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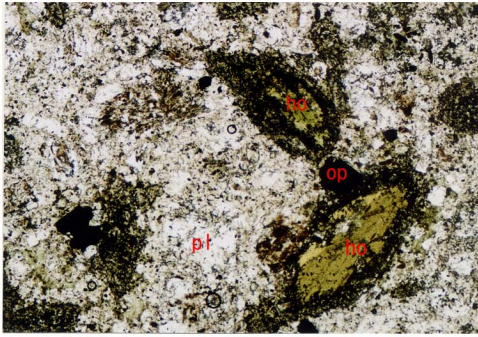
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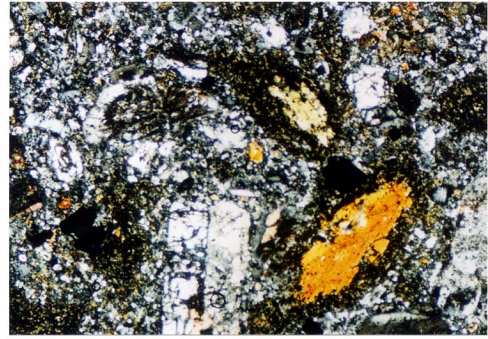
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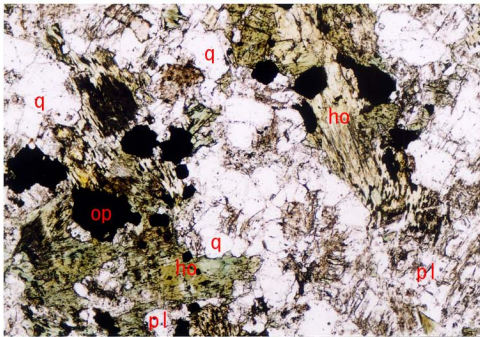
PHOTOGRAPHS



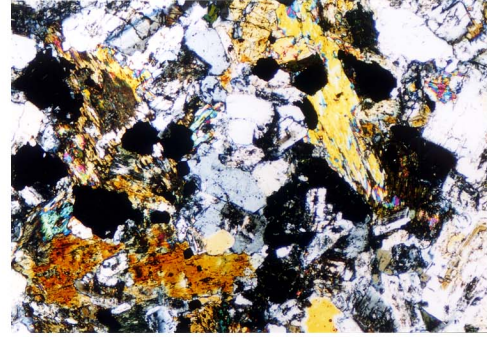
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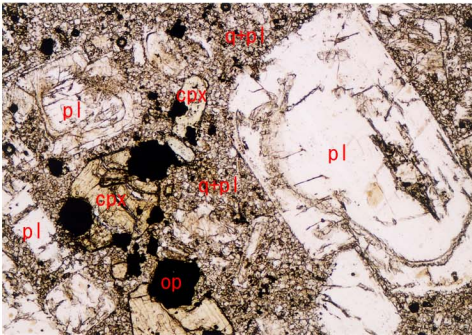
G002 Hornblende andesite (Cross nicols)



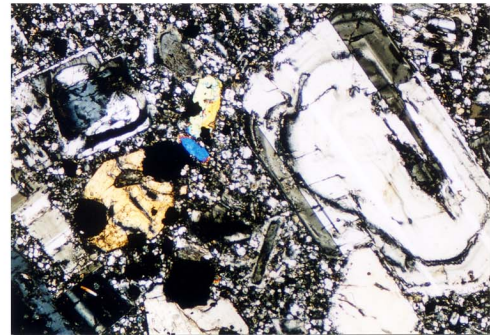
G125 Diorite (Open nicols)



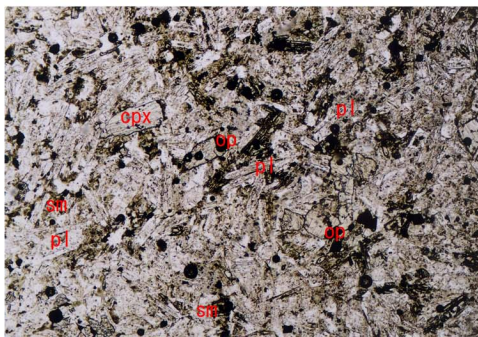
G125 Diorite (Cross nicols)



H033 Andesite (Open nicols)



H033 Andesite (Cross nicols)



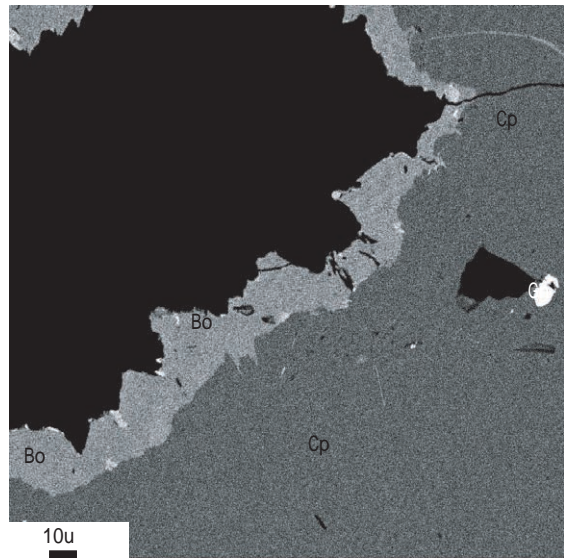
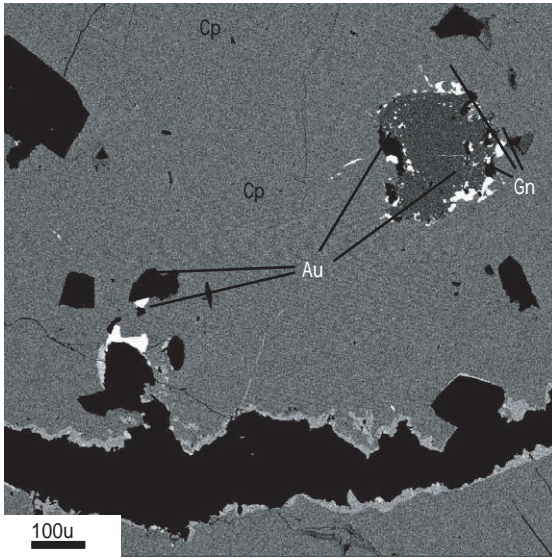
H094 Basalt (Open nicols)



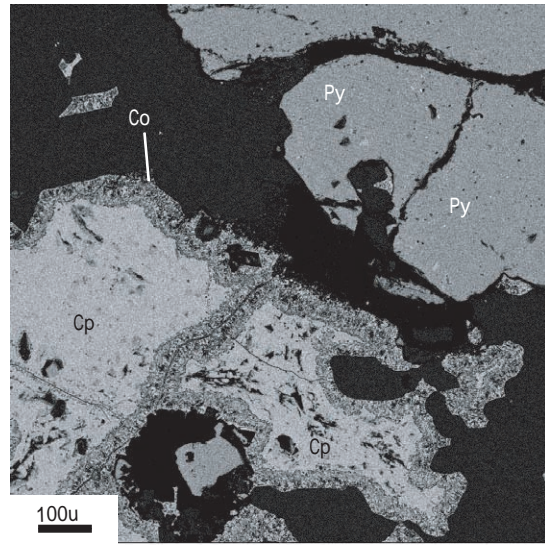
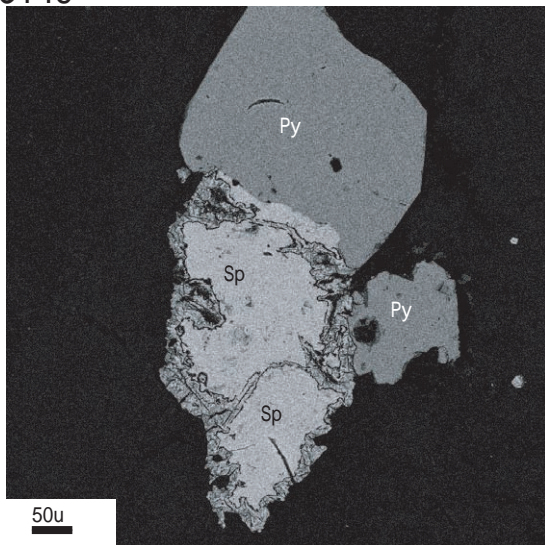
H094 Basalt (Cross nicols)

Photo. A-1 Micrographs of Thin Sections
from the Regional Geochemical Survey Area

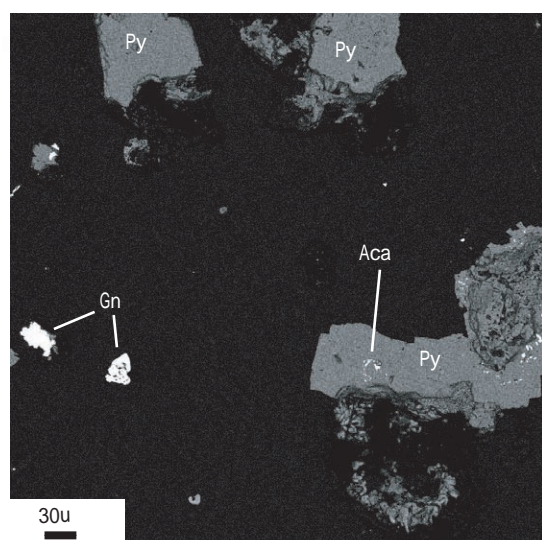
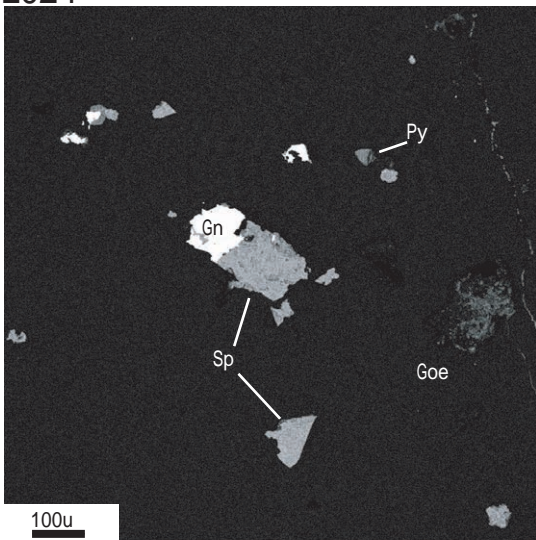
G021



G149



L024



Py-pyrite, Au-gold, Gn-galena, Cp-chalcopyrite
Cha-chalcanthite, Bo-bornite
Goe-goethite, Aca-acanthite

Photo. A-2 Micrographs of Polished Sections
from the Regional Geochemical Survey Area



Meeting before field survey



Panning and sieving, in the Wonogiri district



Geological excursion at the start of the survey



Selogiri mine 1 (South)



Panning and sieving, Wonogiri district



Selogiri mine 2 (North)

Photo.A-3 Work in the Regional Geochemical Survey Area (1)



Alteration zone, south of Selogiri



Kaolin mine, south of Blitar



Survey work with automobile
Selogiri



Chalcopyrite-pyrite-quartz boulder
Purwodadi



Scenery of the south of Blitar



G. Semeru from the southeast, Lumajang

Photo. A-4 Work in the Regional Geochemical Survey Area (2)



Galena-Spharelite Ore from the Sumurup River (1)



Galena-Spharelite Ore from the Beloran River (1)



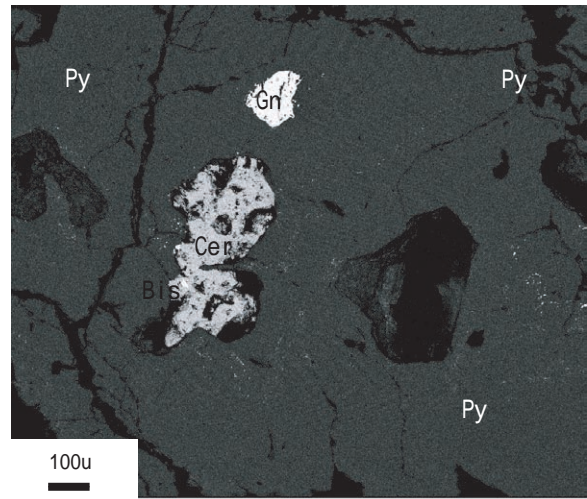
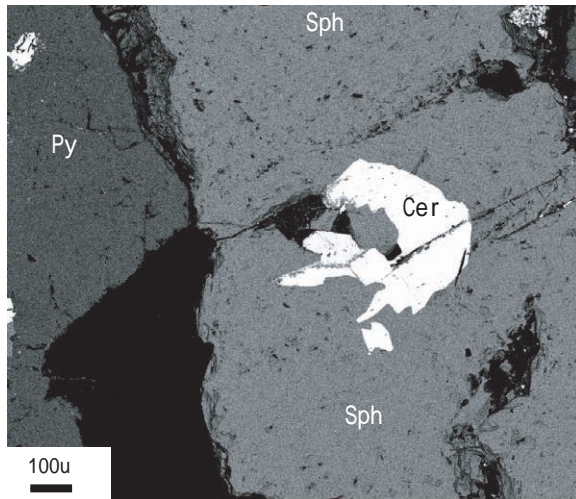
Galena-Spharelite Ore from the Sumurup River (1)



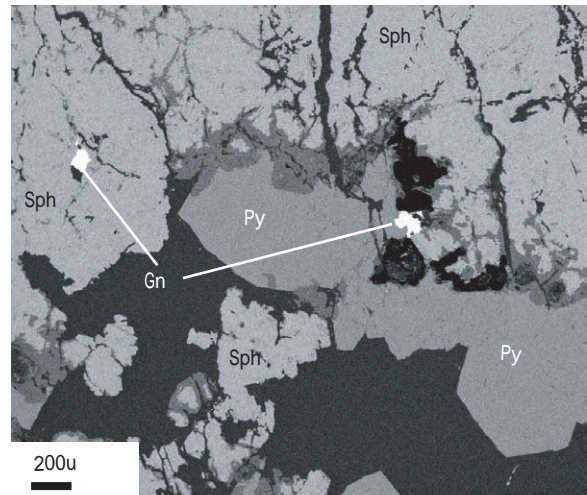
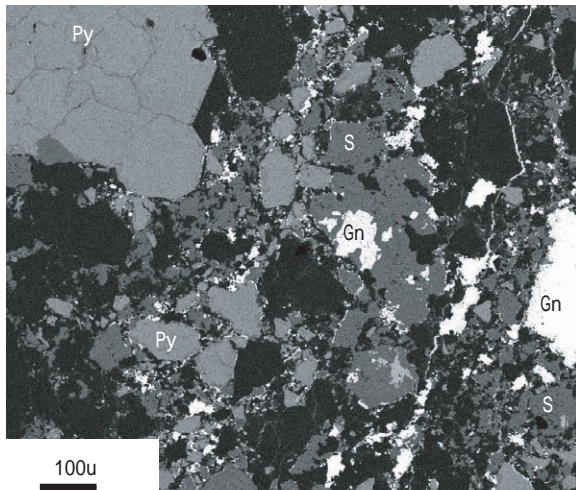
Chalcopyrite-Malachite Ore From the Salak River

Photo A-5 Mineralized Rock Samples from the Geological Survey Area

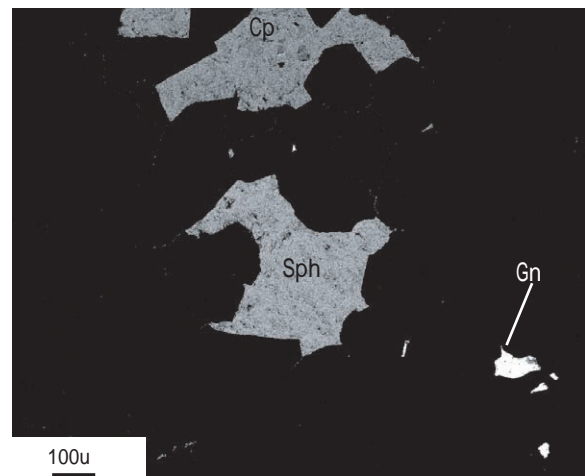
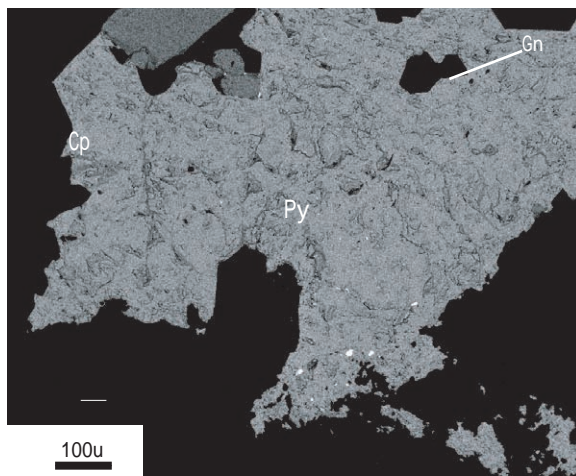
M071



Q054



P035



Py-pyrite, Cp-chalcopyrite, Sph-sphalerite, Gn-galena, Cer-cerussite



Andesitic volcanic breccia at Jambu River



Basalt dyke in basaltic volcanic breccia at Jambu River (Tanahputih)



Quartz veinlets in basalt at Jambu River



Loc. (9107811N, 554322E): Silicified vein with chalcopyrite



Quartz Vein Outcrop in the Beloran River



Quartz Veinlet in the Andesitic Tuff Breccia
Beloran River



Road in the Nepo River Sub-district
Ponorogo South District



Soil sampling for geochemical survey



Terrace paddy field in the survey area



Soil sampling for geochemical survey



Quartz vein outcrop along the Salak River



Quartz vein outcrop along the Salak River
(enlarged picture)

APPENDIX

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (1/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
G 006	250	827	1446	5	100	178	4	0
G 009	122	152	405	3	26	133	8	0
G 016	115	184	380	3	74	199	8	0
G 017	252	9310	3352	6	346	233	170	1
G 018	2505	7230	19700	37	21086	489	1940	8
G 020	46	267	205	3	180	222	8	0
G 021	412	84	253	6	566	199	64	26
G 023	827	39	149	5	472	0	2	1
G 024	522	44	115	4	138	67	18	0
G 026	47	39	116	1	18	113	5	3
G 027	58	31	1342	0	8	122	6	2
G 028	9959	1562	1734	31	773	222	208	2
G 029	112	36	128	2	2	133	6	0
G 030	10	6	9	0	2	233	0	2
G 031	105	12	63	2	2	144	26	0
G 032	103	18	1366	2	6	344	180	2
G 037	22	20	58	2	0	122	2	0
G 038	18	13	39	1	2	144	0	3
G 039	29	21	55	2	0	33	6	2
G 041	31	27	104	1	1	89	9	2
G 043	74	31	22	1	4	11	16	0
G 045	13	78	25	10	0	100	106	24
G 047	47	29	17	3	106	33	80	0
G 048	45	48	84	2	0	67	52	3
G 049	18	34	93	2	34	22	50	0
G 052	23	12	13	1	4	11	6	0
G 053	145	268	393	3	436	44	2	2
G 054	47	41	15	5	40	78	26	4
G 055	47	27	31	3	0	1967	40	3
G 056	61	15	19	2	4	22	0	2
G 058	14	20	20	2	2	22	0	6
G 059	153	800	1245	4	2	56	0	5
G 061	35	36	65	2	18	78	22	2
G 068	38	24	21	21	948	344	298	20
G 069	85	64	99	19	1476	89	154	6
G 070	9	66	20	3	4	178	8	0
G 071	35	40	206	3	2	278	2	5
G 072	113	18	51	4	36	33	48	2
G 073	55	14	26	5	44	56	26	0
G 074	13	21	42	2	73	100	118	2
G 075	257	18	45	2	6	100	18	2
G 076	135	14	26	3	24	100	42	2
G 077	30	39	41	2	50	89	72	3
G 078	16	9	7	2	10	44	0	2
G 079	26	12	28	1	0	67	0	1
G 080	30	22	14	2	224	44	194	1
G 081	13	68	93	5	332	22	249	4
G 082	22	136	46	17	224	33	660	5
G 083	17	14	25	3	158	33	64	4
G 084	30	36	87	2	93	73	87	0
G 085	8	26	12	7	40	92213	56	6

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (2/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
G 086	114	44	24	19	308	578	242	10
G 088	22	12	46	4	4	2455	32	4
G 092	39	17	52	2	5	5333	182	3
G 093	48	21	48	2	5	989	8	1
G 094	9	21	63	2	2	2555	6	2
G 096	57	25	71	3	93	6222	620	8
G 097	23	13	20	3	262	8099	480	9
G 098	98	59	15	16	148	11	202	20
G 099	84	36	14	4	674	0	80	14
G 100	65	77	26	2	200	0	184	2
G 101	34	98	25	4	299	78	168	8
G 102	44	24	57	3	62	589	341	9
G 103	11	27	57	4	35	844	389	5
G 104	13	18	31	3	736	544	1040	24
G 105	31	21	51	3	637	289	5700	28
G 106	27	23	63	3	14	444	8	2
G 107	52	24	71	14	192	678	760	10
G 108	9	19	31	1	5	189	24	0
G 109	1920	64	37	3	13	367	142	3
G110	217	10	81	2	53	299	28	3
G 111	33	74	261	4	7	598	970	1
G 112	26	74	65	6	6	199	10	8
G 113	45	45	108	3	18	132	42	2
G 114	14	36	80	2	4	122	50	2
G 117	16	23	75	2	6	311	6	6
G 120	19	59	40	3	4	233	6	10
G 122	9	21	16	2	13	133	64	7
G 123	555	38	1252	4	6	356	8	2
G 124	15	16	40	2	3	544	4	4
G 126	7	18	40	4	3	556	0	6
G 127	3	22	134	2	4	1466	6	4
G 129	7253	20	20	16	22	533	20	10
G 131	59	9	45	2	54	289	4	4
G 133	17	15	151	2	4	333	2	2
G 134	142	9	49	2	6	622	6	0
G 135	522	390	15200	4	897	222	2	10
G 136	32	14	187	3	18	667	6	6
G 137	41	18	81	3	5	599	4	10
G 138	75	39	39	5	22	517	4	10
G 139	13	16	53	4	29	344	1060	8
G 140	8	24	69	4	1	433	12	5
G 142	28	31	214	4	4	166	4	6
G 143	4	10	15	4	1	155	0	0
G 144	130	15	896	3	3	211	2	8
G 149	2028	41	2681	5	35	589	44	6
G 151	45	19	99	4	137	355	399	5
G 152	11	6	74	3	140	499	790	4
G 153	41	19	11	3	980	389	40	8
G 154	29	20	51	4	45	420	670	7
G 157	24	19	29	4	15	0	218	6
G 158	9	56	8	2	0	0	16	2
G 159	18	17	13	3	26	0	6	4
G 164	102	52	121	5	0	67	2	10
G 169	139	130	236	8	3	11	6	0

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (3/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
H 008	13	17	15	0	2	0	4	2
H 024	28	66	18	2	4	0	0	6
H 025	37	36	42	3	78	89	2	0
H 026	4	473	42	4	1	1011	34	4
H 027	12	24	22	5	2	136	98	4
H 031	240	27	29	2	3	685	22	8
H 039	16	18	8	2	3	93	24	8
H 040	3	9	4	1	4	204	28	10
H 041	6	25	7	13	4	185	12	12
H 042	58	27	18	2	3	276	0	6
H 043	7	26	4	2	9	73	44	7
H 044	10	13	15	1	4	54	30	5
H 045	12	17	20	2	3	389	8	8
H 046	34	34	61	6	12	19	28	10
H 047	9	17	27	2	1	55	15	13
H 048	31	26	23	2	3	202	6	3
H 050	9	23	63	1	4	37	62	8
H 052	18	36	18	5	21	203	138	12
H 053	60	12	31	7	12	0	28	10
H 054	5	10	14	2	1	0	4	16
H 055	14	41	26	2	4	56	54	12
H 056	12	15	36	2	6	204	56	12
H 058	8	25	20	2	2	73	24	14
H 059	110	31	12	2	2	55	38	16
H 060	48	57	159	3	8	129	5	17
H 061	9260	58	41	5	10	56	1320	10
H 061-2	3090	67	33	3	1	130	130	10
H 062	10510	47	55	4	4	0	2590	12
H 063	136	53	15	1	60	74	24	3
H 065	46	23	22	2	3	36	4	0
H 066	25	28	45	2	1	167	4	9
H 067	166	24	165	2	34	148	24	10
H 068	27670	99	427	9	16	0	20800	12
H 069	148	23	31	4	3	36	60	10
H 070	28	22	116	1	3	37	8	6
H 071	22	22	13	3	19	129	26	10
H 072	377	33	12	3	11	74	390	110
H 073	23	64	35	5	0	93	8	0
H 074	260	76	30	5	0	74	270	4
H 076	23	58	82	5	3	110	2	240
H 077	47	52	918	4	1	56	0	20
H 078	172	42	85	3	129	36	166	10
H 079	21	29	12	2	5	0	2	9
H 080	26	51	6	3	1	37	4	20
H 081	22	13	4	2	0	204	20	110
H 082	60	40	53	3	5	56	0	8
H 083	94	56	59	3	107	222	56	28
H 084	44	30	89	1	3	130	6	12
H 085	31	27	54	2	3	389	0	10
H 086	355	42	19	2	4	129	24	8
H 088	16	9	14	1	4	148	14	12
H 089	24	32	9	2	4	111	50	14

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (4/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
H 096	767	69	234	2	7	130	0	10
H 098	10	26	35	2	2	241	4	16
H 099	11	20	26	1	3	93	53	10
H 100	10	23	21	2	3	217	6	3
I 019	51	28	30	1	9	109	72	4
I 021	12	28	77	2	21	174	28	4
I 022	64	18	28	2	13	152	32	2
I 023	20	27	59	2	12	304	36	4
I 029	18	16	25	1	1	391	570	2
I 030	9	26	24	3	2	392	630	2
I 031	26	35	26	2	2	370	12	5
I 032	9	36	26	2	9	261	38	4
I 033	24	34	101	3	5	87	8	4
I 044	20	22	76	1	2	86	193	8
I 045	49	636	1940	5	28	435	450	4
I 046	40	441	1144	6	30	283	670	6
I 047	17	25	44	3	18	217	140	8
I 048	41	29	106	4	3	87	96	6
I 049	45	34	116	3	1	44	64	7
I 050	23	10	19	2	9	43	44	8
I 051	31	25	18	3	3	0	24	9
I 056	28	97	16	7	48	913	240	12
I 057	6	34	28	3	1	348	27	7
I 059	9	39	21	3	2	304	50	8
I 060	67	45	82	4	2	109	0	6
I 061	153	35	130	3	8	22	42	0
I 062	22	48	45	2	4	0	1390	5
I 063	34	27	87	3	5	500	12	2
I 064	27	38	77	2	2	152	6	1
I 065	32	33	119	3	9	457	144	0
I 067	14	25	21	8	3	435	8	7
I 068	41	72	23	1	140	304	58	12
I 069	18	30	59	1	4	456	22	9
I 070	83	152	35	2	150	239	46	16
I 074	25	35	17	2	3	522	16	5
I 076	80	23	78	2	0	717	0	8
I 077	65	39	131	3	47	413	4	2
I 078	56	44	112	3	3	0	20	45
I 079	16	41	99	2	4	0	80	5
I 081	566	23	57	1	80	739	4	4
I 082	111	40	88	2	61	65	0	2
I 083	525	26	63	1	9	304	0	18
J 016	31	40	106	1	2	370	8	9
J 017	30	33	97	2	0	73	0	8
J 023	25	28	228	2	0	73	0	4
J 025	78	365	23	22	308	21	1610	6
J 026	51	68	15	1	10	10	280	5
J 027	63	36	98	5	1	31	4	2
J 029	42	69	26	2	54	10	36	12
J 030	45	113	21	3	232	0	500	4
J 032	44	44	30	2	15	0	620	5
J 033	27	83	26	5	76	0	40	12
J 034	32	131	20	4	1378	0	585	15
J 035	58	72	44	3	116	0	480	8

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (5/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
J 036	85	15	31	3	117	85	120	7
J 037	94	12	25	2	4	37	46	8
J 038	95	14	34	2	23	0	8	10
J 039	96	9	46	3	4	0	8	2
J 040	95	18	26	3	74	49	28	12
J 041	96	12	17	2	7	24	30	8
J 042	91	8	13	10	4950	85	8	6
J 043	98	29	97	4	200	61	194	12
J 044	122	17	15	4	52	61	22	3
J 045	96	10	19	2	7	12	4	4
J 048	104	19	48	4	2	61	0	9
J 051	378	24	88	3	6	37	8	5
J 052	1533	7145	978	16	312	85	2	4
J 053	110	989	41	4	7	85	0	0
K 011	99	125	49	4	1	451	36	5
K 028	109	63	74	4	4	134	4	1
K 029	120	49	70	2	15	915	6	10
K 031	113	59	78	3	4	134	32	1
K 035	97	42	16	2	10	98	34	10
K 042	175	31	217	3	1	195	0	8
K 048	109	35	73	3	4	61	46	3
K 054	93	23	17	1	5	37	20	12
K 055	97	40	33	2	10	37	52	12
K 056	111	21	81	2	55	49	1900	10
K 057	113	19	20	2	36	439	630	12
K 058	109	24	24	3	24	12	540	9
K 059	109	92	328	7	25	98	700	18
K 060	94	14	118	5	97	963	80	6
K 061	96	35	31	4	17	244	176	14
K 062	95	130	132	5	53	134	100	12
K 063	39	30	73	3	17	98	20	5
K 064	425	35	47	11	125	244	76	10
K 065	132	33	52	8	742	703	54	12
L 008	88	52	23	5	36	98	24	0
L 009	93	22	12	4	259	122	450	8
L 010	137	15	60	2	12	73	22	3
L 011	40	15	96	3	13	85	6	2
L 016	45	4	17	4	17	537	740	20
L 017	198	32	98	7	280	37	360	5
L 018	186	21	94	4	8	24	70	6
L 019	178	14	57	2	14	24	50	24
L 020	96	19	77	2	1	12	12	0
L 021	45	18	41	7	84	12	202	0
L 024	117	337	414	12	140	122	1220	90
L 027	134	29	67	2	1	37	0	14
L 030	108	22	49	69	811	1524	1180	6
L 031	117	28	57	1	10	159	2	5
L 032	378	43	40	3	16	85	290	9
L 034	27	36	16	2	24	37	10	8
L 035	94	21	24	1	48	73	18	9
L 036	287	483	41	4	10	314	446	60
L 037	125	27	26	2	1	105	98	2
L 038	102	22	24	2	2	2081	40	8
L 039	100	69	16	2	3	349	76	10
L 042	311	20	205	3	2	209	10	7

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (6/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
A 001RM	479	326	126	6	227	198	6	10
A 002RM	539	138	27	3	209	349	4	12
A 005RM	126	80	107	2	90	198	88	12
A 008RM	1589	187	229	2	14	256	12	8
A 009FM	313	963	444	3	16	302	7	14
A 009FM	334	46	3825	2	41	535	22	7
A 009FM	106	47	46	25	309	419	32	18
A 010RM	173	296	241	3	12	674	6	12
A 011RM	120	22	363	1	2	593	70	1
A 012FM	173	32	18	5	43	454	110	15
A 012FM	101	23	53	2	3	558	2	8
A 013FM	102	13	11	2	0	302	0	10
A 014RM	106	79	401	3	7	884	168	5
A 018FR	112	22	46	1	3	256	2	8
A 019FR	106	23	70	2	0	302	0	7
A 020FR	323	24	3169	3	7	337	138	10
A 021RX	105	16	117	1	0	267	0	8
A 021RM	141	14	53	1	26	802	0	10
A 022FM	835	11	21	3	1	419	20	14
A 023FM	23140	17	76	6	554	70	2	0
A 024RM	137	13	20	2	5	81	0	9
A 026F	19210	15	335	5	67	81	0	8
A 027RM	131	22	52	2	2	47	0	2
A 028FM	5850	4	16	1	9	46	32	7
A 029FM	25230	22	526	17	65	186	0	2
A 031R	133	11	25	1	8	93	0	12
A 033FM	583	16	17	14	26	291	0	0
A 036FR	111	9	6	1	9	35	22	12
A 040FM	128	25	40	8	34	140	160	14
A 041FM	8220	362	155	48	679	651	292	8
A 042FM	2540	19	23	3	51	500	136	12
A 043RM	215	21	42	1	18	767	38	8
A 044FM	163	34	189	6	235	337	8100	14
A 045RM	190	508	3685	8	676	267	1680	10
A 046RM	106	22	53	1	9	314	245	9
A 047RM	122	19	66	2	9	477	28	16
A 048RM	282	53	268	2	53	372	88	15
A 049FM	1066	705	374	788	30350	1756	410	480
A 052RM	124	14	12	8	78	779	6	20
A 053FM	102	19	17	1	63	151	0	20
A 055RM	100	25	36	4	29	70	0	0
A 056RM	688	89	113	2	23	221	10	8
A 057FM	97	17	8	0	21	23	0	10
A 058FR	104	9	7	0	11	0	0	8
A 060FM	125	222	166	2	55	105	3	11
A 061FM	92	9	12	1	6	130	0	2
A 063RM	133	50	243	2	11	109	28	0
A 064FM	2391	86	499	3	324	87	102	4
A 065FM	2209	54	33	8	94	967	50	2
A 066FM	98	337	13	3	5	22	6	2
A 067RM	1435	19	172	4	0	32	200	3
A 068FM	93	16	10	0	3	43	0	3
A 069R	100	25	135	3	3	0	18	1

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (7/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
A 070R	96	30	82	2	2	22	4	4
A 071FM	106	21	70	2	0	120	0	5
A 077F	114	30	76	1	0	196	0	3
A 078F	119	43	26	5	0	402	14600	16
A 080FM	129	242	11	0	0	0	2	1
A 081FM	1529	95	43	1	1	11	4	1
A 082FM	288	172	62	2	199	0	40	0
A 083RM	156	27	22	4	0	0	4	2
A 084FM	1774	223	205	21	306	0	2	8
A 085FM	427	844	42	10	25	0	40	6
A 086FM	325	706	73	3	1	11	2	1
A 087RM	179	103	169	4	2	33	7	6
A 087RM	506	666	216	5	11	22	6	4
A 087RM	587	873	632	8	7	22	18	9
A 088RM	146	379	422	4	0	185	6	7
A 089RX	117	157	426	10	0	33	0	5
A 090FM	6661	1547	23100	15	151	32	42	10
A 091FM	7986	2378	46200	52	489	0	0	3
A 092FM	399	704	269	3	838	0	0	8
A 093RM	240	19	3500	2	0	0	0	8
A 095RM	5276	25	683	6	5	34	0	1
A 096FM	160	86	265	8	0	0	2	5
A 097RM	426	30	76	7	6	11	0	0
A 098RM	108	48	69	4	1	11	2	1
A 099RM	424	32	187	4	0	11	0	4
A 101FM	517	1227	330	135	194	576	45	12
A 103FM	2071	127	695	11	76	11	20	6
A 104RM	119	842	392	6	6567	391	54	7
A 105RM	195	11	95	6	68	174	128	2
B 001R	441	5546	4000	5	1672	22	4	6
B 002R	103	23	38	3	3	43	6	3
B 003R	872	27	250	3	5	0	10	1
B 005R	179900	73	22800	10	21	50	0	1
B 006R	422	38	274	5	1	0	48	0
B 007R	1403	662	22900	7	8	0	6	1
B 008R	24300	46	226400	12	23	25	36	2
B 009R	75400	38	2400	9	556	0	12	7
B 010R	164	55	55	6	7	63	0	7
B 011R	242	12	86	2	4	50	0	6
B 012R	9760	30	133	20	10	25	0	6
B 013R	198	31	452	3	2	0	2	3
B 014R	956	2639	666	6	40	0	25	5
B 015R	522	30	80	4	2	63	28	3
B 016RM	85100	1016	906	19	71	888	3120	200
B 017R	201	25	195	3	5	475	142	8
B 018R	256	55	45	5	5	125	0	4
B 019F	18700	39	92	7	16	50	38	4
B 020R	104	58	24	16	1088	0	12	8
B 021R-A	903	54	63	6	23	0	6	6

Table A-1 Results of Chemical Analysis of Mineralized Rock Samples (8/8)

Sample code	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
B 021R-B	NS	NS	NS	NS	NS	NS	NS	NS
B 023R	111	23	34	3	89	25	210	7
B 025R	246	44	19	3	1	0	2	7
B 026RM	187	8	45	2	9	75	46	0
B 027RM	118	10	18	2	1	50	2	4
B 028RM	212	26	331	2	13	0	20	3
B 029FM	275	12	108	2	43	0	26	4
C 001R	115	15	38	2	10	0	4	3
C 002R	94	6	11	0	2	50	2	2
C 003R	111	13	33	2	4	188	34	6
C 005R	301	349	783	3	3	188	2	8
C 007R	115	6	120	1	3	138	4	8
C 008R	1509	27	297	3	3	63	5	6
C 009R	102	30	21	2	3	0	30	6
TRI 1	113	15	47	4	55	0	30	2
TRI 2	97	5	37	2	4	100	6	4
TRI 3	130	41	24	6	31	0	24	9
TRI 4	116	19	55	2	14	0	8	0
TRII 1	1499	39	157	5	12	0	8	3
TRII 2	113	6	25	3	1	0	6	1
TRIII 1	411	18	67	3	9	0	6	3
TRIII 2	790	27	54	4	4	0	6	5
TRIII 3	109	51	119	4	4	0	0	4
TRIII 4	119	20	27	4	6	13	0	9
TS 01R	99	25	25	4	4	0	6	18
TS 02R	100	12	22	3	9	0	8	4
TS 03R	113	9	19	3	10	0	18	5
TS 04R	928	26	22	3	3	0	2	10
TS 05R	1110	35	183	4	10	0	28	12
TS 06R	6300	63	2661	8	9	0	4	7
TS 07R	72	12	43	4	1	0	0	5
TS 08R	13200	19	72	4	5	38	6	0
TS 09R	100	13	19	2	10	13	20	6
TS 10R	1831	39	74	6	8	0	2	6
TS 11R	117	17	39	2	6	0	4	8
GD 01R	114	20	22	36	5	38	8	12
PLS-2	102	19	72	4	3	38	2	4
PLS-3	113	23	130	3	3	25	2	1
PLS-4	95	14	18	1	5	50	0	6
PLS-5	112	7	19	2	1	37	0	2
PLS-6	1193	262	189	2	8	50	12	10
PLS-7	219	22	180	2	1	0	6	2
PLS-8	5150	20	58	3	0	0	0	4
PLS-9	24900	30	188	9	3	25	0	1
PLS-10	139	11	12	3	0	0	0	3

Fig. A-2 Homogenization Temperatures and Salinities of Fluid Inclusions (1/2)

No.	Host mineral	Size(μm)	Primary or secondary	Cooling temperature($^{\circ}\text{C}$)	Salinity (wt% NaCl)	Measurement ($^{\circ}\text{C}$)	Homogenization temperature($^{\circ}\text{C}$)
F06F	quartz	10	secondary	-2.1	4.0	178	192
	quartz	8	secondary	-1.6	3.2	162	174
	quartz	5	secondary	-1.6	3.2	180	194
	quartz	15	secondary	-0.1	0.6	143	152
	quartz	6	secondary	-1.4	2.9	172	185
	quartz	8	secondary	-1.5	3.0	175	188
	quartz	10	secondary	-2.1	4.0	174	187
	quartz	12	secondary	-1.6	3.2	172	185
	quartz	7	secondary	-1.4	2.9	152	163
	quartz	10	secondary	-3.1	5.7	141	150
	quartz	12	secondary	-1.2	2.5	188	203
	quartz	9	secondary	-2.3	4.4	226	247
	quartz	14	secondary	-0.8	1.8	208	226
	quartz	15	secondary	-2.0	3.9	148	158
F13F	quartz	3	secondary			232	254
	quartz	3	secondary			135	144
	quartz	5	secondary			198	214
	quartz	4	secondary			197	213
	quartz	7	secondary			179	193
	quartz	4	secondary			169	182
	quartz	2	secondary			161	173
	quartz	2	secondary			187	202
	quartz	2	secondary			143	152
	quartz	3	secondary			187	202
	quartz	5	secondary			243	267
	quartz	3	secondary			244	268
	quartz	6	secondary			254	279
	quartz	7	secondary			262	289
	quartz	7	secondary			134	143
quartz	3	secondary			173	186	
F29F	quartz	25	secondary	-1.7	3.4	187	202
	quartz	70	secondary	-0.5	1.3	157	168
	quartz	23	secondary	-1.5	3.0	247	271
	quartz	40	secondary	-1.5	3.0	248	272
	quartz	11	secondary	-1.0	2.2	189	204
	quartz	28	secondary	-2.0	3.9	246	270
	quartz	15	secondary	-1.5	3.0	243	267
	quartz	20	secondary	-1.6	3.2	241	264
	quartz	18	secondary	-1.8	3.5	273	302
quartz	42	secondary	-2.0	3.9	272	301	
A74F	quartz	10	secondary	-0.1	0.6	208	226
	quartz	9	secondary	-1.4	2.9	245	269
	quartz	12	secondary	-1.2	2.5	228	249
	quartz	8	secondary	-0.3	1.0	233	255
	quartz	6	secondary	0.0	0.4	224	244
	quartz	13	secondary	-1.3	2.7	252	277
	quartz	10	secondary	-1.2	2.5	254	279
	quartz	8	secondary	-0.4	1.2	251	276
	quartz	16	secondary	-1.1	2.4	243	267
	quartz	10	secondary	-1.3	2.7	228	249
quartz	8	secondary	0.0	0.4	227	248	

Fig. A-2 Homogenization Temperatures and Salinities of Fluid Inclusions (2/2)

No.	Host mineral	Size(μm)	Primary or secondary	Cooling temperature($^{\circ}\text{C}$)	Salinity(wt%.NaCl)	Measurement ($^{\circ}\text{C}$)	Homogenization Temperature($^{\circ}\text{C}$)
A74F	sphalerite	40	secondary	0.1	0.3	177	191
	sphalerite	14	secondary	-0.1	0.6	199	216
	sphalerite	11	secondary	-0.5	1.3	227	248
	sphalerite	11	secondary	-0.3	1.0	226	247
	sphalerite	20	secondary	-0.3	1.0	230	251
	sphalerite	55	secondary	-1.0	2.2	240	263
	sphalerite	11	secondary	-1.1	2.4	219	239
	sphalerite	25	secondary	-1.1	2.4	265	292
	sphalerite	8	secondary	-1.4	2.9	252	277
	sphalerite	15	secondary	-1.0	2.2	210	228
A75F	quartz	7	secondary	-0.8	1.8	261	288
	quartz	17	secondary	-1.0	2.2	263	290
	quartz	14	secondary	-1.8	3.5	256	282
	quartz	10	secondary	-1.0	2.2	273	302
	quartz	6	secondary	-0.1	0.6	242	265
	quartz	10	secondary	-1.1	2.4	274	303
	quartz	14	secondary	-2.2	4.2	268	296
	quartz	25	secondary	0.1	0.3	232	254
	quartz	8	secondary	-0.8	1.8	269	297
	quartz	9	secondary	-2.1	4.0	256	282
A29F	quartz	10	secondary	-2.1	4.0	222	242
	quartz	10	secondary	-2.2	4.2	200	217
	quartz	7	secondary	-1.6	3.2	198	214
	quartz	10	secondary	-1.2	2.5	200	217
	quartz	9	secondary	-1.3	2.7	182	196
	quartz	4	secondary	-1.5	3.0	170	183
	quartz	13	secondary	-1.7	3.4	193	209
	quartz	13	secondary	-0.8	1.8	200	217
	quartz	8	secondary	-1.6	3.2	190	205
	quartz	7	secondary	-1.8	3.5	219	239
	quartz	20	secondary	-1.7	3.4	213	232
	quartz	17	secondary	-1.7	3.4	259	285

Table A-3 Results of Chemical Analysis of Stream Sediments (9/20)

SAMPLE	A1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1856E	0.00	0.04	0.14	0.16	0.18	0.22	0.25	0.28	0.32	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20			

Table A-5 Results of PIMA Analysis of Rock Samples (1/3)

Sample No.	Location		Mineral Alteration	Interpretation Alteration	Environment
	Northing	Easting			
G004	9,140,224	481,685	Halloysite, Montmorillonite	Argillic	Low Sulfidation
G006	9,140,792	478,379	Halloysite, Montmorillonite, Nontronite	Argillic	Low Sulfidation
G007	9,139,423	478,138	Montmorillonite	Argillic ?	Low Sulfidation
G008	9,140,034	476,960	Halloysite, Montmorillonite, Nontronite, Gypsum	Argillic	Low Sulfidation
G009	9,142,282	477,043	Illite, K Alunite, Kaolinite, Opal, Gypsum	Advanced Argillic	High Sulfidation
G015	9,136,314	487,248	Kaolinite, Halloysite, Montmorillonite	Argillic	Low Sulfidation
G016	9,136,210	486,881	Illite, IntChlorite	Propylitic	Low Sulfidation
G017	9,136,174	486,510	Halloysite, Kaolinite	Argillic	Low Sulfidation
G020	9,136,266	486,468	Paragonite, Montmorillonite	Argillic	Low Sulfidation
G023	9,135,151	486,947	Halloysite, Kaolinite	Argillic	Low Sulfidation
G026	9,136,075	486,275	Halloysite, Kaolinite, Paragonite	Argillic	Low Sulfidation
G027	9,096,944	594,477	Illite, Montmorillonite, Jarosite, Gypsum, Palygorskite	Argillic	Low Sulfidation
G050	9,099,100	600,294	Illite, Montmorillonite, Paragonite	Argillic	Low Sulfidation
G056	9,124,334	575,028	Paragonite, Pyrrhilit, Gypsum	Advanced Argillic	High Sulfidation ?
G057	9,119,960	571,562	Halloysite, Montmorillonite	Argillic	Low Sulfidation
G063	9,119,324	569,107	Illite, Magnesium clay, Halloysite, Ankerite, Palygorskite	Argillic	Low Sulfidation
G069	9,095,864	601,657	Halloysite, Nacrite	Argillic	Low Sulfidation
G078	9,116,700	572,650	Halloysite, Opal	Advanced Argillic	Low Sulfidation
G087	9,078,746	645,735	Epidote, Palygorskite	Propylitic	Skarn
G091	9,079,178	646,517	Kaolinite, Montmorillonite, K-Alunite, Palygorskite	Advanced Argillic	High Sulfidation
G093	9,081,178	649,168	Montmorillonite, Gypsum	Argillic	
G096	9,081,398	645,427	Montmorillonite, Gypsum	Argillic	
G109	9,087,144	626,169	Kaolinite, Dickite, Montmorillonite	Argillic	High Sulfidation
G114	9,087,758	626,326	Kaolinite, Dickite, Halloysite	Argillic	High Sulfidation
G119	9,091,400	626,283	Muscovite, Phengite, Brucite, Ankrte	Phyllic, Sericitic	Mesothermal
G120	9,091,220	626,363	Muscovite, Halloysite, Palygorskite	Argillic	Low Sulfidation
G123	9,086,650	626,569	Palygorskite		
G124	9,077,550	704,150	Illite, IntChlorite	Propylitic	
G126	9,077,580	704,250	Illite, IntChlorite, Halloysite, Epidote	Argillic-Propylitic	
G127	9,077,048	703,938	Illite, MgChlorite, Ankrte, Paragonite, Palygorskite	Propylitic	
G128	9,077,048	703,938	Epidote, Montmorillonite, Halloysite, Palygorskite	Argillic-Propylitic	
G133	9,078,900	702,850	Illite, IntChlorite	Propylitic	
G134	9,078,900	702,850	Illite, IntChlorite	Propylitic	
G138	9,078,326	701,890	Illite, Montmorillonite, Paragonite	Argillic	Low Sulfidation
G144	9,074,364	703,686	Intchlorite, Halloysite	Propylitic	
G148	9,075,106	706,953	Illite, Paragonite	Argillic	
G155	9,081,500	678,000	Montmorillonite, Palygorskite	Argillic	
G159	9,080,256	679,329	Pyrophyllite	Advanced Argillic	
G160	9,088,600	722,364	Illite, IntChlorite, Gypsum	Propylitic	
G162	9,086,400	722,300	Palygorskite		
G168	9,086,050	722,350	Illite, Halloysite, Montmorillonite, Gypsum, Palygorskite	Argillic	Low Sulfidation
H008	9,124,460	471,817	Illite, Montmorillonite, Halloysite, Opal, Gypsum	Argillic	Low Sulfidation
H010	9,124,460	471,817	Montmorillonite, Ankrte, Opal, Gypsum	Argillic	Low Sulfidation
H011	9,124,460	471,817	Montmorillonite, Opal, Zoisite, Palygorskite	Propylitic ?	
H012	9,124,460	471,817	Montmorillonite, Halloysite	Argillic	Low Sulfidation
H027	9,120,564	575,716	Illite, Halloysite, Gypsum,	Argillic	Low Sulfidation
H039	9,086,956	624,733	Montmorillonite, Paragonite, Opal	Argillic	Low Sulfidation
H040	9,086,950	624,723	Dickite, Kaolinite, Halloysite, Gypsum	Argillic	High Sulfidation
H041	9,086,946	624,751	Dickite, Halloysite	Argillic	High Sulfidation
H042	9,086,950	624,753	Dickite	Argillic	High Sulfidation
H043	9,086,976	624,768	Kaolinite, Pyrophyllite	Advanced Argillic	High Sulfidation
H044	9,086,994	624,784	Halloysite, Nontronite	Argillic	
H045	9,086,994	624,784	Illite	Argillic	
H046	9,086,994	624,784	Illite	Argillic	
H047	9,086,994	624,784	Illite, Halloysite	Argillic	
H048	9,087,012	624,936	Illite, Montmorillonite	Argillic	
H049	9,087,226	624,907	Illite, Muscovite, Ankrte	Phyllic, Sericitic ?	Mesothermal
H050	9,087,254	624,926	Illite, Ankrte, Gypsum	Propylitic	
H052	9,087,358	624,951	Illite, Jarosite, Gypsum	Advanced Argillic	
H053	9,087,360	624,967	Illite	Argillic	
H054	9,087,450	624,908	Illite, Muscovite, Phengite	Phyllic, Sericitic	
H055	9,087,450	624,908	Illite, Phengite	Phyllic, Sericitic	
H056	9,087,550	624,948	Illite, MgChlorite, Montmorillonite, Ankrte, Opal	Propylitic	
H057	9,087,640	624,813	Intchlorite, Ankrte	Propylitic	
H058	9,087,660	624,618	Illite	Argillic	
H059	9,087,203	626,263	Illite	Argillic	
H060	9,087,217	626,129	Illite, IntChlorite, Palygorskite	Propylitic	
H061	9,087,129	626,186	Dickite	Argillic	High Sulfidation
H061-2	9,087,129	626,186	Dickite, Kaolinite, Prehnite	Argillic	High Sulfidation
H063	9,087,051	626,076	Dickite, K Alunite, Gypsum	Advanced Argillic	High Sulfidation
H064	9,086,528	625,381	Calcite, Halloysite, Montmorillonite,	Propylitic	
H065	9,087,709	626,220	Kaolinite, Nacrite	Argillic	
H066	9,088,475	626,667	Kaolinite, Muscovite	Phyllic	
H067	9,087,323	626,082	Dickite, Jarosite, Gypsum, Nacrite	Advanced Argillic	High Sulfidation
H068	9,087,323	626,082	Paragonite, Gypsum		
H069	9,088,570	626,309	Illite, IntChlorite, Ankrte	Propylitic	
H070	9,087,547	626,172	Illite, Kaolinite, Dickite	Argillic	High Sulfidation
H071	9,087,762	626,327	Dickite, Nacrite	Argillic	High Sulfidation
H072	9,087,681	626,192	Dickite, Nacrite	Argillic	High Sulfidation
H073	9,120,693	576,118	Kaolinite, Halloysite, Montmorillonite	Argillic	Low Sulfidation
H074	9,120,704	576,135	Calcite, Halloysite, Montmorillonite,	Propylitic	Low Sulfidation
H075	9,120,710	576,151	Montmorillonite, Ankrte	Argillic	
H076	9,120,710	576,151	Montmorillonite, IntChlorite, Illite, Paragonite	Propylitic	
H077	9,120,754	576,227	Halloysite, Gypsum	Argillic	
H078	9,121,136	576,337	Dickite, Kaolinite, Jarosite	Argillic	High Sulfidation
H079	9,121,054	576,087	Dickite, Nacrite	Argillic	High Sulfidation
H080	9,121,016	576,087	Kaolinite, Nacrite	Argillic	Low Sulfidation
H081	9,120,544	575,671	Illite, Halloysite	Argillic	
H082	9,120,498	575,781	Montmorillonite, Ankrte	Argillic ?	
H083	9,120,574	575,858	Illite, Muscovite, Gypsum	Phyllic	
H084	9,120,574	575,858	Illite, Kaolinite, Montmorillonite, Calcite, Paragonite	Argillic	Low Sulfidation
H085	9,120,604	575,944	Illite, Montmorillonite, Paragonite, Pyrophyllite	Advanced Argillic	High Sulfidation

Table A-5 Results of PIMA Analysis of Rock Samples (2/3)

Sample No.	Location		Mineral Alteration	Interpretation Alteration	Environment
	Northing	Easting			
H086	9,076,304	689,210	Kaolinite, Halloysite,	Argillic	
H088	9,069,460	690,293	Halloysite, Illite, Montmorillonite	Argillic	
H090	9,080,442	695,362	Montmorillonite	Argillic	
H092	9,080,530	690,975	IntChlorite, Illite, Halloysite, Montmorillonite, Ankrite, Gypsum	Propylitic	
H093	9,078,605	691,062	Montmorillonite, Ankerite, Calcite	Skarn/Propylitic	
H094	9,075,950	687,101	Palygorskite		
H096	9,079,570	687,144	IntChlorite, Montmorillonite	Propylitic	
H097	9,079,184	687,491	IntChlorite, Illite	Propylitic	
H098	9,079,103	689,650	Illite, IntChlorite, Montmorillonite, Epidote, Ankrite	Propylitic	
H099	9,078,710	689,660	Illite, IntChlorite	Propylitic	
H100	9,080,056	688,304	NH4 Alunite, Pyrophyllite,	Advanced Argillic	High Sulfidation
H102	9,089,990	723,997	Palygorskite		
I018	9,092,056	570,953	Montmorillonite, Kaolinite, Dickite	Argillic	High Sulfidation
I019	9,090,130	570,643	Paragonite, Montmorillonite	Argillic	
I021	9,089,806	570,825	Paragonite, Pyrophyllite	Advanced Argillic	High Sulfidation
I023	9,089,910	570,581	Illite, Gypsum	Argillic	
I025	9,098,914	574,310	Montmorillonite, Palygorskite	Argillic	
I031	9,090,220	615,544	Halloysite, Paragonite, Gypsum	Argillic	
I032	9,090,204	615,597	Paragonite, Montmorillonite, Illite, Jarosite	Argillic	
I045	9,084,644	631,770	Halloysite, Montmorillonite, Gypsum	Argillic	
I047	9,084,616	631,919	Paragonite, Opal		
I049	9,084,609	631,949	Montmorillonite, Epidote, Ankrite, IntChlorite, Palygorskite	Propylitic	
I051	9,084,609	631,949	Paragonite, Montmorillonite	Argillic	
I054	9,084,854	632,131	Illite, Pyrophyllite, Jarosite	Advanced Argillic	High Sulfidation
I056	9,085,212	632,199	Dickite	Argillic	High Sulfidation
I057	9,085,852	632,176	Illite, Halloysite, Kaolinite, Gypsum	Argillic	Low Sulfidation
I059	9,076,594	696,928	Paragonite, Pyrophyllite	Advanced Argillic	High Sulfidation
I060	9,076,594	696,928	Palygorskite		
I062	9,075,966	696,508	Pyrophyllite, Kaolinite,	Advanced Argillic	High Sulfidation
I067	9,074,464	694,064	Pyrophyllite,	Advanced Argillic	High Sulfidation
I068	9,085,180	699,331	Nacrite, Halloysite, Dickite	Argillic	High Sulfidation
I069	9,085,160	699,433	Montmorillonite, Kaolinite, Illite, Dickite	Argillic	High Sulfidation
I071	9,084,120	676,790	Montmorillonite, Halloysite, Illite, Opal	Argillic	Low Sulfidation
I074	9,087,862	718,893	Na Alunite, Kaolinite	Advanced Argillic	
I076	9,085,146	719,083	Montmorillonite, IntChlorite	Propylitic	
I080	9,089,798	719,429	Illite, IntChlorite	Propylitic	
I081	9,089,640	719,270	Epidote, Illite, IntChlorite, Paragonite	Propylitic	
I082	9,089,596	719,241	Montmorillonite, IntChlorite, Illite, Paragonite	Propylitic	
I083	9,089,480	719,219	Montmorillonite, Opal, Paragonite	Propylitic ?	
J025	9,091,800	654,157	Dickite, Nacrite	Argillic	High Sulfidation
J026	9,091,800	654,157	Montmorillonite, Illite, Dickite, Paragonite, Nacrite, Gypsum	Argillic	High Sulfidation
J030	9,091,850	651,147	Nacrite, Halloysite, Dickite	Argillic	High Sulfidation
J032	9,091,850	651,147	Dickite, Illite	Argillic	High Sulfidation
J033	9,092,968	648,480	Dickite, Nacrite	Argillic	High Sulfidation
J035	9,092,050	649,606	Dickite, Illite, Halloysite, Nacrite	Argillic	High Sulfidation
J036	9,090,378	624,698	Illite, Halloysite, Montmorillonite, Muscovite, Palygorskite	Argillic	Low Sulfidation
J037	9,090,384	624,688	Kaolinite, Halloysite,	Argillic	Low Sulfidation
J038	9,090,384	624,688	Kaolinite, Halloysite, Muscovite, Brucite	Argillic-Sericitic	
J039	9,090,384	624,688	Illite, Halloysite, Montmorillonite, Kaolinite	Argillic	
J040	9,090,312	624,668	Illite, Halloysite, Montmorillonite, Muscovite	Argillic	
J041	9,088,922	624,246	Illite, Halloysite, Montmorillonite	Argillic	
J042	9,088,922	624,246	Illite, Halloysite	Argillic	
J043	9,088,922	624,246	Illite, Halloysite, Nontronite, Gypsum	Argillic	Low Sulfidation
J044	9,080,568	679,338	Illite, Kaolinite, Pyrophyllite	Advanced Argillic	
J048	9,081,866	706,330	Epidote, Illite, IntChlorite,	Propylitic	
J049	9,079,502	708,965	Illite, IntChlorite	Propylitic	
J051	9,080,324	708,591	Illite, IntChlorite	Propylitic	
J052	9,080,324	708,591	Illite, Halloysite, Gypsum,	Argillic	
K008	9,133,624	455,339	Montmorillonite	Argillic	
K009	9,133,624	455,339	Montmorillonite, Palygorskite	Argillic	
K012	9,133,854	456,450	Montmorillonite	Argillic	
K024	9,089,428	583,375	Illite, Halloysite, Jarosite, Gypsum	Argillic	Low Sulfidation
K025	9,089,156	583,237	Epidote, Montmorillonite, Halloysite, Ankrite	Propylitic	
K026	9,089,040	583,280	Halloysite, Kaolinite, Gypsum	Argillic	
K028	9,084,160	578,505	FeChlorite, Montmorillonite, IntChlorite, Palygorskite	Propylitic	
K029	9,086,806	576,031	Kaolinite, Illite	Argillic	
K031	9,085,780	574,910	Paragonite, Opal		
K034	9,083,492	581,103	Paragonite, Illite, Montmorillonite	Argillic	
K035	9,079,740	575,989	Kaolinite, Pyrophyllite	Advanced Argillic	High Sulfidation
K036	9,082,312	576,265	Illite, Montmorillonite	Argillic	Low Sulfidation
K037	9,083,694	584,223	Illite, Jarosite, Rubellite	Argillic	Low Sulfidation
K038	9,093,625	633,421	Montmorillonite, Palygorskite	Argillic ?	
K041	9,091,908	629,306	Montmorillonite, Epidote	Propylitic	
K042	9,089,898	631,311	Montmorillonite, FeChlorite	Propylitic	
K043	9,091,496	631,564	Montmorillonite, Palygorskite	Argillic ?	
K044	9,090,362	634,055	Montmorillonite	Argillic ?	
K045	9,089,868	635,176	Montmorillonite, Palygorskite	Argillic ?	
K046	9,088,162	629,068	Kaolinite, Halloysite	Argillic	Low Sulfidation
K047	9,087,994	630,832	FeChlorite, Illite, Epidote	Propylitic	
K048	9,089,038	631,192	IntChlorite, MgChlorite, Illite, Halloysite	Propylitic	
K049	9,089,066	631,413	Halloysite, Paragonite	Argillic	
K050	9,087,712	633,839	Halloysite, Illite	Argillic	
K051	9,087,678	630,719	Montmorillonite, Paragonite	Argillic	
K053	9,085,014	631,525	Dickite, Nacrite	Argillic	High Sulfidation
K054	9,084,982	631,493	Dickite	Argillic	
K055	9,088,052	627,589	Dickite, Kaolinite, Nacrite	Argillic	High Sulfidation
K056	9,084,676	631,643	Nacrite, Halloysite	Argillic	Low Sulfidation
K057	9,084,676	631,643	Dickite, Halloysite, Nacrite	Argillic	High Sulfidation
K058	9,084,676	631,643	Dickite, Nacrite	Argillic	High Sulfidation
K059	9,120,546	575,522	Illite	Argillic	Low Sulfidation
K060	9,120,546	575,522	Illite, Jarosite	Argillic	Low Sulfidation
K061	9,120,516	575,431	Illite, Jarosite	Argillic	Low Sulfidation

Table A-5 Results of PIMA Analysis of Rock Samples (3/3)

Sample No.	Location		Mineral Alteration	Interpretation Alteration	Environment
	Northing	Easting			
K062	9,120,398	575,233	Illite	Argillic	Low Sulfidation
K063	9,120,396	575,085	Kaolinite, Illite, Dickite	Argillic	High Sulfidation
K064	9,120,482	575,025	Illite, Jarosite	Argillic	Low Sulfidation
K065	9,120,964	575,216	Kaolinite, Illite	Argillic	Low Sulfidation
K067	9,077,946	681,465	Illite, Montmorillonite, IntChlorite, Ankerite	Propylitic	
K068	9,078,254	680,777	Montmorillonite, Ankerite	Argillic	
L009	9,116,457	572,738	Illite, Montmorillonite	Argillic	Low Sulfidation
L016	9,115,672	573,747	Illite, Halloysite, Muscovite, Jarosite, Gypsum	Argillic	Low Sulfidation
L017	9,114,950	572,093	Illite, Montmorillonite	Argillic	Low Sulfidation
L018	9,114,950	572,093	Illite	Argillic	Low Sulfidation
L019	9,114,950	572,093	Illite, Halloysite, Montmorillonite, Paragonite	Argillic	Low Sulfidation
L021	9,114,950	572,093	Illite, Montmorillonite, Palygorskite	Argillic	Low Sulfidation
L024	9,117,244	575,794	Halloysite, Kaolinite, Jarosite	Argillic - Advanced Argillic	
L027	9,117,271	575,813	Montmorillonite	Argillic?	
L030	9,117,351	575,874	Illite, Gypsum	Argillic	
L031	9,117,035	575,901	Montmorillonite, Gypsum	Argillic	
L032	9,086,944	626,601	Dickite, Pyrophyllite	Advanced Argillic	High Sulfidation
L033	9,087,060	626,687	Illite, Pyrophyllite	Advanced Argillic	
L034	9,087,091	626,721	Kaolinite, Nacrite	Argillic	
L035	9,087,115	626,727	Kaolinite, Dickite, Nacrite	Argillic	High Sulfidation
L036	9,087,213	626,774	Dickite	Argillic	High Sulfidation
L037	9,087,404	626,841	Pyrophyllite, K Alunite, Kaolinite	Advanced Argillic	High Sulfidation
L038	9,087,260	627,808	Halloysite, K Alunite, Jarosite, Gibbsite	Advanced Argillic	High Sulfidation
L039	9,087,260	627,808	Na Alunite, K Alunite, Kaolinite	Advanced Argillic	High Sulfidation
L042	9,074,447	708,397	Montmorillonite, IntChlorite, Ankerite	Propylitic	

Table B-2 Results of Chemical Analysis of Pan Concentrates Samples (2/5)

Table with 25 columns (Ag to Au) and 65 rows (A1HP to B6P4). Each cell contains numerical data (ppm %) or 'NDS' (Not Detected).

Table B-3 Results of Description of Stream Sediment Samples (5/5)

Sample#	Map	Date	Suffix	Status	Existing	Northing	ASL	Media	WaterColor	Flow	Seaf. Color	PTT	Contam	Sand	Fines	Organic	Width	Depth	Bank	Stream Bed	Env. Sampled	Channel Type	pH	Comment
A163PS	1507434	3-Oct	ss,px	0	516439	9115398	765m	St-80	0	M	Y			L	L	L	15m	80cm	B	B	C	M	7.7	fin coarse less amount, hard to gd F: And turb fine micro-cloned (th, P) fine Qz v. no-mineralization
A164S	1507434	3-Oct	ss	0	516439	9115398	765m	St-80	0	S	Y			L	L	L	15m	105cm	B	B	P	R	8.0	outcrop And. If fine
A165SP	1507434	3-Oct	ss,px	0	516466	9114846	765m	St-80	0	very-slow	Y			L	L	L	1m	30cm	B	B	C	R	8.0	fine outcrop.
A166SD	1507434	3-Oct	ss	0	516210	9113516	557m	St-80	0	S	Y			L	L	L	2.5m	30cm	B	B	P	R	8.1	outcrop Andesite under a big fall F: "Grainy?"
A167PS	1507434	3-Oct	ss,px	0	516239	9113780	557m	St-80	0	S	Y			L	L	L	2m	30cm	B	B	C	R	8.1	outcrop silicified Andesite
A168S	1507434	3-Oct	ss	0	516253	9112858	557m	St-80	0	Stop	Y			L	L	L	2m	60cm	B	B	P	R	8.1	outcrop silicified Andesite
A169SP	1507434	3-Oct	ss,px	0	517363	9114072	521m	St-80	0	S	Y			L	L	L	2m	20cm	C	G	B	M	6.97	over a big fall fine field of electroping up river outcrop of near And. turb. base
A170PS	1507434	3-Oct	ss,px	0	517381	9112594	521m	St-80	0	S-M	Y			L	L	L	10m	1m <	B	B	D,C	M	7.3	outcrop Andesite
A171SP	1507434	3-Oct	ss,px	0	517807	9111558	272m	St-80	0	S	Y			L	L	L	2m	30cm	B	B	P	R	7.6	outcrop rhyolite-Ductro turb. bedding EWSN under a small fall
A172SP	1507434	3-Oct	ss,px	0	517778	9111219	272m	St-80	0	S	Y			L	L	L	2m	1m	B	B	P	R	8.0	outcrop rhyolite-Ductro turb. bedding EWSN F: Qz v. 2mm-3mm silicified And. with Py, diss
A173SP	1507434	3-Oct	ss,px	0	519012	9112922	366m	St-80	0	very-slow	Y			L	L	L	2m	40cm	B	B-G	P	R	8.2	outcrop And. If trace Py, A099RAM
A174S	1507434	3-Oct	ss	0	519044	9113339	401m	St-80	0	very-slow	Y			L	L	L	4m	10cm	B	B	P	R	8.2	outcrop And. If trace Py, A099RAM
A175SP	1507434	3-Oct	ss,px	0	516217	9113288	423m	St-80	0	very-slow	Y			L	L	L	2m	10cm	B	B	P	R	8.2	outcrop And. If trace Py, A099RAM
A176SP	1507434	3-Oct	ss,px	0	516217	9113288	423m	St-80	0	S	Y	non oxide		L	L	L	2m	10cm	B	B-G	P	R-M	7.8	Dry nearly Silicified
A177SP	1507434	3-Oct	ss,px	0	519413	9115387	580m	St-80	0	S	Y			L	L	L	3m	10-50cm	B	B-G	P	R-M	7.8	outcrop And. If trace Py, A099RAM
A178SP	1507434	3-Oct	ss,px	0	519859	9115070	558m	St-80	0	S	Y			L	L	L	2m	50cm	B	B	P	R	7.6	outcrop And. If trace Py, A099RAM
A179PS	1507434	3-Oct	ss,px	0	519863	9114858	558m	St-80	0	S	Y			L	L	L	2m	50cm	B	B	P	R	8.2	outcrop Andesite
A179S	1507434	3-Oct	ss	0	519219	9114252	558m	St-80	0	very-slow	Y			L	L	L	2m	46cm	B	B	P	R	8.4	silicified boulder, fine 50µm < 50µm
A180SP	1507434	3-Oct	ss,px	0	519223	9114269	558m	St-80	0	Stop	Y			L	L	L	2m	30cm	B	B	P	R	8.4	outcrop And. If trace Py, A099RAM
A181SP	1508112	3-Oct	ss,px	0	514148	9121510	641m	St-80	0	very-slow	Y			L	L	L	4m	40cm	B	B	P	R	7.2	outcrop Andesite silicified with Py, fine sil/A099RAM
A182SP	1508112	3-Oct	ss,px	0	514903	9121612	646m	St-80	0	very-slow	Y			L	L	L	5m	40cm	B	B	P	R	7.6	outcrop silicified Andesite A099RAM under a fall
A183SP	1508112	3-Oct	ss,px	0	515013	9121788	647m	St-80	0	very-slow	Y			L	L	L	5m	60cm	B	B	D-P	R	8.1	outcrop silicified And. If trace Py, A099RAM

Table B-4 Summary of Microscopic Observation of Thin Sections and Polished Sections

Sample No.	Rock Name	minerals							opaque minerals							Note (others)
		qz	pl	kf	mu	chl	ep	ca	py	cp	ga	sp	ma	mt	he	
A001RM	Silicified rock			*				*						*	*	
A002RM	Silicified rock													*	*	
A009FM1	Silicified rock													*		py>cp=sp>ga
A009FM2	Silicified rock			*										*		py>sp
A010RM	Silicified rock			*						*				*		
A012FM-1	Silicified rock			*						*				*		
A012FM-2	Silicified rock													*		
A020FR	Silicified rock			*				*						*		
A021RM	Silicified rock			*		*								*	*	
A022FM	Silicified rock													*		he>py>mt
A023FM	Silicified rock							*								py>cp
A024RM	pyrite ore							*							*	
A028FM	Silicified rock														*	
A041FM	Silicified rock					*	*	*							*	
A045RM	Silicified rock					*									*	
A053FM	Silicified rock					*	*								*	
A058FR	Silicified rock					*	*									he>mt
A067RM	pyrite ore					*	*		*					*	*	
A080FM	Silicified rock					*								*	*	
A084FM	Silicified rock					*					*			*		
A086RM	Silicified rock					*								*		ga>py>cp>mt
A090FM	Silicified rock					*								*		sp>cp>py
A091FM	Silicified rock								*	*					*	
A092FM	Silicified rock								*	*					*	
PLS-6	pyrite ore							*								
PLS-8	chalcopyrite ore					*								*	*	
PLS-9	chalcopyrite ore					*					*				*	
B018R	marcasite ore															needle like shape
B022R	marcasite ore															needle like shape
B025R	pyrite ore					*				*						
C009R	pyrite ore															
A103FM	pyrite ore					*										
A018FR	dacite tuff			*		*		*								
A069R	altered pyroxene bearing							*								
B013R	acidic tuff with andesite			*				*								

Legend: abundant, common, minor, * rare

qz: quartz, pl: plagioclase, kf:k-feldspar, mu:muscovite, chl: chlorite, ep: epidote, ca: carbonate mineral(mainly calcite)

Table B-5 Results of X-ray Diffraction Analysis (1/2)

No.	Sample	Qz	Pl	Kf	Ab	Ad	Se	Ch	Ka	Sm	Ha	S/S	C/S	Mo	St	Hb	Ep	Ak	Sd	Ms	Py	Hm	At	Gt	Mc	Mg	Cp	Sp	
1	A012X	⊙					Δ		○			•																	
2	A019R	○	⊙						Δ					○		•													
3	A021RX	⊙					•																	○					
4	A031RX	⊙									○																		
5	A043RM	⊙							•																				
6	A046RM	⊙							•																				
7	A047RM	⊙							•									⊙											
8	A048RM	⊙							○													⊙							
9	A055RM	⊙					Δ	⊙														•							
10	A057FM	⊙					○																						
11	A059FX	⊙					Δ	Δ																					
12	A067RM	⊙																					○						
13	A070R	⊙						Δ	Δ																				
14	A073RM	Δ	⊙				•																						
15	A076R	⊙							○																	Δ			○
16	A079-1	Δ	Δ						⊙																				
17	A079-2	Δ	Δ						○																				
18	A083RM	○	Δ				•																						
19	A087RM ①	⊙					•																			○			
20	A087RM ②	⊙																											
21	A087RM ③	Δ							○																		○		
22	A098X	○					○																						
23	A094R	⊙	Δ				•	Δ																					
24	A095RX							⊙																					
25	A097RM	○																											⊙

Qz: Quartz, Pl: Plagioclase, KfK: feldspar, Ab: Albite, Ad: Adularia, Se: Sericite, Ch: Chlorite, Ka: Kaolinite, Sm: Smectite, Ha: Halloysite, S/S: Sericite-smectite mixed layer minerals, C/S: Chlorite-sericite mixed layer minerals, Mo: Mordenite, St: Stilbite, Hb: Hornblende, Ep: Epidote, Ak: Ankerite, Sd: Siderite, Ms: Magnesite, Py: Pyrite, Hm: Hematite, At: Anatase, Gt: Goethite, Mc: Marcasite, Mg: Magnetite, Cp: Chalcopyrite, Sp: Sphalerite

Amount: ⊙ > ○ > Δ > •

Table B-5 Results of X-ray Diffraction Analysis (2/2)

No.	Sample	Qz	Pl	Kf	Ab	Ad	Se	Ch	Ka	Sm	Ha	S/S	C/S	Mo	St	Hb	Ep	Ak	Sd	Ms	Py	Hm	At	Gt	Mc	Mg	Cp	Sp
26	A100RX	△	⊙	△						○										.								
27	B006R	△		⊙			⊙					.									⊙							
28	B007R	○					⊙										△				○							⊙
29	B010R	⊙										.																
30	B016R	△	.						.												⊙			.		.		.
31	B023R	⊙		△						△													.					
32	B027R	⊙		⊙			○						.								.							

Qz:Quartz, Pl:Plagioclase, Kf:K-feldspar, Ab:Albite, Ad:Adularia, Se:Sericite, Ch:Chlorite, Ka:Kaolinite, Sm: Smectite, Ha:Halloysite, S/S:Sericite-smectite mixed layer minerals, C/S:Chlorite-sericite mixed layer minerals, Mo:Mordenite, St:Stilbite, Hb:Hornblende, Ep: Epidote, Ak:Ankerite, Sd:Siderite, Ms:Magnesite, Py:Pyrite, Hm:Hematite, At:Anatase, Gt:Goethite, Mc:Marcasite, Mg:Magnetite, Cp:Chalcopyrite, Sp: Sphalerite

Amount: ⊙ > ○ > △ > .

Table B-6 Results of Quartz Index (1/2)

No.	試料名	Qz	Pl	Kf	Ab	Ad	Se	Ch	Ka	Sm	Ha	S/S	C/S	Mo	St	Hb	Ep	Ak	Sd	Ms	Py	Hm	At	Ct	Mc	Mg	Cp	Sp
1	A012X	46.8						1.6		1.9		0.5																50.8
2	A019R	9.2	9.6							1.1		1.7				0.7												22.3
3	A021RX	76.0					0.6																	0.8				77.4
4	A031RX	39.0			9.0						2.4	0.5																50.9
5	A043RM	69.9						1.0				0.5											0.5					71.9
6	A046RM	49.2						0.8		0.8		0.8											0.5					51.2
7	A047RM	25.8						0.8		0.8		0.5						4.4					0.5					31.9
8	A048RM	33.2						2.5				0.5										3.9						40.1
9	A055RM	37.3			3.7		1.1	6.3														0.2						48.7
10	A057FM	77.0					1.9																					78.9
11	A059FX	53.3					1.6	1.5																				56.4
12	A067RM	79.3					0.6					0.6										1.6						82.1
13	A070R	54.6			1.3	1.3						0.8	0.8															58.8
14	A073RM	2.6	8.7	4.9			0.4																					16.6
15	A076R	23.7	7.5	2.6						0.9		0.2												0.7		1.4		38.2
16	A079-1	7.2	2.4							4.9					0.8													15.2
17	A079-2	7.9	3.1	2.2						1.2	0.4														0.4			15.1
18	A083RM	11.5	2.7				0.9					0.9										1.6						17.6
19	A087RM ①	40.0					0.9				0.9													0.8				42.7
20	A087RM ②	96.1																										96.1
21	A087RM ③	7.9							2.8															1.2				11.9
22	A098X	11.8		3.4			1.9		0.8																			17.8
23	A094R	27.1	6.6	1.1			0.9	1.3																				37.0
24	A095RX							3.7															4.5					8.1
25	A097RM	10.8																					4.9			2.5		18.2

Table B-6 Results of Quartz Index (2/2)

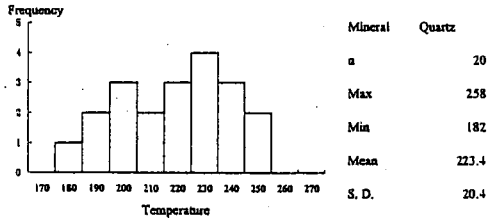
NO.	試料名	Qz	Pl	Kf	Ab	Ad	Se	Ch	Ka	Sm	Hs	S/S	C/S	Mo	St	Hb	Ep	Ak	Sd	Ms	Py	Hm	At	Gt	Mc	Mg	Cp	Sp	
26	A100RX	6.1	19.0	1.3						1.9										0.3									28.6
27	B006R	4.3			6.2		4.1					0.3									2.4								17.3
28	B007R	13.4					4.9										1.6				1.6							5.9	27.4
29	B010R	58.0										0.8																	58.8
30	B016R	5.0	0.5						0.7												3.8			0.6		0.6			11.1
31	B023R	72.3			0.9						1.1													0.6					74.9
32	B027R	47.5			6.4	2.0							0.3								0.2								56.4

Qz:Quartz, Pl:Plagioclase, Kf:K-feldspar, Ab:Albite, Ad:Adularia, Se:Sericite, Ch:Chlorite, Ka:Kaolinite, Sm:Smectite, Hs:Halloysite, S/S:Sericite-smectite mixed layer minerals, C/S:Chlorite-sericite mixed layer minerals, Mo:Mordeite, St:Stibite, Hb:Hornblende, Ep: Epidote, Ak:Actinolite, Sd:Siderite, Ms:Magnetite, Py:Pyrite, Hm:Hematite, At:Anatase, Gt:Goethite, Mc:Marcasite, Mg:Magnetite, Cp:Chalcopyrite, Sp:Spinelite

Table B-7 Results of Homogenization Temperatures and Salinities of Fluid Inclusions (1/6)

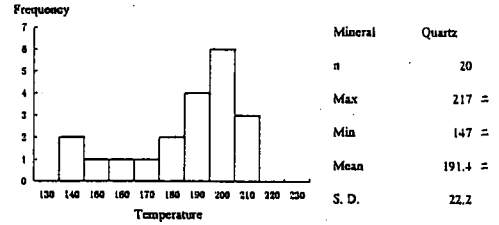
Sample A002RM

No.	Mineral	Size (<μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	25.0	13	irregular	192	-2.4	4.03
2	Quartz	10.0	17	irregular	253	-2.0	3.39
3	Quartz	7.5	13	polygon	217	-	-
4	Quartz	27.5	15	irregular	220	-1.5	2.57
5	Quartz	30.0	13	irregular	204	-2.6	4.34
6	Quartz	20.0	12	irregular	233	-1.8	3.06
7	Quartz	12.5	13	polygon	209	-2.0	3.39
8	Quartz	27.5	15	irregular	224	-1.8	3.06
9	Quartz	17.5	12	irregular	201	-1.9	3.23
10	Quartz	7.5	10	polygon	216	-	-
11	Quartz	7.5	10	polygon	182	-	-
12	Quartz	25.0	17	irregular	239	-1.9	3.23
13	Quartz	10.0	13	polygon	223	-1.8	3.06
14	Quartz	15.0	12	polygon	240	-2.2	3.71
15	Quartz	7.5	15	polygon	246	-	-
16	Quartz	32.5	17	irregular	258	-1.6	2.74
17	Quartz	15.0	13	pillar	234	-1.5	2.57
18	Quartz	15.0	12	pillar	233	-1.9	3.23
19	Quartz	7.5	12	polygon	245	-	-
20	Quartz	10.0	10	polygon	199	-1.8	3.06



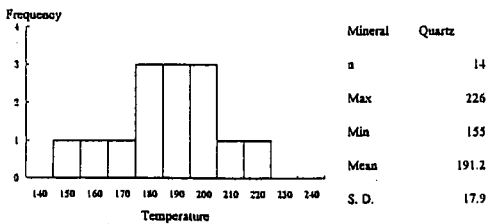
Sample A008RM

No.	Mineral	Size (<μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	82.5	20	polygon	206	-0.9	1.57
2	Quartz	12.5	17	polygon	208	-0.8	1.40
3	Quartz	25.0	17	polygon	195	-0.2	0.15
4	Quartz	55.0	13	irregular	208	-0.2	0.35
5	Quartz	27.5	10	irregular	161	-0.3	0.53
6	Quartz	10.0	7	square	149	-0.2	0.35
7	Quartz	12.5	10	triangle	147	-0.8	1.40
8	Quartz	35.0	12	irregular	199	-0.7	1.23
9	Quartz	17.5	12	polygon	187	-0.2	0.35
10	Quartz	10.0	10	polygon	151	-0.8	1.40
11	Quartz	45.0	13	irregular	216	-0.6	1.05
12	Quartz	27.5	12	pillar	185	-0.2	0.35
13	Quartz	10.0	13	polygon	217	-	-
14	Quartz	25.0	13	pillar	176	-0.1	0.18
15	Quartz	7.5	12	polygon	196	-	-
16	Quartz	10.0	12	polygon	207	-	-
17	Quartz	22.5	15	irregular	211	-0.7	1.23
18	Quartz	10.0	13	square	207	-0.8	1.40
19	Quartz	7.5	12	polygon	193	-	-
20	Quartz	22.5	12	irregular	208	-0.8	1.40



Sample A012FM-2

No.	Mineral	Size (<μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	7.5	10	polygon	186	-0.1	0.18
2	Quartz	5.0	7	polygon	202	-	-
3	Quartz	5.0	5	egg	193	-0.3	0.53
4	Quartz	7.5	12	square	226	0.0	0.00
5	Quartz	7.5	10	polygon	201	-0.1	0.18
6	Quartz	5.0	10	polygon	183	-0.2	0.35
7	Quartz	< 2.5	5	polygon	155	-	-
8	Quartz	< 2.5	12	egg	199	-	-
9	Quartz	10.0	12	irregular	182	0.0	0.00
10	Quartz	7.5	12	square	211	-0.1	0.18
11	Quartz	2.5	10	polygon	206	-	-
12	Quartz	< 2.5	7	egg	173	-	-
13	Quartz	< 2.5	7	egg	167	-	-
14	Quartz	< 2.5	10	egg	193	-	-



Sample A022FM

No.	Mineral	Size (<μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	15.0	15	sq	274	-2.2	3.71
2	Quartz	7.5	13	po	274	-2.2	3.71
3	Quartz	15.0	15	po	271	-2.2	3.71
4	Quartz	7.5	12	po	277	-	-
5	Quartz	10.0	13	po	279	-2.1	3.55
6	Quartz	22.5	20	po	279	-2.0	3.39
7	Quartz	17.5	17	po	279	-2.2	3.71
8	Quartz	37.5	20	irr	271	-2.3	3.87
9	Quartz	10.0	17	po	267	-2.2	3.71
10	Quartz	47.5	25	irr	283	-2.4	4.03
11	Quartz	12.5	13	po	294	-2.3	3.87
12	Quartz	7.5	17	po	276	-	-
13	Quartz	10.0	15	po	273	-2.3	3.87
14	Quartz	42.5	15	irr	271	-2.3	3.87
15	Quartz	30.0	15	irr	271	-2.3	3.87
16	Quartz	22.5	15	po	277	-2.2	3.71
17	Quartz	15.0	12	po	268	-2.2	3.71
18	Quartz	10.0	12	po	275	-2.3	3.87
19	Quartz	7.5	13	po	280	-	-
20	Quartz	12.5	15	tu	272	-1.9	3.23

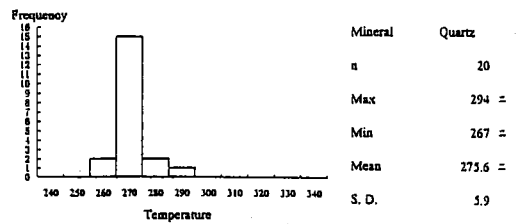
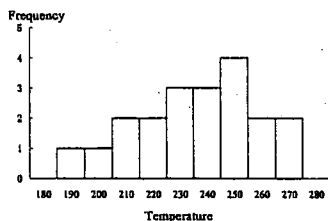


Table B-7 Results of Homogenization Temperatures and Salinities of Fluid Inclusions (2/6)

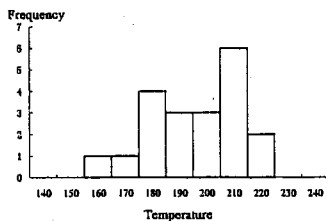
Sample A028FM

No.	Mineral	Size (μ)	Volume ratio (%)	Form	Temperature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	32.5	12	irregular	196	-2.1	3.55
2	Quartz	32.5	12	irregular	208	-2.0	3.39
3	Quartz	15.0	13	polygon	231	-2.2	3.71
4	Quartz	50.0	17	polygon	242	-2.2	3.71
5	Quartz	17.5	13	square	241	-2.1	3.55
6	Quartz	7.5	13	square	243	-1.9	3.23
7	Quartz	57.5	15	polygon	255	-2.1	3.55
8	Quartz	7.5	13	polygon	259	-2.3	3.87
9	Quartz	7.5	13	polygon	260	-2.2	3.71
10	Quartz	10.0	12	polygon	258	-2.2	3.71
11	Quartz	37.5	13	irregular	223	-2.1	3.55
12	Quartz	12.5	12	pillar	216	-1.9	3.23
13	Quartz	15.0	13	polygon	273	-2.2	3.71
14	Quartz	10.0	12	polygon	265	-2.2	3.71
15	Quartz	32.5	15	irregular	236	-2.2	3.71
16	Quartz	42.5	15	irregular	227	-2.1	3.55
17	Quartz	17.5	12	irregular	211	-2.2	3.71
18	Quartz	7.5	13	polygon	238	-	-
19	Quartz	15.0	20	square	277	-2.2	3.71
20	Quartz	27.5	15	polygon	252	-2.2	3.71



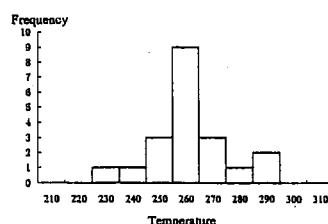
Sample A043RM

No.	Mineral	Size (μ)	Volume ratio (%)	Form	Temperature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	12.5	20	polygon	174	-1.1	1.91
2	Quartz	7.5	20	polygon	197	-1.6	2.74
3	Quartz	7.5	20	polygon	211	-1.2	2.07
4	Quartz	15.0	25	irregular	186	-1.0	1.74
5	Quartz	5.0	20	square	208	-	-
6	Quartz	12.5	17	irregular	163	-0.9	1.57
7	Quartz	7.5	20	square	217	-1.7	2.90
8	Quartz	7.5	17	polygon	183	-1.1	1.91
9	Quartz	20.0	17	pillar	214	-1.0	1.74
10	Quartz	17.5	15	polygon	180	-0.7	1.23
11	Quartz	10.0	20	square	221	-1.5	2.57
12	Quartz	10.0	17	square	212	-1.6	2.74
13	Quartz	7.5	15	polygon	188	-	-
14	Quartz	15.0	20	irregular	201	-0.8	1.40
15	Quartz	10.0	25	square	227	-1.3	2.24
16	Quartz	5.0	20	polygon	205	-	-
17	Quartz	7.5	17	polygon	190	-	-
18	Quartz	12.5	20	wedge	213	-1.2	2.07
19	Quartz	10.0	25	square	217	-1.1	1.91
20	Quartz	7.5	20	polygon	195	-	-



Sample A045RM

No.	Mineral	Size (μ)	Volume ratio (%)	Form	Temperature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	12.5	12	irregular	264	-0.1	0.18
2	Quartz	10.0	10	irregular	256	-0.2	0.35
3	Quartz	5.0	12	polygon	273	-	-
4	Quartz	2.5	10	polygon	251	-	-
5	Quartz	10.0	10	square	248	-0.1	0.18
6	Quartz	7.5	12	polygon	263	-0.1	0.18
7	Quartz	5.0	13	polygon	288	-	-
8	Quartz	5.0	10	polygon	250	-	-
9	Quartz	12.5	13	irregular	273	-0.1	0.18
10	Quartz	10.0	12	polygon	266	-0.2	0.35
11	Quartz	5.0	12	polygon	271	-	-
12	Quartz	17.5	15	wedge	292	-0.1	0.18
13	Quartz	7.5	13	polygon	265	-0.1	0.18
14	Quartz	5.0	12	polygon	261	-	-
15	Quartz	5.0	10	polygon	238	-	-
16	Quartz	12.5	13	irregular	265	-0.1	0.18
17	Quartz	12.5	12	irregular	261	-0.1	0.18
18	Quartz	7.5	12	polygon	267	-0.1	0.18
19	Quartz	10.0	15	triangle	291	-0.2	0.35
20	Quartz	5.0	12	polygon	265	-	-



Sample A053FM

No.	Mineral	Size (μ)	Volume ratio (%)	Form	Temperature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	32.5	13	irregular	238	-2.4	4.03
2	Quartz	25.0	13	polygon	242	-2.2	3.71
3	Quartz	10.0	13	polygon	240	-2.2	3.71
4	Quartz	5.0	13	square	231	-	-
5	Quartz	27.5	15	polygon	243	-2.2	3.71
6	Quartz	47.5	12	irregular	242	-1.9	3.23
7	Quartz	7.5	13	polygon	238	-2.1	3.55
8	Quartz	5.0	12	square	243	-	-
9	Quartz	25.0	13	irregular	241	-2.3	3.87
10	Quartz	22.5	15	irregular	244	-2.2	3.71
11	Quartz	15.0	13	polygon	250	-2.2	3.71
12	Quartz	10.0	13	polygon	241	-2.1	3.55
13	Quartz	7.5	13	polygon	239	-2.0	3.39
14	Quartz	32.5	12	pillar	244	-2.2	3.71
15	Quartz	55.0	13	irregular	246	-2.3	3.87
16	Quartz	12.5	15	triangle	253	-2.2	3.71
17	Quartz	27.5	13	irregular	242	-2.0	3.39
18	Quartz	10.0	15	square	261	-2.2	3.71
19	Quartz	7.5	13	polygon	245	-	-
20	Quartz	5.0	12	polygon	243	-	-

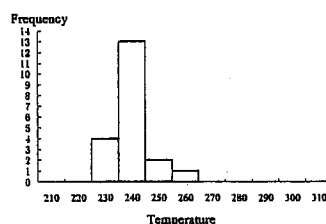


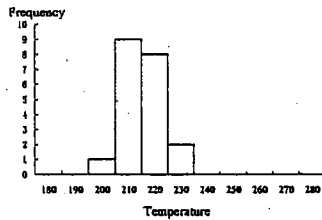
Table B-7 Results of Homogenization Temperatures and Salinities of Fluid Inclusions (3/6)

Sample AO68FM

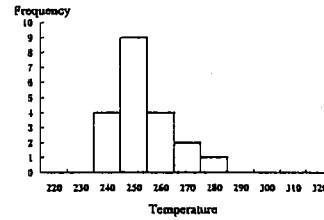
No.	Mineral	Size (μ)	Volume ratio (%)	Form	Tempo- rature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	127.5	13	irregular	216	-0.4	0.71
2	Quartz	125.0	13	irregular	213	-0.5	0.88
3	Quartz	52.5	13	irregular	217	-0.7	1.23
4	Quartz	20.0	13	polygon	223	-0.4	0.71
5	Quartz	12.5	13	polygon	222	-0.4	0.71
6	Quartz	17.5	15	pillar	200	-0.5	0.88
7	Quartz	5.0	13	square	214	-	-
8	Quartz	5.0	15	polygon	238	-	-
9	Quartz	55.0	13	polygon	210	-0.6	1.05
10	Quartz	45.0	13	polygon	211	-0.5	0.88
11	Quartz	15.0	13	polygon	225	-0.4	0.71
12	Quartz	15.0	13	triangle	220	-0.4	0.71
13	Quartz	32.5	13	irregular	221	-0.5	0.88
14	Quartz	42.5	12	irregular	218	-0.4	0.71
15	Quartz	15.0	13	polygon	217	-0.4	0.71
16	Quartz	7.5	13	polygon	226	-	-
17	Quartz	12.5	13	polygon	223	-0.7	1.23
18	Quartz	37.5	12	irregular	218	-0.6	1.05
19	Quartz	25.0	13	polygon	225	-0.4	0.71
20	Quartz	15.0	13	square	234	-0.4	0.71

Sample AO80FM

No.	Mineral	Size (μ)	Volume ratio (%)	Form	Tempo- rature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	37.5	17	polygon	258	-1.5	2.57
2	Quartz	32.5	15	polygon	242	-1.4	2.41
3	Quartz	30.0	17	polygon	262	-1.4	2.41
4	Quartz	7.5	13	polygon	249	-	-
5	Quartz	7.5	13	polygon	248	-1.3	2.24
6	Quartz	10.0	12	triangle	251	-1.4	2.41
7	Quartz	10.0	13	polygon	250	-1.4	2.41
8	Quartz	20.0	17	polygon	271	-1.4	2.41
9	Quartz	12.5	13	polygon	256	-1.3	2.24
10	Quartz	7.5	13	polygon	253	-1.4	2.41
11	Quartz	5.0	12	polygon	257	-	-
12	Quartz	7.5	13	polygon	255	-	-
13	Quartz	12.5	15	polygon	263	-1.4	2.41
14	Quartz	32.5	15	irregular	266	-1.2	2.07
15	Quartz	17.5	13	irregular	253	-1.5	2.57
16	Quartz	10.0	17	polygon	282	-1.4	2.41
17	Quartz	7.5	15	polygon	267	-	-
18	Quartz	22.5	17	polygon	275	-1.4	2.41
19	Quartz	17.5	15	irregular	251	-1.1	1.91
20	Quartz	10.0	13	polygon	247	-1.4	2.41



Mineral	Quartz
n	20
Max	238 =
Min	200 =
Mean	219.6 =
S. D.	8.2



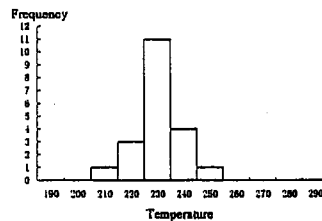
Mineral	Quartz
n	20
Max	282 =
Min	242 =
Mean	257.8 =
S. D.	10.0

Sample AO86RM

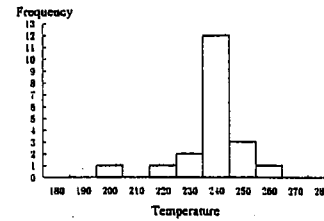
No.	Mineral	Size (μ)	Volume ratio (%)	Form	Tempo- rature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	30.0	17	polygon	236	-1.7	2.90
2	Quartz	10.0	13	polygon	236	-1.6	2.74
3	Quartz	20.0	15	polygon	237	-1.7	2.90
4	Quartz	7.5	12	square	234	-	-
5	Quartz	70.0	15	irregular	221	-2.1	3.55
6	Quartz	32.5	17	polygon	241	-1.9	3.23
7	Quartz	17.5	15	square	235	-2.1	3.55
8	Quartz	17.5	15	polygon	238	-2.1	3.55
9	Quartz	12.5	13	polygon	242	-1.8	3.06
10	Quartz	10.0	12	polygon	213	-1.7	2.90
11	Quartz	42.5	15	irregular	220	-2.2	3.71
12	Quartz	30.0	15	polygon	235	-2.0	3.39
13	Quartz	15.0	17	wedge	241	-1.8	3.06
14	Quartz	32.5	13	irregular	238	-2.0	3.39
15	Quartz	27.5	12	irregular	226	-1.9	3.23
16	Quartz	20.0	15	polygon	236	-1.7	2.90
17	Quartz	12.5	15	polygon	236	-1.6	2.74
18	Quartz	7.5	13	square	251	-	-
19	Quartz	10.0	13	polygon	234	-2.1	3.55
20	Quartz	22.5	17	irregular	242	-1.8	3.06

Sample AO87RM-2

No.	Mineral	Size (μ)	Volume ratio (%)	Form	Tempo- rature (\pm)	Melting Temp (\pm)	NaCl Wt (%)
1	Quartz	42.5	17	irregular	248	-1.2	2.07
2	Quartz	20.0	17	polygon	235	-1.3	2.24
3	Quartz	7.5	15	square	244	-1.3	2.24
4	Quartz	5.0	13	square	208	-	-
5	Quartz	10.0	15	polygon	248	-1.2	2.07
6	Quartz	22.5	15	polygon	265	-1.3	2.24
7	Quartz	27.5	17	polygon	247	-1.3	2.24
8	Quartz	12.5	15	polygon	249	-1.3	2.24
9	Quartz	12.5	13	polygon	246	-1.3	2.24
10	Quartz	10.0	17	square	251	-1.1	1.91
11	Quartz	45.0	15	irregular	248	-1.2	2.07
12	Quartz	7.5	17	triangle	250	-	-
13	Quartz	42.5	15	pillar	228	-1.0	1.74
14	Quartz	20.0	17	polygon	246	-1.2	2.07
15	Quartz	17.5	17	polygon	247	-1.3	2.24
16	Quartz	5.0	15	polygon	251	-	-
17	Quartz	32.5	17	irregular	244	-1.3	2.24
18	Quartz	20.0	15	polygon	233	-1.2	2.07
19	Quartz	17.5	20	wedge	247	-1.1	1.91
20	Quartz	10.0	15	polygon	248	-1.3	2.24



Mineral	Quartz
n	20
Max	251 =
Min	213 =
Mean	234.6 =
S. D.	8.5



Mineral	Quartz
n	20
Max	265 =
Min	208 =
Mean	244.2 =
S. D.	11.1

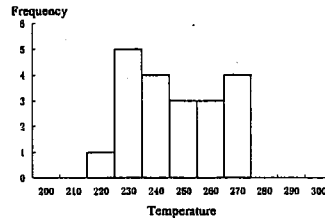
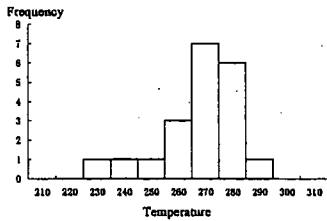
Table B-7 Results of Homogenization Temperatures and Salinities of Fluid Inclusions (4/6)

Sample AO88RM

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	37.5	17	polygon	278	-0.7	1.23
2	Quartz	22.5	15	polygon	288	-0.8	1.40
3	Quartz	7.5	17	polygon	258	-0.7	1.23
4	Quartz	10.0	20	polygon	272	-1.2	2.07
5	Quartz	7.5	12	polygon	233	-1.3	2.24
6	Quartz	5.0	13	square	271	-	-
7	Quartz	15.0	17	polygon	271	-0.7	1.23
8	Quartz	20.0	15	pillar	268	-1.0	1.74
9	Quartz	10.0	12	polygon	242	-1.2	2.07
10	Quartz	7.5	15	polygon	278	-	-
11	Quartz	25.0	17	polygon	283	-0.8	1.40
12	Quartz	22.5	20	polygon	291	-0.8	1.40
13	Quartz	10.0	15	square	282	-0.7	1.23
14	Quartz	7.5	15	square	283	-	-
15	Quartz	22.5	17	polygon	281	-0.6	1.05
16	Quartz	25.0	15	pillar	263	-1.0	1.74
17	Quartz	12.5	20	polygon	287	-1.1	1.91
18	Quartz	17.5	17	polygon	278	-0.8	1.40
19	Quartz	7.5	15	polygon	265	-	-
20	Quartz	12.5	17	square	277	-0.9	1.57

Sample AO90FM

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	45.0	17	polygon	274	-0.8	1.40
2	Quartz	22.5	13	polygon	262	-0.9	1.57
3	Quartz	12.5	15	polygon	242	-0.9	1.40
4	Quartz	7.5	17	polygon	270	-1.2	2.07
5	Quartz	10.0	17	polygon	272	-1.0	1.74
6	Quartz	22.5	15	irregular	237	-0.9	1.57
7	Quartz	22.5	13	polygon	238	-0.9	1.57
8	Quartz	10.0	15	polygon	233	-0.8	1.40
9	Quartz	15.0	13	polygon	238	-0.9	1.57
10	Quartz	47.5	15	irregular	244	-0.9	1.57
11	Quartz	5.0	13	polygon	232	-	-
12	Quartz	12.5	15	polygon	251	-1.0	1.74
13	Quartz	25.0	17	polygon	265	-0.9	1.57
14	Quartz	22.5	17	irregular	262	-0.9	1.57
15	Quartz	35.0	13	irregular	221	-0.8	1.40
16	Quartz	27.5	17	polygon	253	-1.1	1.91
17	Quartz	10.0	20	wedge	277	-0.8	1.40
18	Quartz	7.5	13	polygon	241	-	-
19	Quartz	52.5	15	irregular	255	-0.9	1.57
20	Quartz	10.0	13	polygon	243	-0.8	1.40



Sample AO92FM

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	55.0	17	polygon	255	-0.4	0.71
2	Quartz	5.0	12	square	227	-	-
3	Quartz	12.5	15	polygon	256	-0.3	0.53
4	Quartz	7.5	17	polygon	258	-	-
5	Quartz	17.5	17	pillar	274	-0.4	0.71
6	Quartz	12.5	15	polygon	267	-0.3	0.53
7	Quartz	22.5	17	irregular	256	-0.3	0.53
8	Quartz	20.0	17	polygon	259	-0.3	0.53
9	Quartz	17.5	15	polygon	258	-0.4	0.71
10	Quartz	42.5	17	irregular	255	-0.5	0.88
11	Quartz	35.0	20	wedge	276	-0.3	0.53
12	Quartz	35.0	15	wedge	260	-0.2	0.35
13	Quartz	40.0	15	irregular	251	-0.3	0.53
14	Quartz	22.5	17	polygon	253	-0.3	0.53
15	Quartz	15.0	15	polygon	244	-0.3	0.53
16	Quartz	7.5	12	polygon	242	-	-
17	Quartz	12.5	13	irregular	256	-0.3	0.53
18	Quartz	10.0	12	polygon	231	-0.2	0.35
19	Quartz	45.0	17	irregular	263	-0.3	0.53
20	Quartz	32.5	15	irregular	259	-0.3	0.53

Sample PLS-4

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	25.0	15	polygon	235	0.0	0.00
2	Quartz	17.5	17	polygon	258	-0.1	0.18
3	Quartz	12.5	17	polygon	263	0.0	0.00
4	Quartz	17.5	17	polygon	266	-0.1	0.18
5	Quartz	12.5	13	wedge	233	0.0	0.00
6	Quartz	15.0	15	polygon	234	0.0	0.00
7	Quartz	10.0	15	pillar	232	0.0	0.00
8	Quartz	17.5	20	square	265	-0.1	0.18
9	Quartz	17.5	20	polygon	266	0.0	0.00
10	Quartz	17.5	20	wedge	259	0.0	0.00
11	Quartz	7.5	20	square	267	-	-
12	Quartz	10.0	20	polygon	261	0.0	0.00
13	Quartz	32.5	17	irregular	248	-0.1	0.18
14	Quartz	22.5	20	irregular	250	0.0	0.00
15	Quartz	27.5	20	pillar	255	0.0	0.00
16	Quartz	17.5	17	polygon	261	0.0	0.00
17	Quartz	17.5	17	polygon	257	0.0	0.00
18	Quartz	17.5	15	polygon	258	0.0	0.00
19	Quartz	17.5	13	polygon	255	-0.1	0.18
20	Quartz	12.5	15	polygon	242	0.0	0.00

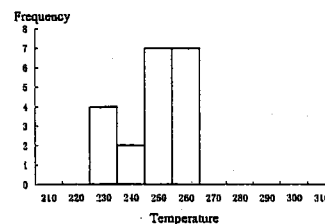
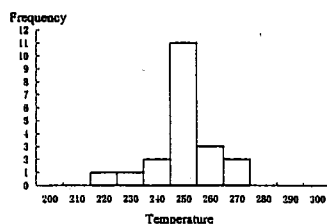


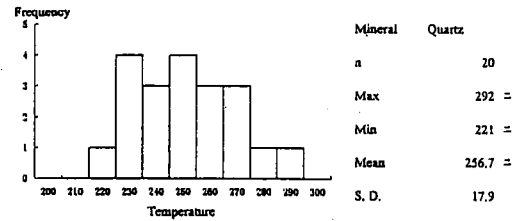
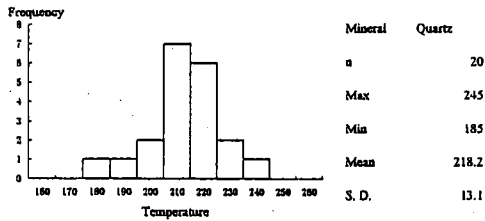
Table B-7 Results of Homogenization Temperatures and Salinities of Fluid Inclusions (5/6)

Sample PLS-3

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	47.5	13	polygon	211	-0.1	0.18
2	Quartz	5.0	13	square	208	0.0	0.00
3	Quartz	17.5	13	polygon	215	0.0	0.00
4	Quartz	10.0	12	square	221	0.0	0.00
5	Quartz	20.0	12	polygon	217	-0.1	0.18
6	Quartz	5.0	12	polygon	185	-	-
7	Quartz	12.5	13	polygon	195	0.0	0.00
8	Quartz	25.0	17	polygon	237	-0.1	0.18
9	Quartz	27.5	15	polygon	217	0.0	0.00
10	Quartz	7.5	13	square	228	0.0	0.00
11	Quartz	7.5	13	polygon	245	-	-
12	Quartz	52.5	15	irregular	216	0.0	0.00
13	Quartz	35.0	13	polygon	232	-0.1	0.18
14	Quartz	22.5	12	polygon	227	0.0	0.00
15	Quartz	15.0	12	polygon	218	-0.1	0.18
16	Quartz	12.5	13	square	222	0.0	0.00
17	Quartz	32.5	12	pillar	207	-0.1	0.18
18	Quartz	10.0	13	polygon	223	0.0	0.00
19	Quartz	7.5	12	polygon	218	0.0	0.00
20	Quartz	15.0	13	polygon	221	0.0	0.00

Sample PLS-8

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	22.5	15	polygon	282	-1.2	2.07
2	Quartz	17.5	15	polygon	278	-1.1	1.91
3	Quartz	7.5	17	square	239	-1.3	2.24
4	Quartz	5.0	13	square	248	-	-
5	Quartz	7.5	15	polygon	256	-	-
6	Quartz	27.5	13	polygon	221	-1.4	2.41
7	Quartz	17.5	15	polygon	273	-1.2	2.07
8	Quartz	12.5	17	square	238	-2.1	3.55
9	Quartz	10.0	12	polygon	234	-1.4	2.41
10	Quartz	20.0	15	polygon	258	-1.8	3.06
11	Quartz	10.0	13	pillar	269	-1.1	1.91
12	Quartz	10.0	15	square	258	-1.4	2.41
13	Quartz	32.5	17	polygon	264	-1.2	2.07
14	Quartz	17.5	15	pillar	277	-1.0	1.74
15	Quartz	25.0	17	irregular	260	-2.0	3.39
16	Quartz	12.5	20	polygon	292	-1.5	2.57
17	Quartz	7.5	15	polygon	258	-	-
18	Quartz	20.0	17	polygon	245	-1.4	2.41
19	Quartz	12.5	13	polygon	237	-1.1	1.91
20	Quartz	10.0	13	polygon	246	-1.3	2.24



Sample PLS-9

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	25.0	20	irregular	268	-2.1	3.55
2	Quartz	12.5	17	polygon	272	-2.0	3.39
3	Quartz	7.5	25	square	286	-	-
4	Quartz	20.0	17	polygon	268	-2.2	3.71
5	Quartz	12.5	17	square	271	-2.1	3.55
6	Quartz	5.0	20	egg	269	-	-
7	Quartz	17.5	20	polygon	273	-2.0	3.39
8	Quartz	5.0	20	polygon	266	-	-
9	Quartz	32.5	25	irregular	291	-1.9	3.23
10	Quartz	17.5	20	polygon	275	-1.9	3.23
11	Quartz	10.0	17	square	258	-1.8	3.06
12	Quartz	25.0	20	polygon	265	-2.0	3.39
13	Quartz	12.5	20	wedge	282	-2.0	3.39
14	Quartz	12.5	12	square	248	-2.1	3.55
15	Quartz	5.0	15	polygon	251	-	-
16	Quartz	30.0	20	wedge	293	-2.0	3.39
17	Quartz	25.0	17	polygon	261	-2.0	3.39
18	Quartz	22.5	15	pillar	288	-1.8	3.06
19	Quartz	22.5	20	irregular	287	-1.9	3.23
20	Quartz	5.0	15	polygon	263	-	-

Sample PLS-10

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	22.5	17	polygon	251	-2.1	3.55
2	Quartz	7.5	13	square	249	-1.9	3.23
3	Quartz	17.5	13	pillar	256	-2.2	3.71
4	Quartz	17.5	13	polygon	256	-2.1	3.55
5	Quartz	15.0	13	wedge	249	-1.8	3.06
6	Quartz	5.0	17	polygon	250	-	-
7	Quartz	7.5	17	square	259	-	-
8	Quartz	7.5	20	square	268	-2.1	3.55
9	Quartz	5.0	17	square	264	-	-
10	Quartz	15.0	17	polygon	253	-2.2	3.71
11	Quartz	22.5	13	polygon	244	-2.3	3.87
12	Quartz	17.5	13	polygon	238	-2.1	3.55
13	Quartz	20.0	17	wedge	266	-2.0	3.39
14	Quartz	15.0	13	polygon	252	-2.1	3.55
15	Quartz	12.5	12	polygon	223	-1.9	3.23
16	Quartz	10.0	13	polygon	255	-2.1	3.55
17	Quartz	7.5	12	square	242	-	-
18	Quartz	12.5	15	polygon	261	-1.7	2.90
19	Quartz	10.0	13	polygon	256	-1.9	3.23
20	Quartz	7.5	12	polygon	246	-	-

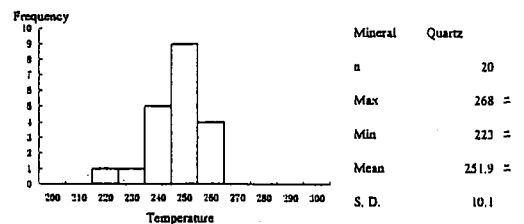
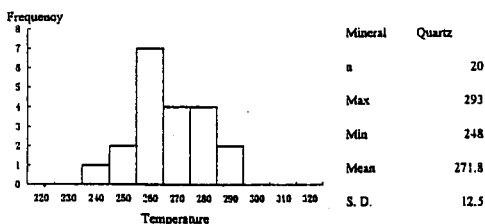


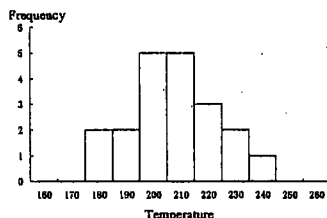
Table B-7 Results of Homogenization Temperatures and Salinities of Fluid Inclusions (6/6)

Sample B014R

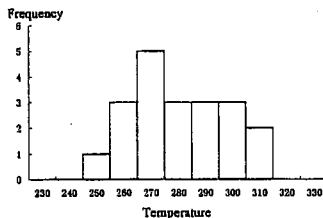
No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	22.5	13	polygon	206	-1.3	2.24
2	Quartz	5.0	13	polygon	214	-1.2	2.07
3	Quartz	12.5	12	polygon	198	-1.5	2.37
4	Quartz	5.0	12	square	201	-	-
5	Quartz	17.5	13	pillar	226	-1.3	2.24
6	Quartz	10.0	13	polygon	232	-1.3	2.24
7	Quartz	7.5	12	polygon	182	-1.2	2.07
8	Quartz	20.0	15	wedge	241	-1.5	2.57
9	Quartz	17.5	13	wedge	239	-1.4	2.41
10	Quartz	17.5	15	polygon	218	-1.3	2.24
11	Quartz	10.0	15	polygon	223	-1.3	2.24
12	Quartz	7.5	13	polygon	211	-	-
13	Quartz	5.0	12	polygon	206	-	-
14	Quartz	20.0	12	pillar	198	-1.3	2.24
15	Quartz	27.5	10	pillar	181	-1.4	2.41
16	Quartz	10.0	13	polygon	213	-1.3	2.24
17	Quartz	12.5	12	polygon	201	-1.2	2.07
18	Quartz	10.0	12	polygon	227	-1.3	2.24
19	Quartz	7.5	12	polygon	214	-	-
20	Quartz	20.0	13	irregular	203	-1.3	2.24

Sample C003R

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	12.5	13	polygon	278	-1.8	3.06
2	Quartz	10.0	13	polygon	278	-2.2	3.71
3	Quartz	12.5	15	polygon	267	-2.3	3.87
4	Quartz	5.0	12	square	261	-	-
5	Quartz	7.5	12	square	277	-2.0	3.39
6	Quartz	15.0	17	polygon	295	-2.1	3.55
7	Quartz	17.5	20	triangle	301	-1.8	3.06
8	Quartz	15.0	13	polygon	281	-2.1	3.55
9	Quartz	12.5	12	polygon	251	-2.2	3.71
10	Quartz	12.0	20	polygon	305	-2.2	3.71
11	Quartz	10.0	25	square	311	-2.1	3.55
12	Quartz	10.0	17	triangle	293	-2.1	3.55
13	Quartz	7.5	15	polygon	288	-	-
14	Quartz	10.0	20	square	305	-1.9	3.23
15	Quartz	12.5	17	polygon	317	-1.8	3.06
16	Quartz	15.0	15	polygon	282	-2.1	3.55
17	Quartz	7.5	15	triangle	292	-1.9	3.23
18	Quartz	5.0	12	polygon	277	-	-
19	Quartz	22.5	17	irregular	261	-2.0	3.39
20	Quartz	7.5	15	polygon	279	-	-



Mineral Quartz
n 20
Max 241 =
Min 181 =
Mean 211.7 =
S. D. 16.1



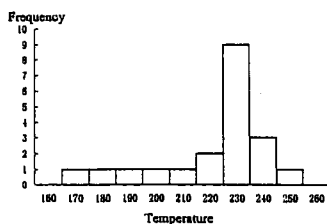
Mineral Quartz
n 20
Max 317 =
Min 251 =
Mean 285.0 =
S. D. 17.2

Sample C005R

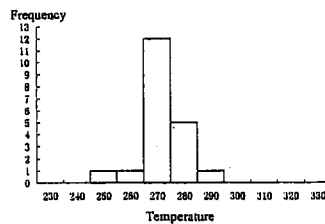
No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	47.5	15	irregular	238	-1.0	1.74
2	Quartz	30.0	17	polygon	251	-1.0	1.74
3	Quartz	42.5	13	irregular	181	-1.2	2.07
4	Quartz	47.5	12	irregular	179	-1.1	1.91
5	Quartz	35.0	15	polygon	239	-1.2	2.07
6	Quartz	42.5	15	polygon	238	-0.8	1.40
7	Quartz	12.5	17	square	241	-1.1	1.91
8	Quartz	22.5	15	irregular	224	-1.0	1.74
9	Quartz	25.0	12	polygon	205	-1.1	1.91
10	Quartz	17.5	17	square	242	-1.0	1.74
11	Quartz	42.5	13	irregular	194	-1.0	1.74
12	Quartz	37.5	15	polygon	238	-1.1	1.91
13	Quartz	30.0	17	polygon	233	-1.1	1.91
14	Quartz	12.5	12	irregular	217	-1.0	1.74
15	Quartz	10.0	17	triangle	236	-1.1	1.91
16	Quartz	52.5	17	polygon	225	-1.2	2.07
17	Quartz	30.0	15	polygon	238	-1.1	1.91
18	Quartz	17.5	15	polygon	237	-1.2	2.07
19	Quartz	20.0	17	triangle	242	-1.1	1.91
20	Quartz	12.5	17	square	235	-0.9	1.57

Sample C008R

No.	Mineral	Size (< μ)	Volume ratio (%)	Form	Temperature (±)	Melting Temp (±)	NaCl Wt (%)
1	Quartz	32.5	17	polygon	277	-1.8	3.06
2	Quartz	10.0	20	polygon	274	-1.9	3.23
3	Quartz	47.5	15	irregular	280	-2.2	3.71
4	Quartz	35.0	15	polygon	278	-2.4	4.03
5	Quartz	10.0	20	wedge	281	-2.1	3.55
6	Quartz	22.5	12	polygon	261	-2.1	3.55
7	Quartz	22.5	17	polygon	278	-2.2	3.71
8	Quartz	20.0	17	polygon	277	-2.0	3.39
9	Quartz	17.5	15	polygon	280	-1.9	3.23
10	Quartz	5.0	15	polygon	276	-	-
11	Quartz	20.0	17	polygon	277	-2.2	3.71
12	Quartz	35.0	15	irregular	282	-2.3	3.87
13	Quartz	12.5	20	square	291	-1.7	2.90
14	Quartz	45.0	17	irregular	276	-2.5	4.18
15	Quartz	22.5	17	polygon	277	-2.0	3.39
16	Quartz	15.0	15	triangle	255	-1.9	3.23
17	Quartz	10.0	15	polygon	276	-2.1	3.55
18	Quartz	25.0	17	polygon	282	-2.2	3.71
19	Quartz	12.5	17	polygon	278	-2.2	3.71
20	Quartz	12.5	15	polygon	274	-2.0	3.39



Mineral Quartz
n 20
Max 251 =
Min 179 =
Mean 226.7 =
S. D. 20.3



Mineral Quartz
n 20
Max 291 =
Min 255 =
Mean 276.5 =
S. D. 7.2

Table C-1 Results of Chemical Analysis of Mineralized Rock Samples (1/5)

Sample code (unit)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
M013A	2,268	15	314	4	228	422	122	2
M016A	916	108	845	3	236	203	80	4
M071A	1,001	1,603	13,500	21	26,822	1,000	2,530	6
M075A	1,170	440	2,471	5	912	422	158	2
M077A	1,203	781	1,441	8	176	484	10	6
M088A	34	29	36	3	35	344	515	8
M103A	174	1,259	3,628	38	1,800	167,188	3,670	320
N004A	176	54	238	3	26	714	4	-
N007A	434	16	91	3	7	578	6	-
N039A	207	520	3,100	6	285	321	90	5
N053A	86	895	532	6	190	103,125	2,570	200
N054A	35	295	851	15	400	656	1,330	8
N055A	27	885	2,274	13	450	93,750	3,310	7
N057A	38	84	185	15	110	37,500	1,190	24
N059A	2,635	331,200	127	1,206	3,650	48,438	8,100	300
N060A	142	2,136	291	36	7,800	31	27,800	34
N062A	529	418	65	5	250	203	750	3
P028A	3,453	338	122	10	80	1,270	124	4
P030A	342	184	82	4	6	734	6	8
P031A	105	46	72	2	150	11,250	32	4
P032A	12,800	732	833	23	50	860	34	-
P033A	214	289	159	3	2	172	6	-
P035A	105	81	275	3	10	391	28	6
P036A	455	58	319	3	60	250	44	2
P037A	3,941	3,829	8,400	7	220	344	6	-
P038A	2,334	478	1,129	7	80	328	6	2
P041A	1,140	1,032	8,100	4	60	203	20	3
P050A	18	82	34	6	90	547	216	6
P085A	154	955	1,638	9	170	234	82	6
P086A	63	54	28	9	3,375	32	81	3
P088A	20	139	206	3	50	162	10	-
P090A	29	730	22,900	35	1,045	31	440	8
P095A	1,933	1,703	46,900	29	280	172	700	20
P096A	703	537	22,400	12	130	313	40	8
P097A	108	1,127	1,789	9	290	516	730	20
P099A	22	209	102	1	20	1,422	12	4
P103A	1,108	333,100	93,400	756	2,750	25,000	216	440
P104A	618	1,120	18,300	25	2,200	125	2,970	10
Q040A	32	84	200	4	40	78	6	-
Q050A	170	2,211	10,150	19	330	641	239	19
Q052A	1,439	3,330	94,500	43	480	26,563	790	120
Q054A	2,193	1,512	270,700	39	3,550	50,000	2,000	180
Q058A	50	431	2,104	9	1,350	266	2,100	1
Q067A	82	180	274	13	300	453	580	8
Q068A	387	6,031	34,300	44	1,850	43,750	18,400	36
Q074A	30	55	267	13	360	762	64	1
Q075A	42	8	185	31	990	766	120	9
R007A	82	21	96	3	40	641	2	2
R016A	23	165	60	7	30	578	6	-
R025A	2,262	20,300	1,636	43	7,350	803	26	2

Table C-1 Results of Chemical Analysis of Mineralized Rock Samples (2/5)

Sample code (unit)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
R030A	40	555	237	17	640	406	260	8
R031A	41	82	462	4	28	188	42	4
S009A	140	156	75	4	9	94	-	-
S037A	558	1,692	20,700	29	5,600	1,254	1,780	2
S038A	888	3,166	48,600	41	6,950	1,571	560	18
S039A	928	3,985	108,500	195	2,200	39,063	300	20
S040A	327	3,828	14,800	26	380	355	480	8
M002A	318	332	288	5	310	141	32	2
M007A	109	1,305	891	9	52	141	340	1
M014A	461	207	316	5	32	125	27	7
M015A	3,385	87	1,240	4	99	94	22	-
M017A	84	81	91	2	38	156	14	1
M018A	12	15	116	1	8	156	-	3
M020A	14,800	167	598	13	36	469	2	1
M021A	928	109	2,071	4	52	172	8	1
M033A	181	29	185	5	85	31	320	-
M034A	222	32	247	7	242	63	350	1
M039A	15	49	56	8	1,850	391	360	6
M040A	54	96	77	8	550	63	920	-
M052A	108	197	57	3	43	86	24	1
M072A	99	41	119	5	175	281	40	-
M073A	29	50	27	2	239	328	82	-
M074A	71	118	388	1	243	500	48	2
M076A	56	92	204	5	27	438	22	1
M078A	89	17	26	5	45	219	20	6
M083A	82	14	88	3	21	328	116	7
M091A	23	230	121	2	141	359	300	9
M092A	249	200	547	11	21,500	547	1,320	4
M094A	120	420	55	19	990	-	1,160	14
Q042A	13	20	77	3	19	110	30	-
Q051A	52	70	179	4	15	219	6	2
Q053A	15	310	205	5	80	1,031	420	2
Q057A	31	49	90	3	60	1,047	28	-
Q064A	23	94	241	13	52	922	80	2
Q065A	8	214	112	3	130	1,000	48	2
Q066A	36	226	101	2	450	281	350	10
Q069A	47	147	497	9	470	2,386	1,590	2
Q070A	93	63	364	5	252	797	580	8
Q071A	50	361	725	8	160	906	3,500	1
Q072A	76	80	1,124	4	40	594	200	5
Q073A	201	1,592	6,900	23	350	469	1,900	1
S007A	45	33	44	1	15	281	20	1
S008A	42	218	104	3	13	234	20	-
S041A	83	39	92	2	8	250	4	-
S042A	209	37	89	4	22	156	96	-
S043A	62	40	73	2	19	94	26	-
S044A	64	115	110	34	1,225	-	440	-
S045A	28	16	40	3	30	188	20	2
S047A	55	34	60	4	4	156	2	2
S048A	213	44	74	8	162	102	420	4

Table C-1 Results of Chemical Analysis of Mineralized Rock Samples (3/5)

Sample code (unit)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
M005A	15	15	5	<0.2	5	30	7	<2
M010A	266	1,770	904	4.7	102	20	3	<2
M012A	887	27	93	0.7	5	10	10	2
M024A	146	941	28	0.3	1	<10	3	<2
M025A	217	356	148	0.8	16	10	<2	<2
M027A	116	12	60	0.5	1	<10	<2	<2
M028A	88	9	143	0.3	14	10	2	<2
M029A	196	363	663	<0.2	<1	10	<2	<2
M030A	12	15	53	<0.2	12	10	2	<2
M031A	35	22	37	0.5	162	10	273	2
M032A	71	42	31	3.5	821	10	490	<2
M037A	26	4	3	0.9	36	10	48	<2
M050A	6	23	55	0.5	13	<10	14	<2
M053A	39	772	1,560	1.0	9	10	15	<2
M057A	35	6	28	<0.2	<1	<10	<2	<2
M058A	26	4	15	<0.2	<1	10	<2	<2
M059A	27	4	31	<0.2	<1	10	<2	<2
M062A	27	2	25	<0.2	2	<10	<2	<2
M064A	34	2	21	<0.2	2	<10	<2	<2
M067A	7	10	11	1.5	27	30	29	<2
M079A	48	20	24	7.9	62	190	138	3
M080A	27	4	90	<0.2	2	10	6	2
M082A	12	88	100	18.3	17	280	252	27
M084A	89	93	40	6.7	172	50	236	7
M085A	897	1,420	5,260	246.0	3,510	470	124	57
M086bA	203	59	273	17.1	37	300	55	5
M089A	20	13	50	2.6	16	50	135	3
M090A	22	73	72	2.3	98	30	97	4
M093A	322	1,035	914	40.3	339	20	181	5
M095A	56	198	184	2.5	25	80	34	2
N002A	22	12	41	0.4	3	<10	2	<2
N003A	102	12	14	<0.2	<1	<10	8	<2
N006A	1,080	20	394	2.0	3	<10	2	<2
N011A	9	10	9	<0.2	2	30	<2	<2
N013A	59	10	36	0.2	3	<10	2	<2
N014A	13	6	55	<0.2	5	10	<2	<2
N023A	22	3	5	<0.2	<1	<10	<2	<2
N024A	20	2	21	<0.2	<1	<10	<2	2
N026A	39	5	2	<0.2	7	20	5	<2
N029A	28	8	2	<0.2	<1	50	10	<2
N030A	15	8	5	2.3	18	10	14	2
N031A	47	35	8	7.3	24	30	33	<2
N032A	27	10	77	<0.2	3	10	8	<2
N033A	31	7	87	<0.2	1	10	4	2
N034A	14	6	29	<0.2	<1	10	2	<2
N040A	3	2	7	<0.2	<1	<10	<2	<2
N047A	59	7	77	<0.2	5	10	3	2
N051A	11	27	52	4.8	1,015	40	56	3
N052A	34	8	13	4.3	39	360	654	39
N056A	117	2.43%	8.80%	58.8	877	1,390	7,300	149

Table C-1 Results of Chemical Analysis of Mineralized Rock Samples (4/5)

Sample code (unit)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
N058A	53	440	1,495	60.9	376	30	732	20
P017A	373	183	2,430	1.8	12	20	54	2
P018A	89	82	339	1.0	23	60	42	<2
P023A	28	42	152	0.7	4	20	27	<2
P029A	38	634	110	0.3	148	10	5	<2
P039A	293	358	276	0.8	5	10	4	<2
P040A	545	2,660	492	3.4	162	30	4	2
P045A	77	33	22	0.4	14	<10	22	<2
P046A	221	29	31	1.3	25	<10	38	<2
P047A	39	29	42	4.3	25	10	28	2
P049A	26	21	23	2.2	15	10	38	<2
P054A	75	28	68	<0.2	7	10	3	<2
P058A	25	13	27	5.2	47	10	116	2
P053A	4	7	5	<0.2	<1	<10	<2	<2
P073A	73	105	281	0.3	35	10	38	<2
P074A	7	5	19	<0.2	32	60	66	2
P080A	25	12	29	0.4	32	30	17	2
P083A	8	116	24	24.9	73	10	430	11
P087A	24	41	32	1.8	100	10	141	<2
P093A	1,005	>30%	7.49%	665	1,805	840	942	172
P098A	8	150	80	0.6	5	10	9	3
Q008A	44	159	233	0.5	3	<10	20	3
Q009A	143	28	10	0.2	4	50	12	<2
Q029A	21	25	15	<0.2	19	<10	4	<2
Q034A	49	28	64	0.3	1	<10	7	3
Q039A	25	15	31	0.4	5	<10	7	<2
Q044A	11	27	29	0.2	2	10	15	3
Q047A	56	15	58	0.4	1	90	29	2
Q048A	28	48	15	2.8	8	1,020	126	25
Q049A	67	10	39	1.9	15	110	69	5
Q060A	1,575	1,360	955	3.0	7	20	6	<2
R006A	37	6	43	<0.2	<1	<10	5	<2
R009A	238	48	65	0.4	8	<10	31	<2
R010A	125	17	91	<0.2	<1	10	4	<2
S003A	320	18	98	0.2	1	<10	5	2
S004A	1,270	12	70	2.5	5	10	3	<2
S005A	276	29	43	0.3	<1	<10	5	<2
S006A	631	94	104	<0.2	2	10	19	6
S010A	16	22	18	0.2	6	<10	14	2
S020A	22	12	18	2.3	42	10	56	<2
S021A	7	5	4	0.9	52	<10	23	<2
S022A	28	5	5	<0.2	3	<10	6	2
S024A	70	16	11	<0.2	2	10	6	2
S025A	11	9	2	<0.2	3	<10	4	<2
S026A	9	6	2	<0.2	<1	<10	2	<2
S027A	26	4	48	<0.2	2	<10	4	3
S033A	4,270	3,860	2,260	9.6	403	40	2	<2
S050A	857	559	1,175	1.0	9	<10	3	2
S051A	125	170	1,190	1.0	7	20	8	2
S052A	23	25	26	0.2	<1	110	11	<2

Table C-1 Results of Chemical Analysis of Mineralized Rock Samples (5/5)

Sample code (unit)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Hg (ppb)	As (ppm)	Sb (ppm)
M070A	78	5	77	0.6	16	10	16	<2
N027A	63	6	6	<0.2	1	<10	20	<2
N044A	18	3	55	<0.2	4	<10	<2	<2
N048A	92	7	39	<0.2	13	<10	<2	<2
N049A	35	2	17	<0.2	4	<10	3	<2
P019A	322	270	54	1.8	21	<10	62	5
P022A	22	2	7	0.2	4	<10	<2	<2
P027A	6	3	29	0.2	5	<10	8	<2
P048A	38	13	47	6.7	48	<10	118	<2
P051A	30	10	56	0.6	71	10	11	<2
P052A	22	4	7	1.4	93	<10	92	<2
P061A	43	37	72	0.2	6	<10	34	<2
P063A	33	3	53	<0.2	5	<10	2	<2
P067A	17	5	12	0.4	8	20	2	<2
P070A	37	5	7	<0.2	4	<10	2	<2
P071A	82	11	10	0.6	3	70	9	<2
P076A	5	4	32	<0.2	3	<10	7	<2
P078A	11	238	333	0.5	5	<10	20	<2
P091A	153	830	1,205	5.5	92	20	84	<2
Q007A	9	8	413	<0.2	4	<10	4	<2
Q026A	17	3	81	<0.2	4	<10	8	<2
Q027A	8	2	72	<0.2	1	<10	<2	<2
Q030A	32	5	12	<0.2	6	<10	4	<2
Q031A	42	20	39	0.8	12	1,990	13	<2
Q032A	37	13	93	<0.2	4	<10	6	<2
Q035A	46	12	46	<0.2	11	<10	3	<2
Q036A	14	12	41	<0.2	8	<10	10	<2
Q037A	20	36	46	<0.2	5	<10	4	<2
Q043A	5	7	46	<0.2	13	40	28	<2
Q045A	33	4	50	<0.2	5	<10	4	<2
Q046A	186	9	657	0.2	6	50	20	2
Q061A	48	165	460	4.2	140	250	971	30
Q063A	51	151	414	26.0	94	660	629	18
R001A	29	24	9	6.0	9	100	40	<2
R003A	53	220	1,155	1.1	8	<10	34	<2
R004A	13	110	22	52.3	4	260	37	4
R008A	4	4	41	0.2	<1	<10	3	<2
R011A	16	8	59	0.4	5	30	2	<2
R012A	34	18	22	0.8	102	<10	162	<2
R013A	55	47	58	0.9	142	130	55	<2
R017A	8	2	18	0.7	14	<10	30	<2
R018A	12	3	50	<0.2	2	10	5	<2
R019A	303	3	432	<0.2	19	<10	5	<2
R022A	34	11	5	0.4	8	20	8	<2
R023A	13	9	12	<0.2	7	<10	2	<2
R024A	16	185	65	6.9	94	40	29	<2
R027A	4	3	24	<0.2	2	<10	2	<2
R028A	7	21	15	1.4	444	50	93	3
R029A	7	57	64	1.4	34	50	108	7
R032A	14	<2	19	<0.2	7	<10	2	<2

Fig. C-2 Homogenization Temperatures and Salinities of Fluid Inclusions (1/2)

No.	Host mineral	Size(μm)	Shape	Primary or secondary	Phasese	Salinty (wt%.NaCl)	Homogenization temperature (°C)
P036F	quartz	17	negative	secondary	Two phases (liquid dominant)	3.7	234
	quartz	5	negative	secondary	Two phases (liquid dominant)	Unmeasurable	229
	quartz	15	negative	secondary	Two phases (liquid dominant)	3.3	Unmeasurable
	quartz	8	irregular	secondary	Two phases (liquid dominant)	5.0	Unmeasurable
	quartz	2	negative	secondary	Two phases (liquid dominant)	Unmeasurable	160
	quartz	4	negative	secondary	Two phases (liquid dominant)	Unmeasurable	187
	quartz	7	ellipsoidal	secondary	Two phases (liquid dominant)	Unmeasurable	159
	quartz	12	negative	secondary	Two phases (liquid dominant)	2.0	155
	quartz	3	negative	secondary	Two phases (liquid dominant)	Unmeasurable	155
	quartz	10	negative	secondary	Two phases (liquid dominant)	1.8	233
	quartz	18	irregular	secondary	Two phases (liquid dominant)	2.8	275
	quartz	16	irregular	secondary	Two phases (liquid dominant)	3.5	249
	quartz	11	irregular	secondary	Two phases (liquid dominant)	4.3	234
	quartz	12	negative	secondary	Two phases (liquid dominant)	4.0	190
	quartz	8	negative	secondary	Two phases (liquid dominant)	3.7	236
	quartz	32	irregular	secondary	Two phases (liquid dominant)	4.2	265
	quartz	4	negative	secondary	Two phases (liquid dominant)	4.2	193
	quartz	6	negative	secondary	Two phases (liquid dominant)	Unmeasurable	161
	N004F	quartz	5	negative	secondary	Two phases (liquid dominant)	Unmeasurable
quartz		5	negative	secondary	Two phases (liquid dominant)	Unmeasurable	180
quartz		8	negative	secondary	Two phases (liquid dominant)	Unmeasurable	226
quartz		2	negative	secondary	Two phases (liquid dominant)	Unmeasurable	234
quartz		9	ellipsoidal	secondary	Two phases (liquid dominant)	2.7	204
quartz		5	irregular	secondary	Two phases (liquid dominant)	4.0	245
quartz		10	irregular	secondary	Two phases (liquid dominant)	1.8	114
quartz		4	irregular	secondary	Two phases (liquid dominant)	1.6	254
quartz		15	irregular	secondary	Two phases (liquid dominant)	4.3	282
quartz		15	irregular	secondary	Two phases (liquid dominant)	4.2	261
quartz		6	ellipsoidal	secondary	Two phases (liquid dominant)	4.8	293
quartz		10	irregular	secondary	Two phases (liquid dominant)	4.0	294
quartz		8	ellipsoidal	secondary	Two phases (liquid dominant)	Unmeasurable	114
quartz		4	ellipsoidal	secondary	Two phases (liquid dominant)	4.3	242
quartz		10	negative	secondary	Two phases (liquid dominant)	3.8	267
Q052F		quartz	7	negative	secondary	Two phases (liquid dominant)	3.7
	quartz	8	negative	secondary	Two phases (liquid dominant)	3.5	204
	quartz	13	ellipsoidal	secondary	Two phases (liquid dominant)	Unmeasurable	296
	quartz	5	negative	secondary	Two phases (liquid dominant)	Unmeasurable	312
	quartz	7	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	346
	quartz	10	negative	secondary	Two phases (liquid dominant)	3.8	207
	quartz	10	negative	secondary	Two phases (liquid dominant)	3.7	178
	quartz	9	negative	secondary	Two phases (liquid dominant)	4.6	249
	quartz	6	negative	secondary	Two phases (liquid dominant)	4.0	231
	quartz	3	negative	secondary	Two phases (liquid dominant)	Unmeasurable	283
	quartz	20	irregular	secondary	Two phases (liquid dominant)	2.8	268
	quartz	15	irregular	secondary	Two phases (liquid dominant)	2.1	348
	quartz	12	irregular	secondary	Two phases (liquid dominant)	3.7	171
	quartz	13	negative	secondary	Two phases (liquid dominant)	1.1	277
	quartz	5	negative	secondary	Two phases (liquid dominant)	Unmeasurable	206
	quartz	7	negative	secondary	Two phases (liquid dominant)	0.9	292
	quartz	5	negative	secondary	Two phases (liquid dominant)	Unmeasurable	157
	quartz	7	negative	secondary	Two phases (liquid dominant)	5.4	168
quartz	10	negative	secondary	Two phases (liquid dominant)	Unmeasurable	154	
quartz	13	negative	secondary	Two phases (liquid dominant)	5.1	155	
quartz	10	negative	secondary	Two phases (liquid dominant)	5.3	155	
quartz	17	negative	secondary	Two phases (liquid dominant)	5.3	259	
quartz	7	negative	secondary	Two phases (liquid dominant)	4.3	250	
quartz	20	negative	secondary	Two phases (liquid dominant)	3.7	213	
quartz	5	negative	secondary	Two phases (liquid dominant)	4.3	328	

Fig. C-2 Homogenization Temperatures and Salinities of Fluid Inclusions (2/2)

No.	Host mineral	Size(μm)	Shape	Primary or secondary	Phasese	Salinity (wt%.NaCl)	Homogenization temperature (°C)
S037F	quartz	3	negative	secondary	Two phases (liquid dominant)	Unmeasurable	249
	quartz	8	negative	secondary	Two phases (liquid dominant)	4.8	370
	quartz	20	negative	secondary	Two phases (liquid dominant)	3.5	345
	quartz	30	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	371
	quartz	7	negative	secondary	Two phases (liquid dominant)	3.2	Unmeasurable
	quartz	10	irregular	secondary	Two phases (liquid dominant)	3.2	327
	quartz	12	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	265
	quartz	10	negative	secondary	Two phases (liquid dominant)	1.5	238
	quartz	7	negative	secondary	Two phases (liquid dominant)	3.5	298
	quartz	12	negative	secondary	Two phases (liquid dominant)	5.0	Unmeasurable
	quartz	8	negative	secondary	Two phases (liquid dominant)	Unmeasurable	350
	quartz	5	negative	secondary	Two phases (liquid dominant)	Unmeasurable	136
	quartz	8	negative	secondary	Two phases (liquid dominant)	1.8	256
	quartz	16	irregular	secondary	Two phases (liquid dominant)	3.7	248
	quartz	5	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	316
	quartz	5	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	275
	quartz	5	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	327
quartz	5	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	348	
quartz	10	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	337	
quartz	3	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	284	
M016F	quartz	9	irregular	secondary	Two phases (liquid dominant)	3.7	258
	quartz	7	irregular	secondary	Two phases (liquid dominant)	3.5	275
	quartz	10	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	301
	quartz	20	irregular	secondary	Two phases (liquid dominant)	2.7	314
	quartz	13	irregular	secondary	Two phases (liquid dominant)	2.2	321
	quartz	7	irregular	secondary	Two phases (liquid dominant)	3.2	282
	quartz	7	irregular	secondary	Two phases (liquid dominant)	2.5	343
	quartz	7	irregular	secondary	Two phases (liquid dominant)	1.7	301
	quartz	8	negative	secondary	Two phases (liquid dominant)	1.5	275
	quartz	11	irregular	secondary	Two phases (liquid dominant)	0.4	275
	quartz	20	irregular	secondary	Two phases (liquid dominant)	0.4	279
	quartz	12	irregular	secondary	Two phases (liquid dominant)	0.6	189
	quartz	23	irregular	secondary	Two phases (liquid dominant)	Unmeasurable	344
	quartz	17	irregular	secondary	Two phases (liquid dominant)	3.0	258
	quartz	12	irregular	secondary	Two phases (liquid dominant)	3.0	275
	quartz	22	irregular	secondary	Two phases (liquid dominant)	3.0	259
quartz	16	irregular	secondary	Two phases (liquid dominant)	3.0	262	

Table C-3 Results of Chemical Analysis of Soil Sediments (1/3)

Element	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
Element	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
Unit	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
M001Z	0.008	0.14	9.7	2.0	87.5	0.60	0.04	0.45	0.17	11.7	24	9	0.41	55.6	8.22	17.3	0.09	1.5	0.01	0.063	0.41	4.7	13.2	2.42	837	0.27	2.02	0.9	11.1	430	80.5	10	<0.002	0.02	0.12	1	0.5	63.2	0.05	<0.05	0.7	0.45	0.08	0.2	292	0.5	13.6	117	34.9
M002Z	0.002	0.08	9.1	0.3	133.5	0.64	0.06	0.56	0.05	12.8	32	13	0.6	78.5	6.78	18.5	0.1	2	0.01	0.063	0.96	5.8	12.2	2.54	1025	0.23	2.8	0.8	17.4	330	4.7	20.7	0.002	0.01	<0.05	1	0.5	105.5	<0.05	<0.05	1	0.43	0.14	0.3	278	0.2	18	77	52.1
M003Z	0.002	0.27	10.8	5.6	172.5	0.59	0.05	0.63	0.12	15.5	34	17	0.84	96.8	8.12	21.5	0.11	2.1	0.02	0.077	0.91	6.2	11.8	2.4	1285	0.27	2.8	0.8	16.4	490	8.1	19	<0.002	0.01	0.06	1	0.5	105.5	<0.05	0.05	1.3	0.54	0.15	0.6	318	0.2	18.2	89	56.7
M004Z	0.003	0.18	11.6	2.7	280	0.71	0.06	0.63	0.44	17.2	34	31	0.8	90.9	8.18	22.3	0.12	2.1	0.02	0.074	0.44	7.1	11.2	1.21	1375	0.64	1.17	1	22.2	570	16.1	12.8	<0.002	0.02	<0.05	2	0.7	77.4	<0.05	<0.05	1.7	0.5	0.17	0.5	318	0.2	14.9	141	53.3
M005Z	0.003	0.37	11.2	2.5	209	0.92	0.08	0.33	0.27	20.5	36	13	0.47	94.1	9.37	26.7	0.15	2.4	0.03	0.097	0.09	7.4	11.6	0.55	1380	0.52	0.48	0.5	11.8	630	16.8	3.3	<0.002	0.02	<0.05	1	0.6	41.3	<0.05	<0.05	1.7	0.52	0.09	0.5	328	0.1	16.2	112	61.5
M006Z	0.002	0.22	10.4	1.0	290	0.56	0.04	0.61	0.23	14.1	31	14	0.69	49.2	8.39	20.7	0.14	1.8	0.02	0.072	0.81	5.4	8.9	2.58	1320	0.32	1.88	0.6	11.7	610	8.6	14	0.002	0.02	<0.05	1	0.5	81.5	<0.05	<0.05	1.2	0.5	0.14	0.3	354	0.2	11.8	110	46.6
M007Z	0.003	0.16	8.2	2.0	210	0.71	0.04	0.42	0.37	21.1	14	8	0.4	36.7	4.21	19.4	0.07	2.2	0.03	0.083	0.58	9.1	9.0	1.09	649	0.48	2.29	0.4	4.7	400	17.0	12.7	<0.002	0.02	0.07	1	1.2	67.9	<0.05	<0.05	1.2	0.31	0.12	0.3	138	0.1	17.7	131	55.9
M008Z	0.002	0.07	13.0	1.9	186.5	0.81	0.08	0.36	0.36	20.0	32	15	1.06	93.1	8.78	26.9	0.19	3.1	0.01	0.094	0.63	7.5	15.9	0.8	1050	0.45	0.62	0.8	17.7	370	56.8	15	<0.002	0.01	<0.05	2	0.8	51.7	<0.05	<0.05	1.8	0.57	0.19	0.7	315	0.2	23	89	83.7
M009Z	0.001	0.06	8.6	1.0	121.5	0.57	0.05	0.65	0.14	15.5	32	9	0.45	56.0	7.2	20.6	0.18	2.5	0.02	0.073	0.85	7.4	8.7	1.72	1215	0.32	2.45	1.2	13	420	9.3	17.6	0.002	0.01	0.07	1	0.6	97.4	0.08	<0.05	1.1	0.55	0.16	0.6	290	0.2	30.5	74	63.5
M011Z	0.001	0.05	9.5	2.1	150	0.58	0.04	0.32	0.07	16.9	26	8	0.21	43.6	7.54	18.7	0.29	2.4	0.01	0.072	0.97	7.1	7.7	1.19	851	0.41	1.54	0.4	8.2	400	7.7	12.7	<0.002	0.01	0.07	2	0.9	68	<0.05	<0.05	1.5	0.52	0.13	0.8	340	0.2	21	67	46.4
M012Z	0.002	0.15	8.9	1.2	220	0.56	0.02	0.58	0.10	17.0	30	7	0.28	51.7	7.7	21.0	0.29	1.6	0.01	0.078	0.19	7.3	8.4	2.08	1255	0.16	1.82	0.2	8.2	610	6.5	4.6	0.002	0.01	<0.05	2	0.6	85.3	<0.05	<0.05	1	0.45	0.06	0.5	290	0.1	18	117	32.9
M013Z	0.001	0.09	8.3	7.8	310	0.56	0.04	0.48	0.13	15.8	28	7	0.32	65.0	7.34	19.5	0.29	1.6	0.01	0.075	0.22	6.0	9.2	1.99	2050	0.47	1.8	0.3	5.9	360	13.6	4	<0.002	0.01	<0.05	1	0.5	63.3	<0.05	<0.05	1	0.38	0.05	0.3	250	0.1	14.2	117	28.8
M014Z	0.004	0.11	10.1	1.8	191	0.47	0.02	0.82	0.47	13.9	37	15	1.24	54.5	7.8	20.8	0.27	1.8	0.02	0.066	1.04	5.1	10.8	1.52	1440	0.19	1.76	0.1	11.7	420	17.3	24.1	<0.002	0.01	<0.05	1	0.3	110	<0.05	<0.05	1.1	0.48	0.17	0.5	313	0.1	14	111	39.9
M015Z	0.019	0.29	10.2	5.6	420	0.78	0.27	0.69	0.82	23.0	30	10	0.96	177.0	7.72	23.3	0.3	2.9	0.04	0.096	1.39	10.0	12.1	0.67	2820	0.88	0.2	1.3	7.9	660	35.6	33	0.003	0.02	0.08	2	1	117	<0.05	0.09	2	0.57	0.38	0.6	258	0.2	20.3	400	63
M016Z	0.004	0.09	9.2	2.4	260	0.91	0.07	1.29	0.33	30.5	17	5	0.71	30.8	5.51	21.4	0.22	4.1	0.04	0.089	0.87	10.9	11.6	1	1440	0.38	1.22	0.6	4.4	1000	11.6	18.2	0.002	0.03	0.07	2	1.1	144.5	<0.05	<0.05	2.4	0.5	0.16	1	126	0.1	28	102	106.5
M017Z	<0.001	0.06	9.7	1.0	181	0.65	0.03	0.52	0.06	20.6	23	3	0.42	28.8	6.75	21.9	0.29	3.6	0.01	0.082	1.11	8.4	12.1	1.82	1490	0.18	0.47	0.6	3	250	6.1	21.4	<0.002	<0.01	0.05	2	0.5	119	<0.05	<0.05	1.7	0.48	0.12	0.6	185	0.1	24.1	108	84
M018Z	0.010	0.08	11.1	0.5	115	0.86	0.12	0.35	0.02	29.1	21	4	0.48	17.4	7.65	26.6	0.28	3.5	0.01	0.133	0.72	9.4	16.9	1.32	685	<0.05	0.61	0.1	2.1	120	14.6	15	0.002	0.01	<0.05	2	0.3	48.9	<0.05	<0.05	2	0.39	0.09	0.8	112	0.1	25.1	72	78
M019Z	0.004	0.20	8.8	1.9	113	0.87	0.11	0.48	0.17	24.1	22	4	0.43	35.7	7.1	21.3	0.29	2.9	0.01	0.092	0.71	9.9	12.3	1.51	1125	0.06	1.43	0.1	2.3	380	13.3	11.9	0.002	<0.01	<0.05	2	0.6	64.1	<0.05	<0.05	1.6	0.56	0.12	1.1	173	0.1	29.8	102	63.4
M020Z	<0.001	<0.02	9.5	0.6	80	0.90	0.03	0.52	0.16	13.0	16	2	0.28	38.0	7	20.0	0.34	3.6	<0.01	0.099	0.52	10.6	15.3	2.49	589	<0.05	0.1	0.1	1.4	370	3.6	15.5	0.002	<0.01	<0.05	2	0.3	60	<0.05	<0.05	1.9	0.74	0.07	0.7	218	0.1	39.4	94	85.6
M021Z	<0.001	0.11	9.7	12.8	219	0.53	0.06	0.30	0.31	16.7	35	11	1.5	66.9	7.2	20.6	0.31	2.7	0.14	0.077	1.26	7.1	8.1	0.96	679	1.16	0.5	0.1	8.1	390	41.8	26.4	<0.002	0.01	0.06	4	0.3	53.3	<0.05	0.07	1.4	0.43	0.29	1.9	278	<0.1	16.4	199	61.4
M022Z	0.002	0.06	8.8	1.9	131	0.68	0.05	0.45	0.07	22.8	30	9	1.22	47.2	6.85	20.5	0.28	3.3	0.02	0.077	1.03	7.9	10.0	2	1095	0.26	1.31	0.3	6.9	390	4.9	32.8	<0.002	0.01	<0.05	2	0.7	75.8	<0.05	<0.05	2	0.54	0.22	0.9	252	0.1	21.3	77	80.3
M023Z	0.002	0.04	10.3	1.5	147	0.47	0.01	0.57	0.13	15.4	38	17	0.92	87.4	5.76	18.5	0.27	2.1	0.02	0.054	1.58	5.0	15.9	2.45	1130	0.31	1.63	2	26.9	370	2.7	14.6	<0.002	0.01	0.08	2	0.5	157.5	0.11	<0.05	1	0.43	0.47	0.3	305	0.2	20.7	55	50
M024Z	<0.001	0.07	10.9	2.7	181	0.57	0.05	0.59	0.16	21.3	36	12	1.7	82.5	7.16	23.1	0.29	3	0.03	0.075	0.56	8.0	14.2	1.28	1210	0.42	1.41	1	16.2	420	6.0	11.4	<0.002	0.02	<0.05	2	0.6	103.5	<0.05	<0.05	2	0.54	0.27	0.6	287	0.1	21.1	71	72.2
M025Z	<0.001	0.06	10.5	2.1	139.5	0.47	0.03	0.71	0.14	16.6	37	12	1.32	77.6	6.75	19.8	0.3	2.4	0.02	0.062	0.66	6.5	14.6	1.95	1145	0.43	1.73	0.8	17.2	370	5.9	12.3	<0.002	0.01	0.05	2	0.6	120.5	<0.05	<0.05	1.6	0.53	0.21	0.5	294	0.1	17.6	72	58.2
M026Z	<0.001	0.05	9.9	1.8	118	0.51	0.05	0.59	0.13	23.0	44	13	0.54	75.3	7.53	21.5	0.32	2.3	0.03	0.069	0.70	6.8	11.6	2.73	1380	0.31	1.8	1.6	15.2	490	4.8	10.4	0.002	0.01	0.15	2	0.7	110	0.1	0.05	1.3	0.48	0.13	0.4	338	0.2	22	85	55.1
M027Z	0.001	0.09	9.7	2.5	230	0.70	0.08	1.47	0.40	27.4	33	8	1.01	68.8	6.96	20.1	0.33	2.8	0.06	0.069	0.87	10.4	9.9	2.02	1655	0.36	1.7	1.2	11.4	940																			

Table C-3 Results of Chemical Analysis of Soil Sediments (2/3)

Element	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
Unit	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
P013Z	0.008	0.23	10.6	5.4	300	0.71	0.07	0.37	0.47	20.8	25	9	0.94	69.6	6.57	22.0	0.27	2.7	0.03	0.099	0.45	9.3	11.6	0.6	1110	1.07	0.59	1.2	11	360	73.4	15	<0.002	0.02	<0.05	<1	0.9	53.4	0.06	<0.05	1.6	0.4	0.16	0.5	240	<0.1	16.6	144	64.6
P014Z	0.001	0.16	9.5	2.2	250	0.77	0.07	0.80	0.28	24.8	31	9	0.91	58.5	8.01	21.7	0.27	2.9	0.03	0.084	0.65	9.9	9.0	1.61	1595	0.31	1.32	0.6	7.1	640	11.6	13.6	0.002	0.02	0.07	<1	0.9	110	0.05	<0.05	2.1	0.57	0.14	0.6	277	0.3	22	124	64.5
P015Z	0.005	0.11	9.6	1.7	240	0.72	0.07	0.96	0.43	22.4	37	10	0.7	102.5	8.69	21.5	0.27	2.2	0.04	0.09	0.33	9.3	9.7	1.62	1455	0.15	0.76	0.3	10.2	750	16.0	10.7	<0.002	0.02	<0.05	<1	0.5	115	0.05	0.05	1.7	0.52	0.12	0.6	292	0.1	20	186	49.5
P016Z	<0.001	0.09	8.6	<0.2	188	0.56	0.05	1.17	0.26	23.4	36	9	0.61	104.0	7.72	19.6	0.24	2.3	0.04	0.078	0.57	9.4	8.7	2	1365	0.13	1.28	0.3	9.7	910	14.3	11.1	0.002	0.03	<0.05	<1	0.6	144	<0.05	<0.05	1.6	0.56	0.09	0.6	288	0.1	20.2	112	50.6
P017Z	0.019	0.16	9.5	2.0	230	0.74	0.12	1.18	1.11	23.5	26	10	0.77	93.0	7.48	21.1	0.26	2.3	0.04	0.094	0.91	10.6	9.9	1.66	1515	0.68	0.91	0.6	8.4	960	25.3	18.6	<0.002	0.04	<0.05	<1	1	132.5	0.05	0.13	1.8	0.53	0.17	0.5	260	<0.1	18.8	265	56
P018Z	0.005	0.16	10.4	2.7	310	0.82	0.13	0.84	0.73	20.2	32	20	1.2	148.5	7.44	21.8	0.25	2.8	0.04	0.08	0.68	8.8	12.4	1.6	2050	0.9	0.44	1.5	13.8	680	24.6	22.7	<0.002	0.02	<0.05	<1	0.8	98.1	0.06	0.08	2.2	0.52	0.2	0.6	283	0.1	12.8	303	71.3
P019Z	0.006	0.14	9.7	1.6	250	0.67	0.1	1.04	0.43	18.5	26	13	0.84	89.9	6.93	19.8	0.26	2.3	0.03	0.072	0.61	8.6	11.2	2.2	1690	0.37	1.01	0.5	12	820	16.8	15.6	<0.002	0.03	<0.05	<1	0.8	124	<0.05	0.05	1.6	0.47	0.11	0.5	261	<0.1	13	210	54.5
P020Z	0.022	0.12	9.7	1.1	250	0.70	0.14	0.46	0.20	19.2	29	12	0.92	99.3	7.95	20.7	0.29	2.2	0.02	0.084	0.63	8.1	11.8	1.48	1775	0.27	0.5	0.4	10.8	530	10.4	16.2	<0.002	0.02	<0.05	<1	0.8	64.9	<0.05	0.06	1.3	0.48	0.12	0.5	297	<0.1	13	174	51.4
P021Z	0.011	0.11	10.5	0.9	230	0.76	0.18	0.31	0.11	19.6	30	10	0.88	105.5	8.48	22.3	0.28	2.3	0.02	0.094	0.45	8.3	13.0	1.32	1780	0.43	0.3	0.8	10.7	540	8.1	12	<0.002	0.01	<0.05	<1	0.8	45.7	0.05	0.07	1.2	0.48	0.12	0.4	319	<0.1	14.2	162	52.9
P022Z	0.004	0.12	9.6	<0.2	211	0.72	0.29	0.65	0.11	21.2	27	10	1.04	61.3	7.57	20.7	0.25	2.5	0.02	0.085	0.55	9.3	12.4	1.92	1560	0.24	0.73	0.5	9.9	530	9.8	16	<0.002	0.01	<0.05	<1	0.7	85.3	0.05	0.07	1.6	0.47	0.1	0.5	281	<0.1	14.2	136	57.3
P023Z	0.004	0.12	10.6	0.4	189.5	0.63	0.06	0.34	0.10	19.9	29	10	0.99	65.3	8.12	22.3	0.26	1.7	0.02	0.093	0.74	8.0	12.2	1.95	1525	0.45	0.31	1.4	10	540	7.3	18	<0.002	0.01	<0.05	<1	1	55.8	0.11	0.07	1	0.38	0.14	0.3	324	0.1	12.3	144	35.9
P024Z	0.002	0.12	9.5	1.1	219	0.69	0.07	0.73	0.27	23.2	25	9	0.88	77.1	7	20.6	0.24	2.1	0.03	0.086	0.71	10.4	12.6	1.54	1610	0.49	0.61	0.7	7.6	680	14.8	17	<0.002	0.03	<0.05	<1	1	98.5	<0.05	<0.05	1.3	0.46	0.14	0.5	249	<0.1	16	184	49.6
P025Z	0.024	0.10	10.2	3.1	300	0.79	0.16	0.23	0.46	20.0	21	7	0.89	100.5	6.5	21.9	0.25	2	0.02	0.098	0.92	7.9	13.1	0.77	1490	0.81	0.07	1.1	6.3	370	72.6	24.5	<0.002	0.01	<0.05	<1	1	40.4	0.06	0.07	1	0.4	0.21	0.4	212	<0.1	16.8	268	43.6
P026Z	0.003	0.15	11.2	2.4	310	0.91	0.03	0.25	0.14	21.6	22	10	0.7	42.2	7.32	24.5	0.29	2.3	0.03	0.106	1.18	11.4	17.8	0.86	1050	0.1	0.07	0.4	5.7	460	10.0	19.1	<0.002	0.01	<0.05	<1	0.5	40.2	0.05	<0.05	1.3	0.41	0.18	0.5	216	<0.1	24.5	138	54.8
Q001Z	0.004	0.14	8.0	1.6	165	0.62	0.2	0.65	0.64	21.0	22	11	0.59	64.4	6.62	18.6	0.27	1.7	0.02	0.079	1.71	8.5	8.4	1.52	1420	1.28	1	1.5	6.6	630	36.2	14.2	<0.002	0.01	<0.05	<1	1	79	0.08	0.19	1.1	0.43	0.09	0.3	222	0.1	14.6	188	37.8
Q002Z	0.005	0.09	9.0	<0.2	240	0.66	0.11	0.83	0.13	18.7	29	9	0.41	63.1	7.44	19.7	0.3	3.1	0.02	0.08	0.65	8.3	10.0	2.01	1320	0.55	2.07	0.9	9.6	480	7.9	9.1	<0.002	0.01	0.67	<1	0.9	126	0.06	0.15	1.5	0.52	0.07	0.5	247	0.2	24.8	102	76
Q003Z	0.004	0.09	8.5	<0.2	153.5	0.68	0.05	0.60	0.07	16.3	31	8	0.16	107.0	7.65	19.6	0.26	3	0.01	0.077	0.37	7.2	9.9	2.15	1225	0.87	2.2	0.7	7.2	460	4.5	4.4	<0.002	0.01	<0.05	<1	0.8	97.8	0.05	0.06	1.1	0.57	0.03	0.4	256	<0.1	23.9	98	67.7
Q004Z	0.002	0.30	9.7	2.1	470	0.86	0.19	1.94	0.43	36.9	25	10	1.04	52.3	6.67	21.2	0.24	3.4	0.03	0.081	0.48	15.2	12.7	1.46	1985	3.35	1.49	2.3	7.8	590	17.3	10.9	<0.002	0.03	0.13	<1	1.2	234	0.1	0.05	2.9	0.48	0.13	0.9	213	1.1	23.8	100	87.2
Q005Z	0.008	0.08	9.9	<0.2	151	0.81	0.09	0.68	0.08	19.4	25	8	0.74	56.2	7.2	21.4	0.27	3.2	0.02	0.1	0.40	8.9	12.6	1.38	1160	0.3	1.61	0.6	7.4	340	7.2	7.6	<0.002	0.01	<0.05	<1	1.2	108	0.05	<0.05	1.6	0.47	0.1	0.8	237	<0.1	21.6	80	75.5
Q006Z	0.003	0.07	9.0	0.3	171.5	0.63	0.1	1.00	0.16	17.9	29	8	0.56	73.7	7.44	19.3	0.27	3.1	0.02	0.078	1.70	8.8	11.2	2.15	1400	0.25	1.66	1.3	9.3	490	4.6	11.6	<0.002	0.01	0.05	<1	0.7	152.5	0.06	0.06	1.3	0.58	0.13	1	309	0.2	26.4	93	75
Q007Z	0.004	0.06	10.7	0.4	202	0.69	0.03	0.55	0.08	16.0	36	9	0.33	99.9	7.87	22.1	0.28	3.1	0.01	0.082	0.99	6.8	9.4	1.5	1465	0.34	2.18	2	16.4	380	3.6	13.2	<0.002	0.01	<0.05	<1	0.9	114	0.14	0.05	1	0.58	0.13	0.6	343	0.1	21.8	69	82.5
Q008Z	0.001	0.04	9.4	<0.2	40	0.48	<0.01	0.62	0.05	11.7	33	8	0.1	80.6	7.27	18.3	0.28	2.7	0.01	0.071	0.15	5.0	4.9	1.46	1410	0.11	3.77	0.9	18	270	2.0	2.1	<0.002	0.01	<0.05	<1	0.7	87.9	0.05	<0.05	0.6	0.51	<0.02	0.6	259	<0.1	19	80	67.7
Q009Z	0.003	0.03	9.7	<0.2	133	0.56	<0.01	0.66	0.07	13.6	34	6	0.99	88.8	7.04	18.0	0.3	2.7	<0.01	0.065	0.75	4.6	8.4	1.63	1740	0.17	2.15	1.1	12	210	2.0	16.8	<0.002	0.01	<0.05	<1	0.6	139.5	0.06	0.05	0.7	0.52	0.12	0.3	254	<0.1	13.4	62	72.4
Q010Z	0.002	0.04	9.1	0.4	107.5	0.55	0.01	0.87	0.18	15.8	31	7	0.74	89.2	6.66	19.3	0.3	2.6	0.01	0.062	0.73	6.1	12.0	2.17	1505	0.18	2.4	1.7	11.9	340	2.2	10.4	<0.002	0.01	0.13	<1	0.6	146.5	0.13	0.05	0.8	0.46	0.05	0.3	274	0.2	21.7	74	66
Q011Z	0.006	0.09	9.7	0.2	97.3	0.50	0.01	0.82	0.06	13.8	32	10	1.29	97.8	7.98	20.4	0.34	2.4	0.01	0.068	0.37	6.5	11.6	2.41	1935	0.19	3.27	0.8	12.4	370	2.7	7.7	<0.002	0.01	0.09	<1	0.6	126	0.05	<0.05	1	0.47	0.04	0.4	284	0.1	18.3	93	59.1
Q012Z	0.002	0.11	10.1	4.0	360	0.73	<0.01	0.39	0.10	14.6	40	10	1.16	55.0	7.8	19.9	0.26	2.3	0.01	0.074	0.81	5.0	12.3	1.28	1920	0.16	1.8	0.5	12.6	340	5.6	13.8	<0.002	0.01	0.05	<1	0.5	74	0.05	0.05	0.8	0.52	0.11	0.8	345	<0.1	12.8	150	55.1
Q013Z	0.006	0.65	9.7																																														

Table C-3 Results of Chemical Analysis of Soil Sediments (3/3)

Element	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
unit	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
R027Z	0.005	0.14	9.1	2.6	172	0.80	0.23	0.80	0.23	24.1	25	8	1.22	78.5	6.48	19.0	0.32	2.2	0.03	0.078	0.59	9.3	12.7	2.08	2010	0.5	0.71	0.5	11	680	9.7	13.2	<0.002	0.03	0.05	2	0.8	91.3	<0.05	0.08	1.5	0.44	0.13	0.5	223	0.1	17.2	158	43.9
R028Z	0.014	0.22	8.9	6.8	202	0.65	0.66	1.06	0.13	24.6	28	6	1.46	62.1	7.64	19.3	0.3	0.4	0.04	0.074	0.56	10.1	11.7	1.78	1730	1.2	0.51	1.4	9	960	11.4	16.4	<0.002	0.06	0.09	3	0.8	109.5	<0.05	0.23	1.9	0.54	0.21	0.6	276	0.3	19.4	108	10
R029Z	0.007	0.23	9.7	6.4	330	0.69	0.45	0.50	0.15	35.1	29	5	1.4	55.3	7.08	21.2	0.33	2.1	0.04	0.091	0.78	12.0	13.3	0.91	2190	1	0.16	1.6	6.8	480	10.1	27.5	<0.002	0.03	0.09	2	1.1	55.2	<0.05	0.18	1.7	0.47	0.54	0.6	218	0.3	22.1	97	42.3
R030Z	0.013	0.21	10.5	8.5	139.5	0.52	0.66	0.27	0.12	13.6	22	5	0.6	129.0	9.23	23.4	0.36	1.9	0.03	0.097	0.22	5.7	9.1	2.02	1965	0.84	0.89	1	9.4	570	8.8	6.3	<0.002	0.01	0.07	2	0.8	50	<0.05	0.22	0.8	0.6	0.14	0.3	398	0.2	14.3	231	30.8
R031Z	0.004	0.11	10.2	6.2	109	0.60	0.22	0.24	0.22	15.6	26	4	0.68	73.3	7.94	21.4	0.29	2	0.02	0.081	0.26	6.1	9.8	1.26	1415	0.77	0.47	1.2	8.8	530	25.2	6.6	<0.002	0.01	0.06	2	0.8	34.8	<0.05	0.12	1	0.56	0.13	0.3	349	0.2	14.3	108	38.6
R032Z	0.008	0.14	11.4	5.4	165	0.68	0.36	0.38	0.38	22.7	36	9	1	101.5	10.05	24.6	0.35	2.4	0.03	0.099	0.16	8.3	12.6	0.88	2010	0.6	0.23	0.2	12.3	510	31.9	6.9	<0.002	0.02	<0.05	2	0.7	45.2	<0.05	0.06	1.8	0.56	0.18	0.6	378	<0.1	14.8	170	49.4
R033Z	0.003	0.11	10.0	2.6	167	0.51	0.47	0.64	0.24	18.9	36	11	0.77	229.0	9.63	20.8	0.42	2	0.02	0.096	0.37	7.1	9.5	2.02	2500	0.45	0.85	0.7	13.6	590	18.2	13	<0.002	0.02	<0.05	2	0.7	86.4	<0.05	0.12	1.2	0.49	0.11	0.4	339	0.1	13.4	174	42.5
R034Z	0.004	0.16	11.4	2.5	240	0.62	0.25	0.83	0.25	20.7	34	25	1.22	147.5	7.49	21.1	0.34	2.2	0.03	0.081	0.41	8.2	11.7	2.2	2880	0.51	0.98	1.4	24	370	17.4	19.8	<0.002	0.02	<0.05	2	0.7	109.5	<0.05	0.08	1.8	0.46	0.18	0.5	285	<0.1	22.4	211	50.1
R035Z	0.004	0.11	10.5	2.6	270	0.69	0.21	2.02	0.66	23.4	28	14	1.14	96.8	7.17	20.3	0.36	2.6	0.07	0.075	0.58	9.7	11.2	1.85	2470	0.55	1.17	1.6	15.4	940	27.7	23.4	<0.002	0.05	0.07	2	0.8	214	<0.05	0.07	2.3	0.53	0.17	0.7	251	0.3	13.8	216	57.5
R036Z	0.003	0.13	8.6	1.0	141	0.67	0.08	0.97	0.43	39.0	19	7	1.28	60.7	5.45	19.9	0.33	0.7	0.03	0.09	0.89	13.2	7.5	1.7	1380	0.63	1.37	1.3	6.7	820	12.9	17.2	0.002	0.03	0.05	2	1	118	<0.05	0.05	1.3	0.51	0.13	0.4	144	0.2	22.3	122	18.2
R037Z	0.058	0.14	9.0	8.3	290	0.78	0.1	0.42	0.45	29.0	23	3	0.32	85.3	6.76	20.4	0.37	2.2	0.03	0.094	0.33	13.4	10.7	1.29	873	1.86	0.84	1.3	3.6	600	199.0	7	<0.002	0.02	0.12	3	1.2	63.2	<0.05	<0.05	1.3	0.58	0.1	0.4	186	0.3	26.9	222	41
R038Z	0.004	0.05	9.3	<0.2	202	0.63	0.05	0.39	0.08	15.8	29	5	0.16	51.3	8.44	20.1	0.34	1.4	0.02	0.076	0.22	7.9	8.6	1.7	775	<0.05	0.88	0.1	9.2	500	5.6	3	<0.002	0.01	<0.05	2	0.2	59.5	<0.05	<0.05	0.9	0.39	0.05	0.3	253	<0.1	21.6	91	24.6
R039Z	0.002	0.11	11.3	<0.2	211	0.74	0.09	0.33	0.44	23.3	31	9	0.62	167.5	8.66	23.7	0.39	2.3	0.04	0.092	0.31	7.8	10.2	0.87	938	0.05	0.91	0.1	11	420	11.8	8.3	<0.002	0.01	<0.05	2	0.3	53	<0.05	<0.05	1.6	0.38	0.14	0.5	265	<0.1	22.6	130	48.2
R040Z	NSS	0.07	8.7	0.9	193.5	0.55	0.05	1.21	0.30	15.6	31	15	0.92	55.6	7.64	18.6	0.38	2.1	0.04	0.069	0.67	6.2	9.0	2.13	1295	0.13	1.8	0.2	15.9	510	9.1	14.2	<0.002	0.02	<0.05	2	0.5	141	<0.05	<0.05	1.2	0.53	0.12	0.5	308	0.1	17.7	95	45.8
S001Z	0.006	0.09	9.7	1.4	230	0.47	0.05	0.78	0.57	13.1	32	11	1.26	59.2	7.11	18.5	0.32	2	0.01	0.062	1.14	4.9	10.9	1.94	1260	0.45	2.23	0.4	15.2	610	19.1	23.6	<0.002	0.01	0.34	2	0.6	114	<0.05	0.05	0.9	0.53	0.14	0.3	301	0.1	14.1	120	46.2
S002Z	NSS	0.13	8.7	2.3	132.5	0.63	0.13	0.65	0.67	18.3	25	10	0.6	74.6	7.67	19.9	0.38	2	0.01	0.085	0.81	8.0	8.2	1.86	1325	0.59	1.2	0.3	9.9	610	17.8	17.6	<0.002	0.02	<0.05	2	0.8	66.4	<0.05	0.08	1.2	0.52	0.15	0.4	289	0.1	19.3	215	42.4
S003Z	0.005	0.15	9.6	2.4	185.5	0.64	0.1	1.00	0.56	21.0	26	7	0.82	69.9	6.44	19.6	0.36	2.4	0.02	0.079	0.72	8.2	9.0	1.49	1215	0.27	1.36	0.2	9.6	380	25.5	19.3	<0.002	0.02	<0.05	2	0.6	111.5	<0.05	0.07	1.5	0.44	0.16	0.6	222	<0.1	18.4	176	53.7
S004Z	0.005	0.12	7.5	1.6	156	0.64	0.15	0.62	1.10	21.5	17	6	0.65	41.4	5.16	16.3	0.31	2.2	0.02	0.057	0.78	8.9	10.6	1.27	1660	0.6	0.7	0.9	6.4	380	53.8	23.7	<0.002	0.02	0.07	2	0.9	64.7	<0.05	0.05	1.8	0.45	0.16	0.6	184	0.1	15	311	46.9
S005Z	NSS	0.08	8.5	0.8	159	0.81	0.35	0.69	2.25	23.8	12	4	0.88	35.4	4.47	17.3	0.29	0.4	0.03	0.052	0.85	12.3	16.4	1.35	2120	0.72	0.21	1.9	5.5	700	50.9	22.8	0.002	0.02	0.14	2	1.1	60	<0.05	0.08	2.8	0.37	0.14	0.8	128	0.5	16	694	10
S006Z	NSS	0.17	9.4	1.6	230	0.89	0.44	0.55	0.62	29.0	14	6	0.81	105.5	4.56	18.5	0.25	2.5	0.02	0.073	1.25	13.5	13.4	1.58	1880	0.57	0.28	0.3	5.1	340	153.5	42.9	<0.002	0.02	0.07	2	0.9	60.5	<0.05	<0.05	2.5	0.39	0.26	0.8	127	0.1	19	329	50.6
S007Z	0.003	0.07	9.2	1.7	202	1.00	0.09	0.34	0.20	24.9	10	3	0.75	32.4	3.84	19.0	0.27	2.1	0.02	0.058	1.52	11.7	11.0	0.97	1180	0.79	0.09	2.2	4.7	260	77.4	56.7	<0.002	0.02	0.12	2	1.2	39.3	0.07	<0.05	2.2	0.28	0.35	0.7	101	0.2	16.3	93	43.4
S008Z	NSS	0.05	8.5	2.2	192.5	0.93	0.08	0.55	0.15	26.2	13	5	0.68	24.7	4.36	17.9	0.24	3.2	0.03	0.054	1.34	12.4	11.8	1.07	1160	0.38	0.39	0.5	5.1	290	16.2	46.4	0.002	0.02	<0.05	2	0.9	61.3	<0.05	<0.05	3.1	0.35	0.27	0.9	128	<0.1	18.1	94	71.3
S009Z	NSS	0.11	9.1	1.4	250	0.93	0.07	0.38	0.19	33.2	13	4	0.67	37.7	4.55	19.1	0.26	3.7	0.04	0.064	1.78	14.0	12.0	1.04	1170	0.74	0.45	1.1	5	300	47.3	52.8	<0.002	0.01	0.07	2	1.3	48.5	<0.05	<0.05	3	0.41	0.34	1	126	0.1	21.7	112	86
S010Z	0.004	0.18	8.7	2.2	380	1.26	0.05	0.13	0.05	30.1	5	1	0.83	17.4	2.7	17.7	0.21	4.3	0.01	0.045	3.61	14.3	14.8	1.59	874	0.58	0.06	1.8	2.2	160	14.4	92.4	<0.002	0.01	0.16	2	1.1	29	<0.05	<0.05	3.9	0.22	0.62	1.1	48	0.2	18.6	84	95.4
S011Z	NSS	0.46	8.6	9.1	240	1.06	0.09	0.55	0.09	23.9	13	13	1.66	26.2	4.27	17.5	0.27	4.4	0.02	0.057	2.20	10.3	13.8	0.82	889	0.74	0.15	2	11.1	190	13.5	66.6	<0.002	0.02	0.35	2	1.2	59.1	<0.05	<0.05	3.3	0.4	0.47	0.9	124	0.3	21.4	55	100.5
S012Z	NSS	0.17	9.9	4.5	182.5	1.04	0.07	0.53	0.02	26.3	15	11	1.14	30.9	4.68	19.3	0.26	4.4	0.02	0.06	1.74	9.6	11.8	1.04	659	0.44	0.45	1.9	13.4	160	6.4	40.3	<0.002	0.01	0.16	2	1.2	59.4	<0.05	<0.05	3.1	0.42	0.31	0.9	136	0.1	21.5	47	101
S013Z	0.710	0.75	10.3	17.4	590	0.70	0.06	0.47	0.44	18.2	35	6	1.02																																				

Table C-4 Observation Results of Thin Sections of Rock Samples

1.

Sample Name: G002				
Rock Name: Hornblende andesite				
Field Description: Diorite porphyry				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-1.5mm	30-40%	Prismatic, clear zoning, colloidal fringes. Tabular, with a resorption border
Hornblende	Subhedral	500um-1.5mm	10-20%	
Groundmass: mosaic of quartz and plagioclase, minor amount of apatite, zircon				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	anhedral	10-20 um	-20 %	
Plagioclase	anhedral	20-50 um	-20 %	
Opaque	anhedral-granular	20-50 um	- 5 %	
Alteration: Plagioclase phenocrysts strongly alter to calcite and smectite. Fringes of Hornblende phenocrysts are replaced by opaque mineral. Calcite and epidote, and quartz veinlets are observed.				

Note: The 'um' in the 'Grain Size' column means micron meter.

Table C-4 Observation Results of Thin Sections of Rock Samples

2.

Sample Name: G003				
Rock Name: Altered hornblende andesite				
Field Description: Diorite porphyry, similar to G002				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	300um-2mm	20-30%	Prismatic, clear zoning, colloidal rim. Tabular, with a resorption border.
Hornblende	Euhedral-subhedral	300um-2.5mm	10-20%	
Groundmass: mosaic of quartz and plagioclase, minor amount of apatite, zircon				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Anhedral-mosaic	20-50 um	-30 %	
Quartz	Anhedral	20-50 um	-20 %	
Alteration: Hornblende strongly alters to calcite-chlorite-smectite. Plagioclase alters to calcite and smectite. (mixed layer mineral, opaque)				

Table C-4 Observation Results of Thin Sections of Rock Samples

3.

Sample Name: G014				
Rock Name: Hornblende-augite andesite				
Field Description: Basaltic andesite				
Description under Microscopy				
Texture: Porphyritic, hyalocrystalline-cryptocrystalline, fluidal structure				
Phenocryst				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	200um-1mm	-30%	Inclusion in crystal Fluidal
Augite	Euhedral-subhedral	400um-800um	-10%	Zoning
Hornblende	Subhedral	300um-400um	-5%	Strongly altered
Groundmass: Plagioclase, augite, opaque				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Needle-subhedral	20x100 um	- 30 %	Fluidal
Opaque	Granular	100-200 um	- 5 %	
Augite	Subhedral-anhedral	20-50 um	- 2 %	
Alteration: Hornblende strongly alters to chlorite-smectite mixed layer mineral. Chlorite-smectite mixed layer mineral occurs as vein form. Groundmass does not strongly alter.				

Table C-4 Observation Results of Thin Sections of Rock Samples

4.

Sample Name: G021				
Rock Name: Altered andesite-dacite				
Field Description: Andesite porphyry				
Description under Microscopy				
Texture: Porphyritic, weak fluidal texture				
Phenocryst				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	100um-1.5mm	30-40 %	Zoning
Quartz	Anhedral	300um-400um	5 %	Colloidal, patch-like
Groundmass: Plagioclase lath, weakly altered				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath-needle	10 x 100 um	20-30 %	
Quartz	Granular	50 x 200 um	- 1 %	
Opaque	Granular	20-50 um	- 10 %	
Alteration: Plagioclase phenocryst strongly alters to calcite and smectite. Fringes of hornblende phenocrysts are resorbed. Calcite and epidote, and quartz veinlets are observed.				

Table C-4 Observation Results of Thin Sections of Rock Samples

5.

Sample Name: G005				
Rock Name: Two pyroxene hornblende andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, fluidal structure, a part glomeroporphyritic augite				
Phenocryst: Plagioclase, augite, hypersthene, hornblende				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	euohedral-subhedral	200um-1.2mm	~40%	Tabular
Augite	euohedral	200um-500um		Granular, Glomeroporphyritic (rare),
Hypersthene	euohedral-subhedral	~500um	2-3%	Lath shape
Hornblende	subhedral	500um-1.0mm	2-3%	Tabular to granular, Rim: opacitization
Groundmass: Hyalocrystalline opaque mineral, in augite and groundmass devitrification				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	acicular-lath shape	10-100 um	20~30 %	Flow structured.
Glass	irregular			Devitrified.
Opaque	tabular	100-200 um	- 5 % >	
Alteration: Groundmass (glassy), devitrified.				
Plagioclase phenocryst (interior part): smectitized (mixed layer mineral?).				
Hornblende is strongly resorbed				
Alteration is generally weak.				

Table C-4 Observation Results of Thin Sections of Rock Samples

6.

Sample Name: G008				
Rock Name: Augite hornblende andesite				
Field Description: Similar to G005				
Description under Microscopy				
Texture: Porphyritic, cryptocrystalline to holocrystalline				
Phenocryst: Plagioclase, augite, resorbed hornblende				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	300um-1.2mm	30-40%	Strongly zonal structure. Partly glomeroporphyritic. Disposition of inclusions.
Augite	Euhedral-subhedral	300um-800um	~10%	Fresh, partly cryptocrystalline
Hornblende	Euhedral-subhedral	200um-400um	~5%	Corona form, resorption.
Groundmass: plagioclase, glass, opaque				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral, needle	5 × 50 um	-20 %	No flow structure. Cryptocrystalline glass.
Opaque	granular, anhedral	100~20 um	- 5 %	
Glass			- 20 %	
Alteration: not remarkably altered.				
Plagioclase alters to smectite.				
Mixed layer mineral occurs.				
Borders of hornblende phenocrysts are resorbed.				
Corona form and reaction rim occur at the periphery.				

Table C-4 Observation Results of Thin Sections of Rock Samples

7.

Sample Name: G033				
Rock Name: Schistose sandstone, or semi-schist (schistose sandstone)				
Field Description: Sandstone				
Description under Microscopy				
Texture: Phyllic to schistose, fine crepey structure (oblique to the sheared schistosity)				
Phenocryst: Alternation of siliceous layer and mafic layer, re-crystallized				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	mosaic form	50um(simple) 10um-20um(gathering)	20-30% -30%	Schistose, Banded structure
Muscovite (?)	schistose	10um-30um	-10%	
Actinolite (?)	acicular-granular	10um-30um	-10%	
Sphene	subhedral	300um-500um	- 2%	
Opaque	granular	200um-500um	- 2%	
Groundmass				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Alteration: A large amount of banded muscovite occurs in the groundmass.				

Table C-4 Observation Results of Thin Sections of Rock Samples

8.

Sample Name: G045				
Rock Name: Augite andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, cryptocrystalline, opaque				
Phenocryst: large phenocryst of plagioclase, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral (Partly fragmental)	200um-2.0mm	30-40%	Zoning. Partly glomeroporphyritic. Contain melt inclusion.
Augite	Euhedral-subhedral	200um-2.5mm	10-20%	Twin, partly fragmental.
Opaque	Subhedral- granular	200um-500um	- 2%	Together with augite.
Groundmass: Cryptocrystalline~holocrystalline				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Tabular to acicular	10 × 100 um	-20 %	Weak alteration.
Glass (?)			-20 %	
Alteration: Almost unaltered (fresh).				
Plagioclase: Partly altered to smectite				

Table C-4 Observation Results of Thin Sections of Rock Samples

9.

Sample Name: G051				
Rock Name: Altered andesite to dacite (hornblende andesite to dacite)				
Field Description: Altered andesite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst: Plagioclase, altered hornblende				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-3.0mm (max)	-40%	Partly carbonatized, epidotized.
Hornblende	Euhedral-subhedral	800um-2.5mm	-20%	Completely chloritized. Resorbed.
Opaque	Anhedral-granular	100um-300um	- 3%	
Groundmass: Holocrystalline plagioclase, quartz				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral-anhedral	-100 um	10-20 %	Weak alteration.
Quartz	Anhedral	-100 um	10-20 %	
Alteration: Propyritic alteration.				
Mafic mineral: remarkably alters to chlorite (calcite, opaque).				
Plagioclase: partly alters to calcite.				

Table C-4 Observation Results of Thin Sections of Rock Samples

10.

Sample Name: G064				
Rock Name: Altered augite andesite				
Field Description: Altered andesite				
Description under Microscopy				
Texture: Porphyritic, cryptocrystalline~hyalocrystalline				
Phenocryst: plagioclase, augite, altered mafic mineral (orthopyroxene? or hornblende)				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	700um-1.5mm	25-30%	Weak zoning.
Augite	Subhedral	300um-600um	-10%	Weak alteration.
Altered mafic (Orthopyroxene or hornblende)	Euhedral-subhedral	500um-700um	-10%	Tabular, completely altered. Relict-like Intergrowth with augite.
Groundmass: mosaic of quartz and plagioclase, minor amount of apatite, zircon				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Acicular	10×100 um~ 20×200 um	-30 %	Lath form. Flow structured.
Opaque	Granular to subhedral	20-150 um	- 5 %	Irregularly scattered in the matrix part.
Alteration: Plagioclase and mafic mineral phenocrysts strongly alter. Plagioclase alters to calcite, epidote and smectite. Mafic mineral alters to chlorite/smectite, smectite.				

Table C-4 Observation Results of Thin Sections of Rock Samples

11.

Sample Name: G095				
Rock Name: Augite andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, cryptocrystalline, hyalocrystalline, partly poikilitic augite occurred in plagioclase.				
Phenocryst: Plagioclase, augite, opaque				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Tabular Euhedral-subhedral	500um-1.0mm	20-30%	Weak alteration (carbonitized). Zoning: moderate.
Augite	Euhedral-subhedral	300um-500um	-10%	Alteration is not remarkable. Borders: reaction rim.
Opaque	Granular-anhedral	100um-500um	<5%	Intergrowth (close) with augite. Primary opaque: dominant.
Groundmass: Cryptocrystalline, intersertal~intergranular.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath	10×100 um	-40 %	Weak fluidal texture
Opaque	Granular	10-30 um	-10 %	Intergranular.
Alteration: Plagioclase phenocryst weakly alter to calcite and smectite. Smectite: observed in veinlets.				

Table C-4 Observation Results of Thin Sections of Rock Samples

12.

Sample Name: G125				
Rock Name: Diorite				
Field Description: Dioritic rock				
Description under Microscopy				
Texture: Holocrystalline, granitic texture				
Phenocryst: Plagioclase, quartz, hornblende				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral	800um-1.5mm (max. 3mm)	30-40%	Weak zoning. Partly altered.
Quartz	Anhedral	800um-1.5mm	-20%	
Hornblende	Subhedral	600um-1.2mm	-10%	
Opaque	Subhedral~anhedral		- 5%	
Zircon	Subhedral	50um~	<1%	
Apatite	Tabular	50um-100um	<1%	
Groundmass: Zircon, apatite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Zircon	subhedral~anhedral	50 um	<1%	
Apatite	tabular	50-100 um	<1%	
Alteration: Hornblende partly alters to chlorite. Plagioclase: weakly alters to calcite and epidote.				

Table C-4 Observation Results of Thin Sections of Rock Samples

13.

Sample Name: G146				
Rock Name: Dacite (quartz porphyry?), weakly altered				
Field Description: Dacitic porphyry				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst: Plagioclase, quartz				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	800um-1.2mm	20-30%	Isolated or glomeroporphyritic.
Quartz	Anhedral-corroded	500um-1.5mm (max. 2.5mm)	20%~	Remarkably corroded.
Hornblende (?)	Subhedral	500um-1.5mm	5-10%	Altered.
Opaque	Subhedral-granular	500um-1.0mm	~5%	(smectite, chlorite/smectite)
Groundmass: Plagioclase, quartz, holocrystalline				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Tabular-granular	20-50 um	-40 %	Holocrystalline
Quartz	Granular	20-50 um		
Alteration: smectite (saponite) is observed along fissures in plagioclase phenocrysts. Hornblende alters to smectite or smectite/chlorite as relict form.				

Table C-4 Observation Results of Thin Sections of Rock Samples

14.

Sample Name: G147				
Rock Name: Altered dacite (or Quartz porphyry)				
Field Description: Rather strongly altered rock of G146				
Description under Microscopy				
Texture: Porphyritic, holocrystalline, opaque				
Phenocryst: Plagioclase, quartz, hornblende				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-anhedral	700um-2.0mm	-30%	Strongly altered, weak zoning. Partly glomeroporphyritic.
Quartz	Anhedral	1~2.5mm	-20%	Corroded
Hornblende	Subhedral	400um-2.0mm	-10%	Completely altered.
Opaque	Anhedral-granular	200um-300um	- 5%	Primary + secondary (mafic).
Apatite	Acicular			
Groundmass: Holocrystalline.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral-anhedral	10-50 um	-40 %	Weak alteration
Opaque	Anhedral	10-50 um		
Alteration: Plagioclase alters to smectite, albite, and partly sericite. Hornblende phenocryst alters to chlorite or chlorite/smectite (?).				

Table C-4 Observation Results of Thin Sections of Rock Samples

15.

Sample Name: G156-2				
Rock Name: Altered dacite to Quartz porphyry				
Field Description: Altered dacite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline~microcrystalline				
Phenocryst: almost same as G156-1, hornblende completely alters to chlorite.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Groundmass: holocrystalline, mosaic →Quartz porphyry?				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Alteration: Hornblende strongly alters to chlorite.				

Table C-4 Observation Results of Thin Sections of Rock Samples

16.

Sample Name: G156-1				
Rock Name: Hornblende dacite				
Field Description: Dacitic rock				
Description under Microscopy				
Texture: Porphyritic, holocrystalline (or altered matrix)				
Phenocryst: Plagioclase, quartz, hornblende				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	1-2mm	-20%	Zoning, a part
Quartz	Granular	1-1.5mm	-10%	glomeroporphyritic
Hornblende	Anhedral-subhedral	300um-1.2mm	-5%	Corroded. Rim; reaction rim is observed.
Opaque	Granular-anhedral	~200um	- 1%	Partly altered into smectite, chlorite. Intergrowth with hornblende or isolated.
Groundmass: Holocrystalline, almost part are altered into smectite.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Anhedral-mosaic	10-50 um	40-50%	Matrix part;
Quartz	Anhedral-mosaic			Strongly altered to smectite
Alteration: Sericite and smectite alteration is remarkable in the groundmass.				

Table C-4 Observation Results of Thin Sections of Rock Samples

17.

Sample Name: G165				
Rock Name: Augite andesite to basaltic andesite				
Field Description: Basic andesite				
Description under Microscopy				
Texture: Porphyritic, fluidal structure, amygdaloidal, intergranular texture.				
Phenocryst: Plagioclase, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	1-2mm	-30%	Very weak zoning. Glomeroporphyritic or mosaic texture with augite.
Augite	Subhedral-anhedral	700um-1.0mm (max.1.5mm)	-10%	Unaltered but not xenomorphic texture.
Amygdale		200um-1.0mm	10-20%	Filled by smectite or chlorite/smectite.
Groundmass: Weak fluidal structure, intergranular texture.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath shape	20 × 200 um	-40%	Weakly altered. Weakly fluidal texture
Opaque	Subhedral-granular	10-200 um	- 2 %	
Augite	Granular-subhedral	20-100 um	- 5 %	
-				

Table C-4 Observation Results of Thin Sections of Rock Samples

18.

Sample Name: G166				
Rock Name: Altered dacitic tuff (fine tuff)				
Field Description: felsic tuff				
Description under Microscopy				
Texture: Tuffaceous texture				
Phenocryst: Quartz, plagioclase, opaque, epidote				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Anhedral	30-100 um	30-40%	Fragmental to patch form.
Plagioclase	anhedral	30-100 um	10-20%	Fragmental to patch form.
Epidote	subhedral-prismatic	100-200 um	< 1%	Secondary products.
Opaque	anhedral	50-100 um	- 5%	
Groundmass/matrix:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Alteration: Strongly carbonatized, in patches and partly in veins.				

Table C-4 Observation Results of Thin Sections of Rock Samples

19.

Sample Name: G170				
Rock Name: Aphyric andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Aphyric to weak porphyritic, amygdaloidal Cryptocrystalline to hyalocrystalline				
Phenocryst				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	100-200um	5-10%	Zoning: none-very vague Zeolite (?), chlorite, (chlorite/smectite) are observed. Pores are observed.
Amygdale	Long ellipsoidal to lenticular (irregular)	1-3mm	- 5%	
Groundmass: Cryptocrystalline to hyalocrystalline, devitrified				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath	20 × 100 um	-20 %	No texture.
Opaque	Granular	20-400 um	- 5 %	
Alteration: Chlorite/smectite replaces plagioclase or occurs in amygdale. Pools and patches of smectite is embedded in groundmass.				

Table C-4 Observation Results of Thin Sections of Rock Samples

20.

Sample Name: H002				
Rock Name: Augite andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst: Plagioclase, augite, opaque				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-1.5mm	-40%	Remarkable zoning. Inclusions in crystals. Weakly altered.
Augite	Subhedral-euhedral	300-800um	-20%	
Opaque	Granular-anhedral	200-800um	5 %	
Groundmass: Holocrystalline				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath-subhedral	50-200 um	30-40 %	
Alteration: Smectite replaces augite in the groundmass.				

Table C-4 Observation Results of Thin Sections of Rock Samples

21.

Sample Name: H019				
Rock Name: Augite andesite to andesitic porphyry				
Field Description: Andesitic porphyry				
Description under Microscopy				
Texture: Subporphyritic to subequigranular, holocrystalline				
Phenocryst: Plagioclase, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral	1-2mm	10-20%	Weak zoning. Partly glomeroporphyritic. Few carbonatized Rather fresh. Partly altered to chlorite/smectite
Augite	Subhedral	500um-1mm	10%	
Groundmass: Holocrystalline, coarse matrix, intergranular				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral-lath	30-100 um	50-60 %	Weak fluidal structure
Opaque	Granular	-200 um	5-10 %	
Alteration: Plagioclase alters to calcite. Augite alters to chlorite/smectite.				

Table C-4 Observation Results of Thin Sections of Rock Samples

22.

Sample Name: H022				
Rock Name: Altered two-pyroxene andesite				
Field Description: Altered andesite				
Description under Microscopy				
Texture: Porphyritic, fluidal structure, completely altered, coarse-grained				
Phenocryst: Plagioclase, orthopyroxene (?), augite, opaque				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	Max.2mm	30-40%	Remarkably zoning.
Orthopyroxene	Subhedral-tabular	1-1.2mm	-10%	Completely chloritized-smectitized
(?)	Subhedral	-1mm	<10%	
Augite	Anhedral-granular	500um-1mm	- 2%	
Opaque				
Groundmass: Intergranular, holocrystalline				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath-shape	10 × 100 um	-30%	Skeletal crystal.
		-50 × 300 um		
Opaque	Granular	10-100 um	- 5 %	
Alteration: Matrix; strongly carbonatized and smectitized. Quartz-smectite veinlets develop.				

Table C-4 Observation Results of Thin Sections of Rock Samples

23.

Sample Name: H028				
Rock Name: Altered augite andesite				
Field Description: Altered andesite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline, intergranular				
Phenocryst: Plagioclase, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-2mm	-30%	Zoning. Smectite and sericite are common in the interior.
Augite	Subhedral-subhedral	500um-2mm	-10%	Partly strongly alters to calcite-chlorite-quartz-smectite.
Groundmass: Holocrystalline, smectite and chlorite/smectite are observed in the groundmass.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral-lath	-20 × 100 um	-20 %	Weak fluidal texture.
Smectite, smectite/chlorite	Intersertal	-50 um	10-20 %	Alteration products?
Opaque	Subhedral-granular	30-100 um	<5%	Intergrowth with lath shape plagioclase.
Alteration: Phenocrysts				
Plagioclase alters to smectite, sericite in the interior or whole part.				
Augite alters to smectite, chlorite, calcite and quartz at the border or whole part.				
Matrix alters to smectite and sericite between plagioclase laths.				

Table C-4 Observation Results of Thin Sections of Rock Samples

24.

Sample Name: H030				
Rock Name: Altered andesite				
Field Description: Altered andesite				
Description under Microscopy				
Texture: Porphyritic, strongly altered, amygdaloidal				
Phenocryst: Plagioclase, augite (?) relict form				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-1.5mm	30%±	Fresh to completely altered Weak zoning.
Augite	Euhedral-subhedral	200um-1.5mm	10-15%	Completely altered. Relict form.
Amygdale	Irregular-lenticular	300um-2mm	5-10%	Filled by schistose smectite, calcite and chalcedonic quartz.
Groundmass: Smectite, sericite and calcite filled the groundmass between laths of plagioclase.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath: tabular Subhedral	-200 um	-20 %	Periphery; altered Partly completely altered Scattered in intergranular form.
Opaque	Subhedral-granular	50-200um	-5%	
Alteration: Plagioclase Completely alters to smectite, calcite and quartz. Augite phenocrysts are decomposed into calcite, smectite, and chalcedonic quartz. Groundmass: calcite, smectite, chlorite/smectite (?), chalcedonic quartz.				

Table C-4 Observation Results of Thin Sections of Rock Samples

25.

Sample Name: H033				
Rock Name: Two pyroxene andesite to basaltic andesite				
Field Description: Basic andesite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst: Plagioclase, augite, hypersthene				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-2mm	30-40%	Zoning. Inner part: replaced by zeolite. Reaction rim and corroded textures are common.
Augite	Euhedral-subhedral	500um-2mm	10-20%	Glomeroporphyritic assemblage
Hypersthene	Euhedral-subhedral	500um-2mm	-5%	Glomeroporphyritic assemblage
Opaque	Granular	500um-1mm	-2%	Intergrowth with pyroxene, or isolated
Groundmass: Holocrystalline, granular, partly replaced by zeolite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral	50-200 um	-20 %	Intergranular to granular mosaic.
Quartz	Anhedral	50-100 um	-5 %	
Zeolite	Tabular	200-400 um	-2 %	
Alteration: Generally weak alteration. Plagioclase phenocryst is partly replaced by zeolite, Small amount of smectite is observed.				

Table C-4 Observation Results of Thin Sections of Rock Samples

26.

Sample Name: H035				
Rock Name: Two-pyroxene andesite to basaltic andesite				
Field Description: Basic andesite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst: Plagioclase, hypersthene, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-3mm	-30%	Unaltered. Zoning. Abundant inclusions.
Hypersthene	Euhedral-subhedral	800um-6mm	-10%	Large phenocrysts are included. Unaltered.
Augite	Euhedral-subhedral	500um-2mm	-10%	Partly in paragenesis with
Opaque	Granular	500um-1mm	-5%	Orthopyroxene. Intergrowth with pyroxene, or isolated
Groundmass: Holocrystalline, granular, mosaic				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Mosaic-granular (anhedral)	10-50 um	-40 %	Unaltered. Skeletal Plagioclase is observed.
Quartz	Granular	10-50 um		Intergrowth with plagioclase.
Opaque	Granular-anhedral	20-50 um	<2 %	Intergranular.
Alteration: Plagioclase phenocryst is partly alters to epidote, smectite. Matrix part; a few amount of tabular zeolite (?) occurs.				

Table C-4 Observation Results of Thin Sections of Rock Samples

27.

Sample Name: H057				
Rock Name: Altered amygdaloidal basalt				
Field Description: basalt lava				
Description under Microscopy				
Texture: Aphyric, amygdaloidal, cryptocrystalline to hyalocrystalline Fluidal structure (basaltic texture) carbonatized groundmass.				
Phenocryst				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Amygdale	Ellipse	1-2mm	-20%	Calcite, quartz (mosaic). Partly replaced by small amount of smectite and opaque mineral. Observed in amygdales.
Opaque	Euhedral-granular	500um-1.5mm	-5%	
Groundmass: Fluidal texture, lath to acicular shape plagioclase				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Acicular-lath	-10 × 200 um	30-40%	
Alteration: Matrix part; carbonatized, patch form. Calcite; patchy form or in fissures. Smectite; in fissure.				

Table C-4 Observation Results of Thin Sections of Rock Samples

28.

Sample Name: H061				
Rock Name: Altered (silicified-sericitized) dacite				
Field Description: Altered dacite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline (granular matrix), silicified				
Phenocryst: Quartz, altered plagioclase (?)				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Corroded-irregular	1-5mm	10-20%	Strongly corroded.
Plagioclase	Subhedral-anhedral	1-2mm	-10%	Strongly altered to sericite or smectite.
Groundmass: Granular quartz (mosaic), fissure filling by smectite or sericite/smectite.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz		50-200 um	-60 %	Granular to mosaic (silicified?)
Smectite or sericite/smectite	Flaky, network	10-50 um	-10 %	
Alteration: Strongly silicified.				
Matrix part; almost quartz and sericite/smectite.				
Opaque (irregular, xenomorphic) minerals are derived from other phenocrysts (mafic mineral?).				

Table C-4 Observation Results of Thin Sections of Rock Samples

29.

Sample Name: H087-1				
Rock Name: Weakly altered augite andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, altered matrix				
Phenocryst: Plagioclase, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	500um-2.5mm	30-40%	Almost no zoning. Weakly corroded, effected by alteration?
Augite	Subhedral	800um-1.5mm	5-10%	Almost unaltered (fresh) (Mostly unaltered).
Groundmass: -(Holocrystalline)				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath-tabular	-30 × 100 um	-20 %	Randomly scattered
Opaque	Granular-anhedral	50-200 um	- < 5 %	Scattered in the groundmass
Zeolite	Radial-tabular	200-500 um	- < 1 %	Replaced from calcite (pseudomorph)
Alteration: Phenocrysts mostly alters. Groundmass: alters to smectite or chlorite/smectite (glassy material origin?). Radial crystals of zeolite are observed (derived from calcite replacement, pseudomorphic). Zeolite vein occurs.				

Table C-4 Observation Results of Thin Sections of Rock Samples

30.

Sample Name: H087-2				
Rock Name: Same as H087-1				
Field Description: Altered andesite				
Description under Microscopy				
Texture: Tabular to semi-radial. Zeolite veins (width; 200-300 um) develop.				
Phenocryst:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase				Alters along the border of crystals.
Groundmass:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Alteration:				

Table C-4 Observation Results of Thin Sections of Rock Samples

31.

Sample Name: H090				
Rock Name: Altered dacitic pumice tuff				
Field Description: Acidic tuff				
Description under Microscopy				
Texture: Tuffaceous texture, pumice (devitrified?), composed of fragments.				
Phenocryst: Quartz, pumice				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Corroded	500um-1.2mm	-10%	Corroded. Unaltered (primary). Fragmental.
Pumice	Fragmental	1. 5mm	10-20%	Re-crystallized to chalcedonic quartz and smectite (?) Partly mosaic quartz occurs
Opaque	Granular	300-600 um	1-2%	Chalcedonic quartz: radial or spherulitic textures.
Groundmass: Glassy matrix (re-crystalline part: chalcedonic quartz and smectite).				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Alteration: Glass is replaced by chalcedonic quartz smectite. Zeolite (?) occurs (in the matrix with patchy form).				

Table C-4 Observation Results of Thin Sections of Rock Samples

32.

Sample Name: H091				
Rock Name: Amygdaloidal basalt				
Field Description: Basaltic rock				
Description under Microscopy				
Texture: Aphyric, cryptocrystalline to holocrystalline, fluidal structure (basaltic texture) Intergranular to intersertal texture.				
Phenocryst: Aphyric, large phenocrysts of plagioclase are rare, amygdale				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Amygdale	Rounded-ellipse	500um-5mm	10-20%	Elongated coarse grains. Chlorite/smectite occurs. Filled by zeolite.
Plagioclase	Subhedral	-4mm	5%)	Large phenocryst, Unaltered Chlorite/smectite, zeolite occurs in mesh like form.
Groundmass: Fluidal structure (lath or acicular plagioclase hyaloophitic to fluidal texture).				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Lath-acicular	20×200 um	50-60 %	Lath form, fluidal texture
Augite	Granular-subhedral	50-100 um	-10 %	Intergranular-Intersertal No alteration
Opaque	Granular	10-50 um	< 1 %	Intergranular
Alteration: smectite, chlorite/smectite, chalcedonic quartz, calcite are embedded between grains of plagioclase and augite. Partly chlorite/smectite are observed in veinlets.				

Table C-4 Observation Results of Thin Sections of Rock Samples

33.

Sample Name: H092				
Rock Name: Silicified dacite~rhyolitic tuff				
Field Description:				
Description under Microscopy				
<p>Texture: Tuffaceous texture, few amount of plagioclase (phenocryst?) are observed. Contain mosaic quartz fragment and no structure.</p> <p>Quartz vein developed.</p> <p>Generally silicified.</p>				
Phenocryst: Plagioclase, quartz				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	subhedral-anhedral Fragmental	800um-1.2mm	-10%	Dusty, albitized
Quartz	Mosaic-aggregate	500um-1.5mm	10-20%	Mosaic form
Opaque	Granular	200-300um	-5%	Fragmental.
Groundmass: Fragmental quartz, plagioclase distributed with no structures.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Fragmental	20-200 um	-30 %	
Plagioclase	Fragmental	20-200 um	-30 %	
<p>Alteration: Quartz veins (width 50-200 um) develop as a network form.</p> <p>Plagioclase phenocryst is dusty and albitized.</p> <p>Smectite (?) occurs.</p>				

Table C-4 Observation Results of Thin Sections of Rock Samples

34.

Sample Name: H093				
Rock Name: Amygdaloidal basalt				
Field Description: Basalt				
Description under Microscopy				
Texture: Amygdaloidal, hyalopilitic, hyalocrystalline				
Phenocryst: Amygdale, plagioclase				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral Tabular	100-500um	<3%	Long prismatic form, Very scarce.
Amygdale	Ellipsoidal	400um-2mm	10-15%	Smectite alteration Central part* acicular or schistose form mineral (smectite?). Marginal part: filled by calcite Partly chalcedonic quartz (?) occurs.
Groundmass: Basaltic texture, Arrangement of acicular plagioclase. Weak fluidal structure.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Acicular	10-100 um	-60 %	Weak fluidal structure
Alteration: Glassy matrix alters to smectite (?).				

Table C-4 Observation Results of Thin Sections of Rock Samples

35.

Sample Name: H094				
Rock Name: Augite andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Generally dusty, sub porphyritic, weak fluidal structure, cryptocrystalline~hyalocrystalline				
Phenocryst: Plagioclase, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral-euhedral	500um-1mm	5-10%	Dusty. Partly glomeroporphyritic. Zoning at the most outer part.
Augite	Euhedral-subhedral	300-800um	5-10%	Fresh. Zoning
Groundmass: Lath-tabular plagioclase; weak fluidal structure. Augite; Intersertal-intergranular.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	50-200 um	-60 %	Skeletal crystal.
Augite	Granular-subhedral	50-100 um	-5 %	Intergranular, No alteration.
Opaque	Granular	30-80 um	- 3 %	Intergranular Random distribution.
Alteration: Smectite (or chlorite/smectite?) occurs in the groundmass (glassy); Devitrification is remarkable.				

Table C-4 Observation Results of Thin Sections of Rock Samples

36.

Sample Name: I003				
Rock Name: Hornblende andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline~cryptocrystalline, no texture, fresh				
Phenocryst: Plagioclase, hornblende				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	200um-1mm	-30%	Small fragmental grains. Zoning, Abundant inclusions.
Hornblende	Euhedral-subhedral	200um-1.5mm	-20%	Border part: resorbed (Opaque mineral occurs). Oxidation?
Augite	Subhedral	200-300um	-5%	Only a few amounts, Unaltered.
Opaque	Granular	100um-1mm	-5%	Isolated or intergrowth with plagioclase, hornblende and pyroxene.
Groundmass: Hyalocrystalline-glassy				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Acicular	10-100 um	-5 %	minor amounts.
Glass			-30 %	Very weak devitrification.
Alteration:				

Table C-4 Observation Results of Thin Sections of Rock Samples

37.

Sample Name: I004				
Rock Name: Two-pyroxene (?) andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, cryptocrystalline ~ hyalocrystalline				
Phenocryst: Plagioclase, augite, hypersthene (? altered)				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	250um-1.5mm	-30%	Unaltered. Partly glomeroporphyritic. Fresh, twinning, Partly glomeroporphyritic. Completely altered to smectite, calcite.
Augite	Euhedral-subhedral	500um-1.5mm (max.3mm)	10-20%	
Hypersthene (?)	Subhedral			
Opaque	Anhedral-granular	200-400um	-5%	
Groundmass: Cryptocrystalline ~ hyalocrystalline				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	10-50 um	-20 %	Very weak fluidal texture.
	Lath			
Opaque	Granular	10-50 um	-10 %	Partly smectitized.
Glass			- 20 %	
Alteration: Hypersthene (?) completely alters to smectite/chlorite (?) and calcite. Augite; no alteration which paragenesis with hypersthene. Plagioclase; unaltered. In the groundmass; devitrification is not so strong.				

Table C-4 Observation Results of Thin Sections of Rock Samples

38.

Sample Name: I020				
Rock Name: Meta-granodiorite				
Field Description: Granodioritic rock				
Description under Microscopy				
Texture: Equigranular, granitic texture generally dusty and altered.				
Phenocryst: Plagioclase, quartz, hornblende (altered)				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral-anhedral	1-2mm	-60%	Slightly altered. Zoning: partly.
Quartz	Anhedral	200um-1mm	-10%	Patchy form, amoebic form. Fissure filling.
Hornblende	Subhedral	1- 2mm	10-15%	Altered intergrowth with actinolite chlorite and smectite.
K-feldspar	Anhedral	500um-1mm	-5%	Fissure filling.
Groundmass:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Opaque	Granular	100-500 um	-1 %	Adjacent to altered hornblende
Apatite	Tabular	50-200 um	- <1 %	
Zircon	Granular-pyramidal	50-100 um	- <<1 %	
Alteration: Hornblende (?) alters to actinolite, chlorite/smectite. Plagioclase: relatively fresh, partly sericitized with vermiculated form.				

Table C-4 Observation Results of Thin Sections of Rock Samples

39.

Sample Name: I041				
Rock Name: Obsidian (?)				
Field Description:				
Description under Microscopy				
Texture: Volcanic glass glassy~aphanitic, flow structure, weakly devitrified.				
Phenocryst: Plagioclase, augite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Tabular-anhedral	-1mm	<5%	Very few amount. Parallel to the fluidal structure.
Augite	Tabular-anhedral	200-600um	-1%>	Very few amount. Close to plagioclase phenocrysts.
Chalcedonic quartz	Colloform -spherulic	50-100 um	-10%	Secondary growth with colloform -spherulitic texture.
Groundmass: Volcanic glass with obsidian texture, in general, partly flow structure, Secondary chalcedonic quartz occupy interspaces.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Opaque Glass	Granular	10-30 um 70-80 um	-2 %	Scattered irregularly.
Alteration:				

Table C-4 Observation Results of Thin Sections of Rock Samples

40.

Sample Name: I077				
Rock Name: Altered porphyrite ~ porphyritic andesite (or microdiorite)				
Field Description: Altered andesite				
Description under Microscopy				
Texture: Subporphyritic, holocrystalline (subequigranular ~ subgranitic texture)				
Phenocryst: Plagioclase, altered mafic (biotite, chlorite/smectite).				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Anhedral-mosaic	1.2-2mm	-10%	Alteration is not strong.
Mafic (altered)	Subhedral-anhedral (flaky)	1-1.5mm	-10%	Biotitized (or vermiculite), Chloritization is remarkable. Original shapes are undetermined. (Hornblende?)
Groundmass: Microdioritic texture in general.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral-anhedral	300-800 um	-60 %	Mosaic
Mafic?	Subhedral-anhedral	100-500 um	5 %-	Aggregates (after hornblende)
Opaque	Granular	50-300 um	-5%	Scattered irregularly
Alteration: Mafic mineral; remarkably alters to biotite (?), chlorite/smectite.				

Table C-4 Observation Results of Thin Sections of Rock Samples

41.

Sample Name: I078				
Rock Name: Altered andesite				
Field Description: Silicified andesite				
Description under Microscopy				
Texture: Porphyritic, holocrystalline				
Phenocryst: Plagioclase				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	300um-2mm	-30%	Weak zoning. Fresh to completely altered
Groundmass: Strongly silicified, mosaic texture. Quartz occurs.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Anhedral-mosaic	10-50 um	-50 %	Strongly silicified?
Apatite	Euhedral-tabular	-200 um	-1 %	Primary; (in plagioclase)
Opaque	Granular	100-500 um	-2 %	Primary and secondary (resorbed products)
Alteration: Plagioclase phenocryst is partly fresh, partly strongly alters to calcite, epidote, chlorite and smectite. Groundmass: strongly silicified and quartz grains occurs.				

Table C-4 Observation Results of Thin Sections of Rock Samples

42.

Sample Name: J047				
Rock Name: Altered andesitic tuff (?)				
Field Description: andesitic tuff				
Description under Microscopy				
Texture: Fine tuff texture in general, partly porphyritic texture.				
Phenocryst: Plagioclase (altered)				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	1.5mm ±	-5% >	Altered. Partly fresh.
Mafic (?)	Subhedral	1-1.5mm	-5% >	Altered.
Opaque	Subhedral-granular	500um-1mm	-1%	
Groundmass: Plagioclase, opaque. Matrix part chlorite with patch form.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral Fragmental	50-200 um	-50 %	Lath shape, Skeletal form, Weak alteration (dusty)
Opaque	Granular	10-50 um	- 5 %	
Alteration: Plagioclase strongly alters to epidote, smectite, chlorite and calcite. Mafic mineral alters to chlorite and smectite/chlorite.				

Table C-4 Observation Results of Thin Sections of Rock Samples

43.

Sample Name: J053				
Rock Name: Altered granite				
Field Description: Granitic rock				
Description under Microscopy				
Texture: Equigranular, granitic texture. Mafic mineral; completely alters to epidote, chlorite.				
Phenocryst: Quartz, plagioclase, K-feldspar				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Anhedral	300um-1.2mm	30-40%	Intergrowth with mosaic form.
Plagioclase	Subhedral-anhedral	600um-1.5mm	20-30%	Plagioclase and K-feldspar; slightly alters to smectite and sericite.
K-feldspar	Anhedral	500um-1.2mm	-20%	
Mafic mineral	Subhedral-anhedral	500um-1.0mm	-10%	Original mineral is undetermined, Completely altered into epidote and chlorite.
Opaque	Granular	100-350um	-2%	Observed as accessory minerals.
Zircon	Prismatic	100-350um	- <1%	
Apatite	Acicular-tabular	100-200um	- <1%	
Groundmass:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Alteration: Felsic mineral is weakly altered. Plagioclase phenocryst and K-feldspar slightly alters to smectite and sericite by vermiculated form. Mafic mineral is completely altered into assemblage of tabular or radial form epidote and chlorite.				

Table C-4 Observation Results of Thin Sections of Rock Samples

44.

Sample Name: K020				
Rock Name: Augite andesite				
Field Description: Andesitic rock				
Description under Microscopy				
Texture: Porphyritic, cryptocrystalline-hyalocrystalline. Weak fluidal structure				
Phenocryst: Plagioclase, augite, opaque				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral (-subhedral)	200um-1.2mm	-40%	Weak fluidal structure Isolated or intergrowth with augite.
Augite	Euhedral (-subhedral)	200um-1.5mm	-20%	
Opaque	Subhedral-granular	50-300um	-5%	
Groundmass: Cryptocrystalline-hyalocrystalline				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Glass			-20%	Unaltered.
Plagioclase	Lath-prismatic Euhedral-subhedral	50-100um	-20%	Lath shape, irregular
Opaque	Granular	10-50um	-3%	Scattered in the matrix
Augite	Subhedral-granular	20-100um	-3%	Intersertal with plagioclase and glass
Alteration:				

Table C-4 Observation Results of Thin Sections of Rock Samples

45.

Sample Name: K047				
Rock Name: Altered dacite				
Field Description: Dacitic rock				
Description under Microscopy				
Texture: Porphyritic, (partly tuffaceous texture?)				
Phenocryst: Quartz, plagioclase, matrix part; hyalocrystalline texture				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Corroded, anhedral	200um-1.5mm	-20%	Corroded. Partly; medium-grains of quartz scattered (secondary?).
Plagioclase	Anhedral- subhedral	500um-1.2mm	-10%	Completely altered. Partly albitized.
Opaque	Anhedral- subhedral	100-500um	-3%	Pyrite? (from the form)
Mafic (?)	Granular Aggregate	50um-1.5mm		Completely alters to chlorite, chlorite/smectite. Part of original texture is glomeroporphyritic.
Groundmass: Quartz, plagioclase				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Anhedral-mosaic	30-200um	-30%	Weak alteration. Intergrowth with mosaic form part.
Plagioclase	Subhedral-mosaic	30-200um	-20%	Chlorite/smectite replaces plagioclase.
Alteration: Plagioclase alters to smectite, epidote, sericite and calcite (Quartz occurs scarcely). Mafic mineral alters to chlorite/smectite and chlorite (also opaque occurs).				

Table C-4 Observation Results of Thin Sections of Rock Samples

46.

Sample Name: K048				
Rock Name: Altered andesite-dacitic andesite				
Field Description: Dacite to andesite				
Description under Microscopy				
Texture: Porphyritic, hyalocrystalline, strong alteration (silicification)				
Phenocryst: Plagioclase, quartz				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Anhedral- subhedral	200um-1.5mm	-20%+	Diversity alterations, (Partly, completely altered, partly only albitization is observed). Borders of crystals strongly alters. Granularly scattered in the groundmass. Scattered in the grounmass
Quartz	Anhedral	200-400um	-10%	
Opaque	Subhedral-granular	100-400um	5-10%	
Groundmass: Quartz, plagioclase				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Anhedral	10-100um	-30%	Hyalocrystalline.
Plagioclase	Subhedral- anhedral (Partly lath shape)	50-100um	-20%	Densely occupy
<p>Alteration:</p> <p>Plagioclase; Strongly altered.</p> <p>Coarse crystals of quartz occur at the border part.</p> <p>Amorphous texture (maybe chalcedonic quartz?) occurs at the interior part.</p> <p>Alters to calcite, albite and chlorite/smectite</p> <p>Quartz;</p> <p>Secondary products of plagioclase.</p> <p>Alteration products of matrix materials.</p>				

Table C-4 Observation Results of Thin Sections of Rock Samples

47.

Sample Name: K068				
Rock Name: Altered dacite-andesitic tuff				
Field Description:				
Description under Microscopy				
Texture: Porphyritic				
Phenocryst: Plagioclase, quartz				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Subhedral- fragmental	200um-1mm	-20%	Fragmental; glomeroporphyritic. Partly strongly altered. Fragmental, occurs as patches. Disseminated
Quartz	Anhedral-fragmental	100-300um	-5%	
Opaque	Subhedral-granular	100-300um	-3%	
Groundmass: Plagioclase, quartz, opaque clay mineral: epidote, chlorite/smectite densely occurs.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Tabular-subhedral	10-100um	-40%	
Quartz	Fragmental			
Opaque	Patchy			
Epidote	Prismatic, radial			
Chlorite/smectite	Radial			
Alteration:				
<p>Plagioclase partly completely alters to epidote (assemblage of tabular~prismatic or radial form).</p> <p>Radial aggregated chlorite/smectite (?) occurs widely.</p> <p>Matrix is replaced by chlorite/smectite remarkably.</p>				

Table C-4 Observation Results of Thin Sections of Rock Samples

48.

Sample Name: L004				
Rock Name: Weakly altered augite andesite				
Field Description: Andesite				
Description under Microscopy				
Texture: Porphyritic, cryptocrystalline, intergranular-hyalocrystalline				
Phenocryst: Plagioclase, augite, opaque, few amount of hornblende, biotite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral- subhedral	300um-1.2mm	-30%	Partly alters as a vermiculated form (inner part). Sporadic poikilitic augite is included. Partly shows reaction form at the border. Isolated or close to augite. Reaction rim (resorbed) is observed.
Augite	Euhedral- subhedral	300um-1mm	-10%	
Opaque	Subhedral-granular	100-400um	-3%	
Hornblende	Flaky	300-500um	<1%	
Biotite	Flaky			
Groundmass: Plagioclase, augite, opaque. Intersertal texture, cryptocrystalline				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral Lath shape	10-100um	20-30%	Weak fluidal texture. Distributed as an intersertal form.
Augite	Granular	-10um	- <1%	
Opaque	Granular	10-50um	-5%	
Glass			10-20%	
Alteration: Plagioclase; Partly plagioclase phenocryst is alters to chlorite/smectite forming vermiculated shape.				

Table C-4 Observation Results of Thin Sections of Rock Samples

49.

Sample Name: L028-1				
Rock Name: Altered basaltic andesite				
Field Description: Basic andesite				
Description under Microscopy				
Texture: Fluidal, porphyritic, hyalocrystalline				
Phenocryst: Plagioclase, altered mafic mineral, opaque, fluidal structure				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	euhedral- subhedral	200um-1.5mm	-30%	A part alters as a vermiculated form.
Altered mafic	Euhedral- subhedral	1-2mm	10-15%	Completely altered (originate mineral; olivine?).
Augite	Euhedral- subhedral	1-15mm	-3%	Large phenocrysts occur close to plagioclase. Weak alteration.
Groundmass:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	20-100um	20-30%	Fluidal texture with laths of plagioclase.
Glass	Lath, acicular		30%±	Weak devitrification.
Opaque	Granular	100-300um	<1%	Occurs as intersertal form.
Augite	Subhedral-granular	100-200um	-1%	
Alteration:				
Plagioclase alters as vermiculated form.				
Mafic mineral alters to chlorite/smectite and carbonate (?) with pseudomorphic texture.				

Table C-4 Observation Results of Thin Sections of Rock Samples

50.

Sample Name: L028-2				
Rock Name: Altered basaltic andesite				
Field Description: Same as L028-1				
Description under Microscopy				
Texture:				
Phenocryst:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Groundmass:				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Alteration:				
<p>Plagioclase phenocryst alters to chlorite/smectite (radial flaky aggregate) with vermiculated form.</p> <p>Olivine (?) alters to chlorite/smectite (saponite?), partly chalcedonic quartz occurs.</p> <p>Carbonate (dolomite or magnesite?) occurs as secondary products.</p>				

Table C-4 Observation Results of Thin Sections of Rock Samples

51.

Sample Name: L029				
Rock Name: Altered (silicified-carbonatized) dacite				
Field Description: Dacite				
Description under Microscopy				
Texture: Porphyritic, matrix: weakly fluidal texture. Hyalocrystalline (?) - cryptocrystalline				
Phenocryst: Plagioclase, quartz				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	400um-1mm	15-20%	Partly; glomeroporphyritic.
Quartz	Anhedral-mosaic	500-800 um	5-10%	Fragmental, primary (?).
Opaque	Subhedral	100-200 um	-2%	Isolated or close to plagioclase.
Groundmass: Plagioclase, quartz, apatite				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Acicular-lath	5-100 um	20-3- 10-15%	Laths with flow structure.
Quartz	Anhedral-mosaic	50-100 um	<1%	At the matrix part: observed as pool or mosaic form (secondary alteration).
Apatite	Prismatic	50-100 um	-5%	Close to plagioclase.
Opaque	Granular	10-100 um	-10%	
Glass				Devitrification is weak.
Alteration: Vesiculars, filled by calcite. Groundmass, replaced by calcite in fissures or as replacement. Strongly silicified. Partly; plagioclase alters to quartz, calcite, chlorite/smectite and small amount of epidote (pseudomorphic texture). Quartz veinlets also develops.				

Table C-4 Observation Results of Thin Sections of Rock Samples

52.

Sample Name: L033				
Rock Name: Strongly altered (sericitized-silicified) dacite				
Field Description: Dacitic rock				
Description under Microscopy				
Texture: porphyritic, strongly altered (sericitized, silicified)				
Phenocryst: Plagioclase, quartz				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral	1-2mm	-20%	Completely altered (sericitized, silicified).
Quartz	Corroded-anhedral	500um-2mm	-20%	Overgrowth by silicification is observed.
Groundmass: Quartz occurs as silicification products. Small amount of sericite occurs in the interspaces of quartz grains.				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Quartz	Granular-mosaic	20-100um	-50%	Derived from hydrothermal alteration of the original groundmass.
Sericite	Flaky	10-50um	-5%	
Alteration: Plagioclase phenocryst and matrix part is strongly altered. Phenocryst; sericite, quartz, limonite and hematite occurs as secondary products (remaining of fringes form; pseudomorphically).				

Table C-4 Observation Results of Thin Sections of Rock Samples

53.

Sample Name: L045				
Rock Name: Two-pyroxene basaltic andesite				
Field Description: Basic andesite				
Description under Microscopy				
Texture: Porphyritic, hyalocrystalline, fluidal texture				
Phenocryst: Plagioclase, augite, hypersthene, opaque				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Euhedral-subhedral	800um-1.5mm	25-30%	Isolated or glomeroporphyritic. Partly ophitic texture, in intergrowth with pyroxene. Weak alteration
Augite	Euhedral-subhedral	600um-1.2mm	10-15%	Independent or together with plagioclase. Weak alteration
Hypersthene	Euhedral-subhedral		-5%	
Opaque	Subhedral-granular	200-600um	-5%	
Groundmass: Intersertal texture, fluidal texture Plagioclase, augite, opaque, glass				
Mineral	Grain Shape	Grain Size	Volume Ratio	Description
Plagioclase	Acicular-lath (microlite-like)	50-100um	20-30%	Poikilitic texture-fluidal texture is observed.
Augite	Granular-	10-20um	-5%	Pl+Au+Op+glass=40%. Glassy texture with fluidal texture is observed with intersertal form.
Opaque	(subhedral)	10-30um	-5%	
Glass	Granular Intersertal		10-20%	
Alteration: Plagioclase partly alters to chlorite/smectite with vermiculated form. Generally weak alteration.				