

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz samples (1/8)

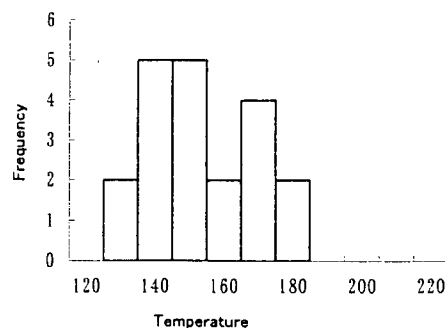
Phase I survey

Sample M99NK003M

Fluid inclusion: Many other secondary inclusions are observed.

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature ( $^{\circ}$ C)	Melting Temp ( $^{\circ}$ C)	NaCl Wt (%)
1	Quartz	5.0	10	po	148	-2.2	3.71
2	Quartz	5.0	10	po	157	-2.5	4.18
3	Quartz	5.0	7	po	139	-2.7	4.49
4	Quartz	5.0	10	irr	142	-1.0	1.74
5	Quartz	7.5	10	po	146	-2.8	4.65
6	Quartz	5.0	7	po	136	-1.5	2.57
7	Quartz	2.5	7	po	144	-	-
8	Quartz	< 2.5	7	po	156	-	-
9	Quartz	10.0	12	po	164	-3.0	4.96
10	Quartz	7.5	10	irr	173	-1.8	3.06
11	Quartz	7.5	12	po	182	-2.2	3.71
12	Quartz	5.0	10	po	166	-1.6	2.74
13	Quartz	5.0	7	eg	148	-	-
14	Quartz	2.5	5	po	171	-	-
15	Quartz	< 2.5	5	eg	155	-	-
16	Quartz	< 2.5	3	eg	150	-	-
17	Quartz	7.5	13	po	184	-1.7	2.90
18	Quartz	5.0	10	po	172	-2.8	4.65
19	Quartz	5.0	7	po	175	-2.0	3.39
20	Quartz	2.5	5	eg	156	-	-

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tu: tube; wg: wedge-shape



Mineral Quartz  
 Inclusions 20  
 Maximum 184  $^{\circ}$ C  
 Minimum 136  $^{\circ}$ C  
 Average 161.1  $^{\circ}$ C  
 deviation 13.9

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz samples (2/8)

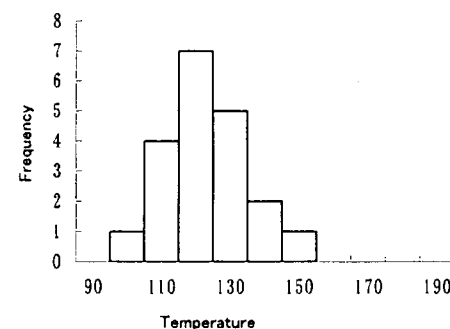
Phase I survey

Sample M99NK005M

Fluid inclusion: Many other secondary inclusions are observed.

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature ( $^{\circ}$ C)	Melting Temp ( $^{\circ}$ C)	NaCl Wt (%)
1	Quartz	5.0	10	po	112	-1.3	2.24
2	Quartz	5.0	7	po	109	-1.0	1.74
3	Quartz	12.5	13	irr	143	-2.8	4.65
4	Quartz	7.5	12	po	128	-2.4	4.03
5	Quartz	5.0	10	po	121	-1.4	2.41
6	Quartz	5.0	7	po	131	-1.1	1.91
7	Quartz	5.0	5	eg	110	-1.0	1.74
8	Quartz	2.5	7	eg	125	-	-
9	Quartz	5.0	10	po	137	-1.4	2.41
10	Quartz	5.0	10	po	134	-	-
11	Quartz	5.0	10	po	128	-1.3	2.24
12	Quartz	7.5	12	sq	151	-2.2	3.71
13	Quartz	5.0	12	po	137	-1.4	2.41
14	Quartz	5.0	10	po	122	-1.3	2.24
15	Quartz	2.5	7	eg	137	-	-
16	Quartz	< 2.5	5	eg	111	-	-
17	Quartz	7.5	10	po	124	-1.3	2.24
18	Quartz	7.5	10	po	145	-1.3	2.24
19	Quartz	2.5	5	eg	117	-	-
20	Quartz	5.0	7	po	121	-0.8	1.40

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tu: tube; wg: wedge-shape



Mineral Quartz  
 Inclusions 20  
 Maximum 112  $^{\circ}$ C  
 Minimum 136  $^{\circ}$ C  
 Average 161.1  $^{\circ}$ C  
 deviation 13.9

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Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz samples (3/8)

Phase I survey

Sample M99NK037R

Fluid inclusion: Many other liquid single phase inclusions are observed.

No.	Mineral	Size (m μ)	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	12.5	10	irr	175	-0.9	1.57
2	Quartz	5.0	7	po	181	-0.5	0.88
3	Quartz	2.5	3	eg	179	.	.
4	Quartz	2.5	3	eg	167	.	.
5	Quartz	7.5	10	po	193	-0.8	1.40
6	Quartz	5.0	10	po	188	-0.3	0.53
7	Quartz	5.0	7	po	167	-0.4	0.71
8	Quartz	5.0	10	sq	188	.	.
9	Quartz	5.0	10	po	191	-0.3	0.53
10	Quartz	5.0	7	po	164	-0.5	0.88
11	Quartz	10.0	7	po	193	-0.8	1.40
12	Quartz	5.0	12	po	204	-0.6	1.05
13	Quartz	2.5	10	po	202	.	.
14	Quartz	< 2.5	7	eg	177	.	.
15	Quartz	< 2.5	5	eg	151	.	.
16	Quartz	5.0	10	po	182	-0.7	1.23
17	Quartz	5.0	7	po	178	-0.8	1.40
18	Quartz	2.5	5	eg	161	.	.
19	Quartz	5.0	10	po	177	.	.
20	Quartz	5.0	7	po	171	-0.5	0.88

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tutube; wg: wedge-shape

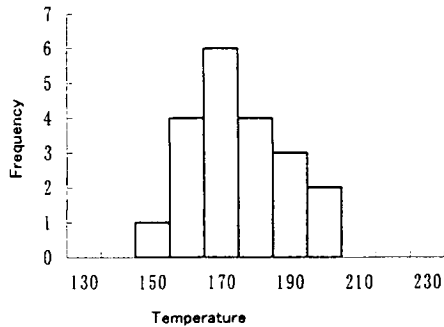


Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz samples (4/8)

Phase I survey

Sample M99MZ008M

Fluid inclusion: Many other secondary inclusions are observed.

Necking down is also observed.

No.	Mineral	Size (m μ)	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	10.0	7	po	181	-7.5	11.10
2	Quartz	22.5	10	irr	155	-7.8	11.46
3	Quartz	10.0	7	po	142	-7.3	10.86
4	Quartz	5.0	10	po	175	.	.
5	Quartz	5.0	10	po	186	.	.
6	Quartz	15.0	7	tu	193	-4.1	6.59
7	Quartz	10.0	7	tr	173	-5.2	8.14
8	Quartz	7.5	10	po	189	-3.5	5.71
9	Quartz	12.5	12	irr	204	-8.0	11.70
10	Quartz	10.0	10	po	194	-6.7	10.11
11	Quartz	12.5	10	irr	206	-8.2	11.93
12	Quartz	7.5	10	eg	196	-3.8	6.16
13	Quartz	7.5	7	po	192	-5.1	8.00
14	Quartz	5.0	7	po	188	.	.
15	Quartz	12.5	12	irr	206	-4.3	6.88
16	Quartz	7.5	10	po	182	-5.8	8.95
17	Quartz	5.0	7	po	184	.	.
18	Quartz	10.0	12	irr	201	-7.7	11.34
19	Quartz	5.0	10	po	177	-7.6	11.22
20	Quartz	5.0	7	po	156	.	.

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tutube; wg: wedge-shape

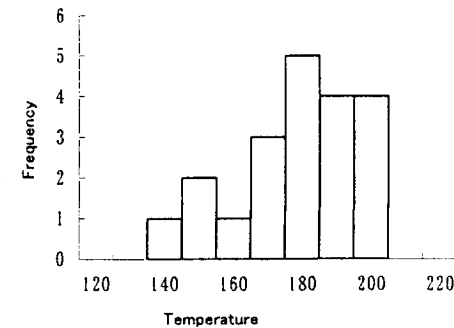


Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz samples (5/8)

Phase I survey

Sample M99MZ016M Fluid inclusion: Many other secondary inclusions are observed.

No.	Mineral	Size (m μ)	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	10.0	10	irr	161	-0.8	1.40
2	Quartz	5.0	10	po	169	-1.2	2.07
3	Quartz	5.0	10	po	162	-	-
4	Quartz	20.0	10	po	144	-1.8	3.06
5	Quartz	5.0	7	po	132	-1.0	1.74
6	Quartz	10.0	10	po	143	-1.4	2.41
7	Quartz	5.0	10	sq	159	-1.0	1.74
8	Quartz	5.0	7	po	140	-1.2	2.07
9	Quartz	5.0	5	po	144	-	-
10	Quartz	2.5	3	po	142	-	-
11	Quartz	7.5	10	sq	160	-1.1	1.91
12	Quartz	5.0	10	po	155	-0.7	1.23
13	Quartz	5.0	7	po	151	-0.8	1.40
14	Quartz	5.0	3	po	142	-0.7	1.23
15	Quartz	12.5	12	irr	138	-0.8	1.40
16	Quartz	10.0	10	irr	142	-1.6	2.74
17	Quartz	10.0	12	po	172	-1.8	3.06
18	Quartz	7.5	10	po	155	-1.2	2.07
19	Quartz	2.5	7	eg	154	-	-
20	Quartz	< 2.5	5	eg	158	-	-

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tu: tube; wg: wedge-shape

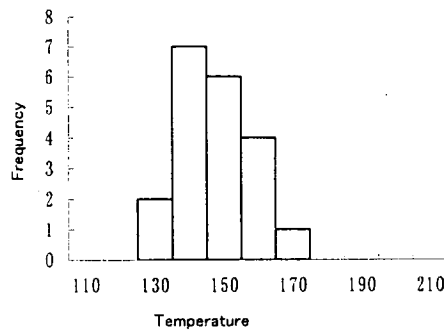


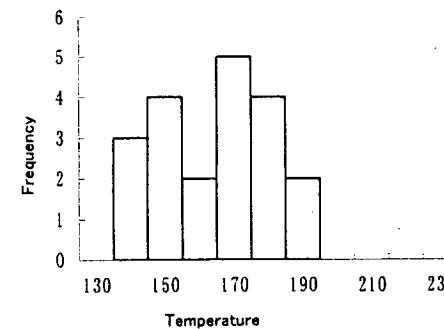
Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz samples (6/8)

Phase I survey

Sample M99MZ065M Fluid inclusion: Many other liquid single phase inclusions are observed.

No.	Mineral	Size (m μ)	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	5.0	7	po	176	-0.1	0.18
2	Quartz	5.0	7	po	167	-0.2	0.35
3	Quartz	7.5	7	po	158	0.0	0.00
4	Quartz	7.5	7	po	159	-0.2	0.35
5	Quartz	5.0	10	po	195	0.0	0.00
6	Quartz	2.5	7	eg	187	-	-
7	Quartz	2.5	5	eg	152	-	-
8	Quartz	5.0	10	po	188	-0.2	0.35
9	Quartz	5.0	7	po	194	0.0	0.00
10	Quartz	2.5	5	eg	175	-	-
11	Quartz	< 2.5	5	eg	145	-	-
12	Quartz	< 2.5	3	eg	147	-	-
13	Quartz	7.5	10	sq	186	0.0	0.00
14	Quartz	5.0	5	po	176	-0.1	0.18
15	Quartz	5.0	5	po	171	-0.1	0.18
16	Quartz	2.5	5	eg	160	-	-
17	Quartz	2.5	3	eg	145	-	-
18	Quartz	5.0	7	po	174	-0.2	0.35
19	Quartz	5.0	7	po	182	0.0	0.00
20	Quartz	< 2.5	5	eg	151	-	-

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tu: tube; wg: wedge-shape



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Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz samples (7/8)

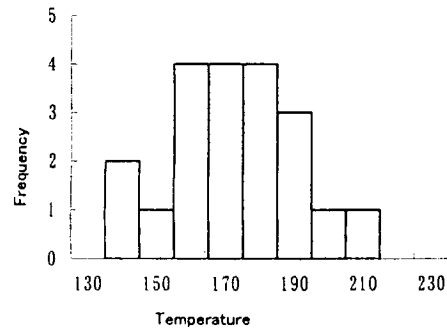
Phase I survey

Sample M99RK013R

Fluid inclusion: Many other secondary inclusions are observed.

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature ( $^{\circ}$ C)	Melting Temp ( $^{\circ}$ C)	NaCl Wt (%)
1	Quartz	7.5	10	irr	186	-0.5	0.88
2	Quartz	2.5	7	po	194	.	.
3	Quartz	2.5	5	po	202	.	.
4	Quartz	< 2.5	5	po	147	.	.
5	Quartz	< 2.5	5	eg	162	.	.
6	Quartz	5.0	10	po	159	-0.4	0.71
7	Quartz	5.0	7	po	184	-0.4	0.71
8	Quartz	< 2.5	5	eg	163	.	.
9	Quartz	< 2.5	3	eg	173	.	.
10	Quartz	< 2.5	5	eg	176	.	.
11	Quartz	5.0	12	po	217	-0.4	0.71
12	Quartz	5.0	10	po	190	-0.5	0.88
13	Quartz	5.0	7	sq	177	-0.2	0.35
14	Quartz	< 2.5	10	po	182	.	.
15	Quartz	2.5	5	po	193	.	.
16	Quartz	< 2.5	5	eg	167	.	.
17	Quartz	< 2.5	3	eg	161	.	.
18	Quartz	5.0	7	po	188	-0.4	0.71
19	Quartz	< 2.5	5	eg	172	.	.
20	Quartz	< 2.5	3	eg	148	.	.

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tu: tube; wg: wedge-shape



Mineral	Quartz
Inclusions	20
Maximum	184 $^{\circ}$ C
Minimum	136 $^{\circ}$ C
Average	161.1 $^{\circ}$ C
deviation	13.9

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

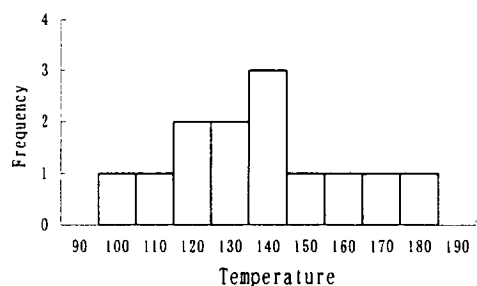
Phase II survey

(1/11)

Sample: M00HH202

No.	Mineral	Size (mμ)	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	5.0	7	tr	143	-0.2	0.35
2	Quartz	< 2.5	10	eg	125		
3	Quartz	< 2.5	7	eg	124		
4	Quartz	5.0	12	po	173	-0.6	1.05
5	Quartz	2.5	10	po	145		
6	Quartz	< 2.5	10	po	138		
7	Quartz	5.0	12	sq	166	-0.3	0.53
8	Quartz	2.5	12	po	152	-0.1	0.18
9	Quartz	< 2.5	10	eg	148		
10	Quartz	5.0	13	po	181	-0.1	0.18
11	Quartz	< 2.5	7	eg	108		
12	Quartz	< 2.5	7	eg	132		
13	Quartz	< 2.5	5	eg	115		

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 13  
 Maximum 181.0 °C  
 Minimum 108.0 °C  
 Average 142.3 °C  
 Deviation 21.2  
 Average Salinity 0.46

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

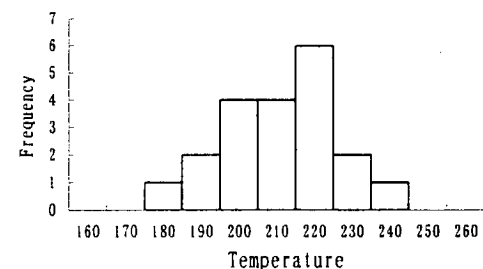
Phase II survey

(2/11)

Sample: M00MZ120

No.	Mineral	Size (mμ)	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	12.5	10	po	192	-2.3	3.87
2	Quartz	10.0	12	po	208	-1.9	3.23
3	Quartz	5.0	12	po	212	-2.0	3.39
4	Quartz	5.0	12	po	235		
5	Quartz	7.5	13	tr	209	-1.5	2.57
6	Quartz	5.0	10	po	212	-2.4	4.03
7	Quartz	5.0	10	eg	225		
8	Quartz	7.5	13	po	206	-2.4	4.03
9	Quartz	5.0	12	sq	215	-2.5	4.18
10	Quartz	2.5	10	eg	222		
11	Quartz	< 2.5	7	eg	202		
12	Quartz	< 7.5	12	po	227	-2.3	3.87
13	Quartz	7.5	15	wb	247	-1.2	2.07
14	Quartz	5.0	15	po	224	-2.3	3.87
15	Quartz	2.5	10	po	195		
16	Quartz	< 2.5	7	eg	187		
17	Quartz	5.0	12	po	227	-0.8	1.40
18	Quartz	10.0	13	irr	214	-1.0	1.74
19	Quartz	7.5	12	tr	230	-2.2	3.71
20	Quartz	5.0	10	po	225		

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 20  
 Maximum 247 °C  
 Minimum 187 °C  
 Average 215.7 °C  
 Deviation 14.7  
 Average Salinity 3.23

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

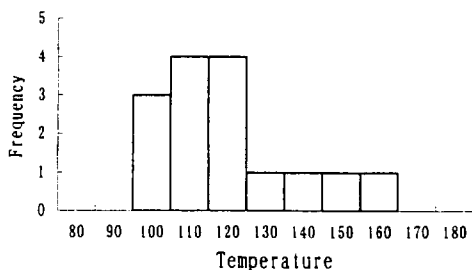
Phase II survey

(3/11)

Sample: M00MZ149

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Tempe- rature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	5.0	10	wg	132	-0.4	0.71
2	Quartz	2.5	7	po	112	-0.2	2.07
3	Quartz	< 2.5	5	po	120	.	.
4	Quartz	< 2.5	5	eg	116	.	.
5	Quartz	5.0	10	sq	145	-1.5	2.57
6	Quartz	2.5	10	po	126	-0.1	0.18
7	Quartz	2.5	7	po	163	.	.
8	Quartz	< 2.5	7	po	118	.	.
9	Quartz	< 2.5	7	eg	106	.	.
10	Quartz	< 2.5	5	eg	103	.	.
11	Quartz	5.0	10	tr	152	-2.3	3.87
12	Quartz	2.5	7	eg	121	.	.
13	Quartz	2.5	7	po	117	.	.
14	Quartz	< 2.5	5	eg	126	.	.
15	Quartz	< 2.5	3	eg	104	.	.

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 15  
 Maximum 163 °C  
 Minimum 103 °C  
 Average 124.1 °C  
 Deviation 16.9

Average Salinity 1.88

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

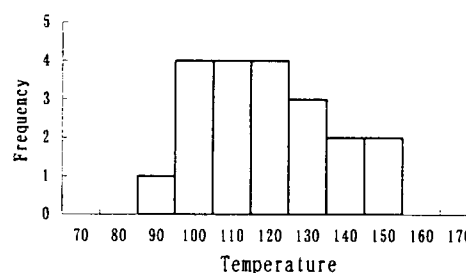
Phase II survey

(4/11)

Sample: M00MZ151

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Tempe- rature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	7.5	10	po	103	-3.2	5.26
2	Quartz	5.0	10	po	112	-4.2	6.74
3	Quartz	5.0	12	sq	126	-4.3	6.88
4	Quartz	2.5	10	po	106	.	.
5	Quartz	2.5	15	po	157	.	.
6	Quartz	12.5	10	po	115	-2.3	3.87
7	Quartz	10.0	7	irr	105	-0.8	1.40
8	Quartz	7.5	12	po	131	-4.5	7.17
9	Quartz	5.0	12	po	124	.	.
10	Quartz	2.5	10	po	129	.	.
11	Quartz	2.5	12	po	158	.	.
12	Quartz	< 2.5	7	eg	98	.	.
13	Quartz	15.0	15	irr	141	-2.3	3.87
14	Quartz	5.0	13	sq	137	-4.1	6.59
15	Quartz	2.5	10	po	117	.	.
16	Quartz	< 2.5	10	po	128	.	.
17	Quartz	< 2.5	7	eg	105	.	.
18	Quartz	5.0	12	po	137	-3.1	5.11
19	Quartz	5.0	12	po	141	-4.6	7.31
20	Quartz	2.5	10	po	118	.	.

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 20  
 Maximum 158 °C  
 Minimum 98 °C  
 Average 124.4 °C  
 Deviation 16.9

Average Salinity 5.42

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

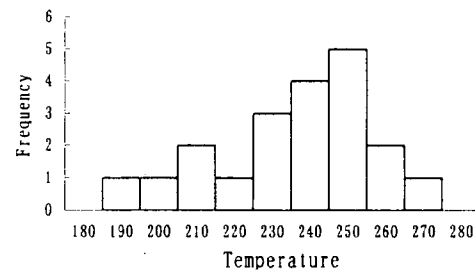
Phase II survey

(5/11)

Sample: M00MZ155

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Tempe- rature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	7.5	17	po	269	-0.1	0.18
2	Quartz	5.0	12	po	218	-0.2	0.35
3	Quartz	5.0	13	irr	239	-0.1	0.18
4	Quartz	5.0	12	sq	198	0.0	0.00
5	Quartz	2.5	13	po	252	-	-
6	Quartz	2.5	12	po	255	-	-
7	Quartz	< 2.5	10	eg	231	-	-
8	Quartz	5.0	12	po	205	-0.1	0.18
9	Quartz	5.0	20	wg	273	0.0	0.00
10	Quartz	7.5	17	wg	265	0.0	0.00
11	Quartz	5.0	13	po	242	-0.2	0.35
12	Quartz	5.0	15	po	253	-0.1	0.18
13	Quartz	2.5	10	po	244	-	-
14	Quartz	2.5	10	eg	223	-	-
15	Quartz	< 2.5	7	eg	236	-	-
16	Quartz	5.0	13	po	241	-0.6	1.05
17	Quartz	5.0	15	po	251	-0.2	0.35
18	Quartz	2.5	10	po	242	-	-
19	Quartz	< 2.5	10	eg	256	-	-
20	Quartz	< 2.5	7	eg	217	-	-

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 20  
 Maximum 273 °C  
 Minimum 198 °C  
 Average 240.5 °C  
 Deviation 19.8

Average Salinity 0.26

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

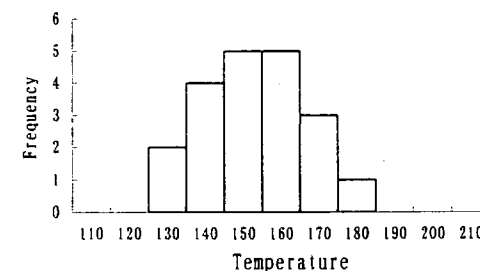
Phase II survey

(8/11)

Sample: M00MZ162

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Tempe- rature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	22.5	12	po	175	-1.2	2.07
2	Quartz	20.0	10	tu	170	-1.5	2.57
3	Quartz	5.0	13	tr	157	-	-
4	Quartz	15.0	10	po	136	-1.2	2.07
5	Quartz	10.0	10	po	140	-0.4	0.71
6	Quartz	5.0	10	sq	144	-	-
7	Quartz	5.0	10	po	152	-	-
8	Quartz	12.5	10	tu	155	-0.8	1.40
9	Quartz	10.0	12	po	166	-1.0	1.74
10	Quartz	5.0	10	po	158	-	-
11	Quartz	7.5	12	po	163	-1.4	2.41
12	Quartz	5.0	10	po	152	-0.9	1.57
13	Quartz	22.5	10	tu	182	-1.2	2.07
14	Quartz	17.5	10	po	144	-1.0	1.74
15	Quartz	5.0	12	sq	168	-	-
16	Quartz	5.0	10	po	136	-	-
17	Quartz	12.5	13	wg	165	-0.8	1.40
18	Quartz	7.5	12	po	172	-1.2	2.07
19	Quartz	5.0	12	po	169	-	-
20	Quartz	5.0	10	po	143	-	-

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 20  
 Maximum 182 °C  
 Minimum 136 °C  
 Average 157.4 °C  
 Deviation 13.3

Average Salinity 1.82

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

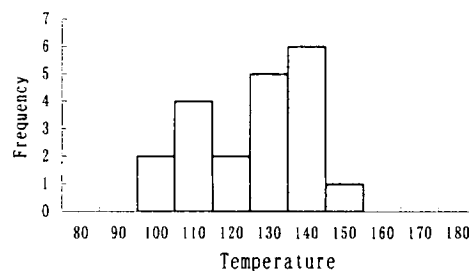
Phase II survey

(7/11)

Sample: M00MZ163

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	12.5	10	irr	108	-0.3	0.53
2	Quartz	5.0	7	po	110	-	-
3	Quartz	5.0	10	po	145	-0.2	0.35
4	Quartz	5.0	10	po	116	-0.3	0.53
5	Quartz	5.0	10	sq	132	-	-
6	Quartz	5.0	7	sq	113	-0.7	1.23
7	Quartz	10.0	10	po	137	-0.3	0.53
8	Quartz	15.0	13	wg	142	-0.2	0.35
9	Quartz	5.0	10	tu	106	-	-
10	Quartz	7.5	7	po	122	-1.1	1.91
11	Quartz	7.5	7	po	132	-0.3	0.53
12	Quartz	5.0	10	po	123	-	-
13	Quartz	2.5	10	po	144	-	-
14	Quartz	< 2.5	7	eg	111	-	-
15	Quartz	5.0	10	po	145	-0.6	1.05
16	Quartz	5.0	12	sq	136	-0.2	0.53
17	Quartz	7.5	13	po	152	-0.5	0.88
18	Quartz	5.0	12	po	141	-0.3	0.53
19	Quartz	5.0	10	po	145	-	-
20	Quartz	< 2.5	7	eg	135	-	-

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 20  
 Maximum 152 °C  
 Minimum 106 °C  
 Average 129.8 °C  
 Deviation 14.4

Average Salinity 0.75

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

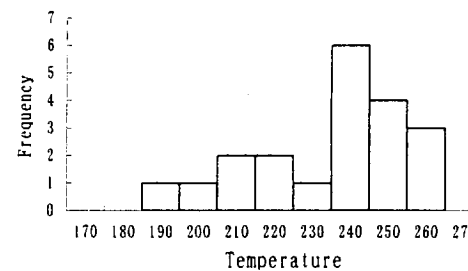
Phase II survey

(8/11)

Sample: M00MZ177

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	7.5	12	po	237	-0.1	0.18
2	Quartz	2.5	10	po	223	-	-
3	Quartz	5.0	13	po	260	0.0	0.00
4	Quartz	5.0	15	po	267	0.0	0.00
5	Quartz	7.5	10	po	207	-0.1	0.18
6	Quartz	2.5	10	po	194	-	-
7	Quartz	2.5	10	eg	217	-	-
8	Quartz	5.0	13	po	244	0.0	0.00
9	Quartz	< 2.5	10	po	262	-	-
10	Quartz	< 2.5	10	po	243	-	-
11	Quartz	5.0	15	sq	251	0.0	0.00
12	Quartz	5.0	13	sq	255	-0.1	0.18
13	Quartz	2.5	12	po	247	-	-
14	Quartz	2.5	10	po	219	-	-
15	Quartz	< 2.5	10	eg	240	-	-
16	Quartz	< 2.5	10	eg	245	-	-
17	Quartz	5.0	13	tr	248	0.0	0.00
18	Quartz	5.0	12	po	251	-0.1	0.18
19	Quartz	2.5	12	po	253	-	-
20	Quartz	< 2.5	10	po	221	-	-

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 20  
 Maximum 267 °C  
 Minimum 194 °C  
 Average 239.2 °C  
 Deviation 19.0

Average Salinity 0.08



Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

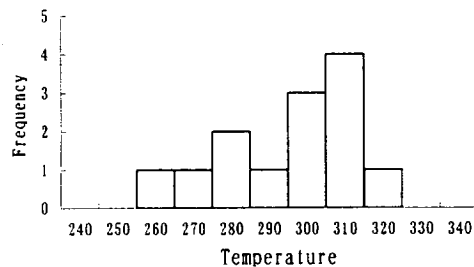
Phase II survey

(9/11)

Sample: MOONK158

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	5.0	20	sq	312	-1.2	2.07
2	Quartz	5.0	17	po	287	-1.3	2.24
3	Quartz	2.5	15	po	318	-0.7	1.23
4	Quartz	2.5	17	eg	305	.	.
5	Quartz	< 2.5	15	eg	303	.	.
6	Quartz	< 2.5	13	eg	295	.	.
7	Quartz	5.0	17	sq	318	-0.9	1.57
8	Quartz	5.0	15	eg	305	-0.2	0.35
9	Quartz	< 2.5	13	eg	327	.	.
10	Quartz	< 2.5	10	eg	275	.	.
11	Quartz	< 2.5	12	eg	265	.	.
12	Quartz	< 2.5	10	eg	282	.	.
13	Quartz	5.0	15	po	311	-1.4	2.41

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 13  
 Maximum 327 °C  
 Minimum 265 °C  
 Average 300.2 °C  
 Deviation 17.7  
 Average Salinity 1.65

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

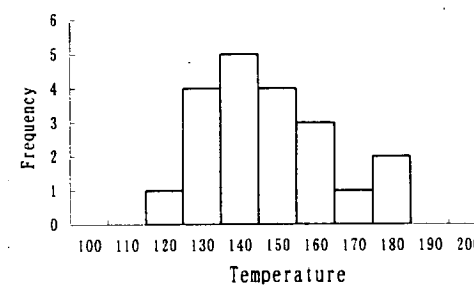
Phase II survey

(10/11)

Sample: M00TM138

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	5.0	10	po	162	-0.4	0.71
2	Quartz	< 2.5	7	po	143	.	.
3	Quartz	< 2.5	7	eg	135	.	.
4	Quartz	5.0	10	po	151	-0.3	0.53
5	Quartz	2.5	7	po	136	.	.
6	Quartz	< 2.5	7	eg	130	.	.
7	Quartz	< 2.5	12	eg	166	.	.
8	Quartz	< 2.5	10	eg	152	.	.
9	Quartz	5.0	12	wg	177	-0.1	0.18
10	Quartz	2.5	7	po	144	-0.2	0.35
11	Quartz	< 2.5	7	eg	148	.	.
12	Quartz	< 2.5	7	eg	142	.	.
13	Quartz	5.0	12	sq	182	-0.4	0.71
14	Quartz	< 2.5	7	eg	124	.	.
15	Quartz	< 2.5	10	eg	151	.	.
16	Quartz	< 2.5	10	eg	164	.	.
17	Quartz	< 2.5	7	eg	142	.	.
18	Quartz	5.0	12	po	181	-0.2	0.35
19	Quartz	< 2.5	10	eg	156	.	.
20	Quartz	< 2.5	7	eg	137	.	.

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral Quartz  
 Inclusions 20  
 Maximum 182 °C  
 Minimum 124 °C  
 Average 151.2 °C  
 Deviation 16.1  
 Average Salinity 0.47

Table A-19 Homogenization temperature and salinity of fluid inclusions of quartz sample

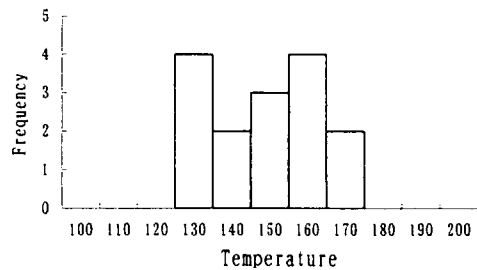
Phase II survey

(11/11)

Sample: M00TM166

No.	Mineral	Size (m $\mu$ )	Volume ratio (%)	Form	Temperature (°C)	Melting Temp (°C)	NaCl Wt (%)
1	Quartz	5.0	12	po	165	-0.4	0.71
2	Quartz	2.5	10	po	143	-0.4	0.88
3	Quartz	< 2.5	10	eg	150	.	.
4	Quartz	< 2.5	7	eg	135	.	.
5	Quartz	5.0	12	po	150	-0.7	1.23
6	Quartz	2.5	10	eg	158	.	.
7	Quartz	< 2.5	10	eg	172	.	.
8	Quartz	< 2.5	10	eg	176	.	.
9	Quartz	5.0	12	wg	164	-0.3	0.53
10	Quartz	< 2.5	10	eg	138	.	.
11	Quartz	< 2.5	7	eg	132	.	.
12	Quartz	< 2.5	7	eg	138	.	.
13	Quartz	2.5	10	po	162	-0.2	0.35
14	Quartz	< 2.5	10	po	166	.	.
15	Quartz	< 2.5	7	eg	143	.	.

eg:egg-shape, irr:irregular, po:polygon, sq:square, tr:triangle, tu:tube, wg:wedge-shap



Mineral	Quartz
Inclusions	15
Maximum	176 °C
Minimum	132 °C
Average	152.8 °C
Deviation	13.8
Average Salinity	0.74

Table A-20 K-Ar radiometric age

*Phase I servey*

Sample	K(wt%)	nL/g	<sup>40</sup> Ar (radiogenic)	
			%Total	Age (Ma)
M99MZ051R (Biot conc)	1.66	15.2603	73	223 ± 6
M99MZ051R (fsp+qtz conc)	2.66	22.0850	56	202 ± 4

Decay constant <sup>40</sup>K:  $\lambda_{\beta} = 0.4962 \times 10^{-9}$ ,  $\lambda_e = 0.581 \times 10^{-10} \text{ yr}^{-1}$ .

Isotopic abundance: <sup>40</sup>K/K = 0.01167% (atomic).

Errors are 2 standard deviations.

Biot conc sample has an error of 2.7%. The analyst suspects that the error is slightly larger in this sample because of some chlorite contaminant within the the biotite.

Sample(Bulk)	K(wt%)	nL/g	<sup>40</sup> Ar (radiogenic)	
			%Total	Age (Ma)
M99NK041	1.80	15.5539	49	210 ± 4
M99NK052	2.36	27.9509	65	282 ± 6
M99NK067	2.35	18.7434	50	195 ± 4
M99NK083	2.17	18.3144	43	205 ± 4

Decay constants <sup>40</sup>K:  $\lambda_{\beta} = 0.4962 \times 10^{-9}$ ,  $\lambda_e = 0.581 \times 10^{-10} \text{ yr}^{-1}$ .

Isotopic abundance: <sup>40</sup>K/K = 0.01167% (atomic).

Errors are 2 standard deviations.

Table A-20 K-Ar radiometric age

## Phase II survey

No.	Sample No.	District	Occurrence	Rock Name	General Description	Alteration	Material Analyzed	Isotopic Age (Ma)	Ar <sup>40</sup> (scc/g×10 <sup>-5</sup> )	%Ar <sup>40</sup>	%K
1	M00NK100	Erdenet West	Bulgan NW	Trachy andesite	Unaltered, massive		Whole Rock	182±9	3.03	98.8	4.00
									2.93	98.8	4.00
2	M00NK165	Erdenet West	Zhuukhiin gol	Andesite	Unaltered, dark greyish		Whole Rock	229±11	1.46	92.9	1.54
									1.47	92.7	1.54
3	M00TM128	Tavt	Ereen No.42 ore body	Granodiorite	Weak altered (epidote, chlorite), coarse grain, biotite, plagio, quartz, k-feld		Whole Rock	330±16	2.30	97.2	1.65
									2.34	96.9	1.65
4	M00TM129	Tavt	Ereen No.1 ore body	Diorite	Altered (epidote, chlorite, sericeite, quartz), fine grain		Whole Rock	247±12	0.95	95.9	0.93
									0.96	96.3	0.93
5	M00MZ113	Tosontsengel	Naranbulag	Granodiorite	---	unaltered	Whole Rock	110±6	1.86	98.8	4.15
									1.81	98.8	4.14
6	M00TM110	Murun West	Tsagaan tolgoi	Granitic rock	mediun grain, pale grinish, , rare mafic mineral, phenocryst: quartz, feldsper	strong greisenization (muscovite), silicification, quartz vein, limonitization	Muscovite	518±26	5.57	94.6	2.38
									5.52	95.3	2.37
7	M00TM130	Tavt	Ereen No.1 ore body	Quartz vein	coarse grain, clear, host: granite	muscovite, host: K-silicate alteration	Muscovite	276±14	6.58	97.6	5.67
									6.53	98	5.65

Table A-21 Calculation of  $\delta^{18}\text{O}$  water based on the isotopic data and fluid inclusion data

## Phase I survey

Sample	Area	Type	$\delta^{18}\text{O}(\text{‰})_{\text{qz}}$	Range T°C	Average T°C	$\delta^{18}\text{O}(\text{‰})_{\text{qz-water}}$	$\delta^{18}\text{O}(\text{‰})_{\text{water}}$	NaCl (wt%)
M99NK003M	Zaamar	quartz vein	15.1	136~184	158.2	14.7	0.4	3.60
M99NK003M	Zaamar	quartz vein	15.3	136~184	158.2	14.7	0.6	3.60
M99NK003M	Zaamar	quartz vein	16.2	136~184	158.2	14.7	1.5	3.60
M99NK003M	Zaamar	quartz vein	16.6	136~184	158.2	14.7	1.9	3.60
M99NK005M	Zaamar	quartz vein	18.6	109~151	127.2	17.5	1.1	2.51
M99NK005M	Zaamar	quartz vein	18.6	109~151	127.2	17.5	1.1	2.51
M99NK005M	Zaamar	quartz vein	18.7	109~151	127.2	17.5	1.2	2.51
M99NK005M	Zaamar	quartz vein	18.7	109~151	127.2	17.5	1.2	2.51
M99MZ008M	Altgana Gol	quartz vein	7.6	142~206	183.0	12.8	-5.2	9.34
M99MZ008M	Altgana Gol	quartz vein	7.9	142~206	183.0	12.8	-4.9	9.34
M99MZ008M	Altgana Gol	quartz vein	8.4	142~206	183.0	12.8	-4.4	9.34
M99MZ016M	Erdenet NW	quartz vein	4.3	132~172	151.2	15.3	-11.0	1.97
M99MZ016M	Erdenet NW	quartz vein	4.9	132~172	151.2	15.3	-10.4	1.97
M99MZ016M	Erdenet NW	quartz vein	5.5	132~172	151.2	15.3	-9.8	1.97
M99MZ016M	Erdenet NW	quartz vein	5.9	132~172	151.2	15.3	-9.4	1.97
M99MZ065M	Tsookher Mert	quartz vein	3.0	145~195	169.3	13.8	-10.8	0.16
M99MZ065M	Tsookher Mert	quartz vein	4.5	145~195	169.3	13.8	-9.3	0.16
M99MZ065M	Tsookher Mert	quartz vein	5.8	145~195	169.3	13.8	-8.0	0.16

$\delta^{18}\text{O}(\text{‰})_{\text{qz-water}}$  : Oxygen isotopic fractionation factor between quartz and water (Matsuhisa et al., 1979).

$\delta^{18}\text{O}(\text{‰})$  values of muscovite in quartz vein of M99NK003M are +11.8‰ to +11.9‰, calculated temperature by oxygen isotopic fractionation factor between quartz and muscovite (Kieffer, 1982) are 144°C to 230°C.

Table A-21 Calculation of  $\delta^{18}\text{O}$  water based on the isotopic data and fluid inclusion data

## Phase II survey

Sample No.	District	Occurrence	Sample type	$\delta^{18}\text{O}(\text{‰})_{\text{qz}}$	Range T(°C)	Average T(°C)	$\delta^{18}\text{O}(\text{‰})_{\text{quartz-water}}$	$\delta^{18}\text{O}(\text{‰})_{\text{water}}$	NaCl (wt%)
M00MZ120	Tsagaan uul	Gurvan buudal uul	Quartz vein	19.74	187~247	215.7	10.7	9.1	3.23
M00MZ149	Tavt	Ereem No.1 ore body	Quartz vein	15.03	103~163	124.1	17.9	-2.8	1.88
M00MZ151	Tavt	Ereem No.1b ore body	Quartz vein	12.05	98~158	124.4	17.8	-5.8	5.42
M00MZ155	Tavt	Ereem No.3 ore body	Quartz vein	11.91	198~273	240.5	9.4	2.6	0.26
M00MZ162	Erdenet West	Erdenet NW	Quartz vein	4.41	136~182	157.4	14.7	-10.3	1.82
M00MZ163	Erdenet West	Erdenet NW	Quartz vein	2.22	106~152	129.8	17.3	-15.1	0.75
M00MZ177	Erdenet West	Khujiriin gol	Quartz vein	-10.99					
M00HH202	Erdenet West	Khujiriin gol	Quartz vein	-8.22					

$\delta^{18}\text{O}(\text{‰})_{\text{qz-water}}$  : Oxygen isotopic fractionation factor between quartz and water (Matsuhisa et al., 1979).

Table A-22 Measurement of  $\delta^{34}\text{S}$  for granitic rocks and pyrite

Sample No.	District	Occurrence	Sample type	Mineralization	$\delta^{34}\text{S}$ (‰)	S (%)
M99HH008R	Erdenet	Erdenet NW	Selenge Complex	-	7.2	0.005
M99MZ017R	Erdenet	Erdenet NW	Erdenet Complex	+	-1.8	0.17
M99MZ041R	Erdenet	Erdenet SE	Erdenet Complex	+	-4.8	1.25
M99MZ044R	Erdenet	Erdenet SE	Selenge Complex	-	3.3	0.001
M99MZ036R	Erdenet	Under	Selenge Complex	-	4.6	0.01
M99MZ039R	Erdenet	Under	Erdenet Complex	-	3.8	0.001
M99MZ016M	Erdenet	Erdenet NW	Pyrite		-0.7	
M99MZ016M	Erdenet	Erdenet NW	Pyrite		-0.5	
M99MZ016M	Erdenet	Erdenet NW	Pyrite		-0.5	
M00MZ154	Tavt	Ereen	Granodiorite	-	11.6	
M00MZ156	Tavt	Ereen	Diorite	-	5.9	

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# APPENDIX 5

11

Table A-23 List of granitic and volcanic rocks for examination of petrological chemistry

(1/2)

Granitic rocks

Sample	District	Occurrence	Rock Name	General Description	Alteration and Mineralization	Type	Geologic age	Biotite	Apatite
M00NK102	Erdenet West	Bulgan NW	Granitoid	equigranular	unaltered		Permian		
M00MZ132	Erdenet West	Bulgan NW	Diorite		unaltered		Permian-Jurassic		
M99MZ054R	Bulgan West	Burged khyr	Granitic rock		relatively unaltered? (limonite)		Permian-Triassic		
M99RK030R	Erdenet	Erdenet Central	Granite	biotite+plagioclase+quartz+K-feldspar	relatively unaltered (quartz vein in)	Selenge complex	Permian-Triassic		
M99HH008R	Erdenet	Erdenet NW	Granite-Granodiorite	holocrystalline/int. ~ coarse	unaltered	Selenge complex	Permian-Triassic		
M00HH119	Tsagaan uul	Khunkh tsakhir	Granite	drill core (quartz, feldspar, biotite)	unaltered		Permian		
M00HH109	Tosontsengel	Naranbulag	Granite	float in trench, (fine grained)	unaltered		Permian		
M00MZ113	Tosontsengel	Naranbulag	Granodiorite		unaltered		Permian-Triassic		
M99MZ043R	Erdenet	Oyut (Erdenet SE)	Granodiorite porphyry		relatively unaltered	Erdenet complex	Permian-Triassic		
M99MZ044R	Erdenet	Oyut (Erdenet SE)	Granodiorite		unaltered	Selenge complex	Permian-Triassic		
M99RK025R	Erdenet	SAR144	Granite	plagioclase+biotite+quartz+k-feldspar	potassic(k-feldspar+biotite) alteration, limonite, malachite along fracture	Selenge complex	Permian-Triassic		
M99NK059R	Erdenet	Tourmarine	Granite		unaltered		Permian-Triassic		
M99NK061R	Erdenet	Tourmarine	Granite		unaltered		Permian-Triassic	Unaltered	Rare
M99MZ036R	Erdenet	Under	Granodiorite		relatively unaltered (k-feldspar, epidote)	Selenge complex	Permian-Triassic		
M99MZ039R	Erdenet	Under	Quartz porphyry		relatively unaltered	Erdenet complex	Permian-Triassic		
M00NK106	Erdenet West	Undrakh	Granitoid		unaltered		Permian		
M99RK032R	Erdenet	Erdenet Central	Diorite	fine grained, phenocryst: biotite+plagioclase	epidote, limonite, malachite along crack	Erdenet complex ?	Permian-Triassic		
M99HH011R	Erdenet	Erdenet NW	Granodiorite		pyrite, malachite	Erdenet complex	Permian-Triassic	Altered	Rare
M99MZ015R	Erdenet	Erdenet NW	Granitic rock		phyllitic alteration, pyrite and chalcopyrite dissemination	Erdenet complex	Permian-Triassic	Absence	Absence
M99MZ017R	Erdenet	Erdenet NW	Granitic rock		potassic alteration, pyrite dissemination	Erdenet complex	Permian-Triassic		
M99MZ057R	Bulgan West	Nomgon	Granitic rock		magnetite rich	Selenge complex	Permian-Triassic		
M99MZ059R	Bulgan West	Nomgon	Granitic rock		replacement, magnetite rich (magnetite after mafic)	Selenge complex	Permian-Triassic		
M99MZ042R	Erdenet	Oyut (Erdenet SE)	Granodiorite porphyry		phyllitic alteration	Erdenet complex	Permian-Triassic		
M99RK044R	Erdenet	SAR127	Granodiorite	equigranule, coarse grained, biotite+plagioclase+k-feldspar	unaltered	Selenge complex ?	Permian-Triassic		



Table A-23 List of granitic and volcanic rocks for examination of petrological chemistry

(2/2)

*Granitic rocks*

Sample	District	Occurrence	Rock Name	General Description	Alteration and Mineralization	Type	Geologic age	Biotite	Apatite
M99HH013R	Erdenet	SAR138	Granite	coarse grained	unaltered		Triassic-Jurassic	Altered	Existence
M99NK051R	Erdenet	SAR139	Granite		unaltered		Triassic-Jurassic	Altered	Existence
M99HH015R	Erdenet	SAR139	Granodiorite	intermediate	unaltered		Permian?		
M99HH017R	Erdenet	SAR139	Granodiorite	intermediate	relatively unaltered (epidote)		Permian?		
M99RK038R	Erdenet	SAR238	Granite	quartz+plagioclase+k-feldsper+biotite	relatively unaltered (quartz vein in)	Selenge complex ?	Permian-Triassic (Cambrian-Ordovician)		
M00MZ131	Murun west	Ulaannuur	Tonalite	coarse	limonite after pyrite		Jurassic?		
M00MZ181	Erdenet West	Zhuukhiin gol	Granodiorite	pinkish K-feldsper	potassium alteration ?		Triassic (Permian?)		
M00MZ154	Tavt	Ereen No.1 ore body	Granodiorite		unaltered		Carboniferous-Ordovician (Permian?)		
M00MZ156	Tavt	Ereen No.3 ore body	Diorite		unaltered		Carboniferous-Ordovician (Permian?)		
M00MZ130	Murun west	Ulaannuur	Granite	light grey	relatively unaltered (pyrite dissemination)		Devonian		
M99MZ047R	Erdenet	SAR235	Aplitic rock	biotite	silicification		Cambrian-Ordovician		
M99MZ048R	Erdenet	SAR235	Granitic rock		silicification-sericite, limoniite		Cambrian-Ordovician		

Unaltered granitic rocks (examination of petrological chemistry)

Altered and mineralized granitic rock

Table A-23 List of granitic and volcanic rocks for examination of petrological chemistry

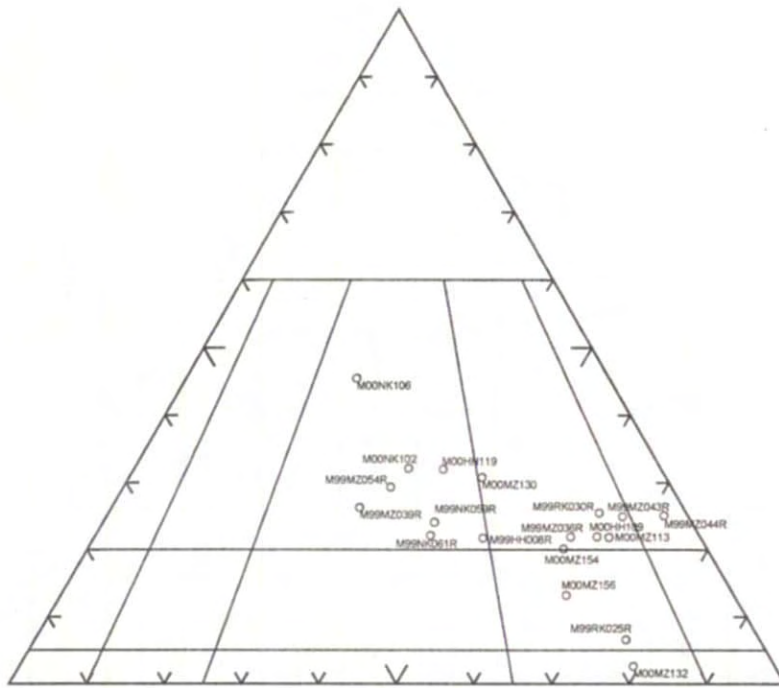
*Volcanic rocks*

Sample	District	Occurrence	Rock Name	General Description	Alteration and Mineralization	Geologic age
M00NK100	Erdenet West	Bulgan NW	Trachy andesite	massive	unaltered	Permian
M99NK083R	Bulgan	Khar uul	Andesite		unaltered	Permian
M99NK052R	Erdenet	SAR139	Basalt	dyke	unaltered	Carboniferous-Permian?
M99HH014R	Erdenet	SAR139	Basalt	gray	silicification, quartz+epidote vein	Carboniferous-Permian?
M99NK067R	Erdenet	Zaluu	Basaltic andesite		unaltered	Jurassic (Permian?)
M00NK101	Erdenet West	Bulgan NW	Basalt	aphanitic	unaltered	Permian
M99HH010R	Erdenet	Erdenet NW	Andesite	dyke, gray, aphanitic	unaltered	Permian-Triassic
M99HH012R	Erdenet	Erdenet NW	Andesite	dyke, dark green	relatively unaltered (pyrite)	Permian-Triassic
M99NK041R	Erdenet	Talbulag	Tuff breccia	andesitic	unaltered	Triassic
M99MZ045R	Erdenet	SAR233	Volcanic rock		silicification	Cambrian-Ordovician

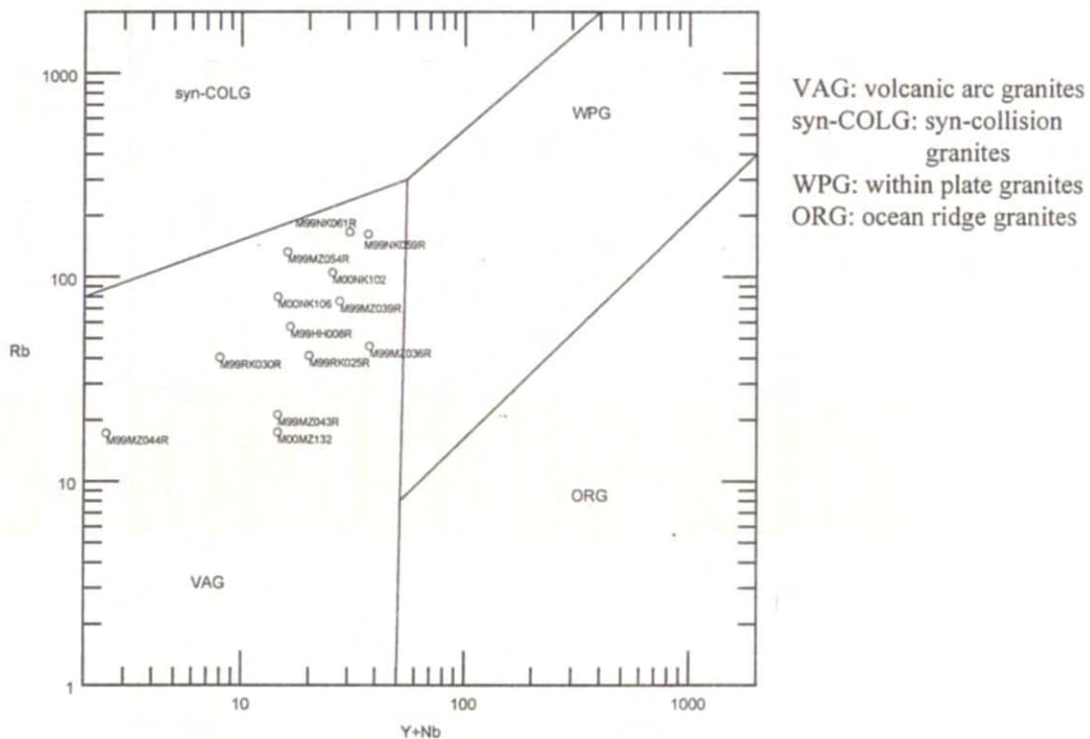
unaltered Volcanic rocks (examination of petrological chemistry)

Altered and mineralized volcanic rocks

Granitic rocks



Quartz - Alkali feldspar - Plagioclase diagram

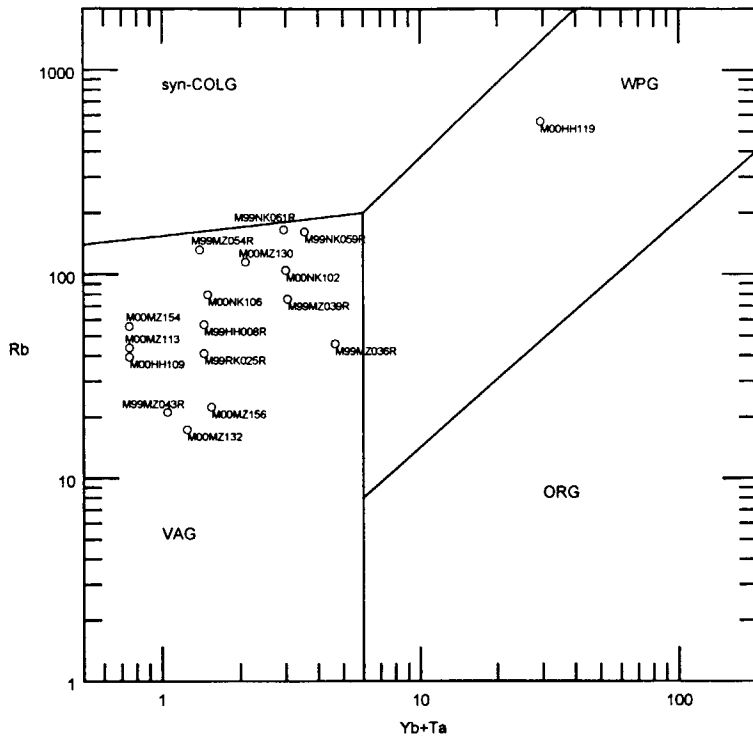


VAG: volcanic arc granites  
 syn-COLG: syn-collision granites  
 WPG: within plate granites  
 ORG: ocean ridge granites

Rb - (Y+Nb) diagram (Pearce et al., 1984)

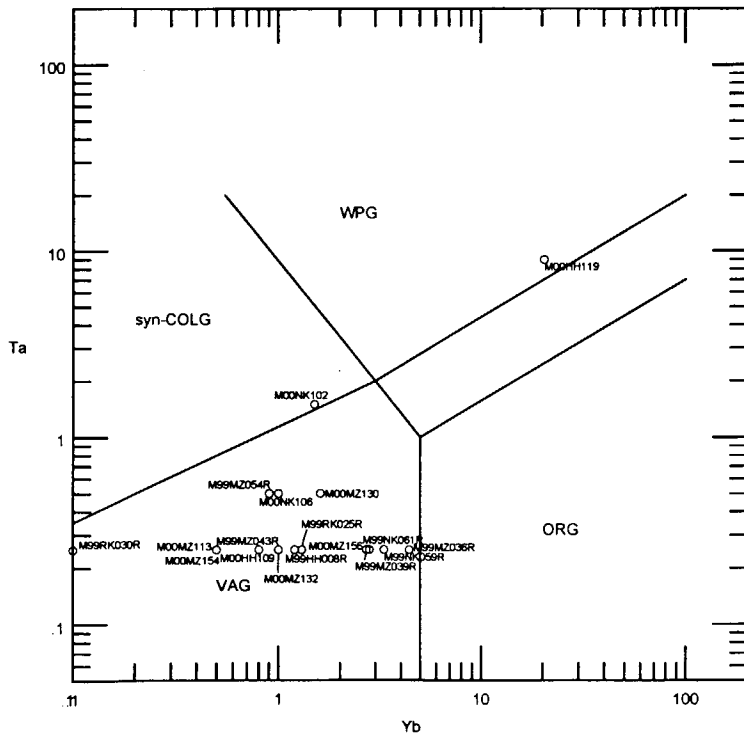
Fig. A-4 Diagrams for examination of petrological chemistry

Granitic rocks



VAG: volcanic arc granites  
 syn-COLG: syn-collision  
 granites  
 WPG: within plate granites  
 ORG: ocean ridge granites

Rb - (Yb+Ta) diagram (Pearce et al., 1984)

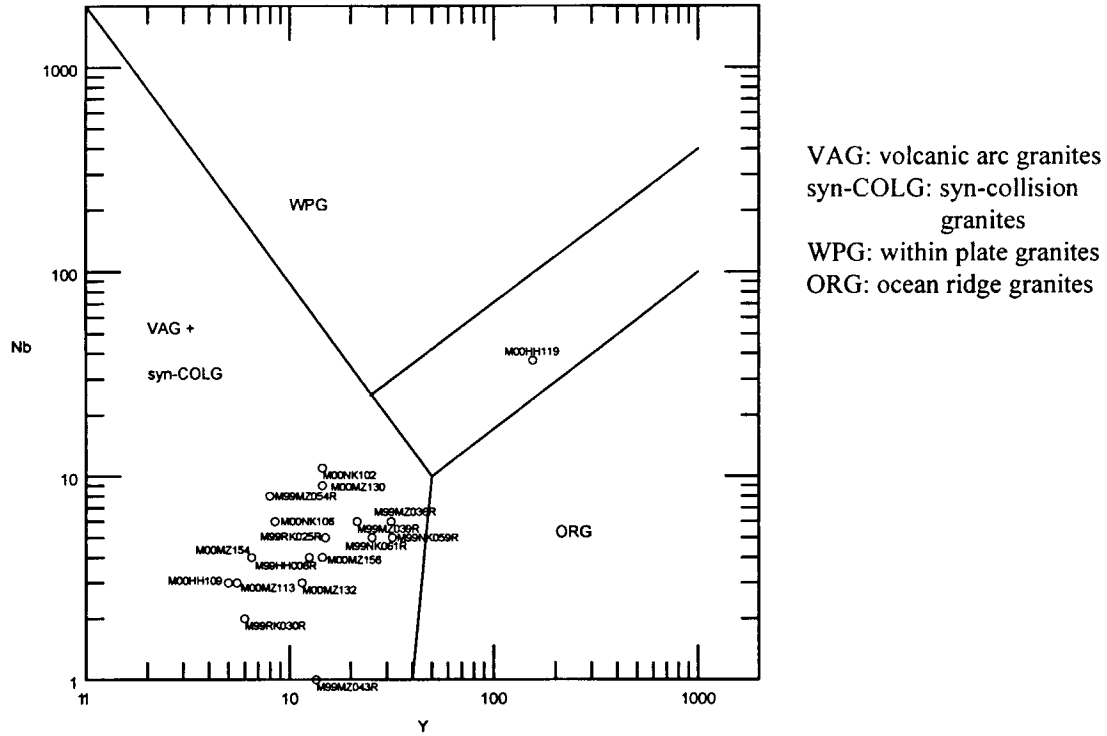


VAG: volcanic arc granites  
 syn-COLG: syn-collision  
 granites  
 WPG: within plate granites  
 ORG: ocean ridge granites

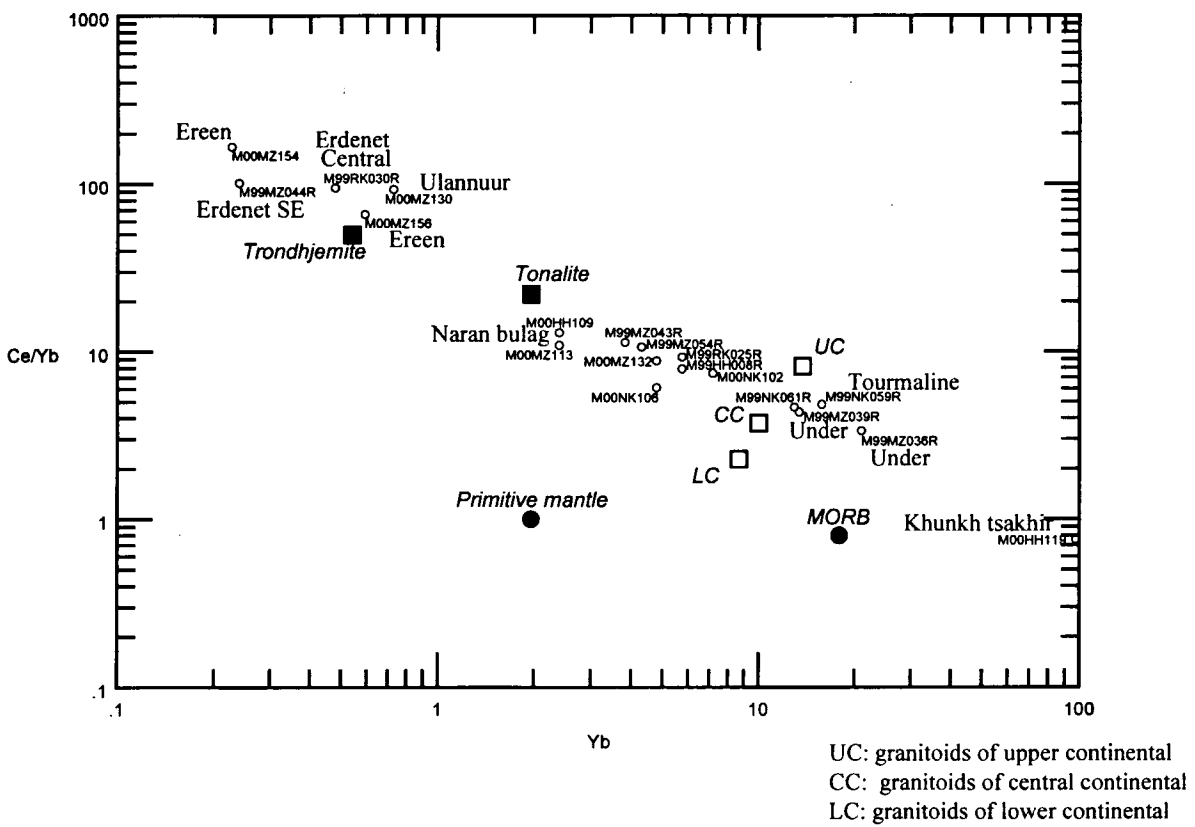
Ta - Yb diagram (Pearce et al., 1984)

Fig. A-4 Diagrams for examination of petrological chemistry

Granitic rocks



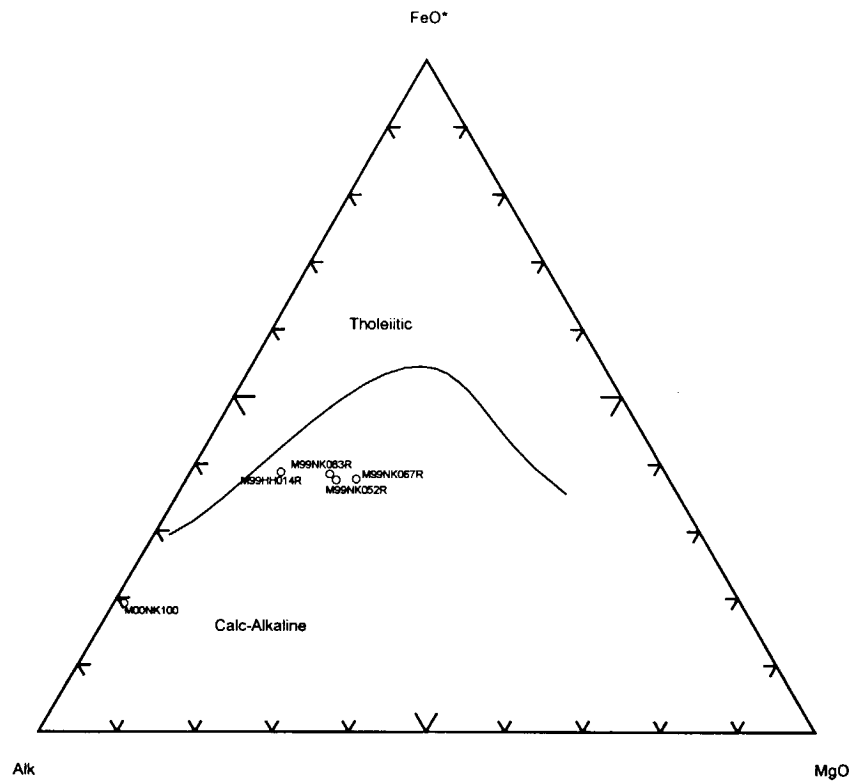
Nb - Y diagram (Pearce et al., 1984)



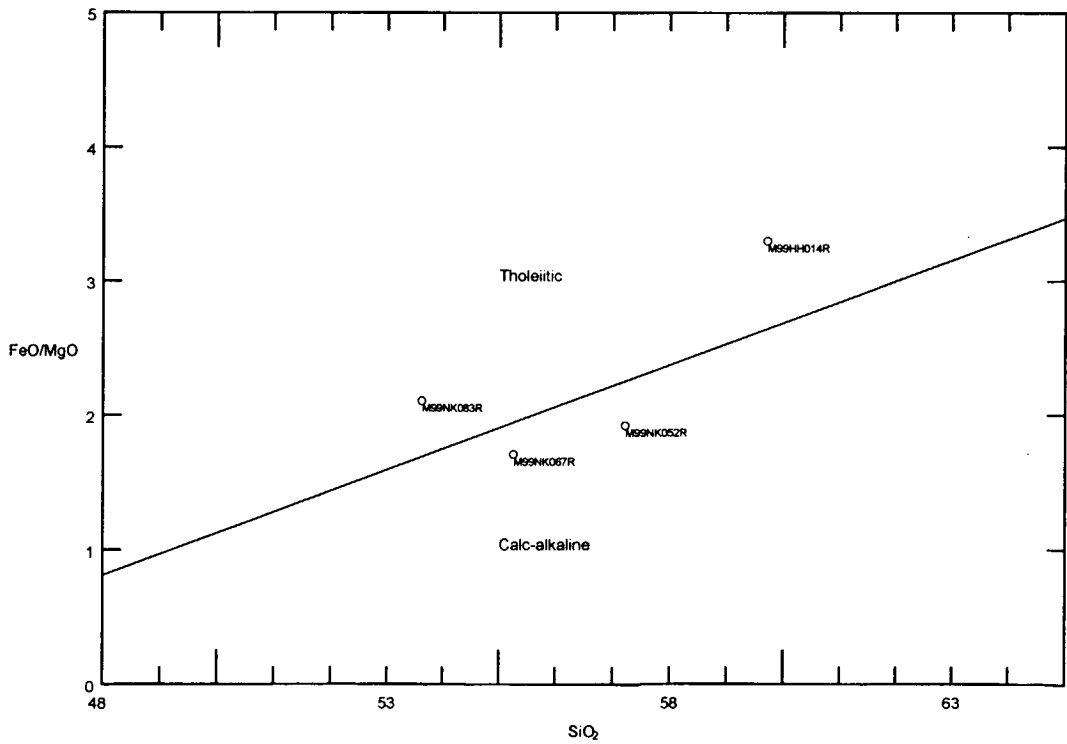
Chondrite normalized Ce/Yb - Yb diagram

Fig. A-4 Diagrams for examination of petrological chemistry

Volcanic rocks



Alkali (Na<sub>2</sub>O+K<sub>2</sub>O) - FeO\* - MgO diagram

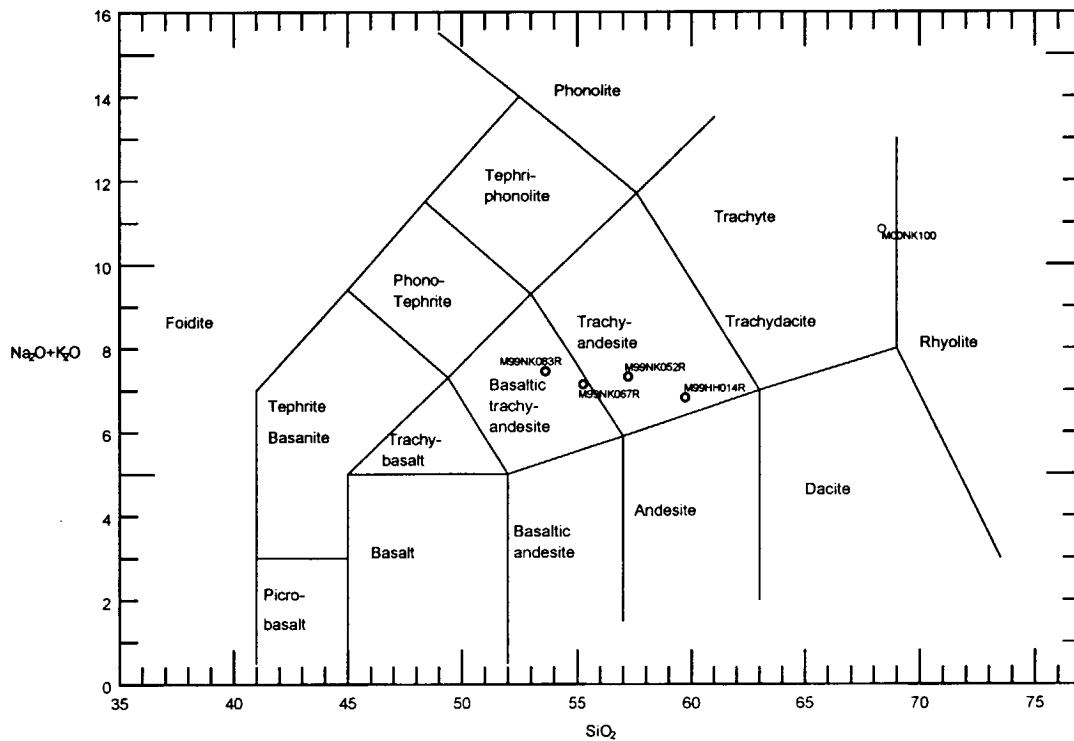
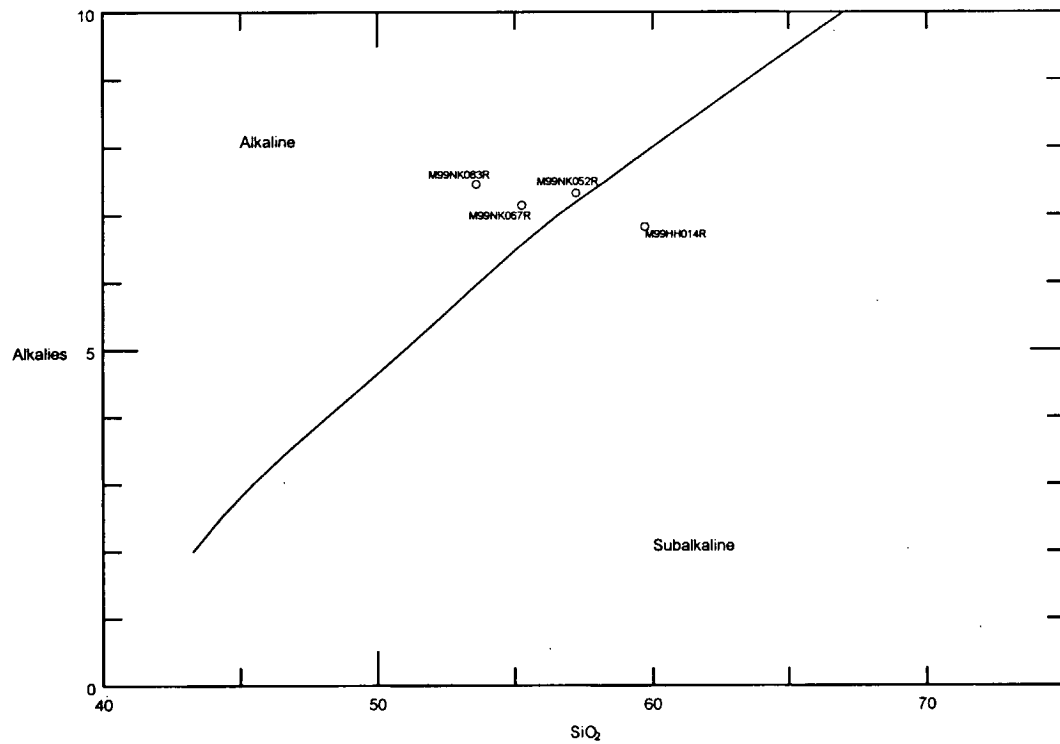


FeO\*/MgO - SiO<sub>2</sub> diagram

Fig. A-4 Diagrams for examination of petrological chemistry

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# Volcanic rocks



(Na<sub>2</sub>O+K<sub>2</sub>O) - SiO<sub>2</sub> diagram

Fig. A-4 Diagrams for examination of petrological chemistry

Volcanic rocks

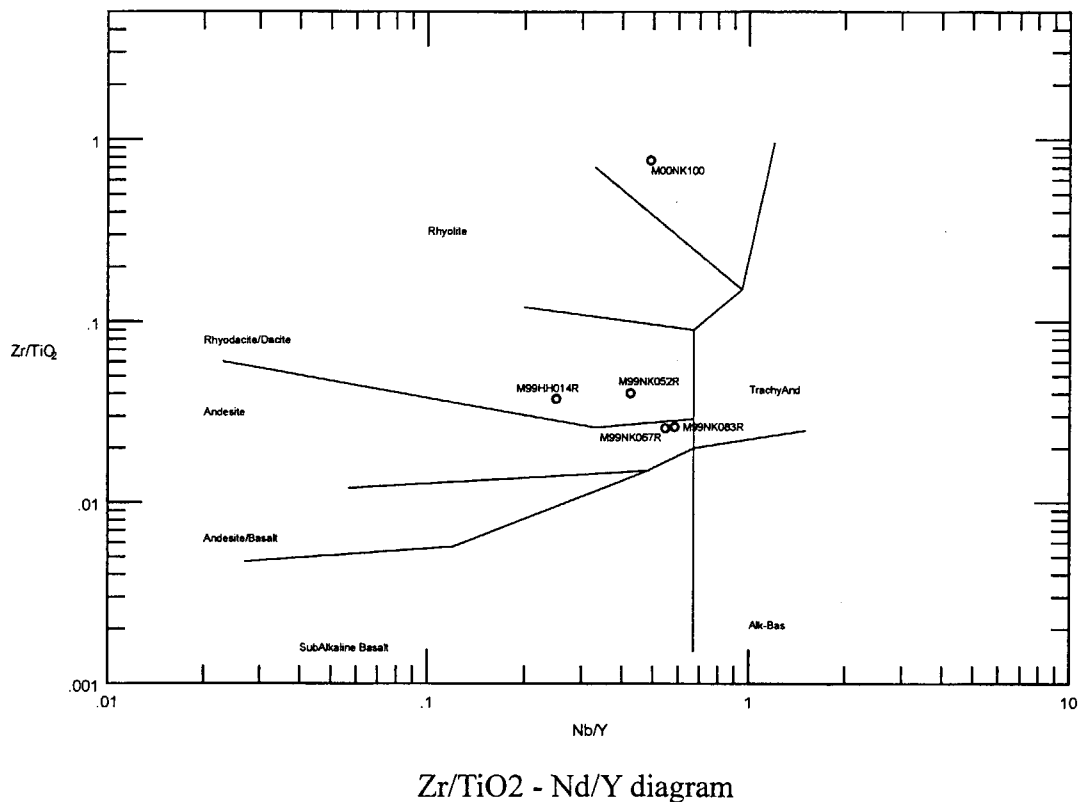
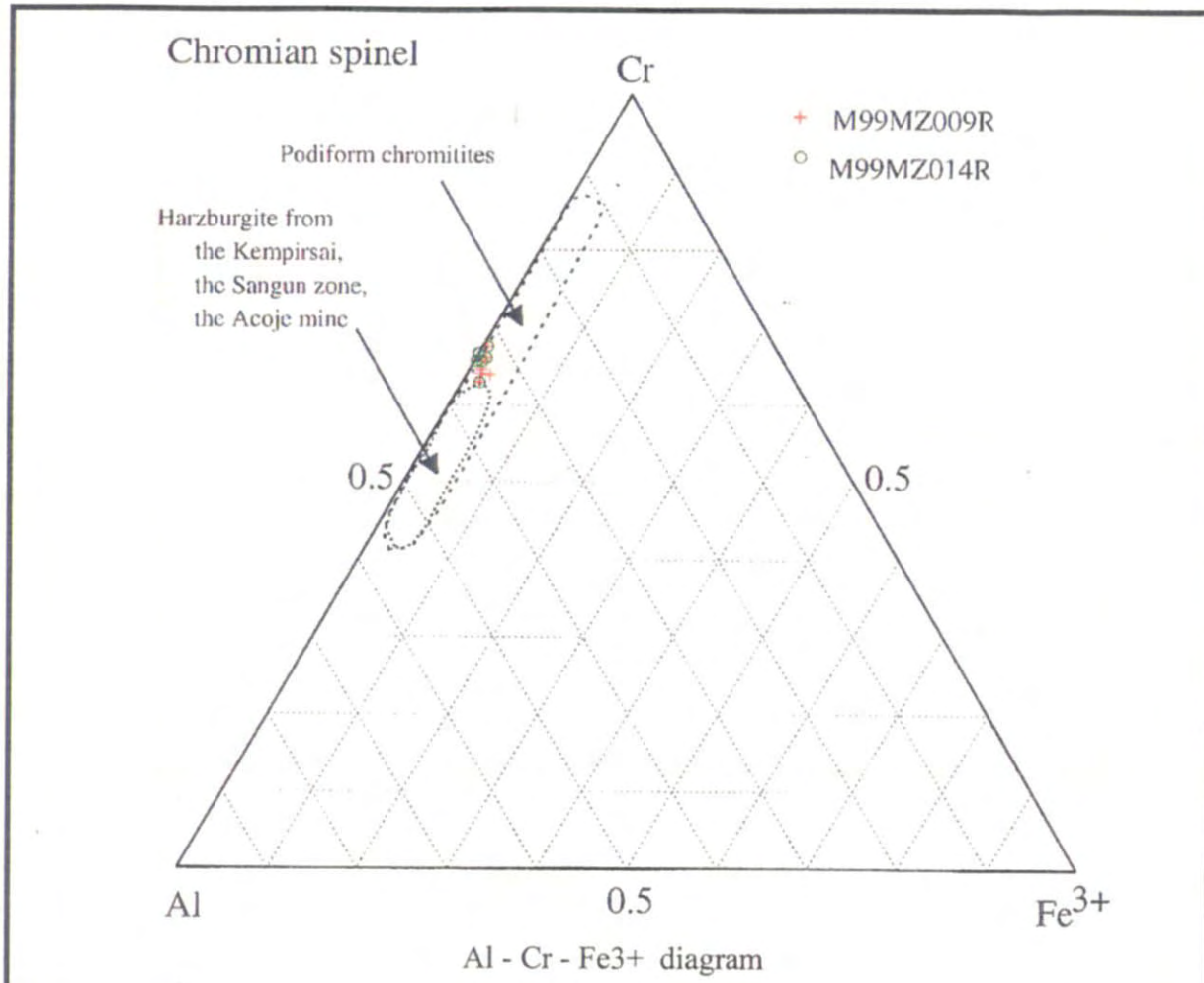


Fig. A-4 Diagrams for examination of petrological chemistry

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Electron microprobe analysis (EPMA) of minerals

In present study, chemical compositions of chrome spinel were analyzed to show their characteristic features. Among chemical compositions, Cr-Al-Fe<sup>3+</sup> in spinel are particularly important in relation to know the characteristic features of possible related mineralization and so forth.

Chrome spinel

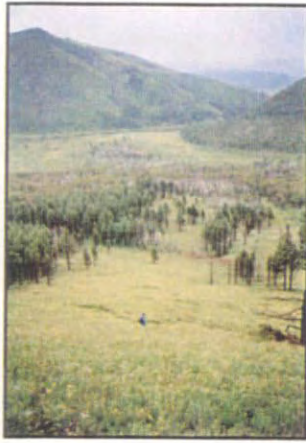
Analysis was carried out on chrome spinel in the polished thin section samples M99MZ09R and M99MZ014R. The Cr-AL-Fe<sub>3</sub> diagram is shown. The both samples, chrome spinel of which was analyzed, are harzburgite and the Cr/Al ratio in the spinel ranges from 0.64 to 0.67, indicating they are intermediately depleted as the mantle harzburgite.

The chrome spinel in harzburgite, in which a comparatively large scale chromite deposit is expected, generally shows the Cr/Al ratio ranging from 0.45 to 0.65 (Arai, 1997). Therefore, the samples imply there is a possibility that chromite deposits might occur, although the present ratio deviates slightly from these.

Fig. A-5 Diagrams of electron microprobe analysis for chromian spinel

# APPENDIX 6

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**Plate 1**  
*Zelter district, Occurrence 24 (No.1)*

Over view of investigated area



**Plate 2**  
*Zelter district, Occurrence 24 (No.1)*

Outcrop of silicified and epidotized rock



**Plate 3**  
*Zelter district, Gatsuurkhan (No.2)*

Over view of investigated site



**Plate 4**  
*Zelter district, Gatsuurkhan (No.2)*

Outcrop of brecciated silicified rock.  
Original rock is dacite.

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**Plate 5**  
Erdenet West district, SAR139 (No.3)

Over view of investigated site



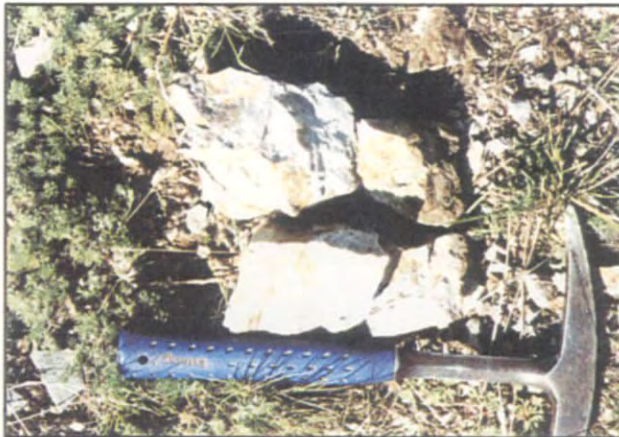
**Plate 6**  
Erdenet West district, SAR139 (No.3)

Old trench located in the investigated site



**Plate 7**  
Erdenet West district, SAR139 (No.3)

Panoramic view of the investigated area



**Plate 8**  
Erdenet West district, SAR139 (No.3)

Silicified rock with malachite mineralization distributed in old small pits



**Plate 9**  
Erdenet West district, Zuukhiin gol (No.6)

Over view of the investigated site.  
Old trench is located in the survey site.



**Plate 10**  
Erdenet West district, Zuukhiin gol (No.6)

Old trench.  
Granodiorite with malachite mineralization is distributed around this trench.



**Plate 11**  
*Erdenet West district, Mogoin gol 2 (No.10)*

Outcrop of silicified rock ("secondary quartzite")



**Plate 12**  
*Erdenet West district, Khujiriin gol (No.11)*

Panoramic view of the investigated site



**Plate 13**  
*Erdenet West district, Khujiriin gol (No.11)*

Quartz vein with malachite mineralization



**Plate 14**  
*Erdenet West district, Tsagaan chuluut (No.12)*

Over view of the investigated site



**Plate 15**  
*Erdenet West district, Tsagaan chuluut (No.12)*

Panoramic view of the investigated site



**Plate 16**  
*Erdenet West district, Tsagaan chuluut (No.12)*

Outcrop of silicified and white argillized volcanic rocks

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2  
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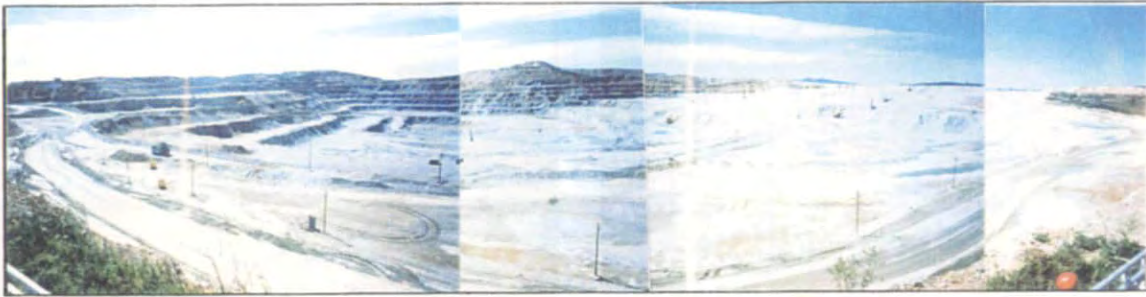
**Plate 17**  
*Erdenet West district, Tsagaan chuluut (No.12)*

Intensive silicified rock distributed in the investigated area.



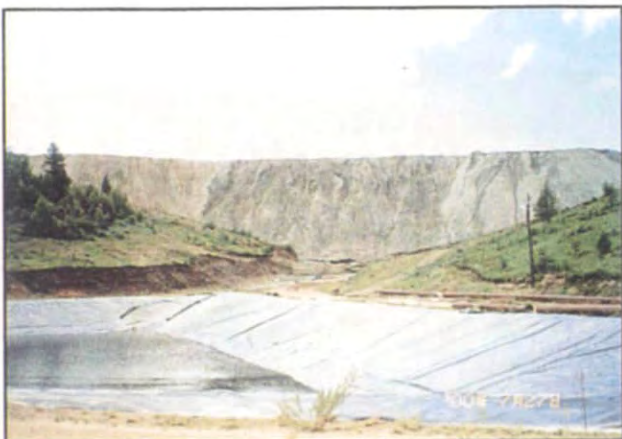
**Plate 18**  
*Erdenet West district, Tsagaan chuluut (No.12)*

Outcrop of intensive silicified rock in *Talbulag*.



**Plate 19**  
*Erdenet West district, Erdenet NW (No.13)*

Open pit of Erdenet mine.



**Plate 20**  
*Erdenet West district, Erdenet NW (No.13)*

SX-EW plant (Leaching facility).



**Plate 21**  
*Erdenet West district, Erdenet NW (No.13)*

SX-EW plant (EW facility).