

TABLE DR1. FLUID INCLUSION LEACHATE ANALYSES (ATOMIC RATIOS)

Sample	F/Cl x 1000	Br/Cl x 1000	NO ₃ /Cl x 1000	PO ₄ /Cl x 1000	SO ₄ /Cl x 1000	B(OH) ₄ /Cl x 1	Ba/Cl x 1000	Ca/Cl x 1000	Cs/Cl x 10000	Fe/Cl x 1000	K/Cl x 100	La/Cl x 1000	Li/Cl x 100	Mg/Cl x 1000	Mn/Cl x 1000
Wall Zone															
131-11	27.87	5.16	11.57	35.11	13.99	0.03	0.424	40.82	2.24	6.39	10.52	1.59	10.04	5.33	0.91
131-8	5.11	5.75	–	9.74	13.76	0.05	0.237	122.81	2.97	1.30	8.10	0.54	16.14	12.56	6.87
1st Intermediate Zone															
40-9	0.24	5.81	2.25	0.27	2.08	0.01	0.62	215.95	–	0.70	22.09	0.06	0.57	5.00	5.28
131-5	0.96	3.87	23.79	0.00	7.51	0.10	0.183	148.68	–	1.13	3.55	0.16	10.62	5.87	1.59
40-11B	62.64	–	33.66	428.95	15.03	0.17	1.509	82.90	21.32	22.46	21.35	10.70	28.26	10.12	7.89
40-6	9.06	7.15	2.25	22.18	10.87	0.17	1.285	34.32	4.67	13.10	12.19	1.96	43.37	5.97	1.11
1st-2nd Intermediate Zone															
40-1	2.12	3.17	6.93	–	12.02	0.15	0.100	172.48	–	1.50	4.97	0.21	6.07	8.12	2.39
40-7	8.49	–	37.59	58.17	21.49	0.36	0.282	200.90	7.68	34.19	22.56	6.07	34.61	15.48	2.20
2nd Intermediate Zone															
40-12	2.70	4.11	5.24	2.47	5.13	0.05	0.242	51.29	–	1.56	4.55	0.23	5.81	10.58	2.52
40-13	9.28	3.62	11.78	5.14	17.15	0.08	–	0.50	0.92	5.33	6.85	0.56	8.43	10.38	2.34
40-8	2.74	3.46	10.08	8.05	6.99	0.03	0.510	6.35	3.24	5.42	6.52	1.77	9.60	3.67	0.64
3rd Intermediate Zone															
40-4	7.93	3.27	10.30	2.81	5.14	0.28	0.100	33.84	0.15	1.52	5.01	0.30	5.13	5.99	1.85
3rd-Core															
40-2	2.30	4.58	4.97	–	3.38	0.05	0.480	212.52	–	0.79	2.79	0.09	2.63	5.33	8.01
Core															
40-3	4.34	4.14	4.07	–	6.32	0.02	0.236	237.96	–	1.32	4.73	0.20	4.75	7.63	3.51
131-1	2.69	3.26	24.59	4.64	23.30	0.66	0.480	382.79	–	0.29	2.67	0.12	5.87	6.39	2.08
131-3	9.07	2.99	66.80	36.38	6.48	0.03	0.229	247.00	56.22	18.14	14.88	16.04	6.35	13.30	2.84
131-4B	–	–	–	–	–	0.05	0.116	212.52	3.38	1.66	6.63	0.52	10.93	5.69	3.92
131-4C	–	1.65	47.24	–	57.50	0.44	0.911	133.55	5.77	4.78	13.23	1.10	49.14	11.46	2.40
Core (?)															
TM-5C	1.16	4.33	13.13	–	7.93	0.01	0.229	247.00	–	0.26	2.21	0.11	4.11	5.51	1.98
TM-5I	3.20	3.61	4.97	–	2.96	0.05	0.104	270.46	–	0.24	2.49	0.05	5.66	5.71	3.68

Note: (a) QQ^+ — sum of cations ($\sigma eq.$), QQ^- — sum of anions ($\sigma eq.$), Boron as $B(OH)_3$.

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Na/Cl x 10	P/Cl x 1000	Rb/Cl x 100000	S/Cl x 1000	Sn/Cl x 10000	Sr/Cl x 10000	$Q^2/Q^{(a)}$ #	Ca/Na	Na/K
Wall Zone								
15.20	9.0	159.66	19.73	4.53	4.01	1.6	0.269	14.45
16.29	–	–	30.03	0.14	19.09	2.0	0.754	20.11
1st Intermediate Zone								
6.36	–	50.75	8.66	2.68	54.13	0.5	3.398	2.88
16.55	32.4	43.49	15.53	2.96	23.07	1.9	0.898	46.58
26.93	182.1	295.43	35.40	20.18	13.88	2.1	0.308	12.61
40.21	178.5	143.35	26.06	1.47	1.10	4.3	0.085	32.98
1st-2nd Intermediate Zone								
14.42	–	113.97	16.46	4.83	27.75	1.7	1.196	29.01
56.11	–	285.24	55.92	24.47	6.58	5.5	–	24.87
2nd Intermediate Zone								
10.74	–	120.51	12.19	3.23	32.68	1.3	0.477	23.62
12.78	–	157.46	19.81	1.37	24.89	1.6	0.004	18.65
15.07	–	74.19	17.83	6.70	3.38	1.6	0.042	23.10
3rd Intermediate Zone								
14.00	–	120.75	10.80	3.42	25.64	1.5	0.242	27.94
3rd-Core								
7.71	–	46.57	11.66	1.45	79.77	1.2	2.756	27.66
Core								
10.32	–	142.13	13.50	2.21	47.85	1.4	2.305	21.85
11.41	16.9	32.38	38.39	1.86	40.66	1.2	3.355	42.75
13.85	103.5	80.90	24.01	1.66	2.28	1.5	1.783	9.31
15.93	–	31.16	16.61	0.68	37.34	2.0	1.334	24.02
59.76	293.9	238.48	128.08	16.84	9.27	5.8	0.223	45.18
Core (?)								
8.27	16.4	29.25	14.02	1.66	49.34	1.1	2.987	37.46
11.31	0.3	39.66	18.53	0.25	49.81	1.5	2.392	45.44

TABLE DR2. AVERAGE MICROTHERMOMETRIC DATA FOR H₂O-CO₂-CH₄-NaCl INCLUSIONS
FROM TIN MOUNTAIN PEGMATITE

No.	Lithologic unit	Mineral assemblage*	T_h (°C)			NaCl _{eq} [†] (wt. %)			$T_{m_{clathrate}}$			X_{CO_2}			ψ (g/cm ³)		
			liq.	vap.	c.p.	liq.	vap.	c.p.	liq.	vap.	c.p.	liq.	vap.	c.p.	liq.	vap.	c.p.
131-4a	Pgm., Core	Q -Am	296	312	333	4.2	4.4	4.4	7.8	7.7	7.7	0.076	0.435	0.250	0.97	0.90	0.92
131-8	Pgm., W.Z.	Q -C-M	355	349	319	4.6	4.4	4.5	7.6	7.7	7.7	0.115	0.536	0.220	0.90	0.78	0.87
131-12	Pgm., W.Z.	Q -M-C	293	402	328	4.1	4.6	4.4	7.9	7.7	7.7	0.067	0.502	0.175	0.93	0.85	0.93

Note: Pgm.–pegmatite, W.Z.–wall zone, liq. – inclusions that homogenize to liquid, vap. – inclusions that homogenize to vapor, and c.p. – inclusions with critical behavior.

*Q-quartz, C-albite, var. cleavelandite, T-tourmaline, M-mica, and Am-amblygonite. Bold letters - minerals on which microthermometry was performed.

[†]Partial salinity of the aqueous portion of the type 1 inclusions.