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LIST OF APPENDICES

APPENDIX 1. DRILLCORE LOGGING

Appendix 1A: Drillholes logged at El Teniente

Drillhole (DDH)	*Northing (mine grid)*	*Easting (mine grid)*	*Elevation (m asl)*	*Azimuth*	*Angle*	*Depth*
Section-83 (1000N)						
1300	1059	742	2283	0	-90	1772'
1134	1016	515	2180	263	-45	1020'
1738	1012	515	2180	270	+8	450m
1698	1074	911	1960	83	-4	1170'
1689	1074	890	1960	263	-3	1050'
1530	1080	387	2283	263	-45	750m
1889	1054	1034	2075	264	-17	283m
1291	1016	560	2286	0	-90	1563'
945	1065	945	2180	84	0	1868'
1306	1065	820	2283	0	-90	1000'
1565	997	218	2282	0	-90	546m
1666	1074	1087	1987	263	-47	1322'
1525	1017	384	2283	84	-34	425m'
Section-124 (0N)						
1512	81	1381	2286	263	-25	1480'
1529	123	1640	2286	263	-73	1804'
1486	63	1383	2286	263	-50	1740'
855	108	1280	2362	83	0	1700'
1473	84	1387	2286	84	-25	1445'
1463	83	1387	2286	83	-50	1480'
1319	83	1387	2378	0	-90	392m
1317	96	1270	2378	263	+45	172m
1314	96	1270	2378	84	+40	875'
1272	104	1078	2474	0	-90	676'
Section-239 (oblique)						
1429	-408	301	2250	194	-85	1800'
1409	-385	644	2284	194	-25	1684'
1418	-385	645	2287	194	+35	1392'
1413	-385	645	2287	194	-6	1658'
1423	-385	645	2284	194	-40	1640'
1425	-385	645	2285	194	-62	1380'
1981	-580	620	2378	194	+45	340m
1045	-402	620	2620	194	-45	310m
Other						
1111	132	29		83	-45	1224'
2047	92	117		98	-30	
1316	1199	721		263	-87	
1676	511	1114	2289	133	-53	2144'
1505	621	561	2163	167	-18	650m
1091A	216	754	1983	195	-62	
1068	218	755	1982	91	-85	3325'
1680	515	1197	2289	138	-65	1330'
1079	220	753	1983	332	-62	2690'
1045	629	441	2629	166	-70	1576'

Note: Drillhole logs are stored at CODES. If copies are required please contact the author.

Appendix 1B. Logging scheme for the Teniente host sequence

One of the objectives of the study was to formulate a logging classification scheme for the Teniente host sequence to enable the different units to be consistently logged by various workers. Detailed lithological logging of the Teniente host sequence had not been previously undertaken at El Teniente, due to the lack of textural or colour contrast between facies units, poor quality of the hydraulically split NQ (35mm) core, and time-consuming nature of the task. The intense alteration of the mine andesites precludes a detailed volcanological – sedimentalogical study taking place as subtle textures (e.g., McPhie et al., 1993) and contact relations have generally been destroyed. The logging scheme for the mine andesites relies on two main features:

- the presence and nature of brecciation (Table A1).
- for unbrecciated mine andesite lithotypes, a textural logging scheme, presented in Table A2, describes the morphology of the feldspar phenocrysts, which are preserved in all but the most altered intervals.

Logging of the type of brecciation (Table A1) simply relies on identification of clasts, followed by identification of the breccia cement. However, it still may be ambiguous identifying volcaniclastic breccias from hydrothermal biotite breccias. The textural code (Table A2) is designed for macroscopic logging, and the principle lithotypes can usually be distinguished with the use of a hand lens. However, microscopic examination may be required to positively identify the fine grained lithologies, or the lithotypes in strongly-altered intervals. Intense biotite or sericite alteration results in total textural destruction, in which case lithological identification is impossible.

During the logging of approximately 20km of core, the Teniente host sequence units were classified using the above logging schemes. For example, the logging code V_2e (<30%) refers to a medium grained andesite with <30% euhedral phenocrysts. V_1sqx (50%) describes a fine grained crystal-rich rock (approximately 50% phenocrysts) with subhedral, equant phenocrysts in contact with each other.

This purely descriptive logging scheme makes no genetic interpretation about the rock type, but simply allows textural variants to be identified and correlated between drillholes. Interpretation of the nature and origin of the rock type can take place after the distribution of the textural variants has been ascertained on cross section. Sections-83, -124, and 239 (Figs 3.2, 3.3, 3.4 respectively) were logged using this method.

Presence of clasts	*Breccia cement*	*Features of biotite-rich breccias*	
Clasts visible	dark grey, biotite-rich	Polymictic, clasts variably altered, ± quartz vein fragments, inclined to vertical orientation, common at felsic intrusive contacts	**Hydrothermal biotite breccia** (Chapter 4.5)
		sub-horizontal (<30°), associated with coherent facies, polymictic - monomictic, ± peperite	**Volcaniclastic breccia** (Chapter 3.2)
	Pale felsic-intermediate igneous	**Igneous breccia** (e.g., Skewes et al., 2002, Chapter 3.3)	
	Hydrothermal quartz – anhydrite – biotite – tourmaline – sulfide.	**Hydrothermal breccias** (see Chapter 4)	
	Rock flour	**Braden Breccia** (or pebble dykes – see Chapter 3.4)	
No clasts visible	Unbrecciated lithology		

Table A1. First-stage logging subdivision of the Teniente mine andesite lithologies

Phenocryst size	*Phenocryst form*	*Phenocryst abundance*
V_1 – Fine grained andesite (<2mm plagioclase phenocrysts)	e – euhedral	(0-60%)
V_2 – Medium grained andesite (2mm<plag phenos<3.5mm)	s – subhedral	
V_3 – Coarse andesite (phenocrysts >3.5mm)	a – anhedral	
	q – equant	
	p – polycrystalline aggregates	
	x – crystal supported	
	g – groundmass supported	

Table A2. Mine andesite textural codes for unbrecciated lithotypes.

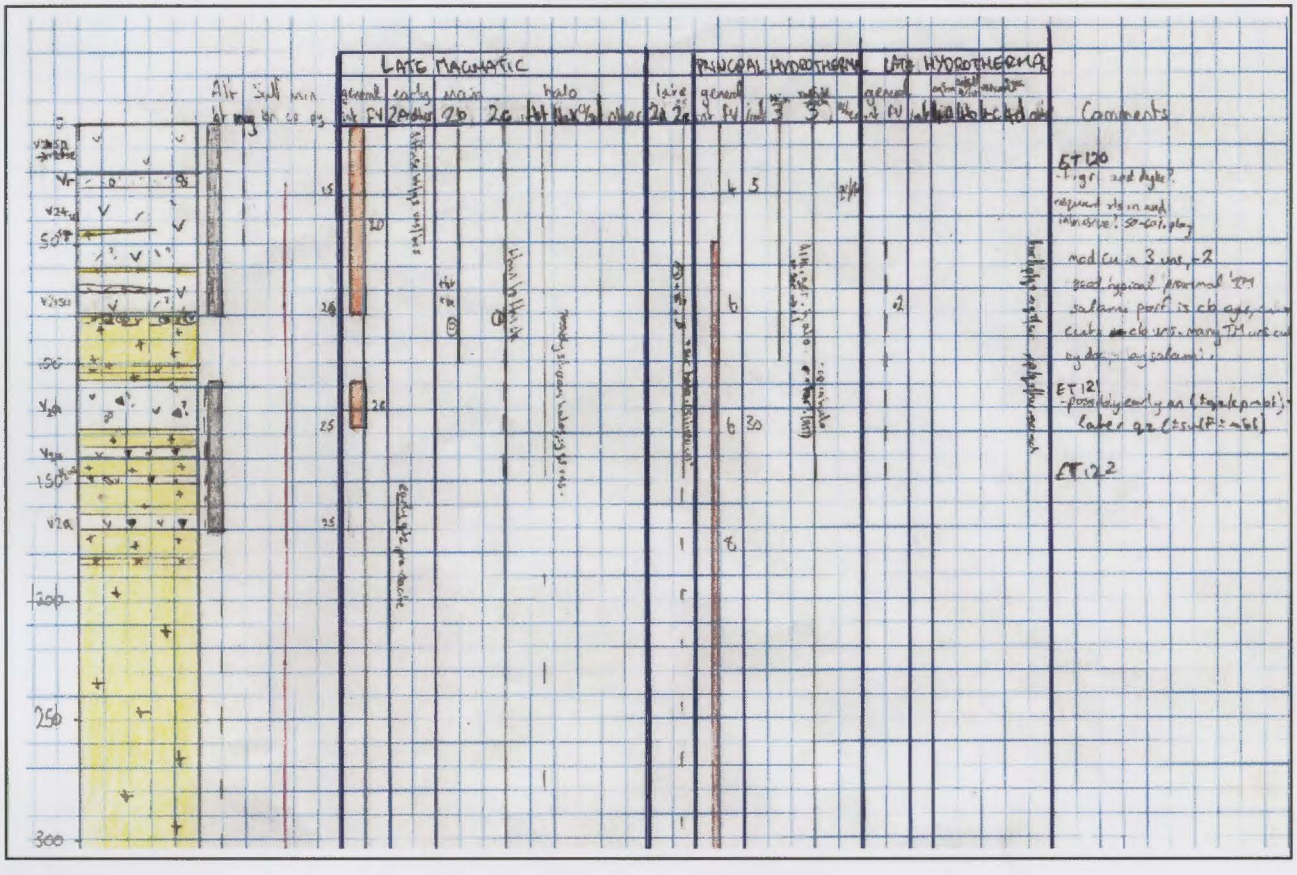
Appendix 1C. Sample drill log and vein/alteration logging

Below is a part of the summary sample drill log for DDH1134, to illustrate the veining/alteration features recorded during logging of the drill core.

The graphical log on the left depicts the rock type (in this example the scale is in feet). The dacite porphyry is yellow with crosses, and the dashes and v's represent different textural units of the Teniente host sequence. Solid triangles indicate biotite breccias.

The alteration (Alt) column plots the intensity of biotite (bt) and early magnetite (mag) alteration intensity. The thick grey line in the Teniente host sequence adjacent to the dacite porphyry represents intense texturally destructive biotite alteration, whereas a thin dashed line, for example inside the dacite porphyry, is low intensity selectively pervasive alteration. The dashed line in the magnetite column indicates trace early magnetite alteration assemblage in this interval.

The sulfide mineral (sulf min) column plots the sulfides as a proportion of bornite-chalcopyrite or chalcopyrite-pyrite. The line plotted in the example below indicates that 80% of the sulfides are chalcopyrite and the remaining 20% are bornite.



In the first Late Magmatic column the number (FV) refers to veins / linear m, and the bar graph a general indication of veining intensity (i.e., also taking into account vein thickness and thickness of halos). Note that LM veins in this interval are higher in the Teniente host sequence than in the dacite porphyry. The subsequent columns note the presence (solid line or dashed line) or absence of type 2A, 2b, 2c, 2d, and 2e veins. Notes on vein mineralogy and textures are also written in the columns. Biotite (bt), Na-K-feldspar (Na-K), or chlorite-sericite (cl-ser) halos around the LM veins are noted in the halo columns.

In the Principal Hydrothermal column the first columns refer to general vein intensity (int) and number of veins/metre (FV). The next column denotes the percentage of the rock altered to PH phyllic alteration assemblage (%alt). The following columns refer to the presence or absence of principal hydrothermal veins types, and notes on their

mineralogy/features. The Late Hydrothermal columns are similar to the Principal Hydrothermal columns, recording, in order, overall LH vein intensity and abundance, percentage LH phyllic alteration intensity, and presence or absence of vein types 4a, 4b, 4c and 4d.

The final comments column records sample numbers of samples where taken, photographs, vein-intrusion-alteration paragenetic information, and other features of note.

Appendix 2A, El Teniente biotite compositions

All elemental analyses were performed on carbon coated polished thin sections using a Cameca SX50 electron microprobe at eth Central Science Laboratory, University of Tasmania, by Dr. David Steel
Beam current: 25nA
Acceleration voltage: 15kV

Label (single points)	Alteration zone	biotite form	SiO2	TiO2	Al2O3	Cr2O3	FeO	V2O3	ZnO	MnO	MgO	CaO	Na2O	K2O	BaO	SrO	NiO	F	Cl	H2O(c)	O=F	O=Cl	Sum Ox%
124igbt-1-1	potassic-biotite	primary	37.97	4.13	14.57	0.02	15.14	0.07	0.2	0	15.07	0	0.17	9.42	0.2	0	0.01	0.73	0.15	3.69	0.31	0.03	101.21
124igbt-1-2-1	potassic-biotite	primary	37.75	4.24	14.78	0	14.62	0.04	0.02	0.05	14.63	0.01	0.13	9.58	0.13	0	0	0.72	0.16	3.66	0.3	0.04	100.16
et47bttdiss-1-1	potassic-biotite	disseminated	38.42	3.29	14.83	0	15.56	0.08	0.11	0.13	14.03	0.04	0.09	9.58	0	0	0.03	0.35	0.17	3.84	0.15	0.04	100.37
101-dissbt-1-9-1	potassic-biotite	disseminated	38.14	3.54	14.95	0	15.75	0.03	0	0.13	14.66	0.01	0.19	9.57	0	0	0	0.33	0.14	3.88	0.14	0.03	101.17
101-dissbt-8-1	potassic-biotite	disseminated	37.89	3.33	15.18	0	15.01	0.07	0	0.21	14.3	0.02	0.11	9.48	0	0	0.07	0.3	0.11	3.86	0.13	0.02	99.79
201brbtdiss-1-1	potassic-biotite	disseminated	37.07	2.77	16.56	0.02	14.79	0.1	0.05	0.19	13.35	0.08	0.15	9.78	0	0	0.03	0.4	0.09	3.79	0.17	0.02	99.04
201brbtdiss-1-2-1	potassic-biotite	disseminated	37.41	2.91	16.64	0	13.94	0.08	0	0.26	14.32	0	0.14	9.99	0	0	0.04	0.37	0.08	3.85	0.16	0.02	99.85
201brbtdiss-2-3-1	potassic-biotite	disseminated	38.09	3.06	15.98	0	14.42	0.11	0.06	0.19	14.83	0.05	0.11	9.52	0	0	0.03	0.34	0.15	3.88	0.15	0.03	100.64
201brbtdiss-3-4-1	potassic-biotite	disseminated	38.42	2.53	16.3	0.02	13.27	0.12	0	0.19	14.96	0.01	0.12	9.82	0	0	0	0.31	0.11	3.9	0.13	0.02	99.91
et334_bt1-5-1	potassic-biotite	disseminated	38.56	2.19	18.18	0	10.67	0.07	0.06	0.11	16.14	0.07	0.25	9.51	0.02	0	0	0.64	0.08	3.82	0.27	0.02	100.07
et334_btcrse2-6-1	potassic-biotite	disseminated	38.44	3.03	17.43	0	10.6	0.22	0.15	0.13	16.42	0.07	0.27	9.69	0	0	0.05	0.56	0.11	3.87	0.24	0.02	100.77
66-dissbt-1-8-1	potassic-biotite	disseminated	37.54	1.81	18.06	0.03	15.12	0.01	0.07	0.22	13.05	0.67	0.48	8.06	0	0	0.01	0.32	0.07	3.87	0.14	0.02	99.25
66-dissbt-7-1	potassic-biotite	disseminated	41.54	2.55	18.18	0.03	13.27	0.02	0.05	0.16	11.43	0.55	1.71	8.17	0	0	0.09	0.23	0.06	4.1	0.1	0.01	102.03
77-dissbt-1-9-1	potassic-biotite	disseminated	36.61	2.59	18.38	0.01	14.93	0.09	0.05	0.15	12.97	0	0.12	9.96	0	0	0.04	0.33	0.15	3.85	0.14	0.03	100.05
77-dissbt-8-1	potassic-biotite	disseminated	37.59	2.61	17.69	0.07	14.38	0.06	0.05	0.1	13.32	0.01	0.21	9.82	0	0	0	0.28	0.12	3.9	0.12	0.03	100.06
183dissbt-1-1	Na-K-feldspar	disseminated	36.8	3.71	17.48	0.02	12.92	0.12	0	0.21	13.62	0.01	0.1	9.93	0	0	0.01	0.22	0.06	3.91	0.09	0.01	99.03
183dissbt-1-2-1	Na-K-feldspar	disseminated	36.8	2.82	18.1	0.03	13.82	0.07	0.13	0.22	13.84	0.03	0.11	9.94	0	0	0.04	0.17	0.07	3.96	0.07	0.02	100.07
183dissbt-3-4-1	Na-K-feldspar	disseminated	35.66	1.2	20.1	0	13.75	0.01	0	0.18	14.51	0.05	0.13	7.97	0	0	0.02	0.14	0.05	3.93	0.06	0.01	97.63
et344_bt1-1-1	Na-K-feldspar	disseminated	37.44	2.25	19.18	0.02	9.76	0.14	0	0.07	16.27	0.05	0.31	9.81	0	0	0.03	0.65	0.06	3.81	0.27	0.01	99.59
et344_bt2-2-1	Na-K-feldspar	disseminated	38.63	2.11	19.18	0	8.63	0.06	0.03	0.1	16.78	0	0.28	9.82	0	0	0.04	0.74	0.04	3.82	0.31	0.01	99.95
et344_bt3-3-1	Na-K-feldspar	disseminated	36.9	2.36	20.19	0.01	10.35	0.08	0	0.09	15.86	0.01	0.33	9.95	0	0	0	0.58	0.07	3.86	0.24	0.01	100.37
66-silvergnbt-10-1	early magnetite	disseminated	38.58	1.81	17.04	0	14.95	0.02	0.13	0.23	13.66	0.1	0.14	9.38	0	0	0.03	0.15	0.08	3.98	0.06	0.02	100.19
66-silvergnbt-13-1	early magnetite	disseminated	38.24	1.47	18.28	0.04	13.68	0.01	0.02	0.16	12.35	0.58	0.12	9.56	0	0	0	0.29	0.05	3.88	0.12	0.01	98.62
77-silvergnbt-1-12-1	early magnetite	disseminated	36.75	2.85	17.49	0	17.07	0.03	0.04	0.15	12.09	0.06	0.11	9.79	0	0	0.06	0.2	0.14	3.89	0.09	0.03	100.62
221gnbtdiss-1-1	transitional-biotite	disseminated	37.6	1.87	17.76	0.01	15.33	0.02	0.04	0.31	11.99	0.03	0.11	9.63	0	0	0	0.37	0.11	3.8	0.16	0.02	98.78
221gnbtdiss-1-2-1	transitional-biotite	disseminated	37.92	2.16	17.5	0.04	15.52	0.05	0.01	0.2	12.42	0.09	0.11	9.87	0.02	0	0	0.28	0.11	3.88	0.12	0.02	100.03
221gnbtdiss-2-3-1	transitional-biotite	disseminated	35.83	1.77	17.66	0	17.77	0.01	0.09	0.25	13.33	0.13	0.09	7.5	0.05	0	0.05	0.24	0.1	3.83	0.1	0.02	98.57
221gnbtdiss-3-4-1	transitional-biotite	disseminated	37.1	1.97	18.34	0.02	15.67	0.01	0	0.23	12.18	0.04	0.06	9.71	0	0	0.01	0.26	0.11	3.87	0.11	0.03	99.44
221gnbtdiss-4-5-1	transitional-biotite	disseminated	36.63	2.13	18.47	0.03	15.84	0.04	0.14	0.13	11.87	0	0.08	10.03	0.08	0	0.07	0.21	0.11	3.88	0.09	0.03	99.64
232btdissem-1-8-1	transitional-biotite	disseminated	37.6	1.43	16.95	0.08	13.79	0.09	0.1	0.14	15.27	0.02	0.09	9.91	0.17	0	0.03	0.16	0.06	3.96	0.07	0.01	99.75
232btdissem-4-1	transitional-biotite	disseminated	39.57	1.2	15.33	0.1	12.64	0.06	0.02	0.11	16.88	0	0.11	9.34	0.02	0	0	0.2	0.06	3.98	0.09	0.01	99.55
232btdissemmagass-1-6-1	transitional-biotite	disseminated	38.29	1.8	16.13	0.02	13.58	0.14	0	0.13	15.51	0.03	0.08	9.8	0	0	0.07	0.19	0.06	3.95	0.08	0.01	99.69
232btdissemmagass-2-7-1	transitional-biotite	disseminated	39.63	1.61	14.8	0.01	13.78	0.05	0	0.15	15.53	0.02	0.07	9.5	0.08	0	0	0.22	0.04	3.95	0.09	0.01	99.32
232btdissemmagass-5-1	transitional-biotite	disseminated	39.08	1.57	15.65	0.04	12.44	0.08	0	0.08	16.38	0.02	0.11	9.43	0.05	0	0.01	0.2	0.05	3.96	0.08	0.01	99.08
149-dissbt-1-7-1	transitional-biotite	disseminated	39.75	1.6	15.78	0.08	13.61	0.1	0	0.08	15.56	0.05	0.15	8.95	0.13	0	0	0.17	0.06	4.01	0.07	0.01	100
149-dissbt-6-1	transitional-biotite	disseminated	38.68	1.82	17.18	0.02	13.01	0.09	0.1	0.11	14.98	0	0.14	9.4	0	0	0.05	0.16	0.07	4	0.07	0.02	99.73
62bt3vnhalo-2-4-1	transitional-biotite	vein halo	39.19	1.62	16.58	0	14.06	0.05	0	0	14.33	0	0.05	9.94	0.07	0	0	0.32	0.08	3.91	0.13	0.02	100.05
62bt3vnhalo-3-1	transitional-biotite	vein halo	38.95	1.53	15.92	0	14.95	0.02	0.02	0.19	14.91	0	0.04	9.42	0	0	0	0.34	0.06	3.89	0.14	0.01	100.1
et241_biot1-1-1	transitional-biotite	disseminated	38.49	1.88	16.52	0	13.8	0.04	0.07	0.11	13.81	0.02	0.06	9.7	0	0	0.03	0.3	0.08	3.86	0.13	0.02	98.65

Label (single points)	Si	Ti	Al/Al IV	Al VI	Cr	Fe2+	V	Zn	Mn2+	Mg	Ca	Na	K	Ba	Sr	Ni	F	Cl	OH	Sum Ca	mg No.	Oct	Int
124igbt-1-1	5.586	0.457	2.414	0.112	0.003	1.863	0.008	0.021	0	3.304	0	0.049	1.769	0.011	0	0.001	0.338	0.038	3.625	19.597	0.64	5.76	1.829
124igbt-1-2-1	5.595	0.473	2.405	0.177	0	1.812	0.004	0.002	0.006	3.232	0.001	0.038	1.811	0.007	0	0	0.338	0.04	3.622	19.564	0.641	5.702	1.857
et47bttdiss-1-1	5.692	0.366	2.308	0.282	0	1.928	0.009	0.012	0.017	3.099	0.006	0.027	1.81	0	0	0.004	0.162	0.042	3.796	19.561	0.616	5.708	1.843
101-dissbt-1-9-1	5.612	0.392	2.388	0.205	0	1.939	0.004	0	0.016	3.214	0.002	0.054	1.797	0	0	0	0.156	0.034	3.81	19.623	0.624	5.766	1.853
101-dissbt-8-1	5.633	0.372	2.367	0.293	0	1.866	0.008	0	0.026	3.168	0.003	0.032	1.798	0	0	0.009	0.143	0.027	3.83	19.576	0.629	5.735	1.833
201brbtdiss-1-1	5.559	0.313	2.441	0.487	0.003	1.854	0.012	0.006	0.024	2.984	0.013	0.045	1.871	0	0	0.003	0.191	0.022	3.786	19.615	0.617	5.674	1.93
201brbtdiss-1-2-1	5.544	0.324	2.456	0.45	0	1.728	0.009	0	0.032	3.163	0	0.041	1.888	0	0	0.004	0.174	0.02	3.806	19.639	0.647	5.701	1.929
201brbtdiss-2-3-1	5.594	0.338	2.406	0.36	0	1.772	0.013	0.006	0.023	3.247	0.008	0.031	1.784	0	0	0.003	0.16	0.038	3.801	19.585	0.647	5.75	1.822
201brbtdiss-3-4-1	5.651	0.279	2.349	0.477	0.002	1.632	0.014	0	0.024	3.281	0.002	0.033	1.842	0	0	0	0.145	0.026	3.829	19.586	0.668	5.695	1.878
et334_bt1-5-1	5.576	0.238	2.424	0.674	0	1.291	0.008	0.007	0.013	3.478	0.011	0.069	1.755	0.001	0	0	0.291	0.02	3.689	19.544	0.729	5.701	1.835
et334_btcrse2-6-1	5.541	0.328	2.459	0.501	0	1.278	0.026	0.016	0.015	3.529	0.011	0.076	1.782	0	0	0.006	0.256	0.026	3.717	19.567	0.734	5.673	1.868
66-dissbt-1-8-1	5.563	0.202	2.437	0.718	0.004	1.874	0.001	0.008	0.028	2.883	0.106	0.137	1.524	0	0	0.002	0.152	0.019	3.829	19.486	0.606	5.718	1.768
66-dissbt-7-1	5.898	0.273	2.102	0.939	0.004	1.575	0.002	0.005	0.02	2.419	0.084	0.47	1.481	0	0	0.01	0.105	0.016	3.88	19.281	0.606	5.244	2.035
77-dissbt-1-9-1	5.434	0.289	2.566	0.65	0.001	1.853	0.011	0.006	0.018	2.87	0	0.033	1.885	0	0	0.004	0.155	0.038	3.807	19.622	0.608	5.692	1.918
77-dissbt-8-1	5.55	0.289	2.45	0.628	0.008	1.775	0.007	0.006	0.013	2.932	0.001	0.061	1.85	0	0	0	0.133	0.029	3.838	19.57	0.623	5.651	1.912
183dissbt-1-1	5.471	0.415	2.529	0.534	0.002	1.606	0.014	0	0.027	3.018	0.001	0.03	1.882	0	0	0.001	0.104	0.014	3.882	19.531	0.653	5.603	1.914
183dissbt-1-2-1	5.435	0.313	2.565	0.586	0.004	1.707	0.008	0.015	0.027	3.048	0.005	0.032	1.873	0	0	0.005	0.08	0.018	3.902	19.623	0.641	5.705	1.91
183dissbt-3-4-1	5.328	0.135	2.672	0.868	0	1.718	0.001	0	0.023	3.232	0.009	0.037	1.519	0	0	0.003	0.067	0.012	3.921	19.544	0.653	5.98	1.565
et344_bt1-1-1	5.437	0.246	2.563	0.72	0.002	1.186	0.017	0	0.009	3.522	0.009	0.089	1.818	0	0	0.004	0.3	0.014	3.687	19.619	0.748	5.688	1.915
et344_bt2-2-1	5.542	0.228	2.458	0.786	0	1.036	0.007	0.003	0.013	3.59	0	0.079	1.797	0	0	0.004	0.337	0.01	3.653	19.542	0.776	5.659	1.876
et344_bt3-3-1	5.334	0.257	2.666	0.774	0.001	1.251	0.009	0	0.011	3.417	0.001	0.093	1.834	0	0	0	0.264	0.016	3.72	19.647	0.732	5.71	1.928
66-silvergnbt-10-1	5.68	0.201	2.32	0.636	0	1.841	0.002	0.015	0.028	2.997	0.016	0.039	1.761	0	0	0.003	0.071	0.02	3.909	19.54	0.62	5.722	1.815
66-silvergnbt-13-1	5.687	0.165	2.313	0.892	0.005	1.702	0.001	0.003	0.021	2.738	0.092	0.036	1.815	0	0	0	0.137	0.012	3.851	19.468	0.617	5.525	1.943
77-silvergnbt-1-12-1	5.476	0.319	2.524	0.547	0	2.127	0.004	0.005	0.019	2.684	0.01	0.032	1.861	0	0	0.007	0.096	0.035	3.869	19.614	0.558	5.707	1.903
221gnbtdiss-1-1	5.639	0.211	2.361	0.778	0.001	1.923	0.002	0.004	0.039	2.68	0.005	0.031	1.842	0	0	0	0.175	0.028	3.797	19.516	0.582	5.635	1.878
221gnbtdiss-1-2-1	5.625	0.241	2.375	0.685	0.005	1.925	0.006	0.001	0.025	2.746	0.014	0.031	1.867	0.001	0	0	0.13	0.027	3.843	19.547	0.588	5.628	1.913
221gnbtdiss-2-3-1	5.413	0.201	2.587	0.558	0	2.245	0.001	0.01	0.031	3.001	0.021	0.025	1.445	0.003	0	0.006	0.117	0.026	3.857	19.548	0.572	6.053	1.494
221gnbtdiss-3-4-1	5.538	0.222	2.462	0.765	0.003	1.956	0.001	0	0.029	2.709	0.006	0.017	1.848	0	0	0.002	0.121	0.029	3.85	19.558	0.581	5.685	1.872
221gnbtdiss-4-5-1	5.484	0.24	2.516	0.744	0.004	1.984	0.005	0.016	0.017	2.65	0	0.024	1.917	0.005	0	0.009	0.099	0.029	3.873	19.612	0.572	5.662	1.946
232btdissem-1-8-1	5.57	0.159	2.43	0.529	0.009	1.708	0.01	0.011	0.018	3.372	0.003	0.025	1.872	0.01	0	0.004	0.073	0.016	3.911	19.73	0.664	5.811	1.909
232btdissem-4-1	5.797	0.132	2.203	0.444	0.012	1.549	0.008	0.003	0.013	3.687	0	0.032	1.746	0.001	0	0	0.094	0.016	3.89	19.626	0.704	5.84	1.778
232btdissemmagass-1-6-1	5.654	0.2	2.346	0.461	0.002	1.677	0.017	0	0.017	3.413	0.005	0.023	1.845	0	0	0.008	0.091	0.016	3.893	19.668	0.671	5.777	1.874
232btdissemmagass-2-7-1	5.856	0.179	2.144	0.433	0.001	1.702	0.006	0	0.019	3.421	0.002	0.019	1.791	0.005	0	0	0.101	0.01	3.889	19.578	0.668	5.756	1.817
232btdissemmagass-5-1	5.755	0.174	2.245	0.471	0.004	1.532	0.01	0	0.011	3.596	0.003	0.031	1.772	0.003	0	0.002	0.093	0.012	3.894	19.608	0.701	5.789	1.809
149-dissbt-1-7-1	5.805	0.176	2.195	0.521	0.01	1.663	0.012	0	0.01	3.388	0.008	0.041	1.668	0.007	0	0	0.08	0.014	3.906	19.504	0.671	5.767	1.725
149-dissbt-6-1	5.667	0.2	2.333	0.634	0.002	1.595	0.01	0.011	0.013	3.271	0.001	0.041	1.758	0	0	0.006	0.073	0.017	3.911	19.542	0.672	5.732	1.799
62bt3vnhalo-2-4-1	5.759	0.179	2.241	0.63	0	1.728	0.006	0	0	3.137	0	0.015	1.862	0.004	0	0	0.148	0.019	3.833	19.562	0.645	5.675	1.881
62bt3vnhalo-3-1	5.738	0.17	2.262	0.502	0	1.842	0.003	0.002	0.024	3.275	0	0.011	1.77	0	0	0	0.159	0.015	3.826	19.599	0.64	5.815	1.781
et241_biot1-1-1	5.736	0.211	2.264	0.637	0	1.72	0.005	0.008	0.014	3.066	0.003	0.018	1.844	0	0	0.004	0.143	0.021	3.836	19.531	0.641	5.66	1.865

Label	Alteration	biotite	SiO2	TiO2	Al2O3	Cr2O3	FeO	V2O3	ZnO	MnO	MgO	CaO	Na2O	K2O	BaO	SrO	NiO	F	Cl	H2O(c)	O=F	O=Cl	Sum Ox%
et241_biot2-2-1	transitional-biotite	disseminated	37.81	1.95	17.02	0.02	14.25	0.06	0.04	0.12	13.61	0	0.05	9.77	0.04	0	0.01	0.26	0.08	3.87	0.11	0.02	98.84
et241_biot3-3-1	transitional-biotite	disseminated	37.48	1.93	17.33	0.04	14.24	0.1	0	0.15	13.46	0.19	0.22	9.71	0.01	0	0.02	0.26	0.13	3.86	0.11	0.03	99
62btdissem-1-1	transitional-biotite	disseminated	39.19	1.67	16.19	0.02	13.01	0.01	0.06	0.09	15.43	0	0.05	9.84	0	0	0	0.34	0.07	3.9	0.14	0.02	99.71
62btdissem-1-2-1	transitional-biotite	disseminated	38.72	1.56	16.19	0.03	13.45	0.04	0.02	0.19	15.35	0	0.06	9.81	0	0	0.01	0.33	0.06	3.89	0.14	0.01	99.57
153-dissbt-1-2-1	transitional-biotite	disseminated	38.19	1.39	18.22	0	12.04	0.22	0	0.23	14.7	0.06	0.14	9.54	0	0	0	0.21	0.06	3.96	0.09	0.01	98.86
153-dissbt-2-3-1	transitional-biotite	disseminated	37.9	1.21	18.43	0.02	12.16	0.25	0	0.15	15.48	0.09	0.1	8.43	0	0.04	0.06	0.19	0.04	3.97	0.08	0.01	98.43
726btdissem-2-8-1	transitional-biotite	disseminated	39.84	1.38	16.92	0	13.51	0.04	0	0.14	13.39	0.9	0.84	8.19	0.05	0	0.01	0.36	0.05	3.91	0.15	0.01	99.36
726btdissem-4-10-1	transitional-biotite	disseminated	37.03	1.64	16.44	0.04	15.87	0.05	0.16	0.33	13.17	0.13	0.15	9.35	0.01	0	0	0.22	0.03	3.84	0.09	0.01	98.37
726btdissem-6-1	transitional-biotite	disseminated	37.56	1.38	14.85	0	13.21	0.05	0.06	0.19	15.83	0.27	0.27	8.02	0	0	0.04	0.25	0.06	3.79	0.11	0.01	95.72
Aet13btpheno-1-1	propylitic biotite	disseminated	37.31	3.94	15.51	0.01	13.58	0.1	0	0.19	15.09	0.01	0.11	9.64	0	0	0.06	0.36	0.49	3.75	0.15	0.11	99.87
Aet13btpheno-1-2-1	propylitic biotite	disseminated	38.3	3.18	15.4	0.02	12.98	0.09	0	0.23	16.23	0.04	0.11	7.48	0	0	0.03	0.33	0.48	3.78	0.14	0.11	98.42
Aet13btpheno-2-4-1	propylitic biotite	disseminated	38.1	3.74	15.26	0.01	14.13	0.03	0	0.17	15.35	0	0.12	9.56	0	0	0	0.32	0.52	3.8	0.13	0.12	100.85
Aet13btpheno-3-6-1	propylitic biotite	disseminated	37.66	3.91	15.7	0	14.27	0.06	0.11	0.17	15.13	0	0.11	9.65	0	0	0	0.25	0.57	3.82	0.11	0.13	101.19
Aet13btpheno-4-7-1	propylitic biotite	disseminated	38.6	3.92	14.4	0	13.07	0.03	0	0.16	15.65	0.01	0.13	9.39	0	0	0	0.34	0.52	3.77	0.14	0.12	99.74
Aet13secbt-1-5-1	propylitic biotite	disseminated	37.33	4.01	15.52	0.02	14.17	0.03	0.08	0.22	15.05	0	0.15	9.55	0	0	0	0.31	0.44	3.8	0.13	0.1	100.45
Aet13secbt-3-1	propylitic biotite	disseminated	38.22	3.48	14.88	0.07	13.41	0.1	0.01	0.17	15.53	0.06	0.13	8.48	0	0	0	0.33	0.53	3.75	0.14	0.12	98.91
455dissbt-1-7-1	potassic-biotite	disseminated	38.25	3.61	15.14	0	16.71	0.07	0.03	0.25	12.31	0	0.1	9.5	0	0	0.01	0.27	0.19	3.85	0.11	0.04	100.11
455dissbt-3-9-1	potassic-biotite	disseminated	37.74	3.92	14.77	0.01	16.75	0.05	0	0.21	11.92	0	0.1	9.22	0	0	0	0.25	0.17	3.8	0.11	0.04	98.76
455dissbt-4-10-1	potassic-biotite	disseminated	38.26	4.21	14.6	0.02	17.3	0.05	0.07	0.08	12.13	0.02	0.1	9.39	0	0	0.06	0.23	0.17	3.87	0.1	0.04	100.42
455dissbt-6-1	potassic-biotite	disseminated	38.71	2.96	15.52	0.01	16.38	0.06	0	0.24	12.79	0.04	0.1	9.28	0.02	0	0	0.22	0.16	3.9	0.09	0.04	100.26
262btmatrix-1-1	potassic-biotite	biotite breccia r	39.51	2.53	15.97	0.02	13.86	0.08	0	0.11	14.62	0.02	0.15	8.94	0	0	0.02	0.39	0.07	3.9	0.17	0.01	100
262btmatrix-1-2-1	potassic-biotite	biotite breccia r	39.42	2.13	16.06	0.03	13.87	0.02	0.11	0.11	14.58	0.05	0.16	9.01	0	0	0	0.32	0.09	3.91	0.14	0.02	99.71
262btmatrix-2-3-1	potassic-biotite	biotite breccia r	39.53	1.93	15.95	0	13.44	0.05	0	0.15	14.85	0.01	0.13	9.09	0	0	0	0.42	0.06	3.87	0.18	0.01	99.29
262btmatrix-3-4-1	potassic-biotite	biotite breccia r	38.47	2.24	16.69	0	14.52	0.08	0.01	0.13	14.08	0.06	0.16	9.24	0.02	0	0	0.35	0.11	3.88	0.15	0.02	99.86
262btmatrix-4-5-1	potassic-biotite	biotite breccia r	39.36	1.9	16.21	0.02	13.37	0.09	0	0.08	14.57	0	0.14	9.15	0	0	0.07	0.39	0.07	3.87	0.16	0.02	99.12
et53bt-1-6-1	transitional-biotite	stage 2cvein ha	37.78	3.61	16.51	0.01	14.1	0.2	0.07	0.13	14.28	0.01	0.09	9.67	0	0	0	0.59	0.13	3.77	0.25	0.03	100.68
et53bt-2-5-1	transitional-biotite	stage 2cvein ha	38.83	3.52	15.65	0.04	13.14	0.12	0	0.03	15.4	0.01	0.1	9.59	0	0	0.04	0.66	0.15	3.77	0.28	0.03	100.73
2012vnbt-17-1	potassic-biotite	stage 2cvein ha	36.68	2.74	17.26	0.03	12.39	0.19	0	0.07	15.57	0.01	0.11	9.91	0	0	0	0.42	0.1	3.82	0.17	0.02	99.1
101-2vnbt-10-1	potassic-biotite	stage 2cvein ha	35.01	2.7	16.21	0	16.5	0.04	0.02	0.16	15.24	0.21	0.13	7.33	0	0	0	0.27	0.09	3.78	0.12	0.02	97.58
101-2vnbt-1-11-1	potassic-biotite	stage 2cvein ha	37.65	3.61	15.33	0	15.63	0.15	0.08	0.1	14.44	0.01	0.12	9.73	0	0	0	0.32	0.12	3.88	0.14	0.03	101.04
183vnbt-7-1	potassic-biotite	stage 2cvein ha	37.37	3.9	16.73	0.03	12.88	0.04	0.07	0.07	14.9	0.08	0.2	9.56	0	0	0	0.3	0.16	3.9	0.13	0.04	100.01
77-crsevnbrbt-1-1	potassic-biotite	stage 2cvein ha	37.08	3.17	17.1	0.06	15.18	0.15	0.02	0.15	13.5	0	0.15	9.91	0	0	0.05	0.21	0.11	3.93	0.09	0.02	100.64
77-crsevnbrbt-1-2-1	potassic-biotite	stage 2cvein ha	36.84	3.44	17	0	15.59	0.19	0.05	0.13	13.09	0.07	0.21	9.62	0	0	0	0.24	0.14	3.89	0.1	0.03	100.37
66-3vnbt-9-1	potassic-biotite	stage 2cvein ha	37.81	2.81	16.32	0.03	15.26	0.01	0.06	0.21	13.34	0.02	0.16	9.32	0	0	0	0.16	0.11	3.92	0.07	0.03	99.44

Label	Si	Ti	Al/Al IV	Al VI	Cr	Fe2+	V	Zn	Mn2+	Mg	Ca	Na	K	Ba	Sr	Ni	F	Cl	OH	Sum Ca	mg No.	Oct	Int
et241_biot2-2-1	5.644	0.219	2.356	0.638	0.003	1.778	0.007	0.004	0.015	3.028	0	0.016	1.861	0.002	0	0.001	0.125	0.021	3.854	19.573	0.63	5.687	1.879
et241_biot3-3-1	5.593	0.216	2.407	0.643	0.004	1.778	0.012	0	0.019	2.995	0.03	0.065	1.848	0.001	0	0.003	0.122	0.032	3.846	19.614	0.628	5.658	1.943
62btdissem-1-1	5.753	0.184	2.247	0.554	0.003	1.598	0.001	0.006	0.011	3.376	0	0.014	1.843	0	0	0	0.158	0.019	3.824	19.59	0.679	5.732	1.858
62btdissem-1-2-1	5.712	0.173	2.288	0.527	0.004	1.66	0.005	0.003	0.024	3.376	0.001	0.016	1.847	0	0	0.001	0.154	0.016	3.83	19.635	0.67	5.766	1.863
153-dissbt-1-2-1	5.623	0.154	2.377	0.786	0	1.483	0.026	0	0.029	3.226	0.009	0.041	1.793	0	0	0	0.096	0.015	3.889	19.546	0.685	5.677	1.843
153-dissbt-2-3-1	5.576	0.133	2.424	0.772	0.003	1.497	0.03	0	0.019	3.394	0.014	0.028	1.581	0	0.003	0.008	0.09	0.009	3.901	19.481	0.694	5.825	1.623
726btdissem-2-8-1	5.838	0.152	2.162	0.76	0	1.656	0.004	0	0.018	2.925	0.141	0.239	1.531	0.003	0	0.001	0.169	0.012	3.818	19.431	0.639	5.513	1.914
726btdissem-4-10-1	5.609	0.186	2.391	0.543	0.005	2.011	0.006	0.018	0.043	2.973	0.021	0.044	1.808	0.001	0	0	0.107	0.009	3.885	19.658	0.597	5.779	1.873
726btdissem-6-1	5.736	0.158	2.264	0.409	0	1.687	0.007	0.006	0.025	3.603	0.044	0.079	1.563	0	0	0.006	0.12	0.015	3.864	19.588	0.681	5.895	1.686
Aet13btpheno-1-1	5.53	0.439	2.47	0.24	0.002	1.684	0.011	0	0.024	3.335	0.001	0.032	1.823	0	0	0.007	0.166	0.123	3.711	19.597	0.664	5.73	1.856
Aet13btpheno-1-2-1	5.658	0.353	2.342	0.34	0.003	1.604	0.011	0	0.028	3.573	0.006	0.031	1.409	0	0	0.004	0.154	0.121	3.726	19.361	0.69	5.905	1.446
Aet13btpheno-2-4-1	5.592	0.413	2.408	0.231	0.001	1.734	0.004	0	0.021	3.358	0	0.035	1.789	0	0	0	0.148	0.128	3.724	19.585	0.659	5.757	1.824
Aet13btpheno-3-6-1	5.523	0.432	2.477	0.238	0	1.75	0.007	0.011	0.021	3.307	0	0.031	1.805	0	0	0	0.118	0.141	3.741	19.602	0.654	5.759	1.836
Aet13btpheno-4-7-1	5.695	0.435	2.305	0.2	0	1.612	0.004	0	0.02	3.441	0.001	0.036	1.767	0	0	0	0.16	0.13	3.711	19.517	0.681	5.708	1.805
Aet13secbt-1-5-1	5.513	0.445	2.487	0.215	0.003	1.75	0.004	0.008	0.027	3.314	0	0.043	1.8	0	0	0	0.146	0.11	3.744	19.609	0.654	5.762	1.843
Aet13secbt-3-1	5.669	0.389	2.331	0.271	0.008	1.664	0.012	0.001	0.022	3.433	0.009	0.038	1.605	0	0	0	0.156	0.133	3.711	19.452	0.674	5.789	1.652
455dissbt-1-7-1	5.705	0.405	2.295	0.366	0	2.084	0.008	0.003	0.031	2.736	0	0.029	1.808	0	0	0.001	0.125	0.047	3.828	19.474	0.568	5.628	1.838
455dissbt-3-9-1	5.707	0.446	2.293	0.339	0.001	2.118	0.006	0	0.027	2.686	0	0.028	1.778	0	0	0	0.12	0.043	3.837	19.431	0.559	5.618	1.807
455dissbt-4-10-1	5.704	0.472	2.296	0.269	0.002	2.157	0.006	0.008	0.01	2.697	0.004	0.029	1.785	0	0	0.007	0.11	0.042	3.847	19.445	0.556	5.62	1.818
455dissbt-6-1	5.737	0.33	2.263	0.449	0.001	2.031	0.007	0	0.03	2.827	0.006	0.028	1.754	0.001	0	0	0.104	0.041	3.855	19.464	0.582	5.668	1.789
262btmatrix-1-1	5.775	0.278	2.225	0.525	0.002	1.694	0.009	0	0.013	3.184	0.003	0.044	1.667	0	0	0.002	0.182	0.016	3.802	19.422	0.653	5.699	1.714
262btmatrix-1-2-1	5.783	0.235	2.217	0.561	0.004	1.702	0.003	0.012	0.014	3.189	0.007	0.044	1.686	0	0	0	0.15	0.023	3.827	19.456	0.652	5.715	1.738
262btmatrix-2-3-1	5.811	0.213	2.189	0.575	0	1.653	0.006	0	0.019	3.253	0.002	0.038	1.704	0	0	0	0.194	0.016	3.79	19.462	0.663	5.713	1.744
262btmatrix-3-4-1	5.67	0.248	2.33	0.569	0	1.79	0.01	0.001	0.016	3.092	0.009	0.044	1.738	0.001	0	0	0.162	0.026	3.811	19.519	0.633	5.717	1.792
262btmatrix-4-5-1	5.796	0.211	2.204	0.61	0.002	1.647	0.011	0	0.011	3.2	0	0.04	1.72	0	0	0.008	0.182	0.017	3.801	19.459	0.66	5.689	1.76
et53bt-1-6-1	5.544	0.398	2.456	0.398	0.001	1.73	0.024	0.008	0.016	3.124	0.001	0.026	1.81	0	0	0	0.273	0.033	3.694	19.536	0.644	5.675	1.837
et53bt-2-5-1	5.656	0.386	2.344	0.343	0.005	1.6	0.014	0	0.004	3.343	0.002	0.027	1.782	0	0	0.004	0.303	0.038	3.659	19.51	0.676	5.685	1.811
2012vnbt-17-1	5.441	0.306	2.559	0.458	0.003	1.537	0.022	0	0.009	3.441	0.002	0.033	1.874	0	0	0	0.195	0.026	3.779	19.685	0.691	5.754	1.91
101-2vnbt-10-1	5.331	0.309	2.669	0.24	0	2.101	0.005	0.003	0.021	3.458	0.035	0.038	1.425	0	0	0	0.132	0.024	3.844	19.634	0.622	6.132	1.497
101-2vnbt-1-11-1	5.555	0.401	2.445	0.221	0	1.929	0.018	0.009	0.013	3.176	0.002	0.036	1.831	0	0	0	0.151	0.03	3.819	19.636	0.622	5.749	1.869
183vnbt-7-1	5.491	0.431	2.509	0.388	0.004	1.583	0.004	0.008	0.009	3.263	0.013	0.056	1.791	0	0	0	0.139	0.041	3.82	19.549	0.673	5.685	1.86
77-crsevnbrbt-1-1	5.479	0.353	2.521	0.457	0.007	1.876	0.018	0.002	0.019	2.974	0	0.043	1.867	0	0	0.006	0.098	0.026	3.876	19.622	0.613	5.693	1.911
77-crsevnbrbt-1-2-1	5.467	0.384	2.533	0.441	0	1.935	0.023	0.006	0.017	2.895	0.011	0.06	1.821	0	0	0	0.113	0.035	3.851	19.591	0.599	5.677	1.892
66-3vnbt-9-1	5.63	0.315	2.37	0.496	0.003	1.901	0.001	0.007	0.027	2.961	0.004	0.045	1.77	0	0	0	0.074	0.028	3.898	19.528	0.609	5.709	1.819

Appendix 2B, El Teniente magnetite compositions

Label	generation	SiO2	TiO2	Al2O3	Cr2O3	Fe2O3(c	FeO	V2O3	CaO	MnO	MgO	ZnO	NiO	P2O5	ZrO2	Sum Ox%	Si	Ti	Al VI	Cr	Fe3+	Fe2+	V
149-cpy+mag-10-1	mag+cpy	0.74	0.09	0.44	0	66.39	31.97	0.23	0.08	0	0.05	0	0.08	0	0	100.08	0.028	0.003	0.02	0	1.911	1.022	0.007
62magwithcpyinhalo-1-10-1	mag+cpy	0.85	0.09	0.92	0.02	63.54	31.62	0.44	0	0.06	0.03	0.06	0	0.02	0.05	97.7	0.033	0.003	0.042	0.001	1.868	1.033	0.014
62magwithcpyinhalo-9-1	mag+cpy	2.12	0.06	1.74	0.04	61.69	33.44	0.37	0.67	0.01	0.03	0.02	0	0	0.01	100.2	0.08	0.002	0.077	0.001	1.747	1.052	0.011
726magdissem-1-1	mag+cpy	1.77	0.23	0.89	0.02	62.78	32.57	0.22	0.32	0.14	0.26	0.00	0.06	0.00	0.00	99.26	0.068	0.007	0.040	0.001	1.804	1.040	0.007
726magdissem-2-3-1	mag+py	0.22	0.08	0.11	0.01	67.29	30.96	0.26	0.02	0.12	0.04	0.02	0.00	0.01	0.02	99.18	0.009	0.002	0.005	0.000	1.963	1.004	0.008
726magdissem-3-4-1	mag+py	0.17	0.12	0.17	0.00	67.73	31.11	0.32	0.02	0.17	0.03	0.00	0.00	0.00	0.00	99.84	0.007	0.003	0.008	0.000	1.962	1.002	0.010
726magdissem-4-5-1	mag+py	0.28	0.02	0.06	0.03	67.33	30.85	0.23	0.15	0.04	0.09	0.00	0.00	0.02	0.00	99.13	0.011	0.001	0.003	0.001	1.963	1.000	0.007
et53mag?-11-1	early magnetite	0.02	0.08	0.12	0.33	68.02	31.51	1.19	0.01	0.04	0.02	0.11	0.03	0.02	0.05	101.56	0.001	0.002	0.005	0.01	1.939	0.998	0.036
et53mag?2-12-1	early magnetite	0.03	0.14	0.11	0.46	67.09	31.13	0.95	0.01	0.05	0.02	0	0.01	0	0	100	0.001	0.004	0.005	0.014	1.942	1.001	0.029
101-silvermag-1-1	early magnetite	0.21	0.07	0.12	0.07	66.76	30.76	0.41	0.09	0.11	0.05	0	0.05	0.02	0.06	98.78	0.008	0.002	0.005	0.002	1.955	1.001	0.013
101-silvermag-1-2-1	early magnetite	0.04	0.09	0.13	0	67.8	31	0.38	0.13	0.01	0	0.1	0	0.04	0.07	99.78	0.002	0.003	0.006	0	1.967	1	0.012
101-silvermag-2-3-1	early magnetite	0.02	0.14	0.16	0.05	68.13	31.07	0.55	0.2	0.07	0	0	0	0.01	0.01	100.41	0.001	0.004	0.007	0.002	1.963	0.995	0.017
149-silvermag-1-9-1	early magnetite	0.1	0.09	0.13	0	67.61	30.74	0.38	0.13	0.04	0	0.15	0.02	0	0	99.41	0.004	0.003	0.006	0	1.969	0.995	0.012
149-silvermag-8-1	early magnetite	0.49	0.09	0.18	0.02	66.59	31.1	0.33	0.16	0.1	0.11	0	0	0	0	99.18	0.019	0.003	0.008	0.001	1.937	1.006	0.01
221magsilver-14-1	early magnetite	0.05	0.09	0.07	0.01	66.84	30.19	0.29	0.23	0.02	0.00	0.03	0.04	0.00	0.02	97.87	0.002	0.003	0.003	0.000	1.978	0.993	0.009
232magsilver-1-17-1	early magnetite	0.01	0.08	0.09	0.26	66.49	30.57	0.97	0.02	0.12	0.02	0.00	0.00	0.00	0.00	98.63	0.001	0.002	0.004	0.008	1.952	0.997	0.030
232magsilver-16-1	early magnetite	0.04	0.04	0.08	0.00	66.75	30.20	0.48	0.17	0.21	0.00	0.00	0.00	0.02	0.07	98.07	0.002	0.001	0.004	0.000	1.971	0.991	0.015
232magsilver-2-18-1	early magnetite	0.01	0.11	0.11	0.00	67.09	30.59	0.46	0.08	0.05	0.00	0.00	0.04	0.00	0.06	98.60	0.001	0.003	0.005	0.000	1.971	0.999	0.014
232magsilver-3-19-1	early magnetite	0.02	0.08	0.13	0.02	67.40	30.56	0.42	0.06	0.14	0.05	0.03	0.00	0.00	0.05	98.94	0.001	0.002	0.006	0.001	1.972	0.994	0.013
66-silvermag-11-1	early magnetite	0.45	0.08	0.61	0.03	65.95	30.95	0.25	0.15	0.06	0.2	0	0	0.02	0.02	98.76	0.017	0.002	0.028	0.001	1.921	1.002	0.008
66-silvermag-16-1	early magnetite	0.05	0.09	0.14	0	67.1	30.33	0.15	0.15	0.07	0.02	0.1	0.02	0.01	0.04	98.29	0.002	0.003	0.007	0	1.976	0.993	0.005
et47magsilver-2-1	early magnetite	0.03	0.04	0.12	0.35	66.15	31.03	2.08	0.04	0.08	0	0	0.09	0.02	0.01	100.03	0.001	0.001	0.005	0.011	1.913	0.997	0.064
et47magsilver2-3-1	early magnetite	0.04	0.1	0.22	0.05	67.91	31.14	0.4	0.04	0	0.02	0	0.06	0.03	0	100	0.002	0.003	0.01	0.002	1.965	1.001	0.012
et47magsilver3-4-1	early magnetite	0.02	0.02	0.1	0.06	68.23	30.99	0.43	0.13	0	0	0.04	0.05	0	0.14	100.21	0.001	0.0005	0.005	0.002	1.973	0.996	0.013
et47magsilver3-6-1	early magnetite	0.18	0.09	0.14	0.1	68.13	31.42	0.36	0.1	0.03	0.05	0	0	0	0.09	100.69	0.007	0.003	0.006	0.003	1.957	1.003	0.011
et47magsilver3-7-1	early magnetite	0.09	0.05	0.12	0.1	68.24	31.19	0.49	0.17	0.03	0	0	0	0	0.04	100.51	0.003	0.002	0.005	0.003	1.965	0.998	0.015
201dissmag-1-6-1	early magnetite	0.05	0.08	0.14	0.01	66.75	30.36	0.38	0.06	0.02	0.00	0.09	0.06	0.00	0.00	98.01	0.002	0.002	0.007	0.000	1.972	0.997	0.012
201dissmag-3-8-1	early magnetite	0.04	0.05	0.1	0.00	66.98	30.44	0.45	0.08	0.04	0.00	0.07	0.00	0.00	0.05	98.30	0.002	0.001	0.005	0.000	1.974	0.997	0.014
201dissmag-5-1	early magnetite	0.04	0.10	0.11	0.03	66.38	30.53	0.54	0.07	0.03	0.02	0.02	0.00	0.06	0.00	97.93	0.001	0.003	0.005	0.001	1.962	1.003	0.017
232maginamph-10-1	relict	0.26	0.04	0.19	0.44	66.57	30.65	0.26	0.01	0.05	0.14	0.28	0.00	0.02	0.04	98.95	0.010	0.001	0.009	0.014	1.944	0.995	0.008
77-silverfinemag-1-13-1	relict	0.08	0.12	0.17	0.08	68.28	31.24	0.25	0	0.03	0.02	0.15	0.01	0	0.03	100.46	0.003	0.004	0.008	0.002	1.968	1.001	0.008
455dissmag-1-1	relict	0.01	0.11	0.17	0.04	68.03	30.98	0.29	0.00	0.11	0.04	0.00	0.00	0.00	0.04	99.82	0.001	0.003	0.008	0.001	1.973	0.999	0.009
455dissmag-1-2-1	relict	0.00	0.06	0.15	0.07	67.11	30.45	0.31	0.01	0.15	0.02	0.05	0.01	0.03	0.02	98.43	0.000	0.002	0.007	0.002	1.974	0.996	0.010
455dissmag-2-3-1	relict	0.06	0.10	0.17	0.02	67.58	30.79	0.34	0.01	0.11	0.05	0.06	0.08	0.03	0.01	99.41	0.002	0.003	0.008	0.001	1.967	0.996	0.011
455dissmag-3-4-1	relict	0.02	0.08	0.2	0.05	67.26	30.58	0.32	0.01	0.16	0.06	0.03	0.04	0.01	0.09	98.92	0.001	0.002	0.009	0.002	1.968	0.995	0.010
455dissmag-4-5-1	relict	0.05	0.01	0.15	0.00	67.37	30.59	0.27	0.05	0.09	0.00	0.00	0.00	0.01	0.02	98.59	0.002	0.0005	0.007	0.000	1.979	0.998	0.009
77-earlymag-10-1	relict	0.11	0.09	0.23	0.23	67.93	31.23	0.23	0	0.05	0.09	0.02	0.02	0	0.1	100.33	0.004	0.003	0.011	0.007	1.958	1.001	0.007
726magdissem-1-2-1	relict	0.07	0.07	0.07	0.07	68.03	30.87	0.11	0.05	0.14	0.00	0.00	0.04	0.03	0.00	99.49	0.003	0.002	0.003	0.000	1.981	0.999	0.003
Aet13mag-1-10-1	relict	0.05	0.42	1.12	0.08	66.16	31.36	0.32	0.03	0.12	0.04	0.09	0.08	0.02	0.06	99.95	0.002	0.012	0.050	0.002	1.906	1.004	0.010
Aet13mag-2-13-1	relict	0.04	0.19	0.67	0.005	67.18	31.17	0.44	0.00	0.11	0.06	0.06	0.05	0.01	0.11	100.08	0.001	0.006	0.030	0.000	1.938	0.999	0.014

Label	Ca	Mn2+	Mg	Zn	Ni	P	Zr	Sum Cat#
149-cpy+mag-10-1	0.003	0	0.003	0	0.002	0	0	3
62magwithcpyinhalo-1-10-1	0	0.002	0.002	0.002	0	0.001	0.001	3
62magwithcpyinhalo-9-1	0.027	0	0.002	0.001	0	0	0	3
726magdissem-1-1	0.013	0.004	0.015	0.000	0.002	0.000	0.000	3.000
726magdissem-2-3-1	0.001	0.004	0.003	0.001	0.000	0.000	0.000	3.000
726magdissem-3-4-1	0.001	0.006	0.002	0.000	0.000	0.000	0.000	3.000
726magdissem-4-5-1	0.006	0.001	0.005	0.000	0.000	0.001	0.000	3.000
et53mag?-11-1	0	0.001	0.001	0.003	0.001	0.001	0.001	3
et53mag?2-12-1	0	0.002	0.001	0	0	0	0	3
101-silvermag-1-1	0.004	0.004	0.003	0	0.002	0.001	0.001	3
101-silvermag-1-2-1	0.005	0	0	0.003	0	0.001	0.001	3
101-silvermag-2-3-1	0.008	0.002	0	0	0	0	0	3
149-silvermag-1-9-1	0.005	0.001	0	0.004	0.001	0	0	3
149-silvermag-8-1	0.007	0.003	0.006	0	0	0	0	3
221magsilver-14-1	0.010	0.001	0.000	0.001	0.001	0.000	0.000	3.000
232magsilver-1-17-1	0.001	0.004	0.001	0.000	0.000	0.000	0.000	3.000
232magsilver-16-1	0.007	0.007	0.000	0.000	0.000	0.001	0.001	3.000
232magsilver-2-18-1	0.003	0.002	0.000	0.000	0.001	0.000	0.001	3.000
232magsilver-3-19-1	0.002	0.004	0.003	0.001	0.000	0.000	0.001	3.000
66-silvermag-11-1	0.006	0.002	0.012	0	0	0.001	0	3
66-silvermag-16-1	0.006	0.002	0.001	0.003	0.001	0	0.001	3
et47magsilver-2-1	0.002	0.002	0	0	0.003	0.001	0	3
et47magsilver2-3-1	0.002	0	0.001	0	0.002	0.001	0	3
et47magsilver3-4-1	0.005	0	0	0.001	0.002	0	0.003	3
et47magsilver3-6-1	0.004	0.001	0.003	0	0	0	0.002	3
et47magsilver3-7-1	0.007	0.001	0	0	0	0	0.001	3
201dissmag-1-6-1	0.003	0.001	0.000	0.003	0.002	0.000	0.000	3.000
201dissmag-3-8-1	0.003	0.001	0.000	0.002	0.000	0.000	0.001	3.000
201dissmag-5-1	0.003	0.001	0.001	0.001	0.000	0.002	0.000	3.000
232maginamph-10-1	0.001	0.001	0.008	0.008	0.000	0.001	0.001	3.000
77-silverfinemag-1-13-1	0	0.001	0.001	0.004	0	0	0	3
455dissmag-1-1	0.000	0.004	0.002	0.000	0.000	0.000	0.001	3.000
455dissmag-1-2-1	0.000	0.005	0.001	0.001	0.000	0.001	0.000	3.000
455dissmag-2-3-1	0.000	0.003	0.003	0.002	0.002	0.001	0.000	3.000
455dissmag-3-4-1	0.000	0.005	0.004	0.001	0.001	0.000	0.002	3.000
455dissmag-4-5-1	0.002	0.003	0.000	0.000	0.000	0.000	0.000	3.000
77-earlymag-10-1	0	0.002	0.005	0.001	0.001	0	0.002	3
726magdissem-1-2-1	0.002	0.005	0.000	0.000	0.001	0.001	0.000	3.000
Aet13mag-1-10-1	0.001	0.004	0.002	0.003	0.003	0.001	0.001	3.000
Aet13mag-2-13-1	0.000	0.003	0.003	0.002	0.001	0.000	0.002	3.000

Label	generation	SiO2	TiO2	Al2O3	Cr2O3	Fe2O3(c	FeO	V2O3	CaO	MnO	MgO	ZnO	NiO	P2O5	ZrO2	Sum	Ox%	Si	Ti	Al VI	Cr	Fe3+	Fe2+	V
Aet13mag-3-14-1	relict	0.01	0.07	0.15	0.06	67.66	30.67	0.26	0.00	0.06	0.01	0.12	0.05	0.00	0.06	99.19	0.000	0.002	0.007	0.002	1.976	0.995	0.008
Aet13mag-4-15-1	relict	0.01	0.10	0.21	0.06	67.14	30.89	0.41	0.05	0.07	0.00	0.00	0.00	0.06	0.03	99.03	0.001	0.003	0.010	0.002	1.962	1.003	0.013
Aet13mag-5-16-1	relict	0.02	0.11	0.22	0.06	67.82	31.14	0.35	0.01	0.06	0.00	0.00	0.00	0.01	0.06	99.86	0.001	0.003	0.010	0.002	1.966	1.003	0.011
Aet13mag-6-18-1	relict	0.08	0.09	0.16	0.13	67.49	30.96	0.28	0.00	0.10	0.00	0.00	0.00	0.00	0.04	99.33	0.003	0.003	0.007	0.004	1.968	1.003	0.009
Aet13mag-9-1	relict	0.11	0.16	0.61	0.04	66.69	31.00	0.46	0.00	0.08	0.03	0.10	0.00	0.00	0.00	99.29	0.004	0.005	0.028	0.001	1.939	1.001	0.014
66-potassicmag-1-19-1	relict	0.33	0.46	0.31	0	66.76	31.68	0.09	0.04	0.03	0.13	0.04	0	0	0.09	99.97	0.013	0.013	0.014	0	1.928	1.017	0.003
66-potassicmag-18-1	relict	0.18	0.16	0.33	0.02	66.49	30.76	0.18	0.08	0.13	0	0	0.03	0	0.03	98.4	0.007	0.005	0.015	0.001	1.953	1.004	0.006
66-silverpotassicmag-15-1	relict	0.03	0.07	0.17	0.02	68.26	30.98	0.22	0.13	0.05	0	0	0	0.02	0	99.95	0.001	0.002	0.008	0.001	1.977	0.997	0.007
221potmag-1-9-1	relict	0.03	0.14	0.1	0.05	67.21	30.67	0.24	0.00	0.06	0.02	0.00	0.00	0.00	0.00	98.51	0.001	0.004	0.004	0.001	1.976	1.002	0.008
221potmag-2-12-1	relict	0.05	0.05	0.1	0	67.75	30.89	0.25	0.02	0.04	0.02	0.04	0.00	0.02	0.05	99.29	0.002	0.002	0.005	0.000	1.976	1.001	0.008
221potmag-3-11-1	relict	0.03	0.09	0.12	0.15	67.33	30.72	0.22	0.04	0.12	0.00	0.01	0.04	0.03	0.03	98.94	0.001	0.003	0.005	0.004	1.971	0.999	0.007
221potmag-4-13-1	relict	0.04	0.07	0.2	0.13	67.34	30.87	0.3	0.01	0.06	0.00	0.00	0.00	0.02	0.00	99.04	0.002	0.002	0.009	0.004	1.968	1.003	0.009
221potmag-8-1	relict	0.01	0.07	0.07	0.02	67.97	30.98	0.29	0.01	0.04	0.00	0.03	0.02	0.04	0.00	99.55	0.000	0.002	0.003	0.001	1.978	1.002	0.009
et334_magdiss1-15-1	relict	0.06	0.2	0.48	0	66.24	30.78	0.27	0.04	0.04	0	0.03	0	0.02	0.05	98.23	0.002	0.006	0.022	0	1.948	1.006	0.009
et334_magdissem2-17-1	relict	0.04	0.35	0.35	0.05	66.87	31.18	0.26	0.03	0.03	0	0	0	0	0.05	99.21	0.001	0.01	0.016	0.002	1.949	1.01	0.008
62magdiss-8-1	relict	0.34	0.07	0.27	0.45	65.61	31.21	0.47	0.09	0	0	0.09	0	0.03	0.2	98.84	0.013	0.002	0.012	0.014	1.918	1.014	0.015

Label	Ca	Mn2+	Mg	Zn	Ni	P	Zr	Sum Cat#
Aet13mag-3-14-1	0.000	0.002	0.001	0.003	0.002	0.000	0.001	3.000
Aet13mag-4-15-1	0.002	0.002	0.000	0.000	0.000	0.002	0.001	3.000
Aet13mag-5-16-1	0.000	0.002	0.000	0.000	0.000	0.000	0.001	3.000
Aet13mag-6-18-1	0.000	0.003	0.000	0.000	0.000	0.000	0.001	3.000
Aet13mag-9-1	0.000	0.003	0.002	0.003	0.000	0.000	0.000	3.000
66-potassicmag-1-19-1	0.002	0.001	0.008	0.001	0	0	0.002	3
66-potassicmag-18-1	0.004	0.004	0	0	0.001	0	0.001	3
66-silverpotassicmag-15-1	0.005	0.001	0	0	0	0.001	0	3
221potmag-1-9-1	0.000	0.002	0.001	0.000	0.000	0.000	0.000	3.000
221potmag-2-12-1	0.001	0.001	0.001	0.001	0.000	0.001	0.001	3.000
221potmag-3-11-1	0.002	0.004	0.000	0.000	0.001	0.001	0.001	3.000
221potmag-4-13-1	0.000	0.002	0.000	0.000	0.000	0.001	0.000	3.000
221potmag-8-1	0.000	0.001	0.000	0.001	0.001	0.001	0.000	3.000
et334_magdiss1-15-1	0.002	0.001	0	0.001	0	0.001	0.001	3
et334_magdissem2-17-1	0.001	0.001	0	0	0	0	0.001	3
62magdiss-8-1	0.004	0	0	0.003	0	0.001	0.004	3

Appendix 2c, El Teniente feldspar compositions

Label	assemblage	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	SrO	BaO	Na2O	K2O	P2O5	Sum Ox%	Si	Ti	Al/Al IV	Al VI	Fe3+	Mn2+	Mg	Ca
262sodicfldclast-11-1	Na-K-feldspar	54.54	0.07	29.21	0.54	0.05	0.03	11.53	0.05	0.04	5.17	0.10	0.00	101.33	2.438	0.002	1.539	0.000	0.018	0.002	0.002	0.552
262sodicfldclast-1-12-1	Na-K-feldspar	63.33	0.01	23.77	0.01	0.00	0.00	4.63	0.03	0.01	8.78	0.17	0.02	100.76	2.778	0.000	1.229	0.000	0.000	0.000	0.000	0.217
262sodicfldclast-2-13-1	Na-K-feldspar	60.60	0.00	25.65	0.00	0.00	0.00	6.99	0.07	0.00	7.68	0.13	0.00	101.12	2.670	0.000	1.332	0.000	0.000	0.000	0.000	0.330
262sodicfldclast-3-14-1	Na-K-feldspar	63.26	0.00	23.71	0.04	0.00	0.00	4.47	0.03	0.05	8.77	0.19	0.02	100.54	2.781	0.000	1.229	0.000	0.001	0.000	0.000	0.211
313perv2altfldld-3-2	Na-K-feldspar	67.11	0.00	20.28	0.15	0.00	0.01	0.25	0.00	0.33	7.96	5.08	0.04	101.21	2.955	0.000	1.052	0.000	0.005	0.000	0.001	0.012
et344_gmassfld4-7-1	Na-K-feldspar	66.44	0	21.38	0.07	0.01	0	1.76	0	0	10.25	0.37	0.05	100.34	2.905	0	1.102	0	0.002	0.001	0	0.082
et344_gmassfld1-4-1	Na-K-feldspar	67.21	0	21.03	0.08	0.01	0	1.17	0.02	0.11	10.68	0.36	0.05	100.71	2.927	0	1.08	0	0.003	0	0	0.054
et344_gmassfld2-5-1	Na-K-feldspar	68.39	0.02	20.57	0.04	0	0	0.73	0.01	0	10.88	0.13	0.01	100.79	2.963	0.001	1.05	0	0.001	0	0	0.034
et344_gmassfld3-6-1	Na-K-feldspar	67.87	0	20.55	0.01	0.01	0.01	0.66	0	0.07	10.8	0.38	0.01	100.37	2.958	0	1.056	0	0	0	0.001	0.031
313perv2altfldld-1-4-2	Na-K-feldspar	64.54	0.04	23.09	0.21	0.00	0.35	0.60	0.05	0.03	8.90	2.23	0.04	100.07	2.844	0.001	1.199	0.000	0.007	0.000	0.023	0.028
183dissfld-14-1	Na-K-feldspar	61.42	0.00	26.09	0.11	0.00	0.02	3.42	0.00	0.10	8.76	0.18	0.09	100.19	2.705	0.000	1.355	0.000	0.004	0.000	0.002	0.162
183dissfld-1-9-1	Na-K-feldspar	63.28	0.03	23.31	0.09	0.03	0.04	4.19	0.00	0.00	9.18	0.16	0.00	100.31	2.789	0.001	1.211	0.000	0.003	0.001	0.002	0.198
183dissfld-3-12-1	Na-K-feldspar	63.77	0.00	23.40	0.06	0.00	0.00	4.22	0.06	0.00	9.19	0.13	0.07	100.91	2.793	0.000	1.208	0.000	0.002	0.000	0.000	0.198
183dissfldseralt-10-1	Na-K-feldspar	64.13	0.03	23.26	0.00	0.00	0.00	3.89	0.04	0.06	9.24	0.16	0.08	100.89	2.805	0.001	1.199	0.000	0.000	0.000	0.000	0.182
101-2vnfld-1-13-1	2b vein	65.15	0	22.16	0.07	0.02	0	2.82	0.04	0.02	9.62	0.27	0.08	100.27	2.859	0	1.146	0	0.002	0.001	0	0.133
101-2vnfld-2-17-1	2b vein	59.96	0	26.48	0.04	0	0	7.41	0.04	0	7.25	0.17	0	101.34	2.638	0	1.373	0	0.001	0	0	0.349
183vnfld-1-6-1	2b vein	60.97	0.00	24.79	0.03	0.01	0.00	5.98	0.00	0.03	8.16	0.25	0.02	100.25	2.705	0.000	1.296	0.000	0.001	0.001	0.000	0.284
183vnfld-5-1	2b vein	63.02	0.00	23.92	0.05	0.00	0.00	4.75	0.00	0.18	8.68	0.28	0.00	100.88	2.768	0.000	1.238	0.000	0.001	0.000	0.000	0.224
2012vnfld-19-1	2b vein	60.24	0.00	25.02	0.02	0.02	0.00	6.32	0.00	0.00	7.67	0.40	0.00	99.69	2.689	0.000	1.316	0.000	0.001	0.001	0.000	0.302
2012vnfld-2-20-1	2b vein	59.59	0.03	26.19	0.14	0.02	0.09	7.35	0.06	0.03	7.37	0.16	0.02	101.05	2.633	0.001	1.364	0.000	0.005	0.001	0.006	0.348
2012vnfld-3-21-1	2b vein	61.13	0.01	25.25	0.09	0.03	0.00	6.10	0.06	0.00	8.02	0.26	0.02	100.98	2.693	0.000	1.311	0.000	0.003	0.001	0.000	0.288
66-2vnfld-1-2-1	2b vein	65.58	0	22.28	0.16	0	0.05	0.43	0	0.07	9.16	2.34	0.01	100.08	2.887	0	1.156	0	0.005	0	0.004	0.021
77-2vnfld-3-1	2b vein	62.73	0	24.24	0.01	0	0	4.76	0.12	0	8.75	0.17	0.37	101.14	2.744	0	1.25	0	0	0	0	0.223
et334_2vnfld-8-1	2b vein	65.38	0	22.39	0.1	0.03	0	2.86	0.01	0	9.69	0.26	0.09	100.81	2.853	0	1.152	0	0.003	0.001	0	0.134
et334_5vnfld-10-1	2b vein	66.13	0.03	22	0.03	0	0	2.13	0.05	0.05	10.09	0.28	0.12	100.89	2.879	0.001	1.129	0	0.001	0	0	0.099
et334_5vnfld2-11-1	2b vein	65.78	0	22.09	0.04	0	0	2.55	0	0	9.86	0.29	0.07	100.67	2.871	0	1.136	0	0.001	0	0	0.119
et334_5vnhalofld1-12-1	2b vein halo	66.61	0	21.95	0.02	0.01	0.01	2.19	0.04	0.03	10.04	0.26	0.04	101.19	2.89	0	1.122	0	0.001	0	0.001	0.102
et334_5vnhalofld2-13-1	2b vein halo	57.65	1.04	20.82	3.92	0	5.02	1.51	0	0	7.16	3.02	0.04	100.19	2.618	0.036	1.114	0	0.134	0	0.34	0.074
101-2vnfldhalo-1-18-1	2b vein halo	61.42	0.01	24.69	0.18	0.01	0	5.44	0.06	0.06	8.03	0.18	0.05	100.12	2.721	0	1.289	0	0.006	0	0	0.258
101-2vnhalofld-1-16-1	2b vein halo	58.11	0.03	25.81	0.09	0.03	0	6.8	0.05	0.02	7.15	0.17	0	98.25	2.636	0.001	1.38	0	0.003	0.001	0	0.33
101-2vnhalofld-14-1	2b vein halo	71.06	0.01	19.53	0.11	0	0	6.03	0	0	4.97	0.12	0.06	101.89	3.019	0	0.978	0	0.004	0	0	0.275
2012vnhalofld-1-23-1	2b vein halo	63.51	0.00	23.77	0.09	0.00	0.00	4.44	0.06	0.03	8.96	0.15	0.12	101.13	2.777	0.000	1.225	0.000	0.003	0.000	0.000	0.208
2012vnhalofld-22-1	2b vein halo	61.53	0.00	24.81	0.09	0.04	0.00	5.97	0.03	0.03	8.14	0.13	0.06	100.82	2.711	0.000	1.288	0.000	0.003	0.002	0.000	0.282
et53vein fld2-10-1	2c vein	64.55	0.01	19.2	0.02	0	0	0.04	0	0.18	1.32	14.95	0.41	100.69	2.953	0	1.035	0	0.001	0	0	0.002
et53vein fld-9-1	2c vein	64.8	0	19.09	0.03	0	0	0	0	0.19	1.27	15.19	0.05	100.62	2.971	0	1.032	0	0.001	0	0	0
et53fldvnhalo-2-8-1	2c vein	65.44	0.02	19.06	0.03	0.02	0.01	0.01	0	0.15	1.37	15.08	0.05	101.25	2.978	0.001	1.022	0	0.001	0.001	0.001	0.001
et53fldvnhalo-7-1	2c vein	65.27	0.02	18.92	0.04	0.05	0	0	0	0.02	1.01	15.41	0.05	100.79	2.983	0.001	1.019	0	0.001	0.002	0	0
313vnfld-1-6-2	2c vein	64.70	0.00	19.15	0.03	0.02	0.00	0.00	0.00	0.41	1.56	14.73	0.00	100.60	2.968	0.000	1.035	0.000	0.001	0.001	0.000	0.000
313vnfld-2-7-2	2c vein	66.77	0.00	20.22	0.00	0.01	0.00	0.48	0.00	0.33	7.49	5.87	0.05	101.21	2.950	0.000	1.053	0.000	0.000	0.000	0.000	0.023
313vnfld-3-8-2	2c vein	64.56	0.05	19.09	0.01	0.00	0.01	0.00	0.00	0.53	1.33	14.75	0.03	100.36	2.969	0.002	1.035	0.000	0.000	0.000	0.000	0.000
313vnfld-5-2	2c vein	64.50	0.05	19.10	0.03	0.00	0.00	0.00	0.00	0.47	1.53	14.72	0.04	100.43	2.965	0.002	1.035	0.000	0.001	0.000	0.000	0.000
2015vnfld-1-13-1	2e vein	65.56	0.00	22.47	0.00	0.00	0.00	2.25	0.06	0.00	9.85	0.15	0.05	100.39	2.865	0.000	1.158	0.000	0.000	0.000	0.000	0.106
2015vnhalofld-1-14-1	2e vein	66.37	0.04	21.50	0.00	0.00	0.00	1.86	0.02	0.07	10.30	0.11	0.05	100.32	2.902	0.001	1.108	0.000	0.000	0.000	0.000	0.087
2015vnhalofld-2-15-1	2e vein	67.34	0.00	21.18	0.00	0.03	0.01	1.32	0.03	0.04	10.67	0.15	0.01	100.78	2.927	0.000	1.085	0.000	0.000	0.001	0.001	0.062
62bt3vnfld-1-7-1	2-distal vein	46.33	0	31.38	2.12	0.06	3.05	12.13	0.07	0.03	2.13	0.55	0	97.85	2.173	0	1.734	0	0.075	0.002	0.213	0.61
62bt3vnfld-5-1	2-distal vein	48.65	0	33.69	3.15	0.17	8.09	5.2	0.01	0	0.87	0.06	0.01	99.91	2.173	0	1.774	0	0.106	0.007	0.538	0.249

Label	Sr	Ba	Na	K	P	Sum Cati	Ab	An	Or
262sodicfldclast-11-1	0.001	0.001	0.448	0.006	0.000	5.009	44.466	54.744	0.584
262sodicfldclast-1-12-1	0.001	0.000	0.746	0.010	0.001	4.983	76.596	22.310	0.981
262sodicfldclast-2-13-1	0.002	0.000	0.656	0.007	0.000	4.996	65.912	33.151	0.745
262sodicfldclast-3-14-1	0.001	0.001	0.747	0.010	0.001	4.982	77.047	21.705	1.070
313perv2altfldld-3-2	0.000	0.006	0.680	0.285	0.001	4.997	69.204	1.193	29.027
et344_gmassfl4-7-1	0	0	0.869	0.021	0.002	4.985	89.406	8.472	2.119
et344_gmassfld1-4-1	0	0.002	0.902	0.02	0.002	4.99	92.169	5.56	2.035
et344_gmassfld2-5-1	0	0	0.914	0.007	0	4.971	95.669	3.553	0.748
et344_gmassfld3-6-1	0	0.001	0.913	0.021	0	4.981	94.498	3.197	2.176
313perv2altfldld-1-4-2	0.001	0.000	0.760	0.125	0.002	4.991	83.048	3.087	13.669
183dissfld-14-1	0.000	0.002	0.748	0.010	0.003	4.990	81.197	17.532	1.089
183dissfld-1-9-1	0.000	0.000	0.784	0.009	0.000	4.999	79.120	19.967	0.912
183dissfld-3-12-1	0.002	0.000	0.781	0.007	0.003	4.993	79.032	20.065	0.750
183dissfldseralt-10-1	0.001	0.001	0.784	0.009	0.003	4.986	80.201	18.675	0.916
101-2vnfld-1-13-1	0.001	0	0.818	0.015	0.003	4.979	84.58	13.713	1.561
101-2vnfld-2-17-1	0.001	0	0.618	0.009	0	4.989	63.227	35.707	0.953
183vnfld-1-6-1	0.000	0.000	0.702	0.014	0.001	5.004	70.117	28.400	1.424
183vnfld-5-1	0.000	0.003	0.739	0.016	0.000	4.989	75.291	22.795	1.591
2012vnfld-19-1	0.000	0.000	0.664	0.023	0.000	4.996	67.142	30.578	2.280
2012vnfld-2-20-1	0.001	0.001	0.631	0.009	0.001	5.000	63.758	35.126	0.913
2012vnfld-3-21-1	0.002	0.000	0.685	0.015	0.001	4.998	69.243	29.089	1.504
66-2vnfld-1-2-1	0	0.001	0.782	0.132	0	4.988	83.612	2.195	14.071
77-2vnfld-3-1	0.003	0	0.742	0.009	0.014	4.985	75.921	22.828	0.95
et334_2vnfld-8-1	0	0	0.82	0.014	0.003	4.981	84.667	13.808	1.497
et334_5vnfld-10-1	0.001	0.001	0.852	0.016	0.004	4.982	87.936	10.245	1.602
et334_5vnfld2-11-1	0	0	0.834	0.016	0.003	4.981	86.04	12.306	1.653
et334_5vnhalofld1-12-1	0.001	0.001	0.844	0.014	0.001	4.976	87.772	10.579	1.48
et334_5vnhalofld2-13-1	0	0	0.63	0.175	0.002	5.122	71.729	8.369	19.901
101-2vnfldhalo-1-18-1	0.002	0.001	0.69	0.01	0.002	4.979	71.789	26.881	1.055
101-2vnhalofld-1-16-1	0.001	0	0.628	0.01	0	4.991	64.789	34.05	1.01
101-2vnhalofld-14-1	0	0	0.409	0.007	0.002	4.694	59.271	39.776	0.951
2012vnhalofld-1-23-1	0.002	0.001	0.760	0.008	0.004	4.987	77.676	21.248	0.859
2012vnhalofld-22-1	0.001	0.000	0.696	0.007	0.002	4.992	70.571	28.565	0.753
et53vein fld2-10-1	0	0.003	0.117	0.872	0.016	5	11.807	0.185	87.679
et53vein fld-9-1	0	0.003	0.113	0.889	0.002	5.011	11.228	0.001	88.425
et53fldvnhalo-2-8-1	0	0.003	0.12	0.876	0.002	5.005	12.052	0.061	87.616
et53fldvnhalo-7-1	0	0	0.089	0.899	0.002	4.997	9.038	0.001	90.925
313vnfld-1-6-2	0.000	0.007	0.139	0.862	0.000	5.014	13.753	0.001	85.514
313vnfld-2-7-2	0.000	0.006	0.642	0.331	0.002	5.006	64.115	2.268	33.046
313vnfld-3-8-2	0.000	0.010	0.118	0.865	0.001	5.001	11.922	0.001	87.107
313vnfld-5-2	0.000	0.008	0.136	0.863	0.001	5.013	13.521	0.001	85.644
2015vnfld-1-13-1	0.002	0.000	0.834	0.008	0.002	4.974	87.860	11.116	0.865
2015vnhalofld-1-14-1	0.001	0.001	0.873	0.006	0.002	4.980	90.183	8.984	0.658
2015vnhalofld-2-15-1	0.001	0.001	0.899	0.008	0.000	4.984	92.653	6.344	0.855
62bt3vnfld-1-7-1	0.002	0.001	0.193	0.033	0	5.036	23.057	72.7	3.953
62bt3vnfld-5-1	0	0	0.075	0.003	0	4.926	22.924	75.946	1.036

Label	assemblage	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	SrO	BaO	Na2O	K2O	P2O5	Sum Ox%	Si	Ti	Al/Al IV	Al VI	Fe3+	Mn2+	Mg	Ca
726fld?halo-13-1	2-distal vein	59.16	0.02	26.84	0.03	0.02	0.02	7.59	0.00	0.03	7.06	0.30	0.04	101.12	2.613	0.001	1.397	0.000	0.001	0.001	0.001	0.359
262fldmatrix-1-7-1	biotite bx	57.89	0.00	27.30	0.30	0.00	0.01	8.75	0.01	0.06	6.56	0.11	0.00	100.99	2.570	0.000	1.428	0.000	0.010	0.000	0.001	0.416
262fldmatrix-3-9-1	biotite bx	60.70	0.01	25.05	0.23	0.00	0.00	6.49	0.19	0.05	7.74	0.16	0.01	100.63	2.688	0.000	1.308	0.000	0.008	0.000	0.000	0.308
262fldmatrix-4-10-1	biotite bx	57.79	0.00	27.67	0.18	0.01	0.00	9.30	0.09	0.00	6.46	0.08	0.04	101.64	2.552	0.000	1.440	0.000	0.006	0.001	0.000	0.440
262fldmatrix-6-1	biotite bx	51.22	0.09	31.59	0.38	0.00	0.04	14.40	0.04	0.01	3.61	0.07	0.00	101.44	2.303	0.003	1.674	0.000	0.013	0.000	0.003	0.694
et241_type2fld1-9-1	THS - primary	57.99	0.04	27.75	0.12	0.02	0	10.46	0.08	0	5.19	0.05	0	101.69	2.555	0.001	1.441	0	0.004	0.001	0	0.494
et241_type2fld2-10-1	THS - primary	57.82	0.01	27.47	0.13	0.05	0	9.58	0.03	0	6	0.07	0	101.16	2.562	0	1.434	0	0.004	0.002	0	0.455
201gmassfld-9-1	THS - primary	68.41	0.04	20.45	0.27	0.01	0.00	3.61	0.03	0.00	7.97	0.15	0.03	100.99	2.956	0.001	1.042	0.000	0.009	0.000	0.000	0.167
101-gmassfld-7-1	THS - primary	56.79	0	28.54	0.22	0.04	0	8.36	0.03	0.08	6.26	0.1	0	100.42	2.532	0	1.499	0	0.007	0.001	0	0.399
66-gmassfld-6-1	THS - primary	62.12	0	24.85	0.1	0.03	0	5.12	0.04	0	8.36	0.14	0	100.77	2.73	0	1.287	0	0.003	0.001	0	0.241
153-fld-1-5-1	THS - primary	47.58	0.02	34.01	0.69	0.03	0.08	16.74	0.15	0.01	1.95	0.05	0.03	101.34	2.16	0.001	1.82	0	0.023	0.001	0.005	0.814
153-fld-2-7-1	THS - primary	46.65	0.06	34.63	0.78	0	0.06	16.94	0.08	0	1.54	0.04	0	100.77	2.129	0.002	1.863	0	0.027	0	0.004	0.828
153-fld-3centre-8-1	THS - primary	47.13	0	34.3	0.48	0	0.06	16.65	0.13	0	1.8	0.04	0	100.6	2.152	0	1.846	0	0.017	0	0.004	0.815
153-fld-3rim-9-1	THS - primary	49.78	0.05	32.28	0.83	0.01	0.11	14.65	0.08	0.05	2.89	0.06	0	100.78	2.258	0.002	1.725	0	0.028	0	0.007	0.712
153-fldcentre-4-1	THS - primary	47.61	0.02	33.92	0.7	0.02	0.07	17	0.1	0	1.91	0.04	0.07	101.45	2.159	0.001	1.813	0	0.024	0.001	0.005	0.826
153-fld-rim-6-1	THS - primary	51.28	0.06	31.25	0.92	0.01	0.07	13.61	0.08	0	3.46	0.07	0.06	100.87	2.315	0.002	1.663	0	0.031	0	0.005	0.658
et334_fldphenocentre1-3-1	THS - primary	62.03	0	24.99	0.13	0	0	5.69	0.06	0	8.36	0.22	0	101.49	2.715	0	1.289	0	0.004	0	0	0.267
et334_fldphenocentre2-4-1	THS - primary	61.4	0	25.16	0.01	0.02	0	6	0	0	7.82	0.2	0.01	100.62	2.707	0	1.307	0	0	0.001	0	0.283
et334_fldphenorim1-1-1	THS - primary	63.14	0.02	24.38	0.04	0.03	0.01	4.96	0	0	8.6	0.24	0.03	101.45	2.755	0.001	1.254	0	0.001	0.001	0.001	0.232
et334_fldphenorim2-2-1	THS - primary	65.68	0.02	22.19	0.14	0	0.01	2.57	0.01	0	9.9	0.27	0	100.79	2.866	0.001	1.141	0	0.005	0	0.001	0.12
et53fldcentre-1-1	THS - primary	63.39	0	24.08	0.19	0	0	4.54	0.11	0.15	8.75	0.37	0.03	101.6	2.766	0	1.238	0	0.006	0	0	0.212
et53fld-nearrim-2-1	THS - primary	63.32	0	24.01	0.21	0	0.01	4.39	0.1	0.01	8.67	0.4	0	101.11	2.772	0	1.239	0	0.007	0	0	0.206
et53fld-rim-3-1	THS - primary	65.13	0	22.82	0.11	0.01	0	3.17	0.02	0.06	9.66	0.28	0.08	101.34	2.834	0	1.17	0	0.004	0	0	0.148
101-silverfld-1-5-1	early magnetite	57.29	0	27.73	0.3	0	0	8.85	0.03	0.05	6.32	0.15	0	100.72	2.551	0	1.455	0	0.01	0	0	0.422
101-silverfld-2-6-1	early magnetite	56.56	0	28.6	0.48	0	0	9.75	0	0	5.89	0.08	0.02	101.37	2.507	0	1.494	0	0.016	0	0	0.463
101-silverfld-4-1	early magnetite	58.46	0.03	27.42	0.49	0	0	8.22	0.03	0.05	6.64	0.14	0.05	101.53	2.577	0.001	1.425	0	0.016	0	0	0.388
149-silverfld-11-1	early magnetite	43.62	0.02	34.99	1.53	0.02	0	19.22	0.13	0.06	0.54	0.35	0	100.49	2.025	0.001	1.914	0	0.053	0.001	0	0.956
149-silverfld-1-12-1	early magnetite	46.57	0	34.23	0.66	0	0.15	17.5	0.1	0	0.96	0.27	0.01	100.46	2.134	0	1.849	0	0.023	0	0.01	0.859
149-silverfld-2-13-1	early magnetite	45.62	0	35.63	0.48	0.02	0.01	18.02	0	0	1.02	0	0.07	100.87	2.083	0	1.917	0	0.016	0.001	0.001	0.881
232fldsilver-11-1	early magnetite	43.54	0.00	36.37	0.72	0.09	0.00	20.12	0.14	0.00	0.46	0.03	0.02	101.48	1.997	0.000	1.966	0.000	0.025	0.003	0.000	0.989
232fldsilver-1-21-1	early magnetite	45.31	0.00	35.80	0.31	0.05	0.00	19.34	0.27	0.03	1.08	0.02	0.00	102.23	2.056	0.000	1.915	0.000	0.011	0.002	0.000	0.940
232fldsilver-20-1	early magnetite	45.11	0.00	35.65	0.26	0.01	0.00	19.12	0.11	0.05	0.99	0.04	0.05	101.40	2.060	0.000	1.918	0.000	0.009	0.000	0.000	0.935
66-silverfld-12-1	early magnetite	54.29	0.04	29.52	0.73	0.06	0.15	10.47	0.06	0.11	5.11	0.29	0.06	100.88	2.433	0.001	1.559	0	0.025	0.002	0.01	0.503
66-silverfld-14-1	early magnetite	51.15	0.01	32.1	0.55	0	0.02	13.64	0.07	0.01	3.63	0.05	0.02	101.25	2.299	0	1.701	0	0.018	0	0.002	0.657
et47fldsilver3-9-1	early magnetite	47.46	0.01	34.49	0.2	0.01	0	17.29	0.12	0.02	1.62	0.01	0	101.23	2.153	0	1.844	0	0.007	0	0	0.841
et47fldsilver-5-1	early magnetite	47.09	0	34.87	0.28	0.03	0	17.55	0.13	0.04	1.77	0.02	0.02	101.8	2.13	0	1.859	0	0.01	0.001	0	0.851

Appendix 2d, El Teniente amphibole compositions

Label	assemblage	SiO2	TiO2	Al2O3	Cr2O3	Fe2O3(c)	FeO(c)	MnO	MgO	CaO	Na2O	K2O	BaO	SrO	ZrO2	F	Cl	H2O(c)	O=F	O=Cl	Sum Ox%	Si
232amphphenosilver-9-1	early magnetite	53.63	0.22	3.43	0.32	3.16	6.26	0.48	17.54	12.66	0.22	0.10	0.06	0.00	0.00	0.01	0.02	2.12	0.00	0.00	100.22	7.556
232ampsilver-12-1	early magnetite	52.94	0.39	3.87	0.02	2.63	6.90	0.63	17.06	12.64	0.29	0.10	0.00	0.00	0.00	0.01	0.08	2.09	0.01	0.02	99.64	7.519
232ampsilver-1-13-1	early magnetite	44.25	0.03	33.01	0.04	0.00	1.86	0.07	1.69	19.41	0.38	0.01	0.00	0.12	0.03	0.00	0.02	2.24	0.00	0.01	103.19	5.904

note, Fe^{3+} used to calculate Fe2O3, Fe^{2+} used to calculate FeO

Label	Sr	Ba	Na	K	P	Sum Cati	Ab	An	Or
726fld?halo-13-1	0.000	0.001	0.605	0.017	0.001	4.996	61.602	36.602	1.734
262fldmatrix-1-7-1	0.000	0.001	0.564	0.006	0.000	4.997	57.095	42.121	0.656
262fldmatrix-3-9-1	0.005	0.001	0.665	0.009	0.001	4.991	67.337	31.173	0.909
262fldmatrix-4-10-1	0.002	0.000	0.553	0.005	0.002	5.001	55.304	44.015	0.450
262fldmatrix-6-1	0.001	0.000	0.314	0.004	0.000	5.009	31.022	68.495	0.372
et241_type2fld1-9-1	0.002	0	0.443	0.003	0	4.944	47.054	52.421	0.303
et241_type2fld2-10-1	0.001	0	0.516	0.004	0	4.978	52.892	46.65	0.379
201gmassfld-9-1	0.001	0.000	0.668	0.008	0.001	4.854	79.101	19.801	1.000
101-gmassfld-7-1	0.001	0.001	0.541	0.006	0	4.988	57.09	42.087	0.596
66-gmassfld-6-1	0.001	0	0.712	0.008	0	4.984	73.992	25.077	0.831
153-fld-1-5-1	0.004	0	0.172	0.003	0.001	5.004	17.308	81.999	0.267
153-fld-2-7-1	0.002	0	0.136	0.002	0	4.993	14.073	85.475	0.243
153-fld-3centre-8-1	0.004	0	0.159	0.003	0	4.998	16.221	83.154	0.264
153-fld-3rim-9-1	0.002	0.001	0.254	0.004	0	4.993	26.112	73.22	0.363
153-fldcentre-4-1	0.003	0	0.168	0.002	0.003	5.003	16.785	82.729	0.235
153-fld-rim-6-1	0.002	0	0.303	0.004	0.002	4.986	31.282	68.075	0.427
et334_fldphenocentre1-3-1	0.002	0	0.709	0.013	0	4.999	71.629	26.946	1.263
et334_fldphenocentre2-4-1	0	0	0.668	0.011	0	4.978	69.407	29.436	1.156
et334_fldphenorim1-1-1	0	0	0.727	0.014	0.001	4.986	74.786	23.821	1.393
et334_fldphenorim2-2-1	0	0	0.837	0.015	0	4.986	86.088	12.375	1.518
et53fldcentre-1-1	0.003	0.003	0.741	0.021	0.001	4.991	75.672	21.671	2.113
et53fld-nearrim-2-1	0.003	0	0.736	0.022	0	4.985	76.116	21.291	2.299
et53fld-rim-3-1	0	0.001	0.815	0.015	0.003	4.99	83.204	15.068	1.581
101-silverfld-1-5-1	0.001	0.001	0.546	0.008	0	4.994	55.787	43.182	0.855
101-silverfld-2-6-1	0	0	0.506	0.005	0.001	4.992	51.954	47.555	0.491
101-silverfld-4-1	0.001	0.001	0.567	0.008	0.002	4.986	58.779	40.232	0.824
149-silverfld-11-1	0.003	0.001	0.049	0.021	0	5.025	4.754	92.777	2.019
149-silverfld-1-12-1	0.003	0	0.085	0.016	0	4.98	8.87	89.202	1.665
149-silverfld-2-13-1	0	0	0.09	0	0.003	4.992	9.295	90.676	0.023
232fldsilver-11-1	0.004	0.000	0.041	0.002	0.001	5.028	3.973	95.504	0.169
232fldsilver-1-21-1	0.007	0.001	0.095	0.001	0.000	5.029	9.137	90.013	0.108
232fldsilver-20-1	0.003	0.001	0.088	0.002	0.002	5.019	8.507	90.885	0.221
66-silverfld-12-1	0.002	0.002	0.444	0.017	0.002	5	45.894	52.032	1.708
66-silverfld-14-1	0.002	0	0.316	0.003	0.001	4.999	32.303	67.172	0.317
et47fldsilver3-9-1	0.003	0	0.142	0.001	0	4.992	14.423	85.145	0.072
et47fldsilver-5-1	0.003	0.001	0.156	0.001	0.001	5.013	15.389	84.089	0.129

Label	Ti	Al/Al IV	Al VI	Cr	Fe3+	Fe2+	Mn2+	Mg	Ca	Sr	Zr	F	Cl	OH	Sum Cat#	XMg	Mg no %	Mag no cation
232amphphenosilver-9-1	0.023	0.444	0.125	0.036	0.335	0.737	0.057	3.683	1.911	0.000	0.000	0.005	0.005	1.990	16.990	0.833	0.65059347	0.7745531
232ampsilver-12-1	0.042	0.481	0.167	0.003	0.281	0.819	0.076	3.612	1.923	0.000	0.000	0.006	0.018	1.976	17.023	0.815	0.64159458	0.76655348
232ampsilver-1-13-1	0.003	2.096	3.095	0.004	0.000	0.208	0.008	0.337	2.775	0.009	0.002	0.000	0.005	1.995	16.544	0.619	0.47605634	0.61834862

note, Fe^{3+} used to calculate

APPENDIX 3. GEOCHRONOLOGICAL DATASETS FROM PREVIOUS AUTHORS

Appendix 3A. K-Ar ages of Cuadra (1986, 1992)

TABLA 2. DATACIONES RADIOMETRICAS CODELCO CHILE DIVISION EL TENIENTE AGRUPADAS EN LAS DIFERENTES UNIDADES GEOLOGICAS ESTUDIADAS.

MUESTRA Nº	COORDENADAS NORTE	COORDENADAS ESTE	ALTURA	MATERIAL ANALIZADO	% K	Ar40 Rad nl/g	Ar40 Atm %	EDAD Ma	ERROR 2s	Nº INFORME DATACION	FECHA	RECOLECTOR Y ANALISIS	PUBL	C	UNIDAD GEOLOGICA. TIPO DE ROCA
T5-209	620 N	405 E	2284	Biotita	6.577	1.203	37.6	4.7	0.2	RCHO/83	831017	PCC	*	11	Andesita biotitizada. Intensa alteración potásica.
DDH-1091A/2970	195 S	644 E	1184	Roca total	1.421	0.408	90.6	7.4	1.5	47/85	850607	PCC	*	12	Diorita Sewell en zona de contacto con andesita.
DDH-1091/2842	177 S	649 E	1218	Roca total	1.511	0.420	87.1	7.1	1.0	47/85	850607	PCC	*	12	Diorita Sewell en zona de contacto con andesita.
DDH-1091/2853	179 S	648 E	1215	Roca total	1.170	0.292	83.0	6.4	0.7	47/85	850607	PCC		12	Andesita con Pórfido diorítico (Diorita Sewell) Asociación biotita-hornblenda.
DDH-1154/526	181 S	1509 E	2316	Roca total	2.906	0.567	63.9	5.0	0.3	47/85	850607	PCC		12	Andesita con fuerte alteración biotita-sericita cerc del contacto con la Diorita Sewell.
DDH-903/239	395 S	1317 E	2530	Roca total	3.841	0.728	50.0	4.9	0.2	91/84	841226	PCC		12	Pórfido Tonalítico. Sector externo intensament sericitizado de la Diorita Sewell (?).
T5-273	124 S	1561 E	2284	Biotita	7.306	1.483	72	5.2	0.4	12/90	900131	APG		12	Diorita con biotita
DDH-1147/555	023 S	163 E	2307	Biotita	6.821	1.442	78.5	5.4	0.5	83/85	850809	PCC		13	Pórfido A. Intensa alteración potásica (biotita pertita - cuarzo - anhidrita)
DDH-1334/258	128 N	1566 E	2303	Biotita	6.264	1.145	68	4.7	0.4	18/87	870220	AAT-PCC		13	Andesita con intensa alteración potásica en el entorn de zona de alteración del Pórfido A.
DDH-1334/390	138 N	1594 E	2275	Biotita	7.267	1.517	73	5.4	0.4	115/86	870107	AAT-PCC		13	Veta tardimagmática asociada al Pórfido A (?). co cristales mayores de biotita y pertita en Di
T3-49	098 S	1606 E	2401	Biotita	7.237	1.490	75	5.1	0.4	117/86	870107	RMO		13	Alteración potásica sobreimpuesta por el Pórfido A (? a una alteración sericítica en Diorita S
T5-240	083 N	1612 E	2284	Biotita	6.186	1.444	66	6.0	0.5	115/86	870107	PCC		13	Pórfido A. Intensa alteración potásica (biotita pertita - cuarzo - anhidrita).
DDH-1068/3074	216 N	837 E	1050	Roca total	3.216	0.544	87.8	4.3	0.6	47/85	850607	PCC		14	Pórfido latítico o granodiorítico (?) en sondaj profundo. Alteración potásica.
T3-58	462 S	900 E	2417	Roca total	2.643	0.506	64	4.9	0.4	12/90	900131	MRI	*	14	Pórfido latítico verde.
				Roca total		0.051	48	5.0	0.4	12/90	900131	MRI		14	
T3-64	445 S	947 E	2417	Plagioclasa	1.273	0.265	76	5.3	0.6	12/90	900131	MRI	*	14	
				Biotita	5.661	1.067	74	4.8	0.7	12/90	900131	MRI	*	14	Pórfido latítico negro. Fuerte alteración potásica.
T5-242	415 S	853 E	2284	Biotita	7.259	1.336	69	4.7	0.3	115/86	870107	PCC		14	Cristales mayores de biotita en zona brechizada posiblemente relacionada con el pórfido latítico.
T6-109	750 N	560 E	2165	Biotita	6.203	1.112	68.4	4.6	0.3	43/84	840820	PCC	*	15	Porfido Teniente. Alteración potásica en zona d contacto con andesita.
T7-10	985 N	530 E	2042	Biotita	6.238	0.970	78.1	4.0	0.4	43/84	840820	PCC	*	15	Pórfido Teniente. Alteración potásica en zona d contacto con andesita
LHD-2	349 N	959 E	2372	Roca total	5.008	0.916	54.2	4.7	0.2	04/85	850114	PCC	*	16	Borde sericitizado de clasto de andesita en Brech Marginal.
LHD-3	404 N	983 E	2372	Roca total	5.239	0.968	58.2	4.7	0.3	04/85	850114	PCC	*	16	Borde sericitizado de clasto de andesita en Brech Marginal.
T4LHD-9	342 N	954 E	2354	Roca total	5.476	0.988	52	4.6	0.2	115/86	870107	PCC		16	Borde sericitizado de clasto de andesita en Brech Marginal.
T5-214	360 N	495 E	2284	Roca total	5.338	0.928	52.6	4.5	0.2	07/85	850122	PCC	*	17	Borde sericitizado de clasto de andesita en Brech Braden.
DDH-1200/104	668 S	1091 E	2575	Muscovita	7.718	1.616	65	5.4	0.3	115/86	870107	PCC		18	Vetilla tardía con sericita gruesa (muscovita) e Diorita Sewell.
DDH-1255/360	435 S	1069 E	2366	Roca total	4.240	0.782	61.9	4.7	0.2	71/85	850719	PCC		18	Intensa alteración sericítica en Diorita Sewell (?).
T3-22	065 S	1320 E	2401	Roca total	1.205	0.172	70.0	3.8	0.3	85/84	841213	PCC	*	19	Dique de lamprófido en la mina.
				Roca total	1.205	0.179	64.4					PCC	*	19	

MUESTRA Nº	COORDENADAS NORTE	ESTE	ALTURA	MATERIAL ANALIZADO	% K	Ar40 Rad nl/g	Ar40 Atm %	EDAD Ma	ERROR 2s	Nº INFORME DATACION	FECHA	RECOLECTOR Y ANALISIS	PUBL	UNIDAD	GEOLOGICA. TIPO DE ROCA
E-1284	6231225	368950	SUPERFICIE	Roca total	2.099	0.836	45.8	10.2	0.5	07/85	850122	RGO-PCC	*	31	Formación Farellones. Andesita afanítica gris os
E-1392	6221760	361110	SUPERFICIE	Roca total	2.065	0.878	33.3	10.9	0.4	91/84	841226	RCHG	*	31	Formación Farellones. Andesita porfídica gris oscu
E-1233	6227900	364600	SUPERFICIE	Roca total	1.788	0.463	57.3	6.6	0.4	43/84	840820	PCC	*	32	Unidad Cerro Montura. Andesita gris de piroxen Megaclasto en Colón (?)
E-1292	6229800	366700	SUPERFICIE	Roca total	2.171	0.698	69.4	8.2	0.5	43/84	840820	PCC	*	32	Unidad Cerro Montura. Pórfido andesítico fino.
E-1363	6225800	362375	SUPERFICIE	Biotita	6.471	2.271	46.6	9.0	0.3	63/84	841022	RGO-PCC	*	32	Unidad Cerro Montura. Toba de cristales en cami acceso Barahona.
E-1425	6229840	366730	SUPERFICIE	Roca total	2.164	0.689	31.3	8.2	0.3	47/85	850607	PCC	*	32	Unidad Cerro Montura. Pórfido andesítico fino con pl y clinopx.
E-1500	6225512	371166	SUPERFICIE	Roca total	1.318	0.404	78	7.9	0.7	115/86	870107	RMG		33	Agua Amarga. Brecha silícea hidrotermal (con alunit que intruye a andesitas Fm. Farellones.
E-1507	6225626	371191	SUPERFICIE	Roca total	1.303	0.404	77	8.0	0.7	115/86	870107	RMG		33	Agua Amarga. Brecha silícea hidrotermal (con alunit que intruye a andesitas Fm. Farellones.
E-1541	6225523	370677	SUPERFICIE	Roca total	3.631	1.259	34	8.9	0.3	115/86	870107	RMG		33	Agua Amarga. Porfido dioritico que intruye a andesit de la Fm. Farellones.
ES-14/82.3	6231895	371628	2694	Roca total	3.418	1.154	47	8.7	0.4	115/86	870107	PCC		34	Olla Blanca. Andesita de la Fm. Farellones c alteración sericítica intensa.
E-1299	6231830	371630	SUPERFICIE	Roca total	0.893	0.279	90.2	8.0	1.6	59/84	841008	RMG-PCC	*	34	Alteración sericítica Olla Blanca.
E-1300	6231690	371850	SUPERFICIE	Roca total	3.770	1.322	24.4	9.0	0.3	59/84	841008	RMG-PCC	*	34	Alteración sericítica Olla Blanca.
ES-12/595.4	6230762	377061	2608	Roca total	4.908	0.955	67.4	5.0	0.3	51/85	850607	PCC	*	35	Borde sericitizado de clasto andesítico en Brec Extravío. La Huifa.
ES-23/237	6230574	377581	3100	Roca total	5.041	1.336	40	6.8	0.2	12/90	900131	CSM		35	Andesita con fuerte alteración sericítica en el entor de brechas de turmalina del prospecto L
E-1359	6231700	377920	SUPERFICIE	Biotita	6.025	1.655	61.5	7.0	0.4	59/84	841008	PCC	*	35	Pórfido dioritico grueso Laguna Negra. Prospecto Huifa- La Negra
BS-588	6225750	365170	SUPERFICIE	Anfibola	0.438	0.050	81.6	2.9	0.6	82/84	841205	PCC	*	36	Dique de lamprófido en camino a Caletones, atraviesan brechas volc. de Fm. farellones
CC-263b	6227300	362100	SUPERFICIE	Roca total	3.504	0.176	96.3	1.3	0.7	85/84	841213	RGO-PCC	*	37	Depósitos de ceniza blanca intercalada (?) en lahare
E-1391	6213300	363570	SUPERFICIE	Biotita	5.607	1.476	95.4	6.8	2.8	36/85	850508	PCC-RGO		37	Fragmentos de pómez, con cristales de biotita de 1 a mm, incluidos en una capa de ceniza de Fm. Colón-Coy

NOTA: Las muestras del yacimiento El Teniente están referidas al sistema de coordenadas Mina. Las muestras de superficie (otros sectores) están referidas al sistema de coordenadas UTM.

CLASIFICACION DE LAS MUESTRAS POR UNIDAD GEOLOGICA

11 Andesita
12 Diorita Sewell
13 Porfido A
14 Pórfido latitico
15 Pórfido Teniente
16 Brecha Marginal
17 Brecha Braden
18 Otros
19 Lamprófido

31 Formación Farellones
32 Unidad Cerro Montura
33 Prospecto Agua Amarga
34 Prospecto Olla Blanca
35 Prospecto La Huifa-La Negra
36 Dique de lamprófido
37 Formación Colón-Coya

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RGO	Rodrigo Gómez Ortega (Memorista)
RMG	Rodrigo Morel Guzmán
RCHG	Reynaldo Charrier (Profesor U. Chilea)

Appendix 3B. ^{40}Ar-^{39}Ar ages of Maksaev et al (2004)

Results of $^{40}Ar/^{39}Ar$ step heating age data of El Teniente

Sample	Drillhole number	(m)	Mineral	Unit	**WMPA** (Ma ± 1σ)	Isochron Age (Ma ± 1σ)	MSWD	Isochron fit	**TGA** (Ma ± 1σ)	Comments
TT-1116	1116	432.8	biotite	Sewell Quartz Diorite	**5.63 ± 0.06**	5.51 ± 0.23	1.74	good	5.44 ± 0.08	Unmineralized; outside of the orebody
TT-1140	1140	501.7	biotite	Sewell Quartz Diorite	**5.47 ± 0.06**	5.49 ± 0.08	0.45	good	5.30 ± 0.13	Unmineralized; outside of the orebody
TT-01	1334	360	biotite	Sewell Quartz Diorite	**5.06 ± 0.06**	5.06 ± 0.06	3.26	bad	4.98 ± 0.09	coarse hydrothermal biotite
TT-19	1514	522.2	biotite	Teniente Dacite Porph.	**4.77 ± 0.07**	4.79 ± 0.08	0.90	good	4.79 ± 0.18	fine hydrothermal biotite
TT-09	1337	291.4	biotite	Sewell Quartz Diorite	**4.74 ± 0.05**	4.74 ± 0.05	0.88	good	4.66 ± 0.07	coarse hydrothermal biotite
TT-15	1891	87.5	biotite	Andesite	**4.69 ± 0.05**	4.72 ± 0.06	1.94	good	4.64 ± 0.06	pervasive biotitization
TT-18	1514	521.7	sericite	Teniente Dacite Porph.	**4.69 ± 0.06**	4.72 ± 0.07	0.65	good	4.52 ± 0.07	coarse hydrothermal sericite
TT-21	1514	371	biotite	Teniente Dacite Porph.	**4.69 ± 0.06**	4.43 ± 0.24	3.18	good		coarse biotite
TT-56	1300	374.9	biotite	Andesite	**4.68 ± 0.05**	4.68 ± 0.06	1.87	good	4.73 ± 0.07	coarse biotite-quartz vein
TT-22	1514	302	sericite	Teniente Dacite Porph.	**4.65 ± 0.06**	4.73 ± 0.09	1.12	good	4.76 ± 0.06	sericitic halo of quartz-chalcopyrite-molybdenite vein
TT-108	1091A	941.2	biotite	Sewell Quartz Diorite	**4.62 ± 0.06**	4.66 ± 0.13	1.68	good	4.58 ± 0.08	potassic alteration (biotite)
TT-21	1514	371	sericite	Teniente Dacite Porph.	**4.61 ± 0.07**	4.57 ± 0.12	0.17	good		quartz-sericite vein
TT-43	1407	271.8	sericite	Dacite dike	**4.61 ± 0.06**	4.61 ± 0.10	1.36	good	4.67 ± 0.06	pervasive quartz-sericite alteration
TT-105	1068	976.9	biotite	Dacite dike	**4.58 ± 0.05**	4.57 ± 0.06	2.11	good	4.66 ± 0.07	magmatic biotite
tt-Mo-5	1514	462	sericite	Teniente Dacite Porph.	**4.57 ± 0.06**	4.56 ± 0.07	0.70	good	4.54 ± 0.17	sericitic halo of molybdenite-chalcopyrite vein
TT-46	1409	468.5	sericite	Dacite dike	**4.56 ± 0.06**	4.56 ± 0.06	1.09	good	4.60 ± 0.06	quartz-sericite-carbonate alteration
TT-30	1414	369.4	sericite	Dacite dike	**4.52 ± 0.06**	4.53 ± 0.09	0.40	good		sericitic halo of quartz vein
TT-143	2008	157.6	Sericite	Dacite stock	**4.46 ± 0.05**	4.47 ± 0.06	0.74	good	4.44 ± 0.05	quartz-sericite alteration; poorly mineralized
TT-19	1514	522.2	Sericite	Teniente Dacite Porph.	**4.40 ± 0.05**	4.39 ± 0.16	8.84	bad	4.36 ± 0.08	coarse sericitic halo of quartz-anhydrite-calcite-sericite-molybdenite vein

Sample Level	Coord. mine (m)	(m)	Mineral	Unit	WMPA (Ma ± 1σ)	Isochron Age (Ma ± 1σ)	MSWD	Isochron fit	**TGA** (Ma ± 1σ)	Comments
TT-138			Sericite	Braden Breccia	4.75 ± 0.06	4.74 ± 0.08	1.24	good	4.81 ± 0.07	sericite alteration of a fragment
TT-101 2347 m	265S	1365E	Biotite	Sewell Quartz Diorite	4.72 ± 0.06	4.72 ± 0.07	1.54	good	4.72 ± 0.06	also zircon U-Pb dated
T-7 # 10 2942 m	985N	530E	Biotite	Teniente Dacite Porph.	4.69 ± 0.09	4.68 ± 0.36		good	3.87 ± 0.12	biotite K-Ar 4.6 ± 0.3 Ma; Cuadra, 1986
TT-144 1980 m	430N	471E	Sericite	Dacite stock	4.55 ± 0.06	4.56 ± 0.08	0.15	good	4.44 ± 0.07	quartz-sericite alteration, poorly mineralized
TT-141 2452 m	249.76S	1133.53E	hornblende	Andesite dike	3.85 ± 0.09	4.28 ± 0.61	22.24	bad	3.33 ± 0.18	post-mineralization dike

Sample	Drillhole number	(m)	Whole Rock	Unit	WMPA (Ma ± 1σ)	Isochron Age (Ma ± 1σ)	MSWD	Isochron fit	**TGA** (Ma ± 1σ)	Comments
TT-74	1309	140.8	biotitic	Andesite	4.78 ± 0.07	4.69 ± 0.04	4.28	bad	5.63 ± 0.46	potassic alteration (biotite)
DDH-1091A	1091A	905.2	biotitic	Sewell Quartz Diorite	4.69 ± 0.05	4.52 ± 0.19	0.54	good	5.69 ± 0.08	biotite K-Ar 7.1 ± 1.0 Ma; Cuadra, 1986
TT-50	1309	146.6	sericitic	Northern Diorite	4.62 ± 0.06	4.51 ± 0.18	5.44	bad		pervasive quartz-sericite alteration
TT-39	1333	126.5	sericitic	Central Diorite	4.55 ± 0.05	4.53 ± 0.05	0.79	good	4.40 ± 0.12	pervasive quartz-sericite-smectite alteration
TT-64	1309	98.1	sericitic	Northern Diorite	4.55 ± 0.06	4.56 ± 0.07	0.7	good	4.53 ± 0.06	pervasive quartz-sericite alteration
TT-69	1309	157.7	sericitic	Northern Diorite	4.54 ± 0.06	4.54 ± 0.07	1.27	good	4.50 ± 0.09	coarse sericite; pervasive quartz-sericite alteration
TT-60	1309	68.6	sericitic	Northern Diorite	4.47 ± 0.05	4.37 ± 0.07	0.22	good	4.31 ± 0.09	coarse sericite; pervasive quartz-sericite alteration
TT-1673		510	biotitic	Gabbro	4.46 ± 0.11	4.51 ± 0.12	1.05	good	4.81 ± 0.44	potassic alteration (biotite-magnetite)
TT-81	1311	669	sericitic	Sewell Quartz Diorite	4.37 ± 0.05	4.37 ± 0.06	0.85	good	4.23 ± 0.06	pervasive quartz-sericite-smectite alteration

Sample Level	Coordinates mine	(m)	Whole Rock	Unit	**WMPA** (Ma ± 1σ)	Isochron Age (Ma ± 1σ)	MSWD	Isochron fit	**TGA** (Ma ± 1σ)	Comments
TT-93 2160 m	225N	820E	Sericitic	Braden Breccia	**4.81 ± 0.05**	4.81 ± 0.06	2.32	good	4.70 ± 0.06	sericite halo of chalcopyrite vein
TT-102 2161 m	1016N	1110E	Sericitic	Northern Diorite	**4.74 ± 0.06**	4.70 ± 0.09	1.16	good	4.66 ± 0.10	also zircon U-Pb dated
TT-135	220N	975E	Sericitic	Fine Breccia	**4.68 ± 0.06**	4.74 ± 0.11	22.42	bad	4.59 ± 0.05	tourmalinized diatreme breccia
LHD-3 2372 m	404N	983E	Sericitic	Marginal Breccia	**4.67 ± 0.11**	4.78 ± 0.19	0.57	good	4.97 ± 0.11	sericitized border of andesite fragment; whole rock K-Ar 4.7 ± 0.3 Ma; Cuadra, 1986
TT-137	301N	890E	Sericitic	Marginal Breccia	**4.60 ± 0.05**	4.62 ± 0.15	30.48	bad	4.51 ± 0.05	sericitized fragment of the breccia
T-5-214 2284 m	360N	495E	Sericitic	Braden Breccia	**4.60 ± 0.03**	4.57 ± 0.03	0.27	good	4.66 ± 0.03	sericitized border of andesite fragment; whole rock K-Ar age 4.5 ± 0.2 Ma; Cuadra, 1986
TT-136	240N	975E	Sericitic	Fine Braden Breccia	**4.58 ± 0.06**	4.59 ± 0.06	1.13	good	4.46 ± 0.06	bedded section of the Braden Breccia
TT-134	102N	975E	Sericitic	Hydrothermal Breccia	**4.49 ± 0.05**	4.49 ± 0.06	1.34	good	4.48 ± 0.05	Within Braden Breccia

WMPA = Weighted Mean Plateau Age
MSWD = Mean standard weighted deviation
TGA = Total Gas Age

Drillhole location

Drillhole	Latitude*	Long.*	Level	Azimuth	Inclination
	(m)	(m)	(m)	(°)	(°)
DDH 1116	-325	1790	2161	128°35'	-22°
DDH 1140	-107.043	1494.399	2400	128°35'	-45°
DDH 1300	1058.598	741.937	2282.905	0	-90°
DDH 1309	1078.674	914.685	2283.224	0	-90°
DDH 1311	-304.542	1210.329	2606.672	0	-90°
DDH 1333	224.746	1454.045	2375.695	265°13'	17
DDH 1334	109.159	1515.361	2358.996	70°08'30"	-45°
DDH 1337	108.659	1515.437	2358.818	89°35'	-55°
DDH 1407	-421.342	419.551	2283.802	192°18'	-13°
DDH 1409	-385.602	644.634	2284.908	194°25'	-25°
DDH 1414	-365.716	462.982	2357.335	190°33'	-27°
DDH 1514	1018.637	388.080	2282.115	0	-90°
DDH 1891	1084.175	919.092	2075.513	270°	9°
DDH 1091A	215.661	753.924	1983	195°	-62°
DDH 1068	217.695	755.098	1982	91°	-85
DDH 2008	399.422	246.419	2100	91°	-72°

* Local metric mine coordinates

Appendix 4 - Geochemistry of Teniente host sequence and regional units from previous authors

Teniente host sequence - Skewes (1997A), Skewes et al. (2002)

	AM-2	SG8-998	1529-1182	1698-1022	1698-1157	SG8-831	1313-205	1331-91	1411-1243	1411-1651	1411-1630	1686-257
SiO2	49.30	47.03	46.57	48.62	49.96	49.29	50.73	47.40	53.55	45.97	51.05	53.57
TiO2	0.96	1.19	1.11	1.16	1.07	1.09	0.99	1.05	18.74	16.99	17.07	18.61
Al2O3	20.67	21.51	20.56	20.39	20.56	20.29	19.53	21.55	10.19	11.69	11.04	4.60
Fe2O3	9.71	11.60	9.70	9.22	9.03	9.60	8.10	6.95	3.37	5.81	5.75	4.24
Na	0.37	0.52	0.72	0.90	0.87	0.94	1.23	2.86	1.11	0.49	1.82	2.00
K	3.56	2.38	3.28	2.66	2.86	2.40	2.41	2.14	2.21	2.77	1.74	3.35
MnO	0.13	0.17	0.12	0.17	0.14	0.10	0.08	0.06	0.06	0.15	0.08	0.04
MgO	3.78	3.52	4.54	4.74	3.65	4.67	4.12	6.20	7.23	9.57	6.58	4.71
CaO	9.33	9.93	10.94	10.14	9.06	9.15	9.35	6.42	1.07	1.22	1.09	0.85
K2O	4.40	2.94	4.05	3.29	3.53	2.96	2.97	2.64	2.73	3.42	2.15	4.14
Na2O	0.52	0.73	1.02	1.27	1.23	1.33	1.73	4.03	1.56	0.69	2.56	2.81
P2O5	0.25	0.29	0.29	0.20	0.21	0.32	0.23	0.25	0.28	0.20	0.19	0.21
LOI	0.58	1.04	0.54	0.75	1.60	2.07	2.10	1.29	1.58	1.11	1.46	1.94
Sum	99.65	99.65	99.34	99.95	99.96	100.07	99.82	99.74	100.30	99.82	99.05	96.02
Cr	36.70	40.50	34.50	47.20	42.90	51.80	66.60	38.60	20.00	103.00	198.00	16.00
Co	60.60	24.90	33.00	64.60	27.60	32.60	12.30	29.10	26.50	23.50	20.50	23.50
Ni	39.50	29.50								36.00	68.00	11.00
Rb	40.70	37.30	57.60	56.60	71.20	69.50	105.00	201.00	93.30	32.33	159.30	175.30
Sr	935	459	594	456	433	476	519	468	429	472	383	481
Cs	1.30	5.10	4.70	6.10	5.60	7.50	9.35	21.70	11.00	2.60	18.00	10.00
Ba	490	105	195	143	119	162	91	192	99	62	99	485
Sc	26.10	26.90	25.00	27.90	25.40	21.60	23.40	26.50	22.00	31.00	30.00	16.00
Ta	2.50	1.46	1.07	2.49	1.55	0.60	0.74	0.77	1.89	0.42	0.31	1.44
Hf	5.40	2.00	2.30	2.40	2.50	2.40	1.80	1.90	3.10	1.70	1.70	2.00
Th	7.60	1.20	1.60	1.50	1.90	1.90	1.30	1.00	3.88	1.28	1.18	0.96
U	5.00	0.50	0.50	0.50	0.50	0.50	1.50	0.50	1.30	0.54	0.67	0.47
La	24.80	9.70	11.40	10.40	7.36	8.90	7.96	4.45	6.92	11.77	11.37	6.92
Ce	49.60	22.40	27.90	23.90	19.20	19.60	16.60	9.74	16.70	26.80	26.40	15.00
Nd	27.10	14.90	17.60	16.40	10.20	12.40	11.10	6.00	9.90	15.80	15.50	7.31
Sm	6.57	3.57	4.03	4.02	2.96	4.01	3.08	1.65	2.61	3.88	3.71	1.53
Eu	1.44	1.16	1.15	1.26	1.01	1.07	0.92	0.76	0.85	1.37	1.04	0.74
Tb	0.67	0.47	0.55	0.63	0.55	0.46	0.42	0.26	0.48	0.58	0.51	0.19
Yb	2.92	1.61	2.19	1.91	1.90	1.44	1.51	1.04	1.95	1.76	1.48	0.67
Lu	0.37	0.22	0.31	0.29	0.29	0.18	0.19	0.17	0.30	0.27	0.21	0.11
Cu									210.00	55.00	321.00	1602.00
Zn									78.00	56.00	75.00	78.00
Mo									0.50	0.20	0.10	0.20
Pb									20.00	24.00	18.00	27.00
LOI Factor	1.01	1.01	1.01	1.01	1.02	1.02	1.02	1.01	1.02	1.01	1.01	1.02

Coya Machali Formation and Teniente volcanic complex (Kay and Kurtz, 1995)

	Coya-Machali Formatior			Maqui Chico Group							Lower Sewell group					
	CM- 1	CM-5	CM-2	KET-45	KET-54	KET-52	KET-3	KET55	KET74	KET69	TTE-70	KET-211	TTE-66	KET151	KET167A	
SiO2	59.93	59.30	61.50	50.75	56.10	56.47		52.30	47.75	51.10	53.59	53.88	54.50	53.28	57.72	
TiO2	1.26	0.92	1.08	1.05	1.17	0.93		1.07	0.98	1.20	1.09	0.98	1.10	1.08	0.93	
Al2O3	15.64	17.87	15.22	19.08	17.82	18.37		18.62	16.59	20.37	17.45	17.41	18.44	3.90	18.76	
Fe2O3	8.66	7.73	8.84	7.69	7.54	7.02		6.36	7.88	8.37	8.64	7.97	8.71	8.08	7.24	
Na	3.47	2.71	2.38	1.82	2.79	2.62		2.46	2.16	2.22	2.43	2.34	2.47	2.83	3.00	
K	0.89	0.14	0.30	0.28	1.82	0.82		1.60	1.73	0.30	1.60	1.33	1.64	0.92	0.99	
MnO	0.22	0.19	0.21	0.13	0.15	0.17		0.25	0.22	0.19	0.14	0.16	0.13	0.15	0.17	
MgO	2.41	2.76	2.73	3.48	3.28	3.45		4.10	2.32	2.87	4.36	5.02	2.31	3.77	2.66	
CaO	5.55	7.02	5.02	9.18	6.27	7.17		8.64	9.21	10.79	7.53	7.38	7.29	8.23	6.26	
K2O	1.10	0.17	0.37	0.35	2.25	1.01		1.98	2.14	0.37	1.98	1.64	2.03	1.13	1.22	
Na2O	4.89	3.81	3.35	2.56	3.93	3.69		3.47	3.04	3.13	3.42	3.29	3.48	3.98	4.23	
P2O5	0.35	0.22	0.13	0.19	0.40	0.20		0.22	0.20	0.22	0.26	0.18	0.24	0.25	0.22	
LOI				4.98	0.67	1.16		2.64	8.98	0.65	0.90		0.99	0.34		
Sum	100.00	100.00	98.45	99.44	99.58	99.64		99.65	99.31	99.26	99.34	97.91	99.22	99.55	99.41	
Cr	2.00	2.00	11.00	61	28	38	2	41	19	20	58	101	32	23	12	
Co				38	38	38	40	22	25	44	28	34	25	26	20	
Ni	0.00	0.00	3.00	127	14	72	<18	17	9	20	32	64	25	23	8	
Rb				12	84	32	76	58	104	8	64		63	26		
Sr	319	429	302	510	460	470	516	540	270	520	450	451	470	530	660	
Cs	0.30	0.10	0.70	7.60	2.70	1.40	7.70	1.50	8.40	0.30	5.80	6.80	3.10	1.20	0.50	
Ba	310	146	131	140	330	240	426	530	520	280	320	323	350	270	805	
Sc	30.00	21.00	31.00	21.00	20.00	18.00	24.00	22.00	20.00	23.00	23.00	23.00	22.00	22.00	14.00	
Ta	0.20	0.17	0.17	0.33	0.64	0.59	0.80	0.36	0.21	0.53	0.33	0.29	0.37	0.25	0.28	
Hf	3.30	2.40	2.90	2.50	4.30	4.00	6.10	3.10	2.00	2.00	5.30	4.30	5.20	2.60	3.80	
Th	2.30	1.40	2.30	3.30	8.80	6.30	7.40	4.10	2.10	1.70	6.90	6.40	7.10	3.00	4.60	
U	0.80	0.40	0.60	0.90	2.20	1.90	1.90	1.30	0.50	0.50	1.80	1.90	1.90	0.90	1.30	
La	11.80	9.08	9.05	10.70	21.40	16.00	22.30	6.32	10.00	8.80	15.40	14.30	15.70	13.00	15.30	
Ce	29.40	22.50	21.20	23.50	46.60	34.90	50.30	16.60	22.30	21.00	32.00	35.20	34.90	27.90	36.80	
Nd	21.50	13.10	14.00	14.30	26.20	20.00	30.60	15.00	14.30	14.10	20.10	18.90	19.80	14.90	20.30	
Sm	5.28	3.66	3.99	3.83	6.75	5.10	7.80	5.22	3.94	4.17	5.05	4.78	5.26	4.30	4.64	
Eu	1.54	1.19	1.14	1.02	1.30	1.10	1.61	1.30	1.07	1.27	1.08	1.08	1.14	1.22	1.17	
Tb	0.95	0.65	0.80	0.499	0.800	0.650	0.957	0.655	0.546	0.559	0.671	0.699	0.720	0.583	0.585	
Yb	3.38	2.39	3.11	1.54	2.33	1.90	2.73	1.87	1.76	1.81	2.22	2.03	2.43	1.92	1.45	
Lu	0.47	0.32	0.45	0.223	0.307	0.273	0.385	0.259	0.261	0.245	0.316	0.299	0.335	0.268	0.223	
Cu																
Zn																
Mo																
Pb																
LOI Factor	1.00	1.00	1.00	1.05	1.01	1.01	1.00	1.03	1.10	1.01	1.01	1.00	1.01	1.00	1.00	

				Upper Sewell group				
	KET113	KET-145	KET-143	KET-39	TTE-83	KET110	KET163C	KET126A
SiO2	53.66	51.80	53.62	54.77	59.43	55.39	57.51	57.25
TiO2	1.03	1.08	0.92	0.93	0.78	0.93	0.81	0.81
Al2O3	18.64	18.90	18.97	17.65	17.26	18.27	17.61	18.23
Fe2O3	8.10	7.08	7.19	6.45	6.00	6.59	5.98	5.76
Na	3.12	2.73	2.85	2.44	2.85	3.02	2.58	3.05
K	1.04	0.55	0.79	0.26	1.84	1.13	1.53	0.59
MnO	0.19	0.09	0.15	0.10	0.10	0.14	0.10	0.15
MgO	3.33	3.05	4.39	3.55	2.25	3.96	3.45	3.34
CaO	7.01	8.95	8.18	8.09	5.67	7.41	6.37	6.77
K2O	1.29	0.68	0.98	0.32	2.27	1.40	1.89	0.73
Na2O	4.40	3.84	4.01	3.44	4.01	4.26	3.63	4.30
P2O5	0.30	0.19	0.19	0.22	0.20	0.23	0.18	0.25
LOI	0.92	3.36	0.96	4.02	1.23	0.75	2.10	1.75
Sum	98.87	99.02	99.56	99.54	99.20	99.33	99.63	99.34
Cr	-5	11	35	67	14	85	73	33
Co	20	22	26	24	18	32	21	18
Ni	4	12	35	25	9	85	28	33
Rb	30	11	19	6	74	36	43	44
Sr	560	970	720	790	580	580	500	620
Cs	0.70	0.20	0.50	2.70	3.80	0.90	3.00	10.90
Ba	390	250	290	230	460	350	500	360
Sc	16.00	21.00	19.00	18.00	12.00	17.00	15.00	13.00
Ta	0.22	0.18	0.19	0.33	0.28	0.39	0.27	0.27
Hf	3.50	2.20	2.10	3.00	4.30	3.00	3.10	3.50
Th	3.90	1.30	2.40	5.80	7.80	4.00	5.40	5.80
U	1.10	0.30	0.60	1.50	2.20	1.20	1.30	1.40
La	15.10	10.60	11.20	15.70	26.90	13.60	14.80	15.90
Ce	31.90	23.50	24.40	33.10	34.30	29.60	29.70	33.50
Nd	18.20	15.90	14.60	17.00	31.30	16.00	16.40	18.10
Sm	4.39	3.69	3.52	4.27	6.72	4.01	3.53	4.01
Eu	1.20	1.08	1.00	1.05	1.46	1.01	0.97	1.00
Tb	0.551	0.436	0.416	0.480	0.738	0.443	0.412	0.448
Yb	1.65	1.22	1.41	1.50	2.32	1.29	1.36	1.42
Lu	0.220	0.175	0.173	0.210	0.314	0.180	0.173	0.179
Cu								
Zn								
Mo								
Pb								
LOI Factor	1.01	1.04	1.01	1.04	1.01	1.01	1.02	1.02

APPENDIX 5: FLUID INCLUSIONS

Appendix 5A: List of fluid inclusion samples

Sample no.	Domain	Hole	Depth (m)	Vein types sampled	Host rock
ET25	dacite porphyry	DDH1738	29.3	3	dacite porphyry
ET30*	dacite porphyry	DDH1739	71.3	3/2c	dacite porphyry
ET38	proximal	DDH1740	173.0	2c	biotite breccia
ET130	transitional	DDH1698	125.9	2e	Teniente Host Sequence
ET142	propylitic	DDH1699	220.8	3	Teniente Host Sequence
ET151	transitional	DDH1700	328.0	2-distal	Teniente Host Sequence
ET162	proximal	DDH1300	100.0	2a	Teniente Host Sequence
ET172	proximal	DDH1301	164.0	2e	Teniente Host Sequence
ET196	transitional	DDH1134	220.8	2e	Teniente Host Sequence
ET202	proximal	DDH1300	363.3	2b/2c	Teniente Host Sequence
ET213	Na-K-feld	DDH1301	519.4	3	Teniente Host Sequence
ET226	transitional	DDH1530	491.6	2d	Teniente Host Sequence
ET241	propylitic	DDH1531	212.9	2-distal	Teniente Host Sequence
ET316	Na-K-feld	DDH1512	271.2	2b	dacite pipe
ET322	Na-K-feld	DDH1513	343.1	4c	dacite pipe
ET339	Na-K-feld	DDH1486	341.3	2c	dacite pipe
ET342	Na-K-feld	DDH1487	397.7	2d	Teniente Host Sequence
ET344	Na-K-feld	DDH1486	1357.5	Pervasive Na-K-feldspar alteration	Teniente Host Sequence
ET379	transitional	DDH1423	97.8	4c	Teniente Host Sequence
ET402	transitional	DDH1424	436.7	4c	Teniente Host Sequence
ET531	dacite	DDH1676	361.8	2a	dacite pipe
ET541	proximal	DDH1666	125.0	3/2c	Teniente Host Sequence
ET558	proximal	DDH1667	373.9	2e	Teniente Host Sequence
ET560	proximal	DDH1668	390.5	2e	Teniente Host Sequence
ET624	proximal	DDH1565	59.6	2e/3	Teniente Host Sequence
ET626	transitional	DDH1566	64.0	2-distal	Teniente Host Sequence
ET632	proximal	DDH1567	111.4	2e	Teniente Host Sequence
ET665	dacite	DDH1306	118.4	2a	dacite pipe
ET706	transitional	DDH1463	71.3	3	Teniente Host Sequence

Appendix 5B: Fluid inclusion data

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2a/2c	2175	pot-bt	THS	162	1	1	20		op?	p	1b					344.6	344.6	-4.8		7.6	
2a/2c	2175	pot-bt	THS	162	1	2	10			p	1a					330.9	330.9	-4.8	-21	7.6	
2a/2c	2175	pot-bt	THS	162	1	3				p	1a					343.3	343.3	-1.5		2.6	
2a/2c	2175	pot-bt	THS	162	1	6				p	1a					334.5	334.5	-0.5		0.9	
2a/2c	2175	pot-bt	THS	162	1	8				p	1a					363.4	363.4	-1.3		2.2	
2a/2c	2175	pot-bt	THS	162	1	9				p	1a							-0.4		0.7	
2a/2c	2175	pot-bt	THS	162	1	4			op?	p	1b					342.6	342.6	-5.5		8.5	
2a/2c	2175	pot-bt	THS	162	1	5				p	1a					336.6	336.6	-0.4		0.7	
2a/2c	2175	pot-bt	THS	162	1	10				p	1a					346.6	346.6	-0.2		0.4	
2a/2c	2175	pot-bt	THS	162	1	11				p	1a					350.3	350.3				
2a/2c	2175	pot-bt	THS	162	1-a	3		hal		p	3ad	420				341	420			47.9	
2a/2c	2175	pot-bt	THS	162	1-a	6		hal		p	3ad	440.7				352.2	440.7			50.0	
2a/2c	2175	pot-bt	THS	162	1-a	1		hal, anh?		p	3bd	453				338.9	453			51.2	daughters do not dissolve
2a/2c	2175	pot-bt	THS	162	1-a	2		hal,x		p	3bd	453.9				325.4	453.9			51.3	
2a/2c	2175	pot-bt	THS	162	1-a	4		hal, anh?		p	3bd	458				349.5	458			51.8	
2a/2c	2175	pot-bt	THS	162	1-a	5		hal,x		p	3bd	403.2				332	403.2			46.4	
2a	2000	pot	dac pipe	531	1	4				p	1a					370	370				
2a	2000	pot	dac pipe	531	1	5a				p	1a					413	413	-7		10.5	
2a	2000	pot	dac pipe	531	1	6				p	1a					430	430	-18	-36	21.2	
2a	2000	pot	dac pipe	531	1-4	1	20*12			p	1a					304.8	304.8				
2a	2000	pot	dac pipe	531	1-4	1a				p	1a					374.4	374.4				
2a	2000	pot	dac pipe	531	1-4	1b				p	1a					313.9	313.9				
2a	2000	pot	dac pipe	531	1-4	3				p	1a					394.8	394.8				
2a	2000	pot	dac pipe	531	1	7	18*10			p?	1a					383	383	-0.5		0.9	
2a	2000	pot	dac pipe	531	1	10				p?	1a					357.7	357.7	-0.3		0.5	co-existing type I and 2 incs, same Th
2a	2000	pot	dac pipe	531	1	10a				p?	1a					381.1	381.1	-0.2		0.4	
2a	2000	pot	dac pipe	531	1	5				p	2					409	409				
2a	2000	pot	dac pipe	531	1-4	4				p	2					399.4	399.4				boiling population
2a	2000	pot	dac pipe	531	1	8a				p?	2					370	370				
2a	2000	pot	dac pipe	531	1	8b				p?	2					377	377				
2a	2000	pot	dac pipe	531	1	8c				p?	2					389	389				phase separated boiling population
2a	2000	pot	dac pipe	531	1	11				p?	2					381.6	381.6				
2a	2000	pot	dac pipe	531	1-2	1	18*12			s-ps	2					418.6	418.6				
2a	2000	pot	dac pipe	531	1-4	2	14*12			p	1a					377.1	377.1				
2a	2000	pot	dac pipe	531	1-4	3a				p	1a					416.2	416.2				
2a	2000	pot	dac pipe	531	1-4	3b				p	1a					382.6	382.6				
2a	2000	pot	dac pipe	531	1-4	4a				p	1a					389.2	389.2				
2a	2000	pot	dac pipe	531	1	8	16*13			p?	1a					378.6	378.6	-0.5		0.9	
2a	2000	pot	dac pipe	531	1	11a				p?	1a					379.6	379.6				

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2a	2000	pot	dac pipe	531	1	11b				p?	1a					373.6	373.6				
2a	2000	pot	dac pipe	531	1	11c				p?	1a					427	427				near critical behaviour
2a	2000	pot	dac pipe	531	1-2	2				s-ps	1a					378.6	378.6				coexisting type 1 and 2 incs.
2a	2000	pot	dac pipe	531	1-2	2a				s-ps	1a					378.4	378.4				
2a	2000	pot	dac pipe	531	1-2	2b				s-ps	1a					425.8	425.8				
2a	2000	pot	dac pipe	531	1-2	3	12*10			s-ps	1a					445.6	445.6				
2a	2000	pot	dac pipe	531	1	1		hal/x	op	p	3av	277				396.1	396.1			36.3	
2a	2000	pot	dac pipe	531	1	2		hal/x		p	3av	170				369	369			30.5	
2a	2000	pot	dac pipe	531	1	3			op	p	3av	200				320.9	320.9			31.9	
2a/UST	2150	pot	dac pipe	665	1	2h				p	1a					358	358	-2.4	-28.6	4.0	
2a/UST	2150	pot	dac pipe	665	1	2k			op?	p	1b					372.3	372.3	-2.2		3.7	
2a/UST	2150	pot	dac pipe	665	1-1	1				p?	1a					368.4	368.4	-3.2	-22	5.2	
2a/UST	2150	pot	dac pipe	665	1-1	1a			op	p?	1b					369	369				
2a/UST	2150	pot	dac pipe	665	1-1	4			op	p?	1b					379	379	-1.8		3.1	
2a/UST	2150	pot	dac pipe	665	1-1	5			op	p?	1b					383	383	-3.1	-22	5.1	
2a/UST	2150	pot	dac pipe	665	1-1	6			op	p?	1b					326	326	-1.8		3.1	
2a/UST	2150	pot	dac pipe	665	1-1	7				p?	1a					378	378	-2.7		4.5	
2a/UST	2150	pot	dac pipe	665	1	3		anhydrite?		p	1a/3bv?					367	367	-7.5	-22--3	11.1	anhydrite, disappears on cooling
2a/UST	2150	pot	dac pipe	665	1	2				p	1a					380.3	380.3	-2	-24	3.4	
2a/UST	2150	pot	dac pipe	665	1	2a			op, cp	p	1b					383.4	383.4	-2.3	-20?	3.9	
2a/UST	2150	pot	dac pipe	665	1	2b				p	1a					378.2	378.2	-2.8	-31--2	4.6	
2a/UST	2150	pot	dac pipe	665	1	2c				p	1a					379.1	379.1	-2.6		4.3	
2a/UST	2150	pot	dac pipe	665	1	2d				p	1a					356.9	356.9	-2		3.4	
2a/UST	2150	pot	dac pipe	665	1	2e				p	1a					366.3	366.3	-2.2		3.7	
2a/UST	2150	pot	dac pipe	665	1	2f				p	1a					354.9	354.9	-2		3.4	
2a/UST	2150	pot	dac pipe	665	1	2g				p	1a					359.4	359.4	-2		3.4	
2a/UST	2150	pot	dac pipe	665	1	2i				p	1a					380.3	380.3	-2.4		4.0	
2a/UST	2150	pot	dac pipe	665	1	2j				p	1a					376.8	376.8	-2		3.4	
2a/UST	2150	pot	dac pipe	665	1	2l				p	1a					366.7	366.7	-2.9		4.8	
2a/UST	2150	pot	dac pipe	665	2	1				p	1a					388.4	388.4	-2.8		4.6	
2a/UST	2150	pot	dac pipe	665	2	2				p	1a					346.7	346.7	-2.3		3.9	
2a/UST	2150	pot	dac pipe	665	1-1	2				p?	1a					374	374	-2.6		4.3	
2a/UST	2150	pot	dac pipe	665	1-1	3			op	p?	1b					377.4	377.4	-3.1		5.1	
2a/UST	2150	pot	dac pipe	665	1-1	8			op	p?	1b					384.5	384.5	-2.5	-19--2	4.2	
2a/UST	2150	pot	dac pipe	665	1-1	9			op	p?	1b					342.5	342.5	-1.9		3.2	
2a/UST	2150	pot	dac pipe	665	1	1b		hal		p	3av	330				341	341			40.1	
2a/UST	2150	pot	dac pipe	665	1	1e		hal		p	3ad	334				330	334			40.4	
2a/UST	2150	pot	dac pipe	665	1	1f		hal		p	3ad	298				358	358			37.8	
2a/UST	2150	pot	dac pipe	665	2	4				p	3ad					346					
2a/UST	2150	pot	dac pipe	665	1	1		hal	op, hm	p	3av	315.1				341	341			39.0	
2a/UST	2150	pot	dac pipe	665	1	1c		hal		p	3av	358				335	358			42.4	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2a/UST	2150	pot	dac pipe	665	1	1d		hal	op	p	3av	249.4				340	340			34.6	
2a/UST	2150	pot	dac pipe	665	2	3				p	3av	350.2				458	458			41.7	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	16	7x6			P	1a					160	160	-6.5	-22	9.9	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	17	8x6			P	1a					165	165	-6.4	-21	9.7	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	1			opaqu	P?	1b					238.1	238.1	-2.5		4.2	1-6 in same trail, indicates boiling
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	1a				P?	1a					276.5	276.5				
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	2			opaqu	P?	1b					309	309	-2.5		4.2	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	20				P?	1a					473.1	473.1				Type 2a close to critical point
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	15	8x8			P	2					393.7	393.7				
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	9	20x12			P	1a					377.5	377.5	0			phase seperated trail
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	9a	20x12			P	1a					377	377	0			9-17 all in phase seperated trail
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	3				P?	1a					376.9	376.9	-0.1		0.2	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	4				P?	1a					379.4	379.4	0			
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	5				P?	1a					377.8	377.8	0			near-critical behaviour
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	5a				P?	1a					377	377	0			near-critical behaviour
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	6				P?	1a					378.1	378.1	-0.1		0.2	phase seperated trail
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	c	1	27x24			P?	1a					382.2	382.2	-2.1		3.5	phase seperated trail
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	10	11x7	hal	op	P	3ad	403				274.4	403			46.3	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	11	9x7	hal	op	P	3ad	464.2				204.1	464.2			52.4	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	12	7x6	hal	op	P	3ad	425				247.1	425			48.4	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	13	7x6	hal	op?	P	3ad	481.3				240.4	481.3			54.2	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	14	9x7	hal/syl?		P	3bd	448	120			234.4	448			61.1	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	d	1		hal 30%		P?	3ad	393.2			444	221.3	393.2			45.4	phase seperated trail
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	d	2		hal 20%		P?	3ad				380.5						phase seperated trail
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	d	3		hal 30%		P?	3ad	324			444	212.7	324			39.7	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	b	1		hal	op	P	3av	334				379.9	379.9			44.5	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	b	2		hal/syl?	op	P	3bv	319	199.2			408.7	408.7			40.4	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	b	3		hal	op	P	3av	321.3				407.5	407.5			55.3	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	b	4		hal	op	P	3av	318.2				363.3	363.3			39.5	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	b	7		hal	op	P	3av	307				355.3	355.3			39.2	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	a	18		hal	op	P?	3av	383				486.1	486.1			38.4	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	c	2	26x12	hal		P?	3av	266				372.9	372.9			35.6	
2b/Na-K-fld	2170	Na-K-fld	dac pipe	316	c	3	20x12	hal		P?	3av	262.7				372.9	372.9			35.4	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	b	2	20*18			p	2					440	440		-22		
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	F5	1	28*14			p	2					396.7	396.7	-0.5		0.9	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	d	2	24*14			p	2					355	355	-2.2		3.7	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	d	3	34*12			p	2					361.3	361.3	-0.8		1.4	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	a	4	15*15			p	1a					>550					
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	d	4	18*16			p	1a					411.1	411.1	-2.4	-23	4.0	near-critical behaviour
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	b	3	12*10	hal	op?	p	3a					252.4	252.4				9-17 all in phase seperated trail
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	F4	1	28*32	minerals/anh		p	3a/b				154.7						

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	b	4	12*10	hal/syl/r	op?	p	3ad	473				255.5	473			53.3	contains non-salt daughter
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	a	3	10*8	hal	opaqu	p	3ad	438				269..9	438			49.7	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	F3	1	22*18	hal/minerals		p	3bd				159						
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	b	5	12*10	hal/minerals		p	3bd	588					588			67.1	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	F2	1	20*14	hal/syl?/carb?/		p	3bd				164						
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	a	2	14*11	minerals/hal		p	3bd	444			550	372	444			50.3	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	c	1	16*12	hal/x		p	3bd	463.9		344.5		220	463.9			52.4	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	c	1	13*13	hal/x		p	3bd	450.3	89	344.5		246.6	450.3			59.8	
2b/Na-K-fld	1960	Na-K-fld	dac pipe	344	c	1	16*10	hal/syl/x		p	3bd				340	230					boiling?
2-distal	2070	prop	THS-prop	626	1	2				p	1a					342.4	342.4	-1.7		2.9	
2-distal	2070	prop	THS -propylitic	626	1	9				p	1a					314	314	-0.1		0.2	
2-distal	2070	prop	THS -propylitic	626	2	2b				p	1a					339.3	339.3	-0.9		1.6	
2-distal	2070	prop	THS -propylitic	626	2	2c				p	1a				~320			-0.2		0.4	
2-distal	2070	prop	THS -propylitic	626	2	2e				p	1a					340.2	340.2	-0.7		1.2	
2-distal	2070	prop	THS -propylitic	626	2	2f				p	1a					343.9	343.9	-0.6		1.0	
2-distal	2070	prop	THS -propylitic	626	3	1				p	1a					301.2	301.2	-1		1.7	
2-distal	2070	prop	THS -propylitic	626	2	1a				p	1a							-1.4		2.4	
2-distal	2070	prop	THS -propylitic	626	2	4				p	1a				~300	280	280	-1.4		2.4	
2-distal	2070	prop	THS -propylitic	626	2	5				p	1a					304.1	304.1	-22.5	-34	24.4	
2-distal	2070	prop	THS -propylitic	626	2	7				p	1a					337.3	337.3	-1.1		1.9	
2-distal	2070	prop	THS -propylitic	626	2	8				p	1a				~290			-23.6	-31	25.1	
2-distal	2070	prop	THS -propylitic	626	2	8a				p	1a				~290			-22.4		24.3	
2-distal	2070	prop	THS -propylitic	626	2	9				p	1a					339.1	339.1				
2-distal	2070	prop	THS -propylitic	626	1	1				p	1a					339.4	339.4	-1.4		2.4	
2-distal	2070	prop	THS -propylitic	626	1	5				p	1a				400	340	340	-0.1		0.2	
2-distal	2070	prop	THS -propylitic	626	1	6				p	1a							-0.7		1.2	
2-distal	2070	prop	THS -propylitic	626	1	7			op	p	1b					385	385	-0.1		0.2	
2-distal	2070	prop	THS -propylitic	626	1	8			cubic	p	1b					329.9	329.9	-0.2		0.4	phase seperated trail
2-distal	2070	prop	THS -propylitic	626	1	10				p	1a					340	340	-1.2		2.1	
2-distal	2070	prop	THS -propylitic	626	2	1	30*15		op	p	1b					361.7	361.7	-2.7	-26	4.5	
2-distal	2070	prop	THS -propylitic	626	2	1a	<20		op	p	1b					344	344	-2.3		3.9	
2-distal	2070	prop	THS -propylitic	626	2	1b				p	1a					344	344	-1.9		3.2	
2-distal	2070	prop	THS -propylitic	626	2	1c				p	1a					338.1	338.1	-2.4		4.0	
2-distal	2070	prop	THS -propylitic	626	2	2				p	1a					339.4	339.4	-1.4		2.4	
2-distal	2070	prop	THS -propylitic	626	2	2a				p	1a					339	339	-0.8		1.4	
2-distal	2070	prop	THS -propylitic	626	2	2b			op	p	1b					341	341	-1		1.7	
2-distal	2070	prop	THS -propylitic	626	2	2c				p	1a					364.7	364.7	-0.2		0.4	
2-distal	2070	prop	THS -propylitic	626	2	2d				p	1a					341	341	-0.9		1.6	
2-distal	2070	prop	THS -propylitic	626	2	2e			op	p	1b					341	341				
2-distal	2070	prop	THS -propylitic	626	2	6				p	1a					339.2	339.2	-1.5		2.6	
2-distal	2070	prop	THS -propylitic	626	2	3				p	3av	230.5				349.4	349.4			33.5	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2-distal	2070	prop	THS -propylitic	626	1	3				s?	1a					273.8	273.8	-21.3	-30	23.6	
2-distal	2070	prop	THS -propylitic	626	1	4				s?	1a					273.8	273.8	-5.5	-26	8.5	
2-distal	2070	prop	THS -propylitic	626	2	2a				s?	1a					243	243	-0.2	-22	0.4	
2-distal	2070	prop	THS -propylitic	626	2	2d				s?	1a					252.6	252.6	-0.7		1.2	
2-distal	2070	prop	THS -propylitic	626	2	2g				s?	1a					277	277	-22.9	-42?	24.6	
2-distal	2070	prop	THS -propylitic	626	2	2h				s?	1a					262.6	262.6	-0.7		1.2	
2c	2170	pot-bt	dac porph	25	b	1				P?	1a				<400						
2c	2170	pot-bt	dac porph	25	b	2				P?	1a					372.3	#REFI				
2c	2170	pot-bt	dac porph	25	b	4				P?	1a					378.9	378.9				
2c	2170	pot-bt	dac porph	25	b	6	17x12			P?	1a					379.3	379.3	-24.5	-70.4	25.7	
2c	2170	pot-bt	dac porph	25	b	10				P?	1a					345.2	345.2				
2c	2170	pot-bt	dac porph	25	b	14	24x12			P?	1a					374.2	374.2	-13.1	-32	17.1	
2c	2170	pot-bt	dac porph	25	b	15	8x8 - 6x6		fine cp	P?	1b					376.2	376.2	-14	-20.0	17.9	
2c	2170	pot-bt	dac porph	25	b	15	8x8 - 6x6			P?	1a					341.6	341.6				
2c	2170	pot-bt	dac porph	25	b	16	8x8 - 6x6			P?	1a					347.9	347.9	-3		4.9	
2c	2170	pot-bt	dac porph	25	b	16a	8x8 - 6x6			P?	1a					334.8	334.8				
2c	2170	pot-bt	dac porph	25	b	16b	8x8 - 6x6		rare fi	P?	1b					375.9	375.9				
2c	2170	pot-bt	dac porph	25	b	16c	8x8 - 6x6			P?	1a					389.1	389.1				
2c	2170	pot-bt	dac porph	25	b	7			op	P?	1b					335.8	335.8				
2c	2170	pot-bt	dac porph	25	b	8				P?	1a					368.1	368.1				
2c	2170	pot-bt	dac porph	25	b	18	12x12			P?	1a					366.8	366.8	-2.6	-31.3	4.3	
2c	2170	pot-bt	dac porph	25	b	17	20x15			P?	1a					395.7	395.7	-21.4	-27 to	23.6	
2c	2170	pot-bt	dac porph	25	b	5	17x11			P?	1a					343.1	343.1	-2.1		3.5	
2c	2170	pot-bt	dac porph	25	b	11	22x20		cp?	P?	1b					366.4	366.4	-16.7	-29.9	20.2	
2c	2170	pot-bt	dac porph	25	b	12	16x10			P?	1a					357.1	357.1				
2c	2170	pot-bt	dac porph	25	b	13	20x12			P?	1a					355.8	355.8	-2.8		4.6	
2c	2180	pot-bt	THS	38	1	5e				p	1a							-1.1		1.9	co-existing type 2 and type 1a
2c	2180	pot-bt	THS	38	1	5f				p	1a					380	380	-8.5		12.3	metastable ice
2c	2180	pot-bt	THS	38	1	2				p	1a					360.4	360.4	-3.3	-22.3	5.4	
2c	2180	pot-bt	THS	38	1	5a				p	1a					366	366	-1.2		2.1	
2c	2180	pot-bt	THS	38	1	5b				p	1a					367	367	-0.9		1.6	
2c	2180	pot-bt	THS	38	1	5c				p	1a					366	366	-0.9		1.6	
2c	2180	pot-bt	THS	38	1	5d				p	1a					368	368	-2.5		4.2	
2c	2180	pot-bt	THS	38	1	6a				p	1a					401.3	401.3	-9.7		13.7	
2c	2180	pot-bt	THS	38	1	6b				p	1a					423	423	-22.6		24.4	
2c	2180	pot-bt	THS	38	1	6c				p	1a					400.9	400.9				
2c	2180	pot-bt	THS	38	1-1	1				p	1a					383.2	383.2	-0.8		1.4	
2c	2180	pot-bt	THS	38	1-1	2				p	1a					370.4	370.4	-3.5	-24.4	5.7	
2c	2180	pot-bt	THS	38	1-1	3			op	p	1b					377.9	377.9	-3.5	-27	5.7	
2c	2180	pot-bt	THS	38	1-1	4				p	1a					375.8	375.8	-3.5		5.7	
2c	2180	pot-bt	THS	38	1-1	5				p	1a					355.6	355.6	-2.3		3.9	

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2c	2180	pot-bt	THS	38	1-1	6				p	1a					375.6	375.6	-2.4		4.0	
2c	2180	pot-bt	THS	38	1-1	7				p	1a					370.5	370.5	-4.6	-23(-2	7.3	
2c	2180	pot-bt	THS	38	1-1	8				p	1a					350	350	-2.5		4.2	
2c	2180	pot-bt	THS	38	1-1	9				p	1a					359.8	359.8	-3.3		5.4	
2c	2180	pot-bt	THS	38	1-1	10				p	1a					354.7	354.7	-3.9	-23.5(	6.3	
2c	2180	pot-bt	THS	38	1-1	11				p	1a					450.2	450.2	-8		11.7	
2c	2180	pot-bt	THS	38	1-1	14				p	1a					462	462	-4.5	-24(-2	7.2	
2c	2180	pot-bt	THS	38	1-2	1				p	1a					360	360	-1.3		2.2	
2c	2180	pot-bt	THS	38	1-2	2				p	1a					352	352	-1.3		2.2	
2c	2180	pot-bt	THS	38	1-2	3				p	1a					362	362	-1.2		2.1	
2c	2180	pot-bt	THS	38	1-2	4				p	1a					365	365	-1.1		1.9	
2c	2180	pot-bt	THS	38	1-2	5				p	1a					355	355	-1.2		2.1	
2c	2180	pot-bt	THS	38	1-2	6				p	1a					354	354	-1.3		2.2	
2c	2180	pot-bt	THS	38	1-2	7				p	1a					350	350	-1.1		1.9	
2c	2180	pot-bt	THS	38	1-2	8				p	1a					359	359	-1.3		2.2	
2c	2180	pot-bt	THS	38	2-1	1				p	1a					339.7	339.7				phase-seperated trail?
2c	2180	pot-bt	THS	38	2-1	2				p	1a					345.3	345.3	-4.1		6.6	
2c	2180	pot-bt	THS	38	2-1	3				p	1a					342.4	342.4	-2.3		3.9	
2c	2180	pot-bt	THS	38	2-1	4				p	1a					344.5	344.5	-3.1		5.1	
2c	2180	pot-bt	THS	38	2-1	7				p	1a					346	346	-3.5		5.7	
2c	2180	pot-bt	THS	38	2-1	10				p	1a					342.2	342.2	-2.4		4.0	
2c	2180	pot-bt	THS	38	2-1	11				p	1a					343	343	-1.8		3.1	
2c	2180	pot-bt	THS	38	1	2a				p?	1a							-1.4	-22	2.4	
2c	2180	pot-bt	THS	38	1	2b	55*40			p?	1a							-1.9	-21.2(	3.2	
2c	2180	pot-bt	THS	38	1-2	9				p?	1a					360	360	-3		4.9	
2c	2180	pot-bt	THS	38	1-2	10				p?	1a					358	358	-1.5		2.6	
2c	2180	pot-bt	THS	38	1-2	11			hmt	p?	1b					360	360	-14.6	-23	18.4	
2c	2180	pot-bt	THS	38	1-1	12				p	1a_2					427.7	427.7	-5		7.9	
2c	2180	pot-bt	THS	38	1-1	13				p	1a_2					446.4	446.4				
2c	2180	pot-bt	THS	38	1	1	44*32	hal, x, x	op, dis	p	3av	275.6				428.8	428.8			36.3	
2c	2180	pot-bt	THS	38	1	1a		hal, x, x		p	3av	318.9				350	350			39.3	salinity domains
2c	2180	pot-bt	THS	38	1	3		hal, x, x	op	p	3av	309				332	332			38.6	
2c	2180	pot-bt	THS	38	1	4			op	p	3av	301.7				346	346			38.0	
2c	2180	pot-bt	THS	38	1	4a			op	p	3av	280				343.5	343.5			36.5	
2c	2180	pot-bt	THS	38	2-1	8		hal	op	p	3bv	209.4				351	351			32.4	
2c	2180	pot-bt	THS	38	2-1	5		hal. Syl	hmt, o	p?	3bv	222.4	157.1			349.6	349.6	-27.5	-30	47.1	
2c	2180	pot-bt	THS	38	2-1	6		hal	op	p?	3bv	221.1				347	347	-18		33.0	
2c	2180	pot-bt	THS	38	2-1	9		hal, anh	large h	p?	3bv	195.6	184	164 (124)		353.3	353.3		-53.4(	31.7	
2c	2180	pot-bt	THS	38	2-1	12			hmt	p?	3bv	222				365.1	365.1			33.0	
2c	1915	pot-deep	THS	202	b	2	12x10			P	1a					357	357	-1		1.7	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2c	1915	pot-deep	THS	202	b	4	12x10		op	P	1b					357.5	357.5	-1.5		2.6	
2c	1915	pot-deep	THS	202	d	1	40x18		op?	P	1b					367	367	-6.5	-24	9.9	
2c	1915	pot-deep	THS	202	d	3	11x9		op?	P	1b					372.8	372.8	-5.3		8.3	
2c	1915	pot-deep	THS	202	d	1a	14x10		op?	P	1b					353.3	353.3	-3.9		6.3	
2c	1915	pot-deep	THS	202	d	2a	15x10			P	1a					356.8	356.8	-3.5		5.7	
2c	1915	pot-deep	THS	202	d	2b	18x10			P	1a					357.5	357.5	-5.2		8.1	
2c	1915	pot-deep	THS	202	d	6	12x8		op?	P	1b					365.9	365.9	-5.6		8.7	
2c	1915	pot-deep	THS	202	d	7	10x8		op?	P	1b					360.3	360.3	-5.6		8.7	
2c	1915	pot-deep	THS	202	c	1	26x16		hmt	P	1b				370	265.9	265.9				
2c	1915	pot-deep	THS	202	c	2	22x12	hal 10%		P	1a					333	333		-23	24.4	
2c	1915	pot-deep	THS	202	a	1	30x16		op?	P?	1b					260	260	-3.6	-22	5.8	
2c	1915	pot-deep	THS	202	a	2	40x16		op?	P?	1b					372.3	372.3	-6.2	-23	9.5	
2c	1915	pot-deep	THS	202	a	7	13x12			P?	1a					250	250	-4.6		7.3	
2c	1915	pot-deep	THS	202	a	9	17x13			P?	1a							-2.3		3.9	
2c	1915	pot-deep	THS	202	a	12	33x20		op	P?	1b				<400			-2.3	-22	3.9	
2c	1915	pot-deep	THS	202	a	14	18x13			P?	1a				<400			-3.7		6.0	
2c	1915	pot-deep	THS	202	a	15	36x20			P?	1a					354.2	354.2	-3.2		5.2	
2c	1915	pot-deep	THS	202	a	13	21x21			P?	1a					359.7	359.7	-2.2	-21	3.7	
2c	1915	pot-deep	THS	202	b	3	18x10		op?	P	1b					359.5	359.5	-1.4		2.4	
2c	1915	pot-deep	THS	202	d	2	18x10			P	1a					352.4	352.4	-3.7	-23	6.0	
2c	1915	pot-deep	THS	202	d	3a	17x12			P	1a					356.8	356.8	-2.5		4.2	
2c	1915	pot-deep	THS	202	d	4a	15x11			P	1a					357.4	357.4	-4.2		6.7	
2c	1915	pot-deep	THS	202	d	5a	16x12		op	P	1b							-3		4.9	
2c	1915	pot-deep	THS	202	d	8	12x8			P	1a					370.7	370.7	-5.5		8.5	
2c	1915	pot-deep	THS	202	d	9	10x6			P	1a					371.6	371.6	-5.6		8.7	
2c	1915	pot-deep	THS	202	a	3	15x12			P?	1a					358.3	358.3	-6.6	-24	10.0	
2c	1915	pot-deep	THS	202	a	4	12x10			P?	1a					373.1	373.1	-4.3	-21	6.9	
2c	1915	pot-deep	THS	202	a	5	12x8			P?	1a					378.1	378.1	-3.6	-22	5.8	
2c	1915	pot-deep	THS	202	a	6	17x11			P?	1a					358.2	358.2	-2.8	-19	4.6	
2c	1915	pot-deep	THS	202	a	8	4 x20			P?	1a					355	355	-1.9		3.2	
2c	1915	pot-deep	THS	202	a	10	13x11			P?	1a					351.3	351.3	-1.6		2.7	
2c	1915	pot-deep	THS	202	a	16	46x20			P?	1a				<400			-3.2		5.2	
2c	1915	pot-deep	THS	202	a	16a	20x10			P?	1a					356.1	356.1	-3.2		5.2	
2c	1915	pot-deep	THS	202	a	11	13x11			P?	2/3a					351.6	351.6				
2c	1915	pot-deep	THS	202	b	1	18x10	hal ? 1(	op?	P	3av	250				357	357	-2.0?		34.6	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	6	40*18			p	1a							-23.9		25.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	6a				p	1a							-3.8		6.1	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	6b				p	1a							-24.8	-39?	25.9	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	6e				p	1a							-2.9		4.8	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	3A				p?	1a							-1.9		3.2	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	3B	enormous, 70um			p?	1a					300	300	-21.9	-28	24.0	

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	3C				p?	1a					293	293	-1	-38	1.7	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	5				p?	2					376.6	376.6	-1.2		2.1	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	5a				p?	2					376.6	376.6	-0.7		1.2	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	5b				p?	2					380	380	-0.4	-42	0.7	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	6c				p?	2							-0.5		0.9	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2D				p	1a					402.5	402.5	-23.8		25.2	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2H				p?	1a					293	293	-2.3	-30	3.9	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	2		hal		p	3a	?				280					
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	6d				p	3ad	491				435	491	-28.9	-42 -	55.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2I				p	3ad	382.6				367	382.6			44.5	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	4		hal	op	p	3ad	437				240	437			49.6	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	1	33x20	hal	fine op	p	3ad	437				310	437			49.6	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	3		hal		p	3ad	500				213	500			56.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	7	fine			p	3ad	561				340	561			63.6	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	7a				p	3ad	573				340	573			65.1	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	7b				p	3ad	528				340	528			59.6	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	7c				p	3ad	518				340	518			58.4	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1	7d				p	3ad	509				340	509			57.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1-2	1				p	3ad					522	522				
2c - Na-K-fel	2025	Na-K-fld	THS	339	1-2	2				p	3ad	534				491	534			60.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1-2	3				p	3ad	534				532	534			60.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	1B				p	3bd	293	~150			250	293			50.4	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2A				p	3ad	399.6				250	399.6			46.0	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2C				p	3ad	400				?	400			46.1	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2F				p	3ad	421				200	421			48.0	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2G				p	3ad	500				300	500			56.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	1-2	4				p	3bd					400					
2c - Na-K-fel	2025	Na-K-fld	THS	339	1-2	5				p	3bd	530				481	530			59.8	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	1A				p	3bd	500	400?	250		445	500			56.3	
2c - Na-K-fel	2025	Na-K-fld	THS	339	2	2E				p	3bd	380				257	380			44.3	
2c	1900	pot-deep	THS	541	F7	3		hal		p	1a					301.3	301.3	-19.1	-23	22.0	
2c	1900	pot-deep	THS	541	F8	5			op	p	1b					360	360				
2c	1900	pot-deep	THS	541	F8	A6				p	1a					324.8	324.8				
2c	1900	pot-deep	THS	541	F3,F4,	3	6*8			p	1a					240	240				
2c	1900	pot-deep	THS	541	F3,F4,	4	6*6			p	1a					260	260				
2c	1900	pot-deep	THS	541	F3,F4,	1				p	1a					250	250				
2c	1900	pot-deep	THS	541	F3,F4,	2				p	1a					280	280				
2c	1900	pot-deep	THS	541	F3,F4,	3				p	1a					515	515				
2c	1900	pot-deep	THS	541	F3,F4,	2	24*20			p	1a				495		0	-10	-22	14.0	
2c	1900	pot-deep	THS	541	F3,F4,	6				p	1a					>465	>465				
2c	1900	pot-deep	THS	541	F8	F8	23*14		op?	p	1b					370.3	370.3	-2.6		4.3	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2c	1900	pot-deep	THS	541	F8	1				p	1a					351	351	-1.9		3.2	
2c	1900	pot-deep	THS	541	F8	3				p	1a					356	356	-1		1.7	
2c	1900	pot-deep	THS	541	F8	4				p	1a					354.1	354.1	-1		1.7	
2c	1900	pot-deep	THS	541	F7	F6		hal		p	3a										
2c	1900	pot-deep	THS	541	F8	A2		hal		p	3a	250				250	250			34.6	
2c	1900	pot-deep	THS	541	F3,F4,	1		hal		p	3ad	315				284	315			39.0	
2c	1900	pot-deep	THS	541	F3,F4,	2		hal		p	3ad	515				260	515			58.0	
2c	1900	pot-deep	THS	541	F3,F4,	1	10*6	hal		p	3ad				385	326	326				
2c	1900	pot-deep	THS	541	F3,F4,	F5		hal/	op?	p	3ad	297.3				293.7	297.3			37.7	
2c	1900	pot-deep	THS	541	F3,F4,	3				p	3ad	290				270	290			37.2	
2c	1900	pot-deep	THS	541	F3,F4,	4				p	3ad	350				~300	350			41.7	
2c	1900	pot-deep	THS	541	F3,F4,	5		hal		p	3ad	318				293	318			39.2	
2c	1900	pot-deep	THS	541	F8	2		hal	op?	p	3ad	366.1				263.7	366.1			43.1	
2c	1900	pot-deep	THS	541	F8	6		hal		p	3ad	316				250	316			39.1	
2c	1900	pot-deep	THS	541	F8	A1		hal		p	3ad	269				267.3	269			35.8	
2c	1900	pot-deep	THS	541	F8	A4		hal		p	3ad	267				261	267			35.7	
2c	1900	pot-deep	THS	541	F8	A5		hal		p	3ad	255				245.6	255			34.9	
2c	1900	pot-deep	THS	541	F7	F7	17*12	hal		p	3av	285				288	288			36.9	
2c	1900	pot-deep	THS	541	F7	2		hal		p	3av	308				240	308			38.5	
2c	1900	pot-deep	THS	541	F7	4		hal		p	3av	342				4 0	342			41.1	
2c	1900	pot-deep	THS	541	F7	5		hal		p	3av	360				279	360			42.5	
2c	1900	pot-deep	THS	541	F7	6		hal		p	3av	450				266	450			50.9	
2c	1900	pot-deep	THS	541	F3,F4,	F5-1		hal		p	3av	310			450	318	318			38.6	
2c	1900	pot-deep	THS	541	F3,F4,	2		hal		p	3av	305			465	318	318			38.3	
2c	1900	pot-deep	THS	541	F3,F4,	4		hal		p	3av	280				305	305			36.5	
2c	1900	pot-deep	THS	541	F8	A3		hal		p	3av	251				253	253			34.7	
2c	1900	pot-deep	THS	541	F3,F4,	F4	21*18	hal,syl?/x		p	3bd	420	235	130	385	326	420			64.5	
2c	1900	pot-deep	THS	541	F3,F4,	F3		hal/syl/x/anh		p	3bv	310	216		400	330	330			55.9	anhydrite?
2c	1900	pot-deep	THS	541	F3,F4,	3		hal/x		p	3bv	300			465	325	325			37.9	
2c	1915	pot-deep	THS	632	3	2			op	p	1b					345.5	345.5	-4.2	-19?	6.7	
2c	1915	pot-deep	THS	632	3	4				p	1a					353.4	353.4	-1.6		2.7	
2c	1915	pot-deep	THS	632	3	9				p	1a					347.8	347.8	-1.9		3.2	
2c	1915	pot-deep	THS	632	4	1	22*16		fine op	p?	1b					241.4	241.4	-24.3	-34.6,	25.5	
2c	1915	pot-deep	THS	632	4	4	30*16			p?	1a					350.4	350.4	-14.5	-30	18.4	
2c	1915	pot-deep	THS	632	4	7			fine op	p?	1b				260			-10.5		14.5	
2c	1915	pot-deep	THS	632	4	7a				p?	1a					276	276	-1.7		2.9	
2c	1915	pot-deep	THS	632	3	11				s	1a					185	185				
2c	1915	pot-deep	THS	632	3	12				s	1a					186	186				
2c	1915	pot-deep	THS	632	4	8a				s?	1a					181.5	181.5	-24.2	-42	25.5	
2c	1915	pot-deep	THS	632	4	8b				s?	1a					282	282	-22.1	-40	24.1	
2c	1915	pot-deep	THS	632	4	8c				s?	1a					295.1	295.1	-23	-35	24.7	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2c	1915	pot-deep	THS	632	3	1				p	1a					354.5	354.5	-4.2		6.7	
2c	1915	pot-deep	THS	632	3	3				p	1a					357.8	357.8				
2c	1915	pot-deep	THS	632	3	8				p	1a					348.6	348.6	-1.1		1.9	
2c	1915	pot-deep	THS	632	3	10				p	1a					347.1	347.1	-1.9		3.2	
2c	1915	pot-deep	THS	632	4	6	8*6			p	1a					347	347	-2.3		3.9	
2c	1915	pot-deep	THS	632	4	6a	8*6			p	1a					348	348	-2.5		4.2	
2c	1915	pot-deep	THS	632	4	6b	8*6			p	1a					354	354	-2.4		4.0	
2c	1915	pot-deep	THS	632	4	6c	8*6			p	1a					346.7	346.7	-2.3		3.9	
2c	1915	pot-deep	THS	632	4	6d	8*6			p	1a					346	346	-2.5		4.2	
2c	1915	pot-deep	THS	632	4	6e	8*6			p	1a					357.6	357.6	-2.3		3.9	
2c	1915	pot-deep	THS	632	4	2	20*16		fine op	p?	1b				306			-1.9		3.2	
2c	1915	pot-deep	THS	632	4	3				p?	1a					348.1	348.1	-2.3		3.9	
2c	1915	pot-deep	THS	632	3	5				p	3ad	366				340.9	366			43.1	
2c	1915	pot-deep	THS	632	3	6				p	3ad	393.8				353.3	393.8			45.5	
2c	1915	pot-deep	THS	632	3	7				p	3ad	380				340.6	380			44.3	
2c	1915	pot-deep	THS	632	4	7b				p?	3ad	304.3				265	304.3			38.2	
2d	1975	Na-K-fld	THS	342	2-2	2				p	2					360	360				
2d	1975	Na-K-fld	THS	342	2-2	2a				p	2					390	390				
2d	1975	Na-K-fld	THS	342	2-2	1a				p	3ad	370.3				250?	370.3			43.4	
2d	1975	Na-K-fld	THS	342	2-2	1b				p	3av	260				300	300			35.3	
2d	1975	Na-K-fld	THS	342	2-2	1				p	3bv	342.9	180			354.8	354.8			55.6	
2d	1975	Na-K-fld	THS	342	1	3				p?	1a					322	322	-5.8		8.9	
2d	1975	Na-K-fld	THS	342	2-2	3				p?	1a					299	299				
2d	1975	Na-K-fld	THS	342	1	2				p?	2					380	380				
2d	1975	Na-K-fld	THS	342	2	2				p?	2					379	379				
2d	1975	Na-K-fld	THS	342	2	2a				p?	2					360	360				
2d	1975	Na-K-fld	THS	342	2	2b				p?	2					400	400				
2d	1975	Na-K-fld	THS	342	1	1				p?	1a					>460??		-15	-24	18.8	
2d	1975	Na-K-fld	THS	342	1	4				p?	1a					401	401				
2d	1975	Na-K-fld	THS	342	2-2	3a				p?	1a					306	306				
2d	1975	Na-K-fld	THS	342	2	1d				p?	3ad					304					
2d	1975	Na-K-fld	THS	342	2	1b				p?	3av	240				260.8	260.8			34.1	
2d	1975	Na-K-fld	THS	342	2	1c				p?	3av	240				274	274			34.1	
2d	1975	Na-K-fld	THS	342	2	1				p?	3av	208				219	219			32.3	
2d	1975	Na-K-fld	THS	342	2	1a				p?	3av	204				210	210			32.1	
2d	1975	Na-K-fld	THS	342	2	3a	v. small			s?	1a					258	258				
2d	1975	Na-K-fld	THS	342	2	3	v. small			s?	1a					252	252				
2e	2105	pot-bt	THS	172	1	1				p	1a					180	180	-2.1		3.5	
2e	2105	pot-bt	THS	172	1	2				p	1a					213	213	-2.7	-22	4.5	
2e	2105	pot-bt	THS	172	1	3				p	1a					235.8	235.8	-2.5		4.2	
2e	2105	pot-bt	THS	172	1	4				p	1a					225.5	225.5	-2.3		3.9	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2e	2105	pot-bt	THS	172	1	5				p	1a							-2.4		4.0	
2e	2105	pot-bt	THS	172	1	6				p	1a					224	224	-2.1		3.5	
2e	2105	pot-bt	THS	172	1	7				p	1a					215	215	-2.4		4.0	
2e	2105	pot-bt	THS	172	1	8				p	1a					229.9	229.9	-2.2		3.7	
2e	2105	pot-bt	THS	172	1	9				p	1a					230	230	-2.1		3.5	
2e	2105	pot-bt	THS	172	1	10				p	1a					232.5	232.5	-2.2		3.7	
2e	2105	pot-bt	THS	172	1	11				p	1a					233.3	233.3	-2		3.4	
2e	2105	pot-bt	THS	172	1	12				p	1a							-2.4		4.0	
2e	2105	pot-bt	THS	172	1	13				p	1a					230.5	230.5	-2.8		4.6	
2e	2105	pot-bt	THS	172	1	14				p	1a					231	231	-2.6		4.3	
2e	2105	pot-bt	THS	172	1	15				p	1a					248.2	248.2				
2e	2105	pot-bt	THS	172	1-1	1				p	1a					188	188	-2.5		4.2	
2e	2105	pot-bt	THS	172	1-1	2				p	1a					140.6	140.6	-2.3		3.9	
2e	2105	pot-bt	THS	172	1-1	3				p	1a					189.8	189.8	-2.3		3.9	
2e	2105	pot-bt	THS	172	1-1	4				p	1a					240	240	-1.7		2.9	
2e	2105	pot-bt	THS	172	1-1	5				p	1a							-2.1		3.5	
2e	2105	pot-bt	THS	172	1-1	6				p	1a					>340?	340	-2.3		3.9	
2e	2105	pot-bt	THS	172	1-1	7				p	1a					280.3	280.3	-2.8		4.6	
2e	2105	pot-bt	THS	172	2	3		x		p	1a					340.5	340.5	-1.3		2.2	
2e	2105	pot-bt	THS	172	2	8				p	1a							-1.3		2.2	
2e	2105	pot-bt	THS	172	3	6			op	p	1b					353.5	353.5	-2.1	-27	3.5	
2e	2105	pot-bt	THS	172	3	8				p	1a					349.2	349.2	-3.4	-25	5.5	
2e	2105	pot-bt	THS	172	3	13			op	p	1b				400?	405	405	-21	-25	23.4	
2e	2105	pot-bt	THS	172	2	1		x		p	1a					343.8	343.8	-1		1.7	
2e	2105	pot-bt	THS	172	2	2		x		p	1a					>370	370	-1.3		2.2	
2e	2105	pot-bt	THS	172	2	4				p	1a					346.3	346.3	-1.5		2.6	
2e	2105	pot-bt	THS	172	2	5			op	p	1b					354.3	354.3	-1.6		2.7	near crit behaviour
2e	2105	pot-bt	THS	172	2	6				p	1a					347.5	347.5	-1.5		2.6	
2e	2105	pot-bt	THS	172	2	7		x		p	1a					346.2	346.2	-1.6	-22	2.7	
2e	2105	pot-bt	THS	172	3	4			op	p	1b					355.9	355.9	-1.7		2.9	
2e	2105	pot-bt	THS	172	3	5				p	1a					351.3	351.3	-3.2	-27	5.2	
2e	2105	pot-bt	THS	172	3	7				p	1a					351	351	-3.5		5.7	
2e	2105	pot-bt	THS	172	3	9				p	1a					352.9	352.9	-1.9		3.2	
2e	2105	pot-bt	THS	172	3	11				p	1a					351.8	351.8	-1.4		2.4	
2e	2105	pot-bt	THS	172	3	12				p	1a					345.1	345.1	-1.5		2.6	
2e	2105	pot-bt	THS	172	3	15				p	1a					355	355	-2.7		4.5	
2e	2105	pot-bt	THS	172	3	16				p	1a					345.3	345.3	-2		3.4	
2e	2105	pot-bt	THS	172	4	4				p	1a					345.8	345.8				
2e	2105	pot-bt	THS	172	4	8				p	1a					344.2	344.2				
2e	2105	pot-bt	THS	172	4	9			op	p	1b					328.5	328.5				
2e	2105	pot-bt	THS	172	3	10		hal	op	p	3ad				350?	364.7	364.7				

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2e	2105	pot-bt	THS	172	4	1		hal, x, y	op	p	3ad	336				326.5	336			40.6	
2e	2105	pot-bt	THS	172	4	3		hal, anh	op	p	3ad	390				326	390			45.1	
2e	2105	pot-bt	THS	172	4	5		hal, anh	cpy	p	3ad	342.7				324.7	342.7			41.1	
2e	2105	pot-bt	THS	172	4	6		hal	op	p	3ad	377.9				339	377.9			44.1	
2e	2105	pot-bt	THS	172	4	7		hal, x	cpy	p	3ad	360.9				334.3	360.9			42.6	
2e	2105	pot-bt	THS	172	3	1		hal		p	3av	253.6				331.3	331.3			34.9	
2e	2105	pot-bt	THS	172	3	2		hal, x	op	p	3av	270				341.2	341.2			35.9	
2e	2105	pot-bt	THS	172	3	14		hal	op	p	3av	210				355.3	355.3			32.4	
2e	2105	pot-bt	THS	172	3	18		hal		p	3av	199				354.8	354.8			31.8	
2e	2105	pot-bt	THS	172	4	2		hal, x, y	op	p	3av	361.9				326.4	361.9			42.7	
2e	2105	pot-bt	THS	172	3	3		hal, x(s	op	p	3bv	199.2	39.5			348	348			37.6	
2e	2000	prop	THS-propylitic	196	1-1	4				p	1a					353.1	353.1	-1.9		3.2	
2e	2000	prop	THS-propylitic	196	1-1	7				p	1a					355.8	355.8	-1.8		3.1	
2e	2000	prop	THS-propylitic	196	1	15	equant			p	1a					373	373	-4		6.4	
2e	2000	prop	THS-propylitic	196	1-1	1				p	1a					350.5	350.5	-2.2		3.7	
2e	2000	prop	THS-propylitic	196	1-1	2				p	1a					351.7	351.7	-2.5		4.2	
2e	2000	prop	THS-propylitic	196	1-1	3				p	1a					347.3	347.3	-2.8		4.6	
2e	2000	prop	THS-propylitic	196	1-1	5				p	1a					357.5	357.5	-1.9		3.2	
2e	2000	prop	THS-propylitic	196	1-1	6				p	1a					351	351	-1.6		2.7	
2e	2000	prop	THS-propylitic	196	1	14	equant			p	3av	290				350	350			37.2	
2e	1690	pot-deep	THS	560	1	12				p	1a					376.1	376.1	-2		3.4	
2e	1690	pot-deep	THS	560	2-1	3				p	1a					368	368	-1.5		2.6	
2e	1690	pot-deep	THS	560	2-1	6				p	1a							-0.8		1.4	
2e	1690	pot-deep	THS	560	2-1	7				p	1a					378.1	378.1	-2.4		4.0	
2e	1690	pot-deep	THS	560	1	13				p?	1a					253.6	253.6	-4.2		6.7	
2e	1690	pot-deep	THS	560	2-1	4				p	2					360	360	-2.1		3.5	
2e	1690	pot-deep	THS	560	1	1				p	1a					367.3	367.3	-2.1	-25?	3.5	
2e	1690	pot-deep	THS	560	1	2				p	1a					392.8	392.8	-4	-22	6.4	
2e	1690	pot-deep	THS	560	1	3				p	1a					282.8	282.8	-2.1		3.5	
2e	1690	pot-deep	THS	560	1	4				p	1a					351.7	351.7	-2.3		3.9	
2e	1690	pot-deep	THS	560	1	5			op?	p?	1b					282.9	282.9	-0.2		0.4	
2e	1690	pot-deep	THS	560	1	6				p?	1a					313.7	313.7	-23.7	-36	25.2	
2e	1690	pot-deep	THS	560	1	7				p?	1a					304.3	304.3	-8.3		12.1	
2e	1690	pot-deep	THS	560	1	8				p?	1a					287	287	-21.8	-33	23.9	
2e	1690	pot-deep	THS	560	1	9				p	1a					368.4	368.4	-2.4		4.0	
2e	1690	pot-deep	THS	560	1	10				p	1a					370.9	370.9	-2.1		3.5	
2e	1690	pot-deep	THS	560	1	11			op?	p	1b				~350			-2.2		3.7	
2e	1690	pot-deep	THS	560	1	15				p?	1a					225.6	225.6	-2.2		3.7	
2e	1690	pot-deep	THS	560	1	16				p?	1a					200.6	200.6	-2.1		3.5	
2e	1690	pot-deep	THS	560	1	17				p?	1a					251.8	251.8	-2.7		4.5	
2e	1690	pot-deep	THS	560	1	18				p?	1a					267.8	267.8	-3		4.9	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2e	1690	pot-deep	THS	560	1	19				p?	1a					267.3	267.3	-3.1		5.1	
2e	1690	pot-deep	THS	560	1	20				p?	1a					259.1	259.1	-2.3		3.9	
2e	1690	pot-deep	THS	560	1	21				p?	1a					256.8	256.8	-2		3.4	
2e	1690	pot-deep	THS	560	2-1	10				p?	1a					255	255				
2e	1690	pot-deep	THS	560	2	1		x?	op?	p	1b					368.7	368.7	-1.2		2.1	large salinity variation, high salinity tail.
2e	1690	pot-deep	THS	560	2	2				p	1a					372.4	372.4				
2e	1690	pot-deep	THS	560	2	3				p	1a					377.8	377.8	-2.5	-22--3	4.2	
2e	1690	pot-deep	THS	560	2	4			op?	p	1b					370.1	370.1	-4		6.4	
2e	1690	pot-deep	THS	560	2	6				p	1a					371.6	371.6	-2		3.4	
2e	1690	pot-deep	THS	560	2	7				p	1a					368	368	-2		3.4	
2e	1690	pot-deep	THS	560	2	8				p	1a					375.6	375.6	-0.8		1.4	
2e	1690	pot-deep	THS	560	2	9				p	1a					383.7	383.7	-2.5		4.2	
2e	1690	pot-deep	THS	560	2	10				p	1a					378.7	378.7	-1.7		2.9	
2e	1690	pot-deep	THS	560	2	12				p	1a					372.4	372.4	-0.9		1.6	
2e	1690	pot-deep	THS	560	2	13		x?	op?	p	1b					344.5	344.5	-15.3		19.0	
2e	1690	pot-deep	THS	560	2-1	1				p	1a					371.5	371.5	-2.8		4.6	
2e	1690	pot-deep	THS	560	2-1	2				p	1a					371	371	-1.9		3.2	
2e	1690	pot-deep	THS	560	2-1	5				s?	1a					311.5	311.5	-1.1		1.9	
2e	1690	pot-deep	THS	560	2-1	8				p	1a					366.9	366.9	-0.8		1.4	
2e	1690	pot-deep	THS	560	2-1	9				p	1a					354.7	354.7	-0.8		1.4	
2e	1690	pot-deep	THS	560	1	14				p?	1a					349.7	349.7	-2		3.4	
2e	1690	pot-deep	THS	560	2	5			cpy	p	3av	368.4				383.2	383.2		-41--4	43.3	
3	2085	pot-bt	THS	624	F1	5				p	1a					489.8	489.8				
3	2085	pot-bt	THS	624	F1	5				p	1a					510	510				
3	2085	pot-bt	THS	624	F1	1	17*13	hal/syl		p	3bv	416	180			445	445			61.1	
3	2085	pot-bt	THS	624	F1	2	16*12	hal/syl/x		p	3bv	428	249	413.9		489	489			65.9	
3	2085	pot-bt	THS	624	F1	3	22*16	hal/x		p	3bv	424				480.5	480.5			48.3	
3	2085	pot-bt	THS	624	F1	4		hal/anh?		p	3bv	452				504.2	504.2			51.1	
3	2085	pot-bt	THS	624	F1	5		hal/x		p	3bv	440				469.7	469.7			49.9	
3	2085	pot-bt	THS	624	F2					p	3bd	395				265.7	395			45.6	
3	2085	pot-bt	THS	624	F2					p	3bd					336	336				
3	2085	pot-bt	THS	624	F2					p	3ad	292.7				200	292.7			37.4	
3	2085	pot-bt	THS	624	F2					p	3bd	333				241.6	333			40.4	
2e	1915	pot-deep	THS	632	b	8	40x20	0		P	1a				350	345	345	-3.1		5.1	
2e	1915	pot-deep	THS	632	b	12	foto	0?		P	1a				395	372	372	-2.4		4.0	
2e	1915	pot-deep	THS	632	b	13		0?		P	1a				393	318	318	-2.6		4.3	
2e	1915	pot-deep	THS	632	b	14		0?		P	1a				393	228	228	-2.6		4.3	
2e	1915	pot-deep	THS	632	b	15		0		P	1a				~350	343	343	-2.4		4.0	
2e	1915	pot-deep	THS	632	b	1	21x12	0		P?	1a					254.9	254.9	-3		4.9	
2e	1915	pot-deep	THS	632	b	3	18x9	0		P?	1a					251.6	251.6	-2.6		4.3	
2e	1915	pot-deep	THS	632	b	4	7x5	0		P?	1a					250.5	250.5	----			

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal	T_d syl	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2e	1915	pot-deep	THS	632	b	5	5x5	0		P?	1a					254.1	254.1				
2e	1915	pot-deep	THS	632	b	6	5x5	0		P?	1a					260.2	260.2				
2e	1915	pot-deep	THS	632	b	7	7x5	0		P?	1a					265	265				
2e	1915	pot-deep	THS	632	b	9	8x4	0		P?	1a					252	252	-3.1		5.1	
2e	1915	pot-deep	THS	632	b	10	22x15	0		P?	1a					286	286	-2.9		4.8	
2e	1915	pot-deep	THS	632	b	11	10x6	0		P?	1a					251.6	251.6	-2.6		4.3	
2e	1915	pot-deep	THS	632	c	1	40x20	0		P?	1a				<310	<310		-2.2	-21	3.7	
2e	1915	pot-deep	THS	632	c	2	20x10	0		P?	1a				<310	<310		-1.8		3.1	
2e	1915	pot-deep	THS	632	c	2a	15x8	0		P?	1a				<310	260.5	260.5	----			
2e	1915	pot-deep	THS	632	c	3	25x18	hal/qz		P?	1a					393.4	393.4	-2.8		4.6	
2e	1915	pot-deep	THS	632	c	6	12x8	0		P?	1a					391.9	391.9	-3.2		5.2	
2e	1915	pot-deep	THS	632	d	5	25x18			P?	1a					341.6	341.6	-2.3		3.9	
2e	1915	pot-deep	THS	632	d	8	22x18			P?	1a				391.5	346.1	346.1	-0.9		1.6	
2e	1915	pot-deep	THS	632	e	2	25x10			P?	1a							-2.1		3.5	
2e	1915	pot-deep	THS	632	e	2a	20x10			P?	1a					311	311				
2e	1915	pot-deep	THS	632	e	4				P?	1a					341.2	341.2	-2.6		4.3	
2e	1915	pot-deep	THS	632	e	5				P?	1a					351.9	351.9	-2.4		4.0	
2e	1915	pot-deep	THS	632	e	6				P?	1a					353.2	353.2	-2.8		4.6	
2e	1915	pot-deep	THS	632	d	6	26x20	hal?		P?	1a					345.1	345.1	-3.1		5.1	
2e	1915	pot-deep	THS	632	d	7	20x16			P?	1a					344.2	344.2	-4.5	~-19	7.2	
2e	1915	pot-deep	THS	632	c	4	35x8	0		P?	1a					401.7	401.7	-2.5	-20.3	4.2	
2e	1915	pot-deep	THS	632	a			? Not vis		P?	1a				580	~600 (?)		-42 (?)	-57.2	(??)	
2e	1915	pot-deep	THS	632	b	2	19x10	?		P?	1a					248	248	-2.3		3.9	
2e	1915	pot-deep	THS	632	b	17		?-fine		P?	1a					385	385	-27.1	-44	27.3	
2e	1915	pot-deep	THS	632	b	18		0?		P?	1a					362	362	-13		17.0	
2e	1915	pot-deep	THS	632	b	16		0		P	1a				~350	---		-2.2		3.7	
2e	1915	pot-deep	THS	632	d	9	8x7			P?	1a/3a	250				346.1	346.1	-15		34.6	
2e	1915	pot-deep	THS	632	c	16	30x22	0		P	1a					348.2	348.2	-2	~-4	3.4	
2e	1915	pot-deep	THS	632	c	7	12x8	0		P?	1a					353.5	353.5	-2.1		3.5	
2e	1915	pot-deep	THS	632	c	8	10x8	0		P?	1a					345.7	345.7	-2.3		3.9	
2e	1915	pot-deep	THS	632	c	9	10x8	0		P?	1a					352	352	-4.2		6.7	
2e	1915	pot-deep	THS	632	c	11		0		P?	1a					337	337	-1.8		3.1	
2e	1915	pot-deep	THS	632	c	15	10x8	hal?		P?	3a					-----		0.8(?)			
2e	1915	pot-deep	THS	632	d	2		hal+?		P?	3ad	450				281	450			50.9	
2e	1915	pot-deep	THS	632	c	5	17x6	hal		P?	3av	294.7				393.3	393.3	-3.4		37.5	
2e	1915	pot-deep	THS	632	e	3	15x12		cp?	P?	3av	256.1				339	339			35.0	
2e	1915	pot-deep	THS	632	c	10		1?		P?	3av	278				311	311	-13.8		36.4	
2e	1915	pot-deep	THS	632	c	14	18x12	hal + syl?		P?	3av/1a					342	342	-------			
2e	1915	pot-deep	THS	632	c	13		hal+syl?		P	3bv	271.7				315	315	-2.0?		36.0	
2e	1710	pot-deep	THS	558	1	1				p?	1a					225.9	225.9	-20	-30	22.7	
2e	1710	pot-deep	THS	558	1	2				p?	1a					243.9	243.9	-21		23.4	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2e	1710	pot-deep	THS	558	1	3				p?	1a					285.9	285.9	-22.2	-27--3	24.2	
2e	1710	pot-deep	THS	558	1	4				p?	1a					233.9	233.9	-1.7		2.9	
2e	1710	pot-deep	THS	558	1	5				p?	1a					317.1	317.1	-3.6		5.8	
2e	1710	pot-deep	THS	558	1	6				p?	1a					290	290	-22	-29	24.0	
2e	1710	pot-deep	THS	558	1	6a				p?	1a					281.8	281.8	-22	-30--3	24.0	
2e	1710	pot-deep	THS	558	1	14				p?	2					403.6	403.6				
2e	1710	pot-deep	THS	558	1	7				p?	1a					390.4	390.4	-2.2		3.7	
2e	1710	pot-deep	THS	558	1	9				p?	1a					385.1	385.1	-1.8		3.1	
2e	1710	pot-deep	THS	558	1	10				p?	1a					387.1	387.1	-2.8		4.6	
2e	1710	pot-deep	THS	558	1	11				p?	1a					395	395	-2		3.4	near crit behaviour
2e	1710	pot-deep	THS	558	1	12				p?	1a					382.2	382.2	-2.1		3.5	
2e	1710	pot-deep	THS	558	1	13				p?	1a					380.7	380.7	-2.3		3.9	
2e	1710	pot-deep	THS	558	1	15				p?	1a					388.1	388.1	-2.6		4.3	
2e	1710	pot-deep	THS	558	2-1	1				s	1a							-1.8	-25	3.1	
2e	1710	pot-deep	THS	558	2-1	2				s	1a					351	351	-1.6	-26	2.7	
2e	1710	pot-deep	THS	558	2-1	3			op	s	1b					351	351	-22.7	-34	24.5	
2e	1710	pot-deep	THS	558	2-1	4				s	1a					252	252	-23.8	-39	25.2	
2e	1710	pot-deep	THS	558	2-1	5				s	1a							-17.4	-38	20.7	
2e	1710	pot-deep	THS	558	2-1	6			op	s	1b					242	242	-24.4		25.6	
2e	1710	pot-deep	THS	558	2-1	7				s	1a					258	258	-24.8	-41	25.9	
2e	1710	pot-deep	THS	558	2-1	8				s	3av	26				250.7	250.7	-23		26.5	
2e	1710	pot-deep	THS	558	2	1a				s	1a					317.2	317.2	-1.4		2.4	
2e	1710	pot-deep	THS	558	2	1b				s	1a				350			-1.2		2.1	
2e	1710	pot-deep	THS	558	2	2			op	s	1b					328.5	328.5	-1.7		2.9	
2e	1710	pot-deep	THS	558	2	6				s	1a					280	280	-1		1.7	
2e	1710	pot-deep	THS	558	2	7				s	1a					282	282	-0.8		1.4	
2e	1710	pot-deep	THS	558	2	8				s	1a					294	294	-1.1		1.9	
2e	1710	pot-deep	THS	558	2	9				s	1a					297	297	-1.7		2.9	
2e	1710	pot-deep	THS	558	2	10				s	1a					285	285	-3		4.9	
2e	1710	pot-deep	THS	558	2	11				s	1a					290	290	-2.1		3.5	
2e	1710	pot-deep	THS	558	2	3				s	2							-1.5		2.6	
2e	1710	pot-deep	THS	558	2	1				s	1a					382	382	-2	-21?	3.4	phase sep trail
2e	1710	pot-deep	THS	558	2	1c				s	1a					379.2	379.2	-1.4		2.4	
2e	1710	pot-deep	THS	558	2	4				s	1a					385	385	-2.2		3.7	
2e	1710	pot-deep	THS	558	2	5				s	1a							-0.8		1.4	
2e	1710	pot-deep	THS	558	2	12				s	1a					375	375				
2e	2000	trans	THS	196	1	1	irreg			s?	1a					245.7	245.7	-1	-25	1.7	
2e	2000	trans	THS	196	1	2	irreg			s?	1a					235	235	-0.8		1.4	
2e	2000	trans	THS	196	1	3	irreg			s?	1a					245.7	245.7	-1		1.7	
2e	2000	trans	THS	196	1	4	irreg			s?	1a					227.7	227.7	-0.7		1.2	
2e	2000	trans	THS	196	1	5	irreg			s?	1a					249.2	249.2	-0.8		1.4	

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2e	2000	trans	THS	196	1	6	irreg			s?	1a					247.1	247.1	-1.5		2.6	
2e	2000	trans	THS	196	1	7	irreg			s?	1a					217.8	217.8	-1		1.7	
2e	2000	trans	THS	196	1	8	irreg			s?	1a					230	230	-0.8		1.4	
2e	2000	trans	THS	196	1	9	irreg			s?	1a					213.1	213.1	-1.2		2.1	
2e	2000	trans	THS	196	1	10	irreg			s?	1a					208	208	-1		1.7	
2e	2000	trans	THS	196	1	11	irreg			s?	1a							-0.7		1.2	
2e	2000	trans	THS	196	1	12	irreg			s?	1a					218.3	218.3	-1.1	-22	1.9	
2e	2000	trans	THS	196	1	13	irreg			s?	1a					234.6	234.6	-1.2		2.1	
2-distal	1980	prop	THS-propylitic	130	2	11				p	1a					354.6	354.6	-0.1	-25	0.2	
2-distal	1980	prop	THS-propylitic	130	2	1			op	p	1b					355	355	-0.6		1.0	
2-distal	1980	prop	THS-propylitic	130	2	2			cpy	p	1b					367	367	-4.1	-22	6.6	
2-distal	1980	prop	THS-propylitic	130	2	3			cpy	p	1b					373.7	373.7	-23.2		24.8	
2-distal	1980	prop	THS-propylitic	130	2	4			op	p	1b					353.6	353.6	-1.1	-21	1.9	
2-distal	1980	prop	THS-propylitic	130	2	5				p	1a					357.5	357.5	-0.9	-20	1.6	
2-distal	1980	prop	THS-propylitic	130	2	6				p	1a				360			-2.6		4.3	
2-distal	1980	prop	THS-propylitic	130	2	7			cpy	p	1b					339.1	339.1	-21.8	-31	23.9	
2-distal	1980	prop	THS-propylitic	130	2	8				p	1a					381.6	381.6	-21.7	-31	23.8	
2-distal	1980	prop	THS-propylitic	130	2	9			op	p	1b				350			-23.3	-29--4	24.9	
2-distal	1980	prop	THS-propylitic	130	2	10				p	1a					357.8	357.8	-2.4	-29	4.0	
2-distal	1980	prop	THS-propylitic	130	2	13				p	1a					350.2	350.2	-5.2	-37	8.1	
2-distal	1980	prop	THS-propylitic	130	1	2				p?	1a					350.3	350.3	-1		1.7	
2-distal	1980	prop	THS-propylitic	130	1	6				p?	1a					350.6	350.6	-0.2		0.4	
2-distal	1980	prop	THS-propylitic	130	1	10				p?	1a					349	349	-0.1		0.2	
2-distal	1980	prop	THS-propylitic	130	1	12				p?	1a					348.9	348.9	-0.2		0.4	
2-distal	1980	prop	THS-propylitic	130	1	13				p?	1a					348.8	348.8	-0.1		0.2	
2-distal	1980	prop	THS-propylitic	130	1	14				p?	1a					350.9	350.9	-1		1.7	
2-distal	1980	prop	THS-propylitic	130	1	15				p?	1a					346.8	346.8	-0.2		0.4	
2-distal	1980	prop	THS-propylitic	130	1	17				p?	1a					347	347	-0.3		0.5	
2-distal	1980	prop	THS-propylitic	130	1	18				p?	1a					369.6	369.6	-0.5		0.9	
2-distal	1980	prop	THS-propylitic	130	1	3				p?	3ad	420.8				323.5	420.8			48.0	
2-distal	1980	prop	THS-propylitic	130	1	4				p?	3ad	246.1			400	234.7	246.1			34.4	
2-distal	1980	prop	THS-propylitic	130	1	5				p?	3ad	440				332.1	440			49.9	
2-distal	1980	prop	THS-propylitic	130	1	7				p?	3ad	445				280	445			50.4	
2-distal	1980	prop	THS-propylitic	130	1	8				p?	3ad	393.4				293.9	393.4			45.5	
2-distal	1980	prop	THS-propylitic	130	1	16				p?	3ad	435				350	435			49.4	
2-distal	1980	prop	THS-propylitic	130	1	20				p?	3ad	465.4				337.6	465.4			52.5	
2-distal	1980	prop	THS-propylitic	130	1	9				p?	3bd	420				275				47.9	
2-distal	1980	prop	THS-propylitic	130	1	1				s?	1a					273.4	273.4	-7.7	-32	11.4	
2-distal	1980	prop	THS-propylitic	130	1	19				s?	1a					269.2	269.2	-1.2		2.1	

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2-distal	1980	prop	THS-propylitic	130	1	11				s?	1a				430			-7.8		11.5	
2-distal	1980	prop	THS-propylitic	130	2	12				s?	1a					232	232	-0.8		1.4	
2-distal	1950	prop	THS-propylitic	226	2	2	12*12			p	2					360	360				
2-distal	1950	prop	THS-propylitic	226	2	2a	12*12			p	2					360	360				
2-distal	1950	prop	THS-propylitic	226	2-2	1	24*18			p	1a					372.8	372.8	-2.9		4.8	
2-distal	1950	prop	THS-propylitic	226	2-2	1a	24*18			p	1a					372.3	372.3	-3		4.9	
2-distal	1950	prop	THS-propylitic	226	2-2	1b				p	1a					371.7	371.7	-3		4.9	
2-distal	1950	prop	THS-propylitic	226	2-2	1c				p	1a					359.6	359.6	-2.9		4.8	
2-distal	1950	prop	THS-propylitic	226	1	1	25*20	hal		p	3av	237.8				367.8	367.8			33.9	
2-distal	1950	prop	THS-propylitic	226	2	1	22*14			p	3av	182.7				342	342			31.1	
2-distal	1950	prop	THS-propylitic	226	2	1a				p	1a					360	360				
2-distal	1950	prop	THS-propylitic	226	1-1	6				p?	2					380	380				
2-distal	1950	prop	THS-propylitic	226	1	2	35*20			p?	1a					351.8	351.8	-3.1	-40.7(	5.1	
2-distal	1950	prop	THS-propylitic	226	1	3	18*15			p?	1a					353.4	353.4				phase separated population
2-distal	1950	prop	THS-propylitic	226	1	3a	18*15			p?	1a					382	382				
2-distal	1950	prop	THS-propylitic	226	1	3b	18*15			p?	1a					355	355				
2-distal	1950	prop	THS-propylitic	226	1	8	v fine			p?	1a					300	300				
2-distal	1950	prop	THS-propylitic	226	1-1	3				p?	1a					362.8	362.8				
2-distal	1950	prop	THS-propylitic	226	1-1	4	16*8			p?	1a					340	340				
2-distal	1950	prop	THS-propylitic	226	1-1	5				p?	1a					376	376				
2-distal	1950	prop	THS-propylitic	226	1-1	1	36*25			p?	3ad	430				353				48.9	
2-distal	1950	prop	THS-propylitic	226	1	4	10*10	hal		p?	3av	242.9				327.2	327.2			34.2	
2-distal	1950	prop	THS-propylitic	226	1	5	10*10	hal		p?	3av	258.7				298	298			35.2	
2-distal	1950	prop	THS-propylitic	226	1	5a	14*6	hal		p?	3av	245.8				298	298			34.4	
2-distal	1950	prop	THS-propylitic	226	1	6	12*8	hal		p?	3av	279.6				308.5	308.5			36.5	
2-distal	1950	prop	THS-propylitic	226	2	3	35*16			s?	1a					229.7	229.7				
2-distal	1950	prop	THS-propylitic	226	2	3a				s?	1a					245.8	245.8				
2-distal	1950	prop	THS-propylitic	226	1	7	20*20			s?	1a					357	357	-2.3	-36	3.9	
2-distal	1950	prop	THS-propylitic	226	1	7a	20*20			s?	1a					355.4	355.4	-3.7	(-23.7	6.0	
2-distal	1950	prop	THS-propylitic	226	2-2	2	20*16			s?	1a					365.5	365.5	-2.2		3.7	
2-distal	1950	prop	THS-propylitic	226	2-2	2a				s?	1a					370.1	370.1				
2-distal	1950	prop	THS-propylitic	226	2-2	2b				s?	1a					366.8	366.8	-3.3		5.4	
2-distal	1950	prop	THS-propylitic	226	2-2	2c				s?	1a					380.2	380.2				
2-distal	1950	prop	THS-propylitic	226	2-2	2d				s?	1a					381.5	381.5				
2-distal	1950	prop	THS-propylitic	226	2-2	2e	14*12			s?	1a					380.2	380.2				
2-distal	1950	prop	THS-propylitic	226	2-2	2f				s?	1a					364.1	364.1				
2-distal	1960	prop	THS-propylitic	151	a	12	16*10			p	1a					368.3	368.3	-1.3		2.2	
2-distal	1960	prop	THS-propylitic	151	d	2	50*24		op?	p	1b					366.5	366.5	-24.4	-35	25.6	
2-distal	1960	prop	THS-propylitic	151	d	4				ps/s	1a					348.3	348.3				
2-distal	1960	prop	THS-propylitic	151	d	5				p	1a					366.4	366.4				
2-distal	1960	prop	THS-propylitic	151	a	8	16*10			p	1a					367.9	367.9	-1.5		2.6	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2-distal	1960	prop	THS-propylitic	151	a	13	16*10			p	1a							-1.5		2.6	
2-distal	1960	prop	THS-propylitic	151	F6	1	33*23			p	1a					399.7	399.7	-1.4		2.4	
2-distal	1960	prop	THS-propylitic	151	F6	2	30*26	x?		p	1a					391.5	391.5	-2.1	-21	3.5	
2-distal	1960	prop	THS-propylitic	151	F6	3	34*22			p	1a					402.5	402.5	-2.3	-22	3.9	
2-distal	1960	prop	THS-propylitic	151	F6	4				p	1a					394	394				
2-distal	1960	prop	THS-propylitic	151	F6	5				p	1a					398	398				
2-distal	1960	prop	THS-propylitic	151	a	14	16*10			ps/s	1a					360.3	360.3	-1.3		2.2	
2-distal	1960	prop	THS-propylitic	151	a	15	16*10			ps/s	1a							-4.5		7.2	
2-distal	1960	prop	THS-propylitic	151	a	16	16*10			ps/s	1a							-1		1.7	
2-distal	1960	prop	THS-propylitic	151	a	17	16*10			ps/s	1a							-0.9		1.6	
2-distal	1960	prop	THS-propylitic	151	a	18	16*10			ps/s	1a							-3.6		5.8	
2-distal	1960	prop	THS-propylitic	151	a	19	16*10			ps/s	1a					361.2	361.2				
2-distal	1960	prop	THS-propylitic	151	a	20	16*10			ps/s	1a					382.5	382.5				
2-distal	1960	prop	THS-propylitic	151	F4	1	43*24	qz?		ps/s	1a				400	348.7	348.7	-2.1		3.5	
2-distal	1960	prop	THS-propylitic	151	d	3	20*12			ps/s	1a					349	349	-1.8		3.1	
2-distal	1960	prop	THS-propylitic	151	a	9	16*10			ps/s	1a					362.8	362.8	-0.9		1.6	
2-distal	1960	prop	THS-propylitic	151	a	10	16*10	x		ps/s	1a					374.1	374.1	-4.4		7.0	
2-distal	1960	prop	THS-propylitic	151	a	11	16*10			ps/s	1a					364.1	364.1				
2-distal	1960	prop	THS-propylitic	151	a	7	16*10			ps/s	1a					361.2	361.2				
2-distal	1960	prop	THS-propylitic	151	F6	4	16*12	hal		p	3av	305.3				384	384			38.3	
2-distal	1960	prop	THS-propylitic	151	F6	5	16*12	hal		p	3av	292.3	114	93		384	384			48.0	
2-distal	1960	prop	THS-propylitic	151	a	2	11*9	hal	10% fine op	p	3av	152				363.5	363.5			29.8	
2-distal	1960	prop	THS-propylitic	151	a	3	12*9	hal	10%	p	3av	196				359	359			31.7	
2-distal	1960	prop	THS-propylitic	151	a	4	12*9	hal	10%	p	3av	195				363.5	363.5			31.7	
2-distal	1960	prop	THS-propylitic	151	a	5	20*16	hal	10%	p	3av	234.1				353	353			33.7	
2-distal	1960	prop	THS-propylitic	151	a	6	25*18	hal	10%	p	3av	236.6				353	353			33.9	
2-distal	1960	prop	THS-propylitic	151	c	3	25*10	hal	15%	p	3av	302				330	330			38.1	
2-distal	1960	prop	THS-propylitic	151	c	4				p	3av	293				330	330			37.4	
2-distal	1960	prop	THS-propylitic	151	F1	1	18*11	hal	10%	p	3av	210.8				363.5	363.5			32.4	
2-distal	1960	prop	THS-propylitic	151	F3	1	10*13	hal	15% fine op	p	3bv	267	183.4			387	387			35.7	
2-distal	1960	prop	THS-propylitic	151	c	2	11*11	hal	20%, carb?	p	3bv	295				375	375			37.6	
2-distal	1800	prop	THS-propylitic	241	1	1				p	1a					323.1	323.1	-2.4		4.0	
2-distal	1800	prop	THS-propylitic	241	1	2				p	1a					260.8	260.8	-2		3.4	
2-distal	1800	prop	THS-propylitic	241	1	3				p	1a					308.4	308.4	-1.5		2.6	
2-distal	1800	prop	THS-propylitic	241	1	4			op	p	1b					320.8	320.8	-2.2	-31	3.7	
2-distal	1800	prop	THS-propylitic	241	1	5				p	1a					338.3	338.3	-0.4		0.7	
2-distal	1800	prop	THS-propylitic	241	1	6				p	1a					324.1	324.1	-1.5		2.6	
2-distal	1800	prop	THS-propylitic	241	1	7				p	1a					331.2	331.2	-0.2		0.4	
2-distal	1800	prop	THS-propylitic	241	1	8				p	1a					329	329	-2		3.4	
2-distal	1800	prop	THS-propylitic	241	1	9				p	1a					324.9	324.9	-2.1		3.5	
2-distal	1800	prop	THS-propylitic	241	1	10				p	1a					319	319	-0.4		0.7	

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
2-distal	1800	prop	THS-propylitic	241	1	11				p	1a					323	323	-2.2		3.7	
2-distal	1800	prop	THS-propylitic	241	1	12				p	1a					344.7	344.7	-1.2		2.1	
2-distal	1800	prop	THS-propylitic	241	1	13				p	1a					339.6	339.6	-3.7	-22	6.0	
2-distal	1800	prop	THS-propylitic	241	1	14				p	1a					239	239	-4.4	-22	7.0	
2-distal	1800	prop	THS-propylitic	241	1	15				p	1a					344	344	-1.7		2.9	
2-distal	1800	prop	THS-propylitic	241	1	16				p	1a					364.1	364.1	-21.7	-25	23.8	
2-distal	1800	prop	THS-propylitic	241	2	1				p	1a					240.7	240.7	-1.1	-21	1.9	
2-distal	1800	prop	THS-propylitic	241	2	2				p	1a					239.6	239.6	-1.4		2.4	
2-distal	1800	prop	THS-propylitic	241	2	3				p	1a					238.8	238.8	-1.2		2.1	
2-distal	1800	prop	THS-propylitic	241	2	4				p	1a					235.6	235.6	-1.3		2.2	
2-distal	1800	prop	THS-propylitic	241	2	5				p	1a					236	236	-1.5		2.6	
2-distal	1800	prop	THS-propylitic	241	2	6				p	1a				~350			-1.2		2.1	
2-distal	1800	prop	THS-propylitic	241	2	7				p	1a					344.1	344.1	-1.5		2.6	
2-distal	1800	prop	THS-propylitic	241	2	8	~50um		op	p	1b				~120			-17.2	-26	20.6	
2-distal	1800	prop	THS-propylitic	241	2	9				p	1a					219	219	-17.1	-28	20.5	
2-distal	1800	prop	THS-propylitic	241	2	10				p	1a					220	220	-22.2		24.2	
2-distal	1800	prop	THS-propylitic	241	2	11				p	1a					236.9	236.9	-23.4	-42--3	25.0	
2-distal	1800	prop	THS-propylitic	241	2	12				p	1a					244	244	-2.2		3.7	
2-distal	1800	prop	THS-propylitic	241	2	13				p	1a					301	301	-22.9	-35--2	24.6	
2-distal	1800	prop	THS-propylitic	241	2	14				p	1a					238.7	238.7	-23	-31--2	24.7	
2-distal	1800	prop	THS-propylitic	241	1	17			op	p?	1b					231.2	231.2	-16.6	-28	20.1	
2-distal	1800	prop	THS-propylitic	241	1	18				p?	1a					350.7	350.7	-19	-29	21.9	
2-distal	1800	prop	THS-propylitic	241	2	17				s?	1a					260.1	260.1	-16.4	-27	19.9	
2-distal	1800	prop	THS-propylitic	241	2	18				s?	1a					365.2	365.2	-12.8	-30--2	16.8	
2-distal	1800	prop	THS-propylitic	241	2	19				p	1a					346	346	-1.4		2.4	
2-distal	1800	prop	THS-propylitic	241	2	20				p	1a					343.6	343.6	-1.7		2.9	
2-distal	1800	prop	THS-propylitic	241	2	21				p	1a					344.3	344.3	-1.6		2.7	
2-distal	1800	prop	THS-propylitic	241	2	22				s?	1a					351.9	351.9	-1.9		3.2	
3	2170	pot	dac porf	25	a	3				P	1a				<400	262.2	262.2	-2.5	-6.8(?	4.2	
3	2170	pot	dac porf	25	a	8	35x12			P	1a				~345			-8		11.7	
3	2170	pot	dac porf	25	a	4a	8x6			P?	1a					386.1	386.1				
3	2170	pot	dac porf	25	a	5				P?	1a				<400			-2		3.4	
3	2170	pot	dac porf	25	a	6				P?	1a				<400			-3.1		5.1	
3	2170	pot	dac porf	25	a	9	8x8			P?	1a					345.3	345.3	-2		3.4	
3	2170	pot	dac porf	25	a	10	8x8			P?	1a					352.9	352.9				
3	2170	pot	dac porf	25	a	1				P?	1a					230	230	-4.6		7.3	
3	2170	pot	dac porf	25	a	2				P?	1a					239.8	239.8				
3	2170	pot	dac porf	25	a	2a				P?	1a					255.4	255.4				
3	2170	pot	dac porf	25	a	4c				P?	1a					258.4	258.4				
3	2170	pot	dac porf	25	a	4d				P?	1a					296.9	296.9				
3	2170	pot	dac porf	25	a	4b	8x6	hal		P?	3bd	332		278?		254.6	332			40.3	

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
3	2170	pot	dac porf	25	a	4				P	3ad	368				341.1	368			43.2	
3	2175	pot	dac porf	30	1	5			v large	p	1b					389	389	-2.7		4.5	
3	2175	pot	dac porf	30	2	6				p	1a				~400			-2.3		3.9	
3	2175	pot	dac porf	30	2	7				p	1a				~400			-7.9	-28	11.6	
3	2175	pot	dac porf	30	2	8				p?	1a							-2.5		4.2	
3	2175	pot	dac porf	30	1	5			op	p?	1b				~300			-1	-22.5	1.7	
3	2175	pot	dac porf	30	1	6			op	p?	1b				~300			-1.1		1.9	
3	2175	pot	dac porf	30	1	11				p?	1a				280			-1.3		2.2	
3	2175	pot	dac porf	30	1	12				p?	1a				280	<250		-2.9		4.8	
3	2175	pot	dac porf	30	1	13				p?	1a				280	<250		-3.2		5.2	
3	2175	pot	dac porf	30	1	1			op	p	2a					405.2	405.2	-0.8	-26?	1.4	
3	2175	pot	dac porf	30	1	2				p	2					397.2	397.2	-0.2		0.4	coexisting type 1as, 2s,3a incs, same Th
3	2175	pot	dac porf	30	1	3				p	2					422	422	-0.6		1.0	
3	2175	pot	dac porf	30	1	4				p	2					396.2	396.2	-1.4		2.4	
3	2175	pot	dac porf	30	1	5				p	2					396.4	396.4	-1.2		2.1	
3	2175	pot	dac porf	30	1	6				p	1a					454	454	-5	-20	7.9	
3	2175	pot	dac porf	30	1	7				p	1a					470	470	-4.8		7.6	
3	2175	pot	dac porf	30	2	1	~50um			p	2					416	416	-5.8	-26	8.9	high salinity type 2 inclsuions
3	2175	pot	dac porf	30	2	2	~50um		cpy	p	2a					430	430	-2.4		4.0	
3	2175	pot	dac porf	30	2	3	~50um			p	2					425	425	-2.4		4.0	
3	2175	pot	dac porf	30	2	4			op	p	2a					440	440	-3.2		5.2	
3	2175	pot	dac porf	30	2	5			op	p	2a					410	410	-1.6		2.7	
3	2175	pot	dac porf	30	2	6				p?	2					410	410	-0.2		0.4	
3	2175	pot	dac porf	30	2	7				p?	2					~550?		-11.8	-24	15.8	
3	2175	pot	dac porf	30	2	8				p?	2					~550?		-11.6		15.6	
3	2175	pot	dac porf	30	2	9				p?	2					430	430	-2.6		4.3	
3	2175	pot	dac porf	30	1	10				p	1a							-1	-23	1.7	
3	2175	pot	dac porf	30	1	11				p	1a					382.8	382.8	-0.8		1.4	
3	2175	pot	dac porf	30	1	12				p	1a				~520	~520		-8.5	-24.4	12.3	
3	2175	pot	dac porf	30	1	13				p	1a				350			-2.8	-28	4.6	
3	2175	pot	dac porf	30	1	14				p	1a					391.1	391.1	-1.2		2.1	
3	2175	pot	dac porf	30	1	15				p	1a					374	374	-1.4		2.4	
3	2175	pot	dac porf	30	2	16				p	1a				~400			-2.3		3.9	
3	2175	pot	dac porf	30	2	17				p	1a				~400			-1.4		2.4	
3	2175	pot	dac porf	30	2	18				p?	1a					297.2	297.2	-8.1	-26	11.8	
3	2175	pot	dac porf	30	1	19		hal	op	p	3a										
3	2175	pot	dac porf	30	1	20		hal	op	p	3av	309.4				340.5	340.5			38.6	
3	2175	pot	dac porf	30	1	21		hal	op	p	3av	301.2				397	397			38.0	
3	2175	pot	dac porf	30	1	22		hal	op	p	3av	179.2				381.2	381.2			30.9	
3	2175	pot	dac porf	30	1	23		hal	op	p	3av	234				380.8	380.8			33.7	
3	2175	pot	dac porf	30	1	24		hal	op	p	3av	143				380	380			29.4	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
3	2175	pot	dac porf	30	2	25		hal	op	p	3av	236				381.1	381.1			33.8	
3	2175	pot	dac porf	30	2	26		hal		p	3av	250				347.4	347.4			34.6	
3	2175	pot	dac porf	30	2	27		hal		p	3av	248				356.5	356.5			34.5	
3	2175	pot	dac porf	30	2	28		hal		p	3av	250				361.5	361.5			34.6	
3	2175	pot	dac porf	30	2	29		hal, plat	op	p	3av	302.5				368.1	368.1			38.1	
3	2175	pot	dac porf	30	2	30		hal	op	p	3av	250				360	360			34.6	
3	2175	pot	dac porf	30	2	31		hal	op	p	3av	244				365.2	365.2			34.3	
3	2175	pot	dac porf	30	2	32		hal	op	p	3av	243				369.8	369.8			34.2	
3	2175	pot	dac porf	30	2	33		hal		s?	3av	230				246	246			33.5	
3	2175	pot	dac porf	30	2	34		hal, syl		p	3bv	231	55			370	370			40.3	
3	2175	pot	dac porf	30	2	35		hal, syl	op	p	3bv	224	60			366.2	366.2			40.3	
3	1965	prop	THS-propylitic	142	2	2				p	1a					282.9	282.9	-2		3.4	
3	1965	prop	THS-propylitic	142	2	3				p	1a					261	261	-1.9	-22?	3.2	
3	1965	prop	THS-propylitic	142	2	5				p	1a					350.7	350.7	-2.7		4.5	
3	1965	prop	THS-propylitic	142	2	6			op	p	1b					351.3	351.3	-3		4.9	
3	1965	prop	THS-propylitic	142	2	7				p	1a					344	344	-2		3.4	
3	1965	prop	THS-propylitic	142	2	8				p	1a					274.3	274.3	-2		3.4	
3	1965	prop	THS-propylitic	142	2	10				p	1a					283.4	283.4	-2.3		3.9	
3	1965	prop	THS-propylitic	142	2	11				p	1a					259.4	259.4	-2.8		4.6	
3	1965	prop	THS-propylitic	142	2	12				p	1a					343.4	343.4	-2.2		3.7	
3	1965	prop	THS-propylitic	142	1	3				p?	1a					364	364	-3.6	-24	5.8	
3	1965	prop	THS-propylitic	142	1	4				p?	1a					370.3	370.3	-12.8	-24	16.8	
3	1965	prop	THS-propylitic	142	1	6				p?	1a				~390			-13.4	-23	17.4	
3	1965	prop	THS-propylitic	142	1	8				s?	1a					258.7	258.7	-12.9	-24	16.9	
3	1965	prop	THS-propylitic	142	1	9				s?	1a					239.1	239.1	-12.3	-23	16.3	
3	1965	prop	THS-propylitic	142	1	11				s?	1a					219	219	-16.9	~-34	20.3	
3	1965	prop	THS-propylitic	142	1	12				s?	1a					202.8	202.8	-15.2		19.0	
3	1965	prop	THS-propylitic	142	1	13				s?	1a					190	190	-19.6		22.4	
3	1965	prop	THS-propylitic	142	1	14				s?	1a					234	234	-16.8	-38	20.3	
3	1965	prop	THS-propylitic	142	1	15				s?	1a					239.3	239.3	-20.8	-40	23.2	
3	1965	prop	THS-propylitic	142	1	16				s?	1a					239.4	239.4	-17.3	-40	20.7	
3	1965	prop	THS-propylitic	142	2	1				p	1a					357.7	357.7	-2.3		3.9	
3	1965	prop	THS-propylitic	142	2	4				p	1a					351.8	351.8	-1.8		3.1	
3	1965	prop	THS-propylitic	142	2	9				p	1a				350			-2.8		4.6	
3	1965	prop	THS-propylitic	142	1	1				p?	1a					392.5	392.5	-4	-23	6.4	
3	1965	prop	THS-propylitic	142	1	5				p?	1a					365.4	365.4	-3.3		5.4	
3	1965	prop	THS-propylitic	142	1	7				p?	1a					368.3	368.3	-3.5		5.7	
3	1965	prop	THS-propylitic	142	1	10		x		p?	1a					385.9	385.9	-12	-23	16.0	
3	1745	pot-deep	THS-propylitic	213	b	1	25x10			P	1a					272	272	-22	-38.3	24.0	
3	1745	pot-deep	THS-propylitic	213	b	2	18x10			P	1a				<300			-22.5	-37	24.4	
3	1745	pot-deep	THS-propylitic	213	b	4	9x8			P	1a					225.2	225.2	-2.6		4.3	

vein stage	depth m RL	alt. zone	host rock	Sample no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
3	1745	pot-deep	THS-propylitic	213	b	5	14x10			P	1a					305.5	305.5	-20.9	-41	23.3	
3	1745	pot-deep	THS-propylitic	213	b	6	28x10			P?	1a					270.4	270.4	-1.9		3.2	
3	1745	pot-deep	THS-propylitic	213	b	7	42x20			P?	1a					257.4	257.4	-2.5	-35.1,	4.2	
3	1745	pot-deep	THS-propylitic	213	b	8	22x14			P?	1a					270.7	270.7	-2.3		3.9	
3	1745	pot-deep	THS-propylitic	213	b	6a	<5			S	1a					352.8	352.8	-22.8	-39	24.6	
3	1745	pot-deep	THS-propylitic	213	b	7a	<5			S	1a					368.9	368.9				
3	1745	pot-deep	THS-propylitic	213	b	8a	<5			S	1a							-3.3		5.4	
3	1745	pot-deep	THS-propylitic	213	a	3	50x10			P	3ad	298.9				165.7	298.8			37.8	
3	1745	pot-deep	THS-propylitic	213	a	7	20x15	hal ? 3(	op?	P	3bd	575?	460	305	580						
3	1745	pot-deep	THS-propylitic	213	b	3	13x10	hal 25%?		P	3ad				420	314.4	314.4	-22.1	-37	24.1	
3	1745	pot-deep	THS-propylitic	213	a	1	30x14	hal? 20	op?	P	3ad	530				349.9	530			59.8	
3	1745	pot-deep	THS-propylitic	213	a	4	14x6	hal 25%	op?	P	3ad	497.1				395	497.1			56.0	
3	1745	pot-deep	THS-propylitic	213	a	6	45x25	hal 50%	op?	P	3ad				565	322.9					
3	1745	pot-deep	THS-propylitic	213	a	2	82x30	Hal 5%		P	3av	121			380	263.5	263.5			28.6	
3	1745	pot-deep	THS-propylitic	213	a	8	65x35	hal 10%		P	3av	349.6			450	420	420			41.7	
3	1745	pot-deep	THS-propylitic	213	a	5	80x20	hal 20%		P	3bd	400		437?	?	361.9	400			46.1	
3	1900	pot-deep	THS	541	F2	3	18*14			p	2_1a					403.4	403.4				near-critical behaviour
3	1900	pot-deep	THS	541	F9	F9				p	1a					405.2	405.2	-2.9		4.8	
3	1900	pot-deep	THS	541	F9	1				p	1a					346.4	346.4	-1.1		1.9	
3	1900	pot-deep	THS	541	F9	2				p	1a					325.3	325.3	-0.4		0.7	
3	1900	pot-deep	THS	541	F9	3				p	1a					333.9	333.9	-0.4		0.7	
3	1900	pot-deep	THS	541	F9	4				p	1a					331	331	-0.3		0.5	
3	1900	pot-deep	THS	541	F9	5				p	1a					325	325				
3	1900	pot-deep	THS	541	F9	6				p	1a					333	333				
3	1900	pot-deep	THS	541	F1	1	25*18			p	1a				450	340	340				
3	1900	pot-deep	THS	541	F1	8				p	1a					345	345				
3	1900	pot-deep	THS	541	F2	2	25*18			p	1a					>460					
3	1900	pot-deep	THS	541	F2	4				p	1a					330	330				
3	1900	pot-deep	THS	541	F2	5		?		p	1a					360	360				
3	1900	pot-deep	THS	541	F1	2		hal		p	3a				240						
3	1900	pot-deep	THS	541	F1	4		hal		p	3ad	>400			400	270					
3	1900	pot-deep	THS	541	F1	5		hal		p	3ad	400				270	400			46.1	
3	1900	pot-deep	THS	541	F1	11		hal		p	3ad	400				285	400			46.1	
3	1900	pot-deep	THS	541	F1	12		hal		p	3ad	>400			400	250					
3	1900	pot-deep	THS	541	F2	F2	15*12	hal	v fine?	p	3ad	405.9				275.1	405.9			46.6	
3	1900	pot-deep	THS	541	F2	1	12*7	hal	v fine?	p	3ad	450				286.2	450			50.9	
3	1900	pot-deep	THS	541	F1	3		hal		p	3av	273				296.8	296.8			36.1	
3	1900	pot-deep	THS	541	F1	9		hal		p	3av	420.5				>440	440			48.0	
3	1900	pot-deep	THS	541	F1	F1	22*16	hal/syl/x		p	3b		238.6		240						
3	1900	pot-deep	THS	541	F1	6		hal/syl		p	3bd	260	105			180	260			45.5	
3	1900	pot-deep	THS	541	F1	7		hal/syl		p	3bv	255	40		450	296.8	296.8			40.5	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
3	1900	pot-deep	THS	541	F1	10		hal/syl		p	3bv	290	148			330	330			50.1	
3	2230	trans	THS	706	1	1				p	1a				~390			-0.7		1.2	
3	2230	trans	THS	706	1	3				p	1a				~390			-0.5		0.9	
3	2230	trans	THS	706	1	6				p	1a					358.4	358.4	-3.5	-20	5.7	
3	2230	trans	THS	706	1	7				p	1a					358	358	-3.4		5.5	
3	2230	trans	THS	706	1	8				p	1a				~390			-3.1		5.1	
3	2230	trans	THS	706	1	9				p	1a					348.3	348.3	-2.7		4.5	
3	2230	trans	THS	706	1	13				p	1a					294	294	-21.4	-28?	23.6	
3	2230	trans	THS	706	1	15				p	1a					332.1	332.1	-1		1.7	
3	2230	trans	THS	706	1	17				p	1a					263.1	263.1	-20.5	-36	23.0	
3	2230	trans	THS	706	1	18				p	1a					296.4	296.4	-22	37.6	24.0	
3	2230	trans	THS	706	1	19				p	1a					361.7	361.7	-3.7		6.0	
3	2230	trans	THS	706	2	6				p?	1a					401.1	401.1	-13.1	-33?	17.1	
3	2230	trans	THS	706	2	12				p?	1a					401	401	-19.5	-39--5	22.3	
3	2230	trans	THS	706	2	13				p?	1a					401	401	-20.5		23.0	
3	2230	trans	THS	706	2	14				p?	1a					360.4	360.4				
3	2230	trans	THS	706	2	15				p?	1a					398	398	-22.8	-41	24.6	
3	2230	trans	THS	706	2	16				p?	1a					417.5	417.5	-16.9		20.3	
3	2230	trans	THS	706	2	1	large, irreg			s?	1a					316	316	-10.4	-29--4	14.4	
3	2230	trans	THS	706	2	2				s?	1a					390.2	390.2	-6	-34	9.2	
3	2230	trans	THS	706	2	3				s?	1a					376.1	376.1	-0.2		0.4	
3	2230	trans	THS	706	2	4				s?	1a					340.3	340.3	-17.4	-31.6-	20.7	
3	2230	trans	THS	706	2	4a				s?	1a					368.6	368.6	-0.1		0.2	
3	2230	trans	THS	706	2	5				s?	1a					377.5	377.5	-2.4		4.0	
3	2230	trans	THS	706	2	7				s?	1a					365.6	365.6	-1.2	-31.7	2.1	
3	2230	trans	THS	706	2	8				s?	1a				~390			-0.2		0.4	
3	2230	trans	THS	706	2	9				s?	1a					383.6	383.6				
3	2230	trans	THS	706	2	10				s?	1a				~390			-5.4		8.4	
3	2230	trans	THS	706	2	11				s?	1a				~390			-0.1		0.2	
3	2230	trans	THS	706	1	2				p	2				~390			-0.3		0.5	
3	2230	trans	THS	706	1	12				p	2					398.7	398.7	-1.4		2.4	domain of boiliing population
3	2230	trans	THS	706	1	4				p	1a					393.6	393.6	-3.7	-20	6.0	
3	2230	trans	THS	706	1	5				p	1a					382.1	382.1	-3.6	-19?	5.8	
3	2230	trans	THS	706	1	10				p	1a					351.1	351.1	-2.1		3.5	
3	2230	trans	THS	706	1	11				p	1a				~400			-3.4	~-19	5.5	
3	2230	trans	THS	706	1	14				p	1a					376	376	-4.5	-26	7.2	
3	2230	trans	THS	706	1	16				p	1a				~390	275	275	-21.6	-31	23.8	
4c	2140	Na-K-fld	THS	322	2	1	22*18		large c	ps?	1b				300	290	290	-3.3	-22.9'	5.4	
4c	2140	Na-K-fld	THS	322	2	3	20*16		large c	ps?	1b				400	300	300				
4c	2140	Na-K-fld	THS	322	1	6				s	1a					290	290	-2.5	-22.8'	4.2	
4c	2140	Na-K-fld	THS	322	1	6a			op	s	1b					280	280				

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
4c	2140	Na-K-fld	THS	322	1	2c				s?	1a					336	336				
4c	2140	Na-K-fld	THS	322	1	7g				s?	1a					313.6	313.6				
4c	2140	Na-K-fld	THS	322	2	6				s?	1a							-3.4	-32	5.5	
4c	2140	Na-K-fld	THS	322	2	6a				s?	1a							-3.8	-38	6.1	
4c	2140	Na-K-fld	THS	322	2	7				ps?	2					413.8	413.8				
4c	2140	Na-K-fld	THS	322	1	5				p?	1a					440	440	-10	-24	14.0	
4c	2140	Na-K-fld	THS	322	1	5a				p?	1a					395.6	395.6	-3		4.9	
4c	2140	Na-K-fld	THS	322	1	4				s?	2					415.5	415.5	-3.6	-22 (~	5.8	
4c	2140	Na-K-fld	THS	322	1	4a				s?	1a					415.5	415.5	-3.1	-21	5.1	near critical behaviour
4c	2140	Na-K-fld	THS	322	2	2		hal	large c	ps?	3ad	190			350	220	220		-26 --	31.4	
4c	2140	Na-K-fld	THS	322	1	1	22*16	hal	op	s?	3ad	354.1				226.9	354.1			42.1	
4c	2140	Na-K-fld	THS	322	1	2a		hal		s?	3ad	353.5				227	353.5			42.0	
4c	2140	Na-K-fld	THS	322	1	2b		hal	op	s?	3ad	440				386.6	440			49.9	
4c	2140	Na-K-fld	THS	322	1	7a		hal		s?	3ad	357.6				310	357.6			42.3	
4c	2140	Na-K-fld	THS	322	1	7b		hal	op	s?	3ad	358.3				270	358.3			42.4	
4c	2140	Na-K-fld	THS	322	1	7c		hal	op	s?	3ad	368				316	368			43.2	
4c	2140	Na-K-fld	THS	322	1	7d		hal		s?	3ad	442				276.1	442			50.1	
4c	2140	Na-K-fld	THS	322	1	7e		hal		s?	3ad	451.7				277	451.7			51.1	
4c	2140	Na-K-fld	THS	322	1	7f		hal		s?	3ad	360				275	360			42.5	
4c	2140	Na-K-fld	THS	322	1	7h		hal		s?	3ad	360				258	360			42.5	
4c	2140	Na-K-fld	THS	322	2	4a	10*8	hal/syl		ps?	3bd	485	140			213	485			65.7	
4c	2140	Na-K-fld	THS	322	2	4b		hal/syl		ps?	3bd	469.9	132			213	469.9			63.8	
4c	2140	Na-K-fld	THS	322	2	5		hal/syl	large c	ps?	3bd	480	220		?	236	480			54.1	
4c	2220	prop	THS-propylitic	379	1	A	34*14			p	1a					269.8	269.8	-0.7		1.2	
4c	2220	prop	THS-propylitic	379	1	b	30*24			p	1a					281.54	281.54	-1		1.7	
4c	2220	prop	THS-propylitic	379	1	c				p	1a					274.6	274.6				
4c	2220	prop	THS-propylitic	379	1	d				p	1a					278.9	278.9	-1.2		2.1	
4c	2220	prop	THS-propylitic	379	1	e				p	1a					273	273	-14		17.9	
4c	2220	prop	THS-propylitic	379	1	g				p	1a					270.9	270.9	-0.9		1.6	
4c	2220	prop	THS-propylitic	379	2	b				p	1a					300	300	-0.6		1.0	
4c	2220	prop	THS-propylitic	379	2	c				p	1a					359.7	359.7				
4c	2220	prop	THS-propylitic	379	2	1a	20*16			p	1a				400	370.5	370.5	-5.8	-28	8.9	variation in salinities -mixing array
4c	2220	prop	THS-propylitic	379	2	1b				p	1a					366.8	366.8	-6.8		10.2	
4c	2220	prop	THS-propylitic	379	2	1c	32*18			p	1a					340	340	-23.2	-32	24.8	
4c	2220	prop	THS-propylitic	379	2	1d				p	1a				~400	363.5	363.5	-6.6	-52.9	10.0	
4c	2220	prop	THS-propylitic	379	2	1f				p	1a					305	305	-4	-28	6.4	
4c	2220	prop	THS-propylitic	379	2	1g				p	1a					301	301	-0.5	-28	0.9	
4c	2220	prop	THS-propylitic	379	2	4				p	1a					233.1	233.1				
4c	2220	prop	THS-propylitic	379	2	d				p isola	1a					370	370				
4c	2220	prop	THS-propylitic	379	2	d1				p?	1a					392	392				
4c	2220	prop	THS-propylitic	379	2	4				p	3ad	>450				357.8	>450				

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
4c	2220	prop	THS-propylitic	379	2	2e		hal		p	3ad	349				268	349			41.6	
4c	2220	prop	THS-propylitic	379	2	2f		hal		p	3ad	416			420	348	416			47.6	
4c	2220	prop	THS-propylitic	379	2	2a		hal		p	3av	275				320	320			36.2	
4c	2220	prop	THS-propylitic	379	2	2d	40*20	hal		p	3av	275				329	329			36.2	
4c	2220	prop	THS-propylitic	379	2	2g		hal		p	3av	308				326	326			38.5	
4c	2220	prop	THS-propylitic	379	2	2b		hal		p	3av	270								35.9	
4c	2220	prop	THS-propylitic	379	2	2c		hal		p	3av	268								35.8	
4c	2220	prop	THS-propylitic	379	2	a				p grow	3av	293.6				347	347			37.5	
4c	2000	prop	THS	402	1	1b				p	1a					340	340				
4c	2000	prop	THS	402	1	5				p	1a					331	331				
4c	2000	prop	THS	402	2	1a				p?	1a					272	272	-23	-28	24.7	
4c	2000	prop	THS	402	2	1b				p?	1a					299.6	299.6				
4c	2000	prop	THS	402	2	1c				p?	1a				280	208.9	208.9				
4c	2000	prop	THS	402	2	1d				p?	1a					289.5	289.5	-7.3		10.9	
4c	2000	prop	THS	402	2	1f				p?	1a					270	270				
4c	2000	prop	THS	402	2	1g				p?	1a					277	277	-3.1		5.1	
4c	2000	prop	THS	402	2	2a				p?	1a					296	296	-9.2	-49.6	13.1	
4c	2000	prop	THS	402	2	2b				p?	1a					220	220	-17.5		20.8	
4c	2000	prop	THS	402	2	2c				p?	1a					270.7	270.7				
4c	2000	prop	THS	402	2	2d				p?	1a					289.5	289.5				
4c	2000	prop	THS	402	2	2e				p?	1a					281.9	281.9				
4c	2000	prop	THS	402	2	2f				p?	1a					285	285				
4c	2000	prop	THS	402	2	2g				p?	1a					310.1	310.1				
4c	2000	prop	THS	402	2	2h				p?	1a					315.9	315.9				
4c	2000	prop	THS	402	1	6b				s	1a					319	319				
4c	2000	prop	THS	402	1	6c				s	1a					312	312				
4c	2000	prop	THS	402	1	6d				s	1a					315.2	315.2				
4c	2000	prop	THS	402	1	7a				s	1a					328	328				
4c	2000	prop	THS	402	1	7b				s	1a					329	329				
4c	2000	prop	THS	402	1	6a				s	1a					300.4	300.4				
4c	2000	prop	THS	402	1	8a				s?	2					346	346				
4c	2000	prop	THS	402	1	8b				s?	2					346	346				
4c	2000	prop	THS	402	1	9a				p?	1a					326	326				
4c	2000	prop	THS	402	1	9b				p?	1a					340	340				
4c	2000	prop	THS	402	1	4				p?	1a					334	334	-2.7		4.5	
4c	2000	prop	THS	402	1	4a				p?	1a					333	333		-53		
4c	2000	prop	THS	402	3	1				p?	1a				373.2	326.5	326.5	-16.2	-57.1	19.8	
4c	2000	prop	THS	402	3	2a				p?	1a					355.9	355.9				
4c	2000	prop	THS	402	3	2b				p?	1a					322.4	322.4	-17		20.4	
4c	2000	prop	THS	402	3	2c				p?	1a					375.9	375.9				
4c	2000	prop	THS	402	3	2d				p?	1a					378.5	378.5	-16.6	-59	20.1	

vein stage	depth m RL	alt. zone	host rock	Sampl no.	chip	No.	Size	salts	op.	pri/ sec	inc type	T_d hal hal	T_d syl syl?	T_d ? FeCl?	T decr	T_h vap	T_h final	T_m ice	T_e	Total salinity	Comments
4c	2000	prop	THS	402	1	3				s?	1a					348	348	-2.2		3.7	
4c	2000	prop	THS	402	1	1	39*18			p	3av	96.4				344	344		-60		
4c	2000	prop	THS	402	1	2				p?	3av	134				335	335				

Abbreviations: alt = alteration, bt - biotite alteration, dac = dacite, dec = decrepitation, inc = fluid inclusions, Na-K-fld = Na-K-feldspar alteration zone, op = opaque, pot = potassic zone
pri = primary, prop = propylitic zone, sec = secondary, THS = Teniente host sequence, trans = transitional potassic-propylitic zon

Appendix 5C - PIXE data errors and detection limits

Data is from the 2003 batch of analyses, supplied by Dr. Bin Fu. Data for the 2001 batch was not available.

Errors

File	S	Cl	K	Ca	Ti	Mn	Fe	Cu	Zn	Ge	As	Br	Rb	Sr	Mo	Ag	Sn	Sb	Cs L	Ba L	Pb L
et339_a1n	deep	deep	1355	579	308	111	96	366	81	94	85	85	140	168	379	1124	2197	2736	1028	1029	192
et339_a2n	deep	deep	609	278	152	49	42	148	38	31	32	32	53	60	135	401	784	976	437	487	71
et339_a3	8039	1394	190	118	89	31	29	70	25	28	26	29	49	58	131	386	753	937	280	272	65
et344_a2	6505	5705	1353	454	278	268	683	301	220	118	176	190	363	287	638	1866	3620	4628	690	819	529
et344_a3	26523	7815	1592	836	681	311	537	587	282	218	317	304	468	481	1069	3148	6121	7611	1772	1926	599
et344_a4n	32367	5144	570	404	262	89	88	144	61	70	76	82	120	143	331	943	1893	2354	735	835	184
et344_a5	3846	1994	833	610	675	372	454	451	320	275	427	433	678	792	1771	5183	10056	12853	2014	2165	915
et344_a6	4874	4051	1092	359	170	267	717	235	158	94	127	144	259	159	308	893	1731	2150	437	510	343
et344_a7n	2598	2008	910	1024	1120	590	662	789	603	399	625	705	1134	1367	3165	8924	17797	22090	2641	3591	1638
et38_a1	4064	1041	342	255	237	149	230	197	120	76	117	123	206	237	522	1533	2977	3700	718	741	273
et38_a2	9687	2067	414	276	233	92	113	159	69	65	82	95	154	185	407	1199	2333	2987	643	733	215
et38_a3	14150	3035	638	418	347	141	212	181	115	111	137	151	248	294	660	1944	3785	4844	996	1192	336
et38_a4	798	300	140	101	113	56	137	271	68	58	59	65	111	132	291	852	1651	2051	311	378	148
et38_b1	1473	677	166	119	136	63	133	123	63	43	69	67	115	139	305	894	1733	2153	346	406	170
et38_b2	5191	1327	255	153	143	60	105	100	49	39	58	63	105	125	277	818	1592	1979	385	478	147
et38_b3	1829	835	444	4290	192	143	900	113	100	73	98	92	267	261	340	998	1936	2406	495	573	222
et38_b4	3706	1052	353	205	202	74	97	123	59	55	86	76	125	150	328	969	1883	2410	546	623	183
et38_b5	1663	734	302	220	224	117	196	239	109	93	137	113	222	232	485	1420	2752	3419	592	698	271

Detection Limits

File	S	Cl	K	Ca	Ti	Mn	Fe	Cu	Zn	Ge	As	Br	Rb	Sr	Mo	Ag	Sn	Sb	Cs L	Ba L	Pb L
et339_a1n	deep	deep	2345	1069	448	192	167	191	185	156	126	208	369	434	942	2767	5253	6481	2294	1940	286
et339_a2n	deep	deep	992	444	183	79	62	83	82	65	55	74	145	157	336	987	1877	2316	946	795	126
et339_a3	15839	2648	381	215	117	60	54	63	58	40	38	72	128	150	325	950	1799	2218	563	497	86
et344_a2	3236	1401	625	469	356	280	252	351	328	234	196	385	1046	744	1586	4596	8653	11258	1603	1489	822
et344_a3	43552	10396	2173	1374	859	505	456	589	563	440	318	592	1280	1242	2656	7732	14605	17991	4036	3632	842
et344_a4n	63430	8945	1097	597	339	172	140	157	145	128	98	186	314	366	833	2286	4575	5640	1660	1449	226
et344_a5	7171	3332	1485	1165	939	712	625	761	735	599	499	1032	1779	2004	4321	12505	23546	30633	4175	3908	1244
et344_a6	2044	902	393	298	229	179	182	261	255	204	192	190	654	367	760	2202	4145	5100	1026	956	620
et344_a7n	5051	2976	1720	1455	1399	1000	879	1080	1017	719	915	1766	2901	3424	7880	21394	42553	52346	6095	5798	2121
et38_a1	6812	2168	656	463	329	210	180	231	214	152	149	289	555	620	1300	3773	7118	8764	1505	1380	345
et38_a2	18694	4081	813	506	308	187	156	177	161	130	115	239	404	482	1004	2926	5532	7205	1454	1307	263
et38_a3	27648	6139	1239	774	474	286	239	261	237	182	186	384	645	750	1617	4710	8904	11596	2233	2011	427
et38_a4	1256	575	253	199	163	114	100	146	147	109	84	165	294	344	725	2097	3949	4860	722	678	201
et38_b1	2313	913	317	233	176	116	108	135	128	80	88	168	303	361	756	2188	4121	5071	794	737	224
et38_b2	11021	2443	489	306	188	108	100	110	105	71	79	152	279	326	688	2006	3791	4671	888	796	189
et38_b3	3496	1179	407	296	205	159	166	209	196	173	149	201	825	518	846	2458	4636	5709	949	863	333
et38_b4	7712	2105	538	360	240	154	131	153	139	102	93	193	331	388	814	2366	4468	5818	1115	1012	219
et38_b5	3352	1335	515	389	302	223	193	247	241	206	184	288	513	584	1206	3492	6577	8095	1354	1261	417

APPENDIX 6. ISOTOPES

Appendix 6A. Sulfur isotope methodology

Of the 80 sulfide and sulfate samples analyzed, 64 samples contained coarse sulfide and/or sulfate amenable to hand drilling, and were analyzed by conventional techniques of Robinson and Kusakabe (1975). The $\delta^{34}S‰$ values are reported relative to Canyon Diablo Troilite (CDT), calculated as follows:

$$\delta^{34}S_{sample}\ (‰) = [\{(^{34}S/^{32}S)_{sample} / (^{34}S/^{32}S)_{standard}\}-1] \times 1000$$

An analytical uncertainty of ±0.1‰ is estimated from internal standards. Isotope measurements were performed on a VG Micromass 602D mass spectrometer, by Keith Harris of the Central Science Laboratory, University of Tasmania.

Sixteen samples, from veins and disseminated in alteration assemblages, were too fine grained (<1mm) to be hand drilled, and were analyzed by laser ablation, according to the method of Huston et al. (1995). 150-200μm thick polished sections were prepared, and analyzed using an 18W Quantronix 117Nd:YAG model laser in an oxidizing atmosphere (at 25 torr oxygen pressure). A ~35mA current beam for 1-3 seconds on single or multiple sites (up to 3) was required to yield sufficient SO_2 for analysis. A VG Sira Series II mass spectrometer was used to measure the collected SO_2 gas. Precision for laser ablation analysis is ±0.2‰.

For comparison between conventional and laser ablation-derived $\delta^{34}S$ values, the laser ablation samples have to be corrected with an empirical factor, because the method of concentrating SO_2 in the ablation method results in a small fractionation (~0.17‰) in $\delta^{34}S$ (~0.15‰). A mineral- and laboratory-dependent correction factor is also required (3.82‰ for bornite, 4.45‰ for chalcopyrite, 5.75‰ for pyrite; Huston et al., 1995, Keith Harris, CSL, pers. comm., 2001).

Appendix 6B: Oxygen-deuterium isotope methodology

One tourmaline and three chlorite samples were selected for O-D isotopic analyses. The minerals, all of which were coarse grained, were extracted using a high speed drill. O-D isotopic analyses were performed by Kurtis Kyser and Kerry Klassen at Queens University.

Oxygen was extracted from the silicates using the BrF_5 extraction technique and converted to CO_2, following the procedure of Clayton and Mayeda (1963). Hydrogen was liberated using the uranium method of Bigeleisen et al. (1952), as modified by Kyser and O'Neil (1984). Hydrogen and oxygen concentrations are reported relative to Vienna-standard mean ocean seawater (V-SMOW). Isotopic ratios were measured on a Finnigan-Mat model 251 gas source stable mass spectrometer. For unknowns, reproducibilities of δ values are of $\pm$ 0.2‰ for oxygen, and $\pm$ 5‰ for deuterium.

Appendix 6C: Carbon-oxygen isotope methodology

C-O isotopic analyses of carbonates were undertaken at the Central Science Laboratory, University of Tasmania, by Dr. Keith Harris. The samples were prepared using the method of McCrea (1950), and the isotopic compositions of the extracted CO_2 were analysed using a Micromass 602D stable isotope mass spectrometer. Results are expressed in the standard δ (‰) notation relative to standard mean ocean water (SMOW) for oxygen, and the Pee Dee belemnite (PDB) for carbon. The data were corrected for machine and experimental fractionation using internal standards, resulting in an isotopic error of $\pm$ 0.1‰ for $\delta^{13}C$ and $\pm$ 0.2‰ for $\delta^{18}O$.

Appendix 6D: Radiogenic isotope methodology

Procedures outlined here are from Foden et al. (1995) and Elburg and Foden (1998)

Sr and Nd isotopes

In preparation for analysis, Sr was loaded onto a single Ta filaments, and Nd onto a double Ta-Re filaments. All samples were run as metals. Analysis of was performed on a Finnigan MAT 261 single collector mass spectrometer at the University of Adelaide by John Foden. All Sr and Nd ratios are normalised to $^{86}Sr/^{88}Sr=0.1194$ and $^{146}Nd/^{144}Nd=0.7129$. During the course of the study the La Jolla Nd-standard was 0.511836 ± 15 (2σ error on all the means of >500 eleven scan data blocks), and the SRM-987 Sr-standard was 0.710155 ± 20 (2σ). The total procedural Sr and Nd blanks were 1.1 and 0.2 ng/g, respectively, which in general is negligible by comparison with the typical >500 ng of Sr and Nd dissolved and analysed. The long-term reproducibility of the complete analytical procedure is measured by the analysis of an in-house standard; the standard deviation is 43 ppm for $^{87}Sr/^{86}Sr$ and 58 ppm for $^{143}Nd/^{144}Nd$. Machine performance is monitored by the analyses of international standards.

Pb isotopes

For Pb isotopic analyses approximately 100 mg of ground sample was leached for 10 minutes in hot 6 M HCl to remove possible contamination. The samples were dissolved in a mixture of HF and HNO_3 and fluorides were converted to chlorides by dry-down with HCl. The sample was redissolved in 0.6 M HBr and Pb was separated from all other elements with Dowex 1-X8 anion exchange resin. Part of the sample was loaded with high purity Si gel mixed with HNO_3; the amount of sample loaded was dependant on the Pb content of the sample. The aim was to obtain a ≥ 1 V beam on ^{208}Pb when the sample was run at 1150°C on a Finnigan MAT 261 TIMS housed at the Department of Geology and Geophysics at the University of Adelaide. Pb isotopic compositions were measured in dynamic mode, with a total of 8 s counting time on each peak. A fractionation correction of 0.12% per amu was applied. Estimated errors are 0.007 for $^{206}Pb/^{204}Pb$, 0.009 for $^{207}Pb/^{204}Pb$ and 0.030 for $^{208}Pb/^{204}Pb$ based on repeated measurements of the NBS981 standard. Blanks are approximately 300 pg.

Appendix 6E: Sulfur isotope data

sample number	mineral	mineral pairs	vein/alt stage	method	bn	cp	py	Mo	anh	Sulfide Geotherm. an/cpy	an/bn
Late Magmatic											
main stage											
ET697	bn	bn, cp	2a diss	l.a.	-1.6						
ET697	cp		2a diss	l.a.		-1.2					
ET790	bn		2a	l.a.	-3.8						
ET531	cp		2a	conv.		-1.8					
ET344	bn		Na-K-fld	l.a.	-5.3						
ET698	cp		bt bx	l.a.		-3.9					
ET559	bn	bn/an	2b	l.a.	-2.4						409.1
ET559	cp		2b	l.a.							
ET559	an		2b	conv.					12.6		
ET639	bn	bn/an	2b	l.a.	-3.6						379.0
ET639	cp	cp/an	2b	l.a.		0.2				463.1	
ET639	an		2b	conv.					12.8		
ET18	bn	an/cp/bn	2c	conv.	-2.5						467.3
ET18	cp		2c	conv.		-2.2				464.9	
ET18	an		2c	conv.					10.4		
ET339	bn		2c	conv.	-2.9						
ET208	bn		2c	l.a.	-3.6						
ET208	cp		2c	l.a.		-5.9					
ET685	mo		2c	conv.				-0.3			
Average Main stage Late Magmatic					**-3.2**	**-2.5**		**-0.3**	**11.9**	**464.0**	**418.5**
Anhydrite breccias											
ET702	bn	an/cp/bn	2d	conv.	-1.0						456.9
ET702	cp		2d	conv.		-0.8				449.7	
ET702	an		2d	conv.					12.2		
ET669	cp	cp/an	2d	conv.		-1.5				446.2	
ET669	an		2d	conv.					11.7		
ET251	cp	cp/an	2d	conv.		-0.7				498.6	
ET251	an		2d	conv.					10.8		
ET714	cp	cp/an	LM bt-anh-cpy bx	conv.		-3.4				438.1	
ET714	an		LM bt-anh-cpy bx	conv.					10.1		
ET825	cp	cp/an	LM bt-anh-cpy bx	conv.		-2.0				454.4	
ET825	an		LM bt-anh-cpy bx	conv.					10.9		
Average An breccias					**-1.0**	**-1.7**			**11.1**	**457.4**	**456.9**
Late Magmatic, late stage											
ET17	cp		2e	conv.		0.2					
ET215	cp		2e	conv.		-1.6					
ET226	cp	cp/an	2e	conv.		-1.6				436.4	
ET226	an		2e	conv.					11.9		
ET558	cp	mo, cp	2e	conv.		-1.8					
ET558	mo		2e	conv.				-0.6			
ET632	cp	cp/an	2e	conv.		-0.7				492.6	
ET632	an		2e	conv.					11.0		
ET196	mo		2e	conv.				0.7			
Average Late Magmatic - all					**-2.9**	**-1.8**		**-0.1**	**11.4**	**460.4**	**462.1**
Late Magmatic - propylitic zone											
ET136	cp		disseminated in pr	conv.		0.1					
ET231	py		disseminated in pr	conv.			-0.2				
ET246	py	py/cp	2-distal	conv.			-0.2				
ET246	py		2-distal	l.a.			-1.8				
ET246	cp		2-distal	l.a.		-2.9					
ET150	py		2-distal	conv.			0.7				
ET151	py	an/py	2-distal	conv.			-0.2				
ET151	an		2-distal	conv.					14.6		
ET234	py		2-distal	conv.			-0.6				
ET726	py		2-distal	l.a.			-1.8				
ET726A	py		2-distal	l.a.			-0.5				
Average LM propylitic						**-1.4**	**-0.6**		**14.6**		
Principal Hydrothermal											
ET70	cp		3	conv.		-1.2					
ET213	cp	cp/an	3	conv.		-0.3				429.9	
ET213	an		3	conv.					13.4		
ET30	cp	cp/an	3	conv.		-1.7				439.2	
ET30	an		3	conv.					11.7		

sample number	mineral	mineral pairs	vein/alt stage	method	bn	cp	py	Mo	anh	Sulfide Geotherm. an/cpy	an/bn
ET648	cp		3	conv.		-1.1					
ET142	cp		3	conv.		-1.5					
ET624	cp	cp/an	3	conv.		-2.1				394.7	
ET624	an		3	conv.					13.1		
ET706	cp	py/cp	3	conv.		-1.8					
ET706	py		3	conv.			-1.5				
Average Princ Hydrothermal						**-1.4**	**-1.5**		**12.7**	**421.3**	

Late Hydrothermal

ET520	cp	an/cp	4a	conv.		-5.6				345.2	
ET520	an		4a	conv.					12.0		
ET404	bn	an/mo/bn	4c	conv.	-3.7						416.0
ET404	mo		4c	conv.				-1.8			
ET404	an		4c	conv.					11.0		
ET615	cp	an/cp	4c	conv.		-5.7				340.0	
ET615	mo		4c	conv.				2.4			
ET615	an		4c	conv.					12.2		
ET379	cp	cp/an	4c	conv.		-0.8				442.5	
ET379	an		4c	conv.					12.5		
ET781	cp	an/cp +-py	4c	conv.		-3.9				424.9	
ET781	py		4c	conv.			-1.3				
ET781	an		4c	conv.					10.0		
ET613	py	py/an	4c	conv.			-1.2				
ET613	an		4c	conv.					12.6		
ET783	cp		disseminated in lat	conv.		-2.8					
Average Late Hydrothermal					**-3.7**	**-3.8**	**-1.2**	**0.3**	**11.7**	**388.2**	**416.0**

Agua Amarga

AA2	cp	an/cp/py	Agua Amarga	l.a.		-1.1				517.6	
AA2	py		Agua Amarga	l.a.			-5.2				
AA2	an		Agua Amarga	conv.					9.9		
AA4	py		Agua Amarga	conv.			0.3				
Average Agua Amarga							**0.3**		**9.9**		

Abbreviations: anh = anhydrite, bn = bornite, bt bx = biotite breccia, conv = conventional, cp = chalcopyrite, diss = disseminated, geotherm = geothermometry, l.a.= laser ablation, mo = molybdenite, Na-K-fld = Na-K-feldspar pervasive alteration, py = pyrite

Rock Catalogue

Utas#	Field Number	Rock Name	Rock Mineral 1	Rock mineral 2	Texture	Structure	Ore mineral1	Ore mineral2	Ore model	Commodities1	Commodities2	old grid data	old grid data	Drill Hole	Depth (m)	Relative Level	Azimuth	Inclination	Country	Mine/Prospect	Deposit Age	Age comments	Formation	Hand specimen	Powder	Thin Section	Fluid Inclus.	Other preps	Other Comments
154709	ET296	Breccia	Biotite	magnetite	brecciated				Porphyry	Copper	Molybdenum	1280	2362	855	338	2362	83	0	Chile	El Teniente	5.9 - 4.7 Ma	based on Re-Os, and U-Pb SHRIMP ages on zircon (Maksaev et al., 2004)	Farellones Formation			1TS			mag altered andesite breccia
154710	ET413	Andesite	Biotite		porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	1280	2362	855	1075	2362	83	0	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Cg andesite porphyry, cut by LM and PH veins
154711	ET450	Gabbro	Biotite		porphyritic				Porphyry	Copper	Molybdenum	1280	2362	855	1117	2362	83	0	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Igneous? Vein cutting gabbro
154712	ET452	lamprophyre		chlorite	porphyritic				Porphyry	Copper	Molybdenum	1280	2362	855	1272	2362	83	0	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Lamprophyre
154713	ET726	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	945	2180	945	1839	2180	84	0	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R		1TS		Laser ablation mount	LM distal vein in propylitic altered THS
154714	ET788	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	218	755	1068	3323	2289	138	-65	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex		PD	1TS			Late dacite, weak chl, ep, carb alteration of bt phencrysts
154715	ET781	Dacite	sericite		porphyritic		chalcopyrite	molybdenite	Porphyry	Copper	Molybdenum	220	753	1079	1317	1983	332	-62	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					Altered late dacite cut by cpy/mo veins
154716	ET782	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	220	753	1079	1429	1983	332	-62	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Late dacite, ser, carb alteration of plag + bt phencrysts
154717	ET783	Dacite	sericite		porphyritic		molybdenite		Porphyry	Copper	Molybdenum	220	753	1079	2222	1983	332	-62	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					Late dacite, close to Braden Pipe contact, dissem Mo, type 4c bx
154718	ET784	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	220	753	1079	2442	1983	332	-62	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					Stage 4c anh/py/dol vein in late dacite stock at depth
154719	ET123	Dacite	Feldspar group		porphyritic				Porphyry	Copper	Molybdenum	1016	515	1134	470	2180	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					LH carbonate vein in dacite porphyry
154720	ET124	Dacite			porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	1016	515	1134	555	2180	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex			1TS		Laser ablation mount	dacite porphyry, PH veins
154721	ET196	Andesite	Biotite		porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	104	1078	1134	731	2180	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation				FI		THS cut by LM and PH veins
154722	ET2	Diorite			porphyritic		chalcocite		Porphyry	Copper	Molybdenum	104	1078	1258	31	2474	133	-30	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					Diorite, LM veins
154723	ET497	Breccia	Biotite		brecciated				Porphyry	Copper	Molybdenum	104	1078	1258	765	2474	133	-30	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Bt bx, LH vein
154724	ET744	Andesite	biotite		porphyritic				Porphyry	Copper	Molybdenum	104	1078	1272	69	2474	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Type 4c vein in THS close to Braden Pipe
154725	ET811	Dacite			porphyritic				Porphyry	Copper	Molybdenum	1018	560	1291	1390	2286	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Dacite porphyry, weak ser/carb/chl alt
154726	ET769	Dacite			porphyritic				Porphyry	Copper	Molybdenum	1040	630	1297	981	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Dacite pipe, weak alteration
154727	ET162	Andesite	biotite		porphyritic				Porphyry	Copper	Molybdenum	1059	742	1300	331	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		PH veins in THS
154728	ET163	Andesite	biotite		porphyritic				Porphyry	Copper	Molybdenum	1059	742	1300	387	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Strongly biotite altered THS
154729	ET172	Andesite	biotite		porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	1059	742	1300	543	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		LM veins cut by PH veins
154730	ET184	Andesite	magnetite		porphyritic		molybdenite		Porphyry	Copper	Molybdenum	1059	742	1300	734	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Mag altered THS, LM veins
154731	ET193	Andesite			porphyritic				Porphyry	Copper	Molybdenum	1059	742	1300	1122	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					LH veins
154732	ET202	Andesite	Albite	Orthoclase	porphyritic		bornita		Porphyry	Copper	Molybdenum	1059	742	1300	1203	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		Na-K-fld altered THS, bn bearing
154733	ET213	Andesite			porphyritic				Porphyry	Copper	Molybdenum	1059	742	1300	1720	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		LM veins cut by PH veins
154734	ET664	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	1065	945	1306	353	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Fg andesite lava (?) cut by stage 2 veins
154735	ET665	Dacite			porphyritic		chalcopyrite	bornite	Porphyry	Copper	Molybdenum	1065	945	1306	392	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R			FI	Melt inclusion mount	Dacite pipe with irregular stage 2a qz/sulf veins
154736	ET669	Breccia	Anhydrite		brecciated		chalcopyrite		Porphyry	Copper	Molybdenum	1065	945	1306	657	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 2d anh bx with coarse sulfides
154737	ET671	Andesite	Biotite		porphyritic		molybdenite		Porphyry	Copper	Molybdenum	1065	945	1306	683	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Cg and porphyry, moderate potassic alteration
154738	ET685	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	1065	945	1306	1001	2283	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Qz/mo stage 2c veins in andesite porphyry facies

Utas#	Field Number	Rock Name	Rock Mineral 1	Rock mineral 2	Texture	Structure	Ore mineral1	Ore mineral2	Ore model	Commodity1	Commodity2	old grid data	old grid data	Drill Hole	Depth (m)	Relative Level	Azimuth	Inclination	Country	Mine/Prospect	Deposit Age	Age comments	Formation	Hand specimen	Powder	Thin Section	Fluid Inclus.	Other preps	Other Comments
154739	ET741	Andesite	Biotite	sericite	porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	96	1270	1314	42	2378	84	40	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					stage 3 anh/cpy/py veins
154740	ET742	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	96	1270	1314	111	2378	84	40	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Fg and porphyry, weak potassic alteration
154741	ET754	Lamprophyre			porphyritic				Porphyry	Copper	Molybdenum	96	1270	1314	386.6	2378	84	40	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Late hornblende dyke, weak carb-ser-clay altered feldspars
154742	ET755		Anhydrite	dolomite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	96	1270	1317	23	2378	263	45	Chile	El Teniente	5.9 - 4.7 Ma			R					Type 4c anh/dol/cp vein with tour - ser halo
154743	ET756	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	96	1270	1317	40	2378	263	45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Fg and porphyry, moderate potassic alteration
154744	ET728		Anhydrite	chlorite	vein	vein			Porphyry	Copper	Molybdenum	63	1387	1319	125.5	2378	0	-90	Chile	El Teniente	5.9 - 4.7 Ma			R					Distal stage 3 an/py/chl vein with ser chl halo
154745	ET786	Breccia			porphyritic				Porphyry	Copper	Molybdenum	63	1387	1409	963	2284	194	-25	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Volcaniclastic breccia facies of THS
154746	ET459	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	-385	645	1413	179	2287	194	-6	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					THS, stage 2b veins
154747	ET478		Anhydrite		vein	vein			Porphyry	Copper	Molybdenum	-385	645	1413	851	2287	194	-6	Chile	El Teniente	5.9 - 4.7 Ma			R					LH veins cutting LM veins
154748	ET464	Andesite	Biotite	sericite	porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	-385	645	1413	1118	2287	194	-6	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					PH veins in THS
154749	ET473	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	-385	645	1413	1300	2287	194	-6	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					and porph., LM vns with bt halos, LH vns
154750	ET486	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	-385	645	1413	1546	2287	194	-6	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					ser-py altered late dacite
154751	ET520	Breccia	tourmaline	anhydrite	brecciated		chalcopyrite		Porphyry	Copper	Molybdenum	-385	645	1418	1089	2287	194	35	Chile	El Teniente	5.9 - 4.7 Ma			R					LH tour/anh/sulf crackle bx in dacite
154752	ET379	Andesite	Biotite	sericite	porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	-385	645	1423	324	2284	194	-40	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		THS, PH/LH veins
154753	ET388		chlorite	Feldspar group	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	-385	645	1423	622	2284	194	-40	Chile	El Teniente	5.9 - 4.7 Ma			R		1TS			stage 2b vein
154754	ET402	Breccia	anhydrite	Cacite	brecciated		chalcopyrite		Porphyry	Copper	Molybdenum	-385	645	1423	1446	2284	194	-40	Chile	El Teniente	5.9 - 4.7 Ma			R			FI		LH bx, anh/carb/cpy cement, ser alt
154755	ET404	Breccia	anhydrite	Cacite	brecciated		chalcopyrite	bornite	Porphyry	Copper	Molybdenum	-385	645	1423	1518	2284	194	-40	Chile	El Teniente	5.9 - 4.7 Ma			R					LH bx, anh/carb/cpy/bn/mo cement, ser alt
154756	ET405	Breccia	anhydrite	Cacite	brecciated		chalcopyrite	bornite	Porphyry	Copper	Molybdenum	-385	645	1423	1630	2284	194	-40	Chile	El Teniente	5.9 - 4.7 Ma			R					LH bx, anh/carb/cpy/bn cement, ser alt
154757	ET407	Andesite	Biotite		porphyritic				Porphyry	Copper	Molybdenum	-385	645	1423	1682	2284	194	-40	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			And porph, low altered
154758	ET418				vein	vein	bornite	tennantite	Porphyry	Copper	Molybdenum	-408	301	1429	240	2250	194	-85	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					LH vein in THS
154759	ET420				vein	vein	tennantite	molybdenite	Porphyry	Copper	Molybdenum	-408	301	1429	274	2250	194	-85	Chile	El Teniente	5.9 - 4.7 Ma			R					LH vein in THS
154760	ET706		quartz	anhydrite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	83	1387	1463	236	2286	83	-50	Chile	El Teniente	5.9 - 4.7 Ma			R			FI		Stage 3 qz/cpy/anh veins with ser/chl halos
154761	ET714		biotite	anhydrite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	83	1387	1463	1070	2286	83	-50	Chile	El Teniente	5.9 - 4.7 Ma			R			FI		Stage 3 Bt/anh/sulf bx
154762	ET720	Diorite	sericite		porphyritic				Porphyry	Copper	Molybdenum	83	1387	1463	1388	2286	83	-50	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Sewell Diorite, weak biotite alteration
154763	ET704	Andesite	Biotite	chlorite	porphyritic				Porphyry	Copper	Molybdenum	83	1387	1463	36	2286	83	-50	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			fine grained and porphyry, from distal propylitic zone
154764	ET705	Andesite	Biotite	chlorite	porphyritic				Porphyry	Copper	Molybdenum	83	1387	1463	61	2286	83	-50	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Fine grained THS facies from propylitic zone
154765	ET338	Dacite	sericite		porphyritic		bornite		Porphyry	Copper	Molybdenum	63	1383	1466	1090	2286	263	-50	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					Ser altered dacite pipe, LH veins
154766	ET339	Dacite	sericite		porphyritic		bornite		Porphyry	Copper	Molybdenum	63	1383	1466	1130	2286	263	-50	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R		1TS			Ser altered dacite pipe, LM veins
154767	ET340	Breccia	biotite		brecciated				Porphyry	Copper	Molybdenum	63	1383	1466	1225	2286	263	-50	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Igneous bx, bt altered, LM, LH veins
154768	ET342	breccia	anhydrite		brecciated		chalcopyrite		Porphyry	Copper	Molybdenum	63	1383	1466	1317	2286	263	-50	Chile	El Teniente	5.9 - 4.7 Ma			R					stage 2d bx
154769	ET344		feldspar group		vein	vein	bornite		Porphyry	Copper	Molybdenum	63	1383	1466	1357.5	2286	263	-50	Chile	El Teniente	5.9 - 4.7 Ma			R		1TS	FI	Laser ablation mount	Na-K-fld altered THS, bn bearing
154770	ET368	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	63	1383	1466	1719	2286	263	-50	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex			1TS			dacite pipe, ser alt, stage 2c veins

Utas#	Field Number	Rock Name	Rock Mineral 1	Rock mineral 2	Texture	Structure	Ore mineral1	Ore mineral2	Ore model	Commodity s1	Commodity s2	old grid data	old grid data	Drill Hole	Depth (m)	Relative Level	Azimuth	Inclination	Country	Mine/Prospect	Deposit Age	Age comments	Formation	Hand specimen	Powder	Thin Section	Fluid inclus.	Other preps	Other Comments
154771	ET789	Dacite			porphyritic				Porphyry	Copper	Molybdenum	621	581	1505	10	2163	167	-18	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Dacite porphyry, weak alteration
154772	ET849	Dacite	biotite		porphyritic				Porphyry	Copper	Molybdenum	621	581	1505	12.2	2163	167	-18	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex			1TS			dacite porphyry from bornite core, note fresh bt phenocrysts
154773	ET793		dolomite		vein	vein	chalcopyrite	bornite	Porphyry	Copper	Molybdenum	621	581	1505	55.7	2163	167	-18	Chile	El Teniente	5.9 - 4.7 Ma			R					Type 4c cp/bn/dol vein in THS close to Braden Pipe
154774	ET303	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	81	1381	1512	537	2286	263	-25	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					dacite pipe, ser alt, LMi + LH veins
154775	ET313	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	81	1381	1512	847	2286	263	-25	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R		1TS			dacite pipe/diorite
154776	ET316	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	81	1381	1512	898	2286	263	-25	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R		1TS			dacite pipe/diorite, LM veins
154777	ET322	Dacite	sericite		porphyritic		bornite		Porphyry	Copper	Molybdenum	81	1381	1512	1136	2286	263	-25	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R		1TS			Dacite pipe, LM/LH veins
154778	ET324	Dacite	sericite		porphyritic				Porphyry	Copper	Molybdenum	81	1381	1512	1712	2286	263	-25	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Dacite pipe/diorite
154779	ET585	Dacite			porphyritic				Porphyry	Copper	Molybdenum	1017	384	1525	109	2283	84	-34	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Dacite porphyry, weak alteration
154780	ET598				vein	vein	chalcopyrite	molybdenite	Porphyry	Copper	Molybdenum	1017	384	1525	230.5-231.5	2283	84	-34	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 2e cpy/mo - qz vein cutting stage 2 veins, stage 1a vein
154781	ET251				vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	123	1640	1529	30	2286	263	-73	Chile	El Teniente	5.9 - 4.7 Ma			R					stage 2d veins + LM veins
154782	ET851	Diorite	biotite		porphyritic		chalcopyrite	molybdenite	Porphyry	Copper	Molybdenum	123	1640	1529	30	2286	263	-73	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					Sewell Diorite, cut by LM stage bt/anh/cpy/mo bx
154783	ET263	Andesite	biotite		porphyritic				Porphyry	Copper	Molybdenum	123	1640	1529	640	2286	263	-73	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Andesite dyke
154784	ET265		anhydrite	feldspar group	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	123	1640	1529	766	2286	263	-73	Chile	El Teniente	5.9 - 4.7 Ma			R					stage 2b veins
154785	ET215		quartz		vein	vein	molybdenite	chalcopyrite	Porphyry	Copper	Molybdenum	1080	387	1530	350	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma			R					LM veins cut by PH veins
154786	ET226		quartz	anhydrite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1080	387	1530	491.6	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma			R			FI		LM veins cut by LH veins
154787	ET231	Andesite	magnetite	epidote	porphyritic		pyrite		Porphyry	Copper	Molybdenum	1080	387	1530	567.7	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					THS, mag/ep altered, 2-distal veins
154788	ET232	Gabbro	magnetite	epidote	porphyritic				Porphyry	Copper	Molybdenum	1080	387	1530	585	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Gabbro, mag/ep/qz veins/alteration
154789	ET234	Andesite	chlorite		porphyritic		pyrite		Porphyry	Copper	Molybdenum	1080	387	1530	620.4	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					fg and dyke, 2-distal vns, prop alt
154790	ET235	Gabbro	chlorite		porphyritic				Porphyry	Copper	Molybdenum	1080	387	1530	622.1	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					gabbro/fg and dyke contact
154791	ET768	Gabbro	biotite		porphyritic				Porphyry	Copper	Molybdenum	1080	387	1530	655	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Gabbro, moderate biotite alteration
154792	ET241		quartz	anhydrite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1080	387	1530	705	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma			R			FI		Distal stage 3 veins in THS
154793	ET246		quartz	anhydrite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1080	387	1530	745	2283	263	-45	Chile	El Teniente	5.9 - 4.7 Ma			R				Laser ablation mount	Distal stage 3 veins in THS
154794	ET604	Andesite			porphyritic				Porphyry	Copper	Molybdenum	992	218	1565	117.5	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Fine grained andesite porphyry
154795	ET605		anhydrite	quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	992	218	1565	120.8	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 3 anh/cpy/qz vein with ser halo
154796	ET624		anhydrite	quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	992	218	1565	197.3	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma			R		1TS	FI		Stage 3 cpy/anh/qz vein with ser halo
154797	ET826	Breccia	Biotite	chlorite	brecciated				Porphyry	Copper	Molybdenum	992	218	1565	212	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		Stage 2 distal vein, cutting bt mx bx
154798	ET632		anhydrite	quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	992	218	1565	369	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma			R			FI		stage 2e cp/an/qz vein
154799	ET636		anhydrite	quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	992	218	1565	429	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 2c vein, cutting fine grained andesite porphyry
154800	ET640	Andesite	biotite		porphyritic				Porphyry	Copper	Molybdenum	992	218	1565	451.6	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Cg and porphyry, weak potassic alteration
154801	ET648				vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	992	218	1565	545.2	2282	0	-90	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 3 cpy veinlet
154802	ET541a		quartz		vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1074	1067	1666	414	1987	263	-47	Chile	El Teniente	5.9 - 4.7 Ma						FI		Stage 2c and 3 veins, cutting fine grained andesite porphyry

Utas#	Field Number	Rock Name	Rock Mineral 1	Rock mineral 2	Texture	Structure	Ore mineral1	Ore mineral2	Ore model	Commodities1	Commodities2	old grid data	old grid data	Drill Hole	Depth (m)	Relative Level	Azimuth	Inclination	Country	Mine/Prospect	Deposit Age	Age comments	Formation	Hand specimen	Powder	Thin Section	Fluid Inclus.	Other preps	Other Comments
154803	ET557	Dacite	feldspar group		porphyritic				Porphyry	Copper	Molybdenum	1074	1087	1666	1121	1987	263	-47	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R		1TS			Stage 4 veins cutting Na-K-feldspar altered dacite pipe
154804	ET558		quartz		vein	vein	molybdenite	chalcopyrite	Porphyry	Copper	Molybdenum	1074	1087	1666	1238	1987	263	-47	Chile	El Teniente	5.9 - 4.7 Ma			R		'	FI		THS, close to late dacite dyke, cut by stage 2 qz/mo/cpy vein
154805	ET559		quartz	feldsper group	vein	vein			Porphyry	Copper	Molybdenum	1074	1087	1666	1239	1987	263	-47	Chile	El Teniente	5.9 - 4.7 Ma			R		1TS		Laser ablation mount	Stage 2b vein cutting THS coarse andesite porphyry facies
154806	ET560		quartz	feldspar group	vein	vein			Porphyry	Copper	Molybdenum	1074	1087	1666	1293	1987	263	-47	Chile	El Teniente	5.9 - 4.7 Ma			R			FI		Stage 2b vein cutting dacite pipe
154807	ET531	Breccia			brecciated				Porphyry	Copper	Molybdenum	511	1114	1676	1198	2289	133	-53	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		Magmatic breccia?
154808	ET533	Breccia			brecciated				Porphyry	Copper	Molybdenum	511	1114	1676	1297	2289	133	-53	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Magmatic breccia, dac/dior clasts, 2e vns
154809	ET534	Dacite			porphyritic				Porphyry	Copper	Molybdenum	511	1114	1676	1504	2289	133	-53	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			dacite pipe, weak alteration
154810	ET820	Diorite			porphyritic				Porphyry	Copper	Molybdenum	515	1197	1680	1039	2289	138	-65	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Grey porphyry, K-feld/bt/anh/sulph alt.
154811	ET825		Biotite	anhydrite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	515	1197	1680	1424	2289	138	-65	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 2 bt/anh/cpy bx in Sewell Diorite
154812	ET69	Breccia	biotite	magnetite	brecciated				Porphyry	Copper	Molybdenum	1074	911	1689	139	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Biotite breccia, + mag altered clasts
154813	ET70				vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1074	911	1689	178	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma			R					THS, stage 3 vein
154814	ET71	Dacite			porphyritic				Porphyry	Copper	Molybdenum	1074	911	1689	217	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex			1TS			Diorite/dacite pipe
154815	ET79		quartz		vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1074	911	1689	399	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma			R					THS, with stage 2c/2e and 3 veins
154816	ET81		quartz		vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1074	911	1689	498	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma					1TS			THS, stage 3 veins
154817	ET91		anhydrite	biotite	vein	vein			Porphyry	Copper	Molybdenum	1074	911	1689	775	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma					1TS			THS, mag alteration, 2c anh/bt veins
154818	ET93	diorite	magnetite		porphyritic				Porphyry	Copper	Molybdenum	1074	911	1689	780	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R		1TS			Diorite porphyry, mag alteration
154819	ET765	Andesite	biotite		porphyritic				Porphyry	Copper	Molybdenum	1074	911	1689	895	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Cg and porphyry, weak potassic alteration
154820	ET102	Andesite	biotite		porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	1074	911	1689	981	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					THS, biotite altered, stage 2 veins
154821	ET109	Andesite	chlorite	quartz	porphyritic				Porphyry	Copper	Molybdenum	1074	911	1689	1049	1960	263	-3	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			THS, propylitic alteration, qz-filled amygdales
154822	ET1128	Breccia	biotite		brecciated				Porphyry	Copper	Molybdenum	1074	890	1698	48	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			Biotite bx, type 2v veins, wall rock clasts
154823	ET649	Breccia	biotite	magnetite	brecciated				Porphyry	Copper	Molybdenum	1074	890	1698	62	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Bt mx bx, early magnetite altered clasts
154824	ET650	Andesite	chlorite		porphyritic		chalcopyrite		Porphyry	Copper	Molybdenum	1074	890	1698	213	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Intergrown chl/cpy in distal propylitic altered THS
154825	ET130	Andesite			porphyritic		molybdenite		Porphyry	Copper	Molybdenum	1074	890	1698	417	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		THS andesite dyke, stage 3+Mo veins
154826	ET136		quartz		vein	vein	molybdenite		Porphyry	Copper	Molybdenum	1074	890	1698	567	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma					1TS			Cg and porphyry, stage 2e+Mo veins, transitional alteration
154827	ET142	Andesite	chlorite	biotite	porphyritic				Porphyry	Copper	Molybdenum	1074	890	1698	731	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		THS, transitional/propylitic alteration
154828	ET144	Andesite	chlorite	biotite	porphyritic		molybdenite		Porphyry	Copper	Molybdenum	1074	890	1698	813	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation						THS, Mo-bearing stage 2-distal vein, no sample remaining
154829	ET145	Andesite	chlorite	biotite	porphyritic				Porphyry	Copper	Molybdenum	1074	890	1698	819	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					THS, propylitic alteration
154830	ET147	Andesite	chlorite	biotite	porphyritic				Porphyry	Copper	Molybdenum	1074	890	1698	834	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					THS, amygs, filled with propylitic assemblage
154831	ET149	Andesite	magnetite	epidote	porphyritic				Porphyry	Copper	Molybdenum	1074	890	1698	875	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			THS, mag+ep+qz vns, + 2-distal veins
154832	ET150	Andesite	chlorite	biotite	porphyritic				Porphyry	Copper	Molybdenum	1074	890	1698	934	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		THS, propylitic alteration, 2-distal veins

Utas#	Field Number	Rock Name	Rock Mineral 1	Rock mineral 2	Texture	Structure	Ore mineral1	Ore mineral2	Ore model	Commodities1	Commodities2	old grid data	old grid data	Drill Hole	Depth (m)	Relative Level	Azimuth	Inclination	Country	Mine/Prospect	Deposit Age	Age comments	Formation	Hand specimen	Powder	Thin Section	Fluid inclus.	Other preps	Other Comments
154833	ET151	Andesite	chlorite	biotite	porphyritic				Porphyry	Copper	Molybdenum	1074	890	1698	1086	1960	83	-4	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI		THS, propylitic alteration, 2-distal veins
154834	ET17			quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1012	515	1738	12	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma			R					THS, stage 2c/2e veins
154835	ET18		anhydrite	quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1012	515	1738	12	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma			R					THS, proximal stage 2c/2d vns/bxs, mag alt
154836	ET19		anhydrite	quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1012	515	1738	13	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma					1TS			THS, proximal stage 2/3 veins
154837	ET25		anhydrite		vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1012	515	1738	97	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma			R		1TS	FI		THS, stage 3 vein
154838	ET30	Dacite			porphyritic				Porphyry	Copper	Molybdenum	1012	515	1736	236	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R			FI		Dacite porphyry, stage 2 veins
154839	ET38	Breccia	biotite	quartz	brecciated		chalcopyrite		Porphyry	Copper	Molybdenum	1012	515	1738	573	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R			FI	melt inclusion mount	Biotite breccia, proximal stage 2c veins
154840	ET44		anhydrite	quartz	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1012	515	1738	610	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma					1TS			THS, stage 3 vein
154841	ET45		anhydrite	Cacite	vein	vein	tennantite		Porphyry	Copper	Molybdenum	1012	515	1738	623	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma			R					Dacite pipe, stage 4c vein
154842	ET54		anhydrite		vein	vein	tennantite	chalcopyrite	Porphyry	Copper	Molybdenum	1012	515	1738	1061	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma					1TS			THS, stage 4c vein
154843	ET57	Andesite	biotite		porphyritic				Porphyry	Copper	Molybdenum	1012	515	1738	1120	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			THS, biotite altered
154844	ET62	Andesite	chlorite	biotite	porphyritic				Porphyry	Copper	Molybdenum	1012	515	1738	1404	2180	270	8	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation			1TS			THS, stage 2-distal veins
154845	ET687		anhydrite	Cacite	vein	vein	tennantite	chalcopyrite	Porphyry	Copper	Molybdenum	1054	1034	1889	80	2075	264	-17	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 4c cal/tenn/cp/an vein
154846	ET698		ankerite	gypsum	vein	vein	tennantite	chalcopyrite	Porphyry	Copper	Molybdenum	1054	1034	1889	560	2075	264	-17	Chile	El Teniente	5.9 - 4.7 Ma			R				Laser ablation mount	Stage 4c ank/gyps/cpy/tenn/tour vein in THS
154847	ET697		quartz		vein	vein	bornite	chalcopyrite	Porphyry	Copper	Molybdenum	1054	1034	1889	572	2075	264	-17	Chile	El Teniente	5.9 - 4.7 Ma			R				Laser ablation mount	Dacite pipe, containing irregular stage 2a bn/cp/qz veins/UST
154848	ET700	Dacite	quartz		porphyritic		bornite	chalcopyrite	Porphyry	Copper	Molybdenum	1054	1034	1889	648	2075	264	-17	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R					Dacite pipe, + A veins
154849	ET701	Dacite	feldsper group		porphyritic				Porphyry	Copper	Molybdenum	1054	1034	1889	708	2075	264	-17	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Dacite pipe, weak ser/Ksp alt
154850	ET702		anhydrite		vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	1054	1034	1889	735	2075	264	-17	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 2d anh bx, + sulfides, cut by thin stage 3 veinlet
154851	ET777	Andesite	biotite	chlorite	porphyritic				Porphyry	Copper	Molybdenum	580	620	1981	725	2378	194	45	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R	PD	1TS			Fg and porphyry, weak potassic/ propylitic alteration
154852	ET778		anhydrite	Cacite	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum	580	620	1981	900	2378	194	45	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 4c cp/anh/cal/tour vein
154853	ET779	Dacite	sericite	cacite	porphyritic				Porphyry	Copper	Molybdenum	580	620	1981	1137	2378	194	45	Chile	El Teniente	5.9 - 4.7 Ma		Teniente Intrusive Complex	R	PD	1TS			Late dacite, ser/carb/clay altered plag + bt phenocrysts
154854	ET615		anhydrite		vein	vein	chalcopyrite	molybdenite	Porphyry	Copper	Molybdenum	92	117	2047	85.7		98	-30	Chile	El Teniente	5.9 - 4.7 Ma			R					Stage 4c anh/cpy - Mo rim
154855	ET618	Breccia	biotite	sericite	brecciated		chalcopyrite	tennantite	Porphyry	Copper	Molybdenum	92	117	2047	158.6		98	-30	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Bt bx, chl/ser altered, and stage 4c anh/cpy/tenn/cal bx
154856	ET613	Breccia	biotite	sericite	brecciated		pyrite		Porphyry	Copper	Molybdenum	92	117	2047	205		98	-30	Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Bt bx, chl/ser altered, and stage 4c anh/py/carb bx
154857	ET3	Andesite	biotite	magnetite	porphyritic				Porphyry	Copper	Molybdenum			Met hole	T6, Calle 31				Chile	El Teniente	5.9 - 4.7 Ma		Farellones Formation	R					Andesite lava facies, early magnetite alteration cut bt alteration
154858	AA2		anhydrite		vein	vein	chalcopyrite	pyrite	Porphyry	Copper	Molybdenum	6226800	370356	ES56	230	2210	180	-45	Chile	El Teniente				R				Laser ablation mount	Anh/cpy/py vein
154859	AA4				vein	vein	pyrite		Porphyry	Copper	Molybdenum	6226800	370356	ES56	285	2210	180	-45	Chile	El Teniente				R					Py vein
154860	ce52	diorite	chlorite	epidote	porphyritic				Porphyry	Copper	Molybdenum			5km east of mine					Chile	El Teniente			Farellones Formation	R	PD	1TS			Sewell Diorite, weak chlorite + epidote alteration
154861	ET9		quartz	feldspar group	vein	vein	chalcopyrite		Porphyry	Copper	Molybdenum			Met hole, Esmereida					Chile	El Teniente				R					Stage 2b and 2c vein cutting bt mx bx