Chapter 4 Measurement of Magnetic Susceptibility and Radioactivity

4-1 Method of Measurement

It has been pointed out by Sano et al.(1988) and others that granites accompanied by tin and tungsten mineralization have relatively low magnetic susceptibility and high radioactivity. Granites are classified into the magnetite series and ilmenite series, by the relationships between the various constituent minerals and the mineralization and also between the granite-producing field (Ishihara, 1980), or into oxidized type and reduced type (Sato, 1988). These two series nearly correspond to the two types of granite (Sato, 1988). In order to determine to which of the two types the granites of the survey area belong, as well as to investigate their relationship to mineralization, measurements of their magnetic susceptibility and radioactivity were carried out. Measurements were also made on rocks other than granites for the purpose of clarifying whether or not the measurement of magnetic susceptibility and radioactivity can be useful for future exploration.

The instrument used for the measurement of magnetic susceptibility was the Kappameter KT-5C type made in Czechoslovakia. For measuring radioactivity, a French scintilation surveymeter, SPP2-NF, and a Japanese Aloka γ-ray scintilation surveymeter, TCS-151, were used. As the measurement of radioactivity was made with two different types of instruments, the data of both field measurements were compiled into a conversion table, and the units of measurement were coordinated with the CPS values of the French γ-ray scintilation surveymeter.

4-2 Results of Measurement

The geometric mean and the maximum and minimum values of magnetic susceptibility and radioactivity of porphyritic biotite granite, biotite granite, pegmatite and aplite are given in Table 2-20. The table shows also the values of sedimentary rocks and hornfels for comparison. Figure 2-19 is a correlation diagram of magnetic susceptibility-radioactivity values of all rocks, and Figure 2-20 is that of only granitic rocks.

Magnetic susceptibility is very low in biotite granite, porphyritic biotite granite, pegmatite and aplite. Their values overlap each other in the correlation diagram. Magnetic susceptibility of the Paleozoic sedimentary rocks shows slightly lower mean values than those of the Tertiary sedimentary rocks. Mean value for hornfels are on the same level as the Paleozoic sediments. The magnetic susceptibility of granitic rocks, and sedimentary rocks and hornfels

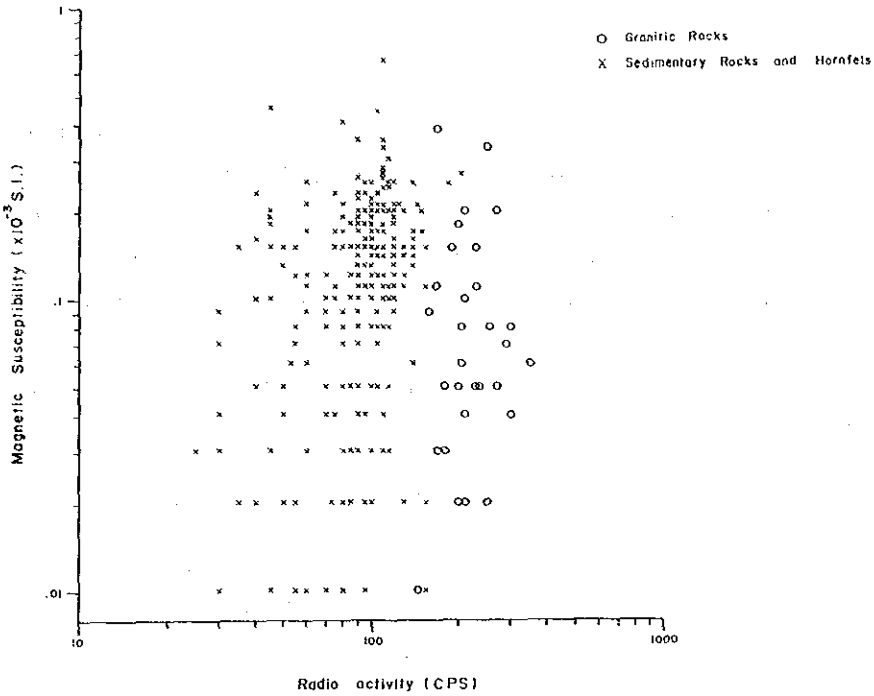

Fig.2-19 Correlation Diagram between Magnetic Susceptibility and Radioactivity of Whole Rocks

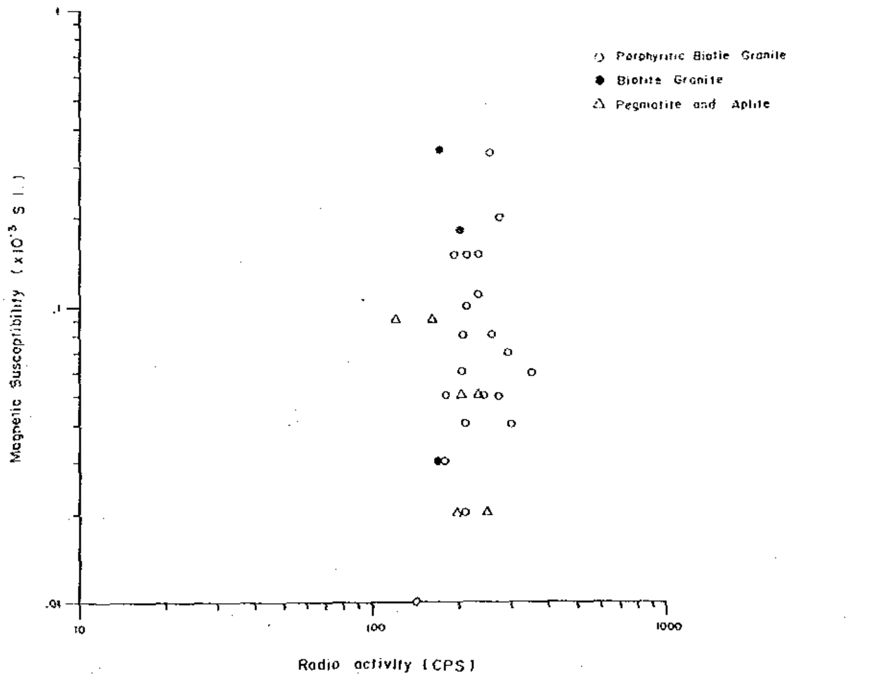

Fig.2-20 Correlation Diagram between Magnetic Susceptibility and Radioactivity of Granitic Rocks

overlap on the correlation diagram. No distinct difference between the two groups is shown.

As for the γ-ray radioactivity, the mean values of intensity are in the order of porphyritic biotite granite > pegmatite-aplite ≒ biotite granite. The same tendency, though weaker, is also observed on the correlation diagram. On the correlation diagram for all rocks, some parts overlap but a general tendency shows granitic rocks higher than sedimentary rocks and hornfels.

No correlation is found between magnetic susceptibility and intensity of radioactivity.

Table 2-20 Basic Statistics of Magnetic Susceptibility and Radio activity

Rock species	Magnetic susceptibility ($\times10^{-3}$S.I.unit)			Radio activity (CPS)		
	Number	Average	Max. Min.	Number	Average	Max. Min.
Porphyritic biotite granite	27	0.07	0.33 0.01	23	226	350 145
Biotite granite	3	0.13	0.38 0.03	3	179	200 170
Pegmatite, Aplite	6	0.04	0.09 0.02	6	188	250 120
Neogene sediment.	57	0.07	0.45 0.01	54	56	155 25
Paleogene sediment.	23	0.06	0.23 0.01	23	94	155 70
Paleozoic sediment.	170	0.13	0.60 0.01	163	100	205 30
Hornfeles	67	0.14	0.66 0.01	64	64	155 70

As mentioned above, there is no distinct relationship between the magnetic susceptibility and the rock species, but the plane distribution (Fig.2-21) of magnetic susceptibility reveals a tendency of the values to be lower around the area of porphyritic biotite granite distribution. High values of magnetic susceptibility are found in the hornfels along the upper reaches of S.Lemang and in the Paleozoic along the middle reaches of S.Gangsal. When the radioactivity intensity is normalized with 200 CPS, high anomalies are found in the area of porphyritic biotite granite distribution centered in the vicinity of the middle reaches of S.Nibul in the east, around Bt.Kayumambang in the central part, and in a part of the biotite granite distribution area northeast of Bt.Pintutujuh in the west, and also in the pegmatite distribution area along S.Sikambu.

4-3 Consideration

Granites are classified by their magnetic susceptibility and chemical composition of ilmenite; the ones having values larger than 3.5 x 10^3 S.I. are classified as oxidized type and those with lower values as reduced type (Sato, 1988).

From the results of the magnetic susceptibility measurements, the granitic rocks of the survey area showing values under 3.5 x 10^3 S.I. are assigned to the reduced type (granite of ilmenite series). This is concordant with the result of the analysis of major components of the above-mentioned granites.

As for the intensity of radioactivity, a comparison with the existing data (Sano et al., 1988) was not made, because the disparity in the measured values due to the different instruments could not be adjusted. Pegmatite and aplite were expected to show higher radioactive intensity, but the obtained values were similar to those of other granitic rocks. On the other hand, the comparison between the sediments・hornfels and the granitic rocks clearly revealed that the latter had higher values than the former, though the two groups partially overlap. This fact suggests that it is possible to make a distinction between the granitic rocks and the sediments・hornfels through the use of measured radioactivity values.

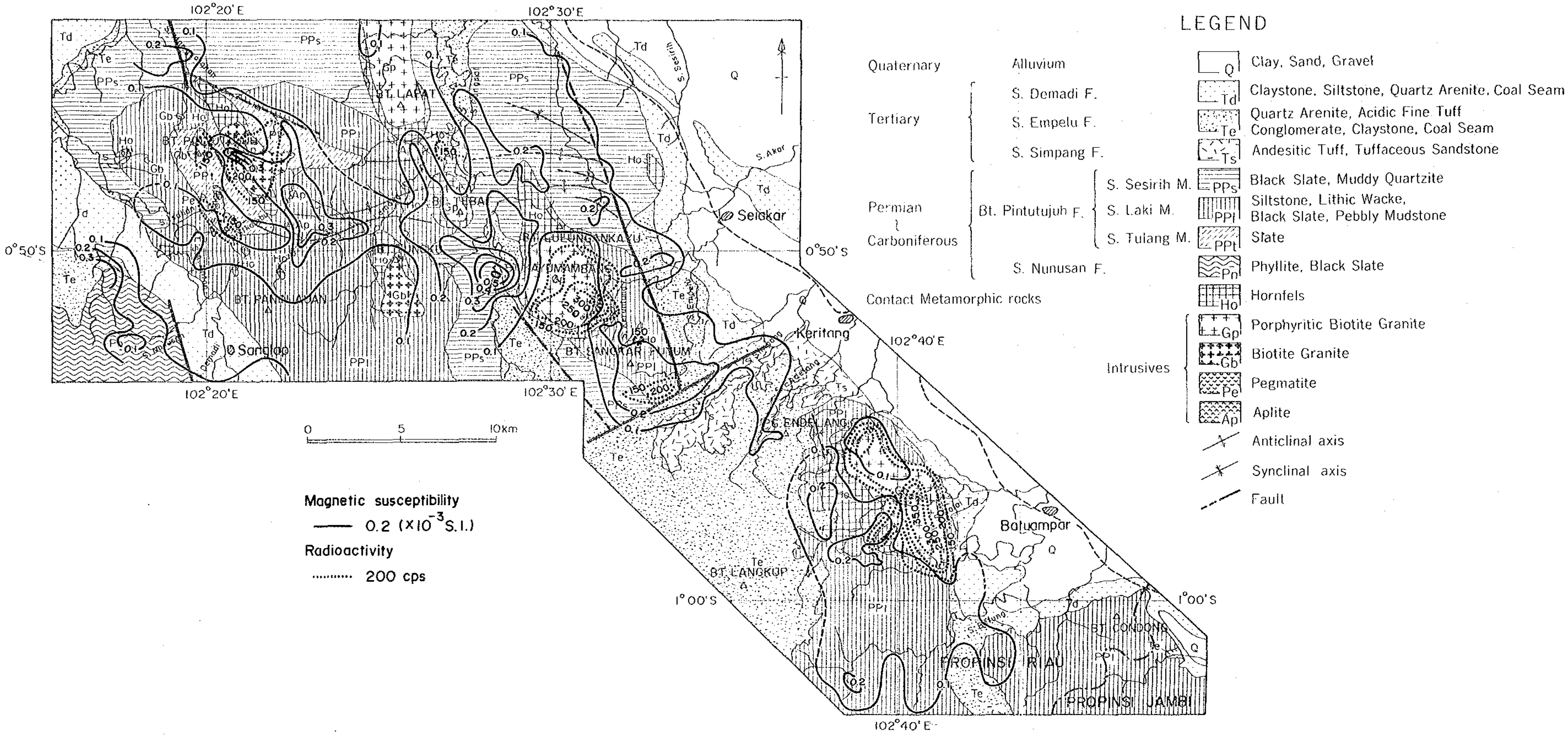

Fig.2-21 Compiled Map of Magnetic Susceptibility and Radioactivity

PART III CONCLUSION AND RECOMMENDATION

Part III Conclusion and Recommendation

Chapter 1 Conclusion

During the course of the first phase of the Pegunungan Tigapuluh survey, photogeological interpretation, geological survey and geochemical prospecting were carried out with the following conclusions.

The geology of the survey area is composed of Carboniferous - Permian sedimentary rocks, Middle Jurassic to Early Cretaceous granitoids, Paleogene pyroclastic rocks, Neogene sedimentary rocks and Quaternary sedimentary rocks.

The granitoids distributed in this area are, from their lithology and chemical composition; porphyritic biotite granite, biotite granite, pegmatite (include leucocratic granite and pegmatite) and aplite. All of these rocks belong to the calc-alkali series and to the ilmenite series. The porphyritic biotite granite is in a more advanced stage of differentiation than the biotite granite. From the results of absolute age determination, geological survey and chemical analysis, it is inferred that the biotite granite intruded at a stage when the granitic magma differentiated and lithophile elements concentrated to a certain extent (porphyritic biotite granite), assimilation of surrounding rocks occurred and the CaO content increased.

The porphyritic biotite granite is arranged in the central to the eastern part while the biotite granite from the western to the central part of the survey area in NW-SE direction. This direction coincides with the line joining the two known tin mineralized zones.

The mineralized zones are the tin-bearing quartz vein network at S.Isahan and S.Sikambu in the western part of the area. The potash feldspar and plagioclase of the host pegmatite and leucocratic granite are mostly muscovitized and the rocks have been greisenized.

Assay of these mineralized zones show Sn 3.84%, W 0.07%, Ce 0.02% in the high grade part while samples containing quartz veins in leucocratic granites and pegmatite are Sn 0.2~0.5%, Ce 0.08%~0.24%. These zones are characterized by the content of rare metals such as Sn, W, Ce.

Geochemical prospecting by stream sediment and panned samples covered the whole survey area. The samples were analyzed for 14 rare metals.

Many Sn anomalous zones were extracted from stream sediments while only two zones were extracted for Nb, W, Zr, Th, Ce, Y, U, Li. Seven anomalous zones of A-rank were delineated for Sn and one zone for other elements. Two of these Sn zones correspond to the known mineralized zones and the Sn contents of two zones are 71~710 ppm.

From geochemical data of the panned samples, eight anomalous zones of A-rank were delineated for Sn and two of these correspond to the known mineralized zones.

The known mineralized zones show geochemical anomalies both with stream sediment and panned samples. There are two Sn anomalous zones located in the northwest extension zone of the known mineralization and one Sn zone each in the Neogene zone along the S.Antan and S.Endelang which display anomalies for both types of samples. Also one W anomalous zone near Bt.Kayumambang, one Nb and two Li anomalous zones near the S,Nibul porphyritic biotite granite body which have anomalous values for both stream sediments and panned samples. These zones have similarity with the known mineralized zones in the overlap of anomalies by different methods regardless of the absolute value of the anomalies.

The distribution of the zones with overlapping anomalies of two type of samples that in Paleozoic and granitic terrane, W, Nb,Li anomalies occur in the eastern part and the Sn anomalies in the western part of the survey area. The type of granites associated are, in the east the porphyritic biotite granite with W, Nb, Li anomalies, and in the west, part of the Sn anomalies are associated with leucocratic granite or pegmatite. Although the anomalous zones do not occur in the granitic bodies, the source of Sn anomalies in the eastern Neogene strata is considered to be associated with granite.

it is thus conclude that the eastern porphyritic biotite granite has high potential for W, Nb, Li mineralization followed by Sn concentration and thus is prospective for these rare metals, and that the western granite has potential for Sn mineralization followed by W concentration and thus is prospective for tin.

From the results of geological survey and geochemical prospecting, it is expected that the survey area is prospective for the following types of mineralization.

① The zone prospective for primary Sn, W, Ce mineralization is the NW-SE extension of S.Isahan and S.Sikambu mineralized zones. Sn anomalies are detected in the extended zones and the probability of the existence of mineralization similar to that of S.Isahan is high.

② Primary mineralization of rare metals, W, Nb, Li was not found by geological survey. The existence of these deposits is inferred from the results of geochemical prospecting. Tungsten-bearing mineralization is expected near Bt.Kyumambang and Nb, Li concentration near the S.Nibui porphyritic biotite granite.

③ Placer concentration not found by geological survey. The existence of these concentration is inferred from the results of geochemical prospecting and the Neogene zone along S.Antan is prospective for this type of ore accumlation.

Chapter 2 Recommendations for the Second Phase

The mineralization expected to occur in the survey area are concluded from the results of the first phase survey to be ;

① Primary mineralization of Sn, W, Ce,

② Primary mineralization of rare metals such as W, Nb, Li,

③ Placer concentration of Sn.

It is recommended that the following survey be conducted during the second phase for locating the mineralization associated with the intrusion of the granitoids and mechanical concentration of ore minerals supplied from the granitic rocks.

(1) Mineralization related to granitic intrusion.

① Along S.Isahan

Tin-bearing quartz vein network is developed in pegmatite at S.Isahan and S.Sikambu.

It was shown by the study of geologic structure and geochemical prospecting that the possibility of these mineralized zones extending in NW-SE direction and other such zones occurring is high. It is recommended that detailed geological survey and geochemical prospecting be carried out in these zones followed by drilling.

② Bt.Kayumambang and vicinity

Tungsten anomalies were detected by geochemical prospecting during the present phase. It is recommended that detailed geological survey and geochemical prospecting be carried out in order to clarify the nature of mineralization of this anomalous zone.

③ Middle stream of S. Nibul and vicinity

Anomalies for Nb and Li were detected at middle reaches of S.Nibul by geochemical prospecting during the present phase. It is recommended that detailed geological survey and geochemical prospecting be carried out in order to clarify the nature of the mineralization.

(2) Placer concentration

① Along S.Antan

Tin anomalies were detected by geochemical prospecting during the present phase. It is recommended that detailed geological survey and geochemical prospecting be carried out in order to evaluate the tin placer concentration.

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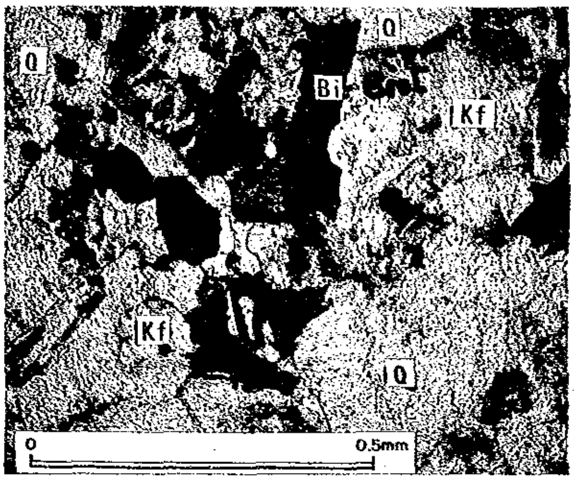
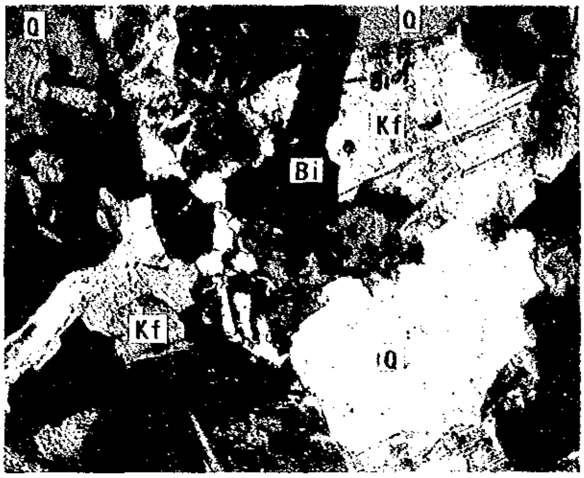
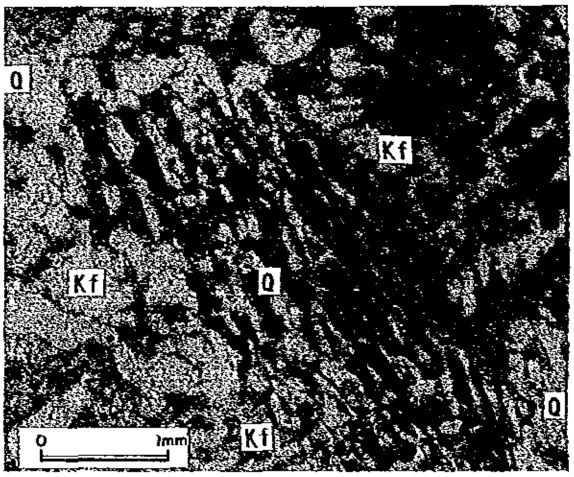
PHOTOGRAPHS

A28 Granodiorite (BT.Lapat)

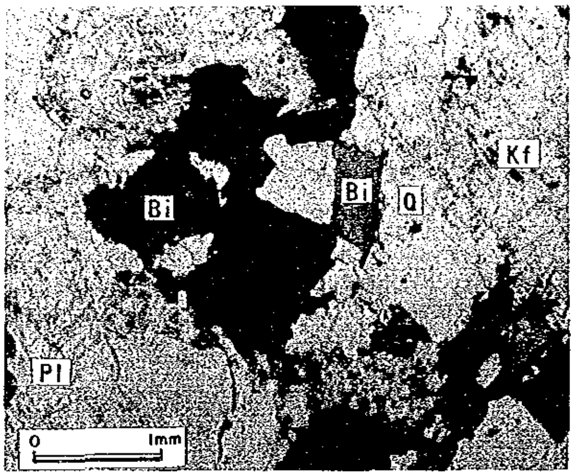




CR13 Granite (S.Mentaus)



CR25 Granite (S.Nibul)



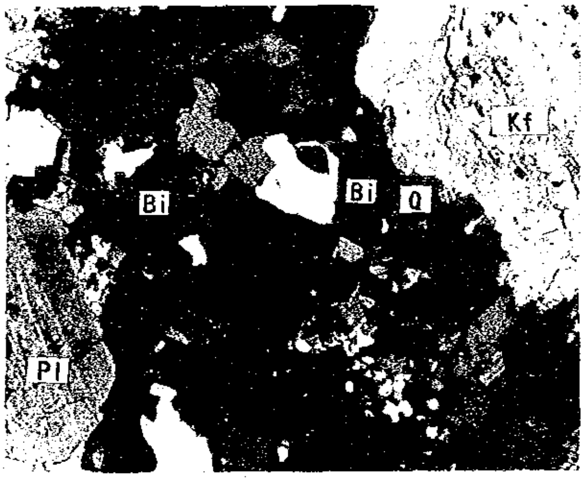


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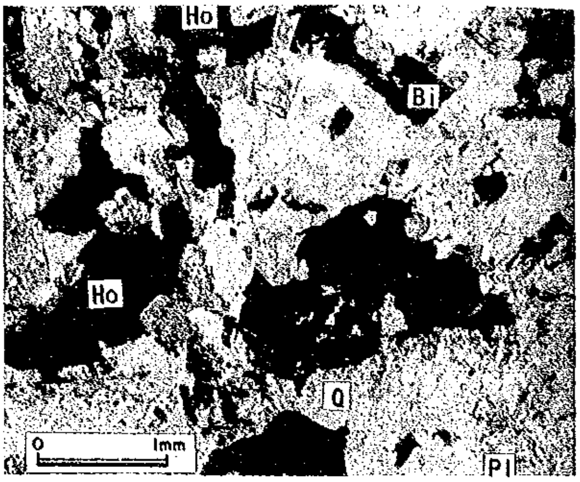
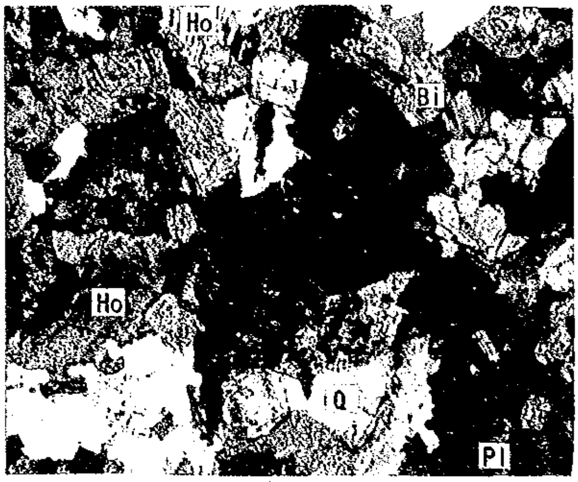
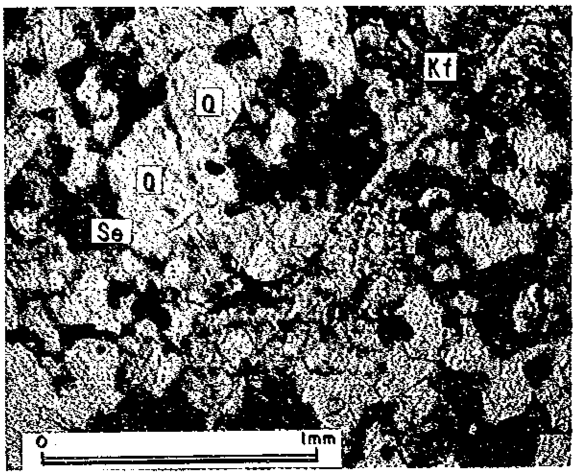
Photo.1 Microscopic photograph(Thin Section)

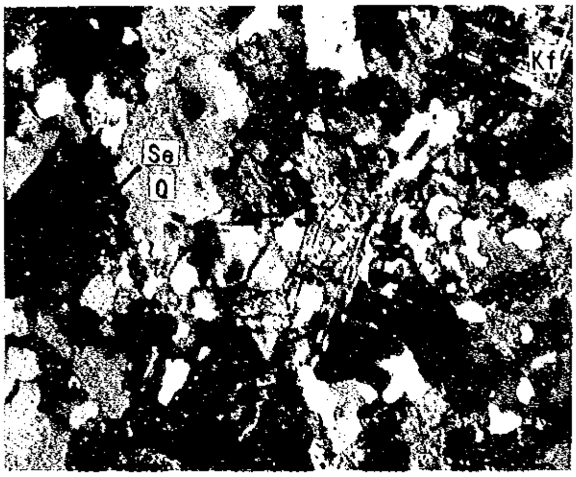
CR35 Granodiorite (S.Tulang)





CR49 Granite (S.Isahan)





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LEGEND

Q : Quartz

Pl : Plagioclase

Kf : Potassium feldspar

Ho : Hornblende

Se : Sericite

Bi : Biotite

Photo.2 Microscopic photograph(Thin Section)

APPENDIX

App. 1 Results of X-ray Diffractive Analysis

Sample No.	Qz	Kf	Pl	Ho	Mu	Ka	Ch	Be	To	Py	Ca
A5	◎				•	○					
CR6	○	△	△		△	•					
CR11	◎				△					•	
CR12	◎				△					•	
CR14	◎	○	○		•						
CR17	○	△	•		•				•		
CR21	◎	•			•					•	
CR26	◎	◎	○		△						
CR31	○	△			•	△					
CR32	○				•	•				△	
CR33	◎	△			•	•					
CR37	○	△			△		•				
CR38	○	○	△	•			•				
CR42	◎				•					•	
CR43	◎				•	△					
CR44	◎				○						
CR45	○	•			△	•		•			
CR46	◎				△				•		•
CR48	○				△			•	•	•	
CR49	○	△			○	•					
CR50	○	○			△	△					
CR51	◎	○			△						
CR54	◎	○			△						
CR56	◎	○			△	△					
CR60	◎				•	△					
CR62		•			◎	•					
CR64	◎	•	•		△						
D07	◎				•						
D08	◎				•	•				•	
ER16	◎	•			•						
EX1	◎				•						
TP1-3	◎				△	○					

Abbreviation

Qz:Quartz Kf:K-feldspar Pl:Plagioclase Ho:Hornblende

Mu:Muscovite Ka:Kaolinite Ch:Chlorite Be:Beryl

To:Tourmaline Py:Pyrite Ca:Cassiterite

App. 2 Chemical Analysis of Pan Concentrate Samples (1)

Sample No.	Weight (g)	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
AP1	20	8	<0.2	>1000	110	47.0	4	4600	26900	74.0	538	111	18.0	8	208
AP2	25	385	<0.2	580	23	20.0	3	6050	8000	120.0	715	120	21.0	4	320
AP8	50	540	<0.2	>1000	130	34.0	12	29700	37000	395	2200	730	55.0	3	925
AP9	60	1	<0.2	100	31	11.0	4	1090	6700	46.0	185	53	8.0	1	176
AP14	35	<1	<0.2	380	32	16.0	5	750	6780	67.0	245	75	9.0	2	240
AP16	35	<1	<0.2	580	26	13.0	90	745	2900	145.0	230	91	33.0	16	115
AP22	20	<1	<0.2	910	17	12.0	6	365	2100	39.0	105	40	16.0	6	26
AP26	15	<1	<0.2	940	146	62.0	21	6130	35000	99.0	717	149	23.0	4	277
AP28	15	<1	<0.2	>1000	91	39.0	55	3800	26300	62.0	448	93	15.0	5	173
AP29	40	<1	<0.2	>1000	40	9.0	300	1980	7150	245	205	77	62.0	14	11
AP37	55	<1	<0.2	100	16	12.0	7	505	2500	27.0	105	20	16.0	12	<1
AP38	70	<1	<0.2	>1000	13	15.0	35	650	1450	15.0	71	29	17.0	8	36
AP47	40	<1	<0.2	180	34	21.0	3	23000	17100	100.0	1210	170	36.0	3	150
AP54	90	2	<0.2	1	14	7.0	<2	300	3700	6.0	47	10	<1.0	5	76
AP59	60	<1	<0.2	56	21	14.0	2	790	5500	13.0	105	9	8.0	3	54
AP65	100	<1	<0.2	10	16	13.0	<2	750	4100	12.0	55	12	5.0	4	33
AP69	95	<1	<0.2	29	11	10.0	3	325	1650	<1.0	21	5	<1.0	4	22
AP74	100	<1	<0.2	14	16	10.0	<2	635	3550	<1.0	105	12	<1.0	6	20
AP76	75	<1	<0.2	23	14	9.0	<2	330	3600	<1.0	49	11	<1.0	7	<1
AP78	60	<1	<0.2	38	19	15.0	2	840	4750	16.0	105	22	<1.0	5	24
AP83	70	<1	<0.2	27	39	17.0	2	1550	9950	62.0	260	56	11.0	3	200
AP89	75	<1	<0.2	60	19	9.0	<2	470	4050	7.0	65	11	<1.0	4	14
AP94	70	<1	<0.2	29	10	14.0	<2	860	4900	9.0	65	11	5.0	3	115
AP104	70	<1	<0.2	250	31	8.0	3	975	7950	37.0	105	23	<1.0	4	150
AP105	70	<1	<0.2	<1	16	7.0	<2	535	2600	<1.0	32	10	<1.0	7	<1
AP117	75	<1	<0.2	33	27	9.0	2	990	6400	24.0	115	23	5.0	3	105
AP118	75	<1	<0.2	185	26	13.0	<2	735	6400	30.0	150	20	<1.0	6	110
AP132	80	<1	<0.2	<1	13	11.0	<2	295	2850	<1.0	5	11	7.0	7	43
AP135	65	<1	<0.2	190	16	15.0	<2	585	3950	43.0	120	17	7.0	4	99
AP136	60	<1	<0.2	9	21	11.0	2	790	9200	23.0	125	26	6.0	4	92
AP149	75	<1	<0.2	7	13	12.0	3	635	3250	20.0	105	11	7.0	3	54
AP162	70	<1	<0.2	6	12	14.0	<2	630	2550	15.0	81	11	<1.0	5	16
AP166	75	<1	<0.2	1	16	11.0	<2	310	4500	7.0	59	<1	<1.0	4	40
AP171	75	<1	<0.2	36	11	10.0	<2	180	2400	<1.0	34	5	7.0	4	16
AP173	60	2	<0.2	14	12	13.0	<2	210	2750	<1.0	68	7	<1.0	6	62
AP174	60	<1	<0.2	>1000	39	11.0	7	1100	13100	72.0	290	40	6.0	3	130
AP178	65	<1	<0.2	1	16	7.0	<2	155	4100	<1.0	<1	11	<1.0	6	24
AP187	55	<1	<0.2	>1000	29	14.0	<2	4000	8450	98.0	495	67	15.0	3	315
AP197	60	<1	<0.2	36	21	14.0	8	715	2000	19.0	86	120	19.0	11	13
AP200	80	<1	<0.2	>1000	23	16.0	4	3430	5900	110.0	505	81	24.0	29	420
BP1	105	2	<0.2	56	16	9.0	<2	3570	4650	39.0	320	64	15.0	5	115
BP2	165	<1	<0.2	300	14	13.0	<2	2450	3900	36.0	270	43	12.0	5	84
BP3	225	<1	<0.2	40	14	9.0	<2	660	3150	14.0	100	14	<1.0	3	22
BP4	95	<1	<0.2	9	17	10.0	<2	720	4200	11.0	125	11	8.0	3	30
BP5	175	<1	<0.2	1	13	<1.0	<2	215	3500	10.0	10	11	<1.0	5	17
BP6	130	<1	<0.2	11	16	17.0	<2	125	2350	<1.0	47	35	6.0	5	44
BP7	225	<1	<0.2	1	12	10.0	<2	67	3650	7.0	55	11	<1.0	8	<1
BP8	260	<1	<0.2	<1	12	14.0	<2	240	2250	7.0	41	<1	<1.0	4	<1
BP9	260	<1	<0.2	1	9	7.0	<2	93	1650	<1.0	32	10	<1.0	6	<1
BP10	270	<1	<0.2	<1	9	13.0	<2	130	1100	<1.0	<1	<1	<1.0	14	<1
BP11	215	<1	<0.2	37	13	10.0	<2	290	2600	9.0	51	7	<1.0	5	50
BP12	220	<1	<0.2	3	11	11.0	<2	310	2750	6.0	52	12	<1.0	6	<1
BP13	165	<1	<0.2	5	11	13.0	<2	535	4050	<1.0	61	5	<1.0	3	<1
BP14	200	<1	<0.2	12	11	10.0	<2	365	3050	5.0	49	<1	6.0	4	<1
BP15	305	<1	<0.2	380	20	11.0	2	1030	6050	16.0	150	19	12.0	20	26
BP16	60	<1	<0.2	83	15	<1.0	<2	200	4700	12.0	50	16	<1.0	13	15

App. 2　The Chemical Analysis of Pan Concentrate Samples (2)

Sample No.	Weight (g)	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
BP17	245	<1	<0.2	<1	23	10.0	<2	565	7000	19.0	115	22	<1.0	12	55
BP18	520	<1	<0.2	4	16	<1.0	<2	240	4450	11.0	67	18	<1.0	11	<1
BP19	280	2	<0.2	56	23	8.0	2	1040	6050	10.0	165	17	<1.0	8	38
BP20	420	<1	<0.2	170	42	16.0	4	10300	11600	94.0	670	105	30.0	6	330
BP21	480	<1	<0.2	11	16	14.0	3	1100	3850	16.0	40	15	7.0	5	34
BP22	320	<1	<0.2	6	20	7.0	3	365	5750	5.0	9	7	<1.0	6	12
BP23	365	1	<0.2	1	12	<1.0	4	175	3550	<1.0	<1	6	<1.0	4	68
BP24	295	<1	<0.2	56	19	<1.0	4	820	4300	10.0	110	11	<1.0	5	66
BP25	140	<1	<0.2	3	13	13.0	3	220	2950	<1.0	41	<1	<1.0	4	<1
BP26	65	<1	<0.2	1	21	8.0	2	1000	5700	22.0	175	18	<1.0	6	115
BP27	210	<1	<0.2	<1	16	10.0	2	520	5700	14.0	93	19	<1.0	12	110
BP28	95	<1	<0.2	1	15	10.0	<2	360	3500	6.0	89	10	5.0	12	<1
BP29	75	<1	<0.2	<1	20	9.0	3	655	4350	88.0	185	37	11.0	23	76
BP30	220	<1	<0.2	<1	10	6.0	2	963	5300	15.0	105	14	7.0	8	35
BP31	190	<1	<0.2	<1	17	7.0	2	450	4300	13.0	43	11	6.0	10	54
BP32	210	<1	<0.2	<1	19	12.0	2	595	5400	11.0	77	12	<1.0	9	70
BP33	110	<1	<0.2	<1	19	9.0	3	865	5900	10.0	73	15	<1.0	8	57
BP34	220	1	<0.2	<1	28	11.0	4	3570	8600	53.0	345	38	9.0	7	240
BP35	65	<1	<0.2	1	20	9.0	4	1000	5350	21.0	115	16	<1.0	8	52
BP36	65	<1	<0.2	1	22	<1.0	3	1580	5350	32.0	220	90	8.0	6	100
BP37	65	<1	<0.2	<1	20	7.0	2	460	5000	14.0	105	18	<1.0	7	99
BP38	65	<1	<0.2	<1	21	11.0	3	550	5000	13.0	75	15	<1.0	8	77
BP39	95	<1	<0.2	8	23	16.0	5	1690	6050	35.0	225	59	12.0	7	150
BP40	70	<1	<0.2	43	20	15.0	5	1040	4550	8.0	59	61	12.0	10	45
BP41	100	<1	<0.2	2	16	<1.0	<2	340	3100	11.0	69	8	<1.0	3	74
CP1	275	<1	<0.2	56	16	10.0	<2	510	3450	16.0	115	16	<1.0	4	50
CP2	120	<1	<0.2	20	20	9.0	<2	435	3600	20.0	41	15	<1.0	2	43
CP3	260	<1	<0.2	11	15	14.0	2	930	3900	20.0	100	10	7.0	4	42
CP4	190	1	<0.2	7	13	10.0	<2	865	3200	7.0	90	5	<1.0	4	68
CP5	300	1	<0.2	170	16	14.0	3	2900	4300	13.0	250	17	5.0	3	25
CP6	280	<1	<0.2	1	20	11.0	<2	840	4050	31.0	120	22	<1.0	3	70
CP7	250	<1	<0.2	88	17	9.0	<2	550	4950	11.0	100	12	<1.0	6	<1
CP8	285	<1	<0.2	19	15	14.0	<2	365	3650	5.0	54	6	<1.0	4	28
CP9	80	<1	<0.2	20	16	14.0	<2	435	3750	15.0	83	26	6.0	8	<1
CP10	120	1	<0.2	55	13	9.0	<2	485	3750	11.0	70	11	<1.0	7	60
CP11	160	<1	<0.2	4	12	<1.0	<2	215	3900	6.0	54	15	<1.0	12	17
CP12	135	3	<0.2	130	17	6.0	7	500	3600	22.0	110	26	8.0	10	<1
CP13	160	<1	<0.2	660	48	30.0	6	460	3950	95.0	145	59	32.0	12	60
CP14	125	<1	<0.2	>1000	80	23.0	60	1300	4000	100.0	175	96	53.0	13	67
CP15	110	3	<0.2	12	14	5.0	<2	520	4200	11.0	105	14	<1.0	11	93
CP16	90	<1	<0.2	13	15	9.0	<2	275	2700	15.0	34	20	5.0	14	<1
CP17	130	<1	<0.2	>1000	22	13.0	<2	835	3250	19.0	125	19	9.0	6	40
CP18	110	<1	<0.2	5	11	13.0	<2	400	2500	<1.0	35	<1	<1.0	4	32
CP19	200	1	<0.2	13	15	9.0	<2	520	3150	16.0	61	6	5.0	2	<1
CP20	65	<1	<0.2	11	10	15.0	2	1150	4200	38.0	225	20	8.0	2	140
CP21	210	<1	<0.2	12	22	15.0	<2	2500	6700	25.0	275	22	10.0	4	125
CP22	110	<1	<0.2	2	15	8.0	<2	395	3700	11.0	125	20	<1.0	9	75
CP23	190	<1	<0.2	1	34	10.0	6	1980	5600	26.0	175	54	23.0	30	69
CP24	330	<1	<0.2	<1	15	11.0	<2	540	3700	<1.0	26	10	<1.0	6	77
CP25	210	<1	<0.2	6	15	16.0	6	1200	3700	25.0	100	26	9.0	35	87
CP26	150	<1	<0.2	15	18	10.0	4	1300	3050	16.0	115	49	15.0	34	80
CP27	110	<1	<0.2	4	23	16.0	4	1350	3650	30.0	130	45	15.0	24	70
CP28	100	2	<0.2	3	13	11.0	3	545	2200	14.0	60	24	11.0	24	<1
CP29	160	<1	<0.2	6	21	10.0	5	545	3000	20.0	76	44	15.0	23	76
CP30	110	5	<0.2	5	20	11.0	4	1900	3750	28.0	150	52	21.0	18	33
CP31	330	<1	<0.2	3	16	10.0	2	750	3600	5.0	60	13	7.0	6	<1

App. 2 The Chemical Analysis of Pan Concentrate Samples (3)

Sample No.	Weight (g)	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
CP32	180	2	<0.2	1	13	<1.0	14	300	3700	9.0	67	22	<1.0	16	22
CP33	180	<1	<0.2	27	14	7.0	<2	405	3000	17.0	110	16	<1.0	8	21
CP34	175	<1	<0.2	190	17	9.0	2	1620	4850	17.0	135	19	7.0	9	52
CP35	100	<1	<0.2	600	18	11.0	16	2500	4350	39.0	210	22	7.0	7	65
CP36	160	<1	<0.2	1000	18	12.0	2	1270	4350	5.0	155	20	8.0	7	47
CP37	120	<1	<0.2	39	14	7.0	<2	710	3500	<1.0	63	11	9.0	6	41
CP38	205	<1	<0.2	36	13	9.0	2	440	3100	5.0	105	16	<1.0	9	13
CP39	170	<1	<0.2	>1000	18	<1.0	10	470	4250	9.0	130	23	6.0	20	88
CP40	95	<1	<0.2	96	26	14.0	<2	3800	9000	41.0	325	110	15.0	8	95
DP1	190	<1	<0.2	6	12	11.0	<2	385	2700	<1.0	<2	9	<1.0	4	35
DP6	235	<1	<0.2	2	11	10.0	<2	235	2100	<1.0	48	8	<1.0	2	39
DP7	200	1	<0.2	3	15	11.0	<2	265	3200	9.0	13	9	<1.0	2	50
DP8	260	<1	<0.2	4	15	11.0	<2	550	3930	12.0	12	13	5.0	2	53
DP9	185	<1	<0.2	290	14	6.0	<2	400	3780	<1.0	12	11	5.0	2	57
DP10	195	<1	<0.2	24	16	9.0	<2	525	3380	6.0	19	20	6.0	3	41
DP11	255	<1	<0.2	21	11	11.0	<2	110	1600	5.0	29	5	<1.0	14	23
DP12	190	<1	<0.2	1	9	8.0	<2	80	1300	<1.0	<1	<1	<1.0	12	<1
DP13	170	<1	<0.2	1	15	6.0	<2	305	4050	<1.0	66	10	<1.0	8	72
DP14	255	<1	<0.2	51	14	<1.0	<2	115	3150	<1.0	32	8	<1.0	6	37
DP15	285	<1	<0.2	3	11	11.0	2	370	2600	9.0	19	5	8.0	12	62
DP16	200	1	<0.2	180	14	16.0	2	365	2800	15.0	82	6	<1.0	6	62
DP17	285	<1	<0.2	100	17	6.0	2	322	3950	13.0	41	22	<1.0	8	70
DP18	230	<1	<0.2	130	16	6.0	3	1100	3900	21.0	125	12	6.0	4	84
DP19	225	<1	<0.2	1	14	11.0	2	640	3300	<1.0	56	10	7.0	2	20
DP20	305	<1	<0.2	980	29	19.0	4	5150	8700	40.0	390	54	21.0	3	150
DP21	180	<1	<0.2	39	23	17.0	4	1850	6950	17.0	155	17	7.0	3	34
DP22	105	<1	<0.2	1	12	9.0	2	300	2700	<1.0	16	5	<1.0	4	53
DP23	260	<1	<0.2	70	15	7.0	2	1650	4000	19.0	155	26	7.0	3	60
DP24	225	<1	<0.2	51	12	15.0	<2	415	2200	<1.0	66	6	<1.0	5	51
DP25	190	<1	<0.2	1	14	11.0	<2	530	4000	10.0	110	14	<1.0	6	54
DP26	200	<1	<0.2	14	14	14.0	<2	400	3000	<1.0	46	<1	<1.0	4	<1
DP27	330	<1	<0.2	3	13	9.0	<2	195	2000	<1.0	53	<1	<1.0	4	51
DP28	170	<1	<0.2	190	21	7.0	9	1250	5600	38.0	170	10	10.0	5	90
DP29	110	<1	<0.2	1	37	<1.0	16	910	7450	58.0	105	71	14.0	28	88
DP32	200	<1	<0.2	49	34	6.0	21	710	7600	140.0	100	60	24.0	24	100
DP34	160	1	<0.2	6	10	<1.0	<2	340	5000	19.0	73	21	<1.0	13	55
DP35	260	<1	<0.2	59	30	<1.0	9	395	7000	54.0	98	51	7.0	26	66
DP38	75	<1	<0.2	2	29	10.0	2	375	5550	41.0	64	54	8.0	23	72
DP39	65	<1	<0.2	590	23	6.0	<2	850	3000	51.0	125	30	7.0	13	110
DP40	175	<1	<0.2	2	16	10.0	<2	255	4900	7.0	70	16	9.0	11	70
DP41	120	<1	<0.2	280	18	13.0	<2	590	5300	20.0	105	22	7.0	13	69
DP43	75	<1	<0.2	3	13	9.0	<2	125	3350	<1.0	16	9	5.0	8	42
DP44	80	<1	<0.2	15	13	6.0	<2	240	3900	13.0	68	8	<1.0	5	31
DP46	180	<1	<0.2	26	16	<1.0	<2	590	4900	11.0	70	16	<1.0	8	62
DP47	180	<1	<0.2	330	21	7.0	2	1500	6250	30.0	145	28	<1.0	9	105
DP48	220	<1	<0.2	7	24	12.0	3	1850	5450	105.0	310	65	23.0	18	140
DP50	75	7	<0.2	<1	20	10.0	<2	1050	5500	16.0	140	17	<1.0	6	93
DP51	165	<1	<0.2	3	29	6.0	6	950	5500	82.0	185	66	20.0	22	177
DP52	90	<1	<0.2	53	21	9.0	<2	1000	7650	41.0	280	31	<1.0	8	125
DP53	90	<1	<0.2	6	21	5.0	<2	685	7050	16.0	38	28	<1.0	7	60
DP54	80	<1	<0.2	1	16	11.0	2	320	4000	12.0	135	10	7.0	8	47
DP55	75	<1	<0.2	<1	19	10.0	<2	600	4200	15.0	80	13	<1.0	4	100
DP56	185	<1	<0.2	<1	17	13.0	<2	1100	3650	28.0	67	29	24.0	4	75
DP57	120	<1	<0.2	3	18	10.0	<2	745	5100	20.0	73	17	8.0	6	105
DP58	110	3	<0.2	<1	21	7.0	<2	820	6050	24.0	120	32	<1.0	8	91
DP59	75	<1	<0.2	14	14	11.0	<2	455	3950	17.0	135	29	7.0	8	86

App. 2 The Chemical Analysis of Pan Concentrate Samples (4)

Sample No.	Weight (g)	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
DP60	100	<1	<0,2	7	14	9,0	2	450	3500	54,0	<1	52	11,0	10	81
EP1	175	1	<0,2	1	16	7,0	<2	580	4800	10,0	140	12	10,0	16	65
EP2	105	<1	<0,2	2	16	6,0	<2	395	5050	11,0	32	12	<1,0	11	41
EP3	75	<1	<0,2	61	37	16,0	4	2000	10400	77,0	375	65	19,0	8	155
EP4	45	2	<0,2	5	20	14,0	2	640	5700	21,0	135	27	15,0	6	11
EP5	85	<1	<0,2	1	19	5,0	<2	1500	5650	26,0	210	19	<1,0	6	82
EP6	100	<1	<0,2	4	19	14,0	<2	970	4750	16,0	145	29	<1,0	5	18
EP7	135	<1	<0,2	67	22	14,0	3	3500	6400	53,0	355	76	31,0	6	130
EP8	120	<1	<0,2	20	18	6,0	2	760	3400	37,0	110	74	13,0	16	120
EP9	190	7	<0,2	490	18	<1,0	4	815	4000	60,0	150	74	<1,0	21	155
EP10	85	<1	<0,2	6	19	11,0	2	1550	4400	30,0	225	36	8,0	3	100
EP11	70	<1	<0,2	220	19	12,0	3	2700	4550	17,0	240	34	6,0	2	55
EP12	60	<1	<0,2	160	15	13,0	2	2850	3850	16,0	255	19	13,0	3	23
EP13	65	<1	<0,2	33	19	15,0	3	2250	5250	16,0	210	15	11,0	2	20
EP14	60	<1	<0,2	1	15	17,0	2	1150	3200	8,0	80	7	6,0	3	24
EP15	100	<1	<0,2	140	21	21,0	2	5550	5000	32,0	440	50	17,0	3	70
EP16	65	<1	<0,2	67	17	15,0	3	2600	3950	20,0	230	23	6,0	2	15
EP17	75	<1	<0,2	68	23	5,0	3	1500	6550	19,0	160	20	5,0	2	58
EP18	60	1	<0,2	19	13	10,0	<2	395	3250	6,0	120	6	6,0	6	<1
EP19	60	<1	<0,2	4	30	<1,0	3	1450	9100	27,0	160	44	<1,0	7	40
EP20	60	<1	<0,2	3	15	14,0	2	375	3000	<1,0	28	7	<1,0	5	20
EP21	125	<1	<0,2	27	17	<1,0	3	850	6250	22,0	125	24	<1,0	13	120
EP22	70	<1	<0,2	<1	21	10,0	2	3000	7000	60,0	425	42	6,0	5	155
EP23	70	<1	<0,2	<1	20	6,0	2	1050	5950	24,0	155	23	<1,0	6	94
EP24	140	5	<0,2	10	24	<1,0	2	1750	7300	24,0	200	31	6,0	14	23
EP25	95	<1	<0,2	<1	26	11,0	<2	2250	8300	90,0	315	44	8,0	7	220
EP26	110	<1	<0,2	<1	18	11,0	<2	1300	4650	32,0	130	25	8,0	7	91
EP27	75	<1	<0,2	1	15	8,0	2	305	3850	6,0	18	<1	<1,0	4	<1
EP28	70	<1	<0,2	9	29	<1,0	3	2150	9050	35,0	275	29	12,0	6	94
EP29	60	<1	<0,2	25	29	12,0	3	3900	19000	25,0	345	33	6,0	5	49
EP30	80	5	<0,2	760	32	19,0	6	4750	8900	74,0	520	100	25,0	11	165
EP31	105	<1	<0,2	200	30	8,0	3	2900	7400	45,0	350	76	17,0	12	88
EP32	160	4	<0,2	12	28	<1,0	<2	1600	25400	13,0	89	24	7,0	6	79
EP33	90	2	<0,2	57	14	15,0	<2	780	3250	10,0	65	17	8,0	4	<1
EP34	130	<1	<0,2	435	18	16,0	2	3600	2950	61,0	390	25	9,0	6	140
EP35	105	1	<0,2	225	30	14,0	<2	3780	9700	49,0	420	115	19,0	8	97
EP36	95	2	<0,2	560	41	15,0	2	6500	14200	85,0	580	175	17,0	8	190
EP37	105	<1	<0,2	140	18	17,0	2	1650	4300	9,0	155	29	<1,0	8	27
EP38	100	72	<0,2	>1000	17	8,0	3	2100	6950	17,0	200	36	6,0	9	65
EP39	120	<1	<0,2	125	23	<1,0	2	220	8400	15,0	94	115	11,0	9	99
EP40	100	2	<0,2	6	33	12,0	<2	5000	10800	60,0	495	150	16,0	3	120
EP41	75	<1	<0,2	350	35	14,0	<2	4750	10900	76,0	490	115	15,0	3	140

App. 3 The Chemical Analysis of Stream Sediments (1)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
AS1	<1	<0.2	8	12	16	<2	390	1700	9.0	39	13	5.0	10	35
AS2	2	<0.2	8	13	16	2	230	2000	9.0	87	13	<1.0	8	13
AS3	<1	<0.2	10	12	18	3	350	1700	10.0	48	11	<1.0	12	<1
AS4	<1	<0.2	5	12	9	3	250	2610	9.0	<1	11	<1.0	17	61
AS5	<1	<0.2	2	12	17	2	280	2000	9.0	82	15	<1.0	12	<1
AS6	<1	<0.2	3	12	11	2	190	2340	7.0	22	10	<1.0	12	32
AS7	<1	<0.2	2	13	6	2	120	2460	7.0	20	8	6.0	12	17
AS8	10	<0.2	5	13	14	<2	550	2850	10.0	73	18	7.0	10	44
AS9	<1	<0.2	1	15	13	<2	260	3930	21.0	89	28	7.0	17	63
AS10	<1	<0.2	12	14	16	<2	420	3180	7.0	64	23	7.0	12	46
AS11	<1	<0.2	3	15	14	2	270	3570	16.0	62	20	6.0	17	29
AS12	2	<0.2	2	13	9	2	205	2970	11.0	44	16	6.0	16	81
AS13	1	<0.2	2	15	12	<2	225	3600	14.0	54	20	<1.0	15	97
AS14	<1	<0.2	3	15	10	<2	255	3750	8.0	90	26	10.0	19	67
AS15	1	<0.2	2	15	10	<2	290	3600	16.0	120	22	6.0	16	110
AS16	<1	<0.2	4	26	8	8	1100	3150	40.0	220	85	32.0	37	67
AS17	<1	<0.2	4	31	11	16	790	4260	70.0	195	130	42.0	42	80
AS18	1	<0.2	5	31	17	18	1150	4200	67.0	230	100	44.0	45	92
AS19	4	<0.2	5	32	11	11	1000	4260	51.0	160	97	40.0	47	83
AS20	<1	<0.2	13	12	12	3	295	2340	8.0	67	11	9.0	14	76
AS21	<1	<0.2	7	13	14	<2	345	2160	9.0	52	7	6.0	10	79
AS22	<1	<0.2	5	17	18	3	770	2850	18.0	125	29	20.0	16	38
AS23	<1	<0.2	7	16	10	2	860	2700	20.0	120	29	17.0	16	11
AS24	<1	<0.2	22	17	15	6	1300	2820	36.0	140	43	28.0	23	71
AS25	<1	<0.2	13	12	10	<2	365	1830	6.0	78	5	7.0	6	70
AS26	<1	<0.2	7	14	12	<2	540	2640	17.0	56	15	10.0	15	52
AS27	<1	<0.2	4	17	12	3	1250	2820	33.0	172	45	25.0	19	50
AS28	<1	<0.2	21	11	13	<2	405	1740	15.0	65	17	10.0	14	54
AS29	<1	<0.2	12	23	12	12	1500	2970	42.0	170	58	30.0	25	27
AS30	<1	<0.2	5	18	17	13	900	2760	21.0	110	43	23.0	20	50
AS31	<1	<0.2	9	20	14	4	1250	2130	16.0	175	38	26.0	15	63
AS32	<1	<0.2	9	32	10	22	1700	4020	45.0	200	97	34.0	34	35
AS33	<1	<0.2	5	31	16	17	1150	3480	43.0	110	70	27.0	32	<1
AS34	<1	<0.2	5	13	12	2	350	3090	14.0	<1	13	9.0	11	54
AS35	<1	<0.2	8	14	16	<2	510	3210	10.0	55	20	16.0	21	51
AS36	<1	<0.2	14	12	31	<2	390	1830	15.0	<1	10	8.0	16	77
AS37	<1	<0.2	14	17	16	2	1050	2850	32.0	115	44	19.0	18	64
AS38	<1	<0.2	10	11	17	<2	465	2150	11.0	42	15	17.0	14	55
AS39	2	<0.2	20	12	15	<2	315	2520	9.0	135	18	9.0	20	69
AS40	1	<0.2	3	11	11	2	240	1650	11.0	54	9	7.0	23	52
AS42	<1	<0.2	3	11	15	<2	360	1950	8.0	10	6	6.0	9	63
AS43	<1	<0.2	25	11	16	<2	900	2100	11.0	120	9	5.0	10	49
AS44	<1	<0.2	10	10	16	<2	690	1470	10.0	46	<5	5.0	7	<1
AS45	<1	<0.2	6	12	15	<2	360	2010	10.0	57	8	6.0	12	52
AS46	<1	<0.2	17	12	17	<2	550	2280	13.0	100	14	10.0	12	25
AS47	<1	<0.2	6	11	17	<2	980	2160	11.0	110	8	5.0	8	40
AS48	<1	<0.2	20	14	15	<2	1850	4890	14.0	123	8	10.0	6	50
AS49	<1	<0.2	4	11	16	<2	450	2280	11.0	63	<1	5.0	7	<1
AS50	<1	<0.2	4	14	9	<2	365	3030	13.0	5	9	8.0	7	54
AS51	1	<0.2	6	14	13	<2	340	2280	10.0	76	10	<1.0	11	12
AS52	<1	<0.2	3	15	12	<2	310	2850	13.0	61	10	7.0	9	10
AS53	<1	<0.2	5	16	13	<2	435	3390	18.0	80	15	9.0	10	82
AS54	<1	<0.2	6	16	14	<2	275	3030	16.0	73	14	8.0	12	48
AS55	1	<0.2	4	15	17	3	435	2910	9.0	67	13	14.0	6	42
AS56	<1	<0.2	8	15	16	<2	470	3300	13.0	48	13	11.0	6	37

App. 3 The Chemical Analysis of Stream Sediments (2)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
AS57	<1	<0.2	5	15	19	<2	470	3300	9.0	74	13	10.0	5	11
AS58	<1	<0.2	4	19	14	<2	375	5250	20.0	67	26	11.0	13	33
AS59	<1	<0.2	4	16	13	<2	690	3720	12.0	62	15	<1.0	7	30
AS60	<1	<0.2	4	15	5	<2	185	3240	11.0	46	13	10.0	13	68
AS61	<1	<0.2	14	20	7	<2	530	4170	17.0	91	22	11.0	13	72
AS62	<1	<0.2	11	14	13	<2	500	2910	14.0	70	11	9.0	9	61
AS63	<1	<0.2	19	15	19	<2	550	2820	15.0	70	9	<1.0	8	26
AS64	<1	<0.2	16	14	19	<2	420	3000	16.0	74	9	9.0	8	65
AS65	<1	<0.2	5	17	11	<2	690	3240	17.0	96	11	11.0	9	66
AS66	<1	<0.2	3	15	7	<2	680	3390	15.0	68	11	7.0	7	13
AS67	<1	<0.2	5	14	22	<2	900	2520	10.0	95	9	13.0	5	11
AS68	<1	<0.2	6	15	15	<2	940	2940	19.0	90	15	7.0	8	17
AS69	<1	<0.2	22	13	15	<2	600	1740	10.0	200	6	13.0	6	57
AS70	<1	<0.2	6	12	20	<2	450	2640	16.0	50	6	10.0	7	45
AS71	1	<0.2	9	15	9	<2	560	4550	8.0	54	14	<1.0	7	105
AS72	2	<0.2	6	15	14	<2	650	4750	7.0	115	14	<1.0	6	92
AS73	3	<0.2	<1	18	11	<2	610	6900	13.0	170	23	<1.0	11	81
AS74	<1	<0.2	<1	18	11	<2	770	5900	12.0	185	15	<1.0	7	70
AS75	<1	<0.2	28	18	8	<2	1350	6000	15.0	145	16	5.0	5	85
AS76	<1	<0.2	3	15	17	<2	740	2850	5.0	32	12	<1.0	6	56
AS77	<1	<0.2	18	14	18	<2	970	4400	16.0	125	19	5.0	8	68
AS78	<1	<0.2	<1	17	10	<2	630	6050	18.0	105	14	<1.0	6	64
AS79	1	<0.2	<1	18	<1	<2	340	7250	12.0	110	30	<1.0	18	75
AS80	<1	<0.2	1	18	9	<2	580	6850	14.0	120	29	5.0	17	65
AS81	2	0.2	<1	19	<1	<2	320	8050	14.0	105	32	<1.0	22	85
AS82	6	<0.2	<1	16	<1	<2	750	7250	18.0	185	22	<1.0	7	41
AS83	<1	<0.2	<1	17	6	<2	540	7450	18.0	160	30	<1.0	16	45
AS84	3	<0.2	<1	14	<1	<2	420	5900	19.0	110	14	10.0	7	51
AS85	<1	<0.2	1	12	14	<2	720	3200	<1.0	115	10	5.0	8	105
AS86	<1	<0.2	<1	15	6	<2	940	5750	12.0	170	20	<1.0	16	85
AS87	<1	<0.2	3	13	10	<2	980	3450	9.0	93	15	<1.0	8	61
AS88	<1	<0.2	<1	19	8	<2	280	8600	17.0	150	32	<1.0	22	64
AS89	4	<0.2	2	16	12	<2	540	4900	10.0	82	20	<1.0	10	105
AS90	1	<0.2	3	16	10	<2	560	5200	10.0	79	23	<1.0	12	62
AS91	<1	<0.2	<1	15	5	<2	470	6000	13.0	41	24	<1.0	14	57
AS92	<1	<0.2	<1	17	8	<2	840	7300	15.0	110	38	8.0	16	100
AS93	<1	<0.2	1	16	7	<2	670	5450	8.0	100	24	<1.0	10	53
AS94	<1	<0.2	<1	16	13	<2	700	4500	15.0	110	12	5.0	7	30
AS95	<1	<0.2	<1	14	9	<2	830	4050	<1.0	135	13	<1.0	7	63
AS96	<1	<0.2	<1	17	7	<2	900	5300	15.0	115	14	<1.0	10	83
AS97	<1	<0.2	<1	16	6	<2	345	5700	5.0	25	26	<1.0	16	11
AS98	1	<0.2	44	14	14	<2	1050	3650	17.0	135	12	<1.0	4	100
AS99	<1	<0.2	<1	20	10	<2	1050	9400	21.0	200	26	5.0	16	135
AS100	1	<0.2	4	17	<1	2	810	6950	16.0	140	19	<1.0	8	39
AS101	<1	<0.2	<1	23	6	2	810	9800	24.0	135	35	7.0	12	69
AS102	<1	<0.2	<1	32	<1	3	620	12400	17.0	120	30	7.0	12	98
AS103	<1	<0.2	<1	23	<1	<2	690	11000	31.0	115	32	5.0	10	110
AS104	<1	<0.2	1	20	<1	<2	760	8850	24.0	96	30	5.0	11	55
AS105	1	<0.2	<1	20	10	<2	745	9200	11.0	110	22	<1.0	10	54
AS106	1	<0.2	<1	14	6	<2	660	4750	10.0	105	7	<1.0	4	63
AS107	<1	<0.2	<1	19	<1	3	720	9950	23.0	115	22	12.0	7	77
AS108	<1	<0.2	<1	20	6	8	425	9750	16.0	125	26	8.0	6	76
AS109	<1	<0.2	<1	24	<1	3	700	13200	17.0	145	31	<1.0	11	76
AS110	<1	<0.2	2	24	<1	2	785	12800	29.0	180	30	<1.0	10	96
AS111	1	<0.2	<1	22	<1	<2	890	11200	14.0	155	20	7.0	12	95
AS112	<1	<0.2	<1	24	6	<2	880	11800	22.0	275	20	8.0	11	86

App. 3 The Chemical Analysis of Stream Sediments (3)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
AS113	<1	<0.2	8	32	20	3	7300	11200	65.0	665	64	25.0	5	125
AS114	<1	<0.2	27	17	8	<2	1250	5850	14.0	170	27	<1.0	12	87
AS115	<1	<0.2	3	19	11	<2	825	8800	14.0	120	30	<1.0	12	73
AS116	<1	<0.2	1	18	5	<2	665	6800	12.0	195	27	10.0	14	100
AS117	<1	<0.2	<1	19	7	<2	935	7700	23.0	225	31	<1.0	12	72
AS118	<1	<0.2	6	18	<1	<2	525	7600	11.0	86	24	<1.0	14	48
AS119	11	<0.2	1	19	8	2	660	7500	22.0	160	23	<1.0	10	35
AS120	2	<0.2	<1	20	9	3	475	8850	16.0	160	24	<1.0	14	45
AS121	7	<0.2	<1	23	<1	2	610	11200	21.0	235	35	11.0	13	91
AS122	1	<0.2	<1	26	<1	3	600	19800	25.0	135	28	<1.0	13	72
AS123	<1	<0.2	<1	27	<1	5	640	17800	28.0	58	34	11.0	12	47
AS124	2	<0.2	<1	18	5	3	780	8550	10.0	170	27	<1.0	12	32
AS125	<1	<0.2	<1	17	7	2	820	7750	13.0	160	22	11.0	15	50
AS126	<1	<0.2	<1	15	7	<2	580	4800	<1.0	85	19	11.0	12	<1
AS127	<1	<0.2	1	16	8	<2	880	6200	17.0	250	20	<1.0	11	80
AS128	<1	<0.2	1	17	<1	<2	780	7400	15.0	125	25	<1.0	14	30
AS129	<1	<0.2	<1	21	6	<2	620	9050	12.0	125	23	<1.0	10	35
AS130	<1	<0.2	<1	24	<1	<2	500	13600	20.0	25	31	<1.0	19	43
AS131	<1	<0.2	<1	22	12	<2	530	13100	9.0	210	19	10.0	10	80
AS132	<1	<0.2	3	21	9	<2	1100	7650	19.0	115	24	<1.0	10	77
AS133	<1	<0.2	3	20	9	<2	680	8300	15.0	48	21	<1.0	9	93
AS134	<1	<0.2	<1	21	5	<2	740	8300	13.0	100	20	<1.0	13	71
AS135	<1	<0.2	1	16	7	<2	690	5200	17.0	225	16	12.0	16	51
AS136	<1	<0.2	1	14	13	<2	1300	4600	9.0	110	21	<1.0	14	62
AS137	<1	<0.2	<1	14	13	<2	570	4150	9.0	98	19	<1.0	13	52
AS138	<1	<0.2	1	15	7	<2	720	4950	12.0	<1	18	16.0	14	10
AS139	<1	<0.2	<1	13	<1	<2	740	4100	10.0	110	13	<1.0	9	52
AS140	<1	<0.2	<1	14	<1	<2	620	5000	7.0	76	23	<1.0	14	52
AS141	<1	<0.2	<1	14	8	<2	630	6300	13.0	125	26	10.0	20	83
AS142	<1	<0.2	<1	17	10	<2	530	5500	11.0	<1	17	10.0	14	22
AS143	<1	<0.2	<1	17	<1	<2	450	6150	12.0	93	23	<1.0	15	50
AS144	<1	<0.2	<1	16	5	<2	1050	5900	26.0	112	25	22.0	17	45
AS145	4	<0.2	<1	17	5	<2	660	7400	23.0	170	24	10.0	13	52
AS146	<1	<0.2	<1	18	<1	<2	520	7350	18.0	87	24	6.0	18	34
AS147	<1	<0.2	<1	15	6	<2	510	4450	5.0	130	19	<1.0	11	49
AS148	<1	<0.2	<1	14	5	<2	405	5950	12.0	46	27	<1.0	18	43
AS149	2	<0.2	<1	18	<1	<2	650	7000	16.0	190	27	<1.0	12	61
AS150	<1	<0.2	<1	16	8	<2	700	6250	19.0	195	26	<1.0	11	61
AS151	3	<0.2	4	18	<1	<2	1300	6700	20.0	200	26	9.0	10	95
AS152	<1	<0.2	<2	17	<1	<2	590	6600	12.0	100	18	<1.0	12	55
AS153	<1	<0.2	<2	17	9	<2	500	7350	8.0	<1	17	<1.0	12	66
AS154	3	<0.2	<2	14	9	<2	650	4650	5.0	115	13	8.0	12	74
AS155	9	<0.2	<2	15	5	<2	465	5950	7.0	60	15	<1.0	12	60
AS156	1	<0.2	<2	16	11	<2	470	6600	9.0	150	16	<1.0	14	26
AS157	<1	<0.2	<2	17	7	<2	610	6300	20.0	165	20	16.0	12	62
AS158	<1	<0.2	<2	21	9	<2	810	6800	20.0	125	23	<1.0	10	96
AS159	2	<0.2	15	21	<1	<2	1100	7500	18.0	53	21	<1.0	9	105
AS160	<1	<0.2	<2	17	9	<2	620	4700	<1.0	<1	15	11.0	5	<1
AS161	<1	<0.2	<2	20	<1	<2	750	7750	19.0	195	25	<1.0	11	49
AS162	<1	<0.2	4	14	5	<2	1600	4950	23.0	250	19	5.0	15	94
AS163	<1	<0.2	<2	13	13	<2	1800	4600	21.0	205	18	6.0	14	82
AS164	11	<0.2	<2	10	15	<2	2070	3150	15.0	220	7	7.0	9	32
AS165	2	<0.2	<2	22	7	<2	735	8400	32.0	160	26	<1.0	14	98
AS166	3	<0.2	<2	19	<1	<2	680	6850	19.0	120	18	8.0	13	55
AS167	<1	<0.2	<2	20	10	<2	900	7450	21.0	175	20	<1.0	12	105
AS168	3	<0.2	3	24	8	<2	1350	9550	26.0	235	23	<1.0	8	120

App. 3 The Chemical Analysis of Stream Sediments (4)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
AS169	5	<0.2	<2	16	9	<2	455	6150	12.0	135	19	<1.0	9	73
AS170	1	<0.2	26	18	19	<2	615	5650	19.0	115	18	<1.0	6	81
AS171	4	<0.2	30	19	13	<2	860	6100	11.0	140	18	5.0	8	74
AS172	1	<0.2	<2	18	6	<2	610	6950	10.0	94	22	<1.0	10	56
AS173	5	<0.2	2	17	<1	<2	345	7050	18.0	88	25	<1.0	15	34
AS174	1	<0.2	2	19	7	<2	995	7600	26.0	130	23	6.0	12	62
AS175	1	<0.2	<2	20	<1	<2	435	9100	18.0	100	31	6.0	11	69
AS176	<1	<0.2	<2	20	5	<2	725	7450	9.0	155	24	5.0	9	17
AS177	1	<0.2	<2	19	<1	<2	280	7300	16.0	160	26	<1.0	10	36
AS178	1	<0.2	<2	17	12	<2	455	7750	16.0	77	23	<1.0	8	82
AS179	<1	<0.2	<2	21	6	<2	1050	7800	23.0	190	18	5.0	10	85
AS180	2	<0.2	2	13	6	<2	285	5150	7.0	39	15	<1.0	12	13
AS181	4	<0.2	57	27	12	8	7050	6000	110.0	565	350	121.0	15	64
AS182	<1	<0.2	34	44	16	7	6800	9450	91.0	585	250	105.0	27	121
AS183	<1	<0.2	33	22	18	6	2000	5400	34.0	215	72	38.0	18	47
AS184	1	<0.2	4	15	9	2	630	5150	17.0	65	12	6.0	10	57
AS185	<1	<0.2	2	15	6	2	610	5100	9.0	50	10	5.0	13	74
AS186	<1	<0.2	80	18	15	6	1250	5300	23.0	150	37	20.0	15	37
AS187	<1	<0.2	28	20	13	3	1350	6300	20.0	150	21	<1.0	8	41
AS188	<1	<0.2	4	13	10	2	720	4650	12.0	105	8	<1.0	7	72
AS189	5	<0.2	2	19	11	3	1350	4850	13.0	115	13	<1.0	6	40
AS190	<1	<0.2	<2	20	11	2	1080	6760	15.0	145	21	6.0	7	48
AS191	3	<0.2	4	16	11	<2	370	4600	10.0	67	12	5.0	6	52
AS192	3	<0.2	<2	13	15	<2	390	4650	6.0	41	8	<1.0	9	77
AS193	<1	<0.2	<2	17	15	2	480	5150	7.0	71	17	<1.0	9	34
AS194	<1	<0.2	2	19	8	<2	640	6100	15.0	76	14	<1.0	8	16
AS195	<1	<0.2	220	31	21	11	10300	6300	125.0	680	360	165.0	15	41
AS196	1	<0.2	27	32	15	13	3500	4850	56.0	265	210	85.0	24	59
AS197	<1	<0.2	6	36	13	17	2450	4000	62.0	215	250	83.0	24	59
AS198	<1	<0.2	5	18	13	7	750	5600	27.0	90	30	7.0	11	71
AS199	<1	<0.2	14	18	15	5	1300	5700	39.0	150	47	12.0	12	78
AS200	<1	<0.2	12	16	14	5	1200	4400	18.0	110	27	8.0	18	52
BS1	<1	<0.2	3	12	13	<2	430	1620	12.0	10	<1	5.0	8	<1
BS2	<1	<0.2	2	12	12	<2	125	1170	6.0	<1	<1	<1.0	5	37
BS3	<1	<0.2	8	12	17	<2	263	2010	11.0	31	11	5.0	8	42
BS4	<1	<0.2	3	12	12	<2	330	2250	4.0	86	9	6.0	9	<1
BS5	<1	<0.2	1	13	16	<2	350	2520	13.0	77	8	8.0	8	45
BS6	<1	<0.2	1	12	14	<2	430	2220	14.0	89	9	<1.0	9	<1
BS7	<1	<0.2	2	14	13	<2	265	2190	11.0	70	8	<1.0	9	<1
BS8	<1	<0.2	6	13	14	<2	260	2100	7.0	17	14	9.0	8	21
BS9	<1	<0.2	5	14	11	2	750	2820	14.0	110	22	10.0	9	<1
BS10	3	<0.2	3	13	15	2	350	1860	11.0	57	18	8.0	10	5
BS11	<1	<0.2	4	18	14	3	860	2940	35.0	135	42	17.0	18	85
BS12	<1	<0.2	7	16	16	<2	720	2730	20.0	58	17	13.0	9	29
BS13	<1	<0.2	10	13	13	<2	530	2640	11.0	67	16	11.0	10	<1
BS14	<1	<0.2	2	14	16	<2	650	2340	9.0	65	11	6.0	7	31
BS15	<1	<0.2	2	14	17	<2	490	2220	9.0	82	9	5.0	10	55
BS16	<1	<0.2	1	12	13	<2	260	1440	11.0	64	5	12.0	7	<1
BS17	<1	<0.2	2	13	20	<2	625	1980	13.0	62	10	7.0	8	32
BS18	<1	<0.2	1	16	12	<2	900	2880	17.0	96	13	<1.0	9	51
BS19	<1	<0.2	3	14	13	<2	520	2280	14.0	59	11	<1.0	9	40
BS20	<1	<0.2	2	15	6	<2	570	3360	8.0	99	21	8.0	17	28
BS21	<1	<0.2	1	16	11	<2	300	2520	16.0	38	13	15.0	10	10
BS22	<1	<0.2	3	17	14	<2	260	2820	7.0	55	5	<1.0	6	48
BS23	<1	<0.2	2	12	14	<2	250	1680	5.0	39	5	12.0	7	5
BS24	<1	<0.2	2	13	18	<2	400	850	7.0	43	8	<1.0	5	27

App. 3 The Chemical Analysis of Stream Sediments (5)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
BS25	<1	<0.2	4	15	15	<2	560	4000	19.0	95	8	9.0	7	<1
BS26	<1	<0.2	5	12	16	<2	360	3400	14.0	61	7	10.0	7	5
BS27	<1	<0.2	2	13	14	<2	490	4050	10.0	44	10	5.0	7	7
BS28	<1	<0.2	3	19	10	<2	345	6300	17.0	74	20	6.0	13	<1
BS29	<1	<0.2	2	9	19	<2	300	1580	<1.0	34	6	5.0	5	<1
BS30	2	<0.2	3	12	14	<2	310	3700	10.0	32	10	7.0	7	9
BS31	<1	<0.2	3	13	14	<2	1155	2450	29.0	93	30	18.0	13	<1
BS32	<1	<0.2	3	12	13	<2	1000	3100	15.0	99	12	7.0	7	18
BS33	<1	<0.2	1	14	12	<2	715	4000	26.0	84	24	18.0	12	54
BS34	<1	<0.2	1	24	16	<2	1150	7000	21.0	150	22	14.0	11	83
BS35	<1	<0.2	2	10	16	<2	215	2200	<1.0	31	7	8.0	10	37
BS36	<1	<0.2	1	15	11	<2	395	4400	14.0	29	15	<1.0	10	25
BS37	<1	<0.2	1	19	11	<2	495	6000	19.0	66	16	8.0	11	42
BS38	1	<0.2	<1	18	14	<2	370	4400	12.0	71	13	9.0	13	82
BS39	<1	<0.2	1	17	13	<2	860	5150	17.0	100	21	15.0	13	56
BS40	<1	<0.2	<1	18	8	<2	615	6850	12.0	110	22	7.0	15	10
BS41	<1	<0.2	1	15	12	<2	370	6600	19.0	78	19	7.0	17	35
BS42	<1	<0.2	3	17	11	<2	470	7100	22.0	105	26	8.0	20	44
BS43	<1	<0.2	<1	18	14	<2	525	7300	20.0	94	24	9.0	16	<1
BS44	<1	<0.2	2	13	12	<2	320	3800	6.0	41	8	5.0	7	66
BS45	<1	<0.2	7	11	13	3	320	2500	12.0	71	5	6.0	16	83
BS46	<1	<0.2	34	14	13	2	760	3800	8.0	100	10	5.0	12	71
BS47	<1	<0.2	6	14	16	2	535	2800	13.0	74	12	7.0	9	37
BS48	<1	<0.2	15	15	17	<2	1220	5550	22.0	155	29	10.0	8	21
BS49	<1	<0.2	8	13	19	<2	375	3400	11.0	78	10	7.0	7	16
BS50	3	<0.2	20	18	17	2	700	3800	13.0	110	8	9.0	6	75
BS51	<1	<0.2	14	14	10	<2	615	4150	17.0	85	19	8.0	8	16
BS52	2	<0.2	95	17	18	6	1250	4750	25.0	130	30	11.0	12	125
BS53	<1	<0.2	26	15	22	6	800	4150	20.0	83	18	10.0	12	73
BS54	<1	<0.2	6	13	14	<2	640	4300	12.0	28	15	13.0	9	48
BS55	<1	<0.2	8	14	9	<2	660	3600	8.0	66	17	5.0	8	54
BS56	57	<0.2	10	15	10	2	510	5850	21.0	115	20	<1.0	13	33
BS57	<1	<0.2	4	11	12	2	450	3550	17.0	22	10	13.0	14	19
BS58	<1	<0.2	<1	11	12	7	310	3650	5.0	70	7	5.0	7	30
BS59	1	<0.2	8	10	11	<2	630	2550	12.0	56	7	<1.0	7	22
BS60	<1	<0.2	<1	11	9	<2	930	4450	11.0	100	8	9.0	9	16
BS61	<1	<0.2	4	14	12	<2	430	5550	18.0	78	16	13.0	11	52
BS62	<1	<0.2	13	14	14	<2	705	6800	12.0	110	27	7.0	17	<1
BS63	<1	<0.2	12	15	8	<2	410	6150	13.0	70	24	11.0	15	14
BS64	<1	<0.2	26	17	13	<2	930	5700	27.0	94	22	11.0	12	76
BS65	<1	<0.2	<1	18	16	<2	815	6800	17.0	110	22	7.0	14	39
BS66	<1	<0.2	1	15	12	<2	525	5400	9.0	72	18	<1.0	11	35
BS67	<1	<0.2	<1	16	11	<2	300	6450	20.0	105	19	12.0	17	51
BS68	<1	<0.2	<1	14	12	<2	380	6250	16.0	78	22	6.0	19	17
BS69	<1	<0.2	<1	14	9	<2	340	5850	10.0	89	22	6.0	15	11
BS70	2	<0.2	<1	14	8	<2	260	6650	18.0	92	24	9.0	21	17
BS71	<1	<0.2	<1	16	13	<2	320	4350	18.0	110	23	6.0	18	32
BS72	<1	<0.2	1	16	13	<2	345	4200	18.0	120	26	<1.0	16	35
BS73	<1	<0.2	<1	17	12	<2	550	4400	16.0	125	30	10.0	18	10
BS74	<1	<0.2	<1	16	15	<2	570	4150	16.0	120	21	6.0	14	25
BS75	<1	<0.2	21	13	17	<2	1200	6050	10.0	110	5	8.0	4	<1
BS76	<1	<0.2	1	9	24	<2	195	3400	5.0	<1	<1	9.0	4	10
BS77	<1	<0.2	11	9	16	<2	330	950	5.0	<1	<1	6.0	3	<1
BS78	<1	<0.2	6	9	19	<2	545	970	<1.0	80	<1	7.0	4	<1
BS79	<1	<0.2	5	12	10	<2	350	3300	15.0	91	7	<1.0	8	19
BS80	<1	<0.2	3	16	19	3	700	2700	18.0	62	9	7.0	3	86

App. 3 The Chemical Analysis of Stream Sediments (6)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
BS81	1	<0.2	66	18	11	<2	660	3850	14.0	98	13	6.0	10	25
BS82	<1	<0.2	20	18	17	<2	800	3600	23.0	115	20	13.0	17	13
BS83	<1	<0.2	15	13	23	<2	235	1600	5.0	40	<5	7.0	3	13
BS84	<1	<0.2	12	17	12	<2	350	3400	18.0	100	14	7.0	10	25
BS85	<1	<0.2	<1	19	17	<2	445	3900	16.0	86	19	7.0	9	36
BS86	<1	<0.2	4	17	12	<2	325	3100	14.0	31	15	<1.0	9	50
BS87	<1	<0.2	<1	19	16	<2	295	3700	18.0	73	18	6.0	10	55
BS88	<1	<0.2	<1	19	12	<2	540	4000	14.0	82	15	6.0	6	65
BS89	<1	<0.2	<1	18	14	<2	350	3700	13.0	66	18	7.0	10	21
BS90	<1	<0.2	<1	16	13	<2	200	3350	12.0	75	17	7.0	10	69
BS91	<1	<0.2	2	19	13	<2	360	3600	13.0	26	16	<1.0	11	21
BS92	2	<0.2	10	18	13	<2	520	3450	15.0	42	15	15.0	11	18
BS93	<1	<0.2	11	18	16	<2	660	4000	20.0	110	22	10.0	20	<1
BS94	8	<0.2	2	15	14	<2	370	2700	12.0	23	8	8.0	10	30
BS95	<1	<0.2	40	15	19	<2	530	2650	6.0	89	6	5.0	6	27
BS96	<1	<0.2	5	15	17	<2	500	2750	13.0	71	9	7.0	6	36
BS97	<1	<0.2	29	21	21	<2	2100	3450	31.0	210	19	8.0	5	170
BS98	<1	<0.2	3	15	17	3	510	2700	16.0	58	9	<1.0	6	43
BS99	<1	<0.2	3	12	16	3	300	1950	8.0	63	5	<1.0	8	40
BS100	<1	<0.2	16	18	19	4	650	2800	15.0	90	12	7.0	7	43
BS101	<1	<0.2	3	16	18	4	615	2900	8.0	57	8	<1.0	6	39
BS102	<1	<0.2	13	14	21	4	620	2550	9.0	26	10	7.0	2	39
BS103	<1	<0.2	1	14	17	4	520	2150	9.0	70	8	5.0	3	<1
BS104	<1	<0.2	7	18	23	5	2200	3250	28.0	225	25	15.0	3	93
BS105	<1	<0.2	15	14	14	<2	530	2200	12.0	72	10	12.0	6	<1
BS106	<1	<0.2	130	17	19	2	880	3150	20.0	125	17	7.0	5	37
BS107	<1	<0.2	10	13	21	3	1150	2250	20.0	100	13	13.0	4	19
BS108	<1	<0.2	87	15	14	<2	560	2500	18.0	120	11	6.0	8	<1
BS109	<1	<0.2	6	16	14	2	720	3050	18.0	84	10	7.0	6	<1
BS110	<1	<0.2	<1	13	16	2	520	2650	11.0	92	8	7.0	8	17
BS111	<1	<0.2	10	12	19	<2	390	2300	5.0	71	9	<1.0	11	<1
BS112	<1	<0.2	<1	11	18	<2	690	2150	6.0	45	12	14.0	9	<1
BS113	<1	<0.2	4	13	16	5	385	3150	14.0	53	13	9.0	19	<1
BS114	<1	<0.2	75	14	16	<2	690	2650	21.0	110	16	17.0	8	24
BS115	<1	<0.2	9	15	19	3	675	3900	19.0	120	14	10.0	6	49
BS116	<1	<0.2	1	12	18	<2	260	2350	5.0	56	5	7.0	5	<1
BS117	<1	<0.2	<1	17	15	<2	445	3950	23.0	36	20	9.0	16	<1
BS118	<1	<0.2	<1	21	14	<2	790	5200	20.0	135	18	10.0	12	45
BS119	<1	<0.2	<1	18	16	<2	365	5050	14.0	58	12	7.0	9	53
BS120	<1	<0.2	<1	19	13	<2	550	4850	21.0	90	19	5.0	12	45
BS121	<1	<0.2	<1	20	18	<2	585	5300	21.0	135	16	8.0	10	71
BS122	1	<0.2	<1	18	10	<2	410	3950	14.0	74	13	<1.0	11	<1
BS123	<1	<0.2	<1	17	12	<2	335	4200	9.0	61	16	8.0	11	37
BS124	<1	<0.2	<1	18	7	4	410	3600	32.0	145	34	12.0	24	35
BS125	<1	<0.2	<1	11	11	3	420	2700	16.0	135	14	7.0	18	<1
BS126	<1	<0.2	<1	11	14	3	460	3200	16.0	110	18	9.0	20	<1
BS127	2	<0.2	<1	22	11	4	1700	3800	37.0	205	55	22.0	23	<1
BS128	<1	<0.2	<1	18	14	<2	555	3600	14.0	65	11	10.0	12	<1
BS129	2	<0.2	1	18	13	<2	740	3950	18.0	120	19	12.0	14	49
BS130	<1	<0.2	<1	14	17	<2	490	3400	10.0	70	10	7.0	12	17
BS131	<1	<0.2	<1	16	15	<2	970	3800	17.0	130	25	10.0	10	91
BS132	<1	<0.2	<1	17	13	<2	800	4450	28.0	86	18	6.0	10	77
BS133	<1	<0.2	<1	16	17	<2	365	4150	12.0	42	12	5.0	8	43
BS134	<1	<0.2	<1	18	16	<2	680	4200	25.0	165	16	10.0	8	43
BS135	<1	<0.2	<1	15	13	<2	1250	4300	19.0	135	19	9.0	10	<1
BS136	<1	<0.2	<1	18	16	<2	1450	4750	19.0	160	16	7.0	8	80

App. 3 The Chemical Analysis of Stream Sediments (7)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
BS137	<1	<0.2	<1	16	14	2	775	4500	16.0	115	18	8.0	10	<1
BS138	<1	<0.2	<1	18	11	2	775	4750	28.0	130	14	9.0	10	32
BS139	<1	<0.2	<1	18	10	3	570	4850	16.0	110	13	9.0	8	83
BS140	<1	<0.2	<1	18	14	3	360	4000	16.0	110	15	<1.0	10	67
BS141	<1	<0.2	<1	19	10	3	420	6750	17.0	110	17	6.0	9	80
BS142	<1	<0.2	<1	17	11	2	145	3250	19.0	76	10	<1.0	9	31
BS143	<1	<0.2	<1	17	12	<2	375	3900	12.0	61	19	6.0	8	80
BS144	<1	<0.2	<1	21	21	<2	895	4750	12.0	120	14	6.0	10	<1
BS145	<1	<0.2	2	24	14	<2	2200	3450	33.0	185	43	29.0	16	<1
BS146	<1	<0.2	<1	14	15	<2	420	3550	10.0	46	9	7.0	8	13
BS147	<1	<0.2	<1	16	13	<2	625	4950	16.0	130	13	7.0	8	15
BS148	<1	<0.2	<1	16	18	<2	505	3000	13.0	79	11	7.0	8	29
BS149	4	<0.2	<1	19	18	<2	1100	4600	21.0	176	18	12.0	10	63
BS150	<1	<0.2	1	16	11	<2	680	4450	17.0	90	13	9.0	8	68
BS151	<1	<0.2	<1	17	18	<2	850	4650	19.0	170	18	9.0	9	130
BS152	<1	<0.2	<1	17	12	<2	1050	3700	20.0	125	15	9.0	9	100
BS153	<1	<0.2	<1	16	16	<2	395	3000	<1.0	38	14	10.0	9	68
BS154	<1	<0.2	<1	14	21	<2	210	3000	<1.0	79	9	<1.0	9	52
BS155	<1	<0.2	<1	16	17	<2	710	3800	15.0	83	12	6.0	8	66
BS156	<1	<0.2	31	15	21	<2	530	2900	12.0	84	9	7.0	8	<1
BS157	1	<0.2	<1	16	16	2	795	3650	11.0	86	12	13.0	8	<1
BS158	<1	<0.2	<1	18	17	2	1100	3000	14.0	78	13	12.0	8	125
BS159	<1	<0.2	<1	15	16	2	455	2250	11.0	62	12	12.0	9	11
BS160	1	<0.2	2	17	14	2	400	3250	11.0	72	7	<1.0	8	56
BS161	<1	<0.2	1	13	12	<2	180	1950	10.0	39	8	5.0	6	23
BS162	1	<0.2	1	18	19	<2	470	2750	15.0	54	11	5.0	6	<1
BS163	<1	<0.2	6	16	16	<2	445	2000	9.0	72	11	5.0	6	46
BS164	<1	<0.2	1	14	8	<2	460	3050	12.0	90	30	10.0	10	26
BS165	<1	<0.2	<1	17	7	<2	340	4900	22.0	94	37	9.0	18	<1
BS166	<1	<0.2	<1	14	13	<2	240	3700	21.0	37	29	11.0	13	17
BS169	1	<0.2	<1	17	10	<2	290	4050	14.0	94	20	7.0	14	<1
BS170	<1	<0.2	<1	18	10	<2	370	4250	22.0	125	26	9.0	16	59
BS171	<1	<0.2	<1	18	11	<2	520	4450	18.0	105	25	9.0	16	46
BS172	4	<0.2	<1	21	17	<2	390	8900	16.0	83	18	6.0	11	21
BS173	7	<0.2	<1	18	15	<2	355	4000	16.0	95	19	11.0	13	19
BS174	2	<0.2	<1	17	14	2	350	3600	12.0	80	19	9.0	12	18
BS175	<1	<0.2	<1	18	14	2	415	4100	16.0	92	26	12.0	12	39
BS176	<1	<0.2	<1	15	12	3	240	3250	12.0	92	16	12.0	11	<1
BS177	<1	<0.2	<1	16	9	2	190	3050	17.0	81	17	5.0	13	52
BS178	<1	<0.2	<1	21	14	3	650	3500	21.0	65	20	<1.0	12	36
BS179	1	<0.2	<1	17	14	2	360	3400	18.0	67	17	<1.0	12	<1
BS180	4	<0.2	4	14	12	2	350	2500	10.0	81	9	<1.0	10	<1
BS181	<1	<0.2	875	32	26	8	6350	4400	42.0	485	145	37.0	8	200
BS182	<1	<0.2	1	13	20	2	340	3000	9.0	39	11	<1.0	12	<1
BS183	<1	<0.2	6	16	17	3	1100	4200	24.0	165	29	11.0	10	22
BS184	<1	<0.2	5	13	13	2	500	2450	13.0	89	11	<1.0	9	<1
BS185	<1	<0.2	5	16	17	2	655	3400	17.0	94	19	11.0	12	<1
BS186	<1	<0.2	22	11	13	3	160	1400	8.0	19	16	5.0	13	12
BS187	<1	<0.2	6	13	21	2	550	2550	12.0	75	13	9.0	4	16
BS188	<1	<0.2	53	14	22	3	615	1950	14.0	57	19	7.0	13	16
BS189	<1	<0.2	25	14	17	3	1050	3300	23.0	130	24	17.0	12	85
BS190	3	<0.2	29	14	22	4	690	3500	15.0	105	21	8.0	16	<1
BS191	3	<0.2	145	13	19	3	700	2450	13.0	71	16	11.0	13	30
BS192	1	<0.2	12	12	19	2	340	2550	9.0	31	11	11.0	14	27
BS193	<1	<0.2	11	14	19	3	480	3500	15.0	87	13	7.0	14	23
BS194	<1	<0.2	15	10	17	3	200	1650	7.0	<1	13	5.0	14	62

App. 3 The Chemical Analysis of Stream Sediments (8)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
BS195	2	<0.2	<1	15	18	3	650	3600	10.0	130	12	10.0	12	63
BS196	<1	<0.2	<1	10	17	2	215	2000	10.0	<1	<1	5.0	6	8
BS197	4	<0.2	<1	11	19	<2	425	1900	11.0	105	7	5.0	5	<1
BS198	6	<0.2	<1	12	18	<2	685	2850	10.0	91	11	12.0	8	21
BS199	3	<0.2	<1	12	16	<2	525	2200	10.0	74	5	9.0	6	49
BS200	5	<0.2	<1	11	16	<2	815	2900	13.0	92	14	9.0	6	<1
BS201	5	<0.2	<1	11	18	<2	875	2050	11.0	120	10	10.0	5	35
BS202	1	<0.2	<1	13	19	<2	815	2300	11.0	89	10	<1.0	5	33
BS203	2	<0.2	<1	11	16	<2	345	2200	5.0	77	9	6.0	6	37
CS1	<1	<0.2	<1	13	12	<2	560	5100	19.0	92	16	5.0	11	<1
CS2	<1	<0.2	<1	17	11	<2	505	7300	13.0	120	20	12.0	18	32
CS3	<1	<0.2	<1	17	6	<2	575	7700	14.0	135	18	11.0	13	45
CS4	<1	<0.2	3	15	10	<2	920	3850	13.0	110	12	6.0	10	30
CS5	<1	<0.2	<1	13	15	<2	525	3800	12.0	46	8	10.0	10	<1
CS6	<1	<0.2	<1	14	21	<2	840	3550	7.0	49	11	7.0	8	39
CS7	<1	<0.2	<1	14	15	<2	715	4400	6.0	115	15	6.0	10	<1
CS8	1	<0.2	<1	12	18	<2	450	3800	12.0	78	8	7.0	9	<1
CS9	<1	<0.2	1	13	17	<2	430	4200	10.0	76	13	6.0	14	<1
CS10	<1	<0.2	2	11	16	<2	350	3000	10.0	70	6	<1.0	5	34
CS11	<1	<0.2	1	10	15	<2	895	1450	11.0	120	5	7.0	2	12
CS12	2	<0.2	1	12	15	<2	585	3550	13.0	89	13	6.0	8	<1
CS13	<1	<0.2	1	14	19	<2	710	4050	10.0	105	14	8.0	8	51
CS14	<1	<0.2	2	13	11	<2	520	4300	13.0	37	13	8.0	10	13
CS15	<1	<0.2	2	15	13	<2	700	4550	13.0	81	18	8.0	12	26
CS16	<1	<0.2	2	14	9	<2	260	5450	14.0	97	19	<1.0	17	<1
CS17	<1	<0.2	2	14	12	<2	635	5800	18.0	150	19	10.0	20	45
CS18	<1	<0.2	3	15	15	<2	1150	5700	20.0	165	12	7.0	10	42
CS19	<1	<0.2	2	16	11	<2	950	4550	12.0	100	16	9.0	10	5
CS20	<1	<0.2	2	12	12	<2	585	4450	17.0	100	9	12.0	9	20
CS21	<1	<0.2	1	17	8	<2	580	7650	20.0	100	22	5.0	15	36
CS22	<1	<0.2	3	15	11	<2	1770	5950	20.0	150	16	11.0	10	35
CS23	<1	<0.2	2	15	20	<2	630	6900	20.0	165	17	9.0	18	11
CS24	<1	<0.2	2	13	14	<2	750	5500	10.0	63	10	12.0	11	54
CS25	<1	<0.2	3	11	13	<2	740	4500	16.0	115	12	7.0	14	<1
CS26	<1	<0.2	3	16	14	2	930	5650	15.0	100	11	10.0	11	25
CS27	<1	<0.2	3	18	16	<2	930	5100	13.0	82	12	<1.0	5	52
CS28	3	<0.2	2	14	17	<2	715	4350	11.0	54	11	<1.0	8	<1
CS29	<1	<0.2	4	14	19	<2	695	5750	17.0	71	11	8.0	8	22
CS30	3	<0.2	2	13	12	<2	795	4500	16.0	96	12	8.0	9	56
CS31	<1	<0.2	2	18	13	<2	620	7610	11.0	71	14	10.0	9	8
CS32	<1	<0.2	2	13	17	<2	940	4050	16.0	100	12	10.0	7	17
CS33	<1	<0.2	2	18	15	<2	815	7050	19.0	115	22	6.0	12	<1
CS34	<1	<0.2	2	17	15	<2	340	6500	14.0	92	15	5.0	13	42
CS35	<1	<0.2	2	19	10	<2	865	7250	21.0	115	21	8.0	13	53
CS36	<1	<0.2	2	14	13	<2	440	5750	15.0	83	13	10.0	12	71
CS37	<1	<0.2	2	14	20	<2	875	6400	15.0	91	17	5.0	14	12
CS38	4	<0.2	1	16	12	<2	670	7150	13.0	115	19	6.0	15	28
CS39	<1	<0.2	2	16	12	<2	660	7400	14.0	97	25	<1.0	12	83
CS40	3	<0.2	1	16	17	<2	1090	6450	12.0	125	15	7.0	9	7
CS41	<1	<0.2	3	17	14	<2	665	6850	14.0	115	24	8.0	17	26
CS42	<1	<0.2	2	15	7	<2	315	6800	15.0	105	21	10.0	19	58
CS43	<1	<0.2	2	15	11	<2	605	4850	8.0	86	17	<1.0	9	46
CS44	<1	<0.2	3	18	11	<2	470	7150	15.0	91	20	5.0	17	60
CS45	<1	<0.2	2	15	14	<2	460	5500	16.0	55	15	5.0	12	<1
CS46	5	<0.2	<1	16	12	<2	445	7850	18.0	105	24	7.0	15	31
CS47	<1	<0.2	<1	15	12	<2	1405	7650	14.0	160	23	10.0	11	59

App. 3 The Chemical Analysis of Stream Sediments (9)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
CS48	7	<0.2	5	18	15	<2	990	6650	17.0	155	20	9.0	16	19
CS49	<1	<0.2	<1	19	<1	<2	510	8200	20.0	130	29	13.0	22	62
CS50	<1	<0.2	1	16	14	<2	725	6350	14.0	105	17	12.0	12	<1
CS51	<1	<0.2	2	15	15	<2	475	5950	20.0	89	20	10.0	17	16
CS52	1	<0.2	1	16	11	<2	330	5950	17.0	77	20	<1.0	17	60
CS53	<1	<0.2	1	17	15	2	460	6400	18.0	55	23	8.0	18	26
CS54	4	<0.2	2	17	16	<2	450	6350	18.0	60	18	<1.0	16	84
CS55	<1	<0.2	6	18	5	<2	310	7300	24.0	80	27	8.0	21	60
CS56	1	<0.2	<1	19	6	2	250	7900	21.0	140	29	8.0	18	64
CS57	<1	<0.2	<1	17	11	<2	260	7600	21.0	73	31	10.0	20	51
CS58	<1	<0.2	1	16	17	<2	350	6500	19.0	92	20	<1.0	17	87
CS59	<1	<0.2	<1	18	12	<2	355	7550	23.0	105	23	9.0	18	48
CS60	<1	<0.2	1	17	12	<2	400	7450	18.0	110	25	<1.0	15	91
CS61	1	<0.2	1	18	10	<2	445	6750	15.0	76	25	11.0	17	48
CS62	<1	<0.2	1	15	12	<2	395	5200	13.0	72	19	<1.0	18	64
CS63	<1	<0.2	14	20	14	2	1205	6450	29.0	160	37	23.0	19	65
CS64	<1	<0.2	3	24	10	<2	910	7700	44.0	105	43	21.0	25	49
CS65	<1	<0.2	13	25	13	15	1225	6150	31.0	153	46	21.0	20	75
CS66	<1	<0.2	13	26	8	4	405	6300	33.0	150	55	15.0	34	46
CS67	<1	<0.2	3	25	10	11	945	6250	33.0	155	52	25.0	28	57
CS68	<1	<0.2	5	26	11	3	1410	6450	56.0	150	79	30.0	29	38
CS69	<1	<0.2	9	33	12	4	3400	7100	69.0	280	115	64.0	34	33
CS70	<1	<0.2	1	16	7	<2	270	7100	19.0	120	23	<1.0	21	58
CS71	2	<0.2	2	16	12	<2	310	5750	20.0	91	24	7.0	31	33
CS72	<1	<0.2	<1	15	8	<2	340	6450	16.0	105	21	5.0	20	57
CS73	<1	<0.2	1	14	13	<2	355	6400	13.0	63	18	7.0	18	41
CS74	<1	<0.2	2	16	13	<2	385	5950	29.0	86	26	11.0	37	45
CS75	<1	<0.2	2	17	11	3	620	5800	21.0	105	28	14.0	28	38
CS76	<1	<0.2	2	18	18	6	835	4650	18.0	94	36	22.0	26	87
CS77	<1	<0.2	2	17	13	3	530	5150	18.0	87	26	17.0	26	67
CS78	<1	<0.2	<1	18	11	<2	635	6900	14.0	120	22	10.0	15	78
CS79	<1	0.5	8	22	12	<2	1320	6100	50.0	155	56	31.0	27	56
CS80	3	<0.2	<1	18	7	<2	270	8200	19.0	110	28	6.0	24	39
CS81	<1	<0.2	1	17	9	<2	230	7700	20.0	120	26	11.0	16	15
CS82	<1	<0.2	1	17	9	<2	450	7450	16.0	86	18	5.0	13	50
CS83	2	<0.2	5	32	9	4	1130	7400	85.0	160	80	35.0	33	84
CS84	<1	<0.2	1	19	15	<2	750	6450	20.0	100	30	6.0	20	70
CS85	<1	<0.2	<1	18	12	<2	325	6650	22.0	76	23	8.0	15	<1
CS86	<1	<0.2	15	17	15	<2	445	6150	20.0	92	23	7.0	16	21
CS87	2	<0.2	<1	16	14	3	360	6300	15.0	75	21	8.0	19	65
CS88	2	<0.2	7	16	11	<2	430	5050	15.0	68	13	<1.0	11	<1
CS89	<1	<0.2	1	16	20	<2	660	5750	15.0	82	12	6.0	10	62
CS90	<1	<0.2	4	14	21	<2	430	5400	6.0	45	11	9.0	11	33
CS91	1	<0.2	9	10	21.0	<2	310	1450	<1.0	22	<1	5.0	5	26
CS92	3	<0.2	<1	17	20.0	<2	370	3650	19.0	65	19	7.0	13	44
CS93	1	<0.2	<1	15	19.0	<2	220	2900	12.0	54	15	<1.0	12	62
CS94	3	<0.2	<1	15	18.0	<2	365	3050	14.0	87	16	7.0	12	59
CS95	<1	<0.2	1	14	17.0	<2	1050	4000	22.0	150	15	13.0	7	<1
CS96	<1	<0.2	<1	13	10.0	<2	430	3600	9.0	66	10	5.0	6	62
CS97	2	<0.2	<1	13	8.0	<2	420	3450	10.0	63	11	6.0	6	79
CS98	42	<0.2	<1	13	<1.0	<2	800	1350	<1.0	90	7	<1.0	2	7
CS99	<1	<0.2	<1	11	7.0	<2	155	830	<1.0	28	<1	<1.0	2	76
CS100	1	<0.2	<1	13	9.0	<2	375	1550	<1.0	53	<1	<1.0	2	56
CS101	1	<0.2	<1	13	9.0	<2	850	2600	<1.0	70	5	<1.0	4	63
CS102	<1	<0.2	<1	15	<1.0	<2	1150	1950	<1.0	105	5	<1.0	2	60
CS103	4	<0.2	<1	13	10.0	<2	600	2300	<1.0	63	7	<1.0	4	67

App. 3 The Chemical Analysis of Stream Sediments (10)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
CS104	2	<0.2	<1	15	<1.0	<2	325	3600	13.0	120	20	<1.0	8	70
CS105	3	<0.2	<1	15	11.0	<2	2700	2400	16.0	210	12	6.0	4	78
CS106	5	<0.2	<1	13	5.0	<2	540	1400	<1.0	46	<1	<1.0	4	360
CS107	6	<0.2	<1	13	5.0	<2	430	2500	8.0	77	8	<1.0	6	38
CS108	4	<0.2	<1	14	11.0	<2	920	2000	8.0	91	5	<1.0	4	71
CS109	<1	<0.2	<1	17	5.0	<2	460	4650	9.0	32	10	<1.0	8	39
CS110	7	<0.2	<1	14	10.0	<2	2350	2700	12.0	195	18	<1.0	5	77
CS111	6	<0.2	<1	16	6.0	<2	580	4050	9.0	86	18	<1.0	14	27
CS112	7	<0.2	<1	15	9.0	<2	530	3550	5.0	105	18	<1.0	12	54
CS113	2	<0.2	3	16	8.0	<2	2200	2900	12.0	255	13	6.0	6	105
CS114	3	<0.2	<1	13	7.0	<2	285	2500	8.0	70	9	5.0	8	63
CS115	3	<0.2	<1	14	9.0	<2	950	3150	<1.0	120	12	<1.0	5	65
CS116	5	<0.2	<1	13	8.0	<2	225	2100	<1.0	22	<1	<1.0	6	16
CS117	6	<0.2	1	17	<1.0	<2	630	3350	5.0	130	20	6.0	16	59
CS118	5	<0.2	2	36	7.0	6	960	4600	27.0	170	56	17.0	32	52
CS119	2	<0.2	3	16	15.0	<2	1250	3350	<1.0	135	11	9.0	6	27
CS120	5	<0.2	4	45	6.0	7	1350	5500	25.0	135	63	16.0	36	73
CS121	4	<0.2	2	42	8.0	7	1750	5150	31.0	205	72	22.0	32	69
CS122	4	<0.2	2	40	9.0	6	860	4850	18.0	145	52	18.0	32	69
CS123	3	<0.2	2	45	5.0	9	1300	5800	16.0	200	85	16.0	32	145
CS124	<1	<0.2	1	13	8.0	<2	350	2400	<1.0	46	7	<1.0	7	72
CS125	1	<0.2	7	20	8.0	6	920	2450	12.0	120	38	12.0	18	69
CS126	2	<0.2	<1	16	8.0	7	690	2400	6.0	83	25	6.0	28	28
CS127	1	<0.2	1	28	10.0	6	1850	3500	23.0	205	68	23.0	39	39
CS128	<1	<0.2	1	33	5.0	6	2800	4250	37.0	250	90	37.0	32	54
CS129	3	<0.2	2	21	12.0	6	1850	4000	23.0	200	46	23.0	22	30
CS130	1	<0.2	2	17	9.0	<2	1650	3650	14.0	165	21	14.0	6	<1
CS131	2	<0.2	3	21	8.0	6	1300	2800	13.0	120	43	13.0	17	37
CS132	<1	<0.2	2	18	8.0	7	930	3800	9.0	100	30	9.0	14	66
CS133	<1	<0.2	17	14	6.0	7	500	2600	7.0	67	12	7.0	12	10
CS134	3	<0.2	<1	26	6.0	9	1100	3450	20.0	110	61	20.0	28	59
CS135	<1	<0.2	<1	25	<1.0	3	340	3000	6.0	76	52	6.0	26	82
CS136	<1	<0.2	<1	41	8.0	5	1850	5300	22.0	240	87	22.0	29	83
CS137	2	<0.2	<1	31	<1.0	7	485	3550	9.0	100	59	9.0	34	56
CS138	<1	<0.2	<1	18	11.0	7	990	2100	18.0	90	41	18.0	23	<1
CS139	5	<0.2	<1	45	8.0	9	1300	5450	24.0	200	86	24.0	32	97
CS140	<1	<0.2	1	24	<1.0	7	415	3000	9.0	92	51	9.0	24	28
CS141	13	<0.2	<1	24	<1.0	6	660	2950	8.0	140	50	8.0	24	34
CS142	44	<0.2	<1	19	<1.0	3	440	1750	11.0	61	46	11.0	24	42
CS143	2	<0.2	1	30	6.0	7	1200	3600	21.0	160	68	21.0	39	29
CS144	<1	<0.2	1	18	9.0	8	600	3100	8.0	125	32	8.0	38	72
CS145	2	<0.2	1	36	6.0	7	1600	4950	19.0	180	85	19.0	36	47
CS146	<1	<0.2	<1	15	10.0	3	770	3000	<1.0	120	13	<1.0	8	7
CS147	<1	<0.2	29	16	13.0	2	1050	2800	8.0	105	16	8.0	10	<1
CS148	<1	<0.2	<1	15	5.0	<2	375	3800	<1.0	78	15	<1.0	10	<1
CS149	7	<0.2	<1	14	<1.0	<2	190	3000	6.0	50	10	6.0	8	<1
CS150	<1	<0.2	<1	15	<1.0	<2	400	5600	6.0	92	25	6.0	18	56
CS151	<1	<0.2	<1	15	<1.0	3	280	4150	<1.0	88	23	<1.0	22	<1
CS152	11	<0.2	13	13	<1.0	<2	400	6200	20.0	88	31	6.0	24	43
CS153	21	<0.2	1	18	<1.0	5	400	2650	23.0	65	38	9.0	16	57
CS155	<1	<0.2	<1	12	<1.0	<2	750	3000	10.0	78	15	5.0	13	23
CS156	2	<0.2	8	18	<1.0	<2	380	4950	21.0	83	32	12.0	24	42
CS157	1	<0.2	11	14	<1.0	<2	415	2800	12.0	83	25	6.0	16	19
CS158	1	<0.2	<1	13	5.0	<2	210	4650	9.0	98	16	<1.0	20	<1
CS159	2	<0.2	<1	12	<1.0	3	245	2700	14.0	47	11	5.0	16	47
CS160	1	<0.2	12	13	<1.0	3	520	2950	<1.0	135	15	5.0	14	135

App. 3 The Chemical Analysis of Stream Sediments (11)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
CS161	<1	<0.2	<1	12	6.0	<2	405	2800	<1.0	38	12	5.0	12	61
CS162	<1	<0.2	42	12	<1.0	3	190	1700	<1.0	80	11	5.0	10	26
CS163	1	<0.2	18	12	7.0	<2	1150	2850	13.0	130	20	8.0	11	65
CS164	1	<0.2	4	12	9.0	<2	295	2750	10.0	41	18	<1.0	14	<1
CS165	1	<0.2	60	16	<1.0	3	245	3500	10.0	95	29	<1.0	24	69
CS166	1	<0.2	<1	14	<1.0	2	165	3050	6.0	66	26	<1.0	24	61
CS167	<1	<0.2	<1	13	9.0	<2	270	2250	<1.0	48	11	6.0	8	30
CS168	1	<0.2	<1	14	6.0	<2	115	2650	6.0	48	13	<1.0	12	<1
CS169	<1	<0.2	<1	15	7.0	<2	230	3600	12.0	69	24	5.0	15	66
CS170	<1	<0.2	<1	15	6.0	<2	230	3150	8.0	120	23	8.0	18	35
CS171	<1	<0.2	54	11	<1.0	<2	475	2050	11.0	63	15	8.0	10	41
CS172	1	<0.2	7	11	6.0	<2	505	1650	<1.0	48	12	5.0	9	20
CS173	5	<0.2	12	10	6.0	<2	225	1800	15.0	38	18	<1.0	14	10
CS174	2	<0.2	3	14	8.0	<2	670	2750	8.0	75	16	<1.0	10	42
CS175	<1	<0.2	27	12	6.0	<2	445	2200	6.0	86	16	8.0	11	<1
CS176	<1	<0.2	710	14	16.0	<2	760	2200	5.0	80	13	<1.0	8	70
CS177	<1	<0.2	2	13	16.0	<2	230	2000	<1.0	24	8	5.0	9	30
CS178	2	<0.2	2	13	9.0	<2	365	2200	5.0	86	8	<1.0	9	69
CS179	<1	<0.2	94	12	8.0	<2	485	2600	5.0	76	15	<1.0	17	38
CS180	5	<0.2	1	12	7.0	<2	500	2500	<1.0	59	9	<1.0	9	<1
CS181	2	<0.2	1	14	10.0	<2	195	2500	8.0	40	9	<1.0	10	58
CS182	<1	<0.2	17	16	<1.0	<2	840	3950	10.0	97	36	12.0	11	83
CS183	3	<0.2	4	15	8.0	2	520	3350	8.0	72	19	<1.0	18	35
CS184	<1	<0.2	180	13	<1.0	<2	530	2550	6.0	52	9	<1.0	15	47
CS185	<1	<0.2	6	14	10.0	<2	300	3150	8.0	120	19	<1.0	18	85
CS186	2	<0.2	10	14	5.0	<2	335	2450	<1.0	52	13	8.0	14	49
CS187	3	<0.2	220	14	<1.0	5	355	3100	10.0	150	26	<1.0	36	<1
CS188	1	<0.2	71	15	<1.0	<2	400	3500	6.0	87	24	8.0	24	46
CS189	<1	<0.2	3	10	6.0	<2	125	2050	9.0	19	6	<1.0	8	<1
CS190	<1	<0.2	330	14	<1.0	2	290	3050	8.0	76	17	<1.0	23	77
CS191	<1	<0.2	14	12	6.0	<2	540	2550	8.0	50	15	9.0	10	12
CS192	1	<0.2	2	13	9.0	<2	305	2550	8.0	91	15	<1.0	12	26
CS193	<1	<0.2	5	12	10.0	<2	560	2100	10.0	91	14	<1.0	10	<1
CS194	<1	<0.2	1	14	<1.0	<2	490	2700	6.0	84	15	<1.0	10	<1
CS195	<1	<0.2	1	13	<1.0	<2	250	2450	<1.0	53	12	5.0	13	<1
CS196	<1	<0.2	1	12	5.0	<2	250	2700	6.0	66	12	6.0	12	31
CS197	<1	<0.2	1	13	5.0	<2	425	2450	9.0	85	8	5.0	8	<1
CS198	<1	<0.2	5	16	10.0	2	260	3150	10.0	<1	19	<1.0	25	79
CS199	2	<0.2	3	12	9.0	<2	300	2050	<1.0	42	12	<1.0	8	53
CS200	<1	<0.2	11	14	9.0	<2	530	2150	<1.0	67	14	5.0	9	39
DS1	1	<0.2	1	13	14.0	<2	480	2750	12.0	24	12	7.0	10	49
DS2	<1	<0.2	2	16	14.0	<2	740	4000	19.0	67	21	10.0	19	51
DS3	<1	<0.2	1	15	13.0	<2	590	3650	12.0	27	18	9.0	17	54
DS4	1	<0.2	3	13	11.0	<2	600	3400	12.0	50	19	6.0	12	45
DS5	<1	<0.2	2	15	14.0	<2	570	3750	19.0	49	24	12.0	20	72
DS6	<1	<0.2	2	14	14.0	<2	620	3200	11.0	74	19	<1.0	15	53
DS7	<1	<0.2	1	12	18.0	<2	660	2700	12.0	64	17	10.0	10	65
DS8	<1	<0.2	4	14	17.0	<2	370	3100	9.0	39	15	7.0	16	27
DS9	4	<0.2	3	11	17.0	<2	400	2400	5.0	<1	9	6.0	8	48
DS10	<1	<0.2	4	12	15.0	2	310	2200	5.0	<1	11	9.0	15	43
DS11	<1	<0.2	46	11	16.0	<2	380	2050	<5.0	<1	9	6.0	11	39
DS12	<1	<0.2	16	12	14.0	<2	520	2100	12.0	12	10	7.0	9	69
DS13	<1	<0.2	3	12	16.0	<2	320	3250	9.0	<1	11	8.0	13	65
DS14	<1	<0.2	3	12	11.0	<2	470	2850	12.0	39	16	5.0	15	35
DS15	<1	<0.2	3	12	10.0	<2	440	3300	12.0	31	15	9.0	12	67
DS16	<1	<0.2	2	13	14.0	<2	350	3150	9.0	44	14	8.0	17	46

App. 3 The Chemical Analysis of Stream Sediments (12)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
DS17	<1	<0.2	2	12	14.0	<2	440	2950	14.0	29	14	7.0	14	59
DS18	2	<0.2	2	14	13.0	<2	490	2950	9.0	<1	16	7.0	11	90
DS19	2	<0.2	6	16	9.0	<2	540	3450	14.0	19	16	<1.0	13	45
DS20	<1	<0.2	2	14	16.0	<2	540	2400	14.0	<1	8	6.0	5	74
DS21	<1	<0.2	1	12	16.0	<2	460	2950	11.0	17	14	9.0	9	59
DS22	<1	<0.2	2	12	10.0	<2	500	2600	11.0	<1	16	8.0	11	75
DS23	<1	<0.2	1	15	9.0	<2	400	3900	15.0	42	28	8.0	20	64
DS24	<1	<0.2	1	14	12.0	<2	460	3650	11.0	10	19	10.0	13	40
DS25	<1	<0.2	1	14	13.0	<2	590	3150	7.0	17	16	<1.0	12	61
DS26	<1	<0.2	1	13	14.0	<2	620	2900	16.0	76	16	11.0	10	54
DS27	1	<0.2	2	13	13.0	<2	470	2700	12.0	21	9	5.0	10	77
DS28	<1	<0.2	1	13	13.0	<2	300	2700	9.0	<1	11	7.0	9	40
DS29	<1	<0.2	1	14	15.0	<2	530	3900	11.0	74	18	5.0	12	28
DS30	<1	<0.2	<1	11	19.0	<2	310	2150	11.0	<1	7	7.0	8	49
DS31	<1	<0.2	<1	17	11.0	<2	430	4100	17.0	19	23	5.0	16	69
DS32	<1	<0.2	<1	17	8.0	<2	370	4700	21.0	62	29	7.0	24	75
DS33	<1	<0.2	2	13	15.0	<2	280	3030	13.0	15	15	10.0	16	30
DS34	<1	<0.2	<1	15	16.0	<2	370	3650	16.0	35	23	9.0	18	43
DS35	<1	<0.2	<1	18	13.0	2	550	3800	17.0	45	20	6.0	13	18
DS36	<1	<0.2	3	15	14.0	<2	400	3650	15.0	14	17	6.0	12	39
DS37	1	<0.2	2	17	12.0	<2	330	4850	22.0	110	30	8.0	24	60
DS38	<1	<0.2	1	16	11.0	<2	360	4450	18.0	82	29	8.0	22	52
DS39	<1	<0.2	<1	17	13.0	<2	300	4650	18.0	100	29	7.0	22	59
DS40	<1	<0.2	1	15	10.0	<2	420	3850	17.0	42	18	7.0	14	66
DS41	<1	<0.2	39	14	16.0	<2	620	3800	15.0	63	16	7.0	14	90
DS42	<1	<0.2	28	16	8.0	<2	360	4550	18.0	80	24	5.0	16	61
DS43	<1	<0.2	8	18	6.0	<2	300	5000	23.0	77	27	14.0	20	74
DS44	<1	<0.2	2	17	7.0	<2	340	4600	20.0	59	26	10.0	24	82
DS45	2	<0.2	16	17	14.0	<2	330	4350	9.0	75	20	8.0	16	43
DS46	<1	<0.2	1	16	12.0	<2	740	3850	20.0	76	19	14.0	20	81
DS47	<1	<0.2	19	17	10.0	<2	460	4400	18.0	73	24	8.0	19	62
DS48	<1	<0.2	1	17	13.0	<2	300	4400	14.0	69	22	<1.0	20	42
DS49	2	<0.2	6	17	21.0	<2	430	4050	14.0	46	16	9.0	14	67
DS50	<1	<0.2	31	17	12.0	<2	430	3900	16.0	49	20	8.0	19	54
DS51	<1	<0.2	16	17	15.0	<2	560	4250	24.0	55	17	8.0	14	58
DS52	<1	<0.2	45	14	19.0	<2	1700	3350	18.0	100	16	<1.0	8	76
DS53	<1	<0.2	1	16	19.0	<2	760	2800	9.0	<1	8	5.0	3	28
DS54	<1	<0.2	1	15	14.0	<2	760	4000	10.0	<1	18	6.0	4	54
DS55	<1	<0.2	1	17	20.0	<2	1100	5850	16.0	89	18	8.0	5	47
DS56	<1	<0.2	6	17	19.0	2	890	4050	27.0	43	26	11.0	27	94
DS57	<1	<0.2	6	16	19.0	<2	660	4250	15.0	<1	15	5.0	6	54
DS58	6	<0.2	9	16	23.0	<2	890	3600	16.0	<1	16	10.0	6	39
DS59	1	<0.2	13	15	16.0	<2	640	4350	12.0	32	15	9.0	8	32
DS60	<1	<0.2	2	14	14.0	<2	490	4050	10.0	<1	11	7.0	5	31
DS61	<1	<0.2	<1	17	11.0	<2	560	4500	15.0	87	24	9.0	15	31
DS62	2	<0.2	8	15	18.0	<2	930	3950	7.0	43	15	<1.0	4	16
DS63	<1	<0.2	<1	15	12.0	<2	640	3950	15.0	55	22	12.0	10	61
DS64	<1	<0.2	1	17	13.0	<2	1100	4900	14.0	<1	22	7.0	9	68
DS65	<1	<0.2	<1	19	14.0	<2	1200	4750	16.0	75	33	8.0	14	88
DS66	<1	<0.2	3	15	14.0	<2	490	3950	14.0	22	22	8.0	11	70
DS67	2	<0.2	<1	17	8.0	<2	460	4850	16.0	60	25	<1.0	15	48
DS68	<1	<0.2	<1	17	17.0	<2	1350	4100	20.0	73	21	6.0	5	50
DS69	1	<0.2	4	15	14.0	<2	910	4750	8.0	64	20	6.0	8	47
DS70	2	<0.2	1	13	17.0	<2	255	3150	13.0	<1	7	6.0	7	42
DS71	<1	<0.2	<1	14	15.0	<2	475	3750	20.0	54	22	9.0	13	47
DS72	<1	<0.2	<1	18	15.0	<2	615	4950	18.0	29	22	5.0	11	56

App. 3 The Chemical Analysis of Stream Sediments (13)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
DS73	<1	<0.2	<1	17	16.0	<2	540	4650	14.0	17	22	5.0	12	45
DS74	<1	<0.2	<1	16	13.0	<2	285	4550	19.0	75	29	8.0	17	36
DS75	<1	<0.2	<1	17	14.0	<2	325	4200	11.0	52	23	<1.0	12	26
DS76	<1	<0.2	<1	13	21.0	<2	510	3200	10.0	41	13	5.0	6	22
DS77	<1	<0.2	3	15	16.0	<2	790	3600	13.0	28	14	13.0	6	42
DS78	<1	<0.2	7	18	14.0	<2	950	4250	23.0	68	20	6.0	9	115
DS79	2	<0.2	8	19	16.0	<2	395	4550	21.0	43	28	9.0	16	61
DS80	<1	<0.2	4	17	10.0	<2	1150	4650	21.0	72	25	8.0	9	85
DS81	<1	<0.2	<1	20	<1.0	<2	385	4650	12.0	68	27	<1.0	12	68
DS82	<1	<0.2	5	15	7.0	<2	530	2900	11.0	85	13	9.0	7	85
DS83	<1	<0.2	14	20	15.0	<2	970	3900	12.0	52	17	8.0	6	52
DS84	1	<0.2	20	14	9.0	<2	740	2650	7.0	57	10	<1.0	6	57
DS85	<1	<0.2	8	14	11.0	<2	1150	2500	13.0	67	18	12.0	8	67
DS86	<1	<0.2	3	14	15.0	<2	630	2350	<1.0	58	10	<1.0	6	58
DS87	<1	<0.2	35	15	15.0	<2	790	2200	9.0	98	14	7.0	8	66
DS88	1	<0.2	1	18	9.0	<2	1350	3400	18.0	150	22	11.0	12	<1
DS89	2	<0.2	7	15	5.0	<2	600	2950	13.0	73	8	<1.0	11	20
DS90	<1	<0.2	1	26	12.0	<2	3500	4000	46.0	305	51	31.0	22	55
DS91	<1	<0.2	2	38	<1.0	3	1450	4900	48.0	185	84	23.0	29	64
DS92	2	<0.2	2	39	5.0	4	1600	5050	39.0	165	78	18.0	24	64
DS93	1	<0.2	3	23	10.0	3	1500	3250	23.0	190	41	21.0	20	73
DS94	2	<0.2	<1	35	11.0	5	1600	4400	37.0	145	72	15.0	31	97
DS95	9	<0.2	2	32	7.0	5	2200	4200	56.0	240	54	28.0	24	51
DS96	3	<0.2	1	29	7.0	4	2300	3850	35.0	170	70	26.0	28	82
DS97	2	<0.2	<1	22	7.0	3	1100	3550	16.0	90	39	10.0	20	26
DS98	<1	<0.2	6	37	9.0	9	2550	5650	46.0	250	78	24.0	24	89
DS99	2	<0.2	<1	17	7.0	3	860	3100	12.0	98	22	7.0	16	60
DS100	4	<0.2	4	30	14.0	4	2550	4000	22.0	265	63	17.0	22	89
DS101	3	<0.2	<1	16	9.0	<2	350	3850	8.0	98	17	<1.0	13	105
DS102	<1	<0.2	1	13	10.0	<2	510	3300	10.0	110	16	<1.0	11	61
DS103	<1	<0.2	1	16	<1.0	<2	360	3650	12.0	69	16	<1.0	14	72
DS104	2	<0.2	1	13	15.0	<2	1100	2750	<1.0	110	9	<1.0	8	60
DS105	<1	<0.2	1	14	5.0	<2	720	3250	5.0	120	12	6.0	14	52
DS106	4	<0.2	<1	13	12.0	<2	710	2700	10.0	60	9	<1.0	9	50
DS107	2	<0.2	<1	14	13.0	<2	610	2000	<1.0	92	9	8.0	10	67
DS108	<1	<0.2	2	27	8.0	3	3500	3300	55.0	300	50	36.0	19	71
DS109	<1	<0.2	<1	18	16.0	<2	1100	3150	9.0	93	13	8.0	10	<1
DS110	<1	<0.2	<1	12	18.0	<2	420	2300	<1.0	77	5	<1.0	8	59
DS111	4	<0.2	<1	16	5.0	<2	300	3150	11.0	73	17	9.0	12	51
DS112	<1	<0.2	9	17	15.0	<2	620	3150	16.0	110	15	<1.0	10	29
DS113	<1	<0.2	2	17	9.0	2	580	2900	13.0	69	15	10.0	10	61
DS114	<1	<0.2	<1	15	14.0	<2	490	3450	17.0	55	22	<1.0	16	70
DS115	1	<0.2	<1	23	10.0	5	900	4250	20.0	110	42	9.0	19	21
DS116	<1	<0.2	<1	14	10.0	<2	710	3500	11.0	57	11	<1.0	8	54
DS117	<1	<0.2	<1	15	11.0	<2	680	3700	16.0	145	19	<1.0	12	58
DS118	<1	<0.2	1	27	10.0	<2	1100	3700	17.0	130	16	<1.0	10	79
DS119	5	<0.2	<1	16	7.0	<2	385	3400	12.0	51	15	<1.0	12	90
DS120	<1	<0.2	1	33	<1.0	7	2000	4030	27.0	240	64	<1.0	24	41
DS121	<1	<0.2	9	32	9.0	10	4300	3750	46.0	360	5	38.0	20	80
DS122	<1	<0.2	<1	35	<1.0	3	965	4350	36.0	140	72	9.0	32	100
DS123	<1	<0.2	<1	35	7.0	5	1950	3650	38.0	105	74	25.0	28	63
DS124	<1	<0.2	1	20	<1.0	4	1300	2900	26.0	150	57	14.0	20	73
DS125	<1	<0.2	7	20	<1.0	3	660	3400	32.0	4	56	10.0	26	57
DS126	<1	<0.2	1	16	5.0	<2	310	2950	16.0	96	20	5.0	14	48
DS127	<1	<0.2	140	16	5.0	<2	495	2050	5.0	76	15	5.0	12	69
DS128	<1	<0.2	20	20	5.0	3	970	2850	33.0	89	38	10.0	16	36

App. 3 The Chemical Analysis of Stream Sediments (14)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
DS129	<1	<0.2	35	15	9.0	<2	585	3200	25.0	35	18	<1.0	13	7
DS130	<1	<0.2	1	34	<1.0	2	760	4100	40.0	135	70	20.0	26	105
DS131	<1	<0.2	<1	15	7.0	<2	200	2750	5.0	12	11	6.0	12	50
DS132	<1	<0.2	<1	19	<1.0	<2	410	3700	6.0	74	16	<1.0	16	4
DS133	<1	<0.2	<1	16	<1.0	<2	395	3350	13.0	45	16	<1.0	14	6
DS134	<1	<0.2	<1	15	6.0	<2	410	3300	9.0	76	10	<1.0	16	49
DS135	<1	<0.2	<1	13	11.0	<2	335	2000	6.0	14	7	<1.0	10	38
DS136	<1	<0.2	<1	14	11.0	<2	470	2350	6.0	115	6	<1.0	10	13
DS137	<1	<0.2	<1	16	7.0	<2	370	3500	15.0	105	21	<1.0	10	43
DS138	<1	<0.2	<1	15	6.0	<2	730	3200	<1.0	84	18	<1.0	8	60
DS139	<1	<0.2	<1	15	9.0	<2	455	3450	12.0	89	17	<1.0	9	41
DS140	<1	<0.2	<1	17	7.0	<2	460	3150	14.0	100	17	6.0	10	41
DS141	1	<0.2	<1	10	10.0	<2	90	3300	<1.0	104	15	<1.0	9	<1
DS142	<1	<0.2	35	19	10.0	<2	1570	3650	20.0	155	17	10.0	11	38
DS143	<1	<0.2	2	26	<1.0	2	560	3200	32.0	77	48	14.0	28	74
DS144	<1	<0.2	3	22	9.0	2	1625	3100	19.0	205	39	16.0	18	66
DS145	<1	<0.2	6	16	11.0	2	750	2000	8.0	59	20	6.0	10	54
DS146	<1	<0.2	2	38	5.0	5	1420	5300	61.0	215	1	19.0	28	110
DS147	<1	<0.2	2	35	11.0	5	2060	4750	30.0	280	62	18.0	20	120
DS148	<1	<0.2	1	25	<1.0	6	1045	3950	40.0	130	42	18.0	18	97
DS149	<1	<0.2	1	13	<1.0	<2	690	3200	6.0	61	21	5.0	13	43
DS150	<1	<0.2	5	16	8.0	<2	790	3350	13.0	97	22	<1.0	12	24
DS151	<1	<0.2	1	22	14.0	<2	575	3450	13.0	93	20	<1.0	8	60
DS152	<1	<0.2	<1	10	7.0	<2	495	3850	14.0	71	17	<1.0	8	57
DS153	<1	<0.2	<1	10	7.0	<2	450	3350	<1.0	47	14	<1.0	10	<1
DS154	<1	<0.2	1	16	8.0	<2	730	2850	9.0	110	12	<1.0	10	42
DS155	1	<0.2	1	14	7.0	<2	425	3000	<1.0	78	9	<1.0	10	94
DS156	<1	<0.2	<1	16	5.0	<2	375	3650	13.0	83	19	5.0	12	32
DS157	<1	<0.2	26	18	9.0	<2	1020	2700	13.0	99	15	<1.0	10	40
DS158	<1	<0.2	43	14	5.0	<2	545	1050	5.0	72	12	<1.0	12	55
DS159	<1	<0.2	30	18	1.0	<2	1335	4000	20.0	120	35	<1.0	16	58
DS160	<1	<0.2	5	18	9.0	<2	525	4750	12.0	57	53	<1.0	12	64
DS161	<1	<0.2	4	19	7.0	<2	1700	3750	15.0	200	30	<1.0	9	14
DS162	<1	<0.2	1	15	11.0	<2	445	2050	12.0	105	20	<1.0	12	22
DS163	<1	<0.2	13	11	6.0	3	295	1500	5.0	<1	11	<1.0	11	36
DS164	<1	<0.2	3	13	<1.0	<2	425	1600	6.0	36	10	5.0	9	58
DS165	<1	<0.2	10	16	7.0	<2	940	3200	16.0	65	19	8.0	8	52
DS166	<1	<0.2	4	19	9.0	2	1465	4700	20.0	150	45	7.0	9	51
DS167	<1	<0.2	27	15	<1.0	<2	590	3400	9.0	50	31	<1.0	14	62
DS168	<1	<0.2	12	16	7.0	<2	725	3150	12.0	72	20	<1.0	13	110
DS169	<1	<0.2	21	18	<1.0	<2	1395	2950	20.0	160	20	5.0	12	81
DS170	<1	<0.2	2	18	<1.0	<2	1020	2900	12.0	115	22	7.0	10	36
DS171	<1	<0.2	<1	18	6.0	<2	560	4250	18.0	81	24	<1.0	16	66
DS172	<1	<0.2	<1	18	<1.0	<2	805	3900	12.0	120	20	<1.0	16	40
DS173	<1	<0.2	<1	19	7.0	<2	585	4400	9.0	145	23	<1.0	14	40
DS174	<1	<0.2	<1	19	7.0	<2	505	4200	9.0	50	26	5.0	14	19
DS175	2	<0.2	26	18	5.0	<2	815	2600	5.0	110	26	<1.0	12	56
DS176	<1	<0.2	24	16	5.0	<2	730	3500	13.0	91	32	<1.0	10	59
DS177	<1	<0.2	23	14	15.0	<2	1025	3350	12.0	98	26	5.0	12	55
DS178	<1	<0.2	16	13	10.0	<2	985	2100	6.0	82	20	7.0	8	44
DS179	2	<0.2	6	16	<1.0	<2	600	3750	6.0	96	37	5.0	10	30
DS180	<1	<0.2	<1	12	5.0	<2	670	2800	12.0	84	13	5.0	14	49
DS181	<1	<0.2	4	10	10.0	<2	1290	1900	<1.0	140	16	7.0	9	13
DS182	<1	<0.2	12	11	11.0	<2	1490	2150	19.0	145	22	8.0	9	180
DS183	<1	<0.2	1	12	8.0	<2	1390	2950	9.0	130	21	5.0	11	28
DS184	<1	<0.2	1	14	15.0	<2	1230	2350	8.0	115	16	8.0	9	61

App. 3 The Chemical Analysis of Stream Sediments (15)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
DS185	1	<0.2	4	13	7.0	<2	385	3050	8.0	31	20	<1.0	9	36
DS186	<1	<0.2	3	15	8.0	<2	660	2900	11.0	45	12	<1.0	10	47
DS187	<1	<0.2	21	16	9.0	2	1510	3150	18.0	125	20	9.0	8	87
DS188	<1	<0.2	7	16	9.0	<2	675	3950	9.0	105	24	<1.0	14	60
DS189	<1	<0.2	45	15	<1.0	<2	710	2400	6.0	68	15	<1.0	12	28
DS190	5	<0.2	40	15	10.0	<2	770	3350	15.0	73	10	9.0	13	51
DS191	<1	<0.2	5	17	11.0	<2	870	3700	20.0	130	32	<1.0	15	37
DS192	<1	<0.2	2	15	12.0	<2	1850	3700	18.0	170	55	6.0	14	35
DS193	<1	<0.2	<1	19	<1.0	<2	535	4950	14.0	145	37	7.0	24	30
DS194	<1	<0.2	54	24	<1.0	<2	1750	7400	30.0	230	70	9.0	20	33
DS195	<1	<0.2	<1	19	5.0	<2	675	3250	16.0	85	22	6.0	14	52
DS196	<1	<0.2	<1	20	13.0	<2	540	4300	16.0	98	25	9.0	15	<1
DS197	<1	<0.2	<1	18	<1.0	<2	440	4700	16.0	100	29	<1.0	12	17
DS198	<1	<0.2	<1	17	<1.0	<2	435	3900	16.0	81	27	<1.0	16	<1
DS199	<1	<0.2	<1	16	<1.0	<2	270	3800	19.0	77	28	<1.0	24	<1
DS200	<1	<0.2	<1	19	12.0	<2	690	4200	14.0	105	26	6.0	16	48
DS201	1	<0.2	<1	20	<1.0	<2	390	5100	17.0	135	30	<1.0	21	44
DS202	<1	<0.2	<1	18	<1.0	<2	505	4900	16.0	115	27	<1.0	18	22
DS203	<1	<0.2	<1	16	6.0	<2	345	4650	13.0	87	29	<1.0	21	37
DS204	<1	<0.2	<1	18	<1.0	2	380	4700	16.0	110	34	9.0	22	40
DS205	1	<0.2	<1	16	<1.0	2	415	5050	9.0	105	28	<1.0	18	<1
DS206	3	<0.2	<1	16	6.0	2	395	4000	13.0	65	20	<1.0	10	<1
DS207	4	<0.2	<1	15	13.0	<2	595	3450	16.0	115	20	8.0	19	69
DS208	<1	<0.2	33	16	<1.0	<2	1340	3000	23.0	125	47	7.0	15	<1
DS209	2	<0.2	<1	14	<1.0	<2	590	3800	11.0	97	31	<1.0	20	<1
DS210	4	<0.2	<1	16	6.0	<2	410	4500	13.0	115	27	6.0	19	35
DS211	1	<0.2	<1	17	<1.0	<2	575	4750	12.0	115	33	<1.0	19	32
DS212	1	<0.2	<1	17	8.0	<2	585	4550	16.0	99	28	7.0	19	45
DS213	<1	<0.2	47	14	9.0	<2	775	2450	16.0	83	36	3.0	17	26
DS214	<1	<0.2	69	14	7.0	<2	590	2100	6.0	81	31	<1.0	16	<1
DS215	4	<0.2	47	15	13.0	<2	900	2600	14.0	66	23	<1.0	20	30
DS216	<1	<0.2	34	13	6.0	<2	400	1550	<1.0	59	10	<1.0	14	<1
DS217	1	<0.2	<1	17	6.0	<2	635	3650	12.0	145	13	<1.0	10	60
DS218	<1	<0.2	3	20	5.0	2	895	4350	24.0	140	32	<1.0	12	47
DS219	<1	<0.2	6	16	5.0	<2	540	3900	10.0	75	25	<1.0	10	<1
DS220	<1	<0.2	7	19	9.0	<2	620	3800	12.0	98	25	<1.0	11	<1
ES1	2	<0.2	2	19	18	<2	1100	4950	11.0	64	23	6.0	14	100
ES2	<1	<0.2	<1	13	6	<2	400	3850	6.0	38	19	<1.0	17	43
ES3	<1	<0.2	<1	18	8	<2	600	4700	21.0	75	30	13.0	19	36
ES4	<1	<0.2	<1	14	21	<2	635	2500	10.0	16	10	<1.0	7	55
ES5	<1	<0.2	1	19	15	<2	1050	5050	20.0	110	21	6.0	12	49
ES6	<1	<0.2	<1	14	12	<2	350	3800	13.0	48	18	6.0	16	26
ES7	<1	<0.2	1	18	18	<2	880	4650	20.0	88	24	10.0	13	55
ES8	<1	<0.2	<1	18	14	<2	605	5700	13.0	73	23	7.0	11	84
ES9	<1	<0.2	<1	17	18	<2	635	4750	18.0	93	23	12.0	14	100
ES10	<1	<0.2	2	17	7	<2	720	5350	19.0	75	23	7.0	11	52
ES11	<1	<0.2	1	17	13	<2	420	4550	16.0	33	20	<1.0	15	19
ES12	<1	<0.2	<1	20	8	<2	900	5600	24.0	99	38	12.0	17	45
ES13	<1	<0.2	<1	18	13	<2	680	4600	16.0	85	26	5.0	15	77
ES14	<1	<0.2	<1	16	10	<2	450	5350	17.0	23	19	10.0	12	60
ES15	<1	<0.2	1	18	15	<2	485	5000	17.0	70	25	10.0	15	41
ES16	<1	<0.2	1	19	11	<2	640	5450	19.0	70	28	10.0	13	66
ES17	<1	<0.2	<1	15	11	<2	480	4200	13.0	87	23	<1.0	22	61
ES18	<1	<0.2	1	16	11	<2	380	4550	17.0	68	20	<1.0	16	<1
ES19	<1	<0.2	<1	15	10	<2	420	4500	18.0	57	21	<1.0	20	25
ES20	<1	<0.2	2	17	20	<2	1150	5150	15.0	56	22	10.0	12	73

App. 3 The Chemical Analysis of Stream Sediments (16)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
ES21	<1	<0.2	1	14	15	<2	400	3450	14.0	52	20	7.0	17	25
ES22	<1	<0.2	1	15	16	<2	370	4150	<1.0	67	15	5.0	14	55
ES23	<1	<0.2	<1	15	11	<2	685	3950	9.0	58	24	6.0	18	<1
ES24	<1	<0.2	<1	13	8	<2	440	3730	11.0	70	19	7.0	20	88
ES25	<1	<0.2	4	18	13	<2	1730	4700	17.0	105	34	11.0	16	82
ES26	<1	<0.2	<1	14	18	<2	825	3250	11.0	41	17	<1.0	14	43
ES27	<1	<0.2	<1	13	10	<2	670	3750	16.0	79	20	9.0	20	20
ES28	<1	<0.2	<1	14	18	<2	500	3600	7.0	75	20	5.0	15	78
ES29	<1	<0.2	<1	15	15	<2	685	4650	17.0	40	19	5.0	14	48
ES30	<1	<0.2	<1	15	14	2	510	3800	8.0	39	15	5.0	14	53
ES31	<1	<0.2	<1	13	9	<2	535	3700	11.0	46	16	<1.0	15	41
ES32	<1	<0.2	<1	14	15	<2	490	3650	9.0	49	20	11.0	15	39
ES33	5	<0.2	<1	14	15	<2	690	3950	9.0	75	23	<1.0	17	62
ES34	<1	<0.2	<1	16	13	<2	585	4400	13.0	120	27	<1.0	29	90
ES35	2	<0.2	<1	14	11	<2	430	3950	17.0	95	24	<1.0	19	46
ES36	<1	<0.2	<1	15	15	<2	820	4200	16.0	21	18	6.0	12	50
ES37	<1	<0.2	<1	14	14	<2	460	3700	16.0	49	23	6.0	17	56
ES38	<1	<0.2	<1	14	9	<2	800	3700	12.0	61	16	11.0	12	<1
ES39	<1	<0.2	1	14	14	<2	650	3600	14.0	93	15	6.0	12	28
ES40	<1	<0.2	<1	11	14	<2	710	2700	9.0	76	12	<1.0	10	27
ES41	<1	<0.2	1	11	14	<2	520	2900	13.0	20	19	8.0	11	20
ES42	<1	<0.2	22	15	14	3	600	3600	7.0	81	19	8.0	12	59
ES43	1	<0.2	1	12	16	<2	1050	2400	12.0	42	9	14.0	9	40
ES44	<1	<0.2	3	12	20	3	1100	2900	12.0	105	10	<1.0	10	37
ES45	<1	<0.2	22	17	15	2	1600	3300	24.0	94	38	9.0	9	56
ES46	<1	<0.2	12	15	12	2	1100	3700	24.0	49	24	9.0	8	59
ES47	<1	<0.2	34	18	17	<2	2250	4150	18.0	155	48	14.0	10	78
ES48	<1	<0.2	4	16	21	<2	1300	3550	13.0	66	35	8.0	10	66
ES49	5	<0.2	38	20	19	<2	4000	4800	42.0	165	67	16.0	10	120
ES50	<1	<0.2	9	16	16	<2	860	3500	20.0	40	26	8.0	12	76
ES51	<1	<0.2	5	16	21	4	880	2450	36.0	55	90	20.0	18	96
ES52	1	<0.2	25	17	20	5	1300	5200	35.0	38	48	18.0	18	91
ES53	<1	<0.2	1	13	13	<2	1150	2950	18.0	60	10	7.0	9	55
ES54	<1	<0.2	1	13	17	<2	970	3650	12.0	48	10	7.0	10	55
ES55	<1	<0.2	10	13	20	<2	1800	3700	12.0	160	9	9.0	10	48
ES56	<1	<0.2	1	11	21	<2	590	2950	9.0	33	8	<1.0	10	33
ES57	1	<0.2	11	13	19	<2	710	2900	11.0	36	13	12.0	6	52
ES58	<1	<0.2	15	13	18	<2	1300	3950	11.0	65	13	12.0	6	56
ES59	<1	<0.2	16	12	20	<2	820	3050	8.0	24	8	12.0	5	60
ES60	<1	<0.2	22	13	17	<2	1250	3300	15.0	84	14	<1.0	6	41
ES61	<1	<0.2	10	13	19	<2	1300	4700	13.0	81	15	14.0	6	33
ES62	<1	<0.2	19	12	12	<2	930	2600	10.0	36	7	6.0	4	75
ES63	1	<0.2	78	13	21	2	1250	3350	7.0	12	13	6.0	5	41
ES64	<1	<0.2	15	12	19	2	660	2800	13.0	<1	8	15.0	5	38
ES65	1	<0.2	35	12	14	3	1050	2500	17.0	58	9	12.0	5	36
ES66	<1	<0.2	4	10	17	3	250	4300	<1.0	<1	<1	5.0	4	20
ES67	<1	<0.2	8	13	15	3	690	2950	9.0	<1	6	14.0	5	36
ES68	1	<0.2	52	12	18	3	1200	2850	13.0	24	7	10.0	4	<1
ES69	1	<0.2	13	13	21	3	1100	2570	8.0	60	6	9.0	4	61
ES70	<1	<0.2	5	16	24	2	1650	4050	13.0	17	11	13.0	4	30
ES71	<1	<0.2	2	13	22	<2	1300	2850	11.0	22	<1	9.0	4	5
ES72	2	<0.2	11	11	20	2	425	2050	10.0	9	<1	<1.0	5	26
ES73	3	<0.2	15	13	18	2	800	2650	5.0	45	8	11.0	5	36
ES74	<1	<0.2	19	15	23	3	1650	2900	14.0	97	14	8.0	5	<1
ES75	1	<0.2	12	12	16	3	610	2250	8.0	<1	7	<1.0	4	<1
ES76	1	<0.2	1	13	16	2	850	3050	7.0	55	13	7.0	14	49

App. 3 The Chemical Analysis of Stream Sediments (17)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
ES77	<1	<0.2	2	16	15	<2	520	3000	11.0	18	9	6.0	7	52
ES78	<1	<0.2	8	13	17	<2	680	2850	9.0	58	6	7.0	6	13
ES79	<1	<0.2	2	19	14	<2	700	5450	17.0	68	24	7.0	11	60
ES80	1	<0.2	7	19	14	<2	400	4200	15.0	70	26	7.0	13	72
ES81	<1	<0.2	1	19	16	<2	580	4050	16.0	41	19	8.0	10	76
ES82	2	<0.2	29	14	12	<2	750	2100	7.0	31	8	5.0	5	13
ES83	<1	<0.2	1	20	10	<2	330	3900	15.0	72	29	8.0	14	49
ES84	<1	<0.2	9	12	17	<2	270	2200	5.0	24	<1	9.0	6	62
ES85	<1	<0.2	5	13	17	<2	400	1900	9.0	34	7	<1.0	6	34
ES86	<1	<0.2	7	15	13	<2	450	2450	10.0	<1	8	<1.0	6	<1
ES87	<1	<0.2	3	17	15	<2	500	3750	18.0	100	16	5.0	10	14
ES88	<1	<0.2	<1	16	14	<2	275	3800	17.0	58	18	11.0	11	<1
ES89	<1	<0.2	1	15	9	<2	310	3300	12.0	110	17	<1.0	11	65
ES90	2	<0.2	9	15	16	<2	340	3500	15.0	75	18	<1.0	10	52
ES91	<1	<0.2	5	18	12	5	710	5750	21.0	140	19	8.0	9	64
ES92	<1	<0.2	2	18	11	5	780	5750	16.0	91	14	<1.0	9	66
ES93	2	<0.2	2	17	6	4	480	5550	12.0	86	16	<1.0	9	51
ES94	2	<0.2	22	15	11	3	560	4400	<1.0	70	11	<1.0	8	60
ES95	1	<0.2	14	16	14	3	620	5000	5.0	60	11	<1.0	8	<1
ES96	<1	<0.2	5	16	15	3	620	5300	8.0	70	15	<1.0	8	71
ES97	2	<0.2	5	15	8	2	1050	5000	19.0	130	15	6.0	10	53
ES98	2	<0.2	<2	16	9	<2	900	5400	6.0	115	17	8.0	12	25
ES99	<1	<0.2	<2	15	9	<2	1050	5800	11.0	145	18	<1.0	8	55
ES100	<1	<0.2	<2	15	8	<2	450	4800	7.0	73	9	<1.0	15	46
ES101	1	<0.2	<2	15	9	<2	1700	6150	21.0	175	16	5.0	13	91
ES102	<1	<0.2	<2	20	13	2	1950	9200	39.0	245	40	7.0	10	135
ES103	<1	<0.2	<2	16	10	2	2850	6350	35.0	320	24	12.0	10	110
ES104	<1	<0.2	<2	19	13	2	1050	9550	22.0	180	29	<1.0	13	100
ES105	<1	<0.2	<2	16	10	<2	810	6750	14.0	125	23	5.0	16	62
ES106	<1	<0.2	<2	18	<1	3	425	8600	16.0	100	34	6.0	32	56
ES107	3	<0.2	<2	21	8	2	1400	10100	25.0	160	30	<1.0	14	92
ES108	<1	<0.2	<2	18	5	<2	720	8000	19.0	130	31	6.0	17	105
ES109	1	<0.2	<2	19	<1	<2	435	9150	22.0	115	35	5.0	22	74
ES110	3	<0.2	<2	23	11	<2	2000	10900	30.0	245	42	6.0	16	125
ES111	<1	<0.2	<2	17	8	<2	740	7900	9.0	99	31	<1.0	18	71
ES112	1	<0.2	<2	21	8	3	1400	11600	26.0	170	35	8.0	15	125
ES113	4	<0.2	2	13	<1	<2	470	7200	6.0	33	12	<1.0	16	49
ES114	11	<0.2	<2	15	12	<2	980	10600	6.0	125	12	6.0	10	219
ES115	<1	<0.2	6	14	12	<2	510	6300	6.0	32	7	5.0	8	17
ES116	<1	<0.2	<2	20	7	2	1200	9000	22.0	160	28	8.0	10	84
ES117	<1	<0.2	<2	22	11	<2	1450	9250	24.0	205	23	8.0	10	95
ES118	1	<0.2	<2	19	9	2	1400	8800	34.0	180	26	<1.0	10	120
ES119	3	<0.2	<2	20	<1	3	630	10500	16.0	73	25	5.0	10	70
ES120	<1	<0.2	<2	17	9	2	1000	8350	16.0	135	22	<1.0	11	46
ES121	<1	<0.2	<2	23	10	3	590	8050	13.0	125	26	7.0	12	28
ES122	<1	<0.2	<2	14	<1	<2	700	4550	12.0	120	12	6.0	13	46
ES123	<1	<0.2	<2	15	14	<2	940	5800	9.0	84	14	<1.0	10	77
ES124	<1	<0.2	<2	13	8	2	790	4950	11.0	115	15	<1.0	15	79
ES125	<1	<0.2	<2	15	8	2	520	6450	13.0	52	19	<1.0	18	87
ES126	<1	<0.2	<2	14	8	2	960	5400	12.0	81	17	<1.0	8	12
ES127	<1	<0.2	<2	15	11	<2	1150	6600	9.0	145	20	<1.0	9	20
ES128	1	<0.2	2	18	<1	<2	740	9450	26.0	130	22	6.0	7	31
ES129	<1	<0.2	<2	14	8	<2	1050	6000	14.0	150	21	<1.0	10	26
ES130	<1	<0.2	<2	16	10	<2	1250	5850	11.0	135	22	10.0	7	35
ES131	1	<0.2	<2	25	18	5	2000	7950	24.0	250	26	6.0	5	105
ES132	<1	<0.2	<2	18	15	5	830	6800	11.0	79	19	8.0	6	65

App. 3 The Chemical Analysis of Stream Sediments (18)

Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
ES133	<1	<0.2	<2	17	12	4	440	5850	6.0	30	14	8.0	7	53
ES134	<1	<0.2	2	16	15	3	720	6500	9.0	94	12	7.0	9	71
ES135	3	<0.2	3	14	<1	<2	510	8050	10.0	83	11	<1.0	12	59
ES136	2	<0.2	96	18	8	2	1450	7000	30.0	200	39	<1.0	11	42
ES137	6	<0.2	13	17	11	3	1050	5700	20.0	120	15	13.0	10	49
ES138	3	<0.2	2	17	16	3	620	5550	5.0	58	12	6.0	10	56
ES139	<1	<0.2	10	16	12	<2	965	6300	16.0	145	21	7.0	10	40
ES140	1	<0.2	60	19	6	2	2530	7500	48.0	335	41	10.0	10	140
ES141	2	<0.2	9	19	7	3	1100	6900	14.0	165	19	5.0	10	110
ES142	6	<0.2	2	16	11	2	980	6600	17.0	125	26	5.0	10	65
ES143	2	<0.2	<2	16	9	2	610	6100	7.0	86	15	7.0	10	50
ES144	<1	<0.2	5	16	13	3	930	6500	10.0	150	16	<1.0	10	47
ES145	<1	<0.2	49	15	8	4	1100	5050	23.0	165	34	14.0	15	14
ES146	1	<0.2	29	12	10	3	575	3800	<1.0	66	16	5.0	14	36
ES147	<1	<0.2	100	17	13	4	1100	4600	19.0	170	27	7.0	15	71
ES148	<1	<0.2	40	14	18	<2	920	3200	11.0	69	23	6.0	14	46
ES149	<1	<0.2	60	16	9	2	1250	4750	32.0	110	35	9.0	15	96
ES150	<1	<0.2	58	14	9	3	915	3800	17.0	115	23	7.0	14	80
ES151	<1	<0.2	82	16	15	3	910	4050	13.0	115	28	5.0	13	50
ES152	<1	<0.2	74	18	9	4	1630	5050	34.0	160	46	10.0	15	75
ES153	<1	<0.2	170	13	5	2	675	7000	6.0	88	26	8.0	34	62
ES154	<1	<0.2	19	14	14	2	625	4600	7.0	39	16	5.0	22	67
ES155	1	<0.2	100	13	5	2	660	5100	5.0	86	17	<1.0	23	39
ES156	<1	<0.2	100	16	7	3	1480	6200	17.0	145	26	9.0	15	49
ES157	2	<0.2	160	15	5	2	945	7800	<1.0	130	27	<1.0	32	29
ES158	<1	<0.2	54	12	10	2	855	4150	<1.0	74	13	<1.0	16	35
ES159	<1	<0.2	25	13	11	2	1520	4750	10.0	140	17	<1.0	16	87
ES160	<1	<0.2	12	13	10	<2	1320	3850	11.0	145	11	10.0	18	62
ES161	<1	<0.2	23	15	12	<2	1040	8450	11.0	110	14	<1.0	10	30
ES162	<1	<0.2	100	15	12	2	1100	5950	9.0	130	21	5.0	11	27
ES163	<1	<0.2	45	14	13	<2	1370	6300	12.0	150	17	<1.0	14	<1
ES164	2	<0.2	26	18	11	<2	1320	15500	5.0	174	13	6.0	10	12
ES165	2	<0.2	120	13	5	<2	1110	6000	11.0	120	22	<1.0	16	47
ES167	<1	<0.2	<2	12	13	<2	1420	4000	7.0	130	18	<1.0	9	58
ES168	2	<0.2	<2	15	5	<2	900	4800	<1.0	74	16	<1.0	10	24
ES169	3	<0.2	11	12	8	<2	1160	3600	<1.0	140	16	8.0	10	79
ES170	1	<0.2	8	12	9	<2	1340	4250	12.0	160	24	<1.0	10	44
ES171	3	<0.2	<2	13	11	<2	925	3750	6.0	58	13	7.0	10	61
ES172	<1	<0.2	<2	12	<1	<2	660	3900	6.0	72	15	<1.0	11	60
ES173	<1	<0.2	<2	13	12	<2	600	4200	10.0	63	16	5.0	12	20
ES174	2	<0.2	<2	14	9	<2	600	4700	<1.0	77	17	<1.0	14	73
ES175	<1	<0.2	<2	13	<1	<2	1060	4900	18.0	120	21	7.0	14	46
ES176	<1	<0.2	<2	12	13	<2	745	3400	<1.0	87	15	5.0	8	23
ES177	2	<0.2	<2	12	9	<2	645	4050	5.0	100	18	6.0	12	<1
ES178	<1	<0.2	30	17	10	<2	1020	5450	9.0	105	26	8.0	18	25
ES179	<1	<0.2	<2	16	8	<2	840	5000	16.0	110	14	6.0	18	14
ES180	<1	<0.2	<2	12	7	<2	985	3450	8.0	120	13	<1.0	9	<1
ES181	<1	<0.2	20	14	10	<2	755	4400	<1.0	120	17	<1.0	15	60
ES182	<1	<0.2	<2	12	17	2	695	3500	<1.0	105	9	6.0	8	<1
ES183	<1	<0.2	23	12	15	<2	1000	3100	<1.0	93	12	<1.0	9	49
ES184	1	<0.2	60	19	17	<2	1620	7350	23.0	240	46	10.0	11	41
ES185	<1	<0.2	21	14	9	<2	730	4900	11.0	130	24	6.0	15	<1
ES186	<1	<0.2	40	19	10	<2	1160	7250	19.0	140	48	8.0	12	46
ES187	1	<0.2	20	16	12	<2	980	6850	18.0	100	44	5.0	13	24
ES188	<1	<0.2	83	17	11	<2	1370	6450	20.0	155	46	<1.0	12	55
ES189	1	<0.2	5	15	14	<2	600	6100	9.0	80	28	11.0	14	51

App. 3 The Chemical Analysis of Stream Sediments (19)

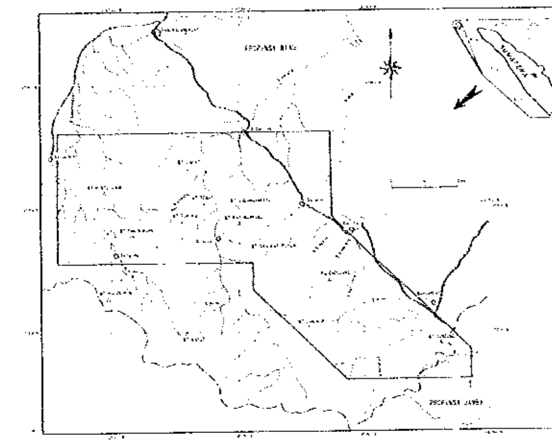
Sample No.	Au (ppb)	Ag (ppm)	Sn (ppm)	Nb (ppm)	Ta (ppm)	W (ppm)	Zr (ppm)	Ti (ppm)	Th (ppm)	Ce (ppm)	Y (ppm)	U (ppm)	Li (ppm)	La (ppm)
ES190	<1	<0.2	95	18	22	<2	1320	6450	12.0	135	49	7.0	12	48
ES191	<1	<0.2	30	19	7	<2	850	10800	10.0	89	22	7.0	13	38
ES192	5	<0.2	88	25	7	<2	1760	21700	16.0	195	51	7.0	12	32
ES193	<1	<0.2	<2	11	6	<2	580	2750	10.0	54	11	<1.0	7	36
ES194	1	<0.2	49	25	<1	<2	1140	20300	16.0	125	37	<1.0	11	45
ES195	<1	<0.2	32	20	7	<2	890	16400	6.0	115	31	5.0	11	37
ES196	<1	<0.2	28	21	11	<2	855	15800	7.0	85	31	<1.0	10	32
ES197	<1	<0.2	38	24	<1	<2	1170	23700	16.0	100	32	8.0	9	14
ES198	<1	<0.2	2	17	6	<2	435	9200	18.0	105	28	<1.0	15	78
ES200	<1	<0.2	<2	12	10	<2	845	2800	7.0	110	9	<1.0	5	<1
ES201	<1	<0.2	<2	15	13	<2	2400	3400	19.0	260	21	5.0	5	50
ES202	<1	<0.2	<2	12	10	<2	1070	2650	<1.0	110	11	<1.0	4	19


Q
T2
T3
T1
P1
P2
G
H
BT. PINTUTUJUH
BT. PANINJAUAN
BT. TUNGKU
PG. ENDELANG
LEGEND
Q Unconsolidated Deposits
T3 Fine to Medium Grained Clastic Rock
T2 Fine Grained Clastic Rock

PL. 1

REPORT ON THE MINERAL EXPLORATION
IN THE PEGUNUNGAN TIGAPULUH AREA,
THE REPUBLIC OF INDONESIA
PHASE I

PHOTOGEOLOGICAL INTERPRETATION MAP

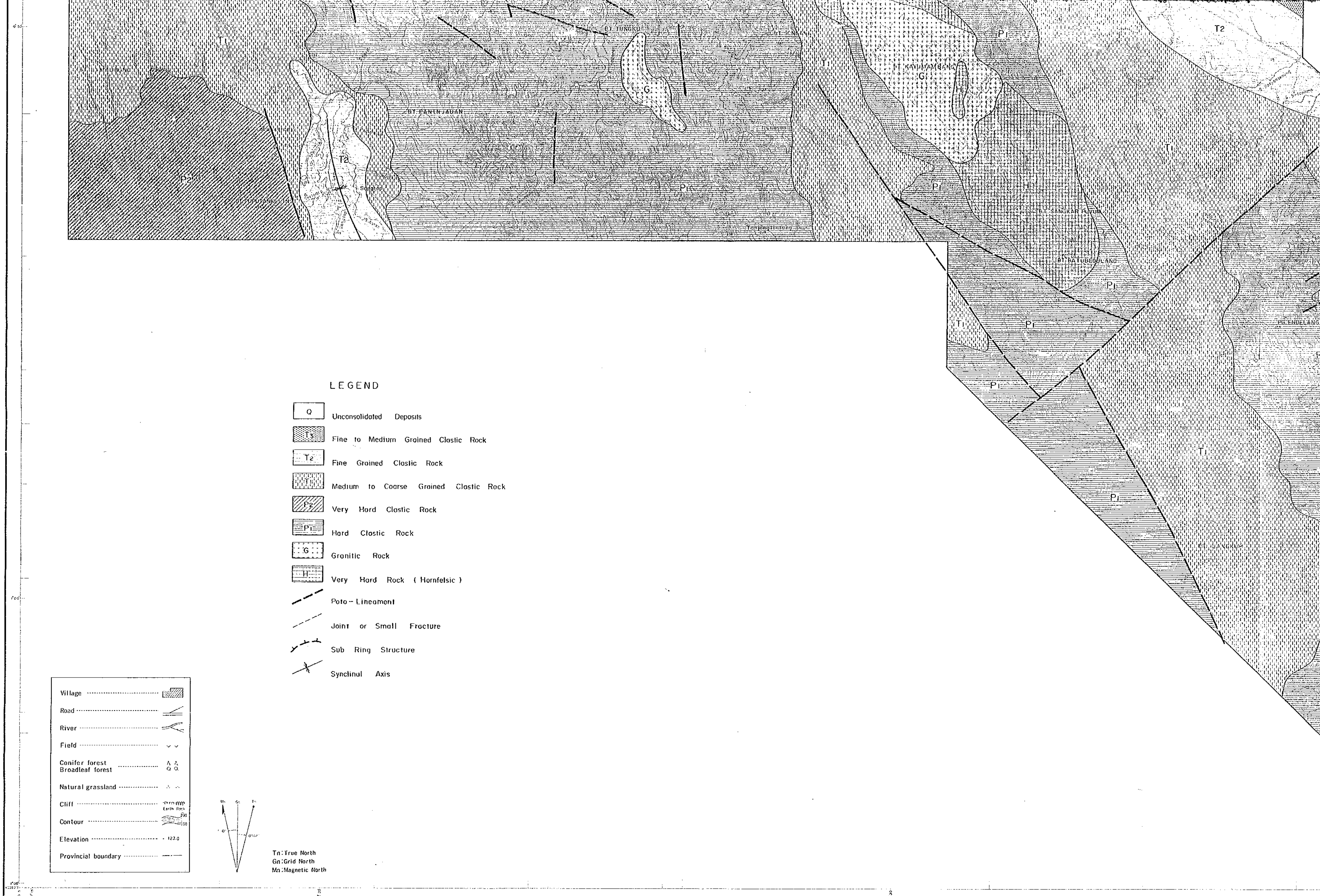


Survey Area

FEBRUARY 1990

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

1:50,000
0 1 2 3 4 5km


T1
T2
P1
P2
G
H
BT. PANINJAUAN
BT. TUNGKU
BT. KAPUR-BANG
SANGKAR PAYUNG
BT. BATU BEGULANG
BT. ENDELANG
Tanjunglintang
LEGEND
Q Unconsolidated Deposits
T3 Fine to Medium Grained Clastic Rock
T2 Fine Grained Clastic Rock
T1 Medium to Coarse Grained Clastic Rock
P2 Very Hard Clastic Rock
P1 Hard Clastic Rock
G Granitic Rock
H Very Hard Rock (Hornfelsic)
Poto - Lineament
Joint or Small Fracture
Sub Ring Structure
Synclinal Axis
Village
Road
River
Field
Conifer forest
Broadleaf forest
Natural grassland
Cliff
Earth Rock
Contour
Elevation
123.0
Provincial boundary
Tn: True North
Gn: Grid North
Mn: Magnetic North


T2
P1
T1
G
H
PG. ENDELANG
PROPINSI RIAU
PROPINSI JAMBI
P2