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APPENDIX

ATTACHMENT 1

AN EXAMINATION OF ASSAY TECHNIQUES FOR GEOCHEMICAL EXPLORATION

1. Subjective Points of the Examination

During the work of Phase I, the survey included geochemical prospecting by stream sediments samples and heavy detrital minerals. Heavy detrital minerals were concentrated by panning from stream sediments. Samples of the both types were collected at the same points. These samples were assayed by SERNAGEOMIN, and the results of 268 gold assays of the 269 stream sediments samples analyzed turned out to be below detection limit(20ppb). Therefore, anomalous zones of gold were not delineated from the stream sediments geochemistry, and whether gold anomaly is really non-existed in the area or not should be considered very carefully.

To check that problem, those stream sediment samples were re-assayed with smaller detection limit. Stocked residual samples were sent to Chemex Labs.,Inc., Canada and assayed with detection limit of 1ppb Au. These two assay data were compared and examined for the presence of anomalous values of gold.

2. Samples and Assay Values

Number of stream sediments samples collected during Phase I were 273 of which 269 samples were assayed. Those assay results are shown on Table 8 of Appendix attached on the report of Phase I. Re-assayed results are listed on Table 11 in Appendix on this report.

Assays on panned concentrate samples taken during the Phase I are laid out in Table 9 of Appendix attached to the report of Phase I. In the tables, the numbering systems are designed for sample numbers denoting both the locality and the sample types, stream sediments or panned concentrats. The second letter of the two capital letters pre-fixed expresses the sample type, i.e. "S" is fixed for stream sediments samples and "P" is for panned concentrate samples, and the combination of the first letter and three digits figures denotes localities of the sampling points.

3. Threshold Values

Values $m+2\sigma$ were used for the threshold, where m is mean value and σ is standard deviation. Thresholds for gold are tabled below:-

Comparison of Gold Thresholds Fixed for Each Areas

Assay Laboratory	Area			
	No. 1	No.3	No. 4	Nos. 5,6,and 7
SERNAGEOMIN Stream Sediment	<20ppb	<20ppb	15.4ppb	<20ppb
SERNAGEOMIN Pan Concentrate	0.304μg	17.204μg	6.570μg	3.995μg
Chemex Labs. Stream Sediment	2.3ppb	7.48ppb	1.80ppb	10.78ppb

NOTE: Assay result of pan concentrate expressed as the weight of gold particle included in sample provided for analysis.

Ratios of the number of samples with gold content below detection limit are listed below. As shown, these ratios differ significantly according to the sample species and the laboratories.

Ratio of the Samples Showing below Detection Limit for Gold

Assay Laboratory	Ratio of Samples with Undetectable Gold
SERNAGEOMIN Stream Sediment	99.6%(268 samples)
SERNAGEOMIN Pan Concentrate	74.3%(200 samples)
Chemex Labs. Stream Sediment	72.5%(195 samples)

4. Number of Geochemical Anomalies

Gold anomalies with values over thresholds are as follows:-

Comparison of Numbers of Gold Anomalies

Assay Laboratory	Area				
	No. 1	No.3	No.4	Nos.5,6 and 7	Total
SERNAGEOMIN Stream Sediments	0	0	1	0	1
SERNAGEOMIN Pan Concentrate	1	8	3	3	15
Chemex Labs. Stream Sediments	2	4	2	3	11

As shown, only one anomalous value is picked up from the assay of

SERNAGEOMIN on stream sediment samples with 20ppb Au of detection limit. Whereas the assays of Chemex Labs. on the same samples with 1ppb Au of detection limit carry 11 anomalous values, that is, the numbers of gold anomalies increase about 10%. Numbers of panned concentrate geochemical anomalies assayed by SERNAGEOMIN are not in great difference from stream sediment anomalies assayed by Chemex. Labs.

5. Spatial Comparison of Gold Anomalies

As mentioned, the number of stream sediment anomalies increases with the lowering of the detection limit and approaches the number of panned concentrate anomalies. If the localities of the newly detected anomalies coincide with those of the panned concentrate anomalies, these localities could be coincided as gold geochemical anomalies with some confidence. Thus, the localities of these two kinds of anomalies are compared as indicated on the following Table.

Comparisons of Gold Anomaly Points

Area	Sample Point	SERNAGEOMIN Pan Concentrate	Chemex Labs. Stream Sediment	SERNAGEOMIN Stream Sediment
No.1	YS109		○	
	YS114		○	
	SP103	○		
No.3	FP302	○		
	OP308	○		
	OS309		○	
	OP310	○	△	
	OS311	△	○	
	OP314	○		
	PP309	○		
	PS313		○	
	SP312	○		
	TP311	○		
	TP318	○		
	YS318		○	
No.4	SP415	○	○	○
	TS410		○	
	TP413	○		
	YP404	○		
No.5	SP503	○	△	
	TP513	○	△	
	YS505		○	
	YS507	○		
No.7	SS722		○	
	SS723		○	

○ :values of m+2σ or more, and △ : values between m+σ and m+2σ

As shown, sample point carrying three types of anomaly is only SP415. Anomalies of stream sediment assayed with the both deyection limits never occur in the same points, but they occur in four points if the threshold values are reduced to $m+\sigma$.

From this, the anomalies of stream sediment detected from SERNAGEOMIN assay are believed to be reliable. The anomalous values detected with the both detection limits are in poor reverse correlation($r=-0.178$). This suggests that the anomalies detected by assaying with 1ppb detection limit are not geochemical anomalies, but nothing more than statistical anomalies. Whether the anomalies with low detection limit can be treated as geochemical anomaly or not needs to be considered in more detail.

6. Correlations of Assays by Different Analytical Techniques

The following figures are correlation coefficients between assays on stream sediment with 20ppb and 1ppb detection limits.

Au: 0.175
Ag: -0.082
Cu: 0.847
Pb: 0.788
Zn: 0.923
As: 0.719

No correlation is recognized for gold and silver, but all other elements have very good correlations.

Correlation between assays on panned concentrate by SERNAGEOMIN and assays on stream sediment by Chemex Labs. are as follows:-

Au: 0.089
Ag: -0.064
Pb: 0.662

As shown, no correlation exist for gold and silver, while good correaltion is recognized for lead. This suggests that much care should be taken for sampling and assay technique at trace level geochemistry of gold and silver.

7. Summary

The above study is summarized as follows:-

(1) About 4% new gold anomalies were detected from stream sediments by lowering the detection limit from 20ppb to 1ppb, while only 0.4% were detected by assaying with 20ppb detection limit. The numbers of anomalies detected by assaying with 1ppb detection limit, 11 samples, are close to that of panned concentrate anomalies with 20ppb limit, 15 samples. But these anomalies are overlap at only one locality. Whereas the correlation between both anomalous values is in poor reverse correlation($r=-0.178$).

(2) Localities of the anomalies of stream sediments assayed with 20ppb detection limit coincide with those of stream sediments assayed with 1ppb detection limit and panned concentrate with 20ppb limit.

(3) Correlation between anomalous values of stream sediments with 1ppb detection limit and of panned concentrates are very poor for gold and silver, while good for lead.

(4) Correlation between anomalous values of stream sediments with 1ppb detection limit and with 20ppb are nearly zero for gold and silver, but very good for copper, lead, zinc and arsenic.

Table 1 List of Alteration Zones Extracted from Landsat TM Images

(1)

Area	No. Alt. z.	Coordinates	Altitude m	Tone	Dimension km	Geological unit	Remarks
No. 3	1	72°04′/43°03′	1500	wht., yel.	1.0×3.0	K	
	2	72°07′/43°05′	1500	wht., yel.	1.5×1.5	K	
	3	72°05′/43°06′	1500	wht., yel.	1.0×1.5	K	
	4	71°59′/43°05′	1400	yel.	1.5×0.7	K	
	5	71°47′/43°06′	1600	yel.	0.5×0.7	K	
	6	71°51′30″/43°07′30″	1500	yel.	1.0×2.0	K	
	7	71°49°30′/43°07′	1500	yel.	1.0×0.7	K	
	8	71°52′/43°10′	1600	yel., wht.	1.0×3.5	K	
	9	71°51′30″/43°11′	1600	red., yel.	0.7×1.0	K	
	10	72°02′/43°12′	1400	wht., yel.	2.0×1.0	K	
	11	71°52′/43°08′30″	1500	red., yel.	0.5×0.5	K	
	12	71°51′/43°08′30″	1800	yel.	1.2×1.0	C	
	13	71°49′/43°09′	1600	yel.	0.7×1.0	C	
	14	71°48′/43°09′	1600	yel.	0.5×0.5	C	
	15	71°57′/43°20′30″	1700	yel.	1.2×1.2	K	
	16	71°56′30″/43°22′	1400	wht., yel	1.0×2.0	K	
	17	72°00′/43°23′	1400	wht., yel	0.7×2.5	K	
	18	72°03′30″/43°25′30″	1300	yel.	1.0×0.7	K	
	19	72°03′/43°27′	1300	yel.	1.7×0.7	K	
	20	71°54′/43°35′	1400	wht., yel	0.7×1.0	K	
	21	71°54′/43°34′	1800	wht., yel	1.0×1.5	G	
	22	71°45′/43°39′	1500	wht., yel	1.0×0.5	K	
	23	71°55′30″/43°41″	1400	yel.	1.0×1.5	K	
	24	71°52′30″/43°41	1500	wht., yel	1.0×2.7	K	
	25	71°46′/43°41	1700	wht., yel	1.2×1.0	C	
	26	71°48′30″/43°47′30″	1600	wht., yel	1.0×1.5	C	
No. 4	1	71°57′30″/44°55′30′	1300	yel.	0.7×1.0	K	
	2	71°36′/45°01′	1000	yel.	0.5×0.5	G	clouded
	3	71°49′/45°08′30″	1100	yel.	0.5×0.2	B	clouded
	4	72°03′/45°04′30″	600	yel.	0.5×0.5	B	

(2)

Area	No. Alt. z.	Coordinates	Altitude m	Tone	Dimension km	Geological unit	Remarks
Coyhaique	5	72°10′/45°15′	1400	yel.	1.0×2.0	K	
	6	72°01°30″/45°18′00″	1000	yel.	0.5×1.2	G	
	7	72°11 30″/45°27′	1450	yel.	4.0×2.5	G	
	8	72°01′30″/45°30′30″	1360	yel.	0.5×0.5	G	
No. 5	1	72°13′/45°48′	1400	wht., yel.	1.0×1.5	G	
	2	72°08′30″/45°50′30′	1600	wht., yel.	1.2×1.0	G	
	3	72°06′/45°51′	1300	wht., yel.	0.7×0.7	G	
	4	72°06′/45°55′	1400	yel.	0.7×1.5	B	
	5	72°06′30″/45°57′00″	1500	yel.	0.7×1.2	G	
	6	72°05′/45°57′	1600	yel.	1.0×1.5	G	
	7	72°03′/45°56′	1700	wht., yel.	3.0×2.5	G	
	8	71°57′/45°55′	1200	yel.	0.7×0.7	G	
	9	71°56′/45°56′	1500	yel.	0.5×3.0	G	
	10	71°54′30″/45°55′30″	1400	yel.	0.5×1.2	G	
	11	71°57′/45°57′	1600	yel.	1.5×3.5	G	
	12	71°53′30′/45°57′	1500	yel.	1.5×4.5	G	
	13	71°52′/45°59′	1300	yel.	1.3×1.2	G	
	14	71°55′30″/46°01′	1500	wht., yel.	0.7×2.0	G	
	15	71°56′/46°01′	1400	wht., yel.	0.7×1.0	G	
	16	72°02′/46°02′30′	1700	wht., yel.	0.7×0.7	G	
	17	72°03′/46°02′30′	1700	wht., yel.	1.0×0.7	G	
	18	72°05′/46°01′	1600	wht., yel.	0.7×1.5	G	
	19	72°08′/46°01′30″	1400	yel.	1.0×3.0	G	
	20	72°07′30′/46°03′	2000	yel.	1.0×2.5	G	
	21	72°10′30″/46°04	1400	wht., yel.	1.0×2.0	B	
	22	71°58′/46°04	1600	wht., yel.	1.5×1.0	G	
	23	71°59′30″/46°04′	1400	wht., yel.	0.5×0.5	D	
	24	71°57′30″/46°05′	1600	wht., yel.	0.5×0.5	G	
	25	71°59′/46°06′30″	1900	wht., yel.	0.7×1.0	G	
	26	71°59′/46°07′	1700	wht., yel.	0.7×0.7	D	
	27	71°47′/46°15′	1500	wht., yel.	1.0×1.2	B	

(3)

Area	No. Alt. z.	Coordinates	Altitude m	Tone	Dimension km	Geological unit	Remarks
No. 5	28	72°17′30″/46°01′30″	2000	wht., yel.	0.3×2.0	B	
	29	72°21′30″/46°01′30″	2000	wht., yel.	0.5×0.7	B	
	30	72°22′/46°02′	2000	wht., yel.	0.7×1.2	B	
	31	72°21′/46°03′	1400	wht., yel.	0.5×1.0	B	
	32	72°30′/46°04′	1400	yel.	0.7×1.0	B	
	33	72°26′30″/46°09′	1300	wht., yel.	0.5×1.3	B	
	34	72°33′/46°11′	1200	wht., yel.	0.7×1.0	B	
	35	72°24′/46°21′30″	1400	yel.	1.5×1.5	B	
	36	72°28′/46°13′30″	1300	wht., yel.	0.7×2.0	B	
	37	72°33′/46°16′	1400	wht., yel.	0.7×2.0	B	
	38	72°35′/46°21′30″	1200	wht., yel.	1.0×1.5	A	
	39	72°34′/46°24′30″	1200	wht., yel.	0.7×1.0	A, G	
	40	72°26′30″/46°23′	1600	wht., yel.	1.5×2.0	G	
	41	72°23′/46°22′	2000	wht., yel.	2.0×2.0	G	
	42	72°25′/46°25′	1600	yel.	0.7×2.0	G	
	43	72°20′30″/46°25′30″	1400	wht., yel.	0.7×1.7	G	
	44	72°27′30″/46°25′	1200	yel.	0.7×2.3	G	
	45	72°22′30″/46°27′30″	1400	yel.	1.0×2.5	B, G	
	46	72°17′30″/46°23′	1400	yel.	1.0×1.5	B	
	47	72°27′30″/46°27′	1800	yel.	0.5×1.0	B	
	48	72°17′/46°25′30″	1000	yel.	0.5×0.5	G	
	49	72°16′30″/46°25′30″	1100	yel.	0.5×0.7	G	
	50	72°15′30″/46°21′30″	1500	yel.	1.0×1.5	B, G	
	51	72°15′/46°20′	1500	yel.	1.0×0.7	B	
	52	72°10′/46°23′	1500	yel.	0.5×1.0	G	
	53	72°08′30″/46°22′30″	1400	wht., yel.	0.7×1.5	G	
	54	72°08′30″/46°23′30″	1400	wht., yel.	0.5×1.0	G	
	55	72°05′/46°21′30″	1300	wht., yel.	0.5×0.7	G	
	56	72°04′/46°22′	1400	wht., yel.	1.0×2.5	B	
	57	72°05′30″/46°23′30″	1600	wht., yel.	0.5×2.0	G	
	58	72°11′/46°25′30″	1700	yel.	0.5×0.5	G	

Area	No. Alt. z.	Coordinates	Altitude m	Tone	Dimension km	Geological unit	Remarks
No. 5	59	72°10′30″/46°25′30″	1700	yel.	0.7×1.0	B, G	
	60	72°10′/46°21′	1800	yel.	0.5×0.5	G	
	61	72°10′/46°21′30″	1600	yel.	0.5×0.7	G	
	62	72°11′/46°21′30″	1400	yel.	1.0×1.5	B	
	63	72°07′30″/46°22′	1400	wht., yel.	0.5×0.7	G	
No. 7	1	71°51′30″/46°28′	250	yel.	1.0×1.5	B	
	2	71°52′30″/46°30′	600	yel.	1.0×1.5	B	
	3	71°51′/46°32′	400	yel.	1.5×2.5	B	
	4	71°54′/46°32′	400	yel.(light)	1.5×3.5	B	
	5	71°54′/46°33′	600	yel.(light)	1.0×4.5	B, C	
	6	71°55′30″/46°30′30″	600	yel.	0.5×1.0	B	
	7	71°55′/46°31′	600	yel.	0.7×1.0	B	
	8	71°56′/46°31′30″	600	yel.	1.0×1.0	B	
	9	71°55′/46°31′30″	600	yel.(light)	0.7×1.0	B	
	10	72°00′/46°32′	500	yel.	2.0×5.0	B	
	11	71°58′/46°33′	600	yel.	1.0×3.5	B, C	
	12	71°57′/46°33′30″	800	yel.	0.7×1.5	C	
	13	72°03′30″/46°33′	500	yel.	1.0×1.5	B	
	14	72°05′/46°33′30″	400	yel.	0.7×1.2	B	
	15	72°07′/46°34′30″	800	wht., yel.	0.5×3.5	C	
	16	72°10′/46°37′	1100	yel.	0.7×1.5	B	
	17	72°09′/46°37′	1500	wht., yel.	0.5×1.0	B	
	18	72°06′30″/46°37	1700	yel.	1.0×1.0	C	
	19	72°09′/46°38′30″	1800	yel.	0.7×1.5	C	
	20	72°08′/46°38′	1800	yel.	0.5×0.5	C	
	21	72°06′/46°38′	1800	yel.(light)	1.5×4.0	C	
	22	72°03′/46°38′30″	1800	wht., yel.	0.7×1.5	C	
	23	72°05′/46°40′	1500	wht., yel.	0.5×0.5	C	
	24	72°01′/46°40′	1800	wht., yel.	0.5×1.0	C	
	25	71°51′30″/46°35′	1300	wht., yel.	0.5×1.0	C	
	26	71°46′/46°36′	1500	wht.	1.2×2.0	C	

(5)

Area	No. Alt. z.	Coordinates	Altitude m	Tone	Dimension km	Geological unit	Remarks
No. 7	27	71°47′/46°38′	1500	wht.	0.7×2.0	C	
	28	71°46′/46°38′	1700	wht.	1.0×2.0	C	
	29	71°58′/46°42′	2000	wht., yel.	2.0×5.0	C	Correspond to Alt. z. A
	30	71°56′30′/46°46′	1500	wht., yel.	1.5×2.0	C	Correspond to Alt. z. B
	31	71°58′30″/46°46′30″	1700	wht., yel.	0.5×1.0	C	
	32	72°00′/46°46′	1800	wht., yel.	0.5×0.5	C	
	33	72°03′/46°43′30″	1700	yel.	0.7×1.5	C	
	34	72°04′/46°44′30″	1800	yel.	0.5×1.0	C	
	35	72°06′/46°43′	1700	wht., yel.	1.0×2.5	C	clouded
	36	72°04′30″/46°45′	1300	yel.	0.5×0.5	C	
	37	72°06′/46°46′30″	1300	yel.	1.0×2.5	C	
	38	72°02′/46°03′30″	1500	yel.	1.0×1.0	C	
	39	72°02′/46°49′30″	1600	yel.	1.5×3.5	C	Correspond to Alt. z. C
	40	72°05′30″/46°48′	1600	wht., yel.	0.5×1.0	C	
	41	72°04′/46°49′30″	1500	yel.	0.7×1.2	C	
	42	71°59′/46°51′	1700	yel.	1.0×1.5	C	
	43	72°01′/46°53′	1800	yel.	2.0×4.5	C	Correspond to Alt. z. D and E
	44	72°01′/46°54′	1800	wht., yel.	0.5×0.5	C	
	45	72°04′/46°54′30″	1500	wht., yel.	0.5×0.5	C	
	46	72°05′30″/46°51′30″	1600	wht., yel.	0.5×1.0	C	
	47	72°05′/46°53′	1600	wht., yel.	0.3×0.7	C	
	48	72°04′/46°53′30″	1300	yel.	0.3×0.3	C	
	49	72°01′/46°57′	2000	wht., yel.	0.7×1.0	C	
	50	72°01′30″/47°00′	1800	wht., yel.	0.5×1.5	C	
	51	71°58′/47°00′30″	1800	wht., yel.	0.5×0.5	C	
	52	72°00′/47°01′30″	2000	wht., yel.	1.5×2.0	C	Correspond to Alt. z. H
	53	72°05′/46°58′	2000	wht., yel.	0.5×1.0	C	Correspond to Alt. z. F

Area	No. Alt. z.	Coordinates	Altitude m	Tone	Dimension km	Geological unit	Remarks
No. 7	54	72°06′30″/46°59′	2000	wht., yel.	1.0×1.5	C	ditto
	55	72°06′/47°00′	2000	yel.	1.0×1.5	C	ditto
	56	72°05′/47°00′30″	1800	yel.	1.0×1.5	C	ditto
	57	72°01′/47°05′	800	yel.	0.5×1.0	C	
	58	71°57′/47°08′	1700	wht., yel.	1.5×2.5	C	Correspond to Alt. z. I
	59	72°11′/46°58′	1700	wht., yel.	1.0×2.0	B	
	60	72°14′/46°58′	1800	yel.	1.5×4.0	B	
	61	72°15′/46°59′	2000	yel.	0.5×0.5	B	
	62	72°17′/46°58′	1600	yel.	1.5×2.3	B	
	63	72°19′30″/46°55′	1600	wht., yel.	1.5×1.5	C	
	64	72°21′30″/46°55′30″	1400	wht., yel.	1.0×1.5	C	
	65	72°20′30″/46°57′30″	1600	yel.	1.0×1.5	C	
	66	72°22′/46°59′	1300	wht., yel.	0.5×1.0	C	cloudedlocally
	67	72°34′/47°02′30″	1400	yel.	0.5×0.5	C	ditto
	68	72°36′30″/47°02′30″	1400	yel.	0.5×0.5	C	ditto
	69	72°14′/47°13′	400	yel.	1.0×2.5	A	
	70	72°12′/47°15′30″	1500	yel.	1.5×1.5	A	
	71	72°26′/47°15′	150	yel.	1.5×3.0	A	
	72	72°17′30″/46°47′	1300	yel.	0.5×2.0	B	snow capped
	73	72°19′/46°47′30″	1100	yel.	0.5×1.0	B	
	74	72°16′30″/46°48′	1200	yel.	0.7×1.5	B	
	75	72°17′30″/46°48′30″	1400	yel.	0.5×0.5	B	
	76	72°18′30″/46°48′30″	1400	yel.	0.5×1.0	B	

Abbreviation

Alt. Z. : alteration zone, wht. : whitish, yel. : yellow, red. : reddish,

Table 2 Elemental Statistics Parameters

Futaleufu-Alto Palena Area(Sub-area Futaleufu)

	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	Mo(ppm)	As(ppm)
Mean	20.17	0.26	24.47	5.09	79.11	1.01	1.62
Max.	27,000	15	766.00	404	290	34	100
Min.	10	0.05	3.3	0.5	20	0.5	1
M+δ	87.44	0.67	68.39	27.82	141.28	2.35	4.88
M+2δ	378.97	1.72	191.16	151.95	252.33	5.50	14.67

Futaleufu-Alto Palena Area(Sub-area Alto Palena)

	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
Mean	1.21	0.09	15.23	3.86	48.44	2.33
Max.	23	0.3	70	95	230	52
Min.	0.5	0.05	1	0.5	14	1
M+δ	3.74	0.12	32.70	13.50	89.40	5.62
M+2δ	11.53	0.16	70.19	47.22	165.00	13.56

Alto Cisnes-El Toqui Area

	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
Mean	1.01	0.10	7.25	3.17	44.58	2.16
Max.	19	0.4	68	50	140	40
Min.	0.5	0.05	1	0.5	19	0.5
M+δ	2.77	0.12	16.15	8.61	68.33	5.83
M+2δ	7.55	0.15	35.97	23.40	104.74	15.72

Los Leones River Area

	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	Mo(ppm)	As(ppm)
Mean	16.25	0.15	12.94	2.51	55.54	0.66	3.51
Max.	3,400	4.8	132.00	207	2,913	9	296
Min.	5	0.05	0.5	0.5	10	0.5	0.5
M+δ	52.59	0.29	34.65	8.17	112.92	1.07	14.23
M+2δ	170.22	0.55	92.82	26.64	229.57	1.74	57.67

Chile Chico-Chacabuco Area

	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	Mo(ppm)	As(ppm)
Mean	18.40	0.65	20.73	155.27	233.81	0.95	19.96
Max.	1,100	11	343	3,176	1,550	27	439
Min.	10	0.1	1	4	62	0.5	1
M+δ	64.11	1.63	77.46	782.84	454.24	2.34	74.91
M+2δ	223.34	4.12	289.50	3,947.08	882.50	5.75	281.10

Table 3 Correlation Coefficients between Elements Pairs in Geochemistry

Futaleufu-Alto Palena Area(Sub-area Alto Palena)

	Au	Ag	Pb	Zn	Cu	As
Au	1.00000	-0.07796	-0.02358	0.01679	-0.04243	0.02017
Ag		1.00000	0.24173	0.25052	0.04174	0.08548
Pb			1.00000	0.79777	0.45880	0.58972
Zn				1.00000	0.63402	0.70270
Cu					1.00000	0.44806
As						1.00000

Alto Cisnes-El Toqui Area

	Au	Ag	Pb	Zn	Cu	As
Au	1.00000	-0.01496	0.10685	0.05897	0.10206	0.15244
Ag		1.00000	0.25134	0.13233	0.39708	-0.01632
Pb			1.00000	0.74510	0.61994	0.65286
Zn				1.00000	0.72739	0.65000
Cu					1.00000	0.40302
As						1.00000

Futaleufu-Alto Palena Area (Sub-area Futaleufu)

	Au	Ag	Cu	Pb	Zn	Mo	As
Au	1.00000	0.48231	0.22861	0.20574	0.04447	0.19221	0.11915
Ag		1.00000	0.51176	0.46752	0.24834	0.36702	0.36573
Cu			1.00000	0.61733	-0.05441	0.47517	0.60639
Pb				1.00000	0.18431	0.48627	0.61984
Zn					1.00000	0.07315	0.16964
Mo						1.00000	0.42177
As							1.00000

Los Leones River Area

	Au	Ag	Cu	Pb	Zn	Mo	As
Au	1.00000	0.35057	0.10708	-0.14424	-0.30322	0.18566	0.14774
Ag		1.00000	0.33187	0.17969	0.15132	0.15422	0.26185
Cu			1.00000	0.21930	-0.22686	0.20187	0.61434
Pb				1.00000	0.55677	0.09855	0.33126
Zn					1.00000	-0.14414	-0.23478
Mo						1.00000	0.42535
As							1.00000

Chile Chico-Chacabuco Area

	Au	Ag	Cu	Pb	Zn	Mo	As
Au	1.00000	0.54442	0.23638	0.43881	0.25178	0.42960	0.44502
Ag		1.00000	0.50224	0.81446	0.37915	0.55430	0.68081
Cu			1.00000	0.53862	0.23491	0.27530	0.39438
Pb				1.00000	0.42787	0.61370	0.69335
Zn					1.00000	0.34538	0.14762
Mo						1.00000	0.47722
As							

Table 4 Eigen Vectors and Eigen Values of Principal Component Analysis

Futaleufu-Alto Palena Area(Sub-area Palena)

	1	2	3	4	5	6
Au	0.01291	0.73969	0.66003	-0.12297	-0.00803	-0.04321
Cu	-0.42571	0.12377	-0.29393	-0.80071	0.12885	-0.24354
Pb	-0.50733	-0.04384	0.07091	0.27034	-0.66894	-0.46379
Zn	-0.55534	0.02912	0.03319	0.01631	-0.13825	0.81870
Ag	-0.16984	-0.64163	0.68252	-0.20032	0.21729	-0.07937
As	-0.47326	0.15194	-0.07750	0.47985	0.68522	-0.21714
Eigen	2.88990	1.06673	0.93422	0.56760	0.39363	0.14792
Prop.	0.48165	0.17779	0.15570	0.09460	0.06561	0.02465
Cum. prop.	0.48165	0.65944	0.81514	0.90974	0.97535	1.00000

Alto Cisnes-El Toqui Area

	1	2	3	4	5	6
Au	0.09882	-0.42421	0.89496	-0.04883	0.03433	0.07599
Cu	0.47790	0.25489	0.09037	-0.59366	-0.27403	-0.52053
Pb	0.51277	-0.03090	-0.06919	0.22942	0.78994	-0.23387
Zn	0.52109	-0.08087	-0.17646	-0.30165	-0.04029	0.77342
Ag	0.18896	0.77452	0.35785	0.42674	-0.12718	0.19513
As	0.43780	-0.38432	-0.16404	0.56520	-0.53097	-0.17980
Eigen	3.00559	1.12312	0.95649	0.46929	0.27229	0.17322
Prop.	0.50093	0.18719	0.15942	0.07821	0.04538	0.02887
Cum. prop.	0.50093	0.68812	0.84753	0.92575	0.97113	1.00000

Futaleufu-Alto Palena Area(Sub-area Futaleufu)

	1	2	3	4	5	6	7
Au	0.24458	-0.57791	-0.55012	-0.00806	0.52830	-0.00139	0.15621
Ag	0.41409	-0.40249	-0.14141	-0.10997	-0.64712	0.10866	-0.45153
Cu	0.45643	0.27980	-0.15870	-0.24314	-0.28826	0.14141	0.72525
Pb	0.46232	0.14810	0.15675	-0.12671	0.14744	-0.82664	-0.13650
Zn	0.12691	-0.54955	0.75482	0.06704	0.03226	0.05808	0.32128
Mo	0.38360	0.17705	-0.01447	0.89844	0.02240	0.11392	-0.02499
As	0.42824	0.26542	0.24012	-0.31778	0.44245	0.51818	-0.35107
Eigen	3.16526	1.10119	1.02333	0.61246	0.45255	0.36478	0.28043
Prop.	0.45218	0.15731	0.14619	0.08749	0.06465	0.05211	0.04006
Cum. prop.	0.45218	0.60949	0.75568	0.84318	0.90783	0.95994	1.00000

Los Leones River Area

	1	2	3	4	5	6	7
Au	0.27715	-0.34074	-0.60621	-0.12281	-0.59687	-0.19715	-0.17144
Ag	0.37353	0.14958	-0.62700	0.17576	0.52714	0.27877	0.24186
Cu	0.50744	0.02609	0.22909	0.49829	0.12889	-0.64238	-0.10855
Pb	0.20815	0.64252	0.06399	-0.06800	-0.47205	-0.02844	0.55810
Zn	-0.16442	0.66441	-0.24823	-0.14116	0.06912	-0.17841	-0.64294
Mo	0.38122	-0.06622	0.14660	-0.82449	0.29808	-0.23861	0.05675
As	0.55721	0.04679	0.31575	0.03731	-0.18107	0.61741	-0.41503
Eigen	2.29250	1.71693	1.09133	0.83698	0.54040	0.32007	0.20179
Prop.	0.32750	0.24528	0.15590	0.11957	0.07720	0.04572	0.02883
Cum. prop.	0.32750	0.57278	0.72868	0.84825	0.92545	0.97117	1.00000

Chile Chico-Chacabuco Area

	1	2	3	4	5	6	7
Au	0.33152	-0.04121	-0.56383	-0.72198	-0.14939	0.06138	0.15216
Ag	0.46012	-0.08343	0.01559	-0.02144	0.23745	-0.61561	-0.58759
Cu	0.31340	-0.15566	0.74007	-0.33482	-0.42563	0.18089	-0.06215
Pb	0.46455	-0.01969	0.13257	0.21135	0.16366	-0.32402	0.76798
Zn	0.25574	0.87744	0.12374	-0.07930	0.26583	0.25699	-0.07996
Mo	0.37315	0.14313	-0.30921	0.52379	-0.66618	0.09949	-0.12887
As	0.39965	-0.41993	-0.07516	0.20216	0.44597	0.63530	-0.12217
Eigen	3.80823	0.88654	0.81118	0.58870	0.46660	0.27639	0.16237
Prop.	0.54403	0.12665	0.11588	0.08410	0.06666	0.03948	0.02320
Cum. prop.	0.54403	0.67068	0.78656	0.87066	0.93732	0.97680	1.00000

Table 5 List of Indications of Mineralization

Futaleufu-Alto Palena Area
Sub-area Futaleufu (1)

(1)

No.	Locality Number or Name	lat °' lon °'	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results* Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Country rock	Alteration	Exploration & Production	Title holder※
3-a	Puerto Reyes	43°11.48 71°56.48	Fe	py qz	Vein	N15W 70E	1m in max. wd. 30m in strike	20	0.2	6	4	67	38	Andesite	weak silicification	no	na
								20	0.2	7	6	13	33				
3-b	García I	43°10.87 71°53.25	Fe(Pb-Cu)	ht(spc), cp, gn limo, qz	Vein 2 systems of vein recognized.	E-W 50-55S and N20W 45SW	System E-W: 2 veins; 5-20cm wide 10m in strike System NW-SE; 1 vein only; 80cm max. wide 5m in strike	20	0.2	157	7	36	2	ditto	silicification	A trench of 8m length: No indication of mineralization	na
								<20	0.2	142	6	19	5				
								<20	<0.1	6	10	28	2				
								20	<0.1	135	12	11	1				
3-c	García II	43°10.62 71°53.28"	Fe, Cu +(Pb)	ht(spc), cp, gn ht(spc), qz, chl	Tabular (Replacement deposit)	flat (N15E 15SW in general)	10m×10m square shaped with 0.6m thickness	20	0.8	1.1%	13	27	9	Andesite	silicification	A small pit of 3m×2.5m ×2m	na
								(one sample only)									
3-f	Estero la Cascada	43°21.68 72°04.07		ht, limo	ditto	N40E 80N		<20	<0.1	4	13	14	1	Granite	silicification		
3-g	Lago Espolón	43°12.22 71°59.07	Cu, Pb	Cu-oxi, cp, gn qz, limo	Dissemination in the gossan			<20	0.4	5	24	22	<1	Volcanics metamorphosed by int. of gr.	silicification limonitization biotitization	no	na
								<20	0.1	4	9	44	<1				
								<20	0.2	7	19	35	<1				
								100	1.0	0.6%	7	40	<1				
								100	0.3	552	109	83	1				
								120	1.8	0.2%	349	212	31				
								<20	0.6	542	773	279	2				
								60	0.6	312	85	72	<1				
	FM 303	43°10.12 71°50.46	Mo	mol limo	Dissemination			<20	<0.1	10	10	32	—	Aplite	Arg.	no	no
	FM 309	43°08.75 71°56.42	Au, Cu	— limo	Lenticular	N10E/90	0.5m wide	<20	0.2	22	7	30	—	Andesite	—	no	no
	FM 310	43.08.82 71°56.39	Au, Cu	— limo	Vein	N10E/90	0.2m wide	<20	0.2	80	14	62	—	Andesite	—	no	no
	FM 311	43°08.89 71°56.33	Au, Cu	py limo	Lenticular	N10E/90	0.2m wide	<20	0.5	40	3	14	—	Andesite	—	no	no

Prospects 3-a, 3-b, 3-c, 3-f and 3-g are quoted from the investigation at the work of Phase I

*; expressed as ppb for Au and ppm for the other elements other than specified.

※; not defined as the exploration claim or the mining claim.

Locality Numbers such as FM303 are denoted as the sample numbers of ore samples

Futaleufu-Alto Palena Area
Sub-area Futaleufu (2)

(2)

No.	Locality Number or Name	lat S / lon W	Ore metals	Ore mineral / Gangue min.	Features of deposit	strike / dip	Size of deposit	Assay results* Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Country rock	Alteration	Exploration & Production	Title holder※
	FM313	43°07.70 / 71°57.12	Cu	py, cp / –	Dissemination	N35E / 90	0.5m wide	<20	0.2	122	8	136	Andesit	–	no	no
	FM314	ditto	Cu	py, cp	Dissemination	N50W / 90	0.5m wide	<20	0.5	90	13	44	Andesit	–	no	no
	FM315	43°07.33 / 71°57.19	Au?	py / limonite	Dissemination	Irreg.	–	<20	0.2	38	7	16	Granodiorite	silicification	no	no
	FM316	43°07.27 / 71°57.13	Au?	py / limonite	Dissemination	–	2.1m wide	<20	0.2	18	8	18	Granodiorite	silicification (intensive)	no	no
	FM317	43°07.13 / 71°56.90	Au?	py	Dissemination	Irreg.	0.5m wide	<20	0.1	26	7	24	Granodiorite	silicification	no	no
	FM319	43°06.71 / 71°56.57	Au?	py / qz	Vein/dissemination(float)	–	-	80	1.5	22	3	12	no	no	no	no
	FM320	ditto	Au?	– / qz, cal	Stocwork	N20W	5m wide as zone	<20	1.7	18	2	22			no	no
	FM322	43°06.51 / 71°56.71	Au?	py / –	Dissemination	–	10m×5m	20	0.1	14	11	28	Andesite		no	no
	FM323	43°06.45 / 71°56.57	Au?	– / limo. cal	Vein	N70E / 70S	5cm wide	<20	0.1	48	2	54	Andesite	faintly	no	no
	FM325	43°05.77 / 71°56.33	Au?	py / limonite	Vein(A float sample)	–		<20	0.1	3	2	18	Granitic rock	argillization	no	no
	FM326	43°07.45 / 71°57.62	Au?	py / limonite	Dissemination (float sample)	–		180	0.5	108	13	32	Granodiorite		no	no
	FM327	43°09.15 / 71°55.72	Cu	cp, py	Vein	N15E / 90	0.3m wide	200	7.9	4.30%	11	108	Andesite	no	no	no
	KM301	43°09.15 / 71°51.42	Fe	Specularite / –	Vein (float sample)	–	1~2cm wide	<20	0.2	324	<2	74	Andesite	silicification	no	no
	KM302	43°09.13 / 71°51.15	Fe	Specularite / qz	Vein (float sample)	–	7+α cm wide	<20	0.2	40	<2	36	Andesite	silicification	no	no
	KM311	43°11.67 / 71°54.31	Cu	cp / qz	Vein	N15W / 70NE	5cm wide	2.4 (ppm)	12	1.26%	94	14	Tuff breccia	silicification	no	no
	KM318	43°13.13 / 71°55.46	Au	py / qz	Stockwork	–	20m wide as zone	<20	1.7	176	50	20	Andesite	silicification, limonite	no	no

*;expressed as ppb for Au and ppm for the other elements other than specified.
※;not defined as the exploration claim or the mining claim.

Futaleufu-Alto Palena Area
Sub-area Futaleufu (3)

(3)

No.	Locality Number or Name	lat ° lon °	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results*					Country rock	Alteration	Exploration & Production	Title holder※
								Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)				
	KM331	43°11.23 71°51.00	Au	py	Stockwork	—	20m wide as	<20	0.3	132	10	80	Granitoid	silicification limonite	no	no
	YM307	43°12.74 71°57.33	Fe	magnetite only	Massive ore laminated	N60W 50N (lamination)	20cm thick, 2m long						Andesite	silicification	no	no
	YM309	43°08.75 71°56.42	Fe	py	Dissemination	—	—	<20	0.1	58	15	104	Andesite	silicification	no	no

Futaleufu-Alto Palena Area
Sub-area Alto Palena (1)

(4)

No.	Locality Number or Name	lat ° lon °	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results*					Country rock	Alteration	Exploration & Production	Title holder※
								Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)				
	KM332	43°31.63 71°59.05	Au	py qz	Vein (float sample)	—	—	<20	0.1	10	35	24	Granite	—	no	no
	KM342	43°37.32 71°53.81	Cu	cp, cv, py cal, qz	Vein (float sample)	N70W 90	100x50x70cm (sample from closely sheared zone)	600	75	% 3.32	55	114				
	KM350	43°35.95 71°51.30	Pb, Zn	gn, sp, py qz	Vein	N65W 72NW	7+α cm wide (sample from closely sheared zone)	80	692	% 0.36	% 24.00	% 36.00	Altered andesite	—	no	no
	KM351	43°36.23 71°51.40	Au	py	Stockwork	—	—	<20	0.7	210	14	66	Andesite?	—	no	no
	KM356	43°35.47 71°50.90	Au	py qz	Vein (float sample)	—	2~4cm wide	<20	0.3	80	80	288	?	—	no	no

Prospects 3-a, 3-b, 3-c, 3-f and 3-g are quoted from the investigation at the work of Phase I
*;expressed as ppb for Au and ppm for the other elements other than specified.
※;not defined as the exploration claim or the mining claim.
Identity Number carrespond to the localities of ore assaying sample

Alto Cisnes-El Toqui Area (1)

(5)

No.	Locality Number or Name	lat ° lon °	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results* Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Country rock	Alteration	Exploration & Production	Title holder※
4-1	Cerro Estatuas	45°02.40 71°59.48	Zn, Cu	cp, gn, mt cal, chl	Manto (stratabound)	E-W 10N	3.2m wide (observed in an outcrop) 1.7s in strike	200	380	0.7%	4.5%	40%	4	Green tuff (Coyhaique Fm)	chloritization epidotization	Drillings (total amount :na)	S.C.M Toqui
4-3	Santa Teresa (El Condor)	44°46.32 71°53.68	Au, Cu, Pb	cp, gn, sp, Au qz	Vein	N50W 65E	2~5m wide 900m in strike 240m in depth	40	2.7	29	0.5%	1.1%	6	Quartz porphry		ditto	ditto
								65↑	171	1.4%	5.4%	9.3%	2				
								420	9.6	56	0.4%	0.7%	<1				
								160	14.3	820	6.2%	0.4%	4				
								400	1.2	26	0.2%	0.5%	1				
								12↑	215	550	5.5%	1.0%	1				
								60	0.2	7	50	88	3				
								<20	0.1	4	30	40	4				
								<20	0.4	4	20	37	2				
								15↑	224	1%	1.6%	12%	3				
								5.2↑	83	0.2%	0.6%	8.0%	3				
								60	0.5	10	160	256	1				
								23↑	155	0.3%	5.4%	14%	1				
								1↑	15.9	77	0.3%	2.1%	6				
4-4	Mine el Toqui (manto)	45°02.42 71°56.98	Pb, Zn	gn, po, py, cp cal, act, gar bed	Manto (stratabound)	N30W 10E	5Mt of ore reserves (Category:na)	240	4.7	440	180	7.6%	2	Coquina, marl		Production: 1,200t/day	ditto
	Mina El Toqui (Vein)	Veta Antolín 45°01.30 71°59.90	Pb, Zn, Cu	sp, gn, po, py cp	Vein	N-S 90	1.5m wide 100m in strike 80m in depth	120	16.1	420	680	6.9%	<1	Dacitic breccia (Ibañez Fm)		Exploration has been suspended	ditto
		Veta Zuñiga 45°01.30 71°57.83	Pb, Zn, Cu	sp, gn, po, py cp	Vein	N20W 90	1.5~3m wide 100m in strike 80m in depth	20	66	0.7%	3.9%	30%	1	Dacitic breccia Ibañez Fm)		ditto	ditto

Descriptions for 4-1 areguoted from the work of Phase I

*;expressed as ppb for Au and ppm for the other elements other than specified.

※;not defined as the exploration claim or the mining claim.

Alto Cisnes-El Toqui Area (2)

(6)

No.	Locality Number or Name	lat ° lon °	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results* Au	Ag	Cu	Pb	Zn	Mo	Country rock	Alteration	Exploration & Production	Title holder※
4-5	Katterfeld	45°00.63 71°35.00	Au, Cu	py, cp, Au, +(gn, sp) qz, cal	Single veins and stockwork	N70W 90	More than 10 veins exist. Stockworks develop between veins.	3.3† 660 80 120 20	19.1 8.6 1.2 2.2 0.2	1.8% 480 181 2280 19	450 0.5% 150 1% 40	0.2% 389 88 34 29	13 2 54 3 12	Propylitic andesite	prop in central zone, silicification+aergillization in marginal zone.	Veins are categorized into two, "old vein"+"new vein". "Old vein" is being mined. "New vein" is under drilling exploration.	S.M.C. Toqui
4-10	Río Cisnes entre Río Pedregoso y Estero Buitrera	44°36.25 71°32.45	Mo	mol, py qz	Veinlet	N60E 90	Only 3 veinlets with mol of 1cm wide each are recognized. Trace of mol diss. occasionary in apl.	<20 <20 <20	0.5 0.2 <0.1	7 5 4	70 60 20	84.1% 28 21	210 254	Aplite in granite	no	A small pit of 8m×3m×1.5m	na
	FM 402	44°36.62 71°30.38	Au	py limonite	Dissemination	—	—	<20	0.9	28	300	264	—	Lapilli tuff	silicification (strong) argillization	no	no
	FM 404	44°36.76 71°29.82	Au	py	Dissemination	N45E 90	10m wide as zone	<20	0.3	20	28	50	—	Tuffs	silicification+argillization along shear	no	no
	FM 409	44°43.63 71°30.11	Au	py	Dissemination	—	—	<20	0.2	10	27	82	—	Dacite	—	no	no
	FM 417	44°40.78 71°29.72	Au	limonite	Dissemination	—	—	<20	0.2	38	5	48	—	Dacite	silicification	no	no
	FM 418	44°40.72 71°29.69	Au	qz, limo	Vein (float sample)	—	—	20	0.2	10	18	32	—	Dacite	—	no	no
	FM 419	44°40.72 71°29.58	Au	qz	Stockwork	—	—	<20	0.6	18	20	24	—			no	no
	FM 420	44°40.63 71°29.57	Au	ht	Dissemination (float sample)	—	—	<20	0.3	12	21	26	—		silicification (strong)	no	no
	SM 416	44°40.58 71°29.80	Au	py, mt qz	Vein	N25E 48E	20cm wide	<20	91	640	860	300	—	Dacite	silicification+limonite	no	no

Description for 4-1 to 4-4are gouted from the work of Phase I
*;expressed as ppb for Au and ppm for the other elements other than specified.
※;not defined as the exploration claim or the mining claim

Los Leones River Area(1)

(7)

No.	Locality Number or Name	lat ° ' " lon ° ' "	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results* Au	Ag	Cu	Pb	Zn	Mo	Country rock	Alteration	Exploration & Production	Title holder※
4-5	Katterfeld	45°00'38" 71°35'00"	Au, Cu	py, cp, Au, +(gn, sp) qz, cal	Single veins and stockwork	N70W 90	More than 10 veins exist. Stockworks develop between veins.	3.31	19.1	1.8%	450	0.2%	13	Propylitic andesite	prop in central zone, silicification+aergillization in marginal zone.	Veins are categorized into two, "old vein"+ "new vein".	S.M.C. Toqui
								660	8.6	480	0.5%	389	2				
								80	1.2	181	150	88	54				
								120	2.2	2280	1%	34	3				
								20	0.2	19	40	29	12				
	KM 666	46°46.16 72°54.01	Au	py qz	Vein (float sample)	—	30cm wide	<20	<0.1	19	4	20	—	Granite	—	no	no
	KM 676	46°46.38 72°56.87	Pb, Zn	sp, gn, cp qz	Vein (float sample)	—	6cm wide	20	0.1	20	0.70%	0.21%	—	?	—	no	no
	KM 679	46°46.64 72°58.23	Au	py qz	Vein (float sample)	—	40cm wide	<20	0.1	11	40	19	—	?	—	no	no
	KM 685	46°43.11 72°58.25	Au	py qz	Stockwork	N40W 40SW	1-2cm wide each	60	6.7	97	250	730		Lapillituff	silicification+ limonite	no	no
	KM 686	46°43.10 72°58.36	Au	py, po -	Dissemination	—	5m wide or more	20	6.3	451	270	960	—	Andesite	silicification	no	no
	YM 606	46°45.98 72°52.38	Au?	py qz	Stockwork	NNE-SSW (possibly N-S)	5m wide as stockwork zone	20	0.1	9	20	25	—	Quartzdiorite	silicification +limonite carb.	no	no
	YM 607	46°45.35 72°52.54	Cu, Au?	py, apy, cp -	Stockwork	ditto	3m wide as stockwork zone	500	3.1	0.12%	450	14	—	Quartzdiorite	ditto	no	no
	YM 610	46°45.56 72°51.29	Au?	py -	Dissemination	ditto NE-SW	4m wide as stockwork zone	60	0.5	9	26	12	—	Quartzdiorite	ditto	no	no
	YM 609	46°48.99 72°52.24	Au?	py qz	Stockwork (massive)	—	5m×5m	<20	0.1	33	29	84	—	Amphibolite gneiss	silicification	no	no
	YM 616 and YM 619	46°47.44 72°55.40	Au?	py qz	Stockwork accompanying gossaneous alteration zone	N10E 70E	2m wide as zone 1cm wide each veinlet Gossaneous alt. zone adjacent	20	1.6	0.16%	14	139	—	Greenschist	silicification	no	no
		ditto						(the part of stockwork)									
								<20	0.1	44	15	105	—				
								(gossaneous zone)									
	YM 620	46°47.41 72°53.94	Au?	py qz, feldspar	Pegmatitic vein	N30E 90	1-2m wide, 10m along strike	<20	0.1	64	14	106	—	Granite	silicification	no	no
	YM 625	46°47.80 72°53.56	Au?	py	Disseminationa along And. dyke	N5W 70W	2m wide, n.a. along strike	<20	0.1	39	16	124	—	Granite	silicification	no	no
	YM 626 and YM 627	46°47.86 72°53.35	Au?	py qz	Vein	N30W 90	5cm wide	<20	<0.1	12	5	27	—	Greenschist	silicification +hematite	no	no
		ditto						(vein material)								+limonite	
									<20	0.1	100	13	140	—			
								(host rock to test mineralization)									

*;expressed as ppb for Au and ppm for the other elements other than specified.
※;not defined as the exploration claim or the mining claim.
Identity Numbers correspond to the localities of ore assaying sample

Los Leones River Area(2)

(8)

No.	Locality Number or Name	lat ° lon °	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results* Au	Ag	Cu	Pb	Zn	Mo	Country rock	Alteration	Exploration & Production	Title holder※
	YM 628	46°46.24 72°53.98	Au?	py qz	silicification +gossaneus. altered zone	—	5m×5m	<20	0.4	810	12	28	—	Mica-schist	silicification	no	no
	YM 633	46°45.26 72°52.43	Au?	py qz	Stockwork	N44E 70E-90	1m wide as zone 2-5cm wide each	<20	0.3	0.28%	5	32	—	Mica-schist	no	no	no
	YM 635	46°46.40 72°49.83	Au?	py qz	Veinlet	N25E 90	1-10cm wide variable	<20	<0.1	16	21	42	—	Mica-schist	no	no	no

*;expressed as ppb for Au and ppm for the other elements other than specified.
※;not defined as the exploration claim or the mining claim.
Identily Number correspond to the localities of areassaying samples

Chile Chico-Chacabuco Area (1)

(9)

No.	Locality Number or Name	lat ° lon °	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results* Au	Ag	Cu	Pb	Zn	Country rock	Alteration	Exploration & Production	Title holder※
7A	FM 706B	46°43.57 71°57.10	Au?	limonite qz	Stockwork, dissemination. Vein	—	6km×(3+α)km	<20	0.1	7	10	66	Dacitic tuff. dacite	very weak silicification + very weak argillization	no	no
	FM 707	46°42.44 71°56.68						<20	0.1	5	50	37				
	SM 709	46°44.08 72°00.08						<20	<0.1	14	20	44				
	SM 710	46°44.22 71°59.75						<20	<0.1	13	15	32				
	SM 711	46°43.78 71°58.53						<20	<0.1	22	18	114				
	SM 712	46°44.22 71°58.16						<20	<0.1	14	40	29				
7B	SM 713	46°44.64 71°57.43	Au	py. limonite	Stockwork, dissemination	—	5.5km×0.7km	<20	0.8	8	40	43	Dacitie	medium silicification, weak argilli-	no	no
	SM 714	46°45.03 71°57.91						<20	0.8	10	20	77				
7C	FM 701	46°51.07 72°03.28	Pb. Zn Au?	gn. sp. py limo qz	Vein, dissemination, stockwork	—	3km×(1.5+α)km	6.7 (ppm)	18	180	1.10%	0.32%	Dacitie, decitic tuff	medium argillization, weak silicifi- cation	no	no
	FM 702	46°50.93 72°03.28						40	0.7	19	420	51				
	FM 703	46°51.00 72°02.70						20	0.3	6	30	50				
	FM 704	46°51.93 72°00.59						<20	0.7	60	25	33				

※;not defined as the exploration claim or the mining claim

Chile Chico-Chacabuco Area (2)

(10)

No.	Locality Number or Name	lat ° ' lon ° '	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results※ Au	Ag	Cu	Pb	Zn	Mo	Country rock	Alteration	Exploration & Production	Title holder※
7C	FM 706A	46°50.72 72°02.28	Pb, Zn Au?	gn, sp, py limo qz	Vein, dissemination stockwork	—	3km×(1.5+α)km	1.6 (ppm)	5.2	304	0.88%	24		Dacite, decitic tiff	medium argillization, weak silicification	no	no
	SM 702	46°50.66 72°04.81						<20	3.1	16	0.12%	28					
	SM 703	ditto						<20	<0.1	11	10	9					
	SM 704	46°50.94 72°03.32						<20	0.2	10	16	62					
	SM 705	ditto						<20	0.2	9	19	48					
	SM 706	46°50.98 72°03.11						<20	0.1	7	21	52					
	SM 707	ditto						<20	0.3	7	50	18					
	SM 708	46°51.03 72°02.84						440	3.0	50	50	70					
7D	FM 714	46°51.92 72°00.62	Au? Pb, Zn	py, limo	Stockwork, dissemination	—	2.5×1.0km	<20	0.1	4	10	30		Dacite	weak-medium silcification	no	Lac
	FM 715	46°51.52 72°00.35						<20	<0.1	6	5	21					
	FM 716	46°51.69 72°00.05						<20	0.1	6	15	31					
	FM 704	46°56.93 72°02.83						20	0.5	13	20	11					
	FM 713	46°51.78 72°00.34						<20	0.1	10	25	68					
	FM 718	46°50.72 71°57.27						<20	0.5	10	70	60					
	FM 719	ditto						40	<0.1	8	48	17					
7E	FM 709	46°54.69 72°03.22	Pb? Zn?	limo, py qz	Stockwork, dissemination	—	1.5km×0.5km, 1.0km×0.7km, 1.0km×0.3km		<20	0.2	11	30	16	Dacite	medium silicification, weak argillization	no	Lac ?
	FM 713	46°56.66 72°02.99						20	0.3	10	40	82					
7F	FM 710	46°59.10 72°05.05	Au? Pb?		Stockwork, dissemination	—	2.0km×1.0km, another alt. zone	100	2.6	64	320	20		Dacite, decitic lapilli tf	silicification argillization	no	no

※;not defined as the exploration claim or the mining claim.

Chile Chico-Chacabuco Area (3)

(11)

No.	Locality Number or Name	lat ° lon °'	Ore metals	Ore mineral Gangue min.	Features of deposit	strike dip	Size of deposit	Assay results※ Au	Ag	Cu	Pb	Zn	Mo	Country rock	Alteration	Exploration & Production	Title holder※
7F	FM 711	47° 00. 07 72° 04. 62	Au? Pb?		Stockwork, dissemination	—	2. 0km×1. 0km, another altered zones	2. 0 (ppm)	2. 0	75	300	60		Dacite, decitic lapilli tuff	weak silicification, very weak argillization	no	no
	FM 712	47° 00. 40 72° 04. 70						<20	0. 9	6	30	33					
	SM 715	47° 00. 83 72° 04. 54						<20	<0. 1	11	20	26					
7G	SM 716	47° 00. 89 72° 02. 08	Au?	limo. py	Stockwork, dissemination	—	1. 5km×0. 4km	40	2. 5	59	420	70		Dacite, dacitic weldede tuff	weak silicification	no	no
	SM 717	47° 00. 85 72° 02. 95						<20	2. 7	8	12	8					
	SM 718	47° 00. 75 72° 01. 87						<20	0. 9	8	9	8					
	SM 719	47° 00. 81 72° 01. 84						<20	1. 7	19	20	83					
	SM 720	47° 01. 88 72° 03. 01						40	2. 4	60	20	44					
	SM 721	ditto						40	1. 2	12	90	17					
7H	FM 717	47° 02. 67 71° 59. 80	Au?	py, cp	Dissemination	—	1. 5km×0. 5km, 1. 5km×0. 2km		40	0. 6	0. 10%	40	72	Andesite, dacite	silicification, weak chloritization	no	no
	FM 718	47° 02. 78 71° 59. 75						60	0. 8	150	130	24					
	FM 720	47° 02. 69 71° 59. 24						<20	0. 1	13	30	20					
7I	SM 724	47° 08. 17 71° 55. 68	Au?	limo. py	Stockwork, dissemination	—	4. 0km×2. 5km	<20	0. 1	11	20	20		Dacite	medium silicification, very weak argillization	no	no
	SM 725	47° 07. 92 71° 55. 98						<20	0. 1	7	30	39					
	SM 726	47° 09. 01 71° 56. 80						<20	0. 1	8	20	33					
	SM 727	47° 08. 40 71° 59. 08						<20	<0. 1	17	4	128					
	SM 728	ditto						<20	0. 1	9	30	11					
	SM 729	ditto						<20	0. 1	113	19	67					

※;not defined as the exploration claim or the mining claim

Table 6 Ore Assay Result (1)

	Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
Futaleufu	FM-303	< 20	< 0.1	10	10	32
	FM-309	< 20	0.2	22	7	30
	FM-310	< 20	0.2	80	11	62
	FM-311	< 20	0.5	40	3	14
	FM-313	< 20	0.2	122	8	136
	FM-314	< 20	0.5	90	13	44
	FM-315	< 20	0.2	38	7	16
	FM-316	< 20	0.2	18	8	18
	FM-317	< 20	0.1	26	7	24
	FM-319	80	1.5	22	3	12
	FM-320	< 20	1.7	18	2	22
	FM-322	20	0.1	14	11	28
	FM-323	< 20	0.1	48	2	54
	FM-325	< 20	0.1	3	2	18
	FM-326	180	0.5	108	13	32
	FM-327	200	7.9	4.30%	11	108
	YM-309	< 20	0.1	58	15	104
	KM-301	< 20	0.2	324	< 2	74
	KM-302	< 20	0.2	40	< 2	36
	KM-311	2.4ppm	12	1.26%	94	14
	KM-318	< 20	1.7	176	50	20
	KM-331	< 20	0.3	132	10	80
Alto Palena	KM-332	< 20	0.1	10	35	24
	KM-342	600	75	3.32%	55	114
	KM-350	80	692	0.36%	24.00%	36.00%
	KM-351	< 20	0.7	210	14	66
	KM-356	< 20	0.3	30	80	288
Alto Cisnes	FM-402	< 20	0.9	28	300	264
	FM-404	< 20	0.3	20	28	50
	FM-409	< 20	0.2	10	27	82
	FM-417	< 20	0.2	38	5	48

(2)

	Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
	FM-418	20	0.2	10	18	32
Alto	FM-419	< 20	0.6	18	20	24
Cisnes	FM-420	< 20	0.3	12	21	26
	CM-416	< 20	91	640	860	300
	YM-609	< 20	0.1	33	29	84
	YM-616	20	1.6	0.16%	14	139
	YM-619	< 20	0.1	44	15	105
	YM-620	< 20	0.1	64	14	106
	YM-625	< 20	0.1	39	16	124
	YM-626	< 20	< 0.1	12	5	27
	YM-627	< 20	0.1	100	13	140
Rio	YM-628	< 20	0.4	10	12	38
Los	YM-633	< 20	0.3	0.28%	5	32
Leones	YM-635	< 20	< 0.1	16	21	42
	KM-666	< 20	< 0.1	19	4	20
	KM-676	20	0.1	20	0.70%	0.21%
	KM-679	< 20	0.1	11	40	19
	KM-685	60	6.7	97	250	730
	KM-696	20	6.3	451	270	960
	YM-606	20	0.1	9	20	25
	YM-607	500	3.1	0.12%	450	14
	YM-610	60	0.5	9	26	12
	FM-701	6.7ppm	18	100	1.10%	0.32%
	FM-702	40	0.7	19	420	51
	FM-703	20	0.3	6	30	50
	FM-704	< 20	0.7	60	25	33
	FM-706A	1.6ppm	5.2	304	0.88%	24
Chile	FM-706B	< 20	0.1	7	10	66
Chico	FM-707	< 20	0.1	5	50	37
	FM-709	< 20	0.2	11	30	16
	FM-710	100	2.6	64	320	20

(3)

	Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
	FM-711	2.0ppm	2.1	75	300	60
	FM-712	< 20	0.9	6	30	33
	FM-713	20	0.3	10	40	82
	FM-714	< 20	0.1	4	10	30
	FM-715	< 20	< 0.1	6	5	21
	FM-716	< 20	0.1	6	15	31
	FM-717	40	0.6	0.10%	40	72
	FM-718	60	0.8	150	130	24
	FM-720	< 20	0.1	13	30	20
	SM-702	< 20	3.1	16	0.12%	28
	SM-703	< 20	< 0.1	11	10	9
	SM-704	< 20	0.2	10	16	62
	SM-705	< 20	0.2	9	19	48
	SM-706	< 20	0.1	7	21	52
Chile	SM-707	< 20	0.3	7	50	18
Chico	SM-708	440	3.0	50	50	70
	SM-709	< 20	< 0.1	14	20	44
	SM-710	< 20	< 0.1	13	15	32
	SM-711	< 20	< 0.1	22	18	114
	SM-712	< 20	< 0.1	14	40	29
	SM-713	< 20	0.8	8	40	43
	SM-714	< 20	0.8	10	20	77
	SM-715	< 20	< 0.1	11	20	26
	SM-716	40	2.5	59	420	70
	SM-717	< 20	2.7	6	12	8
	SM-718	< 20	0.9	8	9	8
	SM-719	< 20	1.7	19	20	83
	SM-720	40	2.4	60	20	44
	SM-721	40	1.2	12	90	17
	SM-722	< 20	< 0.1	6	10	20
	SM-723	< 20	< 0.1	6	10	17

(4)

	Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
	SM-724	< 20	0.1	11	20	20
	SM-725	< 20	0.1	7	30	39
	SM-726	< 20	0.1	8	20	33
Chile	SM-727	< 20	< 0.1	17	4	128
Chico	SM-728	< 20	0.1	9	30	11
	SM-729	< 20	0.1	113	19	67
	PM-702	< 20	0.1	11	60	49
	PM-704	20	0.5	13	20	11
	PM-713	< 20	0.1	10	25	68
	PM-718	< 20	0.5	10	70	60
	PM-719	40	< 0.2	8	48	17

Table 7 Result of Whole Rock Analysis and Normative Composition

Sample No	FR317	FR330	FR335	(FR337)	FR340	FR343	(FR416)	(KR303)	KR329	KR331	PR311	YR305	YR311	(YR407)	YR622
SiO_2	47.33	62.29	71.43	51.56	63.23	72.67	69.38	50.50	53.11	74.34	73.18	57.51	64.60	62.27	45.67
TiO_2	0.81	0.89	0.34	0.97	0.93	0.44	0.55	0.93	1.10	0.27	0.27	0.96	0.62	0.98	3.32
Al_2O_3	17.04	16.57	15.04	18.25	15.56	14.13	15.85	19.59	18.61	13.86	14.77	17.88	15.26	20.96	19.17
Fe_2O_3	3.15	2.84	0.42	6.23	2.40	0.35	1.33	4.24	3.03	0.00	0.00	4.22	1.85	4.45	2.47
FeO	4.93	2.80	0.94	3.25	3.20	0.97	0.52	4.00	5.08	0.65	0.95	3.43	1.92	1.17	6.86
MnO	0.21	0.06	0.02	0.19	0.15	0.05	0.01	0.21	0.15	0.04	0.04	0.19	0.03	0.07	0.16
MgO	8.52	2.40	0.17	3.32	2.80	0.22	0.01	4.45	4.99	0.01	0.01	3.33	1.44	0.01	4.26
CaO	9.65	3.93	1.09	7.51	4.51	1.48	0.01	8.02	7.75	0.71	0.36	5.03	2.42	0.01	7.95
Na_2O	2.55	3.25	4.47	3.15	3.38	3.94	5.75	3.30	3.45	3.82	4.46	4.99	3.49	3.05	4.43
K_2O	0.18	3.57	3.33	1.21	2.63	3.38	4.28	1.41	1.58	4.06	3.54	2.02	3.47	5.11	0.53
P_2O_5	0.23	0.19	0.08	0.21	0.18	0.11	0.12	0.25	0.26	0.09	0.12	0.25	0.17	0.10	0.12
BaO	0.01	0.06	0.05	0.03	0.04	0.05	0.10	0.03	0.02	0.05	0.08	0.06	0.04	0.06	0.01
LOI	2.34	1.80	1.61	2.09	1.85	0.96	1.07	2.19	1.55	0.84	1.47	1.13	3.99	2.53	2.26
Total Total	96.95	100.65	98.99	97.97	100.91	98.76	99.03	99.12	100.68	98.46	99.19	101.00	99.30	100.76	97.20
FeO*	7.77	5.35	1.31	8.86	5.36	1.30	1.72	7.81	7.81	0.41	0.90	7.23	3.58	5.18	9.08
FeO*/MgO	0.91	2.23	7.73	2.67	1.92	5.89	343.78	1.76	1.57	80.97	179.96	2.17	2.48	1034.95	2.13
Con. P	40.84	36.74	14.15	53.55	37.84	14.67	14.62	45.03	43.81	4.88	10.11	41.14	29.89	38.79	49.62
K_2O+Na_2O(wt%)	2.73	6.82	7.80	4.36	6.01	7.32	10.03	4.71	5.03	7.88	8.00	7.01	6.96	8.16	4.96
Na_2O/CaO(wt%)	0.26	0.83	4.10	0.42	0.75	2.65	1150.00	0.41	0.45	5.38	12.39	0.99	1.44	610.00	0.56
K_2O/Na_2O(wt%)	0.07	1.10	0.74	0.38	0.78	0.86	6.74	0.43	0.46	1.06	0.79	0.40	0.99	1.68	0.12
Fe_2O_3/FeO(wt%)	0.64	1.01	0.44	1.92	0.75	0.37	2.56	1.06	0.60	0.00	0.00	1.23	0.96	3.80	0.36
$Al_2O_3+Fe_2O_3-(Na_2O+K_2O)$(mol)	0.15	0.09	0.04	0.16	0.09	0.04	0.03	0.16	0.12	0.04	0.03	0.11	0.06	0.14	0.13
CaO(mol)	0.17	0.07	0.02	0.13	0.08	0.03	0.00	0.14	0.14	0.01	0.01	0.09	0.04	0.00	0.14
FeO+MnO+MgO(mol)	0.28	0.10	0.01	0.13	0.11	0.02	0.01	0.17	0.19	0.01	0.01	0.13	0.07	0.02	0.21
K_2O+Na_2O+CaO/Al_2O_3(mol)	1.25	1.00	0.90	1.06	1.07	0.93	0.88	1.05	1.22	0.79	0.83	1.06	0.93	0.48	1.14
Al_2O_3/K_2O+Na_2O+CaO(mol)	0.86	1.00	1.12	0.95	0.94	1.08	1.14	0.95	0.82	1.27	1.21	0.95	1.07	2.08	0.88
D. I. (Q+or+ab+ne)	22.63	66.20	87.43	42.79	63.52	86.55	93.82	38.62	41.13	91.14	91.26	59.78	73.73	81.24	38.24
Fe^{+3}/Fe^{+2}(atomic)	6.58	0.91	0.40	1.72	0.67	0.33	2.33	0.95	0.54	0.00	0.00	1.10	0.87	3.43	0.32
q	0.00	17.62	29.95	9.00	19.39	33.26	19.90	2.38	2.62	34.84	32.62	5.64	23.71	25.25	0.00
c	0.00	0.67	2.29	0.00	0.00	1.56	2.04	0.00	0.00	2.11	3.23	0.00	1.77	10.64	0.00
or	1.06	21.10	19.68	7.15	15.54	19.98	25.30	8.33	9.34	24.00	20.92	11.94	20.51	30.20	3.13
ab	21.57	27.49	37.80	26.64	28.58	33.32	48.63	27.91	29.18	32.31	37.72	42.20	29.51	25.79	32.32
an	34.52	18.26	4.89	32.09	19.52	6.63	0.00	34.48	30.63	2.94	1.01	20.43	10.90	0.00	30.87
ne	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	2.79
di-wo	4.95	0.00	0.00	1.59	0.70	0.00	0.00	1.54	2.56	0.00	0.00	1.21	0.00	0.00	3.25
di-en	3.57	0.00	0.00	1.37	0.47	0.00	0.00	1.12	1.67	0.00	0.00	0.91	0.00	0.00	2.03
di-fs	0.93	0.00	0.00	0.00	0.17	0.00	0.00	0.27	0.71	0.00	0.00	0.17	0.00	0.00	1.03
hy-en	15.28	5.98	0.42	6.90	6.50	0.55	0.01	9.96	10.75	0.01	0.01	7.38	3.59	0.01	0.00
hy-fs	3.97	1.44	0.86	0.00	2.38	0.85	0.00	2.43	4.57	1.05	1.42	1.41	1.03	0.00	0.00
ol-fo	1.65	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	6.01
ol-fa	0.47	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	3.35
at	4.57	4.11	0.60	8.28	3.48	0.53	0.31	6.14	4.40	0.00	0.00	5.11	2.68	1.16	3.57
hm	0.00	0.00	0.00	0.51	0.00	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	3.65	0.00
il	1.54	1.69	0.65	1.84	1.86	0.84	1.05	1.77	2.09	0.51	0.51	1.82	1.18	1.86	6.31
ap	0.55	0.45	0.19	0.50	0.43	0.26	0.28	0.59	0.62	0.21	0.28	0.59	0.40	0.24	0.28
TOTAL	94.60	98.79	97.32	95.84	99.02	97.75	97.86	96.91	99.11	97.56	97.64	99.81	95.26	98.18	94.94
Femic	37.45	13.67	2.72	20.99	16.00	3.02	2.77	23.81	27.37	1.39	2.15	19.61	8.87	6.92	25.84

FeO*: Total iron

( ) : Volcanic rock

no mark : Plutonic rock

Table 8 Assay Result on Pan Concentrate Geochemical Samples

Futaleufu-Alto Palena Area (Sub-area Futaleufu) (1)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
FP-301	<20	0.1	21	4	72	1	<2
FP-302	<20	0.1	3.3	2	82	<1	<2
FP-303	<20	0.1	4.4	3	65	<1	<2
FP-304	<20	0.2	28	4	72	1	<2
FP-305	<20	0.2	8.7	6	116	<1	<2
FP-306	<20	0.2	32	4	43	3	<2
FP-307	<20	0.1	23	4	53	2	<2
FP-308	<20	0.2	22	5	54	1	<2
FP-309	<20	0.1	48	<1	42	3	<2
FP-310	<20	0.1	23	1	42	<1	<2
FP-311	<20	0.2	23	<1	56	<1	<2
FP-312	<20	0.2	42	6	54	<1	<2
FP-313	<20	15	25	2	69	<1	<2
FP-314	<20	0.3	52	21	33	1	2
FP-315	<20	0.3	70	17	56	<1	3
FP-316	<20	0.2	126	6	54	<1	<2
FP-317	<20	0.1	57	3	63	<1	<2
FP-318	<20	0.2	67	7	47	3	<2
FP-319	<20	0.1	14	1	25	<1	<2
FP-320	505	0.3	74	69	43	2	22
FP-321	<20	0.1	17	3	29	<1	<2
FP-322	278	0.3	39	5	46	<1	<2
FP-323	<20	0.3	89	44	69	1	18
FP-324	<20	0.1	18	<1	66	1	<2
FP-325	20	0.2	103	34	75	1	3
FP-326	<20	0.2	28	2	52	1	<2
FP-327	<20	0.3	66	58	72	4	36
FP-328	20	0.4	117	174	110	7	100
FP-329	70	0.4	65	22	45	1	<2
FP-330	<20	0.2	29	13	43	<1	<2
FP-331	<20	0.4	157	22	90	2	4
FP-332	30	0.2	42	3	41	1	7
FP-333	<20	0.2	24	<1	128	<1	<2
FP-334	<20	0.2	22	<1	51	<1	<2
KP-301	<20	0.4	64	24	56	2	29
KP-302	20	0.5	222	74	103	2	46
KP-303	<20	0.5	85	52	87	4	40
KP-304	<20	0.1	5.9	1	52	<1	<2
KP-305	170	0.2	9.2	2	34	<1	<2
KP-306	<20	0.2	21	9	80	<1	<2
KP-307	<20	0.1	6.9	<1	46	1	<2
KP-308	<20	0.2	20	30	113	1	<2
KP-309	<20	0.5	33	69	198	<1	<2
KP-310	90	0.1	6.9	14	120	<1	<2
KP-311	<20	0.1	7.1	4	92	<1	<2
KP-312	<20	0.2	13	16	75	<1	<2
KP-313	<20	0.2	14	22	98	<1	<2
KP-314	180	0.4	109	10	67	3	2
KP-315	<20	0.2	110	8	80	4	2
KP-316	210	0.3	75	7	54	3	<2
KP-317	<20	0.3	58	19	69	4	<2
KP-318	<20	0.2	11	6	115	<1	<2
KP-319	<20	0.2	11	3	105	<1	<2
KP-320	<20	0.4	5.3	1	145	<1	<2
KP-321	<20	0.1	7.6	1	114	<1	<2
KP-322	<20	0.2	9.7	4	69	<1	<2
KP-323	<20	0.3	17	8	53	<1	<2
KP-324	<20	<0.1	3.4	2	20	<1	<2
KP-325	<20	0.3	12	5	107	<1	<2
KP-326	<20	0.1	6.6	1	89	<1	<2
KP-327	<20	1.7	27	3	47	<1	<2
KP-328	<20	0.2	24	2	50	<1	<2
KP-329	<20	0.1	21	1	43	<1	<2
KP-330	<20	0.7	18	4	44	<1	<2
KP-331	<20	0.3	28	2	50	<1	<2
KP-332	<20	0.2	25	1	48	<1	<2
SP-301	90	0.8	100	170	106	1	11
SP-302	<20	0.2	21	3	43	<1	<2
SP-303	<20	0.2	27	34	95	<1	3
SP-304	<20	0.1	7.3	3	146	<1	<2
SP-305	800	0.3	14	<1	68	2	<3
SP-306	40	0.2	19	2	64	1	<2
SP-307	<20	0.2	8.3	<1	62	2	<2
SP-308	<20	0.2	9.1	20	115	2	<2
SP-309	<20	0.1	8.7	<1	103	1	<2
SP-310	<20	1.3	11	2	175	2	<2
SP-311	<20	0.2	9.5	23	189	1	<2
SP-312	<20	0.2	9.1	2	234	1	<2
SP-313	<20	0.1	10	<1	190	<1	<2
SP-314	<20	0.1	6.7	2	180	<1	<2
SP-315	<20	0.1	13	<1	229	<1	<2
SP-316	<20	0.1	8.6	6	171	<1	<2
SP-317	<20	0.2	18	25	141	1	<2
SP-318	<30	0.3	9.9	1	277	<1	<2
SP-319	<20	0.3	23	140	49	8	<2
SP-320	<30	0.6	18	14	138	3	<2
SP-321	<30	0.1	22	10	81	1	<2
SP-322	<20	0.2	7.8	1	144	<1	<2
YP-301	725	1.2	51	6	61	2	<2
YP-302	<40	0.7	77	4	214	4	<2
YP-303	80	0.2	24	1	37	1	<2
YP-304	<20	0.2	8.2	<1	174	<1	<2
YP-305	<20	0.1	29	10	70	<1	<2
YP-306	<20	<0.1	6.7	2	25	<1	<2
YP-307	<20	0.1	6.8	<1	77	<1	<2
YP-308	<20	<0.1	7.0	1	59	<1	<2
YP-309	<20	0.4	63	200	76	2	<2
YP-310	<20	0.4	10	2	94	1	<2
YP-311	<20	0.1	12	<1	21	1	<2
YP-312	<20	0.3	17	<1	37	1	<2
YP-313	60	0.4	48	25	41	1	<2
YP-314	<20	<0.1	3.4	1	56	1	<2
YP-315	<20	1.2	10	<1	91	2	<2
YP-316	<20	0.5	35	14	41	6	<2
YP-317	<20	0.6	48	11	86	6	<2
YP-318	<20	0.1	30	6	69	34	<2
YP-319	20	0.9	151	107	134	2	28
YP-320	194	2.5	218	224	182	3	44

Futaleufu-Alto Palena Area
(Sub-area Futaleufu) (2)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
YP-321	20	2.4	190	404	155	3	31
YP-322	<20	0.3	124	8	51	3	<2
YP-323	471	0.5	28	3	114	1	<2
YP-324	<20	0.6	38	29	168	3	10
YP-325	27000	8.5	32	150	153	6	3
YP-326	190	0.3	29	9	58	1	<2
PP-300	<20	0.1	9.6	3	109	1	<2
PP-301	<20	0.2	6.4	<1	243	<1	<2
PP-302	1500	0.8	19	25	175	2	<4
PP-303	14000	4.6	30	20	150	2	<2
PP-304	121	0.3	23	3	94	<1	<3
PP-305	130	0.2	14	6	168	<1	<2
PP-306	40	0.4	38	5	41	<1	<2
PP-307	<20	0.4	84	20	161	1	13
PP-308	<20	0.1	12	<1	104	<1	<2
PP-309	<20	0.2	11	<1	290	<1	<2
PP-310	160	0.3	30	<1	89	1	<2
PP-311	720	0.6	28	<1	35	<1	<2
PP-312	<30	0.3	22	5	221	<1	<2
PP-313	<20	0.4	119	3	62	<1	7
PP-314	356	0.6	188	16	75	1	16
PP-315	60	1.3	766	26	95	1	<3
PP-316	<20	0.9	143	397	247	11	81

Los Leones River Area (3)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
KP-601	<20	0.1	26	1	72	<1	<2
KP-602	<20	0.1	26	1	67	9	<1
KP-603	<20	0.2	16	107	96	5	19
KP-604	40	0.2	26	2	38	<1	6
KP-605	50	0.1	13	1	52	1	3
KP-606	<10	0.1	10	1	52	2	6
KP-607	<20	0.1	16	3	52	1	7
KP-608	<20	0.1	9	2	93	<1	3
KP-609	<20	0.1	13	3	72	1	4
KP-610	190	0.2	7	1	176	<1	<2
KP-611	<20	<0.1	28	4	34	<1	5
KP-612	<20	0.1	29	3	29	<1	6
KP-613	<20	0.1	30	4	35	1	5
KP-614	<20	0.1	27	3	27	<1	5
KP-615	<20	0.1	29	5	85	<1	11
KP-616	<20	0.1	4	2	107	<1	<2
KP-617	<20	<0.1	3	4	51	<1	2
KP-618	<20	0.1	14	4	44	<1	5
KP-619	<20	0.1	13	2	38	1	3
KP-620	<20	0.1	3	3	66	<1	<2
KP-621	<20	0.1	13	3	43	<1	2
KP-622	760	0.3	10	<1	31	<1	<2
KP-623	<20	0.1	4	4	95	<1	<2
KP-624	<20	0.2	24	1	30	<1	<2
KP-625	<20	0.3	131	15	45	<1	106
KP-626	<20	0.1	49	4	39	<1	4
KP-627	<20	0.2	47	5	37	<1	54
KP-628	<20	0.1	37	2	30	<1	14
KP-629	<20	0.1	22	4	24	<1	5
KP-630	<20	0.2	68	4	41	<1	9
KP-631	<20	0.2	49	2	37	<1	20
KP-632	<20	0.2	40	3	50	<1	19
KP-633	<20	0.5	37	3	36	<1	5
KP-634	<20	0.1	92	4	40	<1	7
KP-635	<20	0.1	39	2	30	<1	7
KP-636	<20	0.2	25	2	38	<1	3
KP-637	<20	0.1	50	2	34	<1	6
KP-638	<20	0.2	25	1	36	<1	4
KP-639	<20	4.8	68	3	63	<1	<2
KP-640	<20	0.1	5	4	64	<1	<2
KP-641	<20	0.1	21	1	46	<1	5
KP-642	<20	0.1	23	1	44	<1	7
KP-643	750	0.7	11	1	42	<1	2
KP-644	<20	0.1	11	1	45	<1	<2
KP-645	<20	0.1	3	2	32	<1	<2
KP-646	200	0.1	5	1	41	<1	<2
KP-647	<20	0.1	2	3	65	<1	<2
KP-648	<20	0.1	2	3	106	<1	<2
KP-649	<20	0.1	11	2	37	<1	<2
KP-650	<20	0.1	32	2	37	<1	5
KP-651	90	0.1	28	2	40	<1	5
KP-652	<20	0.2	<1	9	54	<1	<2
KP-653	<20	0.1	2	2	89	<1	<2
KP-654	<30	0.1	1	8	111	<1	<2

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
KP-655	<20	0.2	2	<1	152	<1	<2
KP-656	<20	0.2	16	<1	147	<1	<2
KP-657	<20	0.1	4	<1	24	<1	<2
KP-658	<20	0.2	6	<1	25	<1	<2
KP-659	<20	0.1	8	<1	28	<1	<2
KP-660	<20	0.2	6	<1	81	<1	<2
KP-661	<30	0.8	21	3	88	<1	10
KP-662	<20	0.1	3	<1	109	<1	<2
KP-663	<20	0.3	6	<1	198	<1	<2
KP-664	<20	0.1	2	2	148	<1	<2
KP-665	<20	0.1	7	1	71	<1	<2
KP-666	<20	0.1	6	1	76	<1	<2
KP-667	<20	0.1	11	<1	43	<1	<2
KP-668	<20	0.1	14	2	64	<1	<2
KP-669	<20	0.1	8	<1	55	<1	<2
KP-670	<20	0.1	2	<1	104	<1	<2
KP-671	<20	0.1	16	2	51	<1	<2
KP-672	<20	0.2	3	3	112	<1	<2
KP-673	<20	0.1	8	1	56	<1	<2
KP-674	<20	0.1	2	1	58	<1	<2
KP-675	<20	0.1	2	2	102	<1	<2
KP-676	<20	0.1	13	<1	38	<1	<2
KP-677	<20	0.1	16	2	34	<1	<2
KP-678	20	0.2	17	<1	30	<1	<2
KP-679	<20	0.1	19	2	35	<1	<2
KP-680	<20	0.1	26	1	37	<1	<2
KP-681	<20	0.1	31	2	33	<1	4
KP-682	<20	0.1	33	2	31	<1	4
KP-683	<20	0.1	25	2	35	<1	4
KP-684	<20	0.1	21	3	33	<1	<2
KP-685	<20	0.1	20	<1	35	<1	<2
KP-686	130	0.2	17	<1	34	<1	<2
KP-687	410	0.5	10	<1	38	<1	<2
KP-688	90	0.3	12	<1	34	<1	<2
KP-689	<20	0.2	11	<1	40	<1	<2
KP-690	<20	0.2	20	1	41	<1	<2
YP-601	<20	0.4	29	5	48	2	88
YP-602	<20	1.8	25	5	50	1	6
YP-603	<40	0.3	22	4	44	3	12
YP-604	<40	0.2	18	4	82	1	8
YP-605	<20	0.3	34	6	47	1	87
YP-606	<20	0.3	31	2	39	2	26
YP-607	<20	0.3	7	8	313	<1	<2
YP-608	<20	0.1	6	13	105	3	6
YP-609	<20	0.1	9	3	54	1	22
YP-610	<20	0.1	17	5	83	1	33
YP-611	<20	0.1	10	3	54	1	22
YP-612	<20	0.1	10	3	52	1	22
YP-613	<20	0.1	9	2	55	1	15
YP-614	<20	0.1	10	3	52	1	18
YP-615	<20	0.1	19	3	84	<1	<2
YP-616	<20	0.1	20	3	58	1	9
YP-617	<20	0.1	19	4	55	1	9
YP-618	<20	0.1	22	3	54	1	13

Los Leones River Area (4)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
YP-619	3400	0.8	35	4	30	1	14
YP-620	<20	0.2	21	1	201	<1	2
YP-621	1600	0.5	110	28	44	2	238
YP-622	<20	0.1	132	11	42	<1	51
YP-623	120	0.2	58	13	33	1	50
YP-624	<20	0.1	40	4	32	1	27
YP-625	110	0.1	28	3	27	1	13
YP-626	190	0.3	43	6	40	1	21
YP-627	<20	0.1	22	3	64	4	<1
YP-628	530	0.4	23	1	59	<1	<2
YP-629	380	0.2	49	5	41	<1	9
YP-630	<20	0.1	21	3	41	<1	8
YP-631	<20	0.1	7	3	83	<1	<2
YP-632	<20	0.1	8	3	80	1	3
YP-633	<10	0.1	8	3	67	1	<2
YP-634	<20	0.1	24	6	55	1	9
YP-635	<20	0.1	37	5	33	1	13
YP-636	<20	0.1	33	6	36	<1	13
YP-637	<20	0.1	12	4	99	<1	<2
YP-638	<20	0.2	28	4	103	<1	8
YP-639	<20	1.1	66	2	40	3	83
YP-640	<20	0.1	34	5	39	<1	13
YP-641	<20	0.1	29	4	56	<1	9
YP-642	<20	0.1	25	5	89	1	8
YP-643	<20	0.1	20	6	72	1	12
YP-644	<20	0.3	10	8	210	<1	<2
YP-645	<20	0.1	6	4	63	1	4
YP-646	<20	0.2	33	4	147	1	5
YP-647	<20	0.1	14	4	48	1	3
YP-648	<20	0.2	7	6	250	1	<2
YP-649	290	0.3	6	<1	20	1	<2
YP-650	30	0.2	11	1	25	2	11
YP-651	<20	0.1	14	1	26	1	8
YP-652	20	0.1	10	<1	16	1	11
YP-653	70	0.2	10	<1	25	1	21
YP-654	110	0.2	5	<1	22	1	18
YP-655	110	0.2	11	<1	19	1	10
YP-656	<20	0.2	17	<1	28	1	15
YP-657	<20	0.1	16	<1	17	1	10
YP-658	10	0.1	17	<1	18	1	29
YP-659	75	0.1	3	<1	10	<1	3
YP-660	110	0.1	5	<1	14	<1	4
YP-661	70	0.2	5	<1	15	1	9
YP-662	120	0.2	5	<1	15	1	8
YP-663	110	0.3	5	<1	18	1	6
YP-664	85	0.1	3	<1	12	<1	5
YP-665	130	0.2	5	<1	25	1	5
YP-666	40	0.2	20	<1	29	1	6
YP-667	<20	0.2	18	<1	33	1	5
YP-668	<20	0.2	17	<1	26	1	4
YP-669	<20	0.2	17	<1	23	<1	6
YP-670	<10	0.1	17	<1	23	<1	3
YP-671	<20	0.2	19	1	27	<1	7
YP-672	<20	0.2	7	9	244	<1	<2

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
YP-673	<10	0.1	3	31	159	<1	<2
YP-674	<20	3.6	31	207	2913	<1	26
YP-675	<20	0.2	6	39	243	<1	<2
YP-676	<10	0.2	7	14	253	<1	<2
YP-677	<20	0.2	5	2	220	<1	<2
YP-678	<20	0.2	17	13	138	<2	<1
YP-679	<20	0.5	67	31	88	<1	95
YP-680	<20	0.2	63	14	56	<1	57
YP-681	<20	0.5	95	49	67	1	216
YP-682	<20	0.4	68	68	124	<1	296
YP-683	<20	0.1	31	6	56	<1	21
VP-600	<20	<0.1	6	3	60	<1	2
VP-601	<20	<0.1	4	2	39	<1	<2
VP-602	<20	0.2	22	4	40	1	6
VP-603	460	0.9	25	1	21	<1	<2
VP-604	<20	0.1	13	4	57	1	2
VP-605	<20	0.1	7	5	138	<1	<2
VP-606	20	0.1	9	2	102	<1	<2
VP-607	<20	0.1	17	3	43	<1	<2
VP-608	<10	0.1	5	3	146	<1	<2
VP-609	20	0.1	9	2	103	<1	<2
VP-610	<20	0.2	9	6	180	<1	<2
VP-611	<20	0.2	13	6	121	<1	<2
VP-612	<20	0.2	11	2	163	<1	<2
VP-613	<20	0.1	4	2	148	<1	10
VP-614	<20	<0.1	3	2	70	1	<2
VP-615	<20	0.1	4	2	92	<1	<2
VP-616	<20	0.1	7	2	55	<1	<2
VP-617	<20	0.1	4	1	73	<1	<2
VP-618	<20	0.1	3	2	81	<1	<2
VP-619	20	0.1	2	6	139	<1	<2
VP-620	<20	0.1	12	6	123	<1	<2
VP-621	<20	0.2	29	2	41	<1	<2
VP-622	<20	0.1	9	1	39	1	<2
VP-623	<20	0.1	4	1	52	<1	<2
VP-624	20	0.1	17	2	36	<1	<2
VP-625	<20	0.1	12	2	40	<1	<2
VP-626	<20	0.1	9	17	82	<1	11
VP-627	230	0.1	27	2	54	<1	5
VP-628	<20	0.1	18	3	41	<1	<2
VP-629	<20	0.1	27	3	36	1	5
VP-630	80	0.4	58	14	57	1	59
VP-631	<20	0.1	9	2	44	<1	<2
VP-632	80	0.2	7	4	60	<1	<2
VP-633	<20	0.1	7	3	78	<1	<2
VP-634	<10	0.1	2	12	107	<1	<2
VP-635	<20	0.1	4	26	165	<1	<2
VP-636	20	0.1	1	20	97	<1	<2
VP-637	<10	0.3	21	20	166	<1	8
VP-638	<20	0.2	16	<1	53	<1	<2
VP-639	1500	0.3	69	24	53	7	69
VP-640	<20	0.2	15	23	230	<1	<2
VP-641	<20	0.2	6	42	285	<1	<2
VP-642	603	0.2	54	9	51	<1	28

Chile Chico-Chacabuco Area (5)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
FP-701	<20	0.2	5	20	298	<1	<2
FP-702	<20	0.2	6	11	198	<1	<2
FP-703	<20	0.3	25	4	267	1	<2
FP-704	<20	0.2	22	26	191	3	4
FP-705	<20	0.4	20	52	279	<1	<2
FP-706	<20	0.7	23	48	109	<1	43
FP-707	<20	1.0	128	250	112	1	27
FP-708	<20	1.1	343	556	149	<1	41
FP-709	<20	1.4	135	422	117	<1	106
FP-710	<20	2.2	121	509	81	<1	20
FP-711	<20	0.3	6	19	62	<1	15
FP-712	<20	0.4	5	143	110	<1	22
FP-713	<20	1.0	44	367	216	3	33
FP-714	<20	0.5	44	217	188	<1	3
SP-701	<20	0.5	2	99	162	1	19
SP-702	<20	0.3	2	46	98	1	41
SP-703	<20	0.3	1	32	72	<1	11
SP-704	40	1.4	124	548	392	3	58
SP-705	110	3.2	180	2150	1121	4	439
SP-706	190	0.9	35	535	177	1	58
SP-707	<20	0.4	24	48	627	<1	5
SP-708	<20	11.0	20	770	329	2	76
SP-709	<20	0.3	3	153	130	1	14
SP-711	<20	0.5	7	167	145	6	34
SP-712	<30	0.5	20	79	414	<1	29
SP-713	30	1.6	17	650	1550	<1	32
SP-714	<20	0.3	15	47	292	<1	10
SP-715	<20	0.3	11	30	163	<1	18
SP-716	<30	0.3	8	33	105	<1	25
SP-717	440	1.2	28	54	176	<1	47
SP-718	<20	0.2	11	34	248	<1	12
SP-719	<20	0.1	3	18	63	<1	8
SP-720	<30	0.8	16	122	278	<1	54
SP-721	<20	0.4	113	223	177	<1	52
SP-722	<20	0.7	16	776	454	4	86
SP-723	<20	0.3	14	75	252	<1	25
SP-724	<20	1.7	1	284	365	<1	13
SP-725	1100	3.7	26	553	158	5	236
SP-726	<20	0.2	5	31	194	<1	<2
SP-727	<30	0.6	24	73	200	<1	14
SP-728	290	1.2	19	165	166	1	59
PP-700	<20	0.4	7	143	445	<1	8
PP-701	<20	0.3	12	33	450	<1	8
PP-702	<20	0.3	24	14	299	<1	9
PP-703	<20	0.4	68	137	153	<1	9
PP-704	520	1.7	66	1716	266	1	15
PP-705	<20	1.7	71	1060	304	2	105
PP-706	<30	0.6	103	987	263	1	42
PP-707	400	4.1	65	3111	612	27	58
PP-708	160	2.0	23	2011	809	4	93
PP-709	<20	0.3	16	23	271	<1	7
PP-710	<20	0.2	9	50	240	<1	19
PP-711	<20	1.0	60	697	302	2	27
PP-712	<20	0.9	245	430	232	1	37

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm
PP-713	<20	1.0	18	1785	402	2	27
PP-714	<20	1.3	67	1670	351	5	37
PP-715	140	2.0	44	3176	668	2	61

Table 9 Assay Result on Stream Sediment Geochemical Samples

Futaleufu-Alto Palena Area (Sub-area Alto Palena)

Phase I

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
FS-301	<1	<0.2	11	1	30	1
FS-302	7	<0.2	14	1	40	2
FS-303	4	<0.2	14	<1	34	1
FS-304	<1	<0.2	18	<1	38	4
FS-305	<1	<0.2	36	2	52	2
FS-306	<1	<0.2	18	2	66	5
FS-307	<1	<0.2	6	2	22	1
FS-308	6	<0.2	7	<1	24	1
FS-309	<1	<0.2	12	<1	34	2
FS-310	<1	<0.2	12	<1	26	1
FS-311	<1	<0.2	36	4	40	1
FS-312	3	<0.2	8	<1	29	1
FS-313	8	<0.2	8	<1	30	1
FS-314	<1	<0.2	12	<1	29	1
FS-315	<1	<0.2	12	2	38	1
FS-316	<1	<0.2	14	<1	40	1
FS-317	<1	<0.2	6	<1	26	1
FS-318	2	<0.2	8	<1	30	1
FS-319	2	<0.2	15	<1	38	1
FS-320	7	<0.2	6	<1	32	1
FS-321	<1	<0.2	26	4	38	2
FS-322	4	<0.2	14	2	30	2
FS-323	<1	<0.2	13	<1	24	1
FS-324	<1	<0.2	26	4	40	1
FS-325	<1	<0.2	27	3	40	1
FS-326	<1	<0.2	25	4	40	1
FS-327	8	<0.2	14	2	28	1
FS-328	<1	<0.2	20	2	38	1
FS-329	<1	<0.2	20	3	40	2
FS-330	<1	<0.2	48	18	60	3
FS-331	1	<0.2	18	2	28	2
FS-332	<1	<0.2	32	28	190	3
KS-301	<1	<0.2	18	3	34	1
KS-302	1	<0.2	10	2	24	1
KS-303	1	<0.2	10	4	16	1
KS-304	3	<0.2	8	3	22	1
KS-305	<1	<0.2	8	2	24	1
KS-306	<1	<0.2	7	2	25	1
KS-307	<1	<0.2	6	2	18	1
KS-308	1	<0.2	4	2	20	1
KS-309	<1	<0.2	2	2	19	1
KS-310	1	<0.2	5	2	29	1
KS-311	<1	<0.2	4	2	28	1
KS-312	7	<0.2	4	2	26	1
KS-313	<1	<0.2	6	1	29	1
KS-314	3	<0.2	5	2	16	1
KS-315	<1	<0.2	5	3	17	1
KS-316	1	<0.2	10	1	42	2
KS-317	<1	<0.2	16	3	56	2
KS-318	7	<0.2	37	16	88	2
KS-319	<1	<0.2	28	24	164	2
KS-320	5	<0.2	28	92	225	2
KS-321	<1	<0.2	32	95	230	2
KS-322	<1	<0.2	10	7	100	12

Phase I

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
KS-323	<1	<0.2	20	20	170	21
KS-324	12	<0.2	12	26	210	52
KS-325	<1	<0.2	40	8	74	10
KS-326	<1	<0.2	38	7	70	8
KS-327	<1	<0.2	38	8	56	5
KS-328	<1	<0.2	28	20	102	17
KS-329	3	<0.2	26	17	100	14
KS-330	7	<0.2	28	21	106	14
SS-302	3	<0.2	10	5	30	2
SS-303	<1	<0.2	32	32	112	8
SS-304	8	<0.2	22	74	210	4
SS-305	1	<0.2	16	20	84	7
SS-306	<1	0.3	21	76	230	5
SS-307	8	<0.2	19	10	40	1
SS-308	<1	<0.2	18	9	58	5
SS-309	<1	<0.2	16	5	56	3
SS-310	<1	<0.2	11	4	56	3
SS-311	<1	<0.2	13	4	78	3
SS-312	3	<0.2	10	6	52	6
SS-313	<1	<0.2	16	6	56	8
SS-314	3	<0.2	19	14	74	12
SS-315	4	<0.2	16	10	84	7
SS-316	<1	<0.2	20	6	54	3
SS-317	6	<0.2	34	4	64	2
SS-318	<1	<0.2	30	8	74	3
SS-319	6	<0.2	32	6	70	3
SS-320	<1	<0.2	30	8	86	1
SS-321	5	<0.2	54	2	64	2
SS-322	8	<0.2	46	4	68	5
SS-323	<1	<0.2	42	4	70	5
SS-324	2	<0.2	30	6	66	5
SS-325	<1	<0.2	26	6	74	5
YS-301	6	<0.2	6	1	32	2
YS-302	<1	<0.2	8	1	32	2
YS-303	9	<0.2	6	2	30	2
YS-304	<1	<0.2	6	2	32	2
YS-305	23	<0.2	8	2	32	2
YS-306	<1	<0.2	6	2	30	2
YS-308	<1	<0.2	38	6	80	6
YS-309	<1	<0.2	37	4	64	5
YS-310	<1	<0.2	28	4	58	3
YS-311	9	<0.2	29	6	58	2
YS-312	<1	<0.2	16	2	58	5
YS-313	5	<0.2	24	<1	40	1
YS-314	1	<0.2	70	1	40	3
YS-315	6	<0.2	28	<1	38	2
YS-316	1	<0.2	10	1	36	2
YS-317	4	<0.2	22	2	40	2
YS-318	2	<0.2	40	10	76	17
YS-319	1	<0.2	16	1	36	3

Phase I (1)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
ss-301	<20	0.1	43	13	89	<5
ss-302	<20	0.1	26	44	124	<5
ss-303	<20	0.1	28	17	92	10
ss-304	<20	<0.1	42	7	62	<5
ss-311	<20	<0.1	33	9	64	<5
ss-312	<20	<0.1	16	8	64	<5
ts-301	<20	<0.1	18	31	99	<5
ts-302	<20	<0.1	3	2	20	<5
ts-303	<20	<0.1	6	4	26	<5
ts-304	<20	<0.1	7	4	26	<5
os-301	<20	<0.1	1	2	17	<5
os-302	<20	<0.1	4	2	14	<5
os-303	<20	<0.1	5	8	37	<5
os-304	<20	<0.1	7	9	40	<5
os-305	<20	<0.1	4	4	48	<5
os-306	<20	<0.1	28	22	121	<5
os-307	<20	<0.1	16	7	50	<5
ys-314	<20	<0.1	19	12	90	25
ys-315	<20	<0.1	15	7	59	<5

Alto Cisnes-El Toqui Area

Phase Ⅱ

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
FS-401	5	<0.2	16	2	40	2
FS-402	<1	0.4	52	18	55	1
FS-403	4	<0.2	14	4	56	3
FS-404	<1	<0.2	14	1	40	1
FS-405	<1	<0.2	16	6	80	7
FS-406	<1	<0.2	16	4	78	6
FS-407	11	<0.2	18	8	70	6
FS-408	<1	<0.2	15	6	84	8
FS-409	<1	<0.2	17	4	78	18
FS-410	3	<0.2	25	24	90	40
FS-411	1	<0.2	26	24	90	12
FS-412	19	<0.2	18	14	90	18
FS-413	<1	<0.2	19	18	60	12
FS-414	<1	<0.2	10	10	80	3
FS-415	<1	<0.2	18	6	106	2
FS-416	5	<0.2	17	9	110	3
FS-417	<1	<0.2	17	13	90	14
FS-418	1	<0.2	16	12	86	8
FS-419	<1	<0.2	18	19	100	3
FS-420	<1	<0.2	18	10	90	12
FS-421	5	<0.2	16	12	88	10
FS-422	2	<0.2	8	6	64	2
FS-423	<1	<0.2	8	6	70	2
KS-401	<1	<0.2	6	2	38	1
KS-402	<1	<0.2	6	1	30	1
KS-403	<1	<0.2	8	1	32	<1
KS-404	<1	<0.2	4	1	42	1
KS-405	6	<0.2	6	1	36	1
KS-406	<1	<0.2	8	1	36	1
KS-407	5	<0.2	7	<1	32	1
KS-408	<1	<0.2	5	1	26	1
KS-409	2	<0.2	12	1	38	<1
KS-410	<1	<0.2	8	<1	32	<1
KS-411	2	<0.2	10	1	34	<1
KS-412	<1	<0.2	14	2	50	<1
KS-413	4	<0.2	7	1	32	<1
KS-414	<1	<0.2	8	2	44	<1
KS-415	6	<0.2	8	1	36	<1
KS-416	<1	<0.2	8	3	50	1
KS-417	3	<0.2	10	3	40	1
KS-418	<1	<0.2	12	2	50	<1
KS-419	<1	<0.2	8	2	40	1
KS-420	<1	<0.2	5	2	32	1
KS-421	1	<0.2	8	2	34	<1
KS-422	<1	<0.2	10	1	50	<1
PS-400	5	<0.2	10	2	50	3
PS-401	<1	<0.2	6	2	42	2
PS-402	<1	<0.2	4	2	40	8
PS-403	2	<0.2	3	4	30	1
PS-404	<1	<0.2	8	2	50	2
PS-405	<1	<0.2	2	2	20	2
PS-406	2	<0.2	3	2	34	3
PS-407	<1	<0.2	5	1	56	4
PS-408	2	<0.2	4	2	48	8

Phase Ⅱ

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
PS-409	<1	<0.2	4	2	60	1
PS-410	8	<0.2	6	2	50	8
PS-411	<1	<0.2	4	2	38	5
PS-412	<1	<0.2	6	6	46	5
PS-413	<1	<0.2	6	2	38	2
SS-401	<1	<0.2	12	4	64	1
SS-402	<1	<0.2	6	2	23	1
SS-403	<1	<0.2	8	4	40	2
SS-404	<1	<0.2	12	6	52	2
SS-405	<1	<0.2	6	4	32	1
SS-406	<1	<0.2	18	12	74	6
SS-407	2	<0.2	10	4	66	1
SS-408	<1	<0.2	18	3	60	1
SS-409	2	<0.2	20	17	68	6
SS-410	<1	<0.2	16	18	80	8
SS-411	3	<0.2	24	22	114	12
SS-412	1	<0.2	16	18	100	6
SS-413	3	<0.2	10	6	40	1
SS-414	<1	<0.2	22	16	84	4
SS-415	<1	<0.2	10	12	74	1
SS-416	3	0.2	68	50	140	7
SS-417	<1	<0.2	15	8	62	3
SS-418	5	<0.2	38	12	80	12
SS-419	<1	<0.2	12	3	60	1
SS-420	6	<0.2	8	2	40	1
SS-421	4	<0.2	8	2	38	2
YS-400	<1	<0.2	8	<1	62	4
YS-401	<1	<0.2	8	<1	50	1
YS-402	<1	<0.2	8	<1	54	1
YS-403	<1	<0.2	4	2	30	2
YS-404	<1	<0.2	7	2	32	2
YS-405	2	<0.2	6	1	42	2
YS-406	<1	<0.2	8	2	58	2
YS-407	6	<0.2	4	2	34	2
YS-401	<1	<0.2	12	10	72	5
YS-402	3	<0.2	14	12	72	5
YS-403	<1	<0.2	8	2	42	2
YS-404	8	<0.2	8	2	50	2
YS-405	<1	<0.2	9	2	38	3
YS-406	7	<0.2	8	2	36	2
YS-407	<1	<0.2	8	2	46	2
YS-408	<1	<0.2	12	4	56	4
YS-409	3	<0.2	8	2	42	2
YS-410	<1	<0.2	9	10	58	4
YS-411	1	<0.2	8	<1	46	1
YS-412	<1	<0.2	8	<1	40	2
YS-413	<1	<0.2	19	<1	40	1
YS-414	<1	<0.2	6	<1	40	1
YS-415	1	<0.2	6	<1	30	1
YS-416	<1	<0.2	11	<1	30	1
YS-417	<1	<0.2	6	6	54	2
YS-418	4	<0.2	6	4	38	1
YS-419	<1	<0.2	10	2	32	1

Phase Ⅰ (2)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
os-401	<20	0.1	2	2	25	<5
ps-403	<20	0.1	3	2	27	<5
ps-404	<20	0.1	14	5	32	<5
ss-401	<20	0.1	2	2	25	<5
ss-402	<20	0.1	3	1	27	<5
ss-403	<20	<0.1	1	1	19	<5
ss-404	<20	0.1	5	4	46	<5
ss-405	<20	0.1	2	2	21	<5
ss-406	<20	<0.1	1	1	20	<5
ss-407	<20	0.1	1	2	23	<5
ss-408	<20	<0.1	2	2	20	<5
ss-409	<20	<0.1	4	4	29	<5
ss-410	<20	<0.1	2	3	29	<5
ss-411	<20	<0.1	4	3	29	<5
ss-412	<20	<0.1	6	2	29	<5
ss-413	<20	<0.1	11	8	53	<5
ss-414	20	<0.1	6	6	54	<5
ss-415	<40	0.1	7	14	61	<5
ss-416	<20	<0.1	2	4	45	<5
ts-401	<20	0.1	15	5	68	<5
ts-402	<20	0.1	4	3	35	<5
ts-403	<20	0.1	13	6	42	<5
ts-404	<20	0.1	18	4	40	<5
ts-405	<20	0.1	3	4	31	<5
ts-406	<20	0.1	3	3	31	<5
ts-407	<20	0.1	5	3	33	<5
ts-408	<20	0.1	7	9	34	<5
ts-409	<20	<0.1	2	2	32	<5
ts-410	<20	0.1	4	4	34	<5
ts-411	<20	0.1	6	6	33	<5
ts-412	<20	0.1	6	6	32	<5
ts-413	<20	0.1	1	3	25	<5
ts-414	<20	<0.1	1	2	25	<5
ts-415	<20	0.1	1	2	24	<5
ts-416	<20	0.1	2	3	31	<5
ts-417	<20	0.1	6	2	50	<5
ts-418	<20	<0.1	2	1	24	<5
ys-401	<20	0.1	6	10	52	<5
ys-402	<20	0.1	34	22	115	31
ys-403	<20	0.1	9	7	53	<5
ys-404	<20	<0.1	5	6	47	<5

Table 10

Re-assay Result on Stream Sediment Geochemical Samples of Phase1 (1)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
FS-101	< 1	< 0.2	26	< 1	90	2	< 1
FS-102	1	< 0.2	34	2	88	1	2
FS-103	< 1	< 0.2	36	7	84	3	< 1
FS-105	1	< 0.2	34	< 1	100	4	1
FS-106	< 1	< 0.2	30	< 1	100	2	2
FS-107	< 1	< 0.2	46	4	84	3	1
FS-108	< 1	< 0.2	34	< 1	94	1	< 1
FS-109	1	< 0.2	26	< 1	90	2	< 1
FS-110	< 1	< 0.2	18	< 1	70	1	< 1
FS-112	< 1	< 0.2	18	< 1	50	1	< 1
FS-113	1	< 0.2	24	3	64	2	< 1
FS-114	< 1	< 0.2	20	5	66	3	< 1
FS-116	< 1	< 0.2	32	3	80	3	< 1
FS-117	< 1	< 0.2	22	< 1	66	2	< 1
FS-118	< 1	< 0.2	22	< 1	80	2	1
SS-101	< 1	< 0.2	18	< 1	68	1	1
SS-102	< 1	< 0.2	18	< 1	108	1	< 1
SS-103	< 1	< 0.2	24	5	94	1	1
SS-104	< 1	< 0.2	20	< 1	102	1	< 1
SS-105	< 1	< 0.2	22	< 1	60	1	< 1
SS-106	< 1	< 0.2	24	< 1	130	1	2
SS-107	< 1	< 0.2	16	< 1	50	1	< 1
SS-108	< 1	< 0.2	24	< 1	80	1	< 1
SS-109	< 1	< 0.2	26	< 1	86	1	< 1
SS-110	< 1	< 0.2	20	< 1	78	1	2
SS-111	< 1	< 0.2	30	< 1	78	1	1
SS-112	< 1	< 0.2	20	< 1	108	< 1	1
SS-113	< 1	< 0.2	20	< 1	62	< 1	1
SS-114	< 1	< 0.2	22	< 1	106	< 1	< 1
SS-115	< 1	< 0.2	22	< 1	80	1	2
SS-117	< 1	< 0.2	24	4	82	4	1

(2)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
SS-118	< 1	< 0.2	28	3	78	3	1
YS-101	< 1	< 0.2	12	1	50	1	< 1
YS-102	< 1	< 0.2	9	< 1	40	2	1
YS-103	< 1	< 0.2	14	< 1	60	1	< 1
YS-104	< 1	< 0.2	10	< 1	40	1	< 1
YS-105	< 1	< 0.2	9	< 1	38	1	< 1
YS-106	< 1	< 0.2	14	< 1	48	1	< 1
YS-107	< 1	< 0.2	20	< 1	74	3	< 1
YS-108	< 1	< 0.2	22	< 1	110	2	< 1
YS-109	6	< 0.2	22	2	104	1	1
YS-110	< 1	< 0.2	20	< 1	86	1	< 1
YS-111	< 1	< 0.2	9	< 1	40	1	< 1
YS-112	< 1	< 0.2	21	< 1	54	2	< 1
YS-113	< 1	< 0.2	16	6	54	2	1
YS-114	15	< 0.4	24	2	64	5	2
YS-115	2	< 0.2	18	< 1	50	2	2
YS-116	< 1	< 0.2	17	< 1	64	2	2
YS-117	1	< 0.2	24	< 1	90	2	2
YS-118	2	< 0.2	20	< 1	80	1	1
FS-301	1	< 0.2	22	6	60	1	2
FS-302	1	< 0.2	16	7	60	3	1
FS-303	< 1	< 0.2	12	4	50	1	< 1
FS-304	3	< 0.2	20	3	46	1	1
FS-305	< 1	< 0.2	12	< 1	36	1	2
FS-306	< 1	< 0.2	16	2	44	1	< 1
FS-307	< 1	< 0.2	8	< 1	32	1	2
FS-308	< 1	< 0.2	6	2	32	1	< 1
FS-309	< 1	< 0.2	12	6	104	15	2
FS-310	1	< 0.2	12	6	104	5	< 1
FS-311	< 1	< 0.2	22	26	150	10	2
FS-312	< 1	< 0.2	44	141	480	12	3

(3)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
FS-313	< 1	< 0.2	14	6	64	9	1
FS-314	< 1	< 0.2	20	4	40	1	< 1
FS-315	< 1	< 0.2	14	7	60	8	1
FS-316	< 1	< 0.2	22	< 1	38	1	1
FS-317	1	< 0.2	20	< 1	42	3	1
FS-318	< 1	< 0.2	7	3	20	1	1
OS-301	< 1	< 0.2	6	< 1	22	1	1
OS-302	1	< 0.2	8	2	20	1	1
OS-303	< 1	< 0.2	8	7	40	1	1
OS-304	< 1	< 0.2	9	7	46	1	< 1
OS-305	< 1	< 0.2	9	5	54	1	1
OS-306	< 1	< 0.2	32	20	130	2	1
OS-307	< 1	< 0.2	19	5	58	5	2
OS-308	< 1	< 0.2	22	2	40	2	1
OS-309	63	< 0.2	12	< 1	22	2	1
OS-310	2	< 0.2	24	2	32	2	< 1
OS-311	11	< 0.2	20	< 1	40	1	1
OS-312	1	< 0.2	40	3	34	1	1
OS-313	< 1	< 0.2	22	3	30	1	1
OS-314	< 1	< 0.2	23	2	40	1	1
OS-315	2	< 0.2	36	6	58	2	< 1
OS-316	< 1	< 0.2	60	3	58	5	1
PS-301	< 1	not/ss	not/ss	not/ss	not/ss	not/ss	not/ss
PS-302	1	< 0.2	24	6	68	6	1
PS-303	1	< 0.2	32	4	66	2	1
PS-304	< 1	< 0.2	28	4	64	2	2
PS-305	< 1	< 0.2	18	< 1	50	1	1
PS-306	< 1	< 0.2	32	3	50	1	1
PS-307	< 1	< 0.2	32	3	34	1	1
PS-308	< 1	< 0.2	6	2	20	1	< 1
PS-309	< 1	< 0.2	28	< 1	36	2	1

(4)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
PS-310	< 1	< 0.2	28	3	50	1	1
PS-311	4	< 0.2	42	3	58	8	2
PS-312	1	< 0.2	26	6	40	3	2
PS-313	27	< 0.2	36	41	106	5	< 1
PS-314	3	< 0.2	26	< 1	36	2	1
PS-315	6	< 0.2	36	< 1	48	2	1
PS-316	1	< 0.2	22	4	40	2	1
SS-301	< 1	< 0.2	26	17	110	8	2
SS-302	< 1	< 0.2	42	10	100	10	< 1
SS-303	< 1	< 0.2	26	38	130	6	1
SS-304	< 1	< 0.2	30	17	106	13	2
SS-305	< 1	< 0.2	42	4	74	5	3
SS-306	< 1	< 0.2	30	6	78	4	2
SS-307	< 1	< 0.2	36	6	80	3	2
SS-308	< 1	< 0.2	26	7	66	3	2
SS-309	< 1	< 0.2	36	3	70	2	1
SS-310	< 1	< 0.2	30	5	72	6	1
SS-311	< 1	< 0.2	12	5	54	8	1
SS-312	< 1	< 0.2	28	5	70	3	2
SS-313	< 1	< 0.2	16	7	70	8	1
SS-314	< 1	< 0.2	14	< 1	36	1	< 1
SS-315	< 1	< 0.2	28	8	76	3	1
SS-316	1	< 0.2	22	14	100	5	1
SS-317	< 1	< 0.2	44	4	74	1	2
SS-318	< 1	< 0.2	22	3	60	1	< 1
TS-301	3	< 0.2	19	76	104	3	2
TS-302	< 1	< 0.2	6	2	28	1	1
TS-303	< 1	< 0.2	10	3	30	1	1
TS-304	< 1	< 0.2	10	< 1	36	1	3
TS-305	< 1	< 0.2	18	3	38	3	2
TS-306	< 1	< 0.2	24	3	20	1	2

(5)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
TS-307	< 1	< 0.2	18	< 1	20	1	1
TS-308	< 1	< 0.2	30	< 1	18	1	2
TS-309	3	< 0.2	20	7	46	8	1
TS-310	1	< 0.2	24	< 1	24	2	1
TS-311	< 1	< 0.2	18	10	30	3	2
TS-312	< 1	< 0.2	26	7	104	3	1
TS-313	1	< 0.2	8	4	38	1	1
TS-314	< 1	< 0.2	10	6	32	1	1
TS-315	< 1	< 0.2	10	< 1	46	3	2
TS-316	< 1	< 0.2	10	6	56	2	1
TS-318	< 1	< 0.2	12	6	60	2	1
YS-301	4	< 0.2	56	16	56	3	1
YS-302	< 1	< 0.2	30	12	58	8	1
YS-303	not/ss	< 0.2	16	8	62	4	1
YS-304	< 1	< 0.4	14	18	72	2	< 1
YS-305	< 1	< 0.2	11	3	60	2	< 1
YS-306	< 1	< 0.2	12	7	54	3	< 1
YS-307	not/ss	< 0.4	12	10	76	2	2
YS-308	not/ss	< 0.4	12	6	68	2	< 1
YS-309	< 1	< 0.4	12	< 2	64	2	< 1
YS-311	< 1	< 0.2	8	4	54	6	< 1
YS-312	< 1	< 0.2	12	4	46	4	1
YS-313	< 1	< 0.2	10	4	44	3	< 1
YS-314	< 1	< 0.4	16	< 2	52	4	< 1
YS-315	< 1	< 0.4	16	< 2	120	23	2
YS-316	not/ss	< 0.2	20	< 1	64	6	1
YS-317	< 1	< 0.2	10	< 1	32	1	1
YS-318	1050	< 0.2	14	7	88	14	< 1
YS-319	1	< 0.2	8	< 1	48	6	1
OS-401	< 1	< 0.2	7	< 1	30	< 1	< 1
OS-402	< 1	< 0.2	9	4	28	1	1

(6)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
OS-403	< 1	< 0.2	8	7	30	1	2
OS-404	< 1	< 0.2	9	8	40	2	1
PS-401	1	< 0.2	6	2	40	1	< 1
PS-402	< 1	< 0.2	6	< 1	30	1	< 1
PS-403	< 1	< 0.2	6	< 1	28	< 1	1
PS-404	< 1	< 0.2	18	< 1	32	2	1
PS-509	3	< 0.2	44	9	96	3	< 1
SS-401	< 1	< 0.2	6	2	30	1	1
SS-402	< 1	< 0.2	6	< 1	30	< 1	1
SS-403	< 1	< 0.2	8	< 1	20	< 1	< 1
SS-404	1	< 0.2	10	< 1	46	1	< 1
SS-405	< 1	< 0.2	6	< 1	26	< 1	< 1
SS-406	< 1	< 0.2	6	< 1	24	1	< 1
SS-407	< 1	< 0.2	5	< 1	26	1	< 1
SS-408	< 1	< 0.2	5	< 1	24	1	< 1
SS-409	< 1	< 0.2	6	< 1	34	2	< 1
SS-410	< 1	< 0.2	6	< 1	36	2	< 1
SS-411	< 1	< 0.2	6	< 1	32	1	< 1
SS-412	< 1	< 0.2	8	< 1	32	1	< 1
SS-413	< 1	< 0.2	12	6	52	1	< 1
SS-414	< 1	< 0.2	8	4	58	1	< 1
SS-415	14	< 0.2	10	12	76	2	2
SS-416	1	< 0.2	6	< 1	56	1	2
TS-401	< 1	< 0.2	14	2	70	1	2
TS-402	1	< 0.2	10	3	36	2	1
TS-403	< 1	< 0.2	10	4	42	1	< 1
TS-404	< 1	< 0.2	22	4	44	< 1	2
TS-405	< 1	< 0.2	6	< 1	32	1	< 1
TS-406	< 1	< 0.2	6	< 1	34	1	< 1
TS-407	< 1	< 0.2	7	< 1	34	1	1
TS-408	< 1	< 0.2	8	4	38	2	1

(7)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
TS-409	1	< 0.2	8	3	36	1	< 1
TS-410	2	< 0.2	7	3	38	5	1
TS-411	< 1	< 0.2	9	5	40	2	1
TS-412	< 1	< 0.2	6	5	36	3	1
TS-413	< 1	< 0.2	5	4	28	< 1	< 1
TS-414	< 1	< 0.2	5	2	28	1	< 1
TS-415	< 1	< 0.2	4	3	28	< 1	< 1
TS-416	< 1	< 0.2	4	3	36	< 1	< 1
TS-417	< 1	< 0.2	8	2	56	< 1	7
TS-418	< 1	< 0.2	5	< 1	28	< 1	< 1
YS-401	< 1	< 0.2	8	7	60	2	1
YS-402	< 1	< 0.2	38	15	114	20	2
YS-403	< 1	< 0.2	9	1	60	2	1
YS-404	< 1	< 0.2	8	< 1	60	2	< 1
OS-501	< 1	< 0.2	9	2	70	5	< 1
OS-502	< 1	< 0.2	52	3	70	17	3
OS-503	< 1	< 0.2	29	8	40	2	2
OS-504	< 1	< 0.2	20	17	76	23	1
OS-505	< 1	< 0.2	32	13	114	7	1
OS-506	< 1	< 0.2	8	8	46	1	< 1
OS-507	< 1	< 0.2	12	3	36	< 1	1
OS-508	< 1	< 0.2	9	< 1	48	1	< 1
OS-509	< 1	< 0.2	8	3	70	< 1	< 1
OS-510	< 1	< 0.2	16	7	48	1	< 1
OS-511	1	< 0.2	12	7	30	10	< 1
OS-512	< 1	< 0.2	10	8	46	5	< 1
OS-513	< 1	< 0.2	8	7	60	9	< 1
OS-514	2	< 0.2	11	6	52	9	< 1
OS-515	< 1	< 0.2	7	6	36	10	< 1
OS-516	< 1	< 0.2	12	12	48	6	1
OS-517	< 1	< 0.2	9	9	64	7	< 1

(8)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
OS-518	2	< 0.2	10	15	70	11	< 1
OS-519	< 1	< 0.2	18	29	156	15	< 1
OS-520	< 1	< 0.2	8	13	50	7	< 1
OS-521	< 1	< 0.2	12	14	76	17	1
OS-522	< 1	< 0.2	13	14	70	10	< 1
OS-523	2	< 0.2	25	18	74	12	1
OS-524	< 1	< 0.2	14	10	60	9	< 1
OS-525	< 1	< 0.2	12	30	96	12	< 1
OS-526	< 1	< 0.2	10	11	60	8	< 1
OS-527	< 1	< 0.2	14	23	110	19	< 1
OS-528	2	< 0.2	10	14	60	9	< 1
OS-529	2	< 0.2	8	14	44	10	< 1
OS-530	1	< 0.2	8	55	90	18	1
OS-531	1	< 0.2	10	29	76	15	< 1
SS-501	2	< 0.2	28	2	78	20	< 1
SS-502	4	< 0.2	12	2	46	4	< 1
SS-503	7	< 0.2	36	5	50	18	< 1
TS-501	< 1	< 0.2	11	< 1	76	< 1	1
TS-502	2	< 0.2	26	< 1	64	12	1
TS-503	< 1	< 0.2	18	2	62	10	< 1
TS-504	1	< 0.2	16	3	70	8	1
TS-505	< 1	< 0.2	18	3	98	6	1
TS-506	3	< 0.2	38	7	72	11	1
TS-507	2	< 0.2	54	12	114	12	1
TS-508	3	< 0.2	18	9	68	12	< 1
TS-509	1	< 0.2	8	2	44	2	1
TS-510	< 1	< 0.2	8	9	80	8	< 1
TS-511	< 1	< 0.2	8	8	68	7	< 1
TS-512	< 1	< 0.2	10	15	68	7	1
TS-513	4	< 0.2	26	9	48	8	< 1
TS-514	3	< 0.2	68	21	130	22	1

(9)

Sample No	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Mo ppm
TS-515	< 1	< 0.2	40	10	110	15	1
TS-516	2	< 0.2	30	17	180	23	< 1
TS-517	< 1	< 0.2	26	30	230	17	1
YS-501	3	< 0.2	24	< 1	74	8	< 1
YS-502	< 1	< 0.2	12	13	66	12	1
YS-503	< 1	< 0.2	20	< 1	56	6	2
YS-504	< 1	< 0.2	22	10	80	18	2
YS-505	36	< 0.2	29	4	50	18	2
YS-506	1	< 0.2	40	3	90	11	2
YS-507	< 1	< 0.2	17	5	66	8	1
YS-508	1	< 0.2	11	< 1	50	2	1
YS-509	< 1	< 0.2	28	6	90	10	1
SS-712	< 1	< 0.2	16	8	66	12	1
SS-713	3	< 0.2	6	10	40	42	< 1
SS-714	< 1	< 0.2	14	9	60	12	2
SS-715	1	< 0.2	19	6	78	17	< 1
SS-716	2	1.7	182	103	230	31	3
SS-717	< 1	< 0.2	6	11	62	6	1
SS-718	< 1	< 0.2	16	6	70	7	1
SS-719	1	< 0.2	7	29	98	15	2
SS-720	< 1	< 0.2	10	36	116	23	1
SS-721	2	< 0.2	13	16	104	9	2
SS-722	14	< 0.2	12	43	164	15	1
SS-723	630	< 0.2	14	16	80	15	1
SS-724	< 1	< 0.2	9	11	66	9	< 1

Table 11 Microscopic observation of Thin Section of Rocks

Part 1 : Plutonic Rocks(1)

(1)

Area	Sample No	Rock name	Texture	Minerals												Observation
				Primary						Altered						
				Qz	Pl	Or	Bt	Am	Px	Lm	Cl	Se	Ka	Ep	Ca	
Subarea Futaleufu	FD329	Granodiorite	hypidiomorphic granular	○	◎	△	○	○	tr	△	○	○	◎	△	△	
	FT317	Meta-granodiorite	ditto	–	◎	–	–	◎	–	–	–	–	○	–	△	actinolite, quartz-calcite vlt.
	FT329	Granodiorite	ditto	○	◎	△	○	○	–	tr	○	○	◎	△	tr	
	KT329	Tonalite	ditto	△	◎	tr	○	○	△	tr	△	–	△	–	–	weak cataclasis
	PD311	Granite	ditto	◎	◎	◎	○			○	○	○	tr			
	PT311	Granite	ditto	◎	◎	◎	○				○	○	○			
	YD305	Tonalite	ditto	○	◎	△	○	△	tr		tr	tr	△			
	YT305	Tonalite	ditto	○	◎		○	△			△	△	△	tr		
	YT311	Quartz-Monzonite	ditto	◎	○		○				○	◎	◎		○	
	ST307	Granite	ditto	◎	○	◎	○				tr	△	○			
	ST313	Granodiorite	ditto	○	◎	△	△				△	◎	○			
	ST330	Granodiorite	ditto	△	○	△				△		○	○		○	
Subarea Alto Palena	FT341	Granodiorite	ditto	○	◎	○	◎	△	○	–	○	○	○	△	tr	epidote veinlets
	FD343	Granite	ditto	◎	◎	○	△	△	–	–	△	△	○	–	△	
	KT331	Granite	ditto	–	◎	◎	△	–	–	–	○	△	○	–	–	
	KT334	Diorite	weak porphyritic	tr	◎	–	–	–	○	○	○	–	tr	–	○	albitization
	KT337	Granite	hypidiomorphic granular	◎	◎	○	△	–	–	–	△	tr	△	–	tr	weak biotitization
	YT325	Andesitic Porphyry	porphyritic	○	◎						◎		◎		◎	albitization?

Abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo;montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht;hematite

(2)

Area	Sample No	Rock name	Texture	Minerals												Observation
				Primary						Altered						
				Qz	Pl	Or	Bt	Am	Px	Lm	Cl	Se	Ka	Ep	Ca	
Subarea	KT338	Granodiorite	ditto	△	◎	△	○	◎	tr		△	△	○	tr		amphibole rich
Alto Palena	ST334	Quartz-Monzonite	hypidiomorphic granular	○	◎	○				tr	○	○	◎	△	△	
	ST336	Tonalite	ditto	○	◎		△	◎	tr	tr	△	○	△	○		
	KT464	Tonalite	ditto	△	◎	tr	○	○		tr	○	○	○	tr	tr	microperthite scarcely
	PT408	Granite	ditto	◎	◎	◎	△			tr	○	○	○		tr	
Alto Cisnes-	YT490	Quartz-Monzonite	ditto	○	◎	○	○	△			△	△	△			cataclastic
El Toqui	YT491	Quartz-Monzonite	ditto	○	◎	○	○	△	tr		tr	○	△		tr	cataclastic
	YT492	Quartz-Monzonite	ditto	○	◎	○	○	△			△	△	△			cataclastic
	YT493	Quartz-Monzonite	ditto	○	◎	○	○	△		tr	○	○	○	△	△	cataclastic
	ST407	Quartz-Monzonite	porphyritic	○	○		○	△		△	○		△			
	YT611	Granodiorite	hypidiomorphic granular	◎	○	○	○			tr		△	○			
	YT606	Tonalite	ditto	○	◎		◎	△		○		△	○			limonite veilets
Los Leones	YT610	Tonalite	ditto	◎	◎	−	△	−	−	−	○	◎	◎	△	△	epidote veilets, cataclastic
River	YT613	Quartz- Monzonite	ditto	○	◎	○	○	△	−	tr	◎	○	○	△		epidote veinlets, cataclastic
	YT621	Tonalite	ditto	○	◎	−	△	○	−	◎	△	○	−	−	△	altered
	YT623	Tonalite	ditto	○	◎	−	−	◎	−	−	△	◎	○	−	○	calcite veinlets
	YD628	Diorite	ditto	−	◎	−	−	△	○	−	◎	−	◎	○	○	altered, calcite and epidote

abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo:montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht:hematite

Part 1 : Plutonic Rocks

(3)

Area	Sample No	Rock name	Texture	Minerals												Observation
				Primary						Altered						
				Qz	Pl	Or	Bt	Am	Px	Lm	Cl	Se	Ka	Ep	Ca	
	YT611	Granodiorite	hypidiomorphic granular	◎	○	○	○			tr		△	○			
	YT606	Tonalite	ditto	○	◎		◎	△		○		△	○			limonite veilets
Los Leones	YT610	Tonalite	ditto	◎	◎	—	△	—	—	—	○	◎	◎	△	△	epidote veilets. cataclastic
River	YT613	Quartz- Monzonite	ditto	○	◎	○	○	△	—	tr	◎	○	○	△		epidote veinlets. cataclastic
	YT621	Tonalite	ditto	○	◎	—	△	○	—	◎	△	○	—	—	△	altered
	YT623	Tonalite	ditto	○	◎	—	—	◎	—	—	△	◎	○	—	○	calcite veinlets
	YD628	Diorite	ditto	—	◎	—	—	△	○	—	◎	—	◎	○	○	altered, calcite and epidote

abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo:montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht:hematite

Part 2 : Volcanic Rocks(1)

(4)

Area	Sample No	Rock name	Texture	Minerals																		Observation
				Phenocryst					Groundmass													
				Pl	Qz	Bt	Af	Px	Pl	Qz	Px	Af	Or	Cl	Mo	Si	Ca	Se	Ka	Alb	Ep	Alu	
	FT329A	Porphyritic andesite	porphyritic	◎	–	–	–	–	◎	△	–	–	–	–	△	–	◎	○	◎	tr	–	–	
Sub-area	KT303	Andesite	ditto	◎	–	–	◎	–	◎	tr	tr	–	–	◎	tr	–	–	△	–	–	–	–	
Futaleufu	KT310B	Andesite	ditto	◎	–	–	–	–	△	tr	–	–	–	◎	○	–	◎	○	○	–	–	–	
	PT306	Altered rock	ditto	◎	–	–	–	–	△	△	–	–	△	tr	–	○	tr	◎	△	–	–	–	
	YT316	Andesite	pilotaxitic	◎	–	–	△	–	◎	tr	–	–	–	○	△	–	–	–	–	–	–	–	
	YT317	Andesite	porphyritic, pilotaxitic	◎	–	–	–	–	◎	–	–	–	–	○	△	tr	–	△	–	–	–	–	
	FT330A	Porphyritic andesite	porphyritic	◎	–	○	–	–	○	–	–	–	–	◎	△	△	○	○	◎	△	△	–	
Sub-area	FT344	Quartz latite	ditto pilotaxitic	◎	○	tr	–	–	◎	△	–	–	–	–	○	△	◎	○	○	–	–	–	
Alto-Palena	KT348	Porphyritic trachyte	porphyritic	◎	△	△	–	–	tr	△	–	–	–	tr	△	–	◎	–	◎	–	–	–	
	KT335	Porphyritic trachyte	ditto	◎	△	△	–	–	tr	△	–	–	–	–	–	△	○	tr	△	–	–	–	
	YT330	Porphyritic andesite	ditto	◎	–	–	○	–	○	–	–	–	–	tr	tr	△	–	–	–	–	–	–	

Abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo:montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht:hematite

Part 2 : Volcanic Rocks(2)

(5)

Area	Sample No	Rock name	Texture	Minerals																		Observation
				Phenocryst					Groundmass													
				Pl	Qz	Bt	Af	Px	Pl	Qz	Px	Af	Or	Cl	Mo	Si	Ca	Se	Ka	Alb	Ep	Alu	
Alto Cisnes-El Toqui	FT410	Porphyritic Quart-Monzonite	porphyritic	◎	○	–	–	–	◎	○	–	–	○	△	△	–	tr	–	◎	–	–	–	
	FT412	Porphyritic	ditto pilotaxitic	◎	–	–	–	–	◎	–	–	○	–	–	–	–	○	–	○	–	○	–	
	ST413	Andesite	porphyritic	◎	–	–	–	–	○	tr	–	–	–	○	–	–	△	–	–	–	△	–	
	KT463	altered rock	obliterate	◎	○	–	–	–	–	–	–	–	–	–	–	–	○	○	○	–	–	–	
Los Leones River	KT667	Porphyritic rhyodacite	porphyritic	◎	○	–	–	◎	–	◎	–	–	–	tr	–	–	–	○	tr	–	–	–	
	KT669	Porphyritic diorite	porphyritic	◎	△	△	–	–	○	–	△	–	–	○	△	tr	○	◎	◎	–	△	–	

Abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo:montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht:hematite

Part 3 : Pyroclastic rocks

(6)

Area	Sample No	Rock name	Texture	Minerals																		Observation
				Fragments						Matrix				Altered								
				Lit	Qz	Pl	Or	Bt	Am	Cy	Op	Cl	SI	Mo	Ka	Se	Ca	Cl	Ep	Bt		
Sub-area	ST311	Tuff breccia	clastic	◎	△	○	–	–	–	–	–	–	–	○	◎	–	○	◎	△	–		
Futaleufu	KT327	Tuff breccia	ditto	–	◎	◎	△	–	△	–	◎	◎	△	–	△	–	○	○	–	–		
Sub-area	FT339	Lithic tuff	ditto	◎	△	△	–	–	–	△	–	△	△	–	○	–	–	○	tr	○		
Alto Palena	KT342	Tuff	obliterate	–	–	–	–	–	–	–	–	◎	○	△	○	○	–	–	–	–		
Alto Cisnes-	PT406	Crystal tuff	clastic	○	△	○	–	○	○	○	–	–	–	–	–	–	–	–	–	–		
El Toqui	ST413	Tuff	ditto	–	◎	△	–	–	–	◎	–	–	△	–	–	–	–	–	–	–		
	YT407	Crystal tuff	ditto	◎	△	○	–	–	–	–	–	–	–	◎	–	–	△	tr	tr	–		
Los Leones River	YT633	Lithic tuff	ditto	◎	–	○	–	–	–	◎	–	–	○	◎	–	–	○	△	–	–		

Abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo:montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht:hematite

Part 4 : Sedimentary Rocks

(7)

Area	Sample No	Rock name	Texture	Minerals										Observation
				grains						matrix				
				Lit	Qz	Pl	Ca	Cl	Cy	Lm-Ht	Cy	Cl	Se	
Sub-area Futaleufu	KT310A	Fine grained sandstone	clastics, fragments of XX_5, very large/2±0.3mm	−	△	◎	○	tr	tr	−	◎	◎	△	
	PT405	Tuffite	clastics	○	○	◎	△	△	−	◎	◎			
Alto Cisnes-	ST415	Tuffaceous shale		−	○	−	−	−	−	−	−	△	△	
El Toqui	YT404	Shale	clastics	−	◎	△	○	−	◎	−	−	−	−	
	YT405	Shale		−	△	−	−	△	△	−	−	−	−	

Abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo:montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht:hematite

Part 5 : Metamorphic Rocks

(8)

Area	Sample No	Rock name	Texture	Minerals													Observation
				Qz	Pl	Or	Bt	Ms	Am	Cl	Ca	Ep	Ka	Se	Lm	Gr	
Sub-area Futaleufu	PT303	Amphibolite	ophitic	△	○	–	–	–	◎	○	–	△	–	–	△	–	
	KT665	Amphibol schist	nematoblastic	△	tr	–	–	–	◎	–	–	–	–	–	–	–	
	KT673	Phyllite	granoblastic/lepidoblas.	◎	–	–	○	–	△	–	–	–	–	–		○	
	VT618	Amphibole schist	nematoblastic	○	△	–	–	–	◎	–	△	○	–	–	–	–	
Los Leones	YD612	Amphibole schist	ditto	△	○	△	–	–	△	–	–	tr	△	tr	–	–	
River	YD622	Hornblendite	granular	△	○	△	–	–	◎	△	○	–	–	△	–	–	
	YT609	Hornblendite	granoblastic	–	–	–	–	–	◎	–	○	–	–	–	–	–	
	YT611	Hornblendite	ditto	◎	○	–	–	–	◎	tr	–	tr	△	△	–	–	
	YT615	Hornblendite	ditto	○	◎	○	△	◎	–	○	–	△	–	–	–	–	
	YT631	Mica schist	granoblastic/lepidoblas.	◎	–	–	△	◎	△	–	–	–	○	–	–	–	

Abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Qz;quartz, Pl;plagioclase, Or;orthoclase, Bt;biotite, Am;amphibole, Px;pyroxene, Lm;limonite, Cl;chlorite, Se;sericite, Ka;kaolinite, Ep;epidote, Ca;calcite, Mo:montmorillonite, Si;silica, Alb;albite, Alu;alunite, Lit;lithic, Op: opaque minerales, Ms;muscovite, Gr;garnet, Cy;clay, Ht:hematite

Table 12 Microscopic observation of Polished Section

Area	Saple No	Observation	Minarals										Ratio of minerals space(%)
			Py	Cp	Bn	Cv	Cc/Dig	Ga	Zn	Po	Ht-Lm	Mg-Mt	
Subarea Futaleufu	FPs312	weak mineralization of oxide cupper	◎	△	–	tr	–	–	–	–	△	○	3
	FPs319		○	–	–	–	–	–	–	–	◎	○	<1
	FPs326	anisotropy Py or arsenopyrite	◎	–	–	–	–	–	–	–	△	–	30
	KPs301		–	–	–	–	–	–	–	tr	△	◎	20
	KPs302	ilmenite and specularite	△	–	–	–	–	–	–	–	○	◎	30
	KPs311	oxide cupper	–	◎	△	tr	–	–	–	–	△	–	3
	PPs309	veinlet and	◎	△	–	–	–	–	–	tr	○	–	5
	YPs307		tr	–	–	–	–	–	–	–	△	◎	70
Subarea Alto Palena	KPs342	Bonite/Chlcopyrite exsolution	–	○	◎	○	△	–	–	–	△	△	60
	KPs350	Cp/Zn and Ga/Zn exsolution	–	△	–	–	–	◎	◎	–	tr	–	75
	KPs351	2 generation Py	◎	△	–	–	–	–	–	–	△	–	10
Los Leones River	KPs666	Py surrounded by Lm	◎	–	–	–	–	–	–	–	○	–	2
	KPs685	Py colloids dissemination	○	tr	–	–	–	△	◎	–	◎	–	5
	VPs607	veinlet	tr	△	–	–	–	–	–	–	○	◎	100
	VPs634	Py surrounded by Lm	◎	tr	–	–	–	–	–	–	◎	–	2
Chile Chico - Chacabuco	FPs701	veinlet and dissemination	○	–	–	–	–	◎	○	–	◎	–	3
	FPs702	limonite stringer	◎	–	–	–	–	–	–	–	○	–	<1
	FPs703	Py surrounded by Lm	◎	–	–	–	–	–	–	–	◎	–	<1
	FPs717	veinlets	○	◎	–	–	–	–	–	–	○	–	3

Abundance of minerals: ◎ ; abundant, ○ ; common, △ ; scarce, tr ; trace

Abbreviations: Py;Pirite, Cp;Chalcopyrite, Bo;Bornite, Cv;Covellite, Cc/Dig;chalcocite/Digenit, Ga;Galena, Zn;zincblende, Po;phyrrohtite, Ht-Lm;Hematite-Limonite, Mg-Mt;Magnetite-Marmatite, Cu;Copper, Min;Mineralization

Table 13 List of Alteration Minerals Determined by X-Ray Diffraction

(1)

Area		Sample	Minerals determined											
			Qz	Pl	K-fe	Chl	Ka	Cal	Py	Ho	Dol	Ser	La	
3-1	Subarea Futaleufu	FX-321	◎										○	
		KX-312	◎	△								△		
		KX-315	◎						△		△?			
		KX-316	◎	○		△		○						
		KX-319	◎						○			○		
		YX-310	◎	○			△		★			○		
3-2	Subarea Alto Palena	KX-340	◎	○									○	
		KX-356	◎				△		△		△?	△		
4	Alto Cisnes-El Toqui Area	FX-402	◎	○	○									
		FX-404		◎	○		★?			△?				
		FX-417	◎	◎										
		FX-419	◎	○										
		SX-416	◎	◎		○			△					
6	Los Leones River Area	KX-666	◎			○		○						
		KX-676	◎	○										
		KX-680	◎	△								○		
		VX-606	◎	○				○				△		
		VX-607	◎						○					
		YX-618		○						○				
7	Chile Chiko-Chacabuco Area	PX-706	◎		○							★		
		PX-715	◎	○										
		PX-716	◎	◎										
		FX-701	◎		○				△			△		
		FX-702	◎	○								△		
		FX-705	◎	◎				△				△		

Abbreviation : Qz;quartz, Pl;plagioclase, K-fe;K-feldspar, Chl;chlorite, Ka;kaolinite
Cal;calcite, Py;pyrite, Ho;hornblende, Dol;dolomite, Ser;sericite, La;laumontite

Peak Intensities : ◎; Abundant, ○; Common, △; Rare, ★; Trace, ?; Uncertain

(2)

Area		Sample	Minerals determined											
			Qz	Pl	K-fe	Chl	Ka	Cal	Py	Ho	Dol	Ser	La	
7	Chile Chiko-Chacabuko Area	FX-706	◎				△							
		FX-707	◎	○			△							
		FX-708	◎	○	○									
		FX-709	◎		○									
		FX-712	◎	◎	△									
		FX-714	◎	○	○							△		
		FX-716	◎	◎	○									
		FX-717	◎	○	△									
		FX-720	◎	○										
		SX-701	◎		○							○		
		SX-702	◎		○									
		SX-707	◎		○		★				○?			
		SX-708	◎		○							△		
		SX-709	◎		○									
		SX-710	◎	○										
		SX-711	◎									△		
		SX-712	◎		○									
		SX-713	◎		○		★							
		SX-714	◎	○								△		
		SX-715	◎	○	△							△		
		SX-716	◎	◎										
		SX-717	◎									★		
		SX-718	◎		○									
		SX-719	◎		○									
		SX-720	◎	◎								○		
		SX-721	◎	○	○				○			△		
		SX-722	◎		○									
		SX-723	◎						△					

Abbreviation : Qz;quartz, Pl;plagioclase, K-fe;K-feldspar, Chl;chlorite, Ka;kaolinite
Cal;calcite, Py;pyrite, Ho;hornblende, Dol;dolomite, Ser;sericite, La;laumontite

Peak Intensities : ◎; Abundant, ○; Common, △; Rare, ★; Trace, ?; Uncertain

Table 14 Result of Radioactive Age Determination (K-Ar Method)

Area	Sample	Age±2σ (Ma)	Rock Type	Isochron	Event	K wt%	Ar atm%
Futaleufu-Alto Palena Area							
Sub-area Futaleufu:	PD 311	109±4	Granite	biotite	primary	3.770	14
	YD 305	112±3	Granodiorite	ditto	ditto	6.831	10
	PD 301*	108±6	Monzogranite	ditto	ditto	1.329	57
Sub-area Alto Palena:	FD 343	101±5	Granite	ditto	ditto	1.114	45
..							
Los Leones River Area	YD 612	389±28	Amphibole sch.	amphibole	metamor.	0.131	73
	YD 601*	228±7	Muscovite-quartz schist	whole rock	ditto	2.683	6
	YD 622	341±15	Hornblendite	amphibole	ditto	0.247	28
	PD 601*	13.9±1.0	Monzogranite	biotite	primary	7.098	44
Alto Cisnes-El Toqui Area	TD 402*	93±2	ditto	biotite	ditto	6.915	11
	TD 407*	75±2	ditto	ditto	ditto	5.294	34
	YD 414*	84±3	(1)	ditto	ditto	1.468	24

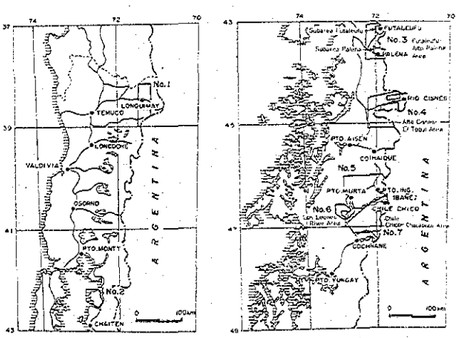
: Data for samples marked "" are selected from chronological data obtained at the work of Phase I.

(1) Quartz porphyry, the host rock of the Santa Teresa ore deposit.

PL. I

THE INVESTIGATION OF MINERAL POTENTIAL IN THE LOQUIMAY AREA AND REGIONS LOS LAGOS AND AYSEN PHASE II

PHOTOGEOLOGICAL INTERPRETATION MAP OF LANDSAT THEMATIC MAPPER IMAGES



PHASE I
PHASE II

FEBRUARY 1991

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

0 5 10 15 20km

Area Futaleufu – Alto Palena (Area No.3)

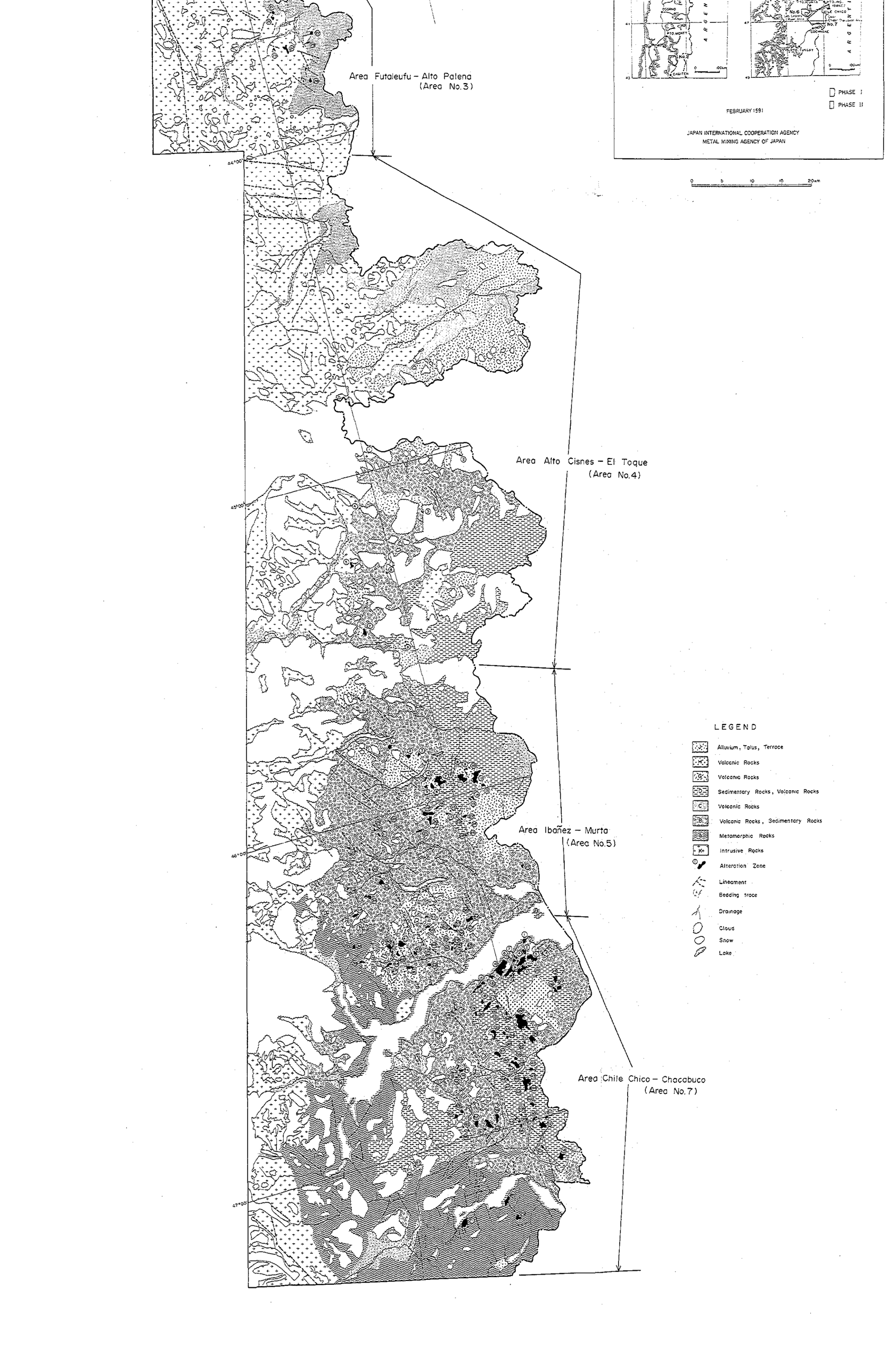
Area Alto Cisnes – El Toque (Area No.4)

Area Ibañez – Murta (Area No.5)

Area Chile Chico – Chacabuco (Area No.7)

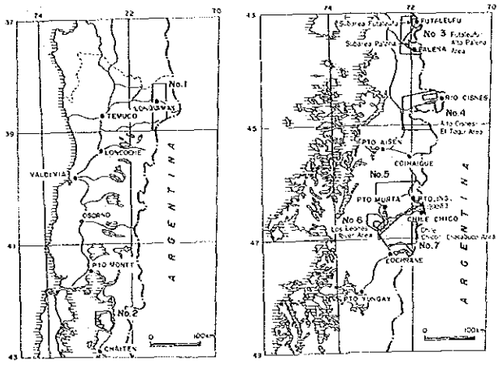
LEGEND

- Alluvium, Talus, Terrace
- Volcanic Rocks
- Volcanic Rocks
- Sedimentary Rocks, Volcanic Rocks
- Volcanic Rocks
- Volcanic Rocks, Sedimentary Rocks
- Metamorphic Rocks
- Intrusive Rocks
- Alteration Zone
- Lineament
- Bedding trace
- Drainage
- Cloud
- Snow
- Lake


Area Futaleufu – Alto Palena
(Area No.3)
Area Alto Cisnes – El Toque
(Area No.4)
Area Ibañez – Murta
(Area No.5)
Area Chile Chico – Chacabuco
(Area No.7)
44°00'
45°00'
46°00'
47°00'
PHASE I
PHASE II
FEBRUARY 1991
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
0 5 10 15 20km
LEGEND
Alluvium, Talus, Terrace
Volcanic Rocks
Volcanic Rocks
Sedimentary Rocks, Volcanic Rocks
Volcanic Rocks
Volcanic Rocks, Sedimentary Rocks
Metamorphic Rocks
Intrusive Rocks
Alteration Zone
Lineament
Bedding trace
Drainage
Cloud
Snow
Lake

THE INVESTIGATION OF MINERAL POTENTIAL IN THE LOQUIMAY AREA AND REGIONS LOS LAGOS AND AYSEN PHASE II

AERIAL PHOTOGEOLOGICAL INTERPRETATION MAP OF FUTALEUFU-ALTO PALENA AREA



PHASE I
PHASE II

FEBRUARY 1991

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

Scale 1: 100,000

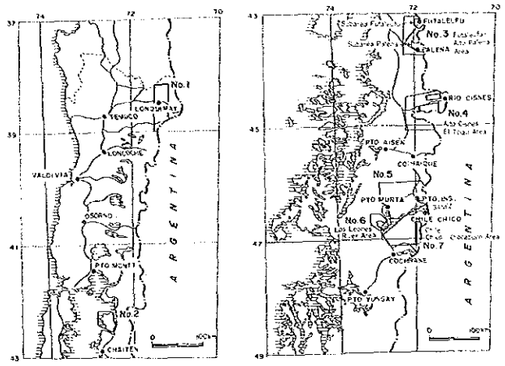
0 8km

LEGEND

- E Alluvium, glacial, fluvium
- D Terrace deposits
- C Volcanic rocks
- B Volcanic rocks
- A Volcanic rocks
- F Intrusive rocks
- Lineament (fault, joint)
- Lake

THE INVESTIGATION OF MINERAL POTENTIAL IN THE LOQUIMAY AREA AND REGIONS LOS LAGOS AND AYSEN PHASE II

AERIAL PHOTOGEOLOGICAL RE-INTERPRETATION MAP OF FUTALEUFU-ALTO PALENA AREA



PHASE I
PHASE II

FEBRUARY 1991

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

Scale 1 : 100,000

0 8km

Legend

Stratified Unit

- Unit O Alluvial,Terrace and Talus deposits
- Unit C Volcanic rock
- Unit B Volcanic rock
- Unit A Sedimentary rock

Intrusive Unit

- Unit E Granitic rock

Lineament