

Ser. No.	Sample No.	Topographic Map Sheet	Name of Stream	Geology	Geol. Unit	Order	Width (m)	Flow *1	Size *2	Color
977	LMj01	Sungai Sungai	S. Wanyang	—	N <sub>4</sub> By	1	2.0	3	3	L.B.
978	LMj02	Sungai Sungai	S. Wanyang	—	N <sub>4</sub> By	1	3.0	3	3	L.B.
979	LMj03	Sungai Sungai	S. Wanyang	—	N <sub>4</sub> By	1	1.5	2	3	L.B.
980	LMj04	Sungai Sungai	S. Wanyang	—	Q <sub>2</sub>	2	2.0	2	3	Y.B.
981	LMj05	Sungai Sungai	—	—	Q <sub>2</sub>	1	1.5	3	3	Y.B.
982	LMj06	Sungai Sungai	S. Wanyang	—	Q <sub>2</sub>	1	5.0	2	4	B.
983	LMj07	Sungai Sungai	S. Wanyang	—	Q <sub>2</sub>	1	4.0	3	4	B.
984	LMj08	Sungai Sungai	S. Wanyang	—	Q <sub>2</sub>	2	8.0	3	3	G.
985	LMj09	Sungai Sungai	S. Wanyang	—	Q <sub>2</sub>	1	4.0	2	4	D.B.
986	LMj10	Sungai Sungai	S. Wanyang	—	Q <sub>2</sub>	1	2.0	2	4	L.G.B.

Ser. No.	Sample No.	Topographic Map Sheet	Name of Stream	Geology	Geol. Unit	Order	Width (m)	Flow *1	Size *2	Color
987	LMn01	Terusan Sapi	S. Pandan P.	sandstone	Q <sub>2</sub>	3	12.0	1	3	L.G.

Ser. No.	Sample No.	Topographic Map Sheet	Name of Stream	Geology	Geol. Unit	Order	Width (m)	Flow *1	Size *2	Color
988	LMn01	Terusan Sapi	S. Mandaring	—	Q <sub>2</sub>	2	12.0	2	3	G.
989	LMn02	Terusan Sapi	S. Mandaring	—	P <sub>4</sub> Gr	1	4.0	3	3	G.
990	LMn03	Terusan Sapi	S. Mandaring	—	P <sub>4</sub> Gr	1	8.0	2	3	L.G.
991	LMn04	Terusan Sapi	S. Pandan P.	sandstone	P <sub>4</sub> Gr	2	2.0	3	3	B.G.
992	LMn05	Terusan Sapi	—	sandstone	P <sub>4</sub> Gr	1	1.5	2	3	B.G.
993	LMn06	Terusan Sapi	—	—	P <sub>4</sub> Gr	2	3.0	2	3	L.G.
994	LMn07	Terusan Sapi	—	sandstone	P <sub>4</sub> Gr	2	1.5	2	3	L.G.
995	LMn08	Terusan Sapi	—	sandstone	P <sub>4</sub> Gr	1	3.0	2	3	B.
996	LMn09	Terusan Sapi	S. Pandan P.	sandstone	P <sub>4</sub> Gr	1	1.0	2	3	B.G.
997	LMn10	Terusan Sapi	S. Pandan P.	sandstone	P <sub>4</sub> Gr	1	1.5	2	3	B.G.
998	LMn11	Terusan Sapi	S. Pandan P.	sandstone	P <sub>4</sub> Gr	1	1.5	2	3	B.G.
999	LMn12	Terusan Sapi	S. Pandan P.	—	P <sub>4</sub> Gr	2	3.0	3	3	G.
1000	LMn13	Terusan Sapi	S. Mandaring	—	Q <sub>2</sub>	2	15.0	2	3	L.G.
1001	LMn14	Terusan Sapi	S. Mandaring	—	P <sub>4</sub> Gr	1	2.0	2	2	B.G.
1002	LMn15	Terusan Sapi	—	sandstone	P <sub>4</sub> Gr	1	1.5	2	3	L.G.
1003	LMn16	Terusan Sapi	—	sandstone	P <sub>4</sub> Gr	1	1.5	2	3	L.G.
1004	LMn17	Terusan Sapi	—	sandstone	P <sub>4</sub> Gr	1	3.0	2	3	B.G.
1005	LMn18	Terusan Sapi	—	—	P <sub>4</sub> Gr	1	1.5	2	3	L.G.

Ser. No.	Sample No.	Topographic Map Sheet	Name of Stream	Geology	Geol. Unit	Order	Width (m)	Flow *1	Size *2	Color
1006	LIn01	Terusan Sapi	—	—	P <sub>4</sub> Gr	1	1.0	2	2	L.G.
1007	LIn02	Terusan Sapi	S. Pandan P.	sandstone	P <sub>4</sub> Gr	2	3.0	2	3	B.G.
1008	LIn03	Terusan Sapi	S. Pandan P.	sandstone	P <sub>4</sub> Gr	1	1.0	2	1	B.G.

\*1: none(0), puddle(1), slow(2), moderate(3), fast(4)

\*2: coarse grained(1), medium grained(2), fine grained(3), clayey(4)

Appendix 21

Analytical results of stream sediment geochemical  
samples in the Kinabalu/Labuk area



List of Geochemical Analysis ( 1 )

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
1	KFH01	12	3	144	11	266	42	141	.60	.72	119	>	.38	82	5	.041	6.8	40	.18	1.8	4	29
2	KFH02	8	32	113	9	274	154	391	.58	1.05	88	6	.15	100	6	.083	3.5	26	.19	1.2	4	43
3	KFH03	15	>	72	4	117	7	38	.35	.17	8	1	.04	16	4	.019	3.0	15	.18	1.6	5	17
4	KFH04	8	>	55	2	138	7	25	.23	.10	5	1	.02	14	2	.018	>	12	.13	.8	3	13
5	KFH05	3	>	61	4	131	6	25	.24	.12	5	1	.04	15	5	.022	1.1	14	.14	1.0	5	15
6	KFH06	5	>	82	3	176	7	26	.34	.13	5	1	.04	15	2	.019	2.0	17	.16	1.2	3	15
7	KFH07	18	15	120	11	353	117	587	.59	1.08	124	5	.16	102	17	.078	5.2	27	.18	1.0	5	40
8	KFH08	5	>	154	8	180	8	36	.60	.19	5	1	.16	15	4	.021	4.0	28	.18	1.4	2	19
9	KFH09	14	>	126	3	227	7	40	.42	.14	5	1	.18	22	5	.020	1.6	25	.16	1.2	2	20
10	KFH10	7	>	147	3	220	6	27	.47	.16	27	1	.13	18	2	.020	>	25	.16	1.2	2	17
11	KFH11	17	>	105	4	226	6	21	.32	.13	5	1	.13	16	6	.019	2.8	21	.13	.6	2	15
12	KFH12	>	>	118	3	181	6	19	.41	.12	5	1	.12	13	3	.019	>	22	.14	1.2	4	15
13	KFJ01	12	>	64	3	239	7	21	.31	.13	21	1	.12	12	4	.021	1.7	14	.16	1.4	3	15
14	KFJ02	15	>	76	1	213	9	24	.40	.17	35	1	.05	16	2	.018	>	16	.17	1.4	3	20
15	KFJ03	5	>	82	6	164	10	21	.51	.19	15	1	.04	15	7	.019	1.6	17	.19	1.4	2	20
16	KFJ04	1	>	76	3	176	8	18	.34	.14	81	1	.04	16	5	.019	>	14	.16	1.2	4	17
17	KFJ05	1	>	49	1	215	5	15	.16	.05	7	1	.01	10	2	.016	.4	8	.14	.6	2	8
18	KG01	4	>	83	3	235	8	18	.32	.17	68	1	.05	15	5	.019	1.4	16	.16	.8	4	18
19	KG02	9	>	99	5	227	9	24	.44	.22	59	1	.07	18	5	.018	2.5	20	.19	1.4	4	23
20	KG03	6	>	101	6	223	10	25	.44	.23	57	1	.07	18	11	.019	2.9	20	.20	1.4	5	24
21	KG04	15	>	90	5	146	8	17	.36	.19	60	1	.06	13	4	.019	.5	18	.18	1.2	2	21
22	KG05	5	>	182	2	185	7	19	.63	.13	5	1	.09	12	4	.020	2.1	27	.17	.8	4	14
23	KG06	1	>	95	2	184	8	23	.31	.10	9	1	.03	12	6	.020	>	18	.16	1.2	3	17
24	KG07	18	>	66	1	174	7	19	.25	.09	5	1	.01	14	5	.020	>	13	.16	1.6	2	13
25	KG08	10	>	80	4	139	7	23	.29	.10	120	1	.02	12	3	.021	1.2	18	.16	.8	2	15
26	KG09	7	>	80	2	215	6	21	.23	.07	5	1	.02	14	3	.019	>	15	.12	1.0	4	11
27	KG10	7	>	151	1	242	6	17	.46	.07	41	1	.04	11	2	.019	.8	22	.15	1.2	4	12
28	KG11	8	>	73	3	275	7	21	.27	.11	13	1	.03	14	11	.024	2.0	16	.15	1.4	6	13
29	KG12	17	>	95	3	214	6	26	.34	.11	5	1	.04	13	3	.020	>	21	.16	1.0	7	14
30	KG13	7	>	59	1	174	6	18	.21	.08	5	1	.01	14	2	.019	>	13	.12	1.0	4	11
31	KG14	19	>	82	3	131	7	18	.31	.12	30	1	.04	12	5	.021	1.2	17	.19	1.8	2	14
32	KG15	10	>	76	3	121	7	19	.30	.10	23	1	.02	15	2	.020	.2	14	.14	1.2	4	12
33	KG16	8	>	59	2	206	7	19	.20	.09	61	1	.03	12	8	.021	1.4	13	.12	1.0	3	12
34	KG17	20	>	85	2	208	9	20	.41	.23	65	1	.04	15	2	.021	2.3	17	.19	1.2	2	21
35	KG18	5	>	73	3	140	6	25	.29	.09	5	1	.02	12	7	.020	>	15	.12	1.0	3	12
36	KG19	12	>	48	2	233	6	20	.17	.07	18	1	.01	13	7	.019	2.8	11	.12	1.0	4	11
37	KG20	3	>	58	1	191	6	23	.21	.09	18	1	.10	19	2	.020	1.8	13	.11	1.0	2	12
38	KG21	14	>	101	2	173	8	24	.39	.17	70	1	.01	19	7	.020	2.2	19	.15	1.2	3	18
39	KG22	9	>	62	2	222	20	19	.22	.10	8	1	.01	14	5	.019	.6	13	.12	1.0	5	16
40	KG23	17	>	199	1	181	6	31	.65	.12	5	1	.09	14	5	.021	>	28	.17	1.2	5	16
41	KG24	15	>	63	1	143	6	27	.23	.10	8	1	.02	13	2	.020	2.0	14	.14	1.0	2	13
42	KG25	6	>	121	2	207	6	26	.36	.09	5	1	.10	14	3	.021	2.7	23	.14	.6	2	13
43	KG26	11	>	114	3	194	9	19	.49	.19	5	1	.08	16	5	.022	>	22	.19	1.2	2	21
44	KG27	14	>	111	4	153	7	19	.40	.14	50	1	.06	13	6	.023	2.9	20	.14	.8	3	17
45	KG28	13	>	73	3	233	7	18	.27	.11	17	1	.03	12	2	.023	2.2	15	.16	1.2	3	14
46	KG29	6	>	79	1	169	7	19	.30	.12	5	1	.02	12	4	.020	2.3	16	.15	.8	3	15
47	KG30	14	>	106	4	212	7	17	.36	.12	5	1	.09	16	6	.021	>	22	.18	1.2	2	15
48	KG31	11	>	87	3	145	8	18	.35	.14	5	1	.03	13	5	.020	3.1	18	.18	1.2	4	16
49	KG32	27	>	139	13	191	11	17	.30	.11	35	1	.02	499	9	.024	3.1	16	.18	1.4	2	16
50	KG33	8	>	62	4	205	7	16	.22	.09	5	1	.02	11	25	.023	.3	15	.16	1.4	2	12

List of Geochemical Analysis ( 2 )

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
51	KG34	13	>	87	>	120	7	16	.34	.13	5	>	.03	18	6	.019	1.3	17	.16	1.0	3	17
52	KG35	15	>	93	2	114	8	14	.37	.14	5	>	.03	32	6	.019	1.3	18	.17	1.0	3	18
53	KG36	14	>	109	2	115	7	16	.40	.13	5	>	.04	22	4	.019	1.7	20	.16	1.2	3	16
54	KG37	13	>	50	1	270	7	13	.18	.06	5	>	.01	23	11	.020	2.7	12	.15	1.2	2	11
55	KG38	20	>	48	3	125	7	11	.17	.07	5	>	.01	20	8	.018	3.2	12	.13	.8	4	12
56	KG39	14	>	80	1	184	7	15	.30	.13	10	>	.04	16	2	.017	.2	17	.15	1.2	2	17
57	KG40	6	>	111	1	133	7	16	.37	.13	53	>	.07	19	6	.019	.6	21	.16	1.0	2	15
58	KG41	9	>	105	3	112	6	10	.31	.08	63	1	.05	18	5	.018	2.4	18	.13	1.2	2	12
59	KG42	10	>	101	2	119	7	10	.32	.12	25	>	.06	18	5	.018	1.4	20	.14	1.4	2	14
60	KG43	9	>	156	3	171	7	10	.50	.14	56	>	.11	18	6	.020	1.4	27	.16	1.0	2	17
61	KG44	13	>	127	3	133	8	10	.44	.21	50	>	.17	16	5	.023	2.3	27	.14	1.2	2	19
62	KG45	13	>	63	2	132	5	10	.14	.07	22	>	.01	12	5	.019	1.6	15	.10	1.4	2	11
63	KG46	7	3	126	4	140	8	10	.42	.19	14	>	.16	19	6	.024	2.2	26	.14	1.0	2	18
64	KG47	6	>	164	2	89	5	16	.47	.09	25	>	.04	10	5	.018	.8	24	.17	1.2	2	13
65	KG48	9	>	155	1	88	6	10	.46	.12	5	>	.09	14	6	.020	.2	26	.15	1.0	2	14
66	KG01	5	>	53	3	99	6	10	.19	.09	26	>	.03	13	3	.018	.9	12	.13	.8	2	11
67	KG02	5	>	136	3	98	5	10	.45	.08	5	>	.05	14	5	.018	3.0	21	.15	1.6	2	11
68	KG03	6	>	40	2	91	5	10	.14	.05	5	>	.01	13	7	.017	.2	11	.11	1.2	2	7
69	KG04	16	>	116	2	145	7	10	.40	.12	5	>	.03	15	8	.019	1.3	21	.16	1.2	2	15
70	KG05	6	>	96	1	164	6	10	.31	.08	5	>	.03	20	3	.020	.2	17	.14	1.0	2	10
71	KG06	9	>	167	1	95	6	10	.54	.10	5	>	.05	11	3	.018	1.4	24	.18	1.0	2	13
72	KG07	14	>	169	3	70	6	10	.55	.11	5	>	.07	10	6	.018	.3	24	.18	1.6	2	13
73	KG08	3	>	73	1	78	5	10	.20	.05	5	>	.02	17	3	.017	.2	13	.13	.8	2	8
74	KG09	10	>	190	1	80	5	10	.56	.08	5	>	.07	17	3	.020	.6	24	.19	1.2	2	11
75	KG10	10	3	59	4	99	8	14	.23	.11	78	>	.03	24	3	.017	2.6	12	.15	.8	2	13
76	KG11	6	1	54	2	90	7	10	.21	.12	8	>	.02	15	5	.019	2.7	19	.11	.8	2	9
77	KG12	12	>	74	8	228	7	11	.20	.20	62	>	.10	59	5	.019	2.7	19	.11	.8	2	12
78	KG13	18	>	65	4	98	7	10	.24	.12	27	>	.03	13	4	.019	1.6	14	.12	.8	2	14
79	KG14	8	>	83	3	79	11	10	.50	.24	5	>	.06	17	6	.018	1.2	19	.21	1.2	2	26
80	KG15	12	>	61	2	97	6	10	.21	.10	36	>	.03	15	3	.018	1.4	13	.13	1.2	2	12
81	KG16	6	>	71	2	67	6	13	.24	.12	34	>	.06	11	5	.018	.8	15	.15	1.4	2	14
82	KG17	5	>	69	4	101	9	18	.28	.12	65	>	.04	13	5	.021	.8	15	.13	1.0	2	15
83	KG18	6	>	66	2	127	8	56	.25	.12	30	>	.03	15	4	.017	1.8	14	.13	1.0	2	15
84	KG19	18	>	97	3	107	8	16	.37	.14	5	>	.03	14	5	.019	1.4	19	.18	1.2	2	16
85	KG20	5	>	70	4	227	8	10	.26	.12	36	>	.05	16	5	.019	1.4	19	.18	1.2	2	15
86	KG21	7	>	42	1	110	6	10	.17	.06	5	>	.01	11	2	.019	.2	14	.15	1.2	2	10
87	KG22	3	9	111	6	195	107	284	.46	.75	71	>	.14	75	5	.088	3.3	25	.17	1.2	2	35
88	KG23	16	16	104	9	162	136	277	.52	.80	102	3	.12	84	8	.082	4.4	24	.20	1.2	2	37
89	KG24	10	>	78	4	93	11	17	.40	.22	6	>	.06	14	8	.018	4.4	19	.21	1.2	2	20
90	KG25	17	>	83	4	123	9	19	.33	.18	5	>	.05	16	5	.019	.2	16	.16	1.6	2	19
91	KG26	13	>	66	1	133	9	10	.26	.14	7	>	.02	17	9	.018	.7	15	.15	1.2	2	16
92	KG27	18	>	61	4	127	7	10	.20	.10	5	>	.02	12	5	.021	1.7	12	.14	.6	2	12
93	KG28	11	>	65	4	127	7	10	.22	.12	44	>	.03	13	2	.019	.3	15	.17	1.2	2	15
94	KG29	20	>	41	1	98	5	10	.11	.04	15	>	.01	12	5	.018	.5	9	.09	.8	2	8
95	KG30	10	>	59	3	105	7	10	.20	.09	9	>	.01	12	6	.018	.6	12	.17	1.4	2	11
96	KG31	8	>	49	1	100	5	10	.12	.04	12	>	.01	8	8	.019	1.0	10	.11	.6	2	8
97	KG32	15	>	64	4	123	6	10	.22	.11	34	>	.04	12	2	.018	4.1	14	.17	1.4	2	14
98	KG33	9	>	53	2	117	6	10	.16	.06	9	>	.01	11	4	.019	1.4	12	.12	1.0	2	9
99	KG34	18	>	56	1	155	6	10	.18	.07	20	>	.01	18	2	.018	.3	12	.11	.8	2	10
100	KG35	8	>	51	1	142	5	10	.15	.05	5	>	.01	13	6	.019	.8	11	.11	.8	2	9

List of Geochemical Analysis ( 3)

Ser. No.	Sample No.	As ppm	AU ppb	Ba ppm	Co ppm	Cr ppm	Cu ppm	Hg ppb	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	Pb ppm	S %	Sb ppm	Sr ppm	Ti %	U ppm	W ppm	Zn ppm
101	KGh36	9	>	87	4	167	6	10	32	09	5	1	03	8	3	018	1.6	17	16	1.6	>	11
102	KGh37	12	>	78	3	112	7	10	28	08	5	1	03	11	9	016	1.9	16	16	1.2	>	10
103	KGh38	1	>	60	3	118	6	10	22	08	5	1	01	9	2	018	1.0	15	14	0.8	>	10
104	KGh39	5	>	74	6	108	9	10	35	20	42	1	10	13	6	019	2	18	16	1.0	>	17
105	KGh40	4	>	101	2	103	7	10	42	15	5	1	05	12	5	019	2	19	18	1.2	>	15
106	KGh41	12	>	93	4	100	8	10	39	14	5	1	04	22	5	021	1.3	18	17	1.4	>	15
107	KGh42	5	>	85	2	139	6	10	29	10	5	1	06	10	2	022	5	17	14	1.0	>	14
108	KGh43	9	>	81	4	116	7	10	30	14	5	1	06	9	2	019	1.0	18	18	1.2	>	15
109	KGh44	15	>	51	1	112	5	10	15	05	10	1	01	11	2	017	1.7	11	14	1.0	>	8
110	KGh45	15	>	67	3	129	5	10	24	06	5	1	01	9	4	020	1.0	12	15	1.2	>	9
111	KGh46	12	>	83	3	113	6	10	29	07	5	1	02	14	12	020	2	12	18	1.2	>	10
112	KGh47	13	>	72	3	109	6	10	29	09	5	1	01	10	7	017	7	15	15	1.4	>	13
113	KGh48	12	>	116	3	92	6	10	46	12	5	1	05	8	3	020	6	18	19	1.0	>	12
114	KGh49	12	>	64	1	95	7	10	29	12	19	1	02	9	4	017	8	14	13	1.0	>	14
115	KGh50	6	>	62	3	93	7	10	28	12	5	1	02	10	2	017	6	15	16	1.2	>	14
116	KGh51	12	>	51	1	91	7	10	16	06	5	1	01	8	2	018	2	12	12	1.2	>	9
117	KG102	16	>	50	1	103	6	10	16	08	5	1	01	11	6	018	2.2	12	12	1.4	>	10
118	KG103	13	>	55	1	88	6	10	20	08	5	1	01	8	2	018	1.5	11	17	1.4	>	11
119	KG104	17	>	65	3	108	7	10	25	12	35	1	04	12	6	018	2	14	16	0.8	>	14
120	KG105	18	>	55	3	106	6	10	20	09	5	1	02	8	4	018	3.3	12	12	1.2	>	11
121	KG106	11	>	57	3	105	8	10	27	12	5	1	02	9	3	019	1.4	14	17	1.8	>	14
122	KG107	15	>	47	1	94	5	10	12	04	5	1	01	7	2	019	1.6	11	17	0.8	>	7
123	KG108	19	>	50	1	91	5	10	16	06	10	1	01	8	3	019	1.4	11	12	0.4	>	9
124	KG109	20	>	65	1	97	6	10	27	11	5	1	04	8	3	018	1.4	15	15	0.8	>	13
125	KG110	12	>	43	1	88	5	10	21	07	5	1	01	8	2	018	1.3	12	15	1.0	>	8
126	KG111	12	>	47	1	103	6	10	17	06	11	1	01	25	7	020	2	10	11	0.8	>	9
127	KG112	11	>	61	4	101	6	10	24	10	23	1	02	8	8	017	8	14	17	1.2	>	14
128	KG113	14	>	68	3	103	7	10	25	12	28	1	03	9	6	019	4.5	15	13	1.0	>	13
129	KG114	10	>	51	1	102	6	10	20	09	9	1	01	7	2	017	1.5	12	13	1.2	>	11
130	KG115	5	>	75	4	91	7	10	33	13	20	1	04	11	6	017	2	15	17	1.0	>	15
131	KG116	18	>	91	4	129	8	10	38	17	5	1	09	23	2	019	3.8	19	16	1.2	>	18
132	KG117	16	>	79	2	95	7	10	32	13	33	1	05	9	2	017	3.4	15	14	0.8	>	15
133	KG118	17	>	62	2	129	7	10	24	10	63	1	01	22	2	020	2	12	13	0.8	>	15
134	KG119	4	>	58	4	89	6	10	21	09	52	1	02	8	3	017	8	13	14	1.2	>	11
135	KG120	18	>	53	1	112	6	10	20	08	18	1	01	15	2	018	1.1	13	13	1.0	>	11
136	KG121	20	>	68	4	91	6	10	28	12	63	1	02	12	5	017	1.9	13	16	1.2	>	15
137	KG122	1	>	39	3	101	6	10	15	05	12	1	01	8	5	016	1.6	9	12	1.0	>	6
138	KG123	10	>	40	1	156	6	10	15	05	11	1	01	18	2	018	8	9	12	1.0	>	8
139	KG124	11	>	72	1	208	8	10	34	15	8	1	04	37	11	018	1.6	16	19	1.4	>	20
140	KG125	26	>	71	3	93	8	10	35	14	6	1	04	14	4	019	2.6	16	19	1.6	>	16
141	KG126	13	>	71	4	72	8	10	35	15	6	1	04	10	5	018	1.3	16	19	1.8	>	16
142	KG127	11	>	65	5	89	7	10	29	12	22	1	03	10	8	019	1.8	14	15	1.0	>	17
143	KG128	12	>	63	4	85	7	10	32	14	6	1	04	11	8	019	1.8	16	19	1.2	>	16
144	KG129	21	>	65	4	85	7	10	32	13	5	1	04	10	2	019	1.4	15	19	1.6	>	15
145	KG130	14	>	86	1	90	7	10	30	12	28	1	03	11	5	018	6	14	16	1.0	>	15
146	KG131	13	>	63	2	83	6	10	22	09	58	1	02	8	3	018	1.3	13	13	1.0	>	12
147	KG132	11	>	50	4	80	5	10	19	08	5	1	02	10	5	018	1.9	12	12	0.8	>	12
148	KG133	10	>	61	1	92	6	10	25	11	11	1	02	9	2	018	1.6	13	13	1.0	>	13
149	KG134	15	>	62	1	88	7	10	30	12	11	1	02	10	2	018	1.4	14	15	1.0	>	13
150	KG135	8	>	38	3	102	4	10	10	04	5	1	01	7	2	018	1.4	10	11	0.8	>	10

List of Geochemical Analysis ( 4)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
151	KGJ36	>	>	63	3	114	7	12	.33	.12	15	>	.02	14	5	.019	5.1	15	.16	.8	2	14
152	KGJ37	2	1	59	3	109	8	15	.31	.11	11	>	.02	21	3	.018	.8	14	.16	1.0	>	14
153	KGJ38	9	>	59	3	104	48	14	.29	.11	18	1	.02	72	9	.023	2.9	15	.18	1.4	2	15
154	KGJ39	>	>	57	5	92	8	12	.20	.07	37	>	.03	14	5	.018	3.5	14	.15	1.2	>	11
155	KGJ40	>	>	74	5	91	8	12	.37	.15	60	>	.03	16	5	.018	3.8	15	.16	1.2	>	17
156	KGJ41	9	>	68	5	87	7	13	.35	.12	5	>	.04	17	7	.018	2.5	15	.17	1.8	4	15
157	KGJ42	4	>	74	4	88	7	16	.36	.13	49	1	.02	16	5	.020	3.2	14	.14	1.0	3	17
158	KGJ43	>	>	71	4	97	7	16	.37	.12	5	>	.06	19	5	.019	3.8	15	.15	1.2	>	15
159	KGJ44	>	>	88	6	234	7	11	.47	.13	5	>	.13	59	6	.020	3.6	17	.15	1.2	>	16
160	KGJ45	>	>	67	3	86	7	15	.34	.12	21	>	.03	15	5	.018	1.1	14	.16	1.0	>	15
161	KHg01	4	3	105	5	88	55	66	.50	.56	48	3	.12	57	7	.050	2.7	23	.15	1.0	5	27
162	KHg02	>	>	80	3	92	5	14	.22	.03	5	>	.02	17	2	.018	2.4	14	.11	.6	2	8
163	KHg03	6	1	55	1	116	5	14	.15	.03	6	>	.01	14	6	.020	3.8	11	.12	.8	>	7
164	KHg04	11	15	119	9	158	80	229	.60	.75	60	2	.13	71	10	.031	7.0	26	.18	1.4	>	36
165	KHg05	19	15	140	19	1283	139	486	.73	1.00	190	4	.20	395	52	.027	10.1	33	.20	1.2	3	48
166	KHg06	3	>	93	1	81	6	23	.29	.06	5	>	.04	15	8	.019	2.1	19	.15	1.0	4	10
167	KHg07	4	>	124	3	84	5	22	.36	.05	5	>	.05	16	9	.021	2.2	20	.16	1.2	>	9
168	KHg08	1	>	274	1	102	6	14	.85	.06	5	>	.12	16	9	.019	1.5	37	.19	1.2	>	10
169	KHg09	1	>	97	2	78	3	15	.31	.07	5	>	.03	13	11	.024	2.1	19	.18	2.4	2	11
170	KHg10	9	>	104	2	85	9	17	.36	.08	5	>	.04	19	10	.023	3.8	20	.17	1.2	6	13
171	KHg11	1	>	103	2	81	6	11	.34	.07	5	>	.04	16	12	.025	2.4	19	.13	.8	3	12
172	KHg12	8	>	80	3	109	7	15	.27	.08	15	1	.04	16	8	.020	2.8	17	.15	1.4	4	12
173	KHg13	1	>	105	4	85	7	16	.41	.11	5	>	.05	16	11	.019	1.5	21	.14	1.0	2	14
174	KHg14	1	>	93	2	107	8	13	.32	.09	5	>	.04	17	8	.020	1.0	18	.18	1.2	>	12
175	KHg15	4	>	91	4	118	7	15	.33	.08	5	>	.04	18	3	.025	.9	18	.16	.8	>	12
176	KHg16	3	>	88	4	103	9	15	.37	.12	5	>	.04	20	7	.022	3.6	20	.16	1.2	>	15
177	KHg17	1	>	83	4	114	9	20	.31	.10	5	>	.03	18	4	.019	1.1	16	.14	.8	3	14
178	KHg18	1	>	139	3	90	8	16	.50	.15	5	>	.07	15	6	.034	.8	23	.13	1.2	2	20
179	KHg19	1	>	80	2	90	6	15	.24	.07	5	>	.04	14	10	.021	1.1	15	.12	1.0	3	11
180	KHg20	5	>	102	3	89	6	15	.37	.08	5	>	.04	16	8	.020	3.1	19	.16	1.4	>	13
181	KHg21	3	>	57	4	109	6	14	.19	.05	5	>	.01	18	11	.018	.2	14	.12	1.0	3	11
182	KHg22	1	>	85	2	165	6	15	.29	.07	5	>	.03	25	9	.021	1.0	16	.16	1.4	3	11
183	KHg23	1	>	160	4	92	6	23	.54	.07	5	>	.07	14	7	.035	.2	25	.16	1.2	>	11
184	KHg24	1	>	82	4	124	6	16	.27	.06	18	1	.03	14	10	.021	1.2	17	.15	1.2	>	12
185	KHg25	1	>	95	4	100	7	17	.34	.09	12	>	.02	18	8	.020	3.7	18	.14	1.0	3	14
186	KHg26	1	>	61	3	116	6	14	.19	.06	24	1	.02	22	10	.019	2.5	14	.15	1.4	>	12
187	KHg27	2	>	100	2	108	6	16	.36	.09	8	2	.05	20	7	.022	4.1	20	.15	1.8	>	14
188	KHg28	6	>	112	4	97	6	20	.36	.07	5	>	.05	15	8	.018	1.6	20	.15	1.2	2	13
189	KHg29	1	>	51	3	91	5	22	.16	.04	5	>	.01	15	6	.027	3.3	12	.12	1.0	3	8
190	KHg30	1	>	49	5	96	6	18	.16	.04	5	>	.04	17	11	.019	2.2	12	.14	1.6	3	9
191	KHg31	1	>	87	3	136	6	12	.27	.05	5	>	.01	15	6	.027	3.5	17	.12	1.0	3	9
192	KHg32	1	>	126	3	100	6	12	.44	.10	5	>	.05	16	7	.019	3.0	22	.15	1.2	3	14
193	KHg33	3	>	105	4	75	6	10	.37	.08	5	>	.05	13	8	.019	3.2	20	.16	2.0	>	12
194	KHg34	1	>	127	3	83	5	12	.40	.08	5	>	.07	15	3	.020	3.9	23	.16	1.4	>	10
195	KHg35	3	>	92	4	96	5	10	.29	.06	26	1	.04	17	7	.019	2.9	19	.17	1.6	3	12
196	KHg36	7	>	95	3	81	6	10	.30	.06	17	>	.04	15	10	.019	2.5	19	.13	.8	>	11
197	KHg37	1	>	83	4	86	7	11	.29	.08	23	1	.05	17	12	.022	1.0	18	.13	.8	3	12
198	KHg38	3	>	120	5	99	8	18	.49	.16	5	>	.10	18	11	.055	2.7	26	.15	1.2	3	20
199	KHg39	1	>	106	2	97	9	12	.43	.13	20	1	.05	21	10	.020	1.5	20	.16	1.4	3	19
200	KHg40	1	>	80	3	115	6	11	.28	.07	5	>	.03	19	7	.024	2.2	16	.13	1.0	2	11

List of Geochemical Analysis ( 5)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
201	KHg41	8	>	83	2	100	8	14	.32	.12	5	>	.06	15	9	.029	>	20	.13	1.0	>	15
202	KHg42	3	2	78	4	112	7	12	.33	.12	5	>	.06	12	11	.030	2.5	20	.12	1.2	4	16
203	KHg43	3	2	93	6	93	12	12	.40	.11	5	>	.05	13	7	.020	2.5	22	.19	2.2	5	12
204	KHg44	2	>	65	3	165	6	10	.23	.08	5	>	.02	20	8	.018	3.9	15	.14	1.0	2	12
205	KHg45	2	>	78	3	204	6	11	.26	.09	5	>	.04	12	3	.018	3.9	17	.15	1.0	3	12
206	KHg46	1	>	100	4	219	6	16	.34	.10	36	1	.05	12	12	.018	3.4	19	.15	1.2	2	14
207	KHg47	8	>	78	3	208	6	15	.26	.09	34	1	.04	12	10	.024	2.7	16	.12	.8	3	13
208	KHg48	1	>	116	2	193	8	15	.42	.10	5	>	.08	9	3	.030	4.6	23	.17	1.6	2	13
209	KHh01	1	19	122	9	319	106	138	.69	.97	100	>	.18	88	10	.055	5.8	27	.20	1.6	2	37
210	KHh02	1	1	145	15	206	20	47	.70	.95	40	>	.30	99	9	.044	4.6	34	.18	1.4	2	30
211	KHh03	1	19	101	6	220	66	98	.93	.70	64	2	.13	64	4	.047	5.0	23	.16	1.0	2	30
212	KHh04	1	1	93	4	128	6	31	.29	.08	5	>	.06	15	6	.019	3.3	18	.11	.8	2	9
213	KHh05	5	1	121	4	122	4	23	.39	.05	5	>	.03	10	3	.018	1.3	17	.13	1.0	2	11
214	KHh06	1	1	80	1	111	5	25	.29	.06	5	>	.03	13	4	.019	5.6	14	.14	1.4	3	10
215	KHh07	1	1	80	1	106	5	16	.30	.07	5	>	.03	9	2	.019	2.1	15	.14	1.2	2	10
216	KHh08	4	1	75	2	109	5	94	.25	.06	5	>	.03	10	2	.020	1.5	14	.13	.8	2	8
217	KHh09	1	1	99	3	165	4	14	.33	.05	5	>	.04	9	4	.023	8	16	.14	1.6	2	8
218	KHh10	1	1	48	1	138	4	15	.14	.03	5	>	.01	8	4	.017	3.7	12	.11	.8	2	7
219	KHh11	5	1	49	3	160	4	14	.15	.04	5	>	.02	11	2	.016	8	11	.10	.6	2	7
220	KHh12	3	1	54	1	147	4	12	.17	.04	17	>	.02	8	8	.018	2.5	12	.11	.8	2	7
221	KHh13	1	1	65	1	100	5	14	.22	.06	5	>	.01	11	10	.018	2.4	14	.15	1.4	2	9
222	KHh14	9	1	27	1	90	4	10	.07	.01	5	>	.01	7	5	.017	2.8	8	.10	.8	2	3
223	KHh15	1	1	109	4	86	10	12	.62	.21	24	>	.07	16	2	.026	3.7	29	.19	1.6	2	23
224	KHh16	3	1	86	1	95	5	13	.28	.08	36	>	.03	10	2	.017	1.7	17	.13	.8	2	11
225	KHh17	1	1	56	3	101	6	15	.21	.06	37	>	.01	9	7	.021	3.3	14	.13	1.2	2	7
226	KHh18	1	1	56	1	170	6	14	.36	.07	5	>	.04	9	7	.021	3.4	17	.15	1.0	2	7
227	KHh19	5	40	113	8	354	84	244	.61	.67	122	>	.13	67	7	.066	6.6	25	.20	2.0	2	35
228	KHh20	2	1	126	1	158	6	21	.43	.05	5	>	.04	8	4	.018	2.7	16	.14	1.0	2	8
229	KHh21	4	1	95	2	120	5	20	.32	.07	24	>	.05	10	4	.018	3.4	18	.13	.8	2	10
230	KHh22	1	1	55	1	115	5	44	.20	.06	5	>	.01	14	2	.018	3.3	11	.13	.8	2	8
231	KHh23	7	1	66	2	102	5	14	.26	.07	5	>	.04	10	4	.018	2.0	15	.13	.8	2	11
232	KHh24	1	1	60	1	99	6	16	.25	.07	5	>	.03	7	4	.018	3	14	.13	1.4	2	10
233	KHh25	10	1	44	1	115	5	21	.23	.06	5	>	.03	8	6	.018	2.6	10	.13	1.2	2	9
234	KHh26	4	1	44	1	215	4	17	.15	.04	5	>	.02	8	3	.017	2.6	10	.11	.6	2	7
235	KHh27	1	1	56	1	260	5	25	.20	.05	5	>	.02	8	3	.018	4.3	12	.13	1.2	2	9
236	KHh28	3	1	69	1	229	4	20	.23	.04	5	>	.04	8	3	.017	2.9	14	.11	.8	2	7
237	KHh29	1	1	71	1	168	7	54	.32	.10	5	>	.03	9	4	.019	3.0	15	.14	.8	2	12
238	KHh30	1	1	103	1	106	5	20	.37	.06	5	>	.03	7	4	.018	1.6	15	.15	.6	2	9
239	KHh31	6	1	112	1	101	5	10	.40	.07	5	>	.03	8	3	.020	1.7	16	.16	1.0	2	11
240	KHh32	1	1	62	3	101	6	16	.29	.10	5	>	.03	8	4	.021	1.7	14	.16	1.2	2	8
241	KHh33	1	1	42	1	148	5	10	.16	.05	5	>	.04	28	6	.017	3.1	11	.10	.8	2	11
242	KHh34	1	1	86	1	148	6	10	.31	.07	5	>	.04	6	4	.022	2.1	15	.14	1.0	2	10
243	KHh35	1	1	26	1	252	3	10	.05	.01	5	>	.01	6	4	.017	2.0	9	.08	.6	2	3
244	KHh36	1	1	98	4	177	8	14	.43	.13	35	>	.04	11	4	.019	1.9	19	.19	1.2	2	15
245	KHh37	2	1	84	4	210	7	10	.36	.12	35	>	.03	12	5	.018	3.7	17	.15	.8	2	14
246	KHh38	6	1	95	1	141	8	13	.42	.14	9	>	.04	11	4	.019	3.7	19	.15	.8	2	16
247	KHh39	1	1	73	2	107	6	10	.29	.09	5	>	.02	9	6	.019	2.2	16	.16	1.2	2	12
248	KHh40	8	1	77	2	149	7	10	.33	.11	11	>	.03	12	7	.018	1.2	16	.14	.8	2	13
249	KHh41	1	1	61	4	107	6	10	.27	.10	5	>	.02	8	2	.018	1.6	14	.15	1.0	2	13
250	KHh42	1	1	61	1	181	6	10	.27	.09	5	>	.02	9	7	.018	3.6	14	.13	.6	2	11



List of Geochemical Analysis ( 6 )

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
251	KH44	1	1	87	1	119	9	10	.90	.18	5	1	.08	24	6	.019	4.8	19	.19	1.4	2	20
252	KH44	1	1	75	2	80	5	10	.30	.09	5	1	.03	12	6	.018	4.8	19	.16	1.0	2	12
253	KH45	4	1	54	2	94	7	10	.27	.10	5	1	.02	13	5	.019	5.3	12	.14	.6	2	11
254	KH46	1	1	59	2	90	7	10	.28	.11	6	1	.03	16	6	.020	2.4	10	.13	1.0	2	22
255	KH47	1	1	42	1	159	6	10	.21	.08	5	1	.01	9	8	.016	4.1	10	.15	1.2	2	8
256	KH48	10	1	57	4	99	6	10	.25	.11	17	1	.03	11	3	.017	2.8	13	.16	1.8	2	12
257	KH49	4	1	85	4	98	8	12	.35	.19	5	1	.05	15	4	.017	3.7	16	.16	1.0	2	18
258	KH50	4	1	63	4	85	8	10	.33	.14	5	1	.02	12	4	.017	1.4	13	.17	1.0	2	13
259	KH51	4	1	62	1	74	6	10	.31	.11	5	1	.03	8	4	.017	2.3	13	.15	.8	2	12
260	KH52	1	1	58	1	81	5	10	.28	.07	5	1	.01	12	2	.018	2.6	9	.17	1.2	2	8
261	KH53	3	1	38	1	63	5	15	.16	.05	5	1	.01	8	2	.018	2.9	11	.10	.6	2	7
262	KH54	2	1	49	1	126	5	14	.17	.06	5	1	.01	11	4	.018	3.2	11	.12	1.0	2	11
263	KH55	1	1	48	2	96	6	10	.22	.07	5	1	.02	9	2	.017	2.7	12	.15	1.2	2	9
264	KH56	3	1	54	1	91	6	10	.23	.09	5	1	.03	11	2	.017	1.5	13	.14	1.4	2	11
265	KH57	2	1	64	4	108	7	10	.30	.11	5	1	.04	42	2	.024	3.7	15	.18	1.6	2	14
266	KH58	3	1	60	4	104	8	13	.27	.12	15	1	.03	15	5	.018	4.2	14	.15	1.0	2	14
267	KH59	1	1	67	2	76	6	11	.33	.12	5	1	.04	14	2	.019	.9	15	.15	.8	2	13
268	KH60	1	1	49	1	97	5	10	.20	.07	5	1	.03	11	2	.017	2.3	11	.11	.8	2	10
269	KH61	3	1	27	3	101	4	10	.20	.02	5	1	.01	10	4	.017	1.3	9	.12	.8	2	6
270	KH62	1	1	51	2	140	7	10	.23	.08	5	1	.02	12	4	.023	2	12	.12	.8	2	10
271	KH63	1	1	70	3	82	6	11	.35	.10	5	1	.02	10	3	.021	2.0	14	.14	1.0	2	11
272	KH64	1	1	35	2	109	5	14	.14	.04	5	1	.01	7	2	.018	2.4	10	.11	1.0	2	8
273	KH65	4	1	52	4	95	6	10	.24	.08	5	1	.02	12	3	.019	1.8	15	.13	1.2	2	10
274	KH66	3	1	58	3	102	6	10	.33	.09	5	1	.02	11	2	.020	3.8	19	.16	.8	2	10
275	KH67	1	1	51	2	108	6	12	.23	.09	24	1	.02	9	2	.017	2.8	13	.14	.6	2	11
276	KH68	1	1	46	2	121	6	10	.20	.08	30	1	.02	16	3	.018	1.8	12	.13	.8	2	11
277	KH69	7	1	57	2	119	7	10	.29	.11	5	1	.03	12	4	.017	2.6	14	.18	1.0	2	13
278	KH70	1	1	45	2	105	5	10	.14	.04	5	1	.02	8	2	.018	2.5	12	.13	1.0	2	9
279	KH71	8	1	38	1	93	4	10	.19	.05	5	1	.01	8	2	.018	2.0	9	.10	1.0	2	7
280	KH72	1	1	40	1	138	5	12	.22	.08	5	1	.03	11	2	.033	3.3	15	.15	1.8	2	7
281	KH73	4	1	50	2	86	5	12	.19	.05	5	1	.03	8	2	.017	1.2	12	.13	1.0	2	12
282	KH74	1	1	51	1	81	5	10	.24	.08	5	1	.03	10	6	.017	2.2	11	.14	1.0	2	11
283	KH75	14	1	63	3	81	5	10	.27	.08	5	1	.03	10	3	.018	3.2	13	.13	1.0	2	10
284	KH76	1	1	79	10	135	11	12	.56	.39	108	1	.09	53	2	.020	4.2	19	.22	1.4	2	26
285	KH77	1	1	19	52	703	22	10	.12	5.39	978	1	1.62	261	2	.068	5.4	96	.79	.2	2	73
286	KH78	2	1	89	33	1255	31	13	.66	3.16	638	1	.29	366	2	.028	9.8	29	.26	.8	2	74
287	KH79	1	1	64	29	1358	16	15	.45	1.36	445	1	.16	220	2	.031	7.0	24	.20	1.2	2	58
288	KH80	6	1	32	80	8602	29	12	.29	7.03	1250	1	.38	822	2	.037	37.1	44	.29	.4	2	207
289	KH81	1	1	55	91	20712	12	15	.24	4.68	972	1	.11	709	2	.028	96.1	14	.12	.4	2	181
290	KH82	1	1	20	126	25654	23	15	.09	7.04	1306	1	.16	1193	2	.032	124.1	18	.34	.2	2	274
291	KH83	4	1	10	172	21776	27	30	.01	5.19	661	1	.09	1318	2	.024	96.5	6	.15	.2	2	336
292	KH84	1	1	19	95	7894	13	11	.11	12.92	1134	1	.09	1605	2	.028	17.1	7	.10	.2	2	165
293	KH85	8	1	10	119	26257	11	10	.01	15.15	1280	1	.06	1881	2	.027	113.4	3	.07	.2	2	280
294	KH86	1	1	10	128	19232	10	10	.01	11.81	1349	1	.11	1689	2	.029	59.9	6	.09	.2	2	263
295	KH87	1	1	49	71	3715	16	10	.26	6.25	984	1	.07	949	2	.025	18.4	11	.15	.6	2	100
296	KH88	10	1	10	142	7950	18	12	.01	12.82	1975	1	.17	2015	2	.033	23.3	8	.13	.2	2	185
297	KH89	3	1	48	55	4418	12	10	.21	4.45	837	1	.06	630	2	.024	16.9	10	.14	.6	2	96
298	KH90	7	1	10	102	7922	11	10	.01	18.03	1214	1	.12	1838	2	.032	5.2	4	.10	.6	2	199
299	KJ91	13	1	125	4	158	51	77	.63	.57	58	1	.14	74	8	.030	4.0	26	.16	1.0	2	28
300	KJ92	1	23	126	7	182	71	151	.55	.72	117	1	.19	76	7	.043	6.9	30	.18	1.8	2	32

List of Geochemical Analysis ( 7 )

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
301	KJg03	1	1	52	5	173	8	13	16	.11	94	1	.04	23	6	.018	3.6	14	.13	1.0	2	9
302	KJg04	1	1	92	2	85	5	10	.35	.07	5	1	.02	9	4	.017	4	16	.14	1.2	2	10
303	KJg05	1	1	41	1	104	6	10	.13	.05	5	1	.01	7	2	.017	3.8	10	.15	1.8	2	7
304	KJg06	1	1	49	1	88	6	10	.17	.07	5	1	.01	8	5	.020	2	13	.13	1.0	2	9
305	KJg07	1	1	61	4	75	7	10	.25	.09	5	1	.01	11	5	.017	2.5	14	.15	1.0	2	11
306	KJg08	1	8	125	9	166	75	92	.60	.68	40	1	.15	64	11	.036	6.2	27	.18	1.2	2	31
307	KJg09	1	2	123	9	166	56	76	.59	.45	31	1	.14	40	7	.050	3.4	25	.19	1.6	2	26
308	KJg10	1	1	95	7	223	7	12	.31	.19	80	1	.15	30	5	.017	1.9	24	.11	.8	2	11
309	KJg11	1	1	68	1	93	8	12	.23	.11	5	1	.05	15	6	.017	2.5	17	.15	1.0	3	9
310	KJg12	1	12	232	20	158	40	75	1.01	.75	907	2	.38	110	15	.025	6.7	47	.29	2.4	2	46
311	KJg13	1	16	276	17	186	79	235	1.64	1.30	373	4	.35	123	33	.035	7.5	53	.37	3.0	2	72
312	KJg14	1	12	315	15	133	102	144	1.88	.98	86	3	.35	81	20	.036	6.4	60	.42	2.8	2	71
313	KJg15	1	1	47	2	117	5	12	.13	.03	5	1	.01	13	5	.017	1.4	11	.12	1.2	2	8
314	KJg16	1	2	227	7	131	27	40	.77	.27	377	1	.18	36	19	.022	3.1	38	.17	1.6	2	20
315	KJg17	1	1	133	7	203	19	26	.42	.20	89	1	.07	30	3	.020	4.8	21	.12	.8	2	15
316	KJg18	1	32	260	32	229	225	320	1.48	1.50	1258	4	.31	173	40	.037	5.6	49	.37	2.6	2	74
317	KJg19	1	34	143	11	254	137	219	.79	1.11	239	4	.20	108	11	.036	8.4	31	.25	2.0	2	42
318	KJg20	1	1	137	6	104	20	36	.45	.23	115	1	.08	36	8	.023	2.4	22	.13	1.0	2	16
319	KJg21	1	9	175	7	149	121	167	.83	1.13	131	2	.36	116	10	.022	9.4	41	.19	1.2	2	46
320	KJg22	1	15	160	9	171	121	212	.83	1.02	92	3	.25	93	17	.023	2.8	36	.22	1.8	2	42
321	KJg23	1	21	161	6	152	118	214	.84	1.02	89	3	.26	96	15	.023	1.3	36	.20	1.8	3	43
322	KJg24	1	25	159	18	239	184	214	.91	1.39	311	5	.22	137	14	.039	2.1	34	.26	2.4	2	53
323	KJg25	1	26	158	16	264	169	240	.91	1.35	343	4	.22	137	19	.039	9.2	33	.26	1.8	2	54
324	KJh01	1	1	86	3	204	5	17	.23	.04	5	1	.02	10	2	.021	2.0	14	.15	1.6	2	8
325	KJh02	1	1	189	3	77	8	14	.71	.13	5	1	.08	10	8	.020	2	28	.17	1.0	2	18
326	KJh03	1	1	37	3	89	3	10	.08	.01	5	1	.01	8	3	.016	3.5	6	.10	.6	2	3
327	KJh04	1	1	61	2	89	3	14	.16	.03	5	1	.01	10	3	.019	1.4	12	.11	.6	2	7
328	KJh05	1	1	91	2	99	5	11	.30	.07	5	1	.05	9	6	.020	1.9	17	.13	.8	2	11
329	KJh06	1	1	110	1	101	5	13	.36	.06	5	1	.03	7	3	.020	2.9	17	.18	4.0	2	9
330	KJh07	1	1	59	1	179	5	10	.16	.03	5	1	.02	8	5	.018	1.4	12	.11	.8	2	7
331	KJh08	1	1	54	3	138	5	10	.18	.04	5	1	.01	8	5	.019	1.4	12	.13	1.0	2	6
332	KJh09	1	1	78	2	113	6	10	.26	.07	5	1	.02	9	5	.018	2.2	14	.14	.8	2	10
333	KJh10	1	1	55	1	101	4	10	.16	.04	5	1	.01	11	3	.017	2.0	10	.12	.8	2	7
334	KJh11	1	1	81	2	110	6	10	.28	.08	7	1	.03	11	10	.019	4.6	16	.14	1.0	2	11
335	KJh12	1	1	106	4	97	6	17	.38	.09	5	1	.05	12	6	.022	2.2	18	.15	.6	2	12
336	KJh13	1	1	116	2	122	8	10	.47	.12	5	1	.06	15	10	.024	5	22	.17	1.4	2	15
337	KJh14	1	1	69	1	114	5	10	.27	.06	5	1	.01	10	4	.018	3.0	12	.15	.8	2	8
338	KJh15	1	2	47	1	173	6	10	.18	.06	5	1	.01	13	6	.019	4.2	13	.11	1.0	2	9
339	KJh16	1	1	32	2	166	4	10	.07	.01	5	1	.01	8	2	.016	2	8	.10	.6	2	4
340	KJh17	1	1	67	1	119	4	10	.33	.03	35	1	.01	12	9	.018	2	12	.10	.6	3	8
341	KJh18	1	1	90	3	119	5	12	.33	.08	5	1	.05	9	6	.020	1.6	17	.13	1.4	2	11
342	KJh19	1	2	55	2	137	4	10	.18	.05	5	1	.02	13	2	.018	7	12	.10	.8	2	8
343	KJh20	1	1	154	4	154	8	10	.35	.17	5	1	.07	13	4	.018	2.5	15	.20	1.8	2	16
344	KJh21	1	1	101	2	190	6	10	.39	.10	5	1	.05	13	5	.019	1.4	18	.14	1.0	3	13
345	KJh22	1	1	56	1	186	4	10	.17	.04	5	1	.02	11	4	.017	2.4	10	.11	1.0	2	7
346	KJh23	1	1	95	3	101	6	10	.41	.11	5	1	.04	13	3	.019	3	17	.18	1.4	2	12
347	KJh24	1	1	82	2	127	6	10	.33	.09	5	1	.03	9	7	.018	1.5	15	.14	1.2	2	11
348	KJh25	1	1	79	1	144	6	10	.33	.09	5	1	.04	8	7	.019	1.8	18	.13	.8	2	12
349	KJf01	1	1	47	40	2340	22	10	.28	2.92	612	1	.19	357	2	.022	16.1	16	.21	.4	2	66
350	KJf02	1	1	62	4	129	8	10	.32	.15	25	1	.01	13	5	.018	5.6	13	.14	1.0	3	13

List of Geochemical Analysis ( B )

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
351	KJ303	>	>	68	1	130	8	10>	.31	.12	5>	>	.03	20	3	.017	.6	13	.15	1.4	>	13
352	KJ304	>	>	43	32	1407	9	10>	.24	2.21	297	>	.09	320	4	.019	8.6	13	.15	.8	4	50
353	KJ305	>	>	49	19	961	8	10>	.25	.88	75	>	.08	160	4	.017	3.3	14	.15	1.0	>	39
354	KJ306	>	>	18	97	5445	14	10>	.11	10.58	1180	>	.09	1263	2	.028	21.0	12	.11	.2	>	160
355	KJ307	3	>	10>	135	6782	18	10	.01>	13.93	1632	>	.21	1801	2	.030	6.6	11	.11	.2	>	192
356	KJ308	>	>	59	12	344	7	13	.27	.52	184	>	.11	86	4	.015	6.4	16	.22	1.4	>	26
357	KJ309	>	>	51	4	104	7	10>	.31	.13	5>	>	.01	13	4	.015	1.1	12	.16	1.8	>	11
358	KJ310	>	>	45	61	3947	21	10>	.27	4.01	536	>	.16	560	2	.019	17.3	15	.24	.4	>	111
359	KJ311	>	>	48	153	2117	92	26	.60	2.34	2065	>	.32	718	2	.023	11.3	25	.91	.2	>	133
360	KJ312	>	>	33	133	2889	62	27	.28	2.58	1501	>	.23	1059	2	.025	24.6	26	1.92	.4	>	98
361	KJ313	>	>	45	1	71	4	11	.15	.03	5>	>	.02	9	7	.016	4.2	10	.08	.6	>	8
362	KJ314	>	>	59	1	65	9	11	.41	.16	5>	>	.01	8	10	.019	4.2	15	.19	1.6	>	20
363	KJ315	>	>	62	1	69	5	10>	.22	.06	5>	>	.03	7	5	.016	.3	13	.11	.4	>	9
364	KJ316	>	>	71	26	339	37	17	.33	.94	722	>	.49	79	2	.036	6.8	80	.38	.4	>	49
365	KJ317	>	>	104	11	201	43	16	.43	.51	576	>	.08	42	2	.019	2.9	22	.27	.4	>	34
366	KJ318	>	>	69	1	75	6	10>	.29	.08	5>	>	.05	11	6	.017	.3	15	.15	1.2	>	12
367	LF301	>	>	61	2	106	7	10	.29	.10	68	>	.02	13	8	.017	1.0	14	.13	.8	>	14
368	LF302	>	>	67	4	79	8	10	.36	.14	51	>	.02	13	5	.017	.2	14	.14	.8	>	17
369	LF303	>	>	70	3	84	7	10>	.31	.12	85	>	.02	11	3	.017	.9	15	.14	.8	>	17
370	LF304	>	>	58	6	76	6	10>	.29	.11	36	>	.01	11	8	.016	.4	13	.14	.6	>	14
371	LF305	>	>	65	3	131	6	10>	.31	.12	63	>	.02	23	10	.017	.7	15	.14	1.0	>	16
372	LF306	>	>	65	4	80	7	10>	.35	.12	61	>	.02	13	8	.017	.2	15	.14	1.0	>	15
373	LFk01	>	>	69	7	358	20	10>	.41	.27	5>	2	.02	6	6	.018	2.4	15	.19	1.4	>	25
374	LFk02	>	>	59	4	153	8	10>	.35	.17	35	2	.02	24	2	.021	3.0	14	.15	.8	>	17
375	LFk03	>	>	40	1	108	4	10>	.19	.06	5>	>	.01	11	2	.016	.3	10	.10	1.4	>	11
376	LFk04	>	>	79	5	102	10	10>	.53	.24	68	>	.01	23	4	.017	.2	15	.18	1.4	>	20
377	LFk05	>	>	97	6	87	12	10>	.77	.31	62	>	.02	25	5	.016	.6	18	.22	1.6	>	24
378	LFk06	>	>	42	5	84	7	10>	.26	.10	5>	>	.01	11	5	.015	1.6	12	.15	1.0	>	10
379	LFk07	>	>	78	6	112	9	10>	.50	.18	75	>	.01	18	2	.018	.9	17	.16	1.4	>	19
380	LFk08	>	>	75	3	84	10	10>	.63	.19	94	>	.02	13	7	.017	.2	16	.16	1.2	>	19
381	LFk09	>	>	78	5	84	9	10>	.55	.20	72	>	.02	14	6	.018	.2	17	.17	1.2	>	20
382	LFk10	>	>	71	3	94	7	10>	.31	.12	35	>	.02	13	5	.017	.2	15	.14	1.0	>	15
383	LFk11	>	>	63	3	102	8	10>	.41	.15	63	>	.03	14	9	.018	.2	16	.16	1.2	>	17
384	LFk12	>	>	58	5	128	8	10>	.39	.14	19	>	.02	27	7	.017	.7	15	.15	1.0	>	17
385	LFk13	>	>	64	2	83	8	10>	.35	.12	34	>	.01	12	2	.017	.7	14	.15	1.2	>	16
386	LFk14	>	>	78	9	194	11	10>	.45	.35	145	>	.18	39	2	.020	5.3	22	.21	1.0	>	27
387	LFk15	>	>	72	6	113	9	10>	.50	.27	46	>	.05	24	5	.019	1.1	17	.23	.8	>	22
388	LFk16	>	>	80	30	604	27	10>	.64	1.54	792	>	.41	181	2	.027	8.1	34	.61	1.0	>	61
389	LFk17	>	>	37	14	889	8	13	.14	.47	53	>	.08	135	3	.019	5.6	12	.18	.6	>	36
390	LFk18	>	>	76	17	340	26	13	.52	.58	1128	>	.30	55	8	.021	12.7	30	2.11	1.2	>	41
391	LFk19	>	>	64	5	83	8	10>	.44	.18	43	>	.04	16	10	.018	.3	15	.19	.8	>	19
392	LFk20	>	>	12	110	3407	23	10>	.10	15.77	1201	>	.17	1847	2	.034	.2	9	.11	.2	>	175
393	LFm01	>	>	99	23	384	29	10	.72	1.27	768	>	.41	120	3	.027	7.7	38	.59	1.2	>	58
394	LFm02	>	>	67	26	476	27	13	.63	1.22	785	>	.39	131	5	.026	9.0	35	.73	1.0	>	56
395	LFm03	>	>	48	88	3330	23	11	.41	7.59	1048	>	.31	887	2	.033	15.7	21	.37	.8	>	136
396	LFm04	>	>	41	89	3947	26	11	.33	8.84	1295	>	.30	1127	2	.034	12.6	20	.33	.6	>	145
397	LFm05	>	>	52	71	2738	26	10>	.43	6.90	1125	>	.34	876	2	.033	14.0	23	.39	.4	>	124
398	LFm06	>	>	121	79	7868	27	10	.25	6.14	1985	>	.64	925	2	.039	37.2	29	2.40	.2	>	207
399	LFm07	>	>	346	25	635	26	13	.66	.90	631	>	.27	144	5	.033	3.7	28	.52	1.2	>	62
400	LFm08	>	>	99	17	525	25	10	.67	1.04	818	>	.30	93	2	.031	10.7	37	.75	1.0	>	53

List of Geochemical Analysis ( 9)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
401	LFm09	>	>	106	17	461	28	12	.74	1.09	816	>	.33	96	>	.026	4.7	36	60	1.2	>	52
402	LFm10	>	>	15	47	1027	47	25	.05	1.59	1451	>	.89	196	>	.037	15.9	33	2.20	.2	>	60
403	LFm11	>	>	22	36	597	37	25	.18	2.52	1373	>	1.00	135	>	.046	17.7	42	2.24	.4	>	67
404	LFm12	>	>	10	57	907	42	20	.01	2.03	2314	>	.28	155	>	.040	30.1	32	5.23	.2	>	61
405	LFm13	>	>	15	36	362	31	12	.08	2.87	1191	>	1.46	110	>	.048	14.7	57	1.87	.2	>	61
406	LFm14	>	>	10	31	861	56	49	.03	1.99	686	>	1.18	209	>	.040	10.8	32	1.37	.2	>	60
407	LFm15	>	>	24	37	405	31	14	.22	2.41	1213	>	1.01	100	>	.046	14.7	42	1.88	.4	>	62
408	LFm16	>	>	46	59	1296	46	13	.18	4.42	1914	>	.84	362	>	.046	18.1	33	1.21	.2	>	52
409	LFm17	>	>	10	51	681	24	10	.01	3.68	3048	>	.69	121	>	.055	30.2	39	4.70	.2	>	87
410	LFm02	>	>	10	23	514	40	28	.01	.22	2831	>	.06	72	>	.021	29.0	2	6.60	.2	>	40
411	LFm03	>	>	303	35	586	35	15	.19	2.43	1361	>	.99	132	>	.047	15.7	46	2.35	.4	>	67
412	LFm04	>	>	10	53	743	11	10	.01	.31	2334	>	.05	51	>	.018	18.1	4	3.23	.4	>	30
413	LFm05	>	>	10	50	708	20	10	.01	2.75	4557	>	.47	99	>	.044	44.1	29	8.17	.2	>	104
414	LFm06	>	>	10	71	2884	34	13	.01	3.29	3875	>	.19	232	>	.027	52.4	15	6.72	.4	>	96
415	LFm07	>	>	10	12	188	1	13	.01	.01	1845	>	.01	12	>	.017	22.8	3	4.54	.2	>	22
416	LFm08	>	>	10	16	223	9	25	.01	.16	1333	>	.12	34	>	.021	20.4	9	3.69	.2	>	27
417	LFm09	>	>	10	54	75	1	12	.03	.67	2006	>	.82	21	>	.025	30.3	32	5.36	.2	>	37
418	LFm10	>	>	10	30	94	23	15	.03	.44	1135	>	.66	9	>	.031	26.1	34	4.03	.2	>	36
419	LFm11	>	>	10	41	518	17	14	.01	1.59	2316	>	.77	91	>	.034	24.8	37	4.03	.2	>	52
420	LFm12	>	>	12	36	599	22	15	.09	2.19	2190	>	.78	99	>	.043	26.4	37	3.50	.2	>	68
421	LFm13	>	>	11	20	128	24	21	.04	.65	672	>	.71	25	>	.031	8.6	30	1.01	.2	>	74
422	LFm14	>	>	10	8	88	13	20	.02	.18	369	>	.42	14	>	.023	2.1	13	.37	.2	>	52
423	LGj01	>	>	62	4	93	7	10	.36	.13	17	>	.03	13	>	.019	2	14	.15	1.2	>	14
425	LGj02	>	>	56	4	87	6	10	.31	.10	8	>	.02	13	>	.018	1.0	14	.14	1.0	>	13
426	LGj03	>	>	55	3	95	5	10	.24	.08	61	>	.03	10	>	.020	2.6	11	.10	.6	>	14
427	LGj04	>	>	60	4	127	5	10	.25	.09	51	>	.02	15	>	.020	2	12	.11	.6	>	11
428	LGj05	>	>	64	4	103	7	10	.36	.13	7	>	.04	10	>	.020	2	14	.14	1.0	>	14
429	LGk01	>	>	86	5	111	10	10	.55	.25	87	>	.10	17	>	.022	2	20	.17	1.2	>	25
430	LGk02	>	>	86	6	213	13	16	.49	.22	175	>	.07	20	>	.025	1.3	18	.15	1.0	>	28
431	LGk03	>	>	86	1	120	6	10	.35	.16	5	>	.06	11	>	.022	2	16	.14	1.2	>	19
432	LGk04	>	>	66	8	118	7	10	.35	.16	56	>	.06	13	>	.020	2.1	15	.14	1.2	>	17
433	LGk05	>	>	122	158	6051	36	41	.27	1.32	1792	>	.06	953	>	.025	23.4	13	.18	1.0	>	98
434	LGk06	>	>	61	131	11582	32	34	.28	9.23	858	>	.09	1675	>	.030	35.8	9	.18	.4	>	192
435	LGk07	>	>	190	93	3436	79	17	.75	5.50	1121	>	.41	982	>	.033	16.1	32	.33	.6	>	139
436	LGk08	>	>	374	15	130	33	10	1.04	.61	538	2	.14	48	>	.021	2.5	30	.27	1.6	>	48
437	LGk09	>	>	150	14	689	16	14	.51	.67	452	>	.18	84	>	.025	5.0	24	.27	.8	>	41
438	LGk10	>	>	121	31	2017	24	15	.52	1.40	791	>	.36	184	>	.028	11.9	32	.53	1.2	>	72
439	LGk11	>	>	122	9	715	17	14	.43	.43	192	2	.10	48	>	.024	4.1	21	.34	1.2	>	32
440	LGk12	>	>	86	153	19062	26	15	.27	7.63	1117	>	.26	1759	>	.039	74.1	23	.19	.4	>	232
441	LGk13	>	>	255	111	12295	48	27	.84	4.59	1052	>	.25	1067	>	.034	43.1	29	.27	.6	>	173
442	LGk14	>	>	101	9	134	9	10	.49	.32	90	>	.07	35	>	.021	1.6	16	.24	1.4	>	25
443	LGk15	>	>	73	74	4766	20	12	.12	3.59	2895	>	.60	570	>	.044	52.2	32	5.91	.4	>	135
444	LGk16	>	>	153	48	1562	29	16	.18	2.93	1835	>	.92	294	>	.047	27.8	45	3.10	.4	>	91
445	LGk17	>	>	157	223	13156	40	38	.14	4.08	2389	>	.16	1722	>	.034	55.4	17	.75	.4	>	199
446	LGk18	>	>	10	175	14595	17	15	.01	11.04	2045	>	.08	1693	>	.035	47.1	3	.11	.2	>	235
447	LGk19	>	>	83	238	15631	44	46	.01	2.02	1201	>	.02	1663	>	.026	62.2	2	.17	.2	>	250
448	LGk20	>	>	66	323	19041	38	32	.01	8.84	2705	>	.06	2169	>	.033	66.9	3	.14	.2	>	255
449	LGk21	>	>	447	56	488	122	17	.11	2.40	1567	>	1.36	98	>	.202	12.2	104	1.53	.2	>	106
450	LGk22	>	>	34	45	1394	20	13	.10	2.68	2120	>	.77	216	>	.043	30.0	37	3.37	.4	>	86

List of Geochemical Analysis (10)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
451	LK23	1	1	33	47	1285	16	11	.06	3.18	2544	1	1.11	193	2	.047	13.0	47	2.66	.2	2	97
452	LK24	1	1	52	53	1205	21	10	.06	2.93	2444	1	1.19	203	2	.043	18.3	50	2.76	.2	2	96
453	LK25	1	1	114	66	2098	28	11	.21	3.48	1252	1	.94	458	2	.034	15.6	38	1.76	.6	2	103
454	LK26	1	1	105	72	5050	22	10	.14	6.34	1875	1	.91	693	2	.035	27.4	35	2.76	.2	2	152
455	LK27	3	1	109	9	120	11	10	.52	.35	67	1	.07	42	6	.020	4.5	18	.25	1.8	2	26
456	LK28	4	1	63	3	174	8	10	.33	.26	95	1	.04	34	8	.020	3.3	14	.25	1.4	2	21
457	LK29	1	1	32	81	3770	33	10	.03	4.06	3235	1	.76	393	2	.051	24.6	44	4.25	.2	2	148
458	LK30	11	1	79	7	125	9	10	.40	.33	98	1	.06	30	9	.021	.2	16	.34	1.6	2	24
459	LK31	10	1	61	3	123	7	10	.27	.15	48	1	.02	18	8	.018	.5	14	.16	1.2	2	15
460	LK32	13	1	64	3	148	6	10	.25	.14	52	1	.02	17	3	.019	1.7	13	.19	1.8	2	15
461	LK33	2	1	74	4	96	13	10	.36	.28	113	1	.05	38	10	.020	.2	14	.18	1.0	2	20
462	LK34	6	1	31	3	151	10	10	.12	.19	89	1	.04	25	6	.020	2.8	8	.13	.8	2	12
463	LK35	14	1	162	2	106	10	10	.56	.24	5	1	.03	11	13	.020	3.0	17	.23	1.6	2	23
464	LK36	6	1	86	4	96	9	10	.20	.19	5	1	.01	11	11	.020	2.0	15	.22	1.6	2	18
465	LK37	13	1	51	4	85	6	10	.40	.10	19	1	.02	10	2	.019	4.1	12	.12	1.6	2	13
466	LK38	14	1	29	3	124	5	10	.10	.05	5	1	.01	23	4	.019	1.2	7	.10	1.0	2	7
467	LK39	7	1	82	5	92	6	10	.29	.14	5	1	.05	15	9	.020	2.4	15	.16	1.0	2	18
468	LK40	11	1	75	4	98	7	10	.35	.16	16	1	.03	14	10	.021	.6	14	.15	1.0	2	18
469	LK41	1	1	80	3	124	7	10	.33	.16	53	1	.03	15	8	.019	3.1	14	.15	1.2	2	18
470	LK42	1	1	40	1	100	4	10	.14	.06	5	1	.01	10	3	.022	.2	9	.11	1.6	2	9
471	LK43	12	1	78	3	109	7	10	.30	.14	5	1	.03	12	5	.022	1.6	13	.15	1.2	2	16
472	LK44	1	1	249	40	1341	9	10	.05	1.52	5091	1	.74	103	2	.044	35.0	35	6.22	.2	2	117
473	LK45	1	1	12	35	1134	11	10	.03	1.71	3737	1	.85	94	2	.034	16.0	37	2.61	.4	2	106
474	LK46	1	1	218	25	606	8	10	.04	1.27	5205	1	.72	40	2	.044	31.2	37	5.88	.6	2	109
475	LK47	1	1	71	49	1114	46	10	.11	2.83	1501	1	.96	214	2	.051	14.1	41	1.37	.4	2	151
476	LK48	1	1	2	187	44	48	10	.09	1.74	1591	1	.80	137	2	.035	13.4	39	1.39	.4	2	116
477	LK49	8	1	157	4	88	10	10	.52	.29	45	1	.07	27	8	.020	2.2	19	.24	1.4	2	27
478	LK50	4	1	46	39	1204	15	10	.26	2.24	654	1	.39	377	2	.032	9.1	25	.74	1.2	2	84
479	LK51	1	1	86	43	893	53	10	.12	2.62	1384	1	.95	196	2	.045	12.3	41	1.25	.4	2	147
480	LK52	1	1	34	52	1983	12	10	.04	2.98	3111	1	.95	247	2	.043	18.6	45	2.96	.4	2	109
481	LK53	3	1	29	78	4061	27	22	.13	2.99	1256	1	.62	548	2	.032	24.5	29	1.83	.4	2	109
482	LK54	7	1	10	181	54658	14	10	.01	7.47	1342	1	.01	2156	2	.028	316.4	1	.04	.2	2	505
483	LK55	1	1	10	127	15582	16	10	.01	10.83	1696	1	.14	1539	2	.031	45.7	6	1.43	.2	2	240
484	LK56	1	1	10	131	10859	17	11	.02	11.73	1674	1	.16	1551	2	.031	29.3	7	1.17	.2	2	212
485	LK57	3	1	10	321	24783	45	38	.01	7.48	2844	1	.06	3273	2	.031	91.5	2	.17	.2	2	322
486	LK58	4	1	10	152	22171	15	13	.01	10.47	1440	1	.11	1852	2	.031	76.0	5	.93	.2	2	288
487	LK59	1	1	18	73	4104	22	15	.12	8.03	1553	1	.66	917	2	.037	14.9	29	1.33	.4	2	140
488	LK60	1	1	17	67	3007	16	10	.02	4.56	3063	1	.97	401	2	.037	24.9	41	2.71	.2	2	120
489	LK61	1	1	10	44	1167	9	11	.10	2.68	3168	1	.61	155	2	.037	13.4	37	2.58	.4	2	105
490	LK62	1	1	15	45	153	36	23	.08	1.35	1781	1	1.21	41	2	.041	10.3	46	1.91	.2	2	133
491	LK63	1	1	14	58	123	36	19	.13	1.85	1711	1	1.17	37	2	.038	7.9	55	1.30	.2	2	111
492	LK64	1	1	15	45	405	17	19	.09	1.67	2732	1	.97	85	2	.039	15.6	45	4.30	.4	2	86
493	LK65	1	1	82	56	1260	25	19	.61	2.67	1770	1	.59	322	2	.045	12.3	49	2.78	1.2	2	124
494	LK66	1	1	11	52	441	1	14	.05	1.14	4952	1	.56	55	2	.032	23.1	30	7.45	.6	2	95
495	LK67	1	1	34	40	520	30	12	.22	2.77	1501	1	.85	175	2	.043	12.5	45	1.97	.6	2	97
496	LK68	1	1	10	53	1834	11	11	.04	3.12	1911	1	1.79	240	2	.044	9.3	38	1.38	.2	2	98
497	LK69	1	1	10	60	764	11	11	.03	3.12	1911	1	1.79	240	2	.044	9.3	38	1.38	.2	2	98
498	LK70	1	1	10	66	3041	23	10	.08	5.99	1980	1	1.14	632	2	.039	10.6	36	1.81	.2	2	113
499	LK71	1	1	10	47	1942	21	10	.05	2.41	2749	1	.96	189	2	.039	18.7	37	2.74	.4	2	106
500	LK72	7	1	10	99	5827	14	10	.01	15.10	1490	1	.35	1734	2	.039	6.3	10	.71	.2	2	182

List of Geochemical Analysis ( 11 )

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
501	LGM23	>	>	>	37	109	17	>	.03	1.02	1645	>	1.45	20	>	.032	8.9	45	1.53	>	>	64
502	LGM24	>	>	28	46	809	27	>	.21	2.84	2349	>	.73	144	>	.042	12.3	43	1.53	>	>	95
503	LGM25	>	>	>	56	925	3	>	.03	2.15	4021	>	.75	79	>	.035	24.4	31	6.07	>	>	102
504	LGM26	>	>	>	31	57	39	>	.03	.88	1440	>	1.28	13	>	.039	8.2	65	1.16	>	>	70
505	LGM27	>	>	>	34	70	>	>	.05	1.49	3016	>	1.66	11	>	.035	21.3	59	5.12	>	>	56
506	LGM28	>	>	>	46	242	6	>	.05	2.22	2333	>	1.83	45	>	.037	20.5	59	3.76	>	>	69
507	LGM29	>	>	>	54	1214	13	>	.05	5.21	2479	>	1.24	199	>	.052	14.1	46	3.37	>	>	104
508	LGM30	>	>	>	51	495	18	>	.05	2.79	2659	>	1.09	66	>	.041	22.0	40	4.64	>	>	94
509	LGM31	>	>	>	69	342	5	>	.03	2.53	4253	>	.50	44	>	.035	35.2	25	12.45	>	>	131
510	LGM32	>	>	>	68	391	20	>	.02	1.66	3269	>	.57	65	>	.030	33.1	31	11.64	>	>	105
511	LGM33	>	>	67	43	327	39	>	.49	1.90	1040	>	.83	141	>	.035	8.6	51	.81	>	>	80
512	LGM34	>	>	>	33	292	37	>	.76	2.12	994	>	.83	196	>	.034	6.9	56	.62	>	>	88
513	LGM35	3	>	97	23	134	16	>	.11	.69	467	>	.35	31	>	.028	4.6	37	.35	>	>	53
514	LGM36	9	>	163	21	134	28	>	1.25	1.13	790	>	.36	45	4	.053	3.2	39	.38	>	>	64
515	LGM37	>	>	>	32	828	42	11	.99	1.34	1639	>	.57	165	>	.038	9.5	49	1.42	>	>	79
516	LGM38	>	>	34	50	389	41	14	.39	2.45	1489	>	.78	83	>	.048	6.0	57	1.12	>	>	106
517	LGM39	>	>	91	29	229	41	>	.82	1.60	1078	>	.94	93	>	.034	7.8	69	1.74	>	>	139
518	LGM40	>	>	15	64	1801	33	>	.24	10.52	1276	>	.71	897	>	.050	3.8	49	.59	>	>	106
519	LGM41	>	>	96	18	306	24	>	.59	1.13	493	>	.52	98	>	.030	7.2	31	.35	>	>	139
520	LGM42	>	>	23	36	585	32	12	.11	1.95	1370	>	.78	92	>	.038	9.4	34	1.77	>	>	52
521	LGM43	>	>	23	40	604	35	10	.14	2.01	1317	>	.70	110	>	.039	12.7	33	1.82	>	>	96
522	LGM44	>	>	16	41	62	36	15	.06	1.12	1424	>	1.30	25	>	.027	7.5	44	1.09	>	>	93
523	LGM45	>	>	16	32	92	31	11	.04	1.50	1100	>	1.62	24	>	.042	7.6	44	1.26	>	>	89
524	LGM46	>	>	73	19	176	16	21	.44	.94	462	>	.52	32	>	.039	5.5	38	.53	>	>	121
525	LGM47	3	>	49	49	2001	19	12	.37	4.23	743	>	.42	433	>	.045	14.7	34	.84	>	>	96
526	LGM48	>	>	26	36	800	19	10	.17	1.77	2799	>	.51	99	>	.041	16.7	39	4.03	>	>	104
527	LGM49	>	>	23	34	276	23	14	.02	2.49	2896	>	.91	160	>	.028	26.4	24	14.04	>	>	83
528	LGM01	>	>	10	37	570	20	10	.05	1.92	2264	>	.75	91	>	.039	16.3	36	3.93	>	>	92
529	LGM02	>	>	10	35	567	11	18	.01	.91	5273	>	.37	52	>	.026	23.9	20	12.04	>	>	62
530	LGM03	>	>	10	29	381	11	18	.01	.68	2920	>	.84	42	>	.029	15.3	33	3.83	>	>	74
531	LGM04	>	>	10	44	549	4	17	.01	.40	4551	>	.24	54	>	.022	19.8	12	11.65	>	>	56
532	LGM05	>	>	10	33	277	11	18	.01	.46	3289	>	.46	32	>	.025	20.5	20	6.72	>	>	65
533	LGM06	>	>	12	41	379	24	13	.06	1.25	2013	>	1.97	63	>	.035	7.7	57	3.02	>	>	45
534	LGM07	>	>	10	43	354	38	24	.04	1.77	1878	>	1.47	83	>	.038	7.5	53	2.82	>	>	57
535	LGM08	>	>	12	26	177	30	25	.04	.65	2458	>	1.19	34	>	.040	14.5	36	3.88	>	>	76
536	LGM09	>	>	10	28	73	3	12	.03	1.43	1442	>	2.89	23	>	.046	9.9	93	2.59	>	>	91
537	LGM10	>	>	11	35	314	37	10	.04	2.71	1562	>	2.23	82	>	.047	9.0	77	1.36	>	>	36
538	LGM11	>	>	10	33	96	20	10	.02	1.08	1468	>	1.96	20	>	.040	10.7	68	2.11	>	>	51
539	LGM12	>	>	14	59	335	37	33	.02	1.16	1413	>	.45	63	>	.046	9.4	48	1.36	>	>	33
540	LGM13	>	>	14	66	295	40	39	.09	1.05	1311	>	.46	65	>	.037	7.1	43	1.05	>	>	93
541	LGM14	>	>	38	37	193	32	14	.44	1.55	1169	>	.80	58	>	.040	5.5	61	.97	>	>	89
542	LGM15	>	>	45	24	339	16	19	.28	.97	985	>	.39	30	>	.032	7.9	41	1.23	>	>	93
543	LGM16	>	>	18	42	162	28	10	.13	1.55	1280	>	2.54	41	>	.039	15.1	81	1.28	>	>	67
544	LGM17	>	>	40	29	159	23	17	.33	1.50	1076	>	.56	35	>	.041	7.3	55	1.00	>	>	86
545	LGM18	>	>	19	56	151	24	17	.10	1.11	1400	>	1.19	32	>	.034	7.1	46	1.03	>	>	93
546	LGM19	>	>	29	37	211	30	10	.19	2.27	1089	>	1.93	51	>	.049	9.1	74	1.18	>	>	73
547	LGM20	>	>	10	37	419	24	10	.07	2.02	1573	>	1.86	53	>	.040	6.5	60	1.88	>	>	92
548	LHJ01	>	>	158	13	134	24	17	.57	.39	407	>	.15	25	>	.091	3.6	28	.18	>	>	118
549	LHJ01	>	>	36	17	1148	5	10	.05	.26	254	>	.01	80	>	.020	3.0	7	.08	>	>	80
550	LHJ02	>	>												>							20

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Ser. No.	Sample No.	As ppm	Au ppb	Ba ppm	Co ppm	Cr ppm	Cu ppm	Hg ppb	K %	Mg %	Mn ppm	Mb ppm	Na %	Ni ppm	Pb ppm	S %	Sb ppm	Sr ppm	Ti %	U ppm	W ppm	Zn ppm
551	LHJ03	11	>	35	25	2245	7	10	.09	1.08	300	>	.04	275	8	.022	10.0	8	.11	.6	>	42
552	LHJ04	3	>	77	34	4008	17	10	.30	.97	675	1	.06	263	10	.033	17.2	19	.16	1.0	>	62
553	LHJ05	>	>	10	139	28534	6	10	.01	15.03	1260	>	.01	1707	2	.024	124.0	1	.04	>	>	309
554	LHJ06	>	>	10	134	14219	8	10	.01	12.38	1349	>	.11	1549	2	.031	46.0	5	.08	>	>	229
555	LHJ07	9	>	10	154	20754	11	10	.01	15.16	1613	>	.05	2277	2	.031	68.7	2	.07	>	>	261
556	LHJ08	>	>	10	123	43670	11	10	.01	8.76	1157	2	.06	1045	2	.033	266.9	3	.17	>	>	488
557	LHJ09	>	>	10	108	28242	8	10	.01	12.69	1160	>	.05	1332	2	.032	109.9	2	.11	>	>	287
558	LHJ10	12	>	58	43	4476	12	10	.25	2.16	659	1	.05	405	4	.023	21.4	12	.16	1.0	>	96
559	LHK01	23	2	63	4	185	11	10	.42	.81	5	2	.03	38	3	.022	5.2	12	.21	1.4	>	22
560	LHK02	23	>	48	132	8618	55	50	.36	1.13	461	1	.10	1341	2	.027	36.0	12	.28	1.0	>	22
561	LHK03	>	>	10	156	15586	19	13	.06	14.63	1401	>	.06	1969	2	.031	46.3	4	.11	1.0	>	131
562	LHK04	>	>	10	179	25086	12	10	.01	13.52	1730	>	.01	2433	2	.026	99.3	1	.04	>	>	241
563	LHK05	1	>	10	142	11145	12	10	.01	15.15	1499	>	.08	1589	2	.035	29.2	2	.12	>	>	291
564	LHK06	13	>	10	124	12271	10	10	.01	15.94	1356	>	.05	1787	2	.033	32.1	1	.10	>	>	222
565	LHK07	1	>	10	140	13922	13	10	.01	15.46	1468	>	.04	2099	2	.032	84.7	1	.08	>	>	236
566	LHK08	1	>	10	238	22037	24	20	.01	12.74	2331	>	.03	2514	2	.032	44.4	1	.08	>	>	253
567	LHK09	1	>	10	222	16174	24	25	.01	12.18	2610	>	.04	2330	2	.033	44.4	4	.08	>	>	212
568	LHK10	12	>	10	181	16227	24	13	.03	11.37	1218	>	.16	2295	2	.037	50.5	9	.14	>	>	249
569	LHK11	11	>	36	125	10218	39	10	.51	5.68	1319	>	.56	1231	2	.040	41.1	56	.38	>	>	199
570	LHK12	18	>	13	282	23641	36	20	.08	8.26	1484	>	.10	2803	2	.030	107.6	6	.16	1.0	>	328
571	LHK13	18	>	18	139	9966	29	23	.20	11.76	1646	>	.11	1843	2	.040	37.5	8	.24	1.0	>	208
572	LHK14	12	>	29	127	10281	21	10	.16	9.48	1741	>	.10	1333	2	.036	40.7	9	.21	1.0	>	197
573	LHK15	12	>	12	196	8497	27	15	.06	12.57	2096	>	.13	2217	2	.038	24.2	5	.19	1.0	>	233
574	LHK16	1	>	10	129	12760	13	10	.01	15.09	1563	>	.10	1873	2	.040	31.0	3	.14	>	>	197
575	LHK17	1	>	10	140	16469	28	10	.02	9.95	1452	>	.09	1579	2	.051	54.7	5	.18	>	>	264
576	LHK18	1	>	10	137	18269	19	10	.01	8.04	2660	>	.05	1466	2	.048	99.6	6	.17	1.0	>	354
577	LHK19	4	>	13	208	22048	42	17	.05	7.12	1764	>	.04	1732	2	.032	254.9	2	.14	1.0	>	298
578	LHK20	1	>	10	163	45921	11	10	.01	10.93	1638	>	.07	1851	2	.033	147.3	1	.12	1.0	>	366
579	LHK21	3	>	10	177	31064	12	10	.01	11.75	1884	>	.04	1810	2	.038	38.5	2	.11	1.0	>	367
580	LHK22	1	>	10	117	14189	6	10	.01	15.09	1280	>	.07	1512	2	.037	86.7	2	.12	1.0	>	293
581	LHK23	1	>	10	190	23498	21	19	.01	11.70	1980	>	.03	2328	2	.031	113.1	1	.07	1.0	>	216
582	LHK24	1	>	10	198	26237	17	12	.01	11.85	1811	>	.09	1539	2	.059	31.6	2	.13	1.0	>	315
583	LHK25	1	>	10	118	11824	10	10	.01	14.22	1484	>	.08	1753	2	.036	97.5	2	.16	1.0	>	233
584	LHK26	1	>	10	154	24146	17	10	.01	11.25	1764	>	.13	1829	2	.041	35.1	4	.16	1.0	>	264
585	LHK27	1	>	10	135	19427	13	10	.01	15.17	1668	>	.10	1601	2	.038	55.0	2	.16	1.0	>	305
586	LHK28	1	>	10	142	20431	10	10	.01	13.63	1653	>	.12	1589	2	.039	66.8	4	.18	1.0	>	255
587	LHK29	1	>	10	142	20431	10	10	.01	14.23	1482	>	.14	1665	2	.041	42.7	4	.17	1.0	>	305
588	LHK30	1	>	10	134	14514	11	10	.01	14.26	1600	>	.07	1860	2	.030	317.9	4	.43	1.0	>	255
589	LHK31	1	>	10	250	51936	25	17	.03	6.53	2324	>	.07	1860	2	.039	151.0	5	.51	1.0	>	535
590	LHK32	1	>	10	141	31926	12	10	.02	9.90	1606	>	.14	2002	2	.039	151.0	5	.51	1.0	>	352
591	LHK33	1	>	10	122	7818	11	10	.01	18.51	1454	>	.07	2002	2	.036	5.5	3	.10	1.0	>	212
592	LHK34	1	>	10	122	20674	13	10	.01	12.79	1376	>	.09	1440	2	.036	72.0	3	.13	1.0	>	278
593	LHK35	3	>	10	111	12264	9	10	.01	17.54	1295	>	.09	1818	2	.035	28.4	3	.11	1.0	>	237
594	LHK36	1	>	10	126	16860	9	10	.01	17.46	1312	>	.04	1765	2	.030	31.0	2	.09	1.0	>	250
595	LHK37	7	>	10	299	17530	27	15	.01	12.34	2541	>	.02	3455	4	.035	117.9	2	.09	1.0	>	302
596	LHK38	11	>	10	300	30070	40	34	.11	7.60	2467	>	.01	3179	2	.036	151.3	9	.12	1.0	>	290
597	LHK39	24	>	10	269	44751	14	10	.01	8.33	2686	>	.01	3179	2	.027	254.9	1	.02	1.0	>	335
598	LHK40	15	>	10	306	25064	19	10	.01	10.01	3099	>	.01	3007	2	.030	109.5	1	.03	1.0	>	289
599	LHK41	17	>	10	110	5201	10	10	.01	18.59	1358	>	.09	1957	2	.038	10.5	4	.11	1.0	>	185
600	LHK42	17	>	10	139	5596	16	10	.01	15.33	1749	>	.10	1907	2	.043	10.5	3	.19	1.0	>	173

List of Geochemical Analysis (13)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
601	LHK43	>	>	11	244	23921	31	56	.03	8.81	2918	>	.07	2169	>	.032	102.2	3	.36	.4	>	293
602	LHK44	1	>	10	138	6723	18	15	.01	14.75	1776	>	.15	1950	>	.040	12.3	5	.20	.2	>	192
603	LHK45	14	>	10	133	10207	14	15	.01	15.45	1799	>	.08	1541	>	.038	27.8	3	.17	.2	>	227
604	LHK46	4	>	10	138	8127	14	16	.01	15.67	1672	>	.09	1636	>	.045	17.2	3	.16	.2	>	210
605	LHK47	>	>	10	157	24716	22	28	.01	13.28	2309	>	.07	1933	3	.038	96.0	2	.20	.2	>	298
606	LHK48	>	>	10	131	12061	12	16	.01	14.54	1536	>	.08	1261	2	.037	38.8	2	.18	.2	>	234
607	LHK49	>	>	10	120	8417	12	13	.01	15.13	1569	>	.11	1656	2	.039	23.1	4	.16	.2	>	224
608	LHK50	31	>	10	223	28670	28	20	.01	10.91	1544	>	.07	1823	2	.043	143.1	4	.36	.2	>	337
609	LHK51	>	>	124	178	6491	114	83	.79	1.26	13316	6	.17	1174	16	.026	34.8	48	.47	.2	>	141
610	LHK01	>	>	11	91	4722	16	19	.06	10.37	2170	>	.63	947	27	.043	32.7	27	2.41	.2	>	161
611	LHK02	>	>	10	91	3766	13	16	.03	9.90	2503	>	.48	858	22	.045	37.4	22	3.34	.2	>	152
612	LHK03	>	>	10	89	4851	9	10	.02	11.75	1814	>	.82	1024	26	.045	29.1	26	1.93	.2	>	174
613	LHK04	>	>	10	105	3924	12	12	.02	13.02	1728	>	.61	1518	22	.044	11.5	22	.85	.2	>	180
614	LHK05	>	>	10	64	1195	18	27	.12	4.45	3194	>	.56	173	22	.050	47.6	35	4.34	.2	>	99
615	LHK06	>	>	10	165	19377	26	33	.02	5.04	2952	>	.30	1202	19	.040	98.2	19	3.64	.2	>	212
616	LHK07	>	>	10	139	17000	20	23	.02	4.54	2952	>	.27	867	17	.039	97.5	17	4.43	.2	>	190
617	LHK08	>	>	10	107	9644	22	24	.03	5.28	2625	>	.43	698	24	.046	67.6	24	4.08	.2	>	159
618	LHK09	>	>	10	238	10397	29	48	.01	13.74	2739	>	.04	2921	2	.034	37.8	2	.16	.2	>	224
619	LHK10	>	>	10	159	11955	16	31	.01	15.34	1875	>	.05	2125	2	.033	37.7	2	.14	.2	>	239
620	LHK11	6	>	10	160	9717	13	10	.01	18.85	1785	>	.04	2240	2	.028	21.8	2	.10	.2	>	257
621	LHK12	>	>	10	132	7785	12	10	.01	16.95	1653	>	.09	1831	3	.034	18.0	3	.13	.2	>	235
622	LHK13	>	>	10	125	5838	14	10	.01	17.48	1623	>	.10	1965	3	.037	4.6	3	.16	.2	>	220
623	LHK14	>	>	10	161	7819	19	10	.01	14.84	2104	>	.08	2127	2	.029	20.5	2	.09	.2	>	213
624	LHK15	>	>	10	225	29731	14	21	.01	14.15	2059	>	.04	2450	1	.037	145.1	1	.09	.2	>	353
625	LHK16	>	>	10	208	12106	21	25	.01	16.50	2021	>	.05	2877	2	.030	34.0	2	.08	.2	>	256
626	LHK17	28	>	10	142	9151	12	12	.01	16.86	1628	>	.06	2222	2	.032	20.4	2	.09	.2	>	233
627	LHK18	15	>	10	187	8678	16	16	.01	17.50	1977	>	.06	2854	3	.031	20.7	3	.08	.2	>	243
628	LHK19	>	>	10	167	8481	17	17	.01	15.37	2025	>	.08	2298	2	.036	26.6	2	.14	.2	>	237
629	LHK20	6	>	10	142	6488	14	14	.01	17.25	1557	>	.11	2127	2	.035	13.6	4	.17	.2	>	227
630	LHK21	9	>	66	109	18183	16	23	.38	3.86	815	>	.12	1346	15	.028	90.9	15	.20	.8	>	213
631	LHK22	>	>	10	130	10264	11	15	.01	15.32	1729	>	.11	1519	3	.036	30.7	3	.15	.2	>	240
632	LHK23	7	>	10	160	11402	13	11	.01	18.04	1709	>	.04	2260	2	.033	25.5	1	.09	.2	>	258
633	LHK24	>	>	10	134	13961	11	10	.01	16.94	1612	>	.07	1746	2	.035	44.6	2	.12	.2	>	269
634	LHK25	>	>	10	135	14161	10	10	.01	17.45	1454	>	.06	1950	2	.034	38.3	2	.10	.2	>	270
635	LHK26	1	>	10	155	13829	16	10	.01	13.96	1710	>	.11	1923	2	.030	49.7	4	.45	.2	>	257
636	LHK27	>	>	10	279	49198	33	49	.01	7.26	1952	2	.01	2037	1	.024	330.6	1	.11	.2	>	491
637	LHK28	>	>	10	116	12729	9	10	.01	17.14	1322	>	.08	1795	2	.033	34.9	2	.10	.4	>	265
638	LHK29	14	>	10	213	20313	28	18	.01	10.88	2241	>	.08	2296	2	.034	83.0	3	.17	.2	>	325
639	LHK30	31	>	10	224	16323	28	20	.01	12.11	2251	>	.07	2730	2	.036	61.5	2	.16	.2	>	271
640	LHK31	19	>	10	549	31608	40	84	.01	4.18	5694	>	.02	5087	2	.029	182.0	2	.10	.2	>	326
641	LHK32	>	>	10	130	8038	13	12	.01	17.09	1545	>	.10	1850	2	.039	19.9	5	.12	.2	>	226
642	LHK33	>	>	10	112	9188	10	21	.01	17.94	1392	>	.09	1850	3	.035	15.8	3	.13	.2	>	243
643	LHK34	>	>	10	352	61574	25	72	.01	6.84	3214	>	.05	2941	2	.025	423.9	3	1.27	.2	>	428
644	LHK35	>	>	18	174	9620	49	79	.03	4.51	1960	>	.35	1443	10	.030	60.8	10	.99	.2	>	170
645	LHK36	2	>	22	310	47499	26	52	.06	3.54	2114	>	.02	2547	2	.025	324.8	4	.13	.4	>	342
646	LHK37	>	>	10	235	25137	19	53	.01	12.86	1989	>	.04	2804	3	.029	121.5	3	.09	.2	>	299
647	LHK38	>	>	10	119	17897	10	21	.02	4.34	4509	>	.11	821	6	.025	131.0	6	13.29	.2	>	230
648	LHK39	>	>	10	124	17880	21	28	.02	8.38	2384	>	.34	1204	2	.043	82.3	2	2.86	.2	>	233
649	LHK40	12	>	11	204	9552	40	53	.02	7.44	2523	>	.32	2036	2	.038	57.2	8	1.57	.2	>	201
650	LHK41	>	>	10	162	8208	22	40	.01	13.30	2152	>	.13	2025	2	.041	31.5	6	.83	.2	>	211



List of Geochemical Analysis ( 14 )

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
651	Lhm42	1	1	60	102	5790	12	25	.03	5.70	3398	1	.48	661	17	.039	39.0	31	6.14	.4	1	145
652	Lhm43	1	1	12	147	6671	20	32	.04	5.04	3657	1	.51	828	2	.036	43.8	28	5.94	.2	2	148
653	Lhm44	1	1	10	67	3212	7	24	.03	2.77	4995	1	.64	260	2	.033	45.1	44	6.58	.2	2	137
654	Lhm45	1	1	10	108	5691	20	30	.03	4.55	3147	1	.73	657	2	.039	45.8	48	6.04	.2	2	135
655	Lhm46	1	1	11	155	4880	19	33	.04	6.89	2018	1	.67	1213	2	.040	27.0	25	1.55	.2	2	133
656	Lhm47	1	1	21	86	2892	15	21	.09	6.76	2443	1	.55	616	2	.045	29.6	27	4.26	.2	2	118
657	Lhm48	1	1	10	124	6105	18	35	.02	3.04	4633	1	.33	681	2	.027	47.6	22	9.68	.2	2	141
658	Lhm49	1	1	10	109	3443	34	38	.02	5.11	3394	1	.46	631	2	.056	24.3	42	2.66	.2	2	139
659	Lhm50	1	1	10	87	6410	26	29	.03	3.40	4256	1	.48	403	2	.036	51.0	33	9.48	.2	2	140
660	Ljg01	1	1	14	10	109	72	116	.59	.63	122	2	.15	64	8	.030	4.5	27	.19	.2	2	30
661	Ljg02	5	76	114	5	81	55	128	.49	.92	31	1	.12	46	2	.037	4.7	24	.16	.2	2	26
662	Ljg03	1	30	145	10	122	117	234	.73	.91	45	2	.20	83	10	.023	6.2	31	.21	1.6	2	41
663	Ljg04	1	8	126	7	115	72	175	.62	.69	56	2	.15	62	5	.040	4.0	27	.20	1.8	2	32
664	Ljg05	5	11	155	8	137	54	126	.69	.81	97	1	.29	90	8	.027	5.6	38	.20	1.6	2	33
665	Ljg06	8	7	118	4	204	65	190	.50	.53	87	1	.14	54	4	.034	1.9	25	.16	1.4	2	26
666	Ljg07	1	6	146	6	184	35	81	.59	.61	179	1	.32	71	2	.025	5.0	38	.19	1.6	2	27
667	Ljg08	14	27	158	20	243	212	314	.93	1.77	356	3	.26	182	16	.036	6.6	24	.22	2.2	2	60
668	Ljg09	1	18	126	10	193	87	132	.60	.68	86	2	.15	69	7	.033	1.9	26	.17	1.2	2	30
669	Ljg10	6	8	126	2	151	57	146	.56	.69	95	1	.17	64	3	.027	3.3	29	.17	1.6	2	32
670	Ljg11	1	4	128	9	105	70	81	.56	.58	89	1	.14	59	6	.031	2.7	26	.17	1.4	2	30
671	Ljg12	4	5	135	7	88	59	75	.61	.59	44	1	.16	52	3	.038	5.5	28	.17	1.4	2	30
672	Ljg13	7	4	124	5	130	51	74	.56	.54	42	1	.14	56	5	.035	5.5	27	.17	1.4	2	32
673	Ljg14	1	2	133	4	222	58	106	.57	.59	58	1	.16	54	2	.029	3.1	28	.17	1.6	2	29
674	Ljg15	1	1	98	1	177	6	16	.20	.09	5	1	.01	9	4	.018	3.0	12	.15	1.4	2	11
675	Ljg16	6	12	143	7	237	32	95	.62	.77	98	2	.27	79	5	.023	1.7	37	.17	1.8	2	30
676	Ljg17	6	8	129	8	174	98	169	.60	.76	172	2	.15	80	9	.038	3.4	27	.18	1.4	2	36
677	Ljg18	1	21	120	8	253	121	378	.63	.89	141	3	.17	84	14	.042	3.6	27	.24	2.0	2	36
678	Ljg19	1	1	169	4	91	7	19	.55	.12	5	1	.11	9	2	.020	1.7	29	.15	1.2	2	14
679	Ljg20	4	1	141	3	118	6	10	.45	.10	5	1	.09	8	2	.020	2.7	26	.14	1.2	2	13
680	Ljg21	4	1	118	5	192	5	15	.32	.05	6	1	.06	7	2	.019	.6	21	.11	1.6	2	8
681	Ljg22	5	1	114	2	72	6	14	.29	.04	5	1	.06	18	2	.020	.6	19	.11	1.0	2	11
682	Ljh01	1	1	62	1	107	6	10	.20	.06	5	1	.01	20	4	.020	2.3	15	.18	1.4	2	10
683	Ljh02	2	1	57	2	63	6	10	.19	.07	5	1	.01	10	4	.021	3.0	14	.18	1.4	2	11
684	Ljh03	3	1	149	1	87	6	10	.47	.10	5	1	.09	13	3	.019	1.1	25	.12	1.4	2	13
685	Ljh04	5	1	65	1	117	6	10	.28	.06	5	1	.04	11	6	.022	2.5	14	.13	1.4	2	9
686	Ljh05	6	1	102	1	76	4	10	.26	.05	5	1	.04	11	2	.019	5.5	18	.09	.8	2	9
687	Ljh06	3	1	111	1	91	5	10	.34	.06	5	1	.04	16	2	.021	2.9	19	.11	1.2	2	9
688	Ljh07	6	1	100	2	86	5	10	.41	.05	24	1	.04	13	4	.020	1.5	18	.14	1.2	2	10
689	Ljh08	1	1	129	1	86	5	10	.28	.05	5	1	.05	17	7	.021	2.4	21	.14	1.2	2	9
690	Ljh09	1	1	70	1	86	5	10	.21	.04	5	1	.05	11	5	.018	.2	15	.14	1.4	2	8
691	Ljh10	1	1	59	1	85	5	10	.18	.05	5	1	.01	10	2	.020	2.0	14	.15	1.4	2	10
692	Ljh11	3	1	57	3	165	11	10	.14	.03	16	1	.01	24	3	.019	1.9	14	.17	1.4	2	8
693	Ljh12	3	1	80	1	123	5	10	.24	.05	13	1	.03	14	2	.019	.4	17	.18	1.6	2	9
694	Ljh13	1	1	59	3	93	4	10	.16	.03	5	1	.01	13	2	.019	1.2	12	.14	1.4	2	6
695	Ljh14	2	1	63	1	82	4	10	.19	.04	5	1	.01	14	5	.019	1.2	12	.14	1.4	2	7
696	Ljh15	1	1	89	2	98	6	10	.26	.04	5	1	.03	12	2	.019	1.9	13	.12	1.0	2	8
697	Ljh16	1	1	56	2	150	11	10	.16	.03	9	1	.01	50	5	.024	1.8	13	.18	2.8	2	8
698	Ljh17	1	1	59	1	138	8	10	.16	.04	5	1	.01	25	7	.021	2.3	12	.12	1.2	2	7
699	Ljh18	1	1	46	1	110	5	10	.12	.02	5	1	.01	22	2	.018	2.4	11	.11	1.4	2	7
700	Ljh19	1	1	52	2	138	6	10	.14	.03	5	1	.01	22	3	.019	2.7	13	.16	1.6	2	8

List of Geochemical Analysis (15)

Ser. Sample No.	As ppm	Au ppb	Ba ppm	Co ppm	Cr ppm	Cu ppm	Hg ppb	K %	Mg %	Mn ppm	Mb ppm	Na %	Ni ppm	Pb ppm	S %	Sb ppm	Sr ppm	Ti %	U ppm	W ppm	Zn ppm
701 Ljh20	1	1	112	2	70	5	10	.41	.09	5	1	.07	11	5	.022	1.4	19	.15	1.4	2	13
702 Ljh21	1	1	103	1	71	5	10	.39	.09	5	1	.06	14	2	.021	1.7	20	.15	1.6	2	12
703 Ljh22	1	1	57	1	59	4	10	.17	.04	5	1	.01	12	3	.019	2.9	11	.12	1.2	2	9
704 Ljh23	1	1	87	1	107	5	10	.27	.06	5	1	.04	26	5	.020	2.8	16	.11	1.4	2	10
705 Ljh24	4	1	107	1	88	14	10	.32	.06	5	1	.04	20	2	.022	2.0	18	.12	1.2	2	10
706 Ljh25	2	1	103	3	127	6	10	.28	.05	5	1	.04	30	3	.019	3	18	.10	1.0	2	9
707 Lj301	1	1	22	1	140	3	10	.05	.01	5	1	.01	30	2	.019	.2	6	.07	1.0	2	3
708 Lj302	1	1	52	7	120	5	10	.15	.09	183	1	.04	31	2	.019	1.8	12	.11	1.2	2	10
709 Lj303	5	1	46	4	82	6	10	.17	.19	24	1	.02	27	2	.019	3.7	12	.12	1.2	2	11
710 Lj304	1	1	42	5	216	6	10	.20	.37	56	1	.01	48	2	.019	3.2	12	.12	1.0	2	16
711 Lj305	1	1	56	16	117	15	10	.19	.20	488	1	.08	82	4	.020	2.8	15	.20	1.8	2	18
712 Lj306	5	1	38	1	109	5	10	.13	.05	5	1	.02	23	3	.020	1.8	10	.12	1.0	2	8
713 Lj307	1	1	34	1	94	4	10	.11	.04	5	1	.01	24	2	.018	2.8	9	.10	1.2	2	6
714 Lj308	1	1	36	1	102	4	10	.09	.12	11	1	.01	16	2	.021	1.5	9	.11	1.2	2	7
715 Lj309	4	1	28	2	161	4	10	.09	.03	5	1	.01	32	2	.019	3.1	8	.09	.8	2	6
716 Lj310	1	1	36	44	1499	9	10	.17	2.98	503	1	.09	523	2	.025	9.1	11	.11	.6	2	58
717 Lj311	7	1	78	7	171	6	10	.29	.17	162	1	.06	52	3	.020	3.3	17	.15	1.6	2	14
718 Lj312	5	1	41	1	123	5	10	.12	.04	68	1	.01	22	2	.019	9	10	.10	1.4	2	7
719 Lj313	6	1	28	1	103	4	10	.08	.02	5	1	.01	24	4	.019	.9	8	.11	1.0	2	5
720 Lj314	1	22	80	1	102	4	10	.27	.06	5	1	.04	35	2	.020	4.0	15	.14	1.2	2	10
721 Lj315	1	1	77	60	1276	78	23	.41	4.06	1601	1	.61	425	2	.028	12.7	28	.66	.6	2	91
722 Lj316	1	1	40	38	3035	9	10	.24	2.57	307	1	.08	402	2	.026	15.5	12	.13	1.0	2	72
723 Lj317	1	1	38	27	1105	10	10	.22	2.30	307	1	.07	290	2	.023	8.4	13	.15	1.0	2	46
724 Lj318	1	1	10	212	13645	18	32	.01	12.61	2541	1	.12	2305	2	.032	31.8	4	.11	.2	2	231
725 Lj319	13	1	44	38	1756	14	10	.20	1.85	484	1	.08	361	2	.023	11.3	13	.16	.4	2	61
726 Lj320	1	1	10	186	6284	22	29	.01	11.46	2214	1	.14	1950	2	.032	16.4	7	.13	.4	2	171
727 Lj321	1	1	26	42	2612	8	11	.10	2.32	411	1	.08	405	2	.025	12.5	11	.12	.6	2	71
728 Lj322	3	1	61	1	72	5	10	.22	.08	5	1	.03	15	2	.020	2	14	.12	1.0	2	10
729 Lj323	1	1	72	1	65	7	10	.32	.13	5	1	.04	12	3	.023	1.3	16	.13	1.4	2	14
730 Lj324	1	1	10	186	7699	24	32	.01	12.67	2384	1	.19	2374	2	.036	16.3	6	.13	.4	2	196
731 Lj325	1	1	10	146	10269	15	12	.01	9.35	1734	1	.19	1658	2	.029	27.4	7	.11	.2	2	284
732 Lj326	1	1	10	142	5773	19	13	.01	14.82	1750	1	.17	1907	2	.030	4.1	6	.12	.2	2	201
733 Lj327	1	1	10	110	5706	15	10	.01	16.53	1237	1	.14	1505	2	.032	5.3	6	.10	.2	2	191
734 Lj328	1	1	10	138	21708	17	10	.01	10.66	1572	1	.13	1530	2	.029	72.7	4	.14	.2	2	295
735 Lj329	5	6	38	66	8281	11	10	.23	8.21	1067	1	.19	902	2	.027	28.8	14	.17	.6	2	196
736 Lj330	1	1	10	112	5103	10	10	.01	17.89	1187	1	.17	1878	2	.025	2	7	.09	.2	2	206
737 Lj331	1	1	32	73	2530	12	10	.16	5.02	786	1	.12	791	2	.019	12.1	11	.11	.6	2	91
738 Lj332	1	1	19	113	14395	15	10	.10	10.18	1354	1	.14	1424	2	.024	41.8	8	.29	.4	2	231
739 Lj333	1	1	16	149	11824	20	11	.09	10.96	1664	1	.13	1727	2	.027	29.3	7	.28	.2	2	215
740 Lj334	1	1	10	139	14342	18	10	.01	11.96	1677	1	.10	1546	2	.026	39.6	3	.32	.4	2	224
741 Lj335	1	1	21	156	20611	20	13	.10	9.26	1608	1	.15	1612	2	.033	65.2	8	.29	.6	2	267
742 Lj336	1	3	23	93	12911	12	11	.11	8.77	989	1	.11	1165	2	.033	48.6	9	.15	.4	2	201
743 Lj337	1	1	27	94	7909	14	10	.15	10.39	1052	1	.14	1339	2	.034	21.9	10	.14	.4	2	170
744 Lj338	1	1	19	89	13909	10	10	.08	10.62	890	1	.11	1188	2	.032	41.1	7	.14	.4	2	229
745 Lj339	1	1	41	134	11231	26	16	.22	7.76	1770	1	.20	1269	8	.034	44.1	19	.18	.8	2	229
746 Lj340	1	1	114	75	5376	36	13	.89	5.00	1255	1	.36	742	2	.047	13.3	33	.28	1.2	2	164
747 Lj341	1	1	37	157	8480	31	20	.16	8.74	1847	1	.16	1527	2	.032	33.9	20	.19	.8	2	194
748 Lj342	1	1	97	42	1880	14	10	.36	1.14	577	1	.06	368	8	.021	10.1	16	.16	1.2	2	61
749 Lj343	1	1	34	85	12622	14	10	.14	4.57	936	1	.12	749	4	.026	54.8	15	.20	.8	2	206
750 Lj344	1	1	36	80	9051	13	10	.10	1.39	992	2	.02	535	9	.021	35.7	9	.19	1.2	2	148

List of Geochemical Analysis (16)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Nb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
751	LJK14	>	>	33	120	12848	15	22	.08	2.02	1258	1	.03	813	>	.022	46.4	9	.17	.6	>	202
752	LJK15	>	>	20	101	13163	6	19	.04	1.36	1009	1	.01	519	>	.021	50.8	7	.18	.8	>	219
753	LJK16	>	>	47	6	170	2	10	.14	.14	10	2	.01	23	8	.022	1.0	9	.15	1.2	>	13
754	LJK17	>	>	62	10	399	9	46	.18	.26	182	2	.02	82	10	.021	5.4	17	.29	1.2	>	24
755	LJK18	>	>	70	70	5416	2	10	.03	6.70	3364	1	.40	543	2	.033	46.9	22	4.32	.4	>	149
756	LJK19	>	>	10	68	4682	1	10	.03	6.17	3798	1	.36	483	2	.033	49.0	21	5.42	.4	>	138
757	LJK20	>	>	10	153	6657	11	14	.01	11.82	2175	1	.18	1699	2	.042	25.6	9	.18	.2	>	234
758	LJK21	>	>	10	103	6962	13	10	.17	16.71	1278	1	.16	1839	3	.039	7.6	6	.11	.2	>	213
759	LJK22	>	>	27	110	12139	17	10	.17	10.01	1113	1	.16	1521	2	.034	39.3	11	.23	.2	>	219
760	LJK23	>	>	66	85	7955	19	10	.27	9.55	1624	1	.15	1089	5	.035	29.1	17	.21	.6	>	191
761	LJK24	>	>	32	87	6331	14	10	.17	11.73	1398	1	.18	1424	2	.036	13.9	13	.14	.4	>	181
762	LJK25	>	>	30	123	7366	19	10	.18	11.81	1501	1	.14	1691	2	.041	18.1	10	.15	.4	>	198
763	LJK26	>	>	32	135	9783	17	10	.30	12.42	1660	1	.11	1212	2	.032	38.0	10	.18	.8	>	211
764	LJK27	>	>	39	87	5307	14	10	.30	12.42	1201	1	.21	1273	2	.045	16.9	14	.16	.6	>	187
765	LJK28	>	>	10	135	6429	16	10	.05	15.70	1552	1	.17	1586	2	.042	9.4	8	.12	.2	>	208
766	LJK29	>	>	11	380	59220	39	32	.01	5.45	3215	2	.01	3378	2	.029	373.4	1	.13	.2	>	478
767	LJK30	>	>	10	345	75022	29	11	.01	5.38	3016	2	.01	2719	2	.027	511.8	1	.10	.4	>	540
768	LJK31	2	>	18	353	53479	36	46	.07	6.46	2500	1	.04	3420	2	.029	332.8	4	.15	.4	>	470
769	LJK32	25	>	98	418	22002	57	120	.47	3.12	3152	1	.20	3572	6	.039	102.5	19	.28	1.0	>	290
770	LJK33	12	>	202	247	1846	40	487	1.20	.88	4408	2	.47	954	44	.026	15.2	44	.35	2.4	>	107
771	LJK34	11	>	10	252	47530	23	34	.01	9.60	2183	1	.04	2472	2	.037	280.2	1	.22	.2	>	454
772	LJK35	>	>	10	265	31452	22	15	.01	11.29	2161	1	.06	2335	2	.036	150.4	2	.18	.2	>	360
773	LJK36	>	>	10	173	36876	14	12	.01	9.37	1988	1	.03	1871	2	.033	207.0	2	.18	.2	>	379
774	LJK37	>	>	23	240	15614	31	10	.07	9.16	2529	1	.20	2567	2	.041	50.9	8	.83	.2	>	282
775	LJK38	>	>	38	40	2954	9	10	.24	3.14	665	1	.14	426	2	.026	16.1	18	.10	1.0	>	93
776	LJK39	9	>	97	45	3045	5	10	.43	3.14	556	1	.22	473	2	.048	16.9	25	.14	1.0	>	94
777	LJK40	>	>	31	40	7481	5	10	.08	1.55	257	1	.03	320	6	.022	28.0	9	.11	1.0	>	192
778	LJK41	>	>	85	34	1388	9	10	.27	1.85	729	1	.12	284	3	.026	10.1	21	.15	.8	>	62
779	LJK42	>	>	67	17	842	10	10	.20	.42	933	2	.11	96	12	.026	5.4	20	.17	1.4	>	36
780	LJK43	5	>	39	29	2359	8	10	.16	3.01	876	1	.10	261	7	.026	22.7	14	1.28	1.0	>	66
781	LJK44	>	>	10	75	2982	11	10	.04	10.86	1905	1	.65	869	2	.039	11.0	27	2.10	.2	>	132
782	LJK45	>	>	10	84	2892	17	10	.05	11.24	2146	1	.61	1028	2	.039	8.1	28	1.60	.2	>	132
783	LJK46	>	>	26	66	1397	6	10	.14	2.96	5360	1	.29	141	2	.033	51.6	26	13.00	.4	>	92
784	LJK47	>	>	10	64	1380	17	10	.10	4.15	3948	1	.53	160	2	.044	45.1	31	10.09	.2	>	99
785	LJK48	>	>	10	146	9292	19	10	.03	12.62	1705	1	.11	1861	2	.030	23.9	6	.57	.2	>	184
786	LJK49	13	7	10	207	27351	125	24	.01	2.52	971	1	.09	2655	2	.049	135.9	1	.30	.2	>	283
787	LJK50	15	6	13	273	32862	133	26	.02	3.22	2297	1	.03	3038	2	.029	159.5	2	.24	.2	>	315
788	LJK51	>	>	19	826	36488	29	44	.01	3.66	6800	1	.02	5345	2	.029	181.1	2	.07	.2	>	332
789	LJK52	>	>	10	435	51874	14	30	.01	3.55	3660	1	.01	3189	558	.029	303.0	1	.09	.2	>	390
790	LJK53	>	>	11	540	51209	17	36	.01	3.08	4360	1	.01	3583	2	.024	290.3	1	.09	.2	>	391
791	LJK54	4	>	11	570	42917	27	40	.01	5.36	5352	1	.01	5716	2	.026	234.4	1	.05	.2	>	376
792	LJK55	>	>	14	525	31646	28	34	.01	1.87	3814	1	.52	3245	2	.023	169.4	34	.24	.2	>	259
793	LJK56	>	>	13	325	14797	70	13	.03	2.02	2195	1	.11	1960	2	.035	92.8	67	.38	.2	>	225
794	LJK57	>	>	134	11	263	18	83	.87	.57	146	1	.28	86	7	.027	5.6	31	.28	1.8	>	48
795	LJK58	2	>	19	671	26443	44	70	.03	.95	3936	1	.05	4222	2	.032	113.5	3	.14	.2	>	292
796	LJK59	>	>	10	637	21647	36	67	.01	.82	3615	1	.03	3743	13	.026	127.0	3	.14	.2	>	288
797	LJK60	7	>	147	13	203	20	61	.94	.58	190	1	.28	90	13	.027	.9	32	.28	2.2	>	48
798	LJK61	>	>	10	424	57131	36	24	.01	2.25	3561	1	.04	1924	2	.027	333.7	4	1.47	.2	>	374
799	LJK62	>	>	10	387	37647	36	25	.02	3.96	3523	1	.15	2248	2	.036	192.1	10	1.44	.2	>	296

List of Geochemical Analysis (17)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
801	Ljn22	1	1	10	147	31203	20	14	.01	3.38	2543	1	.12	1081	2	.036	162.8	13	4.23	2	2	261
802	Ljn23	1	1	10	356	65996	17	15	.01	3.07	3387	1	.07	2149	2	.027	386.6	6	1.06	2	2	423
803	Ljn24	1	1	10	516	52449	23	44	.02	4.27	4045	1	.10	3500	2	.032	288.8	8	.58	2	2	374
804	Ljn25	1	1	10	296	61454	21	21	.01	3.99	2553	1	.01	1978	2	.022	368.0	1	.05	2	2	415
805	Ljn26	1	1	11	327	62279	18	22	.01	4.07	2812	1	.01	2105	2	.024	370.6	1	.05	2	2	413
806	Ljn27	1	1	10	258	53006	14	18	.01	3.49	2268	1	.01	1894	2	.024	308.1	1	.08	2	2	381
807	Ljn28	1	1	11	355	53462	26	15	.01	6.46	3199	1	.01	2461	2	.026	305.5	1	.09	2	2	394
808	Ljn29	1	1	10	287	48366	11	30	.01	2.06	2525	1	.01	2462	2	.020	295.4	1	.06	2	2	376
809	Ljn30	1	1	10	564	56504	22	61	.01	2.36	4335	1	.01	3697	2	.024	346.8	1	.12	2	2	412
810	Ljn31	1	2	70	125	3326	130	58	.02	1.97	7144	1	.63	670	12	.035	18.9	43	1.47	1.0	2	113
811	Ljn32	1	1	10	105	26335	149	17	.04	2.96	1861	1	.32	649	2	.031	128.2	30	1.64	2	2	311
812	Ljn33	1	1	21	80	6020	85	45	.25	2.09	1518	1	.46	394	4	.038	28.6	28	1.45	2	2	139
813	Ljn34	2	1	12	74	27030	64	25	.14	1.40	1517	1	.18	390	2	.027	130.9	21	1.48	2	2	271
814	Ljn35	1	1	4	41	99	1512	42	.29	2.05	4679	1	.47	465	2	.035	12.3	40	1.17	4	2	106
815	Ljn36	1	1	18	10	83	1023	38	.10	2.52	1953	1	2.03	150	2	.043	15.1	81	1.43	4	2	126
816	Ljn37	1	1	14	116	9681	42	23	.09	4.19	2334	1	.66	915	2	.058	35.7	61	2.06	2	2	171
817	Ljn38	1	1	10	108	13007	34	14	.06	3.65	2679	1	.56	820	2	.051	50.5	57	2.62	2	2	194
818	Ljn39	1	1	10	182	35823	44	16	.01	7.63	1788	1	.01	1822	2	.025	180.3	1	.10	2	2	316
819	Ljn40	6	1	10	196	23883	58	18	.01	7.14	1952	1	.01	2121	2	.026	101.2	1	.10	2	2	250
820	Ljn41	1	3	10	242	39955	133	21	.01	3.22	2496	1	.02	1742	2	.027	210.4	2	.57	2	2	319
821	Ljn42	24	79	10	566	13923	477	72	.01	5.59	5383	1	.01	6778	2	.029	44.0	1	.07	2	2	248
822	Ljn43	5	161	10	279	27107	82	35	.01	3.33	2716	1	.01	2493	2	.028	126.1	2	.42	2	2	245
823	Ljn44	1	1	10	334	25948	40	30	.01	2.51	2826	1	.01	2273	2	.025	114.5	1	.33	2	2	247
824	Ljn45	1	1	10	328	25581	86	24	.01	2.22	2917	1	.02	2020	2	.026	106.4	3	.63	2	2	237
825	Ljn46	1	2	10	650	23041	67	62	.02	3.46	4205	1	.01	4528	2	.024	93.1	1	.05	2	2	264
826	Ljn01	1	1	10	287	21632	33	23	.01	3.96	3198	1	.21	2118	2	.039	76.9	14	2.07	2	2	204
827	Ljn02	1	1	10	348	41795	30	18	.01	2.81	3111	1	.09	1900	2	.031	215.8	8	1.49	2	2	300
828	Ljn03	1	1	10	267	36050	25	16	.01	2.51	3334	1	.08	1495	2	.024	161.9	7	2.49	2	2	269
829	Ljn04	1	2	15	462	32794	59	37	.01	1.62	3601	1	.01	2455	2	.028	159.9	1	.12	2	2	271
830	Ljn05	1	16	22	479	32330	49	31	.01	1.89	3996	1	.01	2515	2	.022	155.8	1	.11	2	2	264
831	Ljn06	1	9	14	655	32952	58	51	.01	3.01	4217	1	.01	3513	2	.018	155.0	1	.08	2	2	309
832	Ljn07	12	1	55	11	527	6	16	.17	18	145	1	.07	97	12	.011	3.0	14	.13	1.2	2	19
833	Ljn08	1	1	79	51	1011	14	10	.31	.65	491	1	.10	448	10	.014	6.2	19	.14	4	2	39
834	Ljn09	11	1	82	49	1017	15	11	.34	.73	474	1	.10	494	9	.014	3.2	20	.15	1.0	2	41
835	Ljn10	1	1	83	58	1141	16	13	.37	.75	494	1	.11	520	4	.015	5.0	20	.14	1.0	2	42
836	Ljn11	1	4	10	226	40726	24	17	.01	2.61	1890	1	.01	1409	2	.015	213.8	1	.41	2	2	281
837	Ljn12	2	1	10	228	35566	26	14	.01	2.44	1880	1	.01	1593	2	.014	179.8	1	.43	2	2	262
838	Ljn13	1	1	4	497	71110	60	32	.01	1.90	3818	1	.01	2378	2	.015	401.2	1	.19	2	2	506
839	Ljn14	1	1	10	216	56544	24	14	.01	2.46	1920	1	.01	1336	2	.012	323.1	1	.60	2	2	357
840	Ljn15	1	1	10	335	41341	25	15	.01	2.28	2584	1	.01	2036	2	.012	219.8	1	.13	2	2	275
841	Ljn16	1	4	10	341	45367	33	25	.01	2.50	3056	1	.01	2077	2	.014	289.1	1	.41	2	2	311
842	Ljn17	18	1	10	384	36039	57	18	.01	2.83	3108	1	.01	2614	2	.016	184.3	1	.34	2	2	299
843	Ljn18	6	1	82	42	938	13	12	.36	.62	398	1	.11	342	2	.013	6.8	20	.14	1.2	2	35
844	Ljn19	2	1	11	33	556	16	16	.53	.70	210	1	.19	311	6	.019	2.9	28	.20	1.6	2	40
845	Ljn20	1	1	48	14	2930	6	10	.13	.21	80	1	.05	116	9	.012	12.6	12	.16	8	2	33
846	Ljn21	1	1	52	150	4843	24	14	.19	1.23	1134	1	.05	1128	2	.013	13.2	12	.15	8	2	77
847	Ljn22	1	5	49	130	8344	20	11	.18	1.26	1052	1	.05	924	2	.013	25.1	11	.17	1.0	2	98
848	Lk901	16	9	113	8	161	113	178	.57	.76	138	3	.15	82	12	.028	3.0	26	.22	1.8	2	32
849	Lk902	2	9	132	7	131	83	101	.60	.68	155	1	.14	74	9	.022	3.7	27	.17	1.2	2	31
850	Lk903	18	15	148	9	156	132	339	.77	.91	225	3	.18	98	8	.036	3.8	32	.23	2.2	2	42

List of Geochemical Analysis (18)

Ser. No.	Sample No.	As ppm	Au pbb	Ba ppm	Co ppm	Cr ppm	Cu ppm	Hg pbb	K %	Mg %	Mn ppm	Mb ppm	Na %	Ni ppm	Pb ppm	S %	Sb ppm	Sr ppm	Ti %	U ppm	W ppm	Zn ppm
851	LK904	11	15	124	11	120	70	99	56	58	127	1	14	53	15	.025	3.5	26	.17	1.6	2	29
852	LK905	1	21	144	5	101	57	105	86	56	116	2	19	54	13	.020	3.4	31	.21	2.0	2	31
853	LK906	8	12	127	5	137	56	84	59	59	66	1	15	59	12	.022	3.3	27	.18	1.4	2	28
854	LK907	3	57	128	8	199	99	112	59	73	122	2	15	77	11	.023	1.9	27	.19	1.2	2	34
855	LK908	3	9	144	6	120	65	92	61	70	59	1	18	67	10	.015	2.9	32	.17	1.0	2	32
856	LK901	2	1	62	1	78	7	10	27	.09	5	1	.02	9	9	.014	1.3	13	.17	1.8	2	9
857	LK902	2	1	60	1	64	6	10	23	.06	5	1	.01	6	7	.017	1.2	12	1.2	2	7	
858	LK903	11	1	26	1	82	4	10	08	.02	5	1	.01	9	6	.010	1.5	9	1.3	1.8	2	5
859	LK904	1	1	36	1	79	5	10	10	.03	5	1	.01	8	4	.010	1.5	10	1.2	1.4	2	6
860	LK905	1	1	66	1	51	4	10	14	.01	21	1	.01	5	7	.010	1.4	12	1.1	1.2	2	6
861	LK906	6	1	51	1	87	4	10	11	.01	107	1	.01	11	6	.011	2	10	.29	2.2	2	7
862	LK907	1	1	79	1	78	4	10	18	.02	21	1	.02	9	2	.011	3.4	13	.12	1.0	2	6
863	LK908	11	1	54	1	137	5	10	14	.02	5	1	.01	14	4	.011	2	10	.13	1.6	2	7
864	LK909	11	1	37	1	83	5	10	09	.02	5	1	.01	11	8	.010	2	10	.10	1.6	2	6
865	LK910	10	1	42	1	74	4	10	13	.06	5	1	.01	14	5	.010	3	9	.15	1.4	2	8
866	LK911	4	1	41	1	53	4	10	12	.04	5	1	.01	10	6	.010	6	10	.15	1.8	2	10
867	LK912	10	1	19	1	66	3	10	03	.01	5	1	.01	10	8	.010	2.2	6	.10	1.2	2	4
868	LK913	4	1	86	1	75	3	10	23	.02	5	1	.02	12	10	.013	3.1	13	.20	2.9	2	6
869	LK914	1	1	63	1	77	3	10	15	.02	5	1	.02	10	4	.011	3.3	13	.15	1.6	2	6
870	LK915	3	1	63	1	89	7	10	26	.09	5	1	.01	22	8	.011	2	12	.17	1.2	2	12
871	LK916	3	1	97	1	138	5	10	19	.04	5	1	.01	40	7	.014	7	11	.15	1.4	2	9
872	LK917	14	1	52	1	70	6	10	18	.07	5	1	.01	9	8	.011	2	15	.14	1.8	2	10
873	LK918	1	1	40	1	69	4	10	08	.01	34	1	.01	9	7	.010	2.2	8	.11	.6	2	5
874	LK919	9	1	35	1	56	4	10	10	.03	37	1	.01	9	9	.010	2	8	.12	.8	2	6
875	LK920	1	1	64	1	67	4	10	16	.03	5	1	.02	11	2	.012	8	13	.10	.6	2	8
876	LK921	3	1	61	1	79	4	10	15	.03	14	1	.01	13	7	.012	1.4	13	.11	1.0	2	7
877	LK922	14	1	84	1	61	6	10	21	.04	5	1	.03	22	7	.013	2.4	15	.12	1.0	2	9
878	LK923	8	1	51	1	86	6	10	14	.05	5	1	.01	12	9	.011	1.4	13	.14	1.4	2	9
879	LK924	10	1	139	1	91	9	10	43	.08	5	1	.07	28	12	.014	2	24	.12	.8	2	13
880	LK925	11	1	126	1	133	5	10	35	.05	33	1	.05	14	8	.012	2.4	22	.11	.6	2	10
881	LK901	12	1	68	4	171	9	10	36	.41	16	1	.09	73	6	.017	5.1	17	.23	1.6	2	28
882	LK302	1	1	79	6	172	8	13	31	.44	97	1	.05	32	3	.014	3.9	20	.25	1.6	2	27
883	LK303	1	1	76	1	150	6	10	24	.20	67	1	.05	32	3	.012	6	16	.22	1.0	2	18
884	LK304	21	1	55	1	183	7	10	13	.13	111	1	.03	39	5	.012	1.6	12	.17	.6	2	13
885	LK305	9	1	74	4	142	8	11	33	.24	66	1	.03	38	2	.012	5.0	17	.23	1.4	2	22
886	LK306	33	1	87	3	162	10	35	28	.22	5	1	.03	38	10	.083	9	17	.23	1.5	2	21
887	LK307	11	1	37	1	115	6	10	12	.06	5	1	.01	13	8	.010	2.1	11	.11	1.2	2	12
888	LK308	2	1	46	1	139	4	10	09	.02	13	1	.01	13	3	.012	2	10	.12	1.4	2	9
889	LK309	6	1	36	1	111	5	10	07	.04	43	1	.01	13	4	.011	1.0	9	.09	.6	2	11
890	LK310	5	1	32	1	92	5	10	05	.05	22	1	.01	13	6	.011	8	7	.11	.6	2	8
891	LK311	4	1	32	1	106	5	10	07	.10	4	1	.01	21	2	.013	2.0	12	.11	1.0	2	10
892	LK312	5	1	32	3	316	9	10	08	.95	58	1	.04	59	5	.012	3.3	11	.16	1.0	2	18
893	LK313	21	1	78	22	239	9	12	31	.49	665	1	.04	104	5	.014	4.3	21	.25	2.0	2	29
894	LK314	10	1	39	11	568	7	10	12	.81	182	1	.04	139	4	.012	2.1	10	.12	.8	2	29
895	LK315	4	1	34	14	1182	7	10	08	.98	275	1	.03	168	2	.013	7.5	11	.11	.6	2	40
896	LK316	21	1	48	13	932	7	10	12	.12	239	1	.03	137	8	.012	5.4	13	.16	1.4	2	34
897	LK401	1	4	56	137	11730	46	30	21	3.85	3472	1	.14	1541	2	.020	38.7	21	.36	1.0	2	227
898	LK402	12	1	110	174	19494	70	25	89	5.03	4836	1	.12	1858	7	.025	72.5	21	.51	.8	2	387
899	LK403	3	1	66	7	422	8	239	29	.79	192	1	.23	82	2	.017	4.5	28	.28	1.6	2	35
900	LK404	1	1	114	27	350	17	115	61	.58	412	1	.31	167	5	.018	2.5	24	.27	1.4	2	50

List of Geochemical Analysis( 19)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mb	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
901	LK05	>	>	54	14	563	10	100	.22	1.74	413	>	.17	209	5	.018	8.3	22	.21	1.0	>	43
902	LK06	11	>	65	86	706	60	121	.28	3.91	1852	>	.13	744	3	.052	22.8	19	.27	1.0	>	166
903	LK07	3	2	33	308	29325	65	44	.09	3.77	4150	>	.05	2503	2	.030	138.6	8	.32	1.2	>	438
904	LK08	7	>	110	46	422	18	239	.52	1.14	1594	>	.19	231	23	.020	7.2	27	.24	1.4	>	54
905	LK09	>	>	31	75	821	45	35	.09	9.63	2637	>	.17	817	3	.056	1.3	18	.18	1.4	>	104
906	LK10	14	>	14	2	155	10	12	.02	1.01	240	>	.01	110	3	.019	2.3	5	.15	1.0	>	16
907	LK11	1	>	63	19	523	16	10	.31	1.72	366	>	.01	187	15	.032	4.8	14	.31	1.6	>	41
908	LK12	20	>	38	55	1345	12	14	.06	1.89	342	>	.03	228	2	.015	8.8	10	.19	1.6	>	46
909	LK13	21	>	40	25	841	8	10	.08	1.85	182	>	.02	289	6	.014	6.2	10	.15	1.8	>	34
910	LK14	6	>	40	59	3123	10	14	.11	3.29	692	>	.07	632	2	.018	13.4	12	.14	1.2	>	87
911	LK15	16	>	109	184	14051	52	46	.58	1.83	2437	>	.07	1702	2	.028	39.4	20	.30	1.4	>	254
912	LK16	12	>	113	140	2920	37	116	.55	1.73	2155	>	.24	988	8	.021	8.9	30	.34	1.4	>	101
913	LK17	19	>	70	3	447	12	55	.29	.54	94	>	.21	77	2	.019	6.1	25	.23	1.8	>	46
914	LK18	19	>	50	67	3131	83	57	.20	3.95	1745	>	.19	726	19	.027	14.7	21	.30	1.6	>	133
915	LK19	1	>	69	78	3840	29	84	.17	5.52	1523	>	.03	636	19	.017	14.5	15	.23	1.6	>	108
916	LK20	5	1	63	174	24455	105	59	.16	5.50	6740	>	.11	1704	12	.030	86.0	21	.54	1.8	>	336
917	LK21	>	>	17	2	294	4	26	.04	.38	82	>	.01	55	2	.014	9	7	.16	1.2	>	11
918	LK22	>	>	14	12	508	19	41	.03	2.10	149	>	.02	205	2	.033	7.7	7	.14	1.8	>	26
919	LK23	8	>	35	19	669	26	45	.14	2.46	800	>	.02	283	8	.030	5.3	9	.20	1.2	>	40
920	LK24	>	>	105	66	1303	83	28	.72	4.55	4807	>	.09	774	8	.033	5.2	23	.37	1.2	>	104
921	LK25	>	>	32	113	4969	46	28	.21	8.47	3117	>	.18	1471	2	.054	12.4	20	.89	1.4	>	155
922	LK01	>	13	10	154	5496	41	14	.01	14.68	2275	>	.56	1970	2	.033	9.8	43	.29	1.2	>	216
923	LK02	>	>	12	146	46845	31	10	.07	6.11	2450	>	.18	1253	2	.028	241.7	18	.97	1.2	>	486
924	LK03	5	>	34	282	28525	32	46	.02	5.28	4930	>	.05	1980	2	.021	115.3	6	.28	1.4	>	435
925	LK04	3	1	10	228	62002	28	20	.01	3.82	3019	>	.08	1401	2	.020	326.5	8	.82	1.4	>	546
926	LK05	>	19	15	106	10102	445	18	.11	3.51	3745	>	.27	478	2	.044	50.0	22	3.79	1.2	>	196
927	LK06	>	>	14	230	50242	27	18	.07	7.96	2400	>	.20	2345	2	.024	217.4	15	.29	1.2	>	409
928	LK07	>	6	18	256	60265	33	21	.05	5.14	3084	>	.20	1953	2	.022	283.1	20	.54	1.2	>	484
929	LK08	>	>	10	224	35925	36	16	.02	9.37	2283	>	.57	2424	2	.142	131.8	24	.20	1.2	>	348
930	LK09	>	>	10	220	50095	23	12	.05	7.88	2298	>	.22	2187	2	.030	207.4	15	.25	1.2	>	405
931	LK10	>	3	64	228	7394	180	51	.37	2.72	11624	>	.20	1305	3	.027	27.2	28	1.05	1.6	>	189
932	LK11	>	66	48	113	8410	516	65	.24	2.06	6217	>	.50	537	2	.032	33.9	34	1.86	1.6	>	179
933	LK12	>	14	19	110	12350	152	12	.14	3.13	3402	>	.72	633	2	.029	43.7	48	3.61	1.2	>	196
934	LK13	>	1	15	145	20682	88	40	.17	2.37	2539	>	.39	979	2	.027	49.7	25	1.84	1.2	>	216
935	LK14	>	2	12	216	24754	82	41	.11	2.40	3494	>	.26	1292	2	.025	79.8	21	1.99	1.2	>	241
936	LK15	>	>	11	111	10351	96	41	.21	2.63	1898	>	.48	917	2	.032	30.1	31	1.49	1.2	>	189
937	LK16	>	23	19	254	14927	113	47	.09	2.06	5856	>	.26	1981	2	.045	111.7	26	1.02	1.2	>	401
938	LK17	>	>	20	160	32146	21	22	.10	7.72	2628	>	.26	1981	2	.045	111.7	26	1.02	1.2	>	401
939	LK18	>	>	164	41	1841	35	29	1.80	3.71	941	>	.51	554	2	.042	198.9	64	1.32	2.0	>	128
940	LK19	>	>	30	156	48518	16	11	.02	8.76	3055	>	.21	1974	2	.042	198.9	24	1.32	2.0	>	506
941	LK20	>	>	142	130	14730	31	11	.06	8.75	2375	>	.52	1547	29	.058	39.6	51	2.01	1.2	>	287
942	LK21	2	>	30	106	10640	18	11	.07	3.47	1987	>	.18	923	2	.031	34.0	22	1.45	1.4	>	215
943	LK22	>	>	32	105	8422	22	18	.12	6.44	2024	>	.25	1136	2	.042	27.9	24	1.43	1.8	>	187
944	LK23	>	>	10	187	68886	42	10	.02	7.10	1993	>	.08	1487	2	.028	304.9	9	.62	1.2	>	457
945	LK24	>	>	26	243	28863	73	18	.04	9.44	2485	>	.14	2294	2	.026	84.6	11	.44	1.2	>	284
946	LK25	17	>	10	149	9747	24	15	.08	4.48	1786	>	.12	1308	2	.028	29.5	10	.27	1.4	>	185
947	LK26	>	3	10	173	56741	42	11	.02	6.71	2007	>	.07	1426	2	.026	257.3	8	.59	1.2	>	403
948	LK27	>	3	10	274	56122	102	26	.01	7.24	2662	>	.06	2561	2	.023	242.9	6	.47	1.2	>	377
949	LK28	>	>	96	129	10529	23	10	.01	13.56	1620	>	.13	1690	2	.039	16.3	7	.17	1.2	>	235
950	LK29	>	>	10	127	11738	22	10	.01	13.54	1643	>	.12	1695	2	.035	19.3	7	.16	1.2	>	239

List of Geochemical Analysis (20)

Ser. No.	Sample No.	As	Au	Ba	Co	Cr	Cu	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Sr	Ti	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	ppm	ppb	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
951	LK30	>	>	21	134	7286	24	13	.01	14.43	1576	>	.13	1933	>	.033	5.2	6	.14	>	>	198
952	LK31	>	>	18	375	27316	78	45	.02	3.97	2991	>	.08	2268	>	.019	81.6	2	.42	>	>	369
953	LK32	8	3	24	113	11190	36	52	.08	1.41	724	>	.04	1012	>	.019	30.5	10	.54	1.0	>	165
954	LK33	2	>	93	108	7628	37	13	.06	8.85	1437	>	.24	1355	>	.027	16.6	27	.37	1.0	>	203
955	LK34	>	>	21	161	39489	68	28	.09	2.86	3768	>	.06	953	>	.017	150.0	9	1.32	1.0	>	368
956	LK01	>	>	16	163	12353	21	10	.09	12.78	2194	>	.31	2044	>	.048	18.7	32	.52	.2	>	286
957	LK02	>	>	35	85	1810	22	17	.13	6.73	2014	>	.16	1105	>	.033	9.3	21	.25	.4	>	97
958	LK03	5	>	52	130	3498	25	26	.30	4.91	1788	>	.21	1345	>	.046	14.9	25	.69	.6	>	113
959	LK04	5	>	64	54	4980	16	11	.39	4.66	1688	>	.07	551	>	.108	15.5	30	1.07	.6	>	118
960	LK05	>	>	30	39	5807	9	10	.10	3.73	639	>	.22	1568	>	.035	21.0	14	.17	.2	>	112
961	LK06	>	>	10	119	6433	23	10	.01	15.43	1598	>	.22	1568	>	.035	21.0	14	.17	.2	>	190
962	LK07	>	>	10	149	42139	14	10	.01	10.13	1925	>	.23	1593	>	.030	151.5	26	.16	.2	>	379
963	LK08	>	>	10	157	22649	35	10	.01	12.72	2153	>	.16	1745	>	.030	40.3	11	.20	.2	>	316
964	LK09	>	>	10	110	6376	40	10	.01	13.52	1654	>	.25	1492	>	.110	27.3	16	.21	.2	>	210
965	LK10	6	>	10	108	19223	23	10	.01	12.94	1674	>	.21	1469	>	.069	27.3	18	.22	.2	>	282
966	LK11	2	>	10	130	6252	25	10	.01	13.80	1922	>	.25	1683	>	.037	3.7	14	.20	.2	>	197
967	LK12	>	>	27	166	28876	34	18	.20	5.73	2357	>	.89	1362	>	.030	91.9	31	.84	.4	>	372
968	LK13	2	>	32	45	4826	9	10	.10	1.84	636	>	.04	412	>	.013	17.3	10	.30	1.0	>	101
969	LK14	>	>	6	173	32902	46	18	.01	7.69	1867	>	.10	1598	>	.023	106.2	7	.44	.2	>	285
970	LK15	>	>	10	344	20369	71	30	.03	3.80	2432	>	.22	1908	>	.025	51.8	10	.38	.2	>	328
971	LK16	>	>	10	115	57119	25	10	.01	4.24	1423	>	.02	836	>	.017	252.1	2	.62	.2	>	350
972	LK17	>	>	51	187	7388	26	10	.01	13.45	2312	>	.14	1875	>	.034	7.0	4	.15	.2	>	210
973	LK18	>	>	79	342	32830	123	28	.02	6.91	3094	>	.04	2877	>	.025	103.8	4	.20	.2	>	312
974	LK19	>	>	21	209	19789	23	25	.01	11.10	2782	>	.15	1744	>	.035	29.3	9	.21	.2	>	337
975	LK20	>	>	55	446	28921	188	48	.01	4.24	3822	>	.02	3674	>	.022	84.9	2	.21	.2	>	295
976	LK21	>	>	10	107	7001	20	10	.01	17.19	1514	>	.07	2023	>	.025	2.1	8	.25	.2	>	210
977	LK01	3	>	89	>	263	5	10	.23	.07	56	>	.03	44	>	.012	2.1	14	.12	1.0	>	12
978	LK02	14	>	18	>	137	3	10	.03	.01	72	>	.01	18	>	.010	.7	5	.19	1.2	>	7
979	LK03	17	>	27	>	144	3	10	.05	.01	30	>	.01	13	>	.017	.7	9	.18	.8	>	6
980	LK04	4	>	30	>	216	4	10	.07	.01	5	>	.01	9	>	.012	.3	9	.11	1.0	>	5
981	LK05	10	>	66	>	130	7	12	.25	.09	5	>	.01	27	>	.014	1.1	17	.16	1.6	>	10
982	LK06	10	>	117	>	160	6	22	.22	.10	5	>	.03	14	>	.023	.4	18	.19	1.6	>	10
983	LK07	5	>	103	>	262	7	24	.29	.06	5	>	.06	36	>	.030	2.5	17	.14	1.2	>	10
984	LK08	3	>	43	5	416	10	11	.17	2.28	151	>	.13	226	>	.034	6.2	16	.13	.8	>	31
985	LK09	50	>	52	>	268	11	50	.30	.62	5	>	.06	59	>	.389	9.3	15	.11	2.0	>	33
986	LK10	22	>	242	1	150	11	102	.50	.16	5	>	.14	25	>	.388	7.0	25	.23	3.0	>	17
987	LK01	7	>	54	>	131	4	10	.13	.01	104	>	.07	19	>	.013	1.9	10	.29	1.4	>	8
988	LK01	13	>	90	>	130	5	14	.24	.03	22	>	.07	19	>	.020	2.7	16	.13	.8	>	10
989	LK02	4	>	47	1	196	5	10	.11	.02	41	>	.03	19	>	.014	3.8	9	.11	.8	>	9
990	LK03	6	>	72	>	183	5	10	.16	.02	78	>	.03	50	>	.014	1.4	13	.14	1.2	>	8
991	LK04	10	>	82	3	165	12	18	.45	.22	124	>	.12	15	>	.015	3.0	20	.17	1.2	>	26
992	LK05	6	>	35	>	266	12	10	.12	.07	153	>	.01	14	>	.011	2.6	10	.09	.8	>	12
993	LK06	2	>	32	>	230	5	10	.07	.01	5	>	.01	13	>	.012	2.6	9	.11	1.0	>	6
994	LK07	8	>	19	>	150	4	10	.02	.01	22	>	.01	6	>	.011	1.7	5	.08	.6	>	4
995	LK08	1	>	22	>	274	5	10	.06	.03	19	>	.01	40	>	.011	2.5	7	.20	1.6	>	11
996	LK09	>	>	41	>	281	6	10	.10	.03	56	>	.01	30	>	.011	3.9	9	.10	.6	>	8
997	LK10	3	>	107	4	170	11	13	.47	.22	411	>	.31	24	>	.034	3.2	30	.14	1.0	>	28
998	LK11	>	>	115	4	157	10	10	.47	.18	354	>	.20	26	>	.020	1.1	29	.15	.8	>	24
999	LK12	11	>	56	>	185	7	11	.22	.10	71	>	.16	15	>	.012	1.8	17	.16	1.4	>	15
1000	LK13	>	>	88	>	223	6	10	.24	.05	44	>	.08	33	>	.030	2.4	19	.16	1.2	>	11

List of Geochemical Analysis ( 21 )

Ser. No.	Sample No.	As ppm	Au ppb	Ba ppm	Co ppm	Cr ppm	Cu ppm	Hg ppb	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	Pb ppm	S %	Sb ppm	Sr ppm	Ti %	U ppm	W ppm	Zn ppm
1001	LMh14	11	>	30	>	134	4	11	.05	.05	11	>	.02	11	>	.021	2.3	9	.10	.6	>	7
1002	LMh15	11	>	22	>	140	4	10	.03	.01	35	>	.07	10	>	.011	1.1	7	.14	1.4	>	5
1003	LMh16	17	>	35	>	144	4	10	.07	.01	31	>	.01	7	>	.011	1.1	8	.12	.6	>	6
1004	LMh17	10	>	46	>	101	4	10	.14	.04	39	1	.07	12	2	.012	1.3	12	.14	.6	>	10
1005	LMh18	>	>	21	>	117	3	10	.02	.07	9	>	.01	9	>	.011	3.1	6	.10	.8	>	4
1006	LNr01	16	>	83	>	152	15	15	.29	.22	154	>	.11	21	2	.019	2.7	22	.15	1.2	>	22
1007	LNr02	>	>	227	6	128	16	35	.73	.36	260	>	.25	25	4	.027	2.4	95	.21	1.4	>	45
1008	LNr03	7	>	92	>	115	9	18	.46	.20	9	1	.08	14	4	.014	3.2	15	.19	1.2	3	23





Appendix 22

List of pan concentrate samples  
in the Kinabalu/Labuk area



Ser. No.	Sample No.	Coordinates		Topographic Map Sheet	Name of Stream	Weight (g)	Order	Width (m)	Flow *1	Size *2
		N	E							
1	Y211	1575.30	4677.60	Linkabau	S. Karagasan	1	3	5.0	3	2
2	K202	1589.45	4689.60	Linkabau	S. Buan	1	3	10.0	3	3
3	S206	1579.50	4683.30	Linkabau	S. Ogan	< 1	3	5.0	3	3
4	S205	1574.10	4681.93	Linkabau	S. Sugut	2	3	4.0	3	3
5	Y212	1574.60	4684.55	Linkabau	S. Ogan	< 1	3	10.0	3	3
6	Y207	1574.00	4686.12	Linkabau	S. Sugut	2	2	6.0	4	2
7	Y209	1575.25	4688.15	Linkabau	S. Tungtonarom	1	2	3.0	3	3
8	C207	1564.57	4682.70	Linkabau	S. Soviun	2	3	5.0	2	1
9	D203	1582.65	4696.95	Linkabau	S. Linkabau	1	4	16.0	2	3
10	S204	1580.75	4698.90	Linkabau	S. Karapui	2	2	4.0	2	3
11	C210	1576.10	4690.85	Linkabau	S. Yaigau	2	2	5.0	2	1
12	K201	1578.20	4696.25	Linkabau	S. Sugut	1	2	3.0	3	4
13	Y206	1577.95	4698.10	Linkabau	S. Puntodong	1	3	5.0	3	4
14	P208	1564.10	4692.55	Linkabau	S. Tungud	< 1	3	7.0	3	2
15	P209	1566.40	4694.18	Linkabau	S. Tungud	2	3	6.0	3	2
16	S203	1568.20	4699.23	Linkabau	S. Tungud	2	3	7.0	2	3
17	D202	1567.05	4699.75	Linkabau	S. Sasau	127	3	14.0	3	2
18	Y214	1584.85	4703.35	Linkabau	S. Sugut	1	2	1.5	2	4
19	P210	1582.35	4702.80	Linkabau	S. Sugut	1	2	4.0	3	2
20	H206	1566.70	4704.22	Linkabau	S. Tungud	29	2	6.0	3	2
21	C201	1550.20	4679.20	Kiabau	S. Peraganpang	6	3	10.0	1	1
22	S202	1535.40	4679.60	Kiabau	S. Mailo	203	3	10.0	2	3
23	C206	1561.95	4689.70	Kiabau	S. Soviun	2	4	10.0	2	1
24	P206	1558.70	4688.65	Kiabau	S. Tungud	9	2	7.0	4	1
25	P207	1558.05	4687.30	Kiabau	S. Tungud	< 1	2	4.0	4	2
26	P202	1555.40	4688.25	Kiabau	S. Walun	39	3	7.0	4	1
27	C204	1553.55	4683.40	Kiabau	S. Tabuk	3	3	10.0	2	1
28	C203	1553.15	4683.40	Kiabau	S. Tungud	3	3	15.0	2	1
29	T203	1541.65	4689.85	Kiabau	S. Ensuan	77	4	15.0	3	2
30	S201	1537.48	4680.35	Kiabau	S. Melapi	138	2	4.0	2	3
31	D201	1557.20	4698.85	Kiabau	S. Padau Lawan	5	3	12.0	4	1
32	Y204	1549.20	4692.00	Kiabau	S. Meliau	37	3	20.0	3	2
33	T208	1545.10	4698.45	Kiabau	S. Meliau	182	3	16.0	3	2
34	T202	1541.65	4698.30	Kiabau	S. Labuk	51	2	3.5	3	3
35	G201	1554.10	4703.15	Kiabau	S. Padau Lawan	29	3	12.0	4	1
36	H202	1553.60	4703.80	Kiabau	S. Matapatan	30	3	8.0	3	2
37	G202	1549.15	4702.00	Kiabau	S. Labuk	41	2	7.0	2	3
38	N220	1538.00	4701.45	Kiabau	S. Mau	1,180	2	6.0	3	3
39	G217	1536.25	4702.95	Kiabau	S. Kiabau	9	3	6.0	3	1
40	P211	1587.80	4705.90	Sungai Sungai	S. Sugut	2	3	5.0	2	3
41	Y215	1586.85	4705.90	Sungai Sungai	S. Sugut	2	2	6.0	2	4
42	H203	1568.70	4714.25	Sungai Sungai	S. Botitian	1	3	5.0	2	3
43	H208	1563.15	4721.95	Sungai Sungai	S. Wanyang	5	2	8.0	3	3
44	G203	1553.85	4705.62	Terusan Sapi	S. Paliau	13	2	14.0	2	1
45	G206	1552.75	4707.05	Terusan Sapi	S. Bidu Bidu	47	3	10.0	4	1
46	N217	1548.25	4712.95	Terusan Sapi	S. Sualog	260	3	9.0	3	1
47	N201	1548.25	4714.10	Terusan Sapi	S. Sualog	68	3	8.0	3	1
48	N202	1544.30	4713.40	Terusan Sapi	S. Bangau Bangau	245	3	20.0	4	1
49	N205	1537.35	4717.55	Terusan Sapi	S. Kibut	37	2	8.0	4	1
50	N219	1536.00	4714.90	Terusan Sapi	—	205	2	8.0	4	2
51	N218	1540.90	4726.00	Terusan Sapi	S. Pandan Pandan	7	3	12.0	1	3
52	N223	1536.55	4722.90	Terusan Sapi	S. Mandaring	1	2	15.0	2	3

Stream flow\*1: none(0), puddle(1), slow(2), moderate(3), fast(4)

Grain size\*2: coarse-grained(1), medium-grained(2), fine-grained(3), clayey(4)



Appendix 23

Results of qualitative mineral examination of pan  
concentrates in the Kinabalu/Labuk area



Ser. No.	Sample No.	Native silver	Magnetite	Chromite	Hematite	Ilmenite	Leucosene	Rutile	Brookite	Anatase	Pyrite	Goethite	Augite	Hypersthene	Hornblende	Actinolite	Tourmaline	Garnet	Zircon	Quartz	Plagioclase
1	Y211	Tr	2			54	Tr											Tr	35	9	Tr
2	K202		Tr			41	1	Tr			Tr	Tr					Tr	Tr	37	20	Tr
3	S206					5	Tr	Tr									Tr	Tr	15	80	Tr
4	S205		Tr			57	Tr	Tr									Tr	Tr	11	32	Tr
5	Y212		Tr			33	1	Tr			Tr						Tr	Tr	40	26	Tr
6	Y207		1			13	1	Tr			Tr						Tr	Tr	57	28	Tr
7	Y209					10	Tr	Tr			Tr						Tr	Tr	62	28	Tr
8	C207					3	Tr	Tr									Tr	Tr	5	92	Tr
9	D203					8	2	Tr									Tr	Tr	45	45	Tr
10	S204		Tr			Tr	Tr	Tr			Tr						Tr	Tr	3	97	Tr
11	C210		1			14	Tr	Tr			Tr						Tr	Tr	39	46	Tr
12	K201		Tr			9	Tr	Tr		Tr							Tr	Tr	38	53	Tr
13	Y206		Tr			18	1	Tr		Tr							Tr	Tr	78	3	Tr
14	P208		Tr			12	Tr	Tr									Tr	Tr	27	61	Tr
15	P209		1			22	2	Tr			Tr	Tr					Tr	Tr	24	51	Tr
16	S203		Tr			7	Tr	Tr									Tr	Tr	34	59	Tr
17	D202		5	73		10		Tr				Tr	2	Tr			Tr	Tr	Tr	Tr	10
18	Y214		16			4	1	Tr					Tr		4		Tr	Tr	18	56	Tr
19	P210		Tr	Tr		Tr	Tr	Tr							Tr		Tr	Tr	3	97	Tr
20	H206		1	86	Tr	3		Tr					1				Tr	Tr	Tr	3	6
21	C201		20	32	5	27		Tr			Tr		1	2	2				Tr	1	10
22	S202		29		Tr	71							Tr	Tr	Tr				Tr	Tr	Tr
23	C206					5	Tr	Tr											6	89	Tr
24	P206		1	60		36	Tr	Tr				Tr	Tr						2	2	1
25	P207		Tr	12		7	3	1	Tr								Tr		24	53	Tr
26	P202		16	36		46							Tr	1	Tr		Tr		Tr	Tr	1
27	C204		2	3		7	Tr	Tr							Tr		Tr		3	85	Tr
28	C203		15	8	Tr	46	Tr	Tr			Tr						Tr	Tr	6	25	Tr
29	T203		22	32		43							1	1	Tr				Tr	Tr	1
30	S201		4	10		86							Tr		Tr				Tr	Tr	Tr
31	D201		3	75	Tr	19		Tr				Tr	1	Tr				Tr		Tr	2
32	Y204		6	79		12						Tr	Tr							1	2
33	T208		5	65		28						Tr	Tr	Tr	7			Tr	Tr	Tr	2
34	T202		4	55		30		Tr				Tr	1	Tr				Tr	Tr	Tr	3
35	G201		4	84		11		Tr				Tr	Tr	Tr				Tr	Tr	Tr	1
36	H202		2	76		11	Tr	Tr				Tr	1	Tr	Tr		Tr	Tr	Tr	1	9
37	G202		7	57		32						Tr	Tr	Tr	Tr			3	Tr	Tr	1
38	N220		9	35		55						Tr	Tr	Tr	Tr				Tr	Tr	1
39	G217		4	43		4	Tr												Tr	44	5
40	P211		3										Tr		Tr				97	Tr	Tr
41	Y215		18	4		7	Tr	Tr				Tr			1		Tr		14	56	Tr
42	H203		2	7		3	Tr	Tr			Tr		Tr	1	Tr		Tr	Tr	Tr	88	Tr
43	H208		8	31		6	Tr	Tr			Tr			15	Tr		Tr	Tr	Tr	24	15
44	G203		4	89		5							Tr		Tr				Tr	Tr	2
45	G206		11	67		22												Tr		Tr	Tr
46	N217		6	71		22						Tr	Tr	Tr	Tr			Tr	Tr	Tr	1
47	N201		3	84		7						2	Tr	Tr	Tr			Tr	Tr	Tr	3
48	N202		10	71		18						Tr	Tr	Tr	1			Tr	Tr	Tr	1
49	N205		28	39	Tr	6		Tr				Tr	Tr	Tr	Tr	Tr		Tr	Tr	25	1
50	N219		22	72		5						Tr	Tr	Tr	Tr			Tr			1
51	N218		7	25		8	Tr	Tr									Tr	Tr	55	5	Tr
52	N223		3	10		23	Tr	Tr			Tr						Tr	Tr	16	48	Tr





Appendix 24

List of samples and analytical results of rock  
geochemical samples in the Kinabalu/Labuk area



Area: Kibabau/Labuk Area

Ser. No.	Sample No.	Coordinates N	E	1/50,000 Topo. Sheet	Name of Stream	Descriptions	Geol. Unit	As ppm	Au ppb	Ba ppm	Co ppm	Cr ppm	Cu ppm	Hg ppb	K %	Mg %	Mn ppm	Mo ppm	Nb %	Ni ppm	Pb ppm	S %	Sb ppm	Sr ppm	Ti %	U ppm	W ppm	Zn ppm
1	Y210	1578.70	4686.93	Linkabau	S. Tungtaronom	sandstone	P.Gr	<1	<1	126	30	21	10	<10	.83	.82	2022	1	.70	22	<2	.068	4.9	55	.18	1.0	107	49
2	Y208	1571.30	4686.24	Linkabau	---	sandstone	P.Gr	<1	<1	112	27	20	7	<10	.71	.49	184	<1	.85	22	3	.080	.5	85	.19	1.0	228	28
3	G202	1547.99	4678.87	Kiabau	S. Perazampang	gabbro	Ub	<1	<1	28	40	313	38	<10	.25	5.20	882	<1	2.54	232	<2	.083	<2	135	.58	<2	24	75
4	S202	1538.85	4677.85	Kiabau	S. Mallo	microgabbro	Ub	<1	<1	11	46	35	9	<10	.06	3.53	824	2	1.94	89	<2	.059	4.7	85	.48	<2	32	51
5	P204	1551.85	4687.85	Kiabau	S. Walun	gabbro	Ub	<1	<1	11	39	98	25	<10	.38	4.28	1008	1	3.23	55	<2	.060	8.7	196	.87	<2	38	84
5	T206	1544.85	4687.90	Kiabau	S. Enusan	basalt	KPCS	<1	<1	<10	24	21	<1	<10	.07	1.55	549	2	2.60	15	<2	.038	6.2	101	.85	<2	54	35
7	Y202	1546.80	4693.16	Kiabau	S. Maliau	peridotite	Ub	<1	<1	<10	101	763	30	<10	<.01	21.06	1038	<1	.30	1792	<2	.068	<2	14	.10	<2	19	178
8	Y201	1541.10	4690.45	Kiabau	S. Enusan	peridotite	Ub	5	1	<10	121	784	5	<10	<.01	24.71	1103	<1	.01	2262	<2	.011	<2	<1	.81	<2	108	205
9	T201	1541.80	4696.57	Kiabau	---	gabbro	Ub	<1	<1	<10	45	122	21	<10	.08	4.27	604	1	1.85	89	<2	.068	1.2	92	.22	<2	44	56
10	S201	1534.95	4690.95	Kiabau	---	microgabbro w/pyrite	Ub	<1	<1	84	43	118	30	<10	.17	4.14	1404	<1	2.94	71	<2	.207	6.4	731	.86	<2	27	113
11	G204	1561.35	4702.20	Kiabau	---	peridotite	Ub	<1	<1	<10	89	997	30	<10	<.01	20.13	1037	<1	.10	1673	<2	.066	<2	10	.03	<2	12	116
12	G213	1545.86	4703.70	Kiabau	S. Percig	peridotite	Ub	<1	<1	<10	95	1155	19	<10	<.01	21.20	1001	<1	.03	1944	<2	.032	<2	6	.02	<2	<2	177
13	N221	1539.83	4703.85	Kiabau	S. Kibabau	specularite (float)	(Ub)	<1	<1	<10	337	1866	40	<10	<.01	.09	247	5	<.01	942	<2	.031	37.4	<1	.01	<2	61	52
14	H204	1575.74	4709.67	Sungai Sengai	---	sandstone	P.Gr	4	<1	302	52	40	7	<10	1.08	.11	<5	<1	.76	20	5	.013	<2	71	.18	1.2	350	19
15	H205	1571.20	4707.43	Sungai Sengai	---	sandstone	P.Kd	4	<1	402	29	24	8	<10	1.70	.43	48	2	1.51	24	5	.133	1.3	119	.17	1.0	238	31
16	N222	1538.87	4705.15	Terusan Sapi	S. Marud	peridotite	Ub	6	<1	<10	104	655	13	<10	.01	21.72	951	<1	.07	2078	<2	.041	<2	2	.01	<2	<2	186
17	G218	1548.85	4712.15	Terusan Sapi	S. Suaog	basalt	KPCS	<1	<1	13	38	189	50	<10	.23	5.86	822	<1	3.09	94	<2	.061	4.7	86	.64	<2	47	95
18	G219	1548.07	4711.90	Terusan Sapi	---	pillow lava	KPCS	<1	<1	<10	42	190	76	<10	.08	5.40	784	1	2.68	89	<2	.056	2.7	100	.66	<2	20	103
19	G209	1541.58	4711.50	Terusan Sapi	S. Bengau B.	serpentine	Ub	<1	<1	<10	92	915	28	<10	<.01	19.38	974	<1	.09	1723	<2	.130	<2	5	.08	<2	13	172
20	N225	1537.32	4717.75	Terusan Sapi	S. Kibut	siltstone	P.Gr	<1	<1	271	22	86	35	34	2.13	1.38	482	1	.47	51	2	.072	6.2	171	.41	<2	<2	90
21	N224	1536.53	4724.77	Terusan Sapi	---	sandstone	P.Gr	6	<1	303	26	52	13	37	.84	.70	759	1	.88	40	17	.311	2.0	113	.27	1.6	55	57



Appendix 25

List of samples and analytical results of soil  
geochemical samples in the Kinabalu/Labuk area



Area: Kinabalu/Labuk Area

Ser. No.	Sample No.	Coordinates		1/50,000 Topo. Sheet	Rock of Basement	Geol. Unit	Depth (cm)	Color	G. S. *	T. S. **	H. S. **	Vegetation	Al %	Co ppm	Cr ppm	Fe %	Ni ppm	Pt ppb
		N	E															
1	C209	1551.80	4693.26	Kiabau	serpentinite	Ub	25	L.B.	R	C	M	W	1.94	407	7600	16.04	3285	30
2	P205	1555.25	4688.13	Kiabau	serpentinite	Ub	20	L.Y.B.	R	C	M	W	8.99	422	5926	35.95	3297	20
3	T213	1554.10	4686.92	Kiabau	serpentinite	Ub	10	R.	R	C	S	W	7.63	150	8235	26.18	2301	15
4	T211	1547.80	4677.80	Kiabau	serpentinite	-	20	R.B.	R	C	S	W	8.28	40	220	5.21	451	< 5
5	T210	1546.42	4678.13	Kiabau	serpentinite	Ub	15	R.B.	R	C	M	W	11.71	45	175	11.69	107	< 5
6	T207	1542.20	4690.42	Kiabau	serpentinite	Ub	15	L.B.	R	C	M	W	8.07	744	7798	35.24	5170	25
7	T204	1541.63	4689.50	Kiabau	serpentinite	Ub	15	R.B.	R	C	M	W	10.76	529	7690	38.46	3056	35
8	T209	1544.50	4699.14	Kiabau	serpentinite	Ub	20	B.G.	R	C	M	W	12.98	84	4771	28.86	958	10
9	G214	1545.85	4702.77	Kiabau	serpentinite	Ub	30	L.B.	R	C	M	W	2.17	541	9854	22.71	7387	30
10	G215	1545.40	4702.50	Kiabau	serpentinite	Ub	20	L.B.	R	C	M	W	2.91	546	12450	36.17	5350	50
11	G216	1544.50	4701.80	Kiabau	serpentinite	Ub	20	L.B.	R	C	M	W	6.95	928	8957	45.38	5426	25
12	G205	1555.25	4710.65	Terusan Sapi	serpentinite	Ub	10	L.R.B.	R	C	M	W	9.53	120	5425	35.67	1707	20
13	G208	1552.65	4708.80	Terusan Sapi	serpentinite	Ub	20	B.	R	C	M	W	7.46	474	6200	29.79	5485	15
14	N211	1552.32	4707.18	Terusan Sapi	peridotite	Ub	30	R.B.	R	C	F	W	10.04	536	6454	33.74	3141	25
15	N210	1550.95	4706.32	Terusan Sapi	harzburgite	Ub	10	D.R.B.	R	C	M	W	6.65	470	5124	26.52	4473	20
16	N209	1550.45	4706.50	Terusan Sapi	harzburgite	Ub	20	B.	R	C	M	W	7.17	451	7666	36.65	3740	20
17	G211	1542.13	4708.73	Terusan Sapi	serpentinite	Ub	15	L.B.	R	C	M	W	5.26	457	10550	43.89	3246	30
18	N216	1544.95	4713.52	Terusan Sapi	serpentinite	Ub	30	L.B.	R	C	F	W	10.09	32	209	6.99	304	< 5
19	N203	1543.72	4713.55	Terusan Sapi	serpentinite	Ub	30	R.	R	C	M	W	9.84	215	1221	19.79	1961	5
20	N215	1542.50	4714.91	Terusan Sapi	serpentinite	Ub	30	B.	R	C	M	W	5.08	1087	7618	43.34	5858	25
21	N214	1539.72	4718.05	Terusan Sapi	serpentinite	Ub	30	L.B.	R	C	M	W	7.00	1014	7650	39.43	5101	20
22	N213	1537.97	4717.80	Terusan Sapi	serpentinite	Ub	30	R.B.	R	C	F	W	8.24	475	4270	34.06	4957	25

\*Gravel: Many (M), Few (F), Rare or none (R)  
 \*\*Topography: Steep (S), Moderate (M), Flat (F)

\*\*Grain size: Sandy (S), Clayey (C)  
 \*\*Humidity: Dry (D), Wet (W)





Appendix 26

Flight record of heliborne  
geophysical survey



## Flight Record (FY1990)

No. 1

Date	Weather	Flight Line-km	Reference
Dec. 12	Rain	0.0	From Kota Kinabalu to Ranau
Dec. 13	Cloudy/Fine	108.5	Start Kinabalu Flight
Dec. 14	Cloudy/Rain	0.0	
Dec. 15	Rain	0.0	
Dec. 16	Rain	0.0	
Dec. 17	Rain/Cloudy	56.2	
Dec. 18	Cloudy/Rain	0.0	
Dec. 19	Fog	175.0	
Dec. 20	Rain/Cloudy	212.0	
Dec. 21	Fog/Fine	211.0	
Dec. 22	Fog	189.0	
Dec. 23	Fog	108.0	
Dec. 24	Fog	86.5	
Dec. 25	Fog/Rain	100.0	
Dec. 26	Fog	0.0	
Dec. 27	Fog/Rain	0.0	
Dec. 28	Rain	0.0	
Dec. 29	Fog/Fine	119.0	
Dec. 30	Rain	0.0	
Dec. 31	Fog	105.5	
Jan. 1	Fog	0.0	
Jan. 2	Fog	124.6	
Jan. 3	Fog	0.0	
Jan. 4	Fog	0.0	
Jan. 5	Fog	0.0	
Jan. 6	Fog	30.0	Complete Kinabalu Flight
Jan. 7	Cloudy	0.0	Ranau ⇌ Kota Kinabalu ⇌ Tawau Tawau
Jan. 8	Cloudy	0.0	Helicopter Check
Jan. 9	Fine	0.0	- do -
Jan. 10	Cloudy	0.0	- do -
Jan. 11	Cloudy	0.0	- do -
Jan. 12	Fine	206.5	Start Semporna Flight
Jan. 13	Cloudy	354.0	
Jan. 14	Fine	350.5	
Jan. 15	Fine	379.5	
Sub Total		2,915.8	
Total		2,915.8	

## Flight Record (FY1990)

No. 2

Date	Weather	Flight Line-km	Reference
Jan. 16	Fine	354.0	
Jan. 17	Fine	354.0	
Jan. 18	Cloudy	295.0	
Jan. 19	Rain	0.0	
Jan. 20	Cloudy/Rain	118.0	
Jan. 21	Cloudy	177.0	
Jan. 22	Fine	434.8	
Jan. 23	Rain/Fine	253.0	
Jan. 24	Rain	0.0	
Jan. 25	Rain	0.0	
Jan. 26	Rain	0.0	
Jan. 27	Rain	0.0	
Jan. 28	Cloudy/Rain	0.0	
Jan. 29	Rain	0.0	
Jan. 30	Rain	0.0	
Jan. 31	Rain	0.0	
Feb. 1	Rain	0.0	
Feb. 2	Cloudy	0.0	
Feb. 3	Cloudy	102.0	
Feb. 4	Rain	0.0	
Feb. 5	Fine	289.0	
Feb. 6	Fine	305.0	
Feb. 7	Cloudy	10.0	
Feb. 8	Fine	238.0	Complete Semporna Flight
Feb. 9	Cloudy	0.0	Tawau ⇌ Segama
Feb. 10	Fine	0.0	Helicopter check
Feb. 11	Cloudy	0.0	- do - Tawau
Feb. 12	Cloudy	188.7	Start Segama Flight
Feb. 13	Cloudy	273.0	
Feb. 14	Cloudy	104.1	
Feb. 15	Cloudy	134.8	
Feb. 16	Cloudy	69.4	
Feb. 17	Cloudy	101.1	
Feb. 18	Cloudy	296.6	
Feb. 19	Rain	0.0	
Sub Total		4,097.5	
Total		7,013.3	

## Flight Record (FY1990)

No. 3

Date	Weather	Flight Line-km	Reference
Feb. 20	Rain	0.0	
Feb. 21	Cloudy	33.7	
Feb. 22	Cloudy	235.9	
Feb. 23	Cloudy	293.3	
Feb. 24	Cloudy	69.4	
Feb. 25	Cloudy	69.4	
Feb. 26	Cloudy	69.4	
Feb. 27	Fine	208.2	
Feb. 28	Cloudy	138.8	
Mar. 1	Cloudy	0.0	Helicopter Check
Mar. 2	Cloudy	0.0	- do -
Mar. 3	Cloudy	0.0	- do -
Mar. 4	Fine	0.0	- do -
Mar. 5	Fine	269.6	
Mar. 6	Cloudy	337.0	
Mar. 7	Cloudy	50.0	
Mar. 8	Cloudy	150.0	
Mar. 9	Cloudy	200.0	
Mar. 10	Cloudy	200.0	
Mar. 11	Cloudy	300.0	
Mar. 12	Fog/Fine	101.1	
Mar. 13	Fine	303.3	
Mar. 14	Cloudy	134.8	
Mar. 15	Cloudy	337.6	
Mar. 16	Fog/Cloudy	134.8	
Mar. 17	Fog/Cloudy	101.1	
Mar. 18	Fog/Cloudy	268.2	
Mar. 19	Fog/Rain	180.0	Complete Segama Flight
Mar. 20	Rain		Segama⇒Kota Kinabalu
Sub Total		4,185.6	
Total		10,919.0	

## Flight Record (FY1991)

No. 1

Date	Weather	Flight Line-km	Reference
Sep.24	Rain		Kota Kinabalu to Kundasang
Sep.25	Rain	0.0	Start Labuk/Southern Kinabalu Flight
Sep.26	Rain	0.0	
Sep.27	Fine/Rain	111.1	
Sep.28	Fine/Rain	111.1	
Sep.29	Fine/Rain	111.1	
Sep.30	Fog/Fine/Rain	156.4	
Oct.01	Fog/Rain	0.0	
Oct.02	Fine/Rain	144.2	
Oct.03	Rain	0.0	
Oct.04	Fine/Rain	251.7	
Oct.05	Rain	0.0	
Oct.06	Rain	0.0	
Oct.07	Fine	216.7	
Oct.08	Fine	103.8	
Oct.09	Fog/Rain	0.0	
Oct.10	Rain	0.0	
Oct.11	Cloudy	0.0	
Oct.12	Fine	311.4	
Oct.13	Fine	311.4	
Oct.14	Fine	311.4	
Oct.15	Fine	207.6	
Oct.16	Fine	186.7	
Oct.17	Fine	103.8	
Oct.18	Fine	203.4	
Oct.19	Fine	292.6	
Oct.20	Rain	0.0	
Oct.21		---	Helicopter 100hr Check
Oct.22		---	- do -
Oct.23	Fine	231.7	
Oct.24	Fine	279.1	
Oct.25	Fine	408.0	
Oct.26	Rain-Haze	0.0	Waiting for rain & haze
Oct.27	Rain-Haze	0.0	- do -
	Sub Total	4,053.2	
	Total	4,053.2	

## Flight Record (FY1991)

No. 2

Date	Weather	Flight Line-km	Reference
Oct. 28	Fine	383.1	
Oct. 29	Fine	389.6	
Oct. 30	Fine	434.2	
Oct. 31	Rain-Haze	0.0	Waiting for Rain & Haze
Nov. 01	Fine	488.7	
Nov. 02	Fine	118.4	
Nov. 03	Fine	192.5	
Nov. 04	Rain	0.0	
Nov. 05	Fine	570.9	
Nov. 06	Rain	0.0	
Nov. 07	Fine	299.2	
Nov. 08	Rain	0.0	Helicopter: 50hr Check
Nov. 09	Fine	149.5	
Nov. 10	Rain	0.0	
Nov. 11	Fine	337.0	
Nov. 12	Cloudy	0.0	
Nov. 13	Rain	0.0	
Nov. 14	Rain	0.0	
Nov. 15	Fine	151.6	
Nov. 16	Fine	133.3	
Nov. 17	Fine	207.4	
Nov. 18	Rain	0.0	
Nov. 19	Rain	0.0	
Nov. 20	Fine	92.8	Start Northern Kinabalu Flight
Nov. 21	Rain	0.0	
Nov. 22	Cloudy	0.0	
Nov. 23	Rain	0.0	
Nov. 24	Cloudy	0.0	
Nov. 25	Fine	444.8	
Nov. 26	Fine	444.8	
Nov. 27	Fine	333.6	
Nov. 28	Fine	444.8	
Nov. 29	Cloudy	0.0	
Nov. 30	Rain	0.0	
Sub Total		5,616.2	
Total		9,669.4	



## Flight Record (FY1991)

No. 3

Date	Weather	Flight line-km	Reference
Dec.01	Rain	0.0	
Dec.02	Fine	0.0	Halt for poor GPS signal
Dec.03	Rain	0.0	
Dec.04	Fog	0.0	
Dec.05	Fog	0.0	
Dec.06	Fog	0.0	
Dec.07	Fine	111.2	
Dec.08	Rain	0.0	
Dec.09	Cloudy	0.0	
Dec.10	Rain	0.0	
Dec.11	Fine	137.1	
Dec.12	Cloudy	0.0	Test Flight (Second System)
Dec.13	Rain	0.0	
Dec.14	Rain	0.0	
Dec.15	Rain	0.0	First System: 300hr Check
Dec.16	Fine	277.5	
Dec.17	Fine	27.7	Poor GPS Signal
Dec.18	Rain	0.0	
Dec.19	Fine	336.8	
Dec.20	Fine	374.5	
Dec.21	Fine	353.1	
Dec.22	Rain	0.0	Finish First System 300hr Check
Dec.23	Rain	0.0	
Dec.24	Rain	0.0	
Dec.25	Rain	0.0	
Dec.26	Rain	0.0	
Dec.27	Rain	0.0	
Dec.28	Fine	463.5	
Dec.29	Fine	146.75	
Dec.30	Fine	186.25	
Dec.31	Fine	620.75	
Jan.01	Rain	0.0	
Jan.02	Rain	0.0	
Jan.03	Rain	0.0	
Sub Total		3,121.15	
Total		12,790.55	

## Flight Record (FY1991)

No. 4

Date	Weather	Flight Line-km	Reference
Jan. 04	Fine	63.0	
Jan. 05		----	Move to Northern Semporna
Jan. 06	Rain	0.0	Start Northern Semporna Flight
Jan. 07	Fine	643.0	
Jan. 08	Fog	1,043.8	
Jan. 09	Fog	843.4	
Jan. 10	Fine	444.3	Finish Northern Semporna Flight
Jan. 11		----	
Jan. 12	Rain	0.0	Restart Southern & Northern Kinabalu
Jan. 13	Rain	0.0	
Jan. 14	Fine	332.4	
Jan. 15	Rain	0.0	
Jan. 16	Rain	0.0	
Jan. 17	Fine	234.0	
Jan. 18	Fine	242.0	Finish Northern Kinabalu Flight
Jan. 19	Rain	0.0	
Jan. 20	Fine/Cloudy	18.0	Finish Southern Kinabalu Flight
Jan. 21			Demobilization
	Sub Total	3,868.85	
	Total	16,659.4	



Appendix 27

In-situ magnetic susceptibility  
and radiometric activity



(1)

Ser. No.	Location No.	Area *1	Geologic unit	Lithology	Total Count (cps)	K+U+Th (cps)	U+Th (cps)	Th (cps)	$\kappa$ ( $\times 10^{-3}$ SI)	Remarks
1	SG-09	C	P <sub>4</sub> Km	Sandstone	88.7	2.29	1.49	0.74	0.17	
2	SG-27	C	P <sub>4</sub> Km	Sandstone	80.3	2.03	1.40	0.55	0.07	
3	SG-29	C	P <sub>4</sub> Km	Sandstone	50.8	1.43	0.83	0.44	0.30	
4	SG-26	C	P <sub>4</sub> Km	Basaltic Lava	32.6	0.96	0.82	0.62	28.4	
5	SG-28	C	P <sub>4</sub> Km	Tuff. Sandstone	67.8	1.72	1.05	0.67	2.92	
6	SP-28	D	P <sub>4</sub> Kg	Limestone	17.7	0.90	0.70	0.50	0.04	
7	SP-21	D	P <sub>4</sub> Kg	Tuff	33.8	1.36	1.01	0.82	7.87	
8	SP-22	D	P <sub>4</sub> Kg	Tuff	33.8	1.36	1.01	0.82	17.1	
9	LB-07	B	P <sub>4</sub> Gr	Sandstone	96.0	1.95	1.31	0.59	0.36	
10	LB-08	B	P <sub>4</sub> Gr	Sandstone	100.	2.34	1.56	0.71	0.29	
11	KB-02	A	P <sub>2</sub> Cr	Sandstone	73.2	2.31	1.25	0.81	0.12	
12	KB-05	A	P <sub>2</sub> Cr	Sandstone	92.1	2.34	1.43	0.70	0.13	
13	KB-07	A	P <sub>2</sub> Cr	Sandstone	107.	2.76	1.69	0.52	0.17	
14	KB-16	A	P <sub>2</sub> Cr	Sandstone	115.	3.23	1.60	0.84	0.10	
15	KB-17	A	P <sub>1</sub> Ts	Sandstone	119.	3.33	1.81	0.77	0.22	
16	KB-18	A	P <sub>1</sub> Ts	Sandstone	195.	5.11	2.39	0.84	0.16	
17	KB-20	A	P <sub>1</sub> Ts	Sandstone	148.	4.40	1.98	0.94	0.14	
18	KB-21	A	P <sub>1</sub> Ts	Sandstone	105.	3.15	1.87	1.10	0.08	
19	KB-22	A	P <sub>1</sub> Ts	Sandstone	128.	4.01	2.36	0.92	0.12	
20	KB-23	A	P <sub>1</sub> Ts	Sandstone	140.	4.22	2.23	0.82	0.12	
21	KB-24	A	P <sub>1</sub> Ts	Sandstone	118.	3.96	2.04	0.77	0.15	
22	KB-30	A	P <sub>1</sub> Ts	Sandstone	158.	4.64	2.45	0.87	0.13	
23	KB-31	A	P <sub>1</sub> Ts	Shale	168.	5.14	2.43	0.89	0.27	
24	KB-32	A	P <sub>1</sub> Ts	Shale	184.	5.12	2.13	0.80	0.19	
25	KB-33	A	P <sub>1</sub> Ts	Shale	159.	4.14	2.14	0.91	0.23	

\*1 A; Kinabalu area B; Labuk area C; Segama area D; Semporna area

(2)

Ser. No.	Location No.	Area *1	Geologic unit	Lithology	Total Count (cps)	K+U+Th (cps)	U+Th (cps)	Th (cps)	$\kappa$ ( $\times 10^{-3}$ SI)	Remarks
26	KB-34	A	P <sub>1</sub> Ts	Phillite	184.	5.12	2.49	1.07	0.21	
27	KB-35	A	P <sub>1</sub> Ts	Phillite	189.	5.42	2.87	1.12	0.25	
28	KB-36	A	P <sub>1</sub> Ts	Phillite	201.	5.99	2.44	1.12	0.11	
29	KB-37	A	P <sub>1</sub> Ts	Phillite	180.	4.89	2.47	1.03	0.21	
30	KB-38	A	P <sub>1</sub> Ts	Phillite	222.	5.82	3.01	0.92	0.33	
31	KB-39	A	P <sub>1</sub> Ts	Phillite	148.	4.48	2.13	1.03	0.12	
32	KB-40	A	P <sub>1</sub> Ts	Phillite	169.	4.73	2.67	1.13	0.20	
33	KB-41	A	P <sub>1</sub> Ts	Phillite	209.	5.13	2.65	0.81	0.10	
34	SG-05	C	KpCs	Basalt	9.23	0.86	0.70	0.65	6.55	
35	SG-06	C	KpCs	Basalt	9.03	0.88	0.83	0.62	0.51	
36	LB-01	B	KpCs	Basalt	14.2	0.96	0.84	0.57	4.57	
37	LB-02	B	KpCs	Basalt	21.8	1.23	0.75	0.53	14.0	
38	LB-03	B	KpCs	Basalt	11.4	0.75	0.77	0.53	21.1	
39	LB-06	B	KpCs	Basalt	16.3	0.75	0.88	0.77	13.6	
40	SG-07	C	KpCs	Chert	23.7	0.94	0.70	0.64	0.16	
41	SG-08	C	KpCs	Chert	14.6	1.03	0.73	0.71	2.48	
42	LB-05	B	KpCs	Chert	20.8	1.02	0.98	0.75	0.08	
43	SG-22	C	KpCs	Sandstone	100.	3.15	1.70	0.70	0.23	
44	SG-24	C	KpCs	Sandstone	92.2	2.61	1.51	0.80	0.14	
45	SG-25	C	KpCs	Sandstone	95.4	2.99	1.67	0.67	0.13	
46	SG-31	C	KMb	Limestone	11.7	0.41	0.37	0.24	0.03	
47	SP-04	D	I <sub>s</sub>	Basalt	78.2	2.05	1.14	0.49	1.51	
48	SP-05	D	I <sub>s</sub>	Basalt	55.5	2.00	1.27	0.78	5.34	
49	SP-06	D	I <sub>s</sub>	Basalt	83.8	2.45	1.47	0.75	9.77	
50	SP-19	D	I <sub>s</sub>	Basalt	77.4	3.15	1.49	0.82	6.24	

\*1 A; Kinabalu area B; Labuk area C; Segama area D; Semporna area

(8)

Ser. No.	Location No.	Area *1	Geologic unit	Lithology	Total Count (cps)	K+U+Th (cps)	U+Th (cps)	Th (cps)	$\kappa$ ( $\times 10^{-3}$ SI)	Remarks
51	SP-16	D	I <sub>5</sub>	Dacite	74.7	2.37	1.56	0.83	0.17	
52	SP-17	D	I <sub>5</sub>	Dacite	94.5	3.03	1.63	0.81	31.4	
53	SP-18	D	I <sub>5</sub>	Dacite	115.	3.47	1.45	0.60	27.1	
54	SP-01	D	I <sub>3</sub>	Microdiorite	111.	3.33	1.92	0.82	35.9	
55	SP-02	D	I <sub>3</sub>	Microdiorite	95.5	2.87	1.50	0.82	31.1	
56	SP-03	D	I <sub>3</sub>	Microdiorite	149.	3.65	1.79	0.80	31.0	
57	SP-07	D	I <sub>3</sub>	Andesite	72.1	2.47	1.45	0.65	14.4	
58	SP-10	D	I <sub>3</sub>	Andesite	111.	2.37	1.25	0.65	18.4	
59	SP-11	D	I <sub>3</sub>	Andesite	83.9	2.23	1.51	0.82	16.3	
60	SP-12	D	I <sub>3</sub>	Andesite	74.5	2.29	1.38	0.57	0.10	
61	SP-13	D	I <sub>3</sub>	Andesite	65.1	1.75	1.06	0.68	24.5	
62	SP-14	D	I <sub>3</sub>	Andesite	89.3	1.98	1.37	0.61	27.4	
63	SP-20	D	I <sub>3</sub>	Andesite	53.6	2.06	1.19	0.75	14.4	
64	SP-24	D	I <sub>3</sub>	Andesite	56.0	2.64	1.17	0.81	10.8	
65	SP-25	D	I <sub>3</sub>	Andesite	134.	3.95	2.17	0.99	18.7	
66	SP-27	D	I <sub>3</sub>	Andesite	93.4	2.05	1.29	0.76	4.59	
67	SP-08	D	I <sub>3</sub>	Agglomerate	73.2	2.45	1.45	0.83	16.2	
68	SP-09	D	I <sub>3</sub>	Agglomerate	72.7	2.28	1.31	0.77	7.10	
69	SP-26	D	I <sub>3</sub>	Andesite	91.9	1.97	1.27	0.61	12.6	
70	KB-03	A	I <sub>2</sub>	Granodiorite	173.	4.38	2.28	0.83	1.51	
71	KB-04	A	I <sub>2</sub>	Granodiorite	176.	4.42	1.97	0.80	1.67	
72	KB-10	A	I <sub>2</sub>	Adamellite	283.	5.38	2.97	0.80	1.16	
73	KB-13	A	I <sub>2</sub>	Adamellite	140.	3.81	1.99	1.32	0.83	Ore
74	KB-14	A	I <sub>2</sub>	Adamellite	242.	7.29	2.84	1.12	2.63	Ore
75	KB-15	A	I <sub>2</sub>	Adamellite	162.	4.42	2.19	1.07	0.33	

\*1 A; Kinabalu area B; Labuk area C; Segama area D; Semporna area



(4)

Ser. No.	Location No.	Area *1	Geologic unit	Lithology	Total Count (cps)	K+U+Th (cps)	U+Th (cps)	Th (cps)	$\kappa$ ( $\times 10^{-3}$ SI)	Remarks
76	MM-06	A	I <sub>2</sub>	Adamellite	132.	3.98	1.80	1.04	31.4	Ore
77	MM-07	A	I <sub>2</sub>	Adamellite	137.	4.29	2.13	0.97	3.12	Ore
78	MM-08	A	I <sub>2</sub>	Adamellite	208.	5.79	2.45	0.98	1.23	Ore
79	KB-11	A	I <sub>2</sub>	Biotite Hornfels	193.	5.28	1.90	1.10	34.0	Ore
80	MM-04	A	I <sub>2</sub>	Biotite Hornfels	216.	6.02	2.15	0.94	19.3	Ore
81	MM-05	A	I <sub>2</sub>	Biotite Hornfels	191.	5.55	2.17	0.88	2.97	Ore
82	SG-01	C	I <sub>1</sub>	Serpentinite	4.90	0.83	0.66	0.59	96.5	
83	SG-02	C	I <sub>1</sub>	Serpentinite	4.97	0.95	0.75	0.71	24.9	
84	SG-03	C	I <sub>1</sub>	Serpentinite	6.00	0.97	0.81	0.61	28.2	
85	SG-04	C	I <sub>1</sub>	Serpentinite	4.03	0.67	0.61	0.53	1.89	
86	SG-23	C	I <sub>1</sub>	Serpentinite	11.3	0.90	0.78	0.75	23.1	
87	KB-06	A	I <sub>1</sub>	Serpentinite	13.6	0.77	0.86	0.74	5.83	
88	KB-08	A	I <sub>1</sub>	Serpentinite	6.70	0.90	0.84	0.72	23.0	
89	KB-09	A	I <sub>1</sub>	Serpentinite	13.8	0.89	0.85	0.73	15.0	
90	KB-12	A	I <sub>1</sub>	Serpentinite	41.0	1.49	0.88	0.67	26.2	Ore
91	LB-04	B	I <sub>1</sub>	Serpentinite	8.50	0.81	0.71	0.74	16.2	
92	LB-09	B	I <sub>1</sub>	Serpentinite	6.00	0.82	0.64	0.65	21.1	
93	LB-10	B	I <sub>1</sub>	Serpentinite	6.80	0.62	0.68	0.68	8.60	
94	LB-11	B	I <sub>1</sub>	Serpentinite	7.20	0.79	0.75	0.72	10.3	
95	MM-10	A	I <sub>1</sub>	Serpentinite	80.1	2.96	0.77	0.57	23.7	Ore
96	SG-18	C	I <sub>1</sub>	Gabbro	5.50	0.88	0.77	0.63	163.	
97	SG-19	C	I <sub>1</sub>	Gabbro	5.00	0.79	0.69	0.71	34.6	
98	SG-20	C	I <sub>1</sub>	Gabbro	7.80	0.98	0.77	0.65	0.60	
99	SG-21	C	I <sub>1</sub>	Gabbro	36.5	1.35	0.91	0.70	4.47	
100	SG-10	C	Cb	Schist	11.2	1.00	0.77	0.61	0.34	

\*1 A: Kinabalu area B: Labuk area C: Segama area D: Semporna area

(5)

Ser. No.	Location No.	Area *1	Geologic unit	Lithology	Total Count (cps)	K+U+Th (cps)	U+Th (cps)	Th (cps)	$\kappa$ ( $\times 10^{-3}$ SI)	Remarks
101	SG-15	C	Cb	Schist	18.8	1.09	0.93	0.77	1.05	
102	SG-16	C	Cb	Schist	17.7	1.02	0.92	0.82	0.52	
103	SG-14	C	Cb	Gneiss	14.6	1.01	0.75	0.82	2.28	
104	SG-17	C	Cb	Gneiss	45.0	1.33	1.06	0.76	0.47	
105	SG-11	C	Cb	Amphibolite	48.0	1.75	1.35	0.63	0.64	
106	SG-12	C	Cb	Amphibolite	17.8	1.09	0.89	0.73	11.0	

\*1 A; Kinabalu area B; Labuk area C; Segama area D; Semporna area



Appendix 28

Laboratory magnetic susceptibility and radiometric  
activity for the Segama and Semporna areas



Laboratory magnetic susceptibility and radiometric activity of the Segama area (1)

Ser. No.	Sample No.	UTM Coordinates		1:50,000 Topographic Sheet	Sample Location	Radiometric Activity (CPS)			Magnetic Susceptibility ( $\times 10^{-6}$ CGSemu)	Lithology	Geo. Unit
		X (km)	Y (km)			T.C.	K+U+Th	U+Th			
1	G056	1428.45	4723.85	Gunong Moritok	S. Imbak	4.51	0.69	0.54	0.36	sandstone	P <sub>4</sub> Km
2	K053	1437.30	4728.75	G. Moritok	S. Imbak	0.55	0.85	0.51	0.33	granodiorite	Ub
3	K054	1437.30	4728.75	G. Moritok	S. Imbak	3.11	0.01	0.29	0.26	sandstone	P <sub>4</sub> Km
4	K055	1437.30	4728.75	G. Moritok	S. Imbak	2.91	0.72	0.68	0.30	sandstone	P <sub>4</sub> Km
5	J052	1432.90	4749.40	Ulu Segama	S. Segama	3.66	0.50	0.68	0.37	sheared ultramafic	Ub
6	P040	1433.45	4766.90	S. Ulu Bole	S. Beruang	4.78	0.64	0.46	0.12	amphibolite	Cb
7	P041	1434.40	4766.95	S. Ulu Bole	S. Beruang	4.97	0.26	0.37	0.34	gneiss	Cb
8	K031	1432.90	4767.75	S. Ulu Bole	S. Beruang	1.17	0.63	0.40	0.43	amphibolite	Cb
9	J031	1437.70	4771.45	S. Ulu Bole	S. Ulu Bole	2.07	0.88	0.34	0.53	schist	Cb
10	J032	1437.90	4771.80	S. Ulu Bole	S. Ulu Bole	3.97	0.54	0.23	0.35	granodiorite	Cb
11	J014	1435.45	4776.70	S. Ulu Bole	S. Ulu Bole	1.93	0.89	0.69	0.47	schist	Cb
12	J027	1435.10	4782.25	S. Ulu Bole	S. Ulu Bole	1.75	0.37	0.10	0.35	gabbro	Ub
13	N012	1437.05	4783.30	S. Ulu Bole	S. Ulu Bole	2.29	0.24	0.64	0.04	sandstone	KPCs
14	J021	1437.50	4784.05	S. Ulu Bole	S. Juak	3.28	0.84	0.57	0.24	basalt	KPCs
15	N013	1434.85	4786.65	S. Ulu Bole	S. Juak	8.59	0.88	0.50	0.40	chert	KPCs
16	P072	1446.70	4718.60	G. Moritok	S. Kuamut	1.31	0.22	0.79	0.49	volcanic breccia	KPCs
17	J057	1444.25	4720.10	G. Moritok	S. Imbak	3.13	0.63	0.84	0.00	sandstone	KPCs
18	N086	1445.20	4738.65	Ulu Segama	S. Karangan	7.24	0.00	0.48	0.21	sandstone	P <sub>4</sub> Km
19	N088	1445.25	4737.90	Ulu Segama	S. Karangan	6.87	0.63	0.23	0.44	shale	P <sub>4</sub> Km
20	N084	1445.70	4739.40	Ulu Segama	S. Karangan	4.22	0.57	0.49	0.24	dolerite	Ub
21	N089	1446.40	4737.30	Ulu Segama	S. Karangan	5.26	1.58	1.07	0.44	dolerite	Ub
22	N093	1442.70	4743.45	Ulu Segama	S. Danum	1.41	0.49	0.86	0.61	sandstone	P <sub>4</sub> Km
23	N095	1442.70	4744.65	Ulu Segama	S. Danum	1.64	0.84	0.43	0.14	sandstone	P <sub>4</sub> Km
24	N094	1442.65	4744.85	Ulu Segama	S. Danum	2.28	0.77	0.57	0.41	chert	KPCs
25	P055	1442.40	4752.10	Ulu Segama	S. Segama	4.76	0.32	0.78	0.15	basic rock	Ub
26	G039	1442.50	4765.00	S. Ulu Bole	S. Segama	2.50	0.93	0.17	0.39	chl. dolerite	Cb
27	K035	1440.50	4765.70	S. Ulu Bole	S. Segama	1.42	0.89	0.26	0.20	diorite	Cb
28	N110	1449.60	4776.65	S. Ulu Bole	S. Bole	0.92	0.38	0.16	0.22	peridotite	Ub
29	N111	1449.60	4776.65	S. Ulu Bole	S. Bole	3.74	0.30	0.59	0.45	gabbro	Ub
30	J024	1445.10	4784.65	S. Ulu Bole	S. Juak	3.03	0.52	0.51	0.38	peridotite	Ub

Laboratory magnetic susceptibility and radiometric activity of the Segama area (2)

Ser. No.	Sample No.	UTM Coordinates		1:50,000 Topographic Sheet	Sample Location	Radiometric Activity (CPS)				Magnetic Susceptibility ( $\times 10^{-6}$ CGSemu)	Lithology	Geolo. Unit
		X (km)	Y (km)			T.C.	K+U+Th	U+Th	Th			
31	Y021	1448.30	4784.75	S. Ulu Bole	S. Kawag	0.59	0.59	0.28	0.39	2432	sheared peridotite	Ub
32	Y020	1447.55	4786.15	S. Ulu Bole	S. Kawag	5.95	1.06	0.17	0.52	3897	granodiorite	Cb
33	K041	1450.60	4740.10	Ulu Segama	S. Malubuk	2.71	0.50	0.43	0.23	1088	gabbro	Ub
34	Y032	1450.00	4767.95	S. Ulu Bole	S. Segama	5.60	1.01	0.17	0.41	83	sandstone	P <sub>4</sub> Km
35	Y037	1450.85	4770.75	S. Ulu Bole	-	4.65	0.09	0.31	0.32	53	chert	KPCs
36	N112	1450.35	4773.75	S. Ulu Bole	S. Bole	4.32	0.24	0.54	0.51	856	sandstone	P <sub>4</sub> Km
37	N113	1450.35	4773.75	S. Ulu Bole	S. Bole	1.33	0.43	0.43	0.32	88	sandstone	P <sub>4</sub> Km
38	N106	1450.90	4783.00	S. Ulu Bole	S. Kawag	4.38	0.78	0.12	0.17	922	green schist	Cb
39	N105	1450.80	4783.25	S. Ulu Bole	S. Kawag	2.91	0.84	0.52	0.06	98	phyllite	Cb
40	K043	1451.30	4737.70	Ulu Segama	S. Malubuk	2.35	0.85	0.54	0.33	4603	basalt	KPCs
41	K040	1451.25	4739.55	Ulu Segama	S. Malubuk	5.00	0.13	0.52	0.25	495	gabbro	Ub
42	Y035	1451.00	4770.40	S. Ulu Bole	-	5.37	0.41	0.35	0.51	67	sandstone	P <sub>4</sub> Km
43	N109	1451.35	4782.70	S. Ulu Bole	S. Kawag	0.77	0.77	0.57	0.43	6122	ultramafic rock	Ub
44	N108	1451.10	4782.90	S. Ulu Bole	S. Kawag	1.98	1.53	0.44	0.44	2391	amphibolite	Cb
45	N107	1451.00	4783.00	S. Ulu Bole	S. Kawag	4.21	0.10	0.46	0.34	766	amphibolite	Cb
46	N104	1452.65	4746.60	S. Malua	S. Berseh	1.65	0.60	0.55	0.22	344	dolerite	Ub
47	N103	1452.80	4746.75	S. Malua	S. Berseh	3.57	0.94	0.31	0.55	348	gabbro	Ub
48	N101	1452.70	4747.75	S. Malua	S. Berseh	0.38	0.97	0.30	0.21	1477	siliceous shale	KPCs
49	N099	1452.60	4751.40	S. Malua	S. Berseh	4.03	0.59	0.48	0.08	2434	gabbro	Ub
50	N102	1453.00	4746.25	S. Malua	S. Berseh	2.86	0.22	0.27	0.61	1107	siliceous shale	KPCs
51	J037	1453.70	4781.05	S. Bole	S. Kawag	2.83	0.80	0.39	0.20	2490	gneiss	Cb
52	G053	1454.50	4733.35	S. Malua	S. Malubuk	2.45	0.67	0.63	0.41	66	sandstone	KPCs

Laboratory magnetic susceptibility and radiometric activity of the Semporna area (I)

Ser. No.	Sample No.	UTM Coordinates		1:50,000 Topographic Sheet	Sample Location	Radiometric Activity (CPS)				Magnetic Susceptibility ( $\times 10^{-6}$ CGSemu)	Lithology	Geolo. Unit
		X (km)	Y (km)			T.C.	K+U+Th	U+Th	Th			
1	M060	1417.24	4717.72	Sungai Tiagau	S. Gukuan	7.10	1.09	0.46	0.57	61	shale	P <sub>4</sub> K1
2	M061	1423.10	4722.05	Sungai Tiagau	—	4.71	0.73	0.76	0.02	71	sandstone	P <sub>4</sub> Km
3	H058	1404.10	4724.70	Sungai Tiagau	S. Mawing	2.80	0.94	0.55	0.26	70	siltstone	P <sub>4</sub> K1
4	H048	1420.22	4747.45	S. Umas Umas	S. Muntai	6.35	0.70	0.24	0.12	58	sandstone	P <sub>4</sub> Km
5	M041	1418.30	4739.87	S. Umas Umas	S. Gumbal	6.17	0.50	0.21	0.39	99	meta-gabbro	Ub
6	H060	1401.15	4744.22	S. Umas Umas	S. Gukuan	4.08	1.00	0.80	0.32	89	conglomerate	P <sub>4</sub> Km
7	M018	1413.55	4769.50	S. Tingkayu	S. Binuang	1.16	0.57	0.38	0.25	51	tuffaceous s.s.	P <sub>4</sub> Km
8	M015	1407.95	4767.83	S. Tingkayu	S. Merotai B	6.36	0.50	0.71	0.69	55	sandstone	P <sub>4</sub> Km
9	M022	1405.34	4766.50	S. Tingkayu	S. Merotai B	5.91	0.89	0.22	0.51	3341	tuffaceous s.s.	P <sub>4</sub> Km
10	M023	1400.90	4768.90	S. Tingkayu	S. Merotai B	1.83	1.04	0.37	0.50	772	mdstone	P <sub>4</sub> Km
11	M033	1398.20	4767.85	S. Tingkayu	S. Merotai B	5.91	0.50	0.27	0.27	402	mdstone	P <sub>4</sub> Km
12	M034	1398.06	4768.32	S. Tingkayu	S. Merotai B	4.07	0.86	0.26	0.16	4497	andesite	I <sub>1</sub>
13	B052	1420.80	4770.55	S. Tingkayu	S. Tingkayu	5.89	0.79	0.32	0.41	53	sandstone	P <sub>4</sub> Km
14	H039	1420.02	4778.70	S. Tingkayu	S. Tingkayu	2.96	0.16	0.25	0.05	90	sandstone	P <sub>4</sub> Km
15	M021	1411.33	4775.50	S. Tingkayu	S. Binuang	4.14	1.18	0.11	0.43	63	fine sandstone	P <sub>4</sub> Km
16	M009	1393.70	4774.70	Tawau North	S. Merotai B	4.98	0.60	0.51	0.24	4503	andesite	I <sub>1</sub>
17	M006	1391.00	4774.40	Tawau North	S. Merotai K	7.21	0.56	0.11	0.14	43	altered andesite	I <sub>1</sub>
18	B007	1388.45	4773.55	Tawau North	—	4.45	0.46	0.32	0.08	2205	basalt	I <sub>2</sub>
19	T061	1384.20	4770.45	Tawau North	S. Merotai K	2.78	0.06	0.77	0.50	557	basalt	I <sub>2</sub>
20	B004	1385.65	4779.80	Tawau North	S. Tawau	3.30	0.96	0.56	0.25	1632	coarse tuff	I <sub>1</sub>
21	H042	1420.38	4786.40	S. Tingkayu	S. Tingkayu	2.34	0.62	1.03	0.40	3107	green rock	KPCs
22	M030	1412.25	4786.30	S. Tingkayu	S. Kalumpang	3.37	0.59	0.00	0.52	1934	tuffaceous s.s.	P <sub>4</sub> Kg
23	M031	1405.89	4787.05	S. Tingkayu	S. Malati	3.86	0.95	0.31	0.25	62	tuffaceous s.s.	P <sub>4</sub> Km
24	M032	1405.08	4786.05	S. Tingkayu	S. Malati	0.00	0.62	0.15	0.13	1338	andesite	I <sub>1</sub>
25	T060	1392.10	4783.56	Tawau North	S. Balung	3.77	0.70	0.47	0.46	3494	andesite	I <sub>1</sub>
26	H011	1382.05	4784.80	Tawau North	S. Apas Kiri	5.80	1.37	0.69	0.35	2487	andesite	I <sub>2</sub>
27	T049	1381.58	4788.37	Apas-Balang	S. Apas	5.61	0.55	0.00	0.38	2167	andesite	I <sub>2</sub>
28	H025	1418.90	4798.55	Mostyn	S. Apas	3.65	0.74	0.25	0.71	362	basalt	I <sub>2</sub>
29	T065	1411.55	4794.98	Mostyn	S. Tingkayu	0.47	0.59	0.39	0.44	86	siltstone	P <sub>4</sub> Kg
30	T066	1408.63	4797.80	Mostyn	S. Kalumpang	0.59	0.23	0.42	0.36	1386	coarse sandstone	P <sub>4</sub> Kg



Laboratory magnetic susceptibility and radiometric activity of the Semporna area (2)

Ser. No.	Sample No.	UTM Coordinates		1:50,000 Topographic Sheet	Sample Location	Radiometric Activity (CPS)				Magnetic Susceptibility ( $\times 10^{-6}$ CGSemu)	Lithology	Geolo. Unit
		X (km)	Y (km)			T.C.	K+U+Th	U+Th	Th			
31	T034	1399.35	4790.95	Mostyn	S. Mantri	6.67	0.61	0.55	0.53	2984	andesite w/pyrite	I <sub>1</sub>
32	T033	1396.65	4790.55	Mostyn	S. Mantri	3.35	0.78	0.96	0.42	73	altered rock w/py	I <sub>1</sub>
33	T010	1392.95	4792.46	Apas-Balang	S. Balung	3.58	0.60	0.58	0.21	2798	medium tuff	I <sub>1</sub>
34	T009	1392.92	4793.59	Apas-Balang	S. Balung	7.94	1.21	0.71	0.84	3451	andesite	I <sub>1</sub>
35	T012	1390.44	4796.70	Apas-Balang	S. Balung	1.54	0.68	0.45	0.11	81	dacite	I <sub>1</sub>
36	H026	1417.62	4808.30	Mostyn	S. Metarid	3.20	0.62	0.34	0.28	124	basalt	I <sub>2</sub>
37	H022	1410.70	4806.87	Mostyn	S. Limau	4.05	0.86	0.09	0.47	2095	coarse tuff	P <sub>4</sub> Kg
38	H015	1405.62	4803.94	Mostyn	S. Kalumpang	4.07	1.15	0.36	0.48	3217	micro-diorite	I <sub>1</sub>
39	H013	1399.90	4806.95	Mostyn	S. Pang B.	4.19	0.84	0.15	0.36	1344	sandstone	P <sub>4</sub> Kg
40	H003	1390.90	4801.75	Apas-Balang	S. Balung	7.40	0.36	0.71	0.18	986	medium tuff	I <sub>1</sub>
41	H001	1387.94	4803.56	Apas-Balang	S. Balung	6.93	0.80	0.28	0.15	378	altered andesite	I <sub>1</sub>
42	H027	1414.67	4814.16	Mostyn	S. Atas	2.09	0.32	0.35	0.22	699	chert	KPCS
43	H012	1402.25	4813.00	Mostyn	S. Kalumpang	3.77	0.41	0.43	0.30	1601	lapilli tuff	P <sub>4</sub> Kg
44	S003	1393.04	4820.15	Kalumpang	—	2.77	0.83	0.36	0.33	1272	basalt	I <sub>2</sub>
45	T016	1390.50	4821.02	Kalumpang	S. Kalumpang	4.73	0.71	0.10	0.17	3275	andesite	I <sub>2</sub>
46	S005	1388.84	4828.62	Kalumpang	S. Gading G.	4.80	1.75	0.79	0.21	746	micro-diorite	I <sub>1</sub>
47	T045	1397.92	4835.27	P. Timbun Mata	—	5.29	0.72	0.53	0.11	2316	micro-diorite	I <sub>1</sub>
48	T032	1388.74	4835.56	Kalumpang	—	9.83	0.66	0.26	0.63	69	fine tuff	I <sub>1</sub>
49	T031	1388.05	4834.88	Kalumpang	—	3.92	0.00	0.89	0.47	722	andesite	I <sub>1</sub>
50	T027	1380.65	4831.42	Kalumpang	—	2.94	0.94	0.27	0.13	25	alt. and. (gossan)	I <sub>1</sub>

Appendix 29

Satellite image analysis using TM data  
for the Kinabalu/Labuk area



## 1. Data used

One scene of TM data taken by the Landsat launched by NASA, USA was processed to generating the image. The details of the data and the aerial coverage of the TM data are shown in Table 1 and Fig. 1 respectively. The range of wave length and the characteristics of each band of the Landsat TM data are shown in Table 2.

## 2. Image generation

In this survey, two kinds of images including false color and principal component compressed images were generated using CCT(computer compatible tape).

### (1) Generation of false color image

The false color images were generated using the band 2 (blue), band 3 (green) and band 4 (red). Contrast stretch processing were used for these images in order to interpret the images easily. The images are shown in Fig. 2.

### (2) Generation of principal component compressed images

The principal component analysis is the method to compress the variance of the original data into limited number of components. The principal component compression method is the method integrating the principal component analysis, and can generate four components in one image.

The processing method of this principal component compression is as follows;

① Conducting the principal component analysis.

② Compressing the principal components obtained using following fomula;

$$CPC_{n-1}(x, y) = PC_1(x, y) * PC_n(x, y)$$

$$n = 2, \dots, 6$$

$CPC_{n-1}$  : (n-1)-th principal component compression data at (x, y)

$PC_1$  : first principal component data at (x, y)

$PC_n$  : n-th principal component data at (x, y)

③ Coloring obtained three principal component compression ( $CPC_1$ ,  $CPC_2$  and  $CPC_3$ ) with red, green and blue respectively.

The results of the principal component analysis in this survey are given in Table 3. In this processing, first, second and third principal component compression data which were calculated from first to fourth principal component, were used to

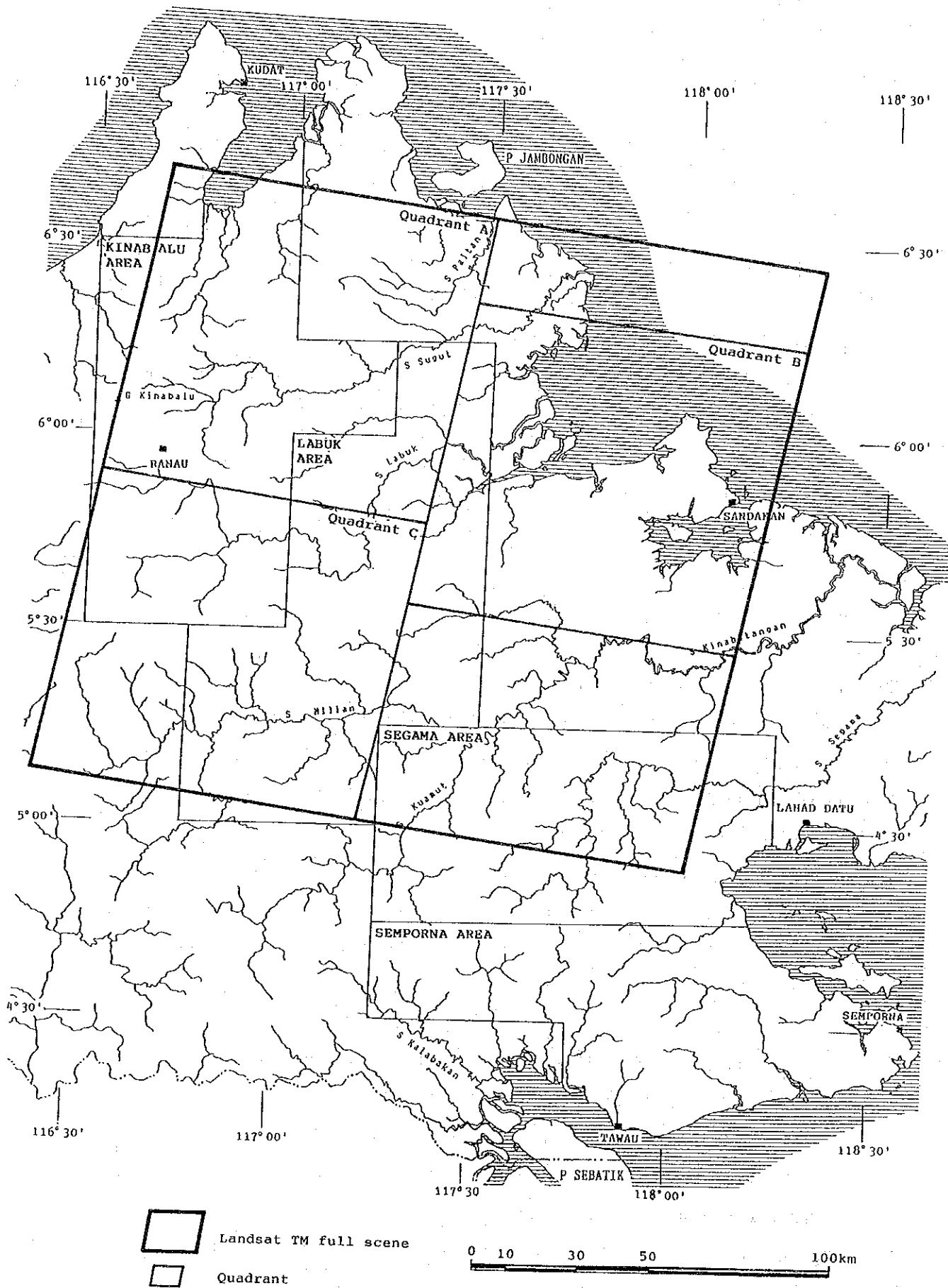


Fig. 1 Index map of Landsat TM data

Table 1 List of Landsat data used

Path	Row	Date	ID number	Cloud cover	Sun azimuth	Sun elevation
117	056	07/10/89	520460 -1513400	1124	108.8 °	56.4 °

Table 2 Band characteristics of Landsat TM data

Band	Wave length	Band characteristics
Band 1	0.45 ~ 0.52 $\mu$ m	water body penetration, differentiation soil from vegetation.
Band 2	0.52 ~ 0.60 $\mu$ m	usefull for vigor assessment of vegetation.
Band 3	0.63 ~ 0.69 $\mu$ m	chlorophyll absorption band.
Band 4	0.76 ~ 0.90 $\mu$ m	usefull for determining biomass content.
Band 5	1.55 ~ 1.76 $\mu$ m	indicative of moisture content of vegetation and soil.
Band 6	10.40 ~ 12.50 $\mu$ m	thermal infrared band
Band 7	2.08 ~ 2.35 $\mu$ m	discriminating rock types, hydrothermal mapping.

Table 3 Result of principal component analysis

Principal component		1 st	2 nd	3 rd	4 th	5 th	6 th
Band	Band 1	0.50	-0.33	-0.29	-0.69	-0.27	-0.09
	Band 2	0.32	-0.17	-0.15	0.20	0.15	0.89
	Band 3	0.49	-0.37	-0.14	0.66	0.00	-0.41
	Band 4	0.31	0.77	-0.54	0.04	0.12	-0.08
	Band 5	0.48	0.36	0.70	0.03	-0.38	0.07
	Band 7	0.28	-0.02	0.31	-0.24	0.86	-0.14
Contribution		79.47	16.16	3.08	0.97	0.22	0.09
Cumulative contribut.		79.47	95.63	98.71	99.69	99.91	100.00



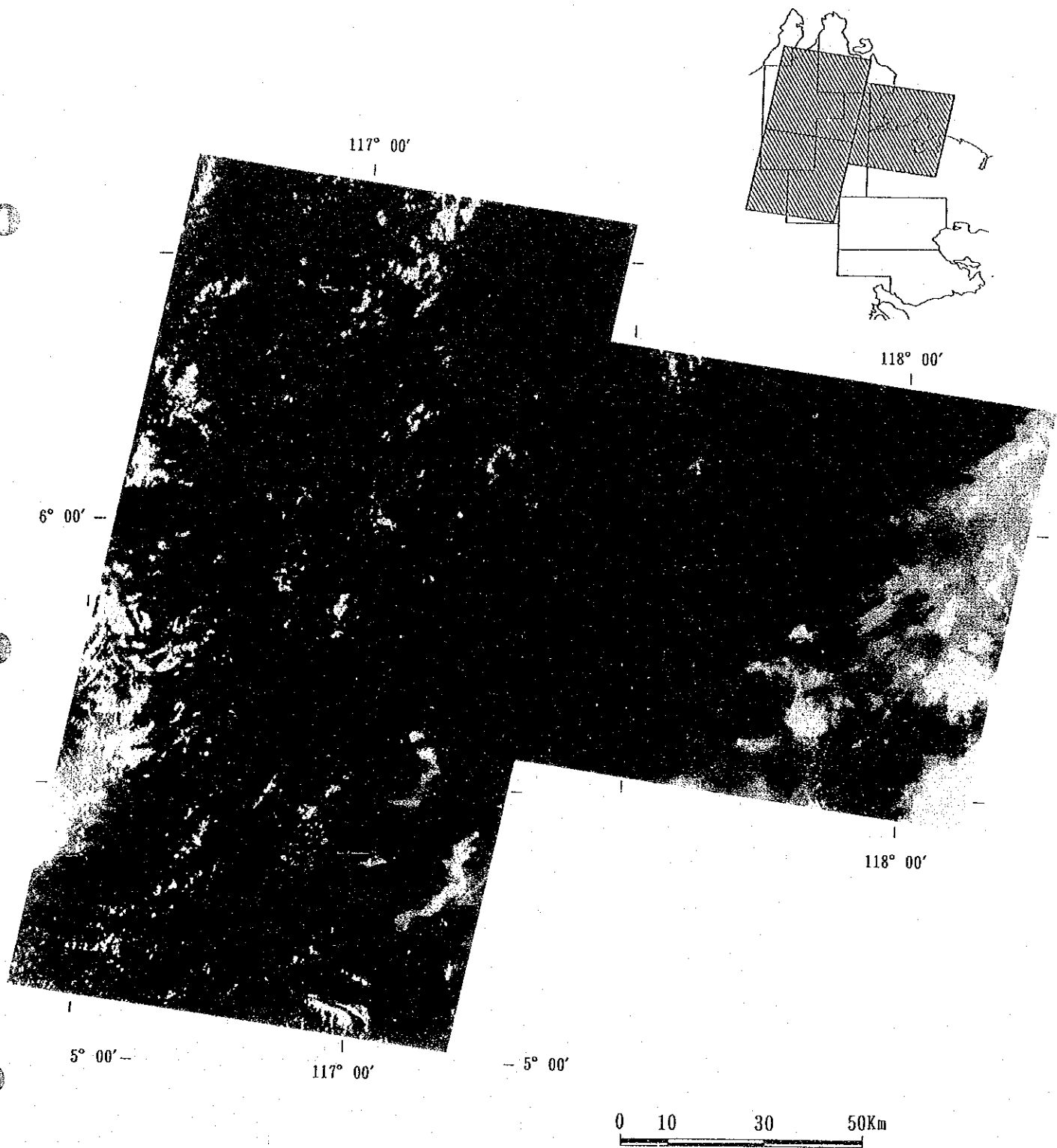


Fig. 2 Landat TM false color image of the Kinabalu and Labuk areas





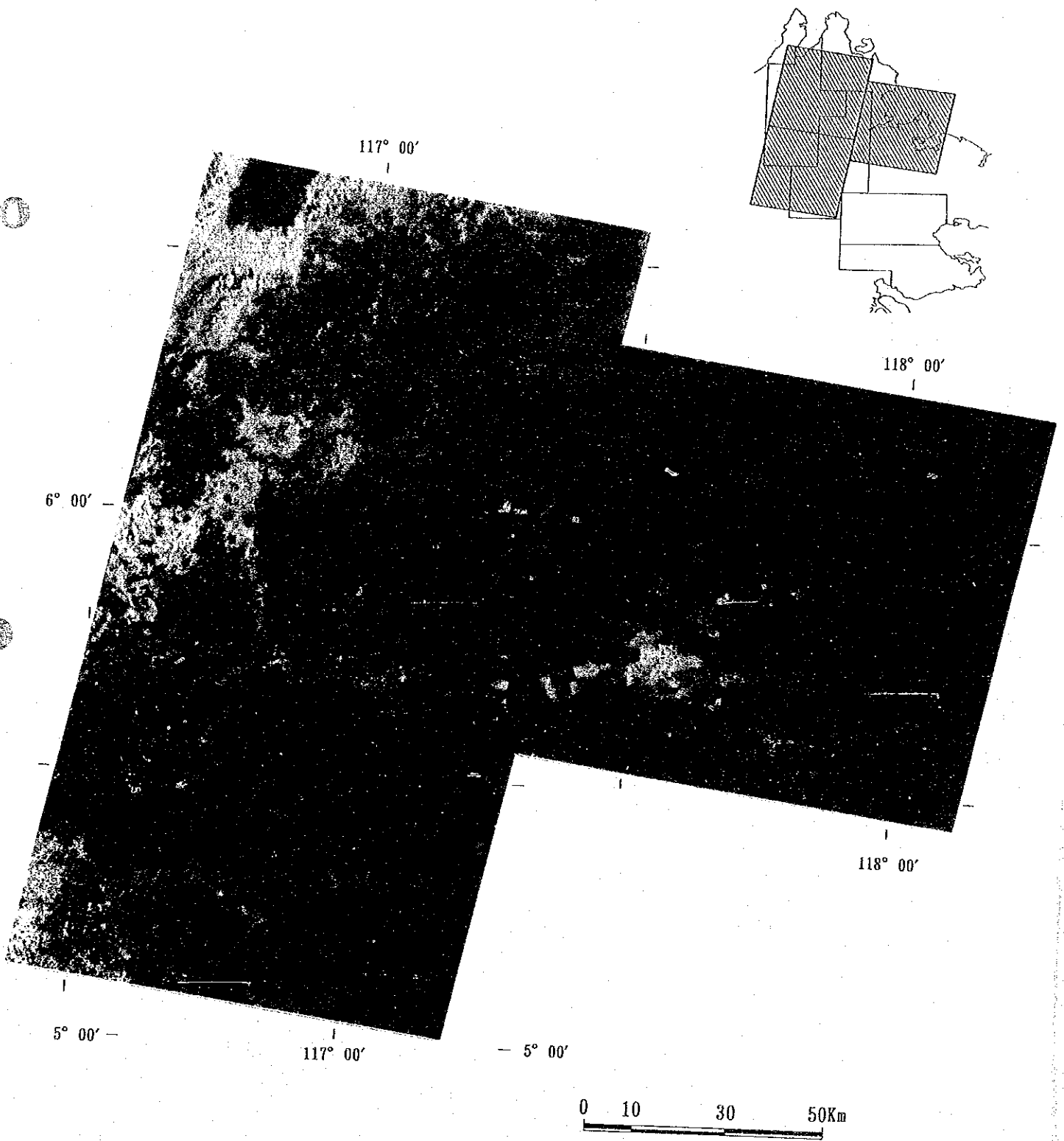


Fig.3 Landat TM PC compressed image of the Kinabalu and Labuk areas



generate the image. As the results, more than 99 % of original TM data were expressed on the image. The band 6 is extruded from this processing because of different ground resolution. The principal component compression image generated is shown in Fig. 3.

### (3) Generated image

List of the images generated and interpreted in this survey are shown in Table 4.

Table 4 List of generated Landsat TM images

Type of image	P - R	Scene size	Scale
False color image	117-056	Quadrant (A)	1:100,000
False color image	117-056	Quadrant (B)	1:100,000
False color image	117-056	Quadrant (C)	1:100,000
PC compressed image	117-056	Quadrant (A)	1:100,000
PC compressed image	117-056	Quadrant (B)	1:100,000
PC compressed image	117-056	Quadrant (C)	1:100,000

PC: principal component

### 3. Lithologic classification

Fifteen geologic unit were classified in the area by this photogeologic interpretation. The interpretation chart and the interpretation result are shown in Table 5 and Fig. 4 respectively.

Distributions and characteristics of each geologic unit are given below. The classified units in this interpretation are basecally same as the results of interpretation for the MSS images in the previous survey, and a few new geologic units are discriminated in this interpretation.

#### (1) Sedimentary rocks

Unit Pa-1 This unit is widely distributed over the area between central and west parts of the Labuk area and it is closely associated by Unit ub. Variable topographic features, relatively rough to intermediate, within the unit indicates that resistance against erosion is not uniform through out the area. This unit corresponds to Chert-Spilite formation (KPCs) mainly consisting of chert, basalt and spilite.

Table 5 Photogeologic interpretation chart

Units	Color		Drainage		Rock resistance	Morphological expression			Vegetation	Comparison with existing data
	False color	PC compressed	Pattern	Density		Cross section of valley & ridge	Texture	Bedding or schistosity		
Qb	dark red to red	purple and creamy yellow	anastomotic	high	very low	- / -	very smooth	-	dense	recent alluvial clay, sand
Qa	dark red	light gray	subparallel	high	low	- / -	rough	-	dense	terrace clay, sand, gravel
Nb-5	dark red	brown and pale orange	parallel	very high	moderate	✓ / ✓	intermediate	well bedded	very dense	sandstone
Nb-3	dark red	brown and purple	annular	moderate to high	moderate	✓ / ✓	intermediate	well bedded	very dense	mudstone, siltstone
Nb-2	red	orange	dendritic	high	very high	✓ / ✓	very rough	poorly bedded	very dense	calcareous sandstone
Nb-1	dark red	brown	trellis	moderate	low to moderate	✓ / ✓	smooth to intermediate	bedded	very dense	sandstone, mudstone
Pb	dark red	brown	trellis	high	low	✓ / ✓	smooth	well bedded	very dense	sandstone, shale
Pa-5	red	pale red	dendritic	high	low	✓ / ✓	smooth	bedded	very dense	mudstone, slump breccia
Pa-4	red to dark red	brown, orange and pale red	dendritic, trellis	very high	moderate to high	✓ / ✓	rough to intermediate	well bedded locally	very dense	alternation beds of sandstone and shale
Pa-3	dark red	brown	dendritic	moderate	moderate	✓ / ✓	rough and smooth	bedded	very dense	mudstone
Pa-2	red	pale red	dendritic	high	very high	✓ / ✓	very high	poorly bedded	very dense	shale, phyllite
Pa-1	red	pale red and dark red	dendritic, trellis	high to moderate	high to moderate	✓ / ✓	rough to intermediate	bedded locally	very dense	chert, spilitite
ad	dark red	dark gray	subdendritic	high	very high	✓ / ✓	rough	-	very dense	adamellite
gb	dark red	dark gray and dark red	subdendritic	moderate	moderate	- / -	rough	poorly layered	very dense	gabbro, dolerite
ub	dark brown	dark purple	dendritic	high	very high to moderate	✓ / ✓	rough to very rough	poorly layered	very dense	peridotite





- Unit Pa-2 This unit is distributed in southwest vicinity of the Kinabalu area. A high resistance of this unit is reflected by very rough topography. The unit shows characteristics similar to those of Unit Pa-4, however, resistivity is different between them. This can be explained either by contemporaneous heterotopic facies relation between them or by a lithologic variation within a formation. This unit corresponds to Trusumadi formation (P<sub>1</sub>Ts), consisting of shale and phyllite.
- Unit Pa-3 The unit is distributed over the area between south part of the Labuk area and northwest part of the Segama area. It, typically, shows very undulated, rough texture except in northwest part of the Segama area where it shows a relatively flat topography. The characteristics of the Unit Pa-3 are similar to those of Unit Pa-4. The unit corresponds to mudstone dominant Sapulut formation (KPSp).
- Unit Pa-4 This unit, characterized by rough topography and dendritic drainage pattern, occupies a wide area, from the Kinabalu area to the Labuk area. In north part of the survey area, a continuous bedding plane with changing trend, NW-SW to E-W, and a characteristic lattice drainage pattern are observed. This unit corresponds to Crocker formation (P<sub>2</sub>Cr) composed of flysh-type sandstone.
- Unit Pb This unit is distributed in east part of the Labuk area and characterized by a relatively flat topography. A low resistance of the unit resulted in a formation of lattice drainage pattern in the area. The unit correspond to Kulapis formation (P<sub>2</sub>Ks), consisting of red calcareous sandstone and shale, and it has unconformable boundaries with underlying and overlying formations.
- Unit Nb-1 The unit has a restricted distribution in northwest part of the Segama area, and it is characterized by rather undulated, flat topography and clear beddings. It is conformably overlain by Unit Nb-3. The unit is correspond to Labang formation (P<sub>3</sub>Lb) and Kuamut formation (P<sub>4</sub>Km), both of which are mainly composed of sandstone and mudstone.
- Unit Nb-2 This unit, characterized by a very rough topography, occupies a small area in the east part of the Kinabalu area. Although the topographic



features easily separate this unit from other surrounding unit, its stratigraphic relations with other units are not known from interpretation of the images. The unit correspond to the limestone-dominant Kudat formation (P<sub>3</sub>Kb).

Unit Nb-3 The unit, showing clear bedding and questa, is distributed in the south part of the Labuk area. An annular drainage system, reflecting geologic structure of the area, is a characteristic drainage system of the unit. The unit correspond to Tanjong formation (N<sub>2</sub>Tj) composed of mudstone and siltstone.

Unit Nb-5 This unit occupies a restricted area in northeast part of the Labuk area. An annular drainage system, reflecting geologic structure of the area, is a characteristic drainage system of the unit. The unit corresponds to Bongaya formation (N<sub>4</sub>By) composed of sandstone.

Unit Qa The unit is found on slopes of mountains in the northeast of Ranau, Kinabalu area. It shows a relatively rough texture of low resistance. The unit corresponds to Pinosuk Gravels of glacier deposits.

Unit Qb The unit is distributed along coast lines and main drainages. It shows very flat topography and very low resistance. A drainage pattern of the unit is anastomotic and its density increases close to coast lines.

## (2) Intrusive rocks

Unit ub This unit is widespread in the Labuk area and it shows scattering distribution around Ranau of the Kinabalu area. Very rough topography is a characteristic feature of the unit, however, it shows a intermediate roughness in certain part of the unit and locally layered structure is observed. It shows a characteristic tone on the images, dark brown on false color images and dark purple on principal component compressed images. The unit corresponds to the ultrabasic rocks of Cretaceous to early Tertiary.

Unit gb This unit is distributed in northwest and southwest of Telupid in the Labuk area and in southeast of Ranau in the Kinabalu area. It is

characterized by a topography of intermediate roughness and relatively rounded ridge pattern. a layered structure is, locally, observed. The unit corresponds to the gabbro and dolerite of Cretaceous to early Tertiary.

Unit ad A scattered distribution of the unit is found in north of Ranau in the Kinabalu area. It is characterized by a rough topography and a dark tones. A few lineaments are locally found. The unit is correspond to the adamellite intrusive bodies of middle to late Tertiary.

#### 4. Geologic structure

Based on the results of this interpretation, a geologic structure map is illustrated as shown in Fig. 5. The geologic structure in the surcey area is summerized as follows:

##### (1) Kinabalu and Labuk areas

Geologic structure in the Kinabalu area is characterized by general trends of NW-SE and E-W which is observed in the area of unit Pa-4. This geologic unit is widely found in the north and central parts of this area. The geologic structure of this unit consists of synclinal and anticlinal structures, and strike-slip faults. The faults trending NW-SE, NE-SW and N-S cutting the general trends are also found in the image and forms complicated structure in the area. This geologic structure is not found in the west part of the Kinabalu area, and is bounded by faults trending N-S which occurs from Bandau to 10 km east of Ranau. This fault system is significant one and forms fault zone. This fault zone separate the Kinabalu area and each side shows completely different geologic structure.

In the Labuk area, the unit ub is distributed in north and central parts of the area, the unit Pa-1 occurs from the central to west part of the area with a direction of NE-SW, and the unit Nb-3 unconformably covers these units. These distributions give complicated structure in this area. General trend of NE-SW is dominated in the north and central parts of the area where units ub and Pa-1 are distributed. In these parts, fault systems of NE-SW, N-S and NW-SE are also observed. In the south part of the area, basin structure is observed in the area



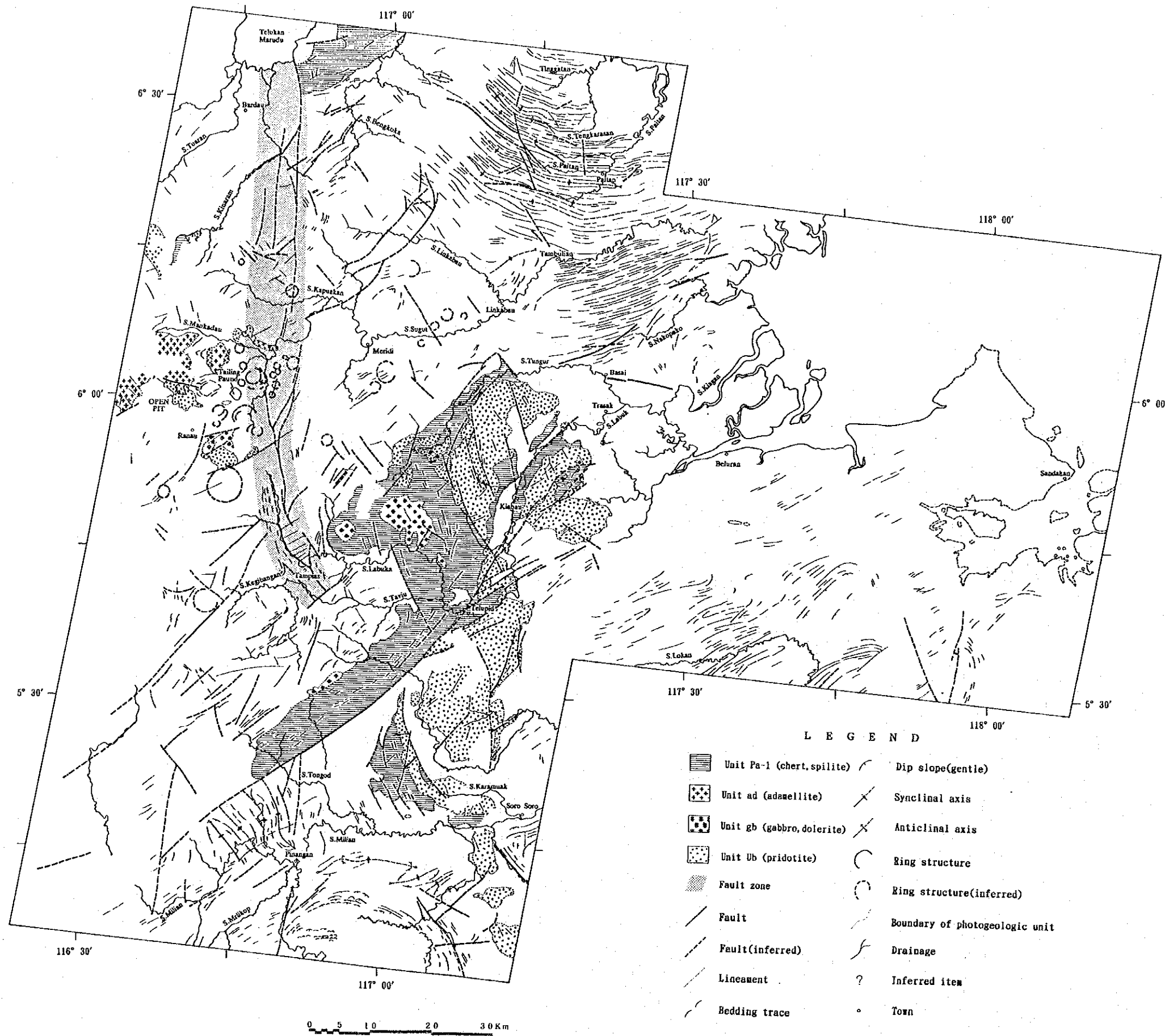


Fig. 5 Interpretation map of geologic structure in the Kinabalu and Labuk areas



where geologic unit Nb-3 occurs. This structure continuing further south, outside of the survey area, is gentle and 10 km in diameter. The unit Nb-3 unconformably covers the underlain units and shows different geologic structure to the underlain units. Consequently, this basin structure is thought to be formed in later stage compare to the structure observed in the north and central parts of the area.

## (2) Ranau and the surroundings

A significant fault trending N-S is found approximately 10 km east of Ranau. This fault separated the area to different geologic settings. Mineral deposits represented by Mamut mine is found in the west side of this fault and no mineral deposits is known in the east side of this fault. The Mamut mine area is in the area of unit Pa-4 and shows complicate structure because of intruded or emplaced rocks, such as adamellite and ultra-basic rocks, corresponding to the geologic units of ad and ub. Many ring structures, several km to 10 km in diameter, are found in the area of unit Pa-4. Existing geologic maps indicate that some of the ring structure corresponds to the granodiorite stocks, and these ring structures characteristically align along the N-S trending fault. Although intrusives are not observed in some ring structures, these ring structures are possibly related to subsurface intrusive bodies. Units ad and ub are not recognized at east side of this N-S trending fault, and only faults and lineaments are found within the unit Pa-4.

## (3) Bidu Bidu Hill and the surroundings

Fault system trending NW-SE is dominated in the Bidu Bidu Hill area. Among these fault, shape of the fault and distribution of geologic units suggest that the fault bounding the unit ub and Pa-1 is thrust fault. This characteristic features are also found along Labuk river where widely covered by alluvium. Faults trending NNW-SSE are also found in the area of unit ub. NW-SE trending lineaments are observed in the Bidu Bidu Hill ore deposit area where situated in a area of unit Pa-1. Geologic unit corresponding to microgabbro due to existing geologic map, is discriminated on the image in this area. Although the unit ub shows rough and massive topography in general, layered structure trending NE-SW is observed in limited area at the east of the Bidu Bidu Hill ore deposit.

## 5. Discussion

As the results of this interpretation, followings can be pointed out.

### (1) Data used and images generated

- ① Because the ground resolution of TM data is 30 m, TM data give more usefull data comparing to MSS data which resolution is 80 m. Consequently, it is better to use TM date for the important area, such as ore deposit area, in order to carry out more accurate interpretation, if adequate data are available.
- ② The principal component compressed images generated in this survey have not only spectral data but also topographic data. Six bands were used for the generation of this image. Consequently, this image is quite usefull for photogeologic interpretation.

### (2) Results of interpretation

- ① Fault zone in a direction of N-S was deliniated at the east of Ranau in this interpretation of images. This fault zone possibly play important role for the geology and mineralization in the area. A ground truth survey should be carried out in this area to understand the geology more clearly.
- ② Ring structures deliniated in the Ranau area suggest existance of intrusive bodies. As the results of Phase I survey, mineralization was recognized in these intrusive bodies. Consequently, the ring structure is quite important for further exploration work in this area.
- ③ The area along Labuk river was deliniated as the area showing similar geologic setting of Bidu Bidu Hill ore deposit area. It is better to carry out geologic survey in the Labuk river area in order to clarify the relationships between the geology and mineralization.











E4740

E4750

117°45' E  
E4760

E4770

E4780

