2 - 3 Result of the dry and the rainy season survey

2-3-1 Characteristic of river water quality

The results of dry and rainy season survey, which were carried out in 1st phase were compiled as results were used for background data of river water quality analysis. A and B indicated that A means the data of dry season survey while B means the data for rainy season survey. The comparison figure of measurement data and analysis data between both dry and rainy season were shown in Fig. II-2-6.

(1) Characteristic of physical description of river water

River flow:

The smallest river flow was 0.0 m^3/sec, while the largest river flow was 339 m^3/sec at point 34 in Rewa river system／255 m^3/sec at point 77W in the Navua river system. The average of the river flow was 13.3 m^3/sec／25.5 m^3/sec. Compared with the average of the river flow in rainy season was twice of that in dry season.

Water temperature:

The rivers water temperature showed the lowest value of 21.3℃／22.2℃ and the highest value of 30.6℃／30.5℃. The average of the whole survey points was 24.4℃／25.7℃ and is approximately 2℃／3℃ lower than atmospheric temperature (26.3℃／28.9℃).

Turbidity:

The turbidity showed the lowest value of 0mg/l and the highest value of 28mg/l at point 25 in the Navua river system while 333mg/l at point 58W in the Sigatoka river system. The turbidity in rainy season was higher compared with the turbidity in dry season.

Electric conductivity:

Electric conductivity of the river water showed the lowest value of 3.5 mS/m at point 17 in the Rewa River／3.4 mS/m at point 4W in the Rewa River, the highest value of 40.7 mS/m at point 56 the Sigatoka River／22.4 mS/m at point 56W in the Sigatoka River and the mean of 13.1mS/m ／9.18mS/m. There was such a tendency that electric conductivity differs depending on water system. For example, the average of electric conductivity was 25.6 mS/m／15.44 mS/m in the Sigatoka River System, and electric conductivity in the Sigatoka River System was higher than the other river system results.

(2) Characteristic of composition and composition ratio of dissolved components

pH:

The pH showed a minimum result of 6.39 and 6.10 at point 42W seeping water in the Rewa River while the maximum was 8.44 at point 64／8.12 at point 59W and the mean of 7.72／7.38. These river waters indicated variation from weak acidity, neutrality to weak alkaline. There was a tendency where pH differs depending on water system, for example, pH 8.11／7.73 in The Sigatoka River system and pH 7.5／7.16 in the Rewa River system. And the tendency of high pH in the rainy season was observed.

DO:

DO showed the minimum of 4.78 mg/l at point 78 in Coastal river／4.40 mg/l at point 51W in Rewa River, the maximum of 15.4 mg/l at point 33 in the Rewa River system／14.1 mg/l at

point 52W in the Rewa River system with an average of 10.8mg/l／7.53 mg/l. However the difference between water system was not confirmed.

COD:

COD results showed the minimum of <1.0 mg/l at point 11 of the Rewa River system／<1.0 mg/l at point 5W,10W of the Rewa River system with the maximum value of 51.0 mg/l at point 48 of the Rewa River system／62.0 mg/l at point 63W of the Sigatoka River system and average of 8.2 mg/l／18 mg/l. COD of the Sigatoka River water system were 7.5mg/l／39mg/l. Indicating results higher compared with the other river system.

Hardness:

The hardness results showed wide range of value with the minimum of 11mg/l at point 4 in the Rewa River system／12 mg/l at point 4W in the Rewa River system, with the maximum of 153 mg/l at point 56 in the Sigatoka River system／115 mg/l at point 56W in the Sigatoka River system with an average values in each separated river system were 25.2mg/l／25.0mg/l for the Rewa River system, with the highest value of 84.6mg/l／69 mg/l for the Sigatoka the River system and 45.4mg/l／35 mg/l for the Navua River system.

Major dissolved composition:

Water quality results of the survey area were examined both for stiff diagram and piper plotting

Stiff diagram

The Stiff diagram showed chemical constitution of water on graph indicating quantity of dissolved components of cation and anion in meq/l on horizontal 3 axes lying on the both side of center axis. This diagram has the advantage of being possible to compare the water quality in many places by the shape of diagram showing the absolute quantity of each component. Stiff diagrams for river waters were shown in Fig. II-2-7. As for the anions, the shapes of the stiff diagrams for 4 river systems including the Rewa River, the Navua River, the Sigatoka River and the Coastal rivers are spear type and showed that the HCO_3 is abundant. As for cations, the shapes of the stiff diagrams for the Sigatoka River are spear type indicating Ca is abundant. The differences in the cation quantities were not seen in the Rewa River, the Navua River and the Coastal rivers. Grasping the total concentration of the major components from the shape of the diagrams, the total concentration of the Sigatoka River is higher than the other 3 rivers. However both results of the dry season and the rainy season, mentioned above have the same tendency.

Piper plot

Piper plot showed cations of the following of Na+K, Ca, Mg and anions of HCO_3+CO_3, SO_4, and Cl in meq/l, which expresses the ratio of the individual component. The Piper plots of river water composition were shown in Fig. II-2-8. Characteristics of river water can be grasped from the plotted position of sample in piper plot. In generally, the territory of plotted position is divided into the following categories;

I: Non-carbonate hardness territory

This is not common in the underground water.

II: Carbonate hardness territory

In this territory, water is abundant in Ca $(HCO_3)_2$ and Mg $(HCO_3)_2$. The samples plotted in this territory were mainly of free water, and the underground water of circulating supply type.

III: Carbonate alkali territory

In this territory water is abundant in Na_2CO_3 and K_2CO_3. Unfined water is plotted in this territory. As confined ground water is of stagnation, the points plotted in this territory show water quality of stagnant characteristic.

IV: Non carbonate alkali territory

In this territory water is rich in chloride and sulfate as mixed with seawater or fossil seawater.

As for the anion results of river water in this survey area, the HCO_3 is higher than the $Cl+SO_4$ at almost all points. As for the cation, Ca+Mg are higher than the Na+K.

In generally, all four-river systems in the survey area belong to Carbonate Hardness territory II, and are of circulating characteristic surface water supply type of the unconfined groundwater.

The chemical component and concentration of the river water in the survey area were showed the almost a similar average of the quality of river water of the world.

(3) Characteristic of minor components of river water

Detection values of each minor component are mentioned below.

1) Components undetected

Elements like B, Hg, Mo, Sb, and Sulphide were not detected at any points in dry season survey. While Hg, N (NO2), Sb and Sulphide were not detected at any points in rainy the season survey.

2) Components detected at some points

Ag:

The results of Ag were above the lower limit of reporting (LOR)(0.001 mg/l) at four points at14,39,40 and 51／four points at 1W,11W,41W, and 45W in the Rewa River system, at 0 points (0)／2 points (21W,31W) in the Navua River system, at zero point (0) ／one point (61W) in the Sigatoka River system

As:

The results of As were above the LOR (0.001 mg/l) at one point (8) in the Rewa River system and at five points at 19,23,24,26 and 30 in the Navua River system in during the dry season survey. The results of As were above the LOR at forty six points in the rainy season. During the rainy season, more As was detected compared with the dry season survey. In the rainy season, for a threshold value designated as 0.004 mg/l, the points that show above the threshold value were recognized in the Rewa River system at points15W, 34W, 36W, 37W, 38W and 48W, the Navua River system at points 21W and 27W, and the Sigatoka River system at points 58W, and 64W.

B:

B was not detected in the dry season survey. However the B results in rainy season survey were above the LOR (0.1 mg/l) at three points at 6W, 33W and 48W in the Rewa River system, six points at 27W, 28W, 29W, 30W, 31W and 32W in the Navua River system and, two points at 53W and 64W in the Sigatoka River system.

CN:

The results of CN were above the LOR (0.001 mg/l) at two points at7 and 51／one point at 46W in the Rewa River system and at zero point (0)／one point at 69W in the Sigatoka rivers, two points at 75 and 76／one point at 75W in the coastal rivers.

Cr:

The results of Cr were above the LOR (0.001 mg/l) at four points at 34,35,36 and 38 in the Rewa River system and six points at 61,62,63,69,70 and 71 in the Sigatoka River system in dry season survey. However Cr results were above the LOR at 35 points in the rainy season. More Cr was detected in the rainy season compared with Cr in dry season survey. For a threshold value designated as 0.006 mg/l, the points that show above the threshold value were recognized in the Rewa River system at point's 4W, 17W, 34W, 36W, 44W, 47W, 48W and 49W, and the Sigatoka River system at point's 56W and 57W in rainy season,

F:

The results of F were above the LOR (0.1 mg/l) at zero point (0)／one point at 51W and 52W in the Rewa River system, at zero point (0)／one point at 20W in the Navua River system, at seven points at 54,55,57,58,60,68 and 72／nineteen points at 53W-71W in the Sigatoka River system at zero point (0)／two points at 72W and 73W in the Coastal rivers. The results of CN above the LOR in the dry and the rainy season were concentrated in the Sigatoka River.

Mo:

Mo was not detected in dry season survey, but the results of Mo in rainy season survey were above the LOR (0.001 mg/l) at one points at 9W in the Rewa River system, three points at 59W, 64W and 68W in the Sigatoka River system.

Pb:

The results of Pb were above the LOR (0.001 mg/l) at two points at 14and 15／ten points at 4W,59W,10W,12W,13W,15W,17W,34W,51W and 52W in the Rewa River system, zero point (0)／three points at 25W,26W and 27W in the Navua River system, zero point (0)／one point at 58W in the Sigatoka River system, zero point (0)／one point at 73W in the Coastal River system.

Se:

The results of Se were above the LOR 0.01 mg/l at six points at 11,13,35,36,37 and 38／one point at 50W in the Rewa River system, one point at 28／(0) in the Navua River system, nine points at 54,55,58,59,60,61,65,69 and 70／five points at 53W,56W,57W,62W and 68W in the Sigatoka River system and zero point (0)／two points at 76W and 80W in the Coastal River system.

3) Components detected in the whole area

Al:

The Al was detected widely in the survey area, and it was below the LOR (0.01 mg/l) at some points. The highest value was 0.45mg/l in The Rewa River system at point 41／2.93 mg/l in The Rewa River system at point 34W and the mean 0.046mg/l／0.188 mg/l . For a threshold value

designated as 0.1mg/l／0.2 mg/l the points that show above the threshold value were recognized in the Rewa River system at points11,17 and 41／at points 4W,15W,34W and 36W in the Navua River system at points 24,25 and 27／at points 24W,26W and 27W ,and in the Sigatoka River system(0)／at point 58W, along the Coastal rivers at point75／(0). Evidently, the Al concentration in rainy season was higher compared with those in dry season.

Ba:

The Ba was detected widely in the survey area, and it was below the LOR (0.001 mg/l) at some points. The highest value was 0.014mg/l in the Rewa River system at point42／0.02 mg/l in The Rewa River system at point 15W and the mean 0.003mg/l／0.0037 mg/l . For a threshold value designated as 0.008 mg/l, the points that show above the threshold value were recognized in the Rewa River system at points 6,15,16,17,37,34,41,42and 53 ／ at points 5W,10W,15W,17W,37W and 42W the Navua River system (0)／at points 20W and 26W.

Cd(Cadmium):

The reappearance of Cd concentration between the dry and rainy season survey and duplicated survey could not be confirmed. So, in June 2003, supplementary survey was carried out at 10 points which showed very high Cd concentration at dry season survey in 2002. The result indicated that, the Cd concentration was below the LOR (0.0001 mg/l) at some points, with the highest value 0.0003mg/l. (Appendix 6)

Cu

The Cu was detected widely in the survey area, while it was below the LOR (0.001 mg/l) at some points. The highest value was 0.027 mg/l in the Rewa River system at point 61／0.037 mg/l in the Rewa River system at point 15W and the mean 0.002mg/l／0.0022 mg/l. For a threshold value designated as 0.004mg/l／0.005 mg/l the points that show above the threshold value were recognized in the Rewa River system at points 9,12,37 and 41／at points 9W,12W,15W,34W and 42W the Sigatoka River system at points 59,61,68 and 70／at points 55W,56W and 57W and the Coastal rivers and point72／(0)

Fe:

The Fe was detected widely in the survey area and it was below the LOR (0.01 mg/l) at some points. The highest value was 0.58 mg/l in the Rewa River system at point 41／3.37 mg/l in the Rewa River system at point 15W and the mean 0.055mg/l／0.154 mg/l. For a threshold value designated as 0.2 mg/l the points that show above the threshold value were recognized in the Rewa River system at points 17 and 41／at points 10W,15W,26W,34W and 36W, the Navua river system at point25／(0), the Sigatoka River system (0)／at points 58W and 69W, and the Coastal rivers at point73／(0).

Mn:

Mn was detected widely in the survey area, and it was below the LOR (0.001 mg/l) at some points. The highest value was 0.071mg/l in the Sigatoka River system at point56／0.098 mg/l in the Rewa River system at point 15W and the mean 0.012mg/l／0.0134 mg/l. For a threshold value designated as 0.03 mg/l the points that show above the threshold value were recognized in the Rewa River system at points 3 and 41／at points 3W and 15W, the Navua River system (0)／

at points 26W , the Sigatoka River system at 56,57 and58／at points 53W,56W and 57W, while the Coastal River system at points 72,73 and 80／at points 72W,73W and 80W. The points shown the above the threshold value correspond between the dry season survey and the rainy season survey.

Ni:

Ni was detected widely in the survey area, and it was below the LOR (0.001 mg/l) at some points. The highest value was 0.027mg/l in the Rewa River system at point44／0.02 mg/l in the Sigatoka River system at point 56W and the mean 0.0025mg/l／0.0023 mg/l. For a threshold value designated as 0.008 mg/l, the points that show above the threshold value were recognized in the the Rewa River system at points36,44 and 51／at points 34W,36W and 47W, the Navua River system at point19／at points 24W and 27W the Sigatoka River system (0)／at points 55W,56W,70W and 71W and along the Coastal rivers at points73 and 74／(0)

N (NH3):

N (NH3) was detected widely in the survey area, and it was below the LOR (0.01 mg/l) at some points. The highest value was 0.03mg/l in the Rewa River system at point34／0.1 mg/l in the Rewa River system at point 12W and the mean 0.016mg/l／0.029 mg/l. For a threshold value designated as 0.03mg/l／0.05 mg/l, the points that show above the threshold value were recognized in the Rewa River system at points 34,35,36 and 43)／at points 1W,12W and 46W, the Sigatoka River system at points 58,60 and 62／at point 71W and along the Coastal River system at point78／at points 77W,79W and 80W.

N (NO3):

N (NO3) was detected widely in the survey area, while it was below the LOR (0.01 mg/l) at some points. The highest value was 0.12mg/l in Coastal rivers at point73／0.26 mg/l) in the Sigatoka River system at point 58W and the mean 0.017mg/l／0.034 mg/l. For a threshold value designated as 0.06mg/l／0.12 mg/l, the points that show above the threshold value were recognized in the Rewa River system at points 45,49 and 52)／at point 37W, the Navua River system at point27／(0) , the Sigatoka River system(0)／at points 55W,58W,60W,62W,63W,65W,
66W) and the Coastal River system at point73／at point 73W

P:

P was detected widely in the survey area, while it was below the LOR (0.01 mg/l) at some points. The highest value was 0.07mg/l in the Rewa River system at point 9／1.06 mg/l in the Rewa River system at point 38W and the mean 0.009mg/l／0.043 mg/l. For a threshold value designated as 0.03mg/l／0.06 mg/l, the points that show above the threshold value were recognized in the Rewa River system at point9／at points 3W,7W,15W,34W,38W,40W and 50w, the Navua River system (0)／at point 26W, the Sigatoka River system at point53／at points 58W and 60W and Coastal rivers at point72 and 79)／(0)

Zn:

Zn was detected widely in the survey area, while it was below the LOR (0.001mg/l) at some points. The highest value was 0.106mg/l in the Rewa River system and point41／0.492 mg/l in the Sigatoka River system at point 55W and the mean 0.007mg/l／0.0502 mg/l. For a threshold

value designated as 0.008mg/l／0.15 mg/l the points that show above the threshold value were recognized in the Rewa River system at points7,8,9,10,11,14,17,41 and 51)／at points 3W,15W,16W and 41W, the Navua River system at points20,21,25 and 30)／(0) , the Sigatoka River system (0)／at points 55W,56W and 58W and the Coastal rivers at points72 and 74／(0). Evidently, the Zn concentration in rainy season was higher compared with those in dry season.

2 - 4 Acquisition of meteorological data

A weather observation station was installed in a Secondary school at Namosi village, and it is contributing to observe metrological data of the study area. The meteorological data were being collected from Department of Meteorology of Fiji Government before.

2-4-1 Setting of the weather station

(1) Observation items and specification of the station

Data including atmospheric temperature, wind direction, wind force, relative humidity, insolation and precipitation are measured by the weather station that can record those observation data automatically once par 10 minutes.

(2) Installation site, observation period and observation system

The Automatic Weather Station (AWS) was installed at the Namosi Secondary in Namosi village, Namosi Region, and started recording data in September 19th of 2002. The data until end of November of 2003 was downloaded and offered to analysis. After December of 2003, observation data will be downloaded periodically by Mineral Resource Department observation team that has been established in Fiji.

(3) Data collection from the weather station

The meteorological data observation from AWS until end of December of 2003 was downloaded using handheld PC as shown in Appendix 7.

2-4-2 Collection of the meteorological data

Recent meteorological data that had been observed in the survey area by the Department Meteorology of Fiji Government from November 1st of 2002 to December 31st of 2003 were collected included maximum atmospheric temperature, minimum atmospheric temperature, precipitation, relative humidity, wind direction and wind force at Keiyasi, Monasavu, Nacocolevu, Nausori, Suva and Tokotoko. These meteorological data are shown in Appendix 8.

2-4-3 Weather condition of the survey area

(1) Result of weather observation

The changes of the atmospheric temperature, humidity, wind speed, insolation and precipitation from September 19th of 2002 to December 22nd 2003 observed in Namosi area are shown in Fig.II-2-9.

Comparing observed meteorological data between dry season in October and rainy season in January have distinct seasonal change can be seen in atmospheric temperature and the precipitation. Observed atmospheric temperatures in October and January indicates 33.6℃ and 33.9 ℃ in the highest atmospheric temperature, 15.1℃ and 20.2℃ in lowest atmospheric temperature, and 22.9℃and 25.8℃ in mean atmospheric temperature, respectively. Observed precipitation in October and January indicates 174.6mm and 479.2mm in monthly precipitation, 52mm and 107mm in daily highest precipitation, respectively, showed seasonal change is clear in the precipitation. As the precipitation data in Namosi area was not observed for yearly data (from Jan. to Dec.), the precipitation data in Namosi and in 6 points shown in TableII-2-1 could not be compared. If comparing the precipitation of 3521mm from September 19th of 2002 to September 18th 2003 in Namosi and six points in survey area, the precipitation in Namosi area

was higher than those in six points.

(2) Meteorological data of the past

Among the meteorological data of the past by Fiji Government, change of the precipitation data observed at 6 sites from 1999/1 to 2003/12 are shown in Fig. II-2-10. Yearly precipitation average at observed six points are shown TableII-2-1. Comparing annual precipitation at six points, differences can be found between the observation year and between the observation sites. For example, annual average precipitation of Monasavu where is in the center of Viti Levu island were recorded to 5237 mm. Annual precipitation of Monasavu was highest in six points. And annual precipitation of Keiyasi and Nacocoleve along the Sigatoka river in the west of Viti Levu island were recorded to 2640 mm and 1940mm respectively. Annual precipitation of these two points was lower compare with other four points. Annual precipitation in 2003 was low in other year.

TableII-2-1 Annual precipitation data at six points **Unit mm**

	1999	2000	2001	2002	2003	AVERAGE
KEIYASI	3,556	2,765	2,329	1,911	*753	2,640
MONASAVU	6,295	4,956	4,138	5,557	*3024	5,237
NACOCOLEVU	2,390	2,554	1,600	1,714	1,443	1,940
NAUSORI	3,597	3,118	2,628	3,530	2,424	3,059
SUVA	3,864	3,355	2,935	3,586	2,475	3,243
TOKOTOKO	4,517	4,228	3,661	3,621	*2193	4,007
AVERAGE	4,037	3,496	2,882	3,320		
NAMOSI					**3,521	

* All data of Keiyasi, Monasavu and Tokotoko in 2003 were not received.

**The data from September 19th 2002 to September 18th 2003

(No data from August 3rd to September 18th in 2003)

2 - 5 Discussions

As mention above, the results of dry and rainy season survey in Phase 2 program were analyzed. And summarized below;

(1) Feature of river water

Presence and ratio of some components somewhat differ among the survey area, the general feature of the river water of this survey area shows neutral pH, Ca as principal cation and HCO_3 as principal anion. Such water as rich in alkaline-earth carbonate is thought to be circulating free groundwater.

(2) Characteristic of river drainage system

The electric conductivity differs between each drainage system. The average conductivity is 20.52 mS/m in the Sigatoka River system, while 9.35 mS/m in other river system. The pH also differs between each drainage system. An average pH of the Sigatoka River system is 7.92, while 7.5 with other river system. In general, Na, K, Ca, Mg, HCO_3, CO_3 and SO_4 are major dissolved constituents of the surface water.

It was ascertained that the presence and ratio of these components are different between river systems. For example, as for the anion HCO_3 is dominant in all river systems, and as for the cation Ca is dominant in the Sigatoka River system while no large difference of the cation presence is seen in the Rewa River system, the Navua River system and the Coastal rivers. The Sigatoka River system shows higher total concentration of the major cations and anions in comparison with the other three river systems. This may be a primary factor that raises electric conductivity and pH. Furthermore, the cause of why the presence of Ca and HCO_3 are high in the Sigatoka River system is thought to be influence of sedimentary rocks such as limestones exposed along the Sigatoka River system.

(3) comparison with data between dry and rainy season survey

According to compare with the data of the dry season and rainy season survey(Fig.II-2-6), the value of electric conductivity and major dissolved compositions(TDS, Na, Mg, HCO_3, Cl) in rainy season showed lower compare with those in dry season. This means that major dissolved compositions were diluted by river water derived from high precipitation in rainy season. River flow rate, turbidity, trace elements (Al, As, Cr, Zn) in rainy season was higher compared with those in dry season. These trace elements were not diluted by river water and their concentration y was controlled by some cause.(4) Comparison with water quality standards

The guideline of ADWG, WHO and Water Contamination Protection Law (Japan) were shown in TableII-2-2. The chemical compositions of the river water of the survey area were compared with the regulation value of ADWG (Australian Drinking Water Guidelines). As a result, the following number of samples showed some high values in comparison with ADWG. ;Al,Cr,Fe,Ni and Pb. The locations and the levels of high concentration samples are drawn in Fig.II-2-11. There analytical values are divided by ADWG value. High value were almost found in the Rewa River and the Navua River. And a number of samples with high values increased in the rainy season.

Dry season survey

Al： 3points (24, 25, 41)

Fe： 2points (25, 41)

Ni： 2points (44, 51)

Pb： 2points (14, 15)
Se： 16points (11, 13, 35, 36, 37, 38, 28, 54, 55, 58, 59, 60, 61, 65, 69, 70)

Rainy season survey
Al: 8 points (4W, 15W, 24W, 26W, 27W, 34W, 36W, 58W)
As: 1 point (64W)(Hot spring)
Cr: 8 points (4W, 24W, 27W, 34W, 36W, 44W, 47W, 48W, 56W)
Fe: 4 points (10W, 15W, 26W69W)
Ni: 1 point (56W)
Pb: 3 points (27W, 52W, 58W)
Se: 8 points (50W, 53W, 56W, 57W, 62W, 68W, 76W, 80W)

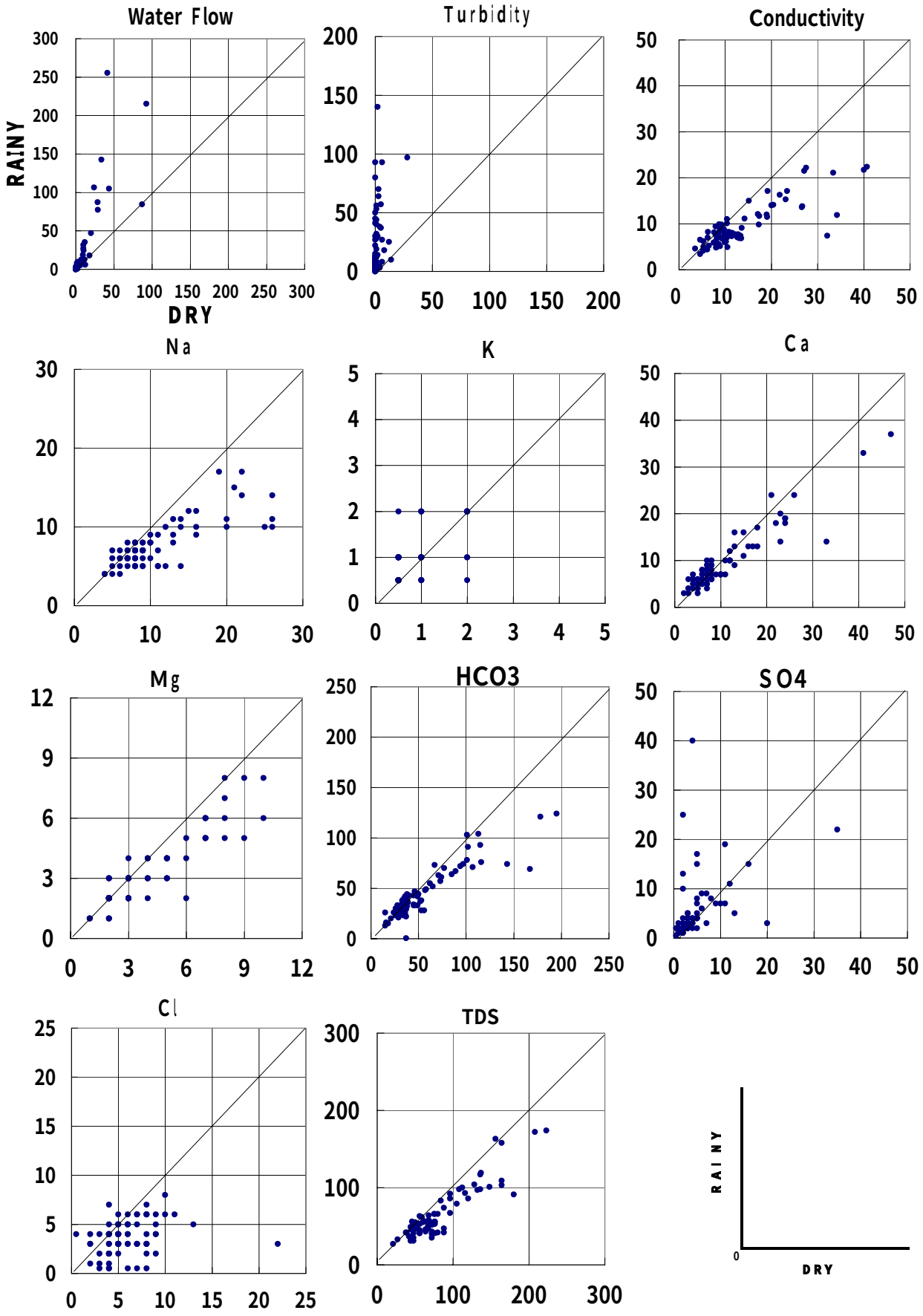


Fig.II-2-6 Comparisons of analytical results between dry season and rainy season (1)

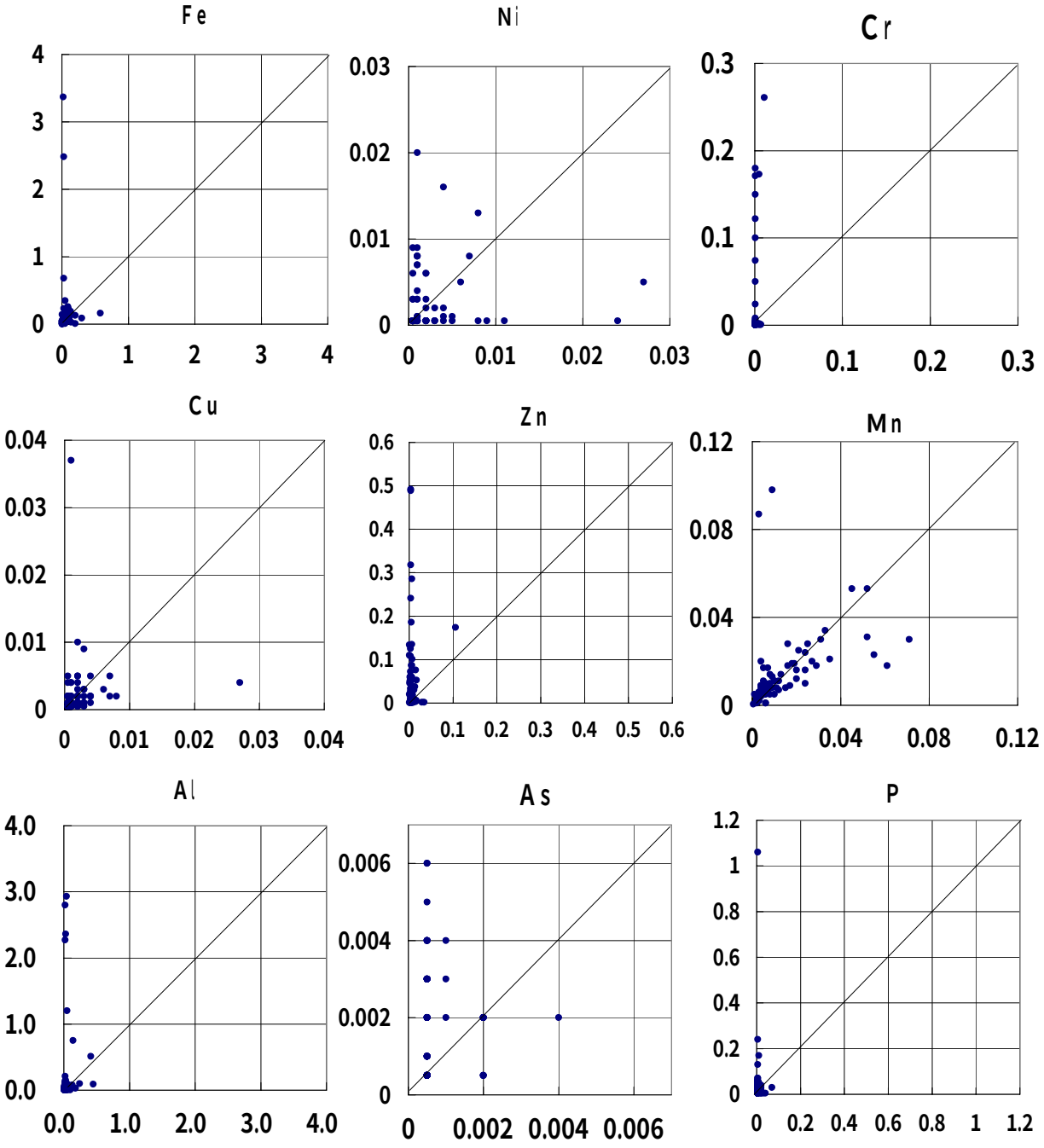
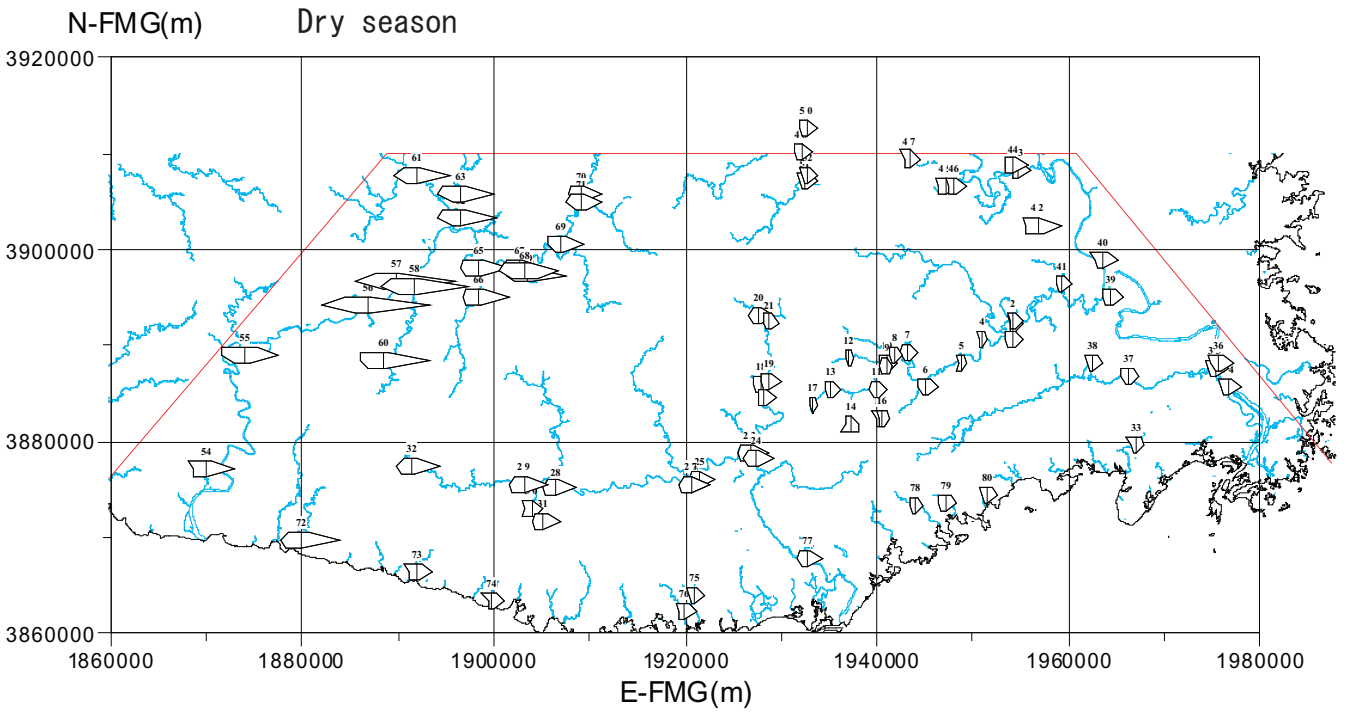
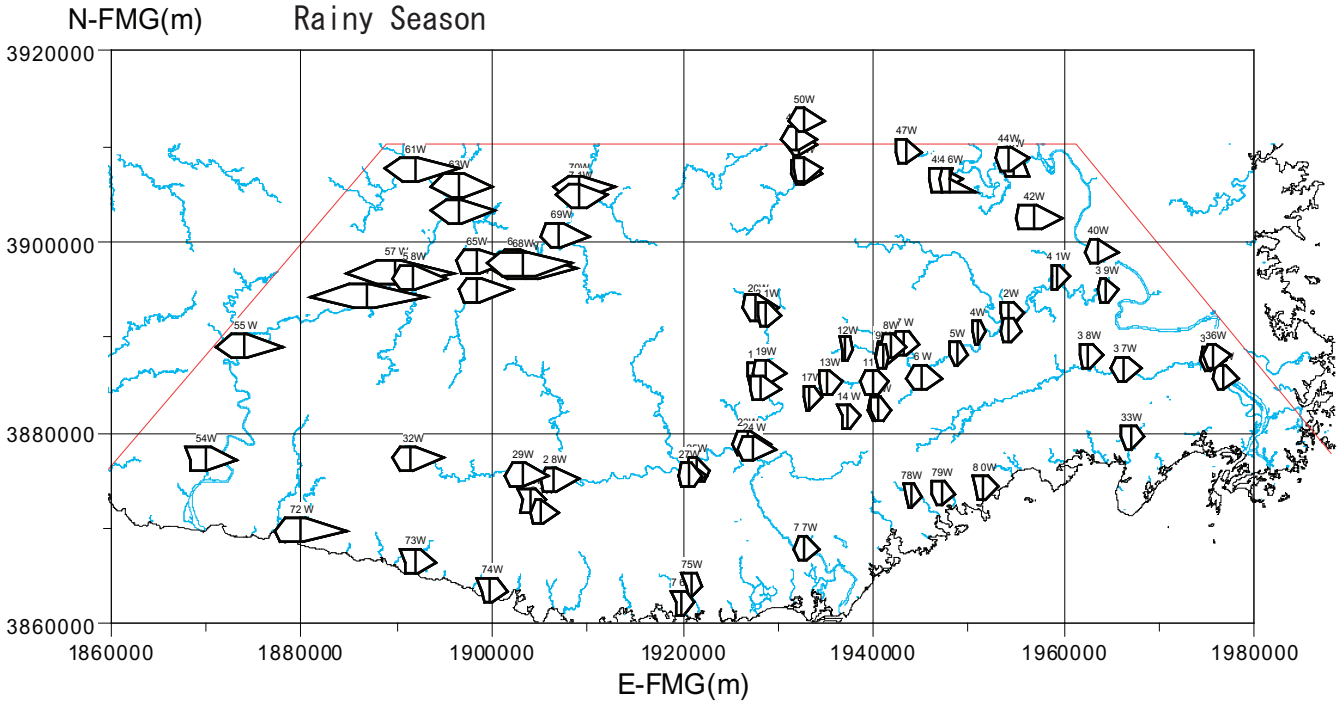


Fig.II-2-6 Comparisons of analytical results between dry season and rainy season (2)





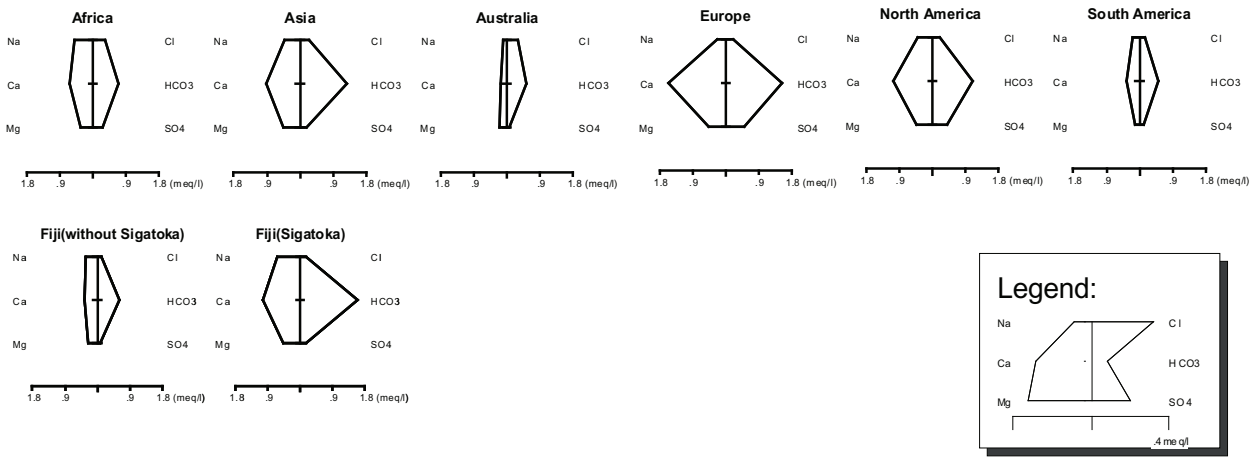


Fig.II-2-7 Stiff diagrams of the surface water chemical compositions (Dry Season and Rainy Season)

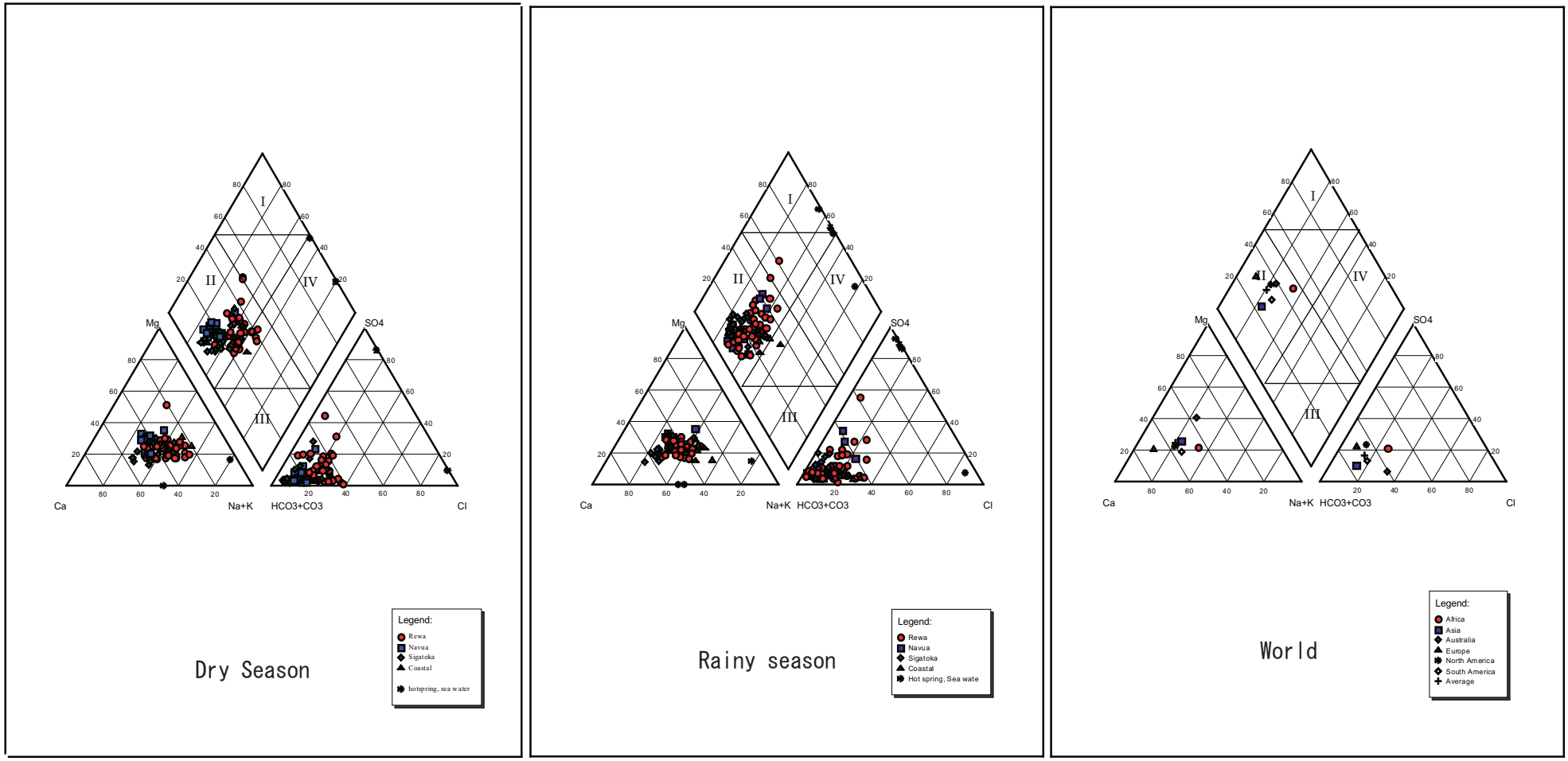


Fig.II-2-8 Piper plot of the surface water chemical composition (Dry Season and Rainy Season)

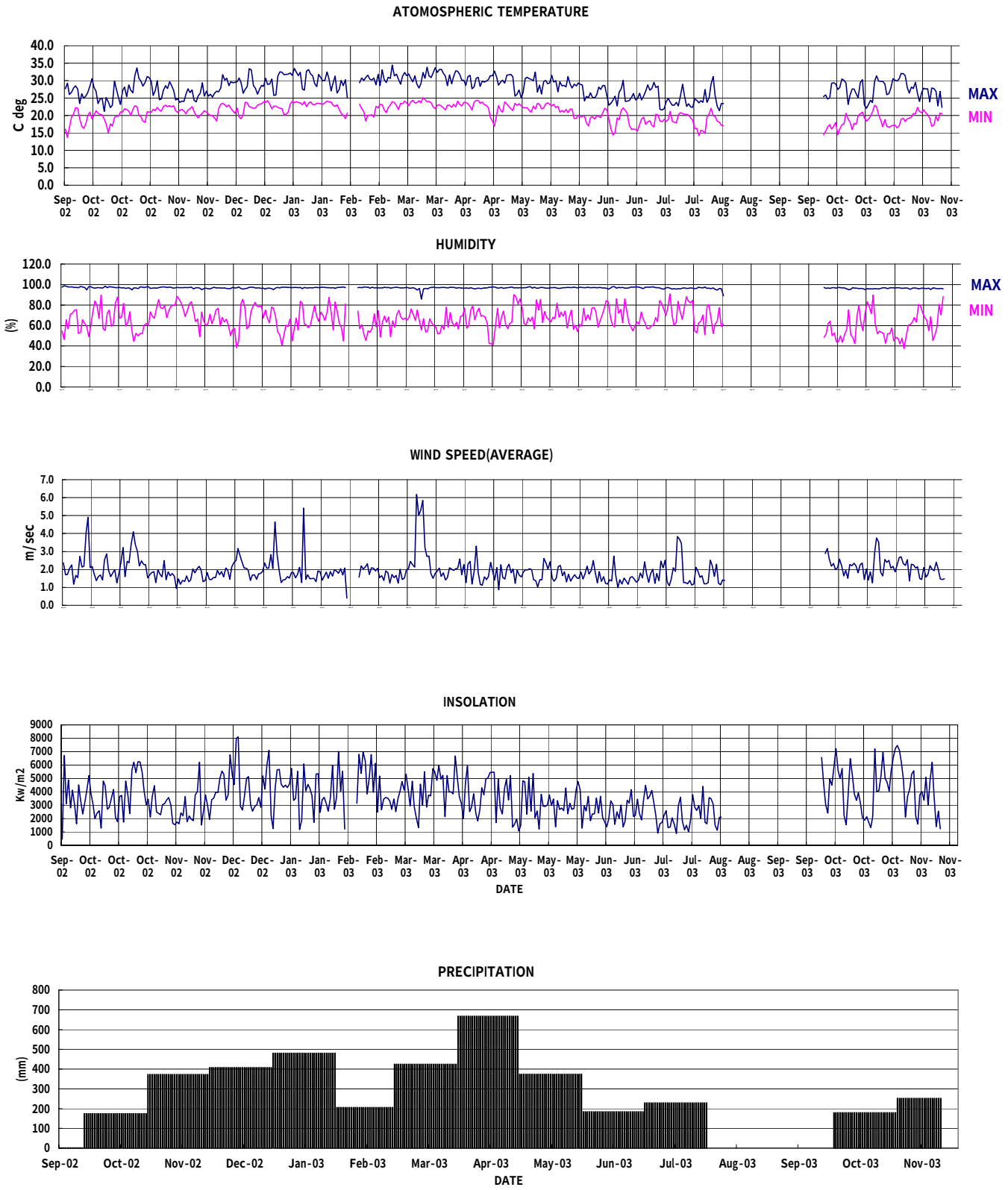


Fig.II-2-9 Variation with time in observed weather data at NAMOSI

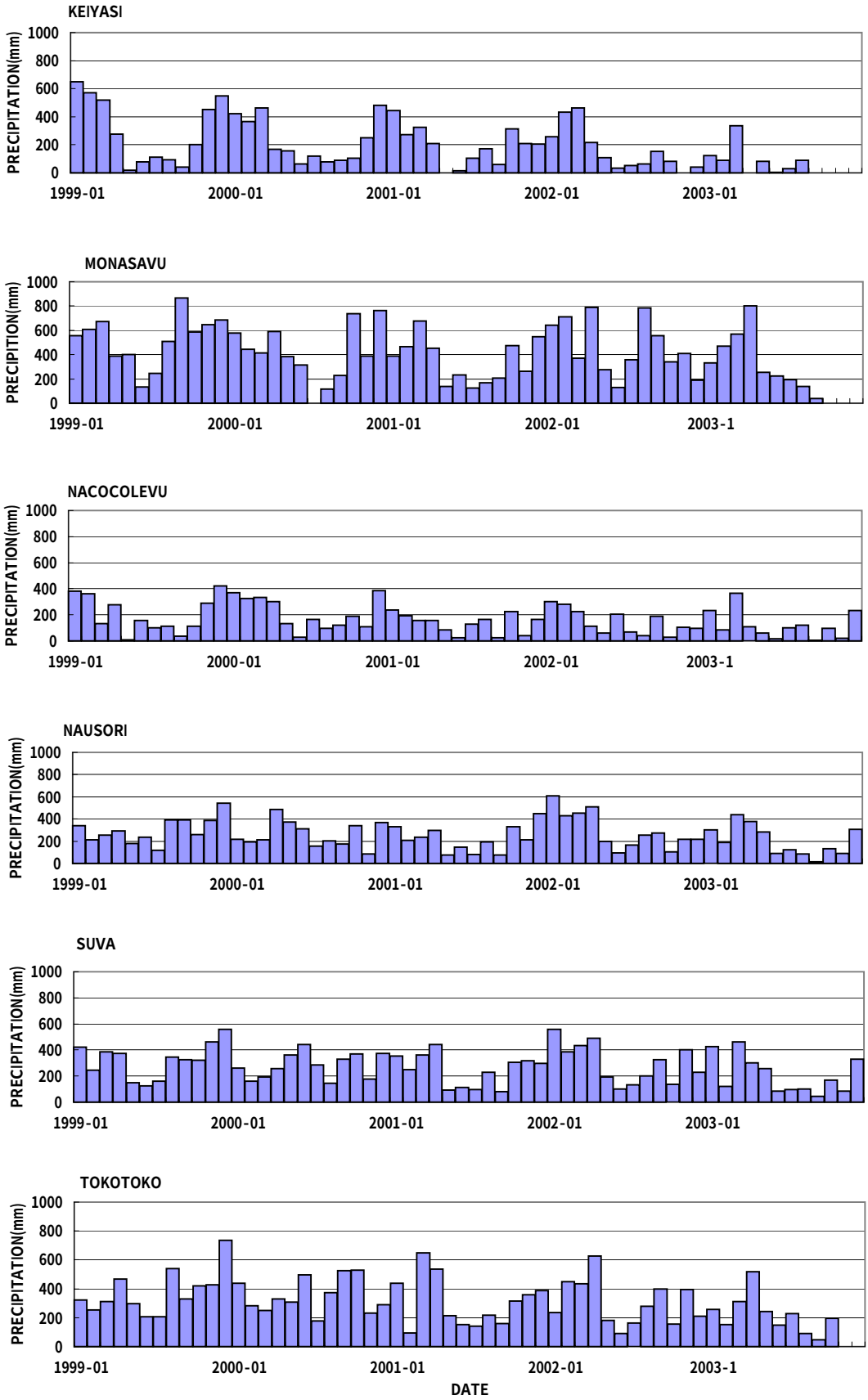


Fig.II-2-10 Change of the monthly precipitation at 6 points (1999-2003)
(From Fiji Meteorological Service)

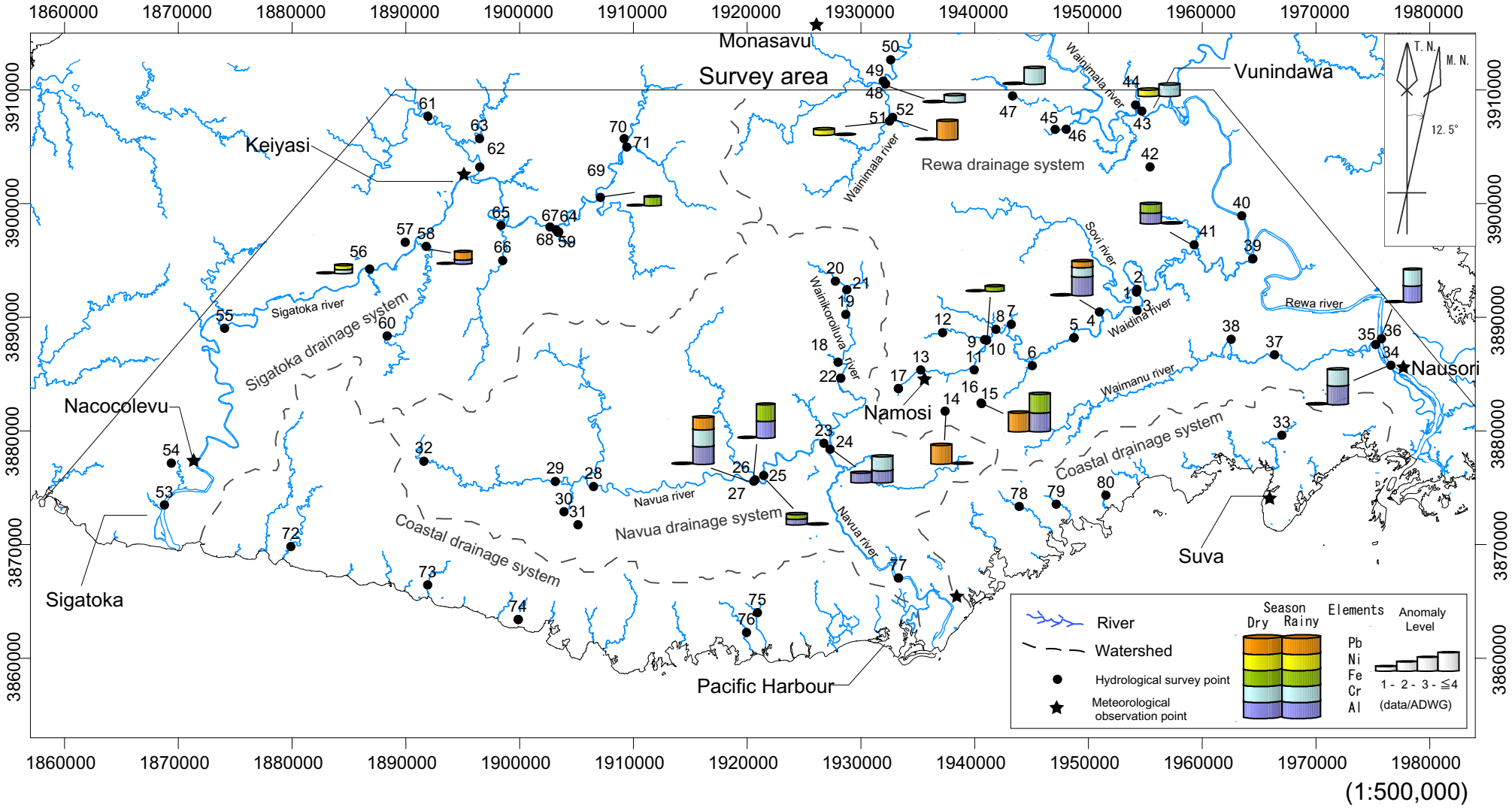


Fig.II-2-11 Quality of the surface water samples

Table II-2-2 Comparison with chemical composition and ADWG

NAME	Limit of reporting		Range of data (Dry+Rainy) MIN.	MAX.	Guidelines *ADWG	**WHO	***JAPAN (Health)
Ca	1	mg/l	2	47			
Mg	1	mg/l	<1	17			
Na	1	mg/l	4	26	180		
K	1	mg/l	<1	2			
CO3	1	mg/l	<1	6			
HCO3	1	mg/l	<1	195			
SO4	1	mg/l	<1	40	250		
Cl	1	mg/l	<1	22	250		
B	0.1	mg/l	<0.1	0.2	4	0.3	1
Fe	0.01	mg/l	<0.01	3.37	0.3		
Se	0.01	mg/l	<0.01	0.03	0.01	0.01	
Ag	0.001	mg/l	0.001	0.005	1		
Al	0.01	mg/l	<0.01	2.93	0.2		
As	0.001	mg/l	<0.001	0.006	0.007	0.01	0.01
Ba	0.001	mg/l	<0.001	0.02	0.7	0.7	
Cr	0.001	mg/l	<0.001	0.261	0.05	0.05	0.05
Cu	0.001	mg/l	<0.001	0.027	2	2	
Mn	0.001	mg/l	<0.001	0.098	0.1	0.5	
Mo	0.001	mg/l	<0.001	0.002	0.05	0.07	
Ni	0.001	mg/l	<0.001	0.027	0.02	0.02	
Pb	0.001	mg/l	<0.001	0.231	0.01	0.01	0.01
Sb	0.001	mg/l	<0.001	<0.001	0.003	0.005	
Zn	0.001	mg/l	<0.001	0.492	3		
Hg	0.0001	mg/l	<0.0001	0.0001	0.001	0.001	0.0005
CN	0.001	mg/l	<0.001	0.006	0.08	0.07	nd
F	0.1	mg/l	<0.1	0.2	1.5	1.5	0.8
NH3(N)	0.01	mg/l	<0.01	0.1	0.5		
NO2(N)	0.01	mg/l	<0.01	0.01	3		10
NO3(N)	0.01	mg/l	<0.01	0.26	100		10
T-P	0.01	mg/l	<0.01	1.06			
Sulphide	0.1	mg/l	<0.1	0.05	0.05		

* ADWG(Australian Drinking Water Guidelines)
** WHOguideline Value
*** Water Contamination Protection Law(health)

Part III Conclusion and Proposal

Chapter 1 Conclusion

This survey corresponds to the Phase II survey of the environmental baseline study in the Viti Levu South area of the Republic of the Fiji Islands, which started in 2002 fiscal year. The Phase II survey consists of stream sediment survey and hydrological survey. In the stream sediment survey, 940 stream sediments samples were picked up from 895 points in the Phase II. The samples were chemically analysed and compiled with the results of Phase I (905 samples from 822 points). In the hydrological survey, 10 water samples were collected from 10 points and analysed in a laboratory. However, the data of rainy season in the Phase I had not been reported yet. Therefore, the data of dry season (88 samples from 80 points), rainy season (88 samples from 80 points) in the Phase I and the data in the Phase II (10 samples from 10 points) were compiled and discussed in this report. In addition, meteorological data stored in Namosi weather station since February 2003 were downloaded and meteorological data of 6 locations in the survey area since November 2002 were acquired from Fiji Meteorological Service in Nadi.

During the stream sediment survey, a total of 1845 samples were collected from 1717 points in rivers or creeks within the survey area. The samples were analysed for 29 chemical elements. The analysis results were compiled and examined for comprehensible regional geochemical characteristics of the survey area. The geochemical characteristic is summarized as follows.

The Ca, Mg and Na indicate high values in the northwest part of the area within the main rock forming elements such as Al, Ca, K, Na, Mg and P. Among them, Ca and Mg show specifically high values in the middle stream of the Sigatoka River, which is due to surrounding carbonate rocks such as limestone. While Ba, Cr and V reflected the background geology. The Cr shows specifically high value in distribution range of the Verata group on the eastern part of the area. In general, Ag, As, Au, Cd, Cu, Hg, Mo, Pb, S, Sb and Zn are associated with hydrothermal mineralization. Among them, high ranges of Ag, As and Hg are scattered in the area. The Au anomalies are concentrated on a large-scale mineralized zone in Namosi area, some Au mineral occurrences of the upper Waimanu River and Wainadoi River, and also small sized Au anomalies are scattered in throughout the survey area. The Cu values are specifically high around the large-scale mineralized zone in Namosi area. The anomalies of Mo, Pb and Zn are surrounding the Cu anomalies.

Field measurements of water flow, water quality and water quality analysis were executed at the 80 points (186 samples) from 4 drainage systems: the Rewa River, the Navua River, the Sigatoka River and the Coastal Rivers in dry and rainy season. As results of these, we could confirm the background data. The general feature of the river water of this survey area shows neutral pH, Ca as principal cation and HCO_3 as principal anion. Such water as rich in alkaline-earth carbonate is thought to be circulating free groundwater. The summarized feature of the river water quality is as follows. All 4 rivers drainage systems are characterized by dominant HCO_3. The Sigatoka River drainage system is characterized by dominant Ca ion.

The Sigatoka River system shows higher total concentration of the major cations and anions in comparison with the other 3 river systems. This may be a primary factor that raises electric conductivity and pH. Furthermore, the cause why the presence of Ca and HCO_3 are high in the Sigatoka River system is thought to be influence of sedimentary rocks such as limestones

outcropping along the Sigatoka River system. Accordingly to compare with the data of the dry season and rainy season survey, the value of electric conductivity and major dissolved compositions(TDS, Na, Mg, HCO_3, Cl) in rainy season was lower compare with those in dry season. This means that major dissolved compositions were diluted by river water derived high precipitation in rainy season. While, river flow rate, turbidity, trace elements (Al, As, Cr, Zn) in rainy season showed higher compare with those in dry season. These trace elements were not diluted by river water and their concentration y were controlled by some cause. Results of Fe, Al, As, Cr Ni, Pb and Se showed some higher values in comparison with ADWG, along at the Rewa River drainage system and middle stream of the Navua river. These concentrations in rainy season were higher compared with those in dry season. One weather station was set up in Namosi village to monitor variation weather pattern system. In addition, meteorological data of the past 5 years, which had been observed at 6 points inside the survey area, were acquired from Fiji Meteorological Service in Nadi.

From central to south side of the Viti Levu South area breeds the well-developed tropical rain forest and the biodiversified birds. While, croplands and pastures are distributed along the Queens Road, the plain along the Rewa River between Suva - Nausori - Vunidawa and relatively cultivated hill and plain along Sigatoka to Keiyasi. Many villages and urban districts are developing in these areas. Hence, the environmental impact, for example the deforestation accompanied with inhabitant life improvement, the household wastewater and the wastes of chemical substances such as battery etc, is estimated to increase along each river drainage system where human activities widely influences.

It is important to collect and confirm the environmental basic database because the new regulation concerning the natural environmental policy of the Republic of the Fiji Islands is due to be endorsed by Fiji Parliament soon. The second phase survey of this environmental baseline study includes stream sediment survey and hydrological survey with meteorological data collection. In addition, the first phase survey included fauna survey, flora survey, soil bacteria survey and archaeological survey. A large number of data, which were acquired from this survey, are concluded to be useful for the environmental assessment of future industrial developments.

Chapter 2　Proposal for the future

Through this two years survey program, a large number of data regarding hydrology, meteorology, stream sediment geochemistry, flora and fauna, soil bacteria and archaeology were collected from the Viti Levu South area. The objective of this survey is to acquire background database regarding natural environmental field and to integrate these basic data for environmental assessment of future industrial developments. It is necessary to continue acquiring new data in the future in order to protect natural environment from the damage costed by human activities and to keep alert on the effect of industrial developments.

The following two proposals are recommended based from the results of Phase I & II of this survey.

(1) Hydrological survey

The background data as to flow rates and qualities of the river water were acquired twice in dry season and rainy season. The relation between flow rate and trace elements especially heavy metals has been examined. In order to clarify the mechanisms as to the effect of precipitation and flow rate on these elements, it is recommended to acquire these background data in 4 times par year in the future.

(2) Fishes and benthos

In viewpoint of acquisition and arrangement of background data, it is desired to investigate fishes and benthos with more species and more specimens.

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Appendix1 Chemical analysis data of stream sediment samples (1)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RT001	1937623	3884715	REWA	<0.001	0.04	<0.5	6.28	<5	240	2.1	5	1.35	<0.5	40	46	200	20.1	0.82	1.56	1620	<1	0.56	17	420	8	0.03	<5	102	1.09	905	10	287
RT002	1942924	3909799	REWA	<0.001	0.01	<0.5	5.85	<5	100	1.7	3	2.09	<0.5	22	122	26	12.39	0.45	1.36	1769	<1	1.79	10	250	4	0.08	<5	97	0.87	417	10	148
RT003	1942894	3909640	REWA	<0.001	0.01	<0.5	6.17	<5	150	1.6	<2	1.95	<0.5	17	30	28	10.17	0.48	1.11	1567	<1	1.73	3	100	<2	<0.01	<5	105	0.8	323	10	63
RT004	1942610	3908331	REWA	<0.001	0.01	<0.5	4.89	<5	70	1.6	2	1.89	0.7	27	66	21	17.95	0.17	1.31	2640	<1	1.6	8	140	4	<0.01	<5	85	0.86	575	10	159
RT005	1942478	3908266	REWA	<0.001	0.01	<0.5	7.39	<5	100	1.7	2	3.35	<0.5	27	45	16	8.87	0.38	2.53	2260	<1	1.86	7	130	<2	<0.01	<5	139	0.85	265	10	110
RT006	1942055	3908430	REWA	<0.001	0.01	<0.5	5.4	<5	110	1.6	4	1.85	<0.5	24	29	18	21.7	0.35	1.08	2890	<1	1.49	3	20	<2	<0.01	<5	99	0.95	617	20	145
RT007	1942047	3908425	REWA	<0.001	0.01	<0.5	4.34	<5	50	1.9	<2	1.97	<0.5	33	319	36	>25.0	0.17	1.12	3290	1	1.37	16	60	5	<0.01	<5	88	1.2	736	20	228
RT008	1943902	3908932	REWA	<0.001	0.01	<0.5	4.65	<5	80	1.7	11	1.8	1.4	31	93	30	23.8	0.3	1.34	3620	<1	0.97	8	100	4	<0.01	13	77	1.1	839	20	245
RT009	1944290	3903141	REWA	0.017	0.01	<0.5	5.64	<5	130	0.8	<2	0.73	0.7	15	58	83	16.59	0.76	0.57	765	4	0.56	3	310	5	2.66	6	51	0.38	341	10	140
RT010	1944829	3908454	REWA	0.006	0.01	<0.5	5.68	<5	140	1.5	2	1.98	<0.5	17	21	25	10.06	0.47	1.06	2410	<1	0.91	2	170	8	0.01	<5	108	0.76	340	10	173
RT011	1946000	3909040	REWA	0.001	0.01	<0.5	6.16	<5	110	2.1	<2	1.63	<0.5	26	167	34	13.13	0.41	1.21	2530	<1	1.45	16	240	4	0.15	5	87	1.13	480	10	210
RT012	1945645	3909295	REWA	0.002	0.01	<0.5	4.91	<5	570	1.3	2	1.69	2.1	17	45	60	19.56	0.45	0.67	2340	<1	0.95	4	220	5	0.27	11	93	0.68	570	20	174
RT013	1946052	3906693	REWA	0.001	0.01	<0.5	6	<5	60	1.7	5	2.62	2.1	37	952	45	12.22	0.22	2.66	3180	<1	1.17	87	220	21	0.06	<5	85	0.9	439	10	531
RT014	1945734	3906586	REWA	0.001	<0.01	<0.5	6.13	<5	60	2	<2	2	<0.5	19	132	18	9.07	0.22	1.24	1501	<1	2.16	18	320	2	0.03	<5	119	0.9	227	10	76
RT015	1945307	3906786	REWA	<0.001	<0.01	<0.5	6.26	<5	50	2.1	<2	1.81	<0.5	31	284	34	13.3	0.27	1.64	1878	<1	0.97	38	360	16	0.23	<5	90	1.17	367	10	101
RT016	1945207	3907330	REWA	0.003	<0.01	<0.5	4.8	<5	80	1.8	7	2.27	1.6	29	44	47	20.1	0.37	1.21	3560	<1	0.7	5	170	11	<0.01	16	113	1.1	802	20	260
RT017	1945230	3907224	REWA	0.012	<0.01	<0.5	4.45	<5	50	2.2	8	2.33	1.8	37	208	19	>25.0	0.21	0.96	2700	<1	1.19	16	140	3	0.03	12	105	1.28	963	20	108
RT018	1947067	3906544	REWA	<0.001	0.01	<0.5	7.97	<5	100	2	<2	3.88	<0.5	32	176	47	10.6	0.29	1.76	2010	<1	2.51	25	420	8	0.03	<5	183	0.93	393	10	163
RT019	1947897	3906437	REWA	0.001	0.01	<0.5	6.64	<5	140	1.8	3	1.42	0.6	46	148	56	12.76	0.64	2.04	1568	<1	1.52	31	440	3	0.01	<5	144	0.96	532	10	170
RT020	1946972	3906249	REWA	<0.001	0.01	<0.5	7.17	<5	170	1.9	<2	1.19	<0.5	49	236	59	12.44	0.69	2.03	1672	<1	1.37	42	410	7	0.04	<5	86	1.02	519	10	179
RT021	1945957	3905454	REWA	0.001	0.01	<0.5	4.86	<5	60	2.1	9	2.45	1.4	40	221	18	>25.0	0.23	1.67	2050	<1	1.01	25	190	3	0.05	10	98	1.35	1104	20	85
RT022	1945961	3905418	REWA	0.002	<0.01	<0.5	8.07	<5	170	2.1	3	2.57	<0.5	46	236	60	13.35	0.74	2.63	2020	<1	1.89	46	470	4	0.13	<5	150	1.09	493	10	181
RT023	1952996	3903620	REWA	0.002	0.01	<0.5	5.68	<5	130	1.6	<2	3.01	0.7	58	188	61	17	0.43	2.73	2320	<1	1.28	24	60	3	<0.01	<5	166	0.89	594	10	226
RT023-1	1952996	3903620	REWA	<0.001	0.01	<0.5	4.76	<5	110	1.5	5	2.31	1.5	63	242	62	17.8	0.37	2.26	2150	<1	1.03	26	40	6	<0.01	8	127	0.8	626	10	238
RT024	1952789	3903327	REWA	0.001	0.04	<0.5	8.87	<5	200	2.2	<2	0.66	<0.5	18	142	55	6.34	0.37	0.95	809	<1	0.44	18	690	4	0.05	<5	91	0.85	229	10	114
RT025	1953223	3903364	REWA	0.001	0.01	<0.5	6.13	<5	170	2.3	<2	0.94	<0.5	34	446	55	11.48	0.7	0.93	1604	<1	0.68	23	440	<2	0.01	<5	86	1.31	442	10	131
RT026	1955005	3906567	REWA	<0.001	0.01	<0.5	4.76	<5	90	1.6	5	0.43	0.7	60	670	76	19.06	0.37	0.84	2210	<1	0.3	36	20	5	<0.01	<5	43	0.92	661	10	190
RT027	1954934	3906572	REWA	0.001	0.01	<0.5	4.96	<5	90	1.7	8	0.53	0.7	59	658	69	18.09	0.37	0.89	2100	<1	0.31	38	20	4	<0.01	<5	44	0.95	629	10	184
RT028	1955521	3905725	REWA	<0.001	0.02	<0.5	5.43	<5	150	2.2	3	0.66	<0.5	38	460	57	11.8	0.71	0.73	1476	<1	0.58	27	180	5	<0.01	<5	80	1.25	521	10	129
RT029	1955453	3905706	REWA	0.002	0.02	<0.5	6.63	<5	420	2	4	0.72	<0.5	31	254	59	9.06	0.79	0.81	1203	<1	0.66	26	390	<2	0.02	<5	99	1.08	383	10	108
RT030	1954130	3905069	REWA	0.005	0.02	<0.5	6.52	<5	200	1.7	<2	1.08	<0.5	24	132	41	6.49	0.75	0.95	1226	<1	1.12	18	370	<2	0.01	<5	108	0.8	237	<10	92
RT031	1956329	3907409	REWA	0.002	0.03	<0.5	8.89	<5	270	1.7	<2	1.44	<0.5	28	75	78	6.9	0.78	1.54	1680	<1	1.29	23	910	<2	0.02	<5	209	0.54	190	10	113
RT031-1	1956329	3907409	REWA	0.001	0.03	<0.5	9.22	<5	280	1.6	<2	1.58	<0.5	28	63	74	6.7	0.79	1.6	1570	<1	1.49	24	1030	3	0.02	<5	212	0.52	178	10	117
RT032	1958537	3906762	REWA	<0.001	0.02	<0.5	5.6	<5	150	2.1	<2	0.45	<0.5	26	256	46	8.26	0.55	0.52	1118	<1	0.48	22	410	<2	0.01	<5	66	1.17	346	10	104
RT033	1958105	3906420	REWA	<0.001	0.03	<0.5	8.94	<5	290	1.8	<2	1.06	<0.5	33	107	77	7.27	0.73	1.47	2280	<1	1.16	33	750	3	0.02	<5	151	0.59	206	10	110
RT034	1957802	3906758	REWA	0.002	0.03	<0.5	8.13	<5	260	1.5	3	1.1	<0.5	30	94	67	6.98	0.69	1.38	2770	<1	1.16	30	690	4	0.02	<5	149	0.56	189	10	102
RT035	1955880	3900240	REWA	0.002	0.03	<0.5	4.29	<5	120	1.3	11	1.06	0.8	51	738	62	16.45	0.58	0.96	2050	<1	0.55	34	<10	9	<0.01	<5	78	0.71	528	10	169
RT036	1954683	3899830	REWA	0.098	0.03	<0.5	4.62	<5	120	1.5	3	1.81	<0.5	66	1278	76	20.7	0.43	1.52	2620	<1	0.47	59	<10	8	<0.01	6	120	0.78	577	20	248
RT037	1955169	3899471	REWA	0.001	0.03	<0.5	5.67	<5	160	1.9	6	1.73	<0.5	62	5010	91	18.14	0.52	1.79	2890	<1	0.35	141	70	11	<0.01	7	109	0.83	557	10	203
RT038	1953396	3900289	REWA	<0.001	0.05	<0.5	8	<5	150	1.8	<2	0.44	<0.5	38	205	71	7.52	0.51	0.75	846	<1	0.3	27	580	4	0.07	<5	70	0.72	278	10	112
RT039	1953002	3899674	REWA	0.003	0.03	<0.5	7.66	<5	150	1.9	<2	0.8	<0.5	28	229	69	8.2	0.54	0.85	1054	<1	0.37	27	620	5	0.02	<5	102	0.82	282	10	116
RT040	1952805	3899277	REWA	0.004	0.02	<0.5	3.47	<5	80	1.1	4	1.59	<0.5	43	1113	46	16.71	0.31	0.87	3120	<1	0.33	38	<10	5	<0.01	8	95	0.61	346	10	183
RT041	1952657	3899355	REWA	<0.001	0.02	<0.5	5.27	<5	130	1.5	<2	2.73	1	76	423	89	>25.0	0.4	2.29	2520	<1	0.83	37	60	6	<0.01	<5	185	0.85	792	20	306
RT041-1	1952657	3899355	REWA	0.002	0.01	<0.5	6	<5	150	2	3	2.76	1.8	78	534	96	>25.0	0.46	2.35	2550	<1	0.89	41	200	7	<0.01	11	207	1.23	888	20	312
RT042	1952629	3899389	REWA	0.002	0.04	<0.5	7.4	<5	140	2.4	3	0.94	<0.5	51	1714	112	12.49	0.41	1.59	1311	<1	0.22	136	560	9	0.02	<5	77	1.04	517	10	149
RT043	1952730	3899527	REWA	0.159	0.02	<0.5	5.86	<5	160	1.7	<2	1.17	<0.5	33	989	65	10.77	0.62	1.02	1620	<1	0.5	43	180	6	<0.01	<5	129	0.78	362	10	134
RT044	1961412	3906695	REWA	<0.001	0.01	<0.5	6.92	<5	190	1.8	5	3.24	0.8	61	792	64	17.16	0.57	2.63	2300	<1	1.18	66	190	5	<0.01	<5	174	0.94	659	10	206
RT045	1962228	3904613	REWA	<0.001	0.02	<0.5	4.72	<5	100	1.4	<2	1	<0.5	62	1250	99	19.94	0.32	1.25	2480	<1	0.27	56	<10	4	<0.01	7	74	0.72	541	10	196
RT046	1961386	3902224	REWA	0.001	0.01	<0.5	5.92	<5	170	1.5	6	2.42	1	67	1065	56	20.8	0.54	2.23	2480	<1	1.01	74	150	7	<0.01	6	167	0.78	776	20	222
RT047	1962136	3898995	REWA	0.002	0.02	<0.5	6.6	<5	180	1.9	5	0.9	0.9	62	929	93	18.34	0.57	1.31	2570	<1	0.55	51	140	5	<0.01	<5	116	0.92	611	10	183
RT047-1	1962136	3898995	REWA	0.003	0.02	<0.5	7.42	<5	200	2	<2	0.97	<0.5	55	711	87	16.2	0.64	1.36	2360	<1	0.65	46	460	3	0.01	<5	145	1.09	505	10	166
RT048	1958812	3891729	REWA	0.002	0.02	<0.5	7.77	<5	110	1.6	<2	1.27	<0.5	48	2800	78	10.52	0.59	1.97	1995	<1	0.91	112	360	4	<0.01	<5	95	0.9	398	10	173
RT049	1958977	3891669	REWA	0.002	0.03	<0.5	6.84	<5	220	1.9	<2	0.69	<0.5	38	586	86	7.76	0.78	1.19	1022	<1	0.22	60	610	7	0.02	<5	88	0.7	257	10	108
RT050	1956994	3892532	REWA	<0.001	0.02	<0.5	5.95	<5	130	1.8	<2	0.93	<0.5	57	1383	64	16.07	0.55	1.14	2730	<1	0.77	44	180	3	<0.01	<5	88	1.01	597	10	200
RT051	1957146	3892455	REWA	0.004	0.02	<0.5	6.41	<5	150	1.7	<2	1.03	<0.5	35	1120	58	8.07	0.72	1.21	1484	<1	0.76	53	390	5	<0.01	<5	116	0.95	298	10	114
RT051-1	1957146	3892455	REWA	0.001	0.02	<0.5	6.88	<5	160	1.7	3	1.11	<0.5	36	1207	62	8.61	0.78	1.31	1616	<1	0.83	56	380	2	<0.01	<5	123	0.93	306	10	123
RT052	1954458	3890299	REWA	0.001	0.02	<0.5	8.1	<5	180	1.8	<2	1.5	0.8	52	373	80	14.33	0.79	2	1946	<1	0.97	40	440	6	<0.01	7	209	0.99	583	10	202
RT053	1953023	3890212	REWA	<0.001	0.02	<0.5	6.46	<5	130	1.6	<2	2.34	<0.5	74	415	64	24.9	0.53	2.16	2510	<1	1	38	180	2	<0.01	6	317	1.22	888	20	306
RT054	1951250	3888969	REWA	<0.001	0.02	<0.5	6.84	<5	140	1.7	4	2.03	<0.5	61	258	96	19.4	0.37	2.94	2490	<1	0.64	25	290	4	0.01	<5	154	1.12	663	10	236
RT055	1950440	3888183	REWA	<0.001	0.02	<0.5	6.06	<5	100	1.7	11	1.58	1.9	99	223	124	>25.0	0.26	2.18	2620	<1	0.57	36	50	8	<0.01	10	175	1.15	1188	20	362
RT056	1966336	3893762	REWA	0.001	0.01	<0.5	6.8	<5	200	2	<2	3.43	1.1	44	658	45	13.89	0.78	2.54	2120	<1	1.64	52	560	6	<0.01	<5	230	1.23	632	10	164
RT057	1965177	3892050	REWA	0.001	0.02	<0.5	7.37	<5	230	1.5	<2	1.83	<0.5	31	457	60	8.34	0.92	1.55	1380	<1	1.15	40	460	4	0.02	<5	193	0.68	248	10	110
RT058	1965621	3890629	REWA	<0.001	0.03	<0.5	7.33	<5	170	1.6	<2	1.3	<0.5	25	306	54	7.03	0.55	0.99	1335	<1	0.82	26	390	4	0.05	<5	167	0.73	197	10	100
RT059	1969654	3890357	REWA	<0.001	0.02	<0.5	5.21	<5	120	1.6	<2	0.99	<0.5	29	689	38	13.12	0.41	0.82	2590	<1	0.65	22	<10	8	<0.01	9	123	1.11	186	10	136
RT060	1952258	3892832	REWA	<0.001	0.01	<0.5	5.89	<5	140	1.8	<2	2.25	<0.5	26	242	36	10.41	0.64	1.43	1666	<1	1.33	14	260	3	<0.01	<5	169	0.95	385	10	130
RT061	1952091	3893595	REWA	<0.001	0.02	<0.5	6.71	<5	170	1.3	2	1.52	<0.5	15	210	36	4.8	1.02	1.02	1090	3	1.53	19	230	<2	0.01	6	111	0.48	140	<10	99
RT061-1	1952091	3893595	REWA	<0.001	0.02	<0.5	7.34	<5	180	1.2	<2	1.55	<0.5	16	190	32	5.05	0.98	1.12	1089	<1	1.52	16	270	3	0.02	<5	116	0.44	141	<10	101
RT062	1951990	3894143	REWA	<0.001	0.01	<0.5	7.72	<5	150	1.6	<2	1.82	<0.5	36	405	51	10.71	0.54	1.39	1555	<1	2.1	28	340	3	<0.01	<5	140	0.78	341	10	195
RT063	1951916	3894152	REWA	<0.001	0.01	<0.5	6.49	<5	170	1.5	<2	1.87	<0.5	20	279	30	9.67	1.05	1.2	1732	<1	1.81	16	260	5	0.03	<5	129	0.73	289	10	122
RT064	1951758	3892054	REWA	<0.001	0.01	<0.5	4.35	<5	80	1.1	17	2.56	5.2	119	97	114	>25.0	0.12	2.9	3150	<1	0.61	29	<10	7	<0.01	20	137	0.7	1082	20	462
RT065	1951098	3890289	REWA	<0.001	0.03	<0.5	7.52	<5	160	1.8	9	3.61	<0.5	69	113	90	21.5	0.25	3.07	2400	<1	1.14	21	320	5	0.01	<5	261	1.06	737	10	294
RT066	1951182	3889978	REWA	0.006	0.03	<0.5	6.26	<5	170	1.9	<2	1.97	<0.5	38	107	84	15.07	0.62	1.71	1829	<1	1.08	15	230	5	0.01	<5	150	1.08	625	10	222
RT067	1949313	3889085	REWA	<0.001	0.02	<0.5	7.01	<5	150	2	7	2.2	1.6	78	68	133	21.7	0.17	2.45	2060	<1	0.48	22	150	7	0.02	<5	136	1.26	1051	20	284
RT068	1948757	3888121	REWA	<0.001	0.01	<0.5	4.54	<5	110	3.1	11	1.57	4.4	111	177	156	>25.0	0.16	2.43	2800	<1	0.38	35	320	9	0.04	7	96	2.18	1720	20	400
RT069	1948315	3887848	REWA	<0.001	0.02	<0.5	6.92	<5	240	2.7	3	3.44	0.7	71	84	188	20.1	0.32	3.73	2610	<1	1.01	22	650	2	0.22	<5	276	1.81	1096	10	273
RT070	1948038	3888036	REWA	<0.001	0.02	<0.5	6.53	<5	170	2.4	11	2.61	0.8	79	126	157	21.8	0.25	2.5	2010	<1	0.82	27	400	4	0.07	6	217	1.56	1168	20	278
RT071	1972918	3886463	REWA	<0.001	0.03	<0.5	8.09	<5	100	1.4	<2	0.67	<0.5	29	124	60	8.04	0.36	1	2170	<1	0.66	13	410	3	0.03	<5	63	0.78	242	10	144
RT071-1	1972918	3886463	REWA	0.034	0.03	<0.5	8.01	<5	100	1.4	<2	0.67	<0.5	29	101	69	7.7	0.36	1	1920	<1	0.67	14	430	4	0.03	<5	64	0.79	253	10	143
RT072	1967841	3885198	REWA	<0.001	0.01	<0.5	6.11	<5	90	1.9	4	1.09	1.2	58	183	53	19.44	0.34	1.6	3490	<1	0.5	22	40	2	<0.01	<5	78	1.22	764	10	402
RT073	1967798	3885747	REWA	<0.001	0.01	<0.5	7.33	5	100	1.7	<2	1.29	<0.5	28	95	59	9.56	0.46	1.38	1639	<1	1.1	13	270	2	0.02	<5	92	1.06	409	10	197
RT074	1937005	3888600	REWA	0.094	0.04	<0.5	8.93	105	210	1.4	<2	0.31	<0.5	16	209	423	12.32	1.6	0.52	404	16	0.52	10	470	25	0.09	<5	92	0.5	404	10	161
RT075	1937249	3888275	REWA	0.046	0.12	<0.5	8.84	54	220	1.6	7	0.35	<0.5	31	209	487	12.82	1.71	1.35	1316	<1	0.27	19	490	11	0.87	<5	41	0.81	446	10	250
RT075-1	1937249	3888275	REWA	0.048	0.14	<0.5	9	48	220	1.6	<2	0.35	<0.5	32	124	518	12.74	1.56	1.31	1340	<1	0.27	18	510	10	0.89	7	41	0.82	454	10	263
RT076	1937160	3888125	REWA	0.01	0.07	<0.5	6.32	13	170	2.4	<2	0.23	<0.5	34	94	153	>25.0	0.66	0.58	1422	<1	0.21	11	290	11	0.12	6	37	1.42	1066	20	286
RT077	1937050	3888175	REWA	0.027	0.02	<0.5	7.67	23	220	1.9	<2	0.28	0.5	15	432	191	12.62	1.49	0.66	1446	2	0.41	14	330	6	0.07	<5	60	0.87	371	10	262
RT078	1939070	3890580	REWA	0.347	0.02	<0.5	5.57	<5	150	2.7	3	1.52	1.2	34	223	62	21.7	0.61	1.43	3070	<1	1.18	16	360	5	0.11	6	108	1.77	861	20	283
RT079	1939475	3890575	REWA	<0.001	0.01	<0.5	6.39	<5	160	2.3	6	1.13	<0.5	37	116	69	23.2	0.57	1.34	2790	<1	1.03	16	280	8	0.06	7	111	1.54	931	10	354
RT080	1939950	3889875	REWA	0.001	0.01	<0.5	8.35	<5	280	2	6	0.58	<0.5	24	184	72	17.46	1.23	1.07	1492	<1	1.47	15	350	14	0.02	<5	106	1.24	634	10	258
RT080-1	1939950	3889875	REWA	0.121	0.01	<0.5	7.18	<5	250	2.1	<2	0.51	<0.5	23	219	65	15.64	1.16	0.93	1312	<1	1.26	13	320	14	0.02	<5	94	1.13	584	10	234
RT081	1940350	3889850	REWA	<0.001	0.01	<0.5	4.81	<5	140	2.5	16	0.88	1.2	39	142	51	>25.0	0.63	0.96	2810	<1	1.02	17	60	18	0.02	9	78	1.35	970	20	464

Appendix1 Chemical analysis data of stream sediment samples (2)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RT082	1940250	3889520	REWA	<0.001	0.01	<0.5	4.8	<5	130	2.5	10	1.32	0.5	32	402	40	18.79	0.61	1.15	2640	<1	1.15	15	200	10	0.1	<5	82	1.57	748	10	191
RT083	1948178	3881496	REWA	7.28	0.1	<0.5	4.37	<5	70	1.3	6	0.6	0.8	37	144	85	>25.0	0.35	0.68	2060	<1	0.46	17	20	7	0.02	8	44	0.83	1376	20	297
RT084	1948179	3881537	REWA	0.005	0.01	<0.5	4.97	<5	90	1	12	1	0.9	72	148	153	>25.0	0.28	1.08	3030	<1	0.45	35	<10	9	<0.01	13	99	0.4	803	20	535
RT085	1948694	3881555	REWA	0.013	0.01	<0.5	5.77	<5	80	1.1	<2	1.88	1	47	216	46	21.1	0.34	1.27	2290	<1	1.01	17	<10	5	<0.01	9	160	0.61	500	20	261
RT086	1950482	3882112	REWA	<0.001	<0.01	<0.5	2.65	<5	10	<0.5	8	0.61	<0.5	83	127	44	>25.0	0.06	0.77	3910	<1	0.16	40	<10	5	<0.01	21	18	0.27	2030	20	341
RT087	1950461	3882109	REWA	<0.001	0.01	<0.5	7.77	<5	120	1.8	<2	1.49	<0.5	46	272	63	16.37	0.4	1.56	3050	<1	0.8	21	90	5	<0.01	<5	98	1.14	614	10	219
RT088	1952521	3883202	REWA	<0.001	0.01	<0.5	4.11	<5	180	1.3	16	1.94	2.5	101	148	95	>25.0	0.17	2.2	2700	<1	0.48	40	<10	7	<0.01	8	101	0.91	1190	20	362
RT089	1953446	3883108	REWA	<0.001	0.01	<0.5	5.94	<5	40	0.9	12	1.15	0.6	59	195	40	22.7	0.24	1.25	3420	<1	0.44	22	40	4	<0.01	10	66	0.59	634	20	431
RT090	1955563	3884198	REWA	<0.001	0.01	<0.5	4.92	<5	70	2	<2	0.9	0.5	39	107	50	14.5	0.38	1.23	1847	<1	0.95	12	100	<2	0.04	<5	58	1.35	771	10	295
RT090-1	1955563	3884198	REWA	<0.001	0.01	<0.5	4.71	<5	60	1.5	3	0.88	0.9	39	170	50	15.46	0.37	1.2	1956	<1	0.96	13	<10	4	0.04	<5	51	1.01	790	10	336
RT091	1957252	3884633	REWA	<0.001	0.03	<0.5	6.04	<5	150	1.4	6	1.92	0.6	37	230	37	14.14	0.22	1.52	3380	<1	0.68	12	<10	8	0.01	7	61	0.94	504	10	376
RT092	1959145	3885467	REWA	0.002	0.01	<0.5	5.42	<5	60	0.7	9	0.75	<0.5	39	92	32	19.6	0.26	0.91	4160	<1	0.54	10	30	4	<0.01	6	44	0.39	422	10	662
RT093	1943775	3890450	REWA	<0.001	0.01	<0.5	6.53	<5	130	1.7	<2	2.69	<0.5	28	101	37	10.22	0.52	1.65	1420	<1	1.69	15	380	7	0.17	5	195	0.87	372	10	165
RT094	1943825	3890375	REWA	<0.001	0.01	<0.5	6.68	<5	150	1.9	<2	1.6	<0.5	39	215	69	15.98	0.68	2.03	2370	<1	0.87	22	440	5	0.15	6	116	1.21	587	10	364
RT095	1942609	3889074	REWA	<0.001	0.02	<0.5	7.87	5	200	1.8	<2	1.54	<0.5	31	147	94	10.28	0.95	1.66	1999	<1	1.31	16	420	4	0.01	<5	126	0.85	381	10	206
RT096	1944097	3888538	REWA	<0.001	0.01	<0.5	6.42	<5	170	1.9	9	3.07	2.2	72	90	108	>25.0	0.38	2.31	2780	<1	1.25	23	380	5	0.02	8	255	1.29	1007	10	372
RT097	1944095	3888535	REWA	0.007	0.01	<0.5	8.12	<5	250	2	3	0.46	<0.5	27	51	82	16.74	0.95	0.92	2320	<1	0.38	16	320	9	0.01	<5	72	0.98	571	10	410
RT098	1944132	3887630	REWA	<0.001	0.03	<0.5	9.58	27	210	2.2	<2	0.09	<0.5	16	28	157	13.73	0.68	0.44	748	<1	0.18	7	800	6	0.63	<5	288	1.38	685	10	168
RT099	1937659	3885005	REWA	0.168	0.05	<0.5	6.7	12	170	<0.5	<2	0.78	<0.5	14	22	73	8.41	1.06	0.78	600	<1	0.78	7	250	6	0.01	6	112	0.65	346	<10	121
RT100	1939239	3885350	REWA	0.04	0.02	<0.5	6.61	39	230	<0.5	<2	0.36	<0.5	13	29	59	8.56	1.27	0.72	740	<1	0.6	9	410	14	0.01	<5	62	0.67	356	10	170
RT100-1	1939239	3885350	REWA	0.01	0.02	<0.5	6.89	37	230	<0.5	<2	0.36	<0.5	13	28	59	7.9	1.34	0.74	763	<1	0.61	10	420	14	0.01	9	63	0.62	321	10	160
RT101	1939773	3886894	REWA	0.067	0.06	<0.5	5.74	12	230	<0.5	<2	0.27	0.5	11	35	53	7.4	1.25	0.7	583	<1	0.49	7	340	16	0.03	7	49	0.7	299	10	140
RT102	1929130	3891202	NAVUA	<0.001	0.01	<0.5	7.1	<5	130	<0.5	<2	1.65	1.7	17	52	55	6.6	0.88	1.85	1658	<1	1.38	13	330	32	0.18	<5	157	0.59	216	<10	333
RT103	1929101	3889243	NAVUA	<0.001	0.01	<0.5	6.59	<5	140	<0.5	<2	1.36	<0.5	14	45	35	6.84	0.86	1.41	1413	<1	1.41	8	230	<2	0.03	12	109	0.66	230	<10	248
RT104	1929414	3888494	NAVUA	<0.001	<0.01	<0.5	7.03	<5	140	<0.5	<2	3.75	3	41	68	72	14.5	0.63	2.98	1989	<1	1.33	22	510	<2	0.05	<5	365	1.11	700	10	274
RT105	1930043	3894408	NAVUA	<0.001	<0.01	<0.5	5.32	<5	110	<0.5	<2	1.45	1.2	7	100	10	9.33	0.54	0.36	1350	<1	1.59	4	150	<2	<0.01	7	91	0.85	204	<10	54
RT106	1930063	3894957	NAVUA	<0.001	<0.01	<0.5	5.31	<5	70	<0.5	<2	3.14	3.5	28	99	21	19.45	0.54	2.1	2390	<1	1.36	16	190	<2	<0.01	9	109	0.93	773	10	101
RT107	1930145	3894953	NAVUA	<0.001	<0.01	<0.5	5.8	<5	100	<0.5	<2	2.04	1.7	14	102	19	13.65	0.76	1.07	1694	<1	1.92	7	390	<2	0.07	8	106	0.97	493	10	65
RT108	1928477	3893115	NAVUA	<0.001	<0.01	<0.5	5.26	<5	110	<0.5	<2	1.71	<0.5	9	82	9	11.1	0.75	0.6	1503	<1	1.6	5	170	<2	<0.01	6	100	0.79	305	10	46
RT109	1927596	3893313	NAVUA	<0.001	0.01	<0.5	6.55	<5	60	<0.5	<2	3	0.9	16	104	28	8.98	0.3	1.1	2400	<1	1.85	11	330	<2	0.08	9	154	0.84	264	10	135
RT110	1927141	3894129	NAVUA	<0.001	<0.01	<0.5	4.64	<5	70	<0.5	<2	2.61	4.7	24	119	20	22.1	0.5	1.64	2400	<1	1.25	16	160	<2	<0.01	7	91	0.91	763	10	101
RT110-1	1927141	3894129	NAVUA	<0.001	<0.01	<0.5	4.88	<5	70	<0.5	<2	2.6	1.4	20	89	19	18.2	0.56	1.58	2090	<1	1.35	14	180	<2	<0.01	<5	95	0.88	650	10	91
RT111	1927129	3894066	NAVUA	<0.001	0.01	<0.5	4.83	<5	60	<0.5	<2	3.01	6.9	37	208	30	>25.0	0.47	1.68	3960	<1	1.33	18	210	<2	0.05	7	115	1.25	1160	10	235
RT112	1927399	3893897	NAVUA	<0.001	0.01	<0.5	6.06	<5	70	<0.5	<2	3.57	1.5	21	93	18	14.4	0.48	2.08	1953	<1	1.78	17	450	<2	0.01	12	133	1.07	559	10	62
RT113	1925540	3882213	NAVUA	<0.001	0.01	<0.5	7.1	<5	150	<0.5	<2	2.32	0.7	17	52	34	8.24	0.78	1.21	1198	<1	1.72	12	510	<2	0.06	10	335	0.73	306	<10	102
RT114	1924450	3882587	NAVUA	<0.001	<0.01	<0.5	7.95	<5	210	<0.5	<2	5.07	<0.5	11	30	37	6.42	0.69	1.05	1004	<1	1.99	9	820	<2	0.03	7	629	0.65	258	<10	93
RT115	1924255	3883210	NAVUA	<0.001	<0.01	<0.5	6.68	<5	100	<0.5	<2	2.96	1	18	124	25	9.98	0.5	1.1	1540	<1	1.94	13	370	<2	0.04	10	186	0.85	354	<10	102
RT116	1923604	3883440	NAVUA	<0.001	<0.01	<0.5	6.15	<5	80	<0.5	<2	2.36	1.2	14	51	28	6.43	0.37	0.87	1214	<1	1.6	10	320	<2	0.09	6	140	0.63	196	10	103
RT117	1953786	3875838	Other	<0.001	0.01	<0.5	3.51	<5	50	<0.5	<2	0.7	3.4	42	291	30	>25.0	0.3	0.75	3990	<1	0.45	24	<10	<2	0.01	7	34	0.89	544	10	272
RT118	1953232	3876401	Other	<0.001	0.01	<0.5	5.46	<5	70	<0.5	<2	0.54	<0.5	27	99	27	14.65	0.38	0.72	1900	<1	0.37	13	70	<2	<0.01	6	47	0.87	460	10	177
RT119	1953188	3876379	Other	<0.001	0.03	<0.5	5.66	<5	80	<0.5	<2	0.7	1.2	30	97	60	17.35	0.33	0.79	1724	<1	0.5	22	80	<2	<0.01	<5	80	0.84	587	10	252
RT120	1936633	3875918	NAVUA	<0.001	0.01	<0.5	7.35	<5	60	<0.5	<2	0.7	2.8	30	94	56	20	0.23	0.65	3740	<1	0.16	10	170	<2	<0.01	7	30	0.62	374	20	262
RT121	1936527	3876439	NAVUA	<0.001	0.01	<0.5	6.08	<5	110	<0.5	<2	2.95	4.7	65	91	100	21.7	0.41	2.98	2660	<1	1	32	300	<2	0.01	7	185	1	901	10	320
RT121-1	1936527	3876439	NAVUA	<0.001	0.01	<0.5	6.73	<5	130	<0.5	3	3.36	3	46	53	84	15.25	0.48	2.96	2170	<1	1.2	21	480	<2	0.01	10	230	1.03	688	10	229
RT122	1946499	3874232	Other	0.092	0.01	<0.5	6.11	<5	20	<0.5	<2	1.54	2.2	33	115	34	20.3	0.16	1.77	2230	<1	0.65	23	70	<2	0.03	6	55	1.04	1530	10	129
RT123	1946453	3874217	Other	0.069	0.01	<0.5	5.67	<5	30	<0.5	<2	1.21	3	27	143	34	21.2	0.21	1.03	2510	<1	0.49	17	90	<2	0.02	<5	57	1.03	1195	10	202
RT124	1948272	3873675	Other	0.253	0.02	<0.5	4.99	<5	30	<0.5	7	1.12	5.8	54	137	30	>25.0	0.18	0.89	3690	<1	0.17	21	20	<2	0.01	<5	45	0.83	1325	20	381
RT125	1951220	3874839	Other	0.192	0.01	<0.5	5.84	<5	70	<0.5	<2	1.07	3.5	46	118	76	22.8	0.29	0.98	2370	<1	0.58	22	<10	<2	<0.01	7	94	0.78	757	10	288
RT126	1950894	3875115	Other	<0.001	0.02	<0.5	7	<5	50	<0.5	<2	0.98	1.9	36	90	57	18.7	0.32	1.03	2150	<1	0.45	17	140	<2	0.02	6	80	0.68	612	10	347
RT127	1950866	3875102	Other	<0.001	0.02	<0.5	5.99	<5	80	<0.5	<2	1.38	3.6	42	99	75	20.8	0.32	1.02	2270	<1	0.77	22	20	<2	<0.01	<5	120	0.78	668	20	267
RT128	1954177	3876783	Other	0.001	0.02	<0.5	7.63	<5	50	<0.5	<2	1.29	<0.5	26	111	46	11.45	0.33	1.11	1728	<1	0.61	14	160	<2	0.01	6	96	0.93	506	10	179
RT129	1954662	3877318	Other	0.009	0.05	<0.5	4.77	<5	40	<0.5	<2	0.55	2.2	47	127	31	>25.0	0.27	0.82	2780	<1	0.3	17	<10	<2	<0.01	<5	36	0.74	786	10	350
RT130	1954672	3877340	Other	<0.001	0.02	<0.5	6.95	<5	40	<0.5	<2	1.2	1.6	27	92	43	12.6	0.26	1.05	1695	<1	0.31	12	140	<2	0.02	6	80	0.92	562	10	201
RT130-1	1954672	3877340	Other	<0.001	0.02	<0.5	8.3	<5	40	<0.5	<2	1.24	0.5	27	62	49	10.7	0.3	1.14	1525	<1	0.35	11	150	<2	0.02	5	91	0.72	418	10	163
RT131	1965511	3878912	Other	<0.001	0.02	<0.5	6.04	<5	50	<0.5	<2	1.86	2.4	33	139	33	18.15	0.27	1.23	3980	<1	0.58	15	<10	8	0.05	10	105	1.07	265	10	466
RT132	1966768	3879292	Other	<0.001	0.11	<0.5	6.35	<5	110	<0.5	<2	2.2	2.9	41	208	108	15.5	0.32	1.59	2040	<1	0.62	23	60	<2	0.01	7	174	0.96	599	10	302
RT133	1962546	3879230	Other	<0.001	0.02	<0.5	6.67	<5	200	<0.5	<2	1.58	1.2	17	60	36	9.17	0.29	1.14	2640	<1	0.74	9	70	<2	<0.01	10	78	1.01	273	<10	257
RT134	1962516	3879225	Other	<0.001	0.01	<0.5	5.68	<5	70	<0.5	<2	2.41	4	44	116	51	18.15	0.2	1.87	3340	<1	0.65	19	<10	3	<0.01	6	60	0.68	482	10	385
RT135	1924827	3872822	NAVUA	0.002	0.02	<0.5	6.67	<5	50	<0.5	<2	0.44	2.2	28	219	85	17	0.58	0.78	1650	<1	0.18	26	120	<2	0.01	<5	29	0.83	614	10	138
RT136	1924826	3872810	NAVUA	<0.001	0.01	<0.5	5.79	<5	60	<0.5	<2	0.22	0.6	19	33	42	10.05	0.28	0.43	2450	<1	0.4	11	120	<2	<0.01	13	24	1.2	359	10	192
RT137	1924918	3875165	NAVUA	<0.001	0.01	<0.5	5.85	<5	50	<0.5	<2	0.34	1.7	27	191	53	14.55	0.47	0.66	2720	<1	0.3	19	20	<2	<0.01	8	25	0.89	385	10	168
RT138	1925050	3875140	NAVUA	<0.001	0.02	<0.5	8.17	<5	70	<0.5	<2	0.42	1.5	32	323	50	8.78	0.62	0.94	1312	<1	0.35	57	200	<2	0.01	<5	81	0.61	217	10	107
RT139	1925381	3875784	NAVUA	0.035	0.01	<0.5	6.57	<5	70	<0.5	<2	0.33	0.8	29	296	57	13.85	0.53	0.73	2800	<1	0.37	25	20	<2	<0.01	7	32	0.82	316	10	165
RT140	1925363	3875825	NAVUA	<0.001	0.03	<0.5	7.71	<5	90	<0.5	<2	0.55	0.9	30	396	44	8.44	0.56	0.85	1669	<1	0.45	57	190	<2	0.01	5	70	0.5	176	<10	127
RT140-1	1925363	3875825	NAVUA	<0.001	0.03	<0.5	8.24	<5	90	<0.5	<2	0.57	0.8	30	382	46	8.49	0.54	0.88	1690	<1	0.44	58	220	<2	0.02	8	75	0.75	224	10	128
RT141	1926070	3876931	NAVUA	<0.001	0.04	<0.5	7.32	8	110	<0.5	<2	0.93	0.7	15	77	34	5.28	0.75	0.62	673	<1	0.97	13	260	<2	0.02	8	369	0.55	171	<10	92
RT142	1926002	3876811	NAVUA	0.005	0.04	<0.5	5.97	<5	60	<0.5	<2	0.37	1.1	29	239	43	9.56	0.49	0.66	1700	<1	0.35	21	30	<2	<0.01	6	47	0.57	232	<10	124
RT143	1927561	3877665	NAVUA	<0.001	0.02	<0.5	7.13	<5	100	<0.5	<2	2.19	1.4	19	69	37	7.68	0.65	1.31	1432	<1	1.49	18	390	<2	0.02	5	225	0.71	288	<10	116
RT144	1928090	3877004	NAVUA	0.143	0.02	<0.5	7.13	<5	100	<0.5	<2	2.08	0.7	20	85	40	8.36	0.63	1.25	1199	<1	1.44	22	340	3	0.03	<5	201	0.73	326	10	124
RT145	1928583	3876842	NAVUA	<0.001	0.01	<0.5	6.64	<5	120	<0.5	<2	2.59	3.2	41	60	75	15.8	0.55	2.2	2130	<1	1.13	20	390	<2	0.02	8	218	1.08	698	10	244
RT146	1928000	3875629	NAVUA	<0.001	0.02	<0.5	6.67	<5	100	<0.5	<2	2.07	1.8	27	140	41	13.6	0.54	1.35	1994	<1	1.29	19	250	<2	0.01	9	162	0.94	537	<10	167
RT147	1927033	3874671	NAVUA	<0.001	0.01	<0.5	7.73	<5	100	<0.5	<2	1.61	0.8	25	74	49	9.06	0.58	1.26	2220	<1	1.15	18	330	<2	0.02	10	146	0.76	318	<10	134
RT148	1927225	3873955	NAVUA	<0.001	0.01	<0.5	6.73	<5	80	<0.5	<2	1.87	<0.5	24	105	42	10.75	0.52	1.25	1742	<1	1.12	20	270	<2	0.02	11	134	0.93	411	10	139
RT149	1927503	3873568	NAVUA	0.417	0.01	<0.5	5.89	<5	70	<0.5	<2	2.38	1.7	24	263	39	12.15	0.56	2.02	1715	<1	1.31	29	200	<2	<0.01	11	126	0.8	492	10	140
RT150	1927581	3873060	NAVUA	<0.001	0.01	<0.5	6.66	<5	60	<0.5	<2	0.76	0.6	22	83	43	12.1	0.31	0.77	2320	<1	0.73	12	150	<2	<0.01	<5	58	0.72	264	10	244
RT150-1	1927581	3873060	NAVUA	<0.001	0.01	<0.5	7.16	<5	70	<0.5	<2	0.91	<0.5	22	83	44	10.7	0.36	0.87	2040	<1	0.83	14	200	<2	<0.01	7	66	0.63	230	10	198
RT151	1927858	3871958	NAVUA	<0.001	0.01	<0.5	6.48	<5	70	<0.5	<2	0.76	<0.5	23	49	42	10.4	0.39	0.91	2120	<1	0.84	15	90	<2	<0.01	9	51	0.78	287	<10	209
RT152	1928409	3871310	NAVUA	<0.001	0.01	<0.5	6.12	<5	100	<0.5	<2	1.63	0.5	16	72	32	8.3	0.58	1.04	1628	<1	1.33	15	270	<2	0.02	6	137	0.85	298	10	161
RT153	1929469	3869865	NAVUA	<0.001	0.02	<0.5	7.49	<5	60	<0.5	<2	0.77	0.7	26	34	38	12.25	0.24	0.62	2800	<1	0.64	11	220	<2	0.01	6	59	0.6	258	10	328
RT154	1927239	3878064	NAVUA	<0.001	0.01	<0.5	6.79	<5	100	<0.5	<2	2.41	0.7	19	125	37	8	0.82	0.94	1394	<1	1.53	20	350	<2	0.02	7	304	0.76	326	10	110
RT155	1920684	3875629	NAVUA	<0.001	0.01	<0.5	3.9	<5	60	<0.5	<2	2.26	4.5	32	342	25	>25.0	0.39	0.98	3640	<1	0.79	22	100	<2	0.09	7	108	1.27	1255	10	196
RT156	1919000	3876250	NAVUA	0.002	0.02	<0.5	6.5	<5	110	<0.5	<2	1.12	<0.5	32	365	42	10.1	0.47	1.06	1456	<1	0.64	30	310	<2	0.02	9	155	0.98	385	<10	135
RT157	1918467	3875628	NAVUA	<0.001	0.01	<0.5	5.29	<5	80	<0.5	<2	0.9	2.7	31	243	38	20	0.49	0.92	2630	<1	0.65	23	<10	<2	0.03	<5	65	0.9	852	10	322
RT158	1917574	3876202	NAVUA	<0.001	0.02	<0.5	6.84	<5	100	<0.5	4	1.75	1.3	24	214	44	9.98	0.49	1.25	1415	<1	1.06	27	330	<2	0.04	8	142	0.98	430	10	128
RT159	1916180	3876317	NAVUA	<0.001	<0.01	<0.5	5.67	<5	70	<0.5	<2	2.28	2.9	25	126	34	17.5	0.38	1.17	2120	<1	1.16	18	290	<2	0.09	9	181	1.18	863	10	153
RT160	1915758	3874900	NAVUA	0.002	0.04	<0.5	6.44	<5	100	<0.5	<2	1.22	2.4	25	170	72	16.15	0.64	1.25	2150	<1	0.82	21	230	<2	0.41	9	101	1.13	572	10	345
RT160-1	1915758	3874900	NAVUA	0.007	0.03	<0.5	7.48	9	110	<0.5	<2	1.25	2	19	59	64	9.36	0.75	1.38	1352	<1	0.98	18	330	<2	0.18	<5	118	0.78	313	<10	204
RT161	1915750	3874903	NAVUA	<0.001	0.01	<0.5	7.4	<5	90	<0.5	<2	1.66	1.1	21	158	43	8.76	0.65	1.3	1275	<1	1.19	24	290	<2	0.04	6	146	0.87	395	<10	122
RT162	1915061	3875423	NAVUA	<0.001	0.01	<0.5	6.32	<5	70	<0.5	<2	2.5	2.3	20	124	26	12.8	0.44	1.33	2290	<1	1.65	21	300	<2	0.08	12	166	1.29	559	10	124
RT163	1915215	3874938	NAVUA	<0.001	0.01	<0.5	6	<5	70	<0.5	<2	1.44	2.1	26	1435	76	15	0.47	1.34	2390	<1	0.78	42	160	<2	0.14	12	81	1.36	614	10	342

Appendix1 Chemical analysis data of stream sediment samples (3)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RT164	1930906	3868862	NAVUA	0.017	0.03	<0.5	8.18	<5	50	1.4	<2	1.34	0.8	42	84	62	12.7	0.33	1.17	2280	<1	1.19	17	210	3	0.01	<5	110	0.69	325	10	229
RT165	1958200	3876928	Other	0.112	0.01	<0.5	4.61	<5	50	2	<2	0.95	1.8	36	101	20	18.46	0.25	1.09	2160	<1	0.49	10	80	8	<0.01	<5	47	1.18	618	10	226
RT166	1958226	3876955	Other	<0.001	0.02	<0.5	6.65	<5	30	1.8	<2	1.3	0.9	32	98	34	10.54	0.24	1.35	1587	<1	0.52	12	160	2	0.03	<5	77	0.97	443	10	147
RT167	1958430	3877837	Other	0.075	0.01	<0.5	4.68	<5	20	1.7	<2	1.36	2.6	55	70	30	24.8	0.22	1.7	2870	<1	0.54	12	50	7	<0.01	<5	52	1.09	731	20	256
RT168	1958461	3877844	Other	0.016	0.02	<0.5	4.79	<5	10	1.5	<2	1.36	5	61	202	41	>25.0	0.19	1.51	2940	<1	0.45	20	<10	11	<0.01	<5	57	0.92	833	20	354
RT169	1960672	3878051	Other	<0.001	0.02	<0.5	6.09	<5	<10.0	1.7	3	0.58	6.9	91	128	38	>25.0	0.11	1.21	3420	<1	0.2	17	<10	8	<0.01	<5	26	1.09	1128	20	314
RT170	1960688	3878069	Other	<0.001	0.01	<0.5	7.37	<5	30	1.9	<2	1.63	2.1	37	209	58	15.28	0.23	1.54	2380	<1	0.57	21	130	6	<0.01	<5	83	1.03	473	10	314
RT170-1	1960688	3878069	Other	<0.001	0.01	<0.5	7.3	<5	30	2	3	1.57	1.7	39	263	62	17.99	0.22	1.6	2730	<1	0.5	23	100	8	<0.01	<5	73	1.13	533	10	364
RT171	1919050	3870955	NAVUA	0.002	0.02	<0.5	5.54	<5	80	1	<2	0.26	3.1	19	56	23	12.8	0.4	0.42	2380	10	0.58	11	20	9	<0.01	<5	25	0.8	418	10	328
RT172	1917744	3871763	NAVUA	<0.001	0.01	<0.5	5.23	<5	80	1.7	<2	0.35	3.1	28	95	33	17	0.35	0.64	2780	11	0.45	16	130	7	0.17	<5	30	1.71	895	<10	473
RT173	1917580	3872347	NAVUA	0.002	0.02	<0.5	8.92	<5	60	0.7	<2	0.26	2.6	33	40	76	12.25	0.94	0.83	1425	10	0.16	23	320	4	0.01	<5	35	0.7	376	10	101
RT174	1917811	3872652	NAVUA	0.034	0.02	<0.5	8.02	<5	130	1	<2	0.29	3.3	32	190	54	12.45	0.8	1.27	1385	11	0.36	36	320	6	0.01	<5	21	0.83	428	10	110
RT175	1917875	3871210	NAVUA	0.002	0.02	<0.5	7.4	<5	110	1.1	<2	0.44	1.4	20	29	45	8.12	0.44	0.73	1615	9	0.49	11	290	7	0.12	<5	42	0.84	309	10	185
RT176	1935556	3875111	NAVUA	0.002	0.01	<0.5	5.53	<5	70	1.1	<2	2.54	10	70	50	74	23.9	0.24	2.99	2470	18	0.64	28	260	10	<0.01	<5	141	1.41	1130	10	333
RT177	1938339	3874976	NAVUA	<0.001	0.01	<0.5	7.02	<5	70	1.5	<2	0.84	4.6	29	53	32	17.65	0.3	0.61	2970	13	0.37	10	140	7	0.01	<5	50	1.5	869	10	239
RT178	1934685	3874942	NAVUA	0.002	0.01	<0.5	7.21	<5	90	1.2	<2	1.7	3.6	40	38	64	15.2	0.26	1.73	1815	13	0.49	17	410	9	0.01	<5	119	1.24	715	10	216
RT179	1933808	3874837	NAVUA	0.001	0.01	<0.5	8.38	<5	90	1.5	<2	0.88	2.3	19	23	27	10.4	0.31	0.8	1750	10	0.93	7	370	5	0.01	<5	79	1.27	361	10	183
RT180	1933516	3874998	NAVUA	0.003	0.01	<0.5	6.65	<5	90	1.1	<2	1.67	3.8	42	44	65	15.8	0.31	1.89	1645	14	0.62	20	250	10	0.01	<5	119	1.21	764	10	236
RT180-1	1933516	3874998	NAVUA	0.009	0.01	<0.5	6.13	<5	80	1.2	<2	1.75	5.1	52	51	69	19.3	0.29	2.02	2020	16	0.61	23	200	8	0.01	<5	118	1.44	940	10	279
RT181	1933112	3875040	NAVUA	0.003	<0.01	<0.5	4.6	<5	70	1	<2	2.35	10.4	70	51	96	24.8	0.23	3.12	2340	16	0.52	27	210	15	<0.01	<5	130	1.27	1265	10	350
RT182	1932192	3875089	NAVUA	0.002	0.01	<0.5	7.02	<5	80	1.9	<2	1.24	1.8	49	42	89	17.74	0.24	1.87	2230	<1	0.38	20	110	<2	<0.01	<5	71	0.82	540	20	253
RT183	1932006	3875068	NAVUA	0.298	0.01	<0.5	6.56	<5	70	1.9	3	0.4	0.6	23	31	38	11.56	0.21	0.56	2630	<1	0.18	9	80	<2	<0.01	<5	31	0.74	255	10	228
RT184	1931452	3875146	NAVUA	0.001	0.01	<0.5	5.54	<5	70	1.5	2	0.44	1.8	26	130	28	14.43	0.35	0.69	3700	<1	0.5	9	40	<2	<0.01	<5	32	0.59	109	10	326
RT185	1931411	3875179	NAVUA	0.002	0.01	<0.5	7.51	<5	70	1.8	2	0.45	<0.5	29	27	60	13.82	0.4	0.78	2110	<1	0.36	12	130	<2	<0.01	<5	36	0.7	292	20	255
RT186	1931260	3875587	NAVUA	0.053	0.01	<0.5	8.09	<5	130	2.6	5	1.81	1.8	38	41	79	13.4	0.41	1.66	1850	<1	0.78	17	390	3	0.01	<5	126	1.07	554	20	212
RT187	1931436	3876310	NAVUA	0.002	0.01	<0.5	6.03	<5	90	2.7	6	1.51	2.9	47	82	70	18.5	0.33	1.39	1965	<1	0.72	20	280	<2	0.03	<5	106	1.25	772	20	261
RT188	1931465	3876436	NAVUA	0.575	<0.01	<0.5	3.01	<5	40	1.7	3	1.05	8.7	95	84	134	>25.0	0.15	1.77	3170	<1	0.29	45	40	<2	<0.01	<5	42	0.78	1014	20	536
RT189	1931480	3876450	NAVUA	0.002	0.02	<0.5	6.66	<5	90	2.5	<2	1.72	3.1	56	44	121	18.08	0.32	2.03	2060	<1	0.61	24	260	<2	<0.01	<5	118	1.08	803	20	263
RT190	1929575	3876983	NAVUA	0.002	0.02	<0.5	7.72	5	130	2.5	<2	1.88	0.9	40	40	77	13.72	0.57	1.73	1980	<1	0.94	17	510	<2	0.03	<5	173	1.14	597	10	207
RT190-1	1929575	3876983	NAVUA	0.001	<0.01	<0.5	5.95	<5	100	2.7	6	1.92	4.2	60	59	93	21.7	0.44	1.97	2600	<1	0.81	26	340	<2	0.02	<5	148	1.15	945	20	337
RT191	1929605	3876952	NAVUA	0.011	0.01	<0.5	7.2	<5	120	2.3	<2	2.2	2.1	37	54	71	13.51	0.55	1.79	1820	<1	1.04	17	430	<2	0.02	<5	200	0.91	494	10	217
RT192	1903282	3873654	NAVUA	<0.001	0.01	<0.5	6.4	<5	60	1.7	4	1.34	<0.5	18	167	30	6.17	0.42	0.89	798	<1	0.83	22	230	<2	0.02	<5	95	0.65	238	10	87
RT193	1903279	3873655	NAVUA	0.005	0.01	<0.5	5.83	<5	60	2.2	2	1.15	1.6	46	425	39	16.02	0.39	1.09	1465	<1	0.85	33	170	<2	0.03	<5	98	0.96	799	10	194
RT194	1902366	3875129	NAVUA	0.001	0.01	<0.5	6.27	<5	70	1.9	2	1.17	0.5	19	189	25	6.76	0.35	0.83	1015	<1	1.18	22	210	<2	0.01	<5	84	0.72	246	<10	83
RT195	1902378	3875136	NAVUA	0.004	0.01	9	4.39	<5	50	1.6	<2	0.59	1.2	22	119	28	13.38	0.28	0.71	1140	<1	0.54	11	190	<2	0.03	<5	37	0.67	587	10	151
RT196	1902299	3875139	NAVUA	0.003	<0.01	<0.5	5.8	<5	60	2	2	1.55	0.8	26	227	40	10.12	0.27	0.92	1185	<1	0.98	30	190	<2	0.01	<5	72	0.82	408	10	122
RT197	1902348	3875657	NAVUA	0.001	0.01	<0.5	7.76	<5	70	1.8	<2	3.09	0.9	32	926	43	7.89	0.29	2.58	1390	<1	2.31	99	240	<2	0.02	<5	124	0.68	297	10	112
RT198	1901645	3875822	NAVUA	<0.001	0.01	<0.5	9.09	<5	80	1.7	<2	1.36	0.5	41	450	69	9.08	0.22	1.72	1670	<1	1.32	96	380	<2	0.01	<5	67	0.56	235	<10	107
RT199	1900611	3875727	NAVUA	<0.001	0.01	<0.5	8.69	<5	40	1.4	<2	3.03	0.6	31	261	50	8.23	0.18	1.73	1230	<1	1.96	59	410	<2	0.01	<5	135	0.47	206	10	114
RT200	1900447	3875654	NAVUA	<0.001	0.01	<0.5	7.75	<5	60	1.3	<2	2.07	0.8	29	522	42	7.27	0.23	1.65	1080	<1	1.98	58	320	<2	0.01	<5	102	0.44	179	<10	105
RT200-1	1900447	3875654	NAVUA	0.003	0.01	<0.5	7.84	<5	60	2.3	<2	2.36	0.5	31	662	42	7.83	0.23	1.69	1120	<1	2.1	61	370	2	0.01	<5	114	0.89	298	10	111
RT201	1900147	3875327	NAVUA	<0.001	0.02	<0.5	8.21	<5	70	1.4	3	2.5	0.8	25	472	38	8.13	0.3	1.44	1090	<1	1.73	40	340	4	0.01	<5	118	0.5	261	10	111
RT202	1899810	3875293	NAVUA	0.003	<0.01	<0.5	3.43	<5	40	2.1	4	0.92	5.3	28	165	36	>25.0	0.14	0.65	1530	<1	0.64	12	140	<2	0.07	<5	33	0.89	1532	20	137
RT203	1899259	3875410	NAVUA	0.001	<0.01	<0.5	8.1	<5	50	1.8	<2	3.92	0.8	23	335	32	6.23	0.19	0.99	1070	<1	2.18	40	270	<2	<0.01	<5	174	0.64	266	10	96
RT204	1898437	3875424	NAVUA	0.001	<0.01	<0.5	8.06	<5	70	2.1	<2	3.52	0.6	30	374	41	9.3	0.43	1.97	1305	<1	1.83	38	380	<2	0.02	<5	158	0.79	359	10	128
RT205	1898127	3875212	NAVUA	0.004	<0.01	<0.5	5.66	<5	50	1.7	3	2.26	1	21	187	27	9.95	0.21	1.16	1090	<1	1.53	23	190	<2	0.02	<5	89	0.72	476	10	96
RT206	1898080	3875200	NAVUA	<0.001	<0.01	<0.5	7.06	<5	50	2.2	<2	4.1	1.4	27	506	32	10.37	0.31	1.76	1545	<1	1.78	35	260	<2	0.01	<5	161	0.92	489	10	124
RT207	1918139	3873965	NAVUA	0.002	0.01	<0.5	6.36	<5	90	3.2	<2	0.73	1.1	25	110	44	12.26	0.52	1.03	1910	<1	0.69	18	250	2	0.04	<5	42	1.32	530	10	256
RT208	1918160	3873986	NAVUA	<0.001	0.01	<0.5	6.03	<5	80	2.5	<2	1.21	1	25	165	35	13.71	0.59	1.09	2000	<1	0.82	19	160	<2	<0.01	<5	51	1.06	521	10	187
RT209	1917891	3874247	NAVUA	0.001	0.01	<0.5	6.47	<5	110	2.3	<2	0.94	1.6	35	336	46	13.58	0.57	1.19	1060	<1	0.69	33	160	<2	<0.01	<5	81	0.94	666	10	121
RT210	1880034	3870177	Other	<0.001	<0.01	<0.5	7.37	<5	70	2.2	5	3.48	0.9	21	254	16	8.04	0.35	1.56	1705	<1	2.64	26	260	<2	<0.01	<5	137	0.9	300	10	90
RT210-1	1880034	3870177	Other	0.025	<0.01	<0.5	6.93	<5	70	2.1	<2	3.32	1.2	23	298	16	9.76	0.36	1.45	2040	<1	2.44	25	210	<2	<0.01	<5	130	0.86	285	10	106
RT211	1880080	3870191	Other	<0.001	<0.01	<0.5	6.83	<5	50	1.9	<2	3.56	0.6	18	233	15	8.6	0.29	1.47	1710	<1	2.49	24	120	<2	<0.01	<5	135	0.79	310	10	96
RT212	1878031	3870789	Other	<0.001	<0.01	<0.5	8.15	<5	110	1.5	3	2.16	0.9	20	105	28	6.8	0.67	1.31	946	<1	3.17	20	270	<2	<0.01	<5	146	0.57	226	<10	100
RT213	1878027	3870809	Other	0.001	<0.01	<0.5	7.7	<5	90	2	<2	2.88	1	26	164	29	7.65	0.56	1.71	1230	<1	2.53	30	310	<2	<0.01	<5	182	0.8	301	10	105
RT214	1879328	3878485	Other	0.002	<0.01	<0.5	6.99	<5	70	1.8	2	3.56	1	24	153	28	8.52	0.34	1.61	1640	<1	1.91	23	100	<2	<0.01	<5	167	0.74	370	10	104
RT215	1879359	3878899	Other	0.004	<0.01	<0.5	6.64	<5	80	1.7	<2	2.44	<0.5	23	460	28	8.88	0.59	1.14	1265	2	1.83	20	40	9	<0.01	7	175	0.9	368	10	118
RT216	1879365	3879927	Other	<0.001	<0.01	<0.5	6.43	<5	80	1.6	<2	2.74	<0.5	15	147	17	7.08	0.54	1	1125	1	1.94	16	170	4	<0.01	11	240	0.91	323	<10	103
RT217	1877769	3869748	Other	0.001	0.01	<0.5	7.12	<5	90	1.2	<2	2.42	<0.5	16	88	21	5.25	0.58	1.16	879	<1	2.26	20	220	11	0.01	6	196	0.59	215	<10	77
RT218	1879305	3868867	Other	<0.001	0.01	<0.5	7.4	<5	50	1.2	<2	3.69	<0.5	15	173	12	5.65	0.36	1.59	1190	<1	2.78	23	180	4	0.06	6	148	0.67	210	<10	70
RT219	1878012	3872615	Other	0.031	<0.01	<0.5	6.98	<5	90	1.2	<2	3.02	<0.5	27	245	31	10.9	0.51	1.75	1870	3	2.23	34	70	7	<0.01	9	121	0.72	435	10	104
RT220	1878411	3872787	Other	<0.001	0.01	<0.5	4.97	<5	40	1	<2	2.11	3.3	26	196	9	>25.0	0.14	0.96	3800	7	1.97	14	30	11	<0.01	7	19	0.66	509	20	348
RT220-1	1878411	3872787	Other	0.003	0.01	<0.5	4.72	<5	40	0.9	<2	2.09	1.9	25	155	9	>25.0	0.13	0.94	3630	9	1.84	14	<10	9	<0.01	5	16	0.61	433	20	344
RT221	1878468	3873060	Other	<0.001	<0.01	<0.5	6.42	<5	100	1.2	<2	2.76	<0.5	22	107	20	8.45	0.5	1.41	1465	<1	2.02	20	100	8	0.01	<5	107	0.75	429	10	84
RT222	1879785	3875860	Other	<0.001	<0.01	<0.5	8.79	<5	60	1.1	<2	3.77	<0.5	24	286	28	6.1	0.25	1.5	913	<1	3.59	38	180	7	0.04	9	176	0.63	285	<10	76
RT223	1879801	3875873	Other	0.005	<0.01	<0.5	5.4	<5	60	1.7	<2	2.44	<0.5	24	564	18	13.15	0.42	0.93	1985	2	1.53	22	70	7	<0.01	5	155	1.19	604	10	186
RT224	1909420	3904973	SIGATOKA	0.075	<0.01	<0.5	6.44	<5	220	1.2	<2	2.57	0.6	25	57	65	9.74	1.16	1.38	1415	3	1.26	15	650	8	0.4	6	306	0.72	441	10	148
RT225	1910999	3904378	SIGATOKA	0.005	<0.01	<0.5	7.18	7	160	1.2	<2	2.99	<0.5	25	82	52	11.1	0.92	1.69	1585	3	1.78	21	650	9	0.29	7	256	0.74	438	10	147
RT226	1911641	3903776	SIGATOKA	0.002	0.01	<0.5	7.79	<5	300	1.3	<2	5.54	0.7	42	41	90	10.8	1.36	2.91	1950	2	1	19	1240	10	0.01	8	1072	0.76	544	10	135
RT227	1912035	3903484	SIGATOKA	0.002	0.01	<0.5	7.55	<5	220	1.3	<2	4.31	1.4	44	110	75	12.6	1.25	2.28	1700	1	1.14	28	880	9	0.01	10	656	0.85	627	<10	150
RT228	1912522	3903519	SIGATOKA	<0.001	0.01	<0.5	6.75	<5	560	1.5	<2	2.24	1.5	56	122	71	19.35	1.88	1.4	2840	5	1.16	23	1110	15	0.01	14	525	0.86	911	10	349
RT229	1912533	3903476	SIGATOKA	0.014	<0.01	<0.5	6.82	21	320	1.1	<2	1.74	<0.5	22	72	128	10.4	1.29	1.05	1245	3	1.02	16	640	12	1.91	5	152	0.66	368	<10	161
RT230	1908531	3904984	SIGATOKA	0.003	0.01	<0.5	6.48	<5	130	1.3	<2	2.5	1.1	30	91	56	14.5	0.78	1.63	1745	3	1.26	17	480	12	0.02	10	127	1.04	669	10	179
RT230-1	1908531	3904984	SIGATOKA	0.011	0.01	<0.5	5.5	<5	110	1.5	<2	2.19	2.3	36	136	70	19.9	0.64	1.43	2200	4	1.08	19	530	10	0.02	10	80	1.47	969	20	234
RT231	1909110	3903635	SIGATOKA	0.002	0.01	<0.5	6.14	<5	210	1	<2	2.16	<0.5	27	70	59	8.87	1.09	1.16	1325	2	1.05	16	540	6	0.15	9	291	0.73	413	<10	115
RT232	1907145	3900564	SIGATOKA	<0.001	<0.01	<0.5	1.97	<5	30	0.7	<2	1.58	9.7	40	136	12	>25.0	0.21	0.73	4100	9	0.45	13	100	12	<0.01	9	<1	0.79	1475	30	314
RT233	1907426	3900484	SIGATOKA	<0.001	0.01	<0.5	6.61	<5	140	1.4	<2	2.24	<0.5	24	108	31	12	0.69	1.15	2340	2	1.13	13	300	7	0.01	11	142	1.24	504	10	118
RT234	1907353	3898926	SIGATOKA	0.003	<0.01	<0.5	4.21	<5	120	1.1	<2	2.37	3.1	22	64	12	22.5	0.66	0.99	3810	2	1.25	5	80	14	0.03	12	68	1.06	861	10	226
RT235	1909182	3899372	SIGATOKA	0.009	<0.01	<0.5	5.74	<5	80	1.1	<2	4.14	2.2	22	110	35	17.55	0.53	1.22	1905	5	1.29	15	590	11	0.08	13	169	0.96	691	10	151
RT236	1909853	3898926	SIGATOKA	0.002	<0.01	<0.5	5.68	<5	90	1.2	<2	3.94	1.9	19	44	25	13.4	0.57	1.19	1955	2	1.39	6	510	14	<0.01	11	165	1.06	515	10	117
RT237	1909719	3898842	SIGATOKA	0.002	<0.01	<0.5	5.48	<5	130	1.3	<2	3.61	1.1	21	49	17	13.85	0.81	1.46	2830	<1	1.55	7	170	11	<0.01	14	149	1.29	491	10	157
RT238	1909849	3897068	SIGATOKA	<0.001	<0.01	<0.5	3.91	<5	50	1.1	<2	2.97	5.3	32	107	14	>25.0	0.4	1.39	3460	4	1.01	10	210	8	<0.01	13	53	1.08	1070	20	222
RT239	1909671	3896194	SIGATOKA	<0.001	<0.01	<0.5	2.41	<5	40	0.5	<2	1.99	6.5	39	88	33	>25.0	0.24	1.07	4360	11	0.62	13	40	6	<0.01	11	<1	0.59	911	20	314
RT240	1909931	3894791	SIGATOKA	0.002	<0.01	<0.5	5.14	<5	70	1.6	<2	2.08	1.3	19	77	23	18.05	0.35	1.29	3110	2	1.81	7	300	11	0.07	24	83	1.76	785	10	145
RT241	1910220	3894735	SIGATOKA	0.001	<0.01	<0.5	5.98	<5	110	1.2	<2	2.45	1	15	96	27	12.1	0.7	1.45	2300	<1	1.66	10	490	11	0.01	10	130	1.05	409	10	184
RT242	1910234	3893990	SIGATOKA	0.002	<0.01	<0.5	5.57	<5	120	1.1	<2	2.33	1.3	23	98	29	15.35	0.59	1.52	2340	2	1.26	13	250	10	0.02	7	82	1.25	772	10	186
RT243	1910371	3893981	SIGATOKA	0.002	<0.01	<0.5	5.42	<5	100	1.2	<2	2.6	1.3	19	61	18	16.15	0.8	1.31	2310	1	1.54	7	580	9	0.03	17	99	1.27	758	10	143
RT244	1911739	3894076	SIGATOKA	0.003	<0.01	<0.5	5.75	<5	170	1	<2	1.92	<0.5	11	123	14	6.38	1.29	0.87	1240	<1	1.59	10	210	3	0.02	11	120	0.76	257	<10	72
RT245	1912046	3894360	SIGATOKA	0.002	<0.01	<0.5	5.26	<5	100	1.1	<2	2.14	1.3	20	136	18	16.25	0.54	1.38	2500	<1	1.54	10	500	9	0.04	16	93	1.13	699	10	181
RT246	1912050	3894335	SIGATOKA	<0.001	<0.01	<0.5	4.87	<5	80	1.3	2	2.6	2.3	22	47	16	18.9	0.7	1.38	2600	2	1.39	6	650	11	0.03	12	81	1.48	936	10	163

Appendix1 Chemical analysis data of stream sediment samples (4)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RT247	1897546	3900544	SIGATOKA	0.003	<0.01	<0.5	6.93	<5	120	1	<2	2.86	<0.5	26	71	25	9.01	0.69	1.37	1255	<1	1.47	18	430	6	0.01	9	209	0.92	412	10	106
RT248	1897348	3898523	SIGATOKA	<0.001	<0.01	<0.5	4.26	<5	60	0.9	<2	1.71	4.4	73	117	36	>25.0	0.24	1.68	2400	4	0.64	28	10	11	<0.01	19	31	1.36	1095	20	278
RT249	1898347	3898074	SIGATOKA	0.003	0.01	<0.5	8.8	<5	130	0.9	<2	2.75	0.7	25	54	40	7.04	0.73	2.17	1140	<1	1.9	22	460	7	0.01	10	197	0.64	258	<10	112
RT250	1898827	3897815	SIGATOKA	0.002	<0.01	<0.5	6.82	<5	110	0.9	<2	2.02	1.1	24	52	23	11.7	0.72	1.46	1850	<1	1.84	12	240	8	0.01	5	162	0.73	257	10	268
RT250-1	1898827	3897815	SIGATOKA	<0.001	<0.01	<0.5	6.26	<5	100	0.9	<2	2.04	1.2	25	81	21	14.9	0.65	1.38	2520	<1	1.7	14	60	6	0.01	5	137	0.68	333	10	403
RT251	1898583	3896581	SIGATOKA	<0.001	<0.01	<0.5	8.44	<5	110	0.7	<2	3.73	0.5	26	49	27	8.62	0.61	1.82	1410	<1	1.55	12	340	4	0.01	<5	232	0.4	207	<10	123
RT252	1899212	3895238	SIGATOKA	0.002	<0.01	<0.5	6.91	<5	110	0.8	<2	1.94	0.9	21	90	19	10.15	0.69	1.42	1980	<1	1.86	12	220	2	<0.01	7	172	0.49	158	10	261
RT253	1899170	3895193	SIGATOKA	<0.001	<0.01	<0.5	8.04	<5	90	1	<2	4.04	1	27	192	38	7.98	0.55	2.69	1235	<1	2.3	44	440	7	0.01	13	183	0.8	343	<10	108
RT254	1898410	3894630	SIGATOKA	0.003	<0.01	<0.5	7.83	<5	60	0.8	<2	3.01	0.8	31	326	36	8.26	0.46	2.83	1570	<1	1.63	54	260	6	0.01	13	184	0.8	204	10	124
RT255	1898137	3894455	SIGATOKA	0.001	0.01	<0.5	8.06	<5	90	0.8	<2	3.21	<0.5	23	82	32	6.86	0.66	1.93	1115	<1	1.15	17	290	2	0.01	10	254	0.64	254	<10	99
RT256	1898041	3894055	SIGATOKA	0.001	<0.01	<0.5	6.75	<5	80	0.8	<2	3.32	0.7	23	129	30	8.56	0.46	1.83	1165	<1	1.85	22	400	7	0.04	11	151	0.77	353	<10	104
RT257	1897436	3894052	SIGATOKA	0.003	0.01	<0.5	7.33	<5	70	0.5	<2	4.32	1.2	30	104	31	9.54	0.46	2.28	1275	<1	1.1	18	320	5	0.01	10	211	0.41	216	<10	123
RT258	1896274	3892461	SIGATOKA	0.002	<0.01	<0.5	7.04	<5	60	0.8	<2	1.7	<0.5	38	37	32	10.55	0.28	2.31	1390	<1	0.69	10	220	7	<0.01	14	74	0.79	479	10	96
RT259	1896559	3891984	SIGATOKA	0.001	0.01	<0.5	7.33	<5	110	0.8	<2	2.07	0.7	27	97	42	8.09	0.58	2.63	1210	<1	1.82	25	380	10	0.02	8	105	0.68	319	10	146
RT260	1896527	3891961	SIGATOKA	0.009	<0.01	<0.5	6.56	<5	120	0.8	<2	1.82	0.6	21	183	44	7.48	0.57	1.87	1225	<1	1.59	23	310	11	0.03	6	91	0.7	283	<10	182
RT260-1	1896527	3891961	SIGATOKA	0.002	0.01	<0.5	7.49	<5	140	0.8	<2	1.81	1.1	24	147	48	7.36	0.66	2.14	1240	<1	1.82	26	320	6	0.02	5	101	0.52	222	<10	183
RT261	1896627	3889941	SIGATOKA	0.001	0.01	<0.5	7.33	<5	140	1	<2	2.58	0.6	23	234	52	7.99	0.71	2.23	1330	<1	1.74	34	370	10	0.05	14	127	0.77	306	<10	188
RT262	1896607	3889875	SIGATOKA	0.001	<0.01	<0.5	6.82	<5	140	0.9	<2	1.45	0.6	21	122	45	6.91	0.6	1.93	1200	<1	1.72	23	350	9	0.03	10	82	0.65	262	10	181
RT263	1897231	3887805	SIGATOKA	0.004	0.01	<0.5	6.38	<5	210	1	<2	1.35	0.9	18	53	42	7.83	0.75	1.68	947	<1	1.56	17	400	21	0.04	10	51	0.95	374	<10	291
RT264	1897301	3887592	SIGATOKA	0.003	0.01	<0.5	7.05	<5	130	1	<2	1.57	0.9	26	252	53	9.76	0.58	1.97	1790	<1	1.38	25	330	11	0.06	14	66	0.9	341	<10	240
RT265	1897341	3887604	SIGATOKA	<0.001	<0.01	<0.5	7.36	<5	130	0.9	<2	1.89	<0.5	21	231	45	7.61	0.51	2.01	1330	<1	1.94	27	390	13	0.04	11	115	0.67	269	<10	188
RT266	1896346	3885777	SIGATOKA	0.006	0.01	<0.5	6.08	<5	100	0.9	<2	2.81	0.5	25	605	33	7.98	0.52	2.6	1345	<1	1.32	46	290	12	0.02	12	103	0.81	368	<10	179
RT267	1896336	3885770	SIGATOKA	<0.001	0.01	<0.5	7.49	<5	120	0.8	<2	1.14	0.7	28	110	55	10.1	0.62	1.56	1990	<1	1.01	20	300	7	0.02	7	57	0.45	225	10	205
RT268	1889019	3894192	SIGATOKA	<0.001	0.01	<0.5	6.01	<5	130	0.7	<2	3.44	1.9	47	217	27	17.95	0.55	1.73	1945	2	1.18	30	290	6	<0.01	13	219	0.78	650	10	193
RT269	1891259	3896413	SIGATOKA	<0.001	<0.01	<0.5	2.91	<5	40	<0.5	<2	1.34	6.4	76	326	28	>25.0	0.19	1.13	2260	3	0.47	42	10	7	<0.01	13	2	0.77	820	20	330
RT270	1891044	3891748	SIGATOKA	<0.001	<0.01	<0.5	2.1	<5	20	<0.5	<2	1.01	8.6	95	248	38	>25.0	0.07	1.08	2290	6	0.22	60	20	7	<0.01	12	<1	0.88	1020	20	385
RT270-1	1891044	3891748	SIGATOKA	<0.001	<0.01	<0.5	1.99	<5	20	<0.5	<2	0.89	8.9	99	238	38	>25.0	0.07	1.04	2280	3	0.2	62	10	<2	<0.01	8	<1	0.6	789	20	393
RT271	1891576	3891469	SIGATOKA	<0.001	0.01	<0.5	4.9	<5	50	0.6	<2	2.21	3	46	505	42	20.2	0.35	1.59	3000	6	0.95	25	170	9	0.03	9	72	0.62	306	10	369
RT272	1892219	3890702	SIGATOKA	<0.001	0.01	<0.5	7.05	<5	80	0.9	<2	2.73	0.9	27	207	39	9.37	0.48	2.25	1125	<1	1.1	33	420	5	0.01	12	139	0.9	317	<10	133
RT273	1891966	3890146	SIGATOKA	<0.001	0.01	<0.5	6.52	<5	80	0.6	<2	2.67	1.2	22	116	27	8.89	0.58	1.59	1280	<1	1.44	16	310	4	0.02	<5	153	0.47	158	<10	158
RT274	1891989	3890109	SIGATOKA	<0.001	0.01	<0.5	7.14	<5	90	0.9	<2	2.56	<0.5	22	103	34	8.22	0.6	2.12	1125	<1	1.54	24	450	4	0.07	16	140	0.98	351	<10	145
RT275	1891519	3891860	SIGATOKA	<0.001	<0.01	<0.5	5.62	<5	60	0.6	<2	3.48	2.1	41	841	25	15.25	0.38	2.16	1900	<1	0.95	32	160	6	<0.01	16	132	0.61	295	10	217
RT276	1892484	3893460	SIGATOKA	<0.001	0.01	<0.5	5.77	<5	90	0.6	<2	2.31	2	44	223	30	18.4	0.43	1.27	1695	1	0.85	21	70	7	<0.01	10	144	0.69	558	10	201
RT277	1892773	3894873	SIGATOKA	<0.001	<0.01	<0.5	6.58	<5	70	0.7	<2	4.04	2	43	193	30	15.1	0.34	2.14	1625	2	1.08	28	220	10	0.01	10	184	0.8	507	10	176
RT278	1891711	3894453	SIGATOKA	<0.001	0.01	<0.5	7.55	<5	120	0.8	<2	3.2	1.4	28	77	22	10.1	0.55	1.34	1240	<1	1.32	16	130	7	0.01	8	226	0.73	324	<10	122
RT279	1892436	3896192	SIGATOKA	0.042	<0.01	<0.5	4.37	<5	70	0.5	<2	2.05	2.6	54	123	26	21	0.36	1.37	1840	2	0.8	27	40	4	<0.01	7	90	0.68	575	10	220
RT280	1894883	3888293	SIGATOKA	<0.001	0.01	<0.5	6.12	<5	130	1	<2	2.3	<0.5	20	159	56	8.56	0.5	1.88	1470	<1	1.31	28	330	12	0.11	9	108	0.94	360	<10	208
RT280-1	1894883	3888293	SIGATOKA	<0.001	0.01	<0.5	6.03	<5	130	1.1	<2	2.48	0.7	21	225	58	9.65	0.49	1.91	1650	<1	1.3	31	330	14	0.12	13	109	1.1	416	10	236
RT281	1894906	3888279	SIGATOKA	0.002	0.01	<0.5	5.96	<5	150	1.2	3	0.83	<0.5	18	460	22	6.17	0.74	1.45	914	<1	1.46	18	290	8	0.01	<5	53	0.58	221	<10	151
RT282	1892657	3885528	SIGATOKA	0.005	0.03	<0.5	7.57	<5	120	1.1	<2	1.28	0.9	23	44	86	6.2	0.25	1.67	1743	<1	1.17	19	620	5	0.07	<5	70	0.48	222	<10	260
RT283	1892663	3885497	SIGATOKA	0.001	0.01	<0.5	7.57	<5	110	1.2	<2	1.22	0.6	25	88	24	9.44	0.74	1.75	1621	<1	1.49	19	300	5	0.01	<5	87	0.58	224	10	180
RT284	1883347	3882822	Other	0.002	<0.01	<0.5	6.12	<5	80	1.2	<2	1.76	<0.5	18	117	15	7.81	0.58	0.94	1381	<1	1.88	13	150	4	<0.01	<5	141	0.75	305	10	150
RT285	1889663	3886333	SIGATOKA	<0.001	0.01	<0.5	8.02	<5	150	1.1	4	2.21	1	20	110	30	8.03	0.83	1.79	1498	<1	2.18	17	270	6	0.04	<5	141	0.43	184	10	200
RT286	1889643	3886339	SIGATOKA	0.006	0.01	<0.5	8.41	<5	150	1.8	<2	2.9	0.8	23	312	24	9.72	0.84	1.92	1864	<1	2.19	22	350	9	0.03	<5	192	1.09	382	10	203
RT287	1888803	3885154	SIGATOKA	<0.001	<0.01	<0.5	6.56	<5	90	1.5	15	1.81	<0.5	20	299	19	7.81	0.66	1.28	1570	<1	1.71	20	230	6	<0.01	<5	144	0.96	306	<10	157
RT288	1888817	3885169	SIGATOKA	0.011	0.03	<0.5	6.78	<5	180	1.8	8	2.91	0.5	23	236	17	9.04	0.45	2.05	1522	<1	1.59	17	550	12	0.06	<5	158	1.22	481	10	210
RT289	1888477	3888421	SIGATOKA	<0.001	0.01	<0.5	7.01	<5	110	1.3	<2	2.08	<0.5	18	134	18	6.05	0.71	1.39	1079	<1	1.86	17	320	7	0.02	<5	142	0.78	271	<10	114
RT290	1888479	3888435	SIGATOKA	0.002	<0.01	<0.5	6.12	<5	90	1.1	4	1.95	1.9	43	177	21	14.55	0.55	1.27	1545	<1	1.24	24	20	<2	<0.01	<5	137	0.76	519	10	169
RT290-1	1888479	3888435	SIGATOKA	0.001	<0.01	<0.5	5.88	<5	90	0.9	9	2.05	2.4	45	185	21	15.05	0.54	1.23	1605	<1	1.23	25	10	2	<0.01	<5	134	0.57	450	10	175
RT291	1889680	3890136	SIGATOKA	0.002	<0.01	<0.5	5.79	<5	80	0.9	10	2.27	2.8	41	197	20	15.3	0.54	1.25	1587	<1	1.18	26	20	6	<0.01	<5	149	0.61	479	10	178
RT292	1890033	3890005	SIGATOKA	0.002	<0.01	<0.5	3.8	<5	60	0.8	16	1.47	5.4	71	172	25	>25.0	0.31	1.15	2093	<1	0.67	32	10	2	<0.01	<5	46	0.66	613	20	267
RT293	1893411	3896466	SIGATOKA	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS	NSS
RT294	1893429	3896458	SIGATOKA	<0.001	<0.01	<0.5	6.88	<5	100	1.1	10	2.06	2.5	45	83	24	15.3	0.62	1.46	1753	<1	1.29	19	110	3	<0.01	<5	137	0.75	476	10	174
RR001	1937372	3881670	Rewa	0.002	0.01	<0.5	8.04	<5	70	1.6	<2	0.48	<0.5	30	146	180	12.3	0.43	0.76	1336	<1	0.14	15	350	7	0.01	<5	39	0.77	504	10	150
RR002	1934219	3906817	Rewa	<0.001	<0.01	<0.5	7.56	<5	100	1.8	<2	3.37	1	27	402	46	9.66	0.6	2.39	2220	<1	1.97	31	390	6	0.06	<5	125	0.75	286	10	180
RR003	1934198	3906791	Rewa	<0.001	<0.01	<0.5	7.75	<5	100	1.7	<2	3.18	0.9	34	384	59	9.5	0.62	2.74	2140	<1	1.64	38	400	6	0.15	<5	122	0.7	300	10	205
RR004	1933824	3906818	Rewa	0.047	0.01	<0.5	8	<5	110	1.8	<2	2.16	1	39	276	80	10.22	0.84	2.56	2270	<1	1.17	27	440	12	0.06	<5	116	0.84	328	10	193
RR005	1933647	3907144	Rewa	<0.001	<0.01	<0.5	6.44	<5	90	1.7	<2	2.48	2.1	27	598	39	14.38	0.56	2.07	2180	<1	2.18	31	420	7	0.02	<5	88	0.81	441	10	173
RR006	1932904	3907338	Rewa	<0.001	<0.01	<0.5	6.81	<5	90	2	<2	2.32	1	23	305	35	11.96	0.72	1.95	3030	<1	2.3	26	330	2	<0.01	<5	96	0.93	354	10	250
RR007	1931630	3905791	Rewa	<0.001	0.01	<0.5	4.2	<5	40	1.6	<2	1.94	3.8	24	371	9	>25.0	0.6	0.97	3140	<1	1.57	9	310	11	<0.01	<5	79	0.87	834	20	99
RR008	1932109	3906027	Rewa	<0.001	<0.01	<0.5	5.74	<5	60	2.1	<2	2.47	1.3	28	568	27	13.72	0.51	1.39	4530	<1	1.5	22	170	4	<0.01	<5	93	1.13	320	10	177
RR009	1932358	3906003	Rewa	<0.001	<0.01	<0.5	7.74	<5	60	2.1	<2	2.02	<0.5	23	331	50	9.85	0.64	2.1	2450	<1	2.91	41	570	3	0.02	<5	89	0.83	277	10	192
RR010	1932330	3905979	Rewa	<0.001	<0.01	<0.5	6.45	<5	60	1.7	<2	1.78	<0.5	25	470	42	8.16	0.59	2.12	2180	<1	2.11	39	440	<2	0.02	<5	67	0.65	231	10	123
RR011	1932578	3908470	Rewa	0.052	<0.01	<0.5	6.1	<5	80	1.6	<2	2.31	<0.5	19	413	17	14.13	0.78	1.13	2030	<1	2.13	11	330	3	<0.01	<5	126	0.75	449	10	82
RR012	1932325	3908860	Rewa	<0.001	<0.01	<0.5	4.29	<5	20	1.5	<2	3.11	5.4	49	208	19	>25.0	0.34	2.24	3900	<1	1.18	14	20	11	<0.01	<5	92	0.83	764	20	205
RR013	1949737	3908584	Rewa	<0.001	0.01	<0.5	8.1	<5	140	2.1	<2	2.19	1.7	56	215	121	17.82	0.36	3.23	1894	<1	0.61	28	450	8	0.11	<5	171	1.14	625	10	195
RR014	1949306	3908447	Rewa	<0.001	<0.01	<0.5	4.49	<5	80	2	<2	1.68	4.6	83	313	133	>25.0	0.27	2.26	2530	<1	0.71	39	20	10	0.02	<5	127	1.17	1042	20	304
RR015	1949264	3908144	Rewa	<0.001	0.01	<0.5	4.13	<5	60	2.5	<2	1.78	5	51	526	44	>25.0	0.37	1.32	3800	<1	0.87	29	140	7	0.08	<5	105	1.58	1270	20	257
RR016	1948802	3907392	Rewa	<0.001	0.01	<0.5	5.78	<5	70	1.8	<2	2.16	0.8	24	177	30	9.15	0.33	1.34	1679	<1	1.49	19	280	4	0.01	<5	127	0.87	328	10	97
RR017	1949219	3907018	Rewa	<0.001	0.01	<0.5	4.69	<5	80	2	<2	3.08	3.6	67	516	52	21.8	0.42	2.15	2490	<1	0.92	44	420	6	0.02	<5	294	1.19	1007	10	217
RR018	1949590	3908302	Rewa	0.066	<0.01	<0.5	5.9	<5	130	2.1	<2	2.2	3.3	55	646	43	19.98	0.7	1.79	2510	<1	1.47	46	390	5	<0.01	<5	189	1.23	908	10	214
RR019	1949465	3904548	Rewa	<0.001	<0.01	<0.5	4.26	<5	70	1.8	<2	1.77	4.4	90	267	87	>25.0	0.28	2.05	2510	<1	0.55	35	60	8	<0.01	<5	137	1.07	981	20	313
RR020	1949368	3904610	Rewa	<0.001	<0.01	<0.5	3.22	<5	30	1.4	10	1.07	7.1	125	316	102	>25.0	0.23	1.85	2810	<1	0.43	51	<10	13	<0.01	<5	85	0.86	987	20	435
RR021	1950146	3905537	Rewa	<0.001	0.01	<0.5	5.36	<5	150	1.7	<2	1.22	1.8	47	912	59	14.05	0.62	1.33	1564	<1	0.92	41	180	5	<0.01	<5	212	0.8	572	10	175
RR022	1949712	3905393	Rewa	<0.001	0.01	<0.5	5.75	<5	150	1.7	<2	1.59	1.2	46	502	55	13.11	0.64	1.54	1328	<1	1.1	29	240	4	0.01	<5	321	0.85	552	10	177
RR022-1	1949712	3905393	Rewa	<0.001	0.01	<0.5	5.69	<5	150	1.7	<2	1.64	2.3	52	832	62	14.97	0.64	1.59	1466	<1	1.13	38	180	6	<0.01	<5	313	0.81	584	10	195
RR023	1949757	3905360	Rewa	<0.001	<0.01	<0.5	3.69	<5	50	1.6	<2	1.58	6.1	119	461	103	>25.0	0.25	2.1	3040	<1	0.53	50	<10	18	<0.01	<5	108	1	1129	20	414
RR024	1951069	3901705	Rewa	<0.001	0.01	<0.5	4.57	<5	40	1.4	<2	0.65	2.5	65	336	66	22.9	0.23	1.04	1845	<1	0.6	26	<10	8	<0.01	<5	60	0.86	565	10	264
RR025	1950577	3903408	Rewa	<0.001	0.01	<0.5	4.03	<5	100	1.5	<2	1.36	1.8	52	1156	60	17.94	0.52	0.99	2610	<1	0.54	41	<10	9	<0.01	<5	110	0.75	519	10	188
RR026	1950543	3903101	Rewa	<0.001	<0.01	<0.5	3.42	<5	80	1.2	<2	1.18	1.4	47	1222	49	16.76	0.51	0.79	2560	<1	0.59	34	<10	9	<0.01	<5	105	0.7	438	10	186
RR027	1950595	3903021	Rewa	0.004	0.01	<0.5	5.52	<5	90	1.7	<2	2.19	2.8	68	239	75	19.41	0.39	2.18	2190	<1	1.08	30	90	9	<0.01	<5	159	1	766	10	252
RR027-1	1950595	3903021	Rewa	<0.001	0.01	<0.5	5.21	<5	90	2.2	<2	2.03	2.3	58	207	66	16.35	0.38	1.95	1911	<1	1.03	26	200	5	<0.01	<5	152	1.25	774	10	220
RR028	1953984	3901342	Rewa	<0.001	0.01	<0.5	5.72	<5	90	2.1	3	1.54	0.9	35	512	46	12	0.6	1.18	1420	<1	0.77	32	430	4	0.02	<5	106	1.09	533	10	136
RR029	1953634	3901758	Rewa	0.002	0.01	<0.5	7.24	<5	90	1.8	<2	1.34	0.8	25	393	53	7.74	0.62	1.01	986	<1	0.82	27	390	3	0.03	5	108	0.75	319	10	86
RR030	1953848	3901534	Rewa	<0.001	0.01	<0.5	6.32	<5	160	1.9	<2	0.95	0.7	32	361	46	8.45	0.9	1.19	817	<1	0.75	29	480	5	0.01	<5	121	0.77	309	10	97
RR031	1953015	3901615	Rewa	<0.001	0.01	<0.5	4.97	<5	80	2.5	4	1.28	1.3	32	917	45	10.34	0.47	0.88	1642	<1	0.71	30	300	8	0.01	<5	112	1.42	431	10	129
RR032	1953002	3901599	Rewa	<0.001	0.01	<0.5	4.36	<5	80	1.5	<2	0.78	<0.5	14	575	34	4.53	0.55	0.46	871	<1	0.42	20	250	4	<0.01	<5	67	0.72	155	10	55
RR033	1953415	3901621	Rewa	<0.001	0.02	<0.5	7.11	8	80	1.9	<2	0.46	<0.5	18	350	53	5.74	0.47	0.58	795	<1	0.3	22	410	2	0.02	<5	63	0.76	204	10	71
RR034	1956848	3898680	Rewa	0.001	0.02	<0.5	5.84	<5	80	1.8	<2	0.69	<0.5	29	403	40	9.05	0.44	0.81	1284	<1	0.84	15	210	<2	<0.01	<5	85	0.94	356	10	125
RR035	1956340	3898795	Rewa	0.003	0.01	<0.5	4.89	<5	60	1.4	<2	0.95	1.3	55	1516	61	16.56	0.27	1.14	1816	<1	0.58	37	20	5	<0.01	<5	97	0.79	562	10	209

Appendix1 Chemical analysis data of stream sediment samples (5)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RR036	1959111	3899994	Rewa	<0.001	0.01	<0.5	4.03	<5	60	1.5	<2	0.6	2.4	73	1124	93	22.1	0.36	1.01	2700	<1	0.27	52	<10	12	<0.01	<5	50	0.82	662	20	211
RR037	1959990	3900041	Rewa	<0.001	0.01	<0.5	3.73	<5	60	1.4	<2	0.68	2.2	65	965	86	20.3	0.41	0.95	2430	<1	0.33	42	<10	9	<0.01	<5	52	0.76	602	20	192
RR038	1958551	3896494	Rewa	<0.001	0.01	<0.5	3.73	<5	80	1.5	<2	0.73	2.4	62	1678	100	19.44	0.47	1.07	2670	<1	0.26	56	<10	10	<0.01	<5	57	0.67	471	10	180
RR039	1959312	3896307	Rewa	<0.001	0.01	<0.5	3.72	<5	60	1.3	<2	1.11	2.2	66	984	75	20.9	0.33	1.08	2210	<1	0.49	41	<10	13	<0.01	<5	78	0.72	586	10	227
RR040	1961669	3895316	Rewa	<0.001	0.01	<0.5	7.07	<5	140	1.7	<2	1.04	<0.5	23	243	59	6.68	0.74	1	1633	<1	1.04	16	340	6	0.01	<5	94	0.68	241	10	111
RR041	1961832	3893185	Rewa	<0.001	0.01	<0.5	5.92	<5	130	1.9	<2	0.99	1.1	40	716	66	11.71	0.75	1.06	1632	<1	0.7	41	250	4	<0.01	<5	164	0.96	479	10	156
RR042	1956570	3895294	Rewa	<0.001	0.01	<0.5	5.22	<5	70	1.6	<2	1.13	<0.5	28	688	42	9.23	0.33	0.91	1838	<1	1	26	90	2	<0.01	<5	97	0.84	264	10	116
RR042-1	1956570	3895294	Rewa	<0.001	0.01	<0.5	5.12	<5	70	2.1	5	1.25	0.5	26	645	39	8.46	0.33	0.93	1710	<1	1.12	25	210	<2	<0.01	<5	105	1.23	329	10	107
RR043	1956356	3895576	Rewa	<0.001	0.01	<0.5	4.38	<5	60	1.5	<2	1.3	2.3	44	1028	53	15.7	0.32	1.11	2580	<1	0.89	34	<10	6	<0.01	<5	100	0.86	455	10	183
RR044	1955930	3895950	Rewa	<0.001	0.02	<0.5	6.74	5	150	2	<2	1.51	0.7	35	1211	73	8.47	0.68	1.7	1294	<1	0.88	62	440	6	<0.01	<5	176	0.84	338	10	127
RR045	1955831	3895884	Rewa	<0.001	0.02	<0.5	6.07	<5	100	1.7	<2	1.17	1.2	35	1149	59	10	0.45	1.3	1323	<1	0.88	36	200	6	<0.01	<5	156	0.82	378	10	141
RR046	1955833	3895893	Rewa	<0.001	0.01	<0.5	4.17	<5	50	1.5	5	1.37	1.9	53	1034	56	20.6	0.23	1.13	3280	<1	0.97	35	30	7	<0.01	<5	88	0.82	448	10	227
RR047	1956027	3894184	Rewa	0.006	0.02	<0.5	7.6	<5	150	1.4	<2	1.15	0.6	22	93	65	6.17	0.74	1.12	1372	<1	1.14	15	370	5	0.01	<5	107	0.45	169	10	116
RR048	1953538	3895085	Rewa	<0.001	0.01	<0.5	6.36	<5	70	1.9	<2	2.38	1.6	35	272	47	10.92	0.25	1.82	1900	<1	1.58	22	200	5	<0.01	<5	168	0.97	396	10	153
RR049	1953567	3895097	Rewa	0.056	0.01	<0.5	5.04	<5	40	1.6	<2	1.78	2.4	29	576	22	18.43	0.34	1.07	3460	<1	1.52	23	80	7	<0.01	<5	103	0.84	410	20	129
RR050	1953248	3894721	Rewa	<0.001	0.02	<0.5	7.28	<5	100	1.9	<2	1.69	0.8	30	315	47	8.61	0.34	1.08	1610	<1	1.69	21	360	<2	0.01	<5	150	0.87	309	10	128
RR051	1928643	3905484	Rewa	0.006	0.01	<0.5	6.8	<5	110	1.7	<2	1.96	0.7	26	374	38	8.72	0.57	1.96	1789	<1	2.62	24	560	10	0.17	<5	109	0.69	255	10	142
RR052	1928624	3905486	Rewa	<0.001	<0.01	<0.5	5.86	<5	90	2.1	<2	2.83	1.7	37	176	41	14.14	0.54	2.13	2350	<1	2.03	19	590	3	0.14	<5	155	1.12	572	10	165
RR053	1929156	3905516	Rewa	0.009	<0.01	<0.5	3.07	<5	30	1.8	2	1.53	6.7	26	310	10	>25.0	0.42	0.79	3230	<1	1.09	7	380	9	<0.01	<5	59	1.11	1186	20	93
RR054	1929708	3905023	Rewa	0.006	<0.01	<0.5	3.72	<5	30	1.5	<2	2.06	3.3	25	323	8	23.3	0.47	1.14	2660	<1	1.31	6	320	8	<0.01	<5	76	0.78	800	20	95
RR055	1929640	3904785	Rewa	<0.001	<0.01	<0.5	5.74	<5	80	1.6	<2	1.5	1.1	25	551	38	12.74	0.48	2.06	1680	<1	2.05	32	380	7	0.04	<5	81	0.69	468	10	125
RR056	1930293	3905000	Rewa	<0.001	<0.01	<0.5	5.53	<5	60	1.4	<2	2.71	1	19	288	8	10.9	0.63	1.38	1791	<1	1.84	6	330	<2	<0.01	<5	117	0.59	421	10	65
RR056-1	1930293	3905000	Rewa	<0.001	<0.01	<0.5	5.9	<5	60	1.6	<2	2.99	1.4	22	281	10	15.4	0.67	1.56	2250	<1	1.95	7	350	<2	<0.01	<5	122	0.78	602	10	79
RR057	1929942	3903919	Rewa	<0.001	<0.01	<0.5	7.2	<5	110	2	<2	2.38	1.1	21	103	39	7.02	0.96	1.92	1954	<1	2.18	25	410	6	<0.01	<5	124	0.79	215	10	157
RR058	1929624	3903500	Rewa	<0.001	0.01	<0.5	7.55	<5	150	1.4	5	1.87	0.6	31	164	49	7.7	1.14	2.5	1812	<1	1.73	35	380	<2	0.01	<5	90	0.56	207	10	90
RR059	1929023	3901483	Rewa	<0.001	<0.01	<0.5	5.44	<5	80	1.9	2	2.41	1.8	23	99	23	15.68	0.62	1.32	2570	<1	1.57	10	190	6	<0.01	<5	115	0.94	471	10	99
RR060	1928997	3901470	Rewa	<0.001	<0.01	<0.5	5.09	<5	60	2.1	<2	2.73	2.2	26	222	23	14.84	0.64	1.67	2120	<1	1.57	12	410	4	<0.01	<5	113	1.13	591	10	100
RR061	1928995	3901725	Rewa	0.001	<0.01	<0.5	4.75	<5	50	1.9	<2	2.99	1.9	33	126	22	19.48	0.61	1.87	2190	<1	1.41	10	300	6	<0.01	<5	106	1.1	921	20	109
RR061-1	1928995	3901725	Rewa	<0.001	<0.01	<0.5	4.97	6	50	2.1	<2	3.12	3	32	136	21	17.95	0.65	1.97	2150	<1	1.47	9	330	4	<0.01	<5	111	1.15	859	10	101
RR062	1927670	3901805	Rewa	<0.001	<0.01	<0.5	6.31	<5	130	1.9	<2	1.85	0.6	18	78	15	10.22	1.24	1.24	1788	<1	2.62	7	470	<2	<0.01	<5	112	0.77	369	10	83
RR063	1927604	3901580	Rewa	0.001	<0.01	<0.5	5.03	<5	50	2	<2	2.65	2.3	28	152	17	17.46	0.71	1.62	2270	<1	1.62	9	330	6	0.01	<5	115	1.09	790	20	103
RR064	1927362	3901457	Rewa	0.001	<0.01	<0.5	6.21	<5	110	1.7	<2	1.98	0.8	18	127	16	11.05	0.95	1.26	1956	<1	2.41	8	380	2	0.01	<5	119	0.82	395	10	111
RR065	1927089	3901021	Rewa	<0.001	<0.01	<0.5	4.04	<5	40	1.3	<2	2.74	3.6	34	153	19	22.6	0.52	1.81	3580	<1	1.24	9	40	6	<0.01	<5	94	0.71	697	20	175
RR066	1927062	3901046	Rewa	<0.001	<0.01	<0.5	5.14	<5	40	3	<2	2.89	2.6	37	242	27	20.6	0.49	1.44	3230	<1	1.85	15	560	10	0.14	<5	124	1.73	781	20	152
RR067	1929286	3902577	Rewa	0.025	<0.01	<0.5	5.11	<5	70	1.6	<2	1.75	1.3	20	259	26	10.48	0.6	1.4	1416	<1	1.99	18	340	3	0.01	<5	97	0.72	367	10	68
RR068	1929296	3903363	Rewa	<0.001	<0.01	<0.5	6.1	<5	100	1.8	<2	2.01	1.3	31	332	37	11.41	0.8	1.96	1936	<1	1.99	31	550	6	0.06	<5	109	0.84	362	10	136
RR069	1931423	3904614	Rewa	<0.001	0.01	<0.5	7.21	<5	80	1.7	<2	2.78	0.6	36	349	38	7.84	0.86	2.34	2210	<1	1.38	34	460	5	0.02	<5	98	0.72	223	10	153
RR070	1931388	3904597	Rewa	<0.001	<0.01	<0.5	6.18	<5	70	1.8	<2	2.55	1.6	43	416	47	11.98	0.73	2.26	1712	<1	1.64	29	420	9	0.05	<5	117	0.87	405	10	102
RR071	1931522	3905371	Rewa	<0.001	<0.01	<0.5	6.41	<5	70	1.2	<2	1.06	1.9	39	415	60	15.48	0.45	3.35	1818	<1	1.25	50	320	3	0.63	<5	57	0.49	696	10	149
RR071-1	1931522	3905371	Rewa	<0.001	0.01	<0.5	7.04	<5	70	1.3	<2	1.06	1.3	38	331	64	13.46	0.45	3.53	1911	<1	1.21	52	370	3	0.5	<5	58	0.51	586	10	150
RR072	1931801	3906786	Rewa	<0.001	<0.01	<0.5	7.12	<5	90	1.5	<2	2.99	0.6	15	128	5	9.08	0.86	1.32	1890	<1	2.6	4	310	<2	<0.01	<5	151	0.55	284	10	64
RR073	1938042	3888936	Rewa	0.012	0.05	<0.5	8.9	36	210	1.6	<2	0.3	0.5	32	56	640	8.93	1.49	0.5	759	3	0.37	8	1060	6	0.08	<5	72	0.47	309	10	179
RR074	1935452	3888263	Rewa	<0.001	0.01	<0.5	3.97	<5	50	1.7	<2	2.93	6	97	83	114	>25.0	0.18	3.48	3010	<1	0.5	28	40	15	0.02	<5	121	1	1198	20	378
RR075	1935435	3888252	Rewa	<0.001	0.01	<0.5	5.84	<5	110	2.3	<2	2.47	4.5	72	80	154	>25.0	0.38	2.65	2790	<1	0.76	26	390	12	0.14	<5	182	1.27	1038	20	353
RR076	1936233	3888570	Rewa	0.013	0.02	<0.5	7.41	6	130	2.1	<2	2.16	1.7	33	66	380	14.34	0.6	1.69	1422	<1	0.68	12	470	12	0.05	<5	159	1.04	655	10	239
RR076-1	1936233	3888570	Rewa	0.006	0.02	<0.5	6.88	<5	120	2.1	2	2.02	2.4	37	80	363	16.78	0.55	1.58	1511	2	0.59	19	420	15	0.03	<5	145	1.02	762	10	267
RR077	1937250	3890720	Rewa	>2.00	0.04	<0.5	6.46	85	140	2	<2	0.35	2	22	66	106	13.08	1.08	0.95	1208	<1	0.59	11	480	34	0.11	<5	46	0.91	440	10	423
RR078	1937230	3890725	Rewa	0.001	<0.01	<0.5	5.65	<5	100	2	<2	1.81	1.5	25	137	34	10.28	0.76	1.58	1978	<1	1.4	14	360	4	0.16	<5	94	1.09	372	10	153
RR079	1937906	3890656	Rewa	0.018	0.04	<0.5	6.13	49	90	2	2	1.11	1.7	26	119	160	11.6	0.77	1.18	1897	<1	0.77	14	480	11	0.33	<5	71	0.98	412	10	341
RR080	1938443	3890534	Rewa	0.005	0.01	<0.5	6.53	19	120	2.3	<2	1.11	1.4	27	77	47	13.82	0.6	1.07	2080	<1	1.11	13	440	9	0.06	<5	126	1.25	558	10	271
RR081	1938560	3890390	Rewa	0.019	0.06	<0.5	8.08	62	180	1.5	<2	0.43	3.5	17	37	193	6.23	1.15	1	1642	<1	0.59	10	650	11	0.26	<5	66	0.58	191	<10	1440
RR081-1	1938560	3890390	Rewa	0.015	0.05	<0.5	8.27	46	180	1.4	3	0.4	3.3	17	27	160	5.25	1.13	1.01	1795	<1	0.62	12	600	9	0.11	<5	65	0.52	175	<10	1383
RR082	1938607	3890395	Rewa	0.016	0.05	<0.5	7.47	29	210	1.8	<2	0.6	2	23	62	204	7.85	1.15	0.9	1581	<1	0.5	12	650	12	0.13	<5	75	0.72	288	10	773
RR083	1949258	3882367	Rewa	<0.001	<0.01	<0.5	3.53	<5	50	1.4	<2	1.45	7.1	105	113	120	>25.0	0.17	1.55	3330	<1	0.45	37	10	12	<0.01	<5	89	0.8	1032	20	454
RR084	1950915	3882089	Rewa	<0.001	0.01	<0.5	4.32	<5	<10.0	1.2	<2	0.91	3.1	52	138	43	21.6	0.19	0.91	2990	<1	0.47	24	<10	5	<0.01	<5	39	0.75	740	10	347
RR085	1952047	3882632	Rewa	0.003	0.01	<0.5	4.56	<5	30	1.5	<2	0.95	4.2	65	157	79	>25.0	0.25	1.1	2880	<1	0.41	34	<10	8	<0.01	<5	55	0.91	1165	20	322
RR086	1952174	3882607	Rewa	0.007	0.01	<0.5	5.61	<5	50	1.7	5	1.4	3.2	53	94	83	21.1	0.33	1.31	2390	<1	0.63	22	30	7	<0.01	<5	87	0.93	952	20	264
RR087	1952856	3883175	Rewa	0.042	0.01	<0.5	3.9	<5	20	1.5	<2	1.36	5.3	73	179	69	>25.0	0.18	1.6	3590	<1	0.54	31	80	14	0.02	<5	48	0.98	1028	20	536
RR088	1954712	3883635	Rewa	<0.001	0.01	<0.5	7.44	<5	10	1	<2	1.06	2.1	49	298	46	16.3	0.3	1.43	2570	<1	0.36	18	110	4	<0.01	<5	76	0.62	557	10	280
RR088-1	1954712	3883635	Rewa	<0.001	0.01	<0.5	7.18	<5	<10.0	1	<2	1.09	2.6	49	254	45	16.2	0.3	1.43	2550	<1	0.37	18	90	4	<0.01	<5	76	0.58	474	10	283
RR089	1956869	3884376	Rewa	0.028	<0.01	<0.5	4.61	<5	20	1.3	<2	1.61	3.6	63	187	55	>25.0	0.2	1.6	3890	<1	0.49	25	40	8	<0.01	<5	56	0.79	729	10	482
RR090	1957160	3884450	Rewa	0.025	<0.01	<0.5	2.97	<5	<10.0	1.3	<2	0.79	5.1	84	208	72	>25.0	0.15	1.1	3460	<1	0.31	33	<10	11	<0.01	<5	32	0.86	1470	20	451
RR091	1957770	3885264	Rewa	0.015	<0.01	<0.5	4.98	<5	<10.0	2.2	<2	1.46	1.3	38	135	46	13.02	0.2	0.87	1800	<1	0.7	10	230	5	0.08	<5	54	1.34	558	10	253
RR091-1	1957770	3885264	Rewa	<0.001	<0.01	<0.5	4.9	<5	30	1	<2	1.64	1.7	38	110	44	14.98	0.19	0.89	1940	<1	0.66	10	200	8	0.1	12	20	1.47	721	20	299
RR092	1959552	3886307	Rewa	<0.001	<0.01	<0.5	3.74	<5	30	0.5	<2	1.29	6	70	307	75	>25.0	0.19	1.46	3130	2	0.57	29	<10	5	<0.01	5	<1	0.61	931	20	443
RR093	1941695	3890465	Rewa	<0.001	<0.01	<0.5	6.16	<5	140	1.3	<2	0.84	2.3	26	95	92	14.46	0.85	1.44	2270	<1	1.26	16	520	13	0.71	16	53	1.05	564	20	438
RR094	1941659	3890471	Rewa	0.029	<0.01	1.6	5.42	<5	100	1.3	<2	0.91	4	52	206	103	22.2	0.59	1.55	2930	2	0.71	34	390	18	1.91	11	25	1.42	912	20	454
RR095	1941670	3890380	Rewa	<0.001	0.01	<0.5	6.65	<5	130	1.3	<2	0.44	<0.5	14	63	16	7.03	1.01	0.8	1250	<1	0.72	8	380	7	0.04	7	40	0.83	278	10	206
RR096	1939960	3885313	Rewa	0.298	0.01	<0.5	6.85	<5	250	1.1	<2	0.55	2.5	24	83	340	18.62	1.22	0.88	1100	<1	0.23	13	540	12	0.05	8	8	0.86	831	20	242
RR096-1	1939960	3885313	Rewa	0.025	0.01	<0.5	6.98	<5	260	1.1	<2	0.54	2.7	23	69	337	16.9	1.25	0.88	1045	<1	0.23	11	560	14	0.04	5	13	0.77	743	20	226
RR097	1934966	3885769	Rewa	<0.001	<0.01	<0.5	4.49	<5	120	0.9	<2	1.98	5.8	55	57	64	>25.0	0.32	1.81	2810	4	0.93	22	230	7	0.01	12	134	0.9	916	20	362
RR098	1934928	3885820	Rewa	<0.001	<0.01	<0.5	5.77	<5	150	1.1	<2	2.75	4.7	64	46	124	23	0.41	2.37	2580	4	1.05	22	340	9	0.01	12	179	1.2	1130	20	300
RR099	1935115	3885769	Rewa	0.05	0.01	<0.5	8.31	<5	210	1.3	<2	1.34	2.2	28	40	298	14.74	0.64	1.51	1295	<1	0.73	16	520	10	0.02	<5	113	0.87	673	20	211
RR100	1935784	3885257	Rewa	0.036	0.03	<0.5	8.3	<5	230	1.2	<2	1.99	2.2	26	27	93	12.79	0.91	1.72	1185	<1	1.21	10	600	12	0.09	8	215	0.81	532	10	202
RR101	1935224	3885604	Rewa	0.015	<0.01	<0.5	5.7	<5	140	1.1	<2	1.78	4.5	47	46	174	22.3	0.4	1.63	2030	3	0.79	21	340	10	0.01	6	113	1.03	1005	20	295
RR101-1	1935224	3885604	Rewa	0.069	<0.01	<0.5	5.75	<5	140	1.1	<2	1.81	4.1	49	49	178	23	0.41	1.67	2050	2	0.79	21	240	7	0.01	9	111	0.97	1005	20	305
RR102	1929291	3887356	Navua	<0.001	<0.01	<0.5	6.04	<5	160	1.1	<2	3.65	4.6	52	61	65	19.66	0.41	2.91	2910	3	1.48	20	690	7	0.01	11	317	1.15	840	20	304
RR103	1929224	3887215	Navua	<0.001	0.01	<0.5	8.67	<5	200	1.1	<2	2.19	0.8	31	32	63	10.26	0.74	1.78	1425	<1	1.01	11	500	5	0.02	7	258	0.8	455	10	183
RR104	1928450	3886671	Navua	<0.001	<0.01	<0.5	6.59	<5	90	1.1	<2	2.06	1.2	26	177	37	11.68	0.58	1.88	2100	<1	1.45	20	250	4	0.01	9	64	1.03	514	10	201
RR105	1928879	3885506	Navua	<0.001	<0.01	<0.5	8.32	<5	270	1.5	<2	3.47	1.7	38	30	64	14	0.71	2.26	2190	<1	1.8	14	990	10	0.01	11	435	1.22	683	20	223
RR106	1931013	3892821	Navua	<0.001	<0.01	<0.5	8.54	<5	90	0.8	<2	4.69	1.2	28	107	22	7.95	0.45	1.91	1550	<1	1.48	13	400	5	0.02	<5	141	0.56	331	10	99
RR107	1930995	3892791	Navua	<0.001	<0.01	<0.5	7.97	<5	150	0.9	<2	2.58	1.4	24	64	50	7.4	0.71	2.42	1745	<1	2.06	13	510	8	0.14	<5	180	0.59	294	<10	219
RR108	1930649	3892762	Navua	<0.001	<0.01	<0.5	7.66	<5	60	0.9	<2	2.19	0.8	14	69	17	4.36	0.34	1.37	1325	<1	2.31	9	350	<2	0.07	<5	115	0.4	135	<10	119
RR109	1930268	3893115	Navua	<0.001	<0.01	<0.5	6.67	<5	110	1.1	<2	2.31	0.6	13	101	7	6.57	0.6	1.03	1320	<1	1.95	7	240	2	0.02	5	99	0.62	196	10	82
RR110	1929315	3892884	Navua	<0.001	<0.01	<0.5	5.67	<5	120	1.1	<2	1.62	<0.5	5	133	2	8.04	0.85	0.29	1980	<1	1.89	4	30	<2	<0.01	9	81	0.75	143	10	43
RR111	1928552	3891377	Navua	<0.001	<0.01	<0.5	8.71	<5	50	0.9	<2	3.71	1.4	41	124	58	8.72	0.26	2.17	2620	1	1.82	18	450	5	0.45	5	124	0.59	328	10	305
RR111-1	1928552	3891377	Navua	0.001	<0.01	<0.5	8.52	<5	50	0.9	<2	3.41	1.5	39	144	58	8.52	0.24	2.07	2490	<1	1.76	21	470	<2	0.32	5	114	0.58	321	10	275
RR112	1928585	3890259	Navua	<0.001	<0.01	<0.5	7.17	<5	80	0.9	3	1.32	1.1	31	198	82	7.62	0.43	2.15	1760	5	1.73	27	340	9	0.07	11	54	0.59	266	10	266
RR113	1927802	3886133	Navua	0.002	<0.01	<0.5	5.35	<5	80	1.4	<2	1.82	2.8	50	111	69	18.98	0.34	1.53	1780	3	0.89	19	320	9	0.51	12	95	1.61	941	20	250
RR114	1927825	3886134	Navua	<0.001	<0.01	<0.5	5.44	<5	60	1.2	<2	1.53	1.9	23	106	35	13.85	0.35	0.88	2210	2	1.16	10	300	6	0.15	8	40	0.96	431	10	190

Appendix1 Chemical analysis data of stream sediment samples (6)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RR115	1928082	3884584	Navua	<0.001	<0.01	<0.5	5.63	<5	130	1.1	<2	2.23	2.8	39	65	51	17.03	0.35	1.43	1985	2	1.11	12	150	9	0.01	12	216	1.26	584	20	218
RR116	1925635	3881461	Navua	0.003	0.02	<0.5	6.84	<5	90	0.8	<2	1.78	0.6	22	125	36	7.55	0.62	1.11	1240	<1	1.53	17	360	6	0.05	<5	282	0.64	239	<10	108
RR117	1925935	3881190	Navua	<0.001	0.02	<0.5	6.08	<5	90	0.8	<2	1.79	<0.5	16	92	28	6.25	0.63	1.01	892	<1	1.44	14	350	7	0.04	6	326	0.69	223	<10	83
RR118	1926110	3881280	Navua	<0.001	0.01	<0.5	7.4	<5	100	0.9	<2	2.19	0.8	24	129	33	9.89	0.48	0.94	1460	<1	1.56	14	350	5	0.02	7	230	0.68	258	10	127
RR119	1927377	3881842	Navua	<0.001	0.01	<0.5	3.63	<5	70	0.8	<2	1.51	3.4	44	139	69	19.2	0.32	1.12	3520	<1	0.64	16	<10	7	<0.01	5	61	0.98	455	20	209
RR120	1927419	3878689	Navua	<0.001	0.01	<0.5	6.7	<5	110	0.8	<2	1.92	<0.5	16	77	25	5.88	0.62	1.18	1125	<1	1.53	12	330	3	0.02	<5	215	0.6	209	10	95
RR121	1928442	3879624	Navua	<0.001	0.02	<0.5	6.59	<5	90	0.9	<2	0.78	<0.5	21	124	35	6.79	0.46	0.83	1140	<1	0.65	18	220	5	0.01	8	95	0.78	226	<10	117
RR121-1	1928442	3879624	Navua	<0.001	0.02	<0.5	5.26	<5	70	1	<2	0.65	<0.5	19	175	29	7.35	0.4	0.66	1255	<1	0.61	15	180	3	0.01	8	70	1.17	322	10	122
RR122	1928456	3879656	Navua	<0.001	0.01	<0.5	5.82	<5	90	0.9	<2	1.8	1.5	32	141	26	13.51	0.39	1.2	1970	<1	1.2	15	20	3	<0.01	<5	222	0.88	247	20	194
RR123	1939760	3873194	Coastal	<0.001	0.01	<0.5	8.31	<5	50	0.6	<2	0.64	2.5	48	139	62	17.9	0.52	1.4	2580	<1	0.35	18	70	5	0.01	6	8	0.57	510	20	255
RR124	1939769	3873203	Coastal	<0.001	0.01	<0.5	6.42	<5	40	0.5	<2	1.35	2.1	33	113	34	16.28	0.29	1.09	3090	<1	0.67	12	<10	<2	<0.01	<5	23	0.56	401	20	274
RR125	1940258	3872636	Coastal	<0.001	0.02	<0.5	7.96	<5	60	0.9	<2	0.76	0.8	31	126	41	11.46	0.27	1.07	2220	<1	0.82	18	100	4	0.01	<5	45	0.91	393	20	221
RR126	1939753	3871793	Coastal	<0.001	0.01	<0.5	5.81	<5	30	0.6	<2	0.43	2.4	54	222	36	20.5	0.16	0.9	2930	<1	0.19	16	60	4	0.01	<5	<1	0.7	506	20	339
RR127	1941995	3870029	Coastal	<0.001	0.03	<0.5	7.43	<5	30	0.5	<2	2.12	2.9	52	682	45	14.64	0.44	2.85	2100	<1	0.69	45	60	6	0.06	7	67	0.55	561	20	297
RR128	1940579	3871049	Coastal	<0.001	0.02	<0.5	8.49	<5	50	0.7	<2	1.07	1.4	49	434	45	13.82	0.28	1.94	2140	<1	0.42	32	80	<2	0.17	<5	34	0.75	394	20	196
RR129	1940852	3871129	Coastal	<0.001	0.02	<0.5	9.26	<5	30	0.6	<2	1.02	1.1	47	695	47	12.26	0.25	1.81	1715	<1	0.57	39	150	3	0.19	6	18	0.66	603	20	165
RR130	1941818	3870654	Coastal	<0.001	0.02	<0.5	7.91	<5	20	1.1	<2	1.61	1.4	40	1017	37	12.46	0.32	2.34	1420	5	0.61	41	140	3	2.76	12	44	1.54	691	10	181
RR131	1941280	3868621	Coastal	<0.001	0.01	<0.5	6.41	<5	80	0.9	<2	2.44	<0.5	14	314	9	5.01	0.61	1.15	1160	1	1.9	12	130	5	0.96	7	163	0.95	197	<10	62
RR131-1	1941280	3868621	Coastal	<0.001	0.01	<0.5	6.16	<5	80	0.9	<2	2.42	<0.5	15	367	7	5.05	0.61	1.08	1130	3	1.9	13	120	4	1.29	7	165	0.93	183	<10	56
RR132	1940448	3867628	Navua	0.218	0.01	<0.5	6.89	<5	60	0.8	<2	2.56	0.7	26	558	19	8.68	0.53	1.58	1690	<1	1.5	21	110	4	0.15	12	136	0.83	296	10	100
RR133	1935240	3869932	Navua	<0.001	0.01	<0.5	5.13	<5	20	0.5	<2	0.62	5.1	72	669	40	>25.0	0.15	1.18	3940	2	0.29	26	40	5	0.01	5	<1	0.66	876	30	555
RR134	1935207	3869874	Navua	<0.001	0.02	<0.5	8.87	<5	50	0.6	<2	0.98	1.2	37	149	51	11.38	0.28	1.18	1970	<1	0.61	17	200	<2	0.02	<5	48	0.58	336	10	188
RR135	1936078	3869464	Navua	<0.001	0.01	<0.5	6.23	<5	30	0.5	<2	1.57	3.9	69	718	40	20.8	0.16	2.3	2540	4	0.35	59	50	<2	<0.01	8	<1	0.59	909	20	334
RR136	1935932	3866811	Navua	<0.001	0.02	<0.5	7.43	<5	100	0.9	<2	1.46	0.5	23	144	23	7.3	0.53	1.02	1775	<1	1.35	15	950	<2	0.01	6	84	0.76	225	10	98
RR137	1935206	3867980	Navua	0.007	0.02	<0.5	4.81	<5	50	0.8	<2	0.97	1.8	39	341	19	17.48	0.26	0.83	4770	<1	0.63	16	<10	<2	0.01	11	2	0.93	486	20	162
RR138	1935089	3867876	Navua	<0.001	0.01	<0.5	6.14	<5	100	0.9	<2	1.91	0.6	19	172	13	6.41	0.6	1.01	2220	<1	1.63	11	240	5	0.01	<5	108	0.83	207	10	77
RR139	1933016	3869177	Navua	<0.001	0.03	<0.5	8.9	<5	50	0.6	<2	0.87	0.9	43	132	57	13.83	0.18	1.13	2350	<1	0.48	13	160	3	0.01	6	42	0.62	273	20	258
RR140	1933010	3869168	Navua	<0.001	0.02	<0.5	11.15	<5	60	0.7	<2	1.01	1.3	48	86	111	13.3	0.17	1.26	2230	4	0.39	20	260	<2	0.02	<5	43	0.64	423	<10	194
RR141	1933271	3864930	Coastal	<0.001	0.02	<0.5	8.63	<5	110	0.8	<2	1.54	0.7	22	48	37	6.36	0.57	1.16	1140	<1	1.47	17	470	<2	0.03	<5	117	0.53	174	10	99
RR141-1	1933271	3864930	Coastal	<0.001	0.02	<0.5	8.21	<5	110	0.8	<2	1.77	<0.5	18	60	31	5.12	0.62	1.15	1065	<1	1.69	15	340	<2	0.03	<5	136	0.45	152	<10	83
RR142	1933295	3864888	Coastal	<0.001	0.03	<0.5	9.36	<5	110	0.8	<2	1.28	0.6	26	48	40	7.18	0.53	1.15	1420	<1	1.26	19	420	3	0.03	7	92	0.51	172	10	103
RR143	1931719	3863618	Coastal	<0.001	0.02	<0.5	7.21	<5	50	0.6	<2	1.49	1.7	40	173	45	12.84	0.22	1.05	2840	<1	0.77	12	110	2	0.04	7	47	0.53	303	10	234
RR144	1929446	3863805	Coastal	<0.001	0.01	<0.5	6.81	<5	60	0.8	<2	3.22	0.9	23	191	15	8.81	0.37	1.71	2890	<1	1.18	9	120	<2	0.1	6	130	0.68	100	10	128
RR145	1927678	3865043	Coastal	<0.001	0.02	<0.5	6.49	<5	40	0.7	<2	0.5	<0.5	33	60	41	12.2	0.14	0.59	2590	<1	0.63	10	110	<2	0.01	<5	9	0.65	242	10	319
RR146	1925571	3878415	Navua	<0.001	0.01	<0.5	7.21	<5	110	0.8	<2	1.77	<0.5	14	43	21	4.75	0.66	0.78	631	<1	1.85	11	280	<2	0.03	5	299	0.55	149	<10	67
RR147	1925434	3877945	Navua	<0.001	0.01	<0.5	7.17	<5	70	0.7	<2	0.87	<0.5	27	96	49	8	0.6	0.89	1355	<1	0.67	20	260	4	0.04	<5	130	0.68	285	<10	108
RR148	1924376	3878169	Navua	0.002	0.01	<0.5	5.78	<5	70	1.1	<2	2.19	1.3	26	340	32	12.56	0.49	1.29	1880	<1	1.2	23	230	9	0.05	9	129	1.11	593	10	151
RR149	1923543	3877357	Navua	<0.001	0.01	<0.5	5.7	<5	70	1.1	<2	2.36	2.3	29	434	32	14.64	0.46	1.35	2100	<1	1.2	24	210	6	0.05	8	110	1.24	723	20	168
RR150	1922601	3878084	Navua	<0.001	0.03	<0.5	7.29	<5	110	0.8	<2	2.97	<0.5	20	79	31	6.14	0.77	1.54	1160	<1	1.74	21	360	4	0.18	<5	412	0.62	218	<10	91
RR151	1922318	3876937	Navua	0.033	0.03	<0.5	7.46	<5	80	0.9	<2	1.69	1.2	29	360	34	10.21	0.68	1.17	1200	<1	1.31	27	270	8	0.02	9	224	1.01	464	10	152
RR151-1	1922318	3876937	Navua	<0.001	0.03	<0.5	6.43	<5	70	0.9	<2	1.53	<0.5	26	381	29	9.99	0.6	1.04	1200	<1	1.18	25	220	<2	0.02	7	190	1.02	485	10	139
RR152	1921563	3876544	Navua	<0.001	0.01	<0.5	4.72	<5	70	0.7	<2	1.52	1.8	27	619	21	14.04	0.46	0.84	2350	<1	0.91	19	<10	6	<0.01	10	74	0.72	468	10	148
RR153	1921561	3876464	Navua	0.048	0.02	<0.5	6.38	<5	80	1	<2	1.25	<0.5	25	316	30	8.83	0.61	0.94	1525	<1	1.08	21	260	5	0.03	9	168	1.08	412	10	121
RR154	1921072	3874908	Navua	0.003	0.02	<0.5	7.78	<5	150	1	<2	0.83	<0.5	28	196	52	9.95	0.86	1.15	1385	<1	0.95	32	350	2	0.02	12	54	0.93	400	10	126
RR155	1921228	3874710	Navua	<0.001	0.02	<0.5	9.01	<5	130	0.8	<2	0.73	<0.5	26	203	64	9.96	0.72	0.81	1220	<1	0.75	26	370	3	0.04	5	57	0.58	304	10	121
RR156	1921278	3874714	Navua	<0.001	0.01	<0.5	5.65	<5	90	0.7	<2	0.49	<0.5	20	100	37	10.52	0.8	0.83	1425	<1	0.61	12	40	4	0.01	6	21	0.74	357	10	171
RR157	1925982	3864930	Coastal	<0.001	0.02	<0.5	6.1	<5	40	0.8	<2	0.43	<0.5	34	24	21	6.54	0.2	0.45	1225	<1	1.07	5	170	3	0.03	7	24	0.94	254	<10	192
RR158	1925993	3864947	Coastal	<0.001	0.02	<0.5	4.7	<5	40	0.7	<2	0.58	1.6	29	44	27	15.92	0.19	0.57	3320	<1	0.99	8	<10	3	<0.01	10	<1	0.78	327	20	538
RR159	1926073	3864765	Coastal	<0.001	0.02	<0.5	6.24	<5	50	0.9	<2	0.47	0.8	42	36	31	14.73	0.17	0.58	6740	<1	0.74	7	130	5	0.02	6	2	1.18	393	10	339
RR160	1926320	3864405	Coastal	<0.001	0.02	<0.5	5.79	<5	40	1	<2	0.43	<0.5	21	43	24	10.14	0.19	0.51	2550	<1	0.93	6	110	4	0.01	14	7	1.42	400	10	305
RR161	1926594	3864123	Coastal	<0.001	0.02	<0.5	5.43	<5	40	0.7	<2	0.48	<0.5	24	23	23	10.86	0.2	0.47	2010	<1	1.04	6	20	3	0.01	7	8	0.82	257	10	301
RR161-1	1926594	3864123	Coastal	<0.001	0.02	<0.5	5.11	<5	40	0.7	<2	0.48	1.3	26	34	24	13.32	0.19	0.51	2720	<1	0.99	6	<10	5	<0.01	6	<1	0.79	269	10	419
RR162	1927120	3862715	Coastal	<0.001	0.02	<0.5	5.71	<5	60	0.8	<2	1.4	<0.5	10	69	7	3.75	0.45	0.67	964	<1	1.67	4	110	<2	0.35	7	104	0.86	115	<10	76
RR163	1926790	3860515	Coastal	<0.001	0.01	<0.5	5.42	<5	70	0.7	<2	2.26	<0.5	11	75	10	3.46	0.58	1.21	1005	<1	1.6	9	150	6	0.13	<5	136	0.63	123	<10	63
RR164	1924019	3860108	Coastal	<0.001	0.03	<0.5	3.7	<5	40	1.4	<2	1.33	0.9	25	434	12	13.19	0.26	0.83	2510	<1	0.8	27	110	9	1.43	17	43	1.89	542	20	120
RR165	1920932	3864071	Coastal	<0.001	0.04	<0.5	7.21	<5	120	0.8	<2	0.53	<0.5	18	27	15	9.18	0.19	0.54	1775	<1	0.67	4	120	12	0.02	9	35	0.87	190	10	234
RR166	1917216	3862003	Coastal	<0.001	0.02	<0.5	5.75	<5	40	0.6	<2	0.75	<0.5	13	92	13	5.44	0.33	0.5	1110	<1	1.56	5	60	<2	0.14	6	67	0.78	165	<10	107
RR167	1917947	3861739	Coastal	<0.001	0.02	<0.5	5.67	<5	40	0.8	<2	1.1	0.8	30	267	17	13.28	0.21	1.01	2780	<1	0.85	9	20	2	0.01	12	37	0.88	187	20	298
RR168	1924917	3864750	Coastal	<0.001	0.02	<0.5	4.56	<5	40	0.7	<2	0.41	1.3	34	73	38	19.04	0.14	0.58	3770	<1	0.59	9	40	5	0.01	8	<1	0.81	384	20	756
RR169	1924869	3864756	Coastal	<0.001	0.01	<0.5	5	<5	30	0.8	<2	1.11	1.4	37	111	35	16.01	0.19	0.9	2920	<1	0.97	13	<10	<2	<0.01	6	2	0.96	408	20	510
RR170	1924535	3863718	Coastal	<0.001	0.03	<0.5	7.48	<5	60	0.6	<2	0.58	0.7	27	17	19	10.37	0.17	0.57	2150	<1	0.65	3	220	4	0.02	6	37	0.61	207	10	275
RR171	1924940	3862123	Coastal	<0.001	0.02	<0.5	7.17	<5	60	0.6	<2	1.1	<0.5	26	52	28	8.63	0.23	0.84	2220	<1	0.89	8	230	<2	0.01	<5	50	0.51	201	<10	177
RR171-1	1924940	3862123	Coastal	<0.001	0.02	<0.5	7.46	<5	50	0.7	<2	0.95	0.5	26	30	30	8.46	0.22	0.78	2120	<1	0.79	7	290	3	0.02	<5	45	0.67	242	10	161
RR172	1920133	3864720	Coastal	<0.001	0.01	<0.5	7.54	<5	60	1	<2	0.72	<0.5	25	15	32	9.57	0.26	0.81	1980	<1	0.88	6	290	5	0.01	10	32	1	385	10	240
RR173	1920112	3864716	Coastal	<0.001	0.01	<0.5	5.65	<5	70	0.8	<2	0.64	<0.5	20	47	22	10.06	0.43	0.62	1890	<1	1.36	5	60	3	<0.01	6	17	0.8	289	10	292
RR174	1920242	3864543	Coastal	<0.001	0.03	<0.5	8.28	<5	50	0.6	<2	0.51	0.6	22	29	17	10.5	0.17	0.57	2130	<1	0.45	3	240	<2	0.02	<5	24	0.52	158	10	281
RR175	1919469	3863312	Coastal	<0.001	0.01	<0.5	5.71	<5	70	0.8	<2	1.87	<0.5	20	190	19	6.83	0.45	1.62	1645	<1	1.42	39	130	6	0.01	5	35	0.83	263	<10	186
RR176	1919485	3863296	Coastal	<0.001	0.02	<0.5	7.12	<5	70	0.6	<2	1	<0.5	20	81	20	7.23	0.32	0.97	2330	<1	0.86	16	200	3	0.01	<5	25	0.49	153	<10	180
RR177	1920280	3860954	Coastal	<0.001	0.01	<0.5	3.05	<5	40	0.5	<2	1.45	3	41	390	12	19.19	0.24	1.4	3980	1	0.81	43	<10	3	<0.01	10	<1	0.6	249	20	450
RR178	1905549	3870978	Navua	<0.001	0.01	<0.5	5.15	<5	40	1.4	<2	0.66	1.9	41	464	38	19.3	0.14	1.1	2640	2	0.49	27	<10	4	0.04	<5	30	1.69	1012	10	270
RR179	1905573	3870987	Navua	<0.001	<0.01	<0.5	4.71	9	40	0.8	<2	1.95	5.5	53	618	51	>25.0	0.2	1.37	3010	2	0.6	53	<10	7	<0.01	<5	62	1.03	1811	10	214
RR180	1906361	3872795	Navua	<0.001	<0.01	<0.5	2.92	<5	50	0.5	<2	1.26	5.7	66	355	57	>25.0	0.13	1.08	3000	5	0.45	34	<10	4	<0.01	<5	52	0.83	747	10	316
RR181	1906326	3872798	Navua	0.104	<0.01	<0.5	5.45	<5	50	0.9	<2	2.8	2.3	38	1771	43	14.68	0.29	1.51	2120	3	1.2	35	140	3	0.01	8	122	1.02	573	10	194
RR181-1	1906326	3872798	Navua	<0.001	<0.01	<0.5	5.56	<5	50	0.8	<2	2.96	1.9	37	1566	42	14.14	0.3	1.53	2080	2	1.23	33	<10	3	0.01	7	127	0.93	544	10	190
RR182	1904330	3872564	Navua	<0.001	0.01	<0.5	5.31	<5	60	1.4	<2	0.71	<0.5	27	128	40	13.36	0.27	1.03	2460	3	0.73	12	20	4	0.06	<5	39	1.66	694	<10	325
RR183	1904427	3872392	Navua	<0.001	0.01	<0.5	5.89	<5	50	0.9	<2	2.35	0.7	37	337	56	13.44	0.26	1.63	2010	3	0.91	44	<10	4	0.01	<5	87	1.08	862	10	148
RR184	1904174	3873002	Navua	<0.001	0.01	<0.5	6.16	<5	50	1.1	<2	1.72	<0.5	35	334	51	14.01	0.28	1.43	2180	3	0.89	34	<10	3	0.02	<5	69	1.37	898	10	205
RR185	1904146	3873030	Navua	<0.001	<0.01	<0.5	5.66	6	50	0.8	<2	0.9	<0.5	21	63	56	10.94	0.32	1.32	1030	4	0.93	10	140	5	0.59	<5	47	0.87	505	10	168
RR186	1912550	3875590	Navua	<0.001	<0.01	<0.5	2.82	<5	50	1.1	<2	0.91	4.5	23	276	14	>25.0	0.24	0.45	3510	2	0.59	12	<10	5	<0.01	<5	48	1.03	716	10	131
RR187	1912525	3875180	Navua	0.004	<0.01	<0.5	4.39	<5	40	1.3	<2	2.47	1.6	27	767	30	16.59	0.26	1.24	1820	2	0.97	27	60	2	0.05	<5	95	1.44	885	<10	166
RR188	1911427	3874577	Navua	<0.001	0.01	<0.5	6.87	5	70	1.1	<2	1.64	0.8	28	386	59	13.55	0.74	1.56	1515	3	0.9	32	120	7	0.02	<5	117	1.1	569	10	197
RR189	1915389	3875370	Navua	0.048	0.01	<0.5	6.5	<5	80	1.3	<2	1.54	<0.5	32	793	39	12.72	0.43	1.11	2430	3	1.08	31	80	5	0.02	<5	90	1.35	473	10	133
RR190	1915650	3876895	Navua	<0.001	<0.01	<0.5	4.68	<5	40	1.1	<2	2.45	4.5	25	164	21	21.3	0.2	0.92	2290	2	0.98	15	10	4	0.01	<5	124	1.12	738	10	103
RR191	1915710	3876920	Navua	<0.001	<0.01	<0.5	4.28	<5	50	1.5	<2	1.74	5.2	33	183	34	>25.0	0.24	0.98	2930	3	0.79	19	<10	4	0.08	<5	97	1.59	1532	10	202
RR191-1	1915710	3876920	Navua	<0.001	<0.01	<0.5	4	<5	50	1.3	<2	1.59	3	26	159	29	22	0.23	0.9	2290	2	0.76	16	60	5	0.07	<5	92	1.45	1200	10	165
RR192	1907115	3875242	Navua	0.003	0.01	<0.5	5.39	<5	60	1.2	<2	1.61	1.1	31	542	35	14.27	0.29	1.01	1775	2	0.87	34	110	3	0.01	<5	82	1.3	747	10	146
RR193	1909378	3874296	Navua	0.049	<0.01	<0.5	6.07	5	60	0.7	<2	2.01	4	37	935	56	19.08	0.48	1.57	2420	2	1.01	46	<10	5	0.01	5	89	0.79	666	10	271
RR194	1909659	3874340	Navua	0.002	0.01	<0.5	6.34	<5	70	<0.5	<2	2.55	<0.5	31	370	35	11	0.47	1.73	1566	1	1.36	29	310	14	0.04	14	94	1.03	501	10	139
RR195	1908406	3874309	Navua	0.001	0.01	<0.5	4.73	<5	40	<0.5	<2	1.45	1.2	35	2381	21	15.36	0.27	0.78	2154	2	0.54	38	<10	7	<0.01	8	54	0.49	411	10	185
RR196	1906779	3873574	Navua	<0.001	0.01	<0.5	6.06	<5	50	<0.5	<2	1.73	<0.5	23	284	27	7.14	0.31	1.11	1113	<1	0.98	23	210	9	0.02	8	116	0.85	285	10	96

Appendix1 Chemical analysis data of stream sediment samples (7)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RR197	1906430	3875019	Navua	0.001	0.01	<0.5	6.6	<5	70	<0.5	<2	1.71	<0.5	30	371	32	9.77	0.53	1.32	1329	1	1.1	30	220	24	0.01	10	91	0.96	434	10	149
RR198	1905748	3875926	Navua	<0.001	<0.01	<0.5	7.16	<5	110	<0.5	<2	2.57	0.6	28	256	28	9.49	0.76	2.15	1536	1	1.73	28	390	20	0.01	10	103	0.95	392	10	141
RR199	1906432	3876390	Navua	0.001	0.01	<0.5	8.48	<5	120	<0.5	<2	3.1	0.5	34	401	44	8.07	0.78	2.75	1504	1	2.66	69	280	10	0.01	11	118	0.76	311	10	135
RR200	1907269	3877673	Navua	<0.001	0.01	<0.5	8.09	<5	100	<0.5	<2	2.33	0.5	29	394	55	9.08	0.68	1.96	1596	6	2.18	38	330	10	0.01	11	88	0.89	339	10	109
RR201	1907363	3877728	Navua	<0.001	<0.01	<0.5	4.13	<5	60	<0.5	<2	1.01	2.4	26	382	23	19	0.38	0.77	1719	3	0.9	14	190	11	0.01	7	3	1.14	997	10	119
RR201-1	1907363	3877728	Navua	<0.001	<0.01	<0.5	4.56	<5	70	<0.5	<2	1.05	1.5	23	307	18	16.57	0.45	0.82	1606	3	0.99	13	200	16	0.01	11	15	1.04	853	10	106
RR202	1908545	3876526	Navua	0.001	0.01	<0.5	4.24	<5	50	<0.5	<2	0.67	0.6	25	444	22	11.43	0.31	0.63	1599	1	0.52	23	90	11	<0.01	10	17	1	508	10	103
RR203	1905338	3875762	Navua	<0.001	0.01	<0.5	8.82	<5	130	<0.5	<2	1.94	<0.5	40	674	57	8.22	0.56	2.62	1580	1	2.32	102	240	10	<0.01	<5	70	0.8	305	<10	126
RR204	1904681	3875170	Navua	0.014	<0.01	<0.5	5.83	<5	50	<0.5	<2	0.99	<0.5	24	96	55	9.19	0.31	1.4	1227	3	0.95	15	210	7	0.16	8	36	0.8	454	10	156
RR205	1904412	3875219	Navua	<0.001	0.01	<0.5	5.03	<5	50	<0.5	<2	1.36	<0.5	28	410	25	8.85	0.33	0.8	1145	1	0.77	23	130	9	0.02	11	87	0.92	419	10	112
RR206	1903951	3875938	Navua	<0.001	0.01	<0.5	8.01	<5	70	<0.5	<2	2.53	0.9	41	1405	54	8.64	0.26	2.17	1711	2	2.2	88	250	9	0.01	5	99	0.77	308	10	130
RR207	1890037	3877598	Navua	<0.001	0.01	<0.5	8.7	<5	20	<0.5	<2	5.07	1.1	34	374	50	8.52	0.08	1.82	1692	2	2.17	50	280	9	0.01	5	206	0.48	198	10	113
RR208	1890885	3878375	Navua	<0.001	0.01	<0.5	7.95	<5	40	<0.5	<2	4.3	<0.5	27	1404	33	6.92	0.22	2.06	1238	1	2.12	43	350	7	0.02	5	203	0.74	280	10	84
RR209	1891145	3878528	Navua	<0.001	0.01	<0.5	6.98	<5	80	<0.5	<2	2.79	1.1	31	1327	48	10.9	0.54	2.64	1955	1	1.75	52	360	12	0.01	12	128	1.11	507	10	193
RR210	1891176	3878478	Navua	<0.001	0.01	<0.5	6.4	<5	90	0.5	<2	1.13	<0.5	20	631	25	7.35	0.66	1.28	1658	<1	1.17	22	280	10	0.01	11	66	0.92	281	<10	177
RR211	1894664	3875384	Navua	<0.001	<0.01	<0.5	6.89	<5	50	<0.5	<2	3.95	0.6	25	801	28	8.63	0.33	1.85	1580	<1	1.73	35	320	14	0.01	9	160	1.08	375	10	155
RR211-1	1894664	3875384	Navua	<0.001	<0.01	<0.5	7.06	<5	50	<0.5	<2	3.99	0.6	25	893	29	8.66	0.34	1.91	1586	<1	1.77	35	320	9	0.01	12	163	1.04	378	10	159
RR212	1894620	3875371	Navua	0.001	<0.01	<0.5	6.21	<5	50	<0.5	<2	3.01	1.2	34	354	42	14.34	0.25	1.55	1921	2	1.31	33	200	13	0.02	10	85	1.12	811	10	141
RR213	1895264	3874989	Navua	<0.001	0.01	<0.5	8.17	<5	50	<0.5	<2	3.3	<0.5	25	352	30	7.76	0.27	1.37	1452	1	3.08	30	320	8	0.02	9	161	0.98	342	10	109
RR214	1895560	3875260	Navua	<0.001	0.01	<0.5	7.06	<5	60	<0.5	<2	2.98	1	28	1266	34	10.22	0.41	1.78	1774	1	1.65	37	260	13	0.02	12	121	1.04	435	10	200
RR215	1895889	3875101	Navua	<0.001	<0.01	<0.5	2.52	<5	20	<0.5	<2	1.41	9.3	47	664	25	>25.0	0.06	0.8	2981	5	0.52	30	30	17	0.01	15	<1	0.86	1920	30	242
RR216	1875254	3872257	Coastal	<0.001	0.01	<0.5	7.81	<5	50	<0.5	<2	3.2	0.8	32	257	33	6.7	0.31	2.11	1092	1	1.98	38	170	8	0.01	7	167	0.62	304	10	77
RR217	1875275	3872240	Coastal	<0.001	<0.01	<0.5	6.55	<5	60	<0.5	<2	3.54	1.2	24	725	28	10.16	0.33	1.34	1832	1	2.09	31	120	12	0.01	12	145	1.12	540	10	126
RR218	1875540	3870503	Coastal	<0.001	<0.01	<0.5	7.02	<5	160	<0.5	<2	1.47	<0.5	11	128	12	6.98	1.04	0.86	1019	<1	3.5	15	200	11	<0.01	7	75	0.77	248	10	162
RR219	1875493	3870484	Coastal	<0.001	<0.01	<0.5	6.55	<5	90	<0.5	<2	2.73	0.7	20	301	21	6.86	0.55	1.21	1260	<1	2.52	29	130	6	0.01	8	130	0.87	376	10	94
RR220	1875034	3869250	Coastal	0.006	<0.01	<0.5	6.5	<5	70	<0.5	<2	8.11	<0.5	17	120	18	4.38	0.6	1.57	642	<1	2.83	28	220	7	0.08	<5	1052	0.48	190	<10	66
RR221	1873624	3869139	Coastal	<0.001	<0.01	<0.5	7.25	<5	120	<0.5	<2	3.35	0.8	26	303	19	6.36	0.66	1.15	891	<1	2.72	41	170	8	0.02	<5	201	0.65	306	<10	81
RR221-1	1873624	3869139	Coastal	<0.001	<0.01	<0.5	7.37	<5	130	<0.5	<2	3.43	<0.5	27	292	20	6.46	0.67	1.19	912	<1	2.73	42	170	9	0.02	7	211	0.66	312	<10	82
RR222	1872170	3869993	Coastal	<0.001	0.05	<0.5	4.68	<5	60	<0.5	<2	9.83	1.9	31	257	21	10.56	0.48	1.7	1340	1	1.94	33	330	25	0.15	11	1494	1.07	592	10	156
RR223	1869627	3872467	Sigatoka	<0.001	0.01	<0.5	6.01	<5	100	<0.5	<2	2.6	<0.5	27	124	23	7.68	0.69	1.58	1234	<1	2.01	23	330	16	0.05	8	163	0.87	374	10	123
RR224	1869820	3870766	Sigatoka	<0.001	0.12	<0.5	3.51	<5	40	<0.5	<2	3.26	7	77	653	26	>25.0	0.23	2.25	3452	1	0.74	61	20	28	<0.01	16	47	1.53	1345	20	286
RR225	1873076	3875949	Sigatoka	<0.001	0.01	<0.5	7.75	<5	180	<0.5	<2	3.31	0.5	28	93	35	6.66	0.94	2.01	1112	<1	1.72	23	580	10	0.01	<5	315	0.61	280	10	97
RR226	1873074	3876660	Sigatoka	0.001	0.01	<0.5	6.64	<5	140	<0.5	<2	3.06	1.7	52	313	52	14.7	0.61	2.07	2571	1	1.31	42	540	34	0.01	20	206	1.61	1017	10	227
RR227	1873095	3876684	Sigatoka	<0.001	0.01	<0.5	8.96	<5	170	<0.5	<2	3.23	0.5	34	66	45	7.16	0.76	1.76	1697	<1	1.78	22	680	14	0.01	5	292	0.65	275	<10	118
RR228	1875391	3879131	Sigatoka	0.003	<0.01	<0.5	7.57	<5	140	<0.5	<2	2.67	0.5	29	105	52	7.24	0.74	1.84	1384	<1	2.05	27	460	8	<0.01	7	235	0.53	276	<10	118
RR229	1874814	3882931	Sigatoka	<0.001	<0.01	<0.5	5.05	<5	50	<0.5	<2	3.83	4.1	64	963	24	21	0.3	2.62	2479	1	0.9	47	40	6	<0.01	16	110	0.79	697	20	263
RR230	1876426	3883607	Sigatoka	<0.001	<0.01	<0.5	9.08	<5	70	<0.5	<2	3.69	<0.5	28	125	30	9.27	0.67	2.13	1705	<1	1.72	21	380	8	<0.01	<5	222	0.5	212	10	179
RR231	1877007	3884509	Sigatoka	<0.001	<0.01	<0.5	6.95	<5	70	<0.5	<2	5.01	1.6	44	1422	36	10.64	0.7	3.98	2007	<1	1.18	90	250	9	<0.01	5	198	0.41	172	10	131
RR231-1	1877007	3884509	Sigatoka	<0.001	0.03	<0.5	6.9	<5	70	<0.5	<2	5.23	1.3	46	1568	35	11.07	0.69	4.1	2078	1	1.19	92	210	5	<0.01	5	197	0.42	163	10	134
RR232	1877051	3884469	Sigatoka	<0.001	<0.01	<0.5	7.48	<5	80	<0.5	<2	4.8	1.8	36	225	21	11.57	0.44	2.16	1577	<1	1.44	24	330	12	<0.01	10	262	0.49	294	10	153
RR233	1875385	3883073	Sigatoka	<0.001	<0.01	<0.5	5.86	<5	60	<0.5	<2	3.96	2.6	44	583	21	13.76	0.38	2.36	1769	<1	1.09	37	290	9	<0.01	7	175	0.67	460	10	176
RR234	1875375	3883051	Sigatoka	<0.001	<0.01	<0.5	8.76	<5	60	<0.5	<2	2.99	0.5	31	150	42	7.91	0.65	2.84	1110	<1	1.07	35	310	5	<0.01	6	161	0.73	316	10	105
RR235	1874814	3883924	Sigatoka	<0.001	<0.01	<0.5	6.59	<5	100	<0.5	<2	3.69	0.7	31	563	32	8.04	0.73	2.81	1643	<1	1.19	48	400	6	<0.01	6	205	0.49	203	10	136
RR236	1911221	3909290	Sigatoka	<0.001	<0.01	<0.5	6.69	<5	150	0.8	<2	1.94	<0.5	9	18	13	3.96	1.35	1.46	772	<1	1.32	7	560	9	0.01	<5	79	0.48	91	<10	93
RR237	1910947	3909200	Sigatoka	<0.001	<0.01	<0.5	4.86	<5	170	<0.5	<2	5.07	4.7	83	932	58	20.3	0.76	4.05	2084	1	0.58	98	590	15	0.01	12	304	1.12	1134	20	216
RR238	1910384	3908691	Sigatoka	<0.001	0.01	<0.5	7.11	<5	130	<0.5	<2	1.93	0.6	23	52	38	9.86	0.91	1.72	1273	<1	1.47	15	530	12	0.03	9	131	0.84	391	10	134
RR239	1910964	3908308	Sigatoka	0.013	<0.01	<0.5	5.57	<5	170	<0.5	<2	4.86	1.1	58	313	48	16.14	0.93	3.43	2031	4	1.22	48	680	17	0.07	9	256	1.28	921	10	194
RR240	1909980	3906148	Sigatoka	0.003	<0.01	<0.5	6.7	<5	270	<0.5	<2	2.01	<0.5	29	160	28	10.59	1.34	1.29	1402	1	2.03	23	480	14	0.12	12	209	0.78	501	10	136
RR241	1909664	3906036	Sigatoka	<0.001	<0.01	<0.5	5.6	<5	90	<0.5	<2	2.79	3	55	220	48	19.67	0.41	1.73	2718	2	1.49	30	530	18	0.31	5	102	0.8	716	10	270
RR241-1	1909664	3906036	Sigatoka	0.021	0.01	<0.5	6.71	<5	110	<0.5	<2	3.07	2.5	48	192	48	16.62	0.51	1.95	2513	4	1.83	26	680	17	0.31	16	132	1.53	788	10	243
RR242	1909633	3905802	Sigatoka	0.002	<0.01	<0.5	6.43	<5	260	<0.5	<2	1.95	<0.5	25	183	24	10.46	1.42	1.3	1236	2	1.31	22	340	10	0.01	6	135	0.63	439	10	93
RR243	1903422	3896790	Sigatoka	<0.001	<0.01	<0.5	6.95	<5	80	<0.5	<2	2.71	1.3	26	118	36	8.23	0.56	1.81	1155	<1	2.05	28	400	14	0.04	9	144	0.49	264	10	103
RR244	1904123	3896469	Sigatoka	<0.001	<0.01	<0.5	8.15	<5	110	<0.5	<2	4.5	0.7	27	70	32	8.03	0.6	2.68	1412	1	2.64	27	500	8	<0.01	9	214	0.76	308	<10	66
RR245	1904915	3896350	Sigatoka	<0.001	<0.01	<0.5	0.79	<5	20	<0.5	<2	0.6	12.6	38	163	39	>25.0	0.1	0.31	4104	3	0.18	13	20	18	<0.01	6	<1	0.55	1040	30	220
RR246	1905525	3895860	Sigatoka	<0.001	<0.01	<0.5	3.37	<5	50	<0.5	<2	2.49	7.5	38	107	14	>25.0	0.31	1.41	4289	3	0.93	12	70	17	<0.01	9	19	0.72	862	20	280
RR247	1905625	3895517	Sigatoka	<0.001	<0.01	<0.5	4.86	<5	90	<0.5	<2	3.12	0.8	29	98	17	16.73	0.55	1.85	2748	1	1.41	11	130	10	<0.01	16	91	0.79	549	10	167
RR248	1905471	3894962	Sigatoka	<0.001	<0.01	<0.5	3.24	<5	40	<0.5	<2	2.73	7.2	44	139	9	>25.0	0.29	1.86	3988	1	0.87	13	130	16	<0.01	8	14	0.7	917	20	252
RR249	1905503	3894944	Sigatoka	<0.001	<0.01	<0.5	7.14	<5	100	<0.5	<2	4.12	1.2	24	60	18	11.74	0.59	1.62	1772	<1	2.19	14	640	10	0.01	<5	175	0.57	294	10	90
RR250	1903192	3897662	Sigatoka	<0.001	<0.01	<0.5	5.15	<5	90	<0.5	<2	3.33	2.4	26	85	13	17.6	0.56	1.64	2724	3	1.55	11	250	13	0.01	13	109	0.96	684	10	149
RR251	1891087	3907809	Sigatoka	<0.001	<0.01	<0.5	6.82	<5	110	<0.5	<2	2.93	0.9	32	149	42	9.85	0.86	2.09	1437	1	1.57	25	380	35	0.02	10	195	0.95	495	10	214
RR251-1	1891087	3907809	Sigatoka	<0.001	<0.01	<0.5	6.76	<5	110	<0.5	<2	3.17	1.1	37	180	45	11.76	0.85	2.25	1697	1	1.56	29	340	13	0.01	8	188	1.02	597	10	172
RR252	1891309	3908046	Sigatoka	<0.001	<0.01	<0.5	3.53	<5	60	<0.5	<2	2.61	9.8	113	77	95	>25.0	0.21	2.55	3215	2	0.3	40	280	18	<0.01	12	61	0.81	1256	20	386
RR253	1892035	3906996	Sigatoka	<0.001	0.01	<0.5	6.98	<5	110	<0.5	<2	3.26	0.5	28	127	26	8.04	0.57	1.85	1062	<1	1.36	24	350	12	0.02	7	271	0.85	370	10	107
RR254	1892540	3907715	Sigatoka	0.01	<0.01	<0.5	4.54	<5	60	<0.5	<2	2.15	4.1	76	147	51	22.7	0.34	1.55	2284	1	0.94	34	130	12	<0.01	14	106	0.84	860	20	272
RR255	1892762	3907572	Sigatoka	0.015	<0.01	<0.5	4.72	<5	60	<0.5	<2	2.72	2	44	177	44	17.82	0.37	1.22	2083	6	0.93	29	60	13	0.01	17	141	0.87	600	20	214
RR256	1893029	3907158	Sigatoka	0.001	<0.01	<0.5	5.99	<5	80	<0.5	<2	3.89	3	48	109	44	14.07	0.4	2.11	1670	2	1.2	31	400	8	0.01	8	239	0.97	635	20	177
RR257	1893575	3906206	Sigatoka	<0.001	0.01	<0.5	7.65	<5	100	<0.5	<2	3.4	1	44	236	72	11.76	0.42	3.02	1207	<1	0.85	50	290	9	0.01	7	235	0.88	690	10	135
RR258	1894351	3905569	Sigatoka	<0.001	<0.01	<0.5	5.93	<5	90	<0.5	<2	2.67	2.4	58	210	52	17.98	0.42	2.55	1963	1	0.96	41	90	12	0.01	8	163	0.93	732	10	208
RR259	1894629	3905126	Sigatoka	<0.001	<0.01	<0.5	4.95	<5	70	<0.5	<2	2.72	5	75	204	63	21.7	0.42	2.3	2409	2	0.93	42	180	11	<0.01	13	118	0.94	997	20	288
RR260	1894685	3905154	Sigatoka	0.007	0.01	<0.5	6.33	<5	110	<0.5	<2	2.91	3.9	47	94	47	16.95	0.49	1.77	1786	<1	1.18	27	410	8	0.02	10	241	1.37	839	10	214
RR261	1904782	3894009	Sigatoka	0.002	<0.01	<0.5	4.91	<5	110	<0.5	3	2.48	4.8	25	99	17	20.1	0.6	1.36	2456	<1	1.53	15	360	3	<0.01	18	127	1.17	866	20	160
RR261-1	1904782	3894009	Sigatoka	0.003	<0.01	<0.5	4.81	<5	110	<0.5	<2	2.48	3	24	97	16	19.1	0.6	1.36	2397	<1	1.53	13	420	<2	0.01	16	126	1.17	832	20	150
RR262	1904125	3892343	Sigatoka	0.001	<0.01	<0.5	6.57	<5	80	<0.5	<2	4.11	3	28	80	23	10.95	0.53	2.41	1703	<1	1.62	19	780	<2	0.01	10	201	1.08	536	10	100
RR263	1903702	3891940	Sigatoka	0.003	<0.01	<0.5	6.71	<5	120	<0.5	2	2.89	2.6	22	116	35	8.69	0.65	1.67	1368	<1	1.99	21	510	3	0.2	10	130	0.75	307	<10	123
RR264	1903728	3891928	Sigatoka	0.002	0.01	<0.5	6.81	<5	90	<0.5	<2	3.06	1.6	21	59	16	8.34	0.31	1.79	1437	<1	2.5	13	350	<2	0.04	8	149	0.96	327	<10	74
RR265	1904029	3892910	Sigatoka	0.001	<0.01	<0.5	5.96	<5	70	<0.5	<2	3.86	4.8	22	76	15	14	0.32	1.48	1826	<1	1.91	17	460	<2	0.01	7	179	1.36	684	10	91
RR266	1906284	3894211	Sigatoka	0.001	<0.01	<0.5	3.56	<5	50	<0.5	11	2.5	6.8	38	194	14	>25.0	0.29	1.6	2516	<1	0.86	23	370	<2	<0.01	7	98	1.27	1463	20	202
RR267	1906291	3894220	Sigatoka	0.002	<0.01	<0.5	3.31	<5	30	<0.5	<2	2.58	11.3	42	167	12	>25.0	0.22	1.65	3689	1	0.81	19	180	8	<0.01	11	92	0.82	1025	20	281
RR268	1907436	3892816	Sigatoka	0.001	<0.01	<0.5	3.74	<5	40	<0.5	<2	2.97	9.6	46	199	22	>25.0	0.23	2.12	2843	<1	0.67	27	220	<2	<0.01	10	103	1.33	1459	20	222
RR269	1907454	3892830	Sigatoka	0.002	<0.01	<0.5	6.27	<5	130	<0.5	<2	2.31	2	23	139	34	9.16	0.7	2.46	1807	<1	1.83	33	500	21	0.01	7	118	0.92	414	10	166
RR270	1890750	3908998	Sigatoka	0.003	0.01	<0.5	4.04	<5	100	<0.5	<2	2.21	13.7	120	55	119	>25.0	0.25	2.29	3440	<1	0.23	55	510	6	0.01	15	176	1.51	1750	20	422
RR271	1890732	3909005	Sigatoka	0.002	0.01	<0.5	6.08	<5	180	<0.5	<2	1.91	8.1	95	125	121	>25.0	0.38	1.89	2723	<1	0.33	46	400	<2	0.02	8	250	1.25	1412	20	338
RR272	1891268	3906608	Sigatoka	0.001	0.01	<0.5	6.44	<5	110	<0.5	<2	3.14	1.6	30	196	32	10.95	0.47	1.89	1367	<1	1.15	31	300	4	0.02	9	236	0.98	454	10	147
RR273	1890130	3907783	Sigatoka	0.002	<0.01	<0.5	6	<5	140	<0.5	<2	2.47	2.2	37	151	88	12.85	1.01	1.96	1760	<1	1.14	29	350	<2	0.01	13	169	1.11	633	10	197
RR274	1889813	3906420	Sigatoka	0.001	<0.01	<0.5	4.06	<5	50	<0.5	<2	1.71	10.9	111	339	83	>25.0	0.44	2.3	2634	<1	0.27	78	160	<2	<0.01	<5	101	0.78	1238	20	347
RR275	1888652	3905168	Sigatoka	0.002	0.01	<0.5	5.25	<5	70	<0.5	<2	1.99	7.7	78	376	58	24.8	0.42	1.98	2155	<1	0.87	66	100	<2	0.01	7	168	0.97	1189	10	276
RR276	1888672	3905117	Sigatoka	0.003	<0.01	<0.5	6.21	<5	90	<0.5	<2	2.8	2.5	37	182	51	12.85	0.68	2.09	1655	<1	1.24	33	300	<2	0.01	10	171	1.09	683	10	171
RR277	1888645	3903208	Sigatoka	0.002	<0.01	<0.5	4.63	<5	60	<0.5	<2	1.51	7.3	62	175	114	23.3	0.76	1.66	2935	<1	0.56	38	90	<2	<0.01	7	88	0.98	679	10	430
RR278	1887892	3903291	Sigatoka	0.002	0.01	<0.5	6.97	<5	130	<0.5	<2	1.8	<0.5	24	145	41	7.98	0.61	1.53	1049	<1	2.11	37	280	<2	0.01	11	138	0.72	342	10	122
RR279	1887875	3903256	Sigatoka	0.001	<0.01	<0.5	5.44	<5	80	<0.5	2	3.94	5.3	55	233	49	19.2	0.63	2.53	4090	<1	0.77	41	70	<2	0.01	8	159	1.2	1021	10	245

Appendix1 Chemical analysis data of stream sediment samples (8)

code				Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element	Easting	Northing	system	Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RR280	1886846	3901260	Sigatoka	0.002	0.01	<0.5	5.48	<5	310	<0.5	<2	6.09	2.6	37	157	56	12.65	0.88	2.01	>10000	2	0.63	33	350	2	0.02	9	348	1.17	703	10	168
RR281	1893068	3900385	Sigatoka	0.002	<0.01	<0.5	6.97	<5	130	<0.5	<2	4.47	1.5	32	120	30	9.64	0.48	2.03	1373	<1	1.27	30	330	4	0.01	10	289	0.97	481	10	126
RR281-1	1893068	3900385	Sigatoka	<0.001	0.01	<0.5	6.79	<5	130	<0.5	<2	3.91	1.3	31	101	30	9.21	0.49	1.79	1412	<1	1.19	27	290	<2	0.01	5	278	0.84	436	10	120
RR282	1894914	3903342	Sigatoka	0.001	<0.01	<0.5	5.21	<5	70	<0.5	<2	2.8	3.8	55	226	33	19.2	0.37	1.7	1647	<1	0.92	47	70	<2	<0.01	10	180	0.93	768	10	220
RR283	1894927	3903347	Sigatoka	0.001	<0.01	<0.5	5.16	<5	80	<0.5	<2	2.49	3.7	49	271	35	17.6	0.4	1.45	1750	<1	0.89	46	130	6	<0.01	15	163	1.01	705	10	214
RR284	1896565	3905840	Sigatoka	0.001	<0.01	<0.5	4.27	<5	60	<0.5	<2	2.08	6.1	65	113	32	>25.0	0.26	1.45	2174	<1	0.72	29	110	4	0.01	7	136	0.83	850	20	289
RR285	1896537	3905845	Sigatoka	0.001	<0.01	<0.5	3.49	<5	50	<0.5	<2	1.91	9.7	97	130	66	>25.0	0.17	1.81	2782	<1	0.44	42	120	<2	<0.01	9	99	0.76	1046	20	369
RR286	1896414	3907006	Sigatoka	0.002	<0.01	<0.5	5.58	<5	80	<0.5	<2	3.28	3.5	51	141	36	17.2	0.35	2.06	1767	<1	1.01	38	200	<2	0.02	12	212	1.11	763	10	213
RR287	1896420	3907031	Sigatoka	0.002	<0.01	<0.5	2.85	<5	40	<0.5	<2	1.15	11.4	108	142	65	>25.0	0.13	1.38	2929	<1	0.32	50	100	4	0.01	6	72	0.84	1264	20	417
RR288	1897185	3908802	Sigatoka	0.004	<0.01	<0.5	3.11	<5	40	<0.5	2	1.29	14.8	132	102	106	>25.0	0.13	1.75	3345	<1	0.29	58	170	<2	0.01	10	77	0.82	1414	10	463
RR289	1897154	3908696	Sigatoka	0.001	<0.01	<0.5	5.22	<5	70	<0.5	3	3.05	5.7	61	121	36	23.2	0.31	2.1	2326	<1	0.94	29	60	<2	0.02	7	175	0.85	795	10	261
RR290	1898679	3907486	Sigatoka	0.001	<0.01	<0.5	4.68	<5	60	<0.5	<2	2.64	5.9	57	87	33	22.4	0.29	1.85	2121	2	0.85	26	90	<2	0.01	6	153	0.86	773	10	251
RR291	1898690	3907519	Sigatoka	0.001	<0.01	<0.5	3.95	<5	50	<0.5	2	2.29	9.7	72	104	35	>25.0	0.19	1.85	2428	1	0.7	35	60	3	0.01	<5	123	0.76	872	20	325
RR291-1	1898690	3907519	Sigatoka	0.001	<0.01	<0.5	3.92	<5	50	<0.5	3	2.31	11.5	78	115	38	>25.0	0.18	1.93	2590	<1	0.7	38	70	<2	0.01	8	125	0.82	887	20	346
RR292	1898608	3907268	Sigatoka	0.067	<0.01	<0.5	3.02	<5	40	<0.5	2	1.61	9	75	115	32	>25.0	0.2	1.21	2637	<1	0.46	30	30	<2	<0.01	5	84	0.95	1039	20	328
RR293	1898116	3906408	Sigatoka	0.002	<0.01	<0.5	4.33	<5	60	2.6	6	2.17	5.4	62	107	31	>25.0	0.27	1.58	2230	<1	0.74	26	100	<2	<0.01	<5	120	1.26	995	20	268
RR294	1898139	3906400	Sigatoka	<0.001	<0.01	<0.5	5.96	<5	90	2.9	2	2.48	2.1	32	80	25	12.59	0.51	1.31	1470	<1	1.12	18	310	<2	0.01	<5	176	1.28	553	10	144
RR295	1896995	3905492	Sigatoka	0.01	<0.01	<0.5	6.95	<5	110	2.4	3	2.54	1.8	32	60	28	10.76	0.52	1.44	1375	<1	1.24	19	340	<2	0.01	<5	217	1.03	431	10	131
RR296	1886490	3900914	Sigatoka	0.002	<0.01	<0.5	6.53	<5	80	2.1	<2	5.35	1.4	32	132	55	9.52	1.51	2.38	2290	<1	0.69	23	370	<2	<0.01	<5	191	0.86	460	10	116
RR297	1886057	3901364	Sigatoka	0.002	0.01	<0.5	6.41	<5	60	3	<2	1.94	1.5	36	108	56	13.32	0.76	2.12	1760	<1	0.91	22	230	<2	<0.01	<5	110	1.33	726	20	191
RR298	1885646	3901642	Sigatoka	0.002	0.01	<0.5	6.44	<5	50	2.6	<2	1.8	1.5	29	46	58	11.16	1.36	2.42	1425	<1	0.87	12	380	<2	0.01	<5	104	1.08	552	10	164
RR299	1884680	3901107	Sigatoka	<0.001	0.01	<0.5	5.34	<5	60	2.9	<2	1.13	3.7	41	47	35	22.4	0.31	1.03	2370	<1	1.77	14	80	<2	0.02	<5	86	1.28	987	20	314
RR300	1884642	3900690	Sigatoka	<0.001	<0.01	<0.5	5.34	<5	40	3	4	4.84	6.2	82	640	36	22	0.34	3.82	2110	<1	0.51	75	110	<2	<0.01	<5	147	1.45	1557	20	188
RR301	1883743	3900036	Sigatoka	0.002	<0.01	<0.5	5.71	<5	50	2.6	2	3.83	3.9	58	267	45	20.7	0.49	2.4	3580	<1	0.89	40	120	<2	0.01	<5	133	1.17	924	20	267
RR301-1	1883743	3900036	Sigatoka	0.001	<0.01	<0.5	6.29	<5	50	2.8	3	3.24	3.7	53	187	48	19.34	0.57	2.38	3090	<1	0.99	32	100	<2	<0.01	<5	134	1.24	937	20	252
RR302	1883824	3900081	Sigatoka	<0.001	<0.01	<0.5	6.1	<5	40	3.3	7	2.75	3.7	43	275	49	18.74	0.29	1.95	2000	<1	1.36	45	180	5	0.05	<5	107	1.46	873	20	251
RR303	1883905	3900005	Sigatoka	<0.001	0.01	<0.5	6.77	<5	70	2.5	<2	3.01	1.8	37	138	48	10.9	1.52	2.48	1550	<1	0.73	27	290	<2	<0.01	<5	133	1.07	518	<10	140
RR304	1881319	3890546	Sigatoka	<0.001	<0.01	<0.5	7.54	<5	70	2.6	<2	4.97	2.7	38	107	26	13.44	0.29	2.21	1560	<1	1.21	24	370	<2	0.02	<5	254	1.14	660	10	141
RR305	1881130	3889536	Sigatoka	<0.001	<0.01	<0.5	7.01	<5	80	2.4	9	4.45	3.4	45	138	41	15.17	0.3	2.4	1740	1	1.26	34	220	<2	<0.01	<5	240	1.04	675	10	179
RR306	1881213	3889235	Sigatoka	<0.001	<0.01	<0.5	6.59	<5	70	2.2	2	4.51	3	44	126	28	16.93	0.31	1.81	1670	<1	1.2	22	310	<2	0.02	<5	244	1.03	627	10	178
RR307	1880921	3888926	Sigatoka	<0.001	<0.01	<0.5	5.76	<5	70	2.2	<2	6.77	2.7	47	335	44	13.49	0.4	3.74	2020	<1	0.91	42	220	<2	<0.01	<5	208	0.98	624	10	168
RR308	1880938	3888910	Sigatoka	<0.001	<0.01	<0.5	7.77	<5	80	1.9	<2	6.96	1.5	27	40	27	10.03	0.42	1.51	1250	<1	1.46	13	540	<2	0.07	<5	381	0.76	396	10	124
RR309	1881093	3891195	Sigatoka	<0.001	<0.01	<0.5	5.55	<5	50	2	2	4.42	4.3	55	160	26	20.6	0.23	1.94	1905	<1	0.95	29	290	<2	0.01	<5	191	0.88	708	20	214
RR310	1878220	3890911	Sigatoka	<0.001	<0.01	<0.5	7.08	<5	90	1.8	2	4.59	2.1	40	110	26	12.84	0.34	2.61	1590	<1	1.16	25	360	<2	<0.01	<5	231	0.81	486	10	150
RR311	1876976	3889108	Sigatoka	<0.001	<0.01	<0.5	5.38	<5	60	2.2	<2	4.07	4.3	62	373	33	20.5	0.33	2.64	2110	<1	0.88	47	130	<2	<0.01	<5	176	0.96	881	20	230
RR311-1	1876976	3889108	Sigatoka	<0.001	<0.01	<0.5	6.65	<5	80	2.3	<2	4.92	3.2	51	306	31	16.35	0.41	2.86	1915	<1	1.21	41	320	<2	<0.01	<5	240	0.99	688	10	191
RR312	1877795	3888661	Sigatoka	<0.001	<0.01	<0.5	5.01	<5	60	1.9	<2	4.05	5.2	70	321	34	22.2	0.29	2.99	2230	<1	0.82	55	70	<2	<0.01	<5	152	0.81	908	20	248
RR313	1877725	3888664	Sigatoka	<0.001	<0.01	<0.5	8.26	<5	80	2.6	5	6.08	1.6	30	187	27	9.61	0.53	1.9	1465	<1	1.66	22	930	<2	<0.01	<5	360	1.06	451	10	127
RR314	1876085	3889022	Sigatoka	<0.001	<0.01	<0.5	7.32	<5	90	2.6	3	5.77	1.6	37	1691	36	9.93	0.59	3.46	1665	<1	1.33	67	630	<2	<0.01	<5	283	1.06	441	10	136
RR315	1874227	3888830	Sigatoka	<0.001	<0.01	<0.5	5.81	<5	60	2.1	3	6.03	2.2	43	807	31	12.26	0.42	3.98	2220	<1	0.85	55	270	<2	<0.01	<5	199	0.92	275	10	159
RR316	1873727	3887187	Sigatoka	<0.001	<0.01	<0.5	6.37	<5	130	2.2	<2	5.23	1.4	37	996	34	10.4	0.7	3.3	1615	<1	1.19	50	540	<2	<0.01	<5	236	0.9	494	10	119
RR317	1887601	3892202	Sigatoka	0.018	<0.01	<0.5	5.5	<5	60	2.1	6	3.83	5.8	60	246	25	21.8	0.26	1.95	2040	<1	0.99	33	190	2	<0.01	<5	176	0.89	656	20	229
RR318	1887621	3892190	Sigatoka	<0.001	<0.01	<0.5	6.15	<5	60	2.2	2	4.53	3.8	50	170	24	18.19	0.26	2.04	1780	<1	1.18	27	160	<2	<0.01	<5	195	0.99	738	20	194
RR319	1886872	3891637	Sigatoka	<0.001	<0.01	<0.5	6.65	<5	70	2.3	2	4.47	2.9	47	156	22	16.4	0.33	2.03	1665	<1	1.27	26	180	2	<0.01	<5	215	1.02	672	10	179
RR320	1886869	3891262	Sigatoka	<0.001	<0.01	<0.5	6.55	<5	70	2.4	3	4.01	2.3	40	147	22	14.58	0.39	1.87	1540	<1	1.21	24	210	<2	<0.01	<5	215	1.07	638	10	162
RR321	1886014	3889796	Sigatoka	<0.001	<0.01	<0.5	7.86	<5	100	1.7	2	4.49	0.9	28	86	20	9.48	0.5	1.67	1115	<1	1.52	17	330	<2	0.01	<5	287	0.68	334	10	119
RR321-1	1886014	3889796	Sigatoka	<0.001	<0.01	<0.5	8.29	<5	100	2.2	<2	4.56	<0.5	27	81	22	8.94	0.54	1.7	1095	<1	1.58	17	350	<2	0.01	<5	301	0.92	403	10	114
RR322	1885837	3889578	Sigatoka	<0.001	<0.01	<0.5	7.18	<5	80	2	2	4.93	3	43	132	23	15.65	0.35	2.06	1575	<1	1.25	23	270	<2	0.01	<5	241	0.86	541	20	169
RR323	1884565	3887644	Sigatoka	<0.001	<0.01	<0.5	6.63	<5	80	2.4	<2	4.2	2.1	35	177	21	12.52	0.42	1.56	1425	<1	1.38	21	180	<2	0.01	<5	205	1.06	486	10	145
RR324	1884541	3887658	Sigatoka	<0.001	<0.01	<0.5	6.58	<5	80	2.5	7	4.38	3.7	44	100	22	16.81	0.32	1.77	1605	<1	1.12	20	270	<2	0.02	<5	204	1.11	655	10	183
RR325	1885780	3888549	Sigatoka	<0.001	<0.01	<0.5	6.23	<5	50	2.1	3	4.91	5	60	208	26	20.2	0.21	2.67	1975	<1	0.94	35	170	<2	<0.01	<5	182	0.98	812	20	205
RR326	1885838	3888548	Sigatoka	0.042	<0.01	<0.5	6.24	<5	80	1	<2	3.82	3.1	50	164	23	20.2	0.37	1.7	1815	5	1.25	25	80	13	0.01	11	157	1.32	945	10	216
RR327	1886801	3894235	Sigatoka	0.002	<0.01	<0.5	7.97	<5	180	0.9	<2	3.86	0.6	29	94	35	10	0.85	1.92	1255	3	1.71	20	520	11	0.02	<5	300	0.94	453	10	120
RR328	1872456	3879551	Sigatoka	<0.001	<0.01	<0.5	5.87	<5	90	1.1	<2	2.63	0.8	16	224	13	12.1	0.33	0.81	1340	2	2.09	16	280	7	0.01	5	142	0.99	463	10	146
RR329	1872001	3878159	Sigatoka	<0.001	<0.01	<0.5	7.29	<5	180	1.1	<2	3.55	0.5	28	193	31	11.6	0.83	1.84	1665	2	1.98	26	590	9	0.01	10	234	0.94	520	10	128
RR330	1870135	3877015	Sigatoka	0.014	<0.01	<0.5	6.7	<5	80	1	<2	2.85	<0.5	17	683	14	5.85	0.34	1.59	1055	1	2.84	38	210	4	0.03	7	158	0.64	232	<10	83
RR331	1870159	3876996	Sigatoka	0.005	0.01	<0.5	7.03	<5	220	0.9	<2	1.92	0.9	18	60	35	5.87	0.65	1.37	1065	1	2.22	16	290	8	0.03	<5	120	0.53	214	<10	157
RR332	1869948	3876450	Sigatoka	0.001	<0.01	<0.5	6.6	<5	90	1.1	<2	2.53	1	28	312	22	11.7	0.63	1.61	1910	2	1.83	17	60	10	0.01	9	248	1.14	553	10	227
RR332-1	1869948	3876450	Sigatoka	0.001	<0.01	<0.5	6.64	<5	90	1.2	<2	2.33	0.7	27	222	20	10.25	0.6	1.48	1645	2	1.91	15	140	8	0.01	<5	247	1.2	530	10	195
RR333	1870053	3875160	Sigatoka	0.002	<0.01	<0.5	6.48	<5	70	1.1	<2	2.98	<0.5	14	151	11	6.51	0.31	0.98	1180	1	2.64	14	180	5	0.01	6	179	0.82	309	<10	118
RR334	1867288	3874670	Sigatoka	0.002	0.01	<0.5	7.1	<5	110	0.9	3	1.95	<0.5	17	32	19	6.26	0.43	1.23	967	<1	1.45	7	360	7	0.01	6	209	0.77	257	<10	107
RR335	1867268	3874643	Sigatoka	0.086	<0.01	<0.5	6.09	<5	70	1.2	<2	2.09	0.6	19	331	17	11.8	0.32	0.99	1925	1	2.05	14	60	7	<0.01	8	147	1.09	536	10	218
RR336	1867873	3873850	Sigatoka	0.004	0.01	<0.5	7.12	<5	100	0.9	<2	2.49	1.2	33	75	34	11.85	0.5	1.71	1900	2	1.43	14	60	5	<0.01	<5	219	0.85	588	10	199
RR337	1868300	3873248	Sigatoka	<0.001	0.01	<0.5	7.14	<5	100	1	<2	1.94	<0.5	13	69	15	4.83	0.45	0.84	792	<1	2.84	9	250	8	0.02	<5	179	0.61	202	<10	83
RR338	1868135	3872824	Sigatoka	<0.001	<0.01	<0.5	7.74	<5	110	0.8	<2	2.65	<0.5	25	46	27	7.09	0.53	1.47	887	1	1.57	12	320	6	0.03	7	244	0.72	309	<10	109
RS001	1913843	3863670	Others	0.005	0.04	<0.5	6.6	<5	90	0.9	<2	1.17	<0.5	26	146	46	10.69	0.52	1.28	2046	<1	1.4	29	60	18	0.01	<5	56	0.75	388	10	257
RS002	1913862	3862678	Others	0.003	<0.01	<0.5	4.93	<5	60	0.7	<2	1.19	<0.5	37	314	41	18.4	0.36	1.3	3532	<1	0.97	46	<10	10	<0.01	<5	10	0.61	558	10	441
RS003	1913855	3862710	Others	0.001	0.01	<0.5	9.03	28	70	0.7	<2	0.53	<0.5	43	52	81	11.65	0.29	1.08	2948	<1	0.49	19	250	5	0.01	<5	32	0.53	271	10	123
RS004	1914289	3862300	Others	0.002	0.01	<0.5	6.45	<5	70	0.9	<2	1.04	<0.5	31	134	34	11.97	0.32	1.12	2709	<1	1.17	15	50	3	<0.01	9	28	0.76	323	10	315
RS005	1914784	3861852	Others	0.002	0.02	<0.5	7.86	<5	120	0.8	<2	1.37	<0.5	38	71	48	9.52	0.29	1.08	2978	<1	0.99	17	180	10	0.02	7	105	0.86	387	<10	158
RS006	1913117	3861112	Others	0.001	0.01	<0.5	5.97	<5	60	0.7	<2	1.23	<0.5	16	652	16	5.32	0.58	0.95	1222	<1	1.42	21	90	5	0.14	7	94	0.68	139	<10	78
RS007	1912092	3861081	Others	0.001	0.01	<0.5	6.79	<5	50	1	<2	0.37	<0.5	37	386	33	10.8	0.22	0.58	2955	<1	0.3	24	160	8	0.02	<5	12	1.12	391	10	139
RS008	1911479	3862342	Others	0.001	0.01	<0.5	6.66	<5	50	0.7	3	1.57	1.4	40	189	63	20.2	0.23	1.22	2273	<1	0.53	23	20	8	<0.01	<5	19	0.81	1065	20	420
RS009	1909408	3863145	Others	0.003	0.01	<0.5	5.55	<5	40	<0.5	<2	2.5	1.9	59	261	58	21.9	0.23	2.09	2556	<1	0.61	43	<10	9	<0.01	<5	5	0.3	1265	20	222
RS010	1909409	3863102	Others	0.002	0.02	<0.5	2.6	<5	10	<0.5	7	0.76	4.4	77	103	50	>25.0	0.05	0.95	3821	1	0.15	30	10	5	<0.01	<5	<1	0.13	1355	30	372
RS010-1	1909409	3863102	Others	0.003	0.01	<0.5	3.92	<5	20	<0.5	<2	1.08	4.7	70	106	60	>25.0	0.07	1.22	3994	<1	0.23	26	10	9	<0.01	<5	<1	0.29	1345	20	325
RS011	1909180	3861860	Others	0.002	0.01	<0.5	4.96	<5	40	0.7	<2	0.99	3.5	50	165	58	24.1	0.12	0.73	4310	<1	0.22	28	70	13	<0.01	7	<1	0.84	1244	20	333
RS012	1909178	3861891	Others	0.002	0.01	<0.5	3.55	<5	30	0.6	<2	1.36	5.9	68	274	76	>25.0	0.11	1.22	3670	2	0.28	51	20	13	<0.01	<5	<1	0.91	1965	20	329
RS013	1907352	3862351	Others	0.002	0.03	0.6	3.12	<5	30	0.5	7	0.78	6.4	66	439	44	>25.0	0.1	0.66	3050	<1	0.3	67	20	18	<0.01	<5	<1	0.67	1956	20	312
RS014	1906077	3863354	Others	0.003	0.02	<0.5	3.61	<5	30	0.5	<2	2.07	4.2	66	125	48	>25.0	0.13	2.08	2350	<1	0.51	38	<10	13	<0.01	<5	<1	0.69	1633	10	247
RS015	1906047	3863369	Others	0.001	0.01	<0.5	5.13	<5	60	0.7	<2	2.94	1.4	36	223	31	12.2	0.32	2.4	1880	<1	1.33	43	30	11	<0.01	<5	61	0.76	619	10	148
RS016	1907062	3865398	Others	0.033	0.01	0.7	3.59	<5	20	<0.5	<2	1.59	6.5	80	131	70	>25.0	0.07	1.93	2310	<1	0.21	45	<10	9	<0.01	<5	<1	0.63	2199	20	283
RS017	1907029	3865428	Others	0.002	0.01	<0.5	4.64	<5	50	0.7	<2	2.09	2.4	42	144	40	16.4	0.23	1.75	2100	<1	0.84	26	80	12	<0.01	7	16	0.89	1147	10	154
RS018	1907053	3864920	Others	0.002	0.01	0.5	4.13	<5	30	0.6	<2	1.18	4.3	62	111	59	>25.0	0.17	1.15	2330	<1	0.43	31	20	12	<0.01	<5	<1	0.93	1859	20	261
RS019	1907107	3864690	Others	0.001	0.01	<0.5	6.36	<5	70	0.8	<2	1.29	1.6	30	93	47	14.45	0.27	0.85	2460	<1	0.72	10	170	12	<0.01	10	20	0.85	614	10	300
RS020	1906123	3862529	Others	0.003	0.02	<0.5	5.47	<5	40	0.7	<2	1.76	2.7	52	169	53	18.55	0.21	1.96	2030	<1	0.5	34	100	11	<0.01	<5	15	0.84	1299	10	194
RS021	1907757	3861876	Others	0.003	0.01	0.7	3.38	<5	30	0.5	<2	1.16	6	74	309	41	>25.0	0.11	0.96	2810	1	0.25	45	<10	16	<0.01	<5	<1	0.77	2000	20	312
RS021-1	1907757	3861876	Others	0.016	0.01	0.5	3.11	<5	30	0.5	<2	1.23	5.7	74	257	38	>25.0	0.1	0.98	2840	<1	0.22	45	<10	15	<0.01	<5	<1	0.76	2003	20	325
RS022	1904341	3864011	Others	<0.001	0.01	<0.5	4.35	<5	70	0.7	<2	2.78	1.1	30	493	14	10.95	0.32	2.48	2690	<1	1.33	85	20	9	<0.01	6	43	0.71	307	10	234
RS023	1903615	3862764	Others	<0.001	0.01	<0.5	5	<5	70	0.7	<2	2.5	<0.5	24	313	13	6.88	0.42	2.32	1790	<1	1.66	56	90	9	<0.01	<5	72	0.83	307	<10	133

Appendix1 Chemical analysis data of stream sediment samples (9)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RS023-1	1903615	3862764	Others	0.001	0.01	<0.5	5.42	<5	80	0.7	<2	2.17	<0.5	21	228	14	5.71	0.48	1.96	1530	<1	1.85	46	160	9	<0.01	<5	82	0.72	233	10	112
RS024	1902659	3863345	Others	0.171	0.01	<0.5	5.47	<5	70	0.7	<2	1.48	1.4	39	214	32	14.4	0.27	1.21	2510	<1	0.84	27	60	10	<0.01	7	42	0.79	458	10	266
RS025	1900008	3863751	Others	<0.001	0.01	<0.5	5.03	<5	60	0.8	<2	1.19	0.6	30	195	20	11.35	0.29	0.99	1895	<1	0.95	14	40	11	<0.01	11	30	0.93	444	10	242
RS025-1	1900008	3863751	Others	0.001	0.01	<0.5	5.73	<5	70	0.8	<2	1.18	0.7	26	146	23	9.22	0.32	0.96	1550	<1	1	12	70	10	<0.01	6	38	0.92	407	10	218
RS026	1902960	3866467	Others	0.001	0.01	<0.5	6.96	<5	70	0.5	<2	0.62	0.7	31	52	38	10.15	0.23	0.96	1550	<1	0.45	14	100	6	0.02	<5	24	0.45	323	10	189
RS027	1902959	3866462	Others	0.001	0.02	<0.5	8.09	<5	70	0.6	<2	0.83	0.7	33	75	47	11.1	0.31	1.07	2090	<1	0.46	14	190	10	0.05	7	62	0.55	380	10	190
RS027-1	1902959	3866462	Others	0.001	0.02	0.5	8.63	<5	80	0.6	<2	0.76	0.7	32	61	50	9.36	0.3	1.05	1850	<1	0.39	15	180	7	0.02	<5	64	0.51	314	10	153
RS028	1904037	3866579	Others	<0.001	0.02	<0.5	4.14	<5	80	0.7	<2	0.44	3.4	55	223	34	24.9	0.14	0.72	3940	<1	0.54	25	<10	21	<0.01	9	<1	0.94	1074	20	669
RS029	1904044	3866515	Others	0.001	0.01	<0.5	7.62	<5	110	0.6	<2	1.02	0.7	30	90	58	8.43	0.37	1.1	1605	<1	0.84	24	170	9	<0.01	<5	62	0.43	228	10	137
RS029-1	1904044	3866515	Others	0.001	0.01	<0.5	7.09	<5	100	0.6	<2	1.06	0.7	29	91	52	8.72	0.35	1.05	1565	<1	0.85	22	140	13	<0.01	<5	62	0.42	213	10	138
RS030	1903062	3865094	Others	0.001	0.01	<0.5	5.24	<5	70	0.6	<2	1.29	2.4	41	323	38	16.45	0.28	1.2	2680	<1	0.81	37	60	10	<0.01	6	31	0.62	475	10	293
RS031	1902930	3865230	Others	0.002	0.02	<0.5	7.38	<5	80	0.6	<2	0.85	0.6	32	53	42	10.25	0.27	1.06	1695	<1	0.52	14	150	9	0.02	<5	48	0.51	332	10	184
RS032	1899102	3864685	Others	<0.001	0.02	<0.5	6.97	<5	90	0.5	<2	1.76	<0.5	26	42	41	6.68	0.38	1.34	1095	<1	0.8	10	130	8	0.01	<5	128	0.48	280	10	94
RS033	1899066	3864701	Others	0.002	0.01	<0.5	5.22	<5	60	0.6	<2	0.72	<0.5	16	48	33	6.88	0.25	1.11	1300	<1	1.3	6	210	11	0.05	<5	31	0.53	230	<10	168
RS034	1895321	3865803	Others	0.003	0.01	<0.5	6.45	<5	180	0.8	<2	1.2	<0.5	22	17	25	7.81	0.56	1.29	2430	<1	1.06	10	200	9	<0.01	5	92	0.56	308	10	199
RS035	1895321	3865803	Others	0.003	0.02	<0.5	5.67	<5	110	0.7	<2	0.31	<0.5	13	18	23	5.27	0.57	0.78	1245	1	0.87	7	230	8	0.02	<5	26	0.46	122	10	152
RS035-1	1895321	3865803	Others	0.001	0.01	<0.5	5.11	<5	110	0.8	<2	0.28	<0.5	12	25	23	6.19	0.53	0.67	1280	<1	0.88	8	210	8	0.04	6	20	0.57	147	10	180
RS036	1896296	3864300	Others	<0.001	0.01	<0.5	5	<5	50	0.7	5	1.18	1.3	31	44	29	13.7	0.34	1.12	2790	<1	1.07	8	<10	9	<0.01	11	50	0.85	597	10	308
RS037	1893342	3867613	Others	<0.001	0.01	<0.5	5.84	<5	110	0.6	<2	0.19	<0.5	11	23	22	3.7	0.46	1.01	671	<1	1.93	10	180	12	0.02	<5	24	0.4	95	10	209
RS038	1893350	3867638	Others	<0.001	0.01	<0.5	5.11	<5	40	1	<2	1.72	0.6	13	56	14	11	0.14	0.72	2160	<1	1.42	6	200	14	0.04	11	49	1.11	365	10	112
RS039	1892654	3868719	Others	<0.001	<0.01	<0.5	4.21	<5	50	0.7	<2	1.59	0.8	11	90	3	12.1	0.19	0.56	2950	<1	1.51	6	10	10	<0.01	7	30	0.84	205	10	141
RS040	1892648	3868693	Others	<0.001	0.01	<0.5	4.9	<5	70	0.7	<2	1.01	<0.5	7	66	6	8.7	0.33	0.33	3683	<1	2	5	20	4	<0.01	<5	36	0.65	61	10	149
RS040-1	1892648	3868693	Others	<0.001	<0.01	<0.5	5.33	<5	70	0.8	<2	1.07	<0.5	6	63	5	6.15	0.37	0.34	2513	<1	2.32	3	70	3	<0.01	10	49	0.69	53	10	111
RS041	1892396	3867502	Others	<0.001	0.15	<0.5	4.55	<5	30	0.6	2	1.42	<0.5	18	63	15	16.25	0.16	0.76	2827	4	1.37	8	30	8	<0.01	<5	20	0.71	351	10	154
RS042	1892394	3867528	Others	<0.001	0.01	<0.5	2.89	<5	30	<0.5	<2	0.9	0.6	16	85	3	22.4	0.13	0.38	5176	2	1.13	4	10	7	<0.01	<5	<1	0.53	226	20	244
RS043	1890182	3866325	Others	<0.001	0.01	<0.5	3.13	<5	40	<0.5	<2	0.89	0.7	16	37	7	18.42	0.15	0.47	5701	<1	1.27	4	<10	4	<0.01	<5	<1	0.45	139	10	221
RS044	1891973	3865765	Others	<0.001	<0.01	<0.5	4.28	<5	30	0.6	<2	1.5	<0.5	11	51	13	9.51	0.16	0.61	2650	1	1.57	9	20	4	<0.01	<5	40	0.62	125	10	112
RS045	1894272	3864635	Others	<0.001	0.01	<0.5	5.03	<5	80	0.6	<2	9.18	1	20	40	30	7.04	0.43	1.6	1317	<1	0.87	8	150	4	0.04	6	1390	0.8	318	10	143
RS046	1887961	3869448	Others	<0.001	<0.01	<0.5	3.77	<5	40	0.6	2	1.41	1	25	201	12	21.9	0.19	0.88	2544	3	1.33	13	10	6	<0.01	<5	<1	0.71	660	20	156
RS047	1887958	3869444	Others	<0.001	<0.01	<0.5	5.48	<5	80	0.8	3	1.31	<0.5	5	73	4	5.23	0.31	0.3	1523	<1	2.56	4	100	4	0.01	10	65	0.8	105	<10	69
RS048	1888300	3868330	Others	<0.001	<0.01	<0.5	3.99	<5	40	0.6	<2	0.8	<0.5	5	78	8	9.53	0.19	0.12	5012	<1	1.87	2	20	4	<0.01	<5	25	0.55	27	10	353
RS049	1888321	3868348	Others	<0.001	<0.01	<0.5	3.28	<5	40	<0.5	10	1.26	2	26	173	11	22.5	0.17	0.76	3193	<1	1.31	10	20	4	<0.01	<5	<1	0.36	447	20	166
RS050	1888441	3868386	Others	<0.001	<0.01	<0.5	4.32	<5	70	0.5	<2	0.74	<0.5	7	89	5	10.92	0.27	0.18	3511	<1	2.08	2	10	7	<0.01	<5	21	0.46	60	10	137
RS050-1	1888441	3868386	Others	<0.001	<0.01	<0.5	4.02	<5	70	0.6	<2	0.7	<0.5	7	55	4	10.91	0.26	0.16	3525	<1	1.99	2	10	9	<0.01	<5	19	0.46	57	10	136
RS051	1888694	3867861	Others	<0.001	<0.01	<0.5	5.45	<5	60	0.6	<2	1.07	<0.5	4	31	<1	4.69	0.25	0.26	2175	<1	2.8	2	10	2	<0.01	<5	55	0.45	23	10	62
RS052	1888408	3867092	Others	<0.001	<0.01	<0.5	3.23	<5	40	0.5	<2	1.35	<0.5	18	115	12	15.14	0.16	0.76	3187	3	1.37	12	10	4	<0.01	<5	4	0.54	220	10	129
RS053	1887084	3866892	Others	<0.001	<0.01	<0.5	2.88	<5	40	0.5	<2	0.66	<0.5	5	68	20	5.5	0.12	0.13	2712	6	1.34	14	10	6	<0.01	<5	26	0.53	27	<10	89
RS054	1885121	3867516	Others	0.023	<0.01	<0.5	4.51	<5	50	0.6	<2	0.71	<0.5	13	25	13	10.1	0.28	0.68	3446	2	1.8	6	10	4	<0.01	<5	24	0.67	53	10	97
RS055	1885105	3867541	Others	<0.001	<0.01	<0.5	4.36	<5	60	0.6	6	1.44	<0.5	9	51	5	6.07	0.22	0.55	1877	<1	2.14	42	20	<2	<0.01	7	45	0.64	82	<10	73
RS056	1897051	3863828	Others	<0.001	0.02	<0.5	7.84	<5	40	0.6	<2	2.91	<0.5	30	46	48	8.95	0.24	2.23	1069	1	0.84	14	90	4	0.01	<5	192	0.75	323	10	115
RS057	1881494	3873566	Others	<0.001	<0.01	<0.5	5.23	<5	40	0.6	<2	2.76	<0.5	13	65	6	12.48	0.16	0.82	3437	2	1.84	7	20	7	<0.01	<5	66	0.71	189	10	141
RS058	1881195	3873812	Others	<0.001	<0.01	<0.5	6.65	<5	30	0.8	<2	4.04	<0.5	26	584	20	13.88	0.17	1.39	2148	2	2.04	29	120	9	0.01	<5	141	0.9	658	10	142
RS059	1881710	3874503	Others	<0.001	<0.01	<0.5	4.88	<5	40	0.5	<2	2.29	<0.5	20	101	10	14.11	0.18	1.05	2240	3	1.79	11	20	6	<0.01	<5	46	0.58	391	10	130
RS060	1882471	3875220	Others	0.001	<0.01	<0.5	7.03	<5	50	0.9	<2	3.6	<0.5	21	216	25	8.61	0.52	1.71	1489	<1	2.4	28	330	7	0.01	<5	164	0.74	296	<10	151
RS060-1	1882471	3875220	Others	<0.001	<0.01	<0.5	7.51	<5	60	1.1	<2	3.87	<0.5	23	251	28	8.67	0.51	1.78	1495	2	2.56	32	360	8	0.02	5	173	0.91	360	10	158
RS061	1882525	3875187	Others	<0.001	<0.01	<0.5	6.44	<5	40	0.9	<2	4.53	1.1	30	619	30	13.54	0.24	2.41	1835	4	1.92	42	150	8	0.01	6	113	0.87	609	10	113
RS062	1883210	3875080	Others	<0.001	<0.01	<0.5	7	<5	40	0.9	<2	4.75	0.7	26	321	28	8.62	0.26	2.6	1340	2	2.14	44	260	4	0.01	6	142	0.75	388	10	84
RS063	1883097	3875133	Others	<0.001	<0.01	<0.5	3.96	<5	30	0.6	<2	2.49	0.5	26	117	11	17.46	0.17	1.39	2556	5	1.44	12	10	7	<0.01	<5	25	0.64	521	10	148
RS064	1880071	3871462	Others	<0.001	<0.01	<0.5	5.59	<5	70	0.8	<2	0.9	<0.5	6	27	1	6.69	0.28	0.24	3376	<1	2.79	2	10	2	<0.01	<5	49	0.57	39	<10	108
RS065	1880685	3869874	Others	<0.001	0.01	<0.5	7.78	<5	80	0.7	<2	1.02	<0.5	26	66	30	6.29	0.41	1.95	924	<1	3.5	41	300	<2	<0.01	<5	67	0.6	227	10	83
RS066	1880742	3870377	Others	<0.001	<0.01	<0.5	5.18	<5	50	0.6	<2	1.37	<0.5	14	152	5	11.9	0.26	0.82	3972	3	2.79	16	10	3	<0.01	<5	40	0.51	104	10	118
RS067	1880465	3870675	Others	<0.001	0.01	<0.5	6.73	<5	40	0.9	<2	3.91	<0.5	18	162	14	8.09	0.28	1.66	1761	1	2.34	24	230	7	0.01	6	138	0.87	299	10	95
RS068	1883031	3867444	Others	<0.001	0.01	<0.5	5.98	<5	130	1	<2	0.58	<0.5	18	82	28	10.14	0.68	1.19	1064	<1	2.29	12	100	7	<0.01	<5	37	0.98	475	10	221
RS069	1881190	3867932	Others	0.004	0.01	<0.5	6.6	<5	140	0.8	<2	1.26	<0.5	29	181	36	7.38	0.62	1.44	1493	1	2.86	33	190	3	<0.01	<5	107	0.75	372	10	123
RS070	1882407	3867780	Others	0.004	0.03	<0.5	3.18	<5	50	0.7	<2	0.96	<0.5	6	123	5	4.64	0.21	0.41	1890	<1	1.7	7	50	5	0.02	<5	96	0.92	103	<10	73
RS070-1	1882407	3867780	Others	0.004	0.04	<0.5	3.56	<5	50	0.6	<2	1.01	<0.5	8	90	7	7.21	0.25	0.47	3139	1	1.88	7	<10	5	<0.01	<5	91	0.62	99	<10	113
RS071	1907116	3903878	Sigatoka	<0.001	0.01	<0.5	6.69	<5	70	1.1	<2	3.41	0.5	38	107	31	14.77	0.48	1.99	2118	2	1.03	23	420	8	0.23	5	164	1.38	749	10	218
RS072	1907128	3903898	Sigatoka	0.002	0.02	<0.5	7.54	5	110	4.2	<2	3.39	1.7	34	69	52	11.07	0.62	1.53	1993	<1	0.79	16	520	2	0.12	<5	238	1.04	530	10	159
RS073	1906852	3902053	Sigatoka	0.002	0.01	<0.5	7.58	11	120	3.8	<2	2.37	1	28	46	57	9.41	0.71	1.94	1430	<1	0.89	15	560	5	0.2	<5	152	0.93	427	10	156
RS074	1906924	3902057	Sigatoka	0.001	0.01	<0.5	5.36	<5	80	7.4	<2	2.83	4.1	49	154	42	19.64	0.44	1.85	2606	<1	0.79	25	360	3	0.32	<5	151	1.82	1160	10	299
RS075	1906918	3901561	Sigatoka	0.002	0.01	<0.5	6.26	7	100	6	<2	2.68	4.2	46	137	51	18.86	0.56	1.78	2421	<1	0.84	24	450	7	0.51	<5	156	1.58	1042	10	288
RS076	1908382	3901988	Sigatoka	0.001	<0.01	<0.5	7.09	<5	150	3.6	<2	3.29	2.3	43	94	56	12.9	0.87	2.12	1856	<1	1.25	24	620	4	0.04	<5	323	1.02	674	10	165
RS077	1908329	3901912	Sigatoka	0.001	<0.01	<0.5	7.47	<5	130	3	<2	4.45	2.6	25	82	48	11.36	0.74	1.47	1563	<1	1.31	16	750	4	0.06	<5	373	0.89	559	10	117
RS078	1908184	3901370	Sigatoka	<0.001	<0.01	<0.5	7.89	<5	120	2	<2	3.72	1.1	19	55	35	7	0.89	1.18	1292	<1	1.34	13	400	6	0.04	<5	225	0.63	305	10	97
RS079	1905658	3900726	Sigatoka	0.001	<0.01	<0.5	7.56	<5	100	2.6	<2	2.69	1.5	27	87	34	9.61	0.62	1.66	2016	<1	1.41	21	440	10	0.07	<5	165	0.84	427	10	212
RS080	1904212	3899447	Sigatoka	<0.001	<0.01	<0.5	6.3	<5	60	2.5	<2	2.68	3	33	220	26	15.82	0.33	2.11	1559	<1	1.49	39	500	<2	0.06	<5	153	0.88	718	10	156
RS080-1	1904212	3899447	Sigatoka	<0.001	<0.01	<0.5	7.54	<5	70	2	<2	2.92	2.2	31	165	33	12.16	0.37	2.39	1395	<1	1.75	38	520	<2	0.03	<5	176	0.73	516	10	125
RS081	1905333	3899112	Sigatoka	<0.001	<0.01	<0.5	3.1	<5	70	3.3	8	1.85	9.8	28	110	31	>25.0	0.31	0.57	2983	<1	0.78	14	290	5	0.24	<5	77	1.17	1396	20	138
RS082	1904148	3897913	Sigatoka	<0.001	<0.01	<0.5	6.25	<5	150	2.2	<2	3.23	3.1	19	69	18	14.71	0.69	1.07	2118	<1	1.84	9	210	4	0.01	<5	172	0.81	587	10	94
RS083	1903968	3898251	Sigatoka	0.001	0.01	<0.5	7.05	<5	120	2	5	2.59	1.7	21	59	34	9.24	0.66	1.34	1292	1	1.75	14	520	4	0.06	<5	185	0.72	385	10	105
RS084	1901372	3899003	Sigatoka	0.011	<0.01	<0.5	7.58	<5	100	2.1	<2	2.69	1.4	24	49	34	8.05	0.66	1.39	1416	<1	1.4	16	460	5	0.02	<5	234	0.8	357	<10	141
RS085	1900347	3903641	Sigatoka	<0.001	<0.01	<0.5	8.5	<5	120	1.7	<2	2.95	1.1	23	44	33	7.16	0.76	1.59	1273	<1	1.6	17	440	2	0.01	<5	273	0.65	282	<10	102
RS086	1900671	3903762	Sigatoka	<0.001	<0.01	<0.5	4.57	<5	60	1.6	<2	2.29	6.4	62	77	34	23.5	0.27	1.8	2330	<1	0.74	22	60	2	<0.01	<5	121	0.75	801	10	267
RS087	1900684	3903876	Sigatoka	<0.001	<0.01	<0.5	6.64	<5	110	3.2	<2	2.45	3.1	39	81	32	13.33	0.54	1.4	1658	<1	1.12	20	280	3	<0.01	<5	181	1.2	646	10	151
RS088	1901370	3904511	Sigatoka	<0.001	<0.01	<0.5	2.7	<5	40	2.3	<2	1.24	10.8	84	95	40	>25.0	0.13	1.4	2820	<1	0.34	27	40	3	<0.01	<5	53	1.04	1182	10	368
RS089	1901353	3904469	Sigatoka	<0.001	<0.01	<0.5	5.67	<5	80	1.9	<2	2.4	5.9	63	60	32	22.4	0.27	1.71	2319	<1	0.8	19	60	3	<0.01	<5	130	0.88	869	10	260
RS090	1897605	3903070	Sigatoka	0.007	<0.01	<0.5	6.13	<5	100	1.8	<2	1.45	0.8	21	97	19	6.7	0.65	0.87	1075	<1	1.31	18	270	<2	<0.01	<5	160	0.81	277	10	81
RS091	1899143	3898996	Sigatoka	<0.001	<0.01	<0.5	7.35	<5	120	1.2	<2	2.55	1	26	62	29	6.71	0.75	1.23	1334	<1	1.51	20	410	6	0.01	<5	221	0.51	215	<10	85
RS092	1896722	3902746	Sigatoka	<0.001	0.01	<0.5	5.49	<5	100	2.1	<2	2.06	5.2	60	318	39	21	0.52	1.46	2484	<1	1.03	42	180	3	0.01	<5	175	0.91	849	10	270
RS093	1895964	3902523	Sigatoka	0.001	<0.01	<0.5	6.54	<5	100	1.6	<2	3.32	2.5	45	212	32	13.1	0.5	1.83	1590	<1	1.14	36	170	4	<0.01	<5	228	0.81	545	10	152
RS094	1890696	3899198	Sigatoka	0.008	<0.01	<0.5	6.23	<5	70	2	4	4.44	5.9	67	210	46	18.88	0.25	4.39	2142	<1	0.79	54	90	3	<0.01	<5	210	0.97	1093	10	212
RS095	1890744	3899103	Sigatoka	<0.001	0.01	<0.5	8.88	<5	120	1.6	6	3.32	2.1	46	145	63	10.44	0.58	2.77	2269	<1	0.85	50	470	2	0.01	<5	241	0.71	518	10	125
RS096	1891436	3898845	Sigatoka	<0.001	<0.01	<0.5	5.68	<5	60	2.2	<2	4.06	5.2	64	279	39	17.91	0.27	3.16	1875	<1	0.79	58	150	3	<0.01	<5	190	1.03	1035	10	197
RS097	1893146	3900469	Sigatoka	<0.001	0.01	<0.5	7.28	<5	100	2.4	<2	2.85	2.2	39	219	38	11.82	0.46	1.93	1937	<1	1.2	36	400	2	0.01	<5	277	1.07	556	10	142
RS098	1893610	3899847	Sigatoka	<0.001	<0.01	<0.5	7.62	<5	170	2	<2	3.85	2.5	37	131	43	10.48	0.62	2.29	1517	<1	1.22	32	500	4	0.01	<5	322	0.91	532	10	134
RS099	1894300	3899988	Sigatoka	<0.001	<0.01	<0.5	3.28	<5	50	1.8	5	1.5	8.1	80	185	34	>25.0	0.2	1.08	2155	<1	0.49	47	60	3	<0.01	<5	96	1.01	1014	20	345
RS099-1	1894300	3899988	Sigatoka	0.001	<0.01	<0.5	2.37	<5	30	1.4	7	0.97	10.3	91	190	36	>25.0	0.12	0.94	2270	<1	0.3	53	30	2	<0.01	5	58	0.84	1009	20	393
RS100	1893786	3900633	Sigatoka	0.001	0.01	<0.5	7.2	5	140	1.1	<2	1.71	0.6	24	73	44	6.51	0.69	1.28	1236	2	1.16	26	450	4	0.01	<5	209	0.58	235	10	87
RS101	1900633	3901272	Sigatoka	<0.001	<0.01	<0.5	7.95	<5	110	1.3	2	2.79	1.1	22	70	31	6.65	0.86	1.3	946	<1	1.55	22	420	5	0.06	<5	258	0.68	243	10	98
RS102	1901032	3901445	Sigatoka	<0.001	<0.01	<0.5	6.52	<5	100	1.7	<2	2.49	1.5	24	118	25	10.34	0.69	1.13	2137	<1	1.3	17	240	2	0.01	<5	170	0.85	258	10	121

Appendix1 Chemical analysis data of stream sediment samples (10)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RS103	1901570	3901234	Sigatoka	<0.001	<0.01	<0.5	7.2	<5	100	1.6	5	2.53	1.3	26	77	35	8.58	0.74	1.32	1295	<1	1.24	21	420	<2	0.08	<5	186	0.79	345	10	123
RS104	1901747	3901893	Sigatoka	<0.001	0.01	<0.5	6.71	<5	90	2.3	2	3.01	2.5	32	116	33	11.64	0.53	1.47	1830	<1	0.99	20	340	<2	0.24	<5	141	1.1	587	10	190
RS105	1901748	3901962	Sigatoka	<0.001	<0.01	<0.5	5.7	<5	70	2.3	<2	2.6	5.3	55	118	31	19.74	0.43	1.65	2205	<1	0.76	26	20	<2	0.02	<5	133	1.19	1073	10	255
RS106	1899377	3902084	Sigatoka	0.002	<0.01	<0.5	3.19	<5	40	1.7	6	1.26	8.4	75	87	34	>25.0	0.21	1.18	2488	<1	0.52	25	50	2	<0.01	<5	71	0.99	1078	20	326
RS107	1899403	3902029	Sigatoka	<0.001	<0.01	<0.5	3.88	<5	50	1.3	<2	1.67	6.9	66	149	28	24.4	0.31	1.16	2464	<1	0.66	30	10	3	<0.01	<5	94	0.82	956	10	321
RS108	1898530	3901885	Sigatoka	<0.001	<0.01	<0.5	6.39	<5	80	1.8	4	3.49	2	34	76	23	10.44	0.49	2.62	1856	<1	1.19	17	380	<2	0.01	<5	178	1	452	10	138
RS109	1900670	3899261	Sigatoka	<0.001	<0.01	<0.5	7.73	<5	90	1.3	<2	3.37	1.3	24	36	31	6.46	0.58	1.2	1359	<1	1.46	17	500	3	<0.01	<5	261	0.64	291	<10	80
RS110	1900661	3899295	Sigatoka	<0.001	<0.01	<0.5	7.75	<5	120	1	4	2.24	1	26	59	37	6.12	0.84	1.26	1166	1	1.48	24	440	5	0.01	<5	208	0.54	206	<10	90
RS110-1	1900661	3899295	Sigatoka	<0.001	<0.01	<0.5	7.51	5	120	1	<2	2.15	1.2	25	57	31	5.84	0.82	1.19	1104	1	1.45	21	410	3	0.01	<5	199	0.53	198	10	80
RS111	1878057	3891858	Sigatoka	<0.001	<0.01	<0.5	7.66	<5	110	1.3	<2	3.02	1.7	27	132	37	8.19	0.63	1.98	1209	<1	1.39	30	320	4	<0.01	<5	259	0.75	439	10	104
RS112	1877987	3891826	Sigatoka	<0.001	<0.01	<0.5	7.4	<5	110	1.4	<2	3.45	2.1	38	234	39	10.18	0.56	2.54	1301	<1	1.23	43	240	4	0.01	<5	264	0.81	617	10	115
RS113	1876892	3891164	Sigatoka	<0.001	<0.01	<0.5	7.4	<5	120	1.4	<2	2.93	1.2	29	141	37	7.67	0.64	1.94	1321	<1	1.31	29	290	3	<0.01	<5	263	0.72	403	<10	99
RS114	1873778	3891352	Sigatoka	0.002	<0.01	<0.5	8.19	<5	130	1	<2	1.96	1	26	66	40	5.88	0.65	1.65	1032	<1	1.11	26	270	3	<0.01	<5	189	0.54	247	10	83
RS115	1876591	3890156	Sigatoka	<0.001	<0.01	<0.5	5.04	<5	70	1.1	<2	2.41	7.1	58	450	38	21.3	0.47	1.71	2423	<1	0.94	49	110	2	<0.01	<5	131	0.66	823	10	274
RS116	1889578	3897038	Sigatoka	<0.001	<0.01	<0.5	4.68	<5	40	1	6	3.92	10.3	103	578	51	>25.0	0.14	3.47	2159	<1	0.42	94	10	2	<0.01	7	111	0.76	1659	10	274
RS117	1889008	3897075	Sigatoka	<0.001	<0.01	<0.5	6.89	<5	80	1.6	<2	4.87	4.1	53	259	56	14.68	0.2	3.11	1290	<1	0.78	58	170	<2	0.01	<5	279	0.95	1088	10	146
RS118	1888628	3897147	Sigatoka	0.001	<0.01	<0.5	6.89	<5	80	1.6	4	5.19	5.3	62	333	55	16.88	0.19	3.56	1578	<1	0.74	65	130	3	<0.01	<5	278	0.98	1208	10	165
RS119	1887360	3894800	Sigatoka	<0.001	<0.01	<0.5	7.28	<5	120	1.4	<2	4.2	2	34	290	41	9.75	0.45	2.68	1307	2	1.24	41	260	4	<0.01	<5	274	0.81	543	10	119
RS120	1883370	3892919	Sigatoka	<0.001	<0.01	<0.5	7.54	<5	100	1.1	<2	4.23	1.7	25	140	38	6.8	0.59	2.38	1128	<1	1.48	32	350	2	<0.01	<5	299	0.64	351	<10	84
RS120-1	1883370	3892919	Sigatoka	<0.001	<0.01	<0.5	7.89	<5	110	1.4	<2	4.24	1.4	26	142	38	7.68	0.62	2.39	1217	1	1.57	32	350	<2	<0.01	<5	315	0.74	407	<10	94
RS121	1886997	3895124	Sigatoka	0.001	0.01	<0.5	6.77	<5	170	2.1	<2	3.39	6.2	58	121	63	21.9	0.36	2.17	2201	<1	1.04	41	340	14	0.04	<5	254	1.15	1372	10	344
RS122	1884869	3893190	Sigatoka	<0.001	0.01	<0.5	7.92	<5	140	1	2	4.24	1.6	35	268	48	8.01	0.45	3.02	1874	<1	1.05	48	300	4	<0.01	<5	276	0.59	427	<10	102
RS123	1890048	3895736	Sigatoka	0.001	<0.01	<0.5	6.71	<5	70	1.5	3	6.34	5.5	63	360	43	17.1	0.19	4.08	1657	<1	0.81	66	120	2	<0.01	<5	252	0.94	1146	10	170
RS124	1885535	3895219	Sigatoka	<0.001	<0.01	<0.5	7.22	<5	80	0.7	<2	9.24	2	34	235	57	8.17	0.19	3.55	919	<1	0.72	50	290	2	0.05	<5	314	0.58	557	10	86
RS125	1885468	3895196	Sigatoka	0.001	<0.01	<0.5	6.68	<5	70	1.6	<2	6.01	5.7	67	581	48	17.38	0.17	4.64	1613	<1	0.69	84	80	<2	<0.01	<5	236	0.91	1160	10	168
RS126	1871974	3889166	Sigatoka	<0.001	<0.01	<0.5	8.01	<5	130	1.5	<2	3.99	2.2	34	381	47	10.78	0.59	2.38	1512	<1	1.45	48	490	3	<0.01	<5	293	0.77	498	10	146
RS127	1871727	3888537	Sigatoka	<0.001	<0.01	<0.5	8.02	<5	160	1.1	<2	2.47	1	24	81	44	6.71	0.74	1.62	1225	<1	1.7	26	490	4	<0.01	<5	242	0.6	295	<10	107
RS128	1871989	3887098	Sigatoka	0.001	<0.01	<0.5	8.34	<5	120	1.5	<2	1.93	1.4	28	125	56	8.63	0.51	1.93	1697	<1	2.63	39	400	<2	<0.01	<5	167	0.78	399	<10	135
RS129	1873112	3884524	Sigatoka	0.003	<0.01	<0.5	7.72	<5	180	1.4	<2	1.23	1.2	23	86	39	7.62	0.77	1.51	1102	<1	2.68	30	380	20	<0.01	<5	113	0.7	321	<10	126
RS130	1873367	3882941	Sigatoka	0.042	<0.01	<0.5	6.42	<5	100	1.9	<2	2.54	3.3	28	186	37	13.38	0.4	1.7	1761	<1	1.92	31	270	3	0.04	<5	128	0.95	676	10	204
RS130-1	1873367	3882941	Sigatoka	0.033	<0.01	<0.5	6.05	<5	100	2	<2	2.55	3.8	30	229	35	16.26	0.38	1.64	1927	<1	1.79	33	230	7	0.05	<5	123	1.01	845	10	249
RS131	1891276	3897317	Sigatoka	0.001	<0.01	<0.5	7.21	<5	110	1.6	<2	5.23	1.4	18	60	26	6.9	0.75	1.39	1536	<1	1.63	15	410	<2	0.01	<5	325	0.78	304	<10	94
RS132	1881882	3895318	Sigatoka	<0.001	<0.01	<0.5	7.71	<5	90	1.4	4	4.12	2.8	45	138	36	13.81	0.34	2.25	1382	<1	1.19	37	200	2	<0.01	<5	315	0.79	629	10	163
RS133	1881812	3895307	Sigatoka	<0.001	<0.01	<0.5	7.56	<5	80	1.6	<2	5.99	3.3	50	415	43	12.68	0.33	4.32	1430	<1	1.02	65	150	3	0.01	<5	288	0.9	801	10	117
RS134	1881307	3894527	Sigatoka	<0.001	<0.01	<0.5	8.22	<5	120	1.1	<2	3.57	1	22	86	30	6.67	0.67	1.93	1045	<1	1.77	26	370	2	0.02	<5	329	0.63	304	<10	88
RS135	1881334	3894470	Sigatoka	0.001	<0.01	<0.5	8.17	<5	110	1	<2	4.12	1	17	39	34	5.6	0.75	1.56	1056	<1	1.8	19	450	5	0.01	<5	358	0.54	207	<10	82
RS136	1882684	3893509	Sigatoka	<0.001	<0.01	<0.5	8.77	<5	100	1.4	<2	5.13	3.1	44	394	65	10.92	0.39	3.88	1206	<1	1.06	71	230	3	<0.01	<5	307	0.79	717	10	112
RS137	1872016	3881241	Sigatoka	0.002	<0.01	<0.5	6.22	<5	100	1.3	<2	1.23	2.3	14	120	24	11.14	0.37	0.73	1062	1	2.33	15	240	4	0.02	<5	93	0.67	415	10	162
RS138	1871859	3880439	Sigatoka	<0.001	<0.01	<0.5	7.7	<5	70	1.4	<2	2.57	1.2	13	183	10	7	0.23	0.77	854	<1	2.87	18	220	5	<0.01	<5	196	0.58	252	10	52
RS139	1865688	3880973	Sigatoka	<0.001	<0.01	<0.5	7.37	<5	110	1.2	<2	2.55	0.8	13	192	18	4.5	0.27	0.66	961	1	2.88	19	180	5	0.01	<5	180	0.52	154	<10	85
RS140	1865430	3880878	Sigatoka	<0.001	<0.01	<0.5	7.11	<5	150	1.2	<2	1.66	<0.5	11	118	16	3.75	0.4	0.58	1000	1	2.95	16	210	4	0.01	<5	130	0.5	106	<10	89
RS140-1	1865430	3880878	Sigatoka	0.001	0.01	<0.5	7.05	<5	160	1.2	<2	1.67	<0.5	11	118	16	3.81	0.4	0.58	1003	<1	2.96	16	220	4	0.01	<5	130	0.51	109	<10	89
RS141	1863692	3877263	Sigatoka	0.001	0.01	<0.5	7.26	<5	210	1.7	<2	2.43	1.6	20	271	42	7.47	0.27	0.84	1214	<1	1.56	16	340	7	0.11	<5	156	0.77	325	10	129
RS142	1863755	3877210	Sigatoka	<0.001	<0.01	<0.5	6.92	<5	80	1	<2	1.87	<0.5	13	76	25	4.07	0.29	0.74	731	1	2.56	13	270	3	0.01	<5	147	0.45	143	<10	69
RS143	1862569	3876998	Sigatoka	<0.001	0.01	<0.5	5.83	<5	120	2	<2	1.85	1.5	13	178	23	9.2	0.33	0.79	1466	<1	1.86	12	270	<2	0.09	<5	120	0.88	332	10	75
RS144	1862834	3877187	Sigatoka	0.001	0.01	<0.5	6.97	<5	60	1.1	3	2.46	0.9	15	116	35	6.15	0.3	0.73	1165	<1	1.28	14	430	5	0.13	<5	143	0.52	209	<10	77
RS145	1861727	3876239	Sigatoka	0.002	0.02	<0.5	6.21	<5	80	1.5	<2	2.29	0.9	11	96	18	4.88	0.34	0.76	928	<1	2.1	11	200	3	<0.01	<5	165	0.69	237	<10	86
RS146	1858935	3875541	Sigatoka	<0.001	0.06	<0.5	6.41	<5	240	1.9	2	1.66	1.3	15	62	22	6.86	0.39	0.81	1993	1	1.93	11	260	<2	0.01	<5	124	0.91	247	<10	86
RS147	1859297	3875536	Sigatoka	<0.001	0.01	<0.5	6.66	<5	70	1.4	<2	2.26	0.7	12	113	17	4.92	0.31	0.7	1070	<1	2.46	13	210	3	<0.01	<5	163	0.62	192	<10	70
RS148	1865102	3873590	Sigatoka	0.009	0.04	0.7	7.58	27	290	2.6	<2	2.1	2.3	28	114	45	10.7	1.02	1.35	1386	<1	1.25	23	320	18	0.8	<5	170	1.1	645	10	181
RS149	1865041	3873449	Sigatoka	<0.001	<0.01	<0.5	7.56	<5	120	1.6	4	2.03	0.9	22	54	28	7.23	0.58	1.03	1155	<1	2.02	14	300	5	0.02	<5	197	0.73	340	<10	90
RS150	1865042	3872764	Sigatoka	<0.001	<0.01	<0.5	6.33	<5	110	1	<2	9.01	0.9	18	65	24	5.34	0.53	1.07	1041	<1	1.62	19	470	6	0.02	<5	350	0.53	246	<10	97
RS151	1864745	3872303	Sigatoka	<0.001	<0.01	<0.5	6.16	<5	270	0.6	<2	11.55	1	23	48	41	4.91	0.55	1.07	1003	<1	1.21	20	700	8	0.03	<5	759	0.39	214	<10	73
RN001	1971015	3886914	Rewa	0.005	0.02	<0.5	5.04	<5	80	<0.5	<2	0.53	<0.5	13	53	26	5.44	0.26	0.67	1275	<1	0.58	5	220	14	0.01	6	48	0.55	190	<10	109
RN002	1966373	3886698	Rewa	0.001	0.02	<0.5	4.99	<5	140	0.5	2	1.06	0.6	28	480	50	11.71	0.47	0.94	2320	4	0.46	26	80	24	0.01	19	109	1.12	345	<10	145
RN003	1963731	3885658	Rewa	0.001	0.01	<0.5	6.97	<5	60	<0.5	<2	0.29	<0.5	7	19	20	6.13	0.46	0.68	1255	2	1.14	1	230	12	0.01	6	19	0.57	158	<10	151
RN004	1963685	3885683	Rewa	0.005	0.01	<0.5	5.44	<5	80	<0.5	2	1.15	0.5	18	159	57	13.56	0.33	1.33	2930	7	0.89	9	150	24	0.26	15	18	1.47	455	<10	569
RN005	1966660	3886644	Rewa	0.001	0.01	<0.5	6.16	<5	80	<0.5	4	0.82	<0.5	20	732	53	8.73	0.29	1.03	1555	3	0.51	16	240	15	0.06	11	35	0.76	365	<10	248
RN006	1962015	3887562	Rewa	0.035	0.01	<0.5	7.31	<5	140	<0.5	6	0.58	<0.5	25	61	48	8.72	0.43	1.15	1675	4	1.09	12	260	15	0.01	12	32	0.82	322	<10	201
RN007	1962250	3887841	Rewa	<0.001	0.01	<0.5	5.64	14	200	0.6	4	1.82	2	49	1020	99	16.48	0.71	1.71	2360	25	0.52	92	340	30	0.02	24	195	1	704	10	229
RN008	1945021	3885556	Rewa	0.086	0.01	<0.5	3.86	24	140	<0.5	23	0.84	5	33	76	149	>25.0	0.45	0.69	1500	22	0.33	29	250	31	<0.01	17	9	0.59	1384	20	267
RN009	1945019	3886145	Rewa	0.005	0.01	<0.5	6.44	6	240	0.5	8	0.6	1.9	21	66	100	17.68	0.76	1.12	1835	12	0.64	17	300	31	0.01	19	69	0.92	727	<10	437
RN010	1946124	3885984	Rewa	0.004	0.01	<0.5	6.42	11	240	0.5	7	0.95	3.1	21	57	78	19.47	0.82	0.91	2050	11	0.78	15	360	32	0.02	12	106	1	796	<10	383
RN011	1946471	3885884	Rewa	0.017	0.01	<0.5	6.01	17	260	<0.5	19	1.73	2.9	48	64	149	22.5	0.47	1.48	2690	19	0.74	26	520	33	0.13	25	139	1.5	1186	10	394
RN012	1946187	3886948	Rewa	0.002	0.01	<0.5	8.05	<5	220	0.5	8	2.74	1.7	41	40	137	14.86	0.42	2.19	1825	13	1.03	17	470	26	0.04	18	238	1.11	747	<10	225
RN013	1933355	3883694	Rewa	0.001	<0.01	<0.5	3.37	36	110	<0.5	16	2.3	8.8	96	61	178	>25.0	0.24	2.81	3750	29	0.58	41	280	38	<0.01	22	52	0.77	1107	20	545
RN013-1	1933355	3883694	Rewa	0.001	<0.01	<0.5	3.05	32	100	<0.5	32	1.94	8.6	91	52	170	>25.0	0.21	2.44	3550	28	0.5	39	280	38	<0.01	22	35	0.73	1062	20	522
RN014	1933216	3883734	Rewa	0.002	0.01	<0.5	5.88	15	230	0.5	19	3.56	4.5	59	41	112	23.6	0.61	2.88	3080	21	1.66	23	1100	29	0.01	23	421	1.19	1088	10	376
RN015	1933267	3883828	Rewa	<0.001	0.01	<0.5	3.45	29	100	<0.5	14	1.98	8.1	68	60	88	>25.0	0.25	2.09	4100	26	0.84	38	200	34	<0.01	22	98	0.85	797	10	512
RN016	1930671	3883009	Navua	0.001	0.01	<0.5	7.08	13	250	0.5	11	2.54	4.2	48	55	84	20.8	0.74	1.54	2050	17	1.56	25	350	30	0.01	19	331	0.95	776	<10	281
RN017	1930982	3882937	Navua	<0.001	0.01	<0.5	6.04	15	240	<0.5	15	2.18	3.8	51	54	132	20.3	0.69	1.86	2010	16	1.12	27	650	29	0.01	20	228	0.98	960	10	271
RN018	1931023	3882799	Navua	<0.001	0.04	<0.5	4.65	18	160	<0.5	17	2.45	5.9	73	83	156	>25.0	0.29	2.92	2800	20	0.88	46	290	31	<0.01	18	180	1.06	1118	10	371
RN019	1929915	3881912	Navua	<0.001	0.04	<0.5	7.16	15	260	0.6	10	3.13	2.6	46	29	100	19.82	0.54	2.15	2690	16	1.61	17	750	29	0.01	19	441	1.16	949	10	329
RN020	1929538	3883413	Navua	<0.001	0.03	<0.5	6.42	12	240	<0.5	6	2.57	3.2	52	63	117	19.78	0.5	1.84	2210	17	1.21	25	470	24	0.01	15	269	0.74	686	10	282
RN021	1928754	3880822	Navua	0.015	0.02	<0.5	8.41	<5	190	0.7	9	2.78	1.2	23	61	35	11.64	0.43	1.44	1765	9	1.72	15	320	22	0.01	12	440	0.68	203	10	182
RN022	1929295	3881667	Navua	0.002	0.05	<0.5	5.24	17	190	<0.5	17	2.62	6.6	64	31	103	>25.0	0.39	1.92	3790	23	1.36	21	690	39	<0.01	22	330	1.27	1198	10	476
RN023	1938626	3877731	Navua	0.01	0.01	<0.5	6.63	13	90	<0.5	6	0.79	2.7	38	33	105	20.1	0.33	1.03	2240	12	0.58	20	130	26	<0.01	15	19	0.74	553	10	394
RN023-1	1938626	3877731	Navua	<0.001	0.01	<0.5	6.59	11	90	<0.5	8	0.79	1.5	28	36	72	15.15	0.36	1.03	1800	9	0.61	16	200	19	<0.01	15	32	0.81	475	<10	283
RN024	1938394	3877300	Navua	0.002	0.01	<0.5	5.24	21	130	<0.5	15	2.25	5.4	79	86	127	>25.0	0.26	2.51	2420	21	0.69	42	130	31	<0.01	19	80	0.82	991	10	361
RN025	1938630	3876603	Navua	0.002	0.01	<0.5	5.63	11	50	<0.5	5	1.21	1.9	25	62	66	17.14	0.2	0.92	2550	9	0.36	14	30	20	<0.01	14	10	0.68	397	<10	297
RN026	1939756	3877822	Navua	0.005	0.01	<0.5	6.5	<5	190	<0.5	7	0.45	<0.5	18	74	66	12.95	0.97	0.81	1165	7	0.66	22	280	22	0.01	17	22	0.88	485	<10	190
RN027	1939812	3877831	Navua	0.388	0.01	<0.5	6.95	8	70	<0.5	6	0.74	0.5	19	105	53	11.1	0.44	1.07	1425	6	0.96	32	260	20	0.01	12	49	0.77	311	<10	215
RN028	1941175	3875304	Coastal	0.002	0.01	<0.5	8.7	<5	60	<0.5	<2	0.91	1.1	26	97	76	11.21	0.32	1.05	1935	7	0.86	33	310	21	0.01	10	39	0.63	361	<10	171
RN029	1941609	3875201	Coastal	0.003	0.01	<0.5	7.19	7	70	<0.5	<2	1.03	0.7	15	46	37	8.08	0.49	0.98	1355	3	0.96	8	320	20	0.01	8	56	0.7	297	<10	150
RN030	1941813	3875084	Coastal	0.001	0.01	<0.5	7.67	<5	60	<0.5	<2	1.02	1	17	43	45	8.47	0.41	0.99	1240	3	0.81	8	390	14	0.02	15	48	0.58	221	<10	145
RN031	1942222	3874600	Coastal	<0.001	0.01	<0.5	7.47	8	60	<0.5	<2	0.46	<0.5	12	26	38	11.19	0.2	0.59	1510	4	0.57	5	300	20	0.01	10	40	0.72	228	<10	197
RN033	1943954	3873381	Coastal	<0.001	0.02	<0.5	8.35	<5	60	<0.5	<2	1.16	0.6	20	55	46	8.21	0.22	1.02	1485	3	0.67	8	290	11	0.02	8	77	0.54	224	<10	134
RN033-1	1943954	3873381	Coastal	0.004	0.02	<0.5	8.32	<5	60	<0.5	<2	1.17	0.9	21	56	43	8.51	0.22	0.97	1625	5	0.64	9	210	15	0.01	9	76	0.45	200	<10	137
RN034	1919410	3877100	Navua	<0.001	0.01	<0.5	4.43	<5	100	0.7	<2	1.39	2.1	55	716	41	17.7	0.4	1.2	1899	<1	0.71	46	80	4	<0.01	8	130	0.64	573	20	223
RN035	1919103	3878008	Navua	0.01	0.01	<0.5	4.6	<5	110	0.7	<2	1.41	2.2	68	663	49	21.7	0.39	1.37	2191	<1	0.63	42	130	6	0.01	8	178	0.74	807	30	264

Appendix1 Chemical analysis data of stream sediment samples (11)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RN036	1891796	3877232	Navua	<0.001	<0.01	<0.5	8.06	<5	20	0.8	<2	5.39	1.3	33	776	33	11.3	0.09	1.69	2174	<1	2.1	45	210	6	0.04	<5	223	0.49	203	10	120
RN037	1892181	3877281	Navua	<0.001	0.01	<0.5	9.3	<5	70	1.2	<2	2.39	<0.5	37	1650	35	11.45	0.36	1.68	2033	<1	1.77	46	500	11	0.01	<5	132	0.89	382	10	165
RN038	1892869	3877007	Navua	<0.001	0.01	<0.5	8.22	<5	100	1.1	<2	1.44	0.7	35	537	35	11.7	0.72	2	1960	<1	1.53	26	450	10	0.01	7	80	0.8	363	20	194
RN039	1892873	3876776	Navua	0.308	0.01	<0.5	8.32	<5	40	0.9	<2	4.62	<0.5	30	476	40	7.55	0.18	1.76	1313	<1	2.41	47	350	11	0.05	<5	210	0.72	273	10	106
RN040	1894116	3876752	Navua	<0.001	0.01	<0.5	7.54	<5	80	0.9	<2	1.71	<0.5	31	1238	37	10	0.58	1.84	1831	<1	1.37	42	300	6	0.04	7	80	0.5	220	10	195
RN041	1893986	3876731	Navua	<0.001	0.01	<0.5	7.73	<5	50	0.9	<2	3.67	<0.5	29	508	38	8.06	0.24	1.63	1432	<1	1.99	43	320	2	0.02	<5	167	0.8	295	10	127
SA001	1945186	3908760	Rewa	0.001	0.01	<0.5	5.23	<5	120	<0.5	<2	2.2	<0.5	14	47	25	13.3	0.36	1.05	3380	1	0.7	<1	170	7	0.06	<5	110	0.95	497	<10	227
SA002	1945320	3908932	Rewa	0.001	0.01	<0.5	4.08	<5	80	<0.5	<2	0.74	0.5	16	102	91	16.65	0.22	0.69	1385	4	0.27	<1	150	<2	0.02	<5	50	0.51	426	<10	124
SA003	1945202	3909980	Rewa	0.004	0.01	<0.5	7.52	5	210	0.5	<2	2.81	<0.5	11	118	63	10.5	0.73	0.81	1785	3	1.76	4	260	<2	0.14	<5	176	0.47	317	<10	184
SA004	1945040	3910030	Rewa	0.001	0.01	<0.5	5.9	<5	140	<0.5	<2	1.27	<0.5	11	78	43	13.7	0.48	0.64	1530	2	0.79	<1	220	<2	0.08	<5	95	0.46	392	<10	85
SA005	1945630	3909505	Rewa	0.001	0.01	<0.5	5.72	6	170	<0.5	<2	1.18	<0.5	11	76	95	10.9	0.52	0.48	1980	4	0.47	2	180	<2	0.2	<5	80	0.49	261	<10	236
SA006	1946174	3909341	Rewa	0.007	0.01	<0.5	4.65	<5	110	<0.5	<2	0.77	<0.5	7	116	140	9.63	0.55	0.25	527	9	0.61	<1	210	<2	0.8	<5	81	0.38	196	<10	103
SA007	1946203	3909280	Rewa	0.015	0.04	<0.5	6.79	14	150	<0.5	<2	1.12	<0.5	12	142	85	7.29	0.83	0.72	918	6	0.79	4	490	6	1.08	<5	120	0.35	181	<10	158
SA008	1946187	3909208	Rewa	0.144	0.01	<0.5	5.24	<5	90	<0.5	<2	1.93	<0.5	20	192	30	18.3	0.37	1.04	2550	1	1.28	5	240	2	0.23	<5	97	1.28	706	<10	175
SA009	1954570	3899457	Rewa	0.002	0.02	<0.5	5.05	<5	160	0.5	<2	2.91	<0.5	43	1720	65	13.95	0.61	2.2	2170	<1	0.4	106	60	4	0.01	<5	137	0.75	484	<10	154
SA010	1954073	3899326	Rewa	0.001	0.02	<0.5	4.99	<5	140	0.5	<2	1	<0.5	32	434	56	12.6	0.47	0.77	2020	<1	0.32	31	190	4	0.01	<5	110	1.26	541	<10	146
SA011	1954019	3899093	Rewa	<0.001	0.01	<0.5	2.7	<5	60	<0.5	<2	1.29	<0.5	47	1470	46	22.5	0.24	0.78	3720	<1	0.21	42	<10	7	<0.01	<5	74	0.66	526	<10	230
SA012	1953996	3899057	Rewa	0.002	0.01	<0.5	3.18	<5	90	<0.5	<2	1.38	<0.5	53	4280	57	21.6	0.31	1.07	3190	<1	0.28	71	<10	6	<0.01	<5	95	0.74	634	<10	233
SA013	1954388	3900072	Rewa	0.003	0.01	<0.5	3.46	<5	70	<0.5	<2	1.04	<0.5	89	338	105	>25.0	0.21	1.24	2580	<1	0.29	31	<10	9	<0.01	<5	78	0.8	902	<10	370
SA014	1954671	3899878	Rewa	0.003	0.01	<0.5	4.19	<5	100	<0.5	<2	1.28	<0.5	79	527	99	>25.0	0.31	1.3	2510	<1	0.38	30	<10	6	<0.01	<5	97	0.77	855	<10	327
SA015	1951783	3898583	Rewa	<0.001	0.02	<0.5	5.72	5	190	<0.5	<2	2.91	<0.5	58	262	89	22.2	0.5	1.54	2450	<1	0.75	24	70	8	0.01	<5	356	0.79	889	<10	259
SA016	1951738	3898582	Rewa	0.001	0.01	<0.5	4.7	<5	150	<0.5	<2	3.48	<0.5	78	344	86	>25.0	0.51	2.24	2660	<1	0.6	42	350	5	0.01	<5	333	0.71	958	<10	313
SA017	1951516	3898982	Rewa	0.001	0.01	<0.5	4.66	<5	130	<0.5	<2	2.49	<0.5	91	238	122	>25.0	0.26	2.08	2520	<1	0.41	27	10	12	<0.01	<5	156	0.78	1045	<10	390
SA018	1951280	3899108	Rewa	0.001	0.01	<0.5	4.03	<5	100	<0.5	<2	1.88	<0.5	101	121	124	>25.0	0.2	1.82	2790	<1	0.3	24	<10	6	<0.01	<5	124	0.56	1080	<10	422
SA019	1950103	3899735	Rewa	0.001	0.01	<0.5	4.43	<5	90	<0.5	<2	1.8	<0.5	101	64	140	>25.0	0.1	1.92	2560	<1	0.31	18	<10	12	<0.01	<5	98	0.9	1120	<10	458
SA020	1949966	3899890	Rewa	0.87	0.01	<0.5	5.06	<5	100	<0.5	<2	2.93	<0.5	79	225	100	>25.0	0.32	2.25	2460	<1	0.85	27	50	7	0.01	<5	168	0.98	1185	<10	355
SA020-1	1949966	3899890	Rewa	0.084	0.01	<0.5	4.91	<5	100	<0.5	<2	2.82	<0.5	86	170	100	>25.0	0.3	2.27	2560	<1	0.83	27	50	8	0.01	<5	156	1.06	1250	<10	377
SA021	1950031	3899923	Rewa	0.003	0.01	<0.5	4.05	<5	90	<0.5	<2	1.22	<0.5	82	189	108	>25.0	0.23	1.34	2470	<1	0.36	22	<10	10	<0.01	<5	96	0.73	913	<10	376
SA022	1960390	3899386	Rewa	0.001	0.01	<0.5	3.48	<5	90	<0.5	<2	0.64	<0.5	70	1340	100	23.6	0.43	0.97	2610	<1	0.29	53	<10	5	<0.01	<5	59	0.67	728	<10	222
SA023	1960472	3899133	Rewa	0.001	0.01	<0.5	3.57	<5	100	<0.5	<2	0.7	<0.5	73	1510	102	>25.0	0.35	1.16	2720	<1	0.19	73	<10	<2	<0.01	<5	66	0.88	911	<10	242
SA024	1963444	3895789	Rewa	0.026	0.01	<0.5	2.09	<5	40	<0.5	<2	0.23	<0.5	38	1065	74	17.35	0.19	0.41	2910	<1	0.12	23	<10	4	<0.01	<5	24	0.5	301	<10	142
SA025	1963595	3896926	Rewa	0.001	0.01	<0.5	5.56	<5	160	<0.5	<2	2.77	<0.5	51	966	45	17.45	0.63	1.92	2430	<1	1.18	53	60	2	<0.01	<5	160	0.9	687	<10	171
SA026	1962866	3897380	Rewa	0.001	0.01	<0.5	2.85	<5	80	<0.5	<2	0.38	<0.5	40	685	60	15.15	0.4	0.52	2340	<1	0.25	23	<10	2	<0.01	<5	38	0.88	530	<10	129
SA027	1963026	3896998	Rewa	<0.001	0.02	<0.5	5.43	<5	180	0.5	<2	0.86	<0.5	38	416	54	10.55	0.51	0.9	2620	<1	0.63	27	460	5	0.01	<5	101	0.96	386	<10	102
SA028	1962884	3890030	Rewa	0.001	0.01	<0.5	3.15	<5	90	<0.5	<2	1.11	<0.5	92	1355	73	>25.0	0.31	1.32	3490	<1	0.31	56	<10	9	<0.01	<5	116	0.73	947	<10	353
SA029	1963395	3889775	Rewa	<0.001	0.02	<0.5	3.43	<5	70	<0.5	<2	0.52	<0.5	16	445	25	10.2	0.28	0.38	2330	<1	0.29	10	<10	4	<0.01	<5	80	0.59	110	<10	112
SA030	1964325	3888728	Rewa	<0.001	0.01	<0.5	2.65	<5	70	<0.5	<2	1.38	<0.5	50	1095	43	19.8	0.25	1.12	3270	<1	0.31	32	<10	8	<0.01	<5	91	0.64	395	<10	217
SA031	1965052	3890140	Rewa	0.001	0.01	<0.5	3.94	<5	100	<0.5	<2	1.03	<0.5	12	299	18	6.04	0.48	0.46	1700	<1	0.67	9	<10	<2	<0.01	<5	124	0.89	138	<10	76
SA032	1965069	3890130	Rewa	<0.001	0.02	<0.5	4.15	<5	80	<0.5	<2	0.62	<0.5	11	224	21	6.55	0.33	0.37	1775	<1	0.41	6	<10	2	<0.01	<5	97	0.92	140	<10	82
SA033	1965341	3889497	Rewa	<0.001	0.01	<0.5	2.1	<5	50	<0.5	<2	0.51	0.6	33	768	33	21.1	0.15	0.5	4570	13	0.21	18	<10	7	<0.01	<5	63	0.57	258	<10	199
SA034	1923850	3898700	Rewa	<0.001	0.01	<0.5	6.19	<5	100	0.5	<2	3.21	<0.5	24	74	21	15.15	0.69	1.88	2580	2	1.82	3	460	<2	0.01	<5	147	1.04	593	<10	133
SA035	1924382	3898300	Rewa	<0.001	0.01	<0.5	5.5	<5	120	<0.5	<2	2.97	<0.5	29	109	19	17.8	1.01	1.81	2800	1	1.52	4	40	4	<0.01	<5	118	0.71	561	<10	152
SA036	1924395	3898314	Rewa	<0.001	0.01	<0.5	4.13	<5	110	<0.5	<2	2.03	<0.5	22	64	15	22	0.84	1.18	3510	2	1.11	<1	20	<2	<0.01	<5	90	0.61	574	10	212
SA037	1924309	3898745	Rewa	<0.001	0.01	<0.5	4.09	<5	80	<0.5	<2	2.93	<0.5	34	93	18	24.9	0.53	1.92	5020	2	0.99	3	80	<2	<0.01	<5	100	0.76	840	<10	283
SA038	1924760	3899323	Rewa	<0.001	0.01	<0.5	4.72	<5	80	<0.5	<2	3.06	<0.5	28	74	24	25	0.63	1.72	3880	1	1.22	<1	110	<2	<0.01	<5	122	0.69	837	<10	178
SA039	1925088	3899442	Rewa	<0.001	0.01	<0.5	4.62	<5	80	<0.5	<2	3.68	<0.5	34	96	21	20.5	0.63	2.7	2950	3	1.14	8	80	<2	<0.01	<5	105	0.72	613	<10	172
SA040	1925121	3899798	Rewa	<0.001	<0.01	<0.5	5.16	<5	100	<0.5	<2	3.19	<0.5	24	67	41	18.35	0.65	1.78	3830	1	1.26	<1	90	<2	<0.01	<5	138	0.67	550	10	154
SA040-1	1925121	3899798	Rewa	0.002	<0.01	<0.5	4.66	<5	90	<0.5	<2	3	<0.5	26	65	36	22.1	0.59	1.7	4330	1	1.14	<1	40	2	<0.01	<5	126	0.65	680	<10	172
SA041	1926311	3900150	Rewa	<0.001	<0.01	<0.5	5.62	<5	120	0.5	<2	3.1	<0.5	24	75	20	14.9	1.02	1.96	2480	<1	1.42	<1	60	<2	<0.01	<5	124	0.71	441	<10	156
SA042	1926268	3900145	Rewa	<0.001	<0.01	<0.5	5.17	<5	120	0.5	3	2.72	<0.5	25	162	18	18.5	0.95	1.64	2620	1	1.36	<1	40	<2	<0.01	<5	115	0.6	479	<10	150
SA043	1926918	3900623	Rewa	0.001	<0.01	<0.5	5.31	<5	110	0.5	<2	2.93	<0.5	18	114	22	19.15	0.87	1.79	3180	3	1.44	<1	260	<2	0.02	<5	128	1	683	<10	185
SA044	1929060	3901031	Rewa	0.001	<0.01	<0.5	5.36	<5	120	0.5	<2	3.09	<0.5	23	91	17	15.8	0.92	1.87	2290	1	1.42	4	100	<2	<0.01	<5	130	0.9	598	<10	102
SA045	1929166	3901019	Rewa	<0.001	<0.01	<0.5	6.38	<5	110	0.6	<2	3.33	<0.5	20	156	23	13.35	0.75	1.92	2070	1	1.85	7	410	<2	0.01	<5	152	0.78	435	<10	104
SA046	1929542	3899659	Rewa	0.002	0.02	<0.5	7.07	<5	90	0.5	<2	3.21	<0.5	21	156	36	15.7	0.52	1.72	2400	2	2.01	9	490	<2	0.01	<5	184	0.68	407	<10	137
SA047	1929522	3899672	Rewa	<0.001	<0.01	<0.5	5.76	<5	110	0.5	4	3.1	<0.5	19	144	21	17.7	0.8	1.72	2220	<1	1.67	2	250	<2	<0.01	<5	136	0.94	685	<10	108
SA048	1929572	3900117	Rewa	0.001	0.01	<0.5	3.24	<5	50	<0.5	3	1.98	<0.5	26	144	16	>25.0	0.38	1.1	3730	1	0.87	<1	50	<2	<0.01	<5	77	0.8	947	<10	151
SA049	1975352	3889141	Rewa	0.003	0.01	<0.5	7.01	<5	240	0.7	<2	1.57	<0.5	31	345	50	9.64	0.8	1.22	2270	1	1.24	30	370	<2	0.01	<5	150	0.88	371	<10	108
SA050	1965062	3897562	Rewa	<0.001	0.01	<0.5	5.57	<5	190	0.5	<2	2.46	<0.5	55	982	71	17.4	0.68	1.9	2230	<1	0.87	70	80	<2	<0.01	<5	194	0.73	662	<10	186
SA051	1965541	3897785	Rewa	<0.001	0.01	<0.5	5.64	<5	180	0.6	<2	3.32	<0.5	56	854	74	17.55	0.65	2.42	2180	<1	0.97	65	160	<2	0.02	<5	207	0.99	827	<10	196
SA052	1966137	3897468	Rewa	0.001	0.01	<0.5	6.11	<5	210	0.6	<2	2.89	<0.5	46	858	59	14.85	0.71	2.1	1885	1	1.15	55	220	<2	0.01	<5	213	0.86	623	<10	166
SA053	1969070	3894268	Rewa	0.002	0.02	<0.5	5.77	<5	210	0.6	<2	1.29	<0.5	29	490	50	10.55	0.67	1.05	1820	2	0.75	32	190	<2	0.01	<5	174	0.82	388	<10	112
SA054	1965689	3892846	Rewa	0.082	0.01	<0.5	4.75	<5	130	<0.5	5	2.27	<0.5	71	1145	44	>25.0	0.51	1.86	2780	2	0.89	71	40	<2	<0.01	<5	141	0.75	1000	10	274
SA055	1971319	3890341	Rewa	0.003	0.01	<0.5	7.14	<5	240	0.6	<2	2.93	<0.5	33	461	42	11.15	0.84	1.94	1865	2	1.58	41	450	<2	0.01	<5	231	0.89	481	<10	134
SA056	1972784	3890533	Rewa	9.14	0.01	<0.5	5.18	<5	160	0.6	3	1.43	<0.5	32	749	49	14.75	0.55	1.18	2580	<1	0.92	30	180	<2	0.11	<5	134	1.62	485	<10	154
SA057	1944082	3894590	Rewa	0.002	0.01	<0.5	4.87	<5	80	0.5	<2	2.22	<0.5	27	112	31	20	0.41	1.12	2010	2	1.1	3	390	4	0.15	<5	148	1.42	848	<10	201
SA058	1943150	3894800	Rewa	0.02	0.01	<0.5	5.1	<5	200	0.6	2	0.65	<0.5	7	164	12	13.1	1.25	0.33	2230	1	0.97	<1	20	3	0.01	<5	66	0.62	352	<10	80
SA059	1943050	3894000	Rewa	0.001	0.01	<0.5	5.95	<5	130	0.6	<2	2.14	<0.5	14	93	23	11.95	0.69	1.12	2230	1	1.36	5	240	7	0.06	<5	122	1.04	515	<10	138
SA060	1943089	3894167	Rewa	0.003	0.01	<0.5	4.53	<5	110	0.5	<2	1.1	<0.5	13	106	27	8.44	0.57	1.1	1655	1	0.63	3	200	4	0.06	<5	72	1.01	283	<10	138
SA060-1	1943089	3894167	Rewa	<0.001	0.01	<0.5	4.27	<5	100	0.5	2	1.15	<0.5	16	228	31	12.5	0.51	1.06	2040	2	0.59	6	190	2	0.12	<5	73	1.43	408	<10	170
SA061	1941837	3895051	Rewa	<0.001	0.01	<0.5	2.71	<5	90	<0.5	5	0.58	<0.5	12	170	11	>25.0	0.63	0.21	4300	2	0.52	<1	20	<2	0.01	<5	49	0.71	847	<10	140
SA062	1941349	3894706	Rewa	0.001	0.01	<0.5	5.22	<5	80	0.6	<2	1.96	<0.5	14	166	23	15.35	0.37	0.83	2730	3	1.02	9	250	<2	0.16	<5	106	1.26	623	<10	145
SA063	1940241	3895603	Rewa	<0.001	<0.01	<0.5	4.81	<5	140	0.6	4	1.11	<0.5	8	144	11	18.5	0.92	0.33	2610	1	1.25	<1	50	2	0.01	<5	98	0.55	460	10	114
SA064	1940228	3895593	Rewa	<0.001	<0.01	<0.5	3.54	<5	110	0.5	3	1.06	<0.5	13	130	10	22	0.51	0.35	2590	1	0.76	<1	40	2	0.01	<5	70	0.61	566	<10	122
SA065	1940490	3895269	Rewa	<0.001	0.01	<0.5	5.71	<5	140	0.6	<2	1.32	<0.5	13	310	33	11.05	0.74	1	1925	3	1.4	14	290	5	0.34	<5	92	0.73	346	<10	174
SA066	1940232	3894644	Rewa	<0.001	0.01	<0.5	2.4	<5	50	<0.5	2	0.53	<0.5	17	239	12	19.25	0.27	0.29	2930	1	0.41	1	10	<2	0.05	<5	36	1.28	916	<10	95
SA067	1939703	3894560	Rewa	<0.001	0.01	<0.5	5.28	<5	110	0.6	<2	1.66	<0.5	9	263	25	9.56	0.46	0.83	2300	2	1.11	12	230	3	0.19	<5	86	0.84	300	<10	119
SA068	1938872	3894080	Rewa	<0.001	0.01	<0.5	5.82	<5	120	0.5	3	1.86	<0.5	19	600	31	9.33	0.53	1.28	1550	4	0.95	35	310	4	0.54	<5	100	0.59	276	<10	121
SA069	1938873	3894145	Rewa	<0.001	<0.01	<0.5	2.46	<5	90	<0.5	11	0.27	<0.5	8	130	17	>25.0	0.29	0.22	4540	3	0.48	1	60	<2	0.23	<5	31	1.42	979	<10	358
SA070	1939200	3894100	Rewa	0.001	0.01	<0.5	7.05	5	180	0.8	2	0.99	<0.5	13	114	40	5.79	1.03	1.26	1085	3	2.03	11	400	9	0.83	<5	98	0.58	166	<10	178
SA071	1939332	3895871	Rewa	<0.001	0.01	<0.5	4.72	<5	140	0.6	2	0.97	<0.5	7	50	7	17.65	0.85	0.28	2880	2	1.06	<1	30	<2	<0.01	<5	91	0.57	381	<10	102
SA072	1938678	3896111	Rewa	<0.001	0.01	<0.5	3.32	<5	90	0.5	6	0.75	<0.5	11	99	5	24.8	0.54	0.22	3840	<1	0.66	<1	20	<2	<0.01	<5	71	0.61	397	<10	135
SA073	1938298	3896375	Rewa	<0.001	0.01	<0.5	4.54	<5	140	0.6	5	1.1	<0.5	5	126	6	16.25	0.87	0.3	3780	<1	1.18	<1	20	<2	<0.01	<5	98	0.63	264	<10	126
SA074	1938200	3896290	Rewa	0.001	0.01	<0.5	5.91	<5	220	0.7	4	0.77	<0.5	3	77	13	5.02	1.12	0.26	934	2	1.41	<1	90	12	<0.01	<5	85	0.38	100	<10	63
SA075	1938197	3896122	Rewa	0.002	0.01	<0.5	3.08	<5	130	<0.5	3	0.37	<0.5	11	154	11	20.7	0.84	0.24	2770	2	0.42	3	30	2	<0.01	<5	38	0.53	423	<10	89
SA076	1937833	3895670	Rewa	<0.001	<0.01	<0.5	4.75	<5	140	0.6	3	1.4	<0.5	11	102	20	11.25	0.52	0.65	1785	2	0.97	4	180	<2	0.05	<5	87	0.71	370	<10	90
SA077	1937830	3895727	Rewa	<0.001	<0.01	<0.5	4.33	<5	140	0.6	4	1.36	<0.5	7	66	8	14.45	0.7	0.38	2130	3	1.05	<1	40	2	<0.01	<5	95	0.55	311	<10	106
SA078	1939164	3895895	Rewa	0.002	0.01	<0.5	3.26	<5	110	0.5	4	0.29	<0.5	7	278	6	18.7	0.59	0.14	3030	1	0.43	<1	10	<2	<0.01	<5	35	0.5	243	10	59
SA079	1949944	3895920	Rewa	0.002	0.01	<0.5	4.55	<5	80	<0.5	<2	2.72	<0.5	79	204	112	>25.0	0.34	2.2	2640	2	1	21	50	<2	<0.01	<5	174	0.9	970	10	380
SA080	1950872	3895078	Rewa	<0.001	0.01	<0.5	4.57	<5	100	<0.5	7	1.85	<0.5	86	116	104	>25.0	0.25	1.52	2530	2	0.79	21	20	<2	<0.01	<5	152	0.85	1010	<10	416
SA080-1	1950872	3895078	Rewa	0.003	0.01	<0.5	4.54	<5	100	<0.5	<2	1.7	<0.5	84	105	104	>25.0	0.24	1.48	2490	2	0.74	24	20	<2	<0.01	<5	143	0.87	956	<10	414

Appendix1 Chemical analysis data of stream sediment samples (12)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SA081	1950595	3895077	Rewa	<0.001	0.01	<0.5	5.13	<5	120	<0.5	<2	3.77	<0.5	70	97	76	23.7	0.29	2.52	2350	2	0.86	20	20	<2	<0.01	<5	261	0.71	661	<10	320
SA082	1967110	3893149	Rewa	0.001	0.01	<0.5	3.18	<5	100	<0.5	3	0.65	<0.5	59	1035	73	21.7	0.32	0.86	2680	1	0.3	32	10	3	<0.01	<5	98	0.68	607	<10	219
SA083	1968654	3891303	Rewa	0.001	0.01	<0.5	2.08	<5	50	<0.5	2	0.35	<0.5	52	1280	66	20.9	0.17	0.6	3130	<1	0.12	34	<10	<2	<0.01	<5	31	0.61	488	10	203
SA084	1970139	3892006	Rewa	0.064	0.01	<0.5	2.62	5	90	<0.5	4	0.59	<0.5	28	993	47	12.25	0.33	0.53	2030	<1	0.27	27	<10	<2	<0.01	<5	60	0.72	328	<10	120
SA085	1970660	3891805	Rewa	<0.001	0.01	<0.5	3.38	<5	90	<0.5	<2	0.29	<0.5	23	610	39	9.38	0.28	0.37	1490	<1	0.16	21	20	<2	0.01	<5	40	1.01	408	<10	94
SA086	1971980	3891468	Rewa	<0.001	0.01	<0.5	2.42	5	60	<0.5	3	0.24	<0.5	19	675	34	8.88	0.24	0.31	1700	<1	0.15	18	<10	<2	0.01	<5	35	0.84	303	<10	84
SA087	1973497	3891516	Rewa	<0.001	0.01	<0.5	4.42	<5	150	<0.5	<2	1.84	<0.5	28	725	32	9.8	0.57	1.15	2100	<1	0.95	28	<10	<2	<0.01	<5	120	0.65	304	<10	104
SA088	1975763	3892513	Rewa	0.007	0.01	<0.5	7.73	<5	270	0.8	<2	1.54	<0.5	28	274	57	8.44	0.81	1.3	3120	1	1.4	31	580	<2	0.01	<5	165	0.72	304	<10	106
SA089	1976905	3890211	Rewa	0.001	0.01	<0.5	3.81	5	120	0.5	4	0.61	<0.5	17	488	30	6.41	0.54	0.41	1205	1	0.48	22	390	<2	0.02	<5	73	0.74	211	<10	59
SA090	1948960	3876425	Others	<0.001	0.02	<0.5	3.85	<5	50	<0.5	5	0.94	<0.5	60	188	126	>25.0	0.21	0.85	2530	2	0.61	22	<10	<2	<0.01	<5	104	0.58	709	<10	489
SA091	1948700	3876600	Others	<0.001	0.01	<0.5	3.01	<5	60	<0.5	4	0.71	<0.5	65	61	91	>25.0	0.1	0.62	2130	2	0.46	18	10	<2	<0.01	<5	98	1.35	634	<10	434
SA092	1948765	3876390	Others	<0.001	0.01	<0.5	1.76	<5	50	<0.5	7	0.48	<0.5	72	74	158	>25.0	0.09	0.46	3050	1	0.32	24	30	<2	<0.01	<5	59	1.07	832	<10	502
SA093	1948749	3876361	Others	0.001	0.01	<0.5	3.45	<5	50	<0.5	<2	0.87	<0.5	56	139	131	>25.0	0.14	0.73	2930	2	0.45	26	<10	<2	<0.01	<5	80	0.89	1295	<10	373
SA094	1949868	3875297	Others	0.001	0.01	<0.5	3.39	<5	50	<0.5	3	0.97	<0.5	58	130	126	>25.0	0.14	0.72	2820	2	0.47	21	10	<2	<0.01	<5	89	0.89	1050	<10	420
SA095	1949862	3875274	Others	0.002	0.01	<0.5	3.21	<5	50	<0.5	5	0.88	<0.5	61	140	131	>25.0	0.13	0.69	2800	2	0.47	21	10	<2	<0.01	<5	85	0.9	1055	<10	432
SA096	1946728	3874748	Others	0.002	0.01	<0.5	5.69	<5	20	<0.5	4	1.49	<0.5	42	118	46	24.4	0.2	0.89	2590	1	0.24	1	80	<2	0.21	<5	71	0.67	1160	<10	224
SA097	1946359	3875236	Others	<0.001	0.01	<0.5	3.33	<5	10	<0.5	5	1.04	<0.5	50	158	27	>25.0	0.04	0.84	2880	2	0.21	12	<10	<2	0.01	<5	39	0.64	2490	<10	114
SA098	1945840	3875617	Others	<0.001	0.01	<0.5	3.79	<5	20	<0.5	4	0.66	<0.5	42	102	48	>25.0	0.12	0.61	2290	2	0.49	<1	<10	<2	0.01	<5	40	0.68	1340	<10	74
SA099	1945905	3875652	Others	0.154	0.01	<0.5	6	<5	20	<0.5	2	2.01	<0.5	40	194	34	22.7	0.12	2.13	2130	1	0.76	22	20	<2	0.03	<5	70	1.12	2140	10	146
SA100	1945866	3876161	Others	0.244	0.01	<0.5	6.84	<5	20	<0.5	<2	1.98	<0.5	33	146	29	18.75	0.14	2.29	1945	<1	0.9	21	30	5	0.01	<5	75	0.96	1625	<10	138
SA100-1	1945866	3876161	Others	0.196	0.01	<0.5	7.03	<5	20	<0.5	<2	1.94	<0.5	30	124	25	16.15	0.14	2.39	1755	1	0.9	20	20	<2	0.01	<5	75	0.9	1350	<10	126
SA101	1946017	3876412	Others	5.49	0.13	<0.5	4.41	<5	20	<0.5	7	0.96	<0.5	28	164	41	>25.0	0.13	0.9	1785	1	0.62	12	70	3	0.07	<5	48	1.2	2260	<10	108
SA102	1946178	3876518	Others	0.007	0.01	<0.5	6.12	<5	10	<0.5	4	1.8	<0.5	49	308	45	24.6	0.12	2.48	3290	1	0.45	37	<10	<2	0.01	<5	60	1.11	1840	<10	128
SA103	1946120	3876540	Others	2.59	0.02	0.5	5.05	10	30	<0.5	<2	1.39	<0.5	38	218	57	>25.0	0.21	1.42	2340	3	0.64	19	70	<2	0.3	<5	56	1.86	2540	<10	193
SA104	1940269	3877752	Navua	0.055	0.02	<0.5	6.59	<5	60	<0.5	<2	1.04	<0.5	34	86	59	17.95	0.34	1.1	1985	<1	0.68	20	30	12	<0.01	<5	73	0.68	436	<10	411
SA105	1940248	3877792	Navua	0.025	0.01	<0.5	6.79	6	90	<0.5	<2	0.48	<0.5	21	68	46	11.9	0.54	0.92	1205	<1	1.02	14	230	10	0.02	<5	75	0.98	461	<10	220
SA106	1939240	3877910	Navua	0.086	0.01	<0.5	6	<5	130	0.5	2	0.72	<0.5	30	49	102	22.1	0.55	0.95	2210	<1	0.47	18	40	21	<0.01	<5	58	0.71	664	<10	387
SA107	1938985	3877935	Navua	<0.001	0.01	<0.5	4.66	<5	120	<0.5	<2	2.31	<0.5	78	92	160	>25.0	0.24	1.94	2660	<1	0.62	50	50	27	<0.01	<5	173	0.66	1125	<10	465
SA108	1938556	3879074	Navua	<0.001	0.01	<0.5	3.93	<5	90	<0.5	<2	2.91	<0.5	106	94	137	>25.0	0.12	3.54	2520	<1	0.49	58	30	28	<0.01	<5	146	0.73	1155	<10	432
SA109	1938539	3879019	Navua	0.005	0.01	<0.5	6.81	<5	210	<0.5	<2	3.58	<0.5	56	83	169	23.1	0.37	2.07	1995	<1	1.16	34	230	20	0.01	<5	372	0.83	1070	<10	323
SA110	1937758	3877766	Navua	<0.001	0.01	<0.5	4.07	<5	80	<0.5	<2	1.98	<0.5	108	80	136	>25.0	0.13	2.54	2820	<1	0.41	55	20	27	<0.01	<5	108	0.68	1220	<10	507
SA111	1937550	3878000	Navua	0.002	0.01	<0.5	4.36	<5	90	<0.5	<2	1.95	<0.5	100	78	134	>25.0	0.15	2.61	2720	<1	0.46	51	50	23	<0.01	<5	124	0.74	1130	<10	480
SA112	1937700	3878100	Navua	0.001	0.01	<0.5	3.45	<5	80	<0.5	<2	1.82	<0.5	104	73	130	>25.0	0.12	2.17	2660	7	0.39	57	40	24	<0.01	<5	101	0.76	1250	<10	478
SA113	1922958	3870265	Navua	<0.001	0.01	<0.5	5.57	<5	80	<0.5	<2	0.36	<0.5	21	34	33	11.8	0.41	0.52	2360	1	0.67	13	<10	8	<0.01	<5	37	0.56	219	<10	252
SA114	1922810	3870298	Navua	<0.001	0.01	<0.5	3.77	<5	50	<0.5	<2	0.35	<0.5	24	115	28	15.35	0.2	0.45	3060	<1	0.39	16	<10	9	<0.01	<5	31	0.44	215	<10	320
SA115	1922013	3871437	Navua	<0.001	0.01	<0.5	3.38	<5	40	<0.5	2	0.21	<0.5	30	112	25	24.8	0.26	0.33	4830	<1	0.36	16	<10	20	<0.01	<5	22	0.39	393	<10	558
SA116	1921588	3871520	Navua	<0.001	0.01	<0.5	8.72	7	250	<0.5	<2	0.45	<0.5	35	76	71	14.2	2.01	1.22	1360	<1	0.65	26	10	7	<0.01	<5	79	0.66	481	<10	198
SA117	1921614	3871507	Navua	<0.001	0.01	<0.5	5.13	<5	70	<0.5	<2	0.34	<0.5	30	349	36	20.8	0.48	0.6	3030	<1	0.48	22	<10	14	<0.01	<5	36	0.44	398	<10	507
SA118	1922484	3873750	Navua	<0.001	0.01	<0.5	5.82	<5	100	<0.5	<2	0.43	<0.5	25	169	41	16.55	0.77	0.79	2230	<1	0.56	17	<10	11	<0.01	<5	46	0.62	374	<10	310
SA119	1922568	3873779	Navua	0.001	0.02	<0.5	7.19	8	90	<0.5	<2	0.55	<0.5	28	499	60	15.15	0.78	1.26	1720	<1	0.38	32	190	10	0.02	<5	53	0.87	451	<10	146
SA120	1925200	3872350	Navua	0.001	0.01	<0.5	4.9	<5	50	<0.5	2	0.24	<0.5	20	188	27	11.7	0.27	0.44	2360	<1	0.43	10	<10	7	<0.01	<5	22	0.61	156	<10	247
SA120-1	1925200	3872350	Navua	<0.001	0.01	<0.5	4.47	<5	40	<0.5	<2	0.25	<0.5	20	314	25	14.55	0.24	0.43	3270	<1	0.41	13	<10	9	<0.01	<5	22	0.43	128	<10	293
SA121	1925138	3872190	Navua	<0.001	0.01	<0.5	3.77	<5	40	<0.5	<2	0.19	<0.5	25	110	25	19.45	0.2	0.33	5260	<1	0.36	11	<10	13	<0.01	<5	22	0.63	223	<10	438
SA122	1924765	3873906	Navua	0.001	0.01	<0.5	4.55	<5	40	<0.5	<2	0.31	<0.5	28	370	42	20.4	0.35	0.5	4100	<1	0.26	20	<10	8	<0.01	<5	26	0.66	302	<10	286
SA123	1924600	3873850	Navua	<0.001	0.01	<0.5	6.68	<5	70	<0.5	<2	0.38	<0.5	32	332	77	20.2	1.01	1.12	1445	<1	0.34	23	120	12	0.01	<5	34	0.95	824	<10	138
SA124	1946707	3879481	Rewa	0.001	0.01	<0.5	6.21	<5	40	<0.5	<2	1.15	<0.5	27	104	49	16.85	0.25	0.89	2210	<1	0.6	20	<10	8	<0.01	<5	68	0.7	891	<10	186
SA125	1946471	3879148	Rewa	0.059	0.01	<0.5	5.71	<5	40	<0.5	<2	0.84	<0.5	23	95	45	12.5	0.35	0.95	1335	<1	0.59	25	70	7	<0.01	<5	47	0.64	769	<10	146
SA126	1940202	3879149	Rewa	1.135	0.01	<0.5	4.84	<5	40	<0.5	<2	1.06	<0.5	23	249	52	15.95	0.34	0.84	1875	<1	0.92	17	30	16	0.01	<5	53	0.71	654	<10	210
SA127	1945809	3879170	Rewa	0.01	0.01	<0.5	7.81	<5	90	<0.5	<2	0.46	<0.5	23	47	50	9.31	0.65	1.26	1505	1	0.72	13	360	6	0.04	<5	64	0.9	337	<10	176
SA128	1945510	3878500	Rewa	4.61	0.02	1.4	5.97	30	90	<0.5	<2	0.48	0.9	29	146	102	13.7	0.7	0.72	1315	2	0.28	17	340	38	0.16	<5	35	0.87	463	<10	338
SA129	1944529	3878500	Rewa	0.382	0.01	<0.5	5.39	41	100	<0.5	<2	0.73	<0.5	39	102	402	21.7	0.5	0.65	1215	5	0.39	21	260	23	0.57	<5	61	0.98	1430	<10	271
SA130	1944414	3878680	Rewa	0.14	0.02	<0.5	6.88	18	130	<0.5	<2	1.2	<0.5	25	72	140	13.2	0.73	0.83	1375	1	0.46	15	420	21	0.71	<5	71	0.8	479	<10	386
SA131	1944161	3878496	Rewa	1.76	0.01	<0.5	5.66	12	170	0.6	3	0.32	<0.5	28	95	140	>25.0	0.89	0.56	1670	<1	0.28	29	480	31	0.3	<5	47	1.26	1215	<10	411
SA132	1944264	3878410	Rewa	0.145	0.01	<0.5	6.89	18	170	<0.5	<2	0.49	<0.5	22	88	166	13.8	0.85	0.65	991	8	0.54	12	410	14	1.2	<5	81	0.7	623	<10	210
SA133	1946814	3881557	Rewa	0.056	0.01	<0.5	4.62	7	140	0.6	<2	0.87	<0.5	47	75	168	>25.0	0.49	0.98	2880	<1	0.3	36	40	27	<0.01	<5	74	0.86	989	<10	606
SA134	1946799	3881632	Rewa	<0.001	0.01	<0.5	5.13	<5	80	<0.5	2	1.74	<0.5	52	97	92	>25.0	0.21	1.29	2840	<1	0.71	28	<10	17	<0.01	<5	167	0.95	631	<10	423
SA135	1947478	3883381	Rewa	0.061	0.02	<0.5	8.01	<5	170	0.5	<2	2.47	<0.5	43	49	104	19.4	0.36	1.72	2090	<1	0.83	22	140	14	0.01	<5	213	0.96	728	<10	331
SA136	1955304	3887540	Rewa	<0.001	0.01	<0.5	5	<5	60	<0.5	<2	0.75	<0.5	24	55	28	13.7	0.43	0.79	1240	<1	1.22	10	40	7	<0.01	<5	57	0.64	276	<10	278
SA137	1955148	3887568	Rewa	<0.001	0.01	<0.5	3.6	<5	40	<0.5	<2	1.36	<0.5	97	109	111	>25.0	0.18	1.84	3350	<1	0.4	42	<10	26	<0.01	<5	57	0.61	1160	<10	539
SA138	1954555	3886800	Rewa	0.001	0.01	<0.5	2.77	<5	30	<0.5	<2	1.34	<0.5	96	58	75	>25.0	0.17	1.76	3140	<1	0.54	37	<10	30	<0.01	<5	47	0.72	741	<10	569
SA139	1954100	3887000	Rewa	<0.001	0.02	<0.5	6.31	7	40	<0.5	2	0.27	<0.5	53	233	51	>25.0	0.17	0.73	3610	<1	0.1	36	90	14	<0.01	<5	28	0.49	785	<10	623
SA140	1953681	3886919	Rewa	<0.001	0.01	<0.5	4.66	<5	50	<0.5	<2	1.47	<0.5	39	232	32	19	0.23	0.82	1610	<1	0.75	28	30	12	0.01	<5	85	0.64	623	<10	201
SA140-1	1953681	3886919	Rewa	<0.001	0.01	<0.5	4.3	5	40	<0.5	<2	1.45	<0.5	41	278	32	18.55	0.2	0.75	1560	<1	0.68	27	30	13	0.01	<5	82	0.65	659	<10	196
SA141	1953319	3886411	Rewa	<0.001	0.01	<0.5	4.76	<5	30	<0.5	2	0.16	<0.5	30	75	29	21.7	0.19	0.38	3300	<1	0.24	14	<10	15	<0.01	<5	16	0.44	502	<10	568
SA142	1953283	3886386	Rewa	<0.001	0.01	<0.5	3.65	5	50	<0.5	<2	1.37	<0.5	103	94	139	>25.0	0.15	2.12	3180	<1	0.34	45	<10	28	<0.01	<5	60	0.58	1240	<10	537
SA143	1917105	3881913	Navua	<0.001	0.01	<0.5	7.06	<5	110	0.5	<2	2.84	<0.5	26	134	27	11.45	0.59	1.53	2110	1	1.83	16	420	8	0.04	<5	122	0.95	424	<10	172
SA144	1917230	3881505	Navua	<0.001	0.01	<0.5	5.45	<5	70	<0.5	<2	2.27	<0.5	26	124	24	19.05	0.37	1.31	2370	<1	1.41	17	260	10	0.04	<5	100	1.02	961	<10	190
SA145	1917644	3882491	Navua	0.001	0.01	<0.5	5.19	<5	110	0.5	<2	0.89	<0.5	16	81	12	11.05	0.47	0.64	1020	<1	1.4	10	60	10	0.01	<5	67	0.87	306	<10	76
SA146	1917870	3883741	Navua	<0.001	0.01	<0.5	7.59	<5	100	0.6	<2	3.19	<0.5	28	142	45	8.96	0.51	1.4	1655	<1	1.78	18	410	6	0.03	<5	172	0.89	360	<10	230
SA147	1916616	3884708	Navua	<0.001	0.01	<0.5	7.31	5	150	0.6	<2	1.84	<0.5	23	114	38	7.89	0.57	1.06	1550	<1	1.76	15	390	10	0.01	<5	126	0.85	270	<10	224
SA148	1916328	3884600	Navua	<0.001	0.01	<0.5	7.31	<5	180	0.6	<2	1.44	<0.5	18	60	26	6.06	0.93	1.04	1090	<1	2.55	11	370	8	0.01	<5	130	0.74	240	<10	126
SA149	1916247	3884817	Navua	<0.001	0.01	<0.5	8.68	6	60	0.6	<2	5.92	<0.5	35	647	45	9.62	0.21	1.33	2100	<1	1.62	29	410	13	0.03	<5	302	0.91	394	<10	208
SA150	1915400	3885150	Navua	0.001	0.01	<0.5	7.33	<5	200	0.6	<2	1.74	<0.5	22	185	37	6.69	0.75	1.06	1335	<1	1.84	19	380	9	0.06	<5	136	0.71	239	<10	138
SA151	1914930	3885363	Navua	0.001	0.01	<0.5	6.41	<5	80	<0.5	<2	3.17	<0.5	35	564	36	17.6	0.48	1.56	2220	<1	1.35	35	250	15	0.02	<5	158	0.95	921	<10	160
SA152	1913400	3885100	Navua	0.003	0.01	<0.5	7.61	<5	110	0.6	<2	2.36	<0.5	33	2620	50	10.25	0.51	1.31	1615	<1	1.68	58	370	6	0.08	<5	146	1.14	392	<10	190
SA153	1913550	3885100	Navua	<0.001	<0.01	<0.5	7.35	<5	150	0.6	<2	2.48	<0.5	24	542	44	6.46	0.77	1.41	1375	<1	1.69	40	320	8	<0.01	<5	158	0.66	250	<10	128
SA154	1913592	3885633	Navua	<0.001	0.01	<0.5	5.06	<5	60	<0.5	<2	2.3	<0.5	33	144	22	22.5	0.43	1.38	2250	<1	1.22	23	120	13	0.01	<5	111	0.62	981	<10	132
SA155	1913244	3886392	Navua	0.001	0.01	<0.5	10.05	<5	60	<0.5	<2	2.52	<0.5	40	403	55	12.75	0.41	1.85	1820	<1	0.67	44	410	10	0.01	<5	131	0.73	462	<10	156
SA156	1913264	3886448	Navua	<0.001	0.01	<0.5	6.62	<5	50	<0.5	<2	3.3	<0.5	42	237	31	21.1	0.33	1.76	2500	<1	0.71	32	140	16	0.02	<5	145	1.04	1125	<10	189
SA157	1913674	3886055	Navua	<0.001	0.01	<0.5	2.63	<5	20	<0.5	<2	1.65	<0.5	49	246	16	>25.0	0.13	0.92	3040	<1	0.48	33	20	27	<0.01	<5	65	0.55	1675	<10	213
SA158	1915014	3885432	Navua	<0.001	0.01	<0.5	5.54	<5	90	<0.5	<2	2.84	<0.5	28	219	22	19.1	0.6	1.54	2650	<1	1.16	24	90	12	0.01	<5	139	0.76	785	<10	174
SA159	1914574	3887055	Navua	<0.001	0.01	<0.5	4.18	<5	40	<0.5	<2	2.72	<0.5	44	289	17	>25.0	0.27	1.86	2730	<1	0.94	37	10	21	0.01	<5	102	0.53	1465	<10	166
SA160	1914957	3887465	Navua	0.003	0.01	<0.5	5.87	5	60	<0.5	<2	3.84	<0.5	42	594	27	21.9	0.4	2.28	3120	<1	0.95	44	10	15	<0.01	<5	172	0.59	905	<10	220
SA160-1	1914957	3887465	Navua	<0.001	0.01	<0.5	4.31	<5	40	<0.5	<2	3.16	<0.5	46	1005	22	>25.0	0.26	1.74	3490	<1	0.65	50	10	22	<0.01	<5	130	0.59	1290	<10	294
SA161	1914997	3887494	Navua	<0.001	0.01	<0.5	6.63	<5	40	0.5	<2	4.23	<0.5	22	484	22	9.9	0.13	1.07	1740	<1	1.49	22	200	4	0.01	<5	215	0.73	346	<10	108
SA162	1915037	3887775	Navua	<0.001	0.01	<0.5	4.1	<5	50	<0.5	3	2.47	<0.5	39	255	31	>25.0	0.29	1.5	2940	8	0.72	29	40	21	0.01	<5	116	0.69	1525	<10	281
SA163	1915800	3888250	Navua	<0.001	0.01	<0.5	7.43	<5	50	<0.5	<2	3.94	<0.5	29	518	26	11.15	0.18	1.56	1865	1	2.08	33	270	10	0.03	<5	182	1.08	371	<10	116
SA164	1915850	3888400	Navua	<0.001	0.01	<0.5	7.01	<5	70	<0.5	<2	3.74	<0.5	30	500	33	12.4	0.31	2.11	2140	<1	1.52	37	260	10	0.03	<5	182	1.06	607	<10	170
SA165	1915930	3889199	Navua	<0.001	<0.01	<0.5	5.67	<5	60	<0.5	<2	3.5	<0.5	35	174	33	20.5	0.38	2.12	3150	<1	0.92	21	70	18	0.02	<5	172	1.04	1245	<10	258
SA166	1916315	3889457	Navua	<0.001	0.01	<0.5	4.22	<5	70	<0.5	<2	1.96	<0.5	19	64	14	17.1	0.53	0.87	2640	<1	0.7	10	140	10	<0.01	<5	121	0.8	649	<10	130

Appendix1 Chemical analysis data of stream sediment samples (13)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SA167	1916667	3889741	Navua	<0.001	0.01	<0.5	3.73	<5	130	<0.5	<2	1	<0.5	11	128	11	10.9	0.93	0.36	2930	1	0.82	8	40	11	0.02	<5	69	0.98	281	<10	136
SA168	1916987	3889543	Navua	<0.001	0.01	<0.5	6.64	<5	120	<0.5	<2	3.24	<0.5	31	565	27	13.1	0.56	1.95	2530	<1	1.6	34	240	7	0.03	<5	154	1.12	487	<10	154
SA169	1917290	3890240	Navua	<0.001	<0.01	<0.5	3.54	<5	120	<0.5	<2	1.1	<0.5	17	58	13	20.5	0.98	0.37	2950	<1	1.04	8	40	12	0.01	<5	66	0.66	520	<10	123
SA170	1917350	3890242	Navua	<0.001	0.01	<0.5	5.46	<5	160	0.5	<2	2	<0.5	18	67	15	10.55	1.18	0.93	2200	<1	1.54	9	100	6	0.01	<5	112	0.89	376	<10	108
SA171	1917395	3890202	Navua	0.001	0.01	<0.5	6.44	<5	100	<0.5	<2	3.06	<0.5	40	915	32	16.8	0.52	2.25	2340	<1	1.7	52	380	11	0.12	<5	145	1.2	621	<10	213
SA172	1917840	3881272	Navua	<0.001	0.01	<0.5	5.67	<5	110	<0.5	<2	2.03	<0.5	24	174	20	13.3	0.69	1.08	2160	1	1.31	15	240	10	0.03	<5	108	1.03	617	<10	172
SA173	1917953	3881188	Navua	<0.001	0.01	<0.5	5.35	7	100	0.5	<2	0.98	<0.5	25	156	18	15.6	0.43	0.62	1930	1	1.58	14	140	10	0.15	<5	69	1.34	290	<10	132
SA174	1918527	3880578	Navua	0.001	0.02	<0.5	5.75	21	100	<0.5	<2	0.66	<0.5	28	300	32	11.5	0.44	0.96	1605	1	0.84	26	310	8	0.08	<5	52	1	497	<10	198
SA175	1918627	3880250	Navua	<0.001	0.01	<0.5	6.43	12	50	<0.5	<2	0.54	<0.5	27	116	20	7.21	0.24	1.7	1225	1	1.28	18	320	4	0.38	<5	50	0.61	238	<10	152
SA176	1907477	3881945	Navua	0.003	0.01	<0.5	6.89	<5	100	<0.5	<2	3.2	<0.5	34	700	36	11.8	0.54	2.16	1825	<1	1.48	44	320	10	0.02	<5	160	0.88	548	<10	162
SA177	1907737	3881900	Navua	<0.001	0.01	<0.5	5.15	<5	50	<0.5	<2	2.57	<0.5	28	1555	27	21.3	0.2	0.96	3260	<1	1.24	36	110	15	0.01	<5	147	0.9	855	<10	231
SA178	1908832	3882744	Navua	0.001	0.01	<0.5	8.29	<5	130	<0.5	<2	3.68	<0.5	50	4270	51	10.7	0.89	3.09	1705	<1	1.7	76	410	9	0.03	<5	178	0.68	434	<10	279
SA179	1909450	3882950	Navua	0.002	0.01	<0.5	7.85	9	160	<0.5	<2	3.49	<0.5	46	2470	57	12.1	0.94	3.57	1605	<1	1.57	78	410	12	0.06	<5	166	0.7	561	<10	190
SA180	1909843	3883145	Navua	<0.001	0.01	<0.5	7.36	<5	110	0.6	<2	2.69	<0.5	29	274	33	8.68	0.52	1.12	1655	<1	1.86	24	340	10	0.01	<5	158	0.93	341	<10	169
SA180-1	1909843	3883145	Navua	<0.001	0.01	<0.5	7.25	<5	100	0.6	<2	2.76	<0.5	32	333	35	9.83	0.51	1.03	1815	<1	1.7	26	290	10	0.01	<5	158	0.98	369	<10	184
SA181	1909500	3882700	Navua	<0.001	0.01	<0.5	6.96	<5	50	0.6	4	3.85	0.5	33	406	35	9.1	0.16	0.75	1685	1	1.56	19	270	5	0.02	<5	218	0.85	356	<10	152
SA182	1909984	3883175	Navua	<0.001	0.01	<0.5	7.04	<5	100	0.6	7	2.34	0.8	38	1280	57	11.05	0.38	0.87	1845	<1	1.2	27	180	7	0.01	5	146	0.74	306	<10	194
SA183	1910035	3883187	Navua	0.013	<0.01	<0.5	6.36	<5	100	<0.5	5	3	<0.5	34	661	30	14	0.55	2.32	1910	<1	1.25	35	220	8	0.01	<5	146	0.73	579	<10	124
SA184	1907503	3882791	Navua	0.001	<0.01	<0.5	5.81	<5	110	<0.5	3	2.69	0.6	31	560	23	16.35	0.62	2.06	1900	<1	1.32	23	60	10	0.01	5	124	0.64	660	<10	148
SA185	1906900	3883000	Navua	0.21	0.04	1.8	8.99	31	250	<0.5	4	1.1	10.2	33	166	80	7.04	2.16	3.14	804	11	0.81	33	570	174	0.05	<5	88	0.57	307	<10	218
SA186	1906772	3883601	Navua	0.001	0.01	<0.5	8.75	7	180	<0.5	4	3.08	<0.5	38	750	54	8.58	1.26	2.54	1130	<1	1.57	46	420	8	0.02	<5	201	0.54	319	<10	142
SA187	1905850	3883750	Navua	0.006	0.01	<0.5	8.63	16	260	0.5	5	0.72	0.6	33	170	60	7.33	1.76	1.87	1085	<1	1.38	31	450	8	0.02	<5	92	0.51	269	<10	103
SA188	1905860	3883886	Navua	0.013	0.01	<0.5	7.27	7	160	0.6	3	1.3	<0.5	28	305	39	10.15	1.1	1.7	1170	<1	1.2	25	360	9	0.01	<5	106	0.64	295	<10	162
SA189	1905221	3883707	Navua	0.002	0.01	<0.5	7.71	7	150	0.5	4	0.88	<0.5	34	374	53	8.4	1.36	2.08	1010	<1	1.18	32	380	5	0.02	<5	79	0.46	274	<10	106
SA190	1904772	3883651	Navua	0.003	0.01	<0.5	6.85	<5	190	0.7	3	1.1	<0.5	23	82	24	7.43	0.77	1.26	1270	<1	1.32	10	360	8	0.01	<5	117	0.7	270	<10	142
SA191	1904726	3883654	Navua	<0.001	0.01	<0.5	7.34	<5	170	0.5	3	1	<0.5	20	178	31	7.6	0.89	1.42	940	<1	1.16	19	380	6	0.02	<5	101	0.71	252	<10	138
SA192	1905719	3884532	Navua	0.001	0.01	<0.5	7.87	<5	150	<0.5	3	2.93	<0.5	29	559	59	9.67	0.91	2.75	1230	<1	1.48	32	360	3	0.01	<5	184	0.83	464	<10	125
SA193	1905628	3884619	Navua	0.001	0.01	<0.5	6.88	<5	130	<0.5	4	3.11	<0.5	30	424	36	12.2	0.7	2.46	1860	1	1.48	26	460	8	0.04	<5	148	1.07	540	<10	133
SA194	1906491	3887120	Navua	<0.001	0.01	<0.5	7.57	<5	70	<0.5	4	4.2	<0.5	33	1765	40	14.4	0.38	3.3	1565	<1	1.22	55	270	4	0.01	<5	197	0.85	603	<10	174
SA195	1906750	3886750	Navua	0.001	0.01	<0.5	8.25	10	100	<0.5	4	3.7	<0.5	34	236	44	10.9	0.52	3.41	1285	<1	1.2	40	420	<2	0.01	<5	242	0.58	351	<10	85
SA196	1907259	3886877	Navua	0.007	0.01	<0.5	8.42	<5	140	0.5	3	1.66	<0.5	30	246	49	9.96	1.04	2.59	1010	<1	1.52	32	440	26	0.04	<5	136	0.54	366	<10	114
SA197	1907500	3887000	Navua	0.007	0.01	<0.5	7.34	9	160	<0.5	3	0.73	0.6	34	249	60	8.42	1.12	2.4	1025	<1	1.16	29	500	18	0.04	<5	79	0.62	316	<10	156
SA198	1907750	3887150	Navua	0.018	0.01	<0.5	7.84	<5	190	0.5	4	2.14	0.7	29	272	46	10.2	1.04	3.21	1085	<1	1.04	32	470	28	0.02	<5	130	0.58	355	<10	118
SA199	1907629	3887211	Navua	0.001	0.01	<0.5	7.31	<5	100	0.6	6	2.01	<0.5	22	216	32	10.2	0.66	1.65	1660	<1	1	23	410	8	0.01	<5	156	0.92	309	<10	174
SA200	1901995	3879970	Navua	0.001	0.01	<0.5	9.58	<5	100	0.6	2	1.33	<0.5	42	720	55	11.1	0.52	1.58	1780	<1	1.2	52	360	<2	0.01	<5	87	0.48	288	<10	138
SA200-1	1901995	3879970	Navua	0.001	0.01	<0.5	9.12	<5	90	0.6	5	1.36	<0.5	42	910	54	11.15	0.5	1.58	1670	<1	1.12	53	290	4	0.01	<5	84	0.44	276	<10	146
SA201	1902036	3880012	Navua	<0.001	0.01	<0.5	8.5	10	80	<0.5	3	3.1	<0.5	39	2080	54	12.3	0.45	2.98	1650	<1	0.87	70	320	8	<0.01	<5	118	0.64	461	<10	140
SA202	1902289	3880060	Navua	0.001	0.01	<0.5	8.3	<5	80	0.5	5	2.19	<0.5	35	691	46	12.85	0.5	2.18	1385	<1	0.93	41	370	4	0.01	<5	120	0.54	399	<10	126
SA203	1902750	3880100	Navua	0.001	0.01	<0.5	7.83	5	120	<0.5	2	2.44	<0.5	31	1400	41	8.32	0.76	3.09	1090	<1	1.72	75	350	3	<0.01	<5	130	0.62	316	<10	96
SA204	1903329	3880012	Navua	0.002	0.01	<0.5	7.55	<5	170	0.5	2	0.51	<0.5	27	638	44	6.33	1.1	2.23	1135	<1	1.4	55	430	2	0.01	<5	66	0.5	206	<10	100
SA205	1903504	3879404	Navua	<0.001	0.01	<0.5	7.49	<5	80	0.5	2	2.59	<0.5	30	557	31	9	0.44	1.61	1450	<1	2.65	46	230	4	0.03	<5	121	0.62	243	<10	100
SA206	1903800	3879200	Navua	0.001	0.01	<0.5	8.29	<5	50	<0.5	4	3.7	<0.5	42	643	37	10.8	0.19	2.09	2080	<1	2.42	74	160	6	0.01	5	144	0.48	225	<10	128
SA207	1904601	3879214	Navua	0.013	0.01	<0.5	5.96	<5	120	0.7	3	1.05	<0.5	17	273	25	8.31	0.59	0.69	1360	1	1.76	14	220	10	0.02	<5	76	0.67	201	<10	109
SA208	1904631	3879010	Navua	<0.001	0.01	<0.5	8.24	<5	110	0.5	6	2.74	<0.5	26	376	39	9.92	0.45	1.44	1850	<1	2.66	38	190	4	<0.01	<5	119	0.7	300	<10	113
SA209	1905498	3878902	Others	0.008	0.01	<0.5	4.5	<5	100	0.6	4	0.65	<0.5	8	246	11	12.15	0.47	0.31	1160	<1	1.12	7	110	<2	<0.01	<5	47	0.82	288	<10	74
SA210	1882600	3876020	Others	<0.001	0.01	<0.5	9.28	<5	60	<0.5	4	5.06	<0.5	24	1120	34	6.61	0.24	1.76	905	<1	2.98	42	260	2	0.16	<5	253	0.6	282	<10	69
SA211	1882955	3876405	Others	<0.001	0.01	<0.5	9.15	5	120	<0.5	2	3.43	<0.5	27	490	41	6.14	0.46	1.87	777	<1	2.92	53	250	3	0.05	<5	183	0.62	285	<10	80
SA212	1883456	3876784	Others	<0.001	<0.01	<0.5	9.51	<5	10	<0.5	4	6.92	<0.5	25	536	32	6.47	0.06	1.58	1105	<1	2.56	35	210	<2	0.05	<5	308	0.43	257	<10	70
SA213	1884013	3876913	Others	<0.001	<0.01	<0.5	9.6	7	20	0.5	4	6.87	<0.5	21	393	31	6.62	0.06	1.47	1110	<1	2.59	29	250	2	0.03	<5	319	0.48	247	<10	88
SA214	1884405	3877657	Others	<0.001	<0.01	<0.5	9.72	<5	20	0.5	6	6.71	<0.5	21	314	25	6.56	0.07	1.28	1120	<1	2.78	23	180	3	0.04	<5	318	0.41	259	<10	92
SA215	1884182	3878057	Others	0.001	0.01	<0.5	5.85	<5	70	<0.5	2	2.3	<0.5	21	441	28	12.4	0.53	1.54	1645	<1	1.57	23	130	10	0.03	<5	138	0.96	451	<10	237
SA216	1884204	3878052	Others	<0.001	<0.01	<0.5	6.66	<5	90	0.5	6	2.49	<0.5	22	312	24	11.05	0.74	1.4	1960	<1	1.93	15	370	9	0.08	<5	162	1.36	543	<10	240
SA217	1869808	3880559	Others	0.042	<0.01	<0.5	5.83	<5	100	0.6	2	1.57	<0.5	10	258	7	5.5	0.29	0.5	673	1	2.62	12	140	2	0.01	<5	118	0.54	167	<10	67
SA218	1871877	3881751	Others	0.392	<0.01	<0.5	5.62	<5	110	0.5	4	1.18	<0.5	11	162	35	9.98	0.34	0.71	1025	1	2.01	8	240	5	0.06	<5	82	0.68	319	<10	160
SA219	1871906	3881517	Others	0.001	<0.01	<0.5	5.66	<5	160	0.5	<2	1.38	<0.5	10	232	12	9.96	0.29	0.55	1105	1	2.19	13	180	7	0.02	<5	112	0.6	294	<10	92
SA220	1869504	3886966	Sigatoka	0.001	<0.01	<0.5	7.14	<5	160	<0.5	5	2.39	<0.5	26	250	27	11.15	0.57	1.76	1260	<1	1.93	25	60	3	<0.01	<5	200	0.63	468	<10	152
SA220-1	1869504	3886966	Sigatoka	0.001	<0.01	<0.5	7.42	<5	170	<0.5	6	2.33	<0.5	23	145	25	9.04	0.6	1.7	1080	<1	1.98	21	180	<2	0.01	<5	212	0.71	402	<10	128
SA221	1872044	3881470	Others	<0.001	<0.01	<0.5	5.97	<5	80	0.5	<2	1.12	<0.5	14	367	18	7.66	0.36	0.59	695	2	2.25	18	210	<2	0.03	<5	114	0.69	304	<10	78
SA222	1867726	3885878	Others	1.485	<0.01	0.6	4.48	<5	50	<0.5	3	1.68	<0.5	28	502	15	20	0.14	1	2390	<1	1.27	21	<10	6	0.01	<5	79	0.25	744	<10	385
SA223	1867417	3884665	Others	0.004	<0.01	<0.5	5.8	<5	50	0.5	3	2.87	<0.5	26	570	16	13.2	0.13	1.38	1385	<1	1.92	30	20	6	0.02	<5	148	0.66	545	<10	138
SA224	1867464	3884674	Others	0.001	<0.01	0.5	3.91	<5	40	<0.5	<2	2.44	<0.5	45	820	13	>25.0	0.09	1.84	2290	6	1.18	50	<10	<2	0.04	<5	102	0.67	1380	<10	218
SA225	1872616	3886046	Sigatoka	0.001	<0.01	<0.5	7.19	<5	140	<0.5	5	1.78	<0.5	26	308	47	11.7	0.57	1.92	1225	<1	1.98	36	120	6	<0.01	<5	126	0.67	461	<10	160
SA226	1872962	3885275	Sigatoka	<0.001	0.01	<0.5	7.34	<5	210	0.5	2	1.79	<0.5	25	183	34	9.36	0.78	1.56	1200	<1	2.37	42	250	11	0.01	<5	137	0.77	391	<10	143
SA227	1882633	3884007	Sigatoka	0.106	<0.01	<0.5	6.94	7	110	<0.5	4	2.23	<0.5	21	415	24	8.4	0.72	1.11	1365	<1	1.85	19	200	<2	0.02	<5	184	1.09	368	<10	102
SA228	1882104	3883995	Sigatoka	0.001	<0.01	<0.5	6.58	<5	100	<0.5	6	2.26	<0.5	14	256	18	6.79	0.67	0.81	1200	<1	1.86	15	160	3	<0.01	<5	166	0.8	282	<10	73
SA229	1881549	3883747	Sigatoka	0.001	<0.01	<0.5	6.58	<5	80	<0.5	5	2.78	<0.5	16	554	21	10.6	0.52	0.93	1655	<1	1.67	19	<10	<2	<0.01	<5	190	0.28	267	<10	104
SA230	1881271	3883431	Sigatoka	0.147	<0.01	<0.5	5.66	<5	70	<0.5	2	1.92	<0.5	28	490	23	12.9	0.41	0.98	1530	<1	1.51	26	<10	<2	<0.01	<5	232	0.45	309	<10	161
SA231	1880662	3882700	Sigatoka	0.001	<0.01	<0.5	7.04	<5	100	<0.5	5	2.32	<0.5	21	396	27	8.81	0.63	1.24	1345	<1	1.74	22	70	3	0.01	<5	182	0.71	319	<10	95
SA232	1880877	3882391	Sigatoka	0.047	<0.01	<0.5	5.33	<5	80	<0.5	4	2.1	<0.5	27	730	19	13.85	0.51	0.79	1910	<1	1.44	26	<10	4	<0.01	<5	158	0.56	333	<10	146
SA233	1881000	3882080	Sigatoka	0.291	<0.01	<0.5	4.49	5	70	<0.5	<2	1.83	<0.5	18	384	15	10.3	0.38	0.71	1745	<1	1.42	12	<10	6	<0.01	<5	140	0.5	284	<10	184
SA234	1884704	3885135	Sigatoka	0.021	<0.01	<0.5	6.67	<5	100	<0.5	<2	2.64	<0.5	16	330	16	7.81	0.67	0.88	1590	<1	1.86	14	30	5	<0.01	<5	187	0.65	238	<10	83
SA235	1884745	3885125	Sigatoka	<0.001	<0.01	<0.5	7.11	<5	100	<0.5	3	2.58	<0.5	21	400	28	9.34	0.63	1.04	1630	<1	1.7	23	30	2	<0.01	<5	186	0.67	316	<10	101
SA236	1884067	3882619	Sigatoka	0.002	<0.01	0.5	4.35	<5	50	<0.5	4	1.94	<0.5	42	335	25	24.8	0.33	1.15	3960	<1	1.23	17	30	6	0.02	6	134	0.89	615	<10	482
SA237	1884089	3882714	Sigatoka	<0.001	<0.01	<0.5	5.71	<5	80	<0.5	2	2.18	<0.5	25	604	25	13.3	0.47	1.14	2280	<1	1.69	19	100	7	0.01	<5	164	0.89	456	<10	299
SA238	1882581	3886068	Sigatoka	<0.001	<0.01	<0.5	7.28	6	100	<0.5	4	3.59	<0.5	22	142	19	8.57	0.54	1.22	1105	<1	1.66	13	280	4	0.02	<5	240	1.06	378	<10	102
SA239	1882635	3886180	Sigatoka	<0.001	<0.01	<0.5	5.35	<5	70	<0.5	7	3.03	<0.5	74	218	26	>25.0	0.27	1.82	2500	<1	0.87	19	<10	12	<0.01	6	163	0.92	731	<10	301
SA240	1883161	3886866	Sigatoka	<0.001	<0.01	<0.5	6.97	<5	80	<0.5	4	4.25	<0.5	51	150	22	20	0.32	1.82	1810	<1	1.23	20	60	3	0.01	<5	222	0.99	626	<10	220
SA240-1	1883161	3886866	Sigatoka	<0.001	<0.01	<0.5	7.68	<5	100	<0.5	4	4.48	<0.5	42	122	23	16.3	0.37	1.8	1525	<1	1.28	13	130	4	0.01	<5	244	1.06	599	<10	180
SA241	1884005	3887064	Sigatoka	<0.001	<0.01	<0.5	6.21	<5	90	<0.5	4	2.8	<0.5	16	385	12	8.79	0.57	0.68	1795	<1	1.66	14	<10	4	<0.01	<5	192	0.75	258	<10	91
SA242	1883646	3888122	Sigatoka	0.001	<0.01	<0.5	9.48	<5	130	<0.5	2	5.58	<0.5	30	101	22	11.6	0.48	1.76	1290	<1	1.66	9	270	7	0.03	<5	337	0.52	302	<10	134
SA243	1883712	3888195	Sigatoka	<0.001	<0.01	0.6	6.1	<5	60	<0.5	5	4	<0.5	62	161	26	>25.0	0.25	1.91	2210	<1	0.98	23	190	8	0.02	5	207	1.05	800	<10	238
SA244	1898117	3894704	Sigatoka	0.001	0.42	<0.5	7.45	<5	110	<0.5	2	3.5	<0.5	30	270	28	11.75	0.73	1.84	1815	<1	1.39	18	230	3	<0.01	<5	252	0.48	202	<10	180
SA245	1898572	3893045	Sigatoka	<0.001	0.01	<0.5	7.6	<5	70	0.5	5	3.34	<0.5	27	225	33	9.83	0.4	2.11	1370	<1	2.27	21	380	4	0.01	<5	162	0.97	447	<10	174
SA246	1898492	3893010	Sigatoka	<0.001	0.01	<0.5	7.89	<5	90	0.5	6	3.41	<0.5	27	238	37	11	0.53	2.08	1425	<1	2.1	21	460	5	0.07	6	192	0.89	446	<10	122
SA247	1898907	3895469	Sigatoka	0.001	<0.01	<0.5	7.98	<5	100	0.5	4	4.17	<0.5	26	280	35	9.64	0.57	2.63	1545	<1	2.06	41	360	6	0.01	<5	209	0.92	346	<10	150
SA248	1899531	3894734	Sigatoka	0.001	0.02	<0.5	7.94	<5	90	0.5	5	4.49	<0.5	28	239	40	8.38	0.49	2.9	1170	<1	2.01	49	450	<2	0.01	<5	200	0.82	387	<10	97
SA249	1899565	3894747	Sigatoka	<0.001	0.01	<0.5	8.06	<5	80	0.5	2	2.41	<0.5	25	142	33	8.97	0.56	1.62	1570	<1	2.57	24	350	<2	0.01	<5	174	0.95	296	<10	196
SA250	1899002	3896166	Sigatoka	<0.001	<0.01	<0.5	7.42	6	110	0.5	4	2.96	<0.5	25	110	31	10.8	0.54	2.25	2000	<1	1.22	13	410	<2	0.01	<5	194	0.64	182	<10	293
SA251	1902072	3898321	Sigatoka	0.001	<0.01	<0.5	7.59	9	110	0.5	4	2.17	<0.5	27	102	35	9.05	0.67	1.18	1390	<1	1.65	19	410	3	0.03	5	211	0.86	345	<10	124
SA252	1901845	3897925	Sigatoka	0.001	<0.01	<0.5	7.8	<5	170	0.6	2	2.03	<0.5	18	79	26	7.32	0.97	1.45	1135	<1	2.2	7	340	6	0.02	<5	186	0.78	307	<10	126

Appendix1 Chemical analysis data of stream sediment samples (14)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SA253	1902546	3897933	Sigatoka	<0.001	<0.01	<0.5	7.69	<5	140	0.5	3	1.72	<0.5	21	49	42	7.44	0.72	1.4	1090	<1	2.63	8	420	14	0.04	<5	156	0.64	294	<10	120
SA254	1903197	3896537	Sigatoka	0.046	<0.01	<0.5	6.29	<5	60	<0.5	4	4.43	<0.5	35	335	25	23.7	0.29	1.76	2290	<1	1.76	26	220	5	0.05	<5	194	1.22	986	<10	110
SA255	1903151	3896567	Sigatoka	0.002	<0.01	<0.5	7.7	<5	110	0.5	3	2.11	<0.5	20	100	34	6.77	0.66	1.4	880	<1	2.56	19	340	3	0.03	<5	159	0.65	281	<10	96
SA256	1905525	3895975	Sigatoka	0.001	<0.01	1.3	2.02	<5	60	<0.5	2	1.04	<0.5	43	124	27	>25.0	0.25	0.47	4110	1	0.59	4	130	14	0.01	9	59	0.57	1180	<10	186
SA257	1906201	3895443	Sigatoka	<0.001	<0.01	1	3.12	<5	110	<0.5	6	1.42	<0.5	26	144	18	>25.0	0.55	0.48	5040	<1	0.93	<1	10	12	<0.01	<5	88	0.67	675	<10	333
SA258	1906144	3895402	Sigatoka	<0.001	<0.01	0.9	2.04	<5	20	<0.5	4	1.54	<0.5	46	212	16	>25.0	0.18	0.85	5140	<1	0.47	4	<10	16	<0.01	<5	66	0.28	1185	<10	416
SA259	1900100	3904271	Sigatoka	<0.001	<0.01	<0.5	6.36	<5	90	<0.5	4	3.21	<0.5	41	168	22	20.1	0.53	1.38	2030	<1	1.3	20	50	6	0.01	<5	256	0.96	716	<10	199
SA260	1900663	3904648	Sigatoka	0.001	<0.01	<0.5	5.99	<5	100	<0.5	2	2.59	<0.5	49	335	30	18	0.49	1.36	1895	<1	1.1	24	<10	3	<0.01	<5	192	0.37	471	<10	174
SA260-1	1900663	3904648	Sigatoka	0.014	<0.01	<0.5	6.26	<5	110	<0.5	4	2.95	<0.5	41	190	24	14.45	0.55	1.36	1725	<1	1.24	20	10	7	0.01	<5	217	0.92	492	<10	143
SA261	1900739	3904714	Sigatoka	<0.001	<0.01	<0.5	5.62	<5	100	<0.5	2	2.83	<0.5	38	283	24	15.55	0.56	1.27	1635	<1	1.04	20	30	3	0.01	5	185	1.03	567	<10	166
SA262	1901730	3905436	Sigatoka	0.001	<0.01	0.5	3.88	<5	50	<0.5	4	1.75	<0.5	68	186	31	>25.0	0.2	1.59	2580	<1	0.47	21	<10	14	0.01	<5	98	0.88	783	<10	308
SA263	1902010	3905582	Sigatoka	0.001	<0.01	0.8	3.03	<5	30	<0.5	2	1.7	<0.5	96	100	36	>25.0	0.09	2.17	3270	<1	0.4	10	<10	10	<0.01	5	73	0.78	961	<10	383
SA264	1902300	3906206	Sigatoka	<0.001	<0.01	0.6	4.35	<5	50	<0.5	<2	2.36	<0.5	80	121	45	>25.0	0.15	2.3	2910	4	0.66	18	<10	9	<0.01	<5	121	0.39	940	<10	339
SA265	1902246	3906173	Sigatoka	0.001	<0.01	1.2	2.97	<5	30	<0.5	5	1.3	<0.5	98	144	42	>25.0	0.1	1.62	3220	1	0.33	14	<10	17	<0.01	<5	64	0.45	957	<10	415
SA266	1911483	3904162	Sigatoka	<0.001	<0.01	<0.5	5.66	<5	170	<0.5	6	3.91	<0.5	79	287	86	24.3	0.71	2.98	2650	<1	0.69	32	390	10	0.01	<5	379	1.1	1040	<10	254
SA267	1911422	3903866	Sigatoka	<0.001	<0.01	<0.5	6.57	<5	210	<0.5	5	5.13	<0.5	88	405	106	>25.0	0.88	3.6	2940	<1	0.75	36	640	10	0.01	7	572	1.28	1220	<10	276
SA268	1912991	3904032	Sigatoka	0.001	<0.01	<0.5	5.66	<5	180	<0.5	5	3.68	<0.5	64	297	60	19.85	0.81	2.53	2320	<1	0.84	30	530	8	0.01	<5	416	1.16	960	<10	224
SA269	1912981	3904121	Sigatoka	0.002	<0.01	<0.5	5.3	<5	570	<0.5	6	1.79	<0.5	99	176	39	>25.0	2.05	1.21	5220	1	0.96	17	830	18	<0.01	<5	420	0.72	1270	<10	642
SA270	1913509	3904833	Sigatoka	<0.001	<0.01	<0.5	7.22	5	160	<0.5	3	2.59	<0.5	20	161	31	6.63	1.06	1.29	931	1	1.62	22	360	2	0.01	<5	374	0.73	257	<10	83
SA271	1913563	3904798	Sigatoka	0.002	<0.01	<0.5	5.06	<5	560	0.5	5	1.82	<0.5	88	78	55	>25.0	2.43	1	4880	4	0.9	21	2140	18	<0.01	<5	495	1.32	1360	<10	597
SA272	1913848	3905199	Sigatoka	<0.001	<0.01	<0.5	3.62	<5	350	<0.5	9	0.97	<0.5	112	76	36	>25.0	1.31	0.71	6420	4	0.49	17	430	27	<0.01	<5	249	0.88	1355	<10	889
SA273	1913803	3905340	Sigatoka	0.002	<0.01	<0.5	7.33	6	320	0.5	2	3.53	<0.5	44	263	44	13	1.6	2.09	1620	1	1.62	38	960	9	0.03	<5	582	1.05	757	<10	172
SA274	1913826	3905370	Sigatoka	0.001	<0.01	<0.5	3.7	5	290	0.5	7	1.52	<0.5	112	192	64	>25.0	1.12	1.06	6040	5	0.44	30	880	24	<0.01	<5	262	1.23	1655	<10	819
SA275	1903195	3899394	Sigatoka	0.001	<0.01	<0.5	6.75	<5	110	<0.5	4	3.68	<0.5	30	238	32	15.2	0.6	1.34	1715	2	1.4	22	530	9	0.02	<5	253	1.1	712	<10	141
SA276	1905188	3900358	Sigatoka	0.001	<0.01	<0.5	6.11	<5	100	<0.5	2	2.21	<0.5	37	188	47	18.3	0.49	1	1890	1	1.39	21	150	5	0.01	<5	134	1.08	774	<10	361
SA277	1905486	3898889	Sigatoka	0.001	<0.01	<0.5	6.38	<5	120	<0.5	4	5.6	<0.5	22	154	39	17.3	0.41	1.02	1825	3	1.38	9	610	9	0.28	<5	182	0.79	690	<10	95
SA278	1908924	3896028	Sigatoka	<0.001	<0.01	<0.5	2.24	5	40	<0.5	11	1.78	<0.5	40	109	20	>25.0	0.22	0.84	5350	2	0.53	11	<10	9	<0.01	<5	73	0.59	967	<10	393
SA279	1908920	3896006	Sigatoka	0.001	<0.01	<0.5	4.15	<5	60	<0.5	4	3.31	<0.5	33	128	18	>25.0	0.41	1.89	4550	2	1.08	11	30	7	<0.01	<5	129	0.68	601	<10	221
SA280	1909850	3893650	Sigatoka	0.333	0.01	<0.5	6.24	<5	460	0.5	<2	2.06	1.1	20	285	79	10.15	0.82	1.42	2990	7	1.48	20	210	23	0.25	<5	130	0.85	194	<10	392
SA280-1	1909850	3893650	Sigatoka	0.511	0.01	<0.5	6.24	7	520	0.5	<2	2.15	1.1	19	505	72	12	0.8	1.44	3570	2	1.45	18	220	27	0.17	<5	133	1.15	188	<10	377
SA281	1909994	3893627	Sigatoka	<0.001	<0.01	<0.5	5	<5	80	<0.5	4	3.13	<0.5	38	180	17	23.9	0.58	1.95	3390	2	1.18	19	10	8	0.01	<5	140	0.84	1015	<10	207
SA282	1910580	3893038	Sigatoka	0.001	<0.01	<0.5	4.28	<5	70	<0.5	4	2.58	<0.5	32	278	17	>25.0	0.55	1.5	4030	2	1.16	20	<10	5	<0.01	<5	106	0.89	887	<10	201
SA283	1910489	3892657	Sigatoka	<0.001	<0.01	<0.5	4.85	<5	80	<0.5	3	3.37	<0.5	39	267	14	22	0.64	2.53	3530	2	1.14	29	10	5	<0.01	<5	120	0.89	747	<10	186
SA284	1910292	3892605	Sigatoka	<0.001	<0.01	<0.5	4.66	<5	70	<0.5	5	3.04	<0.5	49	158	18	>25.0	0.43	2.09	3400	2	1.04	20	<10	7	<0.01	<5	132	0.36	1135	<10	259
SA285	1910270	3892677	Sigatoka	0.011	<0.01	<0.5	6.47	<5	110	<0.5	4	4.11	<0.5	37	258	29	16.05	0.6	2.35	2410	2	1.3	23	330	6	0.04	<5	204	1.28	781	<10	169
SA286	1913552	3894270	Sigatoka	<0.001	<0.01	<0.5	4.76	<5	180	0.5	<2	1.26	<0.5	10	182	6	11.55	1.44	0.22	2670	1	1.45	6	40	5	0.05	<5	86	1.27	293	<10	101
SA287	1913736	3894327	Sigatoka	0.001	<0.01	<0.5	4.2	<5	70	<0.5	7	2.47	<0.5	27	146	14	>25.0	0.47	1.28	2850	3	1.11	10	560	9	0.27	<5	120	1.64	1490	<10	162
SA288	1914795	3893874	Sigatoka	0.001	<0.01	<0.5	5.22	<5	100	<0.5	3	2.81	<0.5	27	361	10	14.5	0.66	1.78	1835	2	1.46	21	70	2	0.02	<5	110	0.95	568	<10	75
SA289	1915244	3894479	Sigatoka	<0.001	<0.01	<0.5	3.67	<5	140	0.5	4	0.97	<0.5	21	119	6	>25.0	1.08	0.27	4830	2	0.95	6	<10	9	<0.01	<5	65	0.5	440	<10	246
SA290	1915259	3894476	Sigatoka	<0.001	<0.01	<0.5	5.68	<5	100	0.5	5	3.05	<0.5	25	81	20	18.85	0.81	1.64	3350	1	1.54	7	410	5	<0.01	<5	141	0.88	542	<10	172
SA291	1911893	3894087	Sigatoka	<0.001	<0.01	<0.5	4.42	<5	50	<0.5	6	2.55	<0.5	33	90	15	>25.0	0.32	1.01	3740	2	1.12	10	250	10	<0.01	<5	147	0.62	896	<10	317
SA292	1911880	3893121	Sigatoka	<0.001	<0.01	<0.5	3.32	<5	110	<0.5	3	1.25	<0.5	18	291	9	13.85	0.79	0.42	2770	<1	0.76	12	<10	3	0.01	<5	67	0.6	428	<10	112
SA293	1912140	3891966	Sigatoka	<0.001	<0.01	<0.5	5.38	<5	150	0.5	2	2.02	<0.5	18	213	13	12.9	1.2	0.89	2120	2	1.58	14	90	2	0.03	<5	128	1.04	496	<10	81
SA294	1912144	3891410	Sigatoka	<0.001	<0.01	<0.5	6.26	<5	90	<0.5	<2	4.24	<0.5	34	698	37	15.05	0.67	2.7	2180	3	1	45	310	4	0.03	<5	196	0.96	630	<10	115
SA295	1912066	3891394	Sigatoka	<0.001	0.01	<0.5	5.97	<5	110	0.5	2	3.48	<0.5	25	628	24	14.7	0.87	1.27	3140	1	0.91	23	190	9	0.04	<5	176	1.31	509	<10	212
SA296	1937112	3890964	Rewa	0.003	0.05	<0.5	4.84	<5	110	<0.5	6	0.64	0.6	38	164	73	>25.0	0.4	1	2960	2	0.68	21	40	18	0.02	<5	92	0.79	1060	<10	470
SA297	1937124	3891358	Rewa	<0.001	0.01	<0.5	6.14	<5	100	0.5	2	2.59	0.5	24	218	64	13.75	0.6	0.98	2360	2	0.94	13	400	16	0.33	<5	146	1.02	501	<10	243
SA298	1937185	3891653	Rewa	0.003	0.01	<0.5	7.11	6	100	0.5	<2	2.67	<0.5	28	454	38	13.25	0.54	2.33	1610	2	1.24	27	430	24	0.05	<5	157	0.94	563	<10	258
SA299	1936868	3891789	Rewa	0.002	0.01	<0.5	5.49	<5	110	0.7	3	0.96	1.1	28	297	33	17.8	0.75	0.99	2130	1	1.18	16	310	26	0.09	<5	80	1.27	742	<10	348
SA300	1936698	3891992	Rewa	<0.001	0.02	<0.5	4.03	<5	60	<0.5	5	2.25	<0.5	76	172	79	>25.0	0.23	1.79	3330	2	0.67	26	60	11	0.01	<5	126	0.88	1080	<10	426
SA300-1	1936698	3891992	Rewa	0.001	0.16	<0.5	5.46	<5	90	<0.5	6	2.99	<0.5	62	124	64	>25.0	0.34	2.18	2930	2	1	23	110	6	0.01	<5	186	0.96	935	<10	339
SA301	1936930	3892657	Rewa	0.002	0.01	<0.5	7.58	9	220	0.6	3	0.81	0.9	23	194	62	7.3	1.01	2.72	1970	2	1.12	21	490	19	0.68	<5	56	0.56	217	<10	309
SA302	1936557	3892559	Rewa	0.002	0.01	<0.5	5.44	<5	90	<0.5	5	2.99	0.9	72	122	83	25	0.33	3.24	2860	2	0.93	26	140	8	0.08	<5	138	1.42	1245	<10	377
SA303	1936655	3892584	Rewa	<0.001	<0.01	<0.5	4.26	<5	90	<0.5	5	1.88	<0.5	35	287	32	24.3	0.5	1.26	3520	2	0.8	15	60	11	0.14	<5	84	1.54	1015	<10	186
SA303-1	1936655	3892584	Rewa	<0.001	<0.01	<0.5	4.6	<5	100	<0.5	6	2.12	<0.5	30	213	30	19.65	0.55	1.4	3140	3	0.89	16	170	4	0.16	<5	96	1.63	823	<10	165
SB001	1946923	3906150	Rewa	0.002	0.01	<0.5	5.75	5	100	<0.5	<2	2.78	<0.5	49	337	55	20.9	0.44	2.05	2250	1	1.2	33	350	11	0.14	<5	144	1.52	1050	10	192
SB002	1946716	3905899	Rewa	0.001	0.01	<0.5	6.6	6	110	<0.5	<2	2.24	<0.5	67	188	88	20.4	0.33	2.39	2210	<1	1.18	37	140	11	0.02	<5	172	1.14	958	<10	296
SB003	1946559	3905704	Rewa	0.001	0.01	<0.5	6.04	<5	110	<0.5	<2	1.9	<0.5	51	269	65	16.7	0.36	1.96	2080	<1	1.04	35	40	10	0.01	<5	104	0.77	644	<10	267
SB004	1941548	3910020	Rewa	<0.001	0.01	<0.5	4.91	<5	120	<0.5	<2	1.61	<0.5	17	66	21	19.2	0.45	0.83	2180	<1	1.39	<1	<10	6	<0.01	<5	104	0.59	434	<10	93
SB005	1939168	3910109	Rewa	0.001	<0.01	<0.5	5.51	<5	90	<0.5	<2	2.13	<0.5	18	323	16	18.65	0.49	1.12	1920	<1	1.54	12	350	6	0.04	<5	108	0.87	688	<10	118
SB006	1939172	3910055	Rewa	<0.001	<0.01	<0.5	7.19	<5	120	0.6	<2	3.13	<0.5	28	268	32	10.85	0.44	2.05	2250	<1	2.63	28	430	7	0.03	<5	122	1.11	358	10	132
SB007	1953931	3908605	Rewa	<0.001	<0.01	<0.5	2.88	5	40	<0.5	<2	1.08	<0.5	92	2260	58	>25.0	0.15	1.16	3830	<1	0.35	67	<10	26	<0.01	<5	60	0.56	1210	<10	370
SB008	1954169	3908798	Rewa	<0.001	0.05	<0.5	6.48	<5	70	<0.5	<2	3.49	<0.5	23	464	31	12.7	0.24	1.14	2010	<1	1.8	22	40	12	<0.01	<5	165	1.14	469	<10	158
SB009	1955575	3906244	Rewa	<0.001	0.01	<0.5	4.06	<5	100	<0.5	<2	0.61	0.5	42	510	57	14.85	0.52	0.65	1755	<1	0.42	26	10	8	<0.01	<5	66	0.85	585	<10	146
SB010	1955549	3904758	Rewa	<0.001	0.01	<0.5	3.05	<5	60	<0.5	<2	0.41	<0.5	91	1160	122	>25.0	0.25	1	3380	<1	0.21	49	<10	20	<0.01	<5	44	0.45	985	<10	310
SB011	1955547	3904725	Rewa	<0.001	0.01	<0.5	4.9	<5	140	<0.5	<2	0.81	<0.5	56	697	83	19.4	0.67	0.94	2240	<1	0.58	37	<10	10	<0.01	<5	102	0.72	644	<10	200
SB012	1951021	3904044	Rewa	<0.001	0.05	<0.5	8.56	<5	120	0.7	<2	0.68	<0.5	34	242	80	10.5	0.48	0.83	1100	<1	0.4	30	690	10	0.23	<5	92	0.79	414	10	128
SB013	1950922	3904684	Rewa	0.002	0.01	<0.5	4.09	<5	100	<0.5	<2	1.63	<0.5	37	750	39	13.8	0.5	0.9	1930	<1	0.59	31	20	5	0.01	<5	112	0.74	531	<10	143
SB014	1934764	3908379	Rewa	<0.001	0.01	<0.5	5.11	<5	90	<0.5	<2	1.95	<0.5	23	347	28	23.6	0.52	1.02	2130	1	1.62	11	630	13	0.06	<5	98	0.98	896	10	115
SB015	1934702	3908387	Rewa	<0.001	0.01	<0.5	7.32	<5	150	0.6	<2	2.31	<0.5	8	110	13	9.97	0.97	0.64	1270	2	2.39	2	430	2	0.01	<5	182	0.41	289	10	51
SB016	1934386	3908551	Rewa	0.028	<0.01	<0.5	5.73	12	160	0.5	<2	1.22	<0.5	5	59	11	3.79	1.06	0.33	921	1	1.78	2	160	5	0.01	<5	116	0.19	87	10	47
SB017	1934205	3908565	Rewa	0.166	<0.01	<0.5	5.41	6	110	0.5	<2	1.6	<0.5	13	74	9	21.3	0.88	0.7	2460	1	1.46	1	370	9	0.01	<5	102	0.59	693	<10	77
SB018	1933608	3908578	Rewa	<0.001	0.01	<0.5	6.76	<5	120	0.6	<2	2.99	<0.5	14	134	7	11.15	0.91	1.5	2170	3	2.13	3	310	2	0.01	<5	144	0.52	349	10	65
SB019	1933428	3908591	Rewa	0.005	0.01	<0.5	6.1	<5	90	<0.5	<2	3.07	<0.5	20	114	12	18.45	0.59	1.55	2220	1	1.8	3	340	5	0.01	<5	136	0.93	755	<10	89
SB020	1932824	3908300	Rewa	0.01	<0.01	<0.5	4.91	<5	100	<0.5	<2	1.68	0.9	14	204	19	15.55	0.68	0.64	2360	1	1.49	3	200	8	<0.01	<5	114	0.87	461	10	76
SB020-1	1932824	3908300	Rewa	0.005	<0.01	<0.5	4.4	<5	90	<0.5	<2	1.57	<0.5	15	136	18	19.3	0.59	0.6	2730	<1	1.33	2	100	14	<0.01	<5	102	0.63	430	<10	84
SB021	1969000	3885640	Rewa	0.172	0.02	<0.5	4.42	<5	100	<0.5	<2	1.22	<0.5	42	323	52	16	0.29	0.99	2050	<1	0.49	22	<10	11	0.03	<5	137	0.93	619	<10	214
SB022	1964485	3885915	Rewa	0.001	0.01	<0.5	6.38	<5	50	<0.5	<2	0.66	<0.5	15	65	42	9.56	0.29	1.02	1535	<1	1.86	7	250	7	0.01	<5	60	0.93	327	<10	257
SB023	1965481	3886533	Rewa	0.014	0.02	<0.5	6.58	<5	90	<0.5	<2	0.51	<0.5	43	146	75	13.1	0.25	0.91	1585	<1	0.64	21	20	8	0.01	<5	46	0.62	577	<10	184
SB024	1967371	3883725	Coastal	0.009	0.03	<0.5	5.8	<5	170	<0.5	<2	0.78	0.5	21	78	53	10.05	0.42	0.92	2220	<1	0.42	7	40	12	0.02	<5	52	0.92	384	<10	527
SB025	1967966	3882547	Coastal	0.001	0.01	<0.5	3.74	<5	80	<0.5	<2	2.01	<0.5	118	696	87	>25.0	0.2	2.15	3800	<1	0.2	65	<10	26	<0.01	<5	112	0.58	1155	<10	567
SB026	1968388	3885244	Rewa	<0.001	0.01	<0.5	6.08	<5	50	<0.5	<2	1.26	<0.5	71	319	83	24.5	0.16	1.12	2800	<1	0.26	15	30	13	<0.01	<5	96	0.37	468	<10	471
SB027	1925735	3904710	Rewa	0.001	<0.01	<0.5	6.33	<5	120	<0.5	<2	2.51	0.5	44	131	85	14.1	0.56	2.28	3580	1	1.48	17	660	7	0.27	<5	87	1.06	464	10	326
SB028	1925175	3904206	Rewa	<0.001	0.01	<0.5	7.01	<5	160	0.5	<2	2.75	<0.5	34	161	51	11.8	0.58	2.68	2170	1	2.25	21	640	5	0.08	<5	118	0.9	484	<10	197
SB029	1925174	3904206	Rewa	0.001	<0.01	<0.5	6.65	6	150	0.5	<2	2.74	<0.5	36	140	50	12.1	0.55	2.44	2270	1	2.1	22	620	9	0.09	<5	115	0.96	479	<10	188
SB030	1925175	3904921	Rewa	<0.001	0.01	<0.5	6.77	<5	70	0.5	<2	3.52	0.9	39	517	33	14.9	0.34	1.96	3740	1	1.49	27	340	8	0.03	<5	159	1.06	435	<10	311
SB031	1926167	3904941	Rewa	0.001	0.01	<0.5	6.2	6	130	0.5	<2	2.83	<0.5	32	166	41	13.25	0.65	2.36	2190	1	1.82	21	540	6	0.02	<5	126	0.94	526	<10	182
SB032	1926865	3905448	Rewa	<0.001	0.01	<0.5	6.23	<5	70	0.6	<2	1.75	<0.5	30	276	51	12.7	0.34	1.95	3210	<1	2.11	23	410	2	0.11	<5	100	1.17	429	<10	373
SB033	1927004	3905496	Rewa	<0.001	<0.01	<0.5	6.06	6	120	0.5	<2	3.19	<0.5	39	122	55	18.3	0.59	2	2590	<1	2.04	14	500	10	0.01	<5	181	1.16	770	<10	180
SB034	1927869	3905414	Rewa	<0.001	0.01	<0.5	4.09	<5	50	<0.5	<2	2.69	<0.5	27	73	16	>25.0	0.41	1.64	2960	2	1.08	<1	310	16	0.01	<5	88	1.08	1280	<10	106

Appendix1 Chemical analysis data of stream sediment samples (15)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SB035	1928417	3905707	Rewa	<0.001	<0.01	<0.5	5.43	<5	90	<0.5	<2	2.91	<0.5	24	166	15	18.85	0.66	1.72	2470	1	1.52	2	430	10	0.01	<5	112	0.86	758	<10	112
SB036	1931112	3904223	Rewa	<0.001	0.01	<0.5	7.02	<5	120	0.5	<2	3.11	<0.5	37	262	52	10.8	0.87	2.48	1595	2	1.8	30	440	7	0.05	<5	144	0.79	406	<10	98
SB037	1960161	3909109	Rewa	<0.001	0.02	<0.5	6.32	<5	180	0.5	<2	2.07	<0.5	83	1200	85	23.1	0.5	2.01	2300	<1	0.66	90	50	12	<0.01	<5	152	0.71	988	<10	289
SB038	1960638	3907989	Rewa	<0.001	0.01	<0.5	4.91	<5	120	<0.5	<2	2.1	<0.5	90	667	75	>25.0	0.41	2	2700	<1	0.72	76	10	15	<0.01	<5	128	0.65	904	<10	306
SB039	1961009	3907751	Rewa	0.001	0.01	<0.5	4.57	<5	120	<0.5	<2	1.56	<0.5	113	1075	91	>25.0	0.34	1.9	2980	<1	0.52	109	<10	20	<0.01	<5	109	0.52	1150	<10	388
SB040	1962305	3905916	Rewa	<0.001	<0.01	<0.5	3.06	<5	50	<0.5	<2	1.12	<0.5	136	3900	105	>25.0	0.1	1.9	3040	<1	0.12	157	<10	26	<0.01	<5	48	0.42	1625	<10	457
SB040-1	1962305	3905916	Rewa	<0.001	<0.01	<0.5	3.01	5	50	<0.5	<2	1.03	<0.5	138	3980	107	>25.0	0.1	1.86	3060	1	0.1	161	<10	28	<0.01	<5	44	0.41	1700	<10	463
SB041	1962565	3903938	Rewa	0.031	0.01	<0.5	4.79	6	120	<0.5	<2	2.61	<0.5	76	1350	55	24.2	0.46	2.12	2660	<1	0.84	83	180	15	<0.01	<5	146	1.38	1245	10	265
SB042	1961725	3902545	Rewa	<0.001	0.01	<0.5	3.94	<5	100	<0.5	<2	1.8	<0.5	90	2010	79	>25.0	0.31	1.78	2900	<1	0.47	91	<10	20	<0.01	<5	95	0.66	968	<10	300
SB043	1960889	3900741	Rewa	<0.001	<0.01	<0.5	3.29	<5	60	<0.5	<2	2.03	<0.5	91	1515	58	>25.0	0.24	1.88	3220	<1	0.44	86	10	18	<0.01	<5	82	0.55	1080	<10	329
SB044	1961498	3899806	Rewa	<0.001	0.01	<0.5	5.82	<5	170	<0.5	<2	3.62	<0.5	48	640	37	15.5	0.67	2.41	2130	<1	1.28	57	230	6	<0.01	<5	199	0.75	622	10	171
SB045	1962513	3899347	Rewa	<0.001	0.01	<0.5	6.29	<5	180	0.5	<2	3.65	0.5	46	677	42	15.2	0.71	2.42	2100	1	1.36	61	330	7	<0.01	<5	210	0.85	645	10	170
SB046	1963040	3899151	Rewa	<0.001	0.01	<0.5	6.78	5	210	0.5	<2	3.52	<0.5	38	356	40	9.82	0.82	2.3	1560	<1	1.57	50	520	7	<0.01	<5	244	0.8	447	10	122
SB047	1945869	3898907	Rewa	0.001	0.01	<0.5	6.6	<5	110	<0.5	<2	3.98	<0.5	57	104	72	17	0.33	3.34	2250	<1	1.29	21	620	8	0.09	<5	311	1.32	879	<10	236
SB048	1945345	3898663	Rewa	<0.001	<0.01	<0.5	5.97	<5	140	<0.5	<2	3.1	<0.5	18	504	18	7.62	0.97	1.56	4750	<1	1.45	21	<10	4	<0.01	<5	157	0.53	50	10	104
SB049	1945195	3898767	Rewa	<0.001	<0.01	<0.5	4.38	<5	140	<0.5	<2	1.1	<0.5	15	174	15	9.82	1.08	0.63	2400	<1	0.8	9	<10	5	<0.01	<5	69	0.51	218	<10	93
SB050	1944702	3899508	Rewa	0.004	<0.01	<0.5	2.66	<5	100	<0.5	<2	0.27	<0.5	3	112	7	2.15	0.82	0.21	745	2	0.29	6	90	<2	0.01	<5	23	0.43	73	<10	21
SB051	1944265	3899717	Rewa	<0.001	<0.01	<0.5	5.39	<5	110	<0.5	<2	2.27	0.7	43	360	38	19.05	0.8	1.8	2670	<1	1.36	31	70	12	<0.01	<5	128	0.96	719	<10	175
SB052	1944344	3899978	Rewa	<0.001	<0.01	<0.5	3.86	<5	110	<0.5	<2	1.14	0.7	18	192	12	16.95	0.88	0.72	2520	<1	0.85	5	60	9	<0.01	<5	66	0.87	591	10	73
SB053	1944670	3900542	Rewa	<0.001	<0.01	<0.5	5.54	<5	100	<0.5	<2	2.5	<0.5	33	528	21	17.75	0.82	1.66	2810	1	1.68	49	200	9	<0.01	<5	118	0.88	575	10	128
SB054	1944221	3900043	Rewa	0.001	<0.01	<0.5	6.44	<5	120	<0.5	<2	3.07	<0.5	46	313	48	17.25	0.81	2.51	2380	<1	1.62	29	260	6	0.02	<5	176	1.1	726	<10	177
SB055	1946186	3897676	Rewa	<0.001	<0.01	<0.5	4.49	<5	110	<0.5	<2	1.5	0.5	16	149	29	17.55	0.66	0.68	2750	1	0.99	11	200	11	0.05	<5	94	1.15	636	<10	156
SB056	1945424	3897154	Rewa	0.001	0.01	<0.5	3.48	<5	100	<0.5	<2	0.9	<0.5	8	160	16	5.22	0.6	0.39	1610	2	0.51	8	20	5	0.01	<5	55	0.58	160	<10	83
SB057	1945195	3896886	Rewa	<0.001	<0.01	<0.5	4.29	<5	150	<0.5	<2	0.63	<0.5	7	84	14	6.84	1.04	0.31	1370	3	0.82	3	140	<2	0.06	<5	57	0.55	225	<10	75
SB058	1945406	3896437	Rewa	<0.001	<0.01	<0.5	5.33	<5	100	0.5	<2	1.28	<0.5	9	85	17	6.69	0.58	0.64	1265	2	1.3	9	250	3	0.04	<5	89	0.68	225	<10	97
SB059	1945163	3896187	Rewa	<0.001	<0.01	<0.5	4.98	<5	90	<0.5	<2	1.78	<0.5	32	266	48	17.95	0.52	1.18	1830	3	1.16	14	380	13	0.16	<5	130	1.52	729	<10	216
SB060	1944758	3896146	Rewa	<0.001	<0.01	<0.5	3.75	<5	130	0.5	<2	0.71	<0.5	5	143	11	13.45	0.85	0.22	2780	<1	0.61	4	70	8	0.01	<5	54	0.89	369	<10	98
SB060-1	1944758	3896146	Rewa	<0.001	<0.01	<0.5	4.16	<5	140	0.5	<2	0.71	<0.5	6	104	11	10.75	0.97	0.23	2320	<1	0.67	4	40	4	0.01	<5	55	0.67	287	<10	95
SB061	1944046	3895330	Rewa	<0.001	<0.01	<0.5	4.22	<5	160	0.5	<2	0.89	<0.5	11	91	8	11.7	1.2	0.37	2400	<1	0.75	2	10	8	<0.01	<5	58	0.5	285	<10	108
SB062	1946266	3897511	Rewa	<0.001	0.01	<0.5	5.2	<5	70	<0.5	<2	2.99	<0.5	75	96	106	>25.0	0.21	2.84	2610	<1	0.86	18	40	14	0.01	<5	176	0.95	969	<10	352
SB063	1946250	3897410	Rewa	0.015	0.01	<0.5	6.04	<5	60	<0.5	<2	3.48	<0.5	57	1975	66	17.95	0.38	1.76	2630	<1	0.7	49	110	14	0.02	<5	129	1	517	<10	188
SB064	1946157	3896637	Rewa	0.001	0.01	<0.5	6.08	<5	60	<0.5	<2	1.84	<0.5	40	174	89	13.7	0.34	2.27	1415	2	0.6	16	250	6	0.11	<5	106	1.5	651	<10	155
SB065	1946201	3896613	Rewa	<0.001	0.01	<0.5	4.88	<5	60	<0.5	<2	2.12	<0.5	52	234	95	22.4	0.23	2.03	1990	1	0.71	25	150	11	0.06	<5	122	1.37	1005	<10	264
SB066	1946411	3896389	Rewa	<0.001	<0.01	<0.5	4.42	<5	60	<0.5	<2	3	<0.5	78	219	110	>25.0	0.13	2.86	2800	<1	0.71	23	30	14	0.04	<5	156	1.2	1165	<10	389
SB067	1946664	3898078	Rewa	<0.001	<0.01	<0.5	3.87	<5	90	<0.5	<2	1.6	0.7	23	164	24	21.8	0.51	0.68	3410	1	0.78	9	70	13	0.06	<5	87	1.09	795	<10	182
SB068	1946740	3898153	Rewa	<0.001	<0.01	<0.5	5.61	<5	150	<0.5	<2	2.05	<0.5	25	211	27	13.55	1	1.3	2080	11	1.42	17	300	7	0.04	<5	124	0.99	525	<10	122
SB069	1947763	3898405	Rewa	<0.001	<0.01	<0.5	5.13	<5	130	<0.5	2	1.64	<0.5	20	244	25	19.05	0.74	0.93	2600	1	1.1	15	170	9	0.05	<5	108	1.03	686	<10	232
SB070	1948866	3898526	Rewa	<0.001	0.01	<0.5	6.42	<5	150	<0.5	4	4.71	<0.5	59	159	87	21.1	0.28	3.03	2370	<1	1.16	27	380	12	0.01	<5	386	1.03	840	<10	371
SB071	1949107	3898137	Rewa	<0.001	0.01	<0.5	6.07	<5	150	0.5	<2	1.86	<0.5	18	142	28	12.35	0.84	1.14	2050	1	1.34	14	270	10	0.04	<5	138	0.94	446	<10	184
SB072	1967931	3882945	Coastal	<0.001	0.02	<0.5	9.6	<5	30	<0.5	3	0.36	<0.5	51	79	88	21.6	0.13	1	1830	<1	0.07	12	220	12	0.01	<5	31	0.94	958	<10	318
SB073	1967484	3880266	Coastal	0.002	0.02	<0.5	8.02	<5	120	<0.5	<2	1.78	<0.5	22	87	69	9.94	0.32	1.52	1595	<1	0.64	11	160	44	0.01	<5	97	0.73	236	<10	394
SB074	1967507	3880163	Coastal	0.008	0.02	<0.5	7.05	<5	90	<0.5	2	1.15	<0.5	27	205	74	13.65	0.27	1.15	2510	<1	0.44	13	10	12	0.01	<5	74	0.75	256	<10	494
SB075	1965788	3878989	Coastal	<0.001	0.02	<0.5	8.33	<5	30	<0.5	6	0.89	<0.5	30	171	42	16.25	0.33	1.39	2950	<1	0.68	20	120	11	0.06	<5	68	0.39	167	<10	417
SB076	1965871	3879054	Coastal	0.002	0.02	<0.5	6.76	<5	40	<0.5	3	1.08	<0.5	41	224	61	18.75	0.34	1.45	3060	<1	0.86	22	80	16	0.07	<5	68	0.38	217	<10	569
SB077	1960807	3878012	Coastal	<0.001	0.01	<0.5	5.97	<5	40	<0.5	<2	1.12	<0.5	36	380	59	23	0.15	1.22	3180	<1	0.32	23	<10	14	<0.01	<5	61	0.74	591	<10	576
SB078	1953266	3877745	Coastal	0.001	0.02	<0.5	7.92	<5	50	<0.5	4	0.66	<0.5	32	86	54	15.85	0.3	1.04	2190	<1	0.45	14	20	6	0.01	<5	75	0.84	637	<10	403
SB079	1953608	3877679	Coastal	<0.001	0.02	<0.5	7.31	6	50	<0.5	2	1.42	<0.5	36	196	49	17.05	0.28	1.1	2030	<1	0.56	18	100	10	0.01	<5	104	0.62	516	<10	361
SB080	1952330	3876183	Coastal	<0.001	0.01	<0.5	5.95	5	60	<0.5	2	0.58	<0.5	35	212	29	17.5	0.32	0.79	2070	<1	0.32	17	10	9	0.01	<5	48	0.78	442	<10	293
SB080-1	1952330	3876183	Coastal	<0.001	0.01	<0.5	5.49	<5	60	<0.5	4	0.59	<0.5	33	217	26	18.35	0.31	0.77	2140	<1	0.3	15	<10	10	<0.01	<5	45	0.58	405	<10	310
SB081	1952307	3876219	Coastal	0.001	0.01	<0.5	7.45	<5	110	<0.5	3	1.02	<0.5	27	133	68	16.7	0.43	1.06	1640	<1	0.69	24	200	12	0.01	<5	126	0.99	636	<10	314
SB082	1951992	3876704	Coastal	0.001	0.01	<0.5	5.06	<5	40	<0.5	5	0.36	<0.5	44	517	43	>25.0	0.17	0.62	4100	<1	0.26	27	70	13	0.01	<5	44	0.65	1115	<10	838
SB083	1951579	3876724	Coastal	0.001	0.01	<0.5	6.25	<5	100	<0.5	3	1.02	<0.5	31	168	88	21.4	0.37	0.94	1805	<1	0.72	32	140	17	0.02	<5	126	0.99	824	<10	400
SB084	1951590	3876751	Coastal	<0.001	0.02	<0.5	7.96	5	70	<0.5	2	0.69	<0.5	27	82	48	11.5	0.33	0.85	1705	<1	0.26	14	220	7	0.01	<5	68	0.84	484	<10	224
SB085	1951632	3877187	Coastal	<0.001	0.01	<0.5	6.33	<5	60	<0.5	5	0.84	<0.5	35	137	48	19.95	0.28	0.77	1945	<1	0.29	25	30	10	0.01	<5	70	0.83	849	<10	353
SB086	1947801	3874162	Coastal	0.045	0.01	<0.5	6.96	<5	30	<0.5	3	1.37	<0.5	39	110	42	21	0.23	1.03	2480	<1	0.2	16	80	11	0.05	<5	71	1.29	1080	<10	394
SB087	1948326	3874252	Coastal	0.032	0.02	<0.5	7.11	<5	40	<0.5	3	0.99	<0.5	39	104	30	17.05	0.31	1.19	1800	<1	0.27	16	70	8	0.08	<5	73	0.78	565	<10	342
SB088	1948858	3874200	Coastal	0.109	0.01	<0.5	5.53	<5	50	<0.5	4	0.78	<0.5	50	176	29	23.9	0.29	0.93	2230	<1	0.34	20	<10	14	<0.01	<5	55	0.66	587	<10	383
SB089	1945746	3871873	Coastal	0.001	0.01	<0.5	7.24	6	60	<0.5	<2	1.39	<0.5	19	92	34	7.98	0.39	0.93	1430	<1	1.1	11	210	5	0.05	<5	98	0.95	303	<10	176
SB090	1945364	3872556	Coastal	0.447	0.02	<0.5	6.98	<5	60	<0.5	<2	1.41	<0.5	17	178	26	8.15	0.33	0.8	1185	<1	1.18	14	50	4	0.01	<5	98	0.81	283	<10	182
SB091	1946367	3872044	Coastal	0.025	0.02	<0.5	8.22	43	80	<0.5	<2	1.9	<0.5	24	85	58	8.22	0.37	1.16	1510	<1	1.12	17	240	7	0.02	<5	128	0.74	329	<10	168
SB092	1945504	3872102	Coastal	<0.001	0.02	<0.5	7.92	<5	50	<0.5	3	0.96	<0.5	35	210	32	15.25	0.53	1.19	1855	<1	0.43	20	50	6	0.01	<5	128	0.77	408	<10	289
SB093	1944021	3873077	Coastal	<0.001	0.01	<0.5	6.13	<5	40	<0.5	<2	2.66	<0.5	49	2970	29	18.15	0.32	2.59	2580	<1	0.71	75	<10	6	<0.01	<5	73	0.54	881	<10	381
SB094	1943367	3873451	Coastal	<0.001	0.01	<0.5	7.85	8	80	<0.5	<2	0.29	<0.5	25	34	48	13.1	0.3	0.68	2700	8	0.45	11	80	7	0.01	<5	53	0.93	377	<10	319
SB095	1942636	3873810	Coastal	0.042	0.01	<0.5	6.71	<5	40	<0.5	8	0.35	<0.5	32	349	45	24.9	0.14	0.7	3360	1	0.26	55	<10	14	<0.01	<5	31	0.71	873	<10	510
SB096	1942624	3874023	Coastal	<0.001	0.02	<0.5	8.24	5	70	<0.5	2	0.61	<0.5	16	39	35	8.93	0.25	0.52	1360	1	0.84	7	330	5	0.01	<5	72	0.86	253	<10	194
SB097	1944598	3873269	Coastal	<0.001	0.05	<0.5	8.88	5	70	<0.5	<2	0.97	<0.5	17	189	39	5.9	0.3	0.88	973	2	1	20	400	5	0.05	<5	75	0.53	215	<10	138
SB098	1939584	3868223	Coastal	<0.001	0.01	<0.5	6.2	5	100	<0.5	<2	2.43	<0.5	8	237	8	4.67	0.66	0.93	1445	2	1.9	9	80	3	1.92	<5	194	1.3	123	<10	77
SB099	1939560	3868285	Coastal	<0.001	0.01	<0.5	4.89	<5	80	<0.5	<2	2.33	<0.5	10	468	7	5.29	0.53	1.01	2300	<1	1.38	10	50	3	0.63	<5	154	1.03	88	<10	81
SB100	1932199	3868359	Navua	<0.001	0.01	<0.5	6.12	<5	90	<0.5	2	1.71	<0.5	20	261	25	9.35	0.46	1.04	2290	1	1.22	17	40	3	0.01	<5	126	0.8	263	<10	186
SB100-1	1932199	3868359	Navua	<0.001	0.01	<0.5	6.84	<5	100	<0.5	<2	1.66	<0.5	18	104	24	7.63	0.5	1.03	1890	<1	1.34	12	90	5	0.01	<5	136	0.73	234	<10	164
SB101	1939526	3868835	Coastal	<0.001	0.04	<0.5	13.25	<5	50	<0.5	2	0.37	<0.5	25	207	81	8.72	0.15	0.74	712	<1	0.21	39	190	3	0.13	<5	49	0.53	307	<10	170
SB102	1939090	3869241	Coastal	<0.001	0.02	<0.5	8.73	<5	50	<0.5	<2	2.2	<0.5	39	345	39	9.85	0.17	2.12	2930	<1	0.48	41	160	2	0.02	<5	95	0.94	436	<10	180
SB103	1939092	3869461	Coastal	<0.001	0.03	<0.5	12.05	11	70	<0.5	2	0.49	<0.5	60	410	82	11.95	0.18	1.26	3850	<1	0.07	49	220	5	0.02	<5	54	0.41	269	<10	203
SB104	1939011	3869644	Coastal	<0.001	0.05	<0.5	12.3	8	80	<0.5	3	0.23	<0.5	62	278	82	10.5	0.17	0.62	3320	1	0.03	64	490	2	0.05	<5	31	0.53	346	<10	196
SB105	1939334	3868944	Coastal	0.001	0.04	<0.5	10.55	<5	60	<0.5	<2	0.4	<0.5	58	284	61	14.25	0.12	0.85	2390	1	0.12	44	350	9	0.12	<5	39	0.63	322	<10	174
SB106	1927788	3875410	Navua	0.001	0.01	<0.5	6.54	5	70	<0.5	2	1.24	<0.5	25	93	60	14.3	0.41	1.1	2210	<1	0.7	14	120	5	0.01	<5	109	0.94	473	<10	279
SB107	1927362	3875109	Navua	<0.001	0.01	<0.5	6.87	5	50	<0.5	2	1.28	<0.5	24	105	55	10.15	0.58	1.47	1960	<1	0.77	12	190	5	0.01	<5	178	1.12	369	<10	246
SB108	1927206	3874416	Navua	<0.001	0.01	<0.5	4.94	<5	70	<0.5	2	1.69	<0.5	34	341	42	23.1	0.4	1.14	2800	<1	0.9	23	10	11	<0.01	<5	132	0.6	663	<10	340
SB109	1927487	3878304	Navua	0.016	0.01	<0.5	6.82	<5	60	<0.5	3	1.17	<0.5	25	410	61	15.1	0.45	1.06	1475	<1	0.69	30	130	<2	0.01	<5	86	1	581	<10	235
SB110	1928200	3871954	Navua	<0.001	0.01	<0.5	6.64	<5	70	<0.5	<2	0.55	<0.5	18	75	108	11.15	0.27	0.7	2180	<1	1.14	11	190	6	<0.01	<5	51	1.38	414	<10	340
SB111	1942490	3889087	Rewa	0.012	0.01	<0.5	6.13	<5	170	0.5	<2	0.54	<0.5	13	96	33	5.52	0.94	0.87	941	2	0.87	11	290	9	0.02	<5	66	0.74	251	<10	188
SB112	1941755	3889071	Rewa	0.001	0.01	<0.5	6.03	<5	140	0.5	<2	1.82	<0.5	16	74	30	7.65	0.81	1.46	1505	<1	1.29	10	300	2	0.08	<5	114	0.9	281	<10	184
SB113	1941802	3888734	Rewa	0.064	0.02	<0.5	6.73	<5	200	0.5	<2	2.16	<0.5	29	59	146	15.2	0.78	1.93	1575	1	0.87	15	370	14	0.02	<5	215	0.95	664	<10	306
SB114	1940540	3888203	Rewa	0.053	0.02	<0.5	5.44	6	110	<0.5	<2	1.13	<0.5	8	81	53	3.54	0.58	0.94	511	<1	0.35	5	250	11	0.04	<5	87	0.56	140	<10	140
SB115	1940422	3889256	Rewa	0.445	0.02	<0.5	5.13	12	110	0.5	<2	0.16	<0.5	11	96	45	5.22	0.75	0.79	841	1	0.28	6	380	20	0.01	<5	26	0.66	170	<10	204
SB116	1940923	3888348	Rewa	0.02	0.04	<0.5	7.85	17	180	0.5	<2	0.78	<0.5	14	209	228	5.73	1	0.99	547	2	0.48	11	370	9	0.04	<5	104	0.5	219	<10	171
SB117	1926246	3894024	Navua	<0.001	0.01	<0.5	6.3	<5	50	<0.5	<2	3.27	<0.5	26	170	23	12.85	0.2	1.5	2390	<1	1.7	17	170	6	0.01	<5	148	0.87	493	<10	156
SB118	1926292	3894496	Navua	<0.001	<0.01	<0.5	6.18	<5	80	<0.5	<2	2.97	<0.5	30	324	26	14.25	0.46	2.22	2200	<1	1.85	36	310	9	0.02	<5	122	0.96	543	<10	192
SB119	1925545	3894577	Navua	<0.001	<0.01	<0.5	7.87	6	70	0.5	<2	4.61	<0.5	34	260	52	11.1	0.28	1.92	2250	8	1.8	30	510	6	0.15	<5	216	0.98	446	<10	205
SB120	1925520	3894588	Navua	<0.001	<0.01	<0.5	3.41	<5	50	<0.5	8	2.06	<0.5	27	176	24	>25.0	0.36	1.2	3290	1	0.9	12	110	22	0.01	<5	84	0.69	1230	<10	358

Appendix1 Chemical analysis data of stream sediment samples (16)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SB120-1	1925520	3894588	Navua	<0.001	<0.01	<0.5	3.34	<5	50	<0.5	11	2.07	<0.5	26	194	22	>25.0	0.35	1.22	3460	<1	0.86	12	150	16	0.02	<5	80	0.81	1450	<10	387
SB121	1924915	3895109	Navua	<0.001	<0.01	<0.5	5.87	<5	90	<0.5	3	3.34	<0.5	24	77	22	17.95	0.67	1.94	2680	<1	1.66	8	440	7	0.01	<5	152	1.01	700	<10	228
SB122	1924908	3895114	Navua	<0.001	<0.01	<0.5	6.05	<5	100	<0.5	<2	3.4	<0.5	25	136	27	14.85	0.65	2.27	2690	<1	1.54	17	290	5	0.03	<5	134	1.12	704	<10	245
SB123	1925063	3894010	Navua	<0.001	<0.01	<0.5	7.36	6	70	0.5	<2	3.89	<0.5	29	114	54	11	0.25	1.69	2120	<1	1.7	20	430	7	0.16	<5	187	0.81	398	<10	164
SB124	1925021	3894007	Navua	<0.001	0.01	<0.5	8.85	<5	80	0.5	<2	5.49	<0.5	36	467	40	8.45	0.28	2.14	2190	<1	1.92	38	420	4	0.09	<5	254	0.69	285	<10	242
SB125	1928595	3892512	Navua	<0.001	<0.01	<0.5	6.41	<5	100	0.5	<2	2.92	<0.5	20	98	16	11.45	0.61	1.7	1795	1	1.68	10	290	5	0.03	<5	133	1.01	448	<10	135
SB126	1928415	3892363	Navua	<0.001	<0.01	<0.5	6.08	5	90	<0.5	<2	3.34	<0.5	21	158	19	16.35	0.58	1.84	2700	<1	1.67	14	140	9	0.01	<5	148	0.92	537	<10	210
SB127	1946808	3887425	Rewa	0.098	0.02	<0.5	6.57	<5	190	0.5	2	2.16	<0.5	27	126	92	13.8	0.73	1.64	1580	<1	1.11	17	170	10	0.01	<5	197	0.82	570	<10	270
SB128	1948688	3888652	Rewa	0.001	0.02	<0.5	5.2	<5	130	<0.5	3	1.9	<0.5	42	126	91	20.9	0.53	1.64	2140	<1	0.78	23	60	14	0.01	<5	142	0.71	718	<10	371
SB129	1950993	3888451	Rewa	<0.001	0.03	<0.5	7.22	<5	160	<0.5	3	2	<0.5	40	137	79	15.35	0.51	1.8	1870	<1	0.86	25	220	10	0.01	<5	260	1.08	687	<10	270
SB130	1928250	3884034	Navua	<0.001	0.03	<0.5	7.27	<5	150	0.5	3	2.64	<0.5	29	89	54	12.35	0.57	1.69	1965	<1	1.5	15	220	7	0.01	<5	225	1.01	466	<10	237
SB131	1924760	3884129	Navua	<0.001	0.01	<0.5	9.71	10	230	0.5	2	6.24	<0.5	18	72	36	7.11	0.57	0.87	1205	1	2.38	10	1080	2	0.01	<5	701	0.8	277	<10	150
SB132	1924587	3884007	Navua	<0.001	<0.01	<0.5	7.16	7	100	0.6	<2	3.25	<0.5	18	135	23	6.21	0.49	1.16	1290	1	2.03	14	370	<2	0.03	<5	211	0.7	207	<10	120
SB133	1923678	3883160	Navua	<0.001	0.01	<0.5	7.72	<5	170	<0.5	<2	2.56	<0.5	15	86	35	7.59	0.51	0.37	601	1	2.05	9	290	4	0.01	<5	383	0.93	317	<10	130
SB134	1927093	3886811	Navua	<0.001	0.01	<0.5	6.29	<5	100	0.5	<2	0.52	<0.5	32	146	28	10.8	0.62	1.23	683	2	0.74	22	390	<2	2.37	<5	36	0.51	313	<10	114
SB135	1927041	3887536	Navua	<0.001	<0.01	<0.5	7.23	10	80	<0.5	<2	3.17	<0.5	33	148	30	13.9	0.4	1.82	1545	1	1.3	19	450	9	0.59	<5	97	0.82	518	<10	173
SB136	1926540	3887899	Navua	<0.001	0.01	<0.5	7.67	5	70	0.5	2	0.99	0.6	22	61	47	5.81	0.54	2.27	2000	1	2.13	17	310	6	0.12	<5	75	0.44	180	<10	391
SB137	1926175	3887897	Navua	<0.001	0.01	<0.5	6.52	<5	50	0.5	<2	2.5	<0.5	35	126	65	12.35	0.29	1.61	1915	2	0.84	16	490	6	0.15	<5	97	0.96	408	<10	253
SB138	1926220	3887925	Navua	<0.001	<0.01	<0.5	6.88	7	100	0.8	3	1.64	<0.5	13	106	31	9.12	0.49	0.67	1780	2	1.58	6	190	10	0.02	<5	100	0.72	224	<10	203
SB139	1928675	3882052	Navua	<0.001	0.01	<0.5	4.88	5	90	<0.5	<2	1.72	<0.5	33	116	49	15.45	0.39	1.22	2610	<1	0.91	17	<10	11	<0.01	<5	108	0.62	302	<10	251
SB140	1927188	3881452	Navua	0.002	0.01	<0.5	2.96	<5	60	<0.5	<2	0.83	<0.5	12	302	14	6.32	0.28	0.52	2530	<1	0.43	12	<10	6	<0.01	<5	50	0.47	58	<10	95
SB140-1	1927188	3881452	Navua	<0.001	0.01	<0.5	3.49	<5	70	<0.5	<2	0.79	<0.5	8	134	12	4.26	0.33	0.48	1555	<1	0.48	8	<10	<2	<0.01	<5	53	0.52	58	<10	73
SB141	1913705	3864238	Coastal	<0.001	0.01	<0.5	5.47	<5	80	<0.5	3	0.73	<0.5	31	247	36	17.25	0.39	0.83	3150	<1	1.43	19	10	8	<0.01	<5	53	0.65	238	<10	522
SB142	1913468	3864435	Coastal	<0.001	<0.01	<0.5	3.42	<5	40	<0.5	6	0.99	<0.5	43	743	38	>25.0	0.19	1.06	5980	<1	0.55	81	<10	19	<0.01	<5	35	0.36	727	<10	936
SB143	1913463	3864422	Coastal	<0.001	0.01	<0.5	4.96	5	60	<0.5	3	0.57	<0.5	27	192	34	19.6	0.29	0.65	3640	<1	0.62	20	<10	14	<0.01	<5	52	0.61	448	<10	597
SB144	1913081	3863322	Coastal	<0.001	0.02	<0.5	8.8	5	90	<0.5	<2	0.39	<0.5	37	16	60	8.95	0.24	0.76	6300	<1	0.33	8	220	4	0.02	<5	56	0.61	255	<10	184
SB145	1913468	3864435	Coastal	<0.001	0.04	<0.5	11.35	<5	80	<0.5	3	0.15	<0.5	30	14	76	8.69	0.22	0.7	787	<1	0.21	9	290	3	0.04	<5	44	0.56	208	<10	164
SB146	1918668	3862816	Coastal	<0.001	0.01	<0.5	5.88	<5	70	<0.5	2	0.52	<0.5	26	87	27	13.3	0.27	0.69	2330	<1	0.61	14	<10	4	<0.01	<5	41	0.5	148	<10	317
SB147	1918670	3863849	Coastal	<0.001	0.01	<0.5	5.59	<5	80	<0.5	<2	2.27	<0.5	26	243	22	12.1	0.44	1.92	2620	<1	1.34	44	<10	6	<0.01	<5	58	0.42	248	<10	408
SB148	1918575	3864568	Coastal	<0.001	0.01	<0.5	6.06	<5	60	<0.5	3	1.2	<0.5	25	189	27	13.2	0.33	1.1	2820	<1	1.27	25	<10	7	<0.01	<5	55	0.57	255	<10	506
SB149	1918548	3864564	Coastal	0.001	0.01	<0.5	6.06	<5	90	<0.5	<2	2.34	<0.5	22	231	25	10.55	0.48	1.97	2330	<1	1.4	46	<10	11	<0.01	<5	63	0.42	238	<10	357
SB150	1918140	3864888	Coastal	<0.001	0.01	<0.5	5.25	6	50	<0.5	<2	0.55	<0.5	21	95	17	15.65	0.28	0.6	4110	<1	1.26	8	<10	7	<0.01	<5	38	0.45	79	<10	564
SB151	1917370	3865083	Coastal	<0.001	0.01	<0.5	6.75	<5	110	<0.5	<2	0.95	<0.5	12	47	16	8.41	0.7	0.65	1960	<1	1.98	6	<10	7	<0.01	<5	62	0.53	114	<10	334
SB152	1917349	3865080	Coastal	0.001	<0.01	<0.5	4.15	<5	50	<0.5	2	2.2	<0.5	41	472	27	23	0.25	1.88	4510	<1	0.7	75	<10	14	<0.01	<5	43	0.3	527	<10	698
SB153	1909987	3863925	Coastal	<0.001	0.01	<0.5	6.29	<5	60	<0.5	4	2.93	<0.5	46	144	52	16.2	0.3	2.05	1980	<1	0.69	36	<10	7	<0.01	<5	81	0.4	922	<10	238
SB154	1910088	3864599	Coastal	0.296	<0.01	<0.5	5.28	5	60	<0.5	4	1.6	<0.5	43	67	67	23.3	0.37	1.6	2720	<1	0.61	26	<10	11	<0.01	<5	46	0.4	1050	<10	288
SB155	1910295	3864749	Coastal	0.003	0.01	<0.5	7.05	<5	70	<0.5	<2	1.24	<0.5	26	120	60	14.9	0.38	0.9	2050	<1	0.59	22	80	10	<0.01	<5	63	1.16	677	<10	360
SB156	1910207	3865291	Coastal	0.056	0.01	<0.5	6.01	<5	50	<0.5	4	1	<0.5	40	65	60	18.8	0.27	0.86	2280	<1	0.58	28	<10	10	<0.01	<5	49	0.43	1105	<10	283
SB157	1909855	3866147	Coastal	0.002	<0.01	<0.5	7.29	5	50	<0.5	2	2.52	<0.5	44	123	80	18.1	0.42	2.25	2240	<1	0.76	35	120	9	<0.01	<5	92	0.64	850	<10	307
SB158	1909762	3866651	Coastal	<0.001	<0.01	<0.5	5.73	<5	30	<0.5	5	2.5	<0.5	48	381	57	19.2	0.23	1.83	2080	<1	0.65	51	<10	10	<0.01	<5	69	0.57	1310	<10	234
SB159	1909503	3866834	Coastal	0.072	0.01	<0.5	5.07	<5	20	<0.5	5	2.01	<0.5	72	299	79	>25.0	0.09	1.78	3070	8	0.26	62	<10	19	<0.01	<5	54	0.3	2080	<10	383
SB160	1909495	3866910	Coastal	0.008	0.01	<0.5	6.42	7	30	<0.5	2	2.61	<0.5	60	314	75	22.3	0.2	1.89	2210	1	0.56	56	<10	11	<0.01	<5	72	0.32	1430	<10	273
SB160-1	1909495	3866910	Coastal	0.001	0.01	<0.5	6.5	<5	30	<0.5	2	2.91	<0.5	57	295	77	20.2	0.22	2.14	2110	<1	0.61	54	<10	8	<0.01	<5	80	0.54	1410	<10	259
SB161	1902942	3864517	Coastal	<0.001	0.01	<0.5	5.17	5	60	<0.5	4	1.36	<0.5	46	233	24	20.2	0.14	0.88	2340	<1	0.78	25	<10	11	<0.01	<5	55	0.24	309	<10	424
SB162	1902104	3863254	Coastal	<0.001	0.01	<0.5	6.57	<5	90	<0.5	<2	1.81	<0.5	38	121	21	16.95	0.31	0.65	1825	<1	1.61	13	<10	11	<0.01	<5	81	0.28	138	<10	319
SB163	1901030	3862415	Coastal	0.003	0.01	<0.5	6.51	<5	60	<0.5	<2	2.65	<0.5	15	278	16	5.03	0.43	0.79	1010	1	1.66	19	80	2	0.01	<5	156	0.96	255	<10	89
SB164	1900382	3865073	Coastal	<0.001	0.02	<0.5	8.82	7	70	<0.5	<2	1.74	<0.5	28	95	50	7.84	0.2	1.43	979	<1	0.82	13	70	3	0.01	<5	163	0.8	334	<10	145
SB165	1900731	3865828	Coastal	<0.001	0.02	<0.5	11.9	<5	40	<0.5	<2	0.71	<0.5	37	18	104	10.1	0.12	1.19	1360	<1	0.11	15	110	<2	0.01	<5	84	0.64	470	<10	170
SB166	1900989	3865935	Coastal	<0.001	0.01	<0.5	4.8	<5	30	<0.5	<2	1.05	<0.5	32	513	32	15.2	0.23	1.41	1900	<1	0.76	23	<10	4	<0.01	<5	35	0.52	454	<10	469
SB167	1901007	3865879	Coastal	<0.001	0.04	<0.5	3.72	<5	60	<0.5	2	0.66	0.7	38	64	16	19.25	0.21	0.41	2650	<1	0.71	10	<10	15	<0.01	<5	34	0.6	420	<10	474
SB168	1900515	3864703	Coastal	<0.001	0.01	<0.5	6.54	<5	80	<0.5	<2	2.02	<0.5	29	204	15	12.4	0.26	0.74	1310	<1	1.72	16	<10	8	<0.01	<5	84	0.52	198	<10	250
SB169	1900095	3863363	Coastal	<0.001	0.01	<0.5	5.89	<5	80	<0.5	<2	1.6	<0.5	19	219	12	6.09	0.32	0.77	1115	<1	1.46	11	40	<2	0.03	<5	75	1.12	235	<10	130
SB170	1896866	3864089	Coastal	<0.001	0.01	<0.5	7.96	<5	40	<0.5	3	2.26	<0.5	40	102	58	14.8	0.22	2.15	2290	<1	0.55	17	<10	8	<0.01	<5	118	0.26	301	<10	443
SB171	1888648	3866635	Coastal	<0.001	<0.01	<0.5	3.79	<5	40	<0.5	<2	0.62	<0.5	5	61	6	7.54	0.13	0.19	1975	<1	1.8	3	20	5	<0.01	<5	46	1.18	100	<10	118
SB172	1888746	3867642	Coastal	0.001	<0.01	<0.5	3.74	5	50	<0.5	<2	0.61	<0.5	2	41	2	4.59	0.15	0.07	2600	1	1.93	2	10	2	<0.01	<5	45	0.64	14	<10	59
SB173	1890466	3868395	Coastal	<0.001	<0.01	<0.5	3.19	<5	30	<0.5	<2	0.37	0.5	3	128	3	3.35	0.12	0.08	1145	1	1.58	5	20	4	<0.01	<5	36	0.74	46	<10	39
SB174	1890496	3868405	Coastal	<0.001	<0.01	<0.5	4.45	<5	60	<0.5	<2	1.12	<0.5	5	62	7	6.35	0.19	0.45	1945	2	1.48	6	10	5	0.01	<5	46	0.97	158	<10	73
SB175	1891105	3869543	Coastal	<0.001	0.01	<0.5	4.21	<5	90	<0.5	<2	0.58	0.5	4	35	7	5.07	0.31	0.13	2290	<1	1.27	2	10	<2	<0.01	<5	32	0.59	51	<10	83
SB176	1891114	3869535	Coastal	<0.001	<0.01	<0.5	3.94	<5	40	<0.5	<2	1.26	0.6	11	59	9	12.35	0.14	0.58	3470	2	1.26	9	10	4	<0.01	<5	45	0.47	94	<10	130
SB177	1884937	3869590	Coastal	<0.001	<0.01	<0.5	4.56	<5	70	<0.5	<2	1.1	0.7	5	79	8	5.15	0.26	0.45	1565	1	2	11	50	<2	<0.01	<5	52	0.91	130	<10	51
SB178	1885104	3869488	Coastal	<0.001	<0.01	<0.5	3.99	<5	70	<0.5	<2	0.52	0.5	1	47	3	5.02	0.24	0.11	2290	2	2.11	4	10	4	<0.01	<5	41	1.08	63	<10	52
SB179	1885335	3871297	Coastal	<0.001	<0.01	<0.5	4.41	<5	60	<0.5	<2	1.22	<0.5	3	32	4	4.58	0.17	0.26	1970	1	1.94	8	20	2	<0.01	<5	59	0.99	104	<10	62
SB180	1885338	3871283	Coastal	<0.001	<0.01	<0.5	4.23	<5	60	<0.5	<2	1.26	0.8	8	139	9	8.71	0.21	0.43	2150	1	1.77	11	10	5	<0.01	<5	52	0.52	98	<10	67
SB180-1	1885338	3871283	Coastal	<0.001	<0.01	<0.5	4.8	<5	60	<0.5	<2	1.36	0.8	4	104	8	7.64	0.22	0.45	1965	1	2.01	13	10	4	<0.01	<5	58	0.94	153	<10	56
SB181	1885525	3870958	Coastal	0.001	0.01	<0.5	3.83	<5	60	<0.5	<2	1.21	<0.5	8	34	5	7.52	0.18	0.31	3090	<1	1.68	9	<10	<2	<0.01	<5	49	0.63	76	<10	75
SB182	1885206	3870289	Coastal	<0.001	0.01	<0.5	3.11	<5	40	<0.5	<2	1.08	<0.5	5	22	2	6	0.1	0.29	2090	<1	1.35	3	<10	<2	<0.01	<5	44	1.01	162	<10	75
SB183	1884015	3875587	Coastal	<0.001	0.01	<0.5	4.07	<5	50	<0.5	<2	2.09	<0.5	24	130	12	18.5	0.21	1.02	2610	<1	1.5	14	<10	<2	<0.01	<5	66	0.48	397	<10	108
SB184	1884207	3875847	Coastal	0.001	0.01	<0.5	4.83	<5	30	<0.5	<2	2.93	0.7	30	201	14	23.4	0.17	1.45	2490	1	1.58	26	<10	<2	<0.01	<5	91	0.51	771	<10	132
SB185	1885574	3876124	Coastal	<0.001	0.01	<0.5	5.6	<5	40	<0.5	<2	4.3	<0.5	34	620	23	14.85	0.28	3.44	1930	<1	1.32	57	40	<2	0.01	<5	104	0.87	720	<10	104
SB186	1885909	3876271	Coastal	0.002	<0.01	<0.5	8.15	<5	40	<0.5	<2	5.87	<0.5	22	232	32	7.78	0.23	1.78	1245	<1	2.13	38	190	<2	0.01	<5	224	0.74	362	<10	63
SB187	1886369	3876492	Coastal	<0.001	0.01	<0.5	7.96	<5	30	0.5	<2	4.66	<0.5	22	523	25	10.85	0.15	1.48	1430	<1	3.26	35	190	<2	0.03	<5	198	0.49	288	<10	71
SB188	1886330	3876498	Coastal	0.001	0.01	<0.5	8.31	<5	50	<0.5	<2	4.8	<0.5	30	789	42	8.16	0.34	2.65	1185	<1	2.34	54	390	<2	0.02	<5	214	0.72	360	<10	98
SB189	1883934	3875607	Coastal	0.024	0.01	<0.5	7.96	<5	50	<0.5	<2	4.05	<0.5	15	656	14	5.88	0.24	1.16	965	<1	3.5	28	110	<2	0.01	<5	207	0.43	164	<10	72
SB190	1887879	3870800	Coastal	<0.001	0.01	<0.5	3.77	<5	50	<0.5	<2	1.18	<0.5	11	48	10	13.6	0.18	0.38	3260	<1	1.58	8	<10	<2	<0.01	<5	48	0.39	111	<10	118
SB191	1887958	3870815	Coastal	<0.001	0.01	<0.5	3.14	<5	30	<0.5	<2	1.2	<0.5	25	190	15	>25.0	0.15	0.82	2800	6	0.85	20	<10	<2	<0.01	<5	33	0.68	923	<10	167
SB192	1888391	3871154	Coastal	<0.001	0.01	<0.5	3.58	<5	40	<0.5	<2	1.12	<0.5	15	140	8	13.45	0.12	0.51	2190	1	1.46	13	<10	<2	<0.01	<5	42	0.67	332	<10	89
SB193	1888412	3871101	Coastal	<0.001	0.01	<0.5	3.23	<5	40	<0.5	<2	1.18	0.6	28	203	13	>25.0	0.16	0.79	2670	1	0.84	17	<10	<2	<0.01	<5	33	0.41	843	<10	172
SB194	1859705	3873731	Coastal	<0.001	<0.01	<0.5	1.83	<5	30	<0.5	<2	21.7	<0.5	2	9	2	0.59	0.15	0.59	174	<1	1.36	2	250	<2	0.16	<5	4770	0.11	21	<10	18
SB195	1860492	3873713	Coastal	0.016	<0.01	<0.5	7.33	<5	160	<0.5	<2	3.57	<0.5	39	108	28	8.76	0.58	1.34	1395	<1	2.07	34	390	<2	0.01	<5	368	0.74	470	<10	92
SB196	1862124	3873793	Coastal	0.001	0.01	<0.5	6.7	<5	130	<0.5	<2	5.15	<0.5	21	49	27	5.63	0.62	1.18	951	<1	2.05	16	480	3	0.03	<5	533	0.69	265	<10	74
SB197	1862490	3872708	Coastal	<0.001	0.01	<0.5	6.49	<5	190	<0.5	<2	3.59	<0.5	44	150	37	13	0.59	1.72	1600	<1	1.56	40	570	2	0.01	<5	582	0.95	698	<10	144
SB198	1864468	3871395	Coastal	0.001	0.01	<0.5	6.36	<5	160	<0.5	<2	5.29	<0.5	15	80	14	4.73	0.76	1.72	985	<1	1.82	16	370	3	0.01	<5	373	0.6	217	<10	56
SB199	1864492	3871407	Coastal	<0.001	0.01	<0.5	6.4	<5	130	<0.5	<2	4.38	<0.5	18	85	14	4.6	0.68	1.64	950	2	1.98	16	360	4	0.27	<5	240	0.59	192	<10	62
SB200	1867674	3872234	Sigatoka	<0.001	0.01	<0.5	4.76	<5	70	<0.5	<2	5.19	<0.5	50	421	21	16.55	0.4	2.77	2720	<1	1.06	46	10	7	<0.01	<5	174	0.6	567	<10	178
SB200-1	1867674	3872234	Sigatoka	0.031	0.01	<0.5	4.51	<5	60	<0.5	<2	5	0.6	50	453	21	17.45	0.36	2.7	2720	<1	0.99	48	20	2	<0.01	<5	164	0.75	621	<10	194
SB201	1869568	3874690	Sigatoka	0.001	0.01	<0.5	6.26	<5	60	<0.5	<2	2.66	<0.5	43	154	26	16.95	0.33	1.74	2220	<1	1.1	28	50	10	<0.01	<5	277	0.88	677	<10	283
SB202	1870052	3875408	Sigatoka	0.001	0.01	<0.5	5.99	<5	80	<0.5	<2	2.78	<0.5	36	67	34	16.05	0.49	1.45	2920	<1	1.48	24	<10	3	<0.01	<5	238	0.37	579	<10	464
SB203	1871595	3875205	Sigatoka	0.004	<0.01	<0.5	7.21	<5	110	<0.5	<2	3.89	<0.5	28	114	26	9.95	0.61	1.78	1475	<1	1.81	22	330	<2	0.01	<5	300	0.98	459	<10	137
SB204	1873806	3877135	Sigatoka	<0.001	0.01	<0.5	7.44	<5	130	<0.5	<2	3	<0.5	29	98	24	7.35	0.58	1.38	1980	<1	2.02	20	340	4	0.01	<5	326	0.82	352	<10	92
SB205	1876085	3877468	Sigatoka	<0.001	0.01	<0.5	6.94	<5	90	<0.5	<2	3.18	<0.5	38	287	40	13.5	0.41	1.63	1885	<1	1.72	34	<10	<2	<0.01	<5	251	0.49	655	<10	167

Appendix1 Chemical analysis data of stream sediment samples (17)

code				Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element	Easting	Northing	system	Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SB206	1876156	3877528	Sigatoka	<0.001	0.01	<0.5	7.12	<5	90	<0.5	<2	3.23	<0.5	34	254	38	12.45	0.41	1.62	1720	<1	1.82	32	<10	<2	<0.01	<5	260	0.5	655	<10	152
SB207	1876290	3877917	Sigatoka	0.178	<0.01	<0.5	6.43	<5	80	<0.5	<2	2.69	<0.5	33	583	27	12.65	0.46	1.34	1515	<1	1.9	34	<10	<2	<0.01	<5	284	0.58	432	<10	152
SB208	1876487	3879384	Sigatoka	0.598	<0.01	<0.5	7.84	<5	100	<0.5	<2	2.55	<0.5	30	264	45	9.31	0.58	1.74	1225	<1	1.97	31	240	<2	0.01	<5	289	1.08	438	<10	124
SB209	1876433	3879179	Sigatoka	0.32	<0.01	<0.5	7.1	<5	90	<0.5	<2	2.52	<0.5	28	433	34	10.3	0.54	1.44	1335	<1	2.1	27	<10	5	<0.01	<5	253	0.4	386	<10	128
SB210	1875629	3877033	Sigatoka	0.001	0.01	<0.5	7.2	<5	90	<0.5	<2	2.77	<0.5	29	126	32	13.3	0.49	1.42	2300	<1	1.97	25	60	<2	<0.01	<5	243	0.85	584	<10	230
SB211	1875199	3877023	Sigatoka	<0.001	0.01	<0.5	7.1	<5	90	<0.5	<2	2.44	<0.5	27	111	32	12.65	0.54	1.22	2180	<1	2.26	24	<10	2	<0.01	<5	226	0.34	467	<10	194
SB212	1876154	3873650	Sigatoka	<0.001	0.01	<0.5	7.83	<5	70	<0.5	<2	3.54	<0.5	21	348	25	7.15	0.34	1.29	1285	<1	3.1	35	110	2	0.02	<5	196	0.69	304	<10	78
SB213	1876199	3873648	Sigatoka	<0.001	0.01	<0.5	8.16	<5	160	<0.5	<2	2.48	<0.5	28	564	31	5.83	1.04	1.78	731	<1	3.43	53	100	<2	0.02	<5	170	0.47	260	<10	66
SB214	1863813	3876209	Coastal	0.003	0.01	<0.5	6.73	<5	80	0.6	<2	1.7	<0.5	17	281	33	9.22	0.6	0.84	1675	<1	2	14	80	12	0.02	<5	155	1	366	<10	182
SB215	1863763	3876035	Coastal	<0.001	0.01	<0.5	7.87	<5	70	0.5	<2	2.08	<0.5	26	21	40	8.99	0.41	1.28	1080	<1	1.52	12	380	2	0.01	<5	239	0.85	473	<10	97
SB216	1866139	3878146	Coastal	0.001	0.01	<0.5	6.08	<5	70	0.6	2	2.07	<0.5	7	279	12	4.75	0.26	0.4	806	1	2.47	15	200	<2	0.03	<5	159	0.7	139	<10	50
SB217	1872957	3871409	Coastal	0.001	0.01	<0.5	7.83	<5	140	<0.5	<2	3.58	<0.5	20	320	25	8.58	0.74	1.32	1380	<1	2.49	33	90	<2	0.01	<5	182	0.93	419	<10	130
SB218	1872937	3871440	Coastal	0.127	0.01	<0.5	7.58	<5	160	<0.5	<2	4.45	<0.5	27	587	29	8.32	0.57	2.06	1175	<1	2.28	49	120	3	0.04	<5	204	1.22	405	<10	100
SB219	1879471	3878172	Coastal	0.004	0.01	<0.5	6.47	<5	90	<0.5	<2	1.98	<0.5	16	116	15	4.98	0.56	0.83	965	<1	2.08	15	80	2	<0.01	<5	174	0.69	203	<10	60
SB220	1879578	3870254	Coastal	<0.001	0.01	<0.5	6.57	<5	120	0.6	<2	1.66	<0.5	11	104	12	4.36	0.78	0.74	1235	<1	2.4	13	200	3	0.02	<5	142	0.71	148	<10	116
SB220-1	1879578	3870254	Coastal	0.001	0.01	<0.5	7.73	<5	110	<0.5	<2	1.78	<0.5	16	155	19	4.83	0.44	1.29	672	<1	3.68	36	190	<2	0.01	<5	142	0.57	219	<10	63
SB221	1887148	3884356	Sigatoka	0.001	0.01	<0.5	7.66	<5	110	<0.5	<2	1.93	<0.5	17	176	18	4.88	0.44	1.3	663	<1	3.67	36	180	<2	0.01	<5	148	0.6	227	<10	66
SB222	1887164	3884323	Sigatoka	0.006	0.01	<0.5	7.75	<5	90	0.5	<2	2.88	<0.5	18	597	33	9.87	0.61	1.65	2170	<1	2.32	27	150	<2	<0.01	<5	192	0.95	352	<10	219
SB223	1887461	3884665	Sigatoka	0.002	<0.01	<0.5	6.54	<5	80	<0.5	<2	1.97	<0.5	26	209	27	9.61	0.61	1.14	1615	5	1.8	25	20	2	<0.01	<5	194	0.81	341	<10	153
SB224	1887545	3884788	Sigatoka	0.001	0.01	<0.5	6.93	<5	100	<0.5	<2	1.92	<0.5	26	261	23	6.74	0.69	1.14	1120	1	1.84	29	180	<2	0.01	<5	180	1.04	316	<10	87
SB225	1889171	3884598	Sigatoka	<0.001	0.15	<0.5	6.7	<5	100	<0.5	<2	2.48	<0.5	23	788	23	10.55	0.61	2.49	1825	1	2.05	45	170	3	0.02	<5	159	1.19	436	<10	225
SB226	1889185	3883964	Sigatoka	0.001	0.01	<0.5	7.39	<5	150	<0.5	<2	3.71	<0.5	21	156	32	5.88	0.97	3.12	976	<1	1.84	34	300	3	0.01	<5	191	0.78	334	<10	112
SB227	1889170	3883939	Sigatoka	0.036	0.01	<0.5	7.49	<5	170	0.5	<2	3.6	<0.5	25	126	22	10.55	0.56	2.68	1765	<1	1.75	17	510	7	0.03	<5	206	1.44	579	<10	220
SB228	1890289	3890916	Sigatoka	0.001	<0.01	<0.5	6.92	<5	100	<0.5	<2	2.67	<0.5	39	126	25	13	0.59	1.41	1210	<1	1.52	31	40	3	0.01	<5	249	0.77	517	<10	149
SB229	1889803	3886162	Sigatoka	0.001	0.01	<0.5	6.82	<5	160	0.5	<2	2.23	<0.5	17	261	18	9.1	0.76	1.5	1450	<1	2.15	17	<10	7	<0.01	<5	150	0.43	187	<10	200
SB230	1890497	3886249	Sigatoka	<0.001	0.02	<0.5	5.82	<5	120	0.6	<2	2.63	<0.5	24	271	41	17.05	0.51	1.68	2960	<1	1.64	27	<10	6	0.03	<5	142	0.78	764	<10	432
SB231	1890751	3886436	Sigatoka	<0.001	0.01	<0.5	7.1	<5	100	0.5	<2	2.93	<0.5	19	84	19	8.77	0.58	1.39	1430	<1	1.94	16	70	<2	0.01	<5	191	1.02	384	<10	204
SB232	1891119	3886097	Sigatoka	<0.001	0.01	<0.5	6.93	<5	140	0.6	<2	0.91	<0.5	16	90	73	5.58	0.75	2.43	999	1	2.13	28	320	7	0.16	<5	81	0.59	204	<10	170
SB233	1891121	3886068	Sigatoka	0.006	0.01	<0.5	6.39	5	160	0.7	<2	1.83	<0.5	7	42	31	4.36	0.65	1.17	798	1	1.89	11	290	3	0.05	<5	120	0.47	152	<10	99
SB234	1889992	3889310	Sigatoka	0.016	<0.01	<0.5	7.28	<5	100	<0.5	6	2.64	<0.5	20	96	20	6.01	0.67	1.2	1135	<1	2.09	15	220	6	0.01	<5	192	0.84	280	<10	93
SB235	1890076	3888786	Sigatoka	0.005	0.01	<0.5	6.95	<5	90	<0.5	3	3.14	<0.5	15	274	16	8.01	0.66	1.06	1665	<1	2.12	13	180	4	0.02	7	200	1	338	<10	111
SB236	1888315	3887277	Sigatoka	0.001	<0.01	<0.5	6.59	<5	100	<0.5	2	2.19	<0.5	20	175	21	7.17	0.72	0.98	1715	<1	2.02	20	190	9	<0.01	<5	150	0.94	338	<10	93
SB237	1888122	3898651	Sigatoka	<0.001	<0.01	<0.5	6.93	<5	120	<0.5	7	2.62	<0.5	21	112	18	7.41	0.7	1.2	1065	<1	1.74	15	40	<2	<0.01	<5	240	0.81	359	<10	99
SB238	1887343	3888077	Sigatoka	<0.001	<0.01	<0.5	6.41	<5	110	<0.5	<2	2.76	<0.5	38	217	24	13.8	0.64	1.3	1575	<1	1.45	22	<10	8	<0.01	11	275	0.63	496	<10	171
SB239	1887340	3888060	Sigatoka	<0.001	<0.01	<0.5	6.02	<5	100	<0.5	4	2.71	<0.5	33	153	18	12.7	0.56	0.94	1505	<1	1.69	15	10	7	<0.01	<5	193	0.69	418	<10	152
SB240	1892379	3889817	Sigatoka	<0.001	0.01	<0.5	7.78	<5	120	0.5	4	2.49	<0.5	25	100	32	10.35	0.77	1.92	2010	<1	1.91	22	460	<2	0.15	9	173	1.48	430	<10	252
SB240-1	1892379	3889817	Sigatoka	<0.001	0.01	<0.5	6.98	<5	110	<0.5	5	2.16	<0.5	22	90	29	8.52	0.68	1.7	1680	<1	1.64	17	420	3	0.13	8	147	1.08	315	<10	207
SB241	1892465	3889828	Sigatoka	0.001	0.01	<0.5	7.31	<5	110	<0.5	2	2.16	<0.5	29	189	43	10.55	0.7	1.88	1910	<1	1.79	32	360	5	0.15	9	152	1.18	531	<10	225
SB242	1892449	3889861	Sigatoka	<0.001	0.01	<0.5	7.33	<5	70	<0.5	<2	3.4	<0.5	39	423	36	11.75	0.45	2.72	1755	<1	1.48	31	330	2	0.16	10	170	1.42	580	<10	211
SB243	1893060	3892448	Sigatoka	0.001	<0.01	<0.5	8.3	<5	70	<0.5	5	4.5	<0.5	31	556	36	8.58	0.65	3.52	1485	<1	1.33	61	440	2	<0.01	9	206	1.15	375	<10	128
SB244	1893056	3892486	Sigatoka	<0.001	<0.01	<0.5	8.91	8	90	<0.5	5	5.84	<0.5	29	98	31	9.78	0.56	2.09	1755	<1	1.4	16	410	<2	0.01	5	323	1.13	393	<10	132
SB245	1880483	3892060	Sigatoka	<0.001	0.01	<0.5	7.05	5	100	<0.5	<2	3.86	<0.5	41	151	31	13.6	0.55	2.25	1640	<1	1.65	28	90	<2	0.01	9	288	0.91	702	<10	144
SB246	1881449	3892158	Sigatoka	0.008	<0.01	<0.5	7.12	<5	140	<0.5	3	2.64	<0.5	17	98	22	6.46	0.78	1.34	1020	<1	1.9	13	290	8	<0.01	<5	260	0.76	319	<10	86
SB247	1880295	3891241	Sigatoka	<0.001	0.01	<0.5	5.71	<5	80	<0.5	<2	4.59	<0.5	78	235	39	24.8	0.24	2.54	2630	<1	0.95	43	20	<2	<0.01	17	181	0.71	943	<10	289
SB248	1882065	3891745	Sigatoka	0.001	0.01	<0.5	7.7	<5	140	<0.5	3	4.11	<0.5	42	163	42	13.2	0.54	2.02	1665	<1	1.3	34	380	<2	<0.01	11	273	0.99	640	<10	160
SB249	1882810	3891679	Sigatoka	0.001	0.01	<0.5	7.33	<5	90	<0.5	2	4.94	<0.5	47	130	25	17.55	0.32	2.1	1830	<1	1.4	26	30	9	<0.01	8	280	0.75	635	<10	184
SB250	1883152	3891768	Sigatoka	0.001	0.01	<0.5	8.36	<5	120	<0.5	6	4.48	<0.5	26	100	23	10.3	0.54	1.92	1400	<1	1.7	18	490	5	0.01	11	307	1.1	519	<10	146
SB251	1884114	3892023	Sigatoka	<0.001	<0.01	<0.5	7.07	<5	70	<0.5	2	4.95	<0.5	49	124	26	18.3	0.28	2.2	1890	<1	1.24	32	290	5	0.02	9	259	0.98	811	<10	186
SB252	1884984	3892153	Sigatoka	<0.001	<0.01	<0.5	8.37	<5	110	<0.5	5	4.87	<0.5	41	113	32	14.5	0.39	2.08	1590	<1	1.47	27	330	2	0.01	12	315	1.19	699	<10	154
SB253	1889382	3893564	Sigatoka	<0.001	<0.01	<0.5	7.35	<5	80	<0.5	<2	4	<0.5	40	104	23	16.55	0.41	1.47	1560	<1	1.5	15	100	<2	<0.01	7	285	0.88	691	<10	174
SB254	1889580	3893510	Sigatoka	0.002	<0.01	<0.5	8.79	<5	120	<0.5	5	4.98	<0.5	27	98	20	10.05	0.56	1.64	1185	<1	1.89	18	380	2	0.01	12	365	0.88	427	<10	114
SB255	1889078	3898819	Sigatoka	0.001	<0.01	<0.5	6.22	<5	50	<0.5	<2	5.39	<0.5	100	607	46	>25.0	0.14	4.08	1960	<1	0.68	98	<10	<2	<0.01	9	207	0.75	1695	<10	245
SB256	1889109	3898802	Sigatoka	0.002	<0.01	<0.5	7.79	<5	70	<0.5	<2	6.99	<0.5	70	646	50	17.45	0.19	4.91	1615	<1	0.86	87	90	6	0.01	15	310	1.04	1215	<10	150
SB257	1888537	3897016	Sigatoka	0.001	<0.01	<0.5	7.15	<5	80	<0.5	<2	6	<0.5	62	405	53	16.15	0.26	4.75	1745	<1	1.04	64	150	<2	0.01	14	308	1.18	1120	<10	164
SB258	1888527	3897307	Sigatoka	0.001	<0.01	<0.5	6.03	<5	80	<0.5	<2	4.73	<0.5	88	180	59	23.7	0.2	3.87	2090	4	0.79	70	50	<2	0.01	16	259	1.23	1580	<10	241
SB259	1888548	3897347	Sigatoka	<0.001	<0.01	<0.5	7.36	<5	80	<0.5	2	5.23	<0.5	83	491	56	23.6	0.16	3.51	1715	<1	0.74	81	70	<2	0.02	13	274	1.36	1740	<10	207
SB260	1886946	3894924	Sigatoka	<0.001	0.01	<0.5	5.45	<5	80	<0.5	<2	4.23	<0.5	85	569	61	>25.0	0.19	3.33	2360	<1	0.75	75	240	<2	0.04	8	195	1.79	1975	<10	346
SB260-1	1886946	3894924	Sigatoka	<0.001	0.05	<0.5	5.48	<5	90	<0.5	4	4.16	<0.5	90	633	64	>25.0	0.19	3.29	2500	<1	0.74	76	110	13	0.04	17	194	1.54	1985	<10	369
SB261	1886917	3895237	Sigatoka	<0.001	<0.01	<0.5	5.91	8	50	<0.5	<2	5.72	<0.5	94	876	42	24	0.13	4.31	1875	<1	0.68	98	30	<2	0.03	11	211	1.37	1840	<10	225
SB262	1891843	3898131	Sigatoka	<0.001	<0.01	<0.5	7.04	<5	80	<0.5	<2	4.57	<0.5	58	196	35	17.55	0.29	2.65	1565	<1	1.3	46	70	<2	<0.01	9	314	0.87	710	<10	196
SB263	1891787	3898207	Sigatoka	0.001	<0.01	<0.5	3.74	<5	30	<0.5	<2	2.47	<0.5	114	456	56	>25.0	0.12	2.44	2290	<1	0.48	82	<10	<2	<0.01	13	114	0.9	1480	<10	355
SB264	1889594	3902115	Sigatoka	0.001	0.01	<0.5	6.97	8	250	<0.5	2	3.62	<0.5	29	40	64	8.76	0.59	1.58	1605	<1	1.06	12	270	8	0.01	7	424	1	336	<10	124
SB265	1889527	3902048	Sigatoka	<0.001	0.01	<0.5	7.65	<5	330	<0.5	4	3	<0.5	26	106	42	8.63	0.52	1.34	1260	<1	1.05	18	210	6	0.01	<5	537	1.12	321	<10	120
SB266	1889853	3901912	Sigatoka	0.001	0.02	<0.5	6.82	8	320	<0.5	3	5.84	<0.5	14	18	44	5.6	0.73	1.24	858	<1	0.76	10	420	5	0.01	7	438	0.63	210	<10	99
SB267	1890851	3901807	Sigatoka	0.002	0.01	<0.5	7.87	6	150	<0.5	5	3.38	<0.5	26	77	33	7.72	0.58	1.36	1070	<1	1.4	14	290	3	0.01	14	335	0.92	362	<10	100
SB268	1890789	3901802	Sigatoka	0.001	0.01	<0.5	7.01	<5	210	<0.5	<2	6.06	<0.5	41	160	48	13	0.5	1.84	1815	<1	0.86	32	260	2	<0.01	<5	435	0.89	563	10	152
SB269	1891170	3901748	Sigatoka	<0.001	0.01	<0.5	6.11	<5	110	<0.5	<2	3.03	<0.5	59	182	40	20.2	0.38	1.59	1845	<1	0.9	44	100	<2	<0.01	<5	212	1	676	10	210
SB270	1893140	3903571	Sigatoka	0.001	0.01	<0.5	5.35	<5	90	<0.5	<2	2.64	<0.5	51	370	27	20.2	0.35	1.32	2000	<1	0.96	26	90	<2	0.01	<5	176	0.8	447	<10	202
SB271	1893137	3903592	Sigatoka	0.001	<0.01	<0.5	6.5	15	100	<0.5	<2	3.58	<0.5	45	168	28	16.1	0.43	1.52	1515	<1	1.18	34	60	3	0.01	<5	247	1.03	654	10	166
SB272	1907986	3903673	Sigatoka	0.003	0.01	<0.5	6.25	13	100	0.5	<2	3.53	<0.5	36	134	37	10.6	0.65	1.48	1300	1	1.22	24	380	3	0.4	<5	141	0.94	492	10	134
SB273	1908732	3902382	Sigatoka	0.001	<0.01	<0.5	5.25	<5	100	<0.5	<2	3.68	<0.5	74	237	61	23.5	0.62	2.19	2770	<1	0.9	38	420	3	0.04	<5	230	1.4	1145	10	256
SB274	1908775	3902393	Sigatoka	<0.001	<0.01	<0.5	5.57	<5	170	0.5	<2	3.48	<0.5	47	246	67	14.9	0.87	1.86	2060	7	0.94	36	390	3	0.01	<5	289	1	688	<10	164
SB275	1910633	3897574	Sigatoka	<0.001	<0.01	<0.5	5.82	9	70	0.6	<2	4.76	<0.5	31	273	16	14.25	0.56	2.18	2880	1	1.48	16	240	<2	<0.01	<5	198	0.79	269	<10	128
SB276	1911143	3897322	Sigatoka	<0.001	<0.01	<0.5	3.68	<5	80	0.5	2	2.43	<0.5	34	199	20	>25.0	0.57	1.22	4360	<1	1.11	8	20	<2	<0.01	<5	92	0.71	649	<10	238
SB277	1911534	3897535	Sigatoka	<0.001	<0.01	<0.5	5.3	<5	50	0.5	<2	4.51	<0.5	35	325	22	19.6	0.41	2.01	3220	<1	1.36	19	480	2	<0.01	<5	172	0.88	451	<10	216
SB278	1912207	3897422	Sigatoka	<0.001	<0.01	<0.5	5.52	<5	70	0.5	<2	4.31	<0.5	34	222	16	17.9	0.53	2.21	2770	1	1.54	19	260	<2	<0.01	<5	158	0.98	571	<10	152
SB279	1912380	3897907	Sigatoka	0.001	<0.01	<0.5	4.59	<5	60	<0.5	3	4.03	<0.5	39	292	32	>25.0	0.44	1.62	4020	<1	1.1	17	590	<2	<0.01	<5	140	0.84	786	10	237
SB280	1912930	3898020	Sigatoka	0.009	0.01	<0.5	6.67	<5	80	0.6	<2	4.79	<0.5	30	173	20	11.35	0.63	2.32	1975	<1	1.86	14	640	<2	0.01	<5	198	0.92	422	10	110
SB280-1	1912930	3898020	Sigatoka	<0.001	<0.01	<0.5	6.83	<5	80	0.6	<2	4.82	<0.5	31	210	18	12.5	0.64	2.43	2120	<1	1.93	14	640	5	<0.01	<5	203	0.95	446	<10	119
SB281	1913065	3898340	Sigatoka	<0.001	<0.01	<0.5	5.36	9	80	0.6	<2	3.97	<0.5	35	180	27	21	0.63	1.72	3350	1	1.43	15	180	<2	<0.01	<5	159	0.85	632	<10	154
SB282	1913150	3898304	Sigatoka	<0.001	<0.01	<0.5	5.99	<5	120	0.7	<2	3.43	<0.5	24	151	20	13.9	0.79	1.51	2550	<1	1.94	16	540	3	<0.01	<5	164	1.02	474	10	150
SB283	1913152	3898312	Sigatoka	0.002	<0.01	<0.5	4.85	<5	80	0.5	<2	3.37	<0.5	32	310	23	>25.0	0.57	1.74	3540	1	1.36	18	300	<2	0.01	<5	129	0.93	828	10	203
SB284	1879448	3891974	Sigatoka	0.002	<0.01	<0.5	7.79	<5	110	0.5	<2	2.61	<0.5	19	54	33	5.67	0.79	1.54	822	<1	1.6	19	530	5	<0.01	<5	285	0.58	237	<10	80
SB285	1875484	3891588	Sigatoka	0.001	0.01	<0.5	6.52	5	140	0.5	<2	1.76	<0.5	29	205	37	6.5	0.75	1.02	1420	5	1.1	24	300	8	0.01	<5	154	0.75	281	10	67
SB286	1874797	3891594	Sigatoka	<0.001	<0.01	<0.5	7.78	<5	120	0.5	<2	3.82	<0.5	28	106	33	8.13	0.69	1.82	1135	<1	1.4	35	260	4	0.01	<5	292	0.83	452	10	94
SB287	1874396	3891477	Sigatoka	<0.001	0.01	<0.5	7.74	6	130	0.5	<2	3.51	<0.5	30	150	34	8.37	0.71	1.94	1200	<1	1.38	32	200	2	<0.01	<5	283	0.78	428	10	97
SB288	1871940	3889800	Sigatoka	<0.001	<0.01	<0.5	7.81	<5	110	<0.5	<2	4.48	<0.5	44	247	36	12.8	0.53	2.29	1625	<1	1.42	40	210	<2	<0.01	<5	269	0.91	651	10	151
SB289	1872033	3889773	Sigatoka	0.001	<0.01	<0.5	7.41	<5	130	0.5	<2	3.55	<0.5	42	314	34	9.93	0.55	2.17	1875	<1	1.3	42	180	3	<0.01	<5	232	0.86	459	<10	114
SB290	1871795	3889201	Sigatoka	<0.001	0.01	<0.5	8.14	11	140	0.5	<2	4.95	<0.5	36	340	42	9.77	0.64	2.48	1565	1	1.7	48	510	<2	0.01	<5	339	0.84	455	10	118
SB290-1	1871795	3889201	Sigatoka	0.006	0.01	<0.5	7.85	7	140	0.5	<2	4.86	<0.5	35	274	39	8.97	0.63	2.37	1465	<1	1.67	43	480	2	0.01	<5	331	0.76	415	10	108

Appendix1 Chemical analysis data of stream sediment samples (18)

code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SB291	1873745	3891282	Sigatoka	<0.001	<0.01	<0.5	7.18	<5	120	0.5	<2	2.88	<0.5	32	238	33	8.54	0.66	1.88	1390	<1	1.19	35	200	4	<0.01	<5	206	0.82	407	10	98
SB292	1873709	3890785	Sigatoka	0.023	<0.01	<0.5	5.72	<5	90	<0.5	<2	2.81	<0.5	45	612	35	18.65	0.58	1.64	2740	<1	1.26	49	160	2	<0.01	<5	170	0.51	398	10	279
SC001	1944586	3907025	Rewa	0.002	0.01	<0.5	5.09	<5	40	0.6	<2	0.59	<0.5	15	255	14	12.2	0.09	0.48	1315	<1	0.94	25	120	2	0.01	<5	55	0.96	312	10	56
SC002	1944065	3906750	Rewa	<0.001	0.02	<0.5	4.5	<5	40	<0.5	<2	2.42	<0.5	25	175	16	>25.0	0.1	1.12	2500	<1	0.86	21	190	7	0.02	<5	122	1.24	1170	<10	67
SC003	1943217	3906502	Rewa	<0.001	0.03	<0.5	5.42	7	70	<0.5	<2	2.98	<0.5	28	170	16	21.7	0.25	1.2	2100	1	1.26	18	240	7	0.01	<5	143	1.1	908	<10	70
SC004	1942970	3906610	Rewa	<0.001	0.01	<0.5	6.2	<5	50	0.5	<2	2.55	<0.5	24	355	24	14.55	0.16	1.32	3080	1	1.68	32	150	7	0.01	<5	135	1.08	351	<10	192
SC005	1942800	3906344	Rewa	<0.001	0.01	<0.5	6.02	<5	90	0.6	<2	1.86	<0.5	11	233	13	9.09	0.41	0.59	2390	1	2.07	14	130	<2	0.01	<5	128	0.87	169	<10	84
SC006	1942804	3906312	Rewa	0.001	0.02	<0.5	6.1	<5	90	0.6	<2	1.85	<0.5	23	231	25	15.8	0.4	0.98	1905	1	1.12	22	300	2	0.03	<5	101	1.15	517	<10	112
SC007	1955891	3900517	Rewa	0.001	0.02	<0.5	5.62	<5	140	<0.5	<2	0.73	<0.5	39	567	63	13.95	0.64	0.84	1610	<1	0.46	36	100	4	0.01	<5	90	0.84	504	<10	141
SC008	1955584	3901047	Rewa	0.002	0.05	<0.5	8.1	11	160	0.8	<2	0.33	<0.5	21	253	53	5.98	0.56	0.56	639	4	0.31	29	690	7	0.04	<5	66	0.67	194	<10	87
SC009	1955582	3901372	Rewa	0.001	0.02	<0.5	5.77	<5	130	<0.5	<2	0.85	<0.5	55	639	80	19.5	0.64	1.1	2200	<1	0.48	43	50	8	0.01	<5	96	0.86	735	<10	200
SC010	1956138	3902042	Rewa	<0.001	0.02	<0.5	5.89	<5	140	<0.5	<2	0.74	<0.5	54	735	89	19.4	0.55	1.06	2270	<1	0.42	45	20	7	<0.01	<5	94	0.75	632	<10	196
SC011	1956060	3901989	Rewa	<0.001	0.02	0.5	3.05	<5	70	<0.5	<2	0.65	<0.5	82	1115	102	>25.0	0.32	1.02	3480	<1	0.28	55	<10	5	<0.01	<5	58	0.67	851	<10	299
SC012	1956434	3899784	Rewa	0.297	0.01	<0.5	4	<5	80	<0.5	<2	0.4	<0.5	69	906	96	24.9	0.34	0.92	2730	<1	0.2	54	<10	12	<0.01	<5	53	0.72	752	<10	241
SC013	1933688	3905648	Rewa	0.002	<0.01	<0.5	7.72	<5	110	<0.5	<2	4.11	<0.5	48	205	96	13.3	0.57	2.04	2340	1	0.5	23	370	11	0.04	<5	204	0.9	531	<10	159
SC014	1933517	3905526	Rewa	<0.001	0.01	<0.5	8.52	<5	110	<0.5	<2	4.32	<0.5	36	301	60	8.5	0.61	3.04	2170	1	1.04	35	420	10	0.07	<5	186	0.55	327	<10	180
SC015	1933260	3905258	Rewa	0.001	0.02	<0.5	9.16	<5	130	0.5	<2	4.02	<0.5	42	296	61	9.09	0.65	2.51	2360	2	1.12	36	560	4	0.04	<5	185	0.57	317	<10	184
SC016	1933245	3905296	Rewa	0.001	0.01	<0.5	7.95	<5	140	0.6	<2	2.01	<0.5	25	168	35	7.85	0.97	2.21	2050	1	1.12	23	440	13	0.04	<5	120	0.75	223	<10	163
SC017	1933984	3905989	Rewa	0.345	0.02	<0.5	7.28	<5	100	0.6	<2	1.78	1.6	20	288	50	8.79	0.64	1.42	2990	<1	1.54	23	440	5	0.07	<5	68	0.63	165	<10	421
SC018	1949782	3902321	Rewa	0.451	0.01	<0.5	6.33	<5	160	<0.5	<2	1.56	<0.5	40	482	66	15.95	0.67	1.2	2180	<1	0.67	36	70	8	<0.01	<5	170	0.98	571	<10	196
SC019	1949692	3902101	Rewa	0.002	0.01	<0.5	6.9	7	120	0.5	<2	1.46	<0.5	31	188	48	10.05	0.41	1.42	1525	<1	1.06	26	330	4	0.01	<5	122	0.68	346	<10	180
SC020	1949229	3902134	Rewa	0.003	0.01	<0.5	4.67	<5	110	<0.5	<2	1.7	<0.5	91	188	108	>25.0	0.3	1.92	2550	<1	0.56	41	<10	9	0.01	<5	130	0.58	1205	<10	391
SC020-1	1949229	3902134	Rewa	0.001	0.01	<0.5	5.9	<5	150	<0.5	<2	2.34	<0.5	66	149	90	22.2	0.37	2.16	2290	<1	0.69	33	60	5	0.02	<5	172	1.12	1055	<10	307
SC021	1948909	3901812	Rewa	<0.001	0.01	<0.5	6.06	<5	140	<0.5	<2	2.47	<0.5	65	94	99	23.7	0.44	2.12	2400	<1	0.79	34	390	5	0.19	<5	240	1.81	1325	<10	315
SC022	1948733	3901968	Rewa	0.001	0.01	0.7	4.97	<5	110	<0.5	<2	2.66	0.6	100	70	128	>25.0	0.19	2.67	2800	<1	0.53	38	10	13	<0.01	<5	181	0.85	1055	<10	407
SC023	1948455	3901971	Rewa	0.001	0.01	<0.5	6.92	<5	150	<0.5	<2	3.12	<0.5	60	119	80	19.6	0.39	3.02	2140	<1	1.15	37	320	3	0.02	<5	202	1.28	969	<10	265
SC024	1948435	3901959	Rewa	0.001	0.01	<0.5	5.04	<5	100	<0.5	<2	2.25	<0.5	85	122	85	>25.0	0.38	2.77	2470	<1	0.84	41	40	6	<0.01	<5	122	0.81	916	<10	341
SC025	1926840	3901123	Rewa	<0.001	0.01	<0.5	6.45	<5	110	<0.5	<2	3.25	<0.5	24	122	17	15.05	0.92	1.82	2240	<1	1.73	9	220	2	0.01	<5	150	0.94	654	<10	92
SC026	1925662	3900770	Rewa	<0.001	0.01	<0.5	6.12	<5	100	<0.5	<2	3.61	0.6	28	119	27	17.95	0.73	2.14	3030	<1	1.52	11	180	6	<0.01	<5	158	0.98	837	<10	120
SC027	1925468	3901165	Rewa	<0.001	0.01	<0.5	6.56	<5	110	<0.5	<2	3.44	<0.5	21	174	18	13.95	0.83	1.81	1975	1	1.74	8	320	4	0.01	<5	167	0.89	630	<10	76
SC028	1925067	3901700	Rewa	<0.001	0.01	<0.5	6.69	<5	100	<0.5	<2	2.33	<0.5	14	148	25	9.85	0.48	1.65	1375	10	2.01	29	430	<2	0.02	<5	166	0.59	274	<10	59
SC029	1924957	3901722	Rewa	<0.001	0.01	<0.5	5.43	<5	70	<0.5	<2	2.4	0.7	23	408	24	17.05	0.37	1.92	2590	2	1.66	34	190	2	0.01	<5	118	0.88	747	<10	132
SC030	1924417	3901777	Rewa	<0.001	0.01	<0.5	6.66	6	90	0.6	<2	2.73	<0.5	24	144	34	10	0.56	1.32	1925	3	2.32	17	550	3	0.31	<5	152	0.84	250	<10	88
SC031	1924344	3901567	Rewa	<0.001	0.05	<0.5	5.01	<5	60	<0.5	<2	2.8	<0.5	24	280	22	21.4	0.36	1.95	2870	1	1.41	20	80	3	0.02	<5	112	0.95	943	<10	139
SC032	1923872	3901487	Rewa	<0.001	0.02	<0.5	6.98	<5	100	0.7	<2	3.28	<0.5	23	109	24	11.05	0.56	1.41	2470	1	2.58	13	770	4	0.09	<5	174	1.14	276	<10	87
SC033	1923895	3901409	Rewa	0.001	0.01	<0.5	7.23	<5	110	0.6	<2	2.67	<0.5	24	207	33	9.74	0.62	1.58	1975	1	2.18	24	530	2	0.17	<5	154	0.83	294	<10	123
SC034	1923656	3902261	Rewa	<0.001	0.01	<0.5	7.67	<5	100	0.6	<2	2.77	<0.5	32	144	48	10.4	0.6	2.23	2280	1	2.2	25	570	5	0.19	<5	124	0.8	294	<10	142
SC035	1923634	3902232	Rewa	<0.001	0.01	<0.5	7.48	6	160	0.7	<2	2.53	<0.5	24	204	35	8.84	0.91	1.75	1880	1	2.6	24	690	5	0.12	<5	165	0.92	340	<10	148
SC036	1928231	3902769	Rewa	<0.001	0.01	<0.5	6.39	<5	90	<0.5	<2	1.45	<0.5	38	585	51	18.4	0.43	3.04	2020	1	1.22	58	390	6	0.08	<5	77	0.75	794	<10	206
SC037	1928217	3902756	Rewa	<0.001	0.01	<0.5	5.64	7	100	<0.5	<2	1.98	0.7	29	471	37	17.2	0.51	1.68	2270	<1	1.56	42	350	9	0.03	<5	114	1.01	583	<10	168
SC038	1928945	3903245	Rewa	0.001	0.02	<0.5	6.78	6	140	0.5	<2	1.8	<0.5	20	208	33	11.1	0.82	1.92	1775	1	1.83	22	440	<2	0.03	<5	106	0.79	389	<10	154
SC039	1969915	3887866	Rewa	0.104	0.01	<0.5	3.12	<5	60	<0.5	<2	0.46	<0.5	20	331	25	12.45	0.17	0.42	2150	<1	0.29	13	<10	6	<0.01	<5	94	0.62	253	<10	112
SC040	1969908	3887955	Rewa	0.007	0.03	<0.5	6.72	6	90	<0.5	<2	0.4	<0.5	20	308	56	10.1	0.26	0.49	1545	2	0.31	25	260	10	0.07	<5	89	1.24	307	<10	116
SC040-1	1969908	3887955	Rewa	0.001	0.03	<0.5	5.46	7	80	0.5	<2	0.41	<0.5	21	425	49	11.85	0.22	0.49	1460	2	0.32	27	190	4	0.06	<5	85	1.74	421	<10	123
SC041	1973020	3887307	Rewa	0.001	0.04	<0.5	6.71	5	140	0.5	<2	0.56	<0.5	24	186	44	10.4	0.36	0.6	1850	2	0.56	16	460	9	0.06	<5	108	0.95	242	<10	102
SC042	1974039	3886848	Rewa	0.004	0.03	<0.5	6.39	<5	120	<0.5	<2	1.68	<0.5	21	72	49	7.37	0.34	1.1	1645	1	0.97	12	290	14	0.03	5	136	0.77	345	<10	126
SC043	1972187	3885730	Rewa	0.002	0.06	<0.5	8.63	8	170	0.6	<2	0.54	<0.5	28	140	62	8.26	0.3	0.75	1630	2	0.29	23	830	6	0.04	<5	91	0.8	280	<10	108
SC044	1972406	3885826	Rewa	0.002	0.14	<0.5	12.25	7	110	<0.5	<2	0.31	<0.5	21	90	1100	7.27	0.28	0.69	1440	3	0.3	15	860	7	0.27	5	54	0.4	174	<10	110
SC045	1972184	3884644	Rewa	0.001	0.06	<0.5	10.45	<5	170	0.6	<2	0.5	<0.5	21	111	84	7.2	0.29	0.61	825	1	0.18	31	750	7	0.07	<5	114	0.68	286	<10	88
SC046	1972243	3884574	Rewa	0.001	0.02	<0.5	4.7	<5	100	<0.5	<2	0.68	<0.5	44	757	60	19.65	0.18	0.77	2550	1	0.12	40	40	8	0.01	5	80	0.71	684	<10	202
SC047	1942964	3900416	Rewa	<0.001	0.01	0.5	5.27	<5	100	0.5	<2	2.17	<0.5	27	525	31	22.5	0.68	1.17	2390	2	1.45	39	170	4	0.01	6	117	0.76	648	<10	122
SC048	1942169	3900361	Rewa	<0.001	0.01	<0.5	4.77	<5	220	0.6	<2	0.6	<0.5	7	41	11	12.8	1.5	0.24	2750	1	0.84	4	<10	8	<0.01	<5	57	0.4	151	<10	153
SC049	1942148	3900894	Rewa	<0.001	0.01	<0.5	4.98	<5	170	0.5	<2	0.92	<0.5	7	52	4	15.7	1.4	0.23	2500	2	1.04	6	30	3	<0.01	6	78	0.52	275	<10	69
SC050	1942210	3901173	Rewa	<0.001	<0.01	0.7	3.38	<5	80	<0.5	<2	1.26	<0.5	17	200	14	>25.0	0.62	0.65	2250	3	0.83	16	310	2	0.01	7	67	0.62	1225	<10	77
SC051	1942208	3901215	Rewa	<0.001	0.01	<0.5	6.03	<5	160	0.6	<2	1.35	<0.5	9	61	9	17.15	1.33	0.54	1740	2	1.27	6	190	2	<0.01	<5	96	0.82	747	<10	49
SC052	1942135	3901930	Rewa	0.002	0.01	0.5	6.32	<5	100	<0.5	<2	3.21	<0.5	42	1110	44	20.1	0.45	2.38	2560	2	1.52	71	310	<2	0.02	6	128	1.12	774	<10	187
SC053	1942109	3901914	Rewa	0.001	0.01	<0.5	7.53	<5	150	0.6	<2	2.83	<0.5	27	383	36	13.95	0.78	2.08	1935	2	2.15	39	360	<2	0.02	6	150	0.91	538	<10	130
SC054	1943196	3899429	Rewa	<0.001	0.01	<0.5	6.35	<5	200	0.7	<2	1.34	0.5	8	62	12	5.55	1.34	0.57	1340	2	1.5	7	170	5	0.02	5	104	0.55	160	<10	82
SC055	1941945	3899407	Rewa	<0.001	0.01	<0.5	5.45	<5	160	0.6	<2	1.46	<0.5	5	61	8	11.15	1.11	0.35	2170	1	1.1	5	50	6	<0.01	<5	121	0.52	232	<10	97
SC056	1941582	3898665	Rewa	<0.001	0.01	<0.5	6.52	<5	200	0.7	<2	1.36	<0.5	6	49	11	7.56	1.31	0.55	1575	1	1.59	7	150	4	0.01	5	110	0.64	224	<10	80
SC057	1941273	3898967	Rewa	<0.001	0.01	<0.5	5.12	<5	180	0.6	<2	0.93	<0.5	7	65	8	11.5	1.25	0.33	2360	2	1.21	3	50	2	<0.01	<5	85	0.52	234	<10	104
SC058	1940718	3899557	Rewa	<0.001	<0.01	<0.5	5.61	<5	190	0.6	<2	1.08	<0.5	6	47	6	10.3	1.5	0.25	2700	2	1.3	3	10	5	<0.01	<5	93	0.6	174	<10	84
SC059	1940712	3899500	Rewa	0.001	<0.01	<0.5	5.94	<5	180	0.8	<2	1.58	<0.5	17	299	20	13.35	1.2	0.8	3050	3	1.42	16	100	10	0.01	<5	110	0.87	322	<10	149
SC060	1939502	3899489	Rewa	<0.001	0.01	<0.5	4.34	<5	160	0.5	<2	0.6	<0.5	5	60	5	8.43	1.11	0.18	2250	<1	0.75	4	10	3	<0.01	<5	56	0.45	112	<10	64
SC060-1	1939502	3899489	Rewa	<0.001	0.01	<0.5	4.93	<5	180	0.6	<2	0.63	<0.5	4	107	7	5.54	1.24	0.2	1670	1	0.84	5	10	3	<0.01	<5	60	0.44	100	<10	57
SC061	1939485	3899481	Rewa	0.001	<0.01	<0.5	6.86	<5	220	0.8	<2	1.5	<0.5	10	69	16	4.65	1.39	0.76	1280	1	1.76	10	180	5	0.01	5	114	0.49	130	<10	100
SC062	1941890	3899091	Rewa	<0.001	0.01	<0.5	6.55	<5	200	0.8	<2	0.97	0.5	6	57	14	7.01	1.36	0.39	1285	2	1.4	4	110	<2	0.01	<5	86	0.56	203	<10	78
SC063	1942747	3899013	Rewa	0.001	0.01	<0.5	4.53	<5	150	0.5	<2	0.61	<0.5	5	52	12	5.16	0.95	0.36	1110	2	0.73	5	120	2	0.01	<5	54	0.52	158	<10	52
SC064	1943212	3899467	Rewa	<0.001	<0.01	<0.5	4.53	<5	160	0.6	<2	0.79	<0.5	4	61	15	12.65	1.07	0.33	2250	3	0.93	3	150	4	0.06	<5	70	0.86	407	<10	86
SC065	1943396	3899160	Rewa	<0.001	0.01	<0.5	5.29	<5	180	0.7	<2	0.65	<0.5	2	43	10	3.83	1.22	0.23	551	1	1.33	2	150	<2	0.02	<5	66	0.27	91	<10	45
SC066	1943410	3899099	Rewa	<0.001	0.01	<0.5	3.62	<5	120	0.5	<2	0.39	0.5	7	69	25	19.35	0.67	0.2	2950	3	0.41	8	150	2	0.36	<5	34	1.03	660	<10	134
SC067	1943191	3898476	Rewa	<0.001	0.01	<0.5	5.32	<5	160	0.6	<2	0.84	<0.5	9	78	26	13.4	0.97	0.46	1755	6	0.91	6	220	8	0.06	<5	77	0.71	495	<10	89
SC068	1943036	3898342	Rewa	<0.001	<0.01	<0.5	4.41	<5	150	0.6	<2	0.6	<0.5	5	87	14	11.15	0.96	0.25	2330	3	0.78	3	80	7	0.01	<5	60	0.62	291	<10	82
SC069	1943010	3898067	Rewa	<0.001	<0.01	<0.5	5.28	<5	180	0.7	<2	0.72	<0.5	9	96	27	10.9	1.2	0.4	1440	4	0.97	6	230	3	0.39	5	72	0.61	341	<10	114
SC070	1942994	3898060	Rewa	<0.001	<0.01	<0.5	4.86	<5	160	0.5	<2	0.91	<0.5	8	91	12	22.2	1.18	0.37	3300	2	1.07	6	140	10	0.08	<5	79	1.19	768	<10	126
SC071	1943825	3899720	Rewa	<0.001	0.01	<0.5	4.36	<5	150	0.5	<2	0.36	<0.5	3	89	12	7.62	1.12	0.18	1370	3	0.72	6	130	<2	0.04	<5	39	0.61	180	<10	41
SC072	1950065	3896934	Rewa	<0.001	0.01	<0.5	6.36	<5	150	0.5	<2	1.82	<0.5	26	134	32	12.35	0.84	1.06	1770	2	1.46	18	140	2	<0.01	<5	128	0.71	431	<10	144
SC073	1950127	3896915	Rewa	<0.001	0.01	<0.5	7.45	<5	130	0.5	<2	3.71	<0.5	48	165	64	17.05	0.46	2	1855	1	1.66	32	310	<2	<0.01	<5	270	0.96	720	<10	200
SC074	1949931	3896580	Rewa	<0.001	<0.01	<0.5	4.39	<5	80	<0.5	<2	2.76	<0.5	93	109	105	>25.0	0.24	2.64	2660	2	0.79	32	140	<2	<0.01	<5	162	0.82	931	<10	379
SC075	1957811	3876901	Others	0.007	0.01	<0.5	3.19	<5	30	<0.5	<2	0.9	<0.5	76	73	16	>25.0	0.08	1.16	3510	2	0.32	11	<10	<2	<0.01	<5	38	0.63	673	<10	340
SC076	1957809	3876915	Others	0.205	0.01	<0.5	6.04	<5	90	<0.5	<2	0.97	<0.5	18	60	14	7.64	0.35	0.97	1155	<1	0.61	11	50	4	0.01	<5	53	0.69	264	<10	108
SC077	1957800	3877099	Others	0.586	0.01	<0.5	3.55	<5	40	<0.5	<2	0.57	<0.5	57	92	26	>25.0	0.17	0.82	2940	2	0.27	12	10	<2	<0.01	<5	35	0.61	701	<10	401
SC078	1958240	3877822	Others	0.068	0.01	<0.5	4.12	<5	40	<0.5	<2	1.41	<0.5	62	67	14	>25.0	0.15	1.67	3220	1	0.55	7	10	<2	<0.01	<5	50	0.89	688	<10	276
SC079	1957895	3877960	Others	<0.001	0.01	<0.5	4.39	<5	50	<0.5	<2	1.17	<0.5	59	151	14	>25.0	0.15	1.42	2970	1	0.47	10	<10	<2	<0.01	<5	57	0.63	622	<10	248
SC080	1957860	3878996	Others	0.427	0.03	<0.5	6.29	<5	80	<0.5	<2	0.8	<0.5	41	87	60	21	0.36	0.98	2330	<1	0.4	15	90	<2	0.01	<5	58	0.98	806	<10	283
SC080-1	1957860	3878996	Others	0.458	0.02	<0.5	5.92	<5	80	<0.5	<2	0.81	<0.5	46	91	78	24	0.37	0.92	2520	1	0.41	17	50	<2	<0.01	<5	61	0.69	789	<10	352
SC081	1958260	3878345	Others	0.001	0.01	<0.5	5.33	<5	50	<0.5	<2	1.14	<0.5	62	194	43	>25.0	0.19	1.26	2950	1	0.49	19	<10	<2	<0.01	<5	67	0.46	740	<10	348
SC082	1958238	3878336	Others	0.021	0.01	<0.5	6.35	<5	50	<0.5	<2	1.08	<0.5	49	114	40	24.3	0.26	1.14	2370	<1	0.34	16	<10	<2	<0.01	<5	65	0.7	870	<10	350
SC083	1951057	3875014	Others	0.001	0.01	<0.5	6.7	<5	90	<0.5	<2	1.04	<0.5	31	84	27	13.4	0.51	1.16	2270	1	0.56	13	110	<2	0.01	<5	69	0.94	415	<10	180
SC084	1950891	3875144	Others	0.002	0.01	<0.5	8.46	5	60	<0.5	<2	1.02	<0.5	36	63	60	15.65	0.39	1.24	1925	1	0.5	10	160	<2	0.01	<5	96	0.36	503	<10	304

Appendix1 Chemical analysis data of stream sediment samples (19)

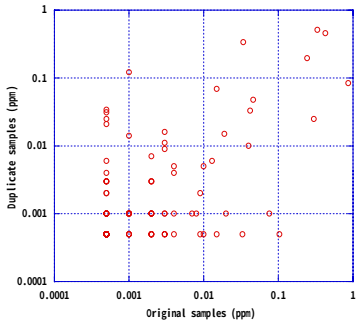
code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SC085	1950789	3875130	Others	0.001	0.01	<0.5	5.45	<5	70	<0.5	<2	0.8	<0.5	38	95	49	18.35	0.33	0.78	2030	1	0.44	20	20	<2	<0.01	<5	68	0.77	523	<10	228
SC086	1950777	3875148	Others	<0.001	0.01	<0.5	5.83	<5	90	<0.5	<2	1.54	<0.5	51	87	90	23.9	0.24	1.08	2440	2	0.82	27	30	<2	0.01	<5	136	0.86	946	<10	312
SC087	1951132	3875438	Others	0.001	0.02	<0.5	8.12	<5	40	<0.5	<2	0.63	<0.5	37	38	58	13.3	0.24	0.86	1510	1	0.23	13	190	<2	0.01	<5	62	0.32	410	<10	245
SC088	1951147	3875445	Others	0.001	0.01	<0.5	5.26	<5	40	<0.5	<2	0.43	<0.5	60	97	32	>25.0	0.26	0.75	2650	2	0.22	15	<10	<2	<0.01	<5	38	0.62	855	<10	331
SC089	1952109	3873798	Others	<0.001	0.01	<0.5	4.98	<5	50	<0.5	<2	0.53	<0.5	39	187	24	22.4	0.28	0.57	2640	1	0.35	16	110	<2	0.01	<5	35	0.97	708	<10	270
SC090	1945115	3874745	Others	0.014	0.01	<0.5	7.21	<5	30	<0.5	<2	1.44	<0.5	29	57	36	18.85	0.14	1.06	1930	2	0.92	7	180	<2	0.08	<5	76	1.14	879	<10	110
SC091	1945100	3874735	Others	0.02	0.01	<0.5	7.48	<5	50	<0.5	<2	1.48	<0.5	25	38	47	12.75	0.28	1.4	1535	1	0.93	4	180	<2	0.04	<5	74	0.9	647	<10	102
SC092	1944440	3875247	Others	<0.001	0.02	<0.5	8.35	<5	60	<0.5	<2	2.13	<0.5	22	37	47	9.07	0.35	1.1	1835	1	1.24	5	280	<2	0.02	<5	114	0.76	275	<10	142
SC093	1944356	3875388	Others	0.65	0.01	<0.5	4.82	<5	50	<0.5	<2	0.86	<0.5	41	67	36	>25.0	0.22	0.78	2760	1	0.58	9	<10	<2	0.02	<5	47	0.71	1765	<10	202
SC094	1944360	3875380	Others	0.176	0.01	<0.5	7.97	<5	60	<0.5	<2	1.72	<0.5	34	57	52	15.2	0.37	1.46	2040	1	1	11	190	4	0.02	<5	80	0.85	753	<10	160
SC095	1944310	3875630	Others	0.692	0.01	<0.5	7.82	<5	90	<0.5	<2	1.2	<0.5	31	39	51	16.55	0.39	1.1	1820	2	1.16	9	130	<2	0.03	<5	77	0.87	775	<10	120
SC096	1944292	3875639	Others	0.136	0.01	<0.5	5.07	<5	40	<0.5	<2	0.94	<0.5	39	58	33	>25.0	0.25	0.89	2650	2	0.61	10	<10	4	0.02	<5	50	0.71	1865	<10	229
SC097	1945440	3874290	Others	0.004	0.01	<0.5	6.35	<5	40	<0.5	<2	1.48	<0.5	29	52	37	19.5	0.26	1.15	2110	1	0.75	8	10	<2	<0.01	<5	68	0.57	751	<10	160
SC098	1946241	3874319	Others	<0.001	0.01	<0.5	8.09	<5	40	<0.5	<2	1.43	<0.5	31	330	44	16.9	0.25	1.24	2260	1	0.31	22	20	<2	0.01	<5	81	0.95	965	<10	248
SC099	1947055	3873635	Others	0.553	0.01	<0.5	6.37	<5	40	<0.5	<2	1.9	<0.5	33	87	26	18.5	0.18	1.42	2200	1	0.84	11	50	<2	0.02	<5	77	1.16	1255	<10	148
SC100	1929305	3876426	Navua	0.034	0.01	<0.5	5.41	6	70	<0.5	<2	0.34	<0.5	17	665	31	7.81	0.44	0.49	1035	1	0.51	11	160	<2	0.02	<5	53	1.2	326	<10	126
SC100-1	1929305	3876426	Navua	0.335	0.02	<0.5	6.04	6	80	<0.5	<2	0.4	<0.5	20	430	35	8.27	0.46	0.56	1130	1	0.54	13	200	2	0.02	<5	53	1.16	347	<10	128
SC101	1929395	3876405	Navua	0.002	0.01	<0.5	3.68	<5	40	<0.5	<2	0.2	<0.5	45	65	30	>25.0	0.26	0.57	5230	2	0.15	9	<10	2	<0.01	<5	44	0.36	344	<10	741
SC102	1929580	3876485	Navua	<0.001	0.01	<0.5	5.97	<5	90	<0.5	<2	0.54	<0.5	22	130	34	7.9	0.45	0.59	1270	1	0.66	12	160	<2	0.02	<5	72	0.98	312	<10	132
SC103	1929565	3876467	Navua	0.001	0.01	<0.5	7.31	<5	80	<0.5	<2	1.3	<0.5	39	112	63	15.55	0.59	1.4	2360	1	0.72	12	150	<2	0.01	<5	141	0.93	623	<10	219
SC104	1931610	3874244	Navua	<0.001	0.01	<0.5	6.7	5	70	<0.5	<2	0.36	<0.5	21	50	34	16.7	0.15	0.38	2940	<1	0.18	15	80	3	0.01	<5	28	0.97	285	<10	398
SC105	1931830	3873758	Navua	<0.001	0.01	<0.5	8.99	5	100	<0.5	<2	0.43	<0.5	36	34	58	9.96	0.58	1.12	2270	3	0.43	19	300	<2	0.01	<5	50	0.78	246	<10	166
SC106	1932408	3873684	Navua	0.002	0.01	<0.5	7.27	5	90	<0.5	<2	0.4	<0.5	27	52	47	15.15	0.31	0.71	3590	<1	0.29	16	140	5	<0.01	<5	46	0.8	288	<10	278
SC107	1932501	3873329	Navua	<0.001	0.01	<0.5	6.79	<5	60	<0.5	<2	0.33	<0.5	25	42	23	14.2	0.21	0.59	3030	<1	0.41	9	<10	2	<0.01	<5	34	0.69	202	<10	502
SC108	1932620	3873250	Navua	0.001	0.01	<0.5	6.57	<5	60	<0.5	<2	0.29	<0.5	24	39	28	12.2	0.17	0.53	2560	<1	0.44	11	10	5	<0.01	<5	26	0.79	174	<10	383
SC109	1932900	3873295	Navua	<0.001	0.01	<0.5	4.07	<5	50	<0.5	<2	0.15	<0.5	17	59	15	12.45	0.29	0.31	5350	<1	0.3	5	<10	<2	<0.01	<5	15	0.38	61	<10	214
SC110	1933371	3873280	Navua	0.001	0.01	<0.5	5.87	<5	80	<0.5	<2	0.44	<0.5	16	31	24	8.33	0.38	0.48	1910	<1	0.61	7	100	3	<0.01	<5	42	1.06	219	<10	203
SC111	1933355	3873262	Navua	0.001	0.01	<0.5	4.26	<5	60	<0.5	<2	0.44	<0.5	15	125	21	13.05	0.33	0.51	3550	<1	0.35	15	<10	6	<0.01	<5	32	0.52	168	<10	214
SC112	1930792	3875061	Navua	<0.001	0.01	<0.5	7.01	<5	90	<0.5	<2	0.29	<0.5	23	29	63	13.35	0.24	0.5	2560	<1	0.13	11	320	5	0.01	<5	37	1.22	444	<10	187
SC113	1930760	3874781	Navua	0.001	0.01	<0.5	7.07	<5	60	<0.5	<2	0.52	<0.5	29	116	67	18.05	0.34	0.9	2270	<1	0.24	17	160	4	<0.01	<5	52	0.96	539	<10	329
SC114	1930800	3874750	Navua	<0.001	0.02	<0.5	8.39	7	80	<0.5	<2	0.43	<0.5	28	30	70	13.95	0.39	0.82	2220	<1	0.31	15	230	3	0.01	<5	46	1.01	388	<10	255
SC115	1930598	3874178	Navua	<0.001	0.05	<0.5	7.36	<5	60	<0.5	<2	0.42	<0.5	27	40	59	16.9	0.43	0.7	2660	<1	0.36	16	50	8	<0.01	<5	40	0.73	322	<10	351
SC116	1930571	3874165	Navua	<0.001	0.01	<0.5	5.87	<5	50	<0.5	<2	0.47	<0.5	26	40	53	22.6	0.29	0.62	2520	<1	0.26	15	60	5	<0.01	<5	44	0.77	547	<10	533
SC117	1947074	3880042	Rewa	1.635	0.02	<0.5	6.19	<5	150	0.5	<2	0.58	<0.5	26	74	85	21	0.66	0.83	1635	<1	0.61	22	280	12	0.03	<5	88	1.23	889	<10	343
SC118	1946680	3880218	Rewa	0.003	0.36	<0.5	6.09	<5	70	<0.5	<2	1.2	<0.5	28	61	27	16.4	0.28	0.51	1265	<1	0.77	17	120	6	<0.01	<5	176	1.55	635	<10	273
SC119	1946057	3880285	Rewa	0.014	0.02	<0.5	5.88	<5	130	<0.5	<2	1.27	<0.5	41	79	116	23.7	0.38	0.91	1930	<1	0.61	31	200	10	0.03	<5	149	1.44	1115	<10	382
SC120	1946004	3880269	Rewa	0.004	0.01	<0.5	6.72	5	90	<0.5	<2	0.44	<0.5	16	48	55	11.2	0.58	0.71	1490	11	0.9	24	300	4	0.02	<5	62	1.22	463	<10	266
SC120-1	1946004	3880269	Rewa	0.005	0.01	<0.5	7.2	8	130	<0.5	<2	0.48	<0.5	20	44	61	12.8	0.74	0.84	1400	2	0.8	13	400	7	0.03	<5	75	1.22	544	<10	234
SC121	1945685	3880377	Rewa	0.095	0.01	0.6	5.62	<5	180	0.5	<2	0.49	0.6	39	58	111	24.7	0.67	0.67	1580	1	0.29	24	210	14	0.02	7	77	1.43	1010	<10	392
SC122	1945338	3880141	Rewa	0.002	0.01	<0.5	8.47	9	80	<0.5	<2	0.56	<0.5	19	34	47	9.81	0.46	1.13	1535	1	1.4	13	370	4	0.01	<5	80	0.99	363	<10	191
SC123	1945009	3880370	Rewa	0.551	0.02	<0.5	7.27	<5	240	0.6	<2	0.47	<0.5	25	38	106	17.9	1.09	1.08	1275	<1	0.43	17	510	9	0.06	<5	101	1.12	739	<10	289
SC124	1944448	3880359	Rewa	0.158	0.03	<0.5	7.74	5	270	0.7	<2	0.4	<0.5	23	35	107	14.05	1.03	0.94	1035	<1	0.34	17	610	12	0.04	<5	114	1.13	587	<10	188
SC125	1944206	3880236	Rewa	0.666	0.02	<0.5	7.94	<5	90	<0.5	<2	0.2	<0.5	12	26	36	11.35	0.53	0.56	1260	1	0.45	9	290	2	0.02	<5	36	0.99	269	<10	228
SC126	1944190	3880245	Rewa	0.192	0.01	<0.5	9.03	10	280	0.6	<2	0.41	<0.5	17	21	95	8.73	1.28	0.91	1060	1	0.47	10	670	9	0.34	<5	107	0.78	355	<10	171
SC127	1944180	3880260	Rewa	4.64	0.02	<0.5	6.88	<5	230	0.6	<2	0.28	<0.5	25	49	110	19.7	0.99	0.87	1170	<1	0.26	21	470	11	0.06	<5	70	1.14	864	<10	266
SC128	1947002	3881357	Rewa	0.006	0.04	0.8	4.41	<5	90	0.5	<2	1.02	<0.5	48	68	142	>25.0	0.28	0.68	2630	<1	0.43	32	130	16	<0.01	<5	130	0.95	1105	<10	562
SC129	1947235	3881459	Rewa	0.003	0.01	<0.5	6.67	<5	80	<0.5	<2	1.56	<0.5	40	84	60	17.5	0.36	1.36	1930	<1	0.79	22	120	2	0.01	<5	160	1.51	759	<10	254
SC130	1958876	3888104	Rewa	<0.001	0.01	<0.5	6.12	7	60	<0.5	<2	0.89	<0.5	26	455	51	12.2	0.35	0.98	1560	<1	0.6	22	130	3	0.01	<5	81	1.1	591	<10	230
SC131	1958566	3888187	Rewa	0.003	0.01	<0.5	6.08	<5	50	<0.5	<2	0.81	<0.5	29	280	45	18.6	0.5	0.93	4270	<1	1.37	22	<10	7	<0.01	<5	79	0.57	440	<10	671
SC132	1958548	3888155	Rewa	0.001	0.01	0.5	3.67	<5	30	<0.5	<2	1.37	<0.5	77	193	87	>25.0	0.2	1.64	3630	<1	0.48	41	<10	11	<0.01	<5	49	0.73	1185	<10	553
SC133	1943205	3889224	Rewa	0.005	0.01	<0.5	5.8	<5	180	0.5	<2	0.4	<0.5	27	72	94	22.9	0.76	0.6	2280	<1	0.36	23	320	15	0.09	<5	67	1.12	823	<10	456
SC134	1943176	3890216	Rewa	0.002	0.01	<0.5	6.52	8	130	0.5	<2	0.58	<0.5	23	67	69	14.3	0.75	1.43	2340	1	1	25	450	10	0.59	<5	70	1.06	575	<10	376
SC135	1943470	3890158	Rewa	0.006	0.01	<0.5	4.9	<5	100	<0.5	<2	0.84	<0.5	34	172	77	>25.0	0.52	1	3650	<1	0.77	32	360	10	0.15	<5	98	1.18	1010	<10	415
SC136	1943691	3890216	Rewa	0.001	0.01	<0.5	4.92	<5	90	<0.5	<2	0.46	<0.5	37	63	94	>25.0	0.27	0.82	3580	<1	0.36	25	20	12	<0.01	<5	59	1.46	892	<10	470
SC137	1943670	3890820	Rewa	<0.001	0.01	<0.5	6.88	<5	90	<0.5	<2	2.07	<0.5	55	726	98	20.9	0.55	2.25	2850	1	1.13	73	630	2	0.35	<5	139	1.18	850	<10	286
SC138	1943714	3890945	Rewa	<0.001	0.01	<0.5	7.33	7	100	0.6	<2	3.93	1	32	120	46	18.2	0.45	1.3	2540	1	1.18	29	570	12	0.15	<5	220	1.15	747	<10	265
SC139	1944172	3891073	Rewa	<0.001	0.01	0.5	6.33	<5	110	<0.5	<2	2.71	<0.5	46	79	68	20.6	0.42	1.93	2660	1	1.14	24	620	5	0.37	<5	224	1.84	1055	<10	389
SC140	1944375	3891195	Rewa	<0.001	0.01	<0.5	8.11	5	140	<0.5	<2	4.46	<0.5	39	47	73	13.7	0.41	2.97	1890	<1	1.5	18	640	4	0.2	<5	376	1.22	656	<10	217
SC140-1	1944375	3891195	Rewa	<0.001	<0.01	<0.5	7.63	<5	130	0.6	<2	4.13	<0.5	44	41	70	13.25	0.39	2.76	1880	3	1.34	21	570	<2	0.2	<5	368	1.18	694	<10	225
SC141	1944360	3891241	Rewa	<0.001	0.01	<0.5	6.09	<5	110	0.8	<2	1.7	<0.5	14	59	22	9.73	0.46	0.8	1265	1	1.4	12	220	9	0.04	<5	128	0.89	412	<10	147
SC142	1944385	3891252	Rewa	<0.001	0.01	<0.5	6.64	<5	120	0.7	<2	2.49	<0.5	24	49	35	13.55	0.54	1.5	1495	3	1.48	12	430	4	0.15	<5	231	1.12	586	<10	170
SC143	1921346	3879358	Navua	<0.001	0.02	<0.5	7.36	8	130	0.5	<2	1.16	<0.5	19	49	32	5.96	0.69	0.94	832	2	1.43	19	280	2	0.03	<5	237	0.7	227	<10	94
SC144	1921594	3878800	Navua	0.003	0.03	<0.5	6.19	6	140	<0.5	<2	1.48	<0.5	42	198	46	11.95	0.63	0.94	1105	1	1.12	32	330	3	0.07	<5	445	1.08	695	<10	168
SC145	1921896	3878238	Navua	0.083	0.03	<0.5	5.41	<5	110	<0.5	<2	1.03	<0.5	47	247	48	13.3	0.43	0.88	1405	2	0.75	34	90	5	0.01	<5	258	0.9	680	<10	191
SC146	1921881	3877887	Navua	<0.001	0.06	<0.5	4.27	<5	80	<0.5	<2	0.73	<0.5	99	619	75	>25.0	0.23	1.22	2420	3	0.32	80	10	8	<0.01	<5	156	0.8	1300	<10	340
SC147	1925542	3877662	Navua	<0.001	0.03	<0.5	6.49	<5	100	<0.5	<2	1.24	<0.5	20	115	32	5.44	0.73	0.82	870	1	1.2	18	260	2	0.05	<5	435	0.65	211	<10	86
SC148	1925565	3877670	Navua	0.002	0.02	<0.5	6.85	9	90	<0.5	<2	0.85	<0.5	30	124	49	9.02	0.68	0.89	1600	1	0.73	24	260	<2	0.09	<5	237	0.95	382	<10	126
SC149	1926046	3876810	Navua	<0.001	0.02	<0.5	7.11	6	60	<0.5	<2	0.37	<0.5	24	105	40	5.72	0.29	0.44	1135	1	0.19	20	190	<2	0.01	<5	68	0.76	201	<10	87
SC150	1926000	3876806	Navua	0.003	0.01	<0.5	7.49	<5	80	<0.5	<2	0.42	<0.5	38	102	59	9.24	0.67	0.88	1480	1	0.37	34	190	<2	0.01	<5	74	0.8	361	<10	126
SC151	1925294	3876280	Navua	<0.001	0.01	<0.5	3.73	<5	60	<0.5	<2	0.45	<0.5	19	438	17	5.6	0.33	0.34	2600	<1	0.3	16	<10	<2	<0.01	<5	45	0.34	60	<10	85
SC152	1924730	3875872	Navua	<0.001	0.02	<0.5	7.6	<5	70	<0.5	<2	0.65	<0.5	37	273	37	7.96	0.61	0.85	1250	1	0.46	56	70	<2	0.01	<5	150	0.78	315	<10	130
SC153	1924608	3874918	Navua	0.001	0.02	<0.5	8.21	<5	60	<0.5	2	0.28	<0.5	66	726	59	14.25	0.54	1.02	1370	2	0.19	110	210	4	0.01	<5	35	0.81	593	<10	117
SC154	1924506	3874998	Navua	0.001	0.01	<0.5	7.05	<5	60	<0.5	<2	0.51	<0.5	30	460	41	8.79	0.69	0.81	1325	7	0.42	54	40	<2	0.01	<5	117	0.7	300	<10	133
SC155	1901990	3877220	Navua	0.002	0.01	<0.5	7.78	<5	80	0.6	<2	1.1	<0.5	45	976	69	8.94	0.2	1.14	1690	1	1.14	89	210	<2	0.01	<5	74	0.89	336	<10	106
SC156	1902070	3877301	Navua	0.001	0.01	<0.5	9.3	<5	70	0.5	<2	2.28	<0.5	36	266	58	8.37	0.22	1.99	1490	2	2.58	85	370	<2	0.01	<5	140	0.91	385	10	137
SC157	1902045	3877338	Navua	0.001	0.01	<0.5	8.83	<5	60	0.6	<2	1.27	<0.5	41	395	74	8.59	0.18	1.41	1525	2	1.5	89	350	<2	0.01	<5	88	0.76	328	<10	101
SC158	1903076	3872146	Navua	0.004	0.01	<0.5	5.4	<5	50	<0.5	<2	0.49	<0.5	29	40	61	10.45	0.33	1.27	903	2	0.59	11	210	<2	1.88	<5	36	0.51	336	<10	144
SC159	1903109	3872102	Navua	0.001	0.01	<0.5	5.58	<5	50	<0.5	<2	0.35	<0.5	15	20	58	5.89	0.46	0.97	862	2	0.93	8	160	<2	0.06	<5	31	0.6	319	<10	148
SC160	1904220	3871904	Navua	<0.001	0.01	<0.5	6.27	<5	60	<0.5	<2	0.6	<0.5	30	44	49	9.23	0.32	0.99	1630	1	0.61	11	80	<2	0.02	<5	45	0.84	487	<10	240
SC160-1	1904220	3871904	Navua	0.001	0.01	<0.5	6.43	<5	70	<0.5	<2	0.61	<0.5	31	40	50	9.74	0.33	0.97	1810	1	0.6	10	30	2	0.01	<5	45	0.73	511	10	267
SC161	1904240	3871867	Navua	<0.001	0.01	<0.5	5.32	<5	60	<0.5	<2	0.54	<0.5	27	65	33	12.1	0.19	0.56	2290	1	0.81	12	20	<2	0.01	<5	51	0.96	660	<10	480
SC162	1915704	3873296	Navua	0.004	0.01	<0.5	6.69	9	110	<0.5	<2	0.49	<0.5	26	62	60	9.24	0.55	1.11	1305	2	0.62	26	250	<2	0.04	<5	40	0.8	341	<10	128
SC163	1915580	3873750	Navua	0.001	0.01	<0.5	5.09	<5	60	<0.5	<2	1.06	<0.5	44	313	38	15.25	0.4	0.84	1815	2	0.63	28	80	<2	0.02	<5	112	1.1	738	<10	209
SC164	1915801	3872720	Navua	0.001	0.01	<0.5	8.33	<5	70	<0.5	<2	0.57	<0.5	31	51	66	9.39	0.76	1.25	1370	2	0.37	23	220	<2	0.01	<5	58	0.62	318	<10	95
SC165	1915775	3872690	Navua	0.003	0.03	<0.5	6.29	<5	90	<0.5	<2	0.69	0.9	17	55	65	8.73	0.54	0.81	1205	3	0.58	13	210	4	0.5	<5	67	0.91	315	<10	306
SC166	1915548	3871906	Navua	0.002	0.02	<0.5	8.23	<5	60	0.5	<2	0.24	<0.5	22	33	56	10.5	0.21	0.3	1315	1	0.16	14	350	<2	0.01	<5	30	0.8	348	<10	115
SC167	1915569	3871665	Navua	0.005	0.07	<0.5	5.1	41	110	<0.5	<2	0.23	2.2	7	12	83	4.24	0.59	0.68	450	4	0.18	4	90	10	1.02	<5	23	0.47	104	<10	390
SC168	1915585	3871690	Navua	0.001	0.01	<0.5	7.58	<5	80	0.5	<2	0.94	<0.5	21	32	50	7.61	0.69	0.88	1290	1	0.99	17	250	<2	0.01	<5	102	0.75	274	<10	138
SC169	1914152	3876087	Navua	<0.001	<0.01	<0.5	3.64	<5	40	<0.5	2	1.57	<0.5	28	161	26	>25.0	0.19	0.7	3460	3	0.72	22	10	<2	0.01	<5	87	0.56	1010	<10	207
SC170	1914517	3875818	Navua	<0.001	0.01	<0.5	5.17	<5	60	0.5	<2	1.78	<0.5	25	152	25	16.2	0.32	0.91	2450	1	1.11	24	20	<2	0.01	<5	114	0.76	684	<10	144

Appendix1 Chemical analysis data of stream sediment samples (20)

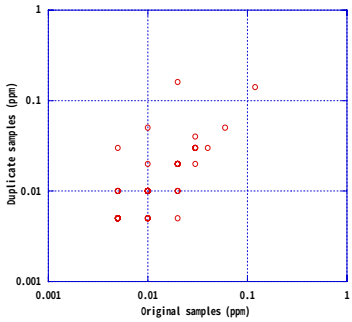
code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SC171	1907102	3880077	Navua	0.001	0.01	<0.5	6.96	<5	130	0.7	<2	1.48	<0.5	20	111	28	9.33	0.7	1.14	1435	2	1.86	19	300	<2	0.01	<5	110	0.84	391	<10	108
SC172	1907065	3879935	Navua	<0.001	0.01	<0.5	6.55	<5	130	0.9	<2	0.98	<0.5	8	32	5	6.57	0.58	0.35	1020	1	2.19	5	70	2	<0.01	<5	102	0.51	164	<10	36
SC173	1906950	3880394	Navua	<0.001	0.01	<0.5	7.12	<5	190	0.7	<2	1.32	<0.5	16	60	24	7.66	1.11	0.99	1225	2	2.15	12	230	<2	0.01	<5	99	0.66	366	<10	107
SC174	1906394	3880263	Navua	<0.001	0.01	<0.5	7.31	<5	110	0.8	<2	0.91	<0.5	15	38	23	5.64	0.62	0.81	1195	2	2.08	10	280	<2	0.02	<5	82	0.61	178	<10	92
SC175	1906365	3880558	Navua	<0.001	0.01	<0.5	7.55	<5	200	0.7	<2	1.2	<0.5	16	114	24	7.96	0.79	0.89	1115	1	2.58	12	330	2	0.06	<5	83	0.61	267	<10	112
SC176	1906028	3881187	Navua	<0.001	0.01	<0.5	8.36	<5	140	0.5	<2	1.38	<0.5	28	254	46	7.29	0.89	2.25	1155	1	1.74	46	410	2	0.01	<5	104	0.59	265	<10	108
SC177	1906264	3881203	Navua	0.003	0.01	<0.5	8.47	<5	130	0.5	<2	1.48	<0.5	28	691	47	7.53	0.96	2.26	1120	1	1.74	51	470	<2	0.01	6	126	0.58	274	<10	104
SC178	1906293	3881194	Navua	0.012	0.01	<0.5	5.89	<5	100	0.5	<2	2.54	<0.5	32	485	36	16.25	0.62	1.89	1875	1	1.26	34	330	6	0.01	6	124	1.06	862	<10	154
SC179	1907228	3882203	Navua	0.057	0.02	<0.5	8.41	<5	140	0.5	<2	1.71	<0.5	33	389	50	10.15	0.86	2.12	1340	2	1.76	51	440	11	0.01	<5	138	0.78	398	<10	122
SC180	1907229	3882222	Navua	0.076	0.01	<0.5	6.39	<5	120	<0.5	<2	2.15	<0.5	31	292	40	18	0.74	1.94	1895	2	1.32	31	150	5	0.02	5	116	0.75	851	<10	163
SC180-1	1907229	3882222	Navua	0.001	0.01	<0.5	5.8	<5	110	<0.5	<2	2.22	<0.5	32	306	37	18.75	0.68	1.92	1950	2	1.24	28	130	5	0.02	7	109	0.81	890	<10	158
SC181	1905385	3886095	Navua	0.002	0.01	<0.5	7.85	<5	130	0.5	<2	2.55	<0.5	27	222	41	10.25	0.75	2.44	1490	2	1.31	36	490	13	0.02	<5	170	0.92	376	<10	153
SC182	1905278	3886195	Navua	<0.001	0.01	<0.5	5.89	<5	90	<0.5	<2	3.78	0.9	30	129	19	16.05	0.65	2.41	2480	1	1.4	13	90	5	<0.01	<5	146	0.78	532	<10	108
SC183	1905251	3886171	Navua	<0.001	0.01	<0.5	5.38	<5	160	0.5	<2	2.05	<0.5	17	108	11	16.7	0.88	1.38	2780	2	1.94	11	20	5	<0.01	<5	100	0.61	287	<10	108
SC184	1905311	3886230	Navua	0.001	0.01	<0.5	6.03	<5	70	<0.5	<2	3.96	<0.5	31	202	29	14.25	0.61	2.57	2300	2	1.32	17	420	3	<0.01	<5	159	1.02	577	<10	111
SC185	1905530	3887571	Navua	<0.001	0.01	<0.5	4.61	<5	60	<0.5	<2	3.03	<0.5	29	172	14	19.4	0.49	1.94	2750	2	1.16	9	<10	5	<0.01	<5	116	0.61	559	<10	110
SC186	1905512	3887551	Navua	0.001	<0.01	<0.5	5.55	<5	80	<0.5	<2	3.6	<0.5	28	190	29	15.25	0.7	2.47	2300	2	1.28	16	200	7	<0.01	<5	146	0.68	532	<10	122
SC187	1905380	3886918	Navua	<0.001	<0.01	<0.5	5.27	<5	90	<0.5	<2	3.78	<0.5	30	140	18	12.6	0.87	2.44	2240	2	1.22	14	20	4	<0.01	<5	128	0.59	277	<10	84
SC188	1905336	3885651	Navua	0.001	0.01	<0.5	5.24	<5	70	<0.5	<2	3.04	<0.5	34	209	25	19.35	0.56	2.25	2600	2	1.11	18	40	6	<0.01	<5	124	0.6	579	<10	144
SC189	1905030	3885621	Navua	0.001	0.01	<0.5	7.26	<5	220	<0.5	<2	2.69	<0.5	30	436	50	10.7	0.81	2.13	1790	3	2.14	35	330	14	0.02	<5	128	0.85	428	<10	166
SC190	1904984	3885647	Navua	0.005	0.01	<0.5	6.27	<5	140	<0.5	<2	1.74	<0.5	30	200	65	11.2	0.56	2.07	1715	2	1.56	23	410	5	0.05	<5	90	1	529	<10	192
SC191	1903758	3885851	Navua	0.003	0.01	<0.5	6.21	7	140	0.5	<2	0.96	0.8	20	170	45	6.42	0.64	1.27	1355	2	1.46	22	330	7	0.01	<5	74	0.53	223	<10	304
SC192	1902720	3886829	Navua	0.001	0.02	<0.5	6.41	<5	200	0.6	<2	0.81	<0.5	18	178	42	5.87	0.54	1.34	1380	2	1.44	20	400	11	0.04	<5	73	0.5	188	<10	179
SC193	1902567	3886973	Navua	0.106	0.01	<0.5	7.08	<5	180	0.5	<2	0.98	0.5	22	140	151	7.79	0.74	1.82	1130	3	1.1	32	470	10	0.16	<5	85	0.46	249	<10	274
SC194	1902617	3886992	Navua	0.001	0.02	<0.5	6.24	<5	90	<0.5	<2	2.24	<0.5	34	216	39	13.3	0.39	2.59	1740	2	1.6	22	330	11	0.03	<5	99	1.05	654	<10	136
SC195	1903332	3886470	Navua	0.001	0.02	<0.5	5.73	<5	130	<0.5	<2	1.47	<0.5	26	420	34	11.65	0.38	1.55	1345	3	1.38	28	220	8	0.02	<5	86	1.03	613	<10	126
SC196	1903681	3886014	Navua	0.003	0.02	<0.5	6.76	<5	160	<0.5	<2	1.54	<0.5	26	327	64	9.37	0.57	2.15	1795	3	1.77	28	420	9	0.06	<5	90	0.8	405	<10	192
SC197	1909232	3877809	Navua	<0.001	0.01	<0.5	5.05	<5	90	0.6	<2	0.69	<0.5	9	163	4	11.85	0.46	0.44	1815	2	0.75	6	140	<2	0.01	<5	50	0.94	338	<10	57
SC198	1909215	3877791	Navua	<0.001	0.01	<0.5	2.93	<5	50	0.5	<2	0.2	0.6	9	119	2	20.3	0.25	0.17	2650	2	0.23	<1	30	4	<0.01	<5	18	1.24	556	<10	40
SC199	1908297	3876032	Navua	0.02	0.01	<0.5	3.72	<5	30	<0.5	<2	1.26	<0.5	44	4290	30	21	0.22	0.99	3070	2	0.46	52	<10	11	<0.01	5	59	0.26	551	<10	311
SC200	1908315	3876048	Navua	0.001	0.01	<0.5	4.58	<5	70	<0.5	<2	1.12	<0.5	22	577	20	10.95	0.42	0.68	1725	1	0.91	26	10	5	<0.01	<5	69	0.78	356	<10	100
SC200-1	1908315	3876048	Navua	0.001	0.01	<0.5	4.53	<5	70	<0.5	<2	1.14	<0.5	26	828	22	13.3	0.41	0.68	1940	2	0.87	33	<10	5	<0.01	<5	68	0.44	298	<10	118
SC201	1889897	3875531	Navua	<0.001	0.03	<0.5	6.93	<5	50	<0.5	<2	1.58	<0.5	35	578	35	10.15	0.14	0.67	1310	2	1.33	40	150	3	0.01	<5	86	0.93	292	<10	98
SC202	1889829	3875846	Navua	0.001	0.01	<0.5	5.92	<5	20	<0.5	<2	2.01	<0.5	42	2340	39	23.3	0.07	0.74	2440	2	1.19	46	40	7	<0.01	<5	97	0.77	710	<10	201
SC203	1889811	3875838	Navua	<0.001	0.02	<0.5	6.18	<5	60	0.5	<2	2.04	<0.5	27	851	27	14.25	0.22	0.67	1620	2	1.58	32	70	6	<0.01	<5	111	1.04	576	<10	87
SC204	1890311	3875395	Navua	0.001	0.01	<0.5	7.55	<5	30	<0.5	<2	2.99	<0.5	40	620	43	15.2	0.14	1.1	2250	2	1.82	39	10	5	<0.01	<5	140	0.44	418	<10	120
SC205	1890532	3875159	Navua	0.002	0.06	<0.5	7.33	<5	60	<0.5	<2	1.66	<0.5	33	307	57	11.75	0.28	0.82	1480	2	0.55	31	300	7	0.01	<5	73	0.95	442	<10	146
SC206	1890452	3874950	Navua	0.006	0.02	<0.5	8.1	<5	30	<0.5	<2	1.82	<0.5	60	391	78	14.8	0.12	1.03	2150	2	0.23	91	80	5	0.01	<5	62	0.82	590	<10	120
SC207	1891093	3873770	Navua	0.124	0.01	<0.5	6	<5	50	<0.5	<2	3	<0.5	35	1845	43	16.75	0.24	0.98	2190	2	0.79	52	10	6	<0.01	<5	129	0.52	542	<10	169
SC208	1875076	3880726	Sigatoka	<0.001	0.01	<0.5	8.15	<5	150	0.5	<2	2.4	<0.5	21	359	19	7.14	0.63	1.72	1610	2	1.88	29	340	8	0.01	<5	198	0.7	198	<10	173
SC209	1876081	3881098	Sigatoka	0.002	0.01	<0.5	8.61	<5	100	<0.5	<2	1.9	<0.5	20	71	41	5.28	0.72	1.66	912	3	1.79	28	270	3	0.01	<5	237	0.5	182	<10	77
SC210	1876062	3881117	Sigatoka	<0.001	0.01	<0.5	8.56	<5	100	<0.5	<2	2.62	<0.5	26	192	40	7.13	0.66	2.08	1040	2	1.84	35	300	4	0.01	<5	266	0.7	236	<10	95
SC211	1873540	3885659	Sigatoka	0.001	0.01	<0.5	6.69	<5	160	<0.5	<2	3.91	<0.5	37	265	35	13.4	0.74	2.26	1855	2	1.68	32	380	5	0.01	<5	254	0.9	631	<10	152
SC212	1874016	3886676	Sigatoka	<0.001	0.01	<0.5	7.35	<5	90	<0.5	<2	3.83	<0.5	39	2130	58	8.64	0.81	3.74	1795	2	0.73	75	270	5	0.01	<5	224	0.79	345	<10	117
SC213	1873625	3887551	Sigatoka	<0.001	0.01	<0.5	8.3	<5	190	0.5	<2	4.22	<0.5	37	266	59	8.44	0.9	3.01	1925	2	1.3	48	630	4	0.01	<5	321	0.86	350	<10	105
SC214	1875303	3889089	Sigatoka	0.001	0.01	<0.5	5.19	<5	110	<0.5	<2	3.05	0.6	56	1135	23	21	0.46	2	4290	2	1.08	27	20	9	<0.01	<5	209	0.62	415	<10	297
SC215	1898944	3875423	Navua	<0.001	0.01	<0.5	8.54	<5	40	<0.5	<2	2.69	<0.5	28	391	44	8.73	0.16	1.43	1175	2	2.82	44	240	4	0.01	<5	147	0.79	355	<10	116
SC216	1898109	3875839	Navua	<0.001	0.01	<0.5	8.54	<5	20	<0.5	<2	4.46	<0.5	28	258	41	7.89	0.08	1.46	1380	1	2.43	37	300	6	0.02	<5	216	0.78	355	<10	100
SC217	1897985	3876542	Navua	0.001	0.01	<0.5	8.63	<5	30	<0.5	<2	3.29	<0.5	35	327	51	8.41	0.11	1.66	1335	2	2.44	46	330	4	0.01	<5	174	0.8	306	<10	112
SC218	1898235	3877058	Navua	0.002	0.01	<0.5	7.99	<5	50	<0.5	<2	2.42	<0.5	34	515	54	10	0.13	1.68	1350	2	2.33	66	120	4	0.01	<5	138	0.77	379	<10	129
SC219	1898151	3877749	Navua	0.001	0.01	<0.5	7.73	<5	130	0.5	<2	2.27	<0.5	31	560	46	12.65	0.57	2.08	1735	1	1.28	44	250	13	0.01	<5	112	0.79	467	<10	200
SC220	1898067	3877752	Navua	0.002	0.01	<0.5	7.78	<5	100	0.5	<2	2.11	<0.5	31	404	45	10.1	0.66	2.11	1530	1	1.5	39	410	2	0.01	<5	132	0.87	419	<10	144
SC220-1	1898067	3877752	Navua	0.001	0.01	<0.5	7.69	<5	100	0.5	<2	2.01	<0.5	29	371	44	9.92	0.66	2.09	1495	2	1.44	38	390	7	0.01	<5	127	0.81	400	<10	140
SC221	1897081	3878135	Navua	0.002	0.01	<0.5	8.88	8	120	0.5	<2	1.32	<0.5	42	469	60	10.4	0.72	2.22	1475	2	1.42	73	470	8	0.01	<5	110	0.78	437	<10	135
SC222	1896905	3878195	Navua	<0.001	0.01	<0.5	8.54	<5	110	0.5	<2	1.28	<0.5	36	347	48	8.56	0.58	2.44	1295	2	1.52	69	460	3	0.01	<5	126	0.65	299	<10	100
SC223	1896501	3878190	Navua	0.003	0.01	<0.5	6.4	<5	100	0.6	<2	0.51	<0.5	20	190	26	9.11	0.77	1.33	1615	2	0.9	21	390	7	0.01	<5	55	1.02	339	<10	200
SC224	1896361	3878659	Navua	0.001	0.01	<0.5	8.83	<5	100	<0.5	<2	1.34	<0.5	39	386	60	10	0.48	2.21	1545	3	1.06	54	430	5	0.01	<5	128	0.65	378	<10	103
SC225	1896260	3878736	Navua	0.002	0.01	<0.5	7.86	<5	130	<0.5	<2	1.42	<0.5	35	688	53	7.92	0.84	2.3	1280	2	1.82	59	360	4	0.01	<5	112	0.63	284	<10	101
SC226	1896218	3879148	Navua	0.001	0.02	<0.5	7.64	<5	100	0.5	<2	1.66	<0.5	30	122	47	11.95	0.54	1.81	1640	1	1.16	23	310	9	0.01	<5	122	0.93	505	<10	174
SC227	1896198	3879250	Navua	0.002	0.01	<0.5	7.97	<5	100	0.5	<2	2.07	<0.5	30	1325	49	8.98	0.62	2.46	1425	2	1.18	53	370	5	0.01	<5	128	0.59	302	<10	122
SC228	1898058	3877948	Navua	0.002	0.04	<0.5	7.84	<5	50	<0.5	<2	2.65	<0.5	35	753	52	9.68	0.18	1.29	1250	2	1.97	44	340	5	0.01	<5	159	0.86	371	<10	130
SC229	1898414	3878642	Navua	0.002	0.02	<0.5	7.96	6	90	<0.5	<2	1.26	<0.5	34	923	56	8.97	0.71	2.37	1165	2	1.1	64	370	5	0.01	<5	95	0.64	353	<10	99
SC230	1898389	3878678	Navua	0.002	0.02	<0.5	7.8	<5	160	0.6	<2	1.83	<0.5	33	307	49	13.75	0.65	2.11	1955	2	1.06	33	290	11	0.01	<5	106	0.87	503	<10	215
SC231	1898191	3879125	Navua	<0.001	0.01	<0.5	9.01	<5	80	<0.5	<2	1.01	<0.5	49	393	59	8.79	0.39	2.63	1815	1	1.53	64	360	3	0.01	<5	130	0.51	318	<10	82
SC232	1898281	3879264	Navua	0.095	0.02	<0.5	8.96	5	130	0.5	<2	1.52	<0.5	39	372	57	10.9	0.64	2.45	1275	2	0.95	45	400	7	0.01	<5	110	0.68	391	<10	126
SC233	1898414	3879520	Navua	0.002	0.01	<0.5	8.91	<5	140	0.6	<2	1.89	<0.5	36	188	52	9.4	0.57	2.72	1195	1	0.99	38	420	7	<0.01	<5	130	0.69	349	<10	116
SC234	1898443	3879531	Navua	0.001	0.02	<0.5	7.47	<5	180	0.6	<2	1.31	0.7	33	204	49	16.55	0.67	1.56	2530	1	0.87	27	190	21	<0.01	<5	84	1.06	610	<10	300
SC235	1898545	3879852	Navua	0.002	0.02	<0.5	8.7	<5	240	0.5	<2	1.33	<0.5	36	96	61	10.3	0.62	2.07	1730	1	0.57	34	480	22	0.01	<5	94	0.68	351	<10	157
SC236	1898567	3879858	Navua	0.002	0.01	<0.5	6.5	<5	130	0.7	<2	1	<0.5	33	243	48	21.6	0.52	1.22	3340	1	0.69	26	20	22	<0.01	<5	67	0.64	557	<10	456
SC237	1893389	3896219	Sigatoka	0.001	0.01	<0.5	8.16	<5	140	<0.5	<2	2.85	<0.5	32	63	36	10.3	0.7	1.8	1225	3	1.54	23	350	8	0.03	<5	272	1.08	485	<10	121
SC238	1893160	3896718	Sigatoka	0.005	0.01	<0.5	8.73	6	140	0.5	<2	2.71	<0.5	25	51	51	5.78	0.83	1.71	1085	2	1.44	29	530	7	0.01	<5	258	0.51	207	<10	85
SC239	1893442	3897175	Sigatoka	0.004	0.01	<0.5	6.7	<5	130	<0.5	<2	2.38	<0.5	29	86	28	9.57	0.69	1.16	1140	2	1.32	20	310	6	0.01	<5	211	1.06	467	<10	114
SC240	1893690	3897215	Sigatoka	0.001	<0.01	<0.5	5.51	<5	90	<0.5	<2	2.32	<0.5	45	88	25	16.8	0.53	1.38	1745	1	1.16	23	10	7	<0.01	<5	178	0.68	640	<10	186
SC240-1	1893690	3897215	Sigatoka	<0.001	<0.01	<0.5	5.91	<5	100	<0.5	<2	2.57	<0.5	45	93	25	16.7	0.56	1.41	1800	1	1.24	26	10	9	<0.01	<5	186	0.81	655	<10	184
SC241	1893697	3897236	Sigatoka	<0.001	<0.01	<0.5	6.23	<5	100	<0.5	<2	2.77	<0.5	41	100	29	14.15	0.54	1.48	1490	1	1.25	26	60	10	0.01	<5	223	0.66	510	<10	159
SC242	1894870	3897692	Sigatoka	<0.001	0.01	<0.5	6.28	<5	90	<0.5	<2	2.7	<0.5	48	96	29	16.5	0.46	1.72	1660	1	1.12	24	20	8	0.01	<5	209	0.68	602	<10	183
SC243	1894890	3897728	Sigatoka	0.001	0.01	<0.5	7.9	<5	130	<0.5	<2	2.99	<0.5	32	72	32	9.35	0.71	1.51	1190	1	1.52	22	300	5	0.01	<5	277	0.71	322	<10	114
SC244	1894266	3900008	Sigatoka	0.001	<0.01	<0.5	7.64	<5	210	0.5	<2	3.86	<0.5	30	155	45	9.83	1.12	2.35	1485	1	1.74	31	760	8	<0.01	<5	335	0.83	468	<10	118
SC245	1894285	3899921	Sigatoka	0.002	<0.01	<0.5	2.97	<5	40	<0.5	<2	1.11	<0.5	74	214	38	>25.0	0.16	1.26	2270	1	0.45	43	40	18	<0.01	<5	89	0.2	1120	<10	357
SC246	1894522	3899457	Sigatoka	0.001	<0.01	<0.5	7.16	<5	100	<0.5	<2	3.6	<0.5	36	109	30	13.5	0.51	1.42	1395	1	1.36	27	10	7	<0.01	<5	294	0.59	502	<10	144
SC247	1894549	3899460	Sigatoka	<0.001	<0.01	<0.5	6.46	<5	100	<0.5	<2	2.97	<0.5	46	105	27	16.6	0.5	1.44	1615	1	1.26	29	20	12	0.01	<5	237	0.67	655	<10	188
SC248	1896925	3898640	Sigatoka	<0.001	<0.01	<0.5	6.86	<5	110	<0.5	<2	3.05	<0.5	33	79	26	10.95	0.66	1.36	1460	1	1.52	20	260	7	0.01	<5	236	1.17	551	<10	121
SC249	1897381	3898462	Sigatoka	<0.001	0.01	<0.5	5.01	<5	70	<0.5	<2	1.96	<0.5	65	98	38	23.8	0.32	1.66	2100	1	0.85	26	<10	14	<0.01	<5	132	0.86	858	<10	239
SC250	1897408	3898458	Sigatoka	0.001	<0.01	<0.5	4.3	<5	50	<0.5	<2	1.98	<0.5	69	114	33	>25.0	0.27	1.6	2240	1	0.7	28	<10	13	<0.01	<5	110	0.63	807	<10	259
SC251	1899172	3897645	Sigatoka	0.001	0.01	<0.5	7.47	<5	110	0.5	<2	2.1	<0.5	24	43	23	9.96	0.72	1.52	1710	1	1.7	12	200	7	0.01	<5	199	0.46	186	<10	226
SC252	1899185	3897661	Sigatoka	0.001	0.01	<0.5	7.56	<5	120	0.6	<2	1.5	<0.5	23	37	26	8.72	0.72	1.24	1470	1	1.9	14	260	4	0.01	<5	168	1	344	<10	172
SC253	1898473	3900593	Sigatoka	0.001	<0.01	<0.5	5.43	<5	140	<0.5	<2	4.19	<0.5	62	593	40	21.3	0.7	2.83	2370	1	1.03	66	300	11	<0.01	<5	261	0.82	976	<10	213
SC254	1899975	3898071	Sigatoka	<0.001	0.01	<0.5	6.79	<5	130	0.7	<2	1.56	<0.5	17	34	22	7.33	0.89	1.12	1380	1	1.81	9	470	7	0.11	<5	154	0.88	266	<10	172
SC255	1901130	3898706	Sigatoka	<0.001	0.01	<0.5	6.61	<5	180	0.5	<2	2.69	<0.5	37	217	41	12.4	0.94	1.98	1690	1	1.28	31	510	7	0.01	<5	245	0.95	600	<10	170
SC256	1903630	3903324	Sigatoka	0.001	0.01	<0.5	7.07	<5	90	<0.5	<2	2.52	<0.5	35	101	33	13.55	0.56	1.42	2040	1	1.07	22	170	7	0.37	<5	154	0.44	641	<10	217

Appendix1 Chemical analysis data of stream sediment samples (21)

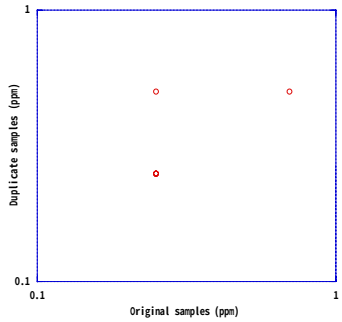
code	Easting	Northing	system	Au-ICP21	Hg-CV41	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
element				Au	Hg	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	Ti	V	W	Zn
SampleNo uni				ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
SC257	1903540	3903319	Sigatoka	0.001	0.01	<0.5	7.28	<5	80	<0.5	<2	3.1	<0.5	50	125	34	16.85	0.4	1.81	1825	1	1.05	27	120	10	0.01	<5	178	0.6	480	<10	196
SC258	1903920	3903860	Sigatoka	<0.001	<0.01	<0.5	4.06	<5	60	<0.5	<2	1.74	<0.5	70	168	31	>25.0	0.3	1.21	2540	1	0.65	37	<10	10	<0.01	<5	85	0.45	969	<10	352
SC259	1903890	3903902	Sigatoka	0.001	0.01	<0.5	6	<5	70	<0.5	<2	2.47	<0.5	52	112	34	19.1	0.33	1.34	1880	<1	0.78	25	<10	14	0.01	<5	134	0.79	877	<10	228
SC260	1903448	3903195	Sigatoka	0.001	0.01	<0.5	6.27	<5	100	<0.5	<2	2.32	<0.5	36	94	32	15.65	0.52	1.2	2350	<1	0.95	21	30	8	0.02	<5	136	0.88	694	<10	285
SC260-1	1903448	3903195	Sigatoka	<0.001	<0.01	<0.5	6.43	<5	120	<0.5	<2	2.32	<0.5	35	79	32	15.45	0.59	1.21	2280	<1	1.08	17	90	8	0.02	<5	147	0.98	694	<10	263
SC261	1902798	3903303	Sigatoka	<0.001	0.01	<0.5	6.57	<5	90	<0.5	<2	2.73	<0.5	40	114	29	14.95	0.48	1.48	1820	1	1.03	22	200	8	0.05	<5	160	1.4	836	<10	201
SC262	1902758	3903360	Sigatoka	0.003	0.01	<0.5	4.59	<5	60	<0.5	<2	1.68	<0.5	80	120	34	>25.0	0.19	1.36	2400	1	0.55	25	<10	14	<0.01	<5	83	0.41	940	<10	336
SC263	1901944	3903105	Sigatoka	0.001	0.01	<0.5	6.29	<5	100	<0.5	<2	2.72	<0.5	29	63	23	13.15	0.61	1.06	1920	1	1.04	14	30	10	<0.01	<5	188	0.8	517	<10	132
SC264	1897615	3903139	Sigatoka	0.001	0.01	<0.5	6.7	<5	120	<0.5	<2	2.12	<0.5	13	57	12	3.93	0.78	0.85	613	1	1.75	14	230	4	0.02	<5	240	0.59	158	<10	55
SC265	1896723	3903729	Sigatoka	0.002	0.07	<0.5	7.32	<5	140	0.5	<2	2.21	<0.5	33	109	43	9.35	0.69	1.27	1400	1	1.28	24	460	5	0.01	<5	239	0.92	426	<10	114
SC266	1896188	3904192	Sigatoka	<0.001	0.01	<0.5	8.54	<5	140	0.5	<2	2.63	<0.5	30	69	61	8.52	0.79	2.03	1270	1	1.3	25	440	7	0.01	<5	310	0.63	344	<10	109
SC267	1889639	3906485	Sigatoka	<0.001	<0.01	<0.5	5.17	<5	50	<0.5	<2	1.18	<0.5	78	151	56	>25.0	1.03	1.63	2250	1	0.47	39	<10	11	<0.01	<5	80	0.58	983	<10	346
SC268	1889620	3906511	Sigatoka	<0.001	<0.01	<0.5	4.73	<5	80	<0.5	<2	2.19	<0.5	110	361	95	>25.0	0.67	2.61	2650	1	0.31	77	150	17	<0.01	<5	186	0.74	1305	<10	335
SC269	1890994	3909003	Sigatoka	0.002	<0.01	<0.5	5.08	<5	90	<0.5	<2	2.69	<0.5	108	63	110	>25.0	0.4	2.19	3170	2	0.58	44	320	19	0.01	<5	193	0.77	1260	<10	388
SC270	1890679	3907986	Sigatoka	0.004	0.01	<0.5	6.93	5	150	<0.5	<2	1.88	<0.5	59	235	82	17.7	0.53	1.4	1850	1	0.93	40	60	7	<0.01	<5	188	0.81	764	<10	196
SC271	1892354	3908517	Sigatoka	0.002	<0.01	<0.5	5.12	<5	70	<0.5	<2	2.58	<0.5	83	87	69	24.3	0.4	1.78	2450	1	1	43	130	9	0.01	<5	191	0.78	1065	<10	287
SC272	1906709	3902311	Sigatoka	0.004	0.01	<0.5	7.39	16	120	<0.5	<2	3.48	<0.5	30	61	82	9.93	0.75	2.52	1450	2	1.06	21	530	17	0.73	<5	163	0.92	420	<10	164
SC273	1906735	3902337	Sigatoka	0.01	0.01	<0.5	6.08	12	100	<0.5	<2	2.64	<0.5	32	64	49	13.55	0.67	1.47	1565	1	0.65	17	420	9	0.55	<5	146	1.18	681	<10	204
SC274	1906240	3902085	Sigatoka	<0.001	0.01	<0.5	6.89	<5	100	<0.5	<2	2.3	<0.5	24	146	42	9.9	0.65	1.9	1455	1	1.24	20	330	5	0.01	<5	188	0.93	461	<10	156
SC275	1906215	3902059	Sigatoka	<0.001	0.01	<0.5	6.76	<5	110	0.5	<2	2.28	<0.5	22	48	32	8.57	0.78	1.5	1255	1	1.31	15	400	9	0.03	<5	180	0.99	395	<10	128
SC276	1912703	3902871	Sigatoka	<0.001	<0.01	<0.5	6.52	<5	460	0.5	<2	2.58	<0.5	46	93	48	15.25	2.04	1.5	2310	2	1.51	20	1270	10	0.03	<5	518	1.24	892	<10	241
SC277	1912700	3902561	Sigatoka	0.003	0.01	<0.5	6.85	6	260	0.6	<2	0.77	0.5	9	19	74	3.87	1.35	0.42	768	6	1.24	6	320	15	0.18	<5	105	0.31	98	<10	165
SC278	1913073	3902003	Sigatoka	0.274	<0.01	1.2	5.46	84	30	<0.5	<2	1.62	0.8	63	104	711	14.45	0.88	1.44	1215	4	0.69	80	560	16	7.15	<5	114	0.57	305	<10	281
SC279	1913547	3901810	Sigatoka	0.005	<0.01	<0.5	6.04	6	120	<0.5	<2	2.17	<0.5	18	60	86	8.72	0.67	1	1305	3	0.79	14	340	11	0.44	<5	140	0.68	353	<10	137
SC280	1913470	3901950	Sigatoka	0.02	<0.01	<0.5	6.07	<5	150	0.5	<2	2.31	0.5	32	166	45	15.8	0.8	2.01	2100	1	1.8	22	560	12	0.17	<5	125	1.34	787	<10	166
SC280-1	1913470	3901950	Sigatoka	0.001	<0.01	<0.5	6.22	<5	150	0.5	<2	2.23	<0.5	31	136	37	15.2	0.78	1.92	2000	2	1.74	22	560	17	0.18	<5	123	1.3	732	<10	168
SC281	1913719	3901375	Sigatoka	0.003	0.01	<0.5	6.87	19	130	<0.5	<2	2.63	<0.5	27	98	56	12.5	0.66	1.24	1425	2	1.26	22	480	9	0.94	<5	205	0.84	511	<10	144
SC282	1913949	3900641	Sigatoka	0.002	0.01	<0.5	7.26	<5	370	0.6	<2	1.75	<0.5	26	81	39	10.55	1.58	1.14	1595	2	1.78	18	450	14	0.62	<5	231	0.89	499	<10	144
SC283	1913934	3900615	Sigatoka	<0.001	<0.01	<0.5	6.02	<5	140	0.5	<2	2.21	<0.5	31	164	37	17.55	0.75	1.95	2250	1	1.85	23	510	18	0.08	<5	117	1.39	874	<10	162
SC284	1909003	3906881	Sigatoka	0.005	0.01	<0.5	7.01	9	140	<0.5	<2	1.7	<0.5	31	74	49	13.9	0.87	1.62	1845	2	1.68	15	530	11	0.14	<5	131	1.08	591	<10	177
SC285	1908908	3906902	Sigatoka	<0.001	<0.01	<0.5	6.47	<5	170	<0.5	<2	2.22	<0.5	25	90	54	14.1	0.86	1.34	1540	1	1.5	18	600	6	0.04	<5	144	0.98	645	<10	184
SC286	1908185	3907715	Sigatoka	0.002	0.01	<0.5	8.14	9	140	<0.5	<2	5.18	<0.5	46	249	44	14.6	0.53	2.32	1820	2	1.68	36	920	9	0.59	<5	324	1.15	685	<10	164
SC287	1908034	3907671	Sigatoka	0.001	<0.01	<0.5	2.8	<5	40	<0.5	<2	1.6	<0.5	77	173	34	>25.0	0.2	0.92	3920	1	0.47	34	10	19	<0.01	<5	64	0.62	1360	<10	480
SC288	1908020	3907620	Sigatoka	<0.001	0.01	<0.5	5.98	<5	130	<0.5	<2	3.38	<0.5	37	58	58	18.2	0.6	1.18	2250	1	1.2	15	330	8	0.06	<5	273	1.13	861	<10	226
SC289	1907969	3908847	Sigatoka	0.003	0.01	<0.5	7.91	14	140	<0.5	<2	4.69	<0.5	41	194	43	13.05	0.54	2.05	1635	2	1.63	31	820	5	0.45	<5	317	1.08	598	<10	150
SC290	1908190	3908847	Sigatoka	<0.001	0.01	<0.5	4.86	<5	70	<0.5	<2	2.28	<0.5	72	42	37	>25.0	0.24	1.53	3540	1	0.79	14	10	13	<0.01	<5	124	0.65	842	<10	341
S1	1978457	3877411	Rewa	<0.001	0.04	<0.5	7.18	6	180	0.6	<2	2.19	<0.5	19	83	44	4.3	0.94	1.68	808	1	1.76	29	530	<2	0.12	<5	154	0.34	138	<10	79
S2	1977910	3876790	Rewa	<0.001	0.02	<0.5	7.19	6	190	0.7	<2	2.21	<0.5	19	122	43	4.65	0.97	1.63	1040	1	1.86	27	570	7	0.15	<5	164	0.37	156	<10	78
S3	1977335	3876307	Rewa	<0.001	0.01	<0.5	6.61	<5	220	0.6	<2	2.33	<0.5	20	109	26	4.34	1.06	1.62	1045	1	1.67	24	440	5	0.05	<5	190	0.32	137	10	71
S4	1976627	3875895	Rewa	<0.001	0.02	<0.5	8.27	<5	220	0.8	<2	1.76	<0.5	27	72	50	5.71	1.11	1.62	991	<1	1.72	34	570	7	0.05	<5	209	0.43	182	<10	102
S5	1976128	3874977	Rewa	<0.001	0.02	<0.5	7.64	9	200	0.7	<2	1.96	<0.5	30	146	56	6.55	0.96	1.74	1180	1	1.84	35	570	3	0.09	<5	176	0.6	277	10	116
S6	1975904	3874470	Rewa	<0.001	0.02	<0.5	8.91	<5	240	0.8	<2	1.54	<0.5	27	53	53	5.11	1.29	1.6	1165	<1	1.92	35	520	4	0.04	<5	213	0.38	150	<10	102
S7	1975676	3873914	Rewa	0.005	0.03	<0.5	7.06	<5	170	0.6	<2	2.72	<0.5	33	303	45	8.51	0.96	2.04	1310	1	1.72	40	490	<2	0.1	<5	182	0.77	405	<10	126
S8	1975932	3873575	Rewa	<0.001	<0.01	<0.5	6.14	5	210	0.6	<2	1.78	<0.5	20	62	23	3.35	1.22	1.38	791	<1	1.84	24	360	7	0.04	<5	186	0.24	97	<10	64
S9	1976711	3874703	Rewa	0.002	0.02	<0.5	7.52	7	210	0.8	<2	1.62	<0.5	23	69	50	4.63	1.14	1.44	1445	<1	1.76	33	500	3	0.08	6	190	0.38	148	<10	85
S10	1977106	3875552	Rewa	<0.001	0.01	<0.5	5.95	<5	210	0.6	<2	1.7	<0.5	18	84	24	3.6	1.14	1.21	1210	1	1.7	27	410	2	0.03	<5	180	0.27	112	<10	60



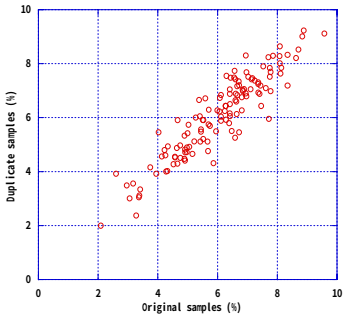
Correlation between original and duplicate samples (Au)



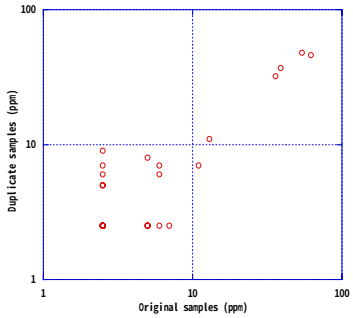
Correlation between original and duplicate samples (Hg)



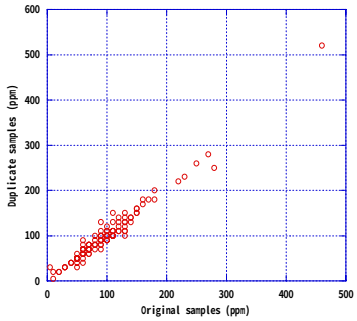
Correlation between original and duplicate samples (Ag)



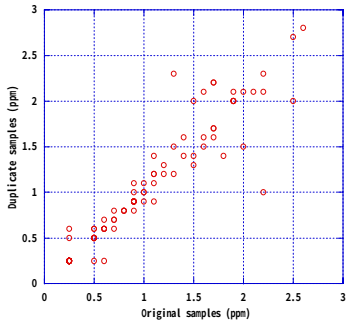
Correlation between original and duplicate samples (Al)



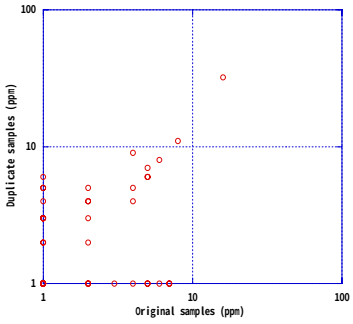
Correlation between original and duplicate samples (As)



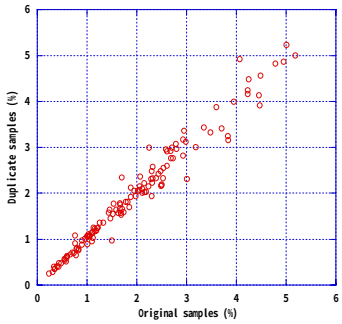
Correlation between original and duplicate samples (Ba)



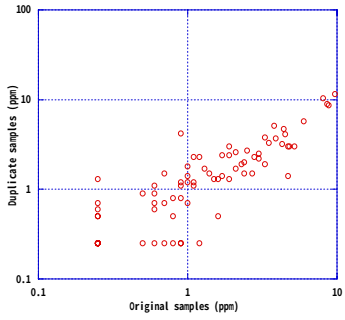
Correlation between original and duplicate samples (Be)



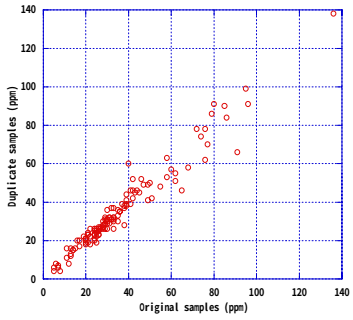
Correlation between original and duplicate samples (Bi)



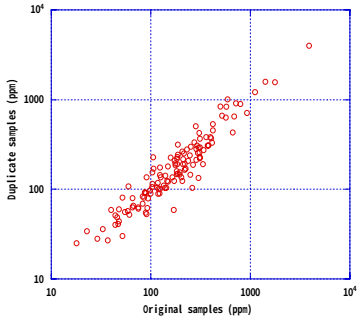
Correlation between original and duplicate samples (Ca)



Correlation between original and duplicate samples (Cd)

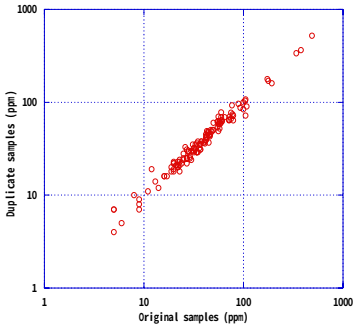


Correlation between original and duplicate samples (Co)

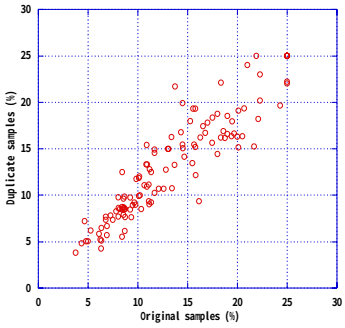


Correlation between original and duplicate samples (Cr)

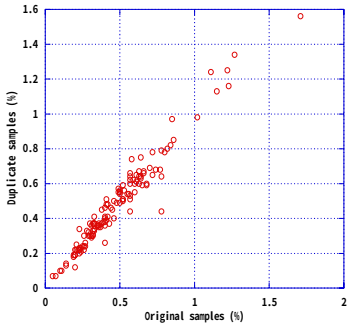
Appendix2-(1)　Correlation between original and duplicate stream sediment samples



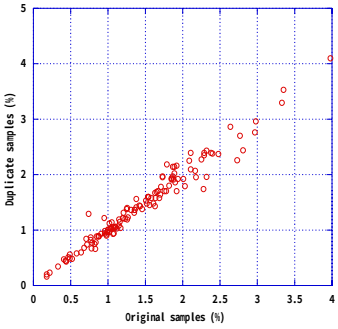
Correlation between original and duplicate samples (Cu)



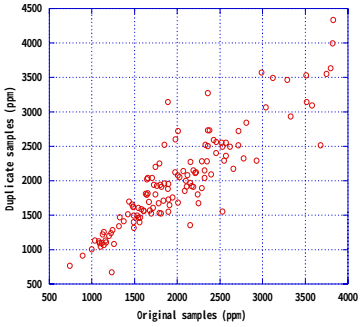
Correlation between original and duplicate samples (Fe)



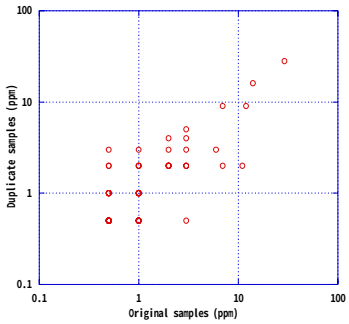
Correlation between original and duplicate samples (K)



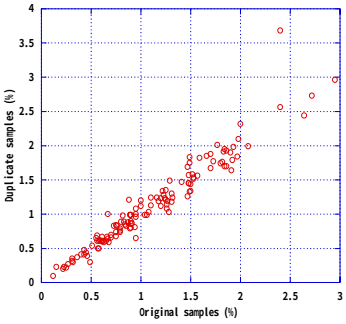
Correlation between original and duplicate samples (Mg)



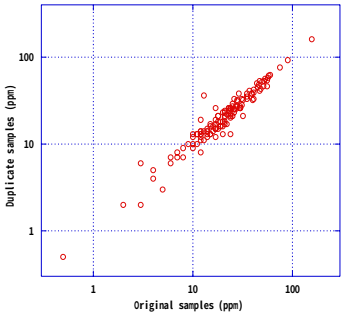
Correlation between original and duplicate samples (Mn)



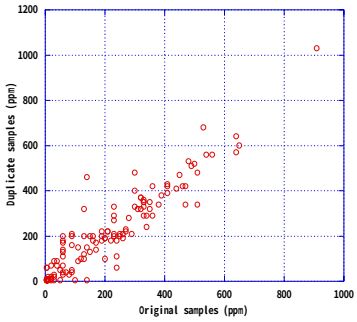
Correlation between original and duplicate samples (Mo)



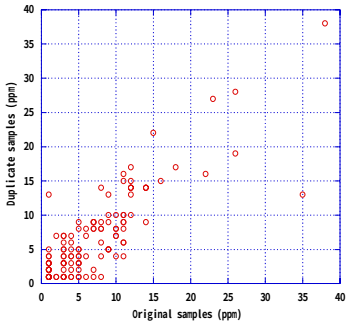
Correlation between original and duplicate samples (Na)



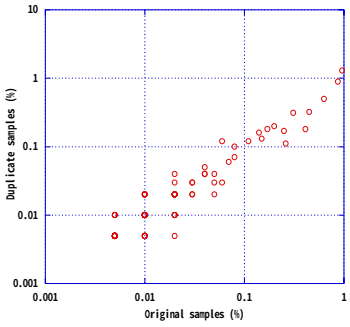
Correlation between original and duplicate samples (Ni)



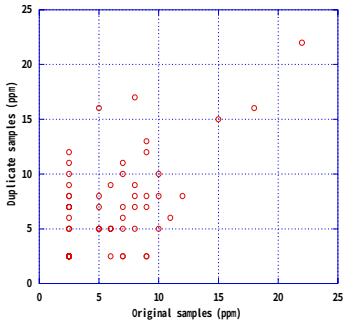
Correlation between original and duplicate samples (P)



Correlation between original and duplicate samples (Pb)

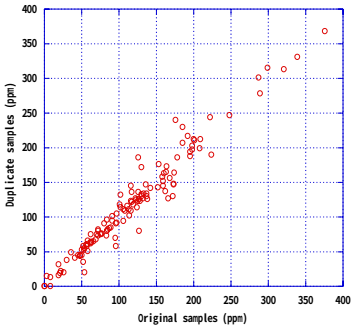


Correlation between original and duplicate samples (S)

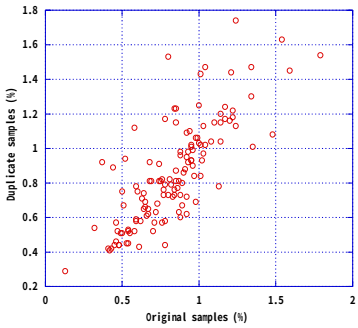


Correlation between original and duplicate samples (Sb)

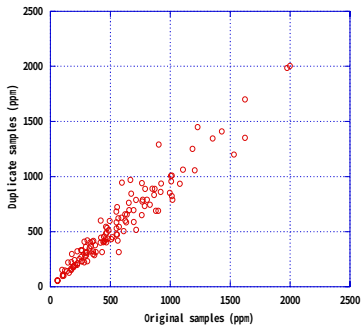
Appendix2-(2)　Correlation between original and duplicate stream sediment samples



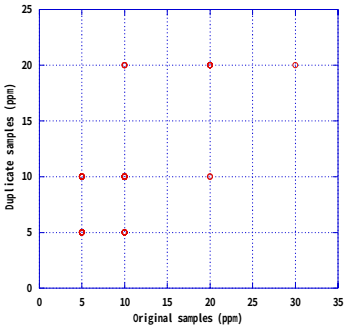
Correlation between original and duplicate samples (Sr)



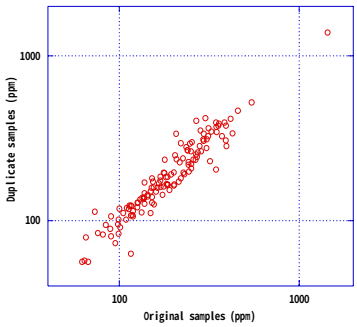
Correlation between original and duplicate samples (Ti)



Correlation between original and duplicate samples (V)

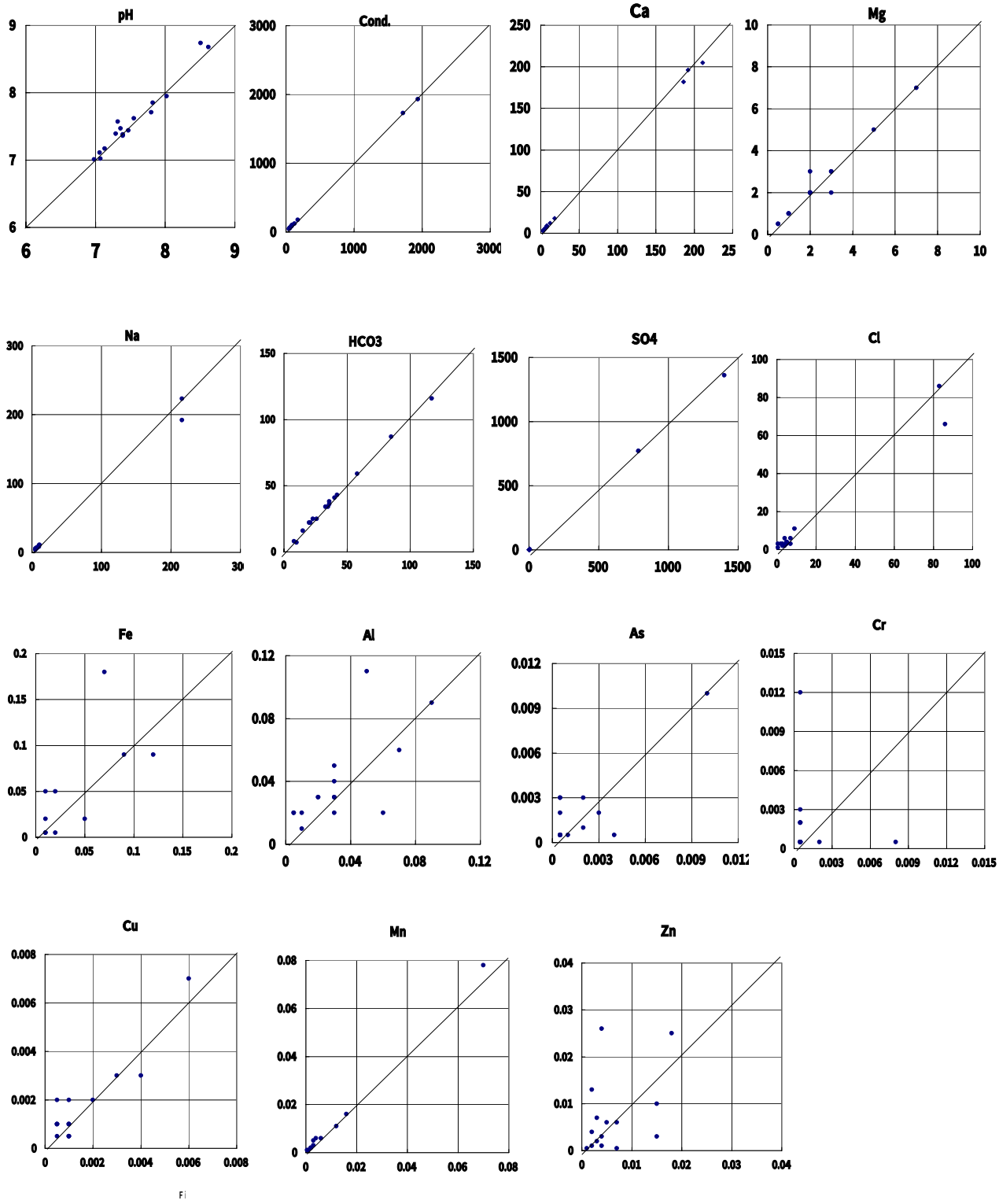


Correlation between original and duplicate samples (W)



Correlation between original and duplicate samples (Zn)

Appendix2-(3)　Correlation between original and duplicate stream sediment samples



Appendix3 Correlation between original and duplicate surface water samples

Appendix 4 Field data and chemical composition of the surface water (Rainy Season)

No.	Drainage System	FMG Y	FMG X	atoms. Temp. (℃)	water Temp. (℃)	pH	E.C. (mS/m)	DO (mg/l)	Turb. (mg/l)	Flow rate (m3/S)	COD (mg/l)	TDS (mg/l)	Hard-ness (mg/l)	Ca (mg/l)
1W	Rewa	3,892,214	1,954,272	29.0	27.0	7.33	5.2	8.71	9	24.43	3	40	18	5
2W	Rewa	3,892,425	1,954,276	29.0	27.3	7.12	5.7	7.95	7	47.15	3	41	22	6
3W	Rewa	3,890,645	1,954,189	28.0	26.5	6.85	5.9	7.65	15	31.67	2	42	23	6
4W	Rewa	3,890,596	1,950,874	26.5	24.3	6.70	3.4	7.51	12	1.29	2	53	12	3
5W	Rewa	3,888,192	1,948,740	28.5	24.6	7.40	5.0	8.10	2	0.35	<1	31	16	4
6W	Rewa	3,885,749	1,945,070	28.7	25.5	7.40	11.0	9.50	5	1.28	2	64	36	10
7W	Rewa	3,889,349	1,943,208	28.9	24.7	6.90	7.3	7.60	6	1.37	16	47	26	7
8W	Rewa	3,889,053	1,941,790	29.0	24.6	7.00	6.2	7.60	30	5.13	12	42	23	6
9W	Rewa	3,887,961	1,940,928	31.0	25.0	7.20	4.9	6.10	22	1.71	5	49	19	5
10W	Rewa	3,888,200	1,941,034	32.0	25.2	6.20	5.6	5.30	41	7.24	8	41	22	6
11W	Rewa	3,885,345	1,939,950	29.0	24.8	7.64	9.8	7.86	5	1.34	5	53	30	8
12W	Rewa	3,888,706	1,937,122	35.0	25.7	7.63	4.1	7.20	1	1.24	5	27	13	3
13W	Rewa	3,885,375	1,935,248	32.0	25.4	7.26	7.3	8.31	1	0.48	9	46	24	6
14W	Rewa	3,881,755	1,937,258	29.5	23.0	7.35	6.5	7.88	4	0.12	2	35	21	4
15W	Rewa	3,882,431	1,940,381	25.0	22.2	7.05	9.4	8.32	45	0.33	17	45	24	6
16W	Rewa	3,882,398	1,940,620	26.0	24.2	7.43	8.1	8.11	0	0.87	5	45	24	6
17W	Rewa	3,883,698	1,933,348	27.0	24.0	7.70	4.6	7.80	2	0.56	8	33	16	4
18W	Navua	3,886,046	1,927,954	29.0	26.4	7.86	8.8	7.34	3	1.21	17	53	30	7
19W	Navua	3,886,243	1,928,669	30.0	26.9	7.89	9.7	7.40	2	7.70	11	55	32	8
20W	Navua	3,893,103	1,927,728	29.0	24.1	7.94	9.9	7.62	2	2.72	12	62	37	10
21W	Navua	3,892,415	1,928,756	30.0	25.0	7.57	7.0	7.59	1	2.15	3	42	23	5
22W	Navua	3,884,630	1,928,238	28.0	26.1	7.83	8.3	7.43	2	7.53	9	54	32	8
23W	Navua	3,878,841	1,926,702	29.0	24.2	7.90	11.1	9.70	44	77.43	26	66	40	10
24W	Navua	3,878,359	1,927,346	29.0	24.3	7.81	8.9	8.70	50	104.90	19	66	39	10
25W	Navua	3,876,047	1,921,399	26.0	24.3	7.65	7.1	8.12	97	142.47	23	55	31	7
26W	Navua	3,875,605	1,920,615	25.0	23.7	7.79	6.8	8.41	70	18.56	16	50	30	7
27W	Navua	3,875,583	1,920,560	27.0	23.9	7.74	7.0	8.26	93	106.28	33	52	30	7
28W	Navua	3,875,081	1,906,499	25.0	23.0	7.73	9.1	8.09	12	26.93	6	66	41	9
29W	Navua	3,875,539	1,903,123	27.0	24.2	7.65	9.8	7.69	13	9.44	2	74	46	11
30W	Navua	3,872,884	1,903,918	27.0	24.3	7.58	7.7	7.96	2	0.75	2	55	29	5
31W	Navua	3,871,759	1,905,151	27.0	24.3	7.28	7.4	8.09	5	1.33	9	50	31	7
32W	Navua	3,877,342	1,891,581	27.0	25.3	7.90	11.5	7.74	5	1.56	9	79	54	13
33W	Rewa	3,879,599	1,966,981	33.0	28.7	7.50	7.7	7.80	4	0.37	19	43	23	6
34W	Rewa	3,885,778	1,976,587	33.0	26.5	7.10	8.3	7.01	40	122.87	14	43	26	6
35W	Rewa	3,887,613	1,975,253	33.5	27.0	7.26	6.9	6.30	30	4.50	8	43	26	6
36W	Rewa	3,888,120	1,975,735	31.5	26.5	7.27	8.2	6.80	56	217.88	9	42	27	7
37W	Rewa	3,886,745	1,966,297	29.0	28.0	7.28	8.0	8.45	8	0.58	3	55	32	9
38W	Rewa	3,888,068	1,962,534	28.0	26.9	7.45	5.9	8.02	1	10.71	2	41	22	5
39W	Rewa	3,894,973	1,964,401	27.5	25.8	7.00	6.0	6.56	64	87.13	19	35	18	5
40W	Rewa	3,898,919	1,963,468	26.0	26.2	7.45	10.1	7.21	57	215.39	17	53	35	8
41W	Rewa	3,896,368	1,959,283	29.0	25.2	6.55	4.4	7.18	37	8.17	20	31	17	4
42W	Rewa	3,902,582	1,956,728	31.0	24.8	6.10	16.3	6.00	13	0.000314	17	93	55	12
43W	Rewa	3,908,125	1,954,682	28.0	26.1	7.04	7.2	8.09	10	84.48	16	56	32	8
44W	Rewa	3,908,664	1,954,143	27.0	24.8	7.08	8.0	6.31	28	5.36	14	57	35	9
45W	Rewa	3,906,537	1,947,071	27.0	24.6	7.57	8.1	7.80	1	0.05	5	58	34	8
46W	Rewa	3,906,540	1,948,056	27.0	25.6	7.08	7.2	8.25	7	2.60	6	83	29	7
47W	Rewa	3,909,472	1,943,332	28.0	26.3	7.75	9.4	7.70	1	2.89	8	47	27	6
48W	Rewa	3,910,275	1,932,073	28.0	25.0	7.10	7.4	6.40	5	12.72	5	52	30	8
49W	Rewa	3,910,798	1,931,974	25.0	24.6	7.50	7.2	7.20	4	17.85	14	53	34	10
50W	Rewa	3,912,662	1,932,600	25.0	25.1	6.80	7.6	7.00	14	12.40	11	53	32	9
51W	Rewa	3,907,241	1,932,525	28.0	25.0	7.00	8.8	4.40	5	5.90	<1	63	30	8
52W	Rewa	3,907,595	1,932,680	31.0	24.8	7.70	8.2	14.10	4	0.75	14	55	29	7
53W	Sigatoka	3,873,485	1,868,781	32.5	29.9	7.57	229.9	6.75	17	109.06	71	1460	257	33
54W	Sigatoka	3,877,221	1,869,935	31.5	24.3	7.38	14.1	7.16	9	0.74	25	100	49	10
55W	Sigatoka	3,889,089	1,874,030	31.0	30.5	7.53	14.0	7.34	27	35.11	26	109	66	19
56W	Sigatoka	3,894,244	1,886,810	27.0	26.4	7.71	22.4	5.59	25	0.45	29	174	115	37
57W	Sigatoka	3,896,754	1,889,865	30.0	28.0	7.75	21.7	7.16	11	0.17	29	172	110	33
58W	Sigatoka	3,896,255	1,891,774	27.0	26.8	7.60	11.9	7.03	333	2.01	60	91	53	14
59W	Sigatoka	3,897,364	1,903,577	29.0	26.9	8.12	22.2	7.65	10	0.45	57	158	94	24
60W	Sigatoka	3,888,342	1,888,544	28.0	24.4	7.62	7.4	8.74	53	1.46	37	103	58	14
61W	Sigatoka	3,907,671	1,891,945	27.0	26.4	8.02	15.3	7.72	8	2.94	34	117	72	20
62W	Sigatoka	3,903,202	1,896,487	31.0	29.1	7.72	13.6	7.33	38	4.28	53	104	62	18
63W	Sigatoka	3,905,780	1,896,488	28.0	27.5	7.86	13.8	8.05	32	1.23	62	101	62	19
64W	Sigatoka	3,897,534	1,903,342	28.0	63.4	8.85	340	2.12	1	0.002	54	1160	480	192
65W	Sigatoka	3,898,005	1,898,353	31.5	28.1	8.10	17.1	7.80	19	2.70	53	98	60	13
66W	Sigatoka	3,894,997	1,898,522	34.0	25.9	7.27	17.1	8.58	80	2.44	48	97	57	13
67W	Sigatoka	3,897,932	1,902,670	29.0	27.7	7.56	12.0	7.63	3	12.24	42	98	58	17
68W	Sigatoka	3,897,657	1,903,193	28.0	27.3	8.12	21.1	7.76	6	1.06	29	163	94	24
69W	Sigatoka	3,900,553	1,907,087	34.0	28.2	7.50	11.7	5.50	2	3.51	18	86	49	13
70W	Sigatoka	3,905,717	1,909,059	32.5	28.5	7.90	15.0	7.60	4	6.13	21	92	56	16
71W	Sigatoka	3,904,866	1,909,184	33.0	25.2	7.60	12.1	6.50	2	3.85	34	86	55	16
72W	Coastal	3,869,818	1,879,928	34.0	26.6	7.67	21.5	7.90	18	1.42	29	119	79	18
73W	Coastal	3,866,449	1,891,904	30.0	27.1	7.24	6.8	7.24	27	1.81	34	67	33	7
74W	Coastal	3,863,399	1,899,884	30.5	26.6	7.09	7.8	7.49	9	0.77	27	56	26	6
75W	Coastal	3,864,005	1,920,903	28.2	24.8	6.90	5.1	6.10	0	3.00	27	35	14	3
76W	Coastal	3,862,243	1,919,939	29.5	24.9	7.70	4.9	6.30	93	3.32	42	41	17	4
77W	Coastal	3,867,883	1,932,767	28.0	24.4	7.10	7.7	8.10	140	255.32	34	47	27	7
78W	Coastal	3,873,315	1,943,964	28.0	24.8	7.10	4.8	7.50	7	3.01	24	37	16	4
79W	Coastal	3,873,577	1,947,137	29.0	24.9	6.30	6.1	7.40	8	3.46	21	45	23	6
80W	Coastal	3,874,349	1,951,524	28.0	28.0	6.80	6.3	7.20	8	0.49	21	46	21	5
81W(5W)	Rewa	3,888,192	1,948,740	28.5	25.1	6.42	4.1	5.30	2	0.35	8	32	16	4
82W(74W)	Coastal	3,863,399	1,899,884	30.5	26.5	7.11	7.8	7.55	8	0.77	10	59	27	6
83W(64W)	Sigatoka	3,897,534	1,903,342	28.0	53.8	8.83	340	2.12	1	0.002	11	1250	491	196
84W(77W)	Coastal	3,867,883	1,932,767	28.0	24.5	7.20	7.9	9.30	140	255.32	27	47	27	7
85W(17W)	Rewa	3,883,698	1,933,348	27.0	24.0	7.68	4.6	7.83	2	0.56	11	34	16	4
86W(22W)	Navua	3,884,630	1,928,238	28.0	26.1	7.81	8.3	7.49	2	7.53	11	56	32	8
87W(39W)	Rewa	3,894,973	1,964,401	27.5	25.8	6.84	6.0	6.11	60	87.13	18	35	18	5
88W(48W)	Rewa	3,910,275	1,932,073	28.0	25.2	7.00	7.2	6.3	5	12.72	11	60	30	8

No.	Mg (mg/l)	Na (mg/l)	K (mg/l)	CO3 (mg/l)	HCO3 (mg/l)	SO4 (mg/l)	Cl (mg/l)	B (mg/l)	Fe (mg/l)	Se (mg/l)	Ag (mg/l)	Al (mg/l)	As (mg/l)	Ba (mg/l)	Cr (mg/l)	Cu (mg/l)	Mn (mg/l)
1W	2	6	<1	<1	24	3	4	<0.1	0.05	<0.01	0.002	0.02	0.003	0.004	<0.001	<0.001	0.013
2W	2	6	<1	<1	30	3	4	<0.1	0.06	<0.01	<0.001	<0.01	0.003	0.005	<0.001	<0.001	0.019
3W	2	5	<1	<1	28	4	5	<0.1	0.08	<0.01	<0.001	0.08	<0.001	0.007	0.001	0.004	0.03
4W	1	4	<1	<1	16	1	5	<0.1	0.14	<0.01	<0.001	2.27	0.003	0.005	0.100	0.004	0.005
5W	1	5	<1	<1	20	1	5	<0.1	0.05	<0.01	<0.001	0.03	<0.001	0.008	<0.001	0.001	0.002
6W	3	7	<1	<1	40	9	5	0.1	0.05	<0.01	<0.001	<0.01	0.002	0.007	<0.001	<0.001	0.011
7W	2	6	<1	<1	33	4	5	<0.1	0.07	<0.01	<0.001	0.03	<0.001	0.004	<0.001	<0.001	0.009
8W	2	6	<1	<1	30	4	4	<0.1	0.03	<0.01	<0.001	0.02	0.002	0.003	0.001	<0.001	0.002
9W	2	4	<1	<1	15	7	4	<0.1	0.04	<0.01	<0.001	0.02	0.003	0.005	0.002	0.005	0.005
10W	2	5	<1	<1	29	3	4	<0.1	0.35	<0.01	<0.001	0.02	0.002	0.009	0.002	0.001	0.024
11W	3	6	<1	<1	33	8	5	<0.1	0.05	<0.01	0.002	<0.01	0.001	0.005	<0.001	0.001	0.005
12W	1	4	<1	<1	13	3	4	<0.1	0.03	<0.01	<0.001	0.02	<0.001	0.003	<0.001	0.005	0.003
13W	2	7	<1	<1	29	6	3	<0.1	0.05	<0.01	<0.001	0.02	<0.001	0.006	<0.001	0.001	0.004
14W	2	7	<1	<1	25	3	4	<0.1	0.03	<0.01	<0.001	0.01	0.001	0.006	0.001	0.001	0.003
15W	2	6	<1	<1	23	9	4	<0.1	3.37	<0.01	<0.001	2.8	0.004	0.02	<0.001	0.037	0.098
16W	2	6	<1	<1	26	7	3	<0.1	0.05	<0.01	<0.001	<0.01	0.003	0.007	<0.001	<0.001	0.009
17W	1	5	1	<1	26	<1	4	<0.1	0.01	<0.01	<0.001	0.03	0.001	0.009	0.008	<0.001	0.001
18W	3	8	<1	<1	39	5	4	<0.1	0.11	<0.01	<0.001	0.01	0.002	0.001	<0.001	0.001	0.011
19W	3	7	<1	<1	43	3	4	<0.1	0.04	<0.01	<0.001	0.03	0.002	0.001	<0.001	<0.001	0.004
20W	3	8	<1	<1	47	3	<1	<0.1	0.02	<0.01	<0.001	0.03	0.003	0.008	<0.001	0.002	0.002
21W	2	7	<1	<1	33	2	2	<0.1	0.04	<0.01	0.003	<0.01	0.004	0.001	<0.001	<0.001	0.002
22W	3	8	<1	<1	42	3	3	<0.1	0.02	<0.01	<0.001	<0.01	0.002	0.002	<0.001	<0.001	0.003
23W	4	6	<1	<1	49	2	4	<0.1	0.05	<0.01	<0.001	0.02	0.002	0.002	<0.001	<0.001	0.017
24W	4	7	<1	<1	48	2	3	<0.1	0.10	<0.01	<0.001	0.51	0.002	0.002	0.15	0.002	0.017
25W	3	6	<1	<1	28	13	2	<0.1	0.09	<0.01	<0.001	0.1	0.002	0.004	0.002	0.001	0.018
26W	3	5	<1	<1	38	2	1	<0.1	2.48	<0.01	<0.001	2.36	0.002	0.008	0.003	0.004	0.087
27W	3	6	1	<1	28	10	3	0.2	0.19	<0.01	<0.001	0.75	0.006	0.003	0.18	0.002	0.014
28W	4	7	<1	<1	52	2	3	0.2	0.06	<0.01	<0.001	0.04	0.002	0.002	0.004	0.001	0.007
29W	5	7	<1	<1	57	2	4	0.2	0.04	<0.01	<0.001	0.02	<0.001	0.002	<0.001	0.001	0.006
30W	4	8	<1	<1	32	7	7	0.1	0.02	<0.01	<0.001	0.06	0.002	0.001	0.005	<0.001	0.003
31W	3	5	<1	<1	37	2	<1	0.1	0.07	<0.01	0.003	0.02	0.001	<0.001	<0.001	<0.001	0.011
32W	5	9	1	<1	64	4	4	0.1	0.01	<0.01	<0.001	<0.01	0.003	0.002	<0.001	0.001	0.008
33W	2	7	<1	<1	29	2	8	0.1	0.11	<0.01	<0.001	0.03	0.003	0.001	<0.001	0.001	0.019
34W	2	5	1	<1	34	2	3	<0.1	0.26	<0.01	<0.001	2.93	0.005	0.008	0.173	0.009	0.011
35W	2	5	1	<1	33	2	3	<0.1	0.16	<0.01	<0.001	0.1	0.003	0.004	0.002	0.001	0.008
36W	3	5	1	<1	33	2	2	<0.1	0.23	<0.01	<0.001	1.2	0.006	0.005	0.261	0.003	0.009
37W	2	6	1	<1	37	4	6	<0.1	0.11	<0.01	<0.001	0.03	0.004	0.010	<0.001	0.002	0.025
38W	2	7	<1	<1	31	2	6	<0.1	0.03	<0.01	<0.001	<0.01	0.004	0.002	0.002	0.001	0.005
39W	2	5	<1	<1	23	2	<1	<0.1	0.12	<0.01	<0.001	0.07	0.003	0.004	0.002	0.002	0.012
40W	3	5	2	<1	44	2	2	<0.1	0.17	<0.01	<0.001	0.12	<0.001	0.004	0.002	0.002	0.011
41W	2	4	1	<1	24	1	3	<0.1	0.16	<0.01	0.002	0.09	0.001	0.007	<0.001	0.002	0.018
42W	6	12	2	<1	61	15	3	<0.1	0.04	<0.01	<0.001	<0.01	<0.001	0.012	0.002	0.005	0.006
43W	3	6	1	<1	22	25	2	<0.1	0.07	<0.01	<0.001	0.01	<0.001	0.003	<0.001	0.001	0.028
44W	3	7	<1	<1	45	3	3	<0.1	0.1	<0.01	<0.001	0.08	0.002	0.002	0.122	<0.001	0.028
45W	4	8	<1	<1	43	2	2	<0.1	<0.01	<0.01	0.002	<0.01	<0.001	0.002	<0.001	<0.001	<0.001
46W	3	7	<1	<1	<1	40	2	<0.1	0.01	<0.01	<0.001	<0.01	<0.001	0.002	<0.001	<0.001	0.006
47W	3	8	<1	<1	36	2	1	<0.1	0.15	<0.01	<0.001	0.14	0.002	0.002	0.171	0.001	0.008
48W	2	7	1	<1	40	3	<1	0.1	0.04	<0.01	<0.001	0.06	0.004	0.002	0.074	<0.001	0.003
49W	2	6	1	<1	43	2	<1	<0.1	0.03	<0.01	<0.001	0.03	<0.001	0.002	0.007	0.002	0.003
50W	2	6	1	<1	44	3	1	<0.1	0.02	0.01	<0.001	0.03	0.001	0.003	0.003	0.002	0.003
51W	2	9	1	<1	43	5	4	<0.1	<0.01	<0.01	<0.001	<0.01	0.002	0.002	0.001	<0.001	0.001
52W	3	7	1	<1	38	4	2	<0.1	<0.01	<0.01	<0.001	<0.01	<0.001	0.002	0.003	<0.001	0.001
53W	43	417	17	<1	88	88	720	0.2	<0.01	0.01	<0.001	0.02	<0.001	0.004	0.003	0.002	0.042
54W	6	15	<1	<1	67	3	6	<0.1	0.06	<0.01	<0.001	0.03	<0.001	0.002	<0.001	<0.001	0.01
55W	5	10	2	<1	78	5	3	<0.1	0.05	<0.01	<0.001	0.02	<0.001	0.003	<0.001	0.01	0.014
56W	5	14	2	<1	124	15	3	<0.1	0.11	0.01	<0.001	0.09	<0.001	0.004	0.05	0.005	0.03
57W	7	14	1	<1	121	17	5	<0.1	0.03	0.02	<0.001	0.04	<0.001	0.003	0.024	0.005	0.053
58W	5	10	1	<1	69	3	3	<0.1	0.23	<0.01	<0.001	0.21	0.004	0.003	0.005	0.004	0.023
59W	8	17	2	<1	104	19	5	<0.1	0.01	<0.01	<0.001	<0.01	<0.001	0.002	<0.001	0.003	0.005
60W	6	11	1	<1	74	4	4	<0.1	0.09	<0.01	<0.001	0.11	0.001	0.002	0.002	0.002	0.01
61W	5	11	2	<1	91	3	4	<0.1	0.04	<0.01	0.002	0.03	0.002	0.002	0.001	0.004	0.01
62W	4	10	2	<1	76	5	3	<0.1	0.06	0.01	<0.001	0.06	0.002	0.002	0.002	0.003	0.016
63W	3	11	2	<1	71	8	6	<0.1	0.13	<0.01	<0.001	0.12	0.001	0.003	0.001	0.003	0.018
64W	<1	216	6	2	10	785	86	0.3	0.02	<0.01	<0.001	<0.01	0.011	0.004	<0.001	0.004	<0.001
65W	6	10	1	<1	74	4	3	<0.1	0.04	<0.01	<0.001	0.03	<0.001	0.002	<0.001	0.002	0.007
66W	6	9	<1	<1	72	4	4	<0.1	0.03	<0.01	<0.001	0.04	<0.001	0.002	<0.001	0.002	0.007
67W	4	9	2	<1	70	7	3	<0.1	0.01	<0.01	<0.001	0.01	<0.001	0.002	<0.001	0.001	0.008
68W	8	17	1	<1	103	22	6	<0.1	0.01	0.01	<0.001	<0.01	<0.001	0.002	<0.001	0.002	0.006
69W	4	10	2	<1	63	4	6	<0.1	0.68	<0.01	<0.001	0.02	<0.001	0.002	<0.001	0.002	0.008
70W	4	8	2	<1	73	3	4	<0.1	0.02	<0.01	<0.001	0.03	<0.001	0.002	<0.001	0.002	0.02
71W	3	8	2	<1	55	11	<1	<0.1	0.02	<0.01	<0.001	0.03	<0.001	0.003	<0.001	0.002	0.003
72W	8	12	<1	<1	93	3	5	<0.1	0.03	<0.01	<0.001	0.03	<0.001	0.001	<0.001	0.002	0.031
73W	4	11	<1	<1	42	4	6	<0.1	0.13	<0.01	<0.001	0.02	<0.001	0.002	<0.001	<0.001	0.053
74W	3	10	<1	<1	36	2	7	<0.1	0.07	<0.01	<0.001	0.05	<0.001	0.001	<0.001	0.001	0.016
75W	1	7	<1	<1	21	1	6	<0.1	0.07	<0.01	<0.001	0.08	<0.001	<0.001	<0.001	<0.001	0.005
76W	2	8	<1	<1	25	1	6	<0.1	0.16	0.01	<0.001	0.15	<0.001	0.005	<0.001	0.001	0.02
77W	2	5	<1	<1	33	2	3	<0.1	0.09	<0.01	<0.001	0.09	<0.001	0.002	<0.001	0.001	0.006
78W	1	6	<1	<1	23	1	3	<0.1	<0.01	<0.01	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	0.005
79W	2	7	<1	<1	29	2	5	<0.1	0.06	<0.01	<0.001	0.01	<0.001	<0.001	<0.001	0.002	0.021
80W	2	8	<1	<1	29	2	6	<0.1	0.14	0.02	<0.001	0.02	0.002	0.001	<0.001	<0.001	0.034
81W(5W)	1	4	<1	<1	22	1	3	<0.1	0.02	0.01	0.003	0.04	0.002	0.007	<0.001	0.001	0.002
82W(74W)	3	10	<1	<1	38	2	6	<0.1	0.18	0.01	<0.001	0.11	<0.001	0.002	0.002	0.001	0.016
83W(64W)	<1	192	5	5	7	771	66	0.1	<0.01	0.01	<0.001	0.02	0.015	0.005	0.002	0.003	0.001
84W(77W)	2	5	<1	<1	34	2	3	<0.1	0.09	0.01	<0.001	0.09	0.003	0.002	0.002	0.001	0.006
85W(17W)	1	5	1	<1	25	1	2	<0.1	0.05	0.01	<0.001	0.02	<0.001	0.009	<0.001	0.002	0.001
86W(22W)	3	7	<1	<1	43	3	2	<0.1	0.05	<0.01	<0.001	0.02	0.001	0.002	0.003	0.001	0.003
87W(39W)	2	5	<1	<1	25	2	3	<0.1	0.09	<0.01	<0.001	0.06	0.002	0.004	<0.001	0.002	0.011
88W(48W)	2	7	1	<1	41	3	1	<0.1	0.53	<0.01	<0.001	0.02	<0.001	0.002	0.002	0.001	0.005

No.	Mo (mg/l)	Ni (mg/l)	Pb (mg/l)	Sb (mg/l)	Zn (mg/l)	Hg (mg/l)	CN (mg/l)	F (mg/l)	N(NH3) (mg/l)	N(NO2) (mg/l)	N(NO3) (mg/l)	P (mg/l)	Sulphide (mg/l)
1W	<0.001	<0.001	<0.001	<0.001	0.062	<0.0001	<0.001	<0.1	0.05	<0.01	<0.01	<0.01	<0.1
2W	<0.001	<0.001	<0.001	<0.001	0.033	<0.0001	<0.001	<0.1	0.03	<0.01	<0.01	0.01	<0.1
3W	<0.001	<0.001	<0.001	<0.001	0.489	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.06	<0.1
4W	<0.001	0.007	0.013	<0.001	0.008	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.05	<0.1
5W	<0.001	<0.001	0.003	<0.001	0.003	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.02	<0.1
6W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.02	<0.01	0.01	0.03	<0.1
7W	<0.001	<0.001	<0.001	<0.001	0.009	<0.0001	<0.001	<0.1	0.02	<0.01	0.02	0.07	<0.1
8W	<0.001	<0.001	<0.001	<0.001	0.006	<0.0001	<0.001	<0.1	0.01	<0.01	<0.01	0.03	<0.1
9W	0.001	<0.001	0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.03	<0.1
10W	<0.001	<0.001	0.003	<0.001	0.002	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.03	<0.1
11W	<0.001	<0.001	<0.001	<0.001	0.076	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.03	<0.1
12W	<0.001	<0.001	0.003	<0.001	0.002	<0.0001	<0.001	<0.1	0.1	<0.01	<0.01	0.01	<0.1
13W	<0.001	<0.001	0.008	<0.001	0.003	<0.0001	<0.001	<0.1	0.03	<0.01	<0.01	0.04	<0.1
14W	<0.001	<0.001	<0.001	<0.001	0.003	<0.0001	<0.001	<0.1	0.03	<0.01	<0.01	0.04	<0.1
15W	<0.001	0.001	0.003	<0.001	0.241	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.13	<0.1
16W	<0.001	<0.001	<0.001	<0.001	0.286	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.01	<0.1
17W	<0.001	<0.001	0.002	<0.001	0.003	<0.0001	<0.001	<0.1	0.01	<0.01	<0.01	<0.01	<0.1
18W	<0.001	<0.001	<0.001	<0.001	0.021	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.01	<0.1
19W	<0.001	<0.001	<0.001	<0.001	0.015	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.02	<0.1
20W	<0.001	0.002	<0.001	<0.001	0.03	<0.0001	<0.001	0.1	0.02	<0.01	0.07	0.03	<0.1
21W	<0.001	<0.001	<0.001	<0.001	0.037	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.01	<0.1
22W	<0.001	<0.001	<0.001	<0.001	0.015	<0.0001	<0.001	<0.1	0.01	<0.01	<0.01	<0.01	<0.1
23W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.02	<0.01	0.01	0.02	<0.1
24W	<0.001	0.008	<0.001	<0.001	0.003	<0.0001	<0.001	<0.1	0.02	<0.01	0.03	0.03	<0.1
25W	<0.001	0.003	0.002	<0.001	0.053	<0.0001	<0.001	<0.1	0.03	<0.01	<0.01	0.05	<0.1
26W	<0.001	0.004	0.005	<0.001	0.087	<0.0001	<0.001	<0.1	0.02	<0.01	0.04	0.07	<0.1
27W	<0.001	0.009	0.026	<0.001	0.134	<0.0001	<0.001	<0.1	0.02	<0.01	0.09	0.04	<0.1
28W	<0.001	<0.001	<0.001	<0.001	0.11	<0.0001	<0.001	<0.1	0.02	<0.01	0.03	0.01	<0.1
29W	<0.001	0.001	<0.001	<0.001	0.02	<0.0001	<0.001	<0.1	0.02	<0.01	0.03	0.04	<0.1
30W	<0.001	<0.001	<0.001	<0.001	0.038	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	<0.01	<0.1
31W	<0.001	<0.001	<0.001	<0.001	0.05	<0.0001	<0.001	<0.1	0.01	<0.01	<0.01	<0.01	<0.1
32W	<0.001	0.003	<0.001	<0.001	0.046	<0.0001	<0.001	<0.1	0.03	<0.01	0.06	0.02	<0.1
33W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	<0.01	<0.1
34W	<0.001	0.016	0.001	<0.001	0.023	<0.0001	<0.001	<0.1	0.03	<0.01	<0.01	0.06	<0.1
35W	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.1	0.03	<0.01	0.01	0.04	<0.1
36W	<0.001	0.013	<0.001	<0.001	0.005	<0.0001	<0.001	<0.1	0.02	<0.01	0.01	0.02	<0.1
37W	<0.001	<0.001	<0.001	<0.001	0.06	<0.0001	<0.001	<0.1	0.03	<0.01	0.12	<0.01	<0.1
38W	<0.001	<0.001	<0.001	<0.001	0.06	<0.0001	<0.001	<0.1	0.03	<0.01	0.01	1.06	<0.1
39W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.02	<0.01	0.02	0.03	<0.1
40W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	0.06	<0.1
41W	<0.001	0.001	<0.001	<0.001	0.174	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	0.02	<0.1
42W	<0.001	<0.001	<0.001	<0.001	0.003	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.03	<0.1
43W	<0.001	<0.001	<0.001	<0.001	0.056	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	<0.01	<0.1
44W	<0.001	0.005	<0.001	<0.001	0.044	<0.0001	<0.001	<0.1	0.02	<0.01	0.01	0.02	<0.1
45W	<0.001	<0.001	<0.001	<0.001	0.027	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	<0.01	<0.1
46W	<0.001	<0.001	<0.001	<0.001	0.072	<0.0001	0.002	<0.1	0.06	<0.01	0.02	0.02	<0.1
47W	<0.001	0.008	<0.001	<0.001	0.012	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	<0.01	<0.1
48W	<0.001	0.003	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	0.01	<0.1
49W	<0.001	<0.001	<0.001	<0.001	0.005	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.02	<0.1
50W	<0.001	0.001	<0.001	<0.001	0.006	<0.0001	<0.001	<0.1	0.02	<0.01	<0.01	0.24	<0.1
51W	<0.001	<0.001	0.007	<0.001	0.001	<0.0001	<0.001	0.1	0.01	<0.01	<0.01	<0.01	<0.1
52W	<0.001	<0.001	0.056	<0.001	0.002	<0.0001	<0.001	0.1	0.01	<0.01	<0.01	<0.01	<0.1
53W	<0.001	0.001	<0.001	<0.001	0.002	<0.0001	<0.001	0.1	0.03	<0.01	0.11	0.03	<0.1
54W	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	0.2	0.02	<0.01	0.06	<0.01	<0.1
55W	<0.001	0.008	<0.001	<0.001	0.492	<0.0001	<0.001	0.2	0.03	<0.01	0.12	0.03	<0.1
56W	<0.001	0.02	<0.001	<0.001	0.318	<0.0001	<0.001	0.2	0.02	<0.01	0.11	<0.01	<0.1
57W	<0.001	0.006	<0.001	<0.001	0.101	<0.0001	<0.001	0.2	0.03	<0.01	0.04	0.02	<0.1
58W	<0.001	0.007	0.02	<0.001	0.186	<0.0001	<0.001	0.2	0.04	<0.01	0.26	0.17	<0.1
59W	0.001	0.006	<0.001	<0.001	0.003	<0.0001	<0.001	0.2	0.02	<0.01	0.11	0.04	<0.1
60W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	0.2	0.02	<0.01	0.15	0.06	<0.1
61W	<0.001	0.005	<0.001	<0.001	0.087	<0.0001	<0.001	0.2	0.01	<0.01	0.03	0.03	<0.1
62W	<0.001	0.003	<0.001	<0.001	0.135	<0.0001	<0.001	0.1	0.02	<0.01	0.21	0.04	<0.1
63W	<0.001	0.002	<0.001	<0.001	0.051	<0.0001	<0.001	0.1	0.03	<0.01	0.21	0.05	<0.1
64W	0.003	0.005	<0.001	<0.001	0.003	<0.0001	<0.001	0.6	0.02	<0.01	0.04	<0.01	<0.1
65W	<0.001	<0.001	<0.001	<0.001	0.007	<0.0001	<0.001	0.2	0.02	<0.01	0.15	0.01	<0.1
66W	<0.001	<0.001	<0.001	<0.001	0.001	<0.0001	<0.001	0.1	0.03	<0.01	0.17	0.02	<0.1
67W	<0.001	0.003	<0.001	<0.001	0.108	<0.0001	<0.001	0.1	0.02	<0.01	<0.01	0.03	<0.1
68W	0.001	0.006	<0.001	<0.001	0.125	<0.0001	<0.001	0.2	0.02	<0.01	0.09	0.04	<0.1
69W	<0.001	0.002	<0.001	<0.001	0.004	<0.0001	0.002	0.2	0.03	<0.01	0.03	<0.01	<0.1
70W	<0.001	0.008	<0.001	<0.001	0.004	<0.0001	<0.001	0.2	0.01	<0.01	0.01	0.01	<0.1
71W	<0.001	0.009	<0.001	<0.001	0.003	<0.0001	<0.001	0.2	0.05	<0.01	<0.01	<0.01	<0.1
72W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	0.2	0.04	<0.01	0.1	<0.01	<0.1
73W	<0.001	<0.001	0.004	<0.001	0.023	<0.0001	<0.001	0.1	0.04	<0.01	0.14	<0.01	<0.1
74W	<0.001	<0.001	<0.001	<0.001	0.018	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	<0.01	<0.1
75W	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	0.002	<0.1	0.04	<0.01	<0.01	<0.01	<0.1
76W	<0.001	<0.001	<0.001	<0.001	0.001	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	0.02	<0.1
77W	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.05	<0.01	0.02	0.05	<0.1
78W	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	<0.01	<0.1
79W	<0.001	<0.001	<0.001	<0.001	0.001	<0.0001	<0.001	<0.1	0.05	<0.01	<0.01	<0.01	<0.1
80W	<0.001	<0.001	<0.001	<0.001	0.003	<0.0001	<0.001	<0.1	0.05	<0.01	<0.01	<0.01	<0.1
81W(5W)	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	<0.01	<0.1
82W(74W)	<0.001	<0.001	<0.001	<0.001	0.025	<0.0001	<0.001	0.1	0.05	<0.01	<0.01	0.02	<0.1
83W(64W)	0.004	0.005	<0.001	<0.001	0.007	<0.0001	<0.001	0.6	0.05	<0.01	<0.01	0.02	<0.1
84W(77W)	<0.001	<0.001	<0.001	<0.001	0.004	<0.0001	<0.001	0.1	0.05	<0.01	0.02	0.1	<0.1
85W(17W)	<0.001	<0.001	<0.001	<0.001	0.094	<0.0001	<0.001	<0.1	0.06	<0.01	<0.01	0.03	<0.1
86W(22W)	<0.001	<0.001	<0.001	<0.001	0.003	<0.0001	<0.001	0.1	0.06	<0.01	<0.01	0.04	<0.1
87W(39W)	<0.001	<0.001	<0.001	<0.001	0.001	<0.0001	<0.001	<0.1	0.04	<0.01	<0.01	0.07	<0.1
88W(48W)	<0.001	<0.001	<0.001	<0.001	0.013	<0.0001	<0.001	0.1	0.04	<0.01	<0.01	0.05	<0.1

Appendix 5 Basic statistics of the surface water data (Rainy season)(1)

WHOLE	Atomos.T.	Water T.	pH	E.C	DO	Turb.	Flow rate	COD	TDS	Hardness	Ca	Mg	Na	K	CO3	HCO3	SO4	Cl	B	Fe
Average	28.9	25.7	7.38	9.18	7.53	26	25.50	18	64	36	9	3	8	1	1	44	5	4	0.06	0.154
Median	28.5	25.2	7.45	7.80	7.60	8	2.94	14	53	30	7	3	7	1	1	37	3	4	0.05	0.050
Mode	28.0	24.3	7.00	7.20	7.80	2	0.35	2	53	30	6	2	7	1	1	33	2	3	0.05	0.050
Standard Deviation	2.299	1.508	0.439	4.390	1.175	45	56	15	32	21	6.173	1.658	2.801	0.520	0.000	23.989	6.068	1.714	0.030	0.450
Range	5.3	2.3	0.2	19.3	1.4	2030	3129	218	1015	444	38	3	8	0	0	575	37	3	0.00	0.20
Minimum	25.0	22.2	6.10	3.40	4.40	0	0.00	1	27	12	3	1	4	1	1	1	1	1	0.05	0.005
Maximum	35.0	30.5	8.12	22.40	14.10	333	255.32	62	174	115	37	8	17	2	1	124	40	8	0.20	3.370
Specimen	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85

REWA	atomos.T.	water T	pH	E. C	DO	Turb.	Flow rate	COD	T DS	Hardness	Ca	Mg	Na	K	CO3	HCO3	SO4	Cl	B	Fe
Average	28.8	25.4	7.16	7.14	7.45	16	25.36	9	48	25	6	2	6	1	1	31	5	3	0.05	0.171
Median	28.5	25.2	7.20	7.20	7.60	7	2.89	8	45	24	6	2	6	1	1	30	3	3	0.05	0.050
Mode	28.0	24.6	7.00	7.20	7.80	5	0.35	5	53	16	6	2	6	1	1	33	2	4	0.05	0.050
Standard Deviation	2.384	1.250	0.395	2.307	1.476	19	52	6	13	8	2.038	0.909	1.532	0.373	0.000	10.820	7.098	1.665	0.013	0.522
Range	5.7	1.6	0.2	5.3	2.2	359	2747	35	174	65	4	1	2	0	0	117	50	3	0.00	0.27
Minimum	25.0	22.2	6.10	3.40	4.40	0	0.00	1	27	12	3	1	4	1	1	1	1	1	0.05	0.005
Maximum	35.0	28.7	7.75	16.30	14.10	64	217.88	20	93	55	12	6	12	2	1	61	40	8	0.10	3.370
Specimen	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41

NAVUA	atomos.T.	water T	pH	E. C	DO	Turb.	Flow rate	COD	T DS	Hardness	Ca	Mg	Na	K	CO3	HCO3	SO4	Cl	B	Fe
Average	27.7	24.8	7.75	8.65	7.98	25	32.40	13	58	35	8	3	7	1	1	43	4	3	0.09	0.212
Median	27.5	24.3	7.80	8.55	7.85	5	7.61	11	55	32	8	3	7	1	1	43	3	3	0.05	0.050
Mode	27.0	24.3	7.90	7.00	8.09	2	7.53	9	55	30	7	3	7	1	1	43	2	4	0.05	0.040
Standard Deviation	1.580	1.098	0.169	1.469	0.605	34	47	8.862	9.640	7.644	2.145	0.814	1.124	0.171	0.000	10.132	3.255	1.642	0.059	0.607
Range	2.5	1.2	0.0	2.2	0.4	1176	2209	79	93	58	5	1	1	0	0	103	11	3	0.00	0.37
Minimum	25.0	23.0	7.28	6.80	7.34	1	0.75	2	42	23	5	2	5	1	1	28	2	1	0.05	0.010
Maximum	30.0	26.9	7.94	11.50	9.70	97	142.47	33	79	54	13	5	9	1	1	64	13	7	0.20	2.480
Specimen	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16

SIGATOKA	atomos.T.	water T	pH	E. C	DO	Turb.	Flow rate	COD	T DS	Hardness	Ca	Mg	Na	K	CO3	HCO3	SO4	Cl	B	Fe
Average	30.1	27.1	7.73	15.44	7.36	39	4.75	39	115	69	19	5	11	2	1	81	8	4	0.05	0.095
Median	30.0	27.3	7.71	14.10	7.60	11	2.44	34	101	60	17	5	10	2	1	74	5	4	0.05	0.040
Mode	27.0	26.4	7.60	17.10	7.16	2	-	29	98	49	13	6	10	2	1	74	3	3	0.05	0.010
Standard Deviation	2.432	1.627	0.259	4.295	0.869	79	8.341	14.269	30.919	20.992	7.213	1.522	2.895	0.599	0.000	19.994	6.319	1.505	0.000	0.161
Range	5.9	2.6	0.1	18.4	0.8	6184	70	204	956	441	52	2	8	0	0	400	40	2	0.00	0.03
Minimum	27.0	24.3	7.27	7.40	5.50	2	0.17	18	86	49	10	3	8	1	1	55	3	1	0.05	0.010
Maximum	34.0	30.5	8.12	22.4	8.74	333	35.107	62	174	115	37	8	17	2	1	124	22	6	0.05	0.680
Specimen	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17

COASTAL	atomos.T.	water T	pH	E. C	DO	Turb.	Flow rate	COD	T DS	Hardness	Ca	Mg	Na	K	CO3	HCO3	SO4	Cl	B	Fe
Average	29.4	25.7	7.11	7.88	7.46	42	48.06	27	54	28	7	3	8	1	1	37	2	5	0.05	0.093
Median	29.0	24.9	7.10	6.80	7.49	9	3.00	27	47	26	6	2	8	1	1	33	2	6	0.05	0.090
Mode	28.0	26.6	7.10	7.80	-	8	0.77	27	47	27	7	2	10	1	1	29	2	6	0.05	0.070
Standard Deviation	1.827	1.246	0.385	4.674	0.855	55	102	8.348	23.415	17.798	4.007	1.954	2.386	0.000	0.000	19.775	0.894	1.446	0.000	0.054
Range	3.3	1.6	0.15	21.85	0.73	3015	10501	70	548	317	16	4	6	0	0	391	1	2	0.00	0.00
Minimum	28.0	24.4	6.30	4.80	6.10	0	0.49	10	35	14	3	1	5	1	1	21	1	3	0.05	0.005
Maximum	34.0	28.0	7.70	21.50	9.30	140	255.32	42	119	79	18	8	12	1	1	93	4	7	0.05	0.180
Specimen	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11

Appendix 5 Basic statistics of the surface water data (Rainy season)(2)

WHOLE	Se	Ag	Al	As	Ba	Cu	Mn	Mo	Ni	Pb	Sb	Zn	Hg	T-CN	F	N(NH3)	N(NO2)	N(NO3)	P	Sulphide
Average	0.006	0.0007	0.188	0.0017	0.0037	0.0022	0.0134	0.0005	0.0023	0.0023	0.0005	0.0502	0.00005	0.0006	0.08	0.029	0.005	0.034	0.043	0.05
Median	0.005	0.0005	0.030	0.0010	0.0020	0.0010	0.0080	0.0005	0.0005	0.0005	0.0005	0.0090	0.00005	0.0005	0.05	0.020	0.005	0.005	0.020	0.05
Mode	0.005	0.0005	0.020	0.0005	0.0020	0.0005	0.0030	0.0005	0.0005	0.0005	0.0005	0.0020	0.00005	0.0005	0.05	0.020	0.005	0.005	0.005	0.05
Standard Deviation	0.003	0.001	0.563	0.001	0.003	0.004	0.016	0.000	0.004	0.007	0.000	0.093	0.000	0.000	0.056	0.015	0.000	0.055	0.117	0.000
Range	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Minimum	0.005	0.0005	0.005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00005	0.0005	0.05	0.010	0.005	0.005	0.005	0.05
Maximum	0.020	0.0030	2.930	0.0060	0.0200	0.0370	0.0980	0.0010	0.0200	0.0560	0.0005	0.4920	0.00005	0.0020	0.20	0.100	0.005	0.260	1.060	0.05
Specimen	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85

REWA	Se	Ag	Al	As	Ba	Cu	Mn	Mo	Ni	Pb	Sb	Zn	Hg	T-CN	F	N(NH3)	N(NO2)	N(NO3)	P	Sulphide
Average	0.005	0.0007	0.256	0.0019	0.0052	0.0026	0.0114	0.0005	0.0017	0.0028	0.0005	0.0463	0.00005	0.0005	0.05	0.029	0.005	0.010	0.059	0.05
Median	0.005	0.0005	0.030	0.0020	0.0040	0.0010	0.0060	0.0005	0.0005	0.0005	0.0005	0.0060	0.00005	0.0005	0.05	0.020	0.005	0.005	0.030	0.05
Mode	0.005	0.0005	0.005	0.0005	0.0020	0.0005	0.0050	0.0005	0.0005	0.0005	0.0005	0.0020	0.00005	0.0005	0.05	0.020	0.005	0.005	0.005	0.05
Standard Deviation	0.001	0.001	0.715	0.001	0.004	0.006	0.016	0.000	0.003	0.009	0.000	0.095	0.000	0.000	0.013	0.017	0.000	0.018	0.166	0.000
Range	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
Minimum	0.005	0.0005	0.005	0.0005	0.0010	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00005	0.0005	0.05	0.010	0.005	0.005	0.005	0.05
Maximum	0.010	0.0030	2.930	0.0060	0.0200	0.0370	0.0980	0.0010	0.0160	0.0560	0.0005	0.4890	0.00005	0.0020	0.10	0.100	0.005	0.120	1.060	0.05
Specimen	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41

NAVUA	Se	Ag	Al	As	Ba	Cu	Mn	Mo	Ni	Pb	Sb	Zn	Hg	T-CN	F	N(NH3)	N(NO2)	N(NO3)	P	Sulphide
Average	0.005	0.0008	0.249	0.0023	0.0026	0.0012	0.0133	0.0005	0.0022	0.0025	0.0005	0.0415	0.00005	0.0005	0.06	0.023	0.005	0.025	0.025	0.05
Median	0.005	0.0005	0.025	0.0020	0.0020	0.0010	0.0075	0.0005	0.0005	0.0005	0.0005	0.0335	0.00005	0.0005	0.05	0.020	0.005	0.008	0.020	0.05
Mode	0.005	0.0005	0.020	0.0020	0.0020	0.0010	0.0030	0.0005	0.0005	0.0005	0.0005	0.0150	0.00005	0.0005	0.05	0.020	0.005	0.005	0.010	0.05
Standard Deviation	0.000	0.001	0.601	0.001	0.002	0.001	0.020	0.000	0.003	0.006	0.000	0.039	0.000	0.000	0.017	0.011	0.000	0.027	0.019	0.000
Range	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Minimum	0.005	0.0005	0.005	0.0005	0.0005	0.0005	0.0020	0.0005	0.0005	0.0005	0.0005	0.0020	0.00005	0.0005	0.05	0.010	0.005	0.005	0.005	0.05
Maximum	0.005	0.0030	2.360	0.0060	0.0080	0.0040	0.0870	0.0005	0.0090	0.0260	0.0005	0.1340	0.00005	0.0005	0.10	0.060	0.005	0.090	0.070	0.05
Specimen	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16

SIGATOKA	Se	Ag	Al	As	Ba	Cu	Mn	Mo	Ni	Pb	Sb	Zn	Hg	T-CN	F	N(NH3)	N(NO2)	N(NO3)	P	Sulphide
Average	0.007	0.0006	0.052	0.0009	0.0024	0.0031	0.0146	0.0006	0.0051	0.0016	0.0005	0.0957	0.00005	0.0006	0.18	0.025	0.005	0.104	0.034	0.05
Median	0.005	0.0005	0.030	0.0005	0.0020	0.0020	0.0100	0.0005	0.0050	0.0005	0.0005	0.0510	0.00005	0.0005	0.20	0.020	0.005	0.110	0.030	0.05
Mode	0.005	0.0005	0.030	0.0005	0.0020	0.0020	0.0100	0.0005	0.0005	0.0005	0.0005	0.0030	0.00005	0.0005	0.20	0.020	0.005	0.110	0.005	0.05
Standard Deviation	0.004	0.000	0.053	0.001	0.001	0.002	0.012	0.000	0.005	0.005	0.000	0.134	0.000	0.000	0.044	0.010	0.000	0.080	0.039	0.000
Range	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Minimum	0.005	0.0005	0.005	0.0005	0.0020	0.0005	0.0030	0.0005	0.0005	0.0005	0.0005	0.0005	0.00005	0.0005	0.10	0.010	0.005	0.005	0.005	0.05
Maximum	0.020	0.0020	0.210	0.0040	0.0040	0.0100	0.0530	0.0010	0.0200	0.0200	0.0005	0.4920	0.00005	0.0020	0.20	0.050	0.005	0.260	0.170	0.05
Specimen	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17

COASTAL	Se	Ag	Al	As	Ba	Cu	Mn	Mo	Ni	Pb	Sb	Zn	Hg	T-CN	F	N(NH3)	N(NO2)	N(NO3)	P	Sulphide
Average	0.008	0.0005	0.060	0.0009	0.0016	0.0010	0.0194	0.0005	0.0005	0.0008	0.0005	0.0073	0.00005	0.0006	0.08	0.045	0.005	0.029	0.020	0.05
Median	0.005	0.0005	0.050	0.0005	0.0010	0.0010	0.0160	0.0005	0.0005	0.0005	0.0005	0.0020	0.00005	0.0005	0.05	0.040	0.005	0.005	0.005	0.05
Mode	0.005	0.0005	0.020	0.0005	0.0020	0.0010	0.0160	0.0005	0.0005	0.0005	0.0005	0.0020	0.00005	0.0005	0.05	0.040	0.005	0.005	0.005	0.05
Standard Deviation	0.005	0.000	0.047	0.001	0.001	0.001	0.015	0.000	0.000	0.001	0.000	0.010	0.000	0.000	0.047	0.005	0.000	0.046	0.030	0.000
Range	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Minimum	0.005	0.0005	0.005	0.0005	0.0005	0.0005	0.0050	0.0005	0.0005	0.0005	0.0005	0.0005	0.00005	0.0005	0.05	0.040	0.005	0.005	0.005	0.05
Maximum	0.020	0.0005	0.150	0.0030	0.0050	0.0020	0.0530	0.0005	0.0005	0.0040	0.0005	0.0250	0.00005	0.0020	0.20	0.050	0.005	0.140	0.100	0.05
Specimen	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11

Appendix 6 Chemical composition of the surface water (Supplementary survey)

Survey point	Cd		Zn		Pb		Cu		As		Cr		Ni	
	Labo.1	Labo.2	Labo.1	Labo.2	Labo.1	Labo.2	Labo.1	Labo.2	Labo.1	Labo.2	Labo.1	Labo.2	Labo.1	Labo.2
17	0.0003	0.0001	0.003	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
19	0.0001	<0.0001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
25	0.0001	<0.0001	0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001
26	0.0001	<0.0001	0.002	<0.002	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
55	0.0001	<0.0001	0.001	<0.002	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
56	0.0001	<0.0001	<0.001	0.003	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001
57	0.0001	<0.0001	0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001
58	0.0001	<0.0001	0.001	<0.002	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.004	<0.001	<0.001
63	0.0001	<0.0001	0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
75	0.0001	<0.0001	0.004	0.004	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Labo.1 : **AUSTRALIAN LABORATORY SERVICES**
Labo.2 : **Amdel**

APPENDIX 7 Weather Observation data in Namosi area (1)

Date	Temperature		Humidity		Wind				Precipitation	Insolation
	max.	min.	max.	min.	direction	speed max.	speed min.	speed ave.	amount	amount
yyyy/mm/dd	℃	℃	%	%	degree	m/s	m/s	m/s	mm	kW/m2
2002/9/19	27.7	16.1	97.3	54.7	262	5.8	0.0	2.4	0.0	461
2002/9/20	29.2	13.7	98.7	46.3	271	5.9	0.0	1.7	0.0	6720
2002/9/21	26.0	16.4	98.3	65.6	72	5.1	0.0	1.7	1.0	3100
2002/9/22	26.6	19.5	97.5	56.9	92	5.5	0.0	2.1	0.0	4891
2002/9/23	27.9	20.5	97.6	71.0	66	7.0	0.0	2.2	0.0	2802
2002/9/24	28.5	22.2	97.6	71.8	96	3.6	0.0	1.2	0.0	4126
2002/9/25	27.6	22.1	97.3	74.7	98	4.4	0.0	1.7	0.0	3016
2002/9/26	23.5	19.1	97.3	75.5	60	3.8	0.0	1.5	0.0	1604
2002/9/27	26.2	16.9	96.9	52.2	98	7.5	0.0	2.7	0.0	4524
2002/9/28	24.9	16.3	98.1	53.4	87	5.9	0.0	2.1	0.0	3368
2002/9/29	25.6	17.6	97.7	65.7	88	7.5	0.2	2.2	0.2	2345
2002/9/30	26.6	19.9	97.1	62.0	93	7.5	0.0	4.0	0.0	3236
2002/10/1	28.4	20.9	94.9	59.0	104	7.6	1.6	4.9	0.0	4104
2002/10/2	30.6	19.0	97.9	49.1	69	5.0	0.0	2.1	0.0	5220
2002/10/3	28.1	20.0	97.8	60.1	93	6.0	0.1	2.2	0.0	3917
2002/10/4	26.8	21.4	96.9	73.0	74	6.0	0.1	1.7	0.6	3066
2002/10/5	23.4	20.6	96.5	83.9	76	4.4	0.1	1.4	0.0	1991
2002/10/6	24.7	20.2	97.0	79.4	22	4.6	0.2	1.6	0.0	2402
2002/10/7	25.0	20.2	97.0	67.0	30	6.3	0.5	1.7	0.0	2582
2002/10/8	21.1	18.9	96.8	89.8	66	2.6	0.7	1.4	0.0	1281
2002/10/9	25.2	17.6	96.7	56.8	91	7.4	0.4	2.5	0.0	4801
2002/10/10	23.9	15.1	98.3	55.1	81	8.4	0.6	2.9	0.0	4440
2002/10/11	22.3	17.6	96.9	72.2	104	5.3	0.5	2.0	0.0	2695
2002/10/12	22.9	16.9	97.8	75.0	53	4.5	0.2	1.6	52.0	2834
2002/10/13	29.8	19.4	97.5	59.3	108	5.2	0.4	1.8	0.6	3513
2002/10/14	27.5	19.9	97.3	61.5	125	6.5	0.4	2.0	0.4	4187
2002/10/15	25.0	19.8	96.9	82.3	101	3.9	0.0	1.3	31.4	2114
2002/10/16	23.1	21.0	97.0	87.9	66	4.3	0.5	1.7	7.8	1772
2002/10/17	27.1	21.0	97.1	67.1	79	7.3	0.4	2.4	4.4	3641
2002/10/18	28.1	21.9	96.7	68.3	65	7.5	0.3	3.2	2.6	3731
2002/10/19	25.4	21.7	97.0	81.4	148	3.5	0.3	1.6	26.2	1735
2002/10/20	28.8	21.2	96.3	59.5	81	6.0	0.4	2.4	3.8	4798
2002/10/21	27.3	20.1	96.8	62.6	93	5.8	0.6	2.4	0.0	3762
2002/10/22	26.5	21.7	96.5	73.3	114	7.3	0.5	3.4	0.2	2371
2002/10/23	31.4	22.8	94.8	54.8	83	7.8	0.8	4.1	5.2	5618
2002/10/24	33.6	22.5	96.8	44.6	256	7.1	0.6	3.4	0.0	6207
2002/10/25	30.7	20.1	96.7	52.4	282	6.6	0.7	3.0	0.0	5432
2002/10/26	29.8	19.6	96.0	49.8	119	7.3	0.4	2.2	0.0	6249
2002/10/27	28.4	18.4	97.7	52.3	83	7.0	0.3	2.5	0.0	6228
2002/10/28	29.5	18.0	97.6	52.0	109	6.1	0.2	2.3	0.0	5448
2002/10/29	31.2	21.1	96.9	60.4	108	6.9	0.4	2.3	8.0	4046
2002/10/30	30.9	21.0	97.7	62.0	101	4.8	0.3	1.5	31.4	3032
2002/10/31	29.8	21.0	97.9	59.8	116	4.7	0.3	1.7	0.0	3444
2002/11/1	25.7	21.8	96.3	73.3	142	6.3	0.0	1.8	0.6	2105
2002/11/2	27.2	21.4	96.4	68.7	68	4.9	0.3	1.9	0.2	3641
2002/11/3	30.0	22.3	96.8	67.0	270	3.4	0.0	1.3	16.4	4465
2002/11/4	24.5	21.5	96.5	77.2	99	8.2	0.3	2.0	2.4	2495
2002/11/5	24.7	21.2	96.8	85.2	80	8.1	0.1	1.7	14.0	2394
2002/11/6	27.3	22.6	97.5	77.0	107	5.5	0.3	1.6	57.0	2282
2002/11/7	28.5	22.9	97.5	76.7	108	5.5	0.3	2.5	48.0	3027
2002/11/8	27.7	22.5	97.7	79.4	102	5.4	0.2	1.4	2.0	3132
2002/11/9	29.7	22.8	97.1	67.7	76	6.2	0.3	1.9	11.8	3368
2002/11/10	28.6	22.4	97.3	74.9	81	4.9	0.4	1.7	42.0	3569
2002/11/11	27.1	22.8	97.5	78.6	48	5.2	0.3	1.8	11.8	3022
2002/11/12	24.4	21.4	96.5	79.8	91	4.0	0.4	1.6	0.2	1637
2002/11/13	24.8	20.9	96.8	79.5	234	2.0	0.2	0.9	3.0	1528
2002/11/14	23.8	21.4	97.1	88.5	65	4.9	0.4	1.5	61.0	1743
2002/11/15	24.1	21.7	96.9	85.6	19	3.3	0.3	1.2	19.4	1613
2002/11/16	24.0	21.3	96.9	81.9	71	3.0	0.3	1.4	15.0	2437
2002/11/17	26.1	20.5	97.0	75.9	110	3.7	0.3	1.3	0.2	2222
2002/11/18	27.7	21.6	97.3	68.8	111	3.9	0.3	1.6	6.2	3651
2002/11/19	26.6	21.9	96.9	74.3	68	3.9	0.4	1.3	13.8	1765
2002/11/20	27.4	22.5	97.3	81.3	109	4.6	0.3	1.4	41.8	2190
2002/11/21	24.4	21.1	97.3	83.2	74	4.7	0.8	2.0	2.8	1969
2002/11/22	23.9	20.0	95.7	74.0	55	3.9	0.5	1.8	0.0	1838
2002/11/23	25.6	19.3	96.7	63.8	89	5.4	0.3	2.0	0.0	3758
2002/11/24	26.4	20.1	96.9	66.4	83	6.5	0.0	2.2	0.4	4033
2002/11/25	29.4	20.7	96.5	49.3	141	6.0	0.0	2.0	0.0	6207
2002/11/26	25.5	21.4	95.1	73.1	178	3.9	0.0	1.3	0.0	1514
2002/11/27	27.0	20.9	96.0	64.4	95	3.6	0.4	1.4	0.2	2596
2002/11/28	25.5	20.4	96.4	60.1	134	4.3	0.3	1.8	2.2	3759
2002/11/29	26.1	19.9	96.1	61.5	18	4.0	0.2	1.4	0.2	2951
2002/11/30	25.3	20.1	95.7	71.1	56	3.0	0.4	1.4	0.0	1930

APPENDIX 7 Weather Observation data in Namosi area (2)

Date	Temperature		Humidity		Wind				Precipitation	Insolation
	max.	min.	max.	min.	direction	speed max.	speed min.	speed ave.	amount	amount
yyyy/mm/dd	℃	℃	%	%	degree	m/s	m/s	m/s	mm	kW/m2
2002/12/1	26.4	19.2	96.5	61.8	103	4.0	0.2	1.5	0.0	3409
2002/12/2	27.0	18.4	97.5	67.9	60	4.3	0.0	1.6	1.2	3531
2002/12/3	26.8	21.9	96.7	75.0	201	5.5	0.1	1.9	9.0	3988
2002/12/4	27.9	23.2	96.8	77.0	277	8.0	0.1	1.7	11.4	3940
2002/12/5	31.7	23.5	96.7	59.4	253	5.0	0.1	1.9	2.0	4976
2002/12/6	30.2	23.1	96.6	67.8	259	4.4	0.3	1.6	4.6	5558
2002/12/7	30.7	22.4	96.7	63.5	106	6.2	0.3	2.1	4.6	5295
2002/12/8	28.6	23.0	96.2	66.1	91	4.0	0.0	2.0	20.4	3379
2002/12/9	29.6	22.1	95.9	60.4	108	4.9	0.3	1.4	0.0	3774
2002/12/10	29.4	21.2	96.1	50.2	80	5.9	0.2	2.1	2.6	6762
2002/12/11	29.5	20.6	97.1	55.9	73	7.8	0.0	2.4	0.0	5284
2002/12/12	29.7	22.1	96.6	57.1	114	7.5	0.4	2.5	1.2	4537
2002/12/13	30.7	19.6	96.8	38.4	103	8.4	0.3	3.2	0.0	7993
2002/12/14	29.4	19.0	97.7	44.8	63	7.0	0.2	2.7	0.8	8110
2002/12/15	26.4	20.4	96.3	80.9	120	7.7	0.6	2.4	18.2	2924
2002/12/16	27.5	23.7	95.6	85.4	55	4.4	0.8	2.1	56.0	2639
2002/12/17	28.4	23.6	96.0	77.7	101	4.9	0.5	2.1	22.8	3642
2002/12/18	33.4	22.5	96.3	56.8	144	7.7	0.4	1.9	18.2	4996
2002/12/19	33.0	22.4	97.2	58.9	82	3.5	0.0	1.4	39.0	5141
2002/12/20	28.6	22.1	97.3	74.1	286	5.4	0.3	1.7	96.2	3017
2002/12/21	27.8	22.1	97.5	78.5	93	4.7	0.3	1.7	11.4	2561
2002/12/22	26.1	22.9	96.8	82.6	78	4.3	0.0	1.4	34.8	2901
2002/12/23	27.4	23.2	96.7	78.7	100	6.6	0.4	1.7	8.2	3044
2002/12/24	28.6	23.3	96.6	78.3	81	5.9	0.4	1.8	11.4	3570
2002/12/25	28.3	23.9	96.3	79.5	65	4.6	0.4	1.9	14.2	2833
2002/12/26	30.7	23.8	96.6	67.3	115	7.1	0.3	2.4	9.0	5194
2002/12/27	28.9	24.3	95.5	74.9	89	5.1	0.4	2.1	6.0	4203
2002/12/28	29.0	23.2	96.5	67.3	88	5.7	0.0	2.1	0.6	5963
2002/12/29	30.5	21.9	96.6	62.8	88	9.4	0.4	2.8	0.2	7110
2002/12/30	25.8	22.7	96.0	78.1	0	5.8	0.4	2.0	1.8	2193
2002/12/31	25.9	22.7	95.1	76.7	99	10.0	0.6	4.6	1.2	1253
2003/1/1	31.3	22.3	96.6	68.3	80	7.1	0.6	2.8	8.6	4298
2003/1/2	32.5	22.0	97.1	54.0	68	4.7	0.3	2.0	0.0	5634
2003/1/3	32.4	22.0	96.8	50.7	128	4.8	0.0	1.3	4.0	5670
2003/1/4	31.7	20.2	97.5	40.7	147	5.2	0.4	1.4	0.2	4571
2003/1/5	31.8	20.3	97.5	50.1	135	3.8	0.2	1.4	3.8	4331
2003/1/6	31.9	20.9	97.3	60.3	84	4.4	0.1	1.6	0.4	4497
2003/1/7	32.2	23.3	97.1	58.9	115	4.6	0.2	1.5	107.2	4322
2003/1/8	31.5	24.0	97.2	66.4	258	5.7	0.1	1.8	1.8	4592
2003/1/9	33.5	23.6	96.8	45.1	273	5.5	0.4	1.8	0.2	5758
2003/1/10	32.4	24.0	97.1	55.8	105	5.7	0.4	1.5	35.2	3359
2003/1/11	31.4	23.7	97.3	67.4	250	7.4	0.5	1.7	11.4	3507
2003/1/12	32.4	23.7	97.0	55.6	69	6.5	0.5	2.1	0.4	5534
2003/1/13	27.5	23.1	97.1	83.5	0	3.5	0.2	1.3	15.8	1175
2003/1/14	27.3	24.0	96.0	81.6	280	11.5	0.6	5.4	53.0	1887
2003/1/15	32.7	22.6	97.2	61.3	84	4.2	0.4	1.5	1.6	6088
2003/1/16	33.1	23.6	96.7	60.3	251	3.9	0.4	1.7	5.0	4067
2003/1/17	31.9	23.9	96.6	57.8	246	4.2	0.2	1.5	9.4	4557
2003/1/18	31.4	23.2	97.0	60.9	124	4.9	0.1	1.5	0.6	4265
2003/1/19	29.2	23.1	96.7	71.1	71	4.3	0.3	1.5	1.0	3716
2003/1/20	28.3	23.5	97.1	79.7	237	5.8	0.4	1.3	44.6	1723
2003/1/21	31.8	23.5	97.2	68.5	99	4.9	0.4	1.9	7.4	5318
2003/1/22	30.8	23.3	96.9	64.2	78	5.3	0.4	1.9	2.6	5357
2003/1/23	29.9	23.2	97.2	73.0	71	8.0	0.3	1.4	63.0	2473
2003/1/24	30.1	23.6	97.4	69.8	47	4.1	0.4	1.6	7.8	3418
2003/1/25	32.4	24.1	97.1	65.1	88	6.8	0.3	1.8	3.4	3591
2003/1/26	30.6	23.9	96.9	72.9	238	5.0	0.1	1.5	24.6	3099
2003/1/27	27.1	23.8	96.8	87.3	356	4.3	0.3	1.9	46.4	2552
2003/1/28	29.3	23.0	96.8	73.6	83	5.8	0.3	1.6	13.6	3530
2003/1/29	31.3	22.6	96.9	55.6	124	6.7	0.4	2.0	0.0	5969
2003/1/30	26.4	23.1	96.3	83.0	107	6.1	0.5	1.9	5.6	2690
2003/1/31	27.5	21.7	97.2	73.2	107	5.2	0.2	1.8	0.6	3586
2003/2/1	30.0	20.6	97.1	62.5	98	6.6	0.3	2.0	0.2	7013
2003/2/2	28.6	20.1	97.5	58.1	71	5.4	0.4	1.7	0.6	4045
2003/2/3	30.3	19.1	97.6	45.0	0	5.9	0.1	2.1	1.4	5531
2003/2/4	25.0	20.7	96.9	81.0	334	2.5	0.0	0.4	0.2	1216
2003/2/5	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
2003/2/6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
2003/2/7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
2003/2/8	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
2003/2/9	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0
2003/2/10	29.4	23.3	96.9	74.1	360	4.4	0.4	1.6	14.2	3146
2003/2/11	30.7	22.0	97.2	57.0	342	6.5	0.4	2.2	1.8	6805
2003/2/12	30.0	21.1	96.8	60.6	319	7.1	0.4	2.0	2.0	5371
2003/2/13	30.9	18.4	97.5	50.8	323	5.4	0.4	2.1	0.0	6984
2003/2/14	31.5	20.1	97.3	45.5	357	6.4	0.3	2.3	0.0	6316
2003/2/15	30.4	20.1	97.3	54.9	360	4.4	0.0	1.7	6.2	3832
2003/2/16	30.2	20.2	96.4	53.3	360	5.5	0.2	2.1	3.0	5064
2003/2/17	30.8	19.6	97.4	57.6	359	5.9	0.2	2.1	0.0	6785
2003/2/18	28.8	22.6	96.6	71.2	358	5.3	0.4	1.9	7.8	3959
2003/2/19	31.8	22.2	97.0	58.8	295	6.1	0.4	2.1	0.4	6130
2003/2/20	28.5	23.2	96.7	74.5	349	4.6	0.3	1.5	10.4	2480
2003/2/21	33.1	23.1	96.7	48.6	342	4.4	0.5	1.7	0.0	5181
2003/2/22	30.4	21.7	96.8	63.3	351	5.3	0.2	1.4	39.6	2662
2003/2/23	29.5	20.8	97.4	69.3	336	4.5	0.3	1.9	15.2	3444
2003/2/24	31.0	22.2	97.0	63.2	312	4.7	0.2	1.8	38.6	3577
2003/2/25	30.6	23.1	97.2	68.4	343	3.3	0.1	1.2	4.2	3537
2003/2/26	34.4	24.0	96.5	49.2	354	6.2	0.2	1.7	4.4	3302
2003/2/27	31.4	23.7	96.9	64.7	360	4.4	0.3	1.5	0.6	2700
2003/2/28	31.8	22.8	97.2	58.2	360	9.6	0.3	1.7	55.2	3466

APPENDIX 7 Weather Observation data in Namosi area (3)

Date	Temperature		Humidity		Wind				Precipitation	Insolation
	max.	min.	max.	min.	direction	speed max.	speed min.	speed ave.	amount	amount
yyyy/mm/dd	℃	℃	%	%	degree	m/s	m/s	m/s	mm	kW/m2
2003/3/1	30.4	21.7	97.5	70.6	355	5.5	0.3	1.2	48.8	2511
2003/3/2	29.0	23.5	97.0	74.7	352	4.8	0.4	2.0	2.4	3484
2003/3/3	31.2	23.3	96.7	68.3	334	3.2	0.3	1.4	8.0	4008
2003/3/4	32.4	24.1	96.7	65.9	349	3.1	0.3	1.5	7.4	4766
2003/3/5	31.4	23.7	96.9	67.1	357	6.3	0.2	2.0	22.4	4130
2003/3/6	31.9	22.8	97.2	65.3	349	6.0	0.5	2.0	0.4	5320
2003/3/7	30.7	23.9	96.4	68.2	188	5.7	0.5	2.4	2.0	4169
2003/3/8	29.6	24.4	96.4	76.3	309	5.4	0.6	2.3	19.4	2940
2003/3/9	31.4	23.6	96.9	70.9	354	9.3	0.1	2.1	12.2	4789
2003/3/10	29.1	23.7	96.0	65.1	267	15.0	0.9	6.2	3.0	2905
2003/3/11	27.9	24.2	94.5	75.0	129	9.2	2.1	5.0	28.2	2053
2003/3/12	29.1	23.7	96.3	64.2	356	13.1	0.9	5.3	25.8	1323
2003/3/13	32.4	25.1	85.7	55.6	283	10.5	3.4	5.8	9.6	4575
2003/3/14	30.7	24.6	95.8	66.5	317	6.3	0.6	3.2	21.6	2974
2003/3/15	33.8	23.9	96.3	53.5	323	8.9	0.6	2.7	0.0	5501
2003/3/16	31.4	24.0	95.8	54.6	344	7.1	0.5	2.7	2.0	2851
2003/3/17	30.9	23.6	96.8	66.4	355	6.7	0.5	1.8	45.4	3756
2003/3/18	32.4	22.4	97.2	62.7	360	5.1	0.4	1.5	27.2	3700
2003/3/19	33.7	22.0	97.5	59.7	338	5.3	0.3	1.8	0.6	5729
2003/3/20	32.3	23.0	96.9	58.2	348	6.7	0.3	1.9	5.4	5500
2003/3/21	33.2	23.1	96.9	51.6	360	5.6	0.6	2.1	0.2	4857
2003/3/22	33.2	22.7	97.0	52.4	357	6.2	0.1	1.6	12.4	5972
2003/3/23	32.2	22.2	97.1	60.4	355	5.5	0.5	1.8	0.8	4939
2003/3/24	31.2	21.6	97.2	56.2	356	3.8	0.3	1.4	0.2	5231
2003/3/25	28.5	23.0	96.9	77.9	342	3.8	0.5	1.5	43.4	2142
2003/3/26	31.7	23.0	96.8	58.3	342	6.4	0.7	2.1	27.2	5219
2003/3/27	29.1	22.4	97.4	72.7	348	4.8	0.4	2.0	39.4	3984
2003/3/28	31.2	23.2	97.2	63.0	358	7.1	0.3	1.9	0.2	4004
2003/3/29	32.8	22.5	97.1	59.3	328	5.6	0.3	2.0	3.2	3836
2003/3/30	32.7	24.1	96.4	63.1	350	7.1	0.3	2.1	5.4	6675
2003/3/31	31.7	23.2	96.9	56.7	351	7.0	0.5	2.6	0.4	5155
2003/4/1	30.1	22.7	96.7	68.9	335	5.9	0.4	1.7	6.4	3644
2003/4/2	30.1	23.8	96.4	69.2	352	6.4	0.5	2.3	12.4	3097
2003/4/3	28.6	23.7	96.4	76.8	335	3.4	0.5	1.3	7.2	2009
2003/4/4	31.1	23.3	96.7	57.2	309	6.8	0.5	2.3	5.8	4744
2003/4/5	31.5	22.6	96.3	59.7	331	7.8	0.5	2.5	10.4	5920
2003/4/6	27.7	21.6	96.9	75.2	148	3.5	0.3	1.2	3.2	2511
2003/4/7	28.2	23.9	96.2	78.9	128	5.3	0.5	1.9	4.8	2852
2003/4/8	30.6	24.3	95.8	65.4	295	7.0	0.0	3.3	0.8	3858
2003/4/9	31.0	24.3	96.3	73.1	348	4.5	0.0	1.8	15.8	2402
2003/4/10	28.4	23.5	96.6	76.9	313	4.1	0.2	1.2	15.0	1827
2003/4/11	29.9	23.8	96.1	69.0	322	3.2	0.3	1.1	6.2	2665
2003/4/12	29.6	23.1	96.4	69.8	357	5.2	0.3	1.6	1.0	4308
2003/4/13	29.9	22.9	96.7	68.1	324	3.7	0.4	1.4	26.4	3779
2003/4/14	30.3	22.1	96.6	62.3	334	6.7	0.3	1.6	3.2	4948
2003/4/15	31.4	19.5	97.4	42.5	297	7.7	0.4	2.4	0.0	5059
2003/4/16	31.4	18.4	97.5	42.1	305	6.6	0.4	1.9	0.0	5440
2003/4/17	32.7	16.9	97.7	41.2	339	4.5	0.4	1.4	0.0	5467
2003/4/18	31.1	20.1	97.3	59.3	355	5.5	0.4	2.1	0.0	5473
2003/4/19	28.7	22.8	96.4	76.6	320	1.8	0.3	0.9	12.4	1704
2003/4/20	29.6	21.4	96.8	57.6	295	7.2	0.2	2.3	0.4	4945
2003/4/21	30.2	20.9	97.1	68.5	350	4.3	0.3	1.5	0.4	2825
2003/4/22	29.3	23.9	96.3	74.1	187	4.6	0.3	1.5	6.8	2341
2003/4/23	31.6	23.3	96.7	61.1	354	5.5	0.3	2.1	0.0	4216
2003/4/24	31.6	22.6	96.9	56.8	339	6.5	0.3	2.3	0.0	4921
2003/4/25	31.8	21.9	97.1	62.1	357	5.8	0.5	1.8	68.4	3399
2003/4/26	31.1	21.4	97.5	63.3	345	7.2	0.3	2.0	73.6	5218
2003/4/27	25.5	23.5	96.7	90.1	358	2.3	0.6	1.2	56.6	1356
2003/4/28	26.0	22.9	96.9	88.0	354	4.4	0.6	2.0	134.2	1567
2003/4/29	27.4	23.3	96.8	81.1	357	4.1	0.7	1.7	129.2	1972
2003/4/30	25.1	22.8	96.8	86.0	343	4.4	0.4	1.6	66.8	1063

APPENDIX 7 Weather Observation data in Namosi area (4)

Date	Temperature		Humidity		Wind				Precipitation	Insolation
	max.	min.	max.	min.	direction	speed max.	speed min.	speed ave.	amount	amount
yyyy/mm/dd	℃	℃	%	%	degree	m/s	m/s	m/s	mm	kW/m2
2003/5/1	26.6	22.2	96.7	77.4	358	5.5	0.5	1.9	46.6	1486
2003/5/2	30.6	22.2	97.0	61.8	246	6.5	0.3	2.0	0.8	4827
2003/5/3	31.0	22.2	97.0	60.8	283	5.5	0.4	2.0	0.0	4751
2003/5/4	30.5	21.3	97.6	67.5	356	8.0	0.5	2.0	54.4	2330
2003/5/5	30.3	21.0	97.9	64.1	358	5.8	0.3	2.0	0.0	5089
2003/5/6	30.0	22.6	96.6	68.2	325	3.6	0.4	1.4	4.8	2548
2003/5/7	32.4	21.8	97.3	56.5	354	3.4	0.2	1.4	0.0	5377
2003/5/8	26.7	23.5	96.4	85.2	333	3.7	0.2	1.0	19.4	2046
2003/5/9	28.7	23.2	96.5	75.0	359	3.8	0.3	1.4	5.4	2570
2003/5/10	26.1	21.9	97.2	85.3	282	3.6	0.5	1.4	68.4	1220
2003/5/11	29.6	22.1	97.2	62.9	352	8.5	0.4	2.6	4.0	3821
2003/5/12	30.1	23.3	96.7	73.7	343	7.9	0.4	2.4	22.6	2920
2003/5/13	29.1	23.6	96.5	67.5	352	6.0	0.4	2.0	11.8	2914
2003/5/14	29.3	23.2	96.4	65.8	351	7.0	0.7	2.4	4.0	3023
2003/5/15	31.5	22.7	97.0	63.4	359	4.9	0.3	1.5	11.6	3759
2003/5/16	29.6	23.3	97.0	68.1	358	3.2	0.3	1.3	5.8	2991
2003/5/17	30.0	22.3	97.1	66.7	357	4.3	0.3	1.5	0.2	3460
2003/5/18	26.8	22.6	96.4	81.8	314	5.8	0.6	2.2	8.0	1375
2003/5/19	29.7	21.0	96.3	68.1	351	7.6	0.6	2.2	29.4	3341
2003/5/20	28.5	21.4	96.5	73.0	360	4.8	0.4	1.6	22.6	2683
2003/5/21	28.6	20.9	97.0	69.0	339	4.6	0.4	1.9	14.0	2793
2003/5/22	28.2	21.7	96.9	74.2	348	5.0	0.0	1.3	8.0	2581
2003/5/23	31.2	20.8	97.2	57.6	360	4.8	0.3	1.7	0.0	4284
2003/5/24	29.0	21.8	97.1	68.2	326	4.3	0.4	1.4	0.0	2365
2003/5/25	27.9	21.9	96.9	75.0	349	4.8	0.3	1.6	7.0	3142
2003/5/26	29.0	19.1	97.4	56.4	351	6.3	0.2	1.7	0.4	2700
2003/5/27	28.5	19.3	97.2	60.2	295	4.9	0.3	1.5	1.2	2746
2003/5/28	29.3	20.1	96.8	54.0	335	4.4	0.3	1.5	0.2	4147
2003/5/29	28.9	19.5	97.4	61.1	356	5.3	0.3	1.8	0.0	4761
2003/5/30	28.7	19.8	97.2	59.5	255	4.5	0.3	1.5	1.0	4143
2003/5/31	24.2	19.8	96.8	76.9	350	6.6	0.4	1.7	22.2	1286
2003/6/1	25.5	17.9	97.0	65.0	160	7.7	0.3	2.2	2.6	2940
2003/6/2	25.1	17.0	97.5	70.3	358	7.1	0.3	1.7	3.4	2578
2003/6/3	26.5	19.4	97.0	65.5	356	6.6	0.2	1.9	7.4	3653
2003/6/4	25.1	19.7	97.0	76.8	345	25.0	0.5	2.5	4.2	1839
2003/6/5	25.0	19.0	97.1	77.6	345	7.6	0.5	1.8	2.2	2346
2003/6/6	25.9	19.9	96.9	73.2	360	5.2	0.4	1.2	1.8	2356
2003/6/7	28.2	19.7	97.0	58.3	354	6.1	0.4	1.9	2.2	3528
2003/6/8	27.4	19.4	97.1	65.0	355	4.5	0.3	1.3	0.2	2404
2003/6/9	28.6	20.8	96.8	70.1	327	4.1	0.3	1.6	0.0	3658
2003/6/10	28.5	22.1	96.8	76.8	316	4.2	0.3	1.2	0.4	2082
2003/6/11	25.6	21.7	96.6	84.3	317	2.6	0.4	1.2	6.0	1738
2003/6/12	22.9	19.0	95.6	82.7	351	4.5	0.5	1.4	2.4	1376
2003/6/13	23.5	16.1	96.6	67.8	353	2.9	0.5	1.4	2.4	1999
2003/6/14	24.5	14.4	97.9	60.5	358	9.7	0.5	2.7	5.6	3319
2003/6/15	25.5	15.1	97.8	58.8	350	5.6	0.3	1.7	0.2	3045
2003/6/16	22.7	19.3	96.5	86.0	353	3.0	0.4	1.0	2.2	1575
2003/6/17	26.6	18.7	97.1	71.9	356	4.8	0.2	1.4	0.4	2494
2003/6/18	27.7	21.5	96.8	75.6	258	3.9	0.3	1.2	53.0	2021
2003/6/19	30.1	22.2	97.1	62.6	356	5.7	0.4	1.5	60.2	3020
2003/6/20	24.0	21.4	96.6	86.1	357	7.0	0.3	1.4	13.4	1370
2003/6/21	24.1	20.6	96.4	74.4	319	3.8	0.0	1.2	1.2	1802
2003/6/22	24.3	17.1	96.7	62.3	355	5.1	0.3	1.5	0.0	3371
2003/6/23	25.2	16.1	97.6	58.4	338	5.1	0.3	1.6	0.0	3154
2003/6/24	26.3	16.1	97.5	54.7	342	6.2	0.3	1.4	0.0	4165
2003/6/25	24.5	16.0	97.7	60.0	345	4.1	0.3	1.3	0.0	2163
2003/6/26	24.8	15.5	97.7	63.4	350	4.2	0.2	1.4	0.0	2225
2003/6/27	26.4	17.4	97.3	61.4	348	5.5	0.3	1.8	4.6	3448
2003/6/28	24.4	19.0	96.8	73.1	254	4.1	0.3	1.5	7.0	2401
2003/6/29	25.6	19.5	96.1	66.4	163	6.0	0.3	2.4	0.2	1892
2003/6/30	26.9	17.4	97.3	61.8	332	4.3	0.2	1.8	0.0	3335
2003/7/1	28.8	18.2	97.4	56.9	352	4.2	0.1	1.3	0.2	4483
2003/7/2	27.3	18.5	97.4	57.4	352	5.8	0.1	1.8	0.0	3466
2003/7/3	27.7	17.2	97.6	59.9	340	6.4	0.3	2.0	0.0	3683
2003/7/4	29.5	16.7	97.7	60.4	352	3.3	0.3	1.2	0.2	4114
2003/7/5	28.0	20.4	97.0	67.9	351	5.0	0.4	1.8	3.0	3232
2003/7/6	28.4	20.2	96.9	63.8	358	4.4	0.3	1.4	39.4	2218
2003/7/7	21.8	18.4	96.8	84.4	348	6.0	0.5	2.5	28.0	907
2003/7/8	21.6	18.2	95.9	81.3	357	6.0	0.9	2.1	26.2	1602
2003/7/9	22.0	18.9	95.5	76.0	344	5.4	0.7	2.5	13.8	1708
2003/7/10	23.9	18.3	96.6	69.6	359	5.0	0.2	1.3	5.0	2233
2003/7/11	24.9	18.8	97.2	77.5	360	3.4	0.3	1.1	3.4	2585
2003/7/12	23.9	21.2	96.4	90.8	347	4.0	0.2	1.4	18.8	1328
2003/7/13	22.9	18.3	95.6	70.0	356	4.6	0.6	2.1	7.6	1381
2003/7/14	23.0	18.1	95.9	60.1	348	6.1	0.5	1.9	0.0	2059
2003/7/15	23.8	17.9	95.4	63.1	208	10.2	0.6	3.8	0.2	1573
2003/7/16	22.7	20.2	96.0	83.6	111	9.8	0.4	3.7	31.2	880
2003/7/17	25.7	20.8	95.8	73.4	114	6.7	0.6	3.4	2.8	2939
2003/7/18	29.0	20.6	96.4	66.0	355	2.5	0.2	1.3	2.4	3583
2003/7/19	25.6	20.4	96.7	77.0	344	4.4	0.2	1.3	1.0	1806
2003/7/20	22.6	20.3	96.1	88.1	354	3.0	0.4	1.2	10.4	1167
2003/7/21	23.3	20.2	96.3	83.8	349	3.2	0.3	1.4	4.2	1497
2003/7/22	22.5	19.2	96.6	82.0	335	3.3	0.0	1.1	13.2	995
2003/7/23	22.3	18.6	96.6	84.5	356	2.9	0.3	1.2	6.6	2005
2003/7/24	24.7	16.2	96.1	55.0	341	5.9	0.5	2.1	4.0	3784
2003/7/25	24.4	16.3	96.2	52.9	360	4.4	0.5	1.9	2.2	2843
2003/7/26	23.7	14.3	97.5	62.5	354	5.5	0.5	1.6	0.4	2615
2003/7/27	24.2	15.8	96.8	64.1	346	4.7	0.5	1.7	0.8	2989
2003/7/28	23.7	15.6	96.7	70.1	351	4.1	0.2	1.2	1.6	2022
2003/7/29	27.4	14.9	97.6	51.1	352	3.4	0.2	1.2	0.2	4410
2003/7/30	23.8	19.5	96.3	78.0	356	4.3	0.3	1.3	0.6	1722
2003/7/31	25.1	20.4	96.4	80.3	355	5.8	0.5	2.5	0.6	1612

APPENDIX 7 Weather Observation data in Namosi area (5)

Date	Temperature		Humidity		Wind				Precipitation	Insolation
	max.	min.	max.	min.	direction	speed max.	speed min.	speed ave.	amount	amount
yyyy/mm/dd	℃	℃	%	%	degree	m/s	m/s	m/s	mm	kW/m2
2003/8/1	28.9	22.1	95.9	67.1	287	8.9	0.7	2.2	1.0	3574
2003/8/2	31.2	20.0	96.6	52.3	354	5.9	0.3	1.6	0.4	3476
2003/8/3	25.7	19.6	95.4	61.3	335	6.4	0.6	2.3	0.6	3071
2003/8/4	22.6	18.3	94.7	64.4	329	3.0	0.2	1.2	0.0	1499
2003/8/5	21.4	18.1	96.0	77.4	349	3.7	0.4	1.1	1.4	1118
2003/8/6	23.4	17.2	96.1	59.3	341	4.5	0.3	1.4	0.0	2083
2003/8/7	23.4	17.1	96.0	61.4	356	4.7	0.2	1.4	0.0	2104
2003/9/25	25.4	14.4	97.2	48.5	327	7.6	0.3	2.9	0.0	6579
2003/9/26	25.9	15.5	96.2	51.7	324	7.9	0.4	3.2	0.0	4525
2003/9/27	24.7	16.6	96.7	61.8	359	6.1	0.4	2.6	0.0	3037
2003/9/28	25.0	17.4	96.3	64.4	313	5.4	0.2	2.2	0.0	2402
2003/9/29	29.2	16.1	97.0	50.1	348	12.1	0.2	2.3	0.0	4972
2003/9/30	29.4	17.0	97.0	52.6	352	6.7	0.3	2.0	0.0	4497
2003/10/1	29.0	18.0	96.5	44.0	330	6.1	0.3	2.1	0.0	5744
2003/10/2	27.5	14.5	97.1	44.0	345	8.7	0.4	2.6	0.0	7236
2003/10/3	28.0	16.1	97.0	49.9	327	6.9	0.2	2.2	0.0	5611
2003/10/4	30.5	17.3	96.8	43.6	356	4.7	0.3	1.6	0.0	5001
2003/10/5	30.1	17.6	96.8	51.1	342	5.0	0.3	1.9	0.0	5734
2003/10/6	29.3	20.6	95.8	56.2	352	5.2	0.1	1.5	1.8	2237
2003/10/7	23.1	19.0	95.1	75.2	353	4.4	0.4	2.3	5.0	1537
2003/10/8	25.8	18.1	95.2	50.7	225	5.6	0.3	2.2	0.2	3722
2003/10/9	27.6	15.9	96.9	48.7	330	7.2	0.3	2.3	0.0	6475
2003/10/10	27.6	17.7	96.4	42.5	343	6.1	0.2	2.2	0.0	5216
2003/10/11	26.1	17.5	96.5	68.6	339	6.9	0.4	1.8	8.0	3841
2003/10/12	25.1	19.9	96.0	79.4	349	7.6	0.5	2.2	7.0	3349
2003/10/13	29.4	20.5	96.3	62.1	333	6.3	0.6	2.4	17.8	3937
2003/10/14	30.3	21.0	95.9	55.1	338	3.8	0.3	1.4	4.6	3104
2003/10/15	23.0	19.3	95.1	72.1	336	6.3	0.4	2.0	3.8	2068
2003/10/16	22.0	18.3	96.1	83.2	333	3.5	0.4	1.4	1.8	1878
2003/10/17	23.2	18.9	95.8	79.0	331	5.9	0.2	1.9	1.6	2144
2003/10/18	24.4	19.8	95.9	71.6	337	4.3	0.3	1.3	4.2	1729
2003/10/19	23.7	21.0	95.8	89.7	350	7.6	0.4	2.9	55.4	1324
2003/10/20	29.8	23.0	96.0	61.0	349	9.0	0.9	3.8	65.8	2163
2003/10/21	31.3	22.5	95.7	52.0	311	7.6	0.7	3.5	0.2	7222
2003/10/22	29.8	20.1	95.8	54.4	345	5.1	0.3	1.9	0.0	4003
2003/10/23	29.8	18.6	96.5	53.1	340	4.9	0.3	1.6	0.0	4092
2003/10/24	29.8	16.8	97.0	52.5	331	19.4	0.1	2.6	0.0	5235
2003/10/25	29.1	18.8	96.7	42.7	328	8.9	0.3	2.4	1.0	6952
2003/10/26	26.0	17.0	96.0	52.2	353	7.0	0.2	2.5	0.0	5000
2003/10/27	26.3	16.6	96.8	51.7	360	5.7	0.0	2.1	0.0	4734
2003/10/28	27.9	16.9	96.9	57.7	321	5.7	0.4	2.2	0.2	4047
2003/10/29	30.6	17.2	96.8	45.0	360	5.1	0.3	1.9	0.0	5532
2003/10/30	30.1	17.3	96.8	48.4	344	6.5	0.0	2.2	0.0	6552
2003/10/31	29.9	16.4	97.0	47.6	280	7.5	0.4	2.7	0.0	7249
2003/11/1	30.5	17.0	96.8	41.9	317	6.8	0.1	2.7	0.0	7469
2003/11/2	32.0	18.9	96.3	47.6	352	6.9	0.5	2.3	0.0	7106
2003/11/3	32.0	19.1	96.4	37.5	299	5.6	0.3	2.2	0.0	6205
2003/11/4	31.5	18.3	96.7	49.3	360	7.1	0.4	2.5	0.0	4850
2003/11/5	27.9	19.0	96.2	60.5	357	4.7	0.6	1.4	7.4	2116
2003/11/6	26.5	19.3	95.2	60.9	291	5.2	0.6	2.3	1.6	3669
2003/11/7	28.1	19.5	96.5	63.4	357	8.0	0.5	2.3	93.0	4222
2003/11/8	27.7	20.6	96.7	67.7	356	5.6	0.2	2.1	15.0	5322
2003/11/9	29.5	20.5	96.4	63.3	136	6.4	0.4	2.1	3.6	5563
2003/11/10	26.2	22.4	95.9	80.5	341	4.5	0.4	1.5	14.6	2173
2003/11/11	24.0	21.2	96.3	79.0	348	4.9	0.6	1.4	49.8	1596
2003/11/12	26.6	20.8	96.4	72.4	352	6.3	0.5	2.1	7.4	3775
2003/11/13	27.8	21.6	96.2	68.1	360	5.4	0.4	1.6	8.2	4017
2003/11/14	27.6	20.8	95.9	65.5	345	4.2	0.3	1.7	0.2	3374
2003/11/15	27.7	20.3	96.5	55.1	250	7.4	0.6	2.2	1.8	5083
2003/11/16	23.9	19.1	95.1	68.6	336	5.4	0.5	2.0	5.0	2998
2003/11/17	27.9	16.9	96.8	45.5	360	6.1	0.1	1.9	0.0	4832
2003/11/18	27.7	17.2	96.5	50.2	354	6.2	0.3	2.4	0.0	6218
2003/11/19	26.9	19.8	96.0	58.1	350	6.3	0.3	2.0	3.4	3664
2003/11/20	22.8	18.4	95.9	80.7	339	3.2	0.4	1.5	23.0	1391
2003/11/21	26.9	20.7	96.2	70.5	360	3.1	0.5	1.4	6.8	2547
2003/11/22	22.3	20.5	95.8	88.4	352	3.1	0.7	1.5	10.6	1237

Appendix 8 Weather observation data at 6 sites in Viti Levu South area KEIYASI (1)

Atomospheric Temperature at 9 am

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	26	27.3	27.6	27.2	29.5	28.5	30	25.5	28	28.7	28.3	28.9	29.8	27.8	27.1	28.9	28.2	----	29.5	27.4	25.3	28.1	29.2	28.2	29.3	30.9	29	29.9	26.6	29.4	25.2
Jan-03	25	27.6	29.3	27.7	25.3	27.3	30.3	30.2	30.7	29.2	31.4	27.5	24	26.8	28.6	25.7	27.6	28.2	28.8	29	28.8	26.3	28.7	27.2	28	28.8	25.8	27.7	25.6	27.1	----
Feb-03	27.5	27.8	28.3	25.9	26.4	26.7	27	27	29.1	27.6	25.6	27.1	24	25.3	25.5	29	26	26.8	28.1	28.6	27.3	26.7	26.1	27.4	26.9	27.5	26	26.6	-	-	-
Mar-03	26	25	25.5	26.5	28	27.5	28.6	27.1	29.1	28.3	27.5	26.8	26.8	----	28.8	28.3	26.5	29.3	25.2	25.4	27.3	26.5	----	25.1	23.2	26.9	24.8	27.3	25.5	27.4	26.8
Apr-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-03	----	26.8	27	----	25.2	26.4	26.3	25.4	----	24.6	25.5	25.5	26.1	26.9	25.9	25.2	22.7	24.1	21.4	23.1	23.1	24.3	27	24	22.5	28.5	24	24.5	23	23.2	25
Jun-03	25.5	27.5	26	25.4	25	23.5	22.1	----	26.5	25.1	25.1	22.7	19.6	----	21.5	21.9	21.8	24.7	27	24.3	25.5	22.2	17.1	19.7	17.8	----	21	20.6	20.8	23.2	-
Jul-03	19.2	21.7	21.4	23.5	20.1	23.1	21.8	24	24.4	20	20.5	23.6	25.1	21.7	22.7	21.9	21.9	23.1	----	22.5	21.9	22.6	22	22.9	18.7	----	20.7	19.5	20.6	----	23.6
Aug-03	25.1	24.3	22	22.3	20.6	21	21.3	19.9	22.8	24	19.2	20.4	17.5	16.9	18	18.4	18.6	20.4	20.8	22	22.2	22.3	22.1	18.7	17.1	19.2	19.3	19.9	17.4	21.4	18.3
Sep-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Maximum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	31.6	31.9	31.4	32.3	33.6	34.5	35.5	34	32.5	33	34.1	33.9	34.8	32.7	30.5	32.8	----	34.5	35.7	34.3	28.3	32.5	32.5	34.2	34.2	34.1	34.1	34.1	33.4	31	32.4
Jan-03	34.1	34.5	34.5	34.1	34	31	30.9	31	31.5	31.3	33.4	30.9	28.9	30.5	34.7	32.6	32.6	31.4	33.3	32.3	34.8	34	32.6	31.8	34.8	32.5	31.1	34.5	34.8	----	34.9
Feb-03	34.9	34.5	34.7	32.5	31.3	31.5	34	31.9	34.3	33	33.9	34	34	33.9	34	33.9	35.7	33.4	35.3	31.4	35.6	31.3	32.8	33.6	33.2	35	33.4	31.4	-	-	-
Mar-03	33.9	34	32.5	34	34.4	34.5	35.5	33.6	32.9	29	30.6	28.5	----	31.9	32.6	32.4	32.5	33.7	35.6	34.1	33.1	----	34.9	33.6	31.7	34.7	34	34.1	35.8	35.5	34.9
Apr-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-03	29.8	34.5	----	35.3	34.4	32.4	34.3	----	31.3	28	31.4	33.6	31.6	33.1	33.8	33.4	33.3	28.5	32.8	32.8	32.9	31.5	34	34.5	33	30.5	31.5	32	32.2	33.5	29.5
Jun-03	29	29.5	29.3	29.5	30.2	30.3	----	32.5	31.6	30.4	31	30.9	----	31	29	29	31.6	33	32.9	32.5	32.4	32.4	32.4	28.5	----	28.4	28.9	29	30.8	31.8	-
Jul-03	32.9	33	33	32.4	31.8	31.8	26.9	27	26.5	29	30.3	28.9	27.3	25.2	28.9	30.5	----	31.9	27.6	29	24.9	27	27.5	----	24.5	27	28.3	----	31.8	32.5	----
Aug-03	32.4	32.1	28.5	25.3	25.4	28	27.9	28.9	30.7	31	26.5	27	27.1	27.5	27.9	27.9	30.9	30.8	29.2	29.1	28.4	24	26.1	26.8	27.9	28.9	30.4	28.9	29	27.8	----
Sep-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Minimum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Jan-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar-03	21.4	21.4	21.5	23	23.9	23.2	23.5	25	----	23.7	23.2	22.9	23	22.5	23	22.2	21.4	22.5	23.2	21.9	23	22.2	20.2	22.5	23.2	21.9	23	22.2	20.2	22.5	22.3
Apr-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-03	----	22.6	19	----	23.2	23.3	21.2	23.9	----	19.5	20	20.1	22.8	23.7	23.6	23.2	20.1	21.9	21.4	22.1	21.1	22.2	19	22	21	19	18	18.5	19	18.9	19
Jun-03	20.5	16	20	17	17	17.2	21.8	----	17	20.1	24.9	20.9	17.2	----	17	19.9	16.8	21	17	21.9	18.9	16.2	14.9	18.9	17.7	----	20.9	17.1	12.4	12.4	-
Jul-03	17.3	17.3	17.3	19.2	15.2	20.1	18.8	19	19.3	18	19	18.5	20.1	21.6	22.6	21.2	21.8	22.9	----	22.2	21.8	22.6	21.9	22.7	19.3	----	17.5	18	16.5	----	16.4
Aug-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Sep-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rainfall

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	----	12	3.1	7	0	0	0	0	0	3	0	0	0	0	17.2
Jan-03	1.1	0	0	0	0	0	0	0	0	0	31.5	0	7.5	5.1	10	6.7	2	0	0	15.5	0	0	3	17.5	1.9	11.7	0.4	0	0	----	10.5
Feb-03	2.2	0	0	0	0	0	0	0	0	0.4	0	0	0	0	2.1	0	0	0	0	14.5	0	5	7.9	2.1	7.1	3.5	10	34.2	-	-	-
Mar-03	8.9	1.7	0	0	0	0	0	0	14.5	20.5	61	65	42.8	4.5	----	14.9	15	39	0	7	12.5	9.5	----	9.5	0	0	0	9	0	0	0
Apr-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-03	0	0	20.5	0	0	0	0	0	0	0	0	0	0	0	13.8	0	0	13	0	29	2.5	0	0	3.7	0	0	0	0	0	0	0
Jun-03	0	0	0	0	0	0	0	----	0	0	0	0.8	0	----	0	0	0	0	3.1	0	0	0	0	0	0	----	0	0	0	0	-
Jul-03	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	6.5	0	0	0	0	0	0	0	0	0
Aug-03	0	0	0	0	0	0	0	0	0	10	27.5	0	0	0	0	0	0	0	40	10.5	0	0.8	0.2	0	0	0	0	0	0	0	----
Sep-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 8 Weather observation data at 6 sites in Viti Levu South area KEIYASI (2)

Relative Humidity

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	66	66	77	83	75	76	65	91	67	65	61	67	55	58	77	80	81	----	71	83	94	75	70	78	76	68	77	64	74	69	85
Jan-03	82	75	68	76	84	78	68	73	73	77	71	92	94	87	78	95	92	76	73	80	81	87	73	87	85	81	96	83	88	86	----
Feb-03	74	74	70	93	77	73	77	88	80	85	87	77	89	79	75	64	72	81	78	76	77	86	82	82	84	81	91	89	-	-	-
Mar-03	88	96	93	86	81	93	83	89	83	79	84	87	94	----	87	88	89	78	91	91	82	88	----	87	99	84	95	86	92	82	88
Apr-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-03	1	80	83	----	89	82	87	93	----	97	84	88	89	80	84	92	96	89	99	94	89	88	77	88	98	64	83	83	84	96	87
Jun-03	0	99	95	94	87	96	91	----	92	93	92	87	97	----	78	89	83	85	80	95	78	84	98	85	92	----	85	87	89	94	-
Jul-03	100	99	97	73	100	78	98	67	73	86	87	89	87	67	70	90	96	88	----	91	92	84	86	70	90	----	77	87	80	----	88
Aug-03	80	84	91	80	87	73	75	79	74	80	91	94	100	96	80	84	98	94	89	99	91	94	87	95	97	82	80	84	100	73	82
Sep-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wind Direction

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	90	90	270	220	110	270	160	70	270	90	90	120	100	100	240	260	70	----	270	60	70	100	90	360	80	80	70	310	80	80	60
Jan-03	10	40	100	100	70	70	210	40	70	300	100	100	250	200	100	300	30	300	70	90	90	80	40	40	100	70	260	270	50	330	----
Feb-03	360	50	70	320	70	290	230	140	300	260	50	70	100	100	310	320	50	300	60	80	70	310	230	100	310	70	210	220	-	-	-
Mar-03	320	50	260	150	340	60	340	300	120	340	270	330	290	----	100	300	90	230	340	20	340	60	----	60	320	350	30	20	70	270	50
Apr-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-03	----	330.0	270.0	3	120.0	120.0	300	310	2	50	310.0	10.0	320.0	70	20.0	50.0	220	340	290.0	350.0	100.0	320.0	180	70	290	300	230	180	270	50.0	120
Jun-03	90	0	80	50	60	30	60	----	50	20	0	70	10	----	80	90	90	70	30	60	30	60	20	70	50	----	60	40	50	60	-
Jul-03	340	280	60	70	300	30	20	80	80	230	250	300	90	120	100	240	100	90	----	230	50	100	220	100	90	----	310	70	50	----	50
Aug-03	90	90	300	60	70	10	50	100	300	290	340	320	350	70	130	20	50	140	70	30	240	330	50	320	330	30	90	100	120	320	20
Sep-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wind Force

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	2	2	1	1	1	1	1	1	7	3	1	2	2	3	1	1	1	----	4	1	1	2	2	1	2	2	3	1	1	1	1
Jan-03	2	2	1	1	1	1	1	1	2	1	2	1	1	5	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	----
Feb-03	2	3	3	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	0	-	-	-
Mar-03	1	1	1	1	1	2	1	1	1	5	5	5	5	----	1	1	1	1	1	1	1	2	----	1	1	1	1	1	2	3	1
Apr-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-03	----	1	1	----	1	1	1	1	----	1	1	1	1	2	1	1	1	1	1	1	1	1	5	1	1	3	2	1	3	1	1
Jun-03	6	4	3	2	1	2	1	----	1	1	1	1	1	----	1	1	1	1	2	1	1	1	1	2	2	----	1	1	1	2	-
Jul-03	1	1	1	2	1	1	1	2	3	1	1	1	4	5	4	1	1	1	----	1	1	1	1	1	1	----	1	1	2	----	1
Aug-03	1	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Sep-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 8 Weather observation data at 6 sites in Viti Levu South area MONASAVU (1)

Atomospheric Temperature at 9 am

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	20.9	19.5	22.8	18.8	20.1	21.1	21.9	23.4	23.4	22.4	20.1	19.4	18.8	22	19	20.4	19.5	20.8	20	21.2	20.2	16.6	18.5	21.1	19.3	19.7	20.7	18.2	18.3	18.5	-
Dec-02	18.5	20.8	20.3	23.2	20	23.5	21.1	22.6	21.2	19.4	20.8	19.8	22	23.6	22	23.7	22.3	25.3	----	----	----	----	----	----	----	----	----	----	----	----	----
Jan-03	22.4	24.5	23.4	23.8	23.5	26	25	23.5	26.5	24.7	24.5	25.3	21.9	22.5	25.4	22.7	22.4	23.7	21.4	23.5	23.6	22.2	22.6	22.9	24.5	25.3	23	23.4	22.6	21.4	21
Feb-03	21.5	20.5	21.5	20.5	22	20.4	21.3	24.2	22.2	22.3	23.8	21.1	21.2	21.1	20.3	21.8	21.4	23.1	21.4	21	19.2	22.2	24	22	23.6	23.9	23.5	23.4	-	-	-
Mar-03	24.5	21	21.5	24.6	24.3	22.5	23.5	22.8	23.3	23	22.5	22.1	22.5	22.9	23.7	23	25	24.3	22.7	24.1	24.5	24.5	24.3	23.8	20	22.7	22	23.8	23.1	23.7	22.8
Apr-03	23.6	22.8	21.6	22.5	21.5	21	21.8	22	23.5	22	21.5	21.5	22.5	23	21.1	20.7	24	23.8	21.6	23.5	22.9	21.6	23.1	23.5	24.6	22.3	22	21	22	21.4	-
May-03	20.9	23	23	22	23	22.2	23.2	22	21.5	22.8	22	23.3	21.7	23.8	22.5	22.5	21	21.5	19	21	20.5	21	21.9	21.2	21.5	19.2	19.5	20.3	20.5	20	18.1
Jun-03	18.2	19	18.7	18.7	18.3	19.1	19.9	19.2	19.8	22.5	20.7	17.8	15.5	17.5	17.4	17.2	18.5	20.4	22	19.5	21.6	17	17.5	16.7	16	17.8	17.8	17.4	17.5	18	-
Jul-03	18.3	18.8	18.7	19.2	21	21.6	18	16	16.8	17.3	18.2	20.3	17.2	15	15.4	17.3	18.5	20.9	20.5	18.3	18	17.5	17.9	16.5	13	14.5	16.2	16.5	16.6	17.5	18.9
Aug-03	19	20.5	18.5	16	15	15.5	15.5	16	19.7	20	17.5	18.3	16.8	18	16	16.5	15.9	16.3	18.8	20.2	21	18.3	19.4	15.8	17.5	16.3	16.7	16.5	18.4	15.5	15.5
Sep-03	15.5	17	17.6	16	20.8	16.3	15.8	16	17.8	18.8	16.4	16	15.8	18.5	21.4	22.3	23.7	21.5	23.5	20.2	21.7	21.7	18.2	15.7	18	17.5	17.6	17.5	19.9	20.5	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Maximum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	22.5	24	26.7	21.6	22	23.2	25.1	25	26	25	24.5	21.7	23.8	23.8	22.3	21	22	24.5	22.3	24.8	22	19.3	21.5	25	25.8	23.5	24.5	20	20.5	19.4	-
Dec-02	22.5	22.4	23.3	26.4	28	27	26.5	24.6	19.5	24.4	20.8	25	25.7	25	24.2	26.3	27.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Jan-03	26.4	28	28	25.9	27.5	28	27.6	29	28.8	28.4	28.3	28	23.7	25.5	29.2	27.4	28.6	27.5	25.5	25.5	27	26.6	24.5	26	27.2	27.5	24.6	26.9	28.5	24.5	23
Feb-03	25.6	23	25	----	----	----	----	----	----	----	28.5	26.8	27	25.2	25.5	24.5	28	24.5	27	27	23.7	25.8	26.5	24.2	25.7	28.3	26	26.8	-	-	-
Mar-03	26	23.5	28.5	28.5	28.9	27.5	27.2	23.7	25	23.4	23.5	23	25.5	25.5	28	26	27.6	26.9	28.1	28	28.5	26.5	27.2	26.3	27.8	27	26	27	27	27.8	27
Apr-03	26.8	25.9	23.5	26	25.5	23.5	24.3	26.5	25.6	24	26	25.5	25	27.1	25	25.1	27	26.3	24.2	24.6	24.5	25.5	26.5	27	27	27.6	23	22.3	23.6	22	-
May-03	22.7	26	26.3	26	25.6	25.2	24.6	23.7	23.5	23.2	25	23.5	24	25.8	23	25.5	25	22.1	25.5	23.5	24.4	24	26.5	26	23.9	23.5	23.5	23.2	25.3	25	20.5
Jun-03	20.6	21	21.5	20	20.9	22	23.5	22	23.4	24.7	22	19.1	19	20	19.3	19.3	22.2	24.5	23.5	21.7	22.7	18.5	20.5	20.5	18.6	20.3	20.3	19	21.5	22.2	-
Jul-03	24.4	22.8	23.5	25.6	24	23.1	19	17.8	17.5	19	20.7	21.8	18	17	17.3	18.5	20.9	24.1	23.6	19	20	18.2	19.5	19.5	19.5	18.5	19.2	19.7	23.6	19.5	22.5
Aug-03	25	23.5	22.4	15.5	17	18	18.1	20	20.5	21.5	18.5	22	20	23.5	20	18.5	21	21.5	21.5	23	23.5	21.5	21	19.8	20.8	21.2	21.1	20	23.5	19	19
Sep-03	19.2	21.5	23.1	19.9	22.9	22.4	17	18.2	20	19.1	22.5	22.8	21.9	22.6	24.5	25.7	24	24.5	25.3	24.5	26.8	24	21	21	20.8	20.6	20.1	22.9	24.5	24.5	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Minimum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	18.3	17.3	18.7	18.2	16.5	19.5	19.6	18.9	18.9	19.2	19.4	18.5	16.5	18.3	18.5	17.7	16.7	18.2	18.2	19.3	19.8	16.2	15.5	16.7	16.6	17.5	16.8	16.8	15	15.8	-
Dec-02	16.3	16.5	18.7	19.8	19.7	19.7	19.3	20	18.2	18.5	18	18.6	16	16	17.5	20.6	20.5	18.3	----	----	----	----	----	----	----	----	----	----	----	----	----
Jan-03	20	19.2	18.7	16.1	15.5	16.7	20.5	20.6	18.5	19.8	19.5	19.7	20.5	20	18	20.3	22.5	17.6	19.7	21	21.2	21	20.5	20.5	20.6	20.7	21	19.5	17.9	20.6	19
Feb-03	18.6	16.2	17.4	17.2	18	18.6	20.6	20.7	21	20.6	19.4	19.3	14.5	17.4	16.4	19	17	19.8	20	20.2	18.5	19	18.3	18.3	20.3	20.4	20.4	19.8	-	-	-
Mar-03	19.6	20.2	20.1	20	19.5	21.5	22	22	21.6	20.7	20.9	20.7	20	21.5	21.2	21	20.5	18.1	18.5	18.6	19.3	18	18	17.6	18.8	19	20.5	19.5	19.5	21.5	21.6
Apr-03	20.7	20.8	20.5	20.5	20.3	19.9	20.7	21.3	21.5	21	20.5	19.5	19.6	18.5	17.3	16.3	15.5	15.3	19.2	20	19.5	20.5	20.2	19.5	18.9	20	20.6	20	20.5	20.5	-
May-03	18.9	20.1	19.5	19	19.2	18.6	17.8	20.5	19.9	20.8	19.8	20.6	20.3	20.2	20.1	19.5	18.5	20	18.2	18.9	18.5	18	17	17.5	19.9	17.3	17.5	16.7	15.2	17.7	16
Jun-03	14	12.5	17.4	17.6	16.7	17.5	17	16.5	17.8	19.5	20	16.9	15.1	14	----	15.5	14.9	18.2	18.9	19.5	17.8	15	14.9	15	13.5	15.3	15.7	16.2	16	15.7	-
Jul-03	14.5	16.5	15.3	14.5	15.5	18	17.5	14.5	15.6	15.1	16	18	16.5	14	14.3	15.3	16.6	16.9	16.4	17.6	17	17.1	15.5	13.5	12.3	11.2	13.2	15.5	11.2	16.5	17.4
Aug-03	18.7	15	16	15.5	14.5	13.5	13.9	14	14.7	17	17.2	16.2	13.3	13.5	13.5	11.5	12.2	13	17	18.8	17.2	17.5	16.5	13.2	10.5	10.5	11.2	13.8	11.2	13.2	11.6
Sep-03	10	10.5	11.3	11.5	15.5	11.5	13.5	14	15.8	13.8	13.2	14.8	14.5	13.9	18.2	17.2	16.9	19	17.2	18.8	15.7	15.7	15.2	14.5	13.1	13.8	15.5	16	15	14.1	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rainfall

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	2.6	3.7	33.7	12.1	32	48	26	4.5	9	42	12.5	0.8	4.5	24.2	21.6	1.8	2	10	8	96	7	2	0	0	0	2	1.2	0.6	1	1	-
Dec-02	0.2	7	4.2	3	9	35.5	16.8	1	9.2	1.8	12	1	0	0	12.8	59.8	15	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Jan-03	3	0	0	0	0	0	12.8	6	5.7	13.9	24	0.1	75	5	26	4.1	15	7	2	6	4	11	43	5.7	17.9	18.2	4	0.1	8	14	1
Feb-03	0	0	0	2.5	5	7	80.7	45	13	1.2	4	0	0	0	3	0	11	10.5	3.5	10	33	26.6	36	71	6	37	1	62	-	-	-
Mar-03	19.2	24	0	15	0	1.7	13	23.7	34.9	34	51	105	30	12.5	8	16	0	31.7	3.5	0.1	0.2	0.8	28	22.5	32	24	10	0	14	12.5	0.3
Apr-03	9	31.8	1.2	16.5	2.3	18	24.9	6.5	29.8	2.5	4.2	1.5	9.8	1	0	0	0	0	13.4	0.3	2.7	9	0.2	4	52.5	63	176	72	118	133	-
May-03	4.2	4	0.2	4.8	1	0.2	11	15.2	37	1.7	1.8	34.7	10.5	2	0	0	2	30.5	4	25	32	3.5	0	0	1.5	0	2.2	0	0	12	12.2
Jun-03	2.8	7	9	14	12.5	8	7.5	0.8	5	10.1	39.8	1.6	3.9	0.4	19	4.5	12	2.8	14	8.5	4	0	0	0	0	2.8	7.2	24.8	3.9	0	-
Jul-03	0	0	0	0	3	9	20	15.8	5	1.3	7	10.7	1.1	6	12	43	4	0	7	9	4.8	10	4	0	0	2.8	7	0	1	9	3.2
Aug-03	2	0	0.1	2	2	0	0	0	1.6	18	30.1	1.3	0	0	0	0	0	0	75	3.8	2.8	0.2	0	0	0	0	0	0	0	0	0
Sep-03	0	0	0	0	0	0	0	4	5.5	0	0	0	0	0	7	0	0	0	0	0	0	19.8	1.5	0	0	0	0	0	0	0	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 8 Weather observation data at 6 sites in Viti Levu South area MONASAVU (2)

Relative Humidity

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	91	93	82	98	97	95	97	87	82	84	98	98	97	86	99	96	82	85	95	98	99	98	85	68	79	88	80	91	90	93	-
Dec-02	88	79	94	88	97	90	89	91	87	96	81	92	70	50	86	89	91	72	94	83	87	93	93	94	98	98	96	75	75	92	95
Jan-03	94	69	71	50	64	67	67	90	61	77	83	76	96	88	72	95	75	77	91	95	90	87	91	90	85	79	95	83	86	98	90
Feb-03	85	81	74	90	79	95	96	89	93	91	76	87	67	81	82	79	82	90	89	95	94	91	73	91	89	84	85	87	-	-	-
Mar-03	83	95	95	75	80	91	86	94	94	87	91	94	93	85	85	87	80	80	87	79	70	76	76	74	92	85	91	91	90	85	84
Apr-03	86	88	96	82	92	97	95	95	89	91	95	95	93	83	81	78	64	72	99	73	92	92	87	75	90	91	94	94	94	94	-
May-03	86	84	82	91	87	91	85	91	93	90	89	87	87	79	93	87	92	91	95	90	89	86	87	88	83	88	86	80	90	90	93
Jun-03	88	80	83	89	90	94	84	83	91	91	98	95	88	73	80	95	87	98	86	97	98	86	81	87	89	83	84	91	90	91	-
Jul-03	92	98	83	94	77	80	96	96	94	90	92	97	93	89	93	94	97	81	90	96	97	90	91	79	93	89	74	96	84	96	97
Aug-03	96	88	99	80	94	84	85	90	82	86	97	90	76	75	67	67	80	94	97	92	81	98	84	87	64	76	77	84	67	84	69
Sep-03	80	65	63	69	62	77	86	92	94	85	90	94	93	84	86	79	63	82	71	86	77	70	82	89	57	67	84	88	74	77	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wind Direction

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	130	130	130	130	130	130	130	130	130	130	130	130	130	130	90	130	130	90	130	130	90	130	130	130	180	90	130	130	130	130	-
Dec-02	130	130	130	90	130	220	180	130	180	90	90	90	180	130	130	130	130	200	200	90	130	130	90	130	130	130	130	90	130	90	50
Jan-03	50	130	130	130	130	90	130	130	50	200	130	130	50	230	130	130	0	130	130	130	50	130	130	90	90	340	90	130	200	130	130
Feb-03	130	130	50	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	50	50	130	130	90	220	130	130	130	130	-	-	-
Mar-03	130	130	130	130	130	130	90	90	130	130	130	50	130	130	130	50	130	130	130	130	130	50	130	320	130	130	50	130	130	130	130
Apr-03	130	50	130	90	90	130	130	90	50	320	130	130	130	130	130	160	90	130	130	130	130	130	90	----	90	130	50	220	130	50	-
May-03	50.0	50.0	90.0	130.0	130	130.0	130.0	130.0	130.0	130.0	130.0	90.0	90.0	270.0	130	130	130	50	130.0	130.0	50.0	50.0	130.0	130	130	230.0	180	180	130	130	320
Jun-03	30	30	30	30	90	30	30	30	30	30	30	30	30	30	50	90	90	90	20	30	30	30	30	50	50	30	90	90	90	90	-
Jul-03	130	90	130	130	130	130	130	130	130	130	130	130	130	130	90	90	90	130	130	130	50	50	130	130	130	130	50	130	130	130	130
Aug-03	130	130	130	130	130	130	130	130	200	130	200	220	220	130	130	90	90	90	130	130	270	270	220	320	130	130	130	50	130	130	130
Sep-03	130	50	320	320	130	90	90	130	230	130	130	90	130	130	50	130	50	130	130	90	130	130	130	130	----	130	130	130	130	130	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wind Speed

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	3	2	1	2	2	3	2	1	3	2	2	3	2	2	3	3	2	4	1	2	2	4	2	3	2	2	2	2	2	2	-
Dec-02	2	3	2	4	1	3	3	1	2	2	3	3	4	5	5	5	2	3	2	4	1	3	5	3	3	4	5	2	3	4	3
Jan-03	3	1	1	1	1	3	2	1	2	3	2	2	3	5	1	1	0	1	1	1	1	1	2	3	3	3	4	1	2	1	1
Feb-03	2	2	3	2	2	2	2	3	2	3	4	2	2	1	2	2	2	4	4	4	2	2	3	2	2	2	2	1	-	-	-
Mar-03	2	1	1	2	2	2	3	3	2	1	4	4	5	2	2	3	1	1	3	1	1	2	2	1	2	2	2	2	3	2	3
Apr-03	4	3	3	5	4	3	3	4	4	3	1	1	1	1	1	4	1	3	3	4	3	3	2	1	2	1	2	3	4	4	-
May-03	2	1	3	2	2	2	1	1	3	2	3	4	5	2	1	1	1	2	1	1	2	1	1	1	1	2	2	2	2	1	2
Jun-03	2	2	2	2	3	1	1	3	2	3	2	3	4	4	4	3	2	2	3	1	1	2	3	3	4	3	3	3	3	2	-
Jul-03	1	3	2	1	1	1	1	2	4	3	3	3	4	3	3	4	3	2	1	1	1	2	1	2	2	2	3	2	1	1	1
Aug-03	2	2	2	1	2	1	1	1	3	3	3	2	3	2	2	2	2	3	3	2	3	2	1	4	3	4	3	4	1	1	1
Sep-03	2	2	2	1	3	2	2	2	3	1	3	3	2	1	1	3	2	2	3	3	3	1	3	3	----	3	3	1	1	1	-
Oct-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 8 Weather observation data at 6 sites in Viti Levu South area NACOCOLEVU (1)

Atomospheric Temperature at 9 am

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	27	27	26	27.2	26.1	26.9	----	----	28.3	28.5	29	29.4	29	28.1	27.2	27	27.5	26	30	27.5	25.8	28.4	27	30	----	----	28.5	30.5	29	28.5	26
Jan-03	28.5	29	28.5	29.4	28.6	27.8	29.9	30	29.5	29	30.8	29.5	26.9	27.9	29	26.6	29.4	29	29	29.6	31	29	30.3	29.1	28.7	27.4	28.1	28.6	26.4	28.5	26
Feb-03	29	28.5	25.5	29	29	28	28	28.5	29.5	28.5	----	28.5	25.5	26	28	29.5	27.2	30	28.6	29	28	28	28	27.7	27.7	28.4	27.6	27	-	-	-
Mar-03	28.5	27.8	27.7	28.3	28	28.5	29	29	29	28	27.4	28.9	28.5	27	30	29.3	27.8	26.5	26.2	27	28.4	26	26.4	28	28.5	29.6	27.5	28.5	28.5	28	29.2
Apr-03	28.5	27.5	27.2	30	27.9	27.2	29	28.5	29.5	26	27.5	27.1	----	27.9	27.8	26.5	24.5	26.1	28.8	24.6	24.5	28	28	27	27	29	27.5	27	27	26.5	-
May-03	25.7	25.5	26	26.2	29.2	27.4	28.5	25.5	28	22.8	27.9	28.9	29	28.5	27.8	28.5	29	24	23.2	26.8	25.6	25.5	24.4	25.1	24.3	26	27	26	25.5	25.5	23.4
Jun-03	24	24.2	25	25.5	25	25.5	24.5	24	26.5	24.5	25	22.3	21.8	24	24.5	21.5	23.2	25.2	26.5	25.5	26.5	23.2	25.3	22.5	19.9	18.3	24.3	----	----	23.4	-
Jul-03	21.5	22	20	21	----	23.8	21.5	22.7	22.3	25.3	25.2	24.3	23.8	23	22	24.5	25.8	24.5	24	24	22.9	22.9	22.7	----	19.2	19	22.5	21.2	21.5	25	24.5
Aug-03	26.5	27	24	21.4	22	23	23	21.2	22	24.5	19.5	21.8	20.5	19	21.5	22	21	19.9	23.8	22.5	23	23.3	21.2	20.9	20	20	21.5	21	23.8	21.2	22.3
Sep-03	23.5	21	19	20.5	23.6	23.4	23.5	22.4	20.4	21.2	23	23	24	25	27	26	26	28.5	27	27	27.5	26	24.5	24.5	25.1	25	26.5	27	25.4	26.5	-
Oct-03	25	26	25	27.5	26.8	28.1	24.5	25	25.5	26.5	27	27.5	29.5	29	25	23.5	24.1	25.5	26.2	23.2	27.8	26.5	27	26.5	27	26	26	24.5	28.5	26.5	25.5
Nov-03	----	----	28.5	28.8	29	27.5	25	28	30	25.2	24.7	27	28	27	26.5	26.5	26.5	28	26.1	22.5	25.5	25	21.5	26	26.2	29.8	30.5	28.4	----	----	-
Dec-03	25	28	28	27	27.5	28.5	27.4	28	26	29	29	30	28.3	27.7	29.5	29	27	24.5	25.3	29	29	28.6	28.2	29.6	29.5	30	30	30.5	28.5	30.5	28

Maximum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	30	30.4	28.8	28.7	30	----	----	32.3	31.4	32.3	30.6	34.4	32	31.5	28.5	28.5	29	31.5	31.5	31.4	29	32	30.5	----	----	34	33	32.9	33.5	30.5	----
Jan-03	33	34	31.5	31.9	32	32.6	32.2	33.5	33	32.2	33	35.5	31	30.5	35.1	33.5	33	32	32.8	32.2	34	32.8	32.5	31.7	34	31.3	30.8	31	31.5	32.9	33
Feb-03	31	31.5	31.5	32.5	31	31.5	32.1	30.9	31.5	----	32	30.5	31	31	31	32.3	32.2	32	33.5	33	33.5	31.5	32	32.7	32.4	33	32.9	33	-	-	-
Mar-03	29.5	31.6	33.5	32.2	34.5	33.7	31.2	31	34	30.9	30.5	29.5	31.5	31.1	32.3	32.3	33.3	31.6	31.9	31.6	32.5	31.9	32.5	32.5	32.4	33	33.5	32.5	33	32.8	32.2
Apr-03	33.5	33.5	30	32.5	33	33	33	33.5	32	29.5	30.4	----	30.9	30	30.7	31.5	31.5	31.9	31.5	32.3	33	34	32.5	33	32	30.6	30.8	30	31	30.5	-
May-03	29.9	29	28	32.5	32	30.9	33	28.1	30	28	32.2	32.5	32.5	31	32	31	32.5	28	30.1	31.9	30.6	31.8	31.7	31.4	31.5	29.5	30.5	30	30	29.8	28
Jun-03	28.5	29.4	28.5	29.5	30	30.5	31	31	29.8	31.5	27.4	24.5	25	25.5	28	27	29.2	29.5	28.5	29.5	27	28	27.9	31.1	27.2	27.5	----	----	30	30	-
Jul-03	29.5	30	30.5	----	27.2	29.7	23.9	23.8	25.3	27.7	27.9	25.2	26	26	28	30	28.5	29.5	27	24.6	27.5	24.5	----	25.2	25	25.5	27.5	27	28.5	----	30
Aug-03	28	31	26.7	23.6	24.5	26.5	26.2	25.5	28	28.3	24.8	26.3	24.6	25	25.8	25.6	27.6	28.5	29.8	28	28	25.8	26.5	24.5	25	25	26	27.2	25.9	24.6	24.5
Sep-03	25.5	26.5	26	28	26	25.2	25	25.2	25.6	26	26.5	27.5	27	29	31	32	30	31.5	31	----	----	----	31	31.5	27	28	28	30.5	30	29.5	-
Oct-03	28.5	27.5	28.5	30	30	29.9	27	28.5	29	29.5	29	31.5	31	29.5	27	28.2	26.9	28.5	29.8	30.3	30	28	29	28.5	28.5	28.5	27.5	29.5	30	30	----
Nov-03	----	31	32	31.5	30.5	30.4	30.5	32.5	32.2	29.2	29	29.8	31	31	31.5	28.2	29.5	29.8	28.5	26.5	29.2	27	29	30	32.1	35	33	----	----	33	-
Dec-03	31.5	30	32	30	29.8	32.2	33	31	33	32	32	33	30.8	33	32	32.6	32	30.2	29	31	30.9	30.5	30.8	32	32	32	33	32	33.5	32	33

Minimum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	19.4	19.5	22.9	23.9	23.9	23.7	----	----	22.2	21.4	20	21.9	21.8	17.4	20.2	23	25	23	23.5	23.3	24.5	24.1	24	23.5	----	----	23.5	22.6	21.4	22	22.5
Jan-03	24.5	24	22	19.9	21	21	22.2	24	24.5	23.5	22.7	24.4	22.9	24	23.5	24.4	24.9	23	23	24.5	23.8	23.5	23.7	23.4	24.4	24	24.2	23.5	22.1	23.4	22
Feb-03	22	19.5	19	21.5	21	21.5	23.5	24.2	24.6	23.5	----	21.2	18.5	19	20	21	18.5	22.5	21.5	22	23	24.5	21.5	22.2	22.4	23.3	23.6	23.5	-	-	-
Mar-03	22	23	23.5	24.7	24	23.5	23.1	23	22.5	23.7	24.2	23.9	23	25	23.9	24	23.4	22.9	22.4	22.3	22.9	24	22.2	23	23	23.3	22.6	23.5	23	23	22.4
Apr-03	21.5	23.5	24	22	25	24	26	23	24	24.5	23	22.5	----	22.9	20.9	18.9	18	19.5	22.5	21.5	20	23.5	23	22.7	22.5	24.1	23.6	24.2	24.5	24.4	-
May-03	23.5	22	21.8	20.9	21.5	22.9	22.5	25.5	22	22.6	21	21.5	23	23.3	22.3	23	21.5	22	20.5	21.4	19.5	21	21.5	22.5	21.9	20	19	19.5	20.5	19.5	20.5
Jun-03	17.9	16.9	18.5	21.5	17.5	18	17	18	20	21.5	23.6	21.4	17.5	14.5	14.5	18.5	18	21.5	22.5	22.2	22.5	18	15	15.5	14.6	15.2	17.5	----	----	17	-
Jul-03	17.5	17.5	16	16	----	18	21	19.2	20.1	16.5	16.2	21.9	21.4	23	22	19	20	21	22	22.5	21	21.4	17.9	----	17.3	15	17.2	16	15.5	18	21.4
Aug-03	20	19	21	19.3	18	15	16.5	14.6	16.2	20	18.5	18.7	16.2	14.3	13.4	12.8	14.5	14.5	16.8	21.3	20.3	20.3	16.2	16.8	20	15	13	12.5	12.5	17.5	14.5
Sep-03	11.5	13.2	13.6	14.5	16	14.5	18.4	18.5	19.1	18.1	19.5	16.4	17	16.5	16	20	19.5	20.5	18	19	18	19	19	15.3	14.2	14.9	17	16.5	15.5	14.5	-
Oct-03	17.5	14.5	14.9	16.5	17	22	21.9	17	16	17	18	17.5	20	21	21	19	20.1	21.6	22.2	22.5	23	20	18.5	16.5	18	17.5	14.5	16	17.5	17.5	14.5
Nov-03	----	----	17.9	18.5	21	20.5	20	21	21.5	22.5	23.6	22.5	21.9	20	21.5	20.5	17.5	18	21.6	19.5	22.2	22.5	20.5	18.5	19	20.6	21.5	22.2	----	----	-
Dec-03	21.5	21.5	23	23	23.5	22.4	22.4	21	20.5	22	22.5	23	23.9	22	22	22	21.6	21.5	22.9	23	23.5	23.6	24.4	23.9	23	22	23.5	22.5	23	24.5	24.5

Rainfall

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	0	0	6.6	9.1	9.9	----	----	0	0	0	0	0	0	7.2	8.8	8.7	31.2	0	10	4.1	0.5	0	0	----	----	1.6	0	0	0	0	----
Jan-03	3.4	0	0	0T	0	0	0	0	0	3.8	0	0	13.8	9.9	4.2	2.5	0	0	0	7.7	0	0	0.9	20.4	100	51.1	1.8	0T	0	14.1	0
Feb-03	0	0	0	0	0.1	7.4	4.5	6.9	0T	----	0	0	0	0	0	0	0	3.5	0T	2	0.5	1	7.8	0T	0	0	17.9	33	-	-	-
Mar-03	15.5	0.8	0	5.4	0	23.9	35	0	17.9	5.6	28.5	101	5.7	8	5.6	26.4	12.4	9	0	0	3.1	0	0	23.1	7	0	0	32	0	0	0
Apr-03	0	9.8	0	0	0	0	15	0	23	0	3.2	0	96.2A	0.1	0	0	0	0	0.1	0	0	19.5	0	0	31.5	1.4	4.5	0	0	0	-
May-03	0.6	0	0	0	0	0	1.6	1.6	3.4	0.3	0	0	0	0	5.1	0	0	43.1	0T	0	0T	3.4	0	0	0	0	0	0	0	0	0
Jun-03	0	0	0	0	0	0	0	0	0	6.5	7.6	2.7	0	0	0	0	0	0.2	0.8	0	0	0	0	0	0	0	0	0	0	0	-
Jul-03	0	0	0	----	0	52.6	17.7	0.5	T 0	0	0	1.3	0	0	0	3.9	1	0	0	0	0	6.3	----	15	0.1	0	0	0	0	0	0
Aug-03	0	3.8	0	0	0	0	0	0	0	16	70.5	0	0	0	0	0	0	0	21.9	8.6	1.4	0	0	0	0	0	0	0	0	0	----
Sep-03	0	0	0	0	0	0	4.6	0	0	0	0	T 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	T 0	0	-
Oct-03	0	0	0	0	0	1	0	0	0	0	0	0	9.2	3.8	0	0	0	0	81.2	1.1	0	0	0	0	0	0	0	0	0	0	----
Nov-03	0	0	0	0	0	0	0	0	8.8	0	0	0	0	0	0	0	0	0	A 4.8	0	0	3.5	1	0	0	0	5.8	0	0	30.0A	-
Dec-03	4.2	0.6	0	8.4	2.5	21	0	0	0	0	3.5	5.9	48.6	0	0	0	50	0	1.6	0	0.8	11.8	0	42	32	0	0	0	0	0	0

Appendix 8 Weather observation data at 6 sites in Viti Levu South area NACOCOLEVU (2)

Relative Humidity

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	62	63	87	89	91	84	----	----	68	67	61	65	64	60	72	88	88	91	71	88	92	74	84	71	----	----	81	63	67	70	88
Jan-03	67	74	74	64	67	83	71	75	75	78	73	81	88	84	81	95	85	78	74	79	73	78	68	76	85	89	87	80	88	78	95
Feb-03	74	70	79	67	64	77	84	81	78	88	----	77	79	80	74	64	73	68	73	73	77	70	77	85	82	84	83	88	-	-	-
Mar-03	80	86	86	84	88	81	83	83	84	83	92	78	87	91	78	80	82	90	93	84	84	94	88	77	96	74	83	81	81	84	82
Apr-03	81	84	88	71	83	90	77	81	81	95	88	70	----	83	77	80	87	80	76	97	87	84	84	91	84	84	83	84	84	84	-
May-03	93	90	90	91	78	82	77	95	77	97	81	78	77	81	81	81	78	91	89	80	79	87	91	97	79	84	69	69	83	83	85
Jun-03	75	85	75	75	79	79	79	83	72	91	91	90	78	67	67	81	81	83	87	84	87	81	81	82	95	91	71	----	----	81	-
Jul-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-03	78	77	84	92	100	90	90	80	90	88	94	89	94	85	73	82	80	88	84	98	93	92	89	89	86	100	81	81	81	75	60
Sep-03	59	66	90	86	78	64	69	76	86	89	82	78	71	83	77	91	76	67	91	91	96	76	71	71	53	68	55	56	62	65	-
Oct-03	76	91	92	99	97	96	75	61	61	55	84	66	61	64	72	87	76	70	78	98	74	76	69	65	56	65	62	75	67	72	61
Nov-03	----	----	97	58	67	63	74	84	65	90	86	73	75	69	63	66	51	54	65	87	76	79	95	76	73	66	69	80	----	----	-
Dec-03	76	77	81	96	96	88	91	70	95	71	71	71	77	77	71	71	80	95	94	78	82	83	86	71	78	78	71	72	81	75	77

Wind Direction

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	130	60	170	20	210	80	----	----	80	130	130	360	100	130	180	110	130	70	50	230	90	100	110	120	----	----	100	130	130	160	100
Jan-03	130	20	290	40	60	10	100	40	30	30	80	70	50	190	60	10	180	250	130	0	100	70	0	30	0	70	140	10	80	30	30
Feb-03	280	290	60	130	130	60	130	90	100	30	----	280	210	220	60	60	310	210	360	110	60	180	90	50	40	40	40	20	-	-	-
Mar-03	210	220	10	100	100	30	90	110	120	310	20	210	320	60	10	30	40	60	40	80	100	40	40	30	0	0	50	40	20	60	10
Apr-03	0	50	0	20	20	120	20	30	30	0	20	30	----	0	0	10	60	50	50	300	300	50	40	0	20	90	0	110	80	0	-
May-03	0 2	0 1	140.0	140	0	50	90	340	150	0	0 1	0 1	40.0	30	50	40	130	50	350	50.0	90	90	30	90	340	30	60	30	40	30	220
Jun-03	30	0	10	80	80	70	0	60	40	0	30	60	40	40	40	40	20	0	30	10	20	20	30	30	10	20	60	----	----	10	-
Jul-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-03	0	0	0	0	60	50	50	40	40	190	210	50	60	220	0	30	60	0	70	70	60	60	200	220	50	10	20	40	80	0	150
Sep-03	130	40	360	50	360	100	100	130	20	100	200	0	40	60	40	50	30	90	30	20	30	90	20	20	100	10	360	40	280	230	-
Oct-03	280	30	160	10	10	300	180	290	0	310	280	10	30	130	100	100	110	----	----	0	220	0	130	80	110	100	50	60	280	10	50
Nov-03	----	----	30	20	100	190	0	270	290	60	60	60	70	60	250	210	250	110	280	250	270	50	50	50	0	10	10	20	----	----	-
Dec-03	140	100	140	140	80	50	70	70	90	130	130	140	90	0	110	0	0	0	0	0	0	350	140	50	250	90	80	70	120	120	130

Appendix 8 Weather observation data at 6 sites in Viti Levu South area NAUSORI (1)

Atomospheric Temperature at 9 am

	1st	2日	3日	4日	5日	6日	7日	8日	9日	10日	11日	12日	13日	14日	15日	16日	17日	18日	19日	20日	21日	22日	23日	24日	25日	26日	27日	28日	29日	30日	31日
Nov-02	26.4	25.9	25.6	24.3	25.7	26.9	27.9	27.2	27.5	26.6	27.3	25.5	25.6	23.7	25.6	24.8	25	27.3	26.9	27.7	24	24	24.2	25.2	25.8	25.4	25.7	25.6	25.6	25	-
Dec-02	25	25.2	24.6	26.5	27.5	26.1	27.5	25.4	27.5	27	27	28	28.2	27	26.6	26.1	26	27.2	28	28.1	25.9	26.3	26	27.4	27.8	28.5	28	27.6	27.2	27	27
Jan-03	27.5	28.6	27.9	26.4	26.8	27	29.5	27.5	29.3	28.2	28.5	28.8	27.4	26	28.8	28.6	29	27.8	27.5	25	29.9	28.5	29	29	28.5	29	25.8	26.5	26.6	25.1	25.7
Feb-03	28.4	27.2	27.3	27.2	27.2	28	24.5	28.2	28.2	28.3	28	27.5	26.5	26.8	27	28.1	26.8	26.1	28.6	28.7	29	28	27.2	25	28	28.5	27.2	27.1	-	-	-
Mar-03	28	25.5	27.6	28.5	28.4	29.1	29.5	28.9	29.2	25.2	28	27.5	25.8	28	28.3	28.5	28.5	27.5	27.5	28.3	28.1	27	27.9	27.5	23.5	26.5	29	28.6	29.1	29.5	29.1
Apr-03	29.4	28.9	27.8	30	28.6	27.5	27	29	27.5	26.6	26.3	27	28.4	25.7	25	25	24.7	26.1	26.2	28.4	26.1	27.3	28.2	28.9	27.6	26.5	27.3	26.1	26.6	25.5	-
May-03	23	26.7	27.9	26.4	26.3	24.5	26.5	25.5	26.2	25.3	27.6	28.9	28.4	26.6	29	28	27	27.4	24.2	24.1	25.1	25.5	25.2	26.9	27.5	26.4	26	26.4	25.5	26.5	24.5
Jun-03	25.1	24	25.7	25.5	25.3	26	24.5	24	24.2	25.5	24.3	22.1	22	24	25	21.9	23.2	24	26	25.5	23.4	25	23.9	24.1	23.4	24.3	23.9	23.4	23	23	-
Jul-03	22.4	25.5	23.3	22.5	24	25.4	23.1	20.5	22.5	24	24.4	23.3	23	22.1	23.9	23.5	23.9	25.1	22.8	22.8	22.8	22.2	22	22.9	20.6	21.5	21.4	22.4	21.2	23	23
Aug-03	25	24.8	22	22.3	21.1	22.5	22.1	22.6	23	22.5	21.5	21.1	21.4	20.3	18.5	20.9	21	22	23.8	23	22.9	23.1	21.8	21.5	22.1	21.7	19.5	21.7	22.3	22.8	21.8
Sep-03	21	21.2	21.5	21	23.5	23	22.4	20	21	23	22.9	23.5	23.6	23	25.6	25.9	25.9	26.7	26	25.8	26.6	25.6	23.8	23	24.4	24	25	25.1	25.5	25.4	-
Oct-03	24.6	24.6	24.5	26	25.9	26.8	24.5	23.7	25.4	25.5	25.9	25.4	26.5	26.6	23	22.1	23.4	24.5	25	24.5	27.4	25.7	25.8	26	25.7	23.8	24	26.1	26	26.3	25
Nov-03	26.7	27.9	27.5	27.5	27.1	22.5	25.7	26.2	26.8	25	23	25.6	26.7	26.5	26.8	25.1	24.1	26	25.6	22	25.8	23.7	23	25.2	26.1	26	27.2	29.5	28.5	27.6	-
Dec-03	27	26.9	27.4	26.1	26.3	27.5	27.5	27.2	27.2	27.5	28.5	29	26.4	28.1	27.5	28.3	29.1	24.3	27.2	27.3	27.2	28	27.7	27	28.5	28.4	27.8	28.9	26.9	29	28.2

Maximum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	26.9	28.2	29.7	26.5	27.1	29.2	29.7	28.2	29.5	29.6	28.6	27.5	27	26.4	26.8	27.1	27.8	29	27.9	27.9	26.4	26.5	26.5	27.5	28.4	28	27.1	27.5	27.5	26.3	-
Dec-02	27.5	27.9	26.5	27.5	30.1	28.8	30.7	30	30	29.6	29.5	30.7	30.1	28.6	27.8	28.6	27.8	30.6	31.4	30.5	27.5	28.8	29.1	30	29.3	31	30.8	29.8	29.8	29.1	27.7
Jan-03	30.3	32.7	31.3	32.3	32.5	31.9	33	33.5	32.6	32.6	32.2	31.7	28.4	29.8	32.6	34.3	30.5	30.8	31.3	30	32.6	31.8	30	31.5	32	30.7	28	30.4	31.5	28.7	30.4
Feb-03	30.3	29.5	30	29.8	29	30.3	29.5	31.3	31	30.9	30.4	29.2	29.5	30	30	30.7	31	30.7	31.5	30.7	32.5	30	29.2	31	31.5	33	31.8	32	-	-	-
Mar-03	31.5	27.8	32	32	32.9	32.5	32.8	31.9	32.7	28.5	30.1	30.5	31.5	30.4	34.6	33.6	32.5	31.9	32.5	31.9	32.6	32	32	31.7	31	32.5	30.3	31	31	31.8	31.6
Apr-03	30.9	31.7	30	31.5	31.2	28.7	30.2	31.1	31.7	29.6	29.7	30.6	30.2	29.5	30.5	30.5	30.9	31.1	29.9	31.1	29.9	31.1	32.1	31.2	31	30.5	27.9	28.3	29.3	27.4	-
May-03	28.3	30.5	30.9	30.7	30.4	30.1	31.5	28.9	28.5	28.1	30.6	30.1	29.8	29.6	31	30	30.1	29	28	29	28.7	29.9	30.3	30.4	30.1	28.6	28.3	28.6	28.7	29	26.5
Jun-03	27	27.3	27.5	28	27.5	27.7	28.8	29	28.5	29.7	26.3	24.2	25.2	26.2	26.5	23.5	27.8	26.5	29.6	26	25.6	26.6	26.5	25.5	25.8	26	26.8	25	27.3	27.5	-
Jul-03	28.9	28.4	28.2	28.7	28.6	28.8	23.7	24.5	24.5	25	26.2	24.4	24.8	25.6	26.8	27.9	27.9	27.9	23.4	23.4	25.4	24.3	23.8	24.6	24.6	24.8	25.7	25.3	26.3	25.9	27.5
Aug-03	30.4	31.2	26	23.7	22.7	24.9	23.7	24.6	26.3	25.8	23.5	25	25	24.5	25.1	25.5	26.5	26.4	26	27.3	27	25	25.3	25	24.9	24.5	25.4	25.5	25.8	24.1	24
Sep-03	24.7	25.7	26.5	27.2	27.2	24.8	23.4	23.6	23.7	26.6	26.3	25.5	26.3	26.6	28.3	29.8	29.8	29	28.2	28.2	29.6	27.3	27	25	26	26.5	26.5	27.5	28.4	28	-
Oct-03	26.7	26.4	27.6	28.8	29.5	30.2	30	26.4	27.6	28	27.5	27	29.6	30.1	24.3	24.2	25.1	25.6	25.4	27.8	28.5	28.5	28	28.2	27.7	26.5	27	27.5	29.5	27.7	28.9
Nov-03	29.5	29.8	30.8	30.5	29.4	26.6	27.5	28.5	29.5	27.7	26.1	28	29	28.5	27.6	26.4	26	28.5	26.4	26.1	27.2	25	25.5	29	29.5	30.5	30.6	31.5	30.7	29.3	-
Dec-03	28.8	28.7	29.5	28.6	27.6	30.7	29.4	28.7	29.5	29.5	30.2	30.5	28.6	29.5	30.4	30.6	30.5	27.4	27.7	30	29.2	29.1	30.5	30.4	30.8	30.1	29.5	30.8	30.4	30	30.5

Minimum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	23.1	23.2	23.5	23	22.3	23.6	24	23.3	22.5	22.5	24.2	23.5	22.4	21.5	23.2	22.3	21	22.4	23.9	24.7	22.5	22.6	19.7	22	21.6	23.6	22.1	20.8	21	21.6	-
Dec-02	19	21	23.3	24	23.9	23.9	22.6	23.3	23	23.6	20	24.6	21.2	19.1	24.2	24.3	24.3	23.6	22.5	24.9	25	24	24.9	23.8	25.5	25.3	25.5	24.9	22	24.9	25.1
Jan-03	24.7	21.9	23	21.5	20.9	23.1	24.2	25	24.5	24.2	24.5	24.8	25	24.5	23.8	24.6	25	22	23.9	24.5	24.7	24.2	24.5	24	24.5	24.8	24.2	24.5	23	23	22.2
Feb-03	22.5	19.8	19.6	22	21.3	23.3	24	24.6	24.1	24.5	22.3	23.5	19.5	20.5	22	22.4	20.5	22.8	22.5	24.1	23.7	25	22.5	22.8	23	23.9	24.5	24	-	-	-
Mar-03	23	24	24	24	25	24.1	24	25.9	25.8	24.6	25	23.6	23.8	23.5	23.5	24	24	22.3	22	23.7	23.5	22	22.9	22	23.3	23.3	24.5	23.8	23.5	23.5	24
Apr-03	23.1	24	23.2	25.2	24.6	22	24.4	25.2	25	24.3	24	23	23.3	23	20.1	20.2	18.8	20.6	23.7	22.4	21.6	23.5	24.5	23.2	22.5	23.2	24.5	24	24.4	23.2	-
May-03	22.7	22.3	21.7	23.6	22.3	24.1	22.2	23.1	24	24.4	22.7	23.9	23.7	23.5	23.4	23.1	22.2	22.7	20.5	23.7	24.4	24.4	24.2	22.5	21.7	23.1	18.5	21	20	21	21.5
Jun-03	22.5	18.9	20	21.6	19	22	20.2	18.5	20.9	23	22.2	21	19.4	15.8	16.3	19.9	19	22.2	22	22.6	21.7	20.5	17.3	18	16.5	16.6	21.1	19	20.6	18	-
Jul-03	18.5	17.9	17.8	18	19.3	21.5	21.9	19.8	20.2	21.2	18.5	22.5	21.3	20.4	21.1	21	21.1	21.1	21	20.5	20.5	21.6	19.6	18.8	17.5	15	17	19	15.2	20.5	21.5
Aug-03	22.7	19.6	20.5	20.5	19	19.6	17.7	17.4	17.5	20	20.3	19.4	16.5	14.7	14.4	15.1	16.5	17.5	21	21.5	20.1	20.3	20.5	19.5	14.5	15	14.6	16.1	17	19.3	15.5
Sep-03	14.4	14.2	15.5	15	16.7	16.5	20	19	19.5	19	17.9	19.6	19.3	18	21.9	20.9	21.5	21	19.5	23.4	19.7	19.5	20.4	17	17.7	20.3	21.3	21.7	16.5	18.7	-
Oct-03	20.2	16	16.7	18.5	18.6	21.3	22.1	20.6	16.5	19	19.3	21.8	21	21.1	20.5	19.2	20.2	21.4	22	23.1	23.5	21.3	19	19	18	19	18.4	17.9	18	18.5	16.8
Nov-03	17.3	19.2	20	20.2	21.2	20	21	23.5	23.4	24	22.9	21.9	22.5	23	20.5	22.4	17.6	17	22.2	19	21.2	22	20.5	19.6	19.5	22.5	24.9	22.4	24	22	-
Dec-03	24.3	24	24	23.2	23.3	22.1	24.5	23.5	22.6	23.2	24.5	25.5	23.5	23.7	24.5	24.7	23.3	23	22.9	23.8	25.5	24	23	23.2	23	20.5	23	21.5	25.4	23.8	25.6

Rainfall

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	0	5.9	T 5.2	4.9	1.3	1.1	32.9	4.5	73	1.8	0	0	61.3	9.2	0.9	0	1.4	0	0.1	20	0	0	0.5	0	T 0	0	0	T .2	0	0	-
Dec-02	0	1	4.7	10.8	0	0.6	20.7	0	0.4	0.2	0.3	0	0	0	4.5	17.4	18.7	19.9	22	22.2	38.2	10.3	6.8	2.4	0.5	9.3	0	0	0.6	0	6.5
Jan-03	0.9	0	0	0	4.6	0	6.1	27.9	17.7	0.4	3.1	0	75.5	4.4	3.5	0.5	13.4	0T	27.7	9.4	2.4	3.7	32.6	2.1	0	32.6	1.6	24	2.7	3.2	0.3
Feb-03	0	0	6.5	0.3	4.7	23.6	11	12.5	1.9	1.3	9.1	0	0.3	0	3	0.3	8.1	0.2	7.3	0	0.3	4.7	53.8	3.6	0	23	5.7	7.8	-	-	-
Mar-03	14.8	2.9	0	0	0	70.1	4.4	0	6.8	15.4	30.3	29.9	0	36	0	1.3	53	36.7	0	0	4.2	0	0.4	30	20.4	3.3	71.3	5.2	2.6	0.9	0
Apr-03	2.2	49.8	0	8.2	0	4.7	1.5	5.5	11.2	22.6	0	3	2	7.4	0	0	0	59.5	8.2	0	1.8	0.5	0.4	15	5.1	1.5	60.7	13	4	87.4	-
May-03	10.3	1.3	2	2.5	12.5	0	2.1	1.3	5.5	0.5	2.8	5.5	14.6	3.4	0	1	0.4	127	55.7	11.6	9.4	0.8	2.7	0.4	0.1	0	3.5	0	0	5.6	0.5
Jun-03	0.2	4.3	4.1	0.9	0.4	0	0.3	0	0.6	15.3	7.9	3.2	0	2.8	3.8	10.9	19.7	3.9	7.7	0	0.1	0	0	0	0	0.5	0.4	3.1	0	0	-
Jul-03	0	0	0	0	0.2	T 2.9	5.7	5.1	0.4	0.1	58.8	14.9	0	0	0.1	6.9	0.7	1.2	4.9	T 3.6	5.4	5.3	5	0.5	0.2	0.3	2.1	0	0	3.6	0.4
Aug-03	0.2	1.7	1.1	0	0.5	0	0	1.1	1.1	5.7	47.1	0	0	0	0	0	0	0	13.9	10.3	0.9	0	0	0	0	0	0.6	0	0	0	0
Sep-03	0	0	0	T 0	0	0	0	10.5	0.1	0	0	0	T 0	0	T 11.	0	0	T 0	0	0	0	4.9	T 0	0	T 0	0	0	0	0	0	-
Oct-03	0	0.2	0	0	0	1	0.5	0	0	1.9	6.2	4.7	0.5	25.8	0	0.8	2.5	1.5	39.6	45.8	0	0	0	0	0	0	0	0	0	0	0
Nov-03	0	0.2	0	0	10	0T	0.5	1	1.1	8.5	7.2	1.8	0	0	T .2	0T	0.1	0	15.8	21	1.7	3	10.4	5	0.6	0.5	0	0	0	1.3	-
Dec-03	3.6	19.9	15.4	37.9	29.5	0.3	0T	2.4	2.1	0.3	0	34.8	0	4.4	0	14.7	49.8	1.6	7.8	3.7	7.4	10.3	36.9	4.7	0	0	4	6	4.6	1.8	0.4

Appendix 8 Weather observation data at 6 sites in Viti Levu South area NAUSORI (2)

Relative Humidity

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	76	74	92	81	82	81	78	83	85	89	76	75	78	96	78	84	88	80	81	81	89	75	60	71	75	75	68	66	65	70	-
Dec-02	68	86	91	90	85	89	77	86	73	72	68	74	61	62	83	95	96	88	81	84	96	94	89	85	81	81	74	75	72	76	79
Jan-03	89	77	89	83	80	84	78	89	78	87	85	88	89	93	79	86	82	82	81	93	80	81	80	78	84	82	97	87	87	95	87
Feb-03	67	76	65	69	73	70	96	91	83	79	79	74	77	71	77	64	86	93	77	76	77	85	79	96	85	83	93	91	-	-	-
Mar-03	86	96	88	85	86	85	85	89	82	94	85	90	94	85	85	81	81	86	87	83	86	87	84	83	94	92	78	81	78	82	87
Apr-03	75	79	88	76	76	76	91	79	90	92	91	87	83	94	81	77	78	84	95	69	91	93	83	74	88	88	81	91	88	92	-
May-03	96	90	85	94	91	96	86	93	90	97	80	81	81	90	76	80	84	86	93	95	91	91	90	84	85	70	71	71	84	72	80
Jun-03	69	80	67	75	81	76	84	88	94	92	95	90	84	61	54	96	94	97	88	82	80	57	68	65	72	70	69	83	80	88	-
Jul-03	92	79	88	89	91	89	90	91	75	67	86	97	81	62	85	79	84	91	93	89	89	93	93	75	72	75	83	84	86	87	96
Aug-03	93	87	91	75	86	59	65	79	84	96	94	94	80	80	85	82	79	82	86	98	89	90	93	87	54	64	86	85	82	64	57
Sep-03	82	73	78	82	74	56	67	93	95	84	86	71	59	83	88	89	86	78	83	81	76	83	78	67	48	58	61	66	69	78	-
Oct-03	73	63	68	73	76	73	79	58	60	58	70	81	77	80	72	85	77	79	84	92	80	76	79	67	55	62	59	64	69	67	77
Nov-03	67	72	63	67	79	90	80	74	78	92	93	77	75	69	68	70	63	52	65	94	78	82	94	85	83	84	89	73	78	77	-
Dec-03	81	83	81	92	90	84	76	72	75	77	72	76	89	76	77	76	73	97	87	88	91	88	91	84	71	74	75	75	90	74	72

Wind Direction

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	130	100	120	110	110	90	90	0	80	160	100	110	150	80	110	120	0	70	90	110	110	140	120	110	90	160	150	120	110	170	-
Dec-02	160	150	150	180	190	0	120	120	100	150	110	80	60	120	170	160	140	180	0	100	80	110	110	110	100	90	100	110	100	80	60
Jan-03	30	210	0	300	0	0	0	0	0	0	50	0	100	190	0	350	0	180	30	0	110	110	70	40	0	350	180	100	0	120	50
Feb-03	120	100	150	120	150	130	120	90	100	120	130	150	190	0	0	90	0	80	90	70	0	30	60	40	0	360	0	300	-	-	-
Mar-03	0	330	300	0	260	0	350	70	100	350	30	350	310	230	0	310	20	300	240	260	0	310	0	0	300	300	60	0	80	80	90
Apr-03	100	70	80	80	90	110	40	40	0	0	0	0	180	0	310	0	310	0	130	90	0	310	0	40	0	0	100	100	100	110	-
May-03	0 1	0	0	0 1	330	0 1	280	0	180	0	90.0	70.0	100.0	0 1	40	140	0 3	100.0	20.0	0 1	0 1	0 1	0 1	0 1	40.0	100.0	100.0	100.0	0	140	130
Jun-03	10	70	90	10	90	0	0	0	0	0	30	70	50	30	90	0	10	60	0	30	20	0	10	10	70	30	10	50	80	0	-
Jul-03	0	90	0	0	330	0	140	150	110	100	120	150	150	140	100	90	50	300	180	150	120	110	150	180	270	150	0	0	300	0	0
Aug-03	30	330	0	210	0	110	120	0	0	0	0	0	210	290	0	280	0	0	320	0	0	220	0	220	180	200	270	0	0	150	140
Sep-03	0	0	300	300	0	200	160	0	150	0	0	140	120	0	50	0	0	110	90	90	0	0	190	130	100	120	110	90	60	100	-
Oct-03	150	120	130	0	0	40	100	130	90	90	100	100	60	310	170	160	110	110	90	60	220	0	0	110	170	120	100	60	150	120	40
Nov-03	100	90	60	60	130	0	160	110	90	110	110	120	110	110	170	130	0	100	100	0	80	120	0	350	0	90	60	30	0	110	-
Dec-03	120	120	90	100	90	70	120	130	120	110	90	90	100	100	90	90	60	0	150	140	0	100	0	90	70	90	100	90	90	100	90

Wind Force

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	3	2	2	3	4	4	3	0	3	2	4	4	3	3	2	3	0	3	2	4	3	2	2	4	3	3	1	3	3	3	-
Dec-02	3	3	2	3	2	0	3	2	3	3	3	4	3	3	4	3	1	3	0	3	1	1	4	4	3	4	3	4	3	4	3
Jan-03	5	2	0	2	0	0	0	0	0	0	3	0	1	5	0	3	1	1	2	0	3	3	3	3	0	1	2	3	0	2	2
Feb-03	3	3	2	2	2	3	2	3	2	2	3	3	2	0	0	3	0	3	2	4	0	2	2	2	0	1	0	2	-	-	-
Mar-03	0	4	3	0	2	0	2	3	2	2	3	3	3	3	0	2	1	2	1	1	0	2	0	0	2	2	4	0	3	3	2
Apr-03	3	4	3	3	3	2	3	4	0	0	0	0	1	0	2	0	2	1	3	3	0	1	0	3	0	0	4	4	4	3	-
May-03	0	1	0	0	2	0	2	0	2	0	3	4	4	0	3	2	0	1	2	0	0	0	1	0	3	3	2	2	0	2	3
Jun-03	4	4	3	3	3	3	0	0	0	0	2	2	2	3	3	0	2	2	2	2	3	3	2	3	2	2	3	1	2	0	-
Jul-03	0	3	0	0	2	0	3	4	3	3	3	3	3	3	3	3	4	1	2	1	2	3	2	2	3	1	0	0	3	0	0
Aug-03	3	2	0	1	0	3	2	0	0	0	0	0	2	2	0	2	0	0	2	0	0	1	0	2	2	3	1	0	0	4	3
Sep-03	0	0	1	2	0	3	3	0	3	0	0	3	4	0	3	0	0	3	3	3	0	0	3	3	4	4	4	4	2	4	-
Oct-03	3	2	2	0	0	2	3	3	3	4	5	4	3	1	3	3	3	3	4	5	3	0	0	1	2	3	2	4	2	2	2
Nov-03	4	4	4	3	3	0	3	3	4	3	3	3	4	3	3	4	1	3	3	0	2	2	0	2	0	3	3	2	0	3	-
Dec-03	4	4	5	3	4	4	3	4	4	4	4	3	3	4	3	4	2	0	2	2	0	2	0	3	3	4	3	3	3	4	4

Appendix 8 Weather observation data at 6 sites in Viti Levu South area SUVA (1)

Atomospheric Temperature at 9 am

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	26.1	26.6	25.5	27	27.3	26.1	28.9	25.9	28	27.4	28.9	28.2	28.3	28.6	28.1	26.5	27.7	26.4	27.5	29.1	26.1	26	28	27.4	28.7	29.2	28.6	29	28.2	27.4	26.9
Jan-03	27.8	28	28.3	29.9	28.1	26.4	30.5	28.1	29.6	29.1	29.1	29.5	28.3	26.3	28.4	27.8	28.6	29	29.7	26.8	29.9	29	29.6	28.6	28.4	29.6	25.5	28.1	27.2	25.5	26
Feb-03	29	28.7	27.9	28.1	27.9	28.4	25.6	28.8	29.2	29.6	29.2	28.2	27.2	27.1	27	27.5	28.4	26.4	28	29	28.9	28.5	27.2	26.8	28	29.1	29	28.1	-	-	-
Mar-03	28.9	27.4	29	28.1	29	29.1	29.4	28.2	30.2	25.6	27.5	26.1	27	27.6	27.7	29.5	28.6	28.2	28	28.6	29	28.5	28.1	28.6	24.4	29.2	28	28.2	29.1	28.9	29
Apr-03	28.5	29.6	27.7	29.5	29	27.8	27	27.9	28.1	27.1	26	29.1	28.1	26.6	27.4	27.5	26.5	28.9	26.2	28.9	27.5	28.6	27.9	29.2	28.6	28.8	27.4	26.9	27.1	26.4	-
May-03	23	27.1	28.5	27.9	27.4	25	27.1	28	27.4	25.4	27.9	29.3	28.1	26.5	28.6	28.4	29.1	28.5	24	24.5	26.5	26	26.5	28.3	27.3	26	27.5	27.4	25.8	28.6	25.6
Jun-03	25.7	25.5	25.9	26	26	26.5	26.7	25.6	26.2	27.7	24.5	23.3	22.7	25	23.4	22	24.5	24.3	26.8	24.3	24	24.5	25.1	24	23.4	25.2	24.5	24.5	23	25.1	-
Jul-03	24	25.6	26	26	26.4	25.5	22.6	22.4	23.1	23.3	24.4	23.6	24.3	22.6	23.6	23.9	23.5	25.7	24.5	23.5	22.7	23	22.4	22.8	20.5	22.8	22.9	21.8	23.9	22.7	22.9
Aug-03	24.9	26.5	22	22.6	22	22.5	20.8	23.4	23.1	23.5	21	21.6	22	23	21	22.5	22.5	24.5	24.4	23.8	23.5	23.2	22	21.4	22.5	22.9	23.3	23.7	23.2	23	23
Sep-03	22.3	23.5	22.7	24.2	24.6	24.2	22.5	21.3	21.6	23.6	23.5	23.9	24.6	24.4	26	26.7	27.4	26.1	26.3	25.7	26.4	25.6	24.4	24.5	24.1	24.2	24.8	24.4	25.3	24.7	-
Oct-03	25	25.1	25.5	25.1	26.5	27.1	23.6	23.6	25.6	25.6	25.5	23.1	26.1	26.7	23	21.3	23.4	24.6	25	23.9	27	25.9	25.6	25.4	26.8	25.7	25	26.1	25.6	26.5	26.4
Nov-03	26.6	26.6	27.6	28.1	28.1	23.2	25.5	27.5	27.4	25.2	24.2	27	26.4	26.9	27.2	26.1	24.5	26.7	25.8	22.7	26	24	23.1	26.2	25.3	26.6	27.9	28.9	27.6	28.4	-
Dec-03	26.9	27.6	27.6	24.2	26.6	27.7	27.6	28.6	27.1	27.9	27.8	28.8	26.7	28.5	28.2	27.9	28.6	24.4	26	29.1	27.5	27.4	28	25.3	28.1	28.6	28	28.4	25.4	28.2	28.4

Maximum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	29.3	29	28.5	27.9	29.9	29.2	31.6	29.9	31.1	31	31.4	30.8	30.5	30.1	29	29	28	30.4	30.6	30	29	29.2	30.5	30.5	30.5	30.8	31	30.6	30.4	29.1	28
Jan-03	30.9	31.1	31.6	31.9	32.7	32	32.9	33.2	32.1	32.1	32.6	33	28.5	29.6	33	33.9	31.4	31.5	30.9	30.5	33.1	32.8	30	31.9	32.9	32.4	28.6	31.2	31.1	28.1	30.5
Feb-03	31.4	31	31	30.7	30.4	32	30.2	31.1	32.1	31.1	31.1	31	30.2	30.2	31.4	31.9	32.1	30.7	32.7	31	32	30.7	30.3	30.9	31.9	33.2	32.4	32	-	-	-
Mar-03	32.4	29.5	33.1	31.9	33	32.6	32.6	32.4	32.9	28.5	28.9	29.5	31.8	30.4	34	32.4	32.9	31	32.1	31.1	31.9	32	33	32.7	30.4	32.4	31.1	31	32.6	33	32.5
Apr-03	31.5	32.1	30	32.4	31.6	29	30	32.1	33.1	29.6	30	31.6	30.6	30	30.2	30.4	31	30	31.6	31.4	31.6	31.9	32.4	32	32.1	30.5	28	29.4	29.5	27.7	-
May-03	28.1	30.9	31.5	30	31.5	29.8	30.6	30.1	31	31.1	31	30.5	29.7	29.7	31.9	31.6	31.1	28.9	28.8	29	29.5	29.9	30.9	31.5	29.9	30	29.6	30	30.3	30.6	28.3
Jun-03	27.5	27.9	28.6	28.5	27.4	28.7	29	28.7	28.9	31.9	26.4	23.8	25	27.2	27.2	24.6	28	27.5	28.3	26.7	26.4	27.9	27.5	28	26.4	27.9	27.4	26	27	28.1	-
Jul-03	29.4	28.6	28.8	29.5	29	29.8	23.6	25.1	24.5	25.6	27.9	25	25.5	26.4	26.7	25.5	27.7	28.9	26	23.9	25.7	25.1	24.3	25.1	25.1	26.5	25.8	25.1	27.9	25.9	26.5
Aug-03	28.6	29.9	26	24.4	23.5	27	24.5	24.7	26.5	26.4	23.9	24.8	25.5	25.3	26.2	26.2	26.9	26.7	27	27	27.3	26	24.8	25.4	25.5	25.6	27.5	25.8	26	25	25.3
Sep-03	27	26.7	27.7	28.2	26.4	25.6	25.1	23.3	24.9	27	26.1	27.1	26.7	26.6	29.1	30.8	31.1	28.9	28.4	28.2	29.6	29.1	26.1	27.5	26.9	26.8	26.7	27.4	27.3	27	-
Oct-03	28	28.4	28.4	28.8	30.5	29.6	26	27	28	28	27.6	26.9	30.2	30.4	25.7	23.5	25.8	26	25.2	27.7	28.7	27.9	28.8	28.6	28.5	27.6	27.4	27.9	29.2	29.1	28.3
Nov-03	29.2	29.9	31.2	30.2	29.5	27.3	29.1	29.2	29.1	27.6	27.3	29.2	29	28.7	28.4	28	28.7	28.6	27.4	26.6	27.4	25	26.4	28.5	28.6	30.1	31.9	32.3	32.2	30.6	-
Dec-03	29.9	28.7	29.4	28.3	28.5	29.8	29.7	30.2	29.9	29.6	30.5	30	28.9	30	30.3	29.9	31.1	27	29.5	30.8	31.9	30.9	31.2	30.1	30.9	30.7	30.4	31.8	30.2	30.9	30.9

Minimum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	22.5	23.5	24	24.5	24.5	24.5	23.5	24	24.9	24	24.5	26	22	24	25	25	24.5	24	23.5	25	24	24	24.4	24	26	26	26	26	23.9	26	24.6
Jan-03	24.4	23.5	24.2	21.5	22.9	24	24.6	25.5	25	24.5	24.5	25.2	27.2	24.6	23.4	25.2	25.9	24.5	25.1	25.6	25.2	26.6	25	24.5	26	25.1	24	25	23.1	24.5	22.5
Feb-03	24.5	24.2	24	23.5	23.8	23.9	24.4	24.6	25	26.1	25.5	25.5	22	22.5	23.2	22.9	23	23.9	23.6	24.6	24.8	26.3	24	23.5	23.9	24.6	24.9	25	-	-	-
Mar-03	20.9	24.1	24.9	25.1	26.4	24.7	24.9	25.6	27	25.5	24.3	23.9	23.6	25.5	24	24.6	24.1	23	23.1	24.5	24	24.9	24.5	24	24	23.5	24.4	23.9	24.1	25.5	24.5
Apr-03	24.5	24.6	22.8	26.4	25.4	25.5	24.5	25.5	25.5	24.5	24.5	25	24.8	25	21.1	21.5	20.6	22	21	24	24.5	25	24.5	24.1	23.6	24.1	25	24.4	24.5	24.1	-
May-03	21.9	22	23	24	23.9	24.9	23.1	25.3	25.5	24.5	23.6	24.1	24.9	23.8	24.5	24.8	25	24.5	21	23.1	22.6	22.5	21.9	23.1	23.6	24.5	22	22.3	21.6	22.6	22.6
Jun-03	23.4	20	21.1	23.1	20.9	21.6	21.9	20.4	21.3	23.1	23.7	21.3	20.1	20.7	20.5	20.5	20	22.5	22.6	23.3	22.6	22.3	20.6	22	21.4	19	22.6	20.5	20.9	19	-
Jul-03	19.3	19.7	19.4	19.7	20	23.1	22	20.5	20.5	21.5	22.3	22.7	21.6	21.3	22	21.6	22	22.1	23	22.5	21.4	22.2	20.1	20.9	19.1	17.6	18.5	19.9	16.2	21	22
Aug-03	22.6	21	21	21	19.6	20.5	20.3	19.6	19.5	21	20.5	19	18.9	17.5	17.2	19.5	18.4	18.6	21.6	22	20.9	22.2	21.3	18.5	20	19.7	16.8	20	19.1	20	20
Sep-03	19.6	16.5	17.6	16.4	18.4	20.6	21	20	19.6	20.3	19.9	20.4	21.4	19.7	22.6	22.1	22.1	23.5	22.7	24.5	21.9	21.7	21	20.9	21.6	22	22.6	23.1	19	20.4	-
Oct-03	21.6	22	21.6	20.5	20.2	22.6	22.9	21.9	18.1	20.4	21.1	22	21.5	23.2	21	20.9	20	21.1	22.9	22.6	22.4	22.1	21.1	20.6	21.9	22.1	22.1	20.1	19.6	22.3	19.5
Nov-03	20	22.5	22.5	22.1	23.5	20.6	21.6	24.1	23.7	24.4	23.8	22.8	24.4	24.2	23.9	22.9	19.5	23	23.9	19.1	21.4	22.3	21.4	19.9	20.5	23	24.4	19	24.6	24.5	-
Dec-03	25.3	24.8	24	23.6	23.5	22.8	25.3	25	23.5	24	25.1	26.1	23.6	25.5	24.7	26	24.5	23.5	23.7	24.8	26.2	25.5	25.4	23.9	24.1	24.4	26.5	25.1	25.2	24.5	26.4

Rainfall

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	0	0.2	4.1	5.9	2.1	1.8	16.2	0	1.1	0T	0.1	0	0.3	0.2	2.5	13.4	12	31.3	16.7	46.3	39	5.2	3.4	0.7	0.1	18.8	0	0	0	0T	7.6
Jan-03	2.3	0	1.8	0	0.2	0.2	14.3	84.8	13.8	15	0.2	0.8	44	5.2	13.9	4.8	2.8	0	9.3	15.8	1.2	1.2	21	2	1.2	150	4	7.5	4.2	4.1	0
Feb-03	0	0.1	4.4	4.5	3.1	5.6	3.3	2.9	2.6	0.3	0	0	0T	5	5.4	0.3	4.3	22.3	3.5	0.3	0.2	22.3	16.9	0.7	0.1	2.8	0.5	10.3	-	-	-
Mar-03	17.6	0.1	7.7	0.3	22.9	6.7	42.2	0.3	2.2	7.7	31.1	32.9	0.9	32.3	0	39	40.2	32.8	0	0	0	0	0	53.3	0.1	7.2	74.4	5.9	3.1	0	0.2
Apr-03	11.6	22.5	0	6	0.5	3.5	5.3	3	9.3	12.5	1.4	0.8	3.1	4.2	T 0	0	0	19.2	1	0.1	T 1.8	20.1	0.8	0	25.8	3.6	45.6	7.4	17.3	78.2	-
May-03	7.4	0	0	4.3	11.1	0.4	0	1.3	20.1	1.9	3.5	0.7	7.5	2.7	0	0.2	0.2	122	33.5	2.3	27	0.5	0	1	2.3	0.2	0.8	0	0	6.1	0.1
Jun-03	0.6	1.2	0.4	0.6	1.4	0.2	1.6	0	0.4	13.1	7	2.3	0	1.7	3.1	11.1	15.3	5.3	16.3	0	0	0	0	0	0	0	0.4	2.8	0	0	-
Jul-03	0	0	0.2	0	0	9.2	3.8	2.8	0.2	0.6	26.5	8.3	0	0	0.1	6.2	1.7	0.5	0.3	3.9	1.9	9.4	6.5	2.5	0.3	0.5	2.7	0.2	3	5	1.5
Aug-03	1.4	2.5	1.5	0.5	0	1.7	5.3	0.3	2.4	12.4	32.9	0	0	0	0	0	0.2	0.1	21.6	12.2	0	0.6	0.9	0.2	0.1	0	0.4	1.6	0.2	0	0
Sep-03	0	0	0	0	T 0	0	0	12.2	0	0	0.4	T 0	0	0	5	0	0	0	0	0.1	0	7.4	0.2	0	0	0	0	0	0	18.2	-
Oct-03	0	0	0.5	0	0	0.2	0	0	0	10.8	9.1	3.5	0.4	14	0.7	0.6	1.2	0.1	81	45.3	0	0	0	0	0.4	0	0	0	0	0	0
Nov-03	0	0.2	0	0.2	2.1	0T	1	3.3	0.8	3.2	8.8	0.3	0	0	6.2	0	0	0	8.1	18.5	1	4.5	3.9	1.3	3	5	0	11.1	0.1	0.9	-
Dec-03	5.6	19.7	39	27.5	30.8	0	0	8.7	3.7	1.4	0.1	21.1	0	0.3	0T	7.8	69.8	1.5	9.9	1.2	14.5	3.5	39.3	9.4	0	0	0.3	5.2	9.8	0.5	0

Appendix 8 Weather observation data at 6 sites in Viti Levu South area SUVA (2)

Relative Humidity

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	68	75	87	86	87	87	79	86	75	75	68	76	65	62	79	96	84	94	81	82	96	96	81	89	80	82	77	74	78	78	82
Jan-03	86	85	82	60	76	89	77	87	78	83	82	82	85	92	83	88	86	72	74	94	84	77	81	85	87	81	100	84	87	93	89
Feb-03	69	73	68	73	73	75	92	83	84	80	75	73	73	71	74	70	78	90	84	76	75	81	80	83	85	79	84	87	-	-	-
Mar-03	67	84	79	84	82	85	84	88	79	94	91	97	88	88	88	75	83	85	85	82	67	74	73	77	97	75	85	85	79	86	81
Apr-03	85	78	91	78	78	79	92	86	85	91	92	78	85	91	67	65	69	74	92	70	85	85	86	79	81	86	84	88	87	92	-
May-03	98	90	81	85	88	98	84	85	88	97	78	83	84	92	83	80	75	82	96	96	87	88	84	76	86	79	70	68	81	66	79
Jun-03	68	70	67	73	76	73	73	76	86	80	92	80	75	65	72	95	84	97	84	89	78	68	65	68	68	71	72	73	83	75	-
Jul-03	87	77	73	81	81	84	95	81	76	75	84	97	74	68	63	79	91	82	91	89	89	91	92	59	81	73	75	88	77	90	97
Aug-03	92	82	91	70	77	66	84	76	83	89	97	90	78	64	82	70	74	72	83	97	87	85	91	87	74	57	65	67	77	96	91
Sep-03	68	60	70	67	54	55	66	84	91	74	76	68	62	72	84	83	71	87	83	83	80	82	76	64	57	58	63	69	73	83	-
Oct-03	72	65	70	77	72	76	81	56	59	55	75	94	82	78	72	89	77	75	84	96	84	75	78	75	68	58	60	69	75	69	73
Nov-03	67	79	74	73	80	81	82	72	82	93	90	76	76	70	70	71	61	55	67	86	81	84	91	83	85	83	85	81	86	80	-
Dec-03	81	81	82	97	88	82	77	75	80	77	78	79	88	75	76	78	80	93	90	84	90	92	88	97	73	75	78	83	93	88	78

Wind Direction

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	140	150	170	230	200	170	140	150	130	140	130	120	100	150	170	190	130	230	180	120	100	100	130	130	110	130	110	120	110	120	80
Jan-03	40	180	140	180	0	260	120	280	210	200	0	0	120	210	0	40	0	200	0	100	130	130	100	0	110	100	160	130	100	80	30
Feb-03	130	100	170	150	140	170	110	100	130	160	130	160	280	270	0	110	110	0	90	110	130	90	70	80	100	90	70	0	-	-	-
Mar-03	50	140	20	0	130	100	90	110	120	30	50	70	0	280	30	0	90	320	0	190	230	240	140	170	310	70	100	80	110	90	100
Apr-03	100	100	130	130	90	110	70	60	50	0	300	0	280	310	310	330	0	0	0	130	110	80	50	80	90	0	130	140	120	130	-
May-03	40.0	80.0	90.0	100.0	50.0	40.0	0	0	150	0	110.0	120.0	130.0	0 1	70	0	130	80	60	140.0	0 1	0 1	0 1	0 1	100.0	130.0	120.0	120.0	0	140	150
Jun-03	40	10	20	20	20	20	0	0	70	0	40	40	70	60	70	0	0	0	0	50	50	20	40	40	40	30	30	0	80	60	-
Jul-03	0	100	0	0	0	10	180	160	160	130	140	150	150	140	100	90	60	40	240	170	140	120	150	220	330	160	130	0	0	0	0
Aug-03	50	0	300	210	170	140	140	0	0	0	0	0	240	270	0	0	0	0	60	0	0	240	0	240	150	0	0	0	0	0	150
Sep-03	120	0	0	0	240	200	0	0	170	0	990	990	140	60	90	60	60	140	110	120	0	230	170	130	120	140	120	130	100	100	-
Oct-03	130	190	140	0	100	100	140	130	120	110	110	120	30	0	200	110	140	110	120	40	240	270	170	0	160	160	160	90	170	140	90
Nov-03	110	110	90	100	160	80	140	120	110	130	150	150	120	130	170	160	130	90	130	110	130	100	0	50	0	100	110	90	0	140	-
Dec-03	130	120	130	120	110	100	120	140	130	120	120	120	130	120	110	110	0	0	0	0	0	0	0	0	80	120	120	100	110	110	130

Wind Force

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Dec-02	2	1	3	3	2	2	3	1	2	2	1	2	3	2	3	3	2	2	2	3	3	1	3	2	3	3	3	3	2	3	2
Jan-03	4	1	1	1	0	1	2	1	1	1	0	0	3	6	0	2	0	1	0	1	1	1	2	0	1	1	4	2	1	1	1
Feb-03	1	2	1	1	1	2	1	2	1	1	2	2	2	2	0	2	1	0	1	2	1	2	2	2	1	1	2	0	-	-	-
Mar-03	2	3	2	0	1	1	3	3	2	1	2	1	0	2	1	0	2	1	0	1	1	1	1	1	1	1	1	1	1	1	1
Apr-03	1	2	2	1	2	2	1	2	1	0	1	0	1	1	1	1	0	0	0	1	1	1	1	1	1	0	3	3	3	3	-
May-03	3	1	1	2	1	1	0	0	1	0	2	2	1	0	2	0	1	1	1	1	0	0	0	0	2	3	2	2	0	2	4
Jun-03	4	3	3	4	3	2	0	0	2	0	2	2	4	3	3	0	0	0	0	3	3	2	2	3	3	3	3	2	1	2	-
Jul-03	0	2	0	0	0	1	4	4	4	3	3	3	3	3	4	3	2	1	2	1	3	2	1	3	2	2	2	0	0	0	0
Aug-03	3	0	2	2	2	2	2	0	0	0	0	0	3	1	0	0	0	0	2	0	0	3	0	3	3	0	0	0	0	0	3
Sep-03	2	0	0	0	3	1	0	0	2	0	1	1	2	2	2	2	2	2	2	2	0	2	3	2	2	2	3	2	2	2	-
Oct-03	2	2	1	0	2	2	3	2	1	2	2	2	2	0	3	2	2	2	2	3	3	1	1	0	1	1	1	3	1	1	2
Nov-03	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	1	2	0	2	0	3	2	2	0	2	-
Dec-03	3	3	3	3	3	3	2	2	2	2	2	2	2	3	2	3	1	0	0	1	0	0	0	0	3	2	3	2	3	2	2

Appendix 8 Weather observation data at 6 sites in Viti Levu South area TOKOTOKO (1)

Atomospheric Temperature at 9 am

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	26	26	26	23	24	26	26	26	27	26	25	25	25	24	25	25	26	28	26	25	24	25	24	23	27	27	25	26	24	25	-
Dec-02	25	26	25	27	26	24	27	26	28	27	----	28	29	28	27	26	26	27	28	26	26	26	27	28	28	29	28	28	28	27	26
Jan-03	27	29	28	29	29	27	30	30	30	30	30	30	28	26	30	28	29	28	28	27	29	29	29	29	29	29	27	26	28	26	26
Feb-03	29	28	28	25	26	28	25	28	29	28	29	28	26	27	27	29	28	27	28	28	29	28	28	27	28	29	29	29	-	-	-
Mar-03	29	28	30	29	29	29	29	27	30	28	26	26	28	27	31	30	29	28	26	28	29	29	29	29	24	29	26	28	30	30	30
Apr-03	29	29	28	29	29	25	27	27	30	26	26	26	28	25	26	27	26	28	27	28	27	28	28	29	30	29	26	26	27	26	-
May-03	23	28	28	26	28	27	27	28	26	24	28	29	27	28	28	27	28	28	23	25	27	27	26	27	28	27	27	26	26	25	21
Jun-03	25	24	26	25	25	24	26	26	26	26	24	21	22	25	24	22	26	26	26	24	22	25	24	24	23	24	25	25	23	25	-
Jul-03	21	25	24	21	24	24	22	22	23	23	22	23	24	22	23	22	23	23	24	23	23	23	21	23	19	21	22	21	21	23	23
Aug-03	27	27	22	22	20	23	22	22	24	24	21	21	20	22	22	23	23	22	24	22	23	23	23	22	21	23	21	22	21	21	21
Sep-03	21	22	22	23	24	22	23	20	21	22	23	24	24	25	27	25	26	26	26	26	27	27	23	24	24	24	26	26	26	26	-
Oct-03	25	21	25	26	26	26	24	24	25	25	26	24	27	27	23	21	22	23	24	24	27	26	25	26	26	24	24	25	26	26	26
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Maximum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	27	27	28	25	27	28	28	28	29	28	28	26	26	25	26	27	28	29	27	26	25	25	27	27	28	28	28	27	27	27	-
Dec-02	27	27	27	28	30	30	29	30	29	----	29	30	30	29	28	27	27	29	31	28	27	28	29	29	30	30	30	30	29	29	----
Jan-03	31	31	30	30	30	30	31	32	32	31	30	31	33	30	31	32	31	30	30	30	31	31	30	30	31	31	28	29	30	29	30
Feb-03	30	30	29	29	29	30	29	30	30	30	30	29	30	29	29	30	30	30	31	30	31	30	30	31	31	31	32	31	-	-	-
Mar-03	30	31	32	31	31	33	31	32	32	30	28	29	31	31	34	30	31	31	31	31	32	31	31	30	30	31	30	30	31	31	31
Apr-03	31	32	29	31	30	29	30	32	32	30	30	30	29	30	30	31	30	30	30	30	30	31	31	32	31	31	28	29	29	28	-
May-03	28	30	30	30	30	29	31	28	29	28	30	30	29	30	31	29	29	28	28	28	28	28	29	29	29	28	29	28	29	29	27
Jun-03	26	26	28	27	27	28	28	28	29	30	26	23	26	26	26	26	28	28	28	26	25	26	26	26	26	26	27	26	27	28	-
Jul-03	27	27	28	28	29	28	24	23	24	24	25	24	25	25	26	24	27	28	26	24	25	24	24	25	24	25	25	25	26	26	27
Aug-03	29	28	26	24	23	25	24	24	26	26	24	25	25	25	25	25	26	26	28	26	27	25	24	25	25	24	25	25	26	25	24
Sep-03	24	26	26	27	24	27	23	23	24	26	25	25	26	27	29	31	29	28	28	28	28	27	25	26	26	27	27	27	28	27	-
Oct-03	26	27	27	27	28	29	26	27	27	27	27	27	30	28	24	23	24	26	24	29	28	28	28	28	27	26	27	27	28	----	----
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Minimum Atomospheric Temperature

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	25	23	23	23	24	23	23	23	23	22	24	24	22	22	24	23	21	22	22	23	23	22	20	21	22	23	22	24	21	21	-
Dec-02	22	19	24	24	24	24	23	24	24	22	----	24	22	20	24	24	24	23	23	25	22	24	25	24	26	26	26	25	22	23	23
Jan-03	25	23	23	20	21	21	23	25	25	24	24	24	25	25	23	24	25	25	24	25	25	26	24	25	25	24	24	25	26	25	23
Feb-03	24	21	20	22	22	23	24	24	24	25	24	24	20	21	21	23	21	23	23	24	24	25	22	22	23	23	24	24	-	-	-
Mar-03	23	24	24	24	25	23	24	26	26	25	25	24	23	25	23	24	24	22	22	23	23	23	23	22	22	23	24	23	23	24	24
Apr-03	23	24	23	25	25	24	25	26	24	24	24	24	24	24	21	19	19	20	24	23	22	24	24	23	22	23	25	24	25	24	-
May-03	21	22	22	22	22	24	22	24	24	23	23	23	25	24	23	24	24	23	21	22	22	22	20	21	23	24	21	21	19	22	22
Jun-03	21	20	21	22	20	22	20	19	22	22	23	20	20	16	18	20	19	22	22	23	22	21	19	21	17	17	21	19	20	17	-
Jul-03	17	18	17	17	18	20	21	19	20	22	21	22	21	21	22	22	22	21	22	22	21	22	19	18	18	16	18	19	16	21	21
Aug-03	23	20	21	20	19	20	19	18	18	21	20	19	18	16	15	17	17	16	20	21	20	21	20	18	14	17	16	18	16	18	16
Sep-03	16	14	15	15	18	15	16	18	19	18	19	18	19	18	20	20	20	22	21	20	21	20	20	20	21	22	21	21	18	18	-
Oct-03	20	16	18	17	18	22	23	21	17	19	20	21	21	22	20	20	19	21	22	23	23	21	19	18	19	21	19	19	18	20	18
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rainfall

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	0	59	4.2	0	18	51	30	0.3	86	15	3.6	0	17	6.7	0.5	0	1	31	42	22	2.9	0	0	2.5	0	0	2.8	0.4	0	0	-
Dec-02	0	1.4	4.3	6.7	4.5	9	5.5	0	0	----	0.5	0	1	0	6.1	20	16	49	10	----	47	17	5.5	0.7	0.3	3	1.1	0	2.2	0	----
Jan-03	0	0.5	0	0	1.7	5.6	62	3.6	0.4	1.2	11	1	21	1.6	2.8	1.3	0	0.5	3	40	1	0.7	17	1.3	6.7	64	3.6	0.9	0.3	3.5	0
Feb-03	0.8	0	7.4	7.1	6.8	26	21	24	3.6	8.1	2.9	0	0	0	0.1	0	1.2	1.5	3.9	0	0.6	20	0	0	0	0	1.8	15	-	-	-
Mar-03	18	0.3	4.5	2.5	11	2.7	11	0.2	3.8	3.7	19	36	3.2	7	0	4.4	11	56	0.8	0	0	0	22	65	0	12	12	0	5.5	0	0
Apr-03	5.2	17	0	8.5	0.4	0.7	1.1	0.2	10	40	6.8	21	7.5	5.6	0	0	0	0	0	0.5	1	3.8	0	0	3.4	4	102	15	35	229	-
May-03	13	0	0	5	0	1.9	2.6	3.9	55	22	11	4.7	20	0	6.8	0	0	33	26	20	7.5	0	0	1	0	0.7	2.6	0	0.2	5.6	1.3
Jun-03	3	6.7	1.3	0.9	4.1	2.9	1	0.7	0	10	18	28	0	3.1	2.2	0.8	1.4	0.5	50	0.5	0.8	0	0	0	0	0	2.6	11	0	0	-
Jul-03	0	0	0	0	1	137	5.5	1.7	0	2.4	23	5.1	0	0	0	8.2	0.6	0	1	9.4	0	17	15	0	0.6	0	1.1	0	0	0.9	0.4
Aug-03	0	2.4	0	0	1.5	0	0	0	0	22	35	0.4	0	0	0	0	0	0	9.3	16	0.3	0.3	1.8	0	0	0	0.6	0	0.5	0	0
Sep-03	0	0	0	0	0	0	0.2	11	0	0	0	0	0	0	6.6	0.3	1.3	0.4	0.6	0	0	23	0	0	0	0	0	0	0	3.2	-
Oct-03	0	0	0	0	0	3.4	0	0	0	7.1	5.3	6.3	2.6	13	1.2	3.7	2.5	2.1	128	22	0	0	0	0	0	0	0	0	0	0	0
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 8 Weather observation data at 6 sites in Viti Levu South area TOKOTOKO (2)

Relative Humidity

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	95	76	88	91	91	91	95	88	89	91	91	74	76	91	87	83	84	80	87	98	87	69	66	86	65	73	76	79	78	64	-
Dec-02	64	72	87	88	90	95	86	79	63	77	68	74	67	63	77	95	95	87	77	95	95	84	84	84	84	81	82	77	72	76	80
Jan-03	86	74	77	78	78	89	78	81	76	76	89	81	86	91	78	92	85	79	77	96	83	81	79	85	85	85	88	94	75	88	84
Feb-03	64	70	66	87	87	69	91	88	80	92	77	73	72	72	73	65	76	84	92	81	76	81	80	84	84	78	81	88	-	-	-
Mar-03	81	74	74	84	78	85	81	92	74	85	91	95	74	92	73	76	78	84	91	77	74	61	81	76	82	78	91	86	74	81	78
Apr-03	81	78	92	77	71	91	88	84	74	91	91	95	84	95	74	71	79	73	86	92	88	84	81	74	71	74	91	85	84	88	-
May-03	93	84	84	91	81	80	88	56	90	95	84	84	84	84	81	89	79	81	95	85	88	88	84	88	84	64	69	76	79	88	98
Jun-03	70	71	65	79	79	91	76	80	78	88	91	95	70	61	60	95	80	88	88	91	91	64	65	60	66	70	68	76	80	72	-
Jul-03	90	76	83	86	83	91	91	80	68	66	95	95	74	62	66	86	82	89	91	82	82	88	95	60	92	86	78	84	81	87	95
Aug-03	72	76	86	78	92	58	67	80	74	87	95	90	90	67	67	58	66	84	81	95	87	87	86	86	65	58	80	80	84	77	69
Sep-03	72	64	74	74	71	70	66	90	90	86	78	69	60	70	72	89	83	84	84	84	72	76	78	66	55	53	57	64	67	76	-
Oct-03	71	86	68	69	72	79	71	56	64	62	69	91	76	78	82	90	82	80	92	87	80	76	79	72	64	60	59	68	72	68	69
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wind Direction

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	90	130	100	130	90	70	80	90	90	90	90	80	100	110	100	50	50	60	80	110	100	50	100	100	50	130	100	0	360	90	-
Dec-02	100	90	100	180	170	130	50	130	100	110	90	70	90	120	150	130	70	180	240	90	90	50	100	110	130	110	90	90	90	90	70
Jan-03	50	270	110	270	0	0	130	0	0	160	90	90	90	200	270	0	270	180	130	120	100	130	50	100	90	200	170	110	270	90	40
Feb-03	130	100	110	0	130	120	360	110	90	110	100	90	270	270	270	100	90	90	90	90	100	90	70	70	110	100	50	0	-	-	-
Mar-03	0	90	50	90	0	90	90	70	110	90	90	80	270	270	0	320	90	230	270	250	270	270	90	270	270	0	70	100	90	90	100
Apr-03	90	90	70	90	110	100	110	90	360	270	0	130	130	270	270	320	290	90	90	130	0	90	100	90	90	270	90	90	90	110	-
May-03	90.0	90.0	70.0	70	80	40	360.0	100	100	100.0	70	90.0	90.0	90.0	90	80	90.0	90.0	50.0	70	90	70	270	90.0	70.0	90.0	90	80	270	50	130
Jun-03	0	30	10	90	80	90	0	50	90	70	30	30	30	0	90	70	30	0	70	90	50	90	90	0	10	0	90	90	50	20	-
Jul-03	270	50	60	360	0	0	160	90	100	90	0	130	130	100	90	70	90	270	360	90	90	100	90	270	320	300	110	90	0	50	90
Aug-03	70	0	320	360	90	90	90	100	110	0	360	360	270	360	320	90	0	360	80	360	270	270	0	260	270	270	270	0	270	270	0
Sep-03	270	90	230	90	270	0	360	360	360	90	270	0	90	30	40	90	80	130	90	120	100	180	130	100	90	90	100	110	90	100	-
Oct-03	100	360	90	90	90	90	100	100	90	50	90	50	90	0	100	90	70	110	130	0	230	270	0	90	50	90	90	80	90	100	90
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wind Force

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
Nov-02	2	4	3	4	3	3	3	2	2	2	3	2	2	4	3	1	1	3	2	2	2	3	2	2	1	1	2	0	1	4	-
Dec-02	5	3	3	2	2	1	1	1	2	3	2	3	3	5	5	2	3	2	1	2	3	2	3	4	5	5	3	3	3	3	2
Jan-03	2	1	2	1	0	0	1	0	0	1	2	1	2	5	1	0	2	1	1	2	3	2	1	2	2	1	3	3	2	3	2
Feb-03	5	4	3	0	2	2	1	2	2	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	1	2	2	0	-	-	-
Mar-03	0	1	1	1	0	1	1	2	5	1	1	2	3	1	0	1	1	1	1	1	1	1	1	1	1	0	2	1	1	1	1
Apr-03	1	2	1	2	5	2	2	2	1	1	0	1	1	1	2	1	1	4	2	3	0	1	1	2	2	1	4	5	3	5	-
May-03	2	2	3	1	2	1	1	1	1	1	4	4	2	1	2	1	2	2	1	1	2	2	1	1	1	2	1	1	1	1	3
Jun-03	5	2	2	3	2	2	2	2	2	2	1	1	3	3	2	1	1	1	1	3	1	2	2	2	3	3	3	2	1	2	-
Jul-03	2	2	2	2	0	0	5	6	6	3	0	6	3	3	6	3	3	1	1	1	2	2	2	2	2	2	3	2	0	2	3
Aug-03	3	0	1	2	1	3	2	2	5	0	2	2	3	3	2	2	0	1	1	1	1	2	0	2	2	2	2	0	2	1	0
Sep-03	2	2	2	2	2	0	1	1	1	1	2	0	2	1	2	2	1	5	2	5	3	3	5	4	4	4	5	5	4	3	-
Oct-03	3	2	3	1	1	3	5	5	3	1	3	3	4	0	3	4	5	5	5	0	4	3	0	2	1	2	3	3	2	3	3
Nov-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-