-0.37	0.097	-0.049	-0.503	<i>-0.632</i>	1					
Cs	0.305	0.264	0.081	<i>-0.636</i>	0.43	-0.124	0.299	0.714	0.039	0.251	0.214	-0.331	0.169	<i>0.675</i>	<i>-0.542</i>	<i>-0.566</i>	0.052	0.078	0.159	-0.13	-0.183	-0.449	0.493	1				
Cu	-0.806	<i>-0.72</i>	<i>0.596</i>	<i>0.648</i>	0.418	0.11	0.413	0.298	-0.479	0.03	-0.134	0.273	0.479	<i>0.552</i>	-0.273	0.47	-0.012	<i>0.564</i>	<i>0.612</i>	-0.394	<i>0.584</i>	0.331	0.924	-0.491	-0.493	1		
Dy	<i>-0.588</i>	-0.439	0.505	0.418	0.215	0.316	0.085	-0.152	0.316	-0.122	0.418	0.212	<i>0.564</i>	-0.248	0.402	-0.055	0.515	0.479	-0.162	0.693	0.503	0.821	-0.515	-0.311	0.879	1		
Er	<i>-0.571</i>	-0.419	0.433	0.395	0.268	0.256	0.091	-0.079	0.399	-0.092	0.48	0.207	0.48	-0.225	0.349	-0.03	0.511	0.456	-0.078	0.701	<i>0.602</i>	0.79	-0.511	-0.26	0.827	0.985	1	
Eu	<i>-0.661</i>	-0.5	0.517	0.527	0.184	0.377	0.086	-0.261	0.245	-0.165	0.345	0.248	<i>0.576</i>	-0.321	0.378	-0.024	0.455	0.442	-0.252	0.705	0.43	0.863	<i>-0.564</i>	-0.376	0.903	0.967	1	
Fe	<i>-0.842</i>	<i>-0.72</i>	0.353	0.915	0	0.353	0.103	<i>-0.673</i>	-0.213	-0.122	0.491	0.309	-0.43	0.049	0.231	0.152	0.333	<i>-0.718</i>	0.401	0.16	0.76	-0.479	-0.461	0.709	0.491	0.474	0.6	
Ga	0.286	0.437	0.262	<i>-0.663</i>	-0.114	-0.091	-0.076	0.462	-0.098	<i>0.575</i>	0.225	-0.207	0.292	0.784	-0.416	0.39	0.091	-0.265	0.058	0.262	<i>-0.543</i>	-0.482	0.802	<i>0.631</i>	-0.365	-0.188	-0.192	-0.231
Gd	-0.6	-0.439	0.456	0.442	0.215	0.261	0.085	-0.127	0.353	-0.079	0.455	0.236	0.401	-0.236	0.372	0.012	0.503	0.442	-0.123	0.711	<i>0.602</i>	0.809	-0.503	-0.511	0.855	0.988	0.997	0.976
Hf	<i>0.627</i>	<i>0.683</i>	-0.402	<i>-0.724</i>	0.105	<i>-0.681</i>	-0.195	0.381	0.25	0.735	-0.097	-0.459	-0.394	<i>0.621</i>	<i>-0.725</i>	0.058	-0.252	-0.459	0.359	-0.305	-0.426	<i>-0.642</i>	0.743	<i>0.581</i>	-0.718	<i>-0.562</i>	-0.486	<i>-0.614</i>
Hg	0.211	0.211	-0.738	<i>-0.949</i>	0.5	-0.211	0.316	0.316	0.949	-0.632	0.738	0.362	0.105	-0.398	<i>0.833</i>	-0.316	0.105	0.316	1	0.105	0.5	0.105	-0.632	-0.211	0.105	0.105	0.105	
Ho	<i>-0.567</i>	-0.411	0.437	0.427	0.241	0.235	0.049	-0.177	0.379	-0.074	0.39	0.183	0.494	-0.268	0.359	0.021	0.482	0.457	-0.13	<i>0.664</i>	<i>0.556</i>	0.832	<i>-0.524</i>	-0.336	0.866	0.994	0.991	0.982
In	<i>-0.542</i>	-0.342	0.685	0.156	-0.259	<i>0.541</i>	0.091	-0.044	-0.069	0.034	<i>0.592</i>	0.474	<i>0.636</i>	0.143	0.408	-0.316	<i>0.623</i>	0.118	-0.219	0.928	0.354	0.394	0.012	-0.197	<i>0.642</i>	0.711	<i>0.663</i>	<i>0.711</i>
K	0.418	0.409	0.067	<i>-0.624</i>	-0.043	-0.012	0.128	0.988	0.018	0.006	0.515	-0.212	0.091	<i>0.539</i>	0.03	-0.383	0.067	-0.212	0.446	0.122	0.43	<i>-0.608</i>	0.418	0.694	-0.491	-0.176	-0.109	-0.273
La	-0.261	-0.043	0.462	-0.164	-0.11	0.359	-0.109	0.176	0.188	0.146	<i>0.636</i>	0.162	0.177	-0.371	0.491	-0.103	0.097	0.869	0.307	0.17	0.127	0.013	0.358	<i>0.588</i>	<i>0.584</i>	<i>0.564</i>		
Lu	-0.491	-0.354	0.28	0.345	0.442	0.188	-0.012	-0.115	<i>0.547</i>	-0.116	0.382	0.067	0.382	-0.309	0.189	-0.043	0.406	0.442	-0.006	0.59	<i>0.602</i>	0.79	-0.6	-0.214	0.745	0.939	0.967	0.927
Mg	<i>-0.614</i>	<i>-0.645</i>	0.293	0.748	0.175	<i>0.543</i>	0.113	-0.486	-0.073	<i>-0.642</i>	-0.103	0.267	0.389	-0.711	0.391	-0.037	0.164	<i>0.571</i>	-0.499	0.189	0.272	<i>0.762</i>	<i>-0.851</i>	-0.456	0.717	0.59	<i>0.521</i>	<i>0.657</i>
Mn	0.182	0.131	-0.104	-0.353	0.72	<i>-0.582</i>	0.229	0.116	<i>0.598</i>	0.483	0.049	-0.407	-0.067	0.328	-0.303	0.012	0.152	0.389	0.409	-0.277	0.074	0.229	0.103	0.306	0.073	0.164	0.213	0.073
Mo	-0.067	0.012	-0.255	-0.03	0.104	-0.432	-0.043	-0.467	<i>0.596</i>	<i>0.537</i>	0.042	0.152	-0.333	-0.055	-0.091	0.316	0.37	0.176	0.11	0.103	0.061	0.334	0.006	-0.415	0.345	0.297	0.31	0.273
Na	<i>0.576</i>	0.463	<i>-0.541</i>	<i>-0.648</i>	-0.245	-0.043	-0.109	0.479	0.182	-0.134	0.261	0.018	-0.588	0.127	0.012	-0.255	-0.006	-0.406	<i>0.575</i>	-0.152	0.221	-0.796	0.273	0.208	-0.685	-0.539	-0.492	<i>-0.588</i>
Nb	<i>0.587</i>	<i>0.539</i>	-0.322	-0.649	0.449	<i>-0.719</i>	0.014	0.239	0.271	<i>0.642</i>	-0.338	<i>-0.621</i>	-0.232	0.519	-0.742	-0.014	-0.232	-0.027	0.211	<i>-0.603</i>	<i>-0.589</i>	-0.377	<i>0.539</i>	0.64	-0.539	-0.478	-0.449	<i>-0.539</i>
Nd	<i>-0.584</i>	-0.416	0.485	-0.401	0.178	0.268	0.091	-0.079	0.335	-0.058	0.498	0.243	0.511	-0.182	0.394	-0.009	<i>0.523</i>	0.413	-0.097	0.744	<i>0.602</i>	0.771	-0.45	-0.29	0.839	0.985	0.994	0.967
Ni	<i>-0.766</i>	-0.801	0.329	0.857	0.037	<i>0.567</i>	0.226	<i>-0.596</i>	-0.149	<i>-0.581</i>	0.024	<i>0.523</i>	0.292	<i>-0.65</i>	<i>0.535</i>	0.055	0.267	<i>0.535</i>	-0.434	0.287	0.333	0.799	-0.778	<i>-0.638</i>	0.802	<i>0.584</i>	0.53	<i>0.657</i>
P	0.328	<i>0.529</i>	-0.098	-0.383	0.065	<i>-0.683</i>	-0.201	0.079	0.32	0.893	-0.201	-0.401	0.006	0.407	<i>-0.636</i>	0.25	0.012	-0.091	-0.195	-0.03	-0.43	-0.113	<i>0.523</i>	0.338	-0.134	0	0.012	-0.043
Pb	0.46	0.426	-0.117	-0.89	0.168	-0.326	0.24	<i>0.656</i>	0.295	0.506	0.472	-0.141	-0.19	0.804	-0.284	-0.412	0.276	-0.129	<i>0.609</i>	-0.018	-0.074	<i>-0.585</i>	0.718	<i>0.663</i>	-0.497	-0.313	-0.246	-0.423
Pr	<i>-0.638</i>	-0.434	<i>0.585</i>	0.438	0.022																							

Gossans - Spearman Rank Correlation

n=10 for all elements except Cl, Hg and Zr; n=8 for Cl and Zr; n=4 for Hg

	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb
SiO2_XRF																												
TiO2_XRF																												
Al2O3_XRF																												
Fe2O3_XRF																												
MnO_XRF																												
MgO_XRF																												
CaO_XRF																												
K2O_XRF																												
Na2O_XRF																												
P2O5_XRF																												
LOI																												
Ag																												
Al																												
As																												
Au																												
Ba																												
Bi																												
Ca																												
Cd																												
Ce																												
Cl_XRF																												
Co																												
Cr																												
Cs																												
Cu																												
Dy																												
Er																												
Eu																												
Fe	1																											
Ga	-0.432	1																										
Gd	0.515	-0.207	1																									
Hf	-0.569	0.668	-0.511	1																								
Hg	-0.949	-0.949	0.105	-0.056	1																							
Ho	0.5	-0.217	0.994	-0.517	0.105	1																						
In	0.305	0.325	0.679	-0.346	0	0.665	1																					
K	-0.648	0.529	-0.152	0.381	0.316	-0.207	0.025	1																				
La	0.018	0.535	0.576	-0.013	-0.105	0.561	0.898	0.236	1																			
Lu	0.442	-0.225	0.952	-0.414	0.105	0.957	0.536	-0.164	0.527	1																		
Mg	0.687	-0.671	0.535	-0.908	-0.211	0.56	0.219	-0.517	-0.073	0.529	1																	
Mn	-0.255	0.049	0.182	0.389	0.632	0.217	-0.241	0.006	-0.991	0.298	-0.222	1																
Mo	0.127	-0.073	0.331	0.162	0.211	0.336	0.199	-0.515	0.236	0.345	-0.097	0.462	1															
Na	-0.697	0.237	-0.527	0.375	0.949	-0.549	-0.181	0.491	0.067	-0.455	-0.529	-0.255	-0.079	1														
Nb	-0.505	0.442	-0.478	0.808	-0.105	-0.443	-0.541	0.178	-0.314	-0.341	-0.599	0.678	0.137	0.055	1													
Nd	0.474	-0.152	0.997	-0.486	0.105	0.988	0.716	-0.097	0.62	0.936	0.488	0.174	0.31	-0.498	-0.479	1												
Ni	0.772	-0.75	0.559	-0.934	-0.056	0.566	0.281	-0.608	-0.055	0.492	0.927	-0.256	0.049	-0.517	-0.726	0.518	1											
P	-0.122	0.601	0.012	0.668	-0.949	0.037	0.056	0.061	0.195	0.03	-0.466	0.433	0.419	-0.176	0.654	0.024	-0.567	1										
Pb	-0.742	0.689	-0.288	0.759	0.949	-0.309	-0.019	0.644	0.276	-0.239	-0.825	0.437	0.141	0.558	0.588	-0.24	-0.806	0.382	1									
Pr	0.511	-0.052	0.96	-0.486	0.105	0.942	0.819	-0.079	0.711	0.863	0.442	0.009	0.237	-0.48	-0.572	0.973	0.5	-0.003	-0.258	1								
Rb	-0.419	0.579	-0.055	0.237	0.316	-0.101	0.156	0.851	0.286	-0.049	-0.28	0.073	-0.578	0.231	0.209	-0.012	-0.412	0.021	0.578	0.006	1							
S	-0.552	0.383	-0.091	0.33	0.949	-0.11	0.243	0.43	0.527	-0.006	-0.456	-0.043	0.212	0.83	-0.02	-0.055	-0.413	-0.061	0.669	-0.036	0.298	1						
Sb	-0.726	0.664	-0.295	0.837	0.738	-0.3	-0.057	0.48	0.277	-0.222	-0.874	0.488	0.326	0.542	0.634	-0.253	-0.836	0.475	0.96	-0.272	0.358	0.671	1					
Se	0.03	-0.036	0.552	-0.304	0.632	0.549	0.517	0.139	0.467	0.539	0.292	0.097	0.333	0.152	-0.266	0.559	0.255	0.03	0.166	0.468	0.201	0.418	0.068	1				
Sm	0.614	-0.241	0.985	-0.59	0.105	0.967	0.697	-0.261	0.559	0.936	0.631	0.082	0.286	-0.584	-0.541	0.976	0.646	-0.037	-0.412	0.957	-0.122	-0.158	-0.411	0.492	1			
Sn	-0.252	0.726	-0.215	0.582	-0.632	-0.222	0.189	0.178	0.264	-0.288	-0.64	0.351	0.178	-0.043	0.512	-0.172	-0.529	0.455	0.652	-0.098	0.338	0.141	0.648	-0.202	-0.252	1		
Sr	-0.018	0.243	0.018	-0.2	0.316	-0.012	0.355	0.297	0.261	-0.018	0.134	-0.146	-0.261	0.2	-0.137	0.036	0.122	-0.274	0.301	0.055	0.638	0.333	0.08	0.515	0.018	0.252	1	
Tb	0.6	-0.231	0.976	-0.614	0.105	0.982	0.711	-0.273	0.564	0.927	0.657	0.073	0.273	-0.588	-0.539	0.967	0.657	-0.043	-0.423	0.948	-0.116	-0.164	-0.425	0.503	0.997	-0.252	0.042	1
Te	0.739	-0.256	0.652	-0.65	-0.544	0.656	0.62	-0.429	0.416	0.603	0.729	-0.455	0.155	-0.354	-0.686	0.629	0.692	-0.081	-0.648	0.667	-0.305	-0.143	-0.637	0.454	0.742	-0.484	0.081	0.752
Th	0.178	0.523	0.178	0.137	-0.949	0.154	0.322	0.264	0.264	0.043	-0.129	-0.025	-0.362	-0.546	0.104	0.209	-0.185	0.4	-0.019	0.32	0.375	-0.46	-0.075	-0.337	0.191	0.441	-0.067	0.19
Ti	-0.794	0.632	-0.564	0.834	0.211	-0.567	-0.299	0.588	0.042	-0.503	-0.875	0.091	-0.103	0.588	0.56	-0.523	-0.948	0.444	0.656	-0.486	0.274	0.418	0.72	-0.333	-0.638	0.325	-0.309	-0.648
Tl	-0.697	0.766	-0.285	0.672	0.316	-0.317	0	0.806	0.261	-0.261	-0.742	0.334	-0.236	0.394	0.546	-0.231	-0.784	0.292	0.902	-0.213	0.821	0.467	0.794	-0.006	-0.389	0.669	0.37	-0.394
Tm	0.486	-0.184	0.972	-0.465	-0.056	0.978	0.615	-0.15	0.524	0.954	0.56	0.225	0.33	-0.53	-0.369	0.963	0.513	0.138	-0.29	0.897	-0.047	-0.125	-0.297	0.617	0.957	-0.278	0.006	0.954
U	-0.115	0.079	0.624	0.078	0.316	0.622	0.206	0.358	0.309	0.673	0.03	0.644	0.248	-0.2	0.212	0.632	-0.079	0.395	0.301	0.486	0.34	0.079	0.246	0.6	0.505	-0.043	0.03	0.491
V	-0.748	0.835	-0.584	0.804	-0.105	-0.584	-0.191	0.657	0.103	-0.511	-0.774	0.131	-0.274	0.486	0.681	-0.543	-0.927	0.47	0.757	-0.506	0.61	0.389	0.722	-0.207	-0.637	0.535	0.14	-0.626
W	0.309	-0.006	0.382	-0.517	-0.105	0.36	0.673	-0.006	0.612	0.321	0.395	-0.754	-0.152	0.164	-0.826	0.395	0.395	-0.371	-0.362	0.523	-0.024	0.309	-0.382	0.309	0.456	-0.399	0.188	0.467
Y	0.316	-0.232	0.888	-0.512	0.105	0.896	0.553	-0.097	0.438	0.863	0.524	0.418	0.304	-0.474	-0.294	0.884	0.537	-0.088	-0.105	0.793	0.107	-0.043	-0.167	0.644	0.851	-0.08	0.267	0.857
Yb	0.401	-0.207	0.954	-0.451	0.105	0.976	0.556	-0.188	0.505	0.973	0.555	0.341	0.365	-0.5														

Gossans - Spearman Rank Correlation

n=10 for all elements except Cl, Hg and Zr; n=8 for Cl and Zr; n=4 for Hg

	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
SiO2_XRF												
TiO2_XRF												
Al2O3_XRF												
Fe2O3_XRF												
MnO_XRF												
MgO_XRF												
CaO_XRF												
K2O_XRF												
Na2O_XRF												
P2O5_XRF												
LOI												
Ag												
Al												
As												
Au												
Ba												
Bi												
Ca												
Cd												
Ce												
Cl_XRF												
Co												
Cr												
Cs												
Cu												
Dy												
Er												
Eu												
Fe												
Ga												
Gd												
Hf												
Hg												
Ho												
In												
K												
La												
Lu												
Mg												
Mn												
Mo												
Na												
Nb												
Nd												
Ni												
P												
Pb												
Pr												
Rb												
S												
Sb												
Se												
Sm												
Sn												
Sr												
Tb												
Te	1											
Th	0.019	1										
Ti	-0.628	0.129	1									
Tl	-0.665	0.301	0.636	1								
Tm	0.684	0.158	-0.53	-0.299	1							
U	0.056	0.117	-0.018	0.273	0.704	1						
V	-0.605	0.265	0.845	0.833	-0.519	0.012	1					
W	0.739	-0.018	-0.236	-0.321	0.33	-0.2	-0.28	1				
Y	0.405	0.031	-0.62	-0.109	0.866	0.687	-0.503	0.128	1			
Yb	0.592	0.098	-0.511	-0.274	0.975	0.705	-0.5	0.261	0.902	1		
Zn	-0.329	-0.252	0.018	0.139	0.224	0.491	0.036	-0.515	0.462	0.401	1	
Zr_XRF	-0.403	0.301	0.683	-0.048	-0.556	-0.563	0.331	-0.168	-0.647	-0.503	-0.06	1

For all elements (except Cl, Hg and Zr), at the 99.9% level, all significant values (r >0.847 or <-0.847) are shown in **bold**; at the 99% level (0.685-0.846), all values are shown in normal type; at the 95% level (0.521-0.684), all values are shown in *italics* .

For Cl and Zr, at the 99.9% level, all significant values (r >0.898 or <-0.898) are shown in **bold**; at the 99% level (0.75-0.897), all values are shown in normal type; at the 95% level (0.582-0.749), all values are shown in *italics* .

For Hg, at the 99.9% level, all significant values (r >0.991 or <-0.991) are shown in **bold**; at the 99% level (0.934-0.99), all values are shown in normal type; at the 95% level (0.805-0.933), all values are shown in *italics* .

n=21 for all trace elements except Cl and Zr; n=9 for all major oxides; Cl and Zr not analysed

	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
SiO2_XRF	1																											
TiO2_XRF	-0.177	1																										
Al2O3_XRF	-0.5	0.81	1																									
Fe2O3_XRF	-0.517	0.246	0.467	1																								
MnO_XRF	-0.346	0.044	0	-0.26	1																							
MgO_XRF	-0.231	0.485	<i>0.667</i>	-0.231	-0.044	1																						
CaO_XRF	-0.201	0.428	0.502	-0.368	0.13	0.927	1																					
K2O_XRF	0.05	0.89	<i>0.753</i>	0.042	-0.13	<i>0.734</i>	<i>0.672</i>	1																				
Na2O_XRF	0.261	0.396	0.269	0	-0.655	0.496	0.354	<i>0.62</i>	1																			
P2O5_XRF	-0.768	-0.286	0	0.042	<i>0.614</i>	0.009	0.14	-0.432	-0.626	1																		
LOI	-0.3	0.017	0.017	-0.483	0.433	0.462	<i>0.594</i>	0.067	-0.126	0.414	1																	
Ag	-0.037	0.736	<i>0.671</i>	0.224	-0.194	<i>0.574</i>	<i>0.599</i>	0.842	0.489	-0.245	-0.186	1																
Al	-0.233	0.928	0.9	0.517	-0.087	0.462	0.36	0.828	0.294	-0.262	-0.15	0.781	1															
As	-0.509	0.343	0.441	0.932	-0.264	-0.157	-0.255	0.102	0.145	0.086	-0.559	0.275	0.15															
Au	-0.297	0.104	0.32	0.183	-0.593	<i>0.562</i>	0.413	0.286	0.736	-0.035	0.068	0.009	0.057	-0.101		1												
Ba	-0.119	0.464	<i>0.593</i>	-0.237	-0.176	0.965	0.86	<i>0.74</i>	<i>0.667</i>	-0.163	0.407	0.628	0.553	<i>0.43</i>	0.031		1											
Bi	-0.587	0.367	0.303	<i>0.734</i>	0.334	-0.339	-0.258	-0.032	-0.379	0.413	-0.229	<i>0.362</i>	<i>0.387</i>	0.747	-0.28	0.176	1											
Ca	-0.134	0.315	0.387	-0.42	0.175	0.849	0.882	<i>0.578</i>	0.407	0.03	<i>0.588</i>	0.047	-0.129	0.06	0.145	<i>0.479</i>	-0.314	1										
Cd	0.166	-0.033	-0.166	-0.664	0.431	0.355	0.532	0.199	0.158	0.065	0.406	<i>0.505</i>	<i>0.388</i>	0.149	-0.175	0.285	<i>0.383</i>	-0.031	1									
Ce	0.393	-0.064	-0.151	-0.042	-0.87	0.193	0.147	0.202	0.789	-0.542	-0.151	0.661	0.761	0.112	0.162	0.579	0.156	-0.084	<i>0.484</i>	1								
Cl_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥							
Co	-0.16	<i>0.647</i>	<i>0.647</i>	<i>0.58</i>	0.044	0.06	0.046	0.477	-0.157	-0.132	-0.345	0.65	0.792	0.312	-0.132	0.581	<i>0.426</i>	0.118	0.082	<i>0.419</i>	¥	1						
Cr	-0.477	0.322	0.477	0.946	-0.304	-0.142	-0.248	0.105	0.08	0.064	-0.594	<i>0.462</i>	0.598	0.654	0.092	0.17	0.751	-0.272	0.124	<i>0.376</i>	¥	0.552	1					
Cs	-0.12	<i>0.797</i>	<i>0.71</i>	0.333	-0.4	<i>0.557</i>	0.468	0.79	0.539	-0.325	0.068	0.768	0.884	0.138	0.064	0.713	0.235	0.039	0.27	0.782	¥	0.722	<i>0.442</i>	1				
Cu	-0.203	0.017	-0.11	<i>0.641</i>	-0.351	-0.411	-0.424	-0.165	0.298	-0.085	-0.414	<i>0.485</i>	<i>0.408</i>	0.677	0.176	<i>0.418</i>	0.605	-0.002	0.303	<i>0.476</i>	¥	<i>0.43</i>	0.663	<i>0.362</i>	1			
Dy	0.293	0.038	0.025	0.042	-0.87	0.322	0.239	0.307	0.806	-0.551	-0.1	0.572	0.736	0.07	0.254	0.658	0	0.078	0.247	0.918	¥	<i>0.491</i>	0.325	0.806	0.342	1		
Er	0.164	0.481	0.548	0.091	-0.664	<i>0.684</i>	<i>0.568</i>	0.743	0.727	-0.518	-0.073	0.693	0.882	0.003	0.139	0.645	0.084	0.056	0.341	0.887	¥	0.658	<i>0.377</i>	0.918	0.304	0.928	1	
Eu	-0.405	0.532	<i>0.567</i>	0.383	-0.693	0.547	0.41	<i>0.669</i>	0.798	-0.117	-0.17	0.735	0.798	0.262	0.14	0.18	0.256	0.855	¥	0.64	<i>0.411</i>	0.886	<i>0.425</i>	0.93	0.896	1		
Fe	-0.517	0.246	0.467	1	-0.26	-0.231	-0.368	0.042	0	-0.26	-0.231	0	0.758	-0.003	0.311	-0.34	0.132	0.157	¥	0.297	0.852	0.133	0.49	0.064	0.06	0.167		
Ga	-0.502	<i>0.674</i>	<i>0.787</i>	<i>0.753</i>	0.13	0.103	0.008	0.412	-0.143	0.114	-0.335	0.734	0.938	0.323	0.055	<i>0.427</i>	0.579	-0.189	<i>0.362</i>	0.615	¥	0.805	0.784	0.767	0.521	0.56	0.74	0.641
Gd	0.343	-0.216	-0.176	-0.184	-0.826	0.296	0.218	0.109	0.726	-0.436	0	<i>0.471</i>	0.635	-0.086	0.292	0.523	-0.132	-0.056	0.194	0.891	¥	0.336	0.197	0.706	0.262	0.962	0.864	0.838
Hf	0.091	0.832	0.548	0.274	0.158	0.14	0.183	<i>0.688</i>	0.046	-0.37	-0.091	0.704	0.801	0.072	-0.399	0.308	<i>0.439</i>	-0.189	<i>0.47</i>	0.561	¥	0.642	<i>0.479</i>	0.667	0.182	<i>0.456</i>	0.635	0.558
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Ho	-0.017	0.475	0.36	0.192	-0.478	0.464	<i>0.55</i>	<i>0.597</i>	0.544	-0.242	0.1	0.73	0.865	0.048	0.171	0.622	0.17	0.036	0.346	0.894	¥	0.668	<i>0.418</i>	0.904	<i>0.391</i>	0.919	0.963	0.9
In	-0.104	0	-0.104	<i>0.725</i>	-0.06	-0.743	-0.728	-0.312	-0.261	0	-0.725	0.519	0.537	0.653	-0.308	0.243	0.783	-0.379	0.515	<i>0.464</i>	¥	<i>0.445</i>	0.719	<i>0.379</i>	0.664	0.234	0.306	0.343
K	-0.167	<i>0.65</i>	<i>0.667</i>	-0.283	0.173	0.923	0.879	0.812	0.429	-0.068	<i>0.55</i>	0.605	0.635	0.136	0.004	0.922	0.006	0.462	0.18	0.557	¥	0.668	0.054	0.775	0.197	0.695	0.725	0.83
La	0.333	-0.169	-0.2	0	-0.866	0.128	0.05	0.084	0.773	-0.489	-0.2	0.604	0.669	0.158	0.096	0.499	0.199	-0.152	<i>0.481</i>	0.975	¥	0.296	<i>0.394</i>	0.701	<i>0.486</i>	0.863	0.798	0.795
Lu	0.155	<i>0.585</i>	<i>0.587</i>	-0.035	-0.269	<i>0.637</i>	<i>0.641</i>	0.771	0.331	-0.306	0.017	0.686	0.848	0.026	0.004	0.643	0.183	0.09	0.303	0.766	¥	0.729	0.355	0.908	0.202	0.82	0.941	0.834
Mg	-0.479	0.431	<i>0.736</i>	-0.009	-0.046	0.942	0.806	<i>0.605</i>	0.452	0.166	0.39	0.295	0.161	0.273	0.13	0.768	-0.19	0.79	-0.091	0.174	¥	<i>0.366</i>	-0.08	0.339	0.166	<i>0.375</i>	0.313	0.511
Mn	-0.186	0.265	0.279	-0.329	<i>0.57</i>	0.394	0.42	0.237	-0.277	0.158	0.751	0.334	0.175	0.492	-0.462	0.687	<i>0.4</i>	<i>0.366</i>	0.34	0.102	¥	<i>0.373</i>	0.005	0.303	0.234	0.08	0.148	0.316
Mo	-0.621	0.323	0.409	0.86	-0.177	-0.109	-0.209	0.06	0.176	0.216	-0.4	0.223	0.078	0.965	-0.145	0.347	0.79	-0.801	0.218	0.027	¥	0.196	<i>0.594</i>	0.069	<i>0.592</i>	-0.045	-0.09	0.149
Na	0.134	0.102	0.234	-0.41	-0.304	<i>0.773</i>	<i>0.672</i>	0.479	<i>0.696</i>	-0.288	0.301	-0.231	-0.259	-0.364	0.236	0.178	-0.738	0.612	-0.513	-0.157	¥	0.066	-0.52	-0.094	-0.34	0.149	-0.005	0.113
Nb	-0.361	0.817	0.84	0.218	-0.087	0.789	<i>0.705</i>	0.861	<i>0.576</i>	-0.047	0.126	0.847	0.931	0.095	0.096	0.516	0.358	-0.084	0.554	0.741	¥	0.612	0.513	0.842	<i>0.373</i>	0.66	0.819	0.732
Nd	-0.393	-0.064	-0.151	-0.042	-0.87	0.193	0.147	0.202	0.789	-0.542	-0.151	0.617	0.731	0.09	0.192	0.625	0.062	-0.021	0.313	0.967	¥	<i>0.443</i>	0.327	0.774	<i>0.432</i>	0.951	0.875	0.894
Ni	-0.553	<i>0.703</i>	<i>0.681</i>	<i>0.655</i>	-0.177	0.31	0.269	0.504	0.279	0.112	0.009	<i>0.379</i>	0.58	0.024	<i>0.364</i>	-0.275	0.174	0.036	-0.184	<i>0.367</i>	¥	<i>0.488</i>	<i>0.458</i>	0.626	0.177	<i>0.489</i>	0.532	0.549
P	0.042	-0.085	-0.377	-0.293	0.739	-0.348	-0.147	-0.231	-0.392	0.182	0.293	<i>0.382</i>	<i>0.371</i>	0.073	-0.468	-0.04	0.52	-0.443	0.752	0.324	¥	0.078	0.226	0.177	0.221	0.014	0.145	0.07
Pb	-0.424	0.541	0.492	0.814	0.088	-0.183	-0.255	0.238	0.051	0.009	-0.509	<i>0.406</i>	0.256	0.894	-0.149	0.616	0.662	0.138	0.146	0.174	¥	<i>0.468</i>	0.54	0.336	0.614	0.173	0.147	<i>0.404</i>
Pr	0.294	-0.132	-0.168	0.017	-0.83	0.16	0.097	0.118	0.78	-0.477	-0.16	0.642	0.72	0.203	0.184	0.689	0.136	0.017	0.359	0.958	¥	<i>0.433</i>	<i>0.374</i>	0.79	<i>0.459</i>	0.96	0.869	0

Loam - Spearman Rank Correlation

n=21 for all trace elements except Cl and Zr; n=9 for all major oxides; Cl and Zr not analysed

	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb
SiO2_XRF																												
TiO2_XRF																												
Al2O3_XRF																												
Fe2O3_XRF																												
MnO_XRF																												
MgO_XRF																												
CaO_XRF																												
K2O_XRF																												
Na2O_XRF																												
P2O5_XRF																												
LOI																												
Ag																												
Al																												
As																												
Au																												
Ba																												
Bi																												
Ca																												
Cd																												
Ce																												
Cl_XRF																												
Co																												
Cr																												
Cs																												
Cu																												
Dy																												
Er																												
Eu																												
Fe	1																											
Ga	0.516	1																										
Gd	-0.065	0.442	1																									
Hf	0.343	0.75	0.344	1																								
Hg	¥	¥	¥	¥	¥																							
Ho	0.107	0.724	0.846	0.645	¥	1																						
In	0.724	0.644	0.126	0.558	¥	0.351	1																					
K	-0.152	0.452	0.575	0.414	¥	0.696	0.078	1																				
La	0.222	0.538	0.851	0.532	¥	0.817	0.495	0.433	1																			
Lu	0.086	0.726	0.728	0.682	¥	0.917	0.271	0.741	0.677	1																		
Mg	-0.195	0.05	0.254	-0.052	¥	0.294	-0.136	0.729	0.098	0.295	1																	
Mn	0.163	0.15	-0.058	0.252	¥	0.139	0.275	0.552	0.095	0.275	0.489	1																
Mo	0.769	0.262	-0.186	0.054	¥	-0.045	0.622	0.046	0.094	-0.009	0.171	0.545	1															
Na	-0.641	-0.443	0.177	-0.393	¥	-0.022	-0.722	0.322	-0.211	-0.041	0.611	-0.109	-0.463	1														
Nb	0.226	0.861	0.575	0.781	¥	0.81	0.496	0.567	0.676	0.781	0.146	0.176	0.081	-0.306	1													
Nd	0.078	0.558	0.931	0.497	¥	0.888	0.355	0.636	0.931	0.755	0.287	0.064	-0.029	0.016	0.674	1												
Ni	0.188	0.513	0.403	0.358	¥	0.609	0.061	0.397	0.317	0.586	0.181	-0.1	-0.012	0.085	0.554	0.429	1											
P	0.305	0.377	0	0.619	¥	0.181	0.651	-0.076	0.385	0.14	-0.436	0.244	0.179	-0.71	0.487	0.163	-0.115	1										
Pb	0.587	0.381	0.013	0.161	¥	0.169	0.558	0.404	0.164	0.201	0.353	0.627	0.859	-0.289	0.18	0.175	0.069	0.032	1									
Pr	0.151	0.562	0.918	0.477	¥	0.881	0.38	0.661	0.935	0.758	0.327	0.159	0.101	0.007	0.679	0.973	0.41	0.168	0.287	1								
Rb	0.035	0.624	0.707	0.599	¥	0.836	0.273	0.907	0.651	0.874	0.455	0.473	0.084	0.055	0.741	0.765	0.529	0.142	0.405	0.795	1							
S	-0.053	0.289	0.338	0.272	¥	0.433	0.315	0.637	0.427	0.308	0.624	0.571	0.236	0.065	0.455	0.491	0.029	0.295	0.33	0.484	0.496	1						
Sb	0.717	0.377	-0.068	0.174	¥	0.024	0.674	0.095	0.214	0.042	0.038	0.451	0.842	-0.593	0.16	0.138	-0.159	0.313	0.773	0.212	0.117	0.31	1					
Se	0.07	0.197	0.146	0.025	¥	0.257	0.123	0.488	0.159	0.281	0.648	0.522	0.386	0.16	0.106	0.209	-0.031	-0.239	0.584	0.272	0.352	0.483	0.271	1				
Sm	0.149	0.568	0.906	0.47	¥	0.87	0.372	0.706	0.907	0.777	0.375	0.192	0.122	0.021	0.674	0.963	0.426	0.111	0.344	0.989	0.836	0.473	0.218	0.334	1			
Sn	0.359	0.942	0.53	0.731	¥	0.788	0.527	0.543	0.603	0.753	0.133	0.183	0.179	-0.357	0.948	0.623	0.568	0.407	0.29	0.628	0.705	0.428	0.273	0.185	0.625	1		
Sr	-0.32	-0.02	0.24	0.035	¥	0.289	-0.178	0.774	0.078	0.342	0.93	0.548	0.022	0.642	0.091	0.284	0.091	-0.346	0.263	0.3	0.492	0.607	-0.022	0.539	0.338	0.057	1	
Tb	0.083	0.554	0.958	0.455	¥	0.9	0.271	0.678	0.873	0.789	0.34	0.077	-0.027	0.1	0.663	0.961	0.491	0.05	0.19	0.957	0.808	0.416	0.078	0.189	0.954	0.638	0.33	1
Te	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	
Th	0.742	0.829	0.296	0.565	¥	0.492	0.701	0.082	0.471	0.4	-0.153	-0.131	0.407	-0.506	0.599	0.436	0.477	0.281	0.399	0.445	0.294	0.01	0.469	0.012	0.432	0.705	-0.284	0.416
Ti	0.385	0.827	0.496	0.85	¥	0.726	0.526	0.427	0.648	0.758	-0.034	0.245	0.147	-0.42	0.906	0.567	0.478	0.588	0.155	0.592	0.667	0.284	0.209	0.008	0.573	0.888	-0.029	0.584
Tl	0.159	0.549	0.517	0.358	¥	0.648	0.298	0.898	0.487	0.67	0.686	0.66	0.41	0.069	0.569	0.609	0.333	-0.037	0.693	0.684	0.858	0.629	0.405	0.615	0.733	0.602	0.629	0.652
Tm	0.262	0.653	0.598	0.451	¥	0.756	0.256	0.54	0.604	0.764	0.377	0.311	0.223	-0.095	0.733	0.581	0.613	0.103	0.223	0.638	0.668	0.367	0.114	0.356	0.645	0.749	0.23	0.652
U	0.409	0.743	0.702	0.624	¥	0.772	0.645	0.477	0.831	0.637	0.168	0.021	0.206	-0.237	0.759	0.86	0.445	0.37	0.294	0.836	0.622	0.498	0.386	0.147	0.822	0.746	0.128	0.791
V	0.913	0.699	0.037	0.462	¥	0.279	0.72	-0.032	0.291	0.233	-0.121	0.059	0.677	-0.578	0.442	0.194	0.41	0.273	0.552	0.252	0.156	-0.019	0.61	0.104	0.25	0.56	-0.295	0.182
W	0.152	0.86	0.649	0.784	¥	0.873	0.493	0.644	0.707	0.832	0.165	0.181	-0.004	-0.256	0.965	0.756	0.524	0.45	0.165	0.729	0.792	0.507	0.143	0.124	0.723	0.93	0.16	0.728
Y	0.114	0.736	0.807	0.661	¥	0.932	0.281	0.686	0.762	0.939	0.296	0.219	-0.046	-0.037	0.838	0.796	0.548	0.284	0.126	0.808	0.842	0.393	0.005	0.286	0.812	0.822	0.289	0.848
Yb	0.053	0.741	0.807	0.662	¥	0.958	0.30																					

Loam - Spearman Rank Correlation

n=21 for all trace elements except Cl and Zr; n=9 for all major oxides; Cl and Zr not analysed

	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
SiO2_XRF												
TiO2_XRF												
Al2O3_XRF												
Fe2O3_XRF												
MnO_XRF												
MgO_XRF												
CaO_XRF												
K2O_XRF												
Na2O_XRF												
P2O5_XRF												
LOI												
Ag												
Al												
As												
Au												
Ba												
Bi												
Ca												
Cd												
Ce												
Cl_XRF												
Co												
Cr												
Cs												
Cu												
Dy												
Er												
Eu												
Fe												
Ga												
Gd												
Hf												
Hg												
Ho												
In												
K												
La												
Lu												
Mg												
Mn												
Mo												
Na												
Nb												
Nd												
Ni												
P												
Pb												
Pr												
Rb												
S												
Sb												
Se												
Sm												
Sn												
Sr												
Tb												
Te	¥											
Th	¥	1										
Ti	¥	0.599	1									
Tl	¥	0.28	0.45	1								
Tm	¥	0.422	0.724	0.628	1							
U	¥	0.694	0.674	0.502	0.518	1						
V	¥	0.909	0.51	0.249	0.406	0.521	1					
W	¥	0.56	0.866	0.603	0.677	0.795	0.356	1				
Y	¥	0.417	0.826	0.642	0.846	0.696	0.245	0.861	1			
Yb	¥	0.443	0.775	0.722	0.768	0.73	0.237	0.899	0.954	1		
Zn	¥	0.412	0.516	0.818	0.502	0.476	0.352	0.658	0.548	0.646	1	
Zr_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥

For all trace elements (except Cl and Zr), at the 99.9% level, all significant values (r >0.652 or <-0.652) are shown in **bold**; at the 99% level (0.492-0.651), all values are shown in normal type; at the 95% level (0.36-0.491), all values are shown in *italics* .

For major elements, at the 99.9% level, all significant values (r >0.872 or <-0.872) are shown in **bold**; at the 99% level (0.715-0.871), all values are shown in normal type; at the 95% level (0.549-0.714), all values are shown in *italics* .

Sands - Spearman Rank Correlation

n=11 for all trace elements except Cl and Zr; n=6 for all major oxides; n=1 for Cl and Zr

	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
SiO2_XRF	1																											
TiO2_XRF	-0.257	1																										
Al2O3_XRF	-0.943	0.371	1																									
Fe2O3_XRF	-0.771	0.086	0.829	1																								
MnO_XRF	0.185	0.555	-0.309	-0.617	1																							
MgO_XRF	-0.943	0.371	0.829	0.6	0.093	1																						
CaO_XRF	-0.771	0.314	0.6	0.2	0.37	0.886	1																					
K2O_XRF	-0.754	0.667	0.812	0.609	0.047	0.812	0.58	1																				
Na2O_XRF	-0.429	0.2	0.143	-0.029	0.617	0.657	0.771	0.29	1																			
P2O5_XRF	-0.841	0.232	0.899	0.812	-0.391	0.638	0.435	0.515	0.029	1																		
LOI	-1	0.257	0.943	0.771	-0.185	0.943	0.771	0.754	0.429	0.841	1																	
Ag	-0.507	-0.101	0.27	0.101	0.237	0.507	0.676	-0.051	0.676	0.446	0.507	1																
Al	-0.657	0.371	0.429	0.257	0.494	0.829	0.829	0.522	0.943	0.319	0.657	0.172	1															
As	-0.6	0.543	0.657	0.371	0.123	0.486	0.486	0.377	0.143	0.812	0.6	0.448	0.465	1														
Au	0.455	0.213	-0.455	-0.334	0.361	-0.213	-0.273	0.123	0.091	-0.739	-0.455	-0.53	0.238	-0.4	1													
Ba	-0.6	0.429	0.486	0.486	0.216	0.771	0.543	0.783	0.657	0.203	0.6	0.041	0.42	-0.16	0.078	1												
Bi	0.029	-0.147	-0.147	-0.029	0.127	-0.118	-0.029	-0.493	0.296	0.254	-0.029	0.413	0.411	0.586	-0.027	-0.46	1											
Ca	-0.765	0.118	0.618	0.647	-0.079	0.853	0.618	0.373	0.765	0.45	0.326	0.023	-0.104	0.734	-0.218	0.1	0.206	0.202	1									
Cd	-0.655	-0.393	0.393	0.393	-0.141	0.655	0.655	0.133	0.655	0.399	0.655	0.473	0.5	0.1	-0.232	0.1	0.206	0.202	1									
Ce	-0.143	-0.543	0.086	0.6	-0.679	0.029	-0.314	-0.058	-0.086	0.145	0.143	0.333	-0.064	-0.144	0.024	0.272	0.066	0.383	0.1	1								
Cl_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥							
Co	-0.486	0.143	0.257	0.257	0.339	0.543	0.543	0.116	0.771	0.406	0.486	0.508	0.186	-0.045	0.614	0.306	0.537	0.326	¥	1								
Cr	-0.6	0.543	0.657	0.371	0.123	0.486	0.486	0.377	0.143	0.812	0.6	0.01	0.674	0.712	0.074	-0.215	0.642	-0.346	0.301	-0.215	¥	0.193	1					
Cs	-0.714	0.2	0.543	0.6	0.062	0.829	0.6	0.667	0.714	0.348	0.714	0.038	0.825	0.128	0.373	0.522	0.117	0.412	0.501	-0.05	¥	0.507	0.416	1				
Cu	-0.617	-0.37	0.525	0.833	-0.633	0.463	0.154	0.204	0.154	0.611	0.617	0.681	0.271	0.305	-0.25	0.103	0.303	0.501	0.463	0.283	¥	0.289	0.075	0.492	1			
Dy	-0.464	-0.58	0.377	0.725	-0.751	0.319	0.029	0.103	0.029	0.397	0.464	0.245	0.275	-0.094	0.043	0.375	0.056	0.454	0.453	0.858	¥	0.468	0.023	0.268	0.287	1		
Er	-0.371	-0.6	0.257	0.657	-0.679	0.257	-0.029	0.029	0.086	0.29	0.371	0.119	0.359	-0.169	0.169	0.35	0.104	0.54	0.507	0.758	¥	0.508	0.111	0.342	0.173	0.968	1	
Eu	-0.486	-0.2	0.314	0.6	-0.247	0.543	0.257	0.377	0.6	0.486	0.486	0.257	0.377	-0.073	0.063	0.639	-0.037	0.685	0.3	0.856	¥	0.627	-0.191	0.287	0.411	0.819	0.724	1
Fe	-0.314	0.086	0.371	0.314	-0.185	0.086	0.086	-0.116	-0.143	0.086	-0.116	-0.143	0.086	0.527	0.683	-0.037	-0.425	0.795	-0.414	0.3	-0.1	¥	0.137	-0.191	0.287	0.411	0.082	0.161
Ga	-0.6	0.543	0.486	0.143	0.525	0.657	0.771	0.377	0.657	0.551	0.6	0.135	0.917	0.648	0.101	0.309	0.5	0.148	0.303	-0.193	¥	0.628	0.791	0.657	0.142	0.074	0.158	0.073
Gd	-0.086	-0.429	0.143	0.657	-0.802	-0.086	-0.486	0	-0.371	0.203	0.086	0.11	-0.064	-0.213	0.053	0.256	0.056	0.351	0	0.931	¥	0.246	-0.22	-0.032	0.2	0.839	0.766	0.731
Hf	0	0.833	0.247	-0.062	0.3	0	0	0.423	-0.309	0.172	0	-0.487	0.363	0.383	0.339	0.192	0.04	-0.067	-0.486	-0.354	¥	-0.042	0.462	0.221	-0.366	-0.267	-0.211	-0.304
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Ho	-0.464	-0.464	0.348	0.725	-0.611	0.377	0.058	0.176	0.174	0.338	0.464	0.079	0.443	-0.144	0.218	0.388	0.089	0.386	0.502	0.693	¥	0.515	0.133	0.387	0.127	0.945	0.984	0.708
In	0.131	0.393	-0.131	-0.393	0.566	-0.131	0.133	-0.266	0.131	-0.133	0.053	0.2	0.501	-0.232	-0.301	0.514	-0.455	-0.1	-0.501	¥	0.201	0.501	-0.2	-0.36	-0.503	-0.406	-0.5	
K	-0.257	0.543	0.143	0.2	0.494	0.486	0.314	0.551	0.657	-0.058	-0.043	0.445	-0.2	0.312	0.95	-0.337	0.621	0	0.191	¥	0.673	-0.173	0.487	-0.051	0.27	0.3	0.536	
La	-0.314	-0.257	0.257	0.714	-0.525	0.257	-0.143	0.232	0.086	0.232	0.314	-0.148	0.118	-0.214	0.227	0.411	0.028	0.382	0.1	0.943	¥	0.403	-0.141	0.114	0.164	0.874	0.82	0.873
Lu	-0.441	-0.206	0.235	0.441	-0.111	0.559	0.353	0.373	0.588	0.03	0.441	0.002	0.614	-0.132	0.452	0.471	0.106	0.275	0.515	0.517	¥	0.595	-0.286	0.545	0.027	0.79	0.884	0.642
Mg	-0.928	0.319	0.812	0.667	0.016	0.986	0.812	0.824	0.638	0.603	0.928	0.581	0.525	0.297	-0.074	0.555	-0.033	0.843	0.402	0.117	¥	0.464	-0.023	0.602	0.683	0.248	0.144	0.516
Mn	0.029	0.441	-0.147	-0.618	0.89	0.177	0.559	0.015	0.559	-0.194	-0.029	0.229	0.25	0.195	0.102	0.307	0.171	0.103	0	0.274	¥	0.541	0.176	-0.107	-0.343	0.247	0.282	0.352
Mo	-0.886	0.257	0.943	0.657	-0.309	0.771	0.725	0.086	0.812	0.886	0.228	0.583	0.751	-0.214	0.121	0.155	0.071	0.401	-0.167	¥	0.154	0.721	0.434	0.267	0.092	0.053	0.032	
Na	-0.371	-0.2	0.143	0.257	0.031	0.543	0.429	0.348	0.577	-0.116	0.371	0.599	0.018	-0.055	-0.106	0.402	-0.131	0.88	0.05	0.539	¥	0.374	-0.537	0.087	0.504	0.404	0.245	0.72
Nb	-0.493	0.812	0.58	0.087	0.423	0.58	0.638	0.75	0.232	0.353	0.493	-0.115	0.598	0.51	0.244	0.17	0.103	0.076	0.1	-0.366	¥	0.106	0.616	0.442	-0.096	-0.08	-0.023	-0.169
Nd	-0.371	-0.6	0.257	0.657	-0.679	0.257	-0.029	0.029	0.086	0.29	0.371	0.61	-0.096	-0.08	-0.265	0.351	0	0.6	0.201	0.892	¥	0.414	-0.389	-0.037	0.521	0.722	0.567	0.872
Ni	-0.551	0.232	0.319	0.232	0.423	0.638	0.667	0.221	0.841	0.412	0.551	0.522	0.708	0.35	-0.118	0.554	0.331	0.456	0.506	0.111	¥	0.919	0.341	0.613	0.421	0.262	0.298	0.437
P	-0.928	0.145	0.87	0.638	-0.188	0.812	0.754	0.515	0.348	0.897	0.928	0.594	0.538	0.749	-0.347	-0.018	0.539	0.279	0.501	0.342	¥	0.404	0.584	0.221	0.417	0.525	0.455	0.387
Pb	-0.771	0.371	0.6	0.314	0.37	0.829	0.886	0.464	0.771	0.609	0.771	0.76	0.464	0.702	-0.275	0.105	0.449	0.253	0.4	0.273	¥	0.485	0.433	0.132	0.374	0.275	0.18	0.464
Pr	-0.086	-0.429	0.143	0.657	-0.802	-0.086	-0.486	0	-0.371	0.203	0.086	0.302	-0.155	-0.11	-0.061	0.229	0.028	0.353	0	0.984	¥	0.228	-0.247	-0.135	0.277	0.8	0.674	0.804
Rb	-0.714	0.2	0.543	0.6	0.062	0.829	0.6	0.667	0.714	0.348	0.714	0.21	0.7	-0.027	0.222	0.826	-0.15	0.722	0.5	0.15	¥	0.705	0.068	0.861	0.439	0.416	0.442	0.564
S	-0.794	0.265	0.647	0.324	0.238	0.794	0.883	0.403	0.647	0.687	0.794	0.775	0.433	0.584	-0.369	0.042	0.374	0.471	0.507	-0.095	¥	0.332	0.243	0.439	0.825	-0.005	-0.098	0.171
Sb	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Se	-0.676	0.068	0.439	0.27	0.237	0.845	0.845	0.349	0.845	0.189	0.676	0.393	0.667	0.119	0.206	0.673	0.033	0.68	0.524	0.406	¥	0.733	0.154	0.597				

Sands - Spearman Rank Correlation

n=11 for all trace elements except Cl and Zr; n=6 for all major oxides; n=1 for Cl and Zr

	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb
SiO2_XRF																												
TiO2_XRF																												
Al2O3_XRF																												
Fe2O3_XRF																												
MnO_XRF																												
MgO_XRF																												
CaO_XRF																												
K2O_XRF																												
Na2O_XRF																												
P2O5_XRF																												
LOI																												
Ag																												
Al																												
As																												
Au																												
Ba																												
Bi																												
Ca																												
Cd																												
Ce																												
Cl_XRF																												
Co																												
Cr																												
Cs																												
Cu																												
Dy																												
Er																												
Eu																												
Fe	1																											
Ga	<i>0.651</i>	1																										
Gd			1																									
Hf	0.294	<i>0.569</i>	-0.251	1																								
Hg	¥	¥	¥	¥	¥																							
Ho	0.155	0.217	0.72	-0.148	¥	1																						
In	<i>0.5</i>	<i>0.505</i>	<i>-0.502</i>	0.378	¥	-0.402	1																					
K	-0.373	0.385	0.174	0.304	¥	0.338	-0.1	1																				
La	-0.082	-0.055	0.927	-0.235	¥	0.795	<i>-0.5</i>	0.355	1																			
Lu	0.211	0.402	0.48	0.003	¥	0.913	-0.258	0.478	0.679	1																		
Mg	-0.151	0.336	-0.007	-0.054	¥	0.204	-0.352	0.411	0.11	0.217	1																	
Mn	0.083	0.365	0.088	-0.27	¥	0.279	0.407	0.445	0.369	0.43	0.009	1																
Mo	<i>0.551</i>	<i>0.63</i>	-0.284	0.349	¥	0.089	0.15	-0.018	-0.164	0.193	0.423	0.135	1															
Na	<i>-0.524</i>	-0.161	0.432	-0.307	¥	0.261	<i>-0.501</i>	0.392	0.456	0.12	0.723	0.135	-0.16	1														
Nb	0.402	<i>0.664</i>	-0.427	0.724	¥	0.055	0.251	0.196	-0.306	0.254	0.326	0.367	0.716	-0.176	1													
Nd	-0.274	-0.235	0.791	<i>-0.539</i>	¥	<i>0.502</i>	<i>-0.502</i>	0.219	0.781	0.287	0.369	0.14	-0.16	0.757	-0.486	1												
Ni	0.253	0.733	0.005	0.087	¥	0.282	0.303	<i>0.602</i>	0.143	0.412	<i>0.51</i>	0.445	0.346	0.24	0.263	0.247	1											
P	<i>0.61</i>	<i>0.52</i>	0.247	0.025	¥	0.476	0.1	-0.123	0.273	0.385	0.432	0.311	0.685	0.215	0.403	0.332	0.389	1										
Pb	0.373	0.459	0.023	-0.088	¥	0.196	0.2	0.027	0.209	0.262	<i>0.507</i>	0.491	<i>0.624</i>	0.323	0.301	0.356	0.483	0.797	1									
Pr	-0.119	-0.253	0.94	-0.337	¥	<i>0.606</i>	<i>-0.502</i>	0.128	0.913	0.391	0.069	0.186	-0.174	<i>0.519</i>	-0.429	0.894	0.025	0.314	0.233	1								
Rb	-0.109	<i>0.514</i>	0.1	0.088	¥	0.479	-0.3	0.773	0.273	<i>0.595</i>	0.744	0.148	0.305	0.424	0.338	0.251	0.731	0.191	0.2	0.055	1							
S	0.23	0.367	-0.234	-0.181	¥	-0.086	0	-0.074	-0.212	-0.095	0.794	-0.131	<i>0.503</i>	0.432	0.25	0.208	<i>0.501</i>	<i>0.554</i>	<i>0.599</i>	-0.12	0.406	1						
Sb	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Se	0.011	0.486	0.255	0.054	¥	0.686	-0.233	<i>0.636</i>	0.466	0.778	0.694	<i>0.55</i>	0.38	0.523	0.466	0.394	<i>0.651</i>	0.526	0.53	0.279	0.81	0.363	¥	1				
Sm	-0.128	-0.157	0.839	-0.351	¥	<i>0.566</i>	<i>-0.503</i>	0.156	0.792	0.314	0.331	0.149	0.03	0.661	-0.313	0.945	-0.174	0.484	0.375	0.931	0.201	0.165	¥	0.305	1			
Sn	<i>0.531</i>	0.855	-0.329	0.437	¥	0.147	0.201	0.325	-0.101	0.415	0.476	0.159	0.761	-0.167	0.699	-0.278	<i>0.6</i>	0.408	0.471	-0.32	<i>0.609</i>	0.455	¥	<i>0.509</i>	-0.224	1		
Sr	-0.445	0.119	0.329	-0.211	¥	0.425	-0.4	<i>0.664</i>	0.409	0.38	0.781	0.222	-0.105	0.875	-0.009	<i>0.607</i>	<i>0.547</i>	0.173	0.236	0.329	<i>0.755</i>	0.433	¥	0.742	0.481	-0.087	1	
Tb	-0.032	0.041	0.735	-0.351	¥	0.771	<i>-0.501</i>	0.305	0.665	<i>0.55</i>	0.263	-0.139	-0.027	<i>0.347</i>	-0.297	<i>0.654</i>	0.327	0.295	-0.027	<i>0.616</i>	<i>0.506</i>	0.067	¥	0.414	0.681	-0.041	0.487	1
Te	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Th	0.763	<i>0.558</i>	0.323	0.384	¥	0.333	<i>0.502</i>	-0.041	0.224	0.28	-0.323	0.335	0.229	-0.359	0.195	0.007	0.349	0.481	0.16	0.22	-0.082	-0.109	¥	0.051	0.168	0.198	-0.26	0.243
Ti	<i>0.547</i>	0.74	-0.254	0.703	¥	0.172	0.401	0.264	-0.105	0.427	-0.101	0.223	0.336	<i>-0.516</i>	<i>0.634</i>	<i>-0.616</i>	0.226	0.087	0	-0.421	0.237	-0.178	¥	0.199	<i>-0.528</i>	0.688	-0.237	-0.196
Tl	-0.306	0.266	0.177	-0.157	¥	0.369	-0.414	<i>0.626</i>	0.315	0.393	0.92	0.134	0.156	0.8	0.151	<i>0.513</i>	<i>0.614</i>	0.267	0.372	0.215	0.857	<i>0.614</i>	¥	0.79	0.405	0.358	0.942	0.422
Tm	0.173	0.466	<i>0.551</i>	0.249	¥	0.841	-0.346	<i>0.577</i>	0.693	0.863	0.29	0.235	0.318	0.145	0.29	0.29	0.35	0.376	0.173	0.435	<i>0.635</i>	-0.117	¥	0.673	0.407	0.465	0.346	<i>0.637</i>
U	0.272	0.409	0.356	<i>0.594</i>	¥	<i>0.551</i>	-0.152	0.406	0.456	<i>0.672</i>	-0.037	0.296	0.095	-0.109	0.461	-0.1	0.089	0.095	-0.106	0.201	0.327	-0.353	¥	0.414	0.028	0.383	0.055	0.157
V	0.938	0.805	-0.227	0.462	¥	0.13	<i>0.501</i>	-0.182	-0.155	0.268	0.023	0.144	0.726	<i>-0.498</i>	<i>0.618</i>	-0.391	0.327	<i>0.614</i>	0.451	-0.265	0.068	0.282	¥	0.154	-0.234	0.748	-0.369	-0.116
W	0.428	0.747	-0.268	0.449	¥	0.143	0.152	0.23	-0.078	0.308	<i>0.656</i>	0.328	0.862	0.136	0.818	-0.111	0.474	0.677	0.717	-0.18	0.483	<i>0.597</i>	¥	<i>0.619</i>	0.007	0.833	0.216	-0.124
Y	0.009	0.194	0.679	-0.17	¥	0.968	<i>-0.502</i>	0.484	0.813	0.937	0.305	0.279	0.085	0.336	0.048	<i>0.534</i>	0.34	0.364	0.192	<i>0.596</i>	<i>0.616</i>	-0.967	¥	<i>0.758</i>	<i>0.559</i>	0.214	<i>0.525</i>	0.76
Yb	-0.102	0.103	0.664	-0.187	¥	0.942	<i>-0.508</i>	<i>0.513</i>	0.767	0.902	0.251	0.287	-0.076	0.354	0.007	<i>0.504</i>	0.30											

Sands - Spearman Rank Correlation

n=11 for all trace elements except Cl and Zr; n=6 for all major oxides; n=1 for Cl and Zr

	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
SiO2_XRF												
TiO2_XRF												
Al2O3_XRF												
Fe2O3_XRF												
MnO_XRF												
MgO_XRF												
CaO_XRF												
K2O_XRF												
Na2O_XRF												
P2O5_XRF												
LOI												
Ag												
Al												
As												
Au												
Ba												
Bi												
Ca												
Cd												
Ce												
Cl_XRF												
Co												
Cr												
Cs												
Cu												
Dy												
Er												
Eu												
Fe												
Ga												
Gd												
Hf												
Hg												
Ho												
In												
K												
La												
Lu												
Mg												
Mn												
Mo												
Na												
Nb												
Nd												
Ni												
P												
Pb												
Pr												
Rb												
S												
Sb												
Se												
Sm												
Sn												
Sr												
Tb												
Te	¥											
Th	¥	1										
Ti	¥	0.407	1									
Tl	¥	-0.305	-0.127	1								
Tm	¥	0.319	0.463	0.389	1							
U	¥	0.398	0.698	0.067	0.732	1						
V	¥	0.634	0.708	-0.172	0.289	0.342	1					
W	¥	0.122	0.456	0.443	0.38	0.263	0.659	1				
Y	¥	0.172	0.149	0.499	0.87	0.553	0.03	0.166	1			
Yb	¥	0.128	0.104	0.495	0.792	0.546	-0.104	0.035	0.975	1		
Zn	¥	-0.161	-0.014	0.587	-0.029	-0.134	0.368	0.721	-0.005	-0.102	1	
Zr_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥

For major elements, at the 99.9% level, all significant values (r >0.951 or <-0.951) are shown in **bold**; at the 99% level (0.833-0.95), all values are shown in normal type; at the 95% level (0.669-0.832), all values are shown in *italics* .

For trace elements, at the 99.9% level, all significant values (r >0.823 or <-0.823) are shown in **bold**; at the 99% level (0.658-0.823), all values are shown in normal type; at the 95% level (0.497-0.822), all values are shown in *italics* .

n=69 for all trace elements except Cl and Zr; n=67 for all major oxides; n=36 for Cl and Zr

	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu	
SiO2_XRF	1																												
TiO2_XRF	-0.451	1																											
Al2O3_XRF	-0.31	<i>0.203</i>	1																										
Fe2O3_XRF	-0.519	0.104	-0.482	1																									
MnO_XRF	0.309	-0.433	-0.297	0.046	1																								
MgO_XRF	-0.226	-0.081	0.296	-0.02	0.397	1																							
CaO_XRF	-0.297	0.101	0.222	0.038	-0.089	0.161	1																						
K2O_XRF	-0.217	-0.151	0.002	0.041	0.365	<i>0.27</i>	-0.147	1																					
Na2O_XRF	-0.382	<i>0.23</i>	<i>0.199</i>	0.129	-0.073	0.14	0.163	<i>0.294</i>	1																				
P2O5_XRF	<i>0.222</i>	-0.335	0.018	-0.245	0.375	0.189	-0.037	<i>0.208</i>	-0.048	1																			
LOI	-0.661	0.498	0.031	0.456	-0.504	-0.114	<i>0.224</i>	-0.279	<i>0.271</i>	-0.255	1																		
Ag	0.285	-0.075	-0.506	0.124	0.384	-0.179	-0.494	0.339	0.011	0.053	-0.239	1																	
Al	-0.045	0.019	0.751	-0.523	-0.114	<i>0.26</i>	-0.216	0.162	0.015	0.079	-0.118	-0.028	1																
As	0.289	-0.336	-0.639	0.304	0.488	-0.136	-0.196	0.302	-0.136	<i>0.241</i>	-0.176	0.631	-0.287	1															
Au	-0.09	-0.152	<i>0.219</i>	0.191	-0.105	-0.047	0.35	<i>0.236</i>	0.033	0.019	0.401	-0.029	0.399	1															
Ba	0.297	-0.47	0.47	0.415	0.336	-0.066	0.509	-0.008	0.397	-0.432	<i>0.198</i>	0.371	0.354	0.288	1														
Bi	-0.225	0.089	<i>0.213</i>	-0.043	-0.047	0.002	0.108	<i>0.222</i>	<i>0.214</i>	0.197	0.19	0.071	0.267	0.108	<i>0.256</i>	0.143	1												
Ca	-0.219	-0.035	0.581	-0.338	-0.109	0.334	0.701	-0.1	<i>0.203</i>	0.187	0.01	-0.652	0.125	-0.513	-0.247	0.123	0.147	1											
Cd	0.399	-0.464	-0.362	-0.08	0.385	-0.199	-0.174	0.295	-0.184	0.425	-0.203	0.381	-0.036	0.7	0.38	0.522	<i>0.222</i>	-0.202	1										
Ce	0.123	-0.091	0.354	-0.37	0.309	0.326	-0.238	0.308	0.086	0.457	-0.306	0.065	0.458	-0.135	0.008	0.346	<i>0.256</i>	<i>0.203</i>	0.045	1									
Cl_XRF	0.027	-0.21	-0.179	-0.088	0.475	0.236	-0.001	<i>0.297</i>	<i>0.304</i>	0.501	0.02	0.047	-0.015	<i>0.34</i>	0.111	0.186	-0.007	0.157	<i>0.28</i>	<i>0.28</i>	1								
Co	-0.106	-0.226	0.495	-0.248	0.166	0.488	0.354	-0.114	-0.126	0.364	-0.059	-0.561	0.296	-0.351	-0.306	<i>0.249</i>	0.15	0.726	-0.087	0.415	0.246	1							
Cr	-0.645	0.351	-0.002	0.6	-0.209	0.108	0.451	0.006	0.292	-0.185	0.575	-0.272	-0.272	-0.019	0.091	-0.193	<i>0.272</i>	<i>0.208</i>	-0.23	-0.25	-0.036	0.107	1						
Cs	-0.12	-0.158	0.401	-0.195	0.337	0.591	0.029	0.322	0.083	0.302	-0.072	-0.22	0.423	-0.186	0.001	0.408	0.084	0.3	-0.083	0.64	0.549	0.581	-0.013	1					
Cu	0.015	-0.026	-0.736	0.639	0.316	-0.233	-0.197	0.182	0.008	-0.113	0.108	0.565	-0.443	0.68	0.474	-0.014	-0.119	-0.63	0.395	-0.243	0.064	-0.516	0.15	-0.27	1				
Dy	0.152	-0.216	0.486	-0.507	0.347	0.417	-0.1	0.29	0.026	0.527	-0.386	-0.089	0.545	-0.183	-0.095	0.448	<i>0.224</i>	0.382	0.041	0.883	<i>0.376</i>	0.627	-0.258	0.738	-0.423	1			
Er	0.144	-0.254	0.496	-0.524	0.368	0.466	-0.07	<i>0.273</i>	-0.031	0.506	-0.393	-0.125	0.557	-0.201	-0.14	0.454	0.146	0.394	0.019	0.807	<i>0.337</i>	0.655	-0.289	0.761	-0.436	0.975	1		
Eu	0.112	-0.258	0.497	-0.487	0.327	0.401	-0.078	0.325	0.021	0.519	-0.359	-0.092	0.562	-0.159	-0.005	0.523	0.225	0.416	0.098	0.855	<i>0.367</i>	0.658	-0.217	0.701	-0.413	0.971	0.942	1	
Fe	-0.533	<i>0.224</i>	-0.439	0.968	0.081	0.033	0.0071	-0.256	0.143	0.439	0.11	-0.455	0.295	<i>0.256</i>	0.008	-0.307	0.091	-0.32	-0.11	-0.199	0.66	-0.128	0.629	-0.443	-0.456	-0.423	1		
Ga	-0.75	0.615	0.522	0.117	-0.445	0.156	0.395	-0.05	<i>0.245</i>	-0.182	0.589	-0.346	<i>0.234</i>	-0.42	-0.157	-0.25	0.322	0.335	-0.441	-0.116	-0.109	0.174	0.597	0.039	-0.321	-0.067	-0.061	-0.053	
Gd	0.088	-0.114	0.518	-0.473	<i>0.264</i>	0.403	-0.142	0.245	0.036	0.447	-0.294	-0.113	0.571	-0.273	-0.098	0.372	<i>0.239</i>	0.361	-0.035	0.933	<i>0.348</i>	0.601	-0.243	0.743	-0.411	0.967	0.923	0.942	
Hf	-0.353	0.57	0.554	-0.195	-0.528	0.081	<i>0.237</i>	-0.331	0.003	-0.157	0.3	-0.463	<i>0.239</i>	-0.685	-0.407	-0.458	<i>0.222</i>	0.408	-0.541	0.094	-0.27	<i>0.247</i>	<i>0.197</i>	0.054	-0.56	0.123	0.128	0.065	
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	
Ho	0.146	-0.237	0.49	-0.515	0.384	0.458	-0.054	0.305	0.013	0.522	-0.389	-0.085	0.55	-0.167	-0.097	0.467	0.183	0.394	0.038	0.832	0.385	0.637	-0.283	0.76	-0.426	0.987	0.985	0.957	
In	-0.503	<i>0.212</i>	0.295	0.077	0.073	0.35	0.303	<i>0.273</i>	<i>0.226</i>	<i>0.261</i>	0.295	-0.162	<i>0.222</i>	-0.094	0.027	0.171	0.623	0.382	-0.098	<i>0.203</i>	<i>0.368</i>	0.384	0.515	0.342	-0.235	0.317	0.303	0.338	
K	-0.159	-0.09	-0.005	0.095	0.379	<i>0.271</i>	-0.203	0.895	0.349	<i>0.275</i>	-0.174	0.359	<i>0.218</i>	0.323	0.353	0.595	0.302	-0.128	0.299	0.384	<i>0.345</i>	-0.04	0.095	0.427	<i>0.229</i>	0.379	0.336	0.41	
La	0.108	-0.125	0.293	-0.347	0.348	0.311	-0.22	0.347	0.115	0.523	-0.264	0.138	0.436	-0.038	0.1	0.386	0.361	0.162	0.131	0.958	0.416	0.379	-0.226	0.591	-0.186	0.845	0.768	0.829	
Lu	0.069	-0.176	0.514	-0.504	0.355	0.547	0.048	0.306	-0.046	0.466	-0.392	-0.153	0.527	-0.237	-0.117	0.416	0.124	0.433	-0.038	0.749	<i>0.318</i>	0.638	-0.258	0.757	-0.443	0.921	0.956	0.884	
Mg	-0.197	-0.029	0.315	-0.048	0.401	0.925	0.113	0.296	0.116	0.145	-0.141	-0.217	0.271	-0.188	-0.156	0.339	-0.034	0.374	-0.187	0.438	0.216	0.555	0.076	0.703	-0.219	0.543	0.579	0.515	
Mn	<i>0.259</i>	-0.523	0.022	-0.239	0.716	0.458	0.153	<i>0.247</i>	-0.151	0.649	-0.38	-0.043	0.069	<i>0.256</i>	-0.086	0.576	0.14	0.384	0.439	0.448	0.429	0.661	-0.153	0.525	-0.096	0.604	0.618	0.621	
Mo	-0.116	0.182	-0.59	0.635	0.023	-0.195	0.096	0.024	0.146	-0.301	0.164	0.327	-0.555	0.475	<i>0.219</i>	-0.217	-0.171	-0.374	0.138	-0.518	-0.375	-0.558	0.294	-0.496	0.652	-0.639	-0.629	-0.639	
Na	-0.344	0.21	0.098	0.051	-0.01	0.113	0.275	0.363	0.815	-0.075	<i>0.202</i>	0.117	-0.182	-0.088	0.139	-0.019	0.12	0.276	-0.224	0.037	0.12	-0.18	<i>0.196</i>	-0.021	-0.016	-0.056	-0.096	-0.06	
Nb	-0.043	0.105	0.544	-0.557	-0.098	0.169	<i>0.238</i>	-0.084	-0.023	0.288	-0.065	-0.246	0.424	-0.355	-0.239	0.146	0.371	0.512	-0.097	0.296	0.232	0.436	-0.019	<i>0.216</i>	-0.592	0.459	0.46	0.454	
Nd	0.158	-0.094	0.36	-0.38	0.326	0.33	-0.25	0.284	0.061	0.357	-0.251	0.03	0.465	-0.174	-0.016	0.351	0.158	<i>0.203</i>	0.015	0.97	0.225	0.414	-0.267	0.666	-0.238	0.887	0.819	0.861	
Ni	0.015	-0.133	0.613	-0.443	0.055	0.411	0.026	-0.088	-0.136	0.356	-0.146	-0.365	0.561	-0.414	-0.34	<i>0.193</i>	<i>0.238</i>	0.527	-0.179	0.511	0.159	0.819	-0.091	0.527	-0.66	0.732	0.744	0.722	
P	<i>0.275</i>	-0.5	-0.309	-0.003	0.624	0.192	-0.1	0.386	-0.031	0.757	-0.414	0.336	-0.153	0.536	<i>0.263</i>	0.491	0.111	-0.032	0.571	0.494	0.129	-0.2							

Saprolite - Spearman Rank Correlation

n=69 for all trace elements except Cl and Zr; n=67 for all major oxides; n=36 for Cl and Zr

	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb
SiO2_XRF																												
TiO2_XRF																												
Al2O3_XRF																												
Fe2O3_XRF																												
MnO_XRF																												
MgO_XRF																												
CaO_XRF																												
K2O_XRF																												
Na2O_XRF																												
P2O5_XRF																												
LOI																												
Ag																												
Al																												
As																												
Au																												
Ba																												
Bi																												
Ca																												
Cd																												
Ce																												
Cl_XRF																												
Co																												
Cr																												
Cs																												
Cu																												
Dy																												
Er																												
Eu																												
Fe	1																											
Ga	0.166	1																										
Gd	-0.409		1																									
Hf	-0.186	0.607		1																								
Hg	¥	¥		¥	¥																							
Ho	-0.451	-0.067	0.936	0.107	¥	1																						
In	0.171	0.568	0.287	0.298	¥	0.322	1																					
K	0.142	-0.037	0.337	-0.344	¥	0.379	0.362	1																				
La	-0.285	-0.099	0.873	0.055	¥	0.799	0.293	0.426	1																			
Lu	-0.439	0.008	0.872	<i>0.228</i>	¥	0.946	0.33	0.326	0.707	1																		
Mg	0.012	0.103	0.538	0.103	¥	0.573	0.312	0.341	0.392	0.621	1																	
Mn	<i>-0.203</i>	-0.259	0.508	-0.287	¥	0.625	0.279	0.296	0.485	0.573	0.504	1																
Mo	0.612	-0.072	-0.664	<i>-0.263</i>	¥	-0.622	-0.189	0.023	-0.494	-0.583	<i>-0.198</i>	-0.332	1															
Na	0.034	0.203	-0.043	0.006	¥	-0.048	0.186	0.278	0.077	-0.07	0.095	-0.096	0.186	1														
Nb	-0.528	0.415	0.423	0.566	¥	0.453	0.471	-0.078	0.328	0.52	0.113	<i>0.24</i>	-0.565	-0.002	1													
Nd	-0.328	-0.145	0.941	0.059	¥	0.838	0.127	0.369	0.898	0.748	0.488	0.432	-0.506	-0.006	<i>0.247</i>	1												
Ni	-0.399	0.175	0.705	0.376	¥	0.736	0.352	-0.002	0.467	0.702	0.473	0.478	-0.701	-0.222	0.524	0.509	1											
P	0.001	-0.406	0.28	-0.479	¥	0.382	0.113	0.402	0.51	0.31	0.171	0.637	-0.016	0.019	0.002	0.326	0.008	1										
Pb	0.135	-0.522	-0.26	-0.65	¥	-0.17	<i>-0.214</i>	<i>0.259</i>	-0.002	<i>-0.238</i>	<i>-0.208</i>	<i>0.224</i>	0.414	-0.129	-0.347	-0.156	-0.385	0.515	1									
Pr	-0.345	-0.119	0.949	0.094	¥	0.843	0.16	0.368	0.922	0.753	0.459	0.424	-0.534	0.008	0.285	0.994	0.53	0.322	-0.16	1								
Rb	0.033	-0.18	0.542	-0.381	¥	0.624	0.339	0.861	0.57	0.58	0.575	0.568	-0.181	0.093	0.004	0.544	<i>0.205</i>	0.572	<i>0.258</i>	0.53	1							
S	0.612	-0.056	-0.535	-0.276	¥	-0.559	-0.016	0.172	-0.28	-0.57	-0.405	-0.399	0.734	0.365	-0.477	-0.409	-0.702	0.019	0.383	-0.405	-0.103	1						
Sb	0.396	-0.131	-0.371	-0.345	¥	-0.374	0.027	0.327	-0.108	-0.376	<i>-0.239</i>	-0.115	0.606	<i>0.252</i>	-0.352	-0.283	-0.505	0.285	0.622	-0.267	0.143	0.649						
Se	0.61	-0.079	-0.619	-0.154	¥	-0.665	-0.237	-0.134	-0.473	-0.65	-0.319	-0.46	0.802	0.145	-0.622	-0.468	-0.632	-0.208	0.291	-0.475	-0.354	0.726						
Sm	-0.343	-0.128	0.961	0.079	¥	0.875	0.177	0.384	0.884	0.793	0.516	0.477	-0.528	-0.002	0.284	0.988	0.565	0.319	-0.167	0.983	0.569	-0.43	-0.283	-0.495	1			
Sn	<i>-0.192</i>	0.483	0.283	0.429	¥	0.336	0.607	0.058	<i>0.21</i>	0.359	<i>0.199</i>	<i>0.207</i>	-0.285	0.093	0.638	0.101	0.497	0.048	-0.29	0.14	0.085	-0.348	-0.064	-0.365	0.164	1		
Sr	<i>-0.195</i>	0.05	<i>0.221</i>	-0.114	¥	0.32	<i>0.222</i>	0.298	<i>0.245</i>	0.296	<i>0.262</i>	-0.138	0.518	0.112	0.161	0.016	0.269	-0.123	0.171	0.317	-0.027	-0.029	-0.252	0.168	0.17		1	
Tb	-0.42	-0.134	0.98	0.063	¥	0.963	<i>0.251</i>	0.409	0.886	0.887	0.541	0.581	-0.619	-0.062	0.384	0.937	0.667	0.4	-0.127	0.941	0.634	-0.52	-0.312	-0.618	0.958	<i>0.253</i>	<i>0.233</i>	1
Te	0.553	0.037	-0.64	<i>-0.193</i>	¥	-0.7	<i>-0.242</i>	-0.152	-0.495	-0.71	-0.352	-0.453	0.722	0.001	-0.55	-0.473	-0.702	<i>-0.234</i>	0.341	-0.489	-0.315	0.583	0.475	0.724	-0.511	-0.337	-0.293	-0.627
Th	0.305	0.393	0.069	0.47	¥	-0.082	0.141	-0.165	-0.047	-0.07	0.011	-0.285	-0.003	<i>-0.244</i>	0.077	0.07	0.179	-0.367	-0.31	0.057	<i>-0.238</i>	-0.055	-0.107	0.103	0.074	0.079	-0.493	-0.022
Ti	-0.331	0.577	<i>0.262</i>	0.667	¥	0.295	0.547	-0.19	0.164	0.362	0.082	<i>0.192</i>	-0.468	-0.037	0.885	0.066	0.498	-0.123	-0.389	0.108	-0.121	-0.431	-0.316	-0.477	0.109	0.629	0.031	<i>0.208</i>
Tl	0.101	-0.375	0.138	-0.634	¥	<i>0.237</i>	<i>0.191</i>	0.648	0.35	0.165	0.157	0.51	<i>0.121</i>	0.14	-0.149	<i>-0.194</i>	0.69	0.691	0.189	0.733	<i>0.265</i>	0.475	-0.091	<i>0.191</i>	-0.088	0.287	<i>0.258</i>	
Tm	-0.474	-0.019	0.864	0.165	¥	0.963	0.292	0.331	0.537	0.962	0.557	0.592	-0.577	-0.049	0.499	0.745	0.729	0.318	<i>-0.195</i>	0.753	0.566	-0.562	-0.381	0.475	0.79	0.371	0.309	0.896
U	<i>-0.252</i>	-0.252	0.424	-0.122	¥	0.469	0.168	0.22	0.53	0.452	0.572	<i>-0.212</i>	-0.154	0.436	0.424	0.164	0.596	0.358	0.434	0.383	-0.161	0.148	-0.363	0.43	0.179	0.025	0.497	
V	0.643	0.519	-0.38	<i>0.216</i>	¥	-0.46	0.151	-0.113	-0.456	-0.418	0.011	-0.437	0.437	0.068	<i>-0.227</i>	-0.342	<i>-0.204</i>	-0.461	-0.266	-0.37	-0.284	0.305	0.112	0.447	-0.328	0.023	<i>-0.262</i>	-0.

Saprolite - Spearman Rank Correlation

n=69 for all trace elements except Cl and Zr; n=67 for all major oxides; n=36 for Cl and Zr

	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
SiO2_XRF												
TiO2_XRF												
Al2O3_XRF												
Fe2O3_XRF												
MnO_XRF												
MgO_XRF												
CaO_XRF												
K2O_XRF												
Na2O_XRF												
P2O5_XRF												
LOI												
Ag												
Al												
As												
Au												
Ba												
Bi												
Ca												
Cd												
Ce												
Cl_XRF												
Co												
Cr												
Cs												
Cu												
Dy												
Er												
Eu												
Fe												
Ga												
Gd												
Hf												
Hg												
Ho												
In												
K												
La												
Lu												
Mg												
Mn												
Mo												
Na												
Nb												
Nd												
Ni												
P												
Pb												
Pr												
Rb												
S												
Sb												
Se												
Sm												
Sn												
Sr												
Tb												
Te	1											
Th	0.128	1										
Ti	-0.362	0.181	1									
Tl	0.001	-0.438	<i>-0.255</i>	1								
Tm	-0.68	-0.123	0.352	0.181	1							
U	<i>-0.244</i>	-0.138	0.345	0.473	0.449	1						
V	0.524	0.565	-0.046	-0.406	-0.453	-0.44	1					
W	<i>0.23</i>	<i>0.25</i>	<i>0.207</i>	-0.008	-0.186	-0.11	0.383	1				
Y	-0.691	-0.069	0.296	<i>0.192</i>	0.95	0.409	-0.416	<i>-0.24</i>	1			
Yb	-0.741	-0.035	0.405	0.078	0.961	0.418	-0.388	-0.181	0.934	1		
Zn	<i>-0.224</i>	<i>-0.257</i>	-0.122	0.556	0.502	0.576	-0.383	-0.119	0.507	0.46	1	
Zr_XRF	0.409	0.541	<i>0.341</i>	-0.027	0.043	0.096	<i>0.305</i>	0.384	0.036	-0.045	-0.167	1

For all elements (except Cl and Zr), at the 99.9% level, all significant values (r >0.37 or <-0.37) are shown in **bold**; at the 99% level (0.27-0.369), all values are shown in normal type; at the 95% level (0.19-0.269), all values are shown in *italics* .

For Cl and Zr, at the 99.9% level, all significant values (r >0.519 or <-0.519) are shown in **bold**; at the 99% level (0.381-0.518), all values are shown in normal type; at the 95% level (0.274-0.38), all values are shown in *italics* .

n=13

	SiO2_XRF	TiO2_XRF	Al2O3_XRF	Fe2O3_XRF	MnO_XRF	MgO_XRF	CaO_XRF	K2O_XRF	Na2O_XRF	P2O5_XRF	LOI	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu
SiO2_XRF	1																											
TiO2_XRF	0.695	1																										
Al2O3_XRF	-0.165	0.163	1																									
Fe2O3_XRF	-0.429	-0.097	-0.5	1																								
MnO_XRF	-0.134	-0.537	-0.134	-0.267	1																							
MgO_XRF	-0.05	-0.472	-0.044	-0.419	0.424	1																						
CaO_XRF	-0.085	-0.358	0.245	-0.553	0.223	0.465	1																					
K2O_XRF	0.264	-0.179	0.137	-0.593	0.49	0.402	0.534	1																				
Na2O_XRF	-0.234	-0.595	0.102	-0.385	0.223	0.652	0.665	0.099	1																			
P2O5_XRF	-0.075	-0.607	0.098	-0.465	0.452	0.728	0.576	0.593	0.696	1																		
LOI	-0.791	-0.425	0.082	0.473	0.178	-0.204	-0.286	-0.363	-0.173	-0.212	1																	
Ag	-0.404	-0.228	-0.19	0.289	-0.134	-0.044	-0.307	-0.151	-0.3	-0.255	0.514	1																
Al	-0.181	0.099	0.791	-0.429	-0.134	-0.019	-0.113	-0.011	0.017	-0.022	0.198	0.256	1															
As	0.255	0.267	-0.243	0.1	0	-0.562	0.129	0.174	-0.331	-0.446	-0.207	-0.165	-0.382															
Au	0.224	0.084	-0.249	-0.09	0.583	0.105	0.146	0.428	-0.154	-0.133	-0.098	-0.056	-0.26	0.544	1													
Ba	0.422	0.422	-0.263	-0.022	-0.259	-0.029	0.55	-0.445	0	-0.495	-0.32	0.03	0.331	0.12		1												
Bi	0.338	0.371	-0.357	0.281	0.077	-0.501	-0.212	0.076	-0.446	-0.418	-0.202	-0.332	-0.449	0.805	0.529	0.299	1											
Ca	0.033	-0.273	0.33	-0.687	0.223	0.551	0.963	0.643	0.644	0.607	-0.401	-0.319	0.022	0.077	0.187	0.083	-0.215	1										
Cd	-0.308	-0.329	0.3	-0.225	-0.157	0.248	0.758	0.08	0.681	0.37	-0.003	-0.263	-0.025	0.01	-0.072	-0.335	-0.225	0.699	1									
Ce	0.413	0.633	-0.033	0.193	-0.201	-0.794	-0.281	0.03	-0.749	-0.596	-0.08	-0.266	-0.229	0.72	0.323	0.581	0.697	-0.317	-0.305	1								
Cl_XRF	-0.209	-0.546	0.11	-0.374	0.134	0.7	0.66	0.093	0.957	0.635	-0.154	-0.239	0.011	-0.368	-0.081	-0.426	-0.528	0.654	0.718	-0.733	1							
Co	-0.148	-0.361	0.154	-0.412	0.401	0.242	0.644	0.703	0.286	0.337	-0.093	0.019	0.088	0.434	0.512	0.094	0.215	0.698	0.411	-0.083	0.236	1						
Cr	0.171	-0.362	-0.286	-0.237	0.335	0.766	0.171	0.479	0.333	0.653	-0.432	0.034	-0.157	-0.42	-0.036	0.159	-0.318	0.281	-0.181	-0.571	0.336	0.102	1					
Cs	0.126	-0.406	-0.071	-0.495	0.535	0.796	0.624	0.769	0.462	0.825	-0.432	-0.198	-0.214	-0.213	0.159	0.166	-0.212	0.687	0.166	-0.449	0.429	0.462	0.795	1				
Cu	-0.033	0.301	-0.289	0.624	-0.312	-0.767	-0.729	-0.68	-0.618	-0.755	0.457	0.273	-0.129	0.22	-0.164	-0.1	0.264	-0.834	-0.4	0.528	-0.586	-0.594	-0.606	-0.85	1			
Dy	-0.32	-0.019	0.591	-0.182	-0.403	-0.066	0.528	-0.144	0.398	0.062	0.155	-0.191	0.265	-0.033	-0.186	-0.27	-0.277	0.464	0.862	-0.08	0.453	0.177	-0.523	-0.188	-0.152	1		
Er	-0.23	0.06	0.512	-0.194	-0.404	-0.107	0.492	-0.188	0.38	-0.021	0.124	-0.197	0.232	0.052	-0.056	-0.33	-0.188	0.42	0.821	-0.018	0.432	0.172	-0.598	-0.255	-0.098	0.974	1	
Eu	-0.22	0.174	0.407	0.121	-0.535	-0.515	0.594	-0.078	0.37	-0.025	0.044	0.326	-0.137	-0.088	0.095	0.176	0.652	0.353	0.093	0.049	-0.751	-0.467	0.195	0.856	0.855	1		
Fe	-0.352	0.047	-0.466	0.956	-0.267	-0.545	-0.652	-0.692	-0.484	-0.671	0.495	-0.209	-0.341	0.109	-0.022	-0.252	0.351	-0.775	-0.319	0.309	-0.462	-0.456	-0.391	-0.67	0.768	-0.204	-0.183	0.132
Ga	0.514	0.158	-0.36	-0.228	0.023	0.258	0.253	0.053	0.27	0.123	-0.77	-0.38	-0.427	0.141	-0.094	0.153	0.099	0.267	-0.078	-0.13	0.208	-0.081	0.477	0.388	-0.281	-0.314	-0.3	-0.292
Gd	-0.075	0.333	0.349	0.122	-0.695	-0.487	0.224	-0.351	0.044	-0.268	-0.011	-0.255	0.025	0.242	-0.214	-0.088	0.083	0.122	0.596	0.32	0.061	-0.083	-0.69	-0.459	0.179	0.821	0.836	0.954
Hf	0.802	0.649	-0.134	-0.223	0.083	0.022	-0.156	0.178	-0.312	-0.158	-0.579	-0.58	-0.312	0.202	0.295	0.493	0.461	-0.045	-0.337	0.424	-0.267	-0.223	0.134	0.134	0	-0.358	-0.314	-0.267
Hg	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
Ho	-0.22	0.014	0.401	-0.181	-0.401	0.061	0.542	-0.192	0.465	0.056	0.071	-0.184	0.126	-0.039	-0.087	-0.437	-0.234	0.478	0.879	-0.163	0.527	0.159	-0.459	-0.132	-0.182	0.95	0.965	0.764
In	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥
K	0.418	-0.017	0.181	-0.637	0.401	0.32	0.487	0.967	0.028	0.566	-0.434	-0.264	-0.027	0.152	0.355	0.645	0.076	0.593	0.053	0.152	0.033	0.549	0.413	0.714	-0.6	-0.11	-0.149	-0.209
La	0.522	0.612	-0.022	0.049	-0.045	-0.634	-0.286	0.203	-0.743	-0.426	-0.115	-0.239	-0.203	0.584	0.378	0.661	0.626	-0.286	-0.391	0.953	-0.714	-0.088	-0.413	-0.28	0.426	-0.193	-0.133	0.17
Lu	-0.24	0.042	0.45	-0.121	-0.403	-0.032	0.46	-0.179	0.347	0.025	0.177	-0.181	0.143	-0.044	-0.052	-0.358	-0.221	0.386	0.826	-0.039	0.43	0.099	-0.544	-0.204	-0.088	0.96	0.974	0.817
Mg	0.089	-0.279	0.153	-0.594	0.204	0.836	0.581	0.388	0.721	0.745	-0.488	-0.207	0.126	-0.475	-0.146	-0.138	-0.461	0.672	0.325	-0.747	0.667	0.279	0.691	0.781	-0.88	0.076	0.031	-0.326
Mn	-0.137	-0.544	-0.129	-0.327	0.272	0.908	0.378	0.246	0.665	0.678	-0.162	0.212	0.056	-0.616	-0.077	-0.366	-0.657	0.428	0.167	-0.887	0.685	0.148	0.78	0.685	-0.66	-0.113	-0.142	-0.526
Mo	0.52	0.612	-0.223	0.16	-0.201	0.015	-0.508	-0.091	-0.426	-0.268	-0.355	-0.127	-0.113	-0.073	0.317	0.205	0.313	-0.41	-0.571	0.236	-0.391	-0.393	0.163	-0.05	0.048	-0.451	-0.356	-0.352
Na	-0.201	-0.504	0.151	-0.44	0.089	0.554	0.705	0.129	0.949	0.632	-0.237	-0.208	0.105	-0.22	-0.185	-0.434	-0.383	0.699	0.732	-0.706	0.878	0.415	0.26	0.426	-0.642	0.47	0.456	0.151
Nb	0.125	-0.118	0.225	-0.547	0.173	0.253	0.905	0.614	0.4	0.407	-0.411	-0.396	-0.186	0.371	0.178	0.228	0.075	0.903	0.651	0.008	0.386	0.678	0.09	0.56	-0.612	0.431	0.381	0.31
Nd	0.215	0.62	0.163	0.295	-0.559	-0.928	-0.36	-0.295	-0.64	-0.653	0.033	-0.095	0.017	0.503	-0.06	0.422	0.416	-0.425	-0.164	0.858	-0.623	-0.301	-0.722	-0.714	0.651	0.189	0.226	0.61
Ni	-0.611	-0.287	0.307	0.191	-0.224	-0.083	-0.043	-0.436	0.1	-0.099	0.729	0.394	0.32	-0.406	-0.449	-0.494	-0.556	0.122	0.396	-0.252	0.204	-0.221	-0.401	-0.406	0.35	0.556	0.481	0.395
P	-0.011	-0.557	0.088	-0.461	0.403	0.726	0.58	0.577	0.706	0.99	-0.29	-0.333	-0.069	-0.438	-0.132	0.054	-0.413	0.612	0.375	-0.566	0.662	0.279	0.67	0.819	-0.753	0.067	-0.015	-0.223
Pb	0.233	0.361	-0.483	0.44	-0.189	-0.204	-0.378	-0.166	-0.595	-0.639	0.009	0.262	-0.422	0.35	0.431	0.157	0.332	-0.37	-0.376	0.432	-0.408	-0.233	-0.054	-0.277	0.459	-0.36	-0.317	-0.157
Pr	0.271	0.627	0.105	0.279	-0.403	-0.906	-0.396	-0.238	-0.682	-0.658	0.061	-0.156	-0.044	0.552	0.1	0.437	0.518	-0.456	-0.24	0.924	-0.663	-0.279	-0.732	-0.691	0.669	0.097	0.16	0.528
Rb	0.176	-0.348	-0.011	-0.527	0.445	0.711	0.699	0.841	0.443	0.83	-0.451	-0.259	-0.225	-0.111	0.204	0.249	-0.149	0.758	0.283	-0.328	0.423	0.533	0.696	0.973	-0.853	-0.055	-0.119	-0.302
S	-0.83	-0.411	0.121	0.484	0.089	-0.27	-0.113	-0.429	0	-0.287	0.896	0.333	0.154	0.028	0.053	-0.567	-0.032	-0.247	0.236	-0.041	0.005	0.077	-0.597	-0.5	0.38	0.37	0.376	0.396
Sb	0.629	0.158	-0.629	0.052	0	-0.079	-0.105	0.157	-0.105	0	-0.629	-0.21	-0.577															

	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu	Mg	Mn	Mo	Na	Nb	Nd
SiO ₂ _XRF																
TiO ₂ _XRF																
Al ₂ O ₃ _XRF																
Fe ₂ O ₃ _XRF																
MnO_XRF																
MgO_XRF																
CaO_XRF																
K ₂ O_XRF																
Na ₂ O_XRF																
P ₂ O ₅ _XRF																
LOI																
Ag																
Al																
As																
Au																
Ba																
Bi																
Ca																
Cd																
Ce																
Cl_XRF																
Co																
Cr																
Cs																
Cu																
Dy																
Er																
Eu																
Fe	1															
Ga	-0.228	1														
Gd	0.116	-0.173	1													
Hf	-0.134	0.456	-0.179	1												
Hg	¥	¥	¥	¥	¥											
Ho	-0.203	-0.188	¥ 78	-0.267	¥	1										
In	¥	¥	¥	¥	¥	¥	¥									
K	-0.725	0.073	-0.257	0.312	¥	-0.165	¥	1								
La	0.148	-0.16	0.141	<i>0.535</i>	¥	-0.269	¥	0.346	1							
Lu	-0.143	-0.358	0.81	-0.268	¥	0.971	¥	-0.127	-0.121	1						
Mg	-0.728	<i>0.476</i>	-0.225	0	¥	0.173	¥	0.338	-0.65	0.027	1					
Mn	-0.462	0.288	-0.468	-0.249	¥	0.006	¥	0.145	-0.772	-0.105	0.822	1				
Mo	0.182	0.145	-0.161	<i>0.58</i>	¥	-0.333	¥	-0.022	0.319	-0.296	-0.018	-0.05	1			
Na	-0.539	0.276	0.158	-0.379	¥	<i>0.542</i>	¥	0.047	-0.74	0.394	0.74	<i>0.608</i>	-0.468	1		
Nb	-0.614	0.32	0.245	0.099	¥	0.429	¥	<i>0.599</i>	-0.009	0.347	0.42	0.093	-0.463	<i>0.495</i>	1	
Nd	0.4	-0.243	<i>0.61</i>	0.112	¥	0.055	¥	-0.157	0.737	0.18	-0.763	-0.881	0.113			

For all elements, at the 99.9% level, all significant values ($r > 0.78$ or < -0.78) are shown in **bold**; at the 99% level (0.612-0.779), all values are shown in normal type; at the 95% level (0.458-0.611), all values are shown in *italics*.

Siltstones - Spearman Rank Correlation

n=13

	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
SiO2_XRF												
TiO2_XRF												
Al2O3_XRF												
Fe2O3_XRF												
MnO_XRF												
MgO_XRF												
CaO_XRF												
K2O_XRF												
Na2O_XRF												
P2O5_XRF												
LOI												
Ag												
Al												
As												
Au												
Ba												
Bi												
Ca												
Cd												
Ce												
Cl_XRF												
Co												
Cr												
Cs												
Cu												
Dy												
Er												
Eu												
Fe												
Ga												
Gd												
Hf												
Hg												
Ho												
In												
K												
La												
Lu												
Mg												
Mn												
Mo												
Na												
Nb												
Nd												
Ni												
P												
Pb												
Pr												
Rb												
S												
Sb												
Se												
Sm												
Sn												
Sr												
Tb												
Te	1											
Th	0.03	1										
Ti	0.13	<i>0.52</i>	1									
Tl	0.616	0.303	<i>0.501</i>	1								
Tm	-0.42	0.021	0.12	-0.134	1							
U	-0.363	-0.158	0.139	-0.021	0.687	1						
V	-0.187	0.373	<i>0.465</i>	-0.041	0.124	-0.216	1					
W	0.337	0.384	0.247	0.66	<i>-0.53</i>	-0.426	-0.017	1				
Y	<i>-0.548</i>	-0.011	0.11	-0.292	0.965	0.628	0.27	<i>-0.576</i>	1			
Yb	-0.44	0.022	0.195	-0.067	0.952	0.755	0.146	-0.417	0.93	1		
Zn	-0.376	-0.317	<i>-0.458</i>	-0.791	-0.053	-0.279	0.272	<i>-0.542</i>	0.088	-0.215	1	
Zr_XRF	0.009	0.778	<i>0.527</i>	0.306	-0.138	-0.189	0.1	<i>0.548</i>	-0.185	-0.08	-0.448	1

For all elements, at the 99.9% level, all significant values (r >0.78 or <-0.78) are shown in **bold**; at the 99% level (0.612-0.779), all values are shown in normal type; at the 95% level (0.458-0.611), all values are shown in *italics* .

Sulfidic mud - Spearman Rank Correlation

n=16 for all trace elements except major elements, Cl and Zr (correlations not calculated) and Hg; n=2 for major oxides, Cl and Zr; n=4 for Hg

	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Cl_XRF	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hf	Hg	Ho	In	K	La	Lu
Ag	1																										
Al	0.619	1																									
As	0.318	-0.116	1																								
Au	0.29	0.225	0.092	1																							
Ba	0.392	<i>0.412</i>	0.043	0.349	1																						
Bi	0.658	<i>0.549</i>	0.666	0.138	0.258	1																					
Ca	0.099	-0.238	-0.078	0.225	0.202	-0.366	1																				
Cd	0.262	<i>0.447</i>	-0.149	0.097	<i>0.444</i>	0.138	-0.061	1																			
Ce	0.58	<i>0.546</i>	0.284	0.056	0.694	0.664	-0.225	<i>0.479</i>	1																		
Cl_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥																		
Co	0.603	0.293	0.617	0.221	0.097	0.632	0.302	-0.093	0.317	¥																	
Cr	<i>0.466</i>	0.609	<i>0.524</i>	-0.123	0.382	0.876	-0.407	0.243	0.717	¥	<i>0.436</i>	1															
Cs	0.602	0.946	-0.201	0.272	0.281	<i>0.416</i>	-0.088	0.364	0.309	¥	0.273	<i>0.448</i>	1														
Cu	0.558	0.95	0.024	0.253	<i>0.445</i>	0.593	-0.221	0.607	0.573	¥	0.319	0.677	0.886	1													
Dy	0.604	0.601	0.258	0.072	0.679	0.65	-0.2	<i>0.539</i>	0.987	¥	0.353	0.706	0.385	0.638	1												
Er	0.644	0.678	0.215	0.133	0.67	0.63	-0.138	0.625	0.946	¥	0.377	0.686	<i>0.499</i>	0.734	0.98	1											
Eu	<i>0.541</i>	<i>0.516</i>	0.282	0.113	0.728	0.623	-0.214	<i>0.53</i>	0.992	¥	0.381	0.68	0.279	0.567	0.984	0.947	1										
Fe	0.259	0.009	0.738	-0.143	-0.088	0.726	-0.194	-0.137	0.305	¥	0.654	0.6	-0.078	0.099	0.28	0.219	0.27	1									
Ga	0.643	0.969	0.047	0.18	<i>0.436</i>	0.685	-0.265	<i>0.474</i>	0.637	¥	0.375	0.752	0.883	0.956	0.679	0.744	0.606	0.156	1								
Gd	<i>0.53</i>	<i>0.521</i>	0.276	0.026	0.666	0.635	-0.244	<i>0.54</i>	0.985	¥	0.282	0.701	0.29	0.576	0.986	0.954	0.989	0.285	0.618	1							
Hf	0.324	0.274	<i>0.517</i>	-0.113	<i>0.526</i>	0.627	-0.37	-0.071	0.691	¥	0.214	0.757	0.077	0.266	0.632	<i>0.521</i>	0.671	<i>0.451</i>	0.369	0.648	1						
Hg	0.544	0.775	0.775	¥	-0.258	<i>0.816</i>	-0.258	0	0.775	¥	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	<i>0.816</i>	0.272	1					
Ho	0.561	0.588	0.232	0.056	0.67	0.617	-0.191	0.592	0.961	¥	0.324	0.684	0.386	0.648	0.987	0.982	0.967	0.252	0.775	0.984	0.576	0.775	1				
In	0.4	0.608	0.139	-0.121	-0.104	<i>0.522</i>	-0.295	-0.293	0.174	¥	<i>0.417</i>	<i>0.54</i>	0.574	<i>0.456</i>	0.174	0.156	0.087	0.261	0.609	0.105	0.384	0.577	0.104	1			
K	<i>0.427</i>	<i>0.594</i>	-0.221	<i>0.502</i>	0.767	0.073	0.306	0.376	0.333	¥	-0.001	0.181	0.639	0.582	0.37	<i>0.456</i>	0.36	<i>-0.432</i>	<i>0.529</i>	0.316	0.177	-0.258	0.383	0.052	1		
La	0.58	<i>0.543</i>	0.291	0.041	0.672	0.662	-0.246	<i>0.479</i>	0.998	¥	0.306	0.714	0.3	0.568	0.984	0.94	0.987	0.291	0.633	0.982	0.691	0.775	0.954	0.191	0.313	1	
Lu	0.603	0.695	0.193	0.159	0.652	0.579	-0.142	0.645	0.879	¥	0.342	0.651	<i>0.539</i>	0.769	0.931	0.971	0.896	0.145	0.745	0.917	<i>0.479</i>	0.775	0.958	0.139	<i>0.513</i>	0.872	1
Mg	0.385	<i>0.43</i>	-0.201	0.236	0.199	-0.005	0.672	0.187	0	¥	<i>0.51</i>	-0.02	<i>0.531</i>	0.396	0.069	0.19	-0.028	-0.156	0.393	-0.033	-0.365	-0.258	0.07	0.226	<i>0.445</i>	-0.013	0.185
Mn	0.27	-0.165	0.235	0.246	<i>0.413</i>	-0.034	0.815	0.117	0.094	¥	<i>0.487</i>	-0.129	-0.159	-0.098	0.09	0.101	0.116	0.112	-0.123	-0.066	-0.258	0.083	-0.243	0.222	0.08	0.084	
Mo	<i>0.446</i>	0.217	0.802	0.181	-0.041	0.758	-0.399	-0.005	0.397	¥	<i>0.564</i>	0.584	0.111	0.307	0.393	0.373	0.386	0.722	0.303	0.369	<i>0.497</i>	<i>0.816</i>	0.34	0.316	-0.214	0.41	0.339
Na	0.297	0.313	-0.372	0.349	0.666	-0.204	0.684	0.343	0.278	¥	0.152	-0.153	0.322	0.281	0.311	0.375	0.296	<i>-0.415</i>	0.23	0.256	-0.116	-0.258	0.316	-0.156	0.708	0.259	0.383
Nb	0.739	0.829	0.254	0.18	0.351	0.673	-0.168	0.289	0.646	¥	<i>0.463</i>	0.749	0.757	0.797	0.685	0.725	0.626	0.199	0.866	0.62	0.587	0.544	0.664	0.575	0.588	0.636	0.743
Nd	0.562	<i>0.532</i>	0.286	0.072	0.709	0.645	-0.215	<i>0.519</i>	0.996	¥	0.305	0.704	0.299	0.577	0.99	0.954	0.998	0.294	0.624	0.993	0.624	0.993	0.775	0.122	0.347	0.992	0.901
Ni	0.57	0.851	-0.161	0.221	0.225	0.373	0.018	0.605	0.342	¥	0.346	0.374	0.862	0.873	<i>0.426</i>	<i>0.553</i>	0.333	-0.031	0.82	0.364	-0.096	0.775	<i>0.451</i>	0.402	<i>0.48</i>	0.34	0.617
P	0.273	0.246	0.311	-0.026	0.344	0.319	0.06	<i>0.45</i>	0.584	¥	<i>0.418</i>	0.389	0.103	0.387	0.615	0.633	0.6	0.408	0.269	0.587	0.312	<i>0.816</i>	0.602	-0.087	0.05	0.58	0.609
Pb	<i>0.432</i>	<i>0.622</i>	0.279	0.19	0.38	0.627	-0.392	0.584	0.638	¥	0.148	0.646	<i>0.453</i>	0.714	0.649	0.685	0.638	0.056	0.718	0.655	0.329	0.258	0.261	0.334	0.662	0.687	
Pr	<i>0.495</i>	<i>0.505</i>	0.259	0.082	0.653	0.615	-0.282	<i>0.472</i>	0.984	¥	0.258	0.665	0.26	<i>0.541</i>	0.976	0.932	0.988	0.257	0.59	0.988	0.665	0.775	0.962	0.122	0.297	0.982	0.887
Rb	0.643	0.959	-0.221	0.241	<i>0.443</i>	0.392	-0.094	<i>0.557</i>	<i>0.489</i>	¥	0.237	<i>0.454</i>	0.949	0.917	0.568	0.67	<i>0.472</i>	-0.118	0.893	<i>0.473</i>	0.145	0.775	0.568	<i>0.452</i>	0.673	<i>0.484</i>	0.696
S	0.212	-0.408	0.411	-0.195	-0.277	0.05	0.296	-0.226	0.04	¥	<i>0.519</i>	-0.141	<i>-0.423</i>	<i>-0.413</i>	0.043	0.007	0.016	<i>0.442</i>	-0.361	0.019	-0.055	0.775	0.007	-0.139	<i>-0.534</i>	0.044	-0.081
Sb	0	-0.14	<i>0.627</i>	-0.176	0.061	<i>0.468</i>	<i>-0.517</i>	-0.252	0.214	¥	0.093	<i>0.497</i>	-0.271	-0.108	0.156	0.053	0.214	0.48	0.014	0.214	0.639	¥	0.141	0.161	-0.258	0.214	0.036
Se	-0.33	-0.228	-0.044	0.166	-0.66	-0.202	-0.159	<i>-0.526</i>	<i>-0.569</i>	¥	-0.146	-0.324	-0.079	-0.284	<i>-0.547</i>	<i>-0.525</i>	<i>-0.577</i>	-0.201	-0.265	<i>-0.556</i>	0.358	<i>0.816</i>	<i>-0.541</i>	0.15	-0.27	<i>-0.554</i>	<i>-0.489</i>
Sm	0.522	<i>0.52</i>	0.276	0.082	0.71	0.623	-0.228	<i>0.52</i>	0.993	¥	0.278	0.695	0.282	0.571	0.986	0.948	0.999	0.279	0.611	0.991	0.658	0.775	0.97	0.104	0.345	0.988	0.897
Sr	0.708	0.954	0.072	0.21	<i>0.509</i>	0.65	-0.205	0.561	0.693	¥	0.381	0.699	0.85	0.95	0.739	0.803	0.666	0.106	0.967	0.665	0.372	0.775	0.717	<i>0.539</i>	0.567	0.697	0.794
Tb	0.227	0.016	-0.196	<i>0.416</i>	0.378	-0.272	0.887	0.1	0.004	¥	0.354	-0.363	0.082	-0.004	0.035	0.095	0.024	-0.274	-0.041	-0.018	-0.334	-0.258	0.037	-0.209	<i>0.427</i>	-0.014	0.098
Tb	<i>0.527</i>	<i>0.527</i>	0.265	0.01	0.682	0.626	-0.237	<i>0.511</i>	0.99	¥	0.279	0.71	0.293	0.571	0.987	0.948	0.991	0.286	0.619	0.996	0.686	0.775	0.976	0.139	0.325	0.987	0.905
Te	0	0.252	<i>0.421</i>	0.195	-0.084	<i>0.435</i>	-0.364	-0.266	-0.14	¥	0.252	<i>0.421</i>	0.252	0.283	-0.14	-0.14	-0.14	0.308	0.309	-0.141	0.295	¥	-0.14	<i>0.537</i>	0.028	-0.14	-0.056
Th	<i>0.508</i>	0.558	<i>0.493</i>	-0.01	0.567	0.813	<i>-0.428</i>	0.232	0.873	¥	0.368	0.889	0.316	0.575	0.843	0.775	0.85	<i>0.453</i>	0.674	0.846	0.877	0.775	0.802	<i>0.469</i>	0.235	0.879	0.732
Ti	0.708	0.855	0.275	0.051	<i>0.502</i>	0.789	-0.291	0.318	0.767	¥	<i>0.469</i>	0.867	0.71	0.821	0.78	0.785	0.721	0.32	0.919	0.72	0.651	0.775	0.734	0.68	<i>0.428</i>	0.77	0.745
Tl	<i>0.555</i>	0.88	-0.166	0.405	0.317	0.305	-0.014	0.398	0.335	¥	0.239	0.335	0.913	0.853	<i>0.415</i>	<i>0.544</i>	0.326	-0.245									

Sulfidic mud - Spearman Rank Correlation

n=16 for all trace elements except major elements, Cl and Zr (correlations not calculated) and Hg; n=2 for major oxides, Cl and Zr; n=4 for Hg

	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm	Sn	Sr	Tb	Tc	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr_XRF
Ag																														
Al																														
As																														
Au																														
Ba																														
Bi																														
Ca																														
Cd																														
Ce																														
Cl_XRF																														
Co																														
Cr																														
Cs																														
Cu																														
Dy																														
Er																														
Eu																														
Fe																														
Ga																														
Gd																														
Hf																														
Hg																														
Ho																														
In																														
K																														
La																														
Lu																														
Mg	1																													
Mn	<i>0.534</i>	1																												
Mo	-0.252	-0.107	1																											
Na	0.692	0.633	<i>-0.427</i>	1																										
Nb	0.3	-0.008	0.395	0.218	1																									
Nd	-0.01	0.11	0.389	0.288	0.642	1																								
Ni	0.6	0.082	0.11	0.401	0.603	0.35	1																							
P	0.116	0.285	<i>0.496</i>	0.285	0.274	0.601	0.308	1																						
Pb	0.072	-0.133	0.367	0.029	<i>0.548</i>	0.636	<i>0.525</i>	0.202	1																					
Pr	-0.081	0.025	0.388	0.241	0.591	0.987	0.311	0.572	0.636	1																				
Rb	<i>0.499</i>	-0.074	0.115	<i>0.441</i>	0.784	<i>0.486</i>	0.879	0.288	<i>0.527</i>	<i>0.443</i>	1																			
S	0.063	0.364	0.349	-0.081	-0.173	0.031	-0.268	0.385	-0.349	0.018	-0.354	1																		
Sb	<i>-0.551</i>	-0.231	<i>0.448</i>	-0.612	0.27	0.214	<i>-0.424</i>	-0.141	0.195	0.214	-0.295	0.048	1																	
Se	-0.162	<i>-0.519</i>	-0.007	<i>-0.488</i>	-0.313	-0.583	-0.257	-0.586	-0.16	<i>-0.487</i>	-0.29	-0.091	0.006	1																
Sm	-0.035	0.088	0.387	0.28	0.626	0.998	0.331	0.609	0.632	0.991	<i>0.472</i>	0.015	0.214	<i>-0.562</i>	1															
Sn	0.411	-0.022	0.338	0.326	0.852	0.68	0.824	0.385	0.754	0.638	0.919	-0.284	-0.06	-0.363	0.666	1														
Sr	0.751	0.823	-0.374	0.873	-0.021	0.015	0.243	0.169	-0.192	-0.028	0.139	0.209	-0.605	-0.279	0.002	0.042	1													
Tb	-0.035	0.077	0.365	0.267	0.634	0.996	0.35	0.596	0.624	0.989	<i>0.479</i>	0.017	0.214	-0.569	0.995	0.667	-0.015	1												
Tc	-0.084	-0.196	0.368	<i>-0.42</i>	0.365	-0.14	0.113	-0.281	0.252	-0.141	0.084	-0.393	<i>0.555</i>	0.272	-0.14	0.196	-0.365	-0.14	1											
Th	-0.131	-0.041	<i>0.553</i>	-0.011	0.734	0.859	0.26	0.404	0.68	0.849	<i>0.413</i>	-0.1	<i>0.524</i>	<i>-0.417</i>	0.855	0.685	-0.251	0.861	0.308	1										
Ti	0.251	-0.057	<i>0.455</i>	0.146	0.917	0.742	0.605	0.342	0.681	0.701	0.755	-0.166	0.248	-0.352	0.727	0.916	-0.109	0.738	0.309	0.861	1									
Tl	<i>0.522</i>	-0.112	0.153	<i>0.43</i>	0.688	0.332	0.835	0.235	<i>0.525</i>	0.323	0.903	-0.374	-0.384	-0.01	0.328	0.818	0.195	0.324	0.144	0.285	0.624	1								
Tm	0.125	0.068	<i>0.429</i>	0.32	0.753	<i>0.944</i>	<i>0.541</i>	0.638	0.703	0.923	0.672	-0.059	0.13	<i>-0.52</i>	0.946	0.814	0.034	0.935	-0.029	0.805	0.799	<i>0.542</i>	1							
U	-0.103	0.381	0.166	0.187	0.201	0.561	0.033	0.335	0.391	0.578	-0.018	0.058	0.303	-0.405	0.578	0.2	0.174	0.563	0.084	<i>0.523</i>	0.257	-0.099	<i>0.522</i>	1						
V	-0.139	-0.133	0.646	-0.211	0.675	0.702	0.308	<i>0.469</i>	0.581	0.656	0.402	-0.074	<i>0.518</i>	<i>-0.439</i>	0.692	0.648	<i>-0.431</i>	0.703	0.365	0.878	0.814	0.229	0.689	0.246	1					
W	<i>0.507</i>	0.232	0.286	<i>0.458</i>	0.768	<i>0.481</i>	0.698	0.172	0.404	<i>0.441</i>	0.758	-0.076	-0.172	-0.179	<i>0.452</i>	0.751	0.357	<i>0.456</i>	0.141	<i>0.447</i>	0.698	0.759	0.559	0.014	0.331	1				
Y	0.159	0.057	0.349	0.338	0.702	0.94	<i>0.546</i>	0.601	0.705	0.928	0.662	0.003	0.053	<i>-0.488</i>	0.934	0.796	0.055	0.942	-0.14	0.778	0.779	<i>0.533</i>	0.959	<i>0.454</i>	0.635	0.568	1			
Yb	0.193	0.109	0.408	0.39	0.742	0.929	0.579	0.65	0.713	0.908	0.688	-0.03	0.047	<i>-0.51</i>	0.925	0.815	0.108	0.919	-0.084	0.761	0.771	0.602	0.979	<i>0.448</i>	0.633	0.619	0.972	1		
Zn	<i>0.538</i>	0.157	0.153	<i>0.45</i>	0.708	0.73	0.223	0.736	<i>0.548</i>	0.809	-0.301	-0.134	-0.287	0.591	0.873	0.242	0.574	0.084	<i>0.508</i>	0.744	0.717	0.739	0.18	<i>0.454</i>	0.72	0.72	0.746	1		
Zr_XRF	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	¥	1

For all elements (except Cl, Hg and Zr), at the 99.9% level, all significant values ($r > 0.725$ or < -0.725) are shown in **bold**; at the 99% level (0.558-0.724), all values are shown in normal type; at the 95% level (0.412-0.557), all values are shown in *italics* .

For Hg, at the 99.9% level, all significant values ($r > 0.991$ or < -0.991) are shown in **bold**; at the 99% level (0.934-0.99), all values are shown in normal type; at the 95% level (0.805-0.933), all values are shown in *italics* .

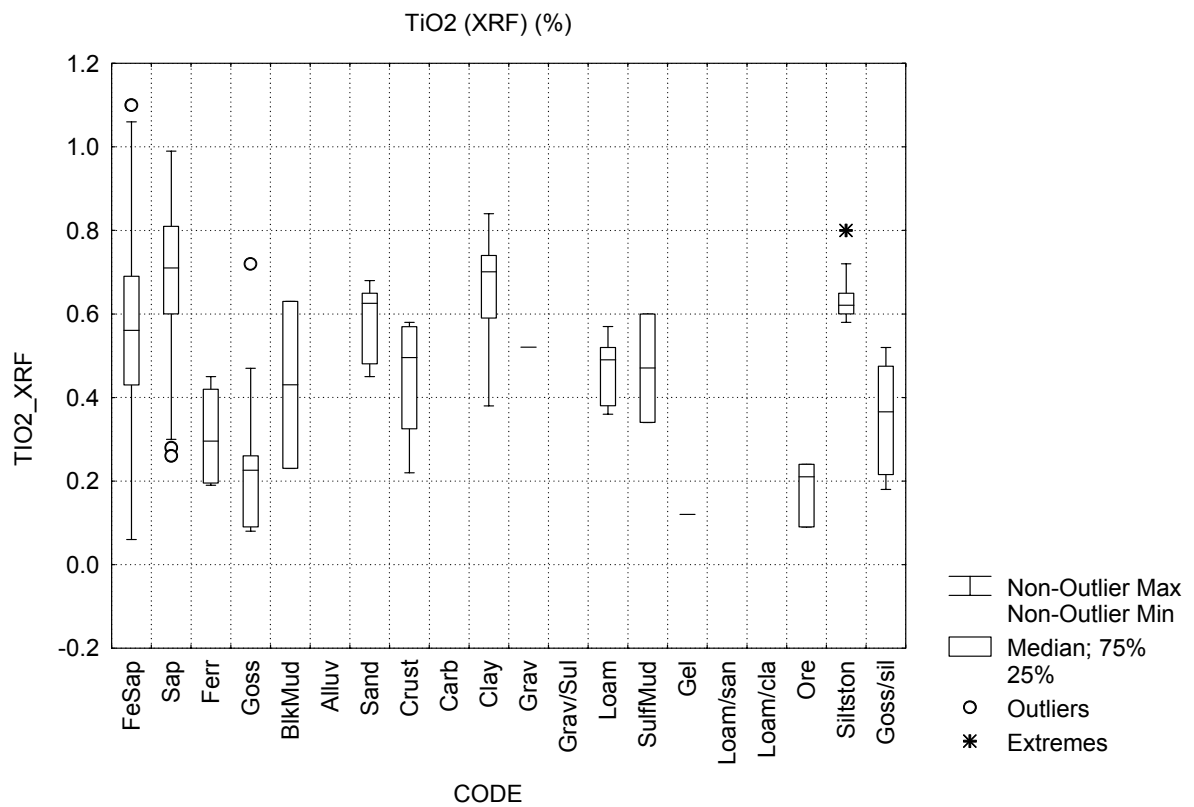
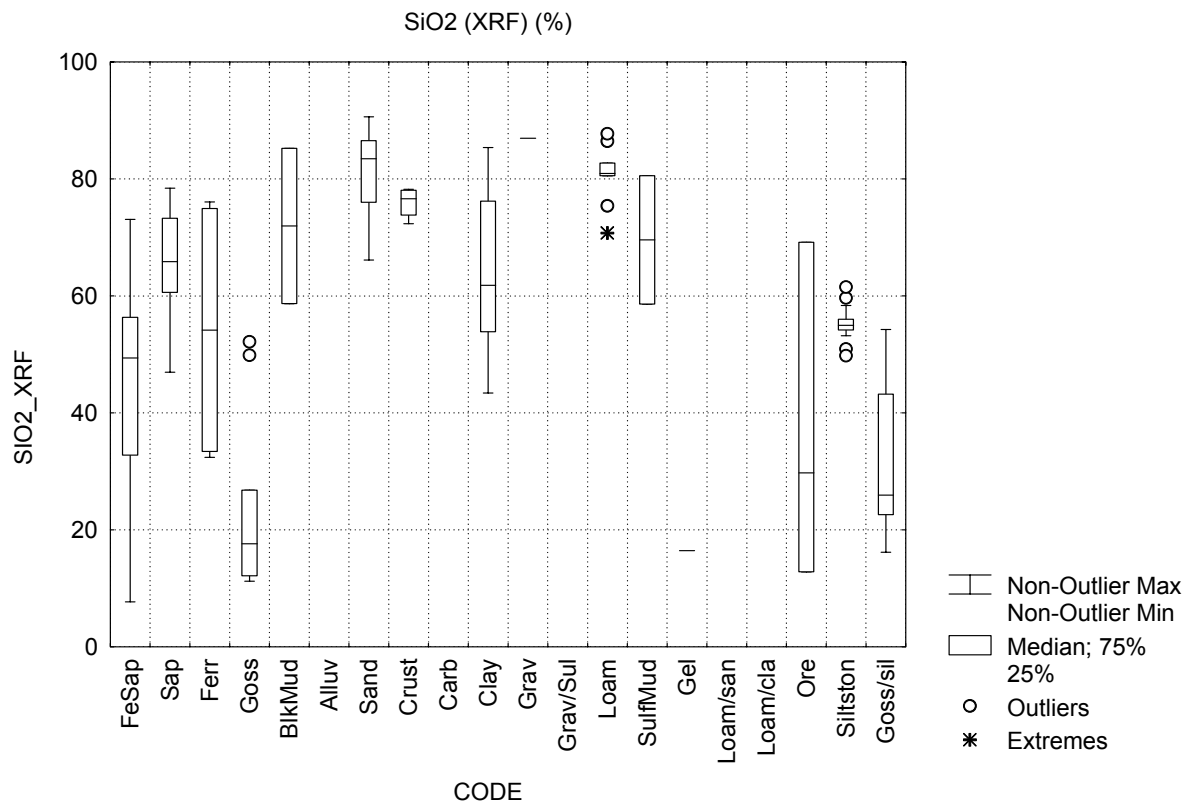
Correlation coefficients not calculated for Cl and Zr

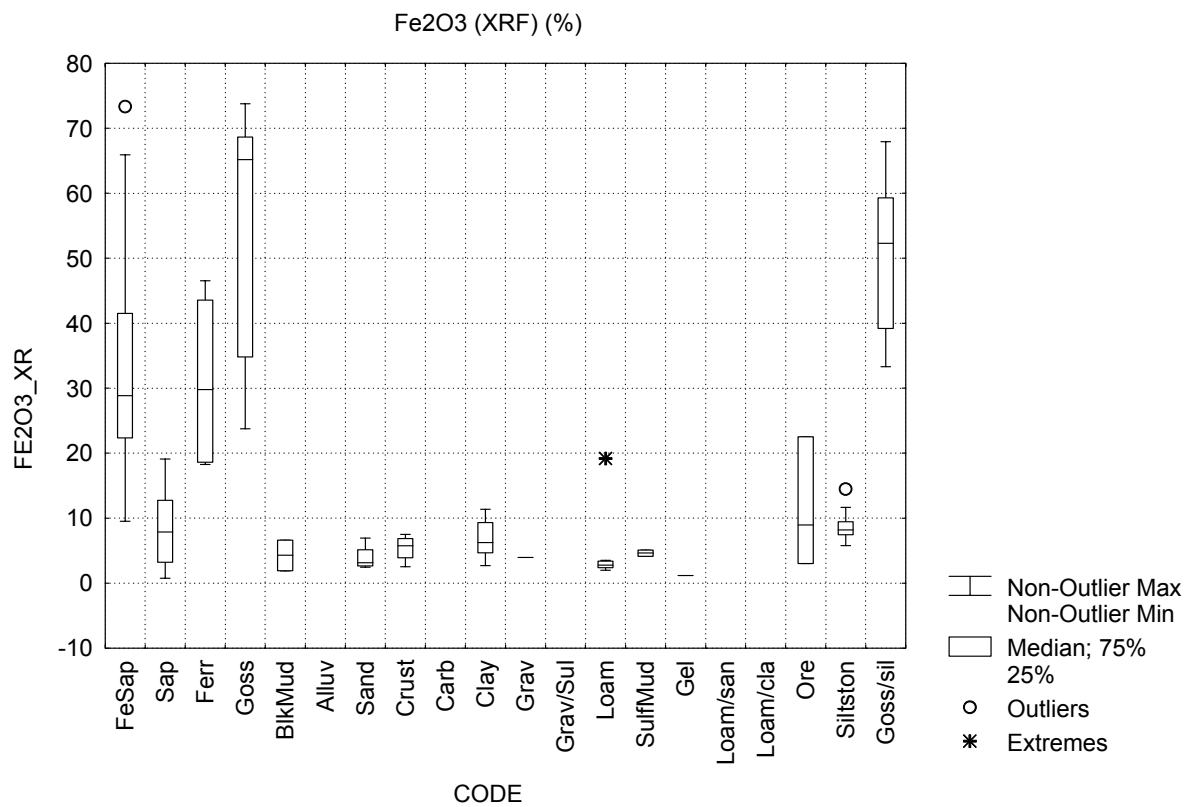
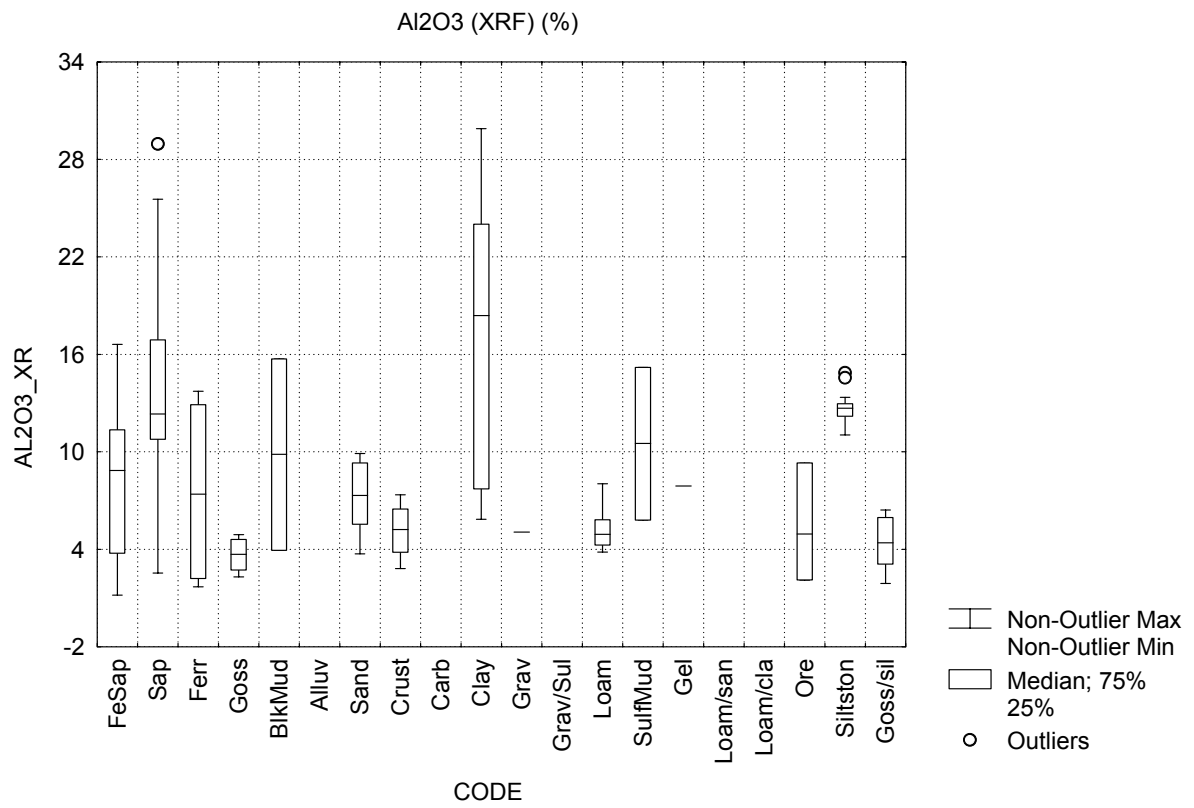
APPENDIX 8

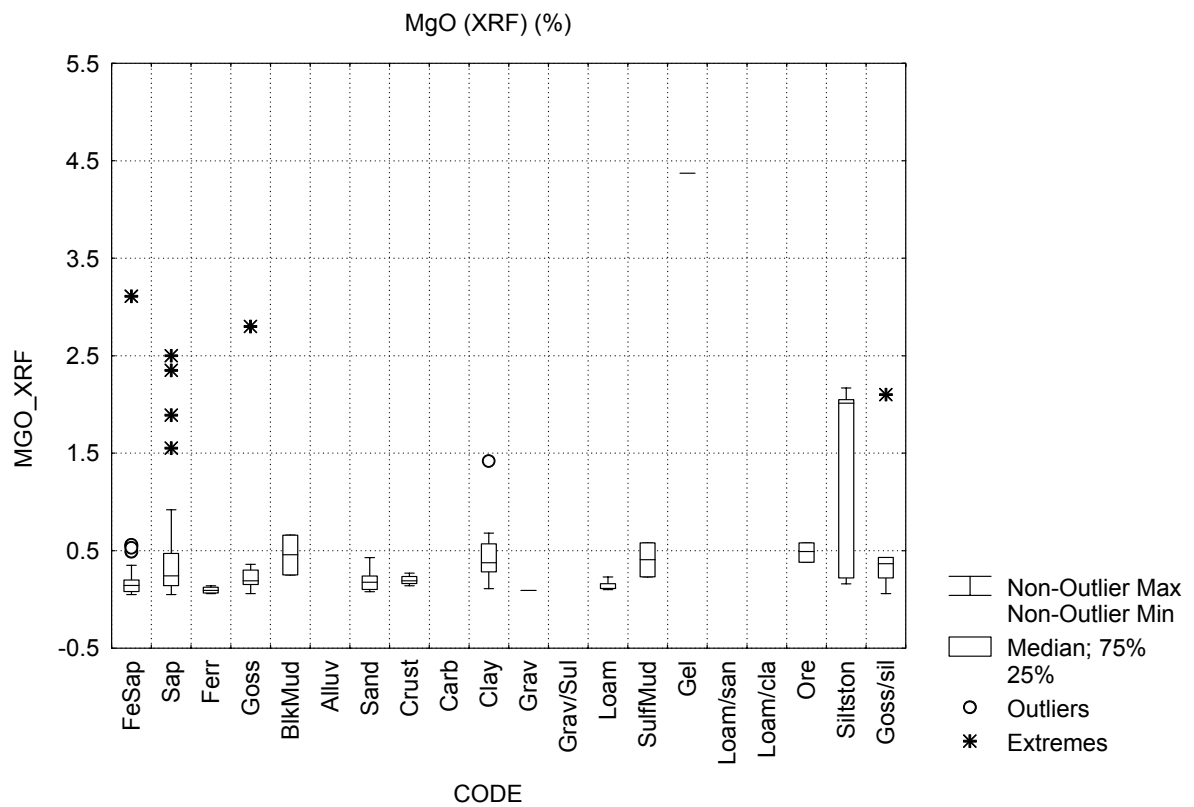
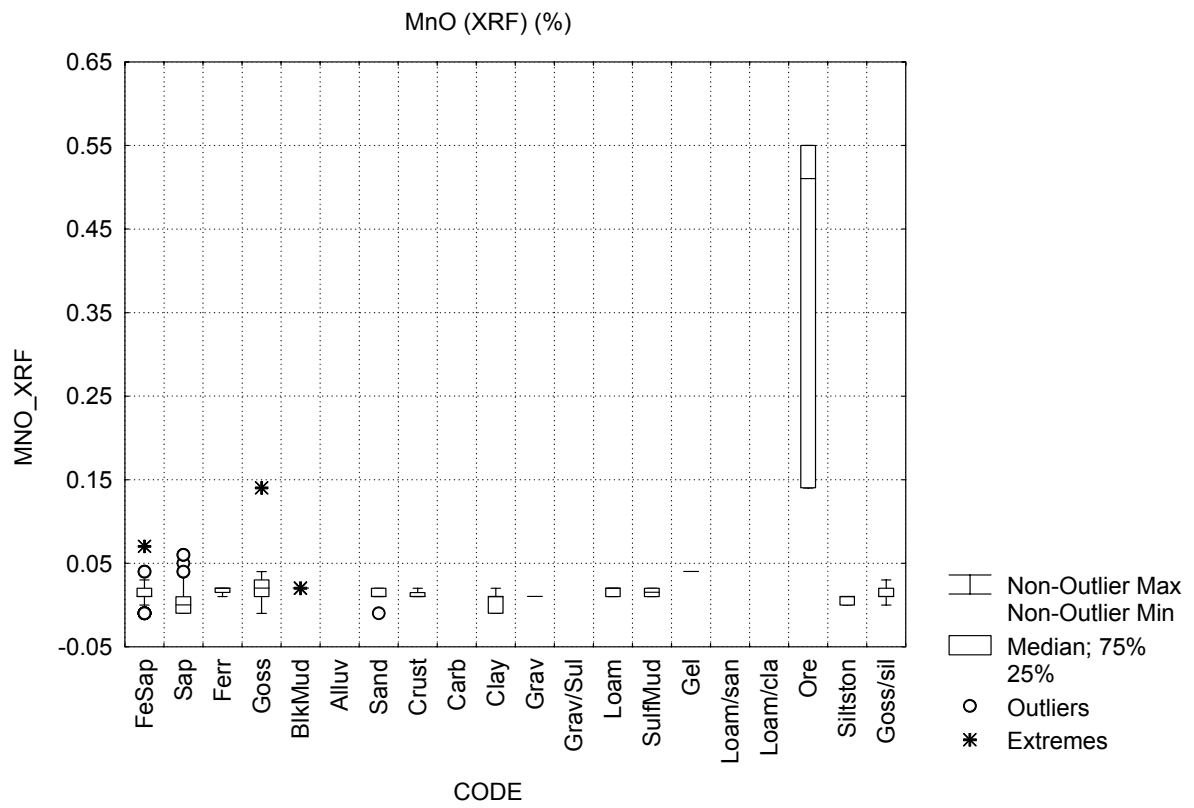
Box plots

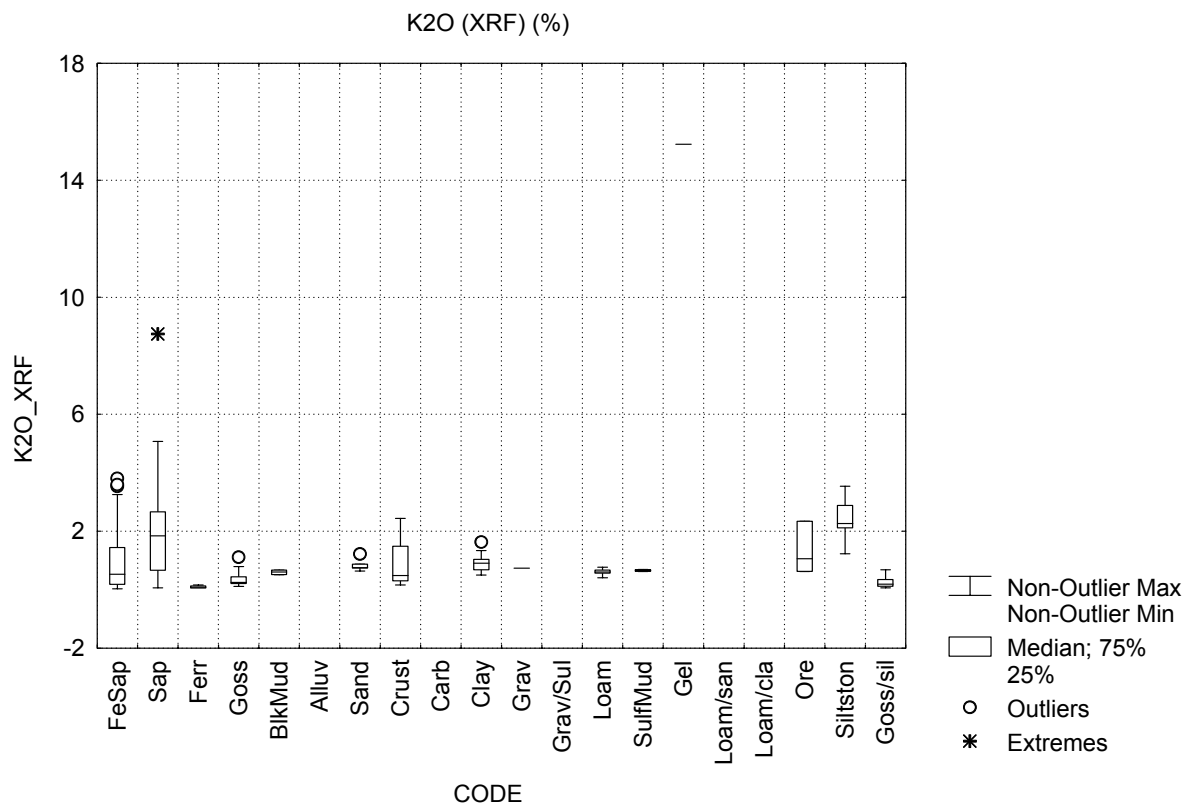
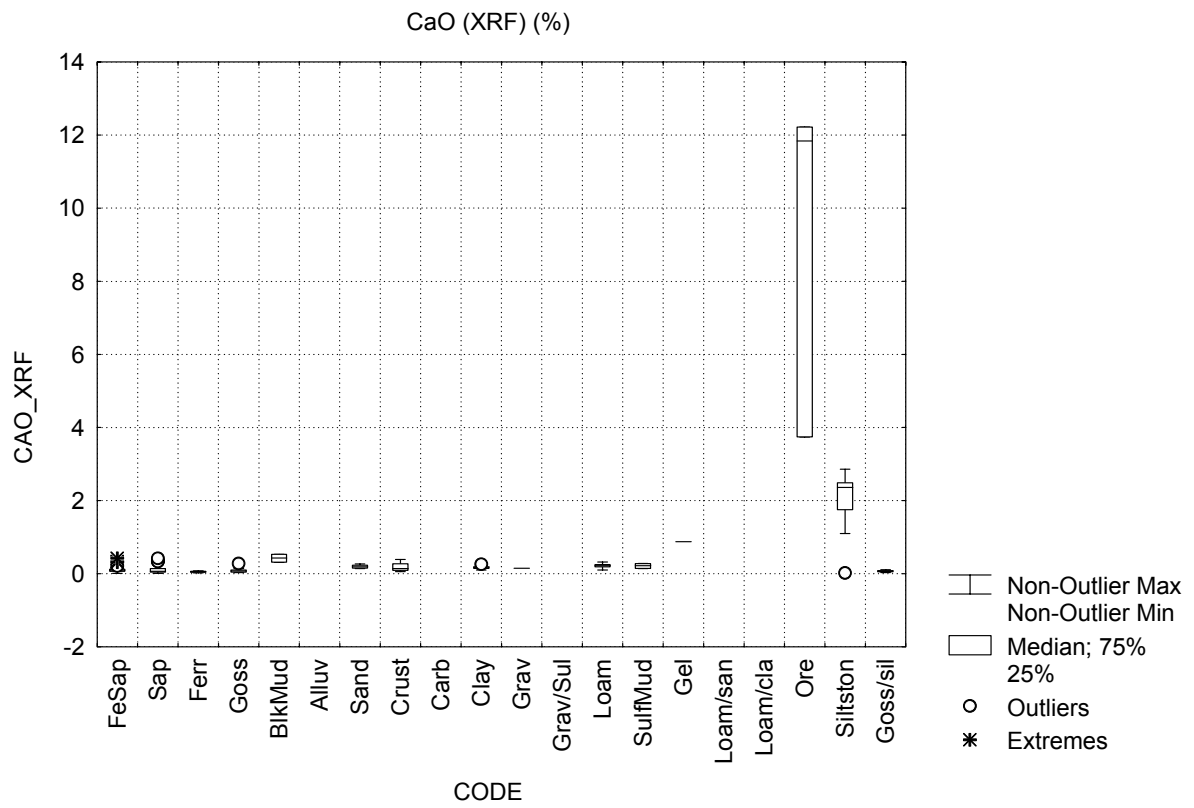
Codes

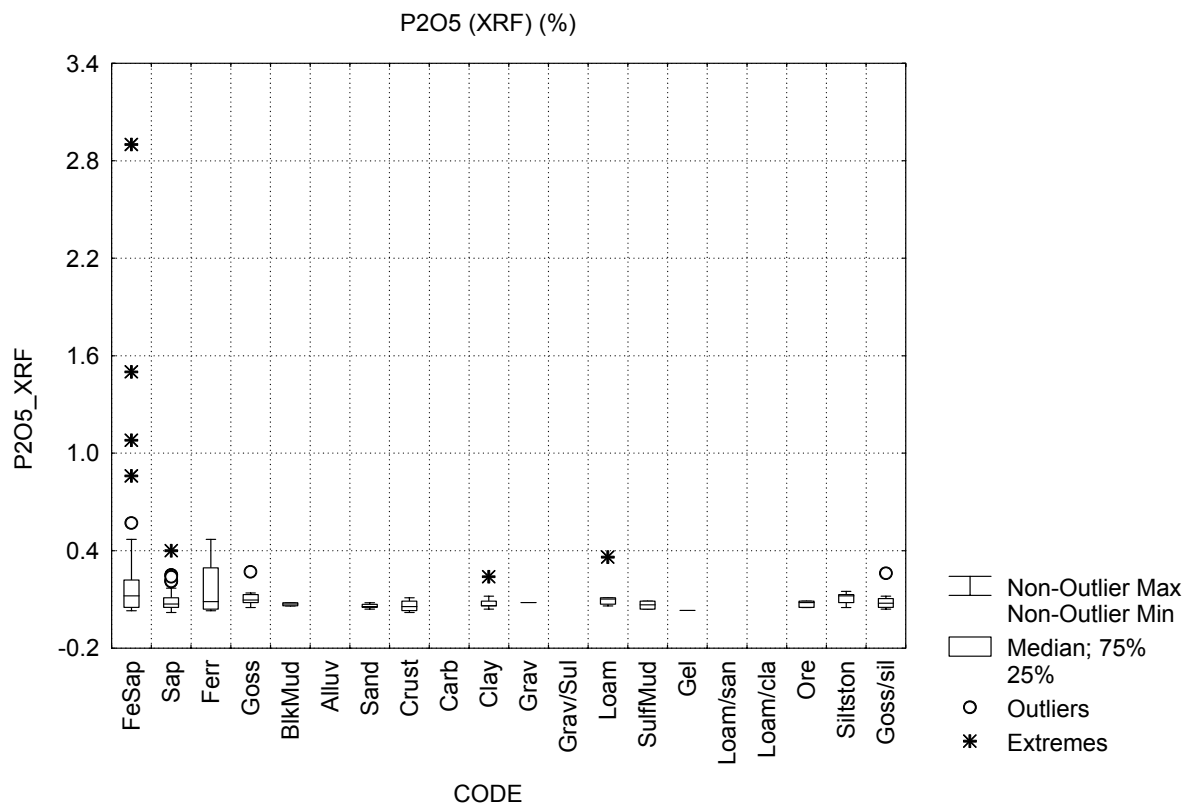
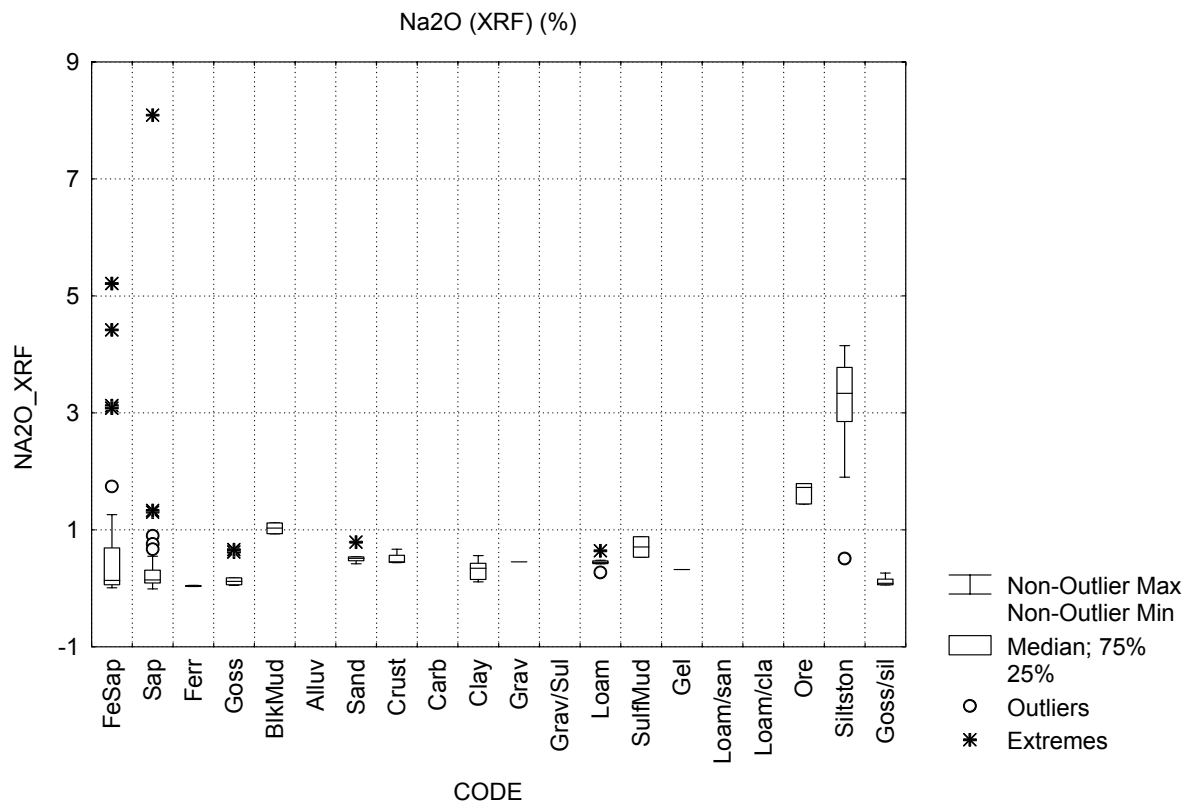
Alluv	alluvium	BlkMud	black mud
Carb	carbonate-rich zones	Clay	clay
Crust	hardened crust	Ferr	ferricrete
FeSap	ferruginous saprolite	Gel	Fe- and/or Al-rich precipitate
Goss	gossan	Goss/sil	gossanous siltstone
Grav	gravel	Grav/sul	sulfidic material with gravel
Loam	loam	Loam/cla	loam/clay
Loam/sand	loam/sand	Ore	sulfidic zone in fresh rock
Sand	sand	Sap	saprolite
Siltston	metasiltstone (fresh rock)	SulfMud	sulfidic material

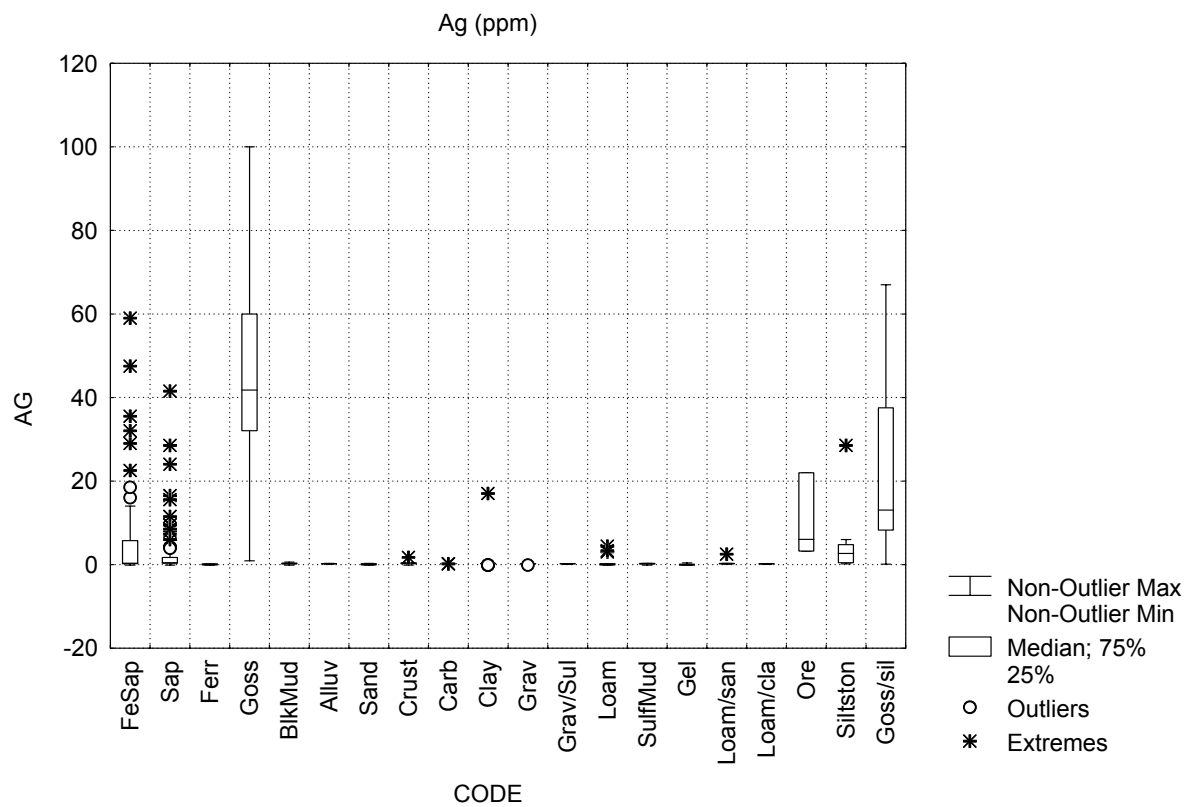
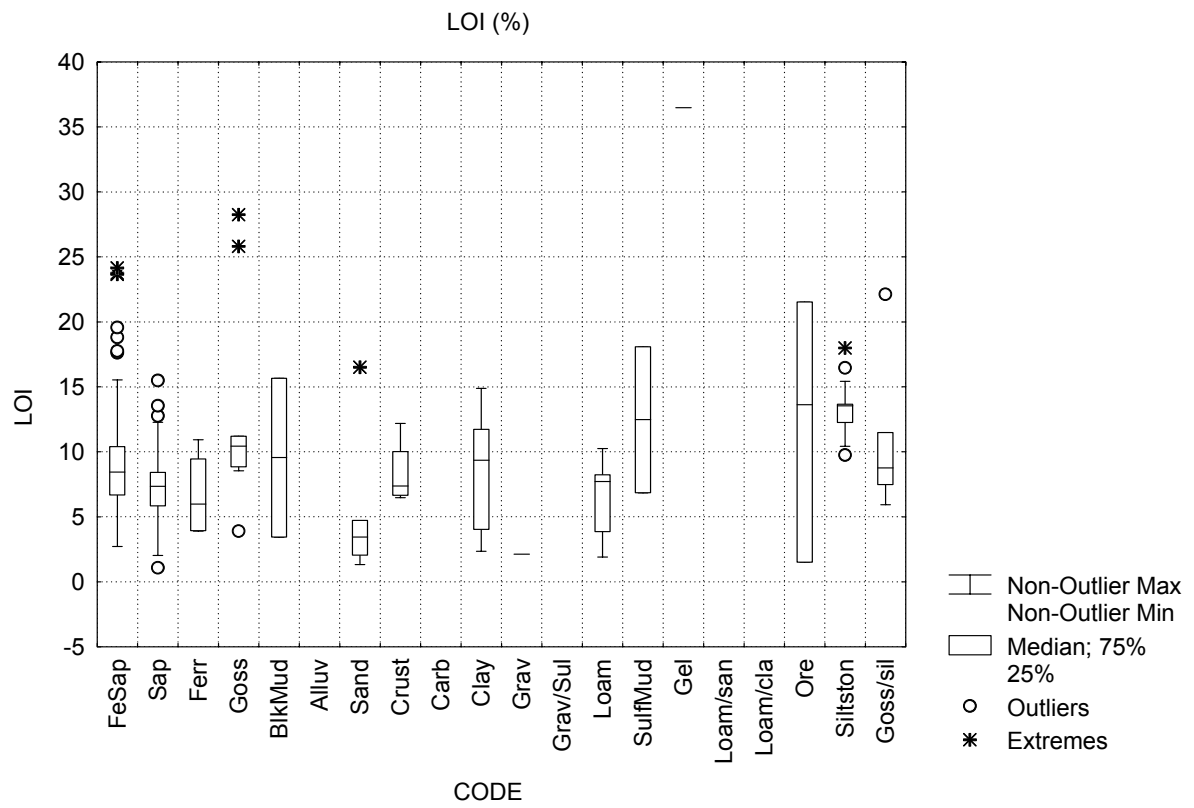


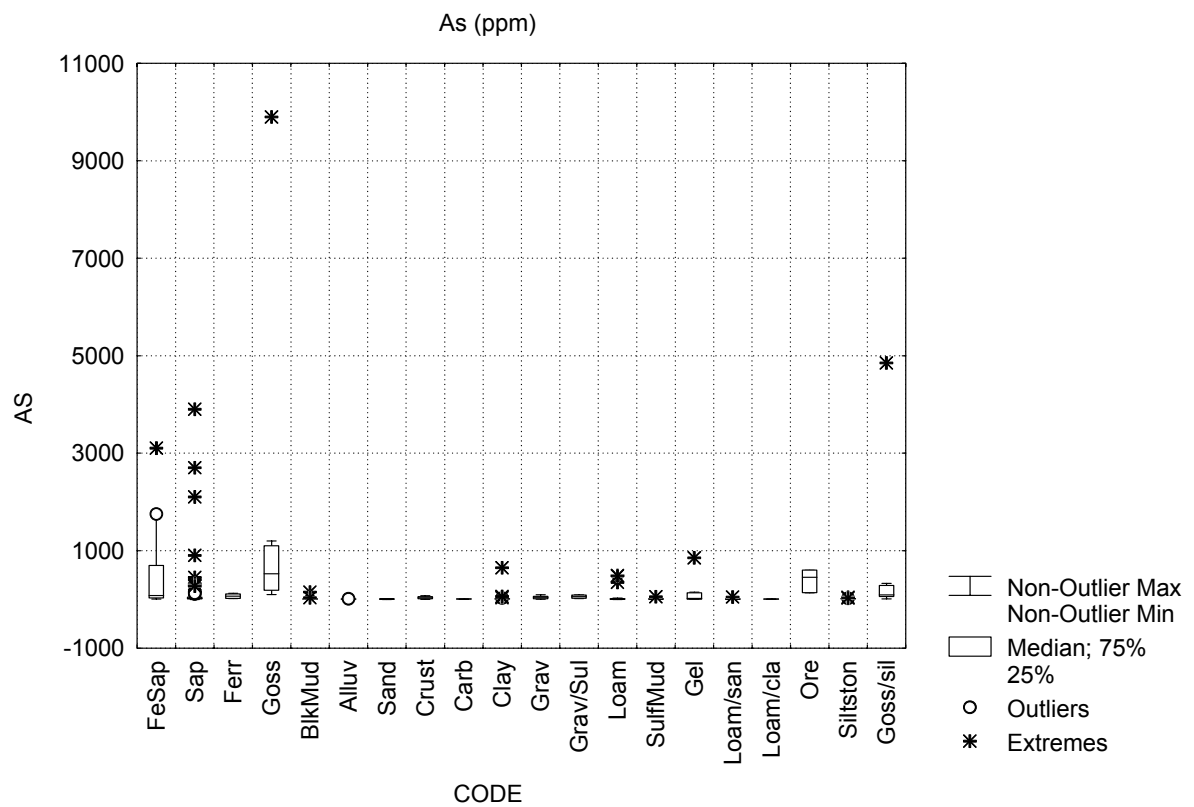
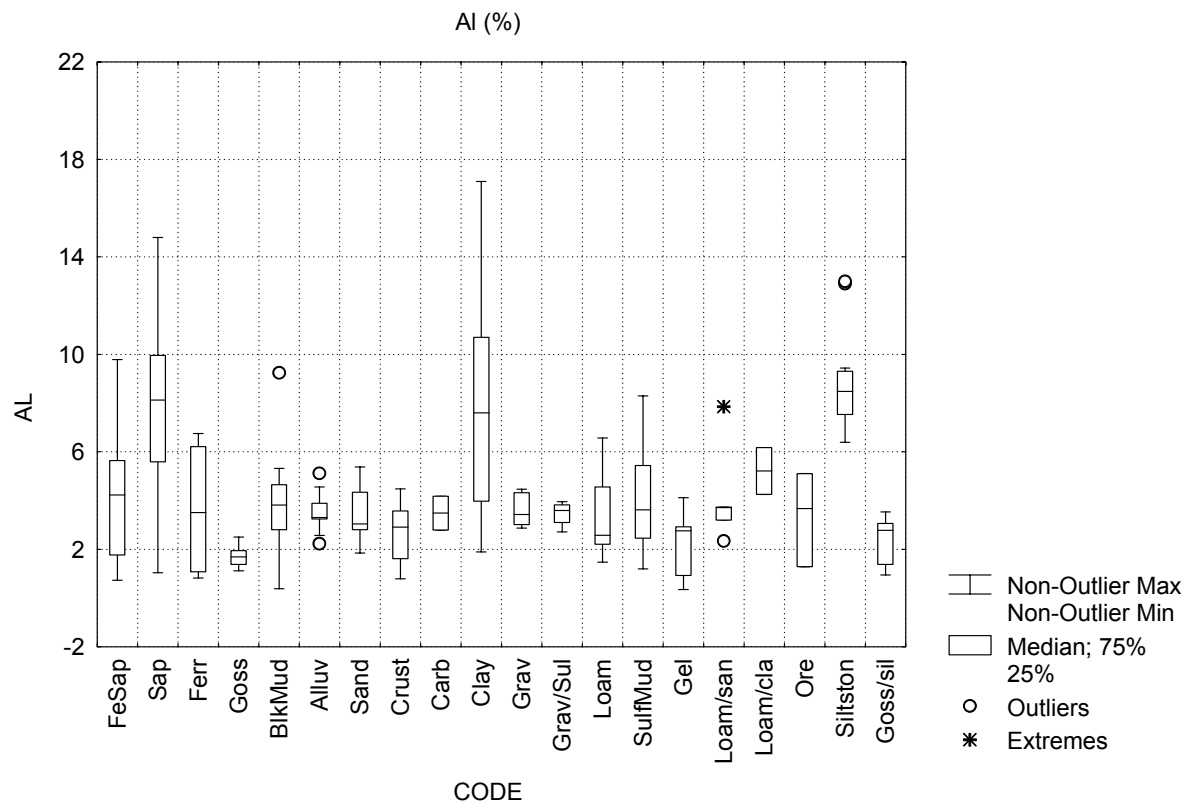


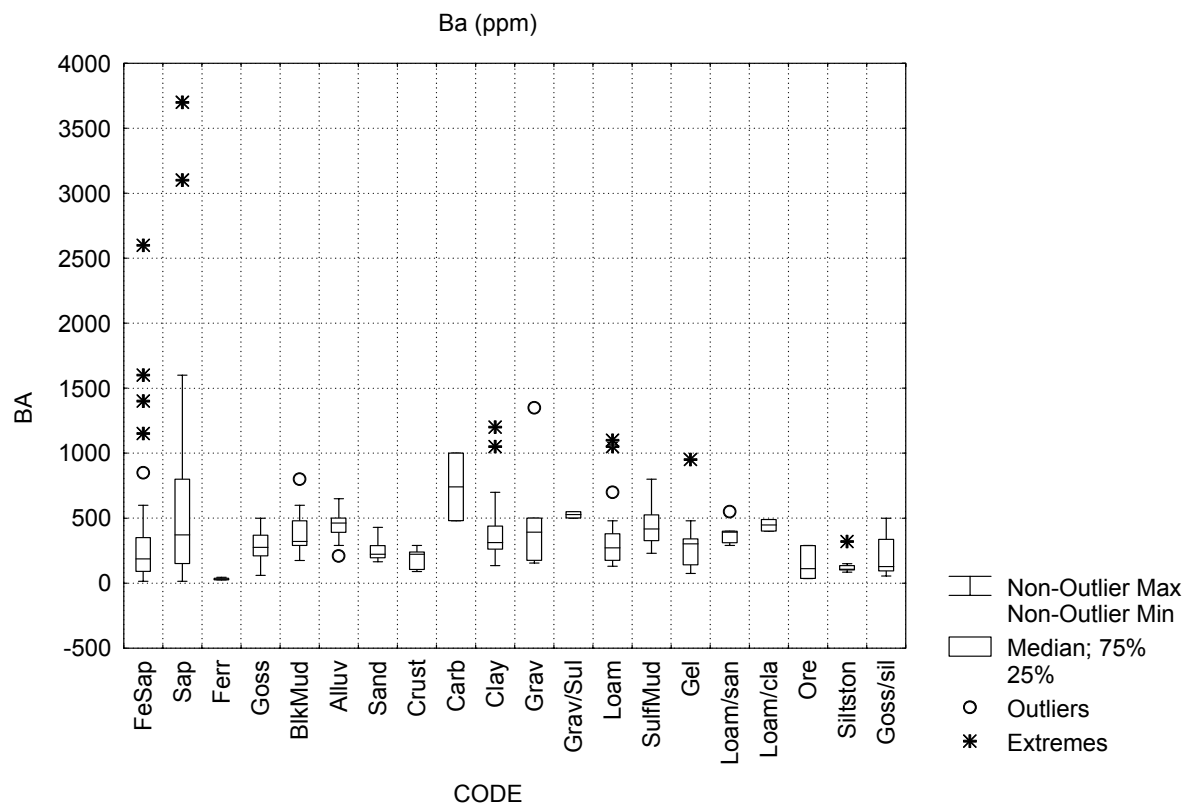
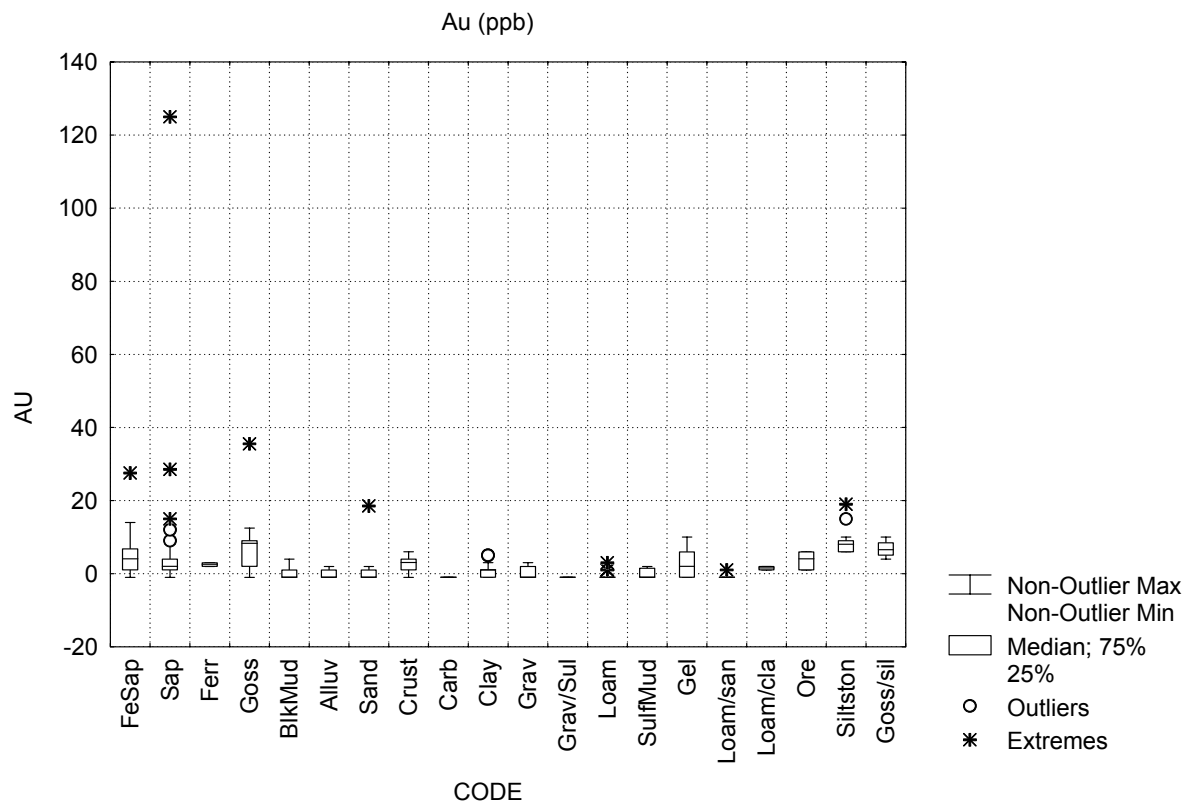


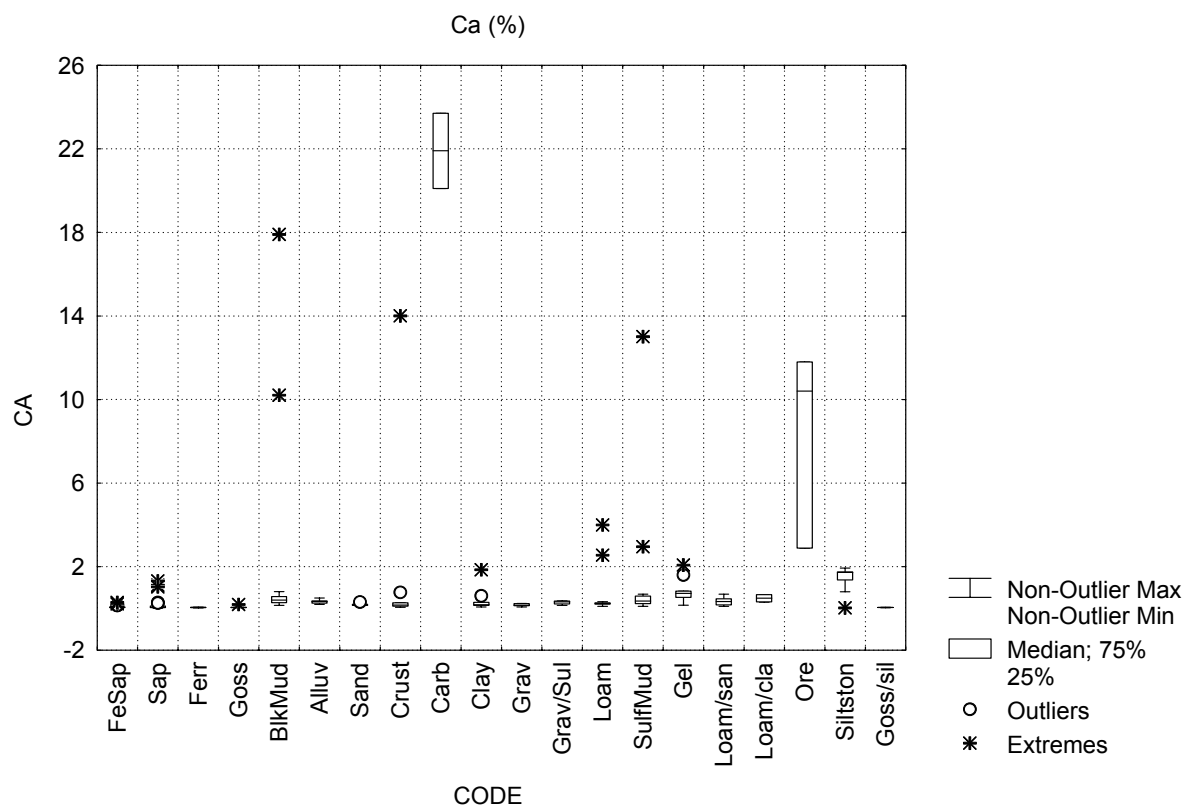
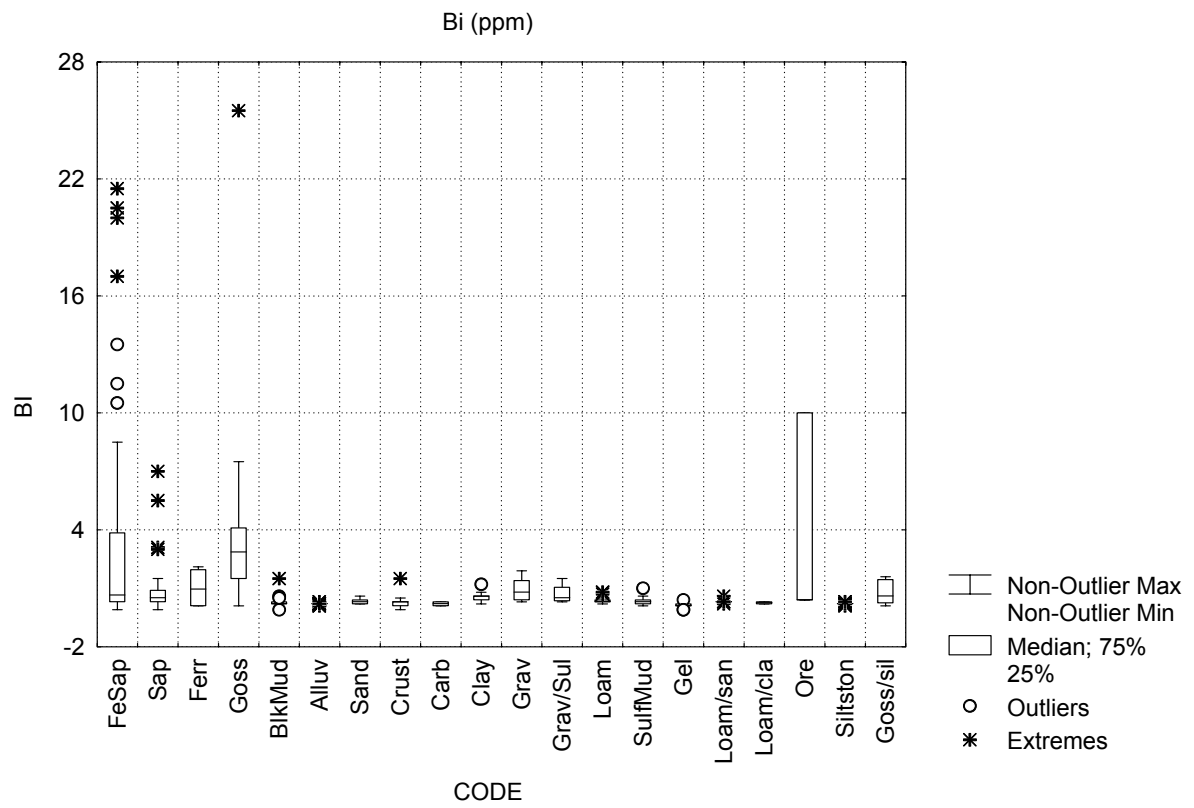


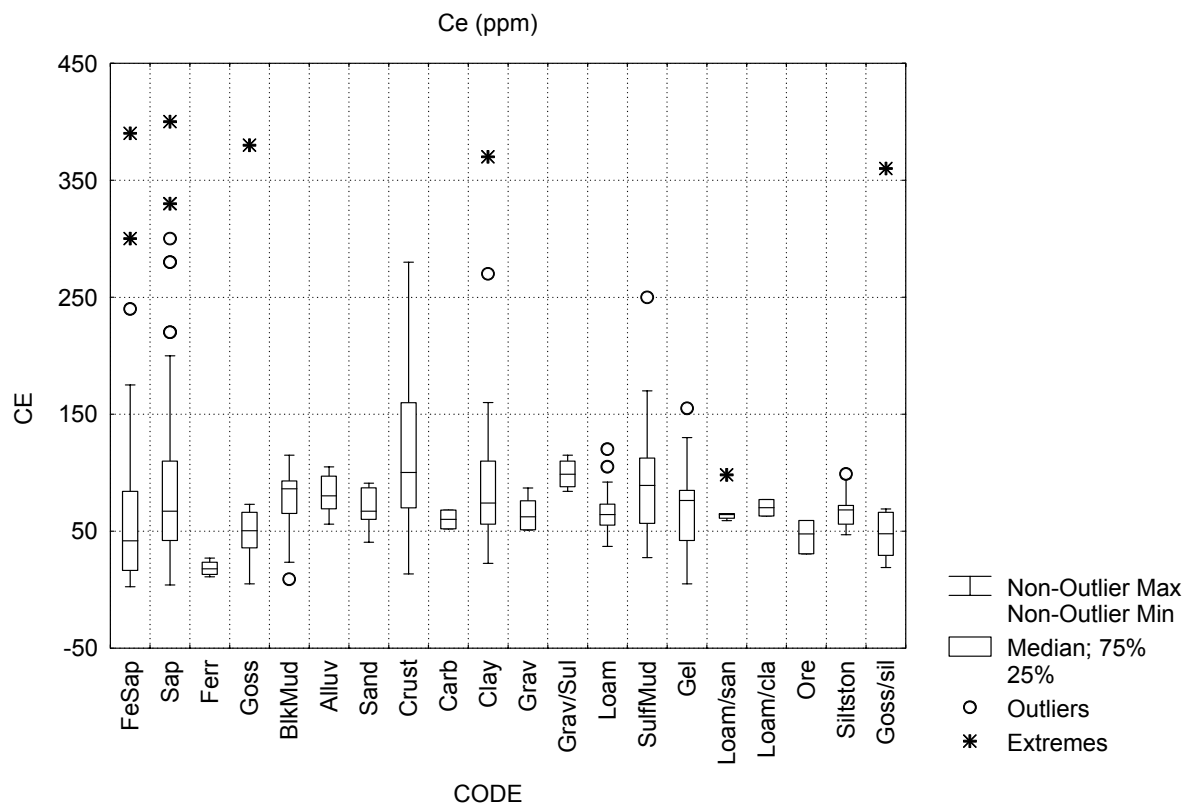
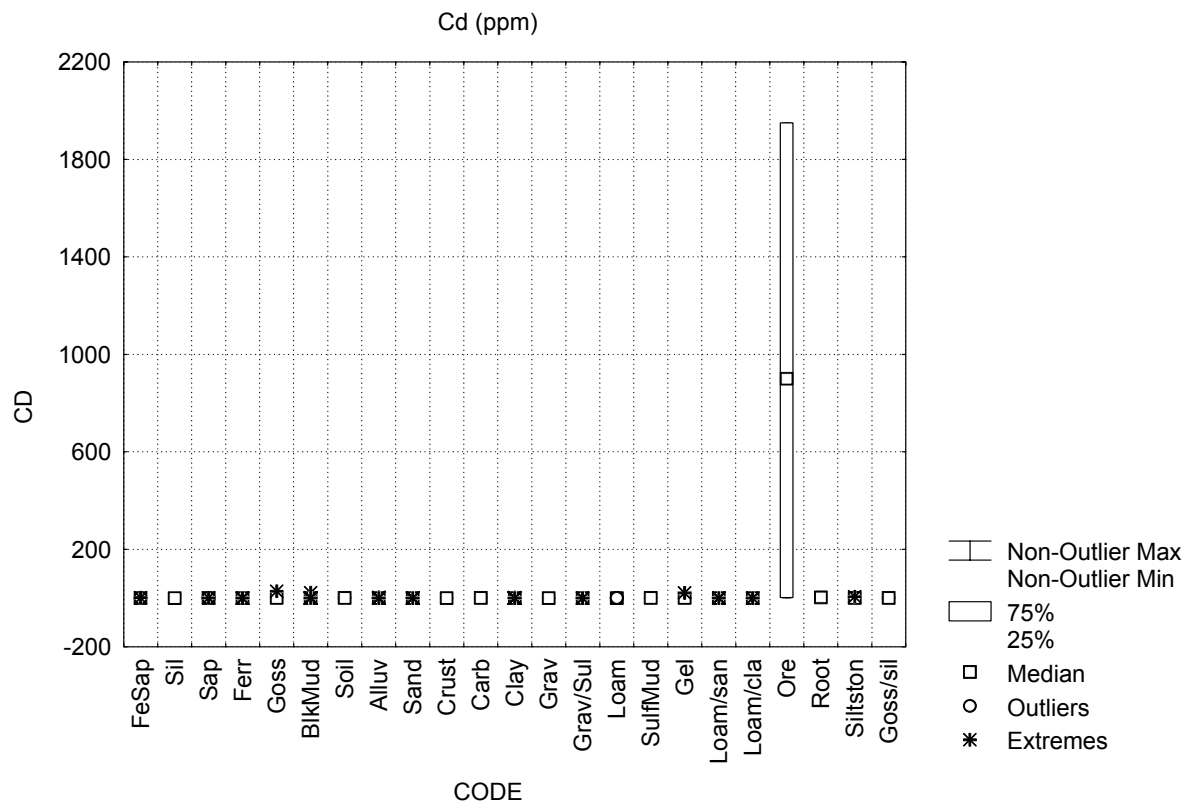


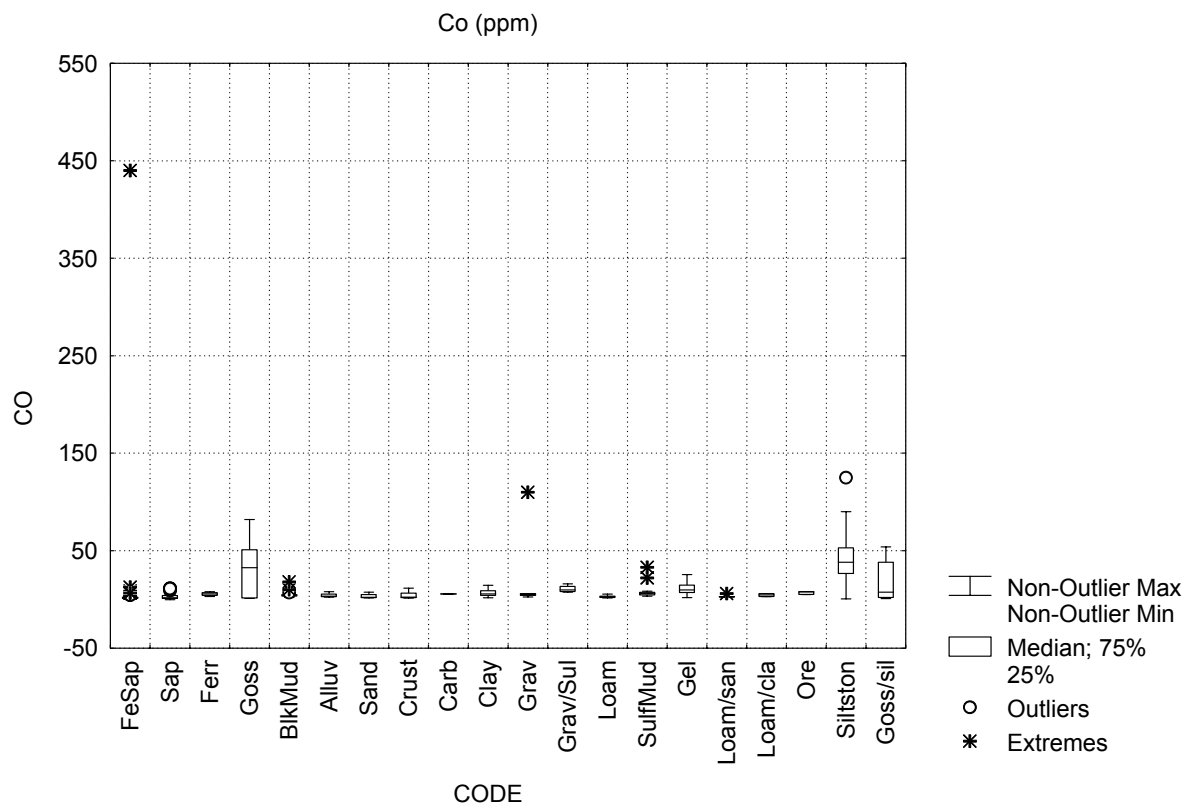
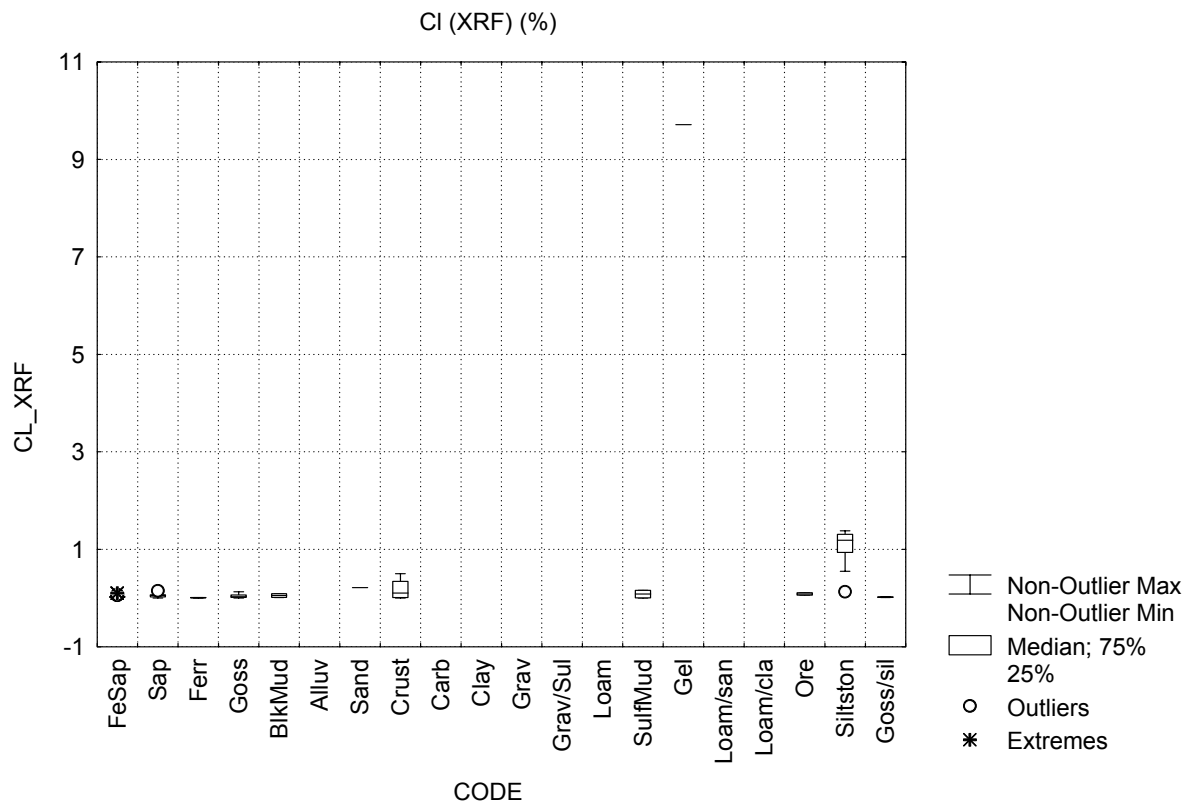


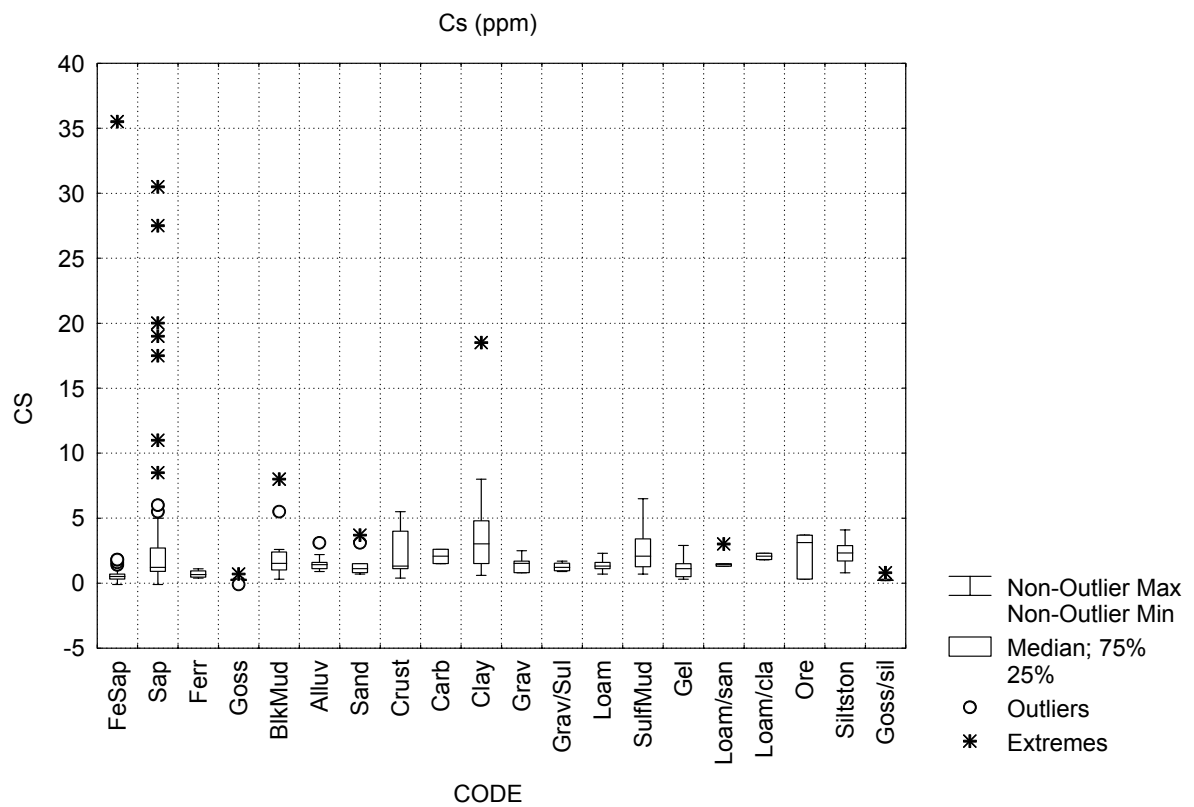
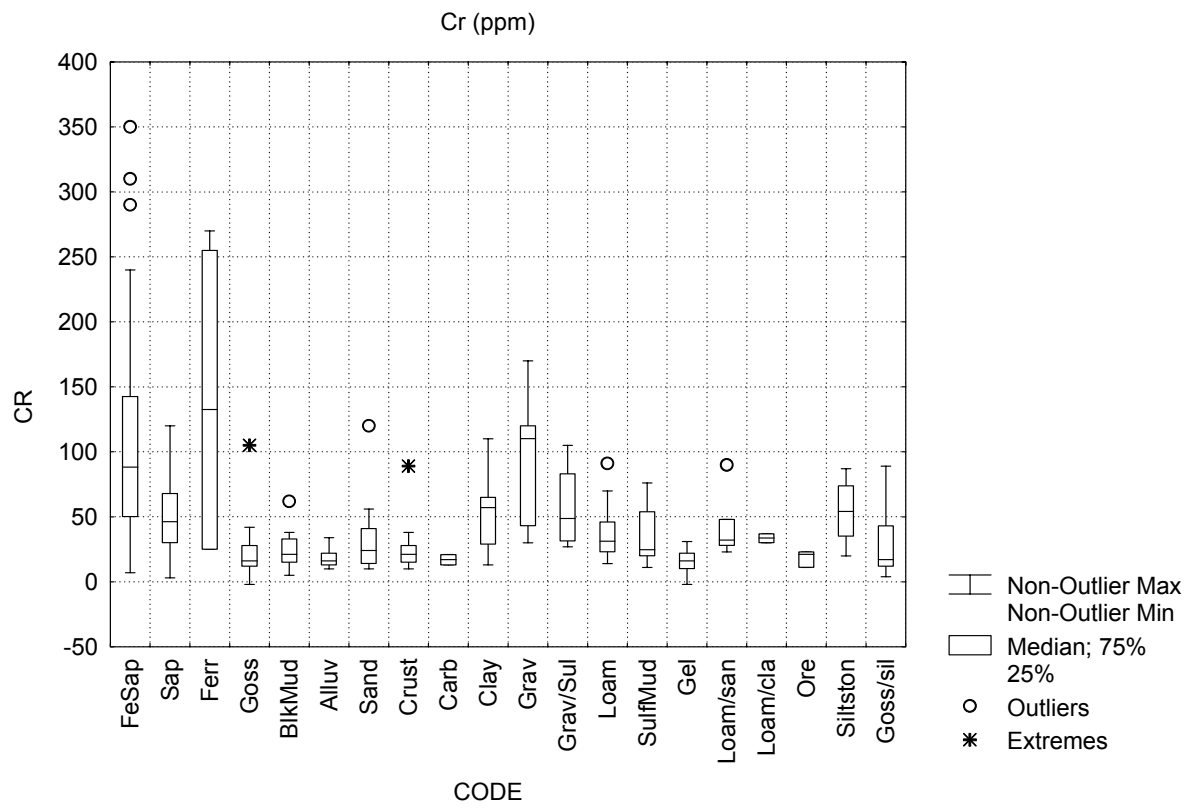


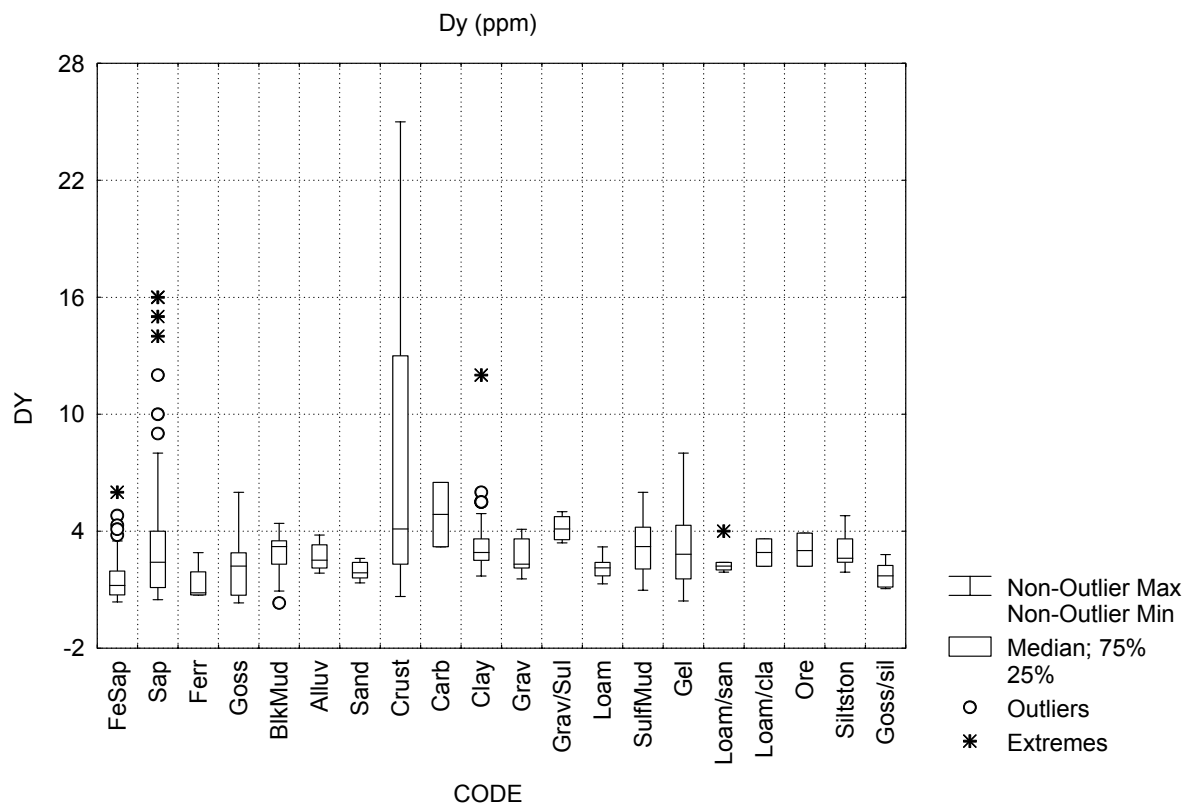
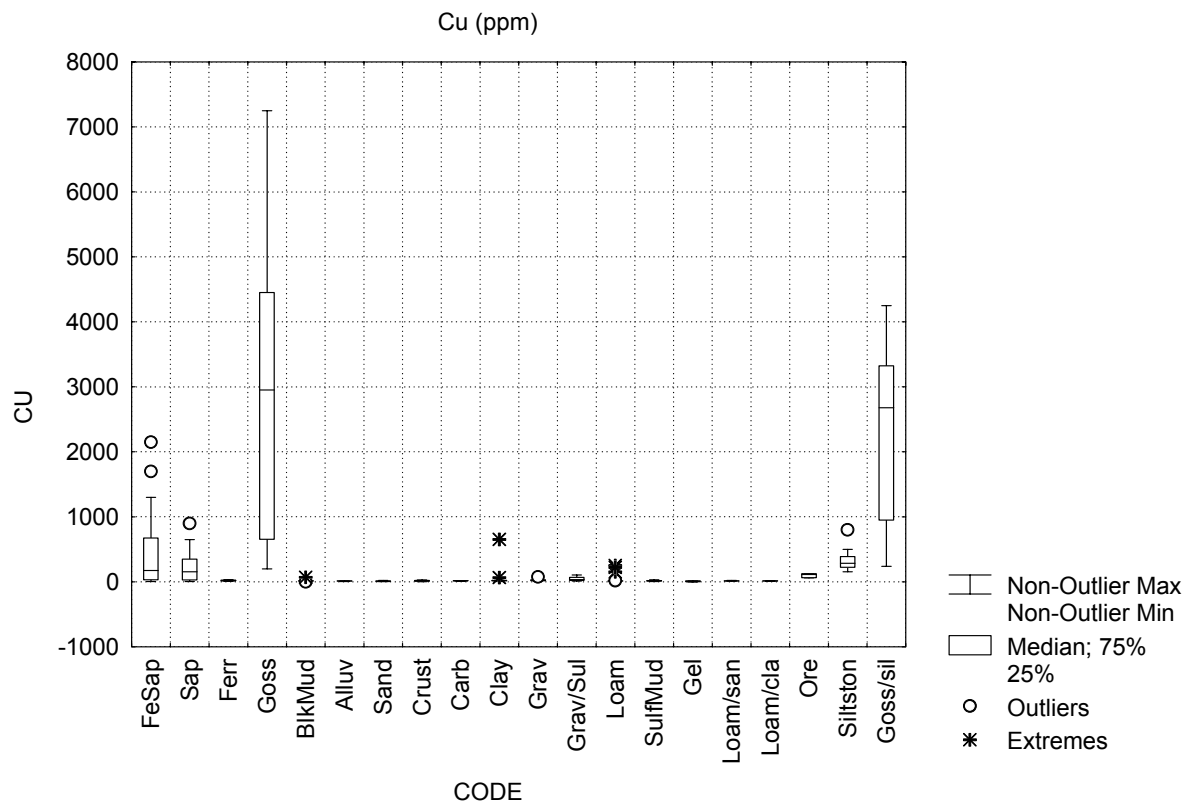


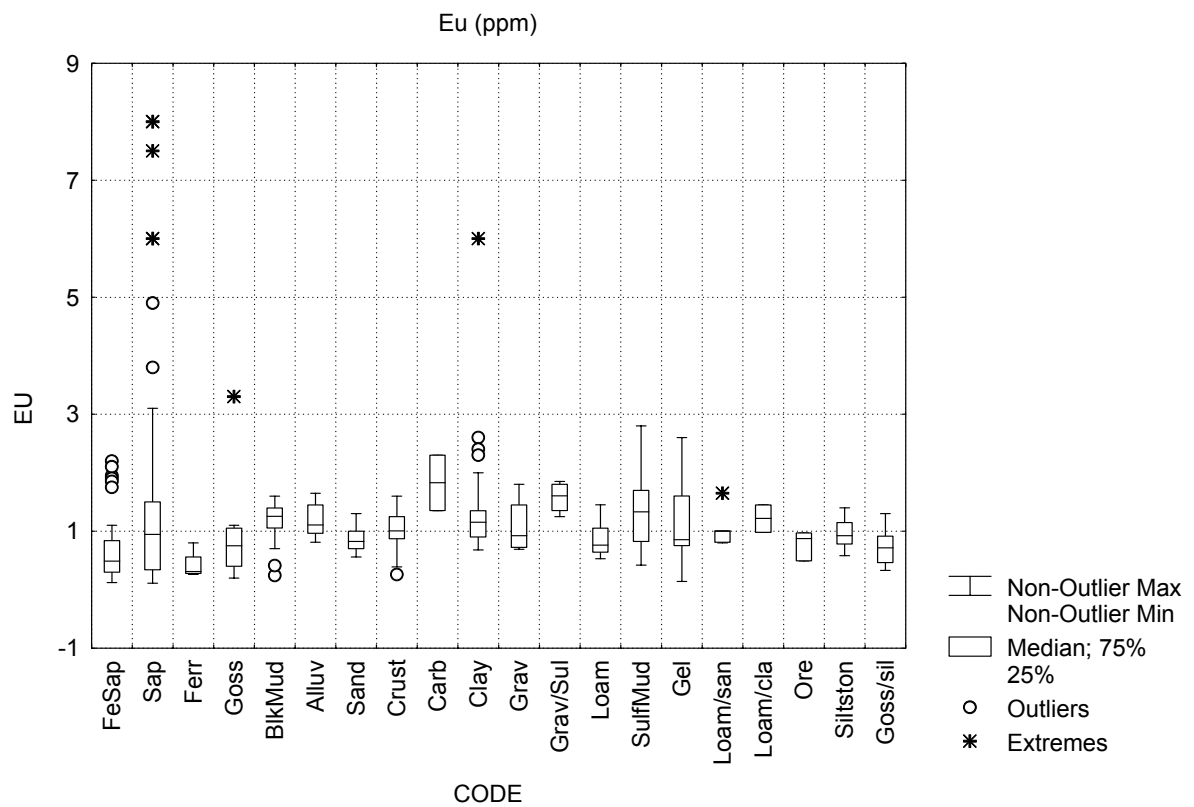
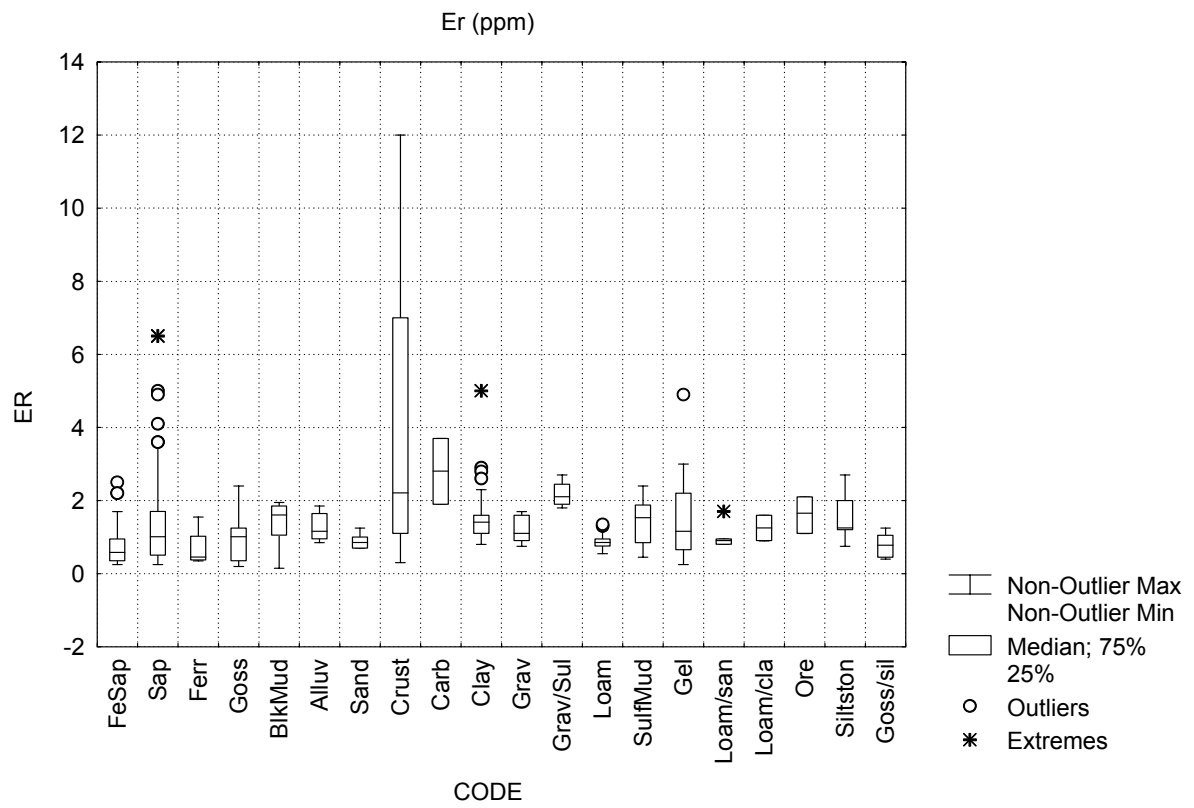


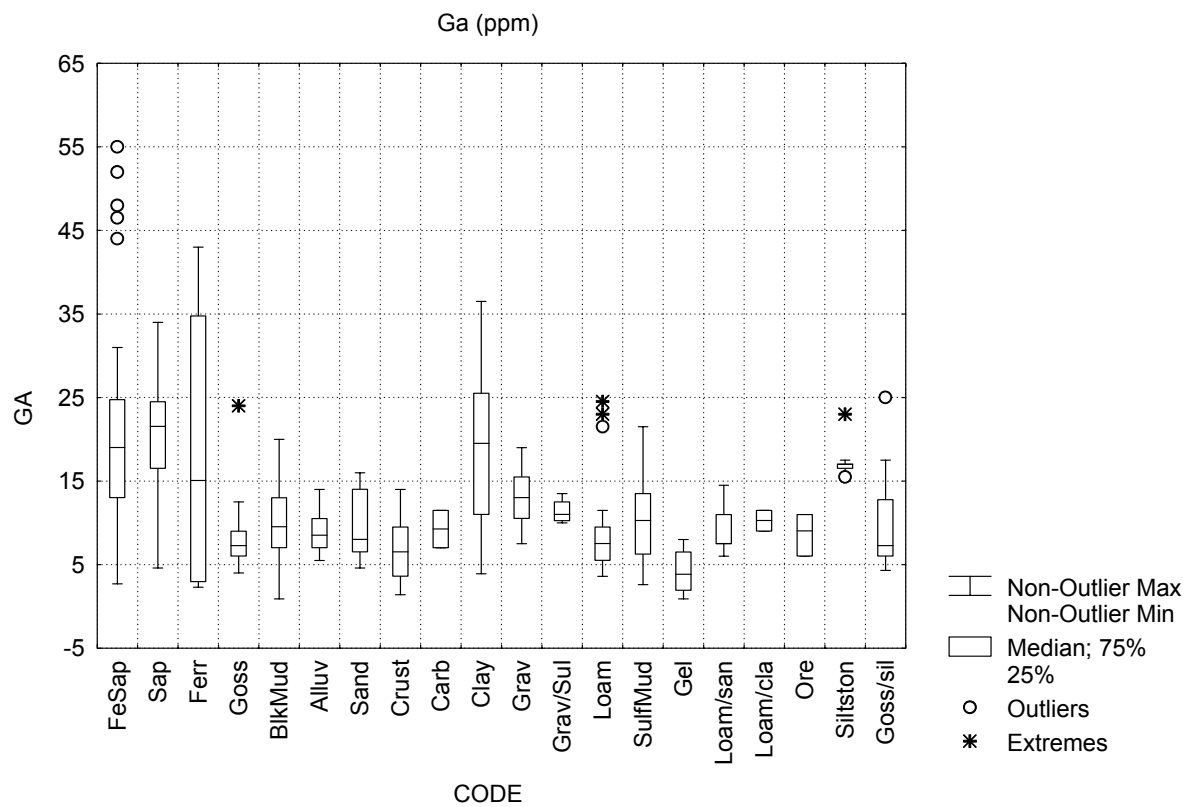
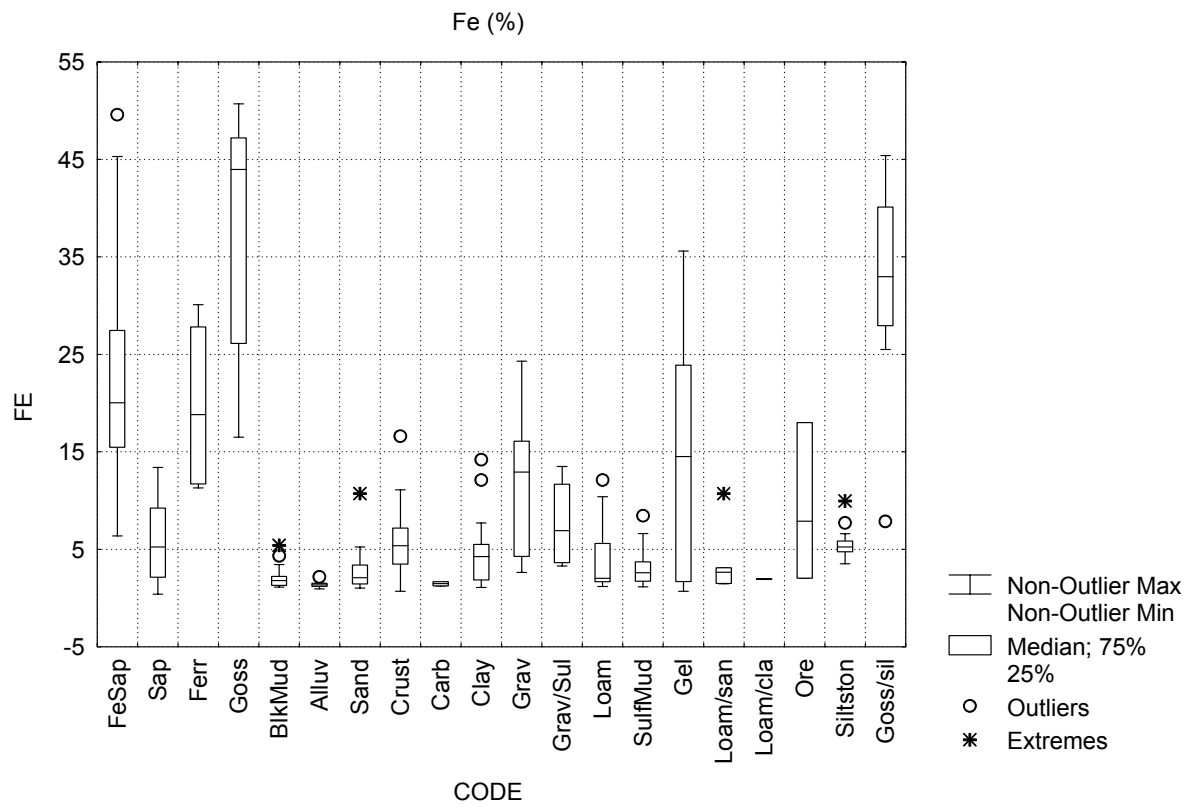


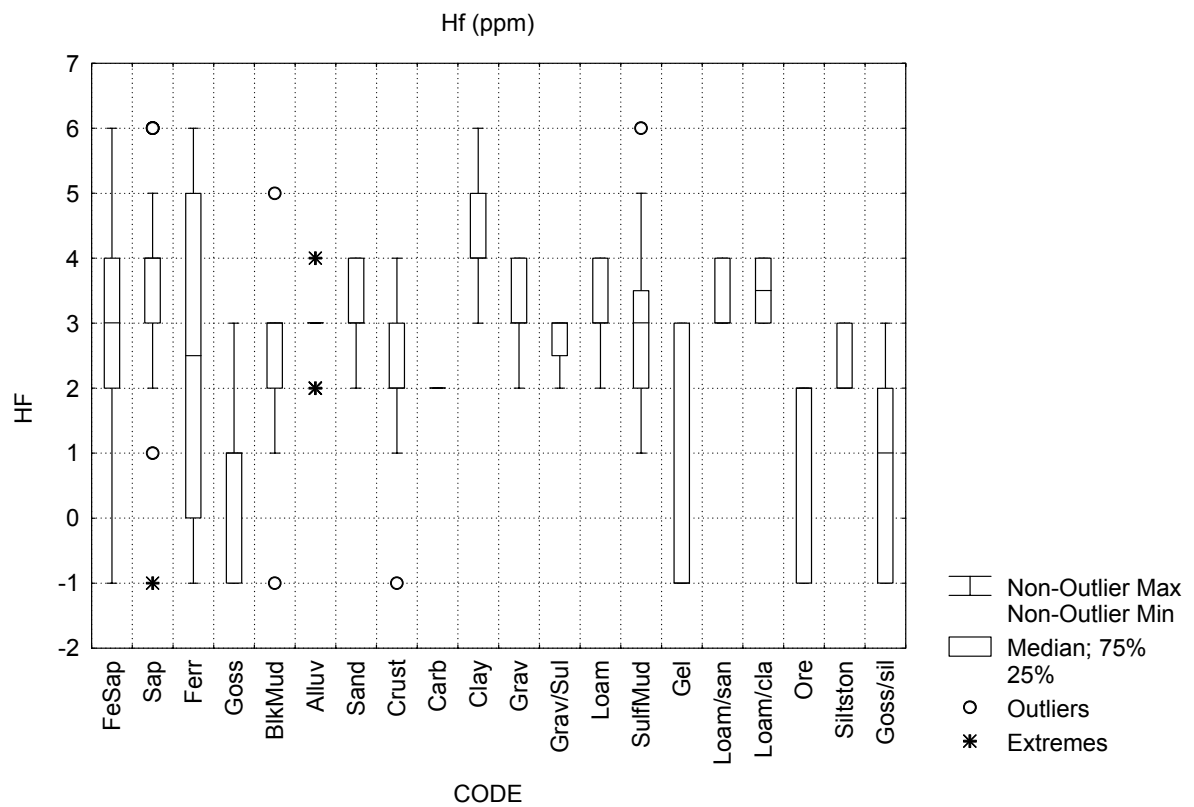
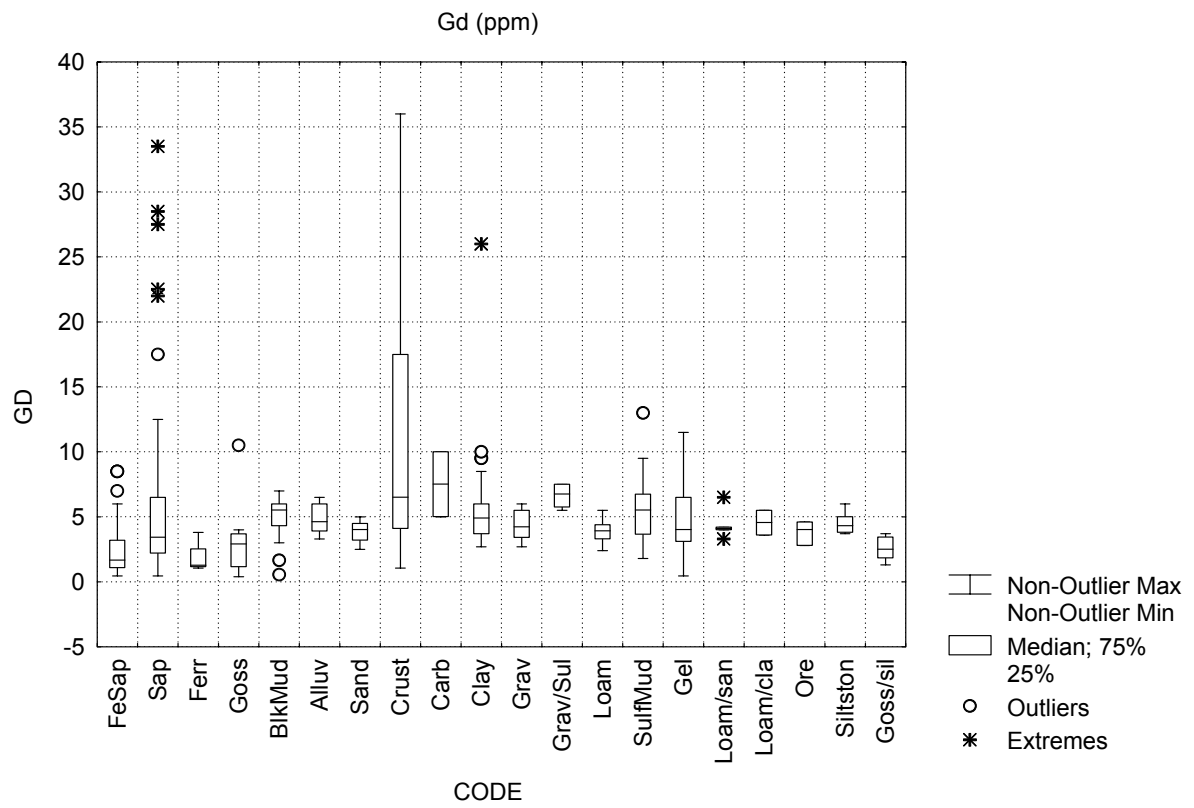


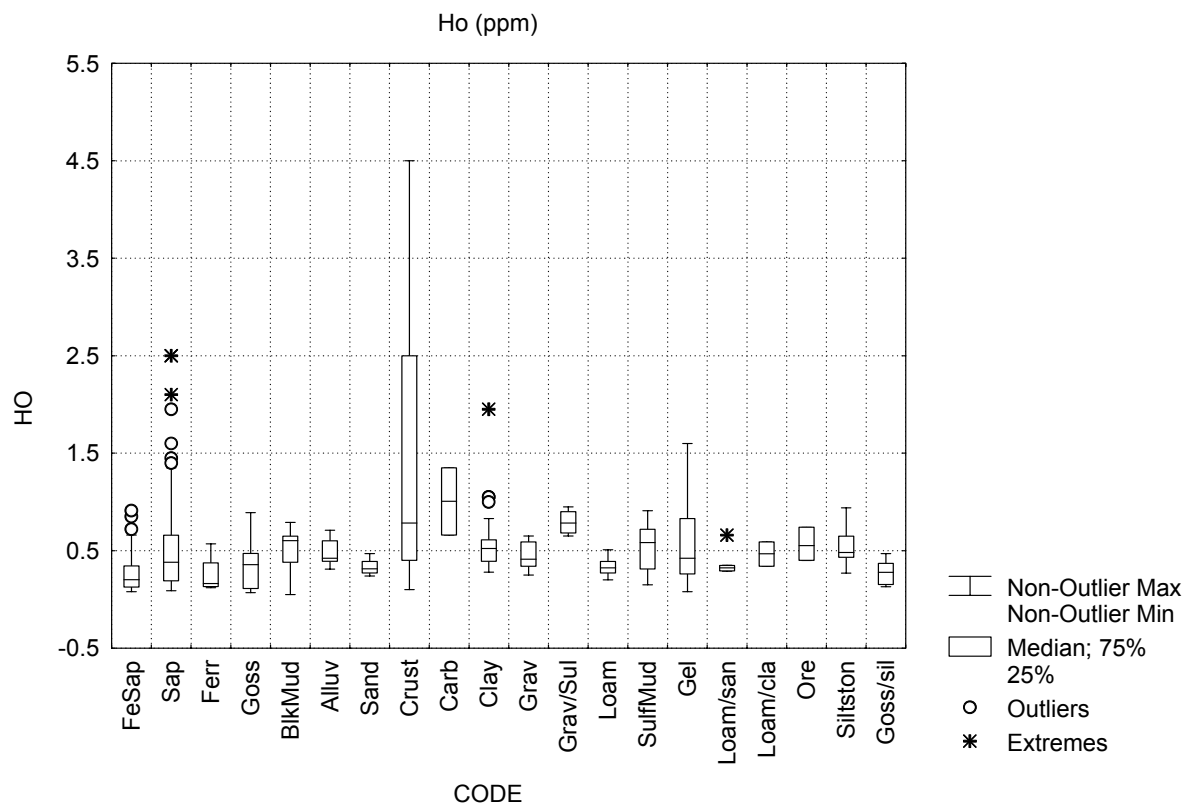
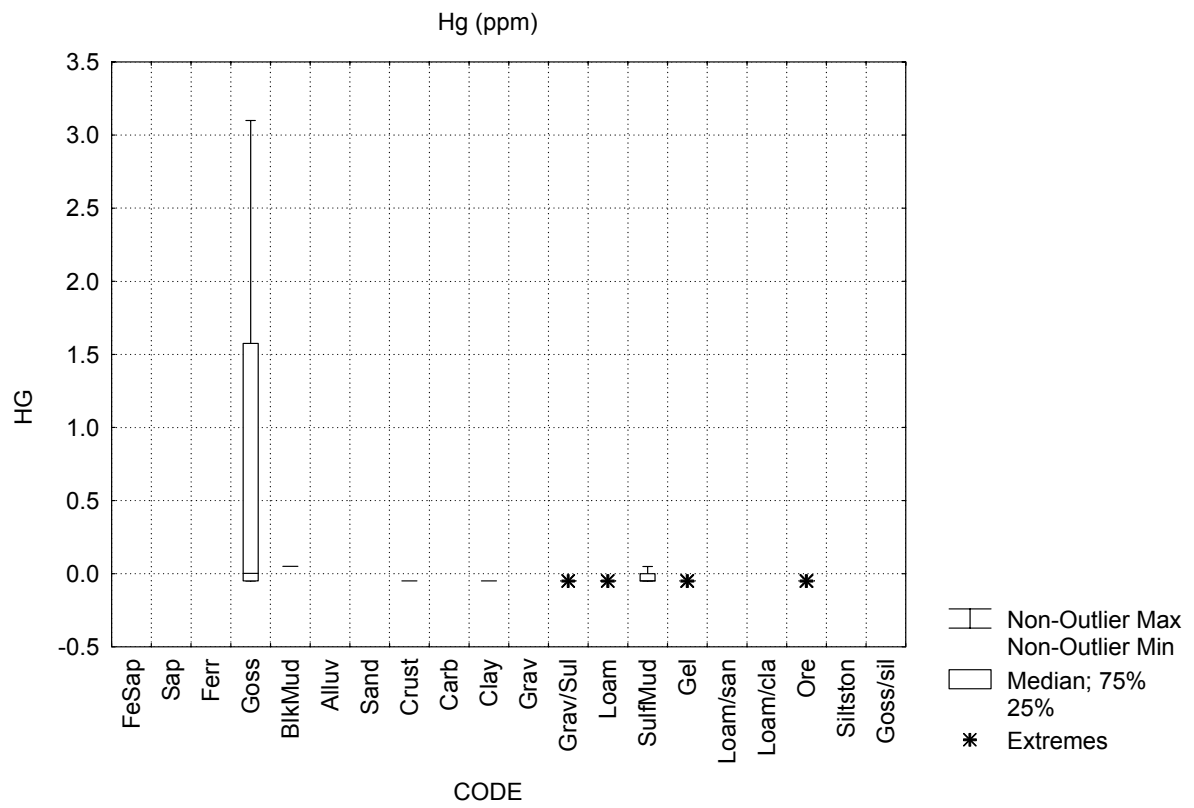


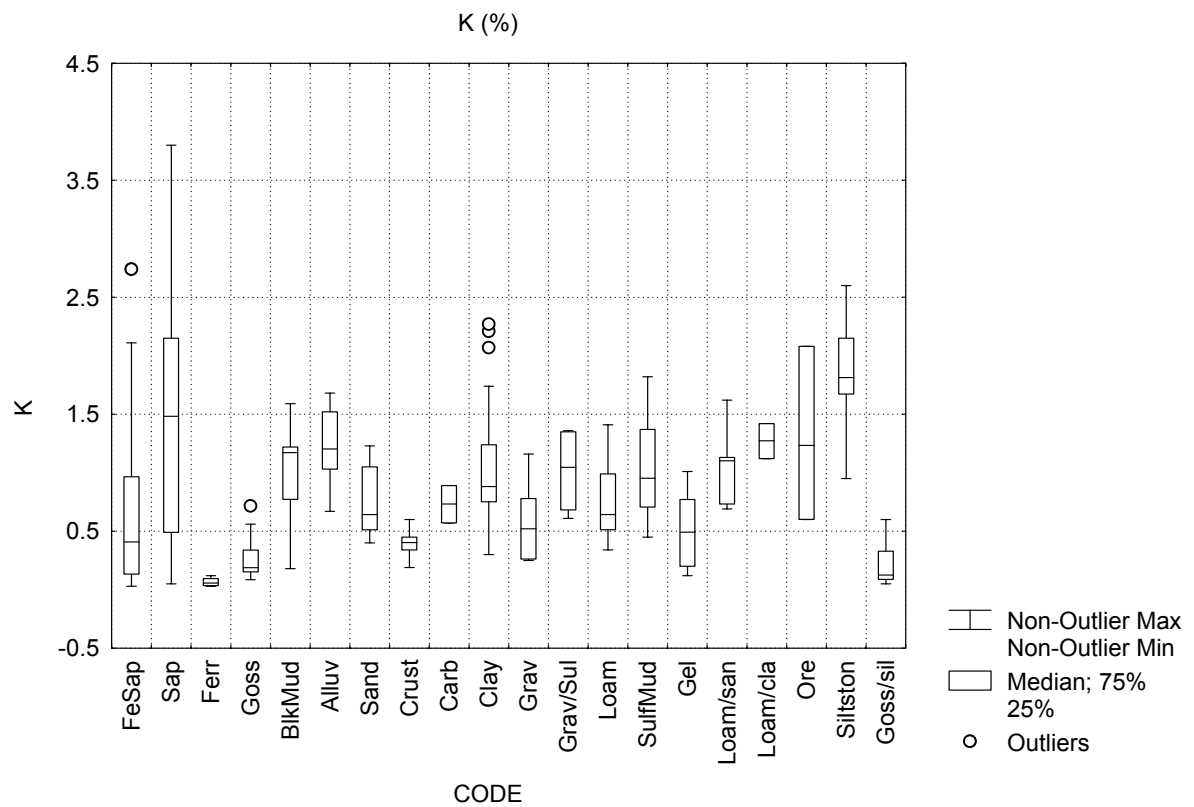
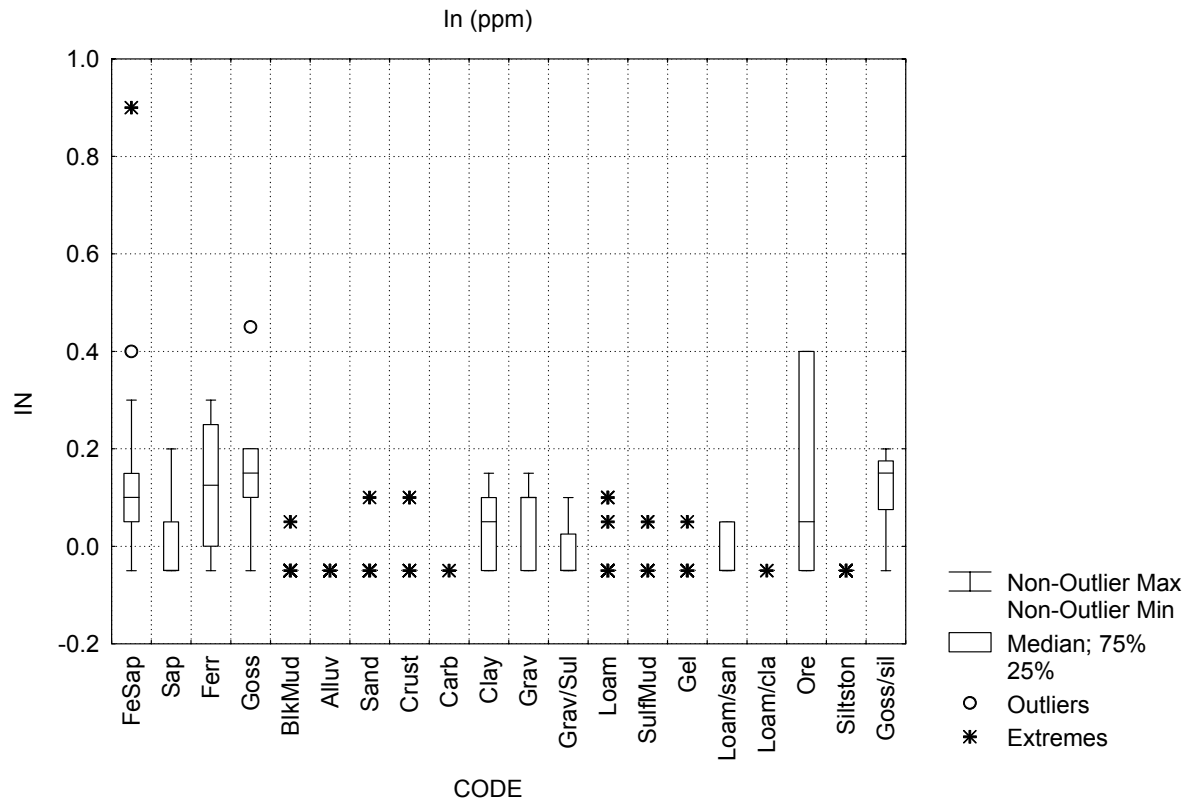


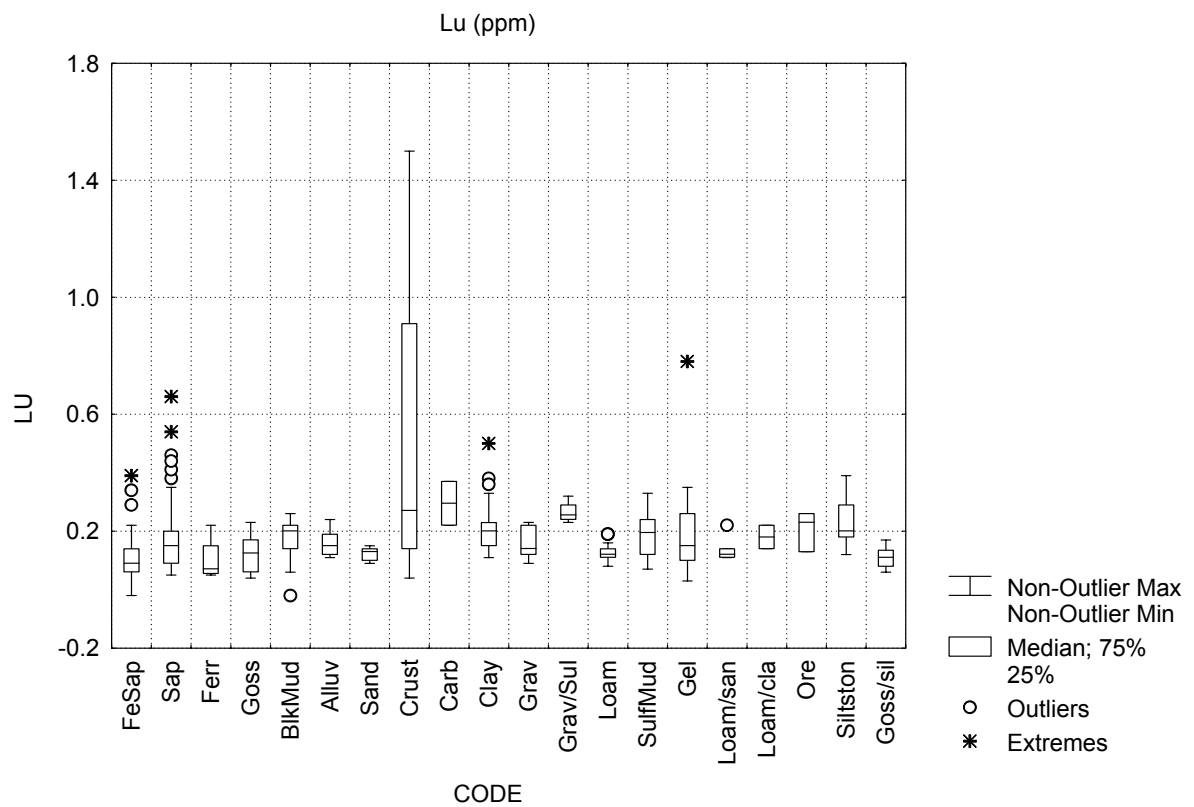
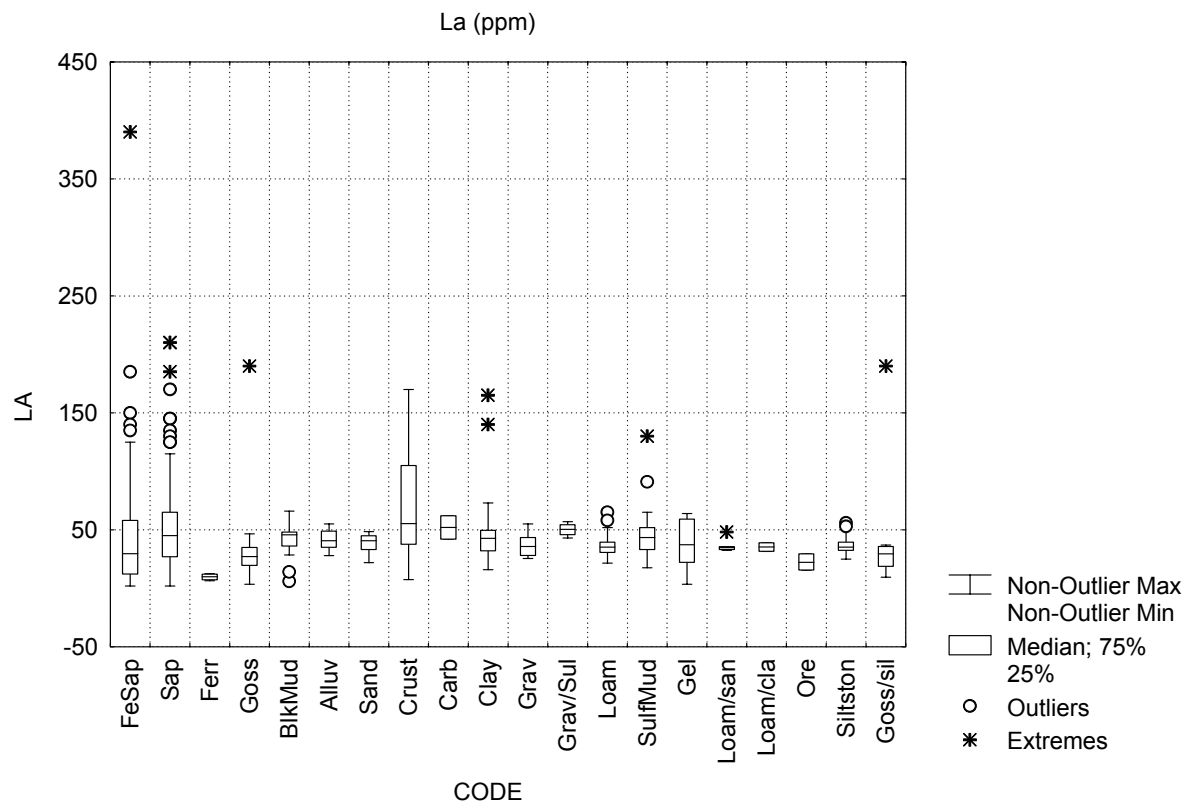


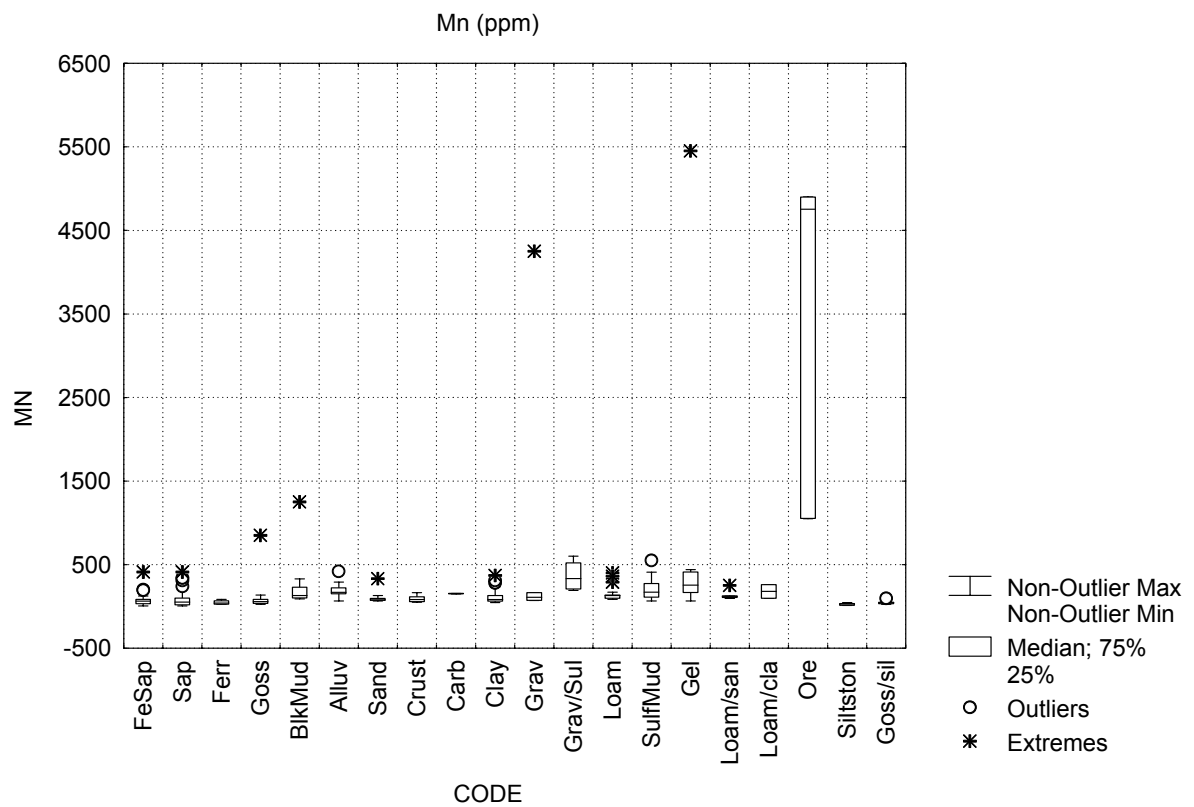
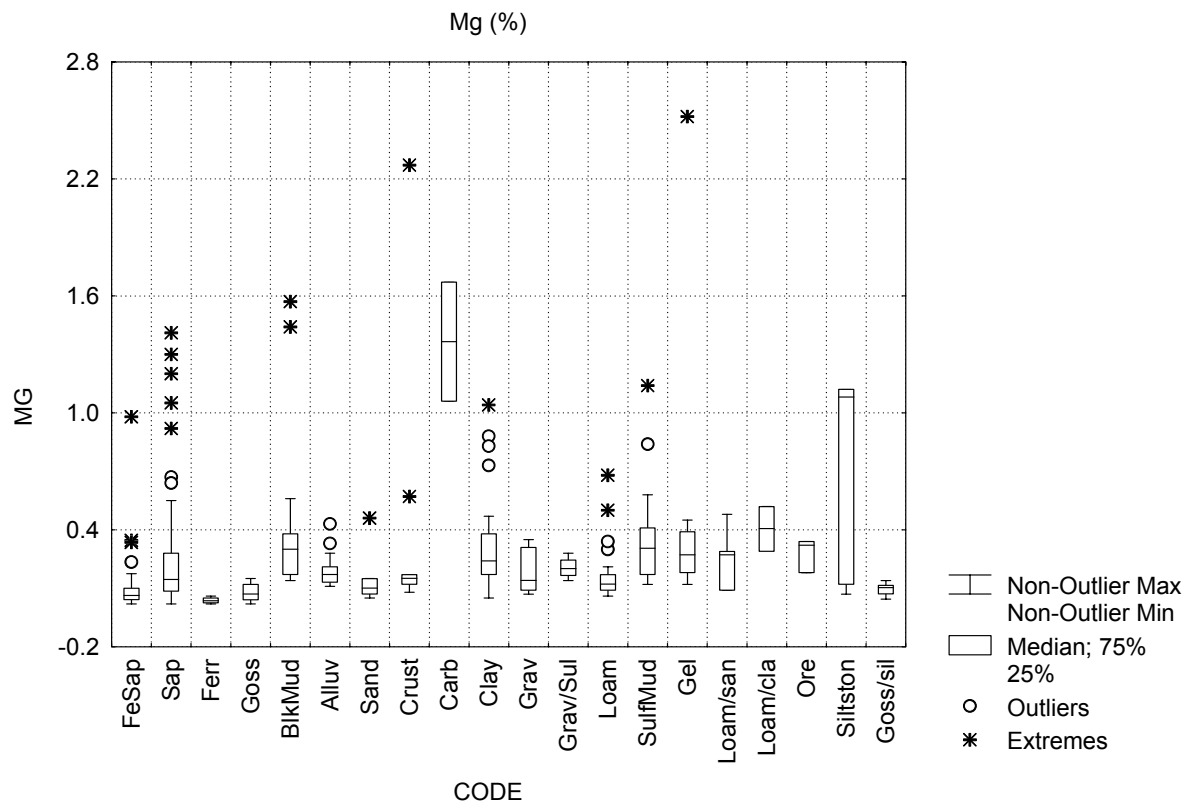


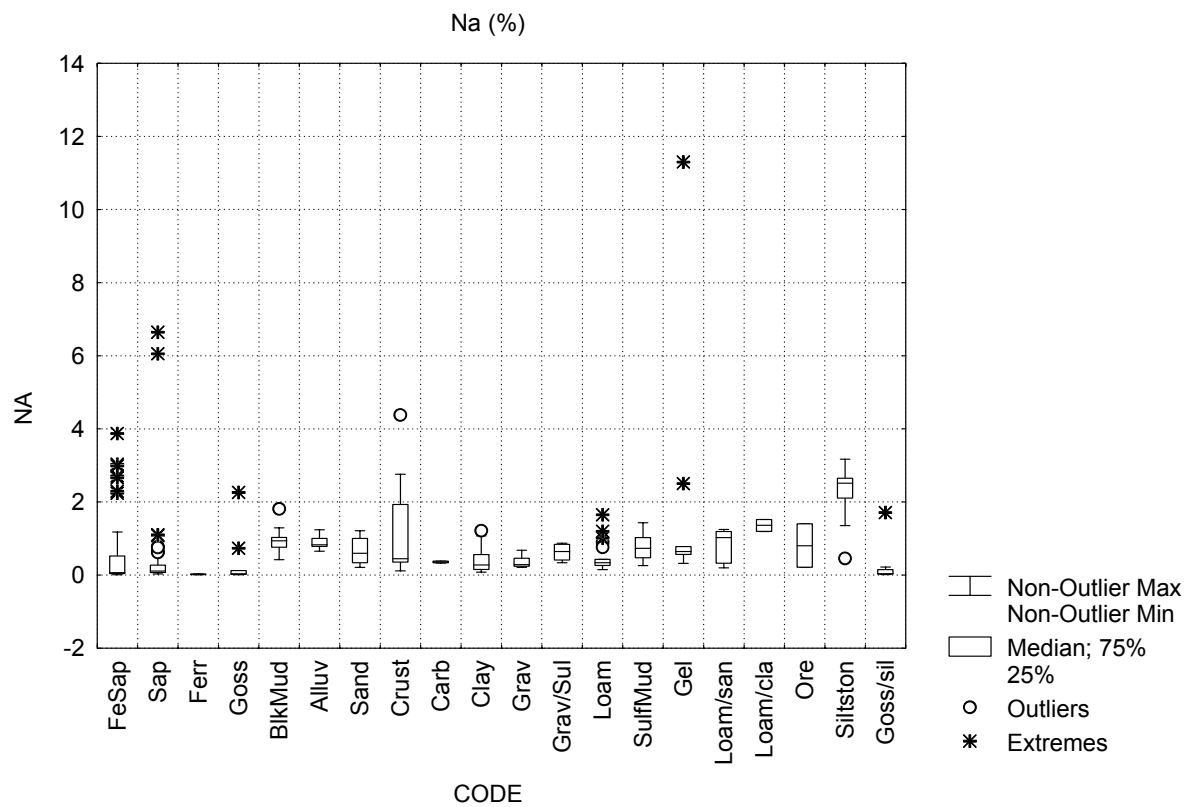
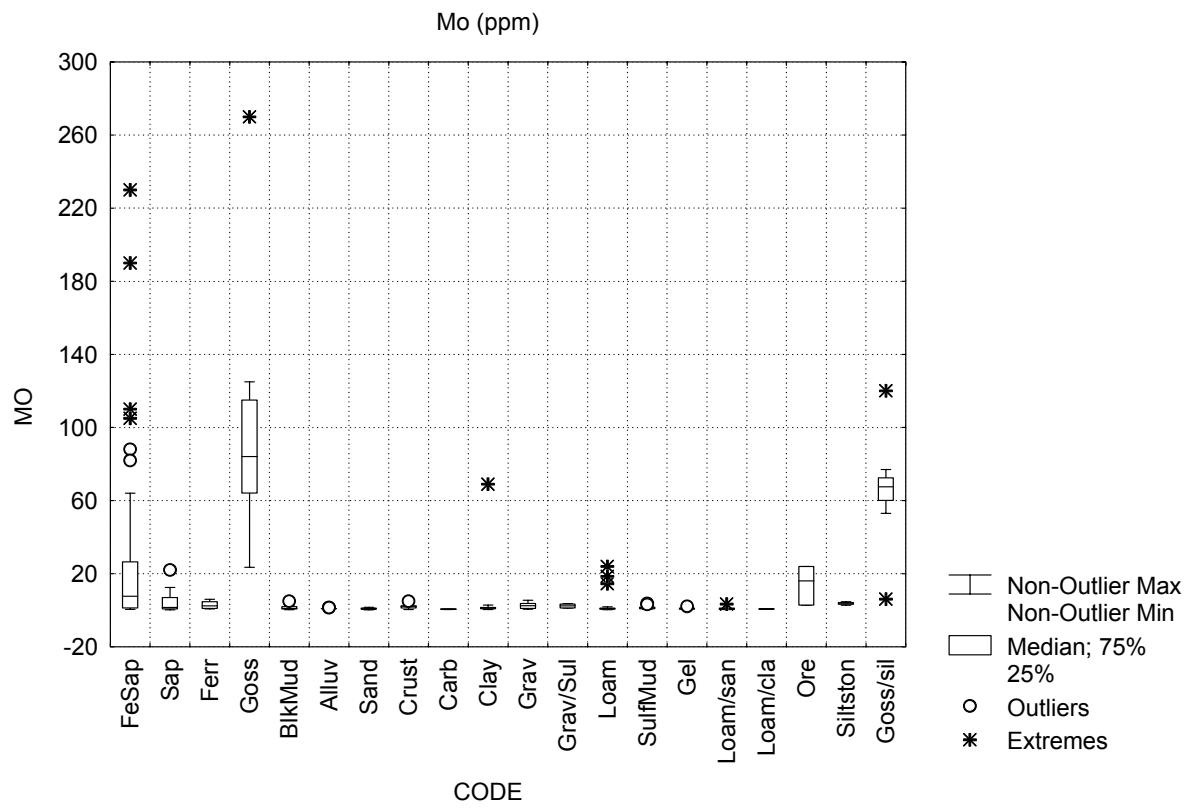


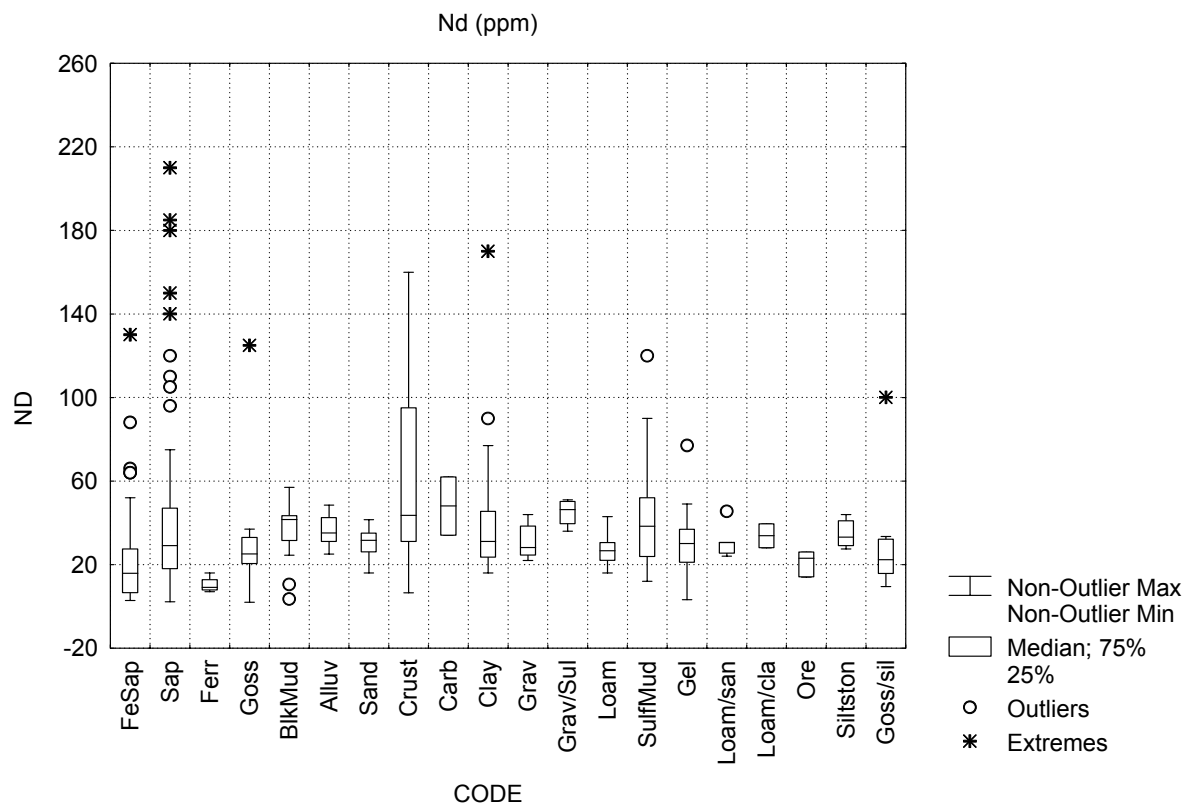
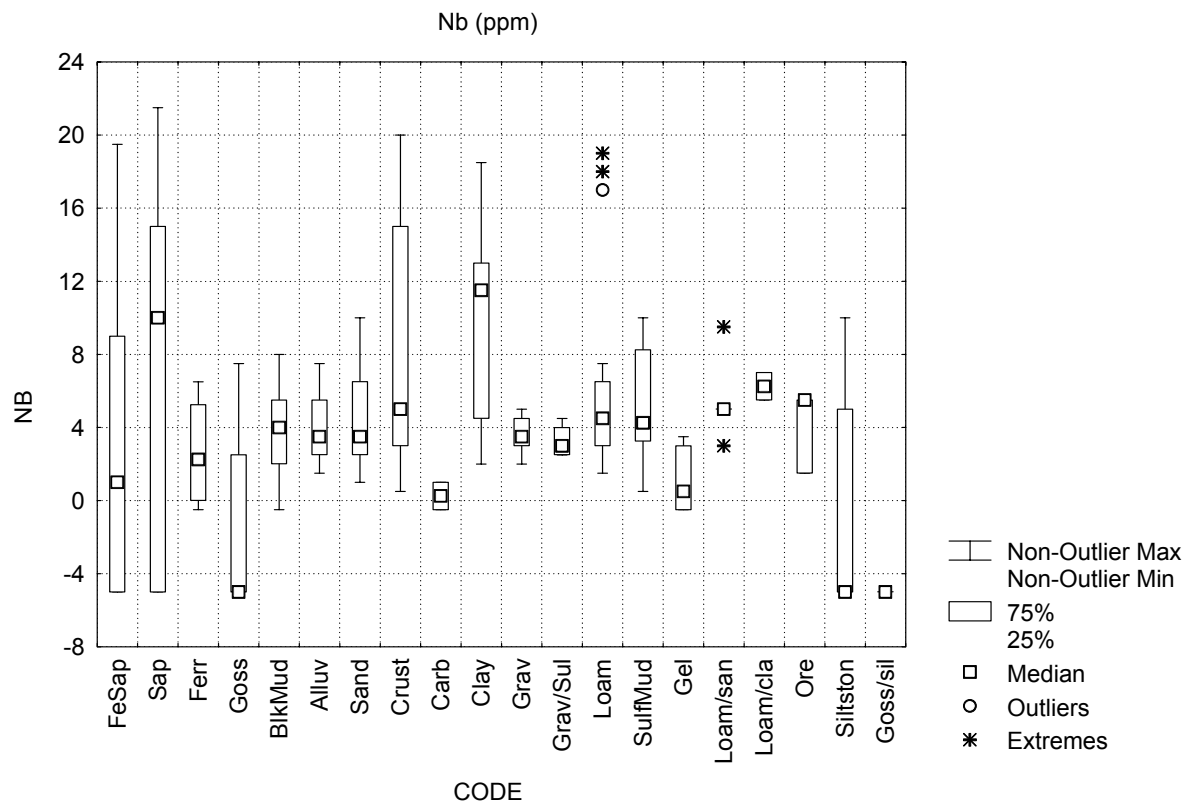


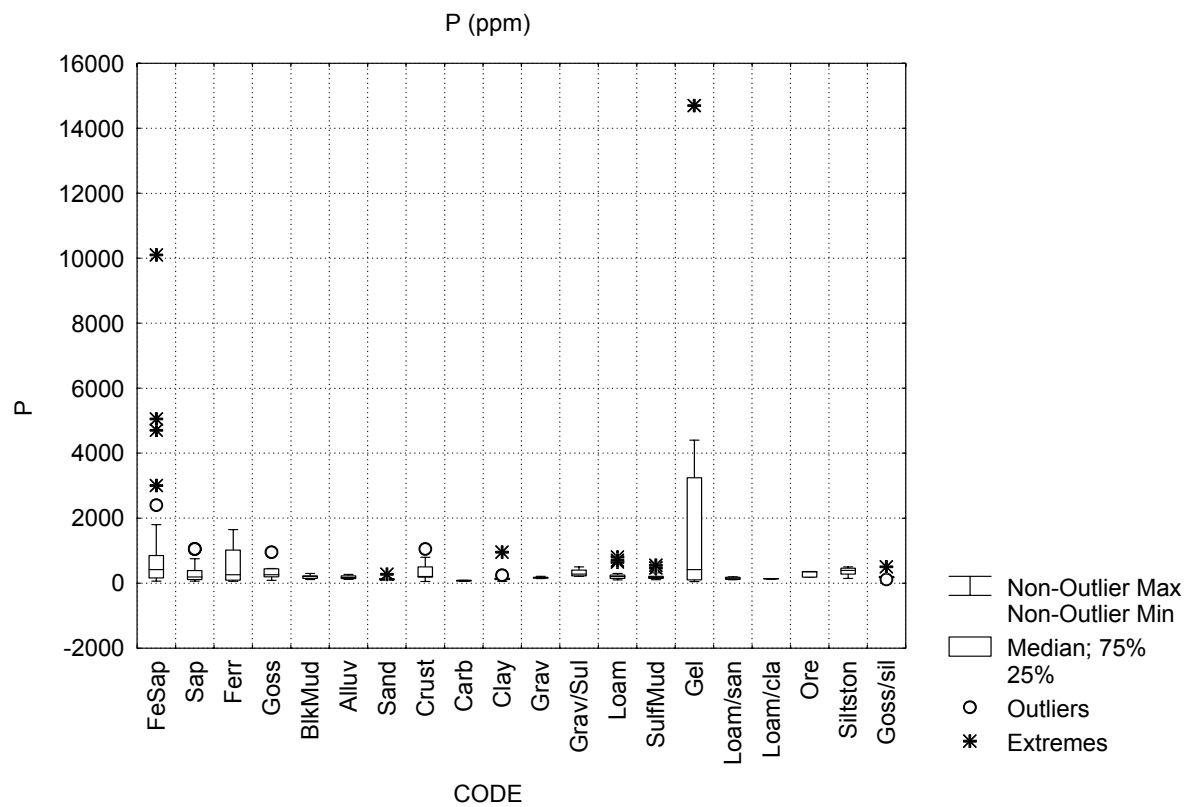
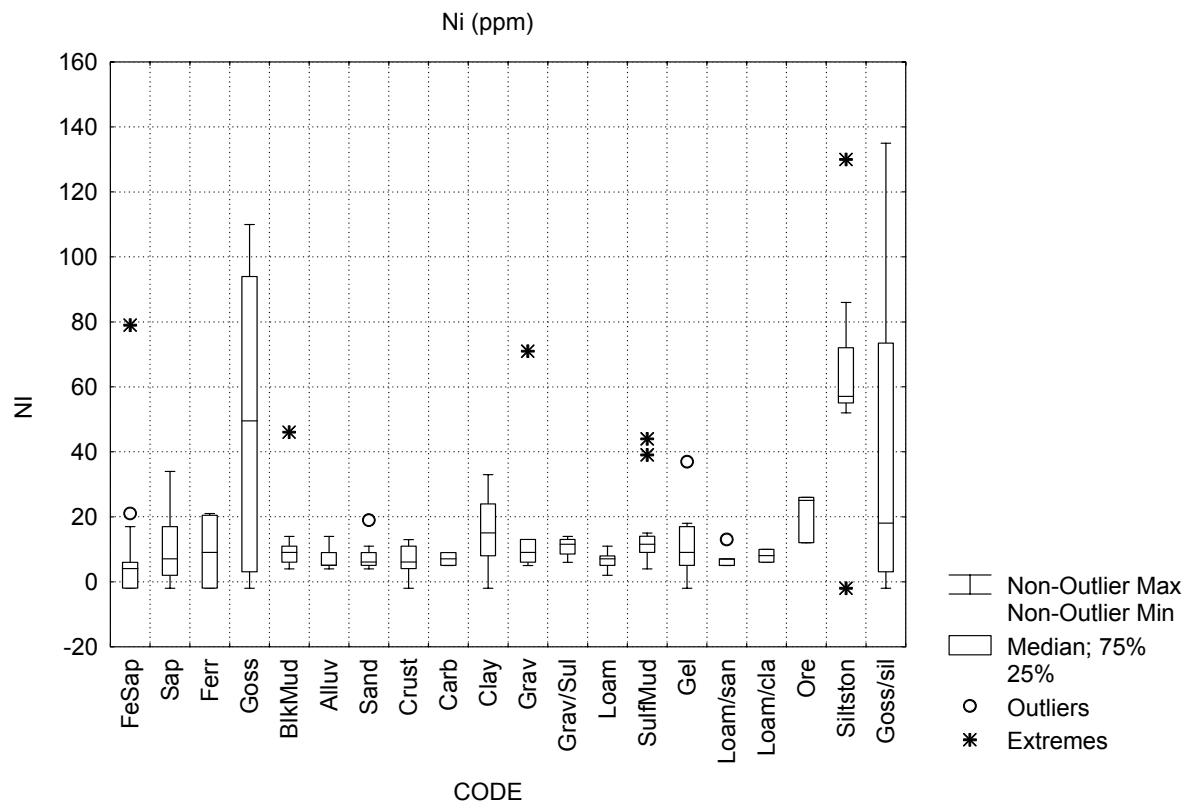


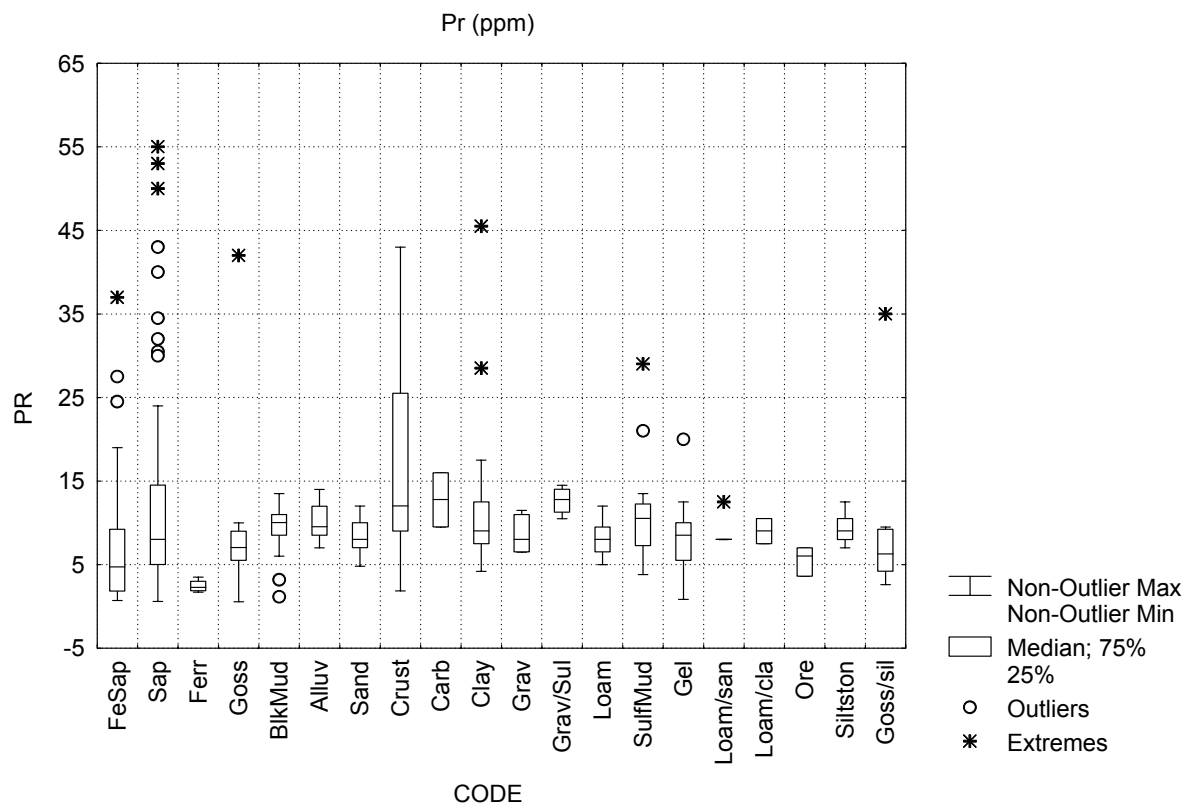
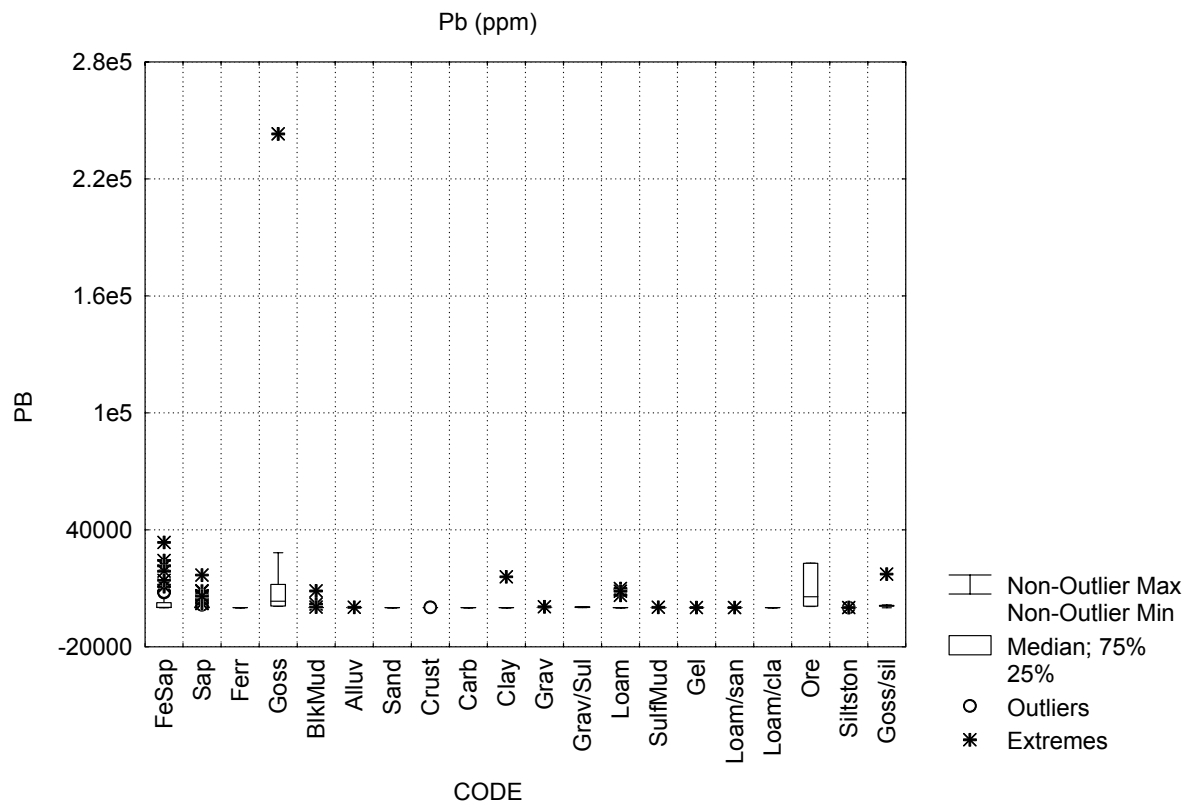


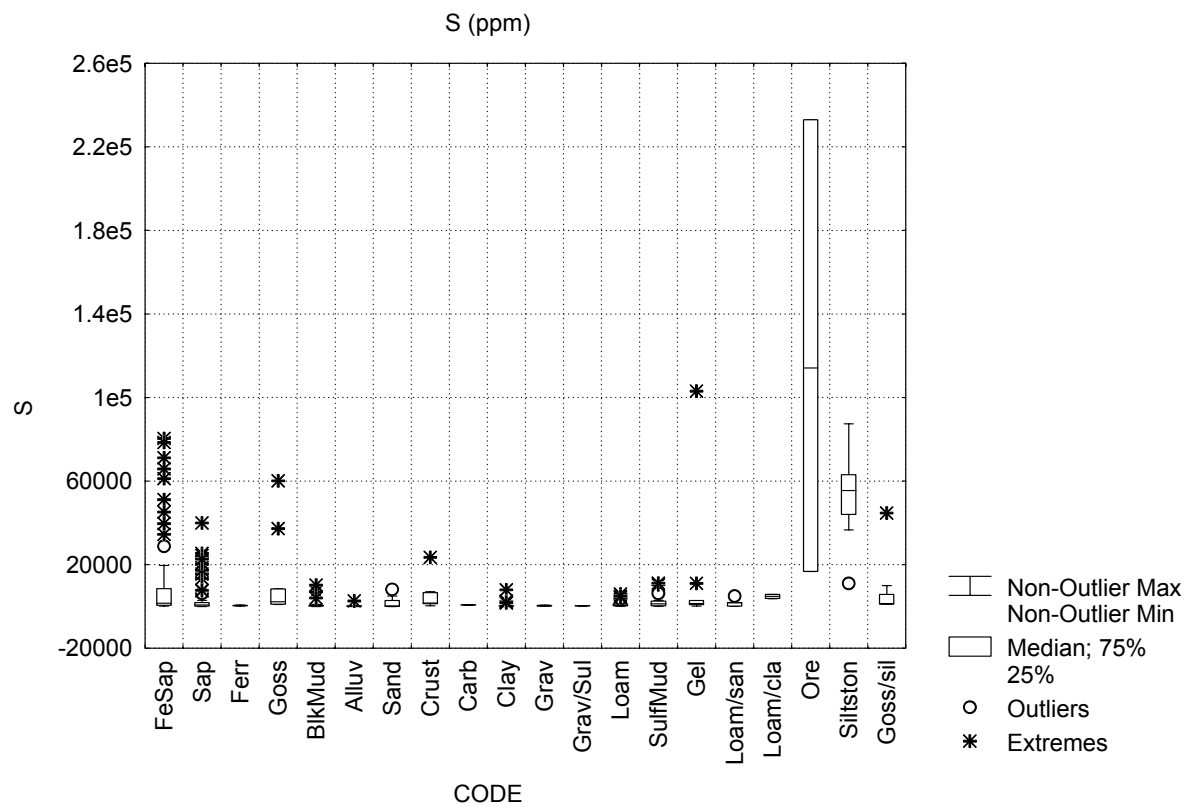
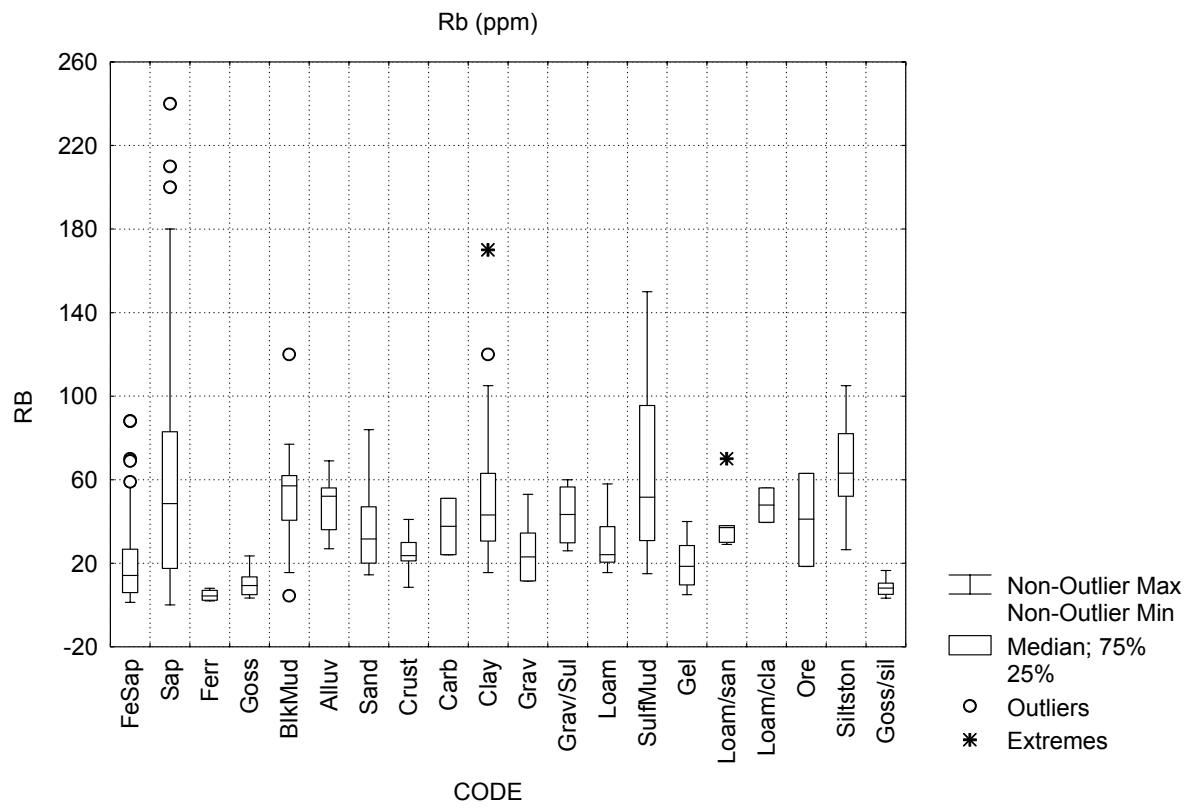


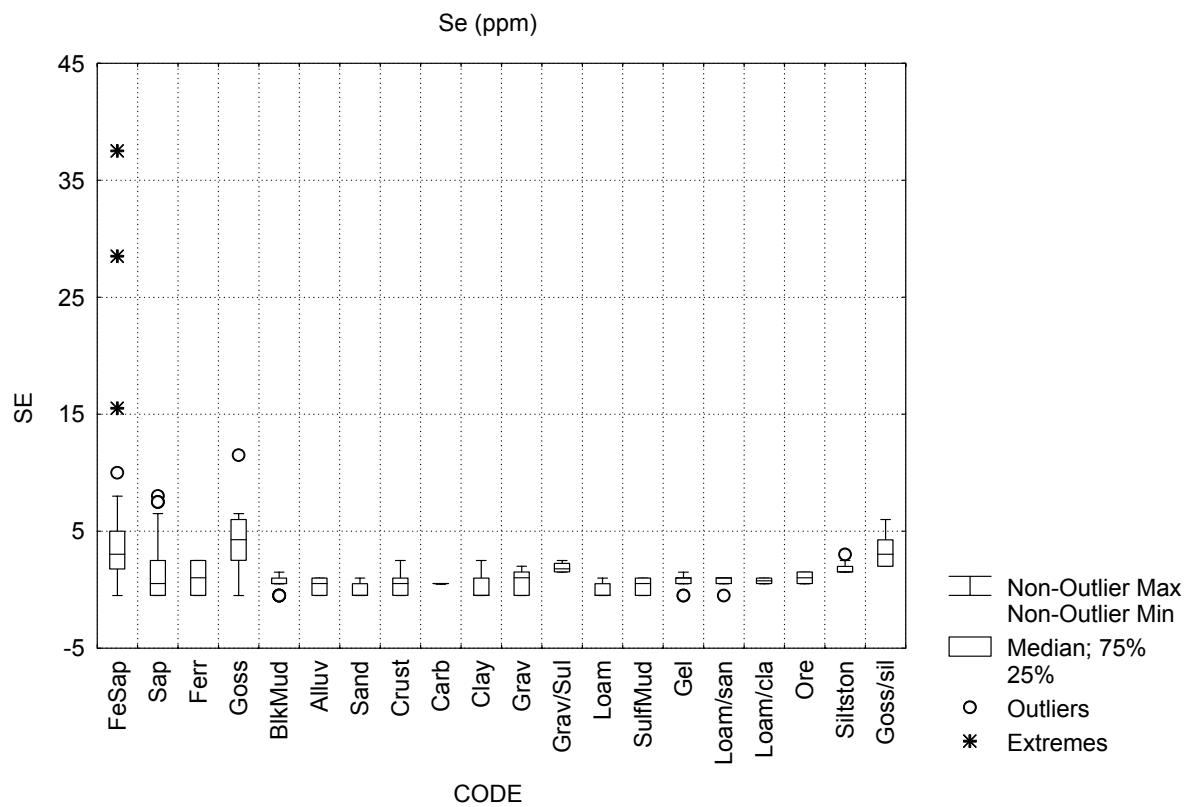
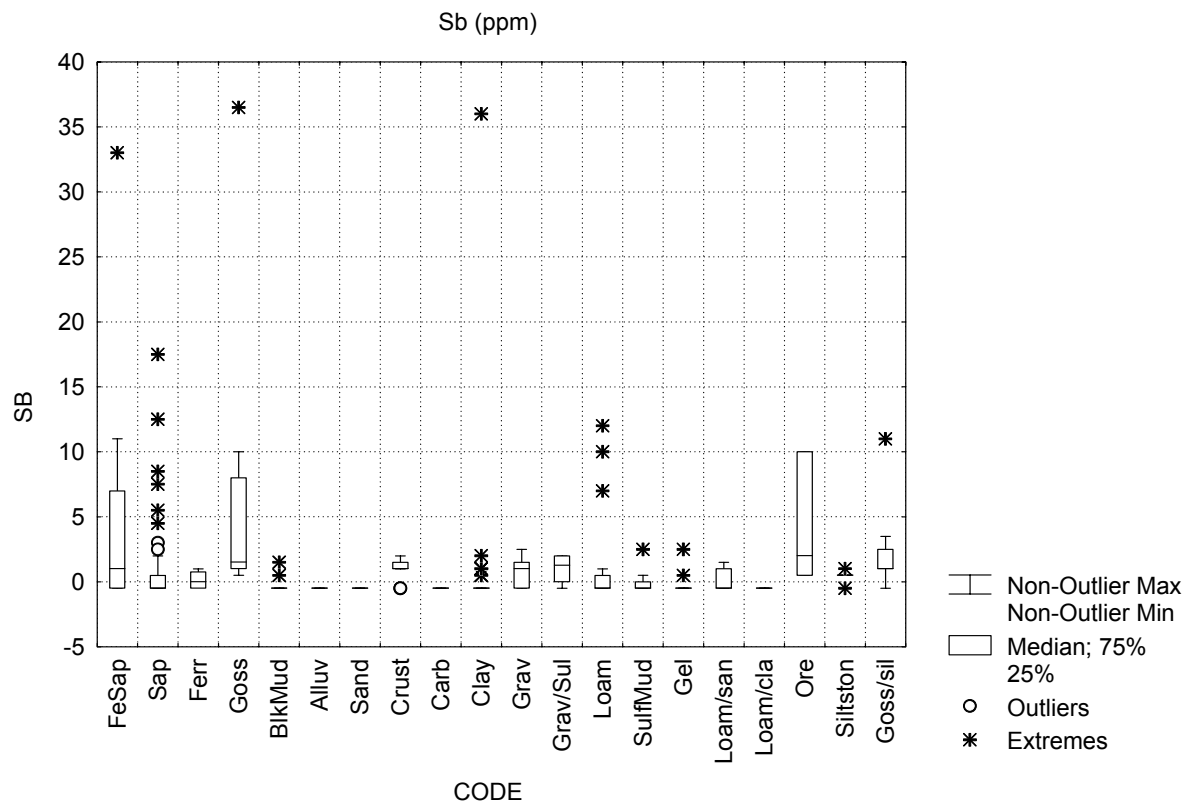


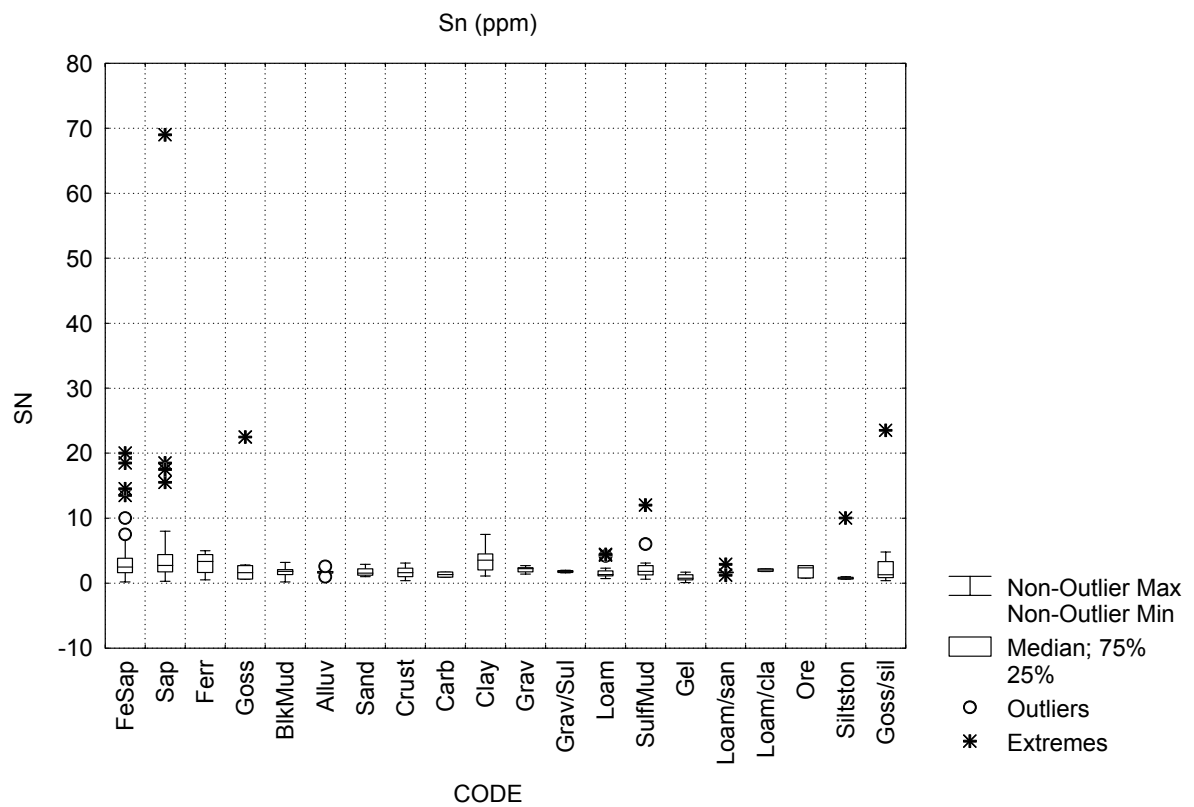
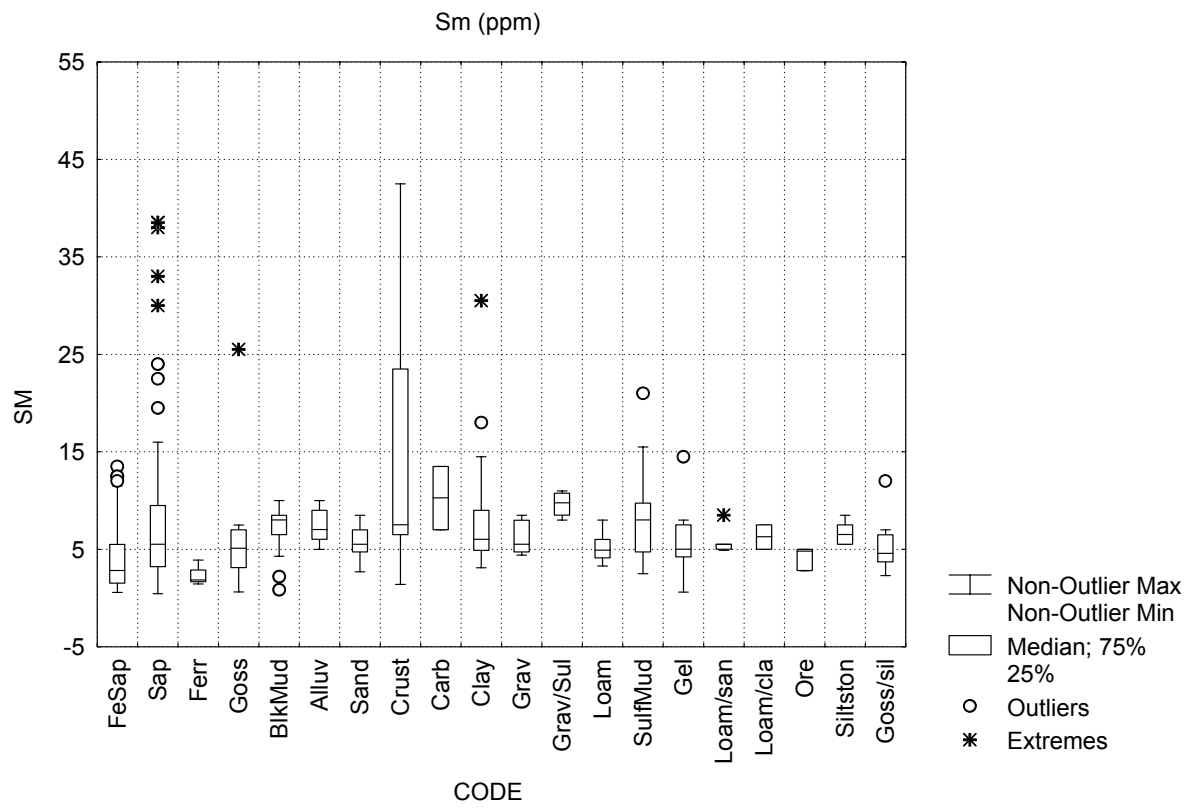


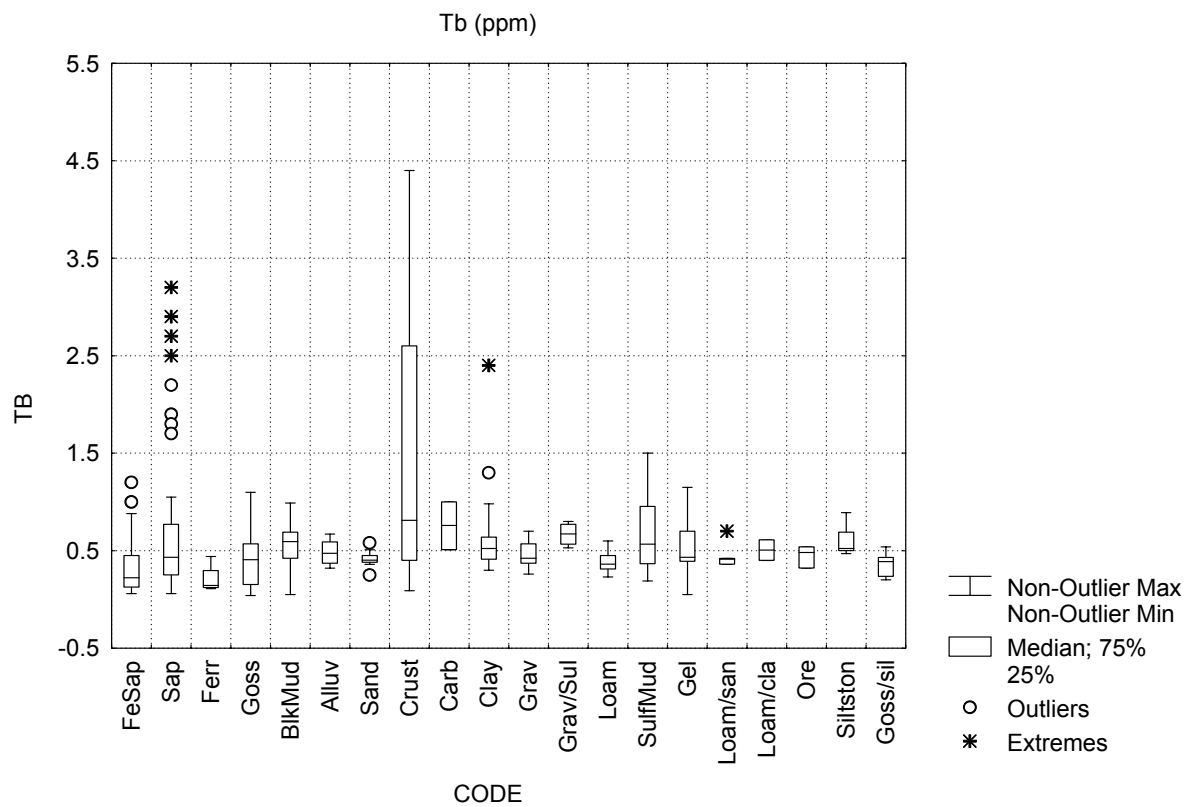
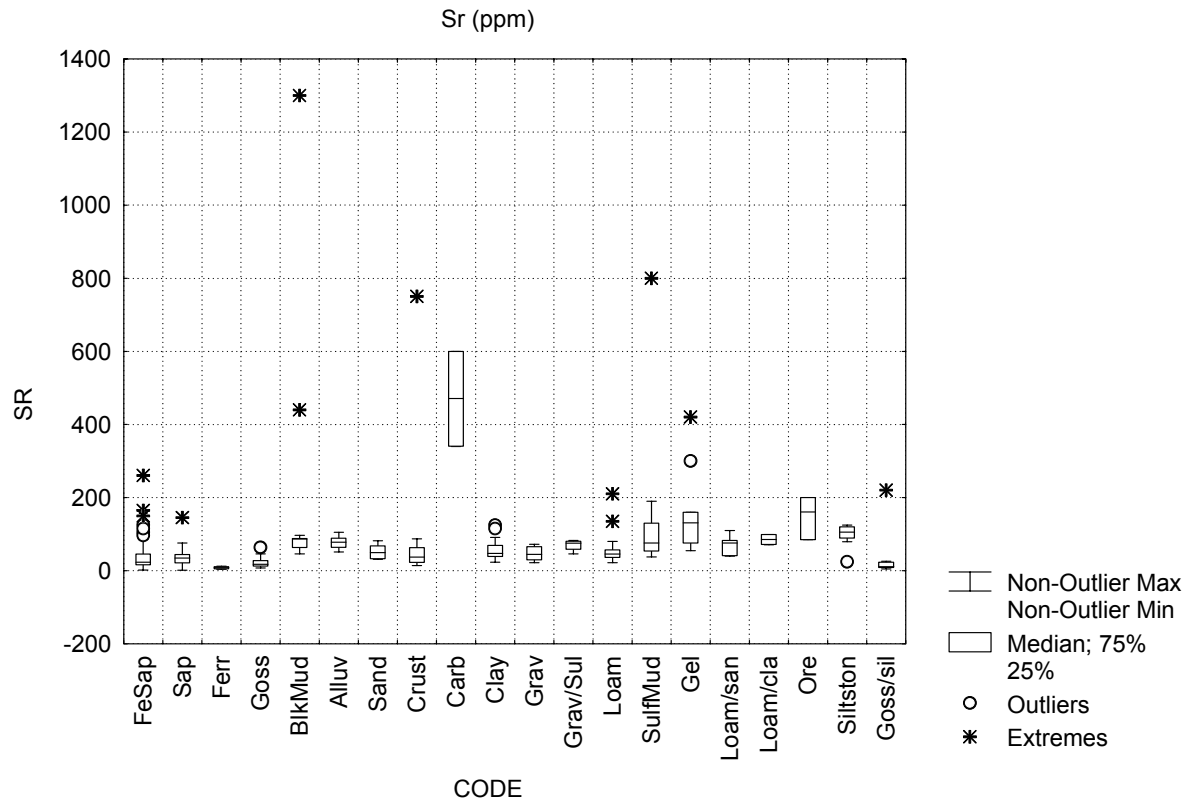


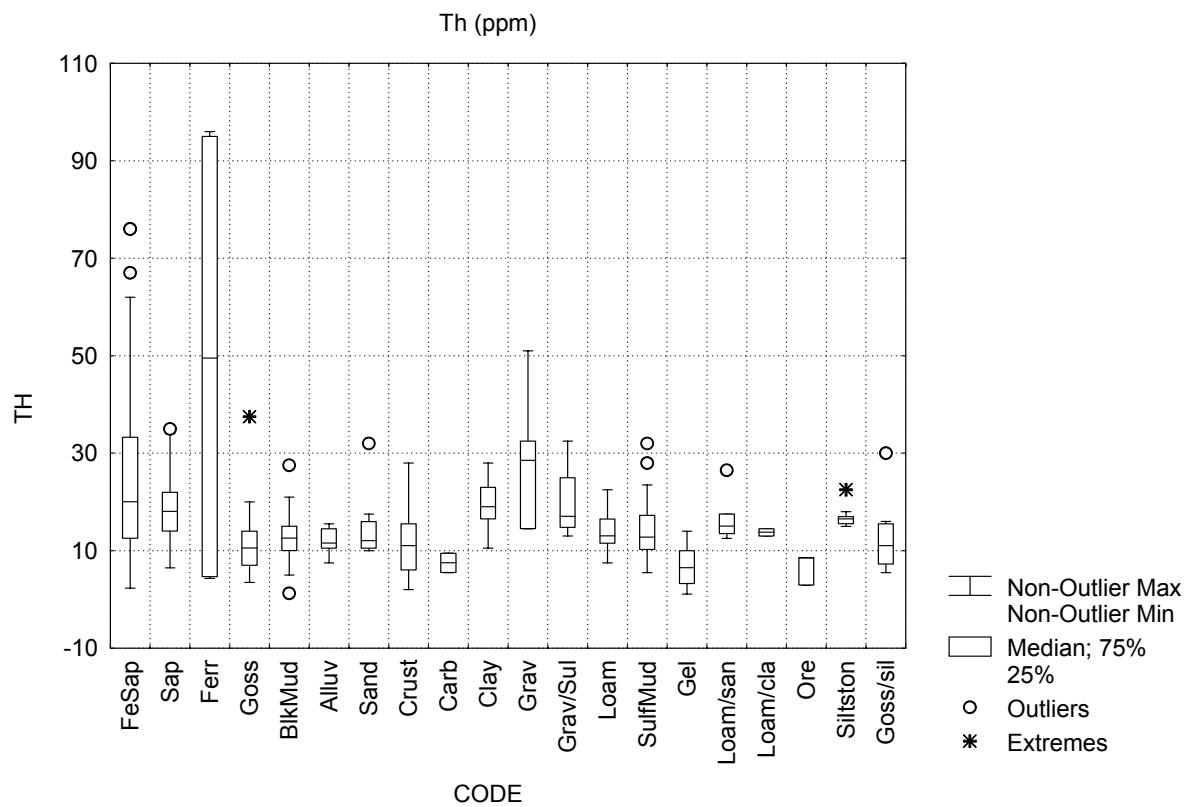
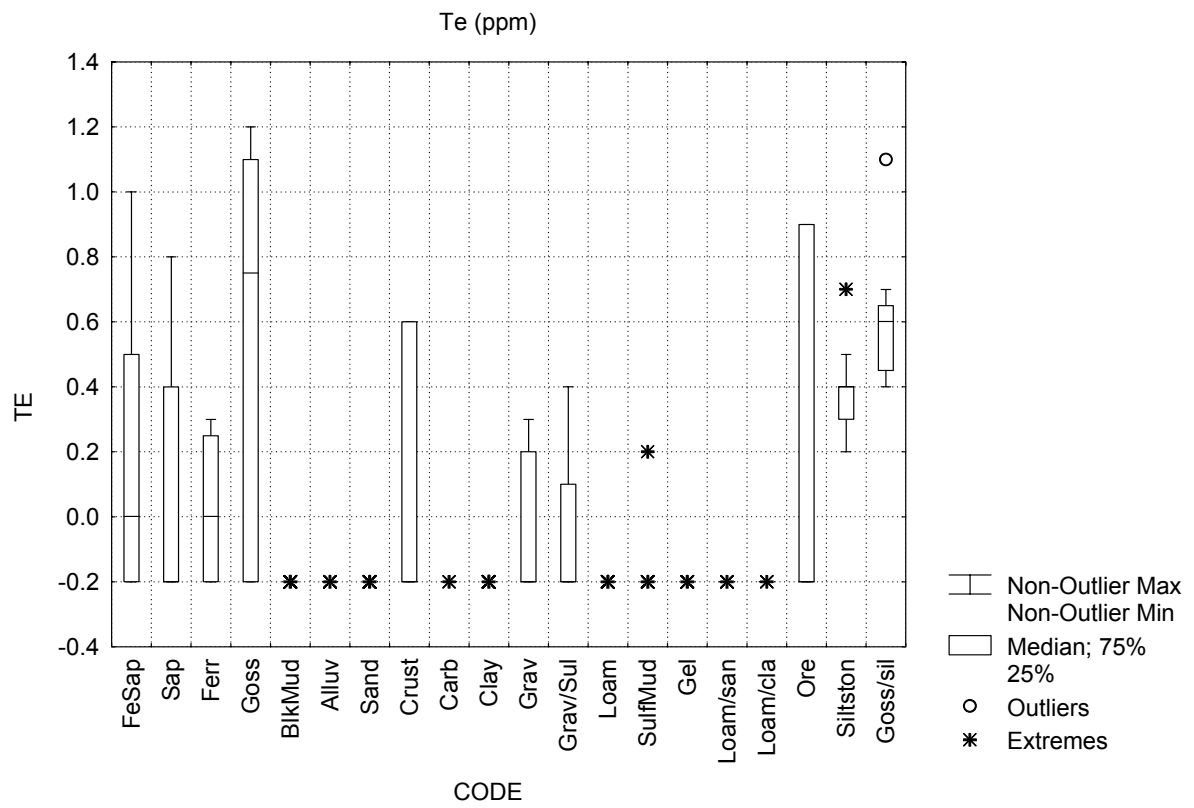


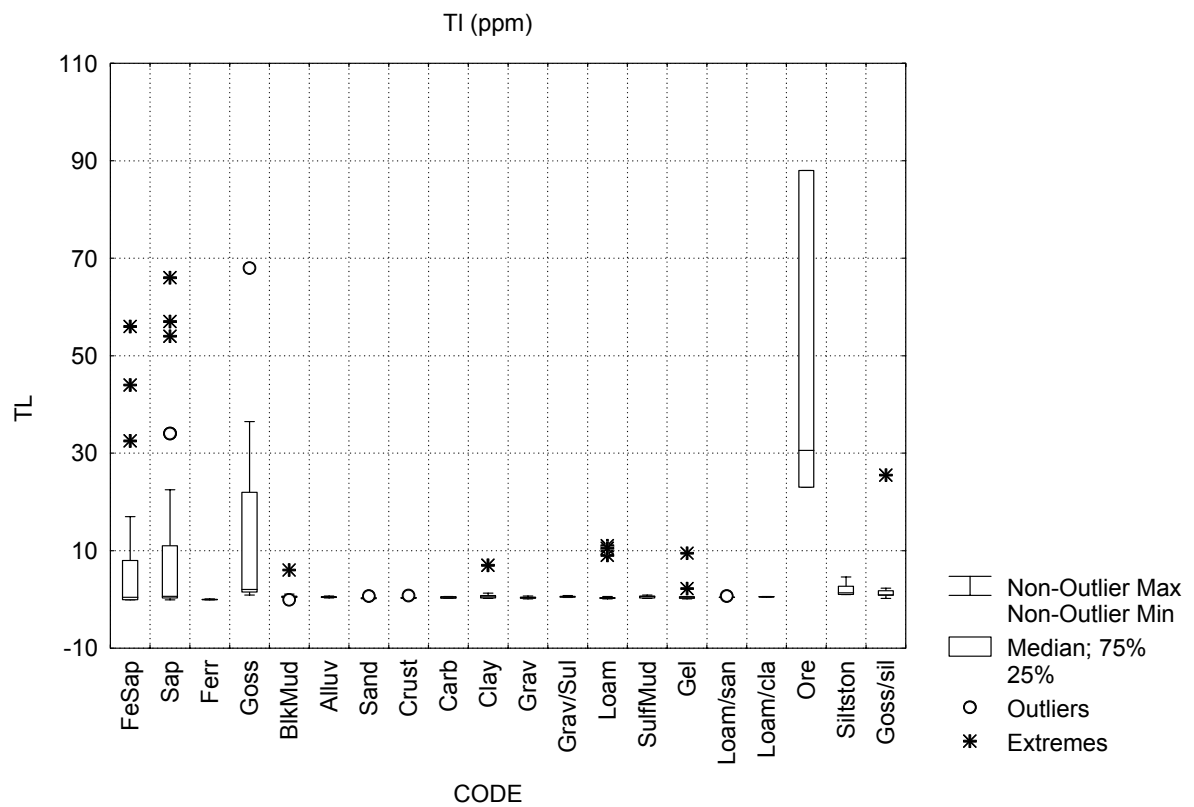
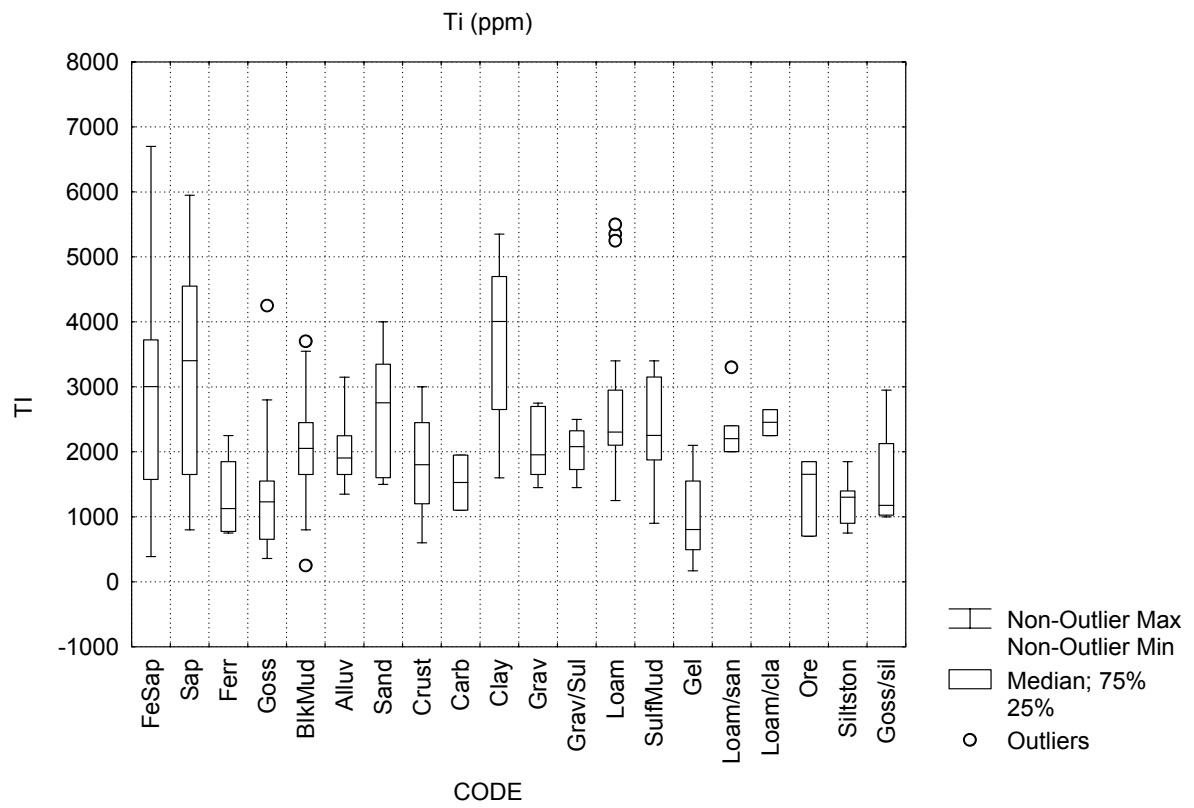


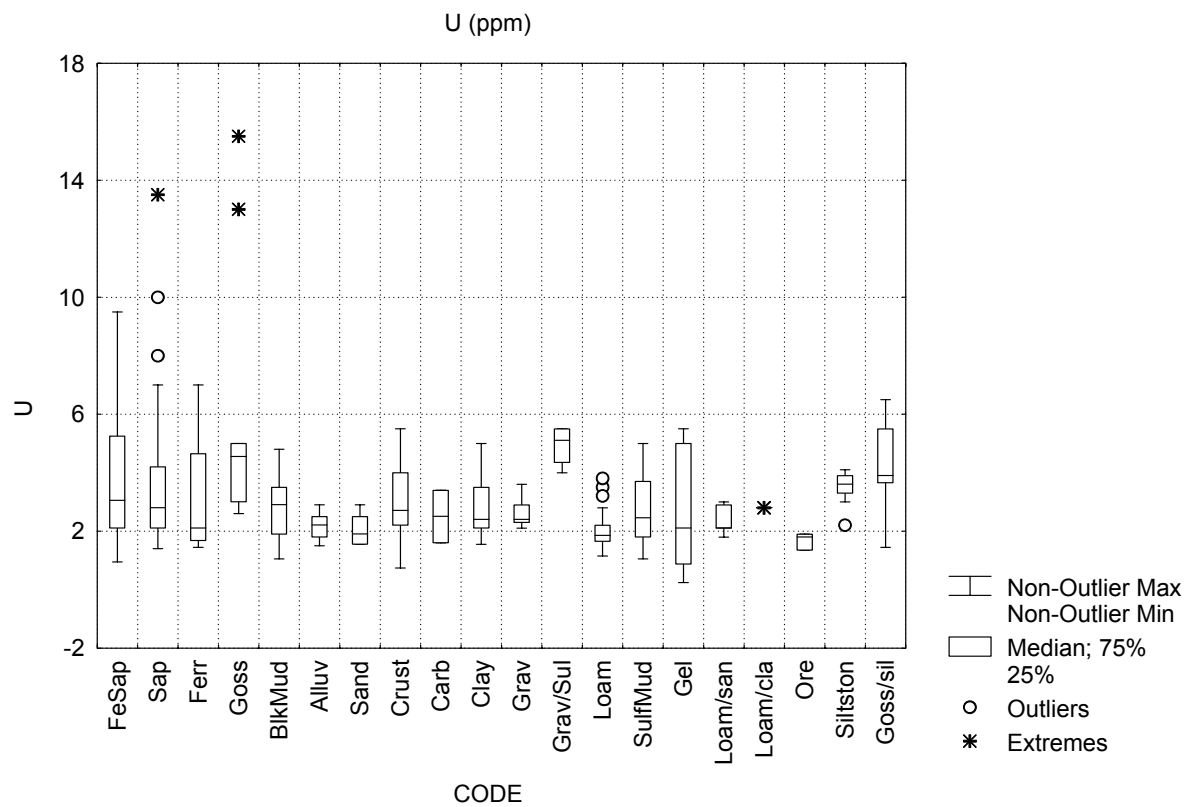
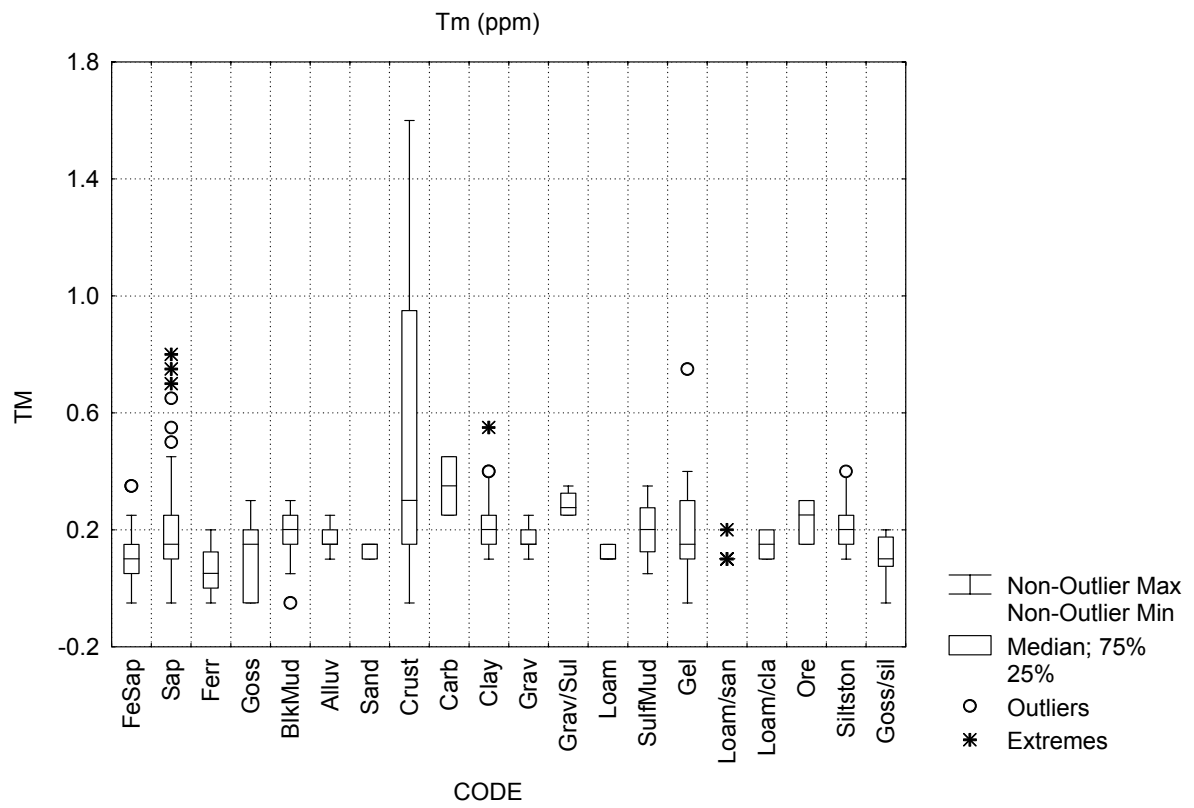


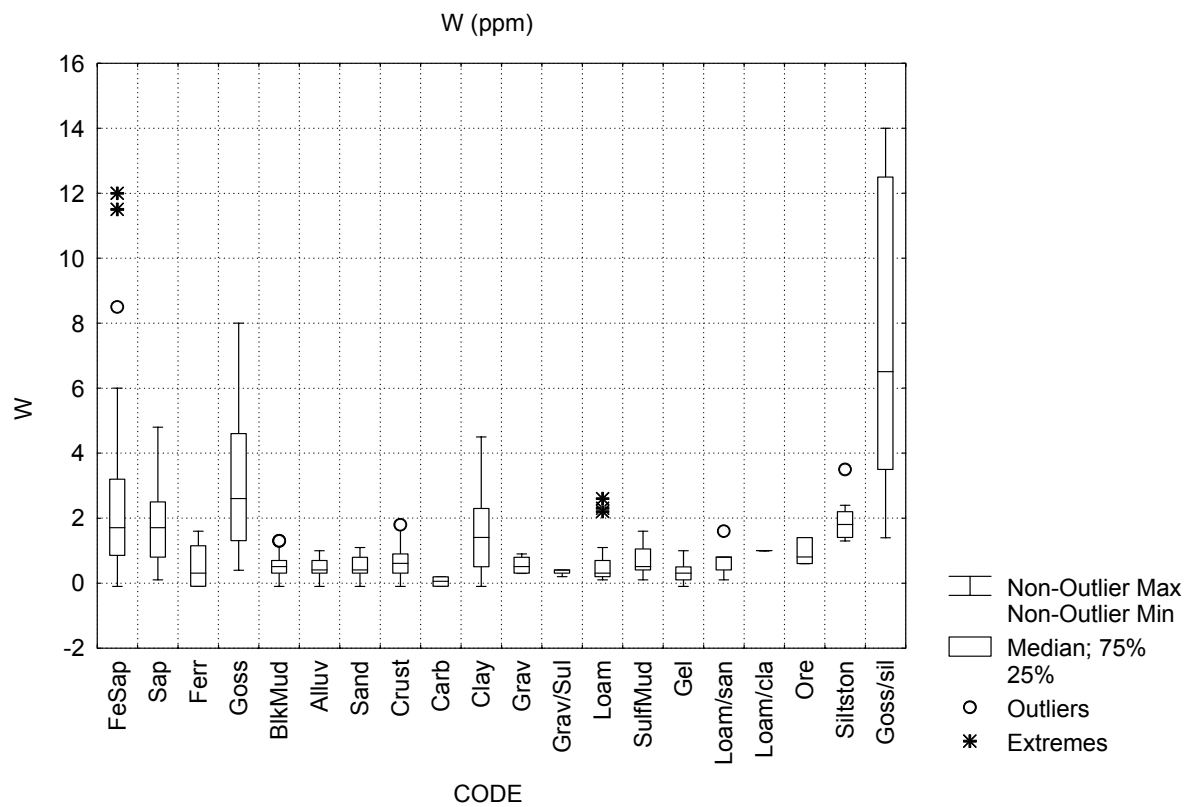
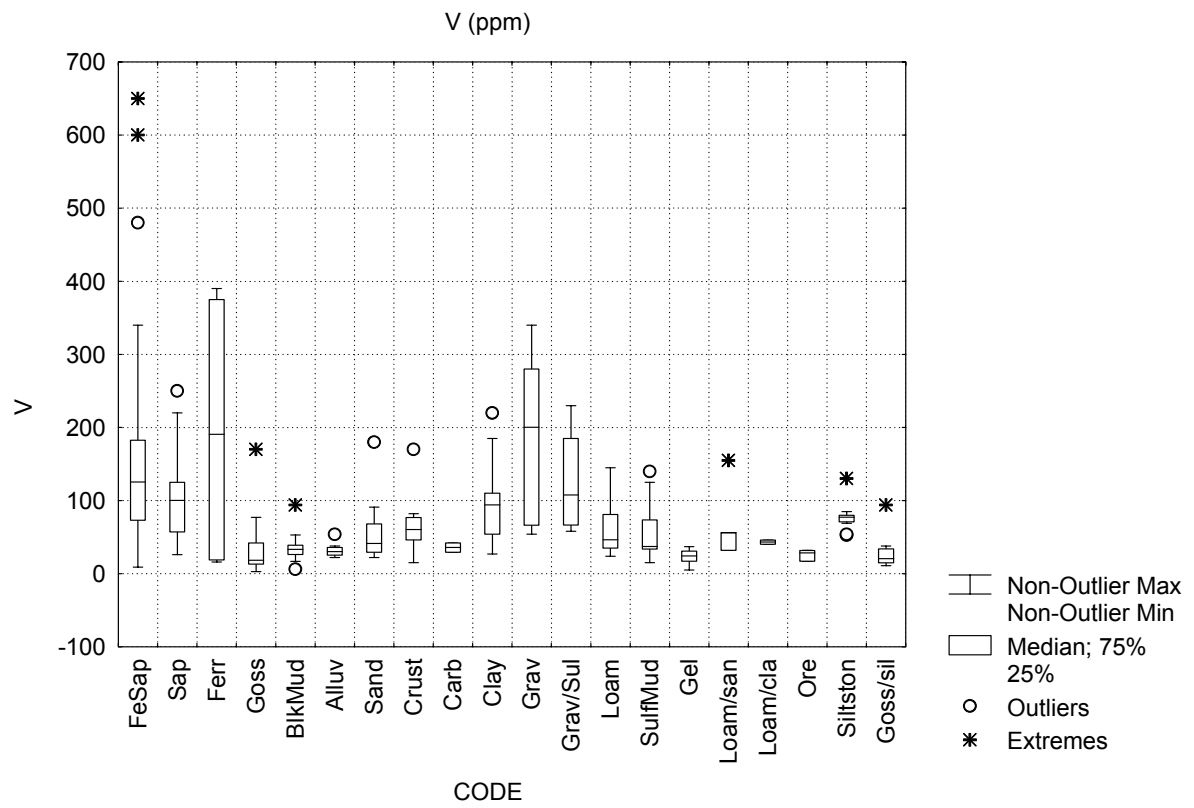


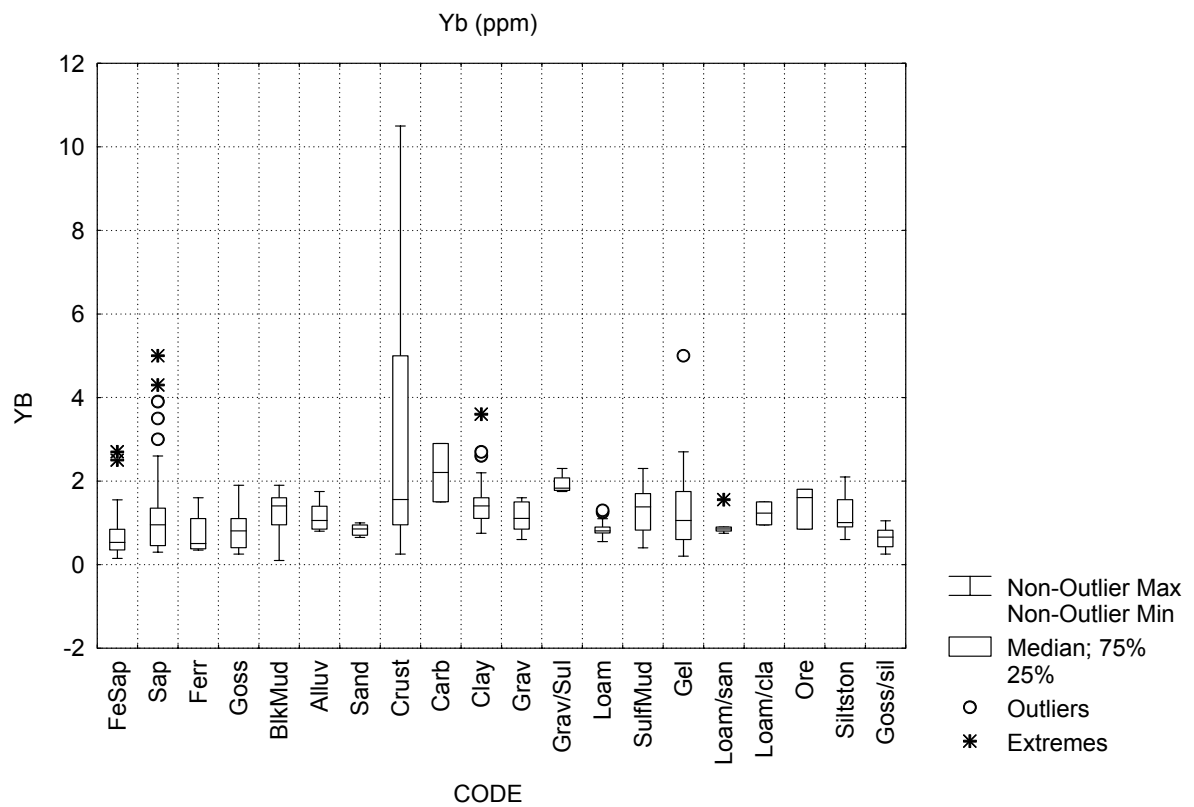
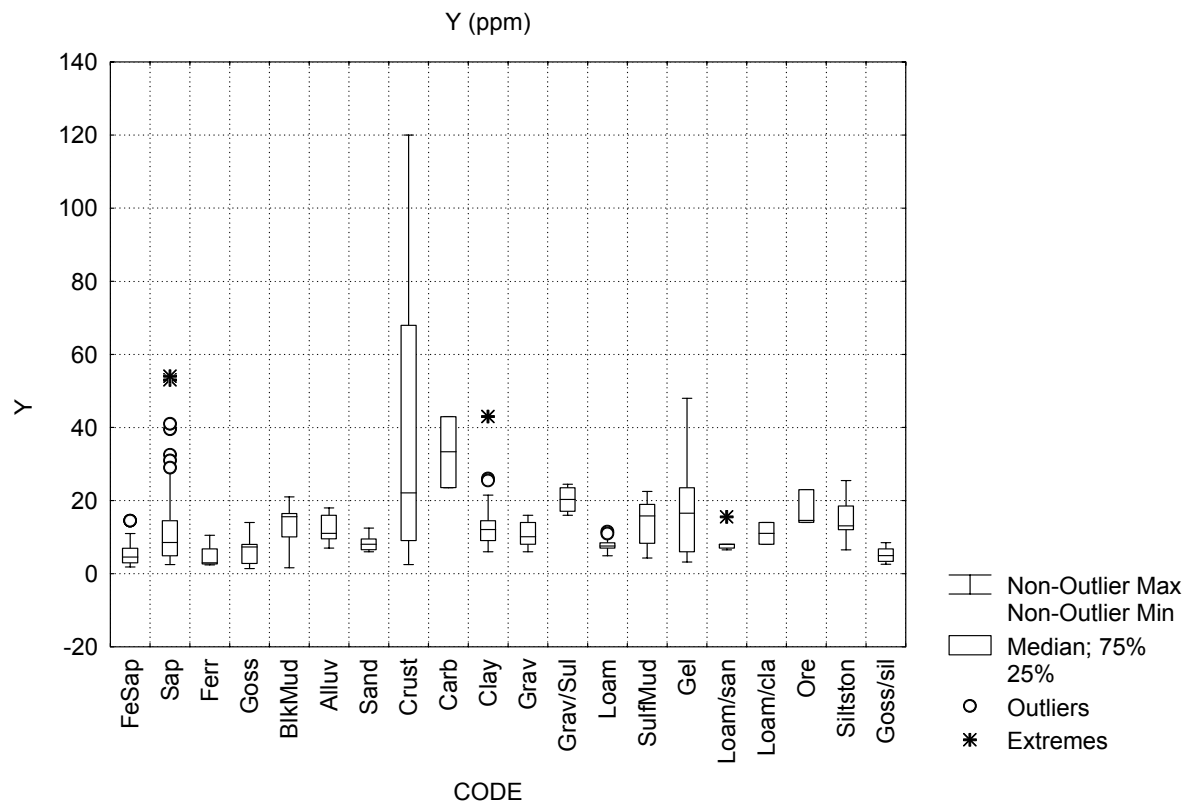


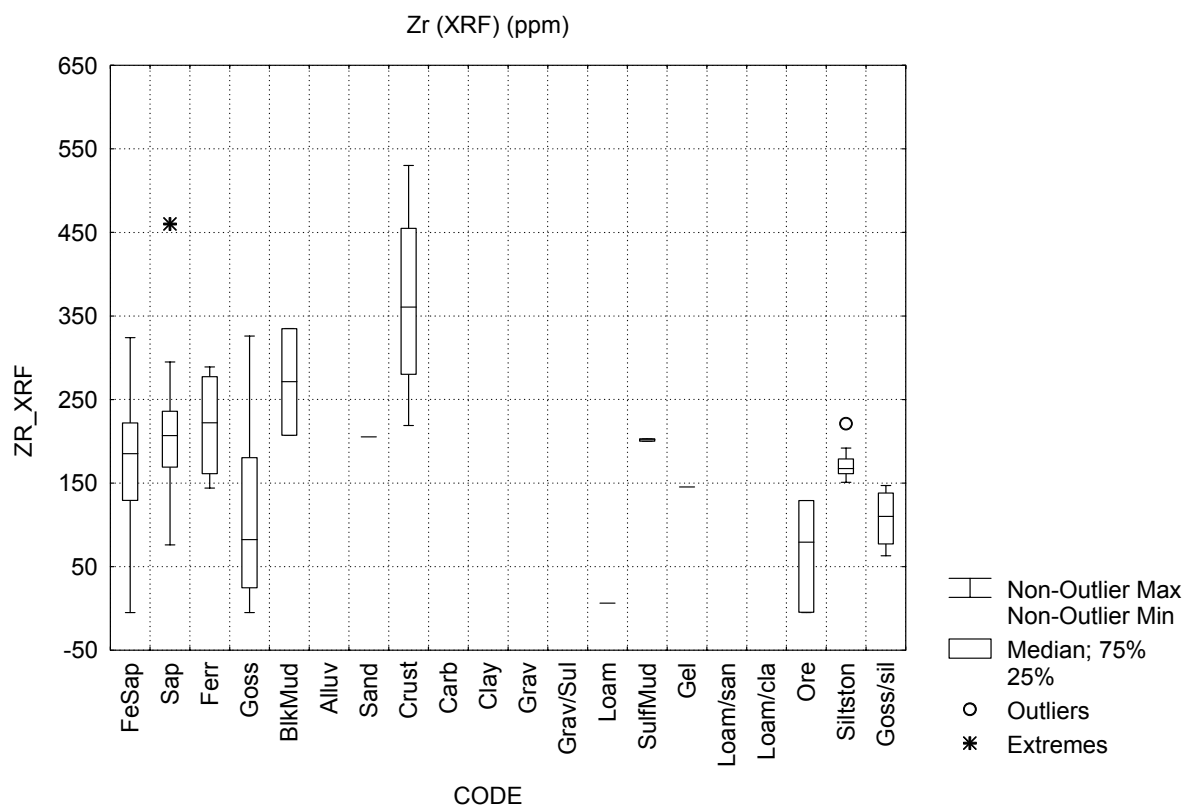
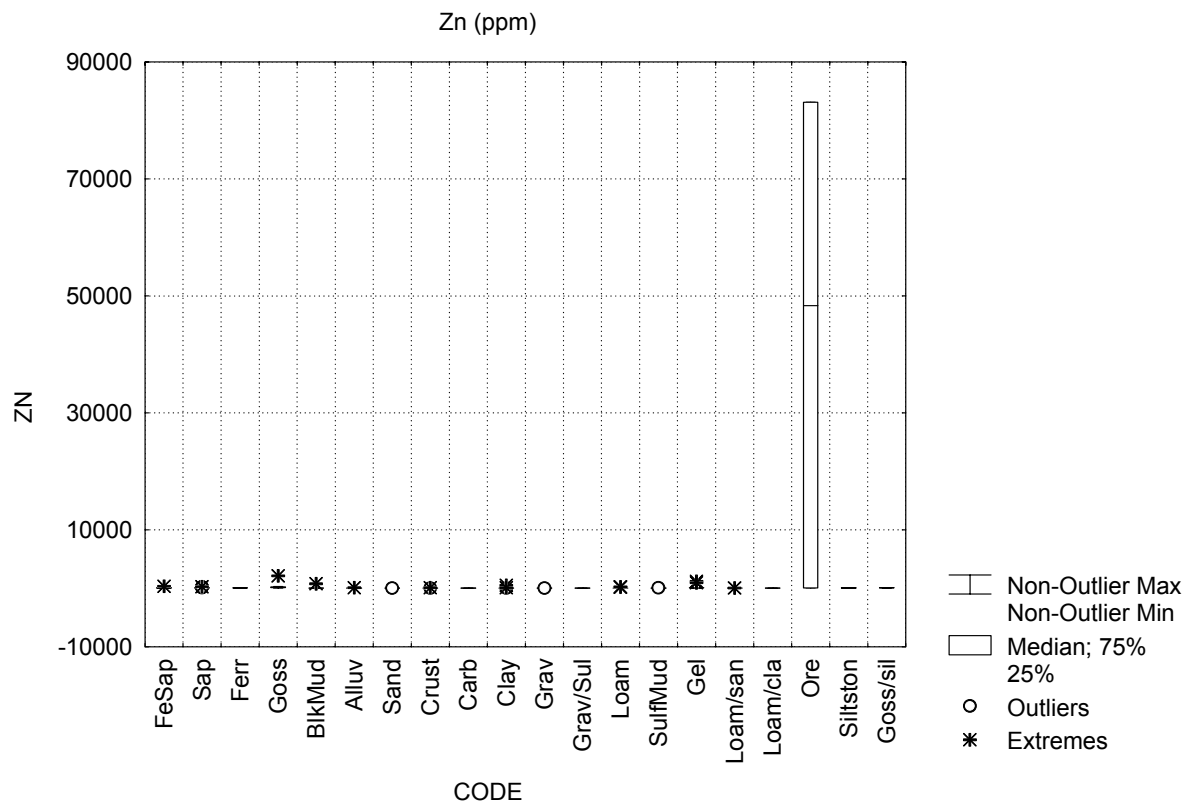


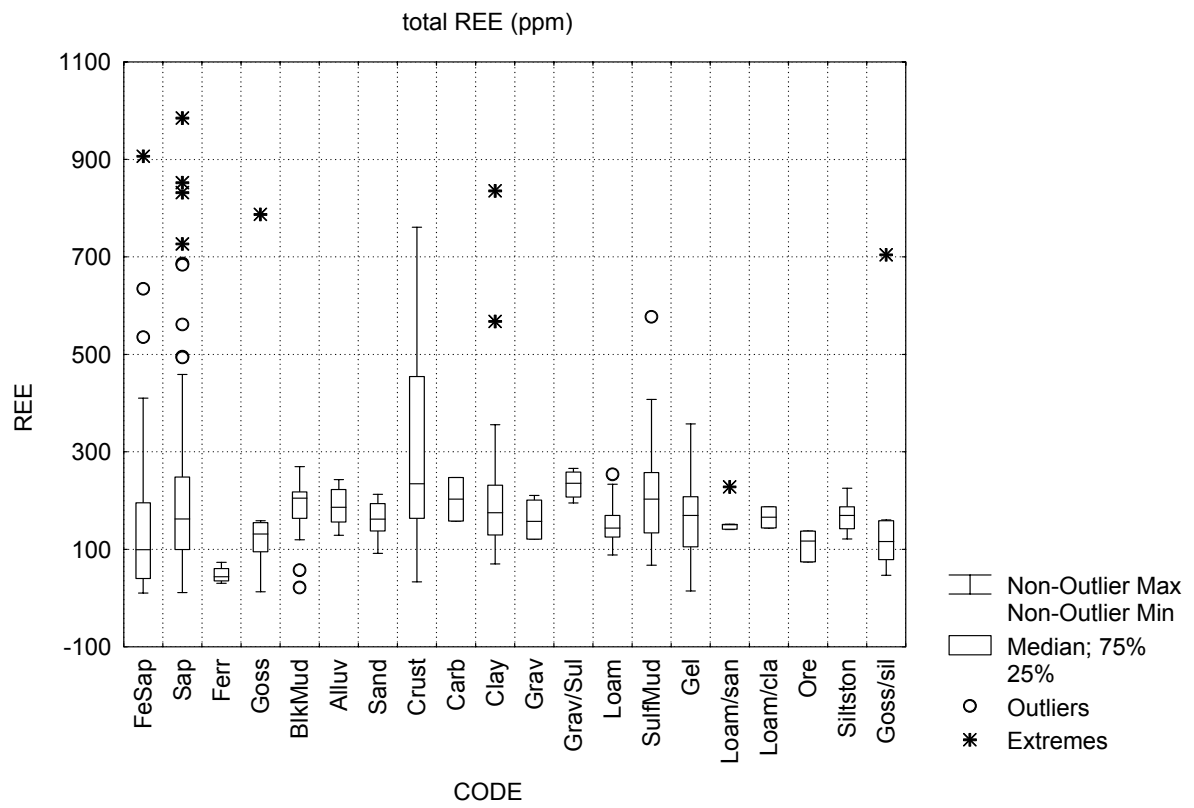












APPENDIX 9

Mass balance calculations

Units

SiO₂, TiO₂, Al₂O₃, Fe₂O₃, MnO, MgO, CaO, K₂O, Na₂O, P₂O₅, Al, Ca, Cl, Fe, K, Mg, Na and LOI –
g/100g

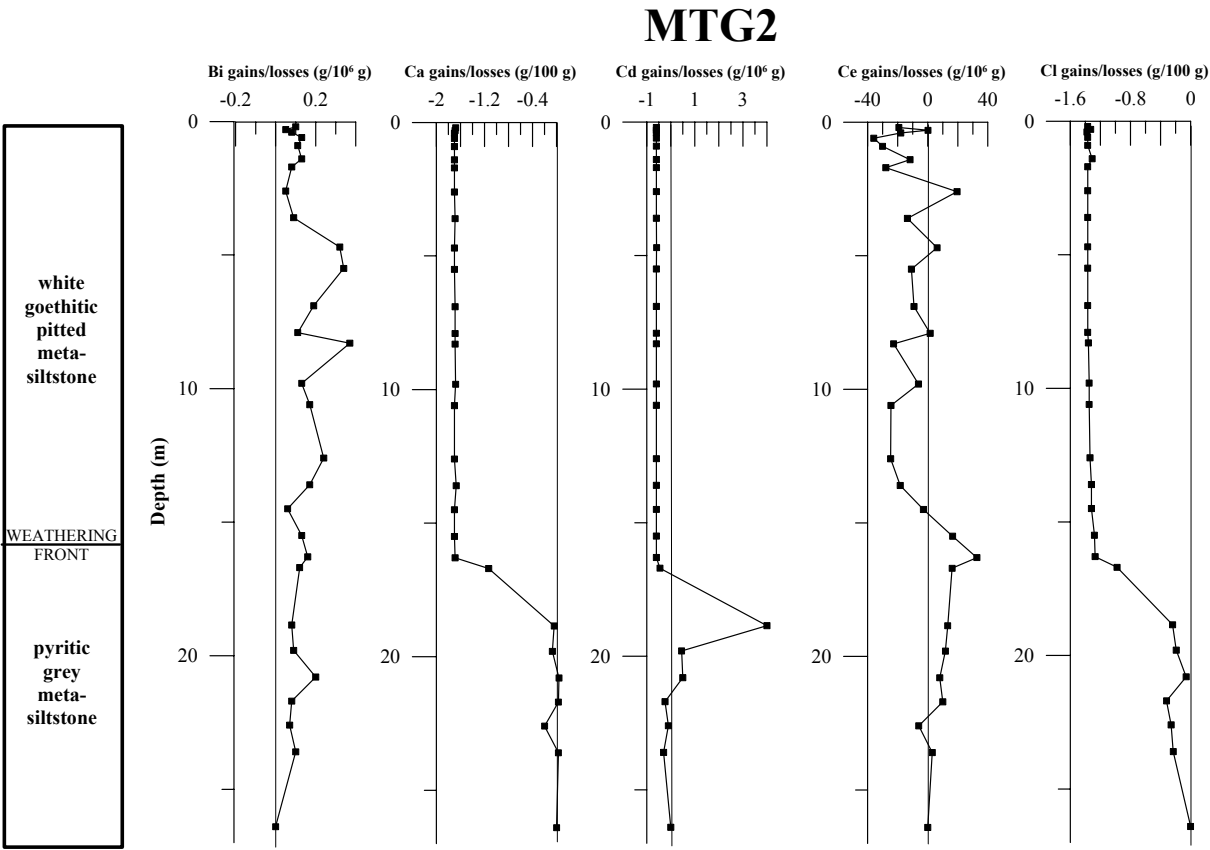
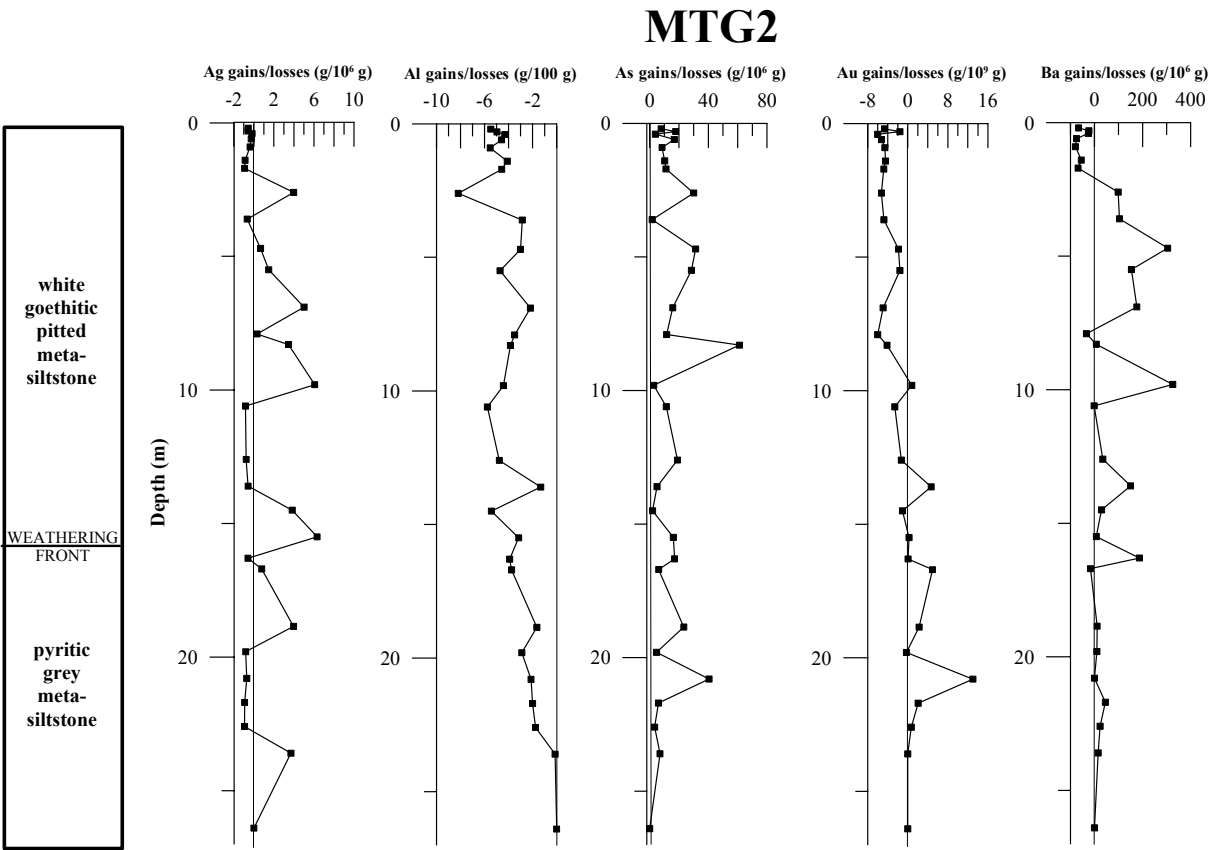
Au – g/10⁹g

Ag, As, Ba, Bi, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Ga, Gd, Hf, Hg, Ho, In, La, Lu, Mn, Mo, Nb, Nd,
Ni, P, Pb, Pr, Rb, S, Sb, Se, Sm, Sn, Sr, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr –
g/10⁶g

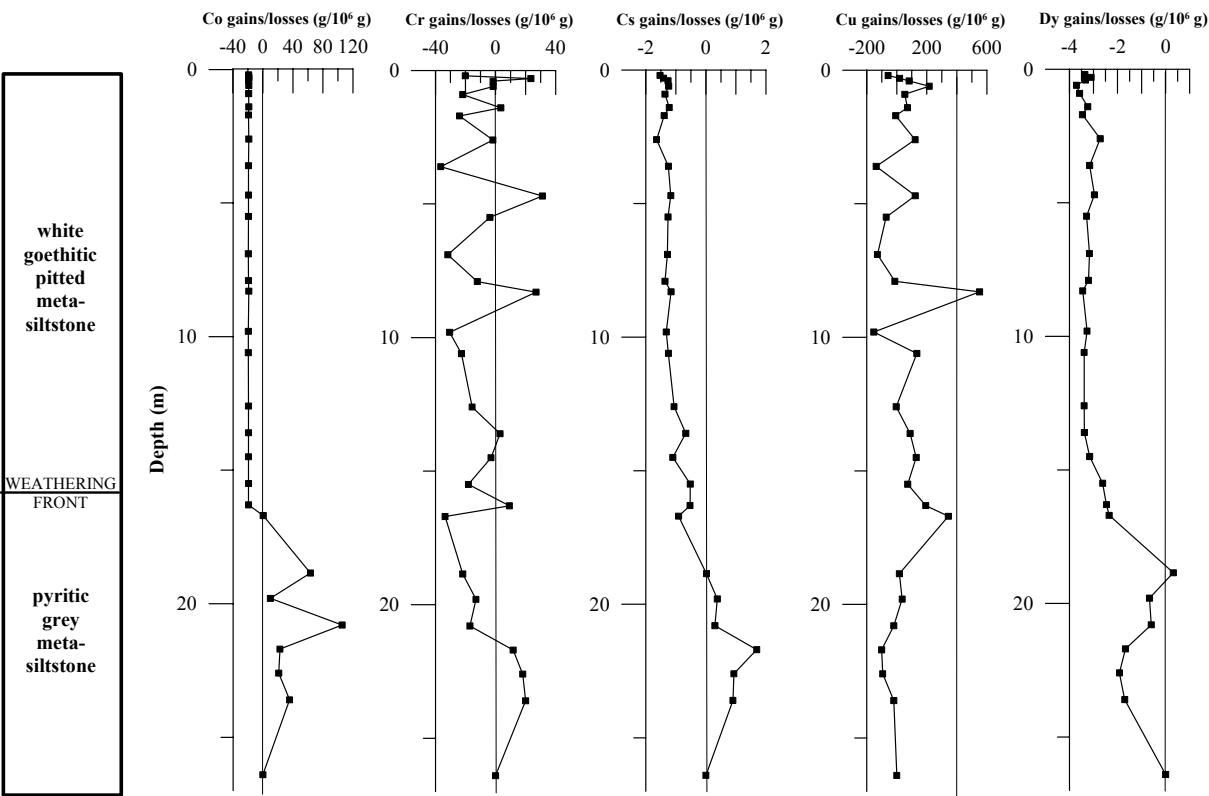
Samp_id	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hf	Ho	In	K	La	Lu	Mg
MT1168	-57.35	-3.36	-1.96	-0.78	1.83	-3.47	-3.74	0.71	-0.68	-0.0016	-1.01	-8.59	-0.24	-1.02
MT1169	18.49	-3.1	-1.89	-0.63	7.95	-0.75	-2.99	0.22	-0.67	-0.0013	0.03	-0.39	-0.25	-0.87
MT1170	82	-3.33	-1.75	-0.79	5.46	3.24	-3.84	0.76	-0.7	-0.0004	-1.09	-8.48	-0.25	-1.06
MT1171	215.66	-3.71	-2.03	-0.95	6.95	6.54	-4.7	1.04	-0.74	-0.0012	-1.28	-16.01	-0.26	-1.07
MT1172	53.38	-3.58	-2.01	-0.93	2.62	-3.4	-4.61	0.86	-0.72	-0.0014	-1.26	-12.62	-0.25	-1.09
MT1173	71.11	-3.24	-1.83	-0.8	5.67	-0.67	-3.63	1.11	-0.68	-0.0011	-0.81	-3.72	-0.23	-0.99
MT1174	-7.38	-3.46	-1.96	-0.87	0.64	-3.84	-4.21	0.45	-0.71	-0.0019	-1.02	-12.03	-0.24	-1.06
MT1175	122.61	-2.72	-1.68	-0.54	12.73	-2.86	-2.45	0.18	-0.57	-0.0014	-0.95	12.94	-0.19	-1.04
MT1176	-136.63	-3.16	-1.7	-0.83	-0.93	-2.59	-3.93	1.76	-0.64	-0.0019	0.05	3	-0.18	-0.85
MT1177	123.55	-2.96	-1.78	-0.68	8.55	4.81	-3.01	1.12	-0.63	0.0002	0.61	10.85	-0.22	-0.89
MT1178	-70.14	-3.29	-1.93	-0.85	4.19	-0.01	-3.8	0.95	-0.69	-0.0013	0.3	-0.02	-0.24	-0.99
MT1179	-128.59	-3.17	-1.87	-0.81	-0.62	-1.55	-3.56	0.88	-0.66	-0.0014	-0.64	4.33	-0.25	-0.96
MT1180	-13.04	-3.21	-1.95	-0.8	2.56	-0.69	-3.23	0.13	-0.69	-0.0015	-0.62	3.22	-0.25	-0.97
MT1181	551.04	-3.45	-1.97	-0.86	12.47	3.94	-4.24	0.79	-0.71	-0.0003	-0.74	-6.89	-0.25	-0.98
MT1182	-153.08	-3.27	-1.92	-0.78	-0.8	-4.53	-3.69	0.27	-0.68	-0.0012	0.52	4.73	-0.23	-1.05
MT1183	133.63	-3.39	-1.96	-0.9	1.59	-5.11	-4.14	0.04	-0.7	-0.0016	-0.07	-7.84	-0.26	-1.06
MT1184	-4.23	-3.39	-1.96	-0.87	0.58	-2.18	-4.02	0.02	-0.69	-0.0016	-0.61	-7.31	-0.25	-1.07
MT1185	89.12	-3.38	-1.94	-0.82	2.03	1.23	-3.9	0.67	-0.7	-0.0006	0.57	-4.6	-0.24	-0.9
MT1186	129.64	-3.16	-1.85	-0.66	5.02	0.25	-3.2	0.46	-0.66	-0.0009	0.56	3.66	-0.23	-1.06
MT1187	72.62	-2.62	-1.71	-0.53	1.5	1.37	-2.53	0.34	-0.59	-0.0011	-0.51	26.86	-0.22	-1.06
MT1242	192.8	-2.46	-1.65	-0.28	3.86	2.91	-1.78	0.6	-0.59	-0.0007	0.21	20.38	-0.21	-1.04
MT1188	342.81	-2.35	-1.39	-0.44	-0.79	-4.98	-2.59	0.19	-0.49	-0.0014	-0.03	15.3	-0.16	-1.06
MT1191	17.6	0.32	0.18	0.24	-0.33	-1.82	0.02	-0.16	0.04	-0.0004	0.68	9	0.05	-0.33
MT1192	36.27	-0.67	-0.54	0.09	0.23	-1.28	-0.74	-0.09	-0.21	-0.0002	0.67	8.8	-0.03	-0.17
MT1193	-20	-0.6	-0.3	0.1	1.11	0	-0.9	0	-0.17	0.0000	0.37	7	-0.03	-0.04
MT1194	-100.59	-1.67	-1.04	-0.22	-1.57	-1.26	-1.63	0.7	-0.36	-0.0005	1.04	10.03	-0.12	-0.11
MT1195	-93.26	-1.92	-1.25	-0.4	-1.36	-2.74	-2.31	0.52	-0.42	-0.0008	0.69	2.17	-0.14	-0.18
MT1196	-20	-1.7	-1.1	-0.29	-0.19	0.5	-1.7	0	-0.39	0.0000	0.66	5	-0.15	0
MT1199	0	0	0	0	0	0	0	0	0	0.0000	0	0	0	0

Samp_id	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Se	Sm
MT1168	-33.24	4.46	-3.14	-0.0016	-15.75	-62.29	-402.5	13.82	-3.76	-44.18	-48992.7	-0.16	2.4	-4.02
MT1169	-28.92	4.86	-3.13	-0.0013	-6.04	-62.05	-363.99	24.31	-1.11	-22.14	-48429.1	-0.5	2.8	-2.2
MT1170	-30.8	1.06	-3.12	-0.0004	-15.98	-62.24	-381.8	16.8	-3.9	-47.64	-48212	-0.5	5.36	-4.15
MT1171	-32.41	5.11	-3.15	-0.0012	-25.41	-62.72	-384.06	10.38	-6.37	-52.95	-47715.3	-0.5	2.18	-5.86
MT1172	-32.84	3.16	-3.15	7.1500	-23.34	-63.57	-402.76	1.47	-5.71	-52.71	-48355.1	-0.5	1.22	-5.5
MT1173	-36.11	3	-3.15	-0.0011	-13.56	-65	-378.33	15	-3.06	-38.28	-47983.3	-0.5	1.5	-3.58
MT1174	-36.94	2.12	-3.15	3.0600	-20.76	-63.78	-420.21	-1.63	-5.13	-45.82	-48612.4	0.11	1.37	-4.86
MT1175	-32.75	1.44	-3.15	-0.0014	0.36	-54.12	-369.35	27.14	0.93	-40.86	-47541.9	-0.5	0.54	-1.92
MT1176	-33.74	3.83	-3.11	6.2600	-17.96	-65	-381.69	95.89	-4.11	-16.79	-48873.5	-0.19	-0.75	-4.49
MT1177	-29.61	7.43	-3.1	0.0002	-5.99	-61.88	-267.84	94.26	-1.23	-3.58	-47474.5	0.02	0.6	-2.43
MT1178	-36.31	3.39	-3.09	-0.0013	-15.28	-60.57	-323.37	31.7	-3.33	-15.86	-48392.2	0.24	3.54	-4.12
MT1179	-32.81	1.75	-2.76	-0.0014	-12.87	-62.12	-362.97	26.72	-2.75	-30.92	-48853.1	-0.14	0.52	-3.69
MT1180	-36.45	0.61	-2.89	-0.0015	-7.82	-65	-385.53	4.82	-1.76	-28.76	-48152.4	-0.15	0.48	-2.74
MT1181	-35.35	2.98	-2.9	-0.0003	-19.97	-62.21	-315.75	21.88	-4.78	-31.27	-46010.1	-0.03	4.51	-4.77
MT1182	-36.22	0.16	-2.71	-0.0012	-13.35	-65	-384.41	2.68	-2.83	-16.45	-48215	-0.12	-0.49	-3.83
MT1183	-33.21	1.09	-2.84	-0.0016	-20.43	-65	-405.65	20.76	-4.76	-35.64	-33060.3	-0.5	0.38	-4.89
MT1184	-36.63	-0.63	-2.98	-0.0016	-20.87	-65	-406.11	3.58	-5.13	-37.82	-44481.4	-0.16	0.36	-4.91
MT1185	-31.1	1.78	-2.19	-0.0006	-16.54	-65	-388.84	2.24	-4.05	7.27	-43985.1	0.39	-0.67	-4.15
MT1186	-35.89	0.11	-2.54	-0.0009	-9.18	-65	-303.93	8.75	-1.93	-7.36	-28717.9	-0.09	0.05	-2.89
MT1187	-32.18	0.69	-2.9	-0.0011	-3.3	-65	-272.43	22.99	0.1	-27.65	-37385.9	-0.11	-0.05	-1.92
MT1242	-31.34	0.07	-2.78	-0.0007	5.09	-65	-330.16	36.26	2.32	-9.99	-39978.5	0.37	-0.7	-0.08
MT1188	-32.71	-0.94	-2.19	-0.0014	-4.95	-23.48	-354.37	1.86	-0.12	-22.22	-8995.02	-0.14	-0.54	-2.26
MT1191	-21.6	-1.24	-0.85	9.2000	4.72	1.24	-193.2	7.6	1.16	15.84	1376	-0.04	-0.16	0.82
MT1192	-20.95	-1.33	-0.66	4.7600	1.77	3.59	16.33	-0.95	0.55	23.12	6135.5	-0.02	0.38	0.14
MT1193	-15	-0.3	-0.31	5.0000	-0.5	-10	-70	5	0	8	16200	0	-0.5	-0.5
MT1194	-13.02	-0.31	-0.91	8.9900	-3.32	-18.23	-46.26	2.49	-0.41	39.44	-16580.5	-0.05	-0.65	-1.15
MT1195	-10.65	-0.81	-0.95	4.1900	-9.1	-17.2	-57.5	0.96	-2.21	24.66	-14029.7	-0.08	-0.74	-2.39
MT1196	-5	-1	-0.46	5.0000	-4	-9	-20	0	-1	23	-5500	0	-0.5	-1.5
MT1199	0	0	0	0.0000	0	0	0	0	0	0	0	0	0	0

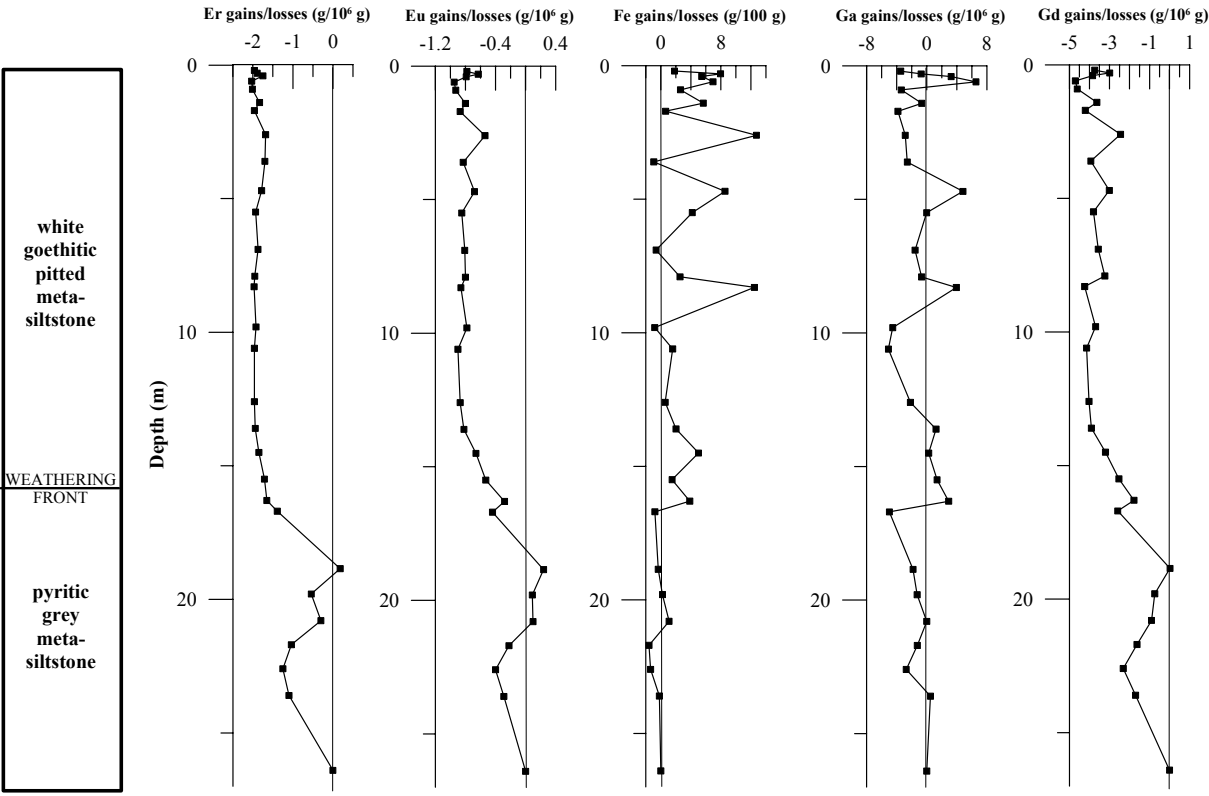
Plots of element gains/losses for drill hole MTG2



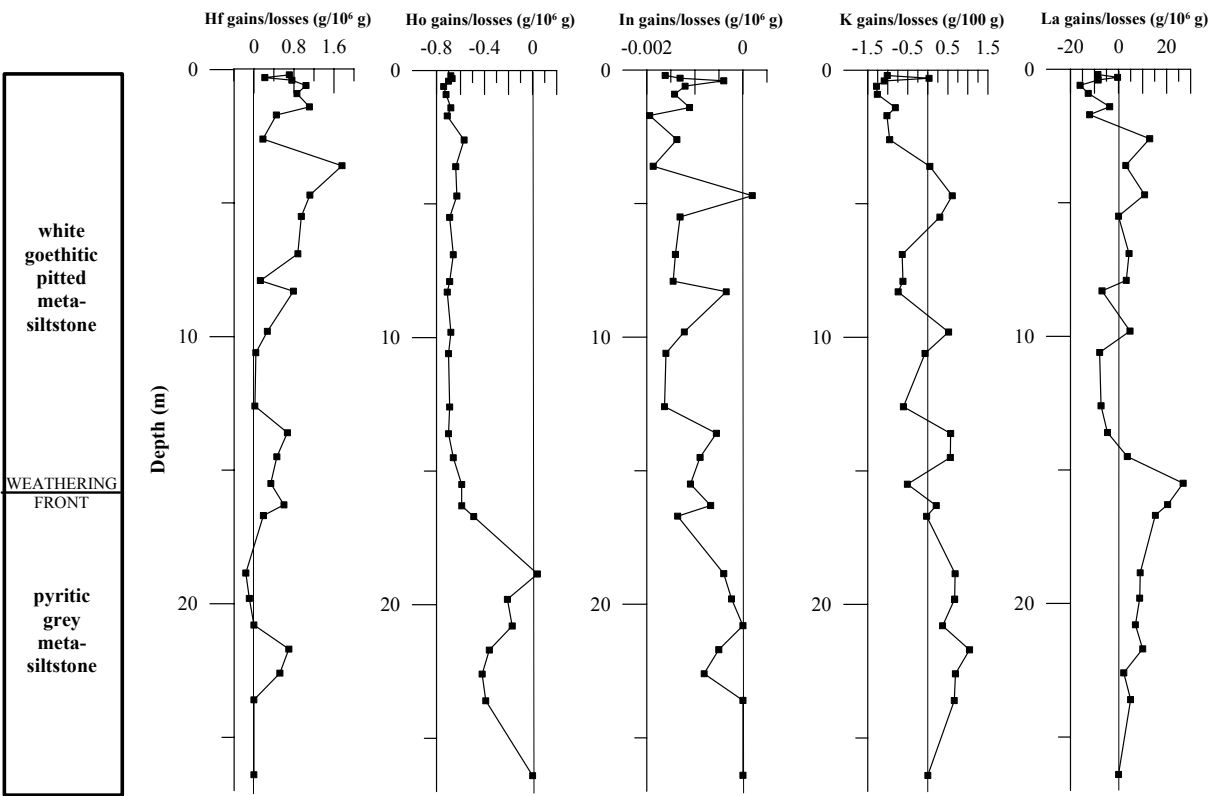
MTG2



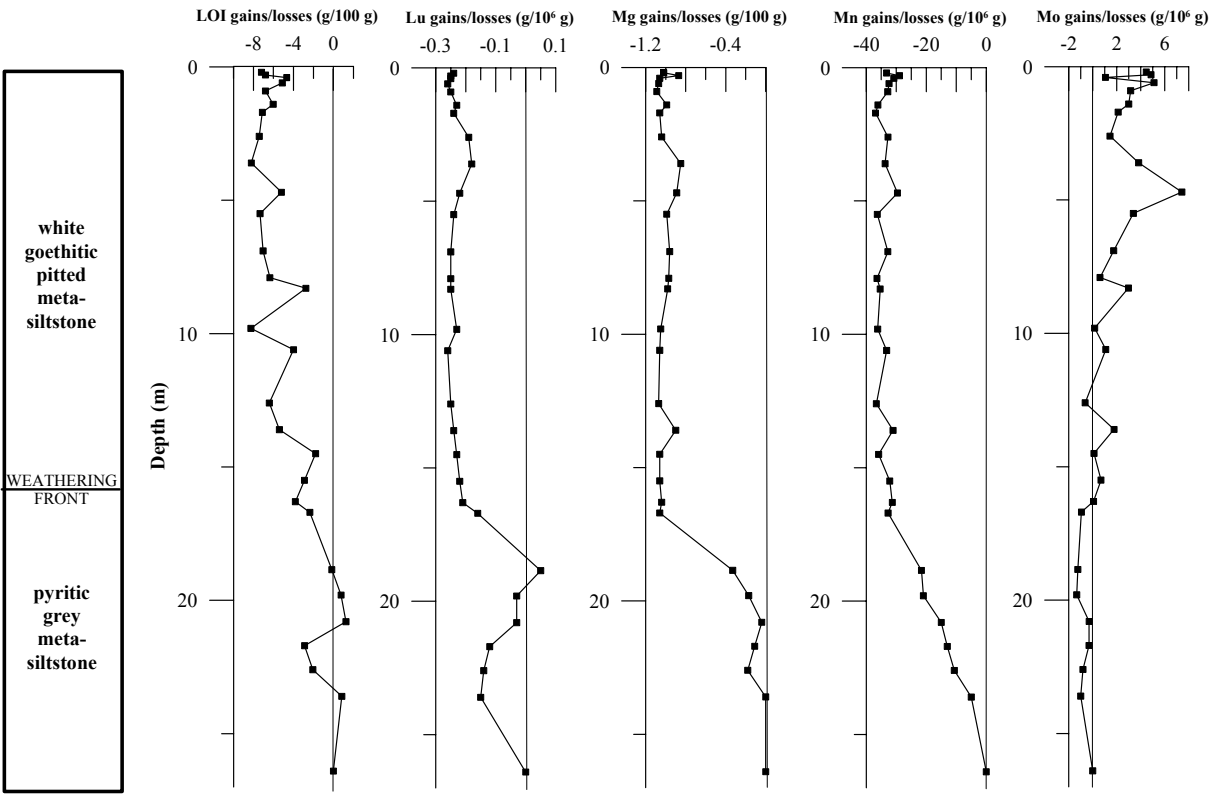
MTG2



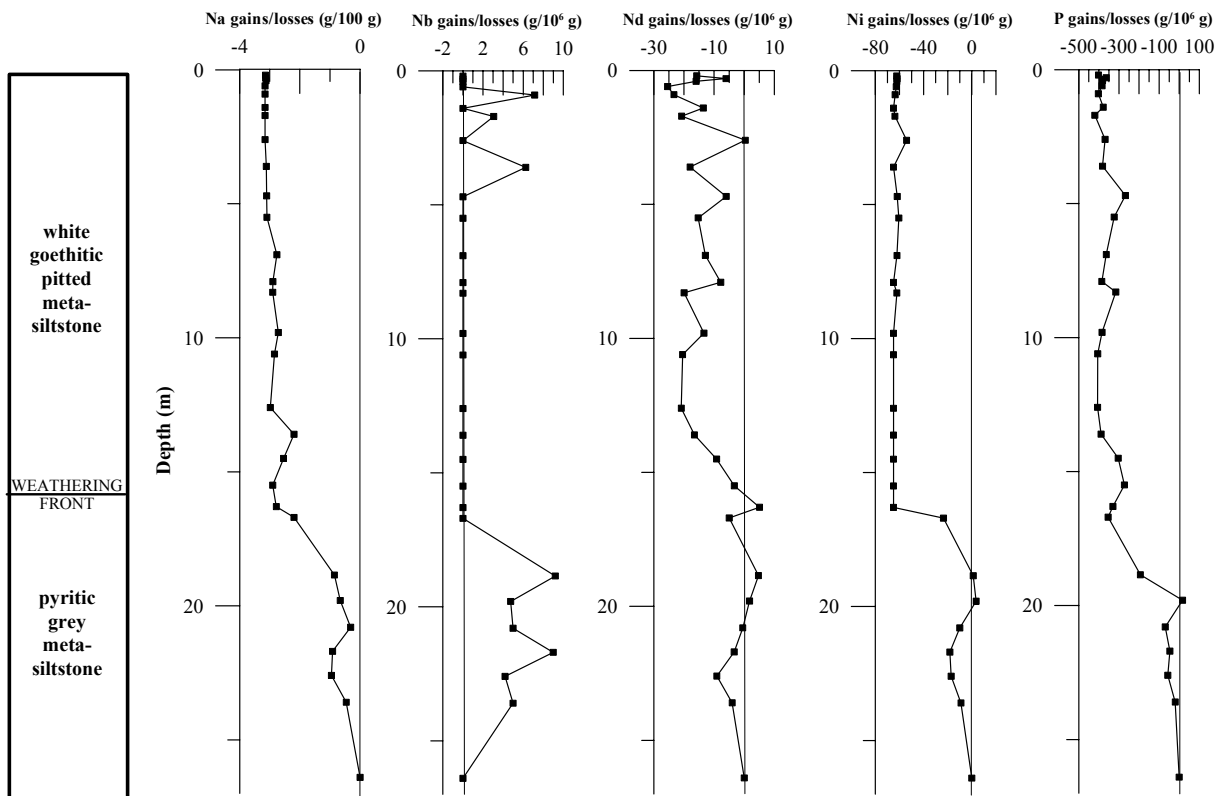
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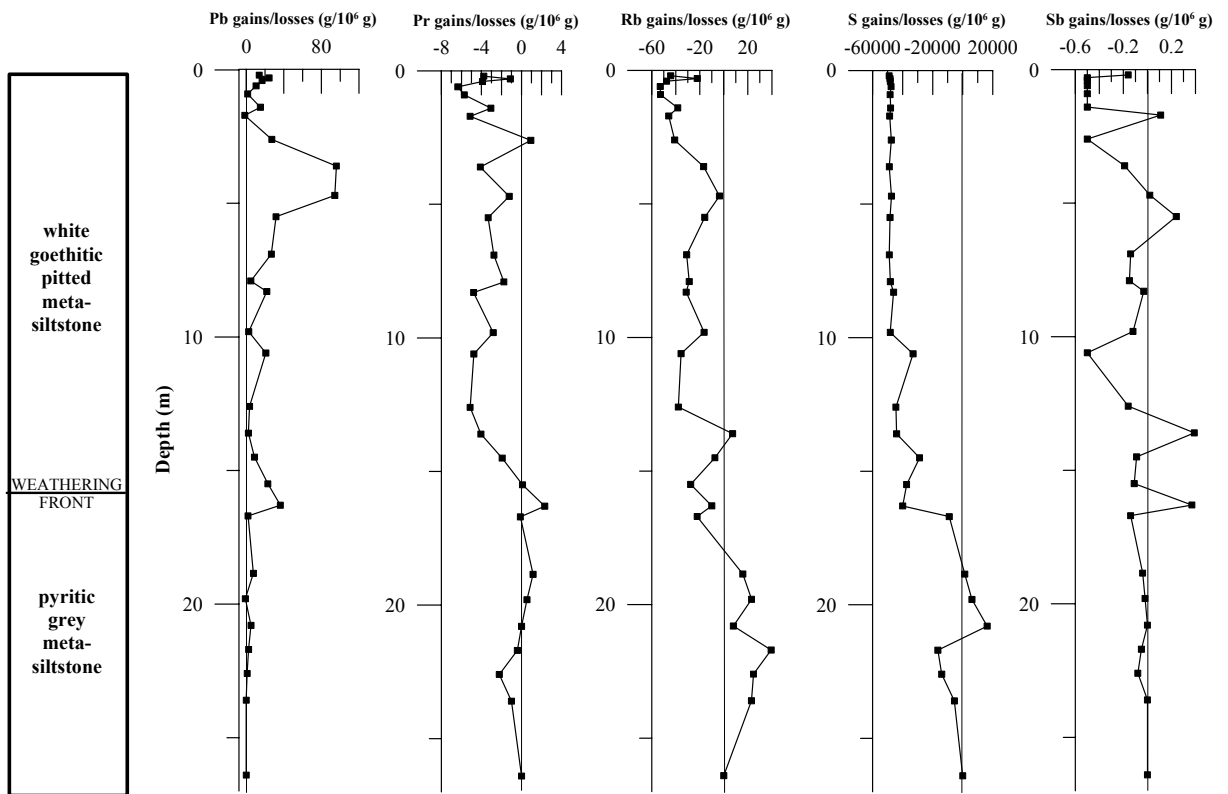
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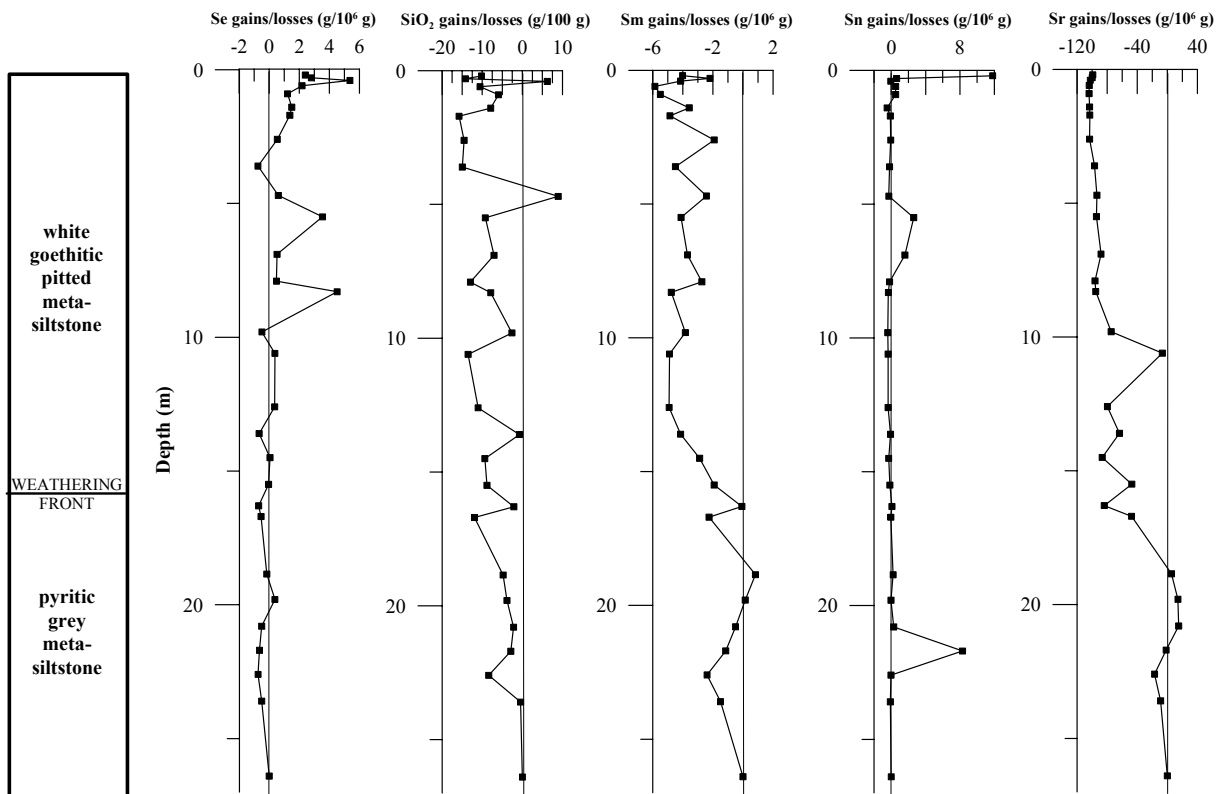
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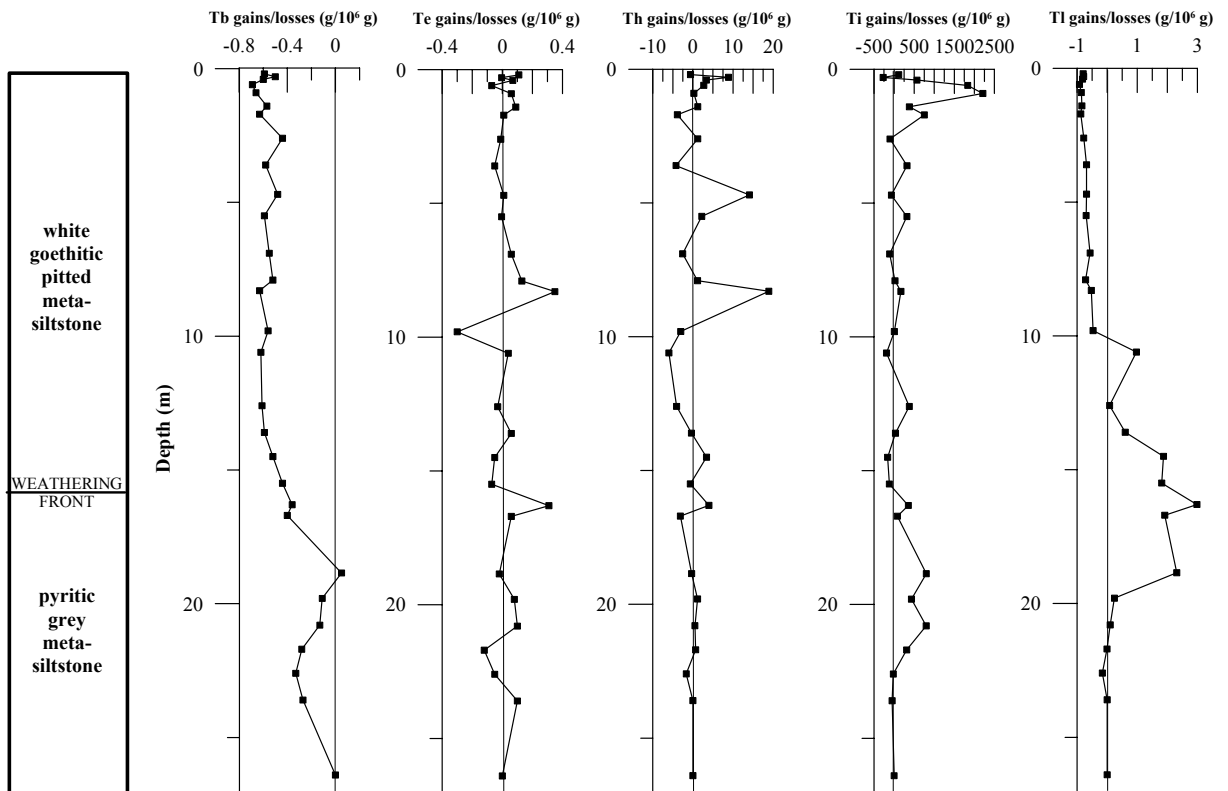
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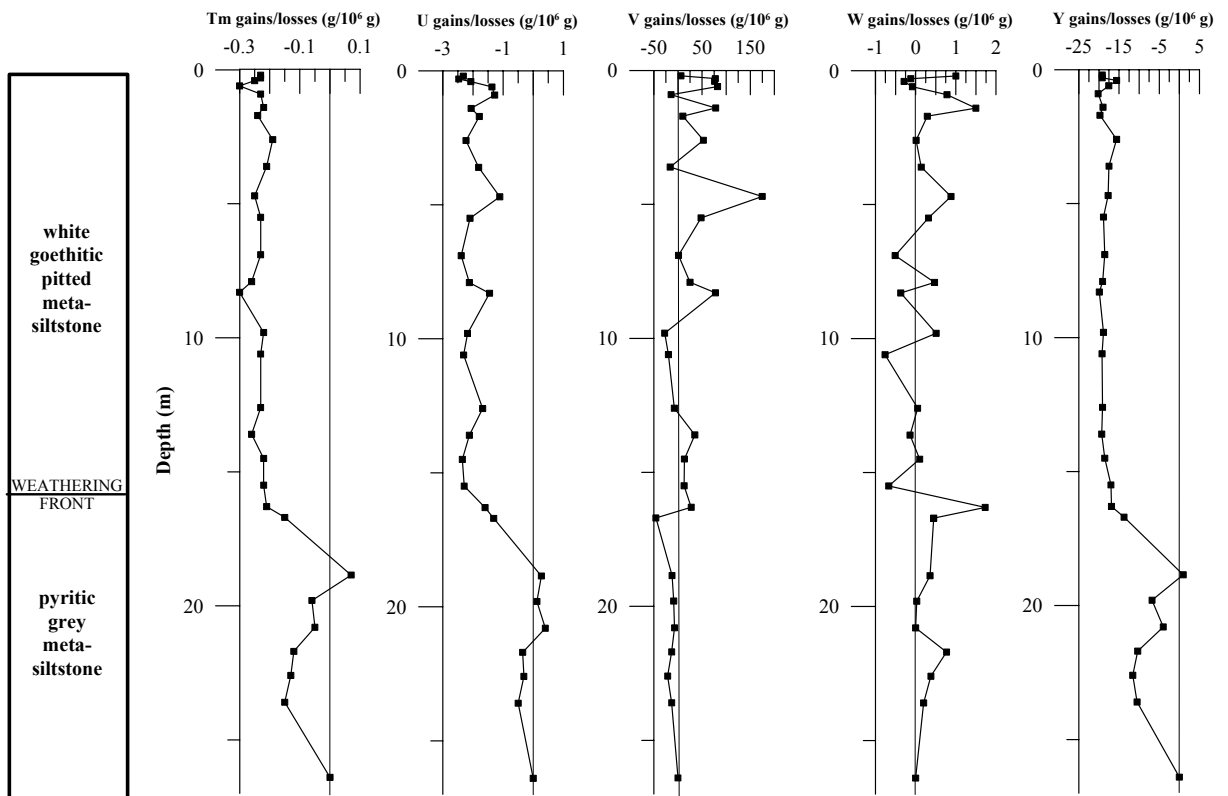
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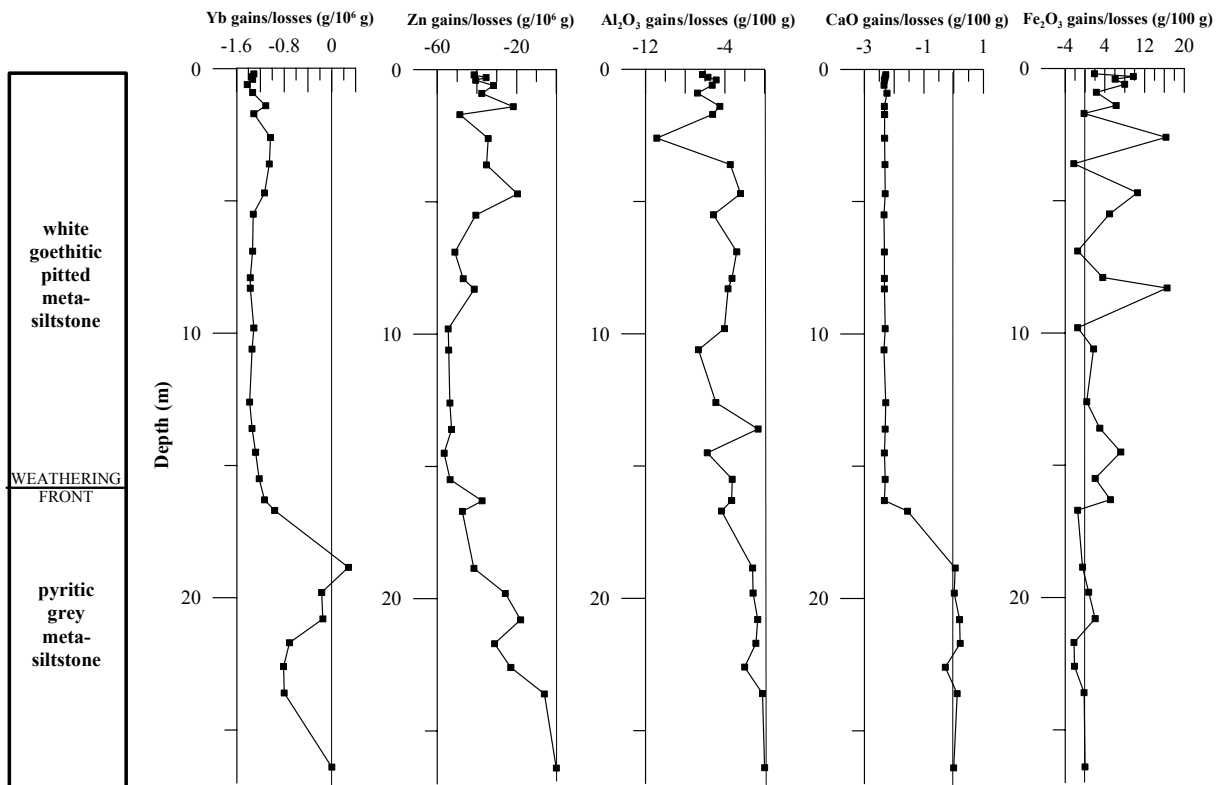
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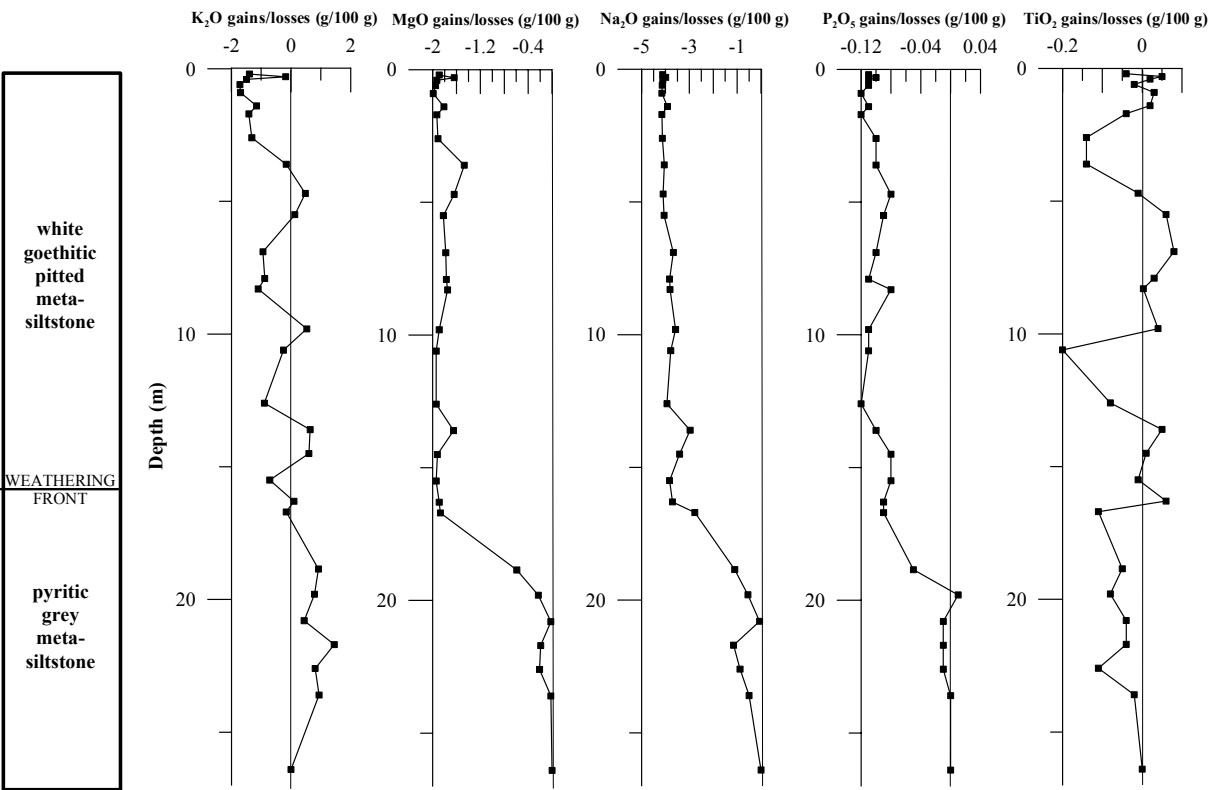
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MTG2



MTG2

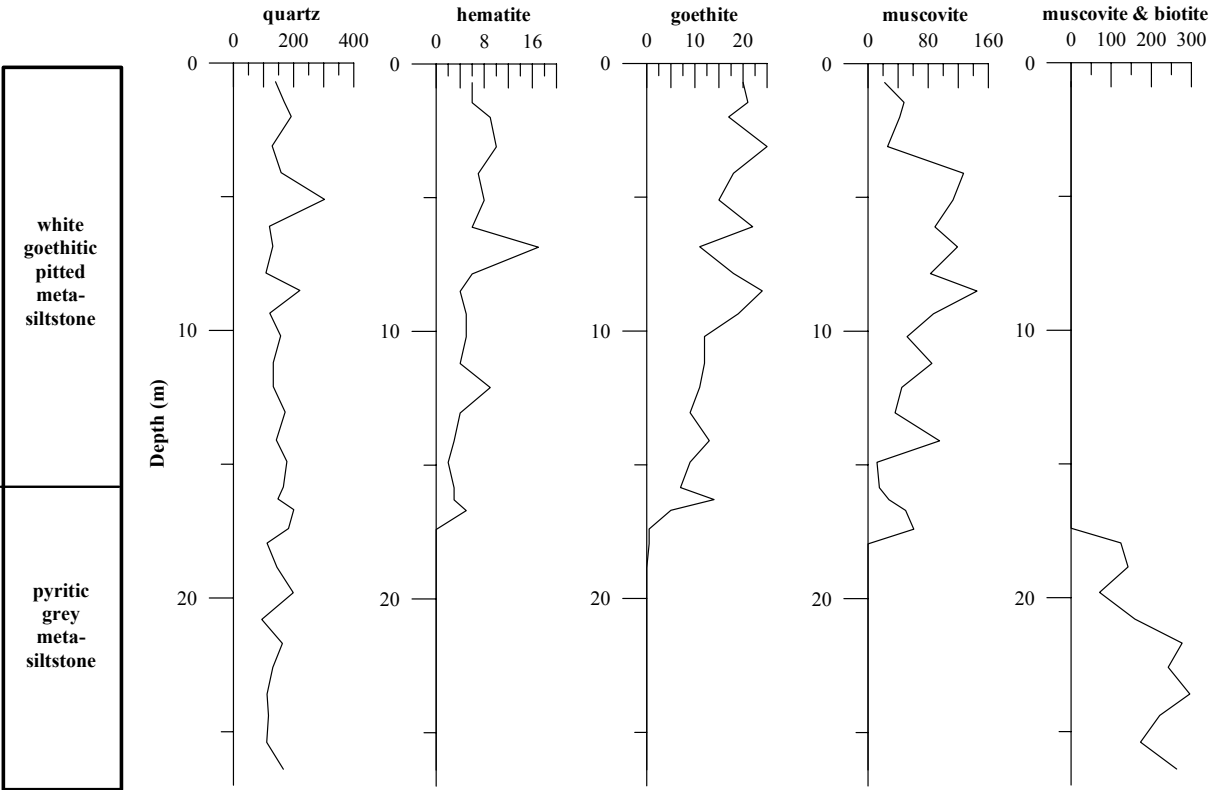


APPENDIX 10.

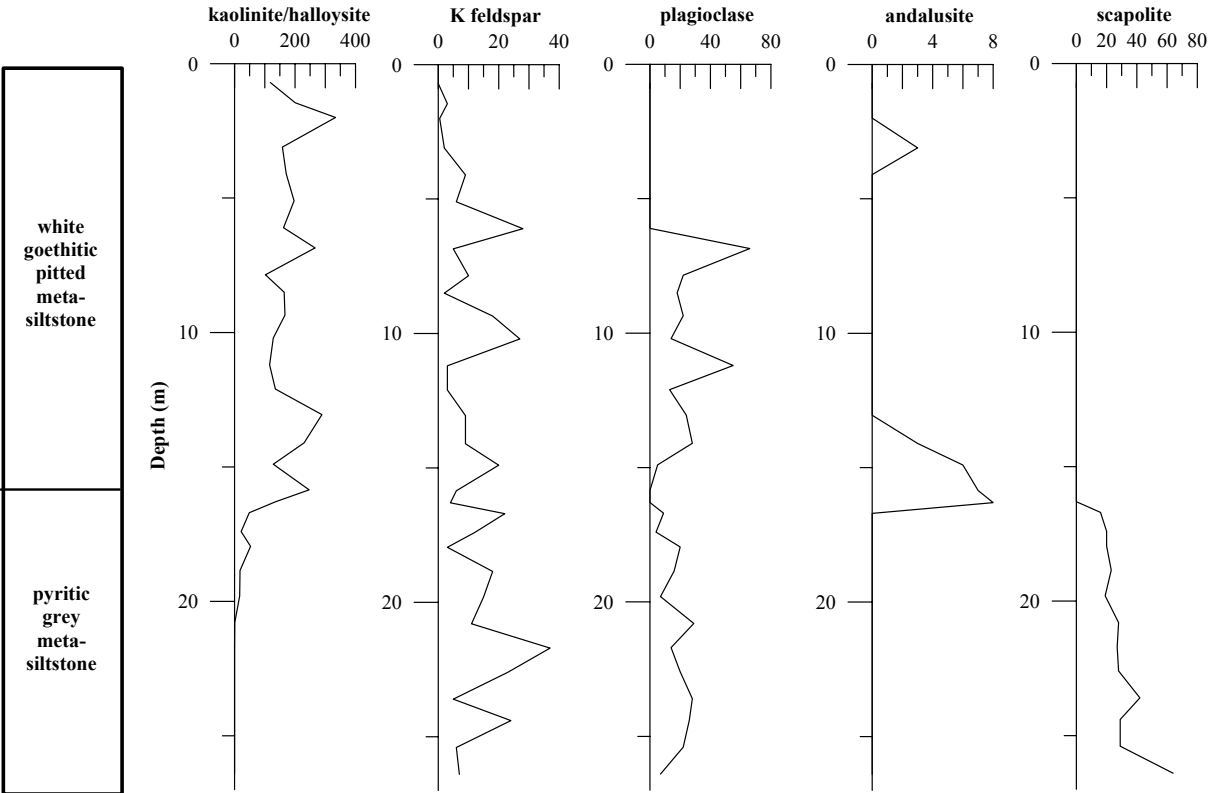
Mineralogical profiles, MTG2-6

Raw data taken from Scott et al., 1979

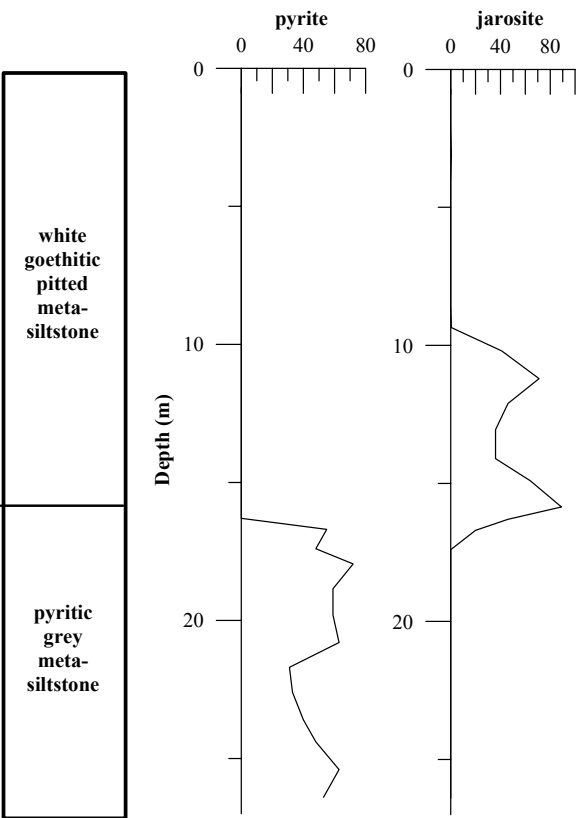
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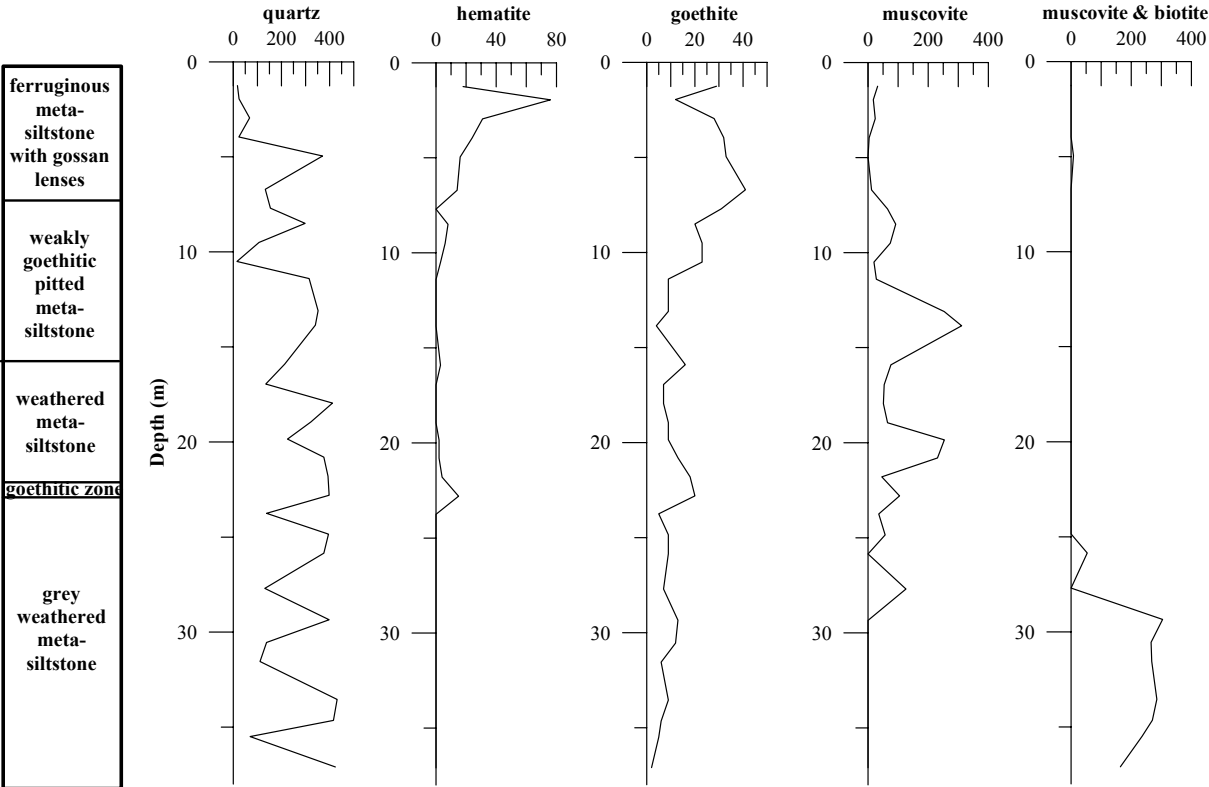
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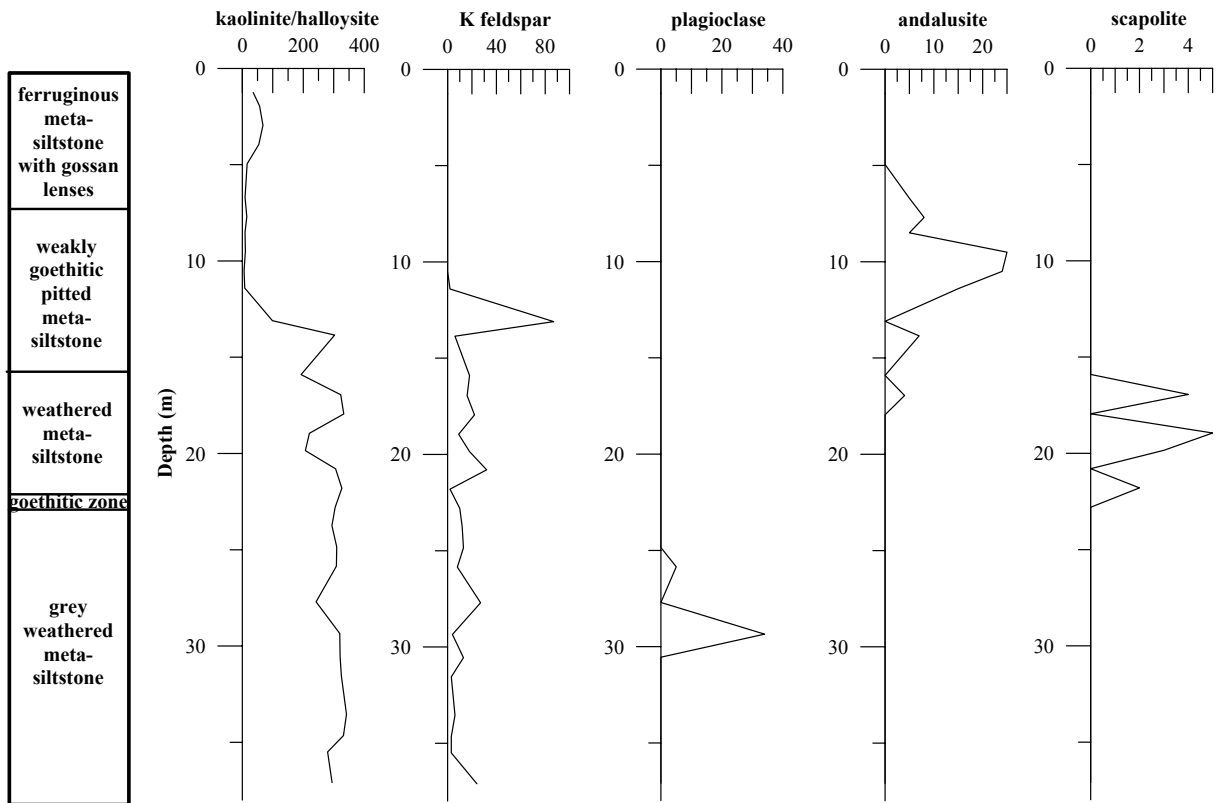
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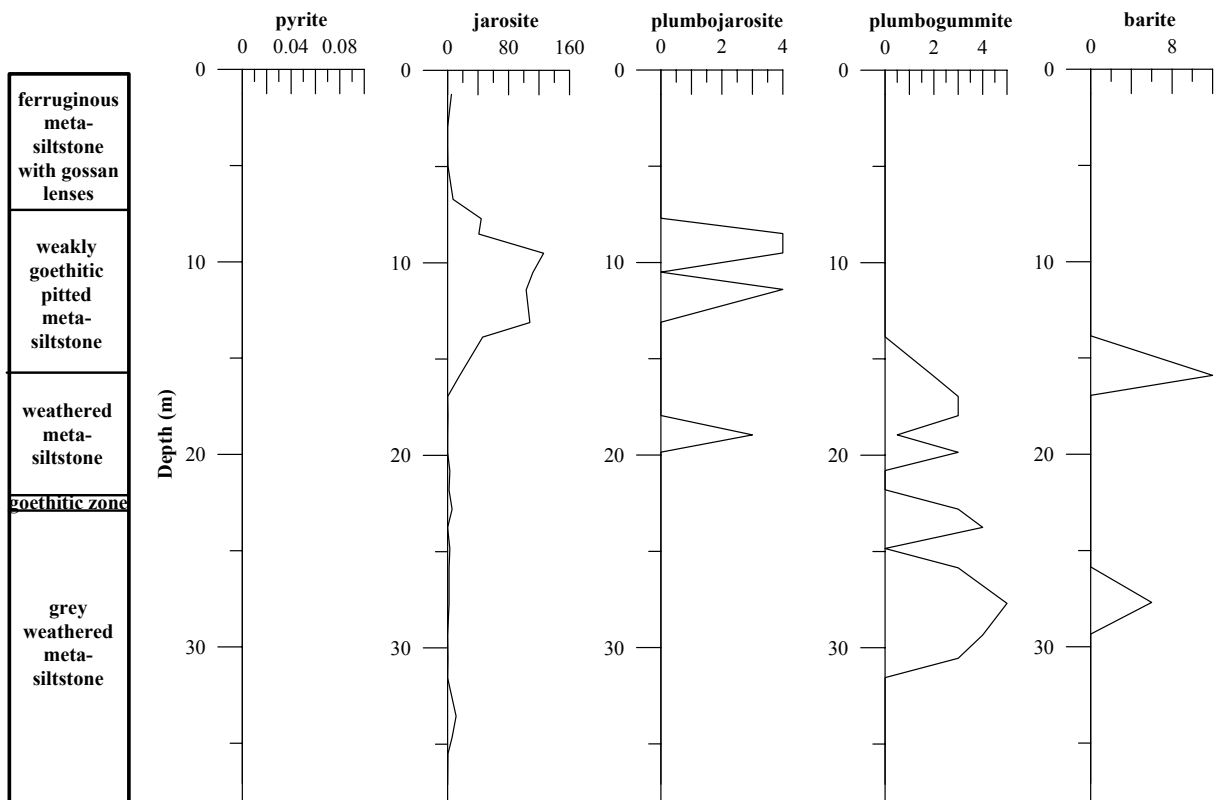
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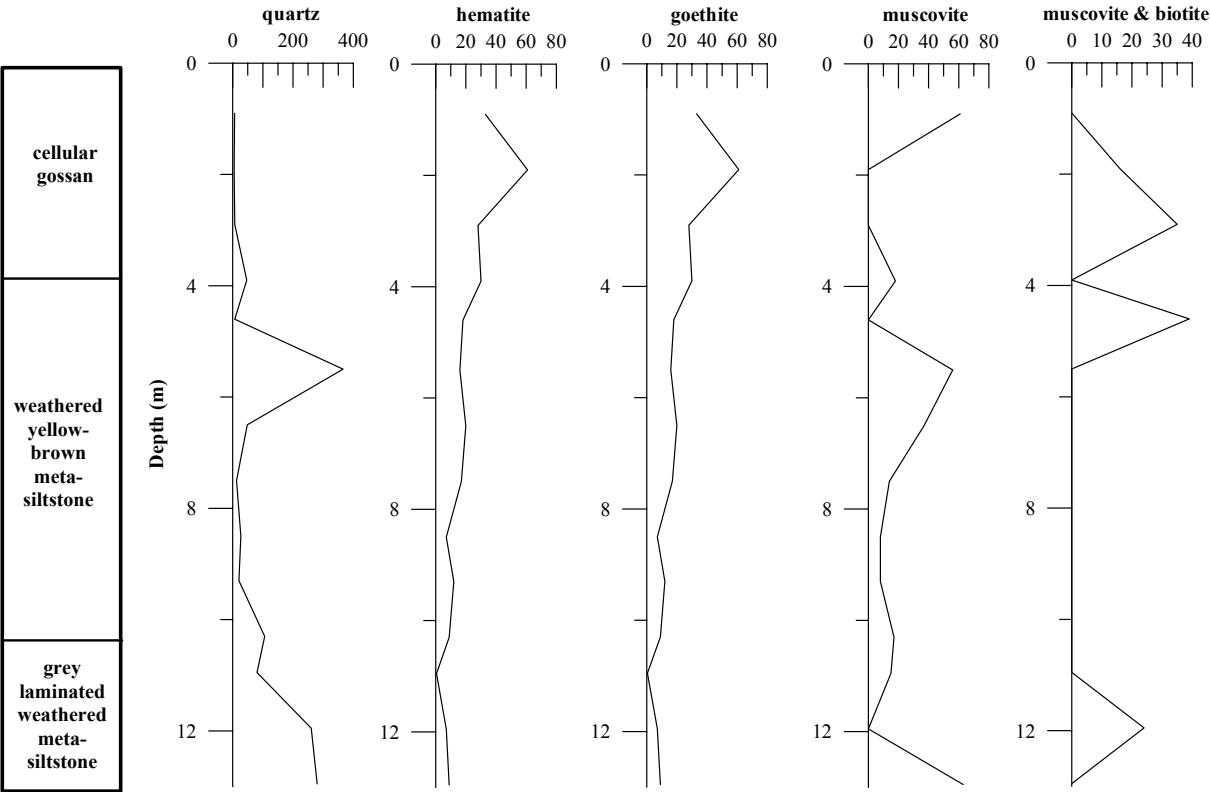
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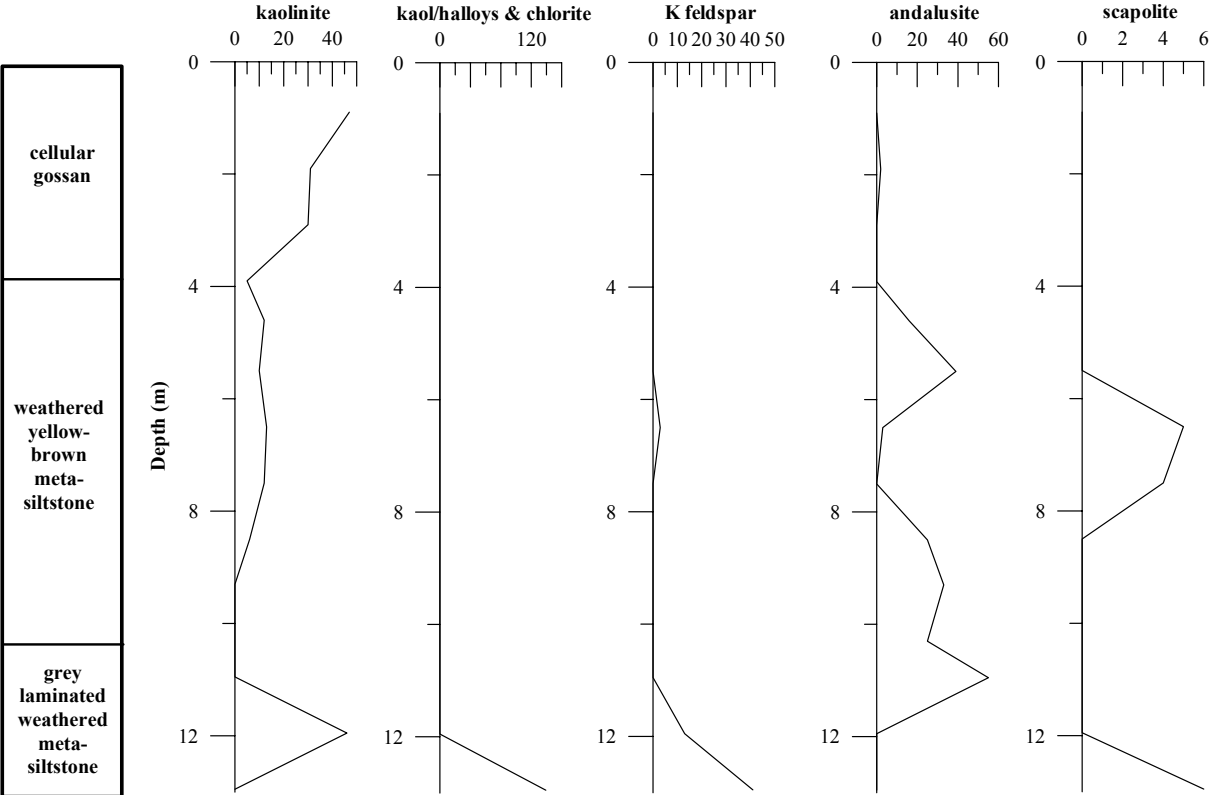
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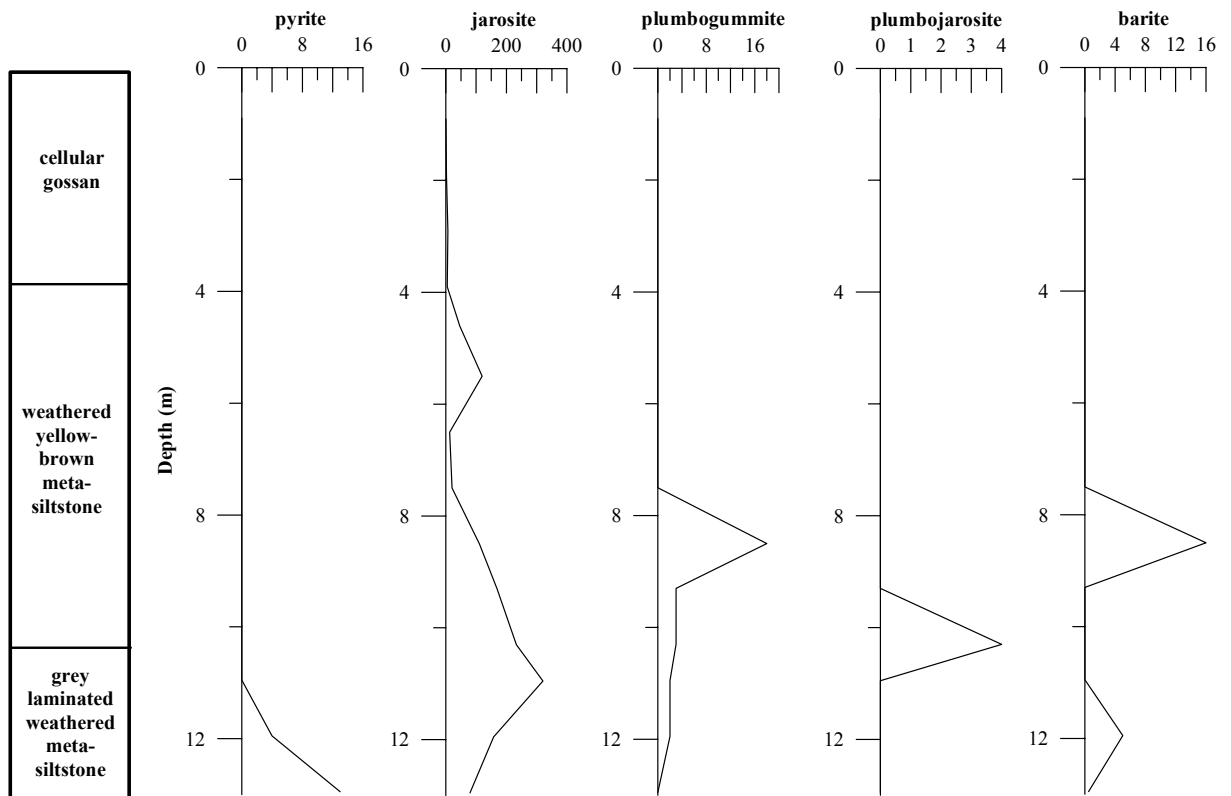
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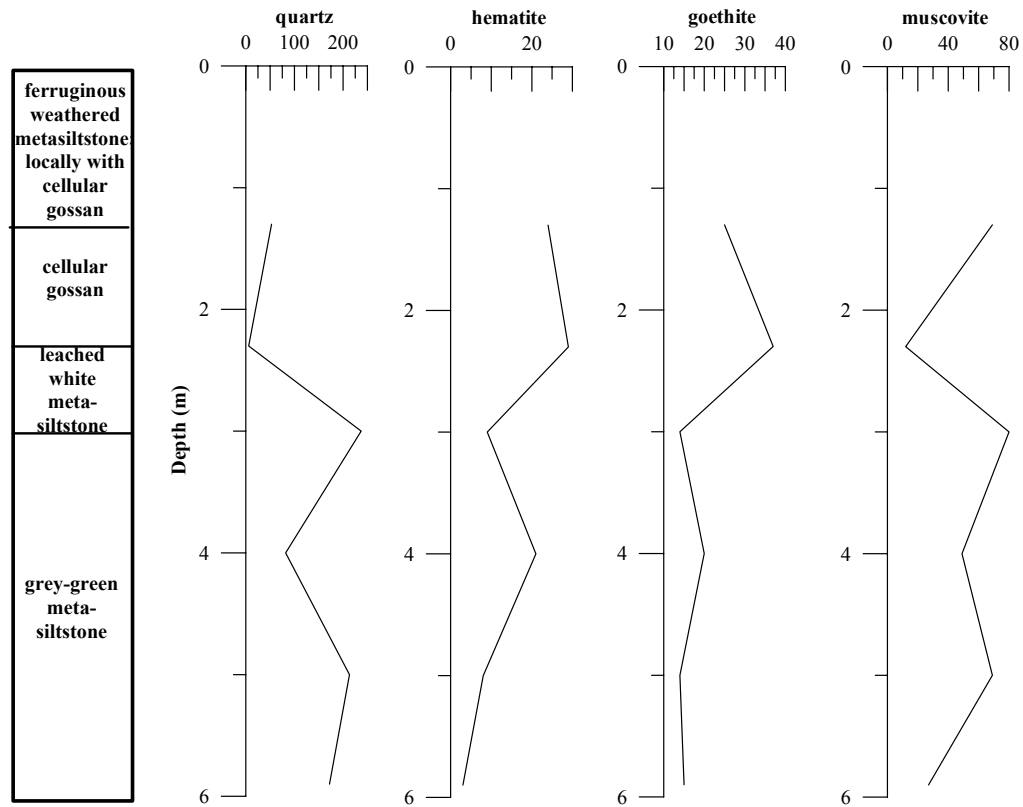
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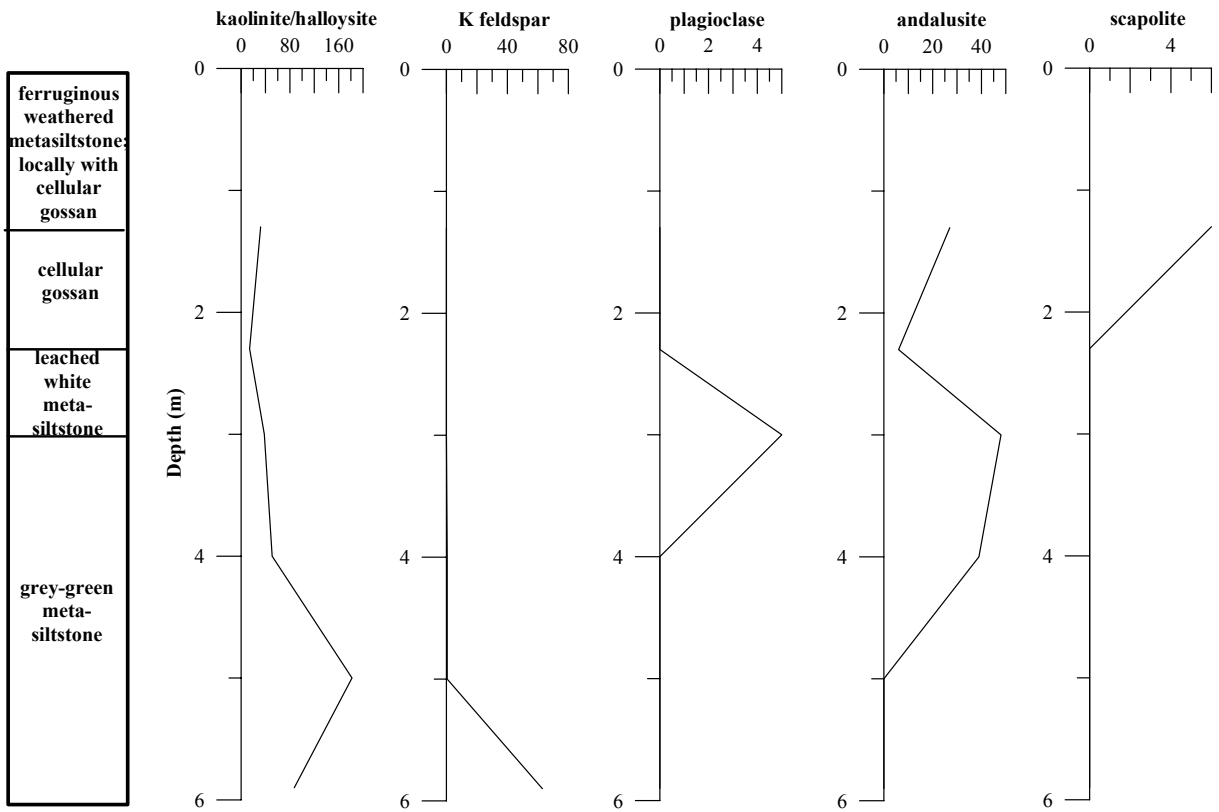
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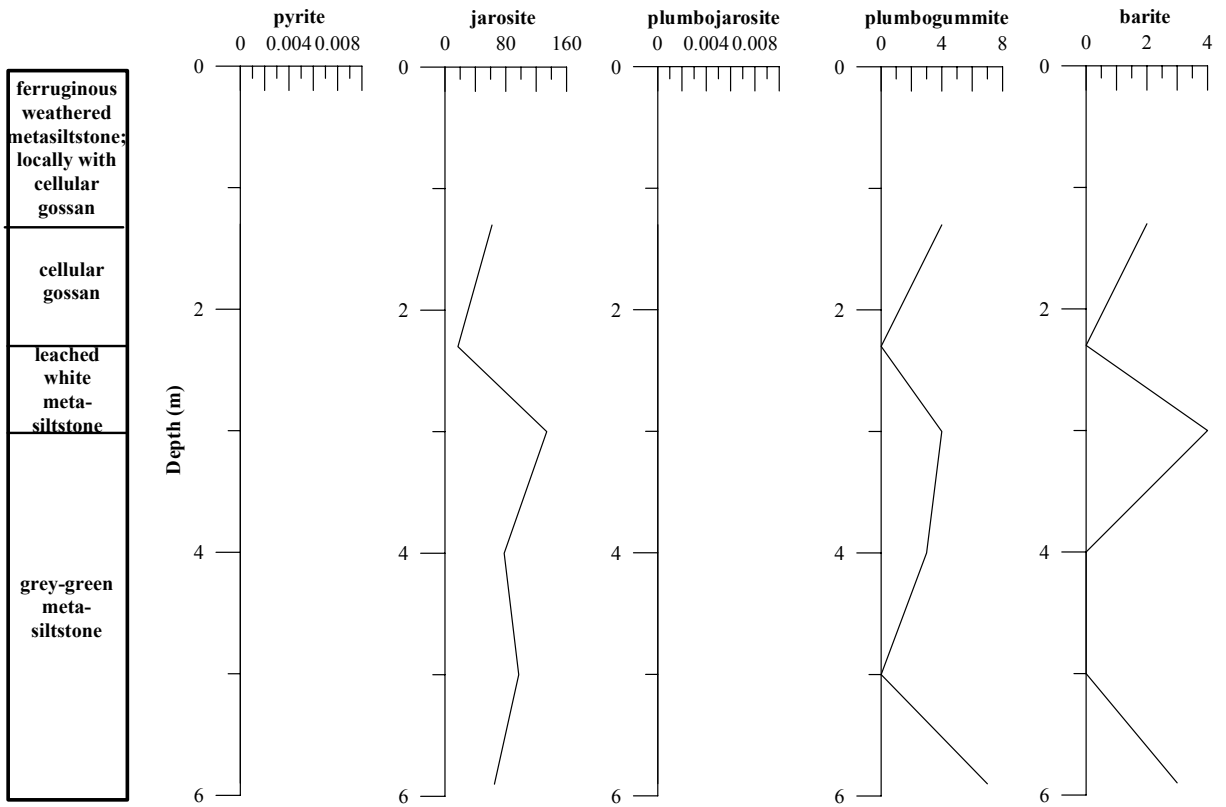
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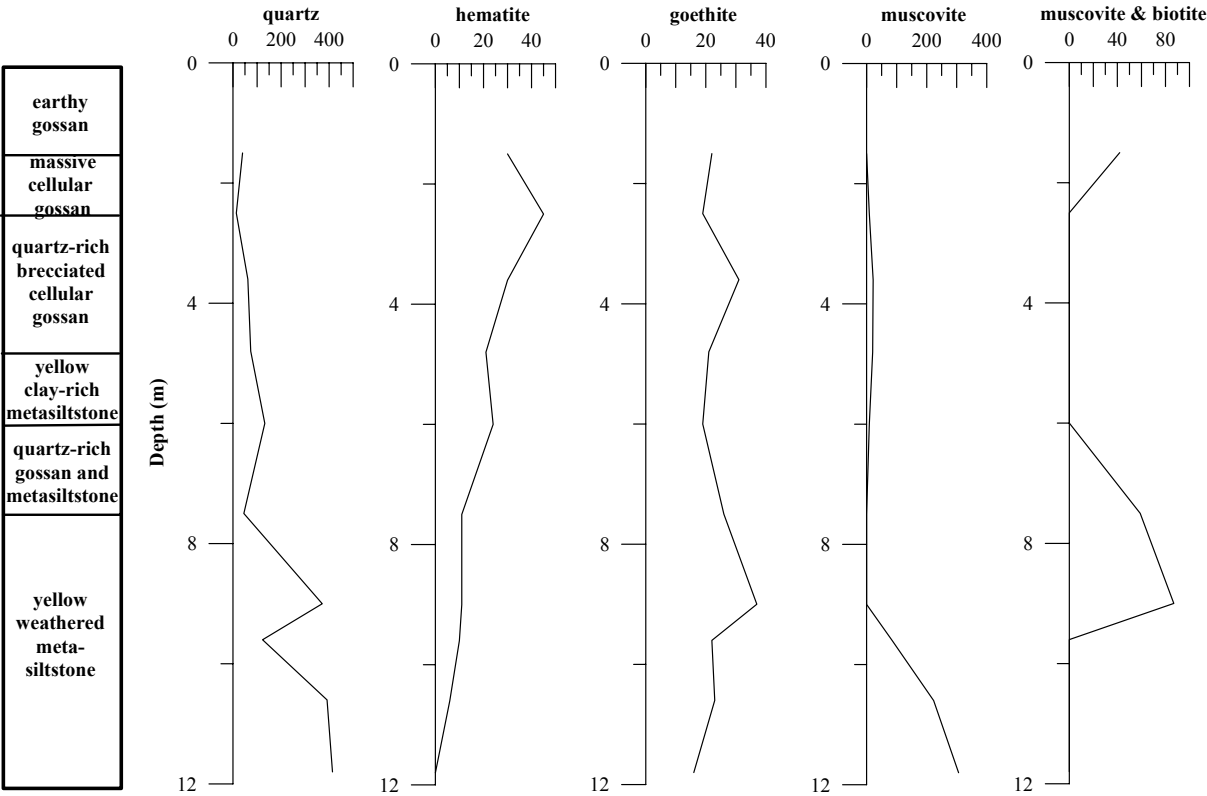
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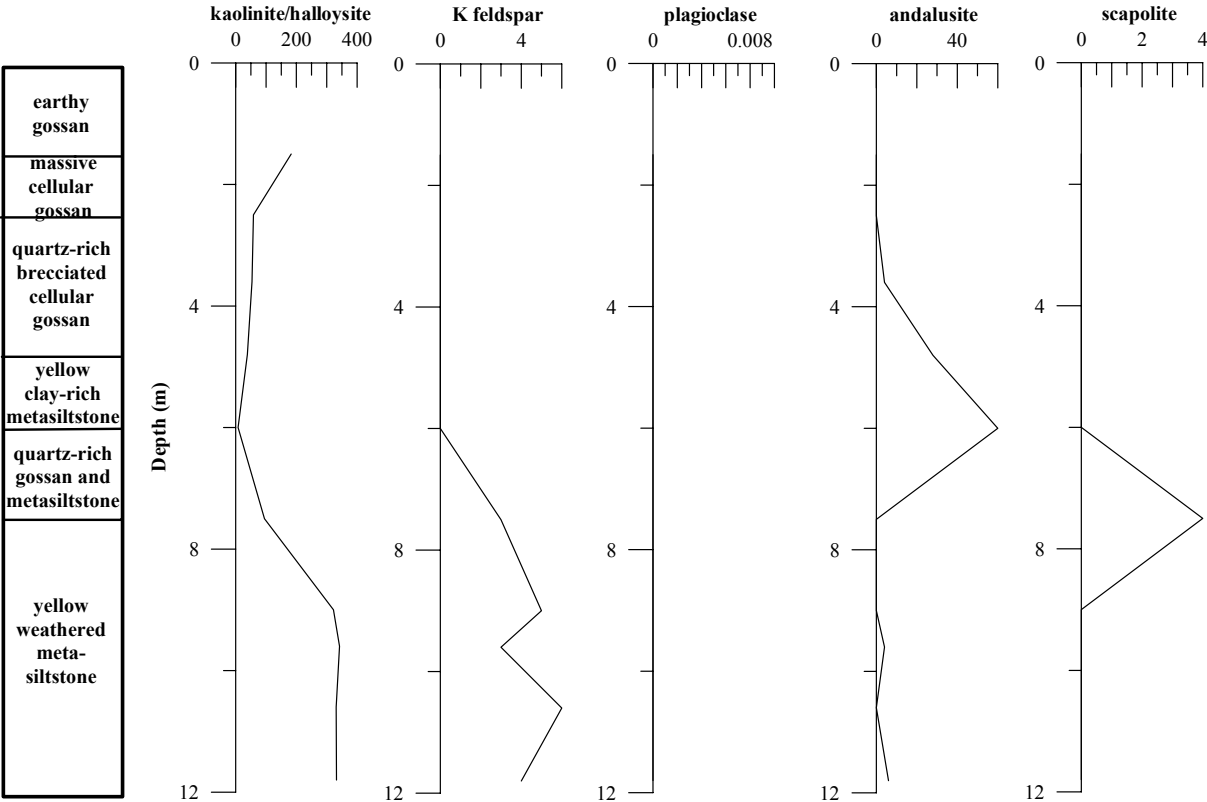
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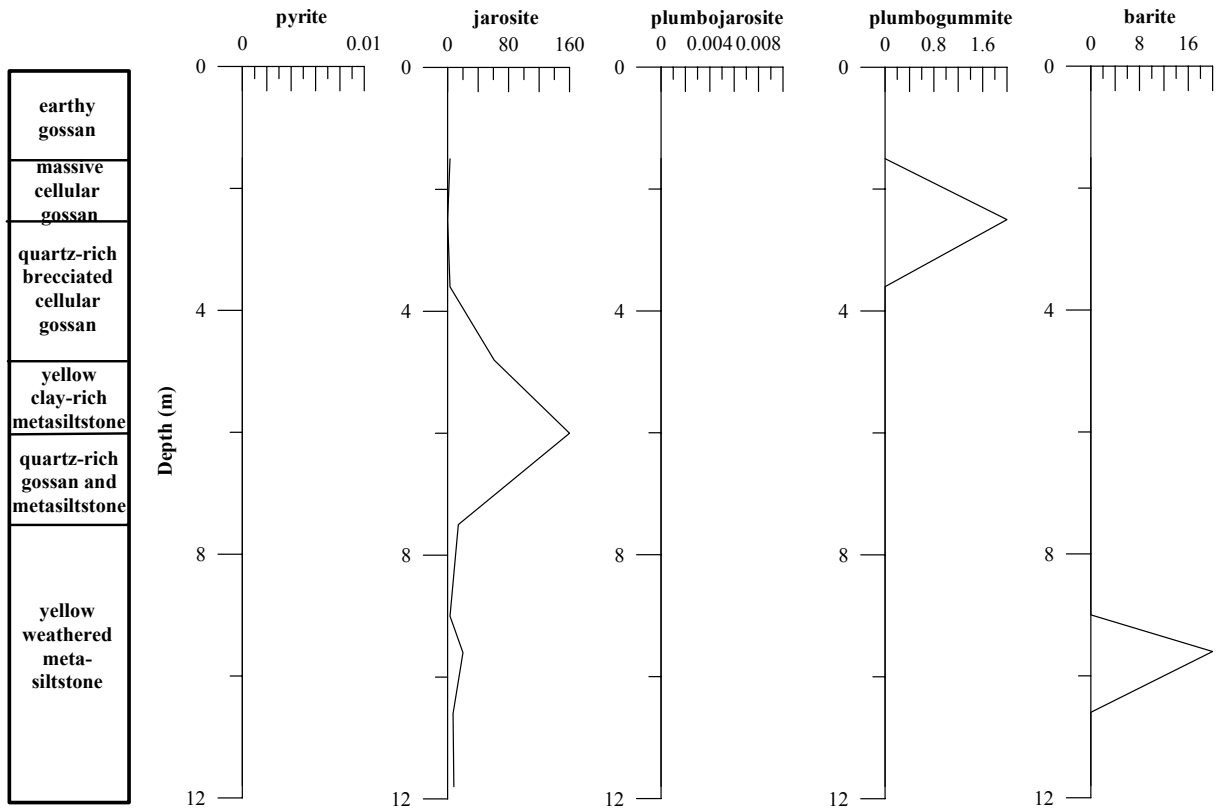
MTG6



MTG6



MTG6



APPENDIX 11.

Microprobe and SEM results

Analyses were carried out using a Cameca SX51 wavelength-dispersive electron microprobe. The microprobe has three spectrometers:

spectrometer	crystal	elements analysed
1	PET	Ag, Ba, Bi, Ca, Cd, Cl, Hg, K, Mo, P, S, Sb, Sn, Te, Zr
2	LiF	Ce, Cr, Cu, F, Fe, Mn, Pb, Se, Ti, V, Zn
3	TAP	Al, As, Mg, Na, Si

The microprobe was interfaced with a computer that automatically controls beam current, peak location, background location, spectrometers and specimen stage. Operating conditions were 20 kV accelerating voltage and 20 nA specimen current. Peak counting times were 10 or 20 seconds, whereas background counting times were 5 seconds. Specimens and standard blocks were coated with a 20 nm film of carbon.

The standards used are listed below:

Ag	L α	AgTe	Al	K α	almandine	As	L α	GaAs
Ba	L α	barite	Bi	M α	Bi ₂ Se ₃	Ca	K α	apatite
Cd	L α	Cd metal	Ce	L α	monazite	Cl	K α	tugtupite
Cr	K α	Cr metal	Cu	K α	chalcopyrite	F	K α	fluorite
Fe	K α	chromite	Hg	M α	HgS	K	K α	sanidine
Mg	K α	diopside	Mn	K α	rhodonite	Mo	L β	molybdenite
Na	K α	tugtupite	P	K α	apatite	Pb	L α	galena
S	K α	molybdenite	Sb	L α	stibnite	Se	K α	Bi ₂ Se ₃
Si	K α	almandine	Sn	L α	Sn metal	Te	L α	AgTe
Ti	K α	Ti metal	V	K α	V metal	Zn	K α	willemite, sphalerite
Zr	L α	cubic ZrO ₂						

SEM analyses were carried out on a Phillips XL30 (FEG-SEM) using an EDAX DX4 energy-dispersive X-ray analyser. Polished thin sections and polished blocks were coated with a 20 nm film of carbon. Analyses were standardless using ZAF corrections at an accelerating voltage of 20 kV. The main purpose of using the SEM was to acquire high-quality back-scattered electron images.

Table A11.1. Analyses of carbonate minerals

Samp_no	machine	mineral	MnO	FeO	CaO	MgO	PbO	NiO	ZnO	Total
MT77DD1-3	probe	calcite	2.67	0.17	51.22	0.82	0.14			55.02
DD84KA1-8	probe	calcite	0.94	0.17	53.32	0.62				55.05
MT033-2	probe	cerussite					83.2	0.03	0.07	83.3
MT033-1	probe	cerussite					83.14	0.09		83.23

Table A11.2. Analyses of feldspars.

Samp_no	machine	mineral	SiO ₂	Al ₂ O ₃	K ₂ O	Na ₂ O	CaO	BaO	Fe ₂ O ₃	PbO	Total
DD84KA1-7	probe	hyalophane	57.35	17.35	9.59	0.88		12.79	0.04	0.11	98.11
DD84KA1-6	probe	hyalophane	57.36	17.96	8.98	0.88		13.91	0.07		99.26
DD84KA1-5	probe	hyalophane	60.28	17.12	10.05	0.83	0.01	11.14	0.13	0.17	99.73
616843-8	probe	microcline	65.92	13.93	17.14	0.27	0.02	0.31	0.11	0.36	98.06
MT035-5	probe	microcline	66.38	14.19	16.86	0.23		1.04	0.21		98.91
MT035-8	probe	microcline	66.19	14.13	16.73	0.25		0.99	0.06		100.4
DD84KA2-4	probe	microcline	66.2	14.25	16.56	0.56		0.83		0.26	98.66
DD84KA2-10	probe	microcline	66.42	14.06	16.83	0.34		0.75	0.1	0.1	98.6
DD84KA2-13	probe	microcline	66.5	14.16	16.84	0.37		0.85	0.03		98.75
DD84KA2-9a	SEM	plagioclase	50.33	29.32		3.3	18.44				101.4

Table A11.3. Analyses of hematite and goethite

Samp_no	machine	mineral	Fe ₂ O ₃	Al ₂ O ₃	SiO ₂	CaO	BaO	PbO	SO ₃	P ₂ O ₅	Total
221917-1	probe	goethite	77.96	0.54	4.61	0.04	0.18	0.23	0.46		84.02
221917-2	probe	goethite	76.79	0.55	4.5		0.2	0.76	0.46		83.26
221917-12	probe	goethite	78.02	2.02	4.46	0.11	0.07	0.24	1.32		86.24
221917-11	probe	goethite	76.42	1.81	5.38	0.04	0.26	0.43	0.38		84.72
MT056.1-4	SEM	hematite	91.52	9.24	3.66						104.4
MT056.1-2	SEM	goethite	76.87	3.83	2.5						83.2
MT031-5	SEM	hematite	86.77		4.17						90.94
MT031-4	SEM	goethite	68.6		3.83						72.43
MT031-2	SEM	goethite	60.6	2.83	4.96				3.5		71.89
MT056-3	SEM	goethite	73.92	1.98	4.9					2.29	83.09
MT032-2	SEM	hematite	97.43	2.74	4.34						104.5
MT022-2	SEM	hematite	87.32	10.35	8.77						106.4
MT022-1	SEM	hematite	101.3		3.32						104.6
221913-3	SEM	hematite	100.6		6.97						107.6
221912-15	SEM	hematite	92.89		2.78						95.67
221912-13	SEM	hematite	91.75		5.3						97.05
221921-12	SEM	goethite	79.06	6.04	6.7						91.8
221921-10	SEM	goethite	72.59	5.23	18.87						96.69
221921-6	SEM	hematite	84.34		5.18						89.52
221920-19	SEM	goethite	80.08		3.94			8.27			92.29
221920-16	SEM	goethite	79.59		10.72						90.31

Samples with totals >100% may contain some admixed quartz.

Table A11.4. Analyses of jarosite group minerals

Samp_no	Type	machine	Na ₂ O	K ₂ O	PbO	Fe ₂ O ₃	Al ₂ O ₃	SO ₃	CuO	ZnO	P ₂ O ₅	SiO ₂	As ₂ O ₃	BaO	AgO	Total
221920-3	weathered metasiltstone	SEM		2.35	26.27	31.95	8.53	20.89								89.99
221920-4	weathered metasiltstone	SEM		5.68	12.85	45.15		26.33								90.01
221920-6	weathered metasiltstone	SEM		6.41	13.35	44.34		25.91								90.01
221920-8	weathered metasiltstone	SEM	1.97	6.22	12.44	42.72		26.65								90
699378-5	gossan	SEM	4.09		8.8	45.9	2.57	26.95								88.31
699378-7	gossan	SEM	4.48		11.43	46.61		27.44								89.96
699378-8	gossan	SEM	5.54		14.33	44.78		25.34								89.99
MT028-1	weathered pyritic chert	SEM	5.51	2.34		50.24		31.91								90
MT028-2	weathered pyritic chert	SEM	3.52	4.06		50.3		30.82								88.7
MT028-3	weathered pyritic chert	SEM		6.92		49.31		33.76								89.99
MT031.2-1	gossan	SEM		4.49		52.39		33.12								90
MT031.2-2.core	gossan	SEM		3.88	12.88	48.09		25.14								89.99
MT031.2-3.rim	gossan	SEM		5.08		51.7		32.6								89.38
MT031.3	gossan	SEM		2.8	13.19	53.95		20.06								90
MT056.4-1	acid sulfate soil	SEM	3.45	3.23	12.38	42.77		28.18								90.01
MT056.4-2	acid sulfate soil	SEM		2	22	39.84		26.17								90.01
MT056.4-4	acid sulfate soil	SEM	5.01	2.8		48.23		33.96								90
221920-7	weathered metasiltstone	probe	1.32	6.62	3.11	48.45	0.76	27.5	0.13		0.24	0.33	0.65	0.82		89.93
221920-5	weathered metasiltstone	probe	0.64	7.34	1.05	53.02	0.19	25.75			0.12	0.78	0.22	0.89		90
221920-4	weathered metasiltstone	probe	1.12	6.54	1.7	49.77	0.28	29.27			0.15	0.18	0.31	0.68		90
221908-5	weathered metasiltstone	probe	3.77	3.65	2.34	48.27	0.77	28.74	0.35		0.54	0.57	0.85	0.15		90
221908-6	weathered metasiltstone	probe	3.63	3.33	6.06	45.85	0.67	28.13	0.36	0.06	0.55	0.57	0.67	0.13		90.01
221908-7	weathered metasiltstone	probe	3.66	3.26	6.05	48.56	0.68	24.84	0.47		0.45	0.82	0.72	0.33	0.1	89.94
221908-4	weathered metasiltstone	probe	3.56	3.75	8.46	43.96	1.04	25.94	0.36		0.84	0.5	1.1	0.19		89.7
221908-1	weathered metasiltstone	probe	1.41	4.94	12.43	40.54	1.67	24.12	0.45		1.2	0.87	1.6	0.25		89.48

Table A11.5. Analyses of plumbogummite and gorceixite

Samp_no	machine	mineral	PbO	Al ₂ O ₃	P ₂ O ₅	Fe ₂ O ₃	SO ₃	Ce ₂ O ₃	SrO	BaO	CuO	ZnO	V ₂ O ₅	As ₂ O ₅	AgO	CaO	SiO ₂	Na ₂ O	K ₂ O	MgO	Total
221920-1	SEM	plumbogummite	43.41	24.22	19.59	1.94															89.16
221920-2	SEM	plumbogummite	43.33	25.06	18.98	1.78															89.15
221920-7	SEM	plumbogummite	39.13	23.16	18.85	1.58	2.57		4.05												89.34
221920-20	SEM	plumbogummite	40.03	27.28	22.8																90.11
221921-7	SEM	plumbogummite	32.61	31.96	24.28	3.1															91.95
221921-8	SEM	gorceixite		40.14	32.85					13.09						5.23					91.31
221921-14	SEM	gorceixite		36.61	31.82	2.82				11.45						5.51					88.21
MT033-5	SEM	plumbogummite	38.32	25.74	22.43		2.66														89.15
221920-2b	SEM	plumbogummite	43.65	26.1	19.4																89.15
221921-4	probe	plumbogummite	27.61	23.82	16.54	2.9	6.43	2.94		1.23	0.14	0.05	0.08	0.12		0.19	0.45	0.11	0.28	0.04	82.95
221908-2	probe	plumbogummite	36.58	20.01	11.89	4.98	10.58	0.56		0.38	0.36	0.17		1.31		0.04	1.17	0.18	0.53		88.74
MT033-1	probe	plumbogummite	30.35	23.71	20.96	0.62	4.61	0.9	0.31	0.88	0.07	0.3		0.07		1.61	0.15	0.13	0.15		84.82
221920-3	probe	plumbogummite	36.29	22.56	19.04	1.43	1.93	0.71		0.3	0.06		0.17	0.06		0.03	0.21	0.1	0.08		82.97
221920-2b	probe	plumbogummite	35.57	23.73	21.07	1.58	1.18	1.14					0.26			0.04	0.29	0.05	0.06		84.97
221920-1b	probe	plumbogummite	34.65	22.63	18.93	2.12	3.09	0.97		0.31	0.07	0.07	0.11	0.21	0.13	0.04	0.46	0.04	0.09		83.92
221917-18	probe	plumbogummite	31.59	21.79	17	5.83	3.52	1.35		0.32				0.14		0.05	1.84				83.43
221917-16	probe	plumbogummite	33.34	22.39	17.07	2.63	4.83	1.18		0.28	0.23		0.08			0.03	0.24		0.29		82.59
221917-15	probe	plumbogummite	33.16	21.97	15.82	5.47	5.41	1.02		0.37	0.24	0.04	0.08	0.13		0.05	0.85	0.07	0.33		85.01

Table A11.6. Analyses of scapolite group minerals

Samp_no	machine	mineral	Na ₂ O	MgO	Al ₂ O ₃	SiO ₂	SrO	CaO	K ₂ O	PbO	SO ₃	Cl	CO ₂	O=Cl	Total
616843-1	SEM	marialite	7.58	0.68	21.61	50.61	3.84	6.28				3.31		0.75	93.16
616843-2	SEM	marialite	7.28		22.81	49.82	4.48	7.53				3.09		0.7	94.31
616843-1	SEM	marialite	8.86	0.95	21.59	53.49		8.14	1.05			2.89		0.65	96.32
616843-2	SEM	marialite	10.1	1.11	20.45	56.31		4.19	0.91			3.11		0.7	95.48
616843-3	SEM	marialite	10.4	1.06	20.31	55.96		3.78	1.1			3.27		0.74	95.14
616843-4	SEM	marialite	8.24	1.14	23.02	52.94		7.76	0.97			2.75		0.62	96.2
DD84KA2	SEM	mizzonite	4.1	0.81	25.86	46.84		14.63			1.4	0.92		0.21	94.35
DD84KA2	SEM	mizzonite	4.49	0.86	27.62	49.15		15.38				0.76		0.17	98.09
MT77DD1-4	probe	mizzonite	3.4		20.85	50.42		17.53	0.32		1.76	0.55		0.12	94.71
DD84KA1-1	probe	mizzonite	4.46	0.01	19.23	55.53		13.37	0.54		0.16	1.63		0.37	94.56
DD84KA1-2	probe	mizzonite	4.43		19.05	55.72		12.95	0.52		0.25	1.8		0.41	94.31
MT77DD1-9	probe	mizzonite	3.6		20.01	52.71		15.19	0.33		1.53	0.81		0.18	94
MT77DD1-8	probe	mizzonite	3.92		19.8	53.62		14.41	0.39	0.14	0.75	1.11		0.25	93.89
MT77DD1-7	probe	mizzonite	3.64		19.77	52.73		14.82	0.42	0.18	1.03	0.92		0.21	93.3
DD84KA2-6	probe	mizzonite	4.07		19.88	53.58		14.21	0.42		0.56	1.29		0.29	93.72
DD84KA2-9	probe	mizzonite	4.03		19.73	54		14.46	0.55		1.37	1.16		0.26	95.04
DD84KA2-12	probe	mizzonite	3.57		20.47	52.97		15.51	0.46		1.35	0.86		0.19	95
DD84KA2-14	probe	mizzonite	3.59		19.98	52.36		15.53	0.46	0.08	1.32	0.9		0.2	94.02

Table A11.7. Analyses of pyrite and sphalerite

Samp_no	machine	mineral	S	Fe	Zn	Cu	Ag	Mn	Pb	Sb	Hg	Sn	Cd	Bi	Mo	Se	Te	Total
616843-5	probe	pyrite	52.93	45.55	0.04		0.05		0.01			0.03	0.09	0.15		0.22	0.02	99.09
616843-4	probe	pyrite	51.96	44.49		0.01	0.03		0.17	0.01	0.02						0.02	96.71
DD84KA1-4	probe	pyrite	53.09	45.13	0.01	0.01	0.04		0.3		0.09		0.07					98.74
DD84KA1-3	probe	sphalerite	33.52	7.23	55.67		0.02	0.5	0.02	0.02			1.69			0.16		98.83
DD84KA1-2	probe	sphalerite	33.09	7.28	55.41	0.03		0.53	0.02		0.07	0.01	1.67				0.04	98.15
MT77DD1-1	probe	pyrite	53.56	44.81			0.03		0.25		0.1	0.03		0.09				98.87
MT77DD1-2	probe	sphalerite	33.14	6.76	56.14		0.03	0.29				0.04	1.56					97.96
MT77DD1-3	probe	pyrite	53.66	45.1	0.02			0.01	0.43		0.07	0.08	0.04		0.14		0.03	99.58
MT77DD1-5	probe	sphalerite	33.3	6.61	56.03	0.01		0.31		0.03			1.63		0.05	0.02		97.99
MT77DD1-6	probe	sphalerite	33	6.88	55.81	0.04		0.32					1.39					97.44

Table A11.8. Analyses of apatite, biotite, spessartite and titanite

Samp_no	machine	mineral	SiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	K ₂ O	TiO ₂	P ₂ O ₅	BaO	Na ₂ O	Ce ₂ O ₃	Cl	F	PbO	Cr ₂ O ₃	Total
616843-2	probe	apatite	0.03		0.07	0.04		56.71			39.9	0.15	0.08	0.35	0.77				97.93
MT77DD1-11	probe	biotite	41.98	14.4	12.61	0.74	12.9		9.37	1.1		0.65	0.03		0.08	0.55	0.09	0.1	94.35
MT77DD1-10	probe	biotite	40.71	15.37	13.5	0.76	12.52	0.1	9.67	1.06		0.64	0.06		0.07	0.73	0.13	0.07	95.06
DD84KA2-7	probe	spessartite	40	19.6	4.35	24.26	1.06	9.47		0.03		0.01							98.78
DD84KA2-8	probe	spessartite	40.06	19.57	5.29	23.94	1	9.31		0.03		0.02					0.2	0.01	99.43
DD84KA2-15	probe	titanite	29.09	1.49	0.35	0.29		27.42		36.41						0.34	0.48		95.73

O=F,

Appendix 12.

Glossary

acid sulfate soils - saline soils or sediments containing pyrites, which once drained (as part of remedial land management measures, or as part of coastal development), become acidic releasing large amounts of acidity into the ecosystem with consequent adverse effects on plant growth, animal life, etc. These soils are widespread around coastal Australia (especially when associated with mangrove swamps) and occur to an unknown extent in inland areas.

potential acid sulfate soils (PASS) – in their pristine state, acid sulfate soils (also termed potential acid sulfate soils (PASS)), occur in saline wetland seeps or are buried beneath alluvium and:

- (i) contain black sulfidic material (see below), are waterlogged and anaerobic;
- (ii) contain pyrite (typically framboidal);
- (iii) have high organic matter content;
- (iv) have pH 6-8.

actual acid sulfate soils (ASS) - when PASS are disturbed:

- (i) contain a sulfuric horizon (see below) because pyrite is oxidised to sulfuric acid (pH <3.5-4);
- (ii) iron sulfate-rich minerals form, commonly as bright yellow or straw-coloured mottles containing jarosite, natrojarosite or sideronatrite.

Alfisols – soils that are well developed and contain a subsurface horizon in which clays have accumulated. Consequently, they are soils in which the materials become increasingly finer textured over a short interval (e.g., less than 50 cm; in Australia, typically less than a few centimetres), i.e., sandy or loamy textured surface horizon (A and E horizons) over clayey subsurface horizons (B horizons) (= alf – suffix in soil names).

Aquent - a type of Entisol with aquic conditions (see below).

aquic conditions - soils with aquic conditions are those that currently undergo continuous or periodic saturation and reduction. The presence of these conditions is indicated by redoximorphic features, except in Histosols, and can be verified by measuring saturation and reduction, except in artificially drained soils.

classification, soil - the systematic arrangement of soils into groups or categories on the basis of their characteristics. Broad groupings are made on the basis of general characteristics and subdivisions on the basis of more detailed differences in specific properties. The USDA soil classification system of soil taxonomy was adapted for use in publications by the National Cooperative Soil Survey on 1 Jan. 1965. For complete definitions of taxa see: Soil Survey Staff (1999).

depositional regime – a grouping of regolith mapping units in regolith-dominated terrain characterised by surficial deposits, which may overlie lateritic residuum, saprolite or bedrock.

electrical conductivity (EC) - conductivity of electricity through water or an extract of soil. Commonly used to estimate the soluble salt content in solution.

EC_{se} - the electrical conductance of an extract from a soil saturated with distilled water, normally expressed in units of siemens (S) or decisiemens (dS) per meter at 25°C.

Entisols – (derived from the word “recent”) are soils of recent origin. The central concept is soils developed in unconsolidated parent material with usually no genetic horizons except an A horizon. All soils that do not fit into one of the other eleven orders are Entisols. The result is that the Entisol order is characterised by great diversity.

erosional regime – a grouping of regolith mapping units in partly eroded regolith-dominated terrain characterised by outcrop and subcrop of saprolite and/or bedrock.

gleyed - a soil condition resulting from prolonged soil saturation, which is manifested by the presence of bluish or greenish pigmentation through the soil mass or in mottles (spots or streaks). Gleying occurs under reducing conditions under which iron is reduced predominantly to the ferrous state.

Histosols - are soils with organic horizons, which form a bed of peat or muck >40 cm thick.

natric horizon - a mineral soil horizon that satisfied the requirements of an argillic horizon, but that also has prismatic, columnar, or blocky structure and a subhorizon having >15% saturation with exchangeable Na^+ .

Natrixeralfs - a type of Xeralf with a natric horizon (see definition above).

Palexeralfs - a type of Xeralf with an abrupt texture change between the sandy or loamy textured surface horizon (A and E horizons) and clayey subsurface horizons. It is characterised by a considerable increase in clay content within a very short vertical interval in the zone of contact (i.e., within a vertical interval of 7.5 cm or less).

saline seep - intermittent or continuous saline water discharge at or near the soil surface under dryland conditions which reduces or eliminates crop growth. It is differentiated from other saline soil conditions by recent and local origin, shallow water table, saturated root zone, and sensitivity to cropping systems and precipitation.

saline soil - a nonsodic soil containing sufficient soluble salt to adversely affect the growth of most crop plants. The lower limit of saturation extract electrical conductivity of such soils is conventionally set at 4 dS m^{-1} (at 25°C). Sensitive plants are affected at half this salinity and highly tolerant ones at about twice this salinity.

salinity, soil - the amount of soluble salts in a soil. The conventional measure of soil salinity is the electrical conductivity of a saturation extract.

sodic soil - a nonsaline soil containing sufficient exchangeable sodium to adversely affect crop production and soil structure under most conditions of soil and plant type. The sodium adsorption ratio (SAR) of the saturation extract is at least 13.

exchangeable sodium percentage (ESP) - exchangeable sodium fraction expressed as a percentage.

sodium adsorption ratio (SAR) - a relation between soluble sodium and soluble divalent cations which can be used to predict the exchangeable sodium fraction of soil equilibrated with a given solution. It is defined as follows, where concentrations, denoted by brackets, are expressed in mmoles per litre:

$$\text{SAR} = \frac{[\text{sodium}]}{[\text{calcium} + \text{magnesium}]^{1/2}}$$

soil horizon - a layer of soil or soil material approximately parallel to the land surface and differing from adjacent genetically related layers in physical, chemical, and biological properties or characteristics such as color, structure, texture, consistency, kinds and number of organisms present, degree of acidity or alkalinity, etc.

sulfidic material

- waterlogged material or organic material that has a pH >3.5 and contains sulfide-sulfur.
- if incubated as a layer 1 cm thick under moist conditions (field capacity) while maintaining contact with the air at room temperature shows a drop in pH of more than **0.5 or more units to a pH value of 4 or less** (i.e. 1:1 by weight in water, or in a minimum of water to permit measurement) within 8 weeks.
- thus if these soils were drained, or otherwise exposed to aerobic conditions (e.g. by earthwork excavations) the sulfides in these materials will oxidise to form sulfuric acid (see Table 4.2).

sulfuric horizon - a horizon composed either of mineral or organic soil material that has both pH <3.5 (1:1 by weight in water, or in a minimum of water to permit measurement) and bright yellow jarosite mottles. A sulfuric horizon is defined as (Soil Survey Staff, 1999):

- 15 cm or more thick.
- if the **pH is 3.5 or less** (1:1 by weight in water, or in a minimum of water to permit measurement) and shows evidence that the low pH is caused by sulfuric acid.

The evidence is one or more of the following:

- jarosite concentrations, **or**
- directly underlying sulfidic materials (defined above), **or**
- 0.05 % or more water-soluble sulfate.

soil texture - reflects the proportion of sand (2 – 0.02 mm), silt (0.02 – 0.002 mm) and clay (< 0.002 mm) in soil (see Table).

soil texture (field method) - is determined in the field by the following procedure:

- Take a sample of soil sufficient to fit comfortably into the palm of the hand (separate out gravel and stones). Moisten soil with water, a little at a time, and work until it just sticks to your fingers and is not mushy. This is when its water content is approximately at "field capacity".
- Continue moistening and working until there is no apparent change in the ball (bolus) of soil. This usually takes 1-2 minutes.
- Attempt to make a ribbon by progressively shearing the ball between thumb and forefinger.

The behaviour of the worked soil and the length of the ribbon produced by pressing out between thumb and forefinger characterises ten selected soil texture grades as shown in Table (modified from McDonald et. al., 1990).

soil texture groups (according to Northcote, 1979):

1. **The Sands** = sand (S), loamy sand (LS), clayey sand (CS).
2. **The Sandy Loams** = sandy loam (SL).
3. **The Loams** = Loam (L); sandy clay loam (SCL); Silty loam (ZL).
4. **The Clay loams** = Clay loam (CL).
5. **The Light Clays** = light clay (LC).
6. **The Medium-Heavy Clays** = Medium clay (MC), Heavy clay (HC).

soil texture qualifiers - used as a prefix to refine texture description as follows:

Coarse sandy - Coarse to touch; sand grains can be seen with the naked eye.

Fine sandy - Can be felt and often heard when bolus is manipulated; sand grains seen under hand lens of 10 times magnification.

Gritty - More than 35% very coarse sand and very fine (1-3mm) gravel.

Gravelly - 35-70% of gravel by volume.

Stony - 35-70% of stones by volume.

Soil texture from behaviour of a moist bolus (ball) (modified from McDonald et al., 1990)

Texture	Code	Ribbon (mm)	Ball	Feel and approximate clay content
Sand	S	nil	coherence nil to very slight	Cannot be moulded. Clay is < 5%.
Loamy sand	LS	5 mm	coherence nil to very slight	Cannot be moulded. Clay is 5-10%.
Clayey sand	CS	5-15 mm	coherence very slight	Cannot be moulded. Clay is 5-10%.
Sandy loam	SL	15-25 mm	coherence slight	Sandy to touch. Clay is 10-20%
Loam	L	25 mm	coherent and rather spongy	Smooth feel when manipulated but with no obvious sandiness; may be greasy to touch if organic matter is present. Clay is about 25%.
Silty Loam	ZL	25 mm	coherent and rather spongy	As above but more silky feel
Sandy clay loam	SCL	25-40 mm	strongly coherent	Sandy to touch; medium size sands grains visible in finer matrix. Clay is about 20% - 30%.
Clay loam	CL	40-50 mm	coherent and plastic	Smooth to manipulate. Clay is about 30% - 35%.
Light clay	LC	50-75 mm	plastic	Smooth to touch; slight to shearing between thumb and forefinger. Clay is about 35% - 40%.
Medium clay	MC	>75 mm	smooth plastic	Handles like plasticine and can be moulded into rods without fracture; has some resistance to ribboning shear. Clay is about 45% - 55%.
Heavy clay	HC	>75 mm	smooth plastic	Handles like stiff plasticine; can be moulded into rods without fracture; has firm resistance to ribboning shear. Clay is >55%

soil texture (laboratory method):

sandy loam - soil material that contains 7-20% clay, >52% sand, and the percentage of silt plus twice the percentage of clay is 30 or more; or less than 7% clay, less than 50% silt, and more than 43% sand.

clay loam - soil material that contains 27-40% clay and 20-45% sand.

loam - soil material that contains 7-27% clay, 28-50% silt, and <52% sand.

loamy sand - soil material that contains between 70-91% sand and the percentage of silt plus 1.5 times the percentage of clay is 15 or more; and the percentage of silt plus twice the percentage of clay is less than 30.

sandy clay loam - soil material that contains 20-35% clay, <28% silt, and >45% sand.

sandy loam - soil material that contains 7-20% clay, >52% sand, and the percentage of silt plus twice the percentage of clay is 30 or more; or less than 7% clay, less than 50% silt, and more than 43% sand.

Xeralfs – the equivalent of Alfisol that occurs in winter rainfall regions with hot, dry summers (Mediterranean climate).

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Appendix 13.

Data disk