Finnmarkian Monazite EMP ages in the Central belt of the Seve Nappe, north Jämtland/south Västerbotten, Sweden

Part 2: Appendixes

Msc scriptie
Michiel Gademan

Supervisor: Herman van Roermund

Department of Earth Sciences, Faculty of Geosciences, Utrecht University, Budapestlaan 4, Utrecht, 2508 Ta, Netherlands

1 Appendix

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1.2 Lillfjället Gneiss

Figure 1-1 Thin section 29. Red squares indicate dated monazites.

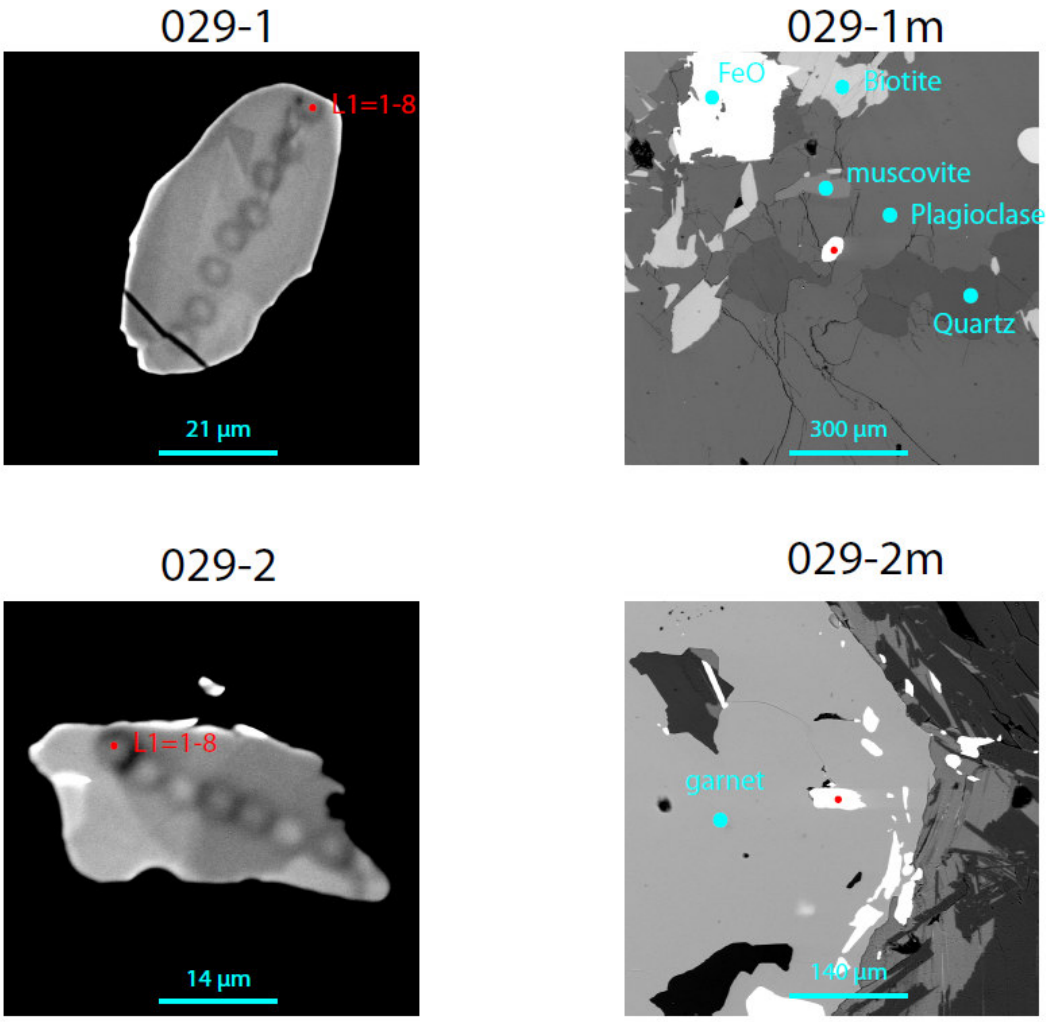

Figure 1-2 Monazites of thin section 29. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-3 Thin section 30. Red squares indicate dated monazites.

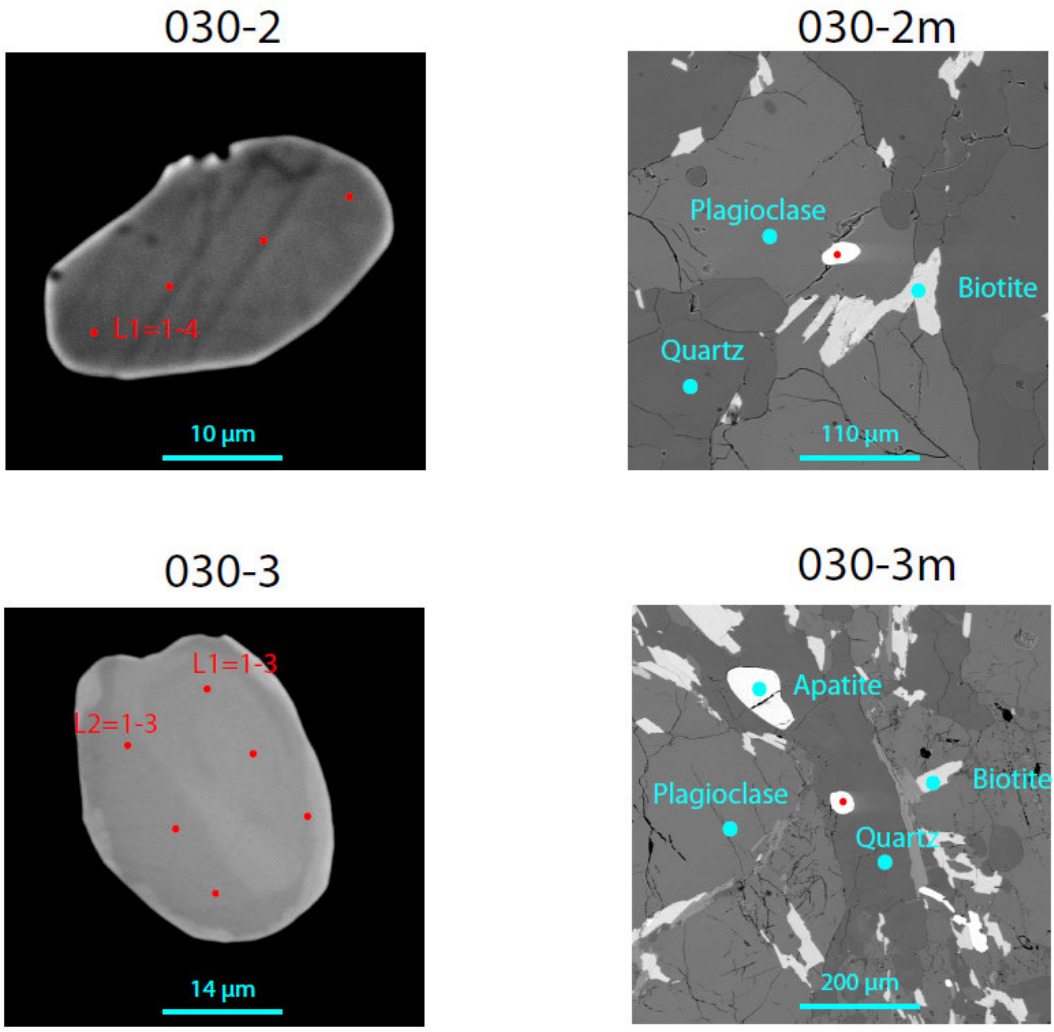

Figure 1-4 Monazites of thin section 30. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

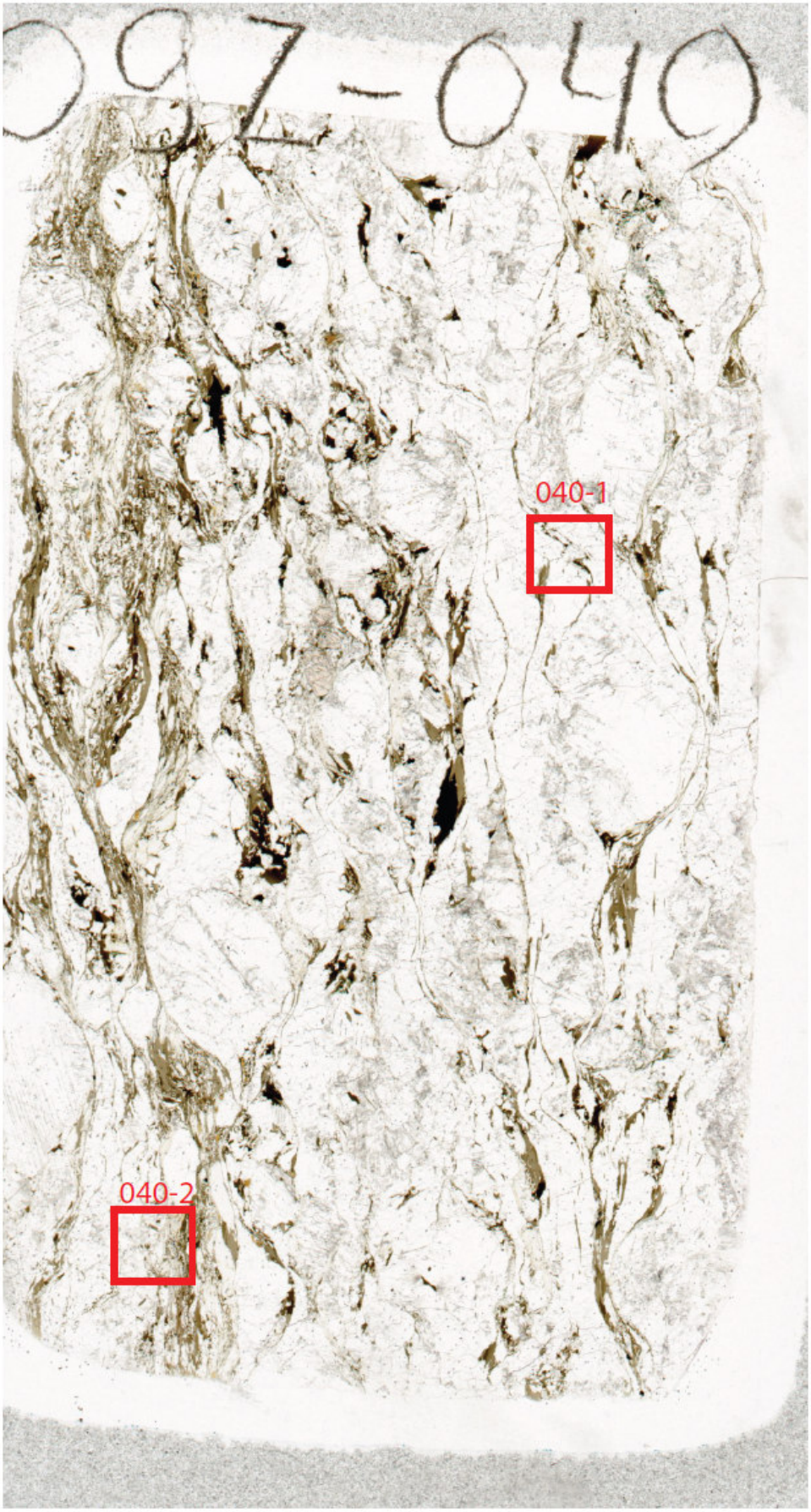

Figure 1-5 Thin section 40. Red squares indicate dated monazites.

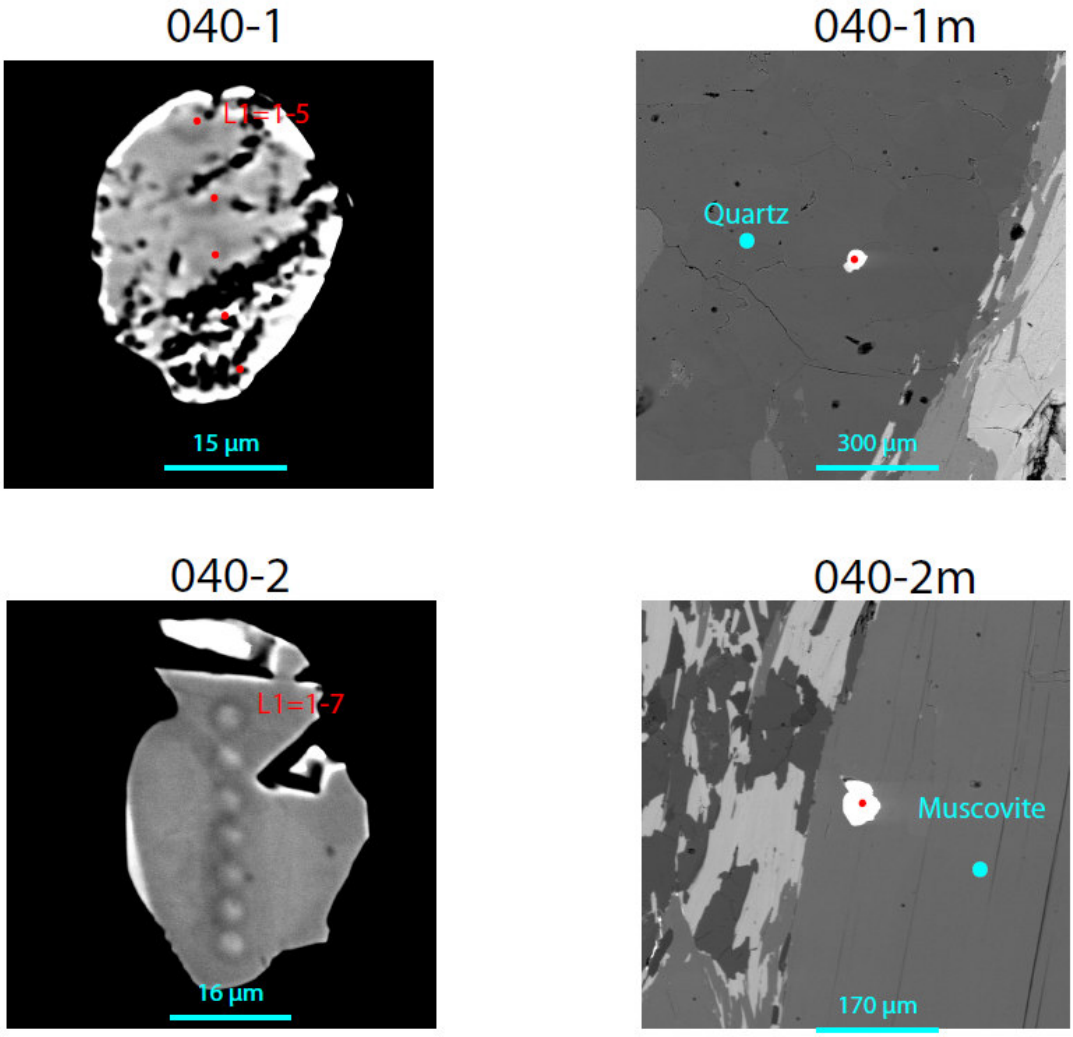

Figure 1-6 Monazites of thin section 40. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

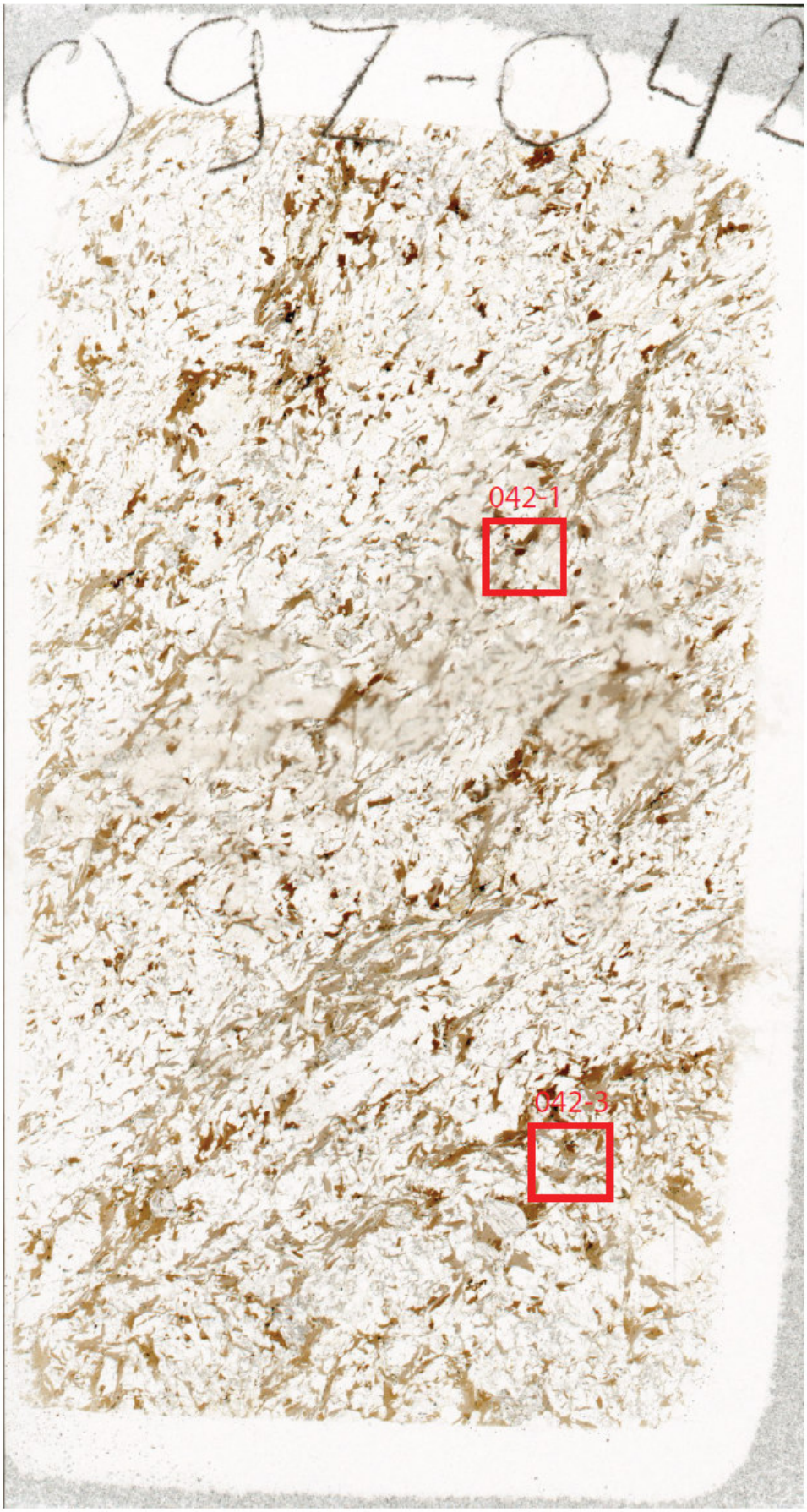

Figure 1-7 Thin section 42. Red squares indicate dated monazites.

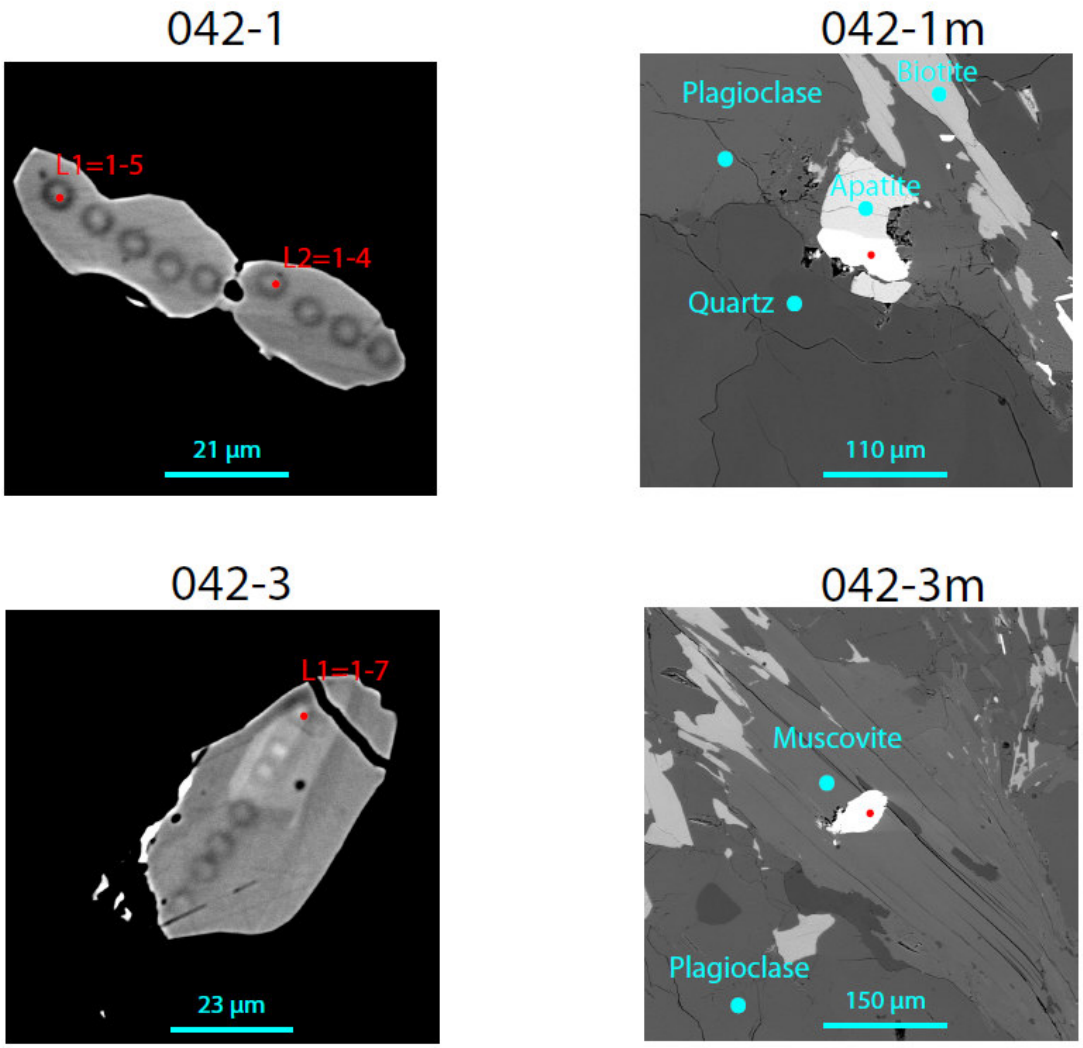

Figure 1-8 Monazites of thin section 42. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

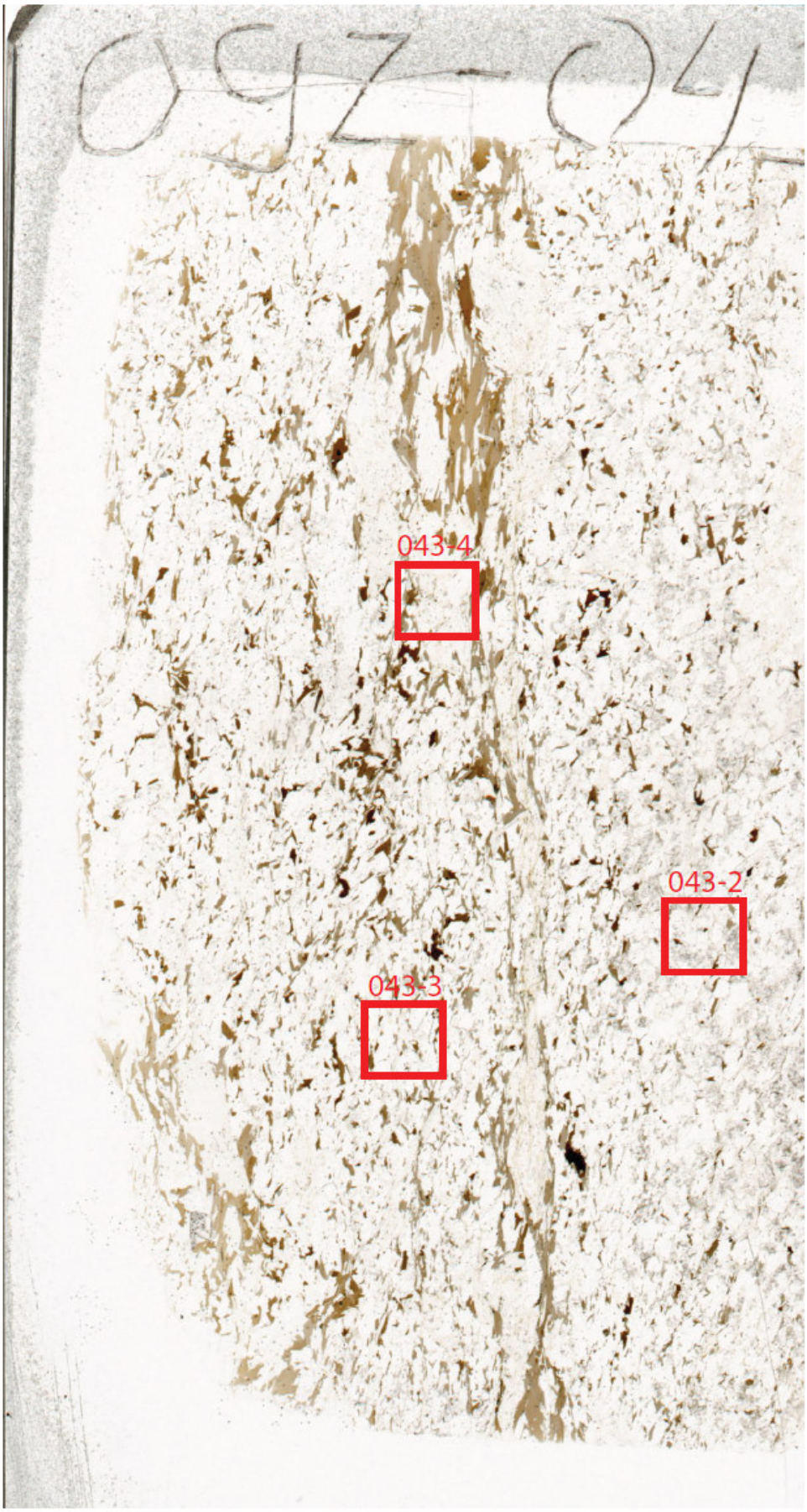

Figure 1-9 Thin section 43. Red squares indicate dated monazites.

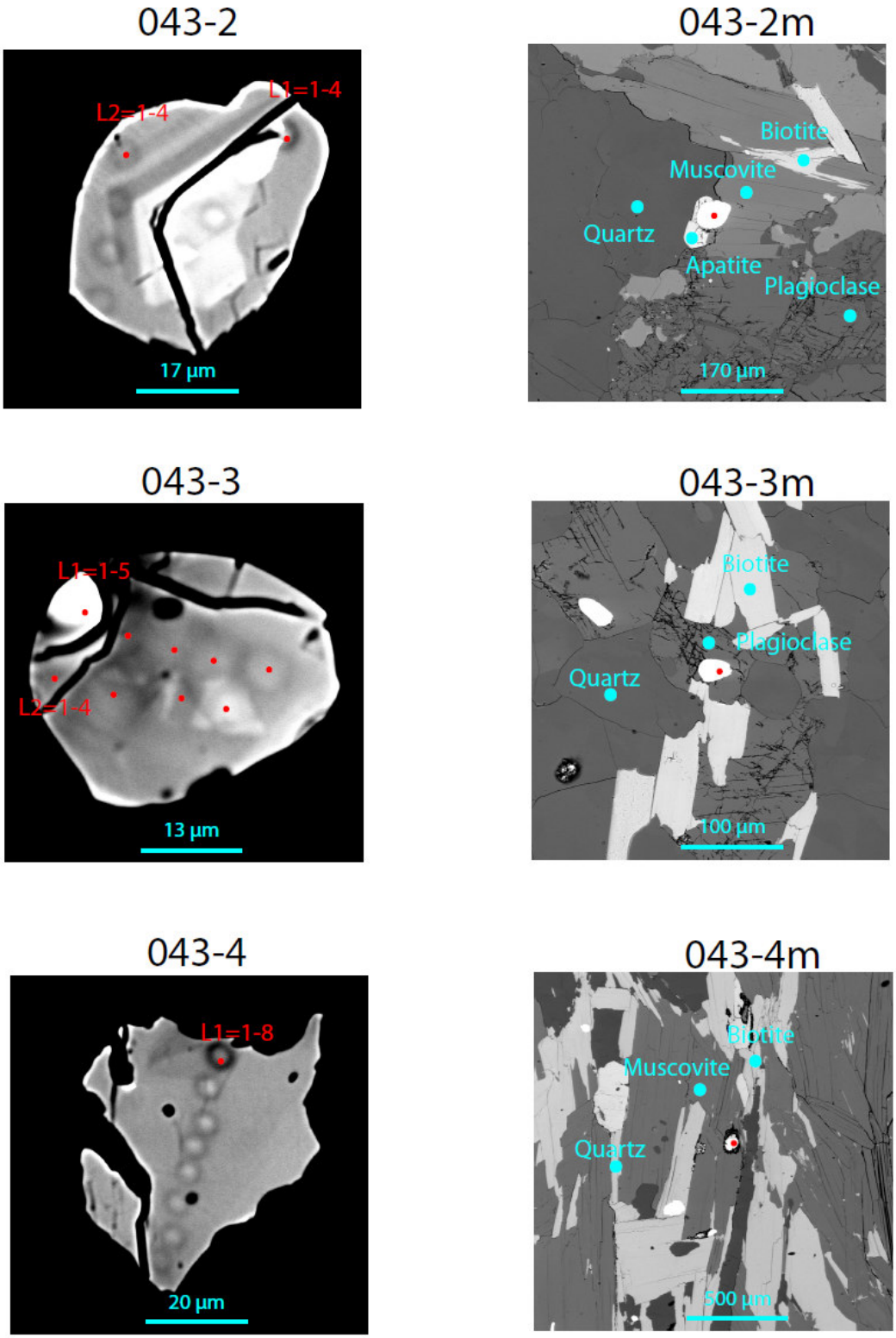

Figure 1-10 Monazites of thin section 43. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

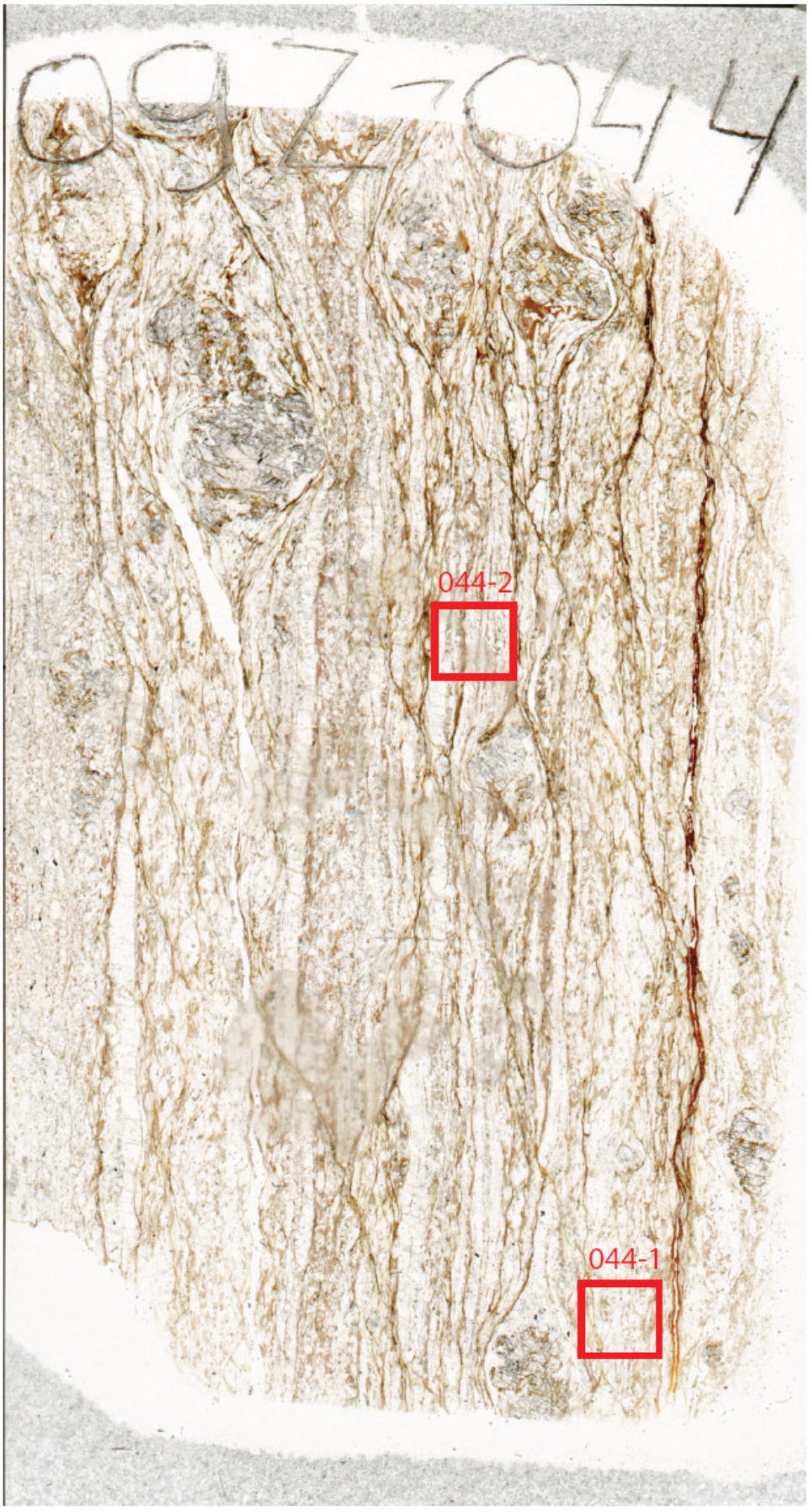

Figure 1-11 Thin section 44. Red squares indicate dated monazites.

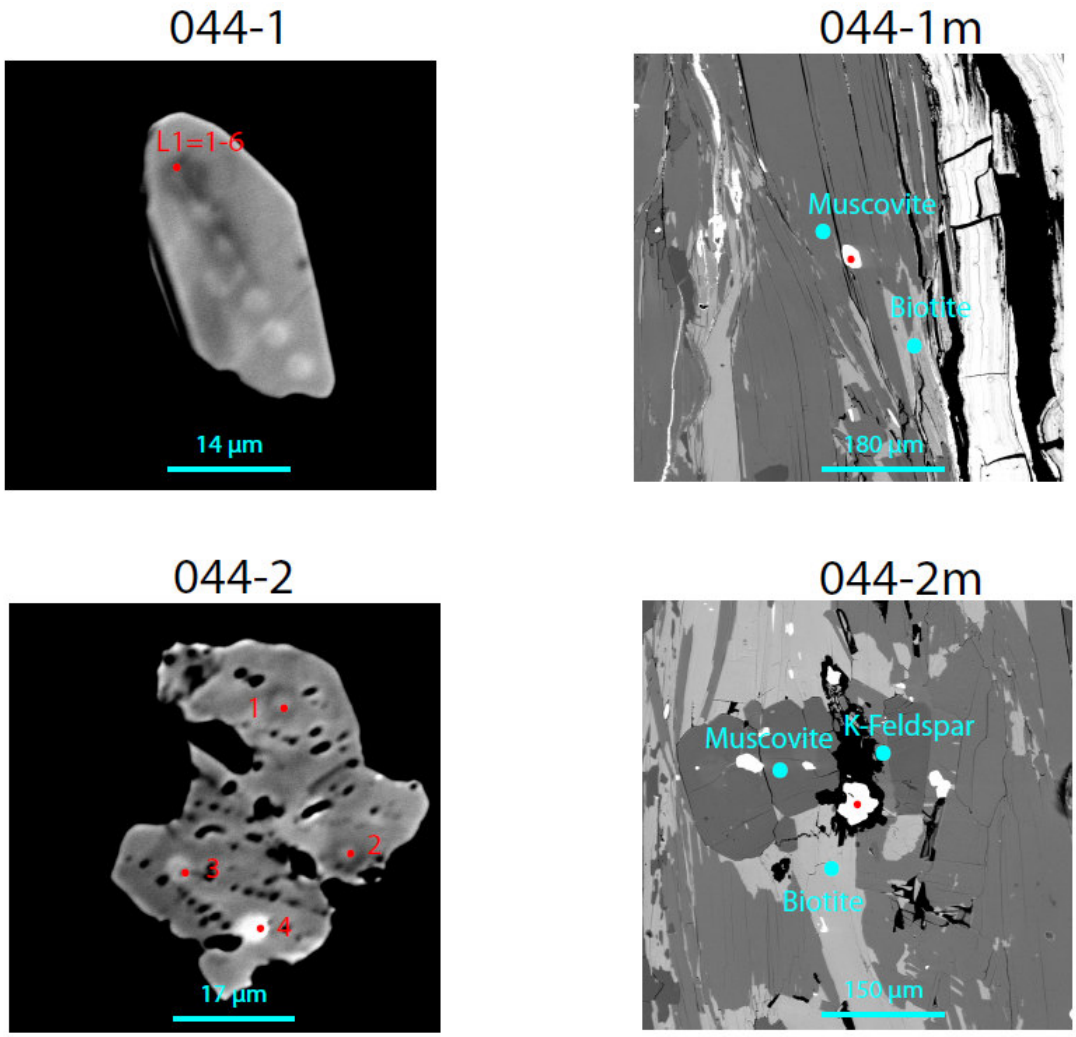

Figure 1-12 Monazites of thin section 44. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-13 Thin section 54. Red squares indicate dated monazites.

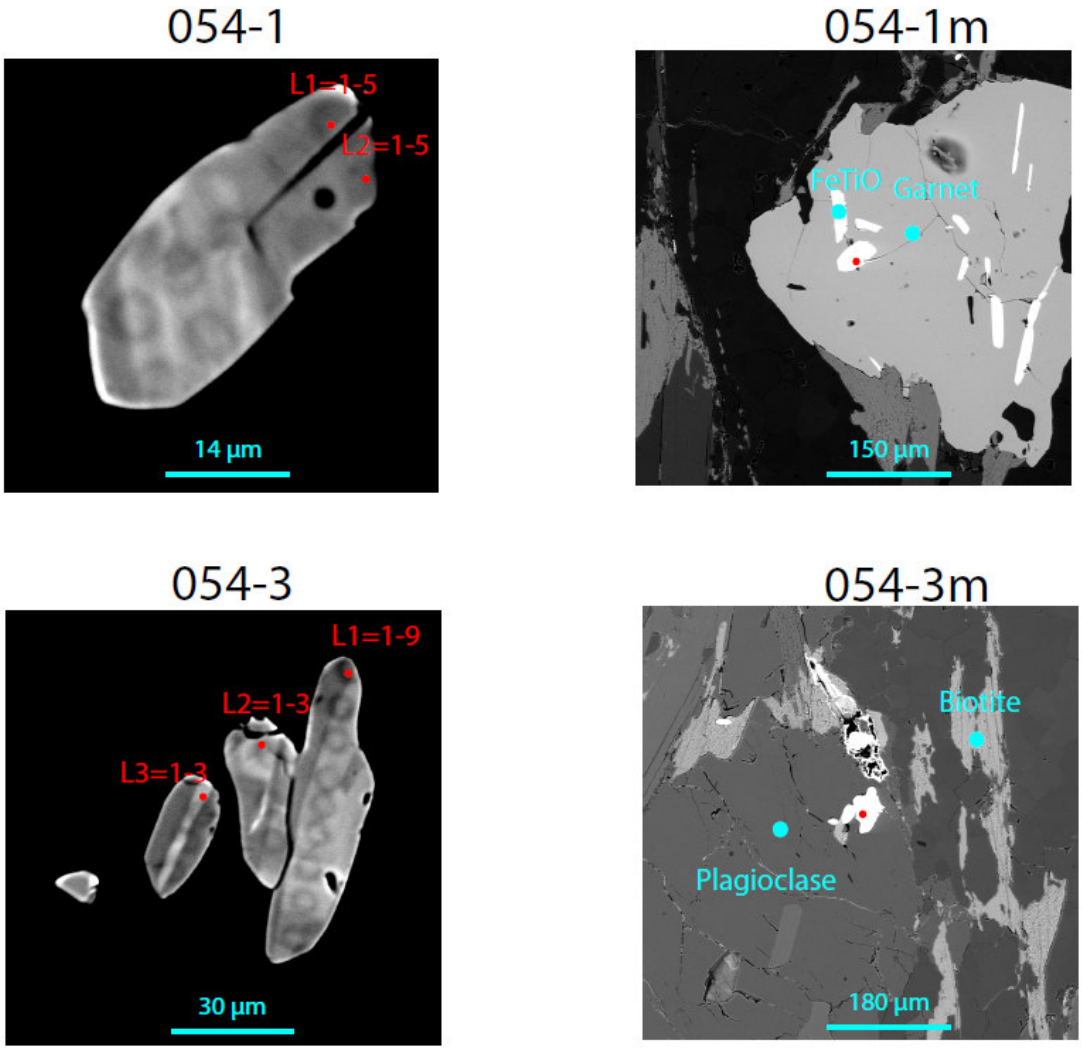

Figure 1-14 Monazites of thin section 54. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

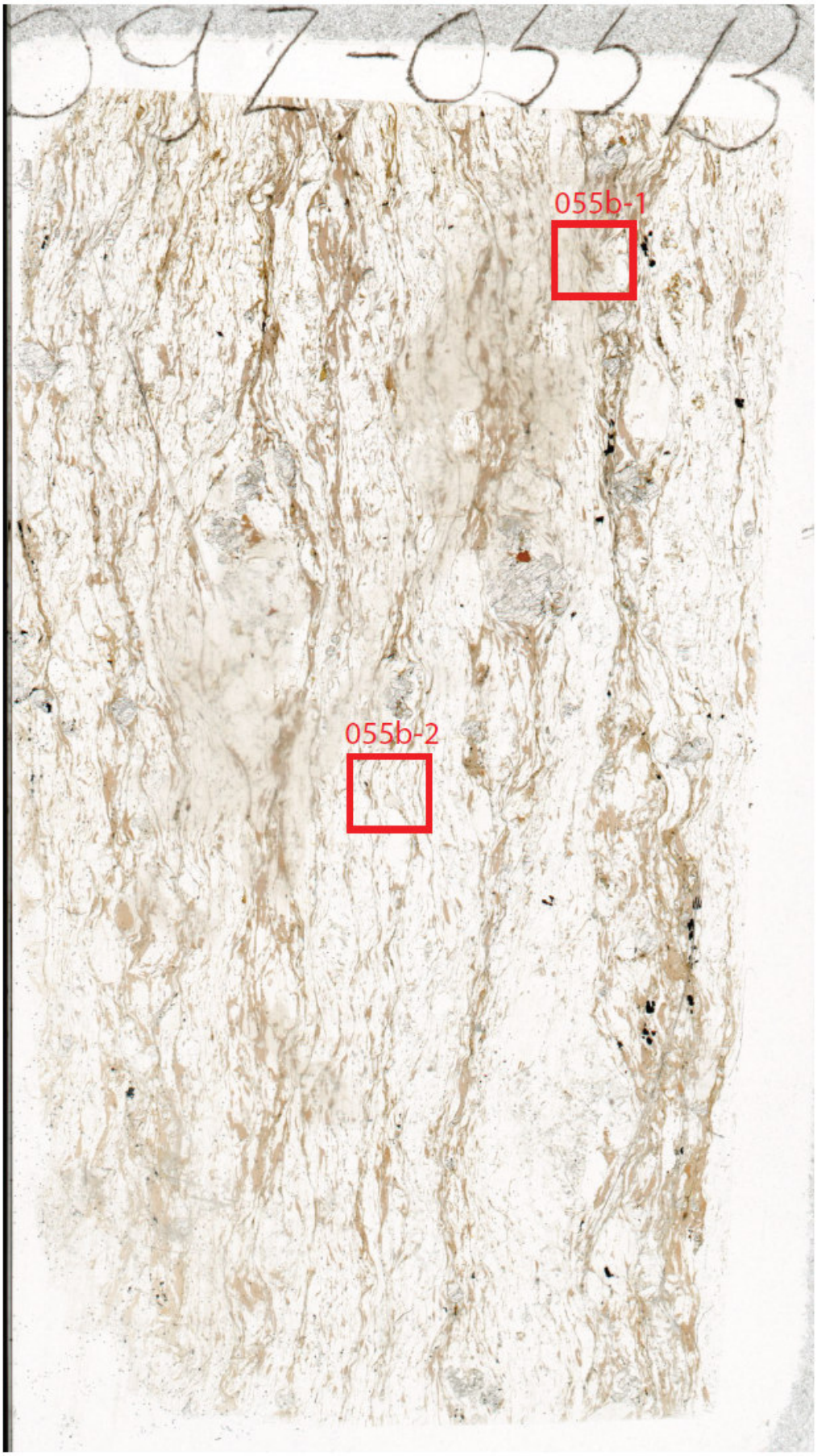

Figure 1-15 Thin section 55b. Red squares indicate dated monazites.

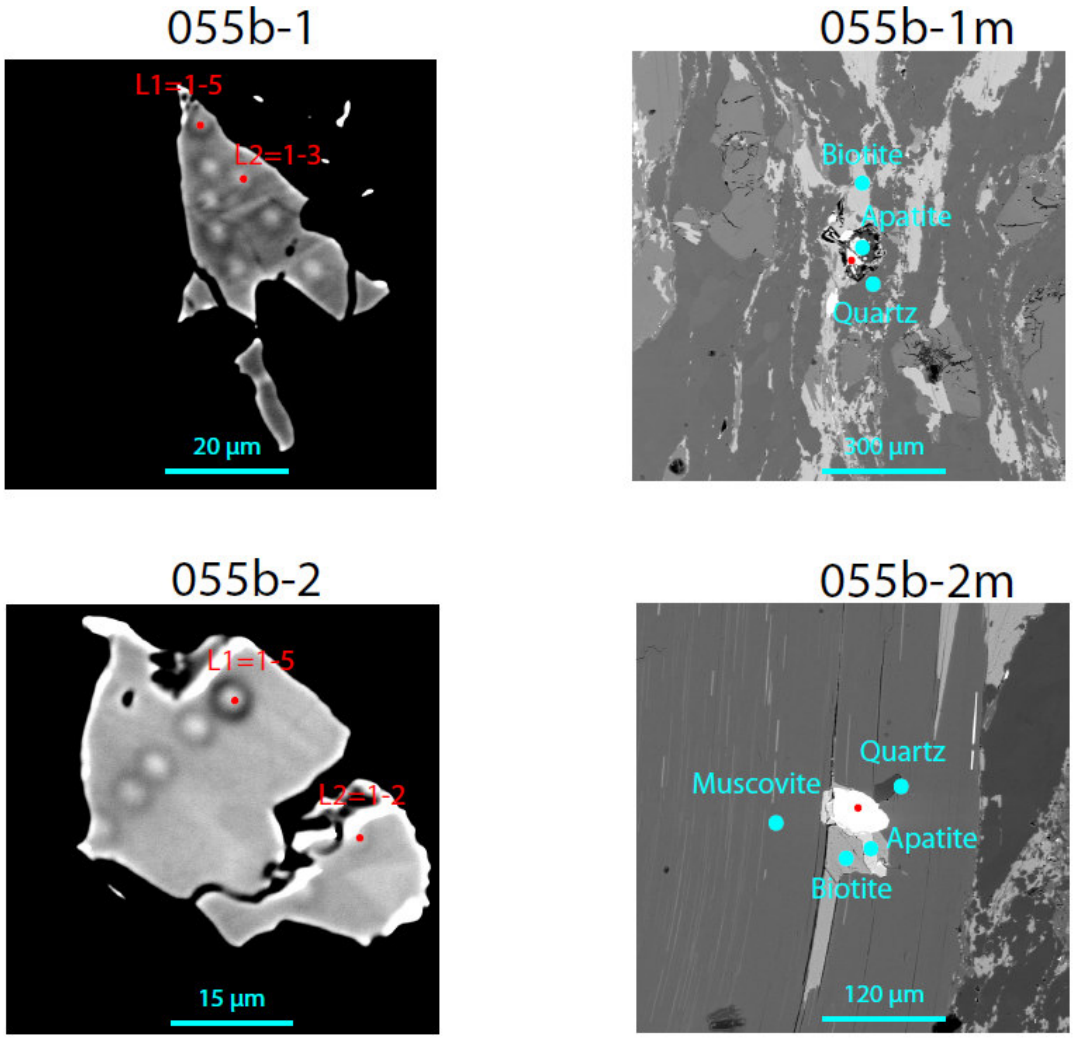

Figure 1-16 Monazites of thin section 55b. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-17 Thin section 65. Red squares indicate dated monazites.

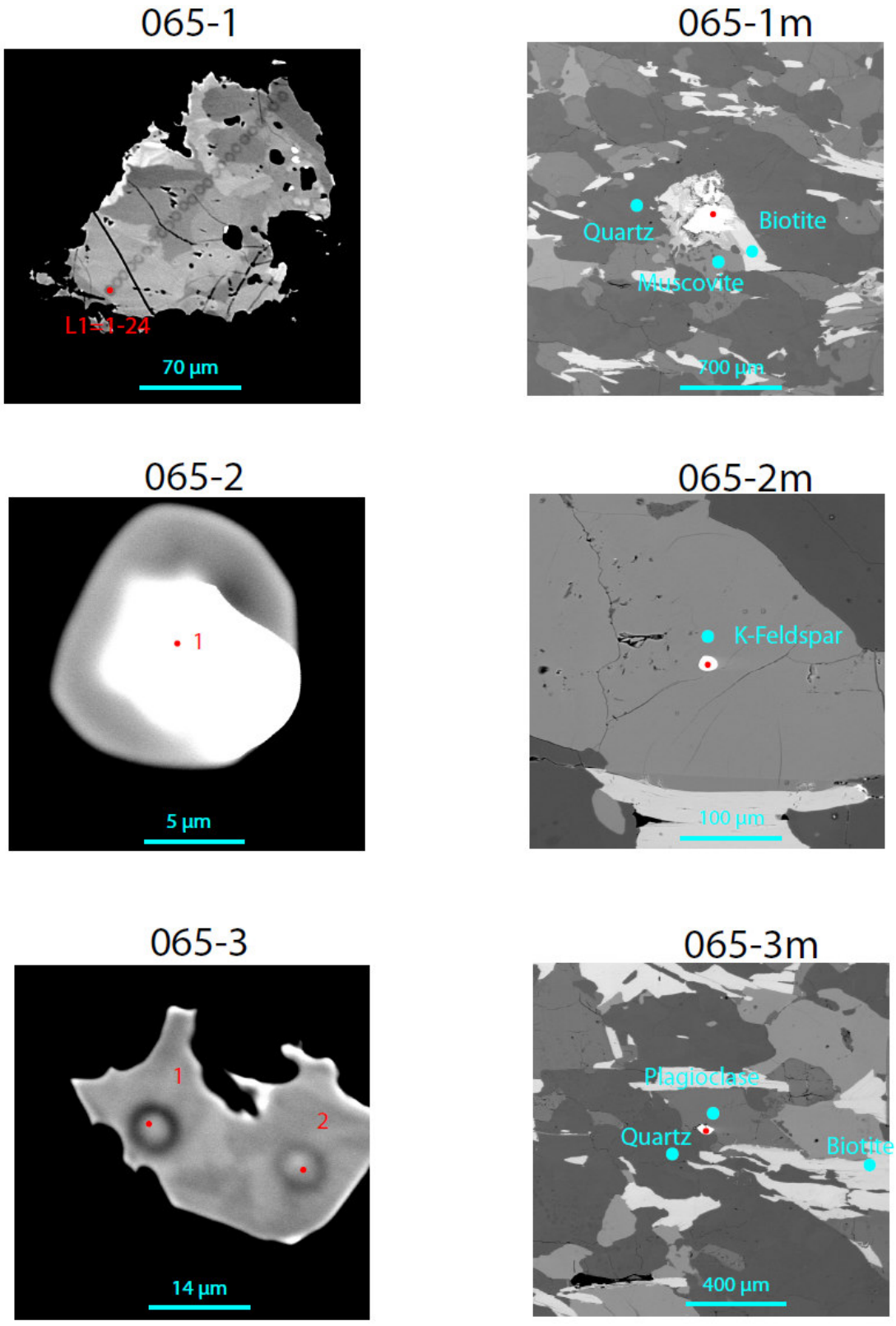

Figure 1-18 Monazites of thin section 65. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-19 Thin section 66. Red squares indicate dated monazites.

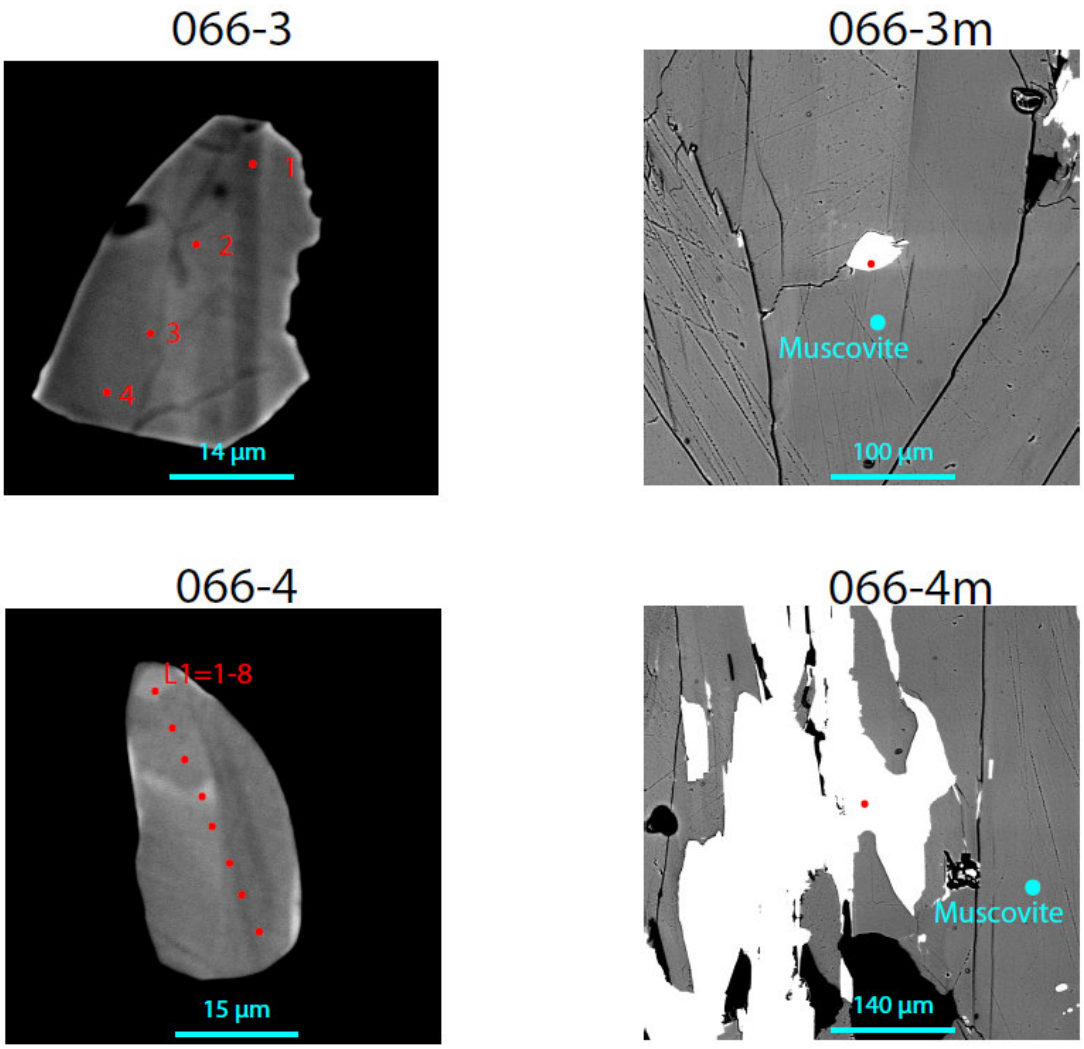

Figure 1-20 Monazites of thin section 66. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

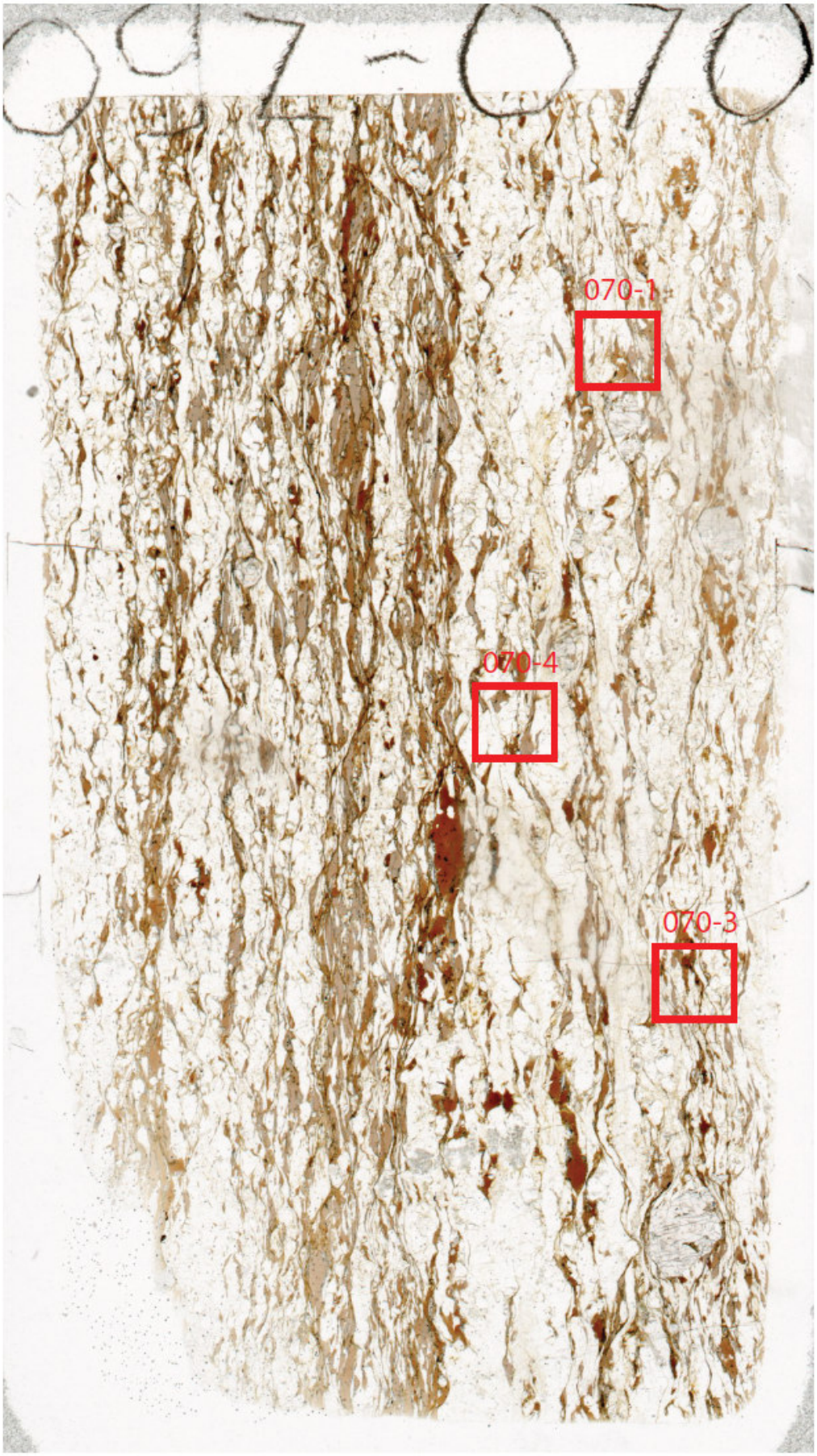

Figure 1-21 Thin section 70. Red squares indicate dated monazites.

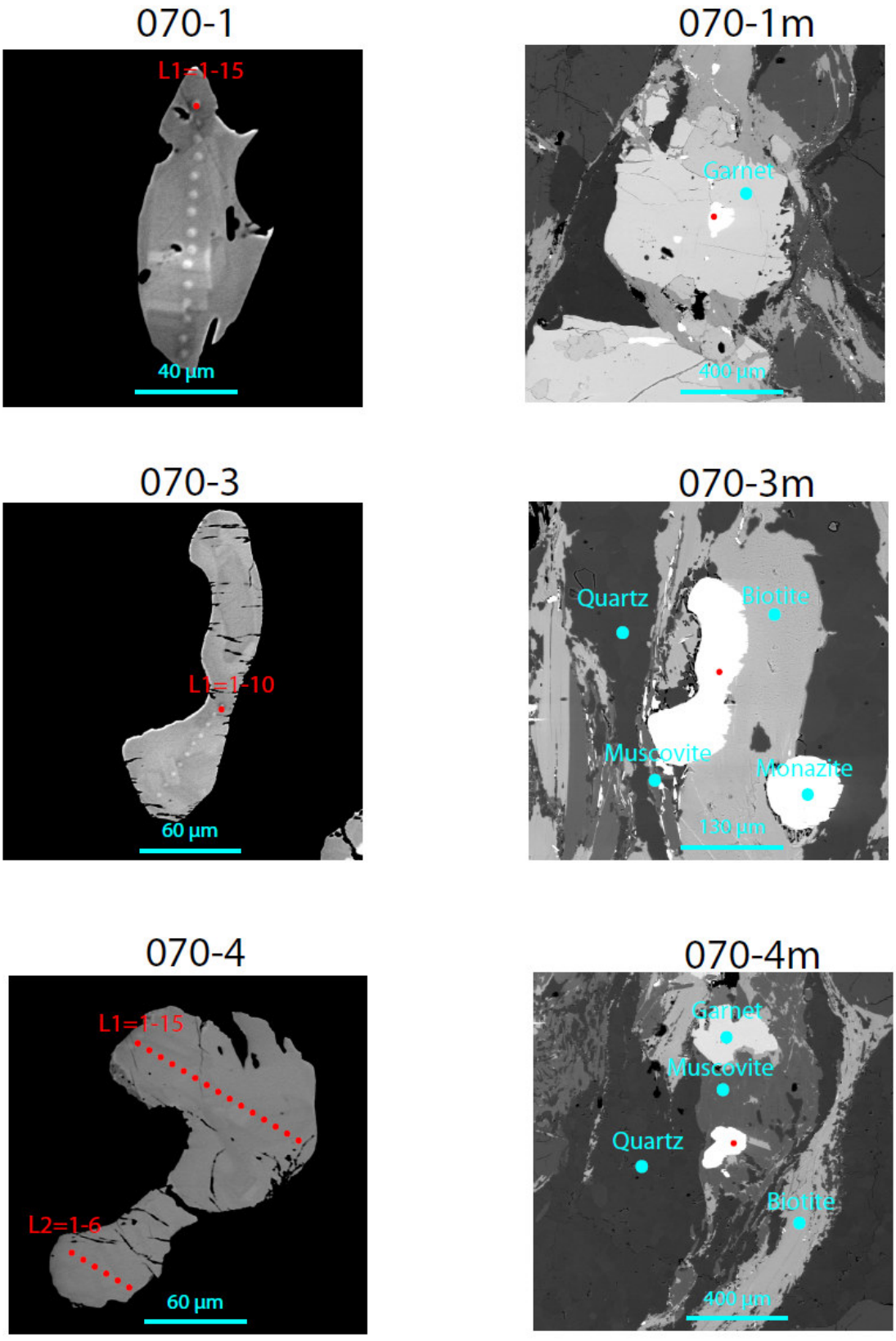

Figure 1-22 Monazites of thin section 70. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

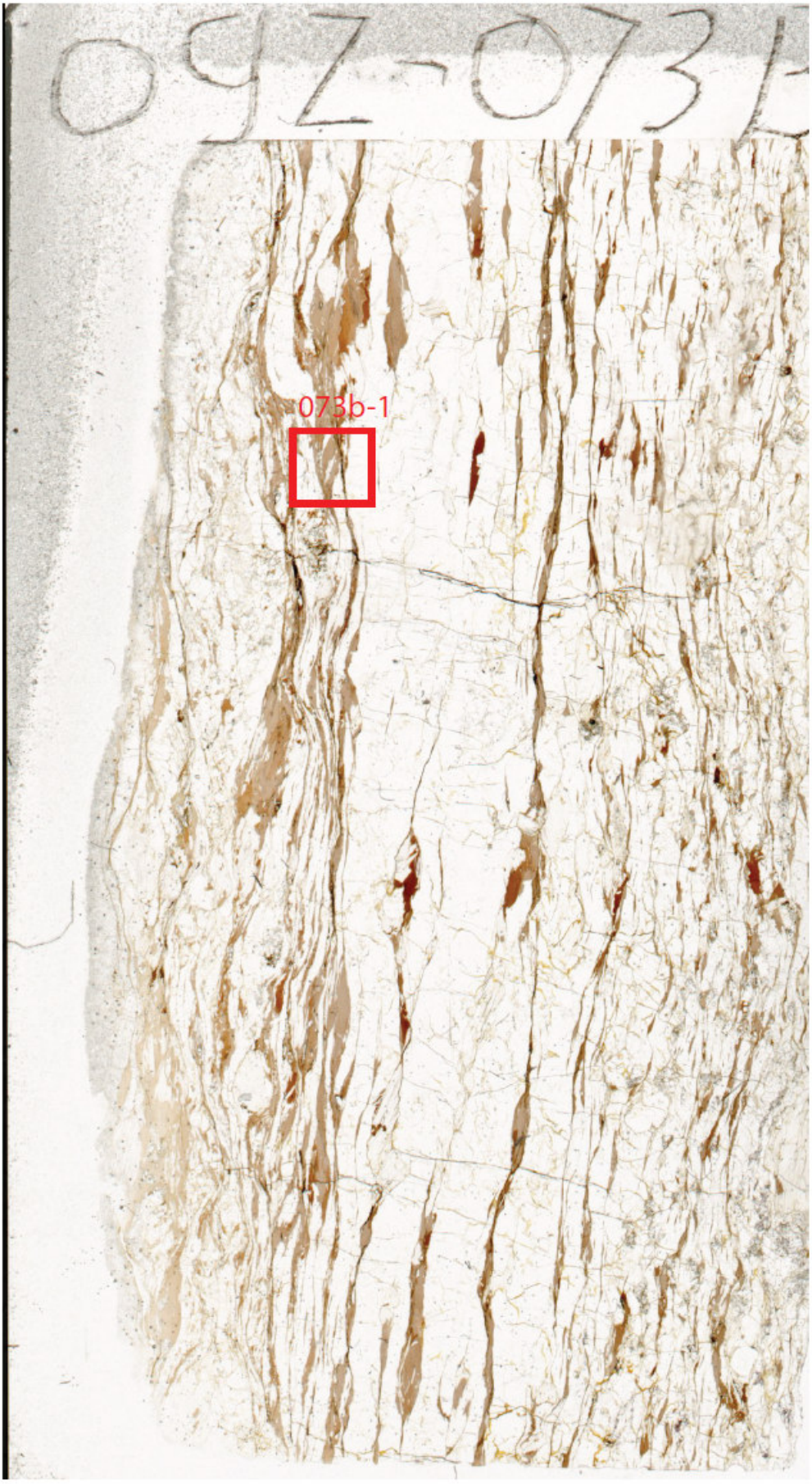

Figure 1-23 Thin section 73. Red squares indicate dated monazites.

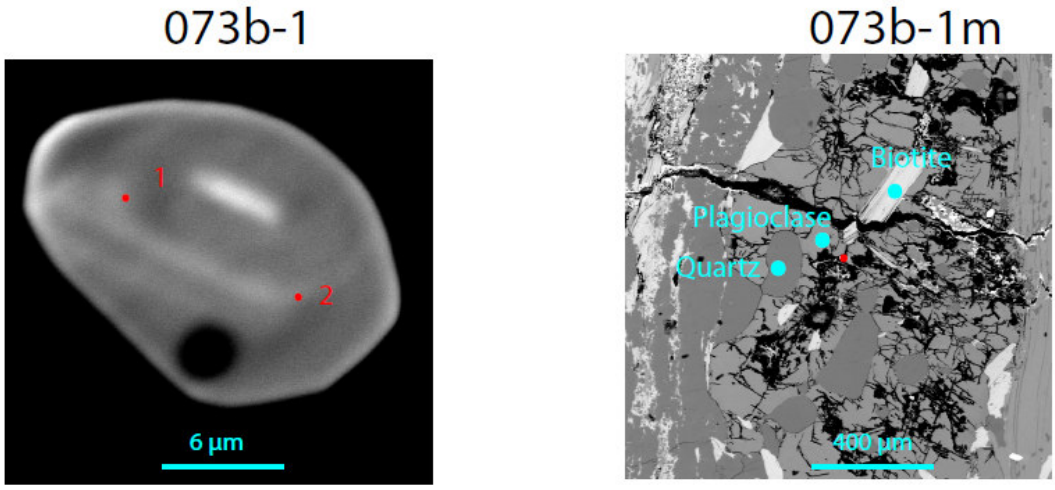

Figure 1-24 Monazites of thin section 73b. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

1.3 Avardo Gneiss

Figure 1-25 Thin section 33. No monazites found.

Figure 1-26 Thin section 34. No monazites found.

Figure 1-27 Thin section 37b. No monazites found.

Figure 1-28 Thin section 37c. No monazites found.

Figure 1-29 Thin section 37d. Red squares indicate dated monazites.

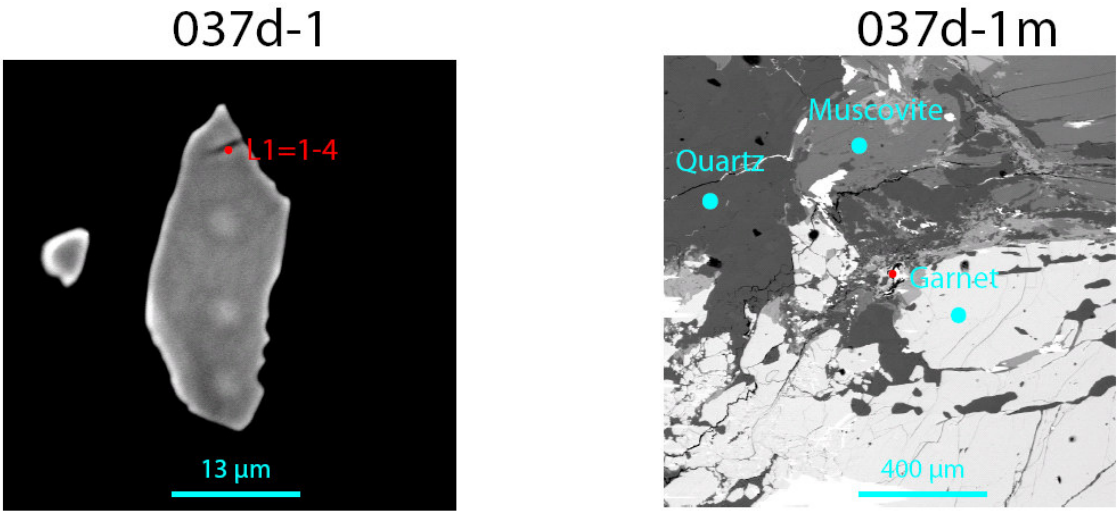

Figure 1-30 Monazites of thin section 37d. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-31 Thin section 38. No monazites found.

Figure 1-32 Thin section 47. No monazites found.

Figure 1-33 Thin section 48. No monazites found.

Figure 1-34 Thin section 49b. No monazites found.

Figure 1-35 Thin section 50. No monazites found.

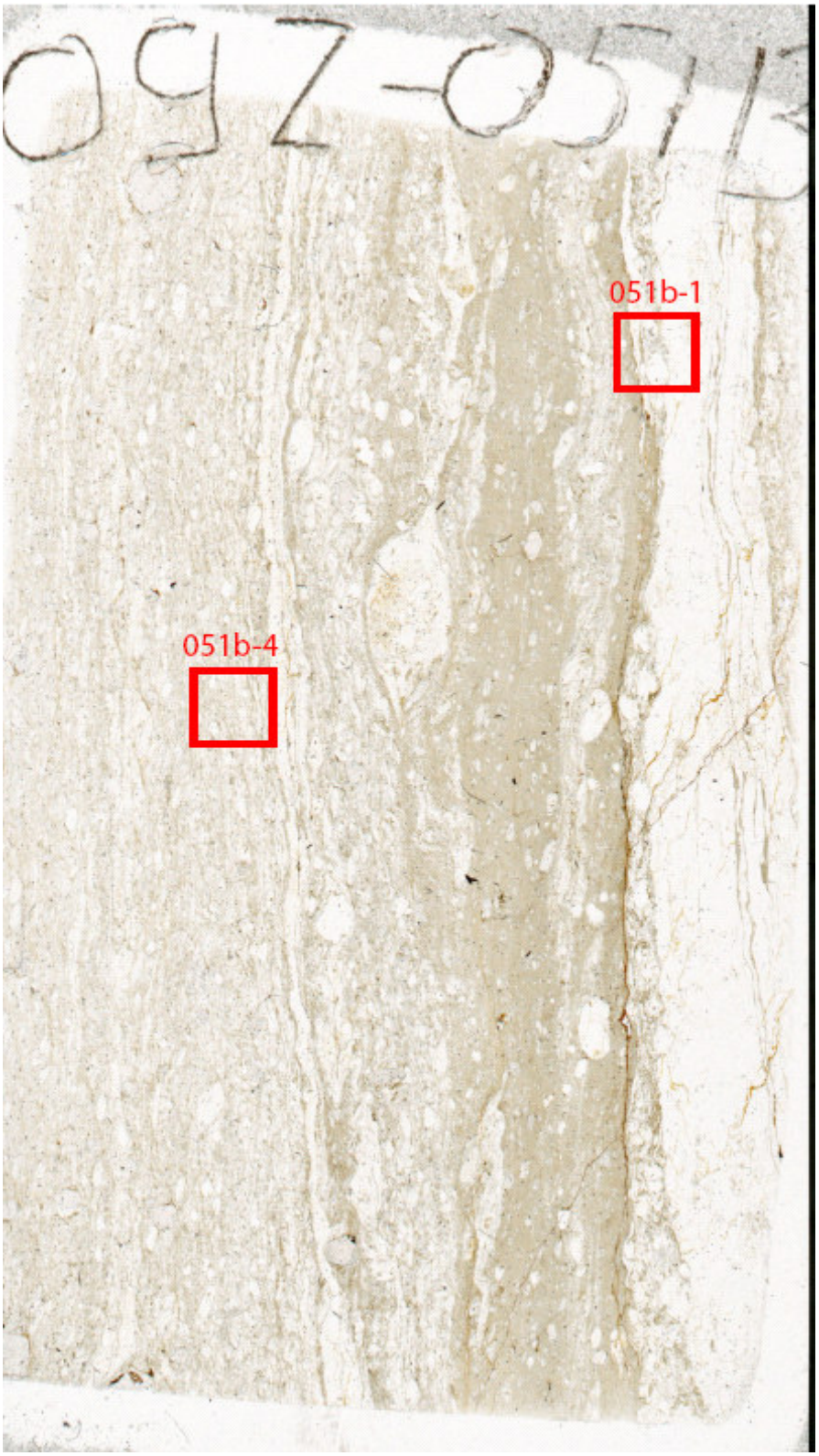

Figure 1-36 Thin section 51b. Red squares indicate dated monazites.

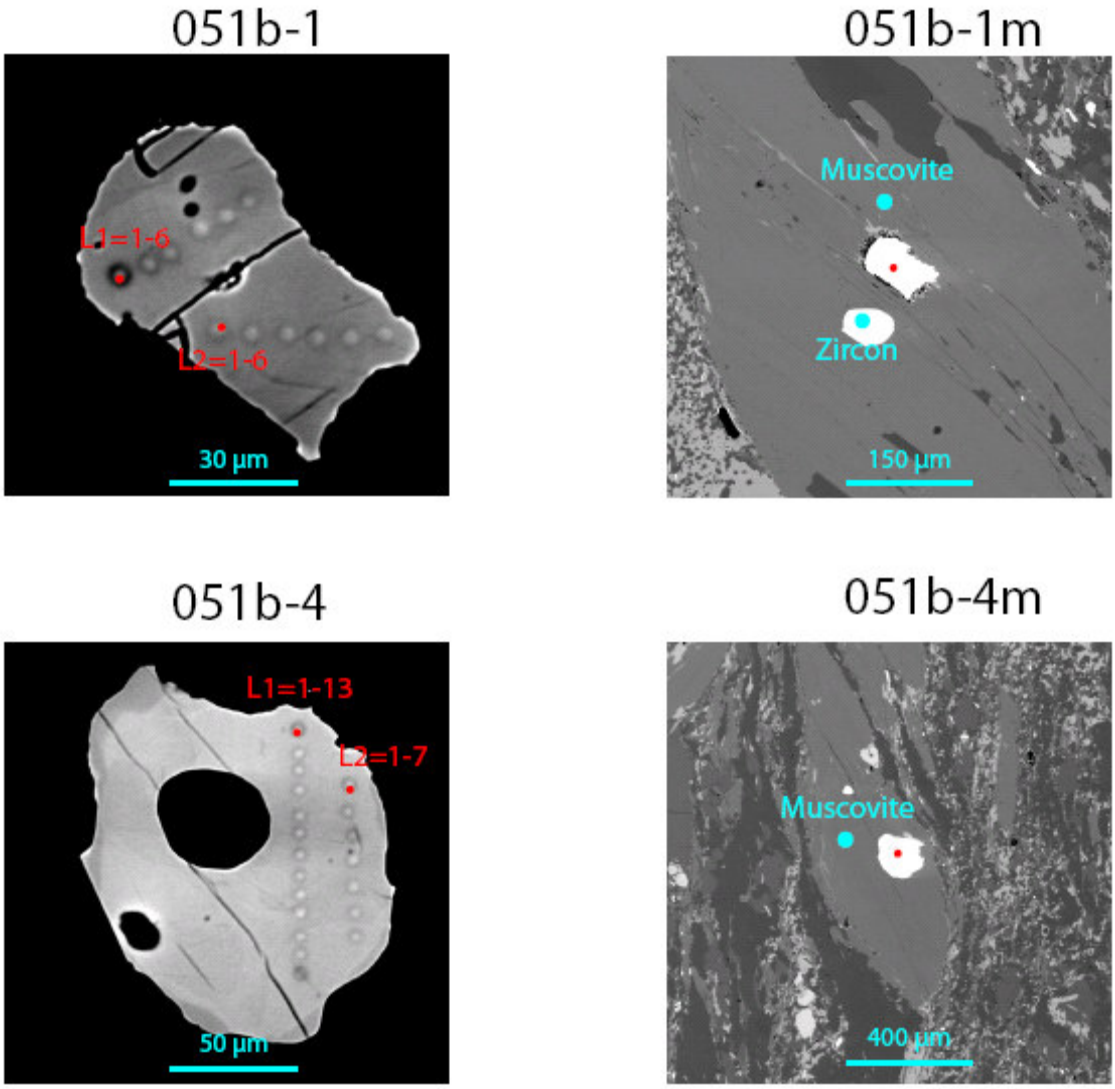

Figure 1-37 Monazites of thin section 51b. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-38 Thin section 52. Red squares indicate dated monazites.

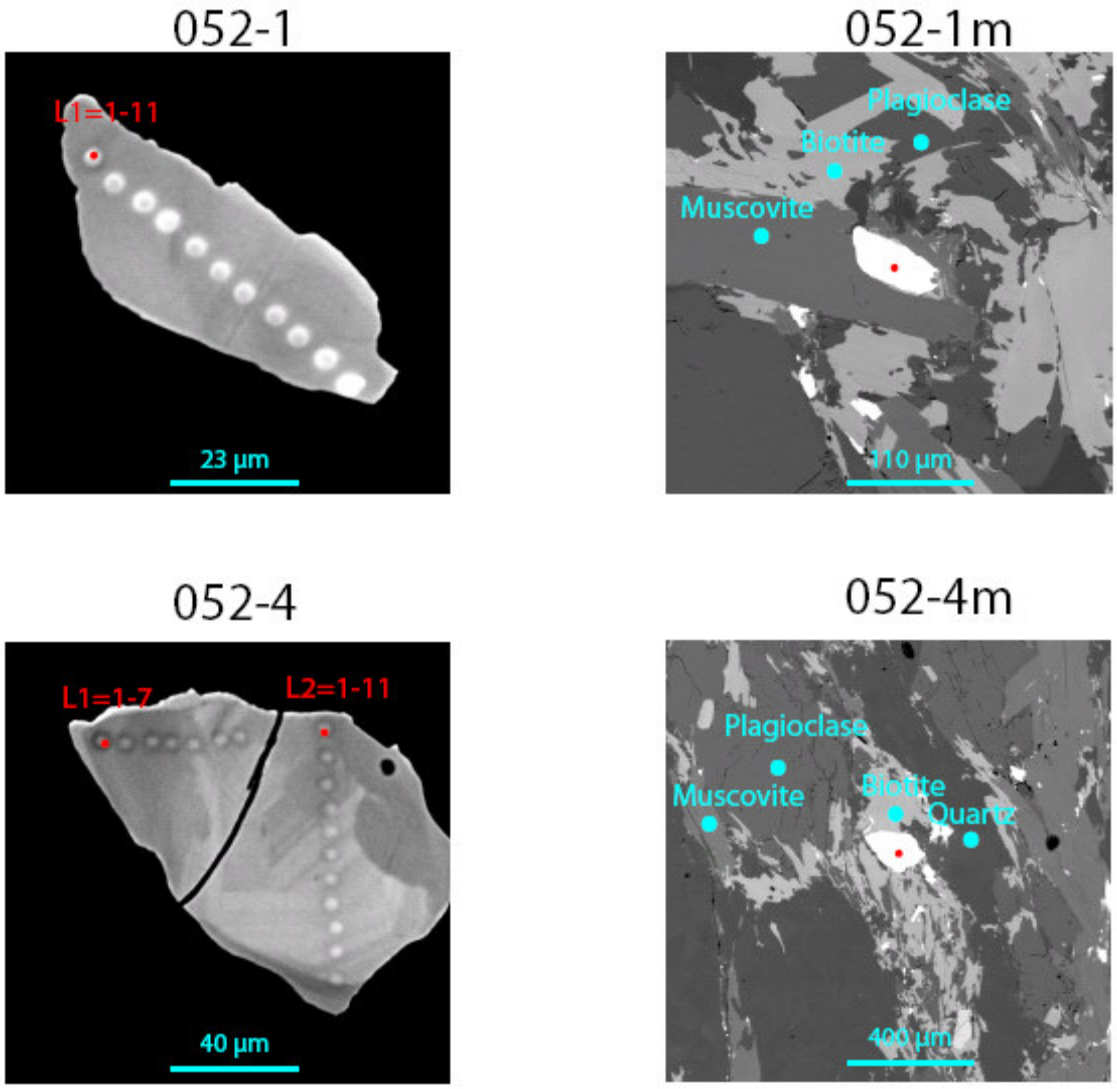

Figure 1-39 Monazites of thin section 52. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-40 Thin section 52c. Red squares indicate dated monazites.

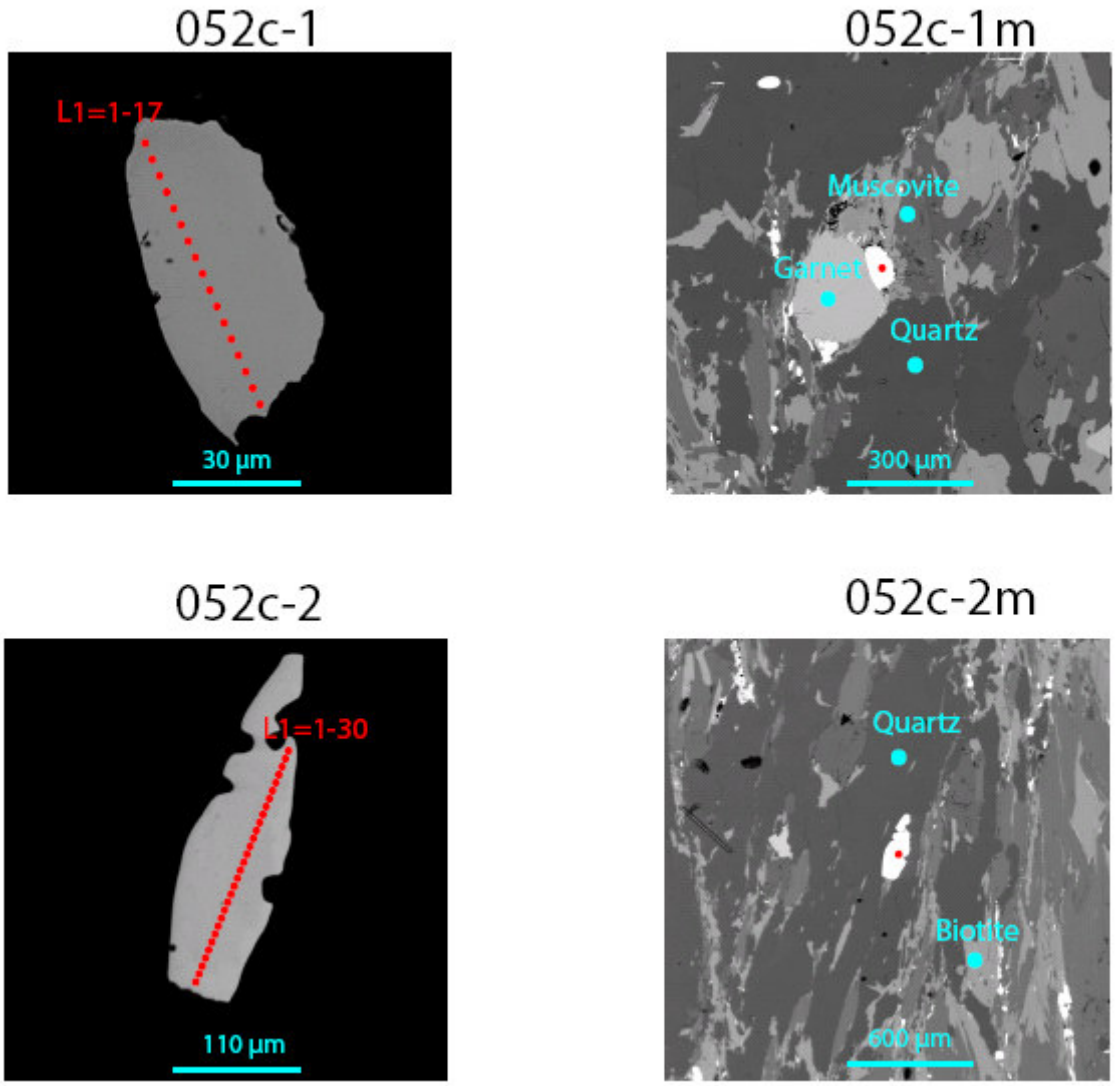

Figure 1-41 Monazites of thin section 52c. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-42 Thin section 52d. Monazites found but not dated.

Figure 1-43 Thin section 60. No monazites found.

Figure 1-44 Thin section 61. Red squares indicate dated monazites.

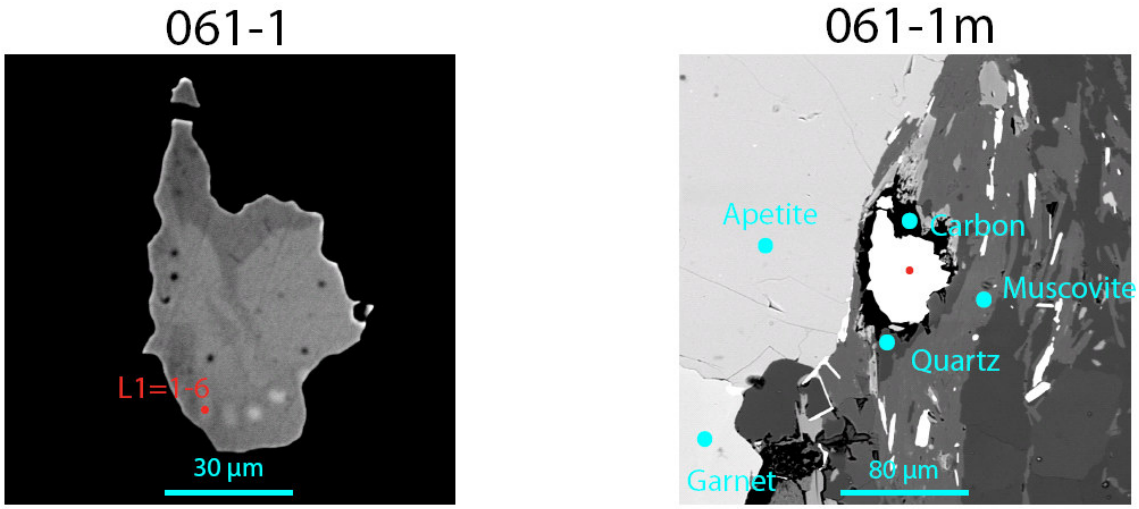

Figure 1-45 Monazites of thin section 61. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-46 Thin section 64. Red squares indicate dated monazites.

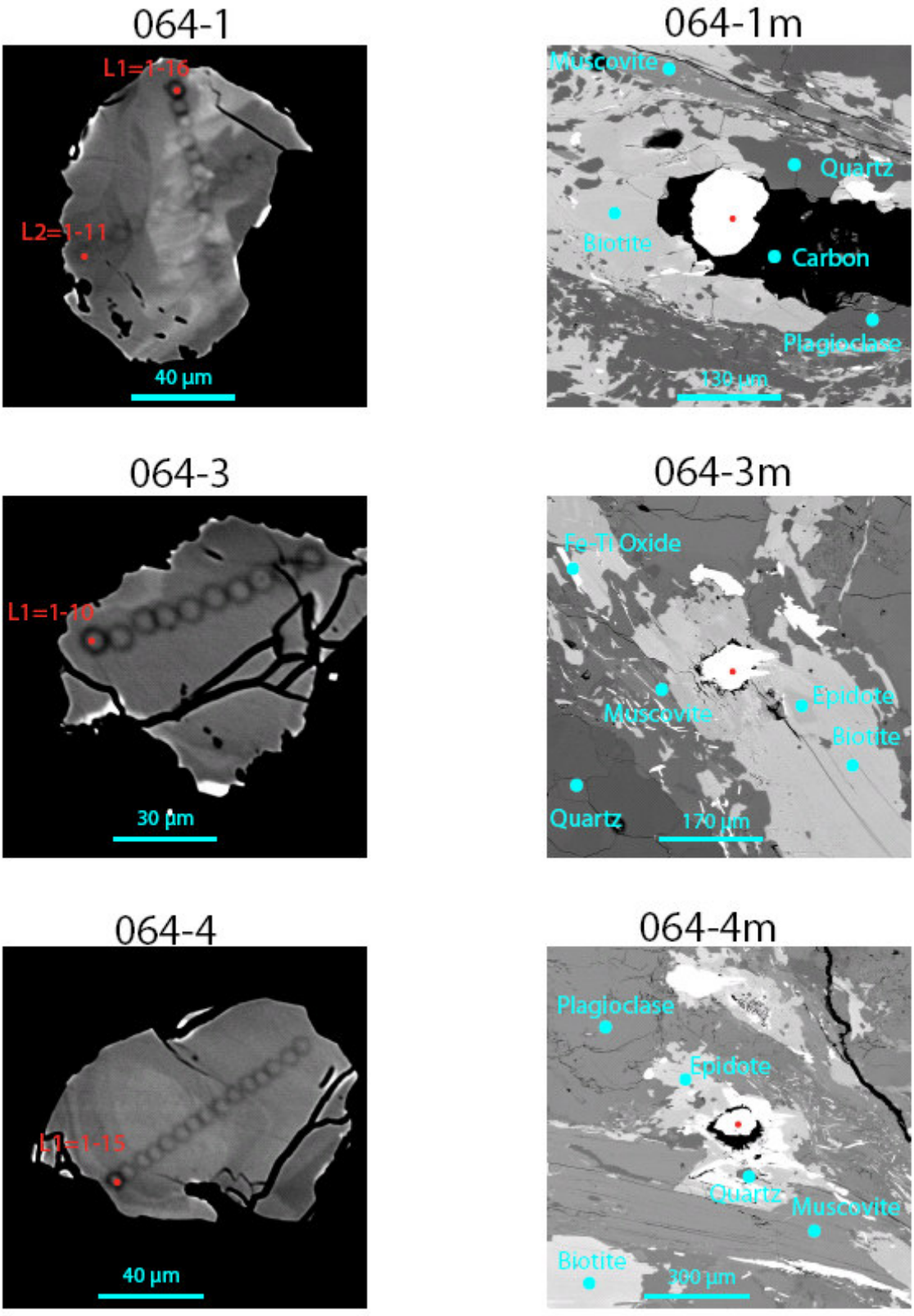

Figure 1-47 Monazites of thin section 64. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

Figure 1-48 Thin section 68. Red squares indicate dated monazites.

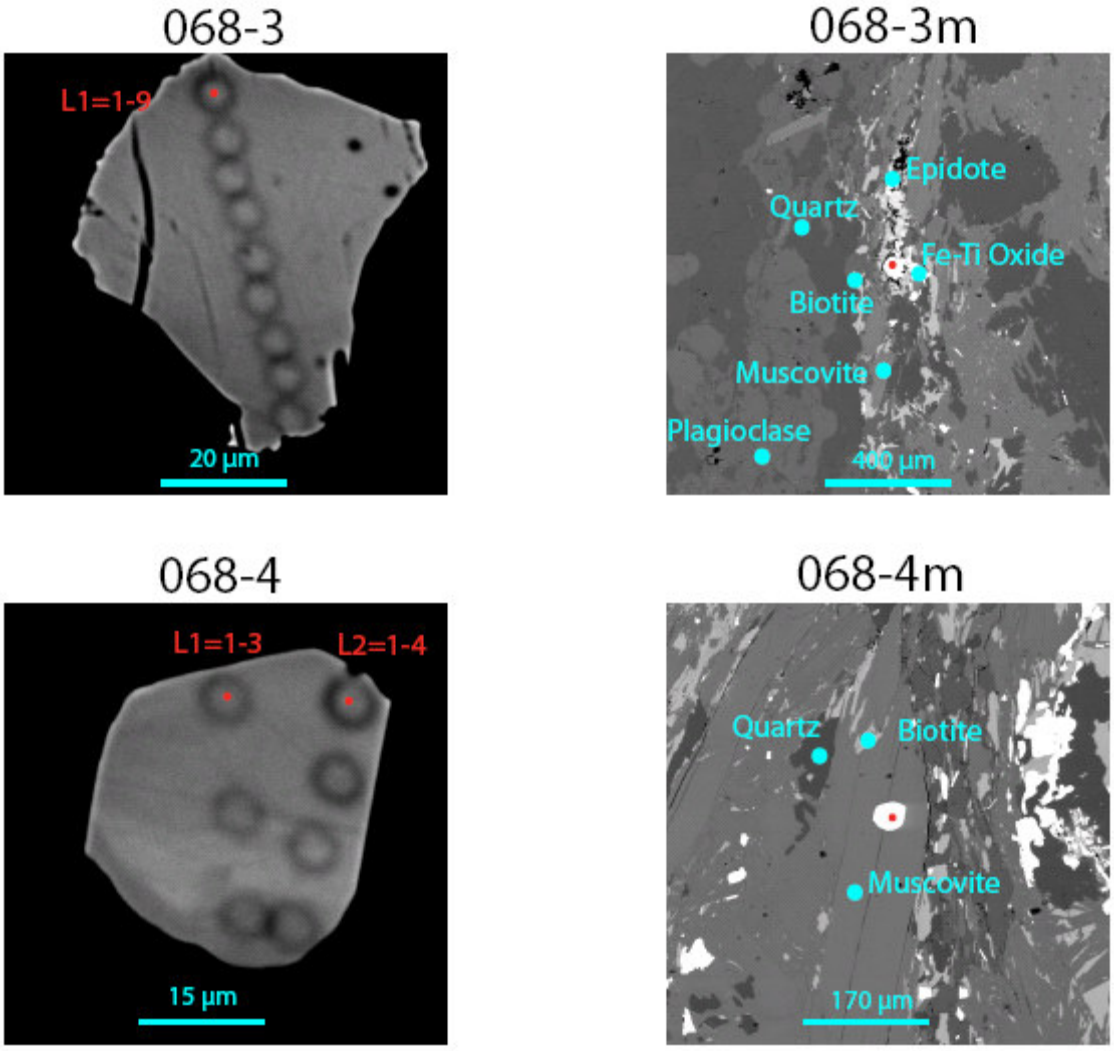

Figure 1-49 Monazites of thin section 68. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

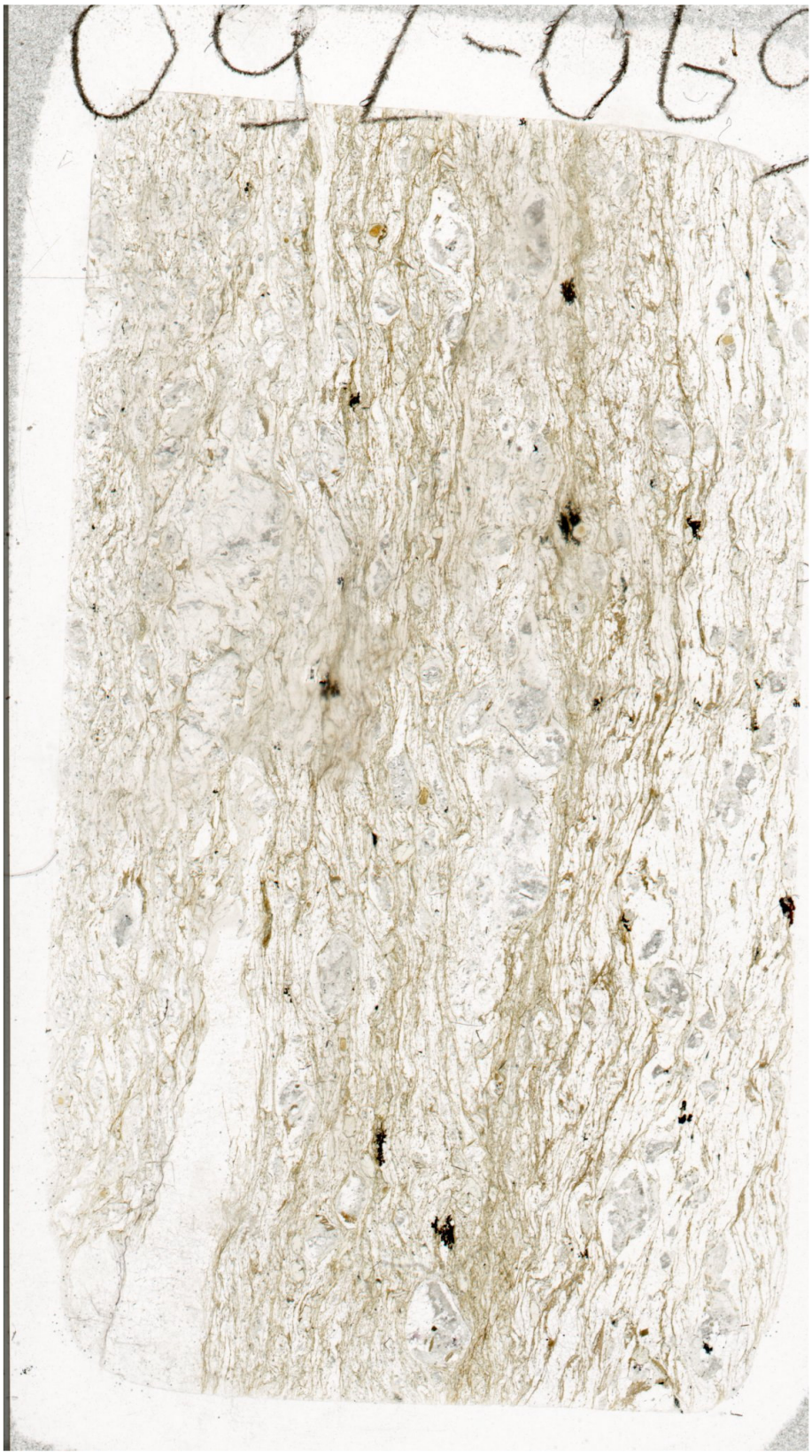

Figure 1-50 Thin section 69. No monazites found.

Figure 1-51 Thin section 69II. No monazites found.

1.4 Svartsjöbäcken Schist

Figure 1-52 Thin section 24. Red squares indicate dated monazites.

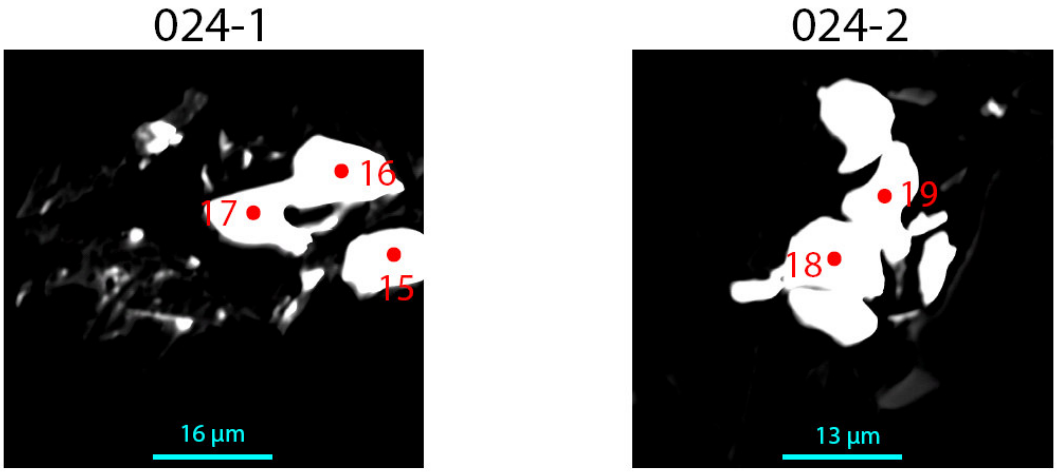

Figure 1-53 Monazites of thin section 24. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

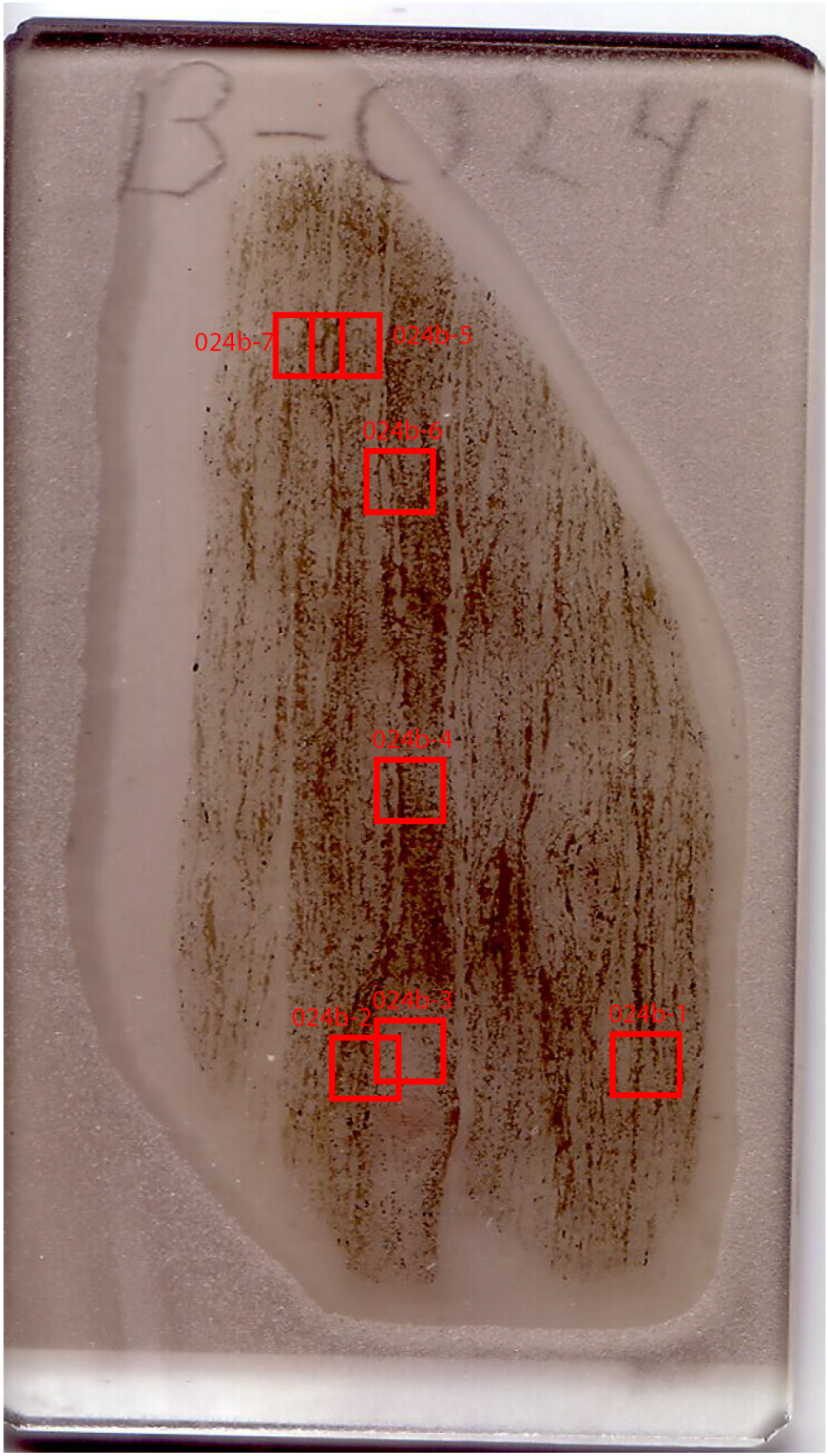

Figure 1-54 **Thin section 24b. Red squares indicate dated monazites.**

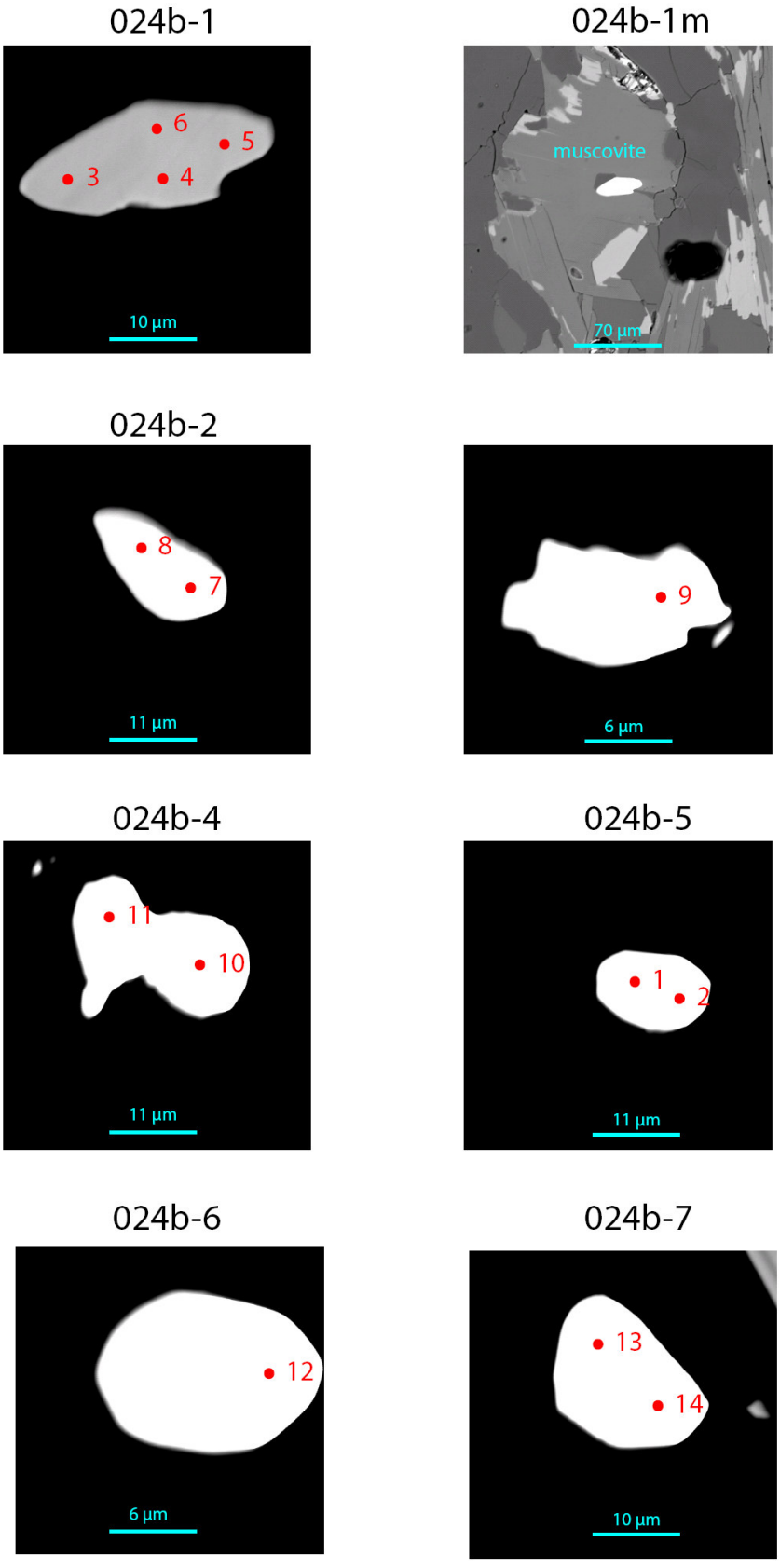

Figure 1-55 Monazites of thin section 24b. Left sides the monazites enlarged with indicated starting point. Right side the corresponding surrounding of the monazite. Red spot indicate the monazite.

1.5 Procedure to date monazites

To put the thin section in the EMP the thin sections must first be put into a sample holder. In this sample holder only three thin sections can be placed at the same time. It is useful to put the thin sections in the same way and order in the sample holder so it is easy to find back the monazites already found. The thin sections must be placed with the carbon coating on top for conductivity. Then the sample holder must be put under vacuum before entering the EMP. When the sample holder is vacuum, the lock can be removed and the thin section could be left behind within the EMP. After the lock is set into place the sample holder could be removed. Then the coordinates are put into to computer, which is coupled to the EMP, to view the part of the thin section you would like to see. Then open the cup so the thin section is bombarded by electrons and focus the beam on the thin section. This means that the height of the thin section must be right and the lenses well focused. Part of the electrons that hit the sample are scattered back, these are detected by a backscatter detector, which are displayed in shades (dark/light) on a screen on the EMP. Dark shades are relatively lighter minerals (low mean atomic number) and light shades are relatively heavier minerals (high mean atomic number). The shades can be varied so it is possible to see compositional differences within a single mineral. Monazites are very heavy minerals so will be among the lightest shades seen on the screen. To see if the light shade belongs to a monazite a spot analysis is performed to see which elements are present. When there are Phosphor and Rare Earth Elements (REE) measured it can be concluded that it is a monazite, if not it is another mineral. This spot analysis is measured with the WDS which measures the amount of characteristic X-rays emitted. The X-rays are produced at the moment the high energy electron interacts with the sample, when electrons from the outer shell fall back to replace a discharged electron, X-rays are emitted. The X-rays are emitted proportional to the concentration of the element. All elements have there own characteristic wavelength that is measured by the WDS. When a monazite is found the shades are put very light so it is possible to see zoning within the monazites, this zoning is photographed. After this the microstructure around the monazite is checked to see in what kind of mineral the monazite is enclosed, this is also photographed. The coordinates of the monazites are recorded so the monazites can be found back easily. When all thin sections are

systematically searched for monazites, the thin sections are put to the coordinates where sample holder is able to get them out of the EMP. The sample holder must be placed under vacuum again, when it is under vacuum the lock can be opened to replace the thin sections. This is repeated for all thin sections.

Next thing is to date the monazites found earlier. The handiest way is to put the thin sections on the same place as the last time so the coordinates are the same and does not have to be converted. Again three thin sections are put into the EMP. This occurs in the same way as described above but with one difference; one thin section of the three is a so called 'standard' monazite. This is a huge monazite with known age to cross check the data of the monazites dated in the other two thin sections. The monazites are traced by filling the monazite coordinates into the computer. Next to do is to determine where, on the monazites, you want to measure the age. The spots from the measurements are about 5 micrometers big. It is possible to make a linescan or put 'random' spots on the monazite. All measurements are executed by moving the platform of the monazites, not by changing the angle of the beam. The EMP is able to find the right place back on the monazite because every spot is jugged until it could find the right spot itself. It is found back mechanically using cogwheels. This is repeated on every monazite. At the end two linescans of 15 spots are put onto the huge 'standard' monazite. When all spot analyses are put into place the different spot analyses are put into a list, the list starts with an analysis on the 'standard' monazite, followed by all other analysis and ended by the second analysis on the 'standard' monazite. This order is used to check the ages you find afterwards. If the 'standard' monazite gives different ages something went wrong. For example: the measurement is not performed on a clean spot of the monazite, the spots are taken too close to each other so it became too hot or light of the machine is not stable any more. This list is loaded with Monazite2000 which gives the elements, the wavelengths of the elements which monazites contain. It contains the elements measured: Phosphor (P), all LREE, Uranium (U), Thorium (Th), Lead (Pb), Sulfur (S), Silicium (Si), Yttrium (Y) and Calcium (Ca). Hereafter the beam current is checked, so the amount of electrons fired at the thin section is known. Then the focus of the lenses is checked. When this is done the objective lens is set to spot size 5 micrometers. If the spot size is smaller than 5 micrometers it will burn this place on the thin section and no useful data is generated. The analysis of one spot takes about 17 minutes. The elements U and Th are measured for 200 seconds; Pb is measured for 300 seconds; all LREE, Y, Ca, S

and Si for about 50 and P for 20 seconds. After this spot analysis it automatically moves to the next spot analysis. When all analyses are ready the monazites are photographed again but this time with the spots on the monazites so it is exactly known where the spots, and thus the measurements, are taken. This is repeated for all samples which contain monazites.

The outcome of the data is put into a monazite program, written by the microprobe staff, which calculates the ages belonging to the spots taken on the monazites. It is calculated by the U, Th and Pb values measured following the method described by Suzuki & Adachi (1991). In addition the data is checked in different ways, are the spots taken on the monazite, is the spot taken on a crack, is the sum of the elements more or less than 100% and most important is the standard correct (should be 1125±11). If everything is correct the EMP results are used for further analysis.

1.6 XRF

Tabletten		SiO2	Al2O3	TiO2	Fe2O3	MnO	CaO	MgO	Na2O	K2O	P2O5
< detectiegrens		%	%	%	%	%	%	%	%	%	%
Date	Sample Number	61.23	11.17	0.66	4.68	0.16	6.33	1.78	0.95	2.44	0.31
3-2-2010	42	70.77	14.26	0.75	4.61	0.08	1.92	2.25	3.32	2.77	0.09
3-2-2010	54	75.06	10.75	0.73	3.97	0.07	0.80	1.33	1.22	2.71	0.09

Table 1-1 Results of XRF measurement

1.7 Domino input file.

		O	AL	CA	FE	H	K	MG	NA	SI	TI
1	O	1.00	-	-	-	-	-	-	-	-	-
2	AL	-	1.00	-	-	-	-	-	-	-	-
3	CA	-	-	1.00	-	-	-	-	-	-	-
4	FE	-	-	-	1.00	-	-	-	-	-	-
5	H	-	-	-	-	1.00	-	-	-	-	-
6	K	-	-	-	-	-	1.00	-	-	-	-
7	MG	-	-	-	-	-	-	1.00	-	-	-
8	NA	-	-	-	-	-	-	-	1.00	-	-
9	SI	-	-	-	-	-	-	-	-	1.00	-
10	TI	-	-	-	-	-	-	-	-	-	1.00
11	E	-	-	-	-	-	-	-	-	-	-
12	AKERMANITE	7.00	-	2.00	-	-	-	1.00	-	2.00	-
13	ANTIGORITE	147.00	-	-	-	62.00	-	48.00	-	34.00	-
14	BRUCITE	2.00	-	-	-	2.00	-	1.00	-	-	-
15	CHRYSOTILE	9.00	-	-	-	4.00	-	3.00	-	2.00	-
16	DIASPORE	2.00	1.00	-	-	1.00	-	-	-	-	-
17	GEHLENITE	7.00	2.00	2.00	-	-	-	-	-	1.00	-
18	HEMATITE	3.00	-	-	2.00	-	-	-	-	-	-
19	KALSILITE	4.00	1.00	-	-	-	1.00	-	-	1.00	-
20	KAOLINITE	9.00	2.00	-	-	4.00	-	-	-	2.00	-
21	LAWSONITE	10.00	2.00	1.00	-	4.00	-	-	-	2.00	-
22	ALEUCITE	6.00	1.00	-	-	-	1.00	-	-	2.00	-
23	BLEUCITE	6.00	1.00	-	-	-	1.00	-	-	2.00	-
24	LIME	1.00	-	1.00	-	-	-	-	-	-	-
25	MAGNETITE	4.00	-	-	3.00	-	-	-	-	-	-
26	MERWINITE	8.00	-	3.00	-	-	-	1.00	-	2.00	-
27	MONTICELLITE	4.00	-	1.00	-	-	-	1.00	-	1.00	-
28	NEPHELINE	4.00	1.00	-	-	-	-	-	1.00	1.00	-
29	PERICLASE	1.00	-	-	-	-	-	1.00	-	-	-
30	PREHNITE	12.00	2.00	2.00	-	2.00	-	-	-	3.00	-
31	PYROPHYLLITE	12.00	2.00	-	-	2.00	-	-	-	4.00	-
32	RUTILE	2.00	-	-	-	-	-	-	-	-	1.00
33	SPHENE	5.00	-	1.00	-	-	-	-	-	1.00	1.00
34	TALC	12.00	-	-	-	2.00	-	3.00	-	4.00	-
35	WOLLASTONITE	3.00	-	1.00	-	-	-	-	-	1.00	-
36	PSEUDOWOLLASTONI	3.00	-	1.00	-	-	-	-	-	1.00	-

		O	AL	CA	FE	H	K	MG	NA	SI	TI
37	HEULANDITE	24.00	2.00	1.00	-	12.00	-	-	-	7.00	-
38	LAUMONTITE	16.00	2.00	1.00	-	8.00	-	-	-	4.00	-
39	STILBITE	25.00	2.00	1.00	-	14.00	-	-	-	7.00	-
40	WAIRAKITE	14.00	2.00	1.00	-	4.00	-	-	-	4.00	-
41	PUMPELLYITE2	28.00	5.00	4.00	-	7.00	-	1.00	-	6.00	-
42	A-QUARTZ	2.00	-	-	-	-	-	-	-	1.00	-
43	B-QUARTZ	2.00	-	-	-	-	-	-	-	1.00	-
44	COESITE	2.00	-	-	-	-	-	-	-	1.00	-
45	CORUNDUM	3.00	2.00	-	-	-	-	-	-	-	-
46	ALPHA	2.00	-	-	-	-	-	-	-	1.00	-
47	BETA	2.00	-	-	-	-	-	-	-	1.00	-
48	LOW	2.00	-	-	-	-	-	-	-	1.00	-
49	HIGH	2.00	-	-	-	-	-	-	-	1.00	-
50	ANDALUSITE	5.00	2.00	-	-	-	-	-	-	1.00	-
51	KYANITE	5.00	2.00	-	-	-	-	-	-	1.00	-
52	SILLIMANITE	5.00	2.00	-	-	-	-	-	-	1.00	-
53	FAYALITE	4.00	-	-	2.00	-	-	-	-	1.00	-
54	FORSTERITE	4.00	-	-	-	-	-	2.00	-	1.00	-
55	HERCYNITE	4.00	2.00	-	1.00	-	-	-	-	-	-
56	SPINEL	4.00	2.00	-	-	-	-	1.00	-	-	-
57	ILMENITE	3.00	-	-	1.00	-	-	-	-	-	1.00
58	GEIKELITE	3.00	-	-	-	-	-	1.00	-	-	1.00
59	GROSSULAR	12.00	2.00	3.00	-	-	-	-	-	3.00	-
60	PYROPE	12.00	2.00	-	-	-	-	3.00	-	3.00	-
61	ALMANDINE	12.00	2.00	-	3.00	-	-	-	-	3.00	-
62	ALBITE	8.00	1.00	-	-	-	-	-	1.00	3.00	-
63	K-FELDSPAR	8.00	1.00	-	-	-	1.00	-	-	3.00	-
64	ANORTHITE	8.00	2.00	1.00	-	-	-	-	-	2.00	-
65	ANNITE	12.00	1.00	-	3.00	2.00	1.00	-	-	3.00	-
66	PHLOGOPITE	12.00	1.00	-	-	2.00	1.00	3.00	-	3.00	-
67	MARGARITE	12.00	4.00	1.00	-	2.00	-	-	-	2.00	-
68	MUSCOVITE	12.00	3.00	-	-	2.00	1.00	-	-	3.00	-
69	PARAGONITE	12.00	3.00	-	-	2.00	-	-	1.00	3.00	-
70	MCELADONITE	12.00	1.00	-	-	2.00	1.00	1.00	-	4.00	-
71	FCELADONITE	12.00	1.00	-	1.00	2.00	1.00	-	-	4.00	-
72	FE-STAUROLITE	48.00	18.00	-	4.00	4.00	-	-	-	7.50	-
73	MG-STAUROLITE	48.00	18.00	-	-	4.00	-	4.00	-	7.50	-
74	ORTHOENSTATITE	6.00	-	-	-	-	-	2.00	-	2.00	-
75	PROTOENSTATITE	3.00	-	-	-	-	-	1.00	-	1.00	-
76	FERROSILITE	6.00	-	-	2.00	-	-	-	-	2.00	-
77	MG.AL-PYROXENE	6.00	2.00	-	-	-	-	1.00	-	1.00	-
78	MG.FE-PYROXENE	6.00	-	-	1.00	-	-	1.00	-	2.00	-
79	FE.MG-PYROXENE	6.00	-	-	1.00	-	-	1.00	-	2.00	-
80	FE.AL-PYROXENE	6.00	2.00	-	1.00	-	-	-	-	1.00	-
81	DIOPSIDE	6.00	-	1.00	-	-	-	1.00	-	2.00	-
82	JADEITE	6.00	1.00	-	-	-	-	-	1.00	2.00	-
83	HEDENBERGITE	6.00	-	1.00	1.00	-	-	-	-	2.00	-
84	CA-AL	6.00	2.00	1.00	-	-	-	-	-	1.00	-
85	AMESITE	18.00	4.00	-	-	8.00	-	4.00	-	2.00	-
86	PENNINITE	18.00	1.00	-	-	8.00	-	5.50	-	3.50	-

		O	AL	CA	FE	H	K	MG	NA	SI	TI
87	FEAMESITE	18.00	4.00	-	4.00	8.00	-	-	-	2.00	-
88	FEPENNINITE	18.00	1.00	-	5.50	8.00	-	-	-	3.50	-
89	CORDIERITE	18.00	4.00	-	-	-	-	2.00	-	5.00	-
90	HY_CORDIERITE	20.00	4.00	-	-	4.00	-	2.00	-	5.00	-
91	FE_CORDIERITE	18.00	4.00	-	2.00	-	-	-	-	5.00	-
92	HY_Fe_CORDIERITE	20.00	4.00	-	2.00	4.00	-	-	-	5.00	-
93	MG-CHLORITOID	7.00	2.00	-	-	2.00	-	1.00	-	1.00	-
94	FE-CHLORITOID	7.00	2.00	-	1.00	2.00	-	-	-	1.00	-
95	CLINOZOISITE	13.00	3.00	2.00	-	1.00	-	-	-	3.00	-
96	EPIDOTE	13.00	2.00	2.00	1.00	1.00	-	-	-	3.00	-
97	ANTHOPHYLLITE	24.00	-	-	-	2.00	-	7.00	-	8.00	-
98	TREMOLITE	24.00	-	2.00	-	2.00	-	5.00	-	8.00	-
99	FETREMOLITE	24.00	-	2.00	5.00	2.00	-	-	-	8.00	-
100	TSCHERMAKITE	24.00	4.00	2.00	-	2.00	-	3.00	-	6.00	-
101	PARGASITE	24.00	3.00	2.00	-	2.00	-	4.00	1.00	6.00	-
102	FEPARGASITE	24.00	3.00	2.00	4.00	2.00	-	-	1.00	6.00	-
103	GLAUCOPHANE	24.00	2.00	-	-	2.00	-	3.00	2.00	8.00	-
104	STEAM	1.00	-	-	-	2.00	-	-	-	-	-
105	OXYGEN	2.00	-	-	-	-	-	-	-	-	-
106	HYDROGEN	-	-	-	-	2.00	-	-	-	-	-

Table 1-2 Considered mineral phases of Domino with corresponding elements.

1.8 Lillfjället gneiss monazite EMP results

	QUANT																	
	POINT	LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
	<unitless>	Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
29-1L	1	15.9128	28.8155	3.03577	10.1993	1.2684	1.00109	0.51578	31.1243	0.872601	2.32762	0.101275	0.162258	1.14201	1.11827	0.757067	0.384169	98.74
29-1L	2	16.5818	28.8638	2.93322	9.67335	1.20212	0.995539	0.475807	30.6972	0.528538	2.73103	0.0604396	0.129792	1.1006	1.14886	0.795175	0.559811	98.48
29-1L	3	16.0246	30.1204	2.99678	10.542	1.21968	0.995811	0.491783	30.684	0.408452	2.27708	0.0845245	0.14487	0.973186	0.781347	0.885771	0.302557	98.93
29-1L	4	15.9144	29.3334	2.95681	10.6681	1.27343	0.944813	0.511872	30.6291	0.430089	2.44847	0.0767287	0.146052	1.00413	0.705513	0.848277	0.189551	98.08
29-1L	5	15.9684	29.5714	2.93429	10.4865	1.38981	0.975788	0.362215	30.6513	0.483304	2.50422	0.101259	0.151071	0.988462	0.720171	0.854061	0.247879	98.39
29-1L	6	15.6812	29.3858	2.8693	10.3634	1.24605	0.900118	0.485061	30.8447	0.638771	2.61032	0.0953099	0.128484	1.02033	0.826257	0.91123	0.264095	98.27
29-1L	7	15.2376	28.8518	2.88175	10.1162	1.30569	0.974813	0.567715	30.8117	1.16879	2.49998	0.122237	0.104188	1.24168	1.05653	0.86955	0.367989	98.18
29-1L	8	15.1245	27.6793	2.98121	10.4428	1.43368	1.1715	0.651453	30.7037	0.47101	3.10243	0.121818	0.140171	1.34539	1.06569	0.809335	0.413544	97.66
29-2L	1	15.2689	28.0582	3.09545	10.4061	1.40329	1.24208	0.637068	30.5634	0.55363	3.16538	0.1069	0.103824	1.36715	1.10452	0.792727	0.408243	98.28
29-2L	2	15.2315	27.9033	2.8375	10.1671	1.32814	1.09473	0.588764	30.3656	0.835412	3.91639	0.138966	0.155829	1.22922	1.22905	0.840676	0.329881	98.19
29-2L	3	14.9712	27.7734	3.12698	10.0839	1.36671	1.18305	0.549289	30.2253	0.768991	4.37593	0.146163	0.160887	1.11908	1.24526	0.824019	0.280422	98.20
29-2L	4	15.4327	28.5532	2.90035	10.4174	1.41122	1.22841	0.580025	30.3899	0.402545	2.96771	0.0819136	0.0845374	1.27217	1.02342	0.742744	0.442027	97.93
29-2L	5	15.3925	28.4778	2.8857	10.5372	1.38707	1.1794	0.555133	30.3697	0.428763	3.12674	0.0993199	0.0946438	1.30474	1.07778	0.753967	0.362642	98.03
29-2L	6	15.0599	27.7026	2.98348	10.5495	1.44021	1.28011	0.57435	30.3125	0.495086	3.32421	0.11453	0.10153	1.43878	1.15934	0.787524	0.482091	97.81
29-2L	7	15.0832	27.8036	2.86666	10.542	1.37836	1.19761	0.586406	30.2103	0.590748	3.21948	0.113602	0.144613	1.52046	1.2267	0.825836	0.508908	97.82
30-2L	1	14.7512	27.6857	2.93526	11.261	1.58046	1.28276	0.584141	30.8897	0.940565	2.44445	0.110937	0.196378	1.50806	0.842207	0.793104	0.0695819	97.88
30-2L	2	14.7506	27.6504	2.85863	10.9722	1.64014	1.32333	0.530649	30.5157	1.02547	2.60485	0.127506	0.155368	1.47734	0.889919	0.838928	0.125804	97.49
30-2L	3	14.5202	27.3045	2.92222	10.9535	1.62955	1.17977	0.61744	30.5754	0.956342	2.97693	0.142925	0.151413	1.47185	0.940845	0.846557	0.103488	97.29
30-2L	4	14.6597	27.3416	2.97971	11.2993	1.76836	1.36646	0.672397	30.4898	0.917883	2.93395	0.132587	0.209066	1.53786	0.880798	0.778079	0.0944945	98.06
30-3L	1	15.176	28.2543	3.14172	11.3042	1.64534	1.20881	0.512572	30.3211	0.844765	2.50518	0.118883	0.179483	1.15595	0.725073	0.831225	0.0444888	97.97
30-3L	2	14.6671	28.3136	3.00736	11.3862	1.503	1.21352	0.505044	30.2149	0.966071	3.05414	0.134751	0.135814	1.14105	0.838912	0.879511	0.0410069	98.00
30-3L	3	14.7599	28.3079	3.02039	11.2636	1.60324	1.09774	0.505839	30.2092	0.918077	2.81341	0.12351	0.188613	1.17564	0.79526	0.836866	0.0489749	97.67
30-3L2	1	14.5712	27.6689	2.94318	10.963	1.61679	1.17273	0.57494	30.3329	0.548719	3.3234	0.126474	0.133245	1.38534	1.10081	0.852316	0.320172	97.63
30-3L2	2	14.4712	27.8361	3.01562	11.2404	1.61959	1.28319	0.564086	30.2032	0.589481	3.46138	0.109583	0.136182	1.42258	1.11733	0.818493	0.341572	98.23
30-3L2	3	14.4715	27.9869	3.00732	11.1633	1.6	1.26315	0.492681	30.1909	0.600393	3.5176	0.0995668	0.146773	1.43484	1.1328	0.798582	0.327855	98.23

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
40-1L	1	13.7282	27.2758	2.90112	10.8941	1.76109	1.40837	0.604898	29.8165	0.567238	5.45059	0.148131	0.840189	1.33759	0.895344	0.811832	0.115857	98.56
40-1L	2	14.4167	26.6557	2.90364	10.6838	1.67706	1.35083	0.593117	29.7868	0.516178	4.76263	0.14537	0.359772	1.35777	1.08213	0.802897	0.0271188	97.12
40-1L	3	14.3798	27.0971	2.71231	10.4768	1.69283	1.36273	0.590575	30.0019	0.534327	4.7191	0.118839	0.2473	1.42486	1.0744	0.793078	0.0400099	97.27
40-1L	4	13.8726	26.1017	2.691	10.411	1.68849	1.30216	0.671356	23.1816	0.4251	3.91921	0.129754	0.516948	1.17251	0.949494	0.745175	0.0499835	87.83
40-1L	5	13.7457	26.9685	2.82233	10.5171	1.67224	1.32065	0.623502	27.9025	0.514173	3.93482	0.131949	0.473893	1.30631	0.972818	0.748919	0.0726111	93.73
40-2L	1	13.3801	26.4675	2.93553	10.7113	2.04113	1.71103	0.742299	30.731	0.585134	4.54931	0.136353	0.160129	1.77525	1.11928	0.814439	0.0801033	97.94
40-2L	2	13.309	25.8732	2.91456	10.8511	2.05497	1.77338	0.820458	30.7998	0.609283	4.66929	0.156434	0.150756	1.85926	1.17978	0.803455	0.0649191	97.89
40-2L	3	13.5978	26.5992	2.82164	10.8883	1.97163	1.68697	0.975104	30.9073	0.65386	3.74079	0.131713	0.129377	1.81832	1.01504	0.788826	0.0837243	97.81
40-2L	4	13.7045	26.1769	2.92367	10.8096	2.03515	1.78107	0.849141	30.7592	0.770552	3.29894	0.101545	0.105021	1.79914	0.981674	0.799703	0.122059	97.02
40-2L	5	13.1179	26.3659	2.70139	10.874	2.10526	1.83125	0.795555	30.8061	0.781553	3.73663	0.145089	0.118919	1.89788	1.05282	0.836293	0.0953524	97.26
40-2L	6	13.1405	26.0464	2.95544	10.7658	2.0106	1.80917	0.800522	30.7664	0.825355	4.0979	0.153728	0.108879	1.93035	1.15057	0.838936	0.121123	97.52
40-2L	7	13.0668	25.8992	2.89933	10.742	2.04588	1.83107	0.840182	30.7322	0.870712	4.30592	0.150534	0.129345	1.96907	1.19084	0.849155	0.0945041	97.62
42-1L	1	13.5498	29.7488	3.21545	12.1011	2.15139	1.63572	0.592196	30.9881	0.587876	1.51868	0.0705732	0.101355	0.984083	0.701184	0.887509	1.0684E-08	98.83
42-1L	2	13.7216	29.883	3.17211	11.9802	2.07171	1.77378	0.483738	30.7092	0.446775	1.49974	0.0525982	0.0727093	0.985597	0.60601	0.922946	0.0114159	98.39
42-1L	3	13.795	29.8068	3.08952	12.1098	2.15634	1.64013	0.531553	30.7413	0.345094	1.7965	0.0944974	0.0917051	0.882608	0.555547	0.915116	1.06782E-08	98.55
42-1L	4	14.0031	29.3791	3.15013	11.9427	1.97865	1.62911	0.579556	30.7079	0.312727	2.17199	0.066956	0.118047	0.961511	0.613232	0.992369	1.06695E-08	98.61
42-1L	5	14.0132	29.1879	3.09407	11.9627	2.13944	1.69989	0.560246	30.6272	0.355131	2.09325	0.0772273	0.114017	1.06738	0.64425	0.948107	1.06733E-08	98.58
42-1L2	1	13.8149	28.5602	2.92403	11.3068	1.91622	1.57714	0.748403	30.9984	0.498759	3.43729	0.100077	0.100102	1.34609	1.16339	0.703088	0.0077209	99.20
42-1L2	2	13.9706	29.3542	3.15323	11.6904	1.95902	1.64685	0.611348	30.6943	0.424786	2.11244	0.0716205	0.0825322	1.05526	0.735093	0.849826	0.00450984	98.42
42-1L2	3	13.9306	28.9548	3.19082	11.9499	2.02157	1.66973	0.518823	30.8371	0.39661	2.26915	0.102262	0.116092	0.987925	0.721601	0.956296	0.0221007	98.65
42-1L2	4	13.9705	29.0113	3.08558	11.7722	2.04657	1.75915	0.628652	30.6951	0.484749	1.94468	0.0812637	0.142418	1.08617	0.701367	0.921019	0.00912429	98.34
42-3L	1	12.3229	26.5587	2.854	11.4629	2.04646	1.83534	0.645593	30.5031	0.597705	5.66617	0.162479	0.427751	1.23429	1.02764	0.683014	0.00904858	98.04
42-3L	2	12.8005	26.7073	2.88397	11.4925	1.95743	1.7656	0.568245	30.316	0.488891	5.77609	0.14947	0.511207	1.08623	1.01742	0.650041	1.05777E-08	98.17
42-3L	3	13.07	26.4161	2.74393	11.4833	2.01211	1.67998	0.622299	30.2146	0.473692	5.45395	0.137243	0.499247	1.06338	0.968928	0.730102	1.05873E-08	97.57
42-3L	4	13.8462	28.6776	3.14933	12.1486	2.05884	1.76746	0.561331	30.7124	0.313183	2.56894	0.09084	0.202046	1.08192	0.583565	0.759472	0.0307671	98.55
42-3L	5	13.7657	29.0716	3.01888	12.2497	2.10149	1.61345	0.617791	30.7803	0.28986	2.50602	0.0756232	0.212298	1.02582	0.523271	0.663019	1.06692E-08	98.51
42-3L	6	13.5731	28.6817	3.04721	12.0528	2.05705	1.71156	0.651363	30.6254	0.419651	2.74799	0.0773343	0.227863	1.08908	0.620929	0.715517	0.0241453	98.32
42-3L	7	13.2962	27.8679	2.9833	11.6362	1.90117	1.63265	0.619357	30.7995	0.545617	3.61222	0.108819	0.181862	1.26717	0.884787	0.657982	1.06345E-08	97.99
43-2L1	1	12.4058	25.2465	2.99584	11.3635	1.85745	1.55307	0.716187	31.6177	0.993888	5.83165	0.181798	0.315742	1.34371	1.39507	0.713306	1.06E-08	98.53

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
43-2L2	1	13.3039	26.6184	3.12138	12.0054	1.92392	1.64362	0.654874	31.3853	0.975071	3.04252	0.137219	0.149176	1.34782	1.03458	0.850014	0.00135146	98.19
43-2L2	2	14.0226	27.4932	3.33307	12.5212	2.10981	1.77507	0.734473	31.0832	0.480818	2.12587	0.0817413	0.172872	1.21016	0.631647	0.926422	1.07E-08	98.70
43-2L2	3	13.6399	27.2064	3.01515	11.8803	1.85571	1.5076	0.540615	30.9075	0.515671	4.02985	0.115829	0.273662	1.20496	0.962396	0.736525	1.06E-08	98.39
43-2L2	4	13.5681	26.3368	2.99564	11.4574	1.93902	1.42011	0.60414	31.2624	0.722146	4.4052	0.154017	0.125299	1.35392	1.39296	0.655786	1.06E-08	98.39
43-3L	2	12.8874	25.7619	3.00972	11.0619	1.7545	1.53864	0.753448	30.2362	0.589779	5.0982	0.140553	0.159692	1.38751	1.25896	0.623907	0.0178725	96.28
43-3L	3	12.8433	26.2101	3.02861	11.594	1.88858	1.59232	0.765612	31.1285	0.577656	4.73718	0.141018	0.114098	1.49448	1.17419	0.663789	0.0417293	98.00
43-3L	4	13.4385	26.566	3.04667	11.4695	1.86616	1.57986	0.67873	31.1512	0.531389	4.42072	0.131388	0.126124	1.40867	1.10359	0.675407	1.06E-08	98.19
43-3L	5	13.635	26.7861	2.9927	11.4276	1.8403	1.40813	0.667862	31.0422	0.643123	4.44981	0.148371	0.117777	1.36369	1.12275	0.650714	1.06E-08	98.30
43-3L2	1	13.3866	26.1726	2.88898	11.3437	1.71097	1.52028	0.661112	31.4152	0.796979	4.38802	0.133583	0.337461	1.45629	1.18015	0.629412	0.0222203	98.04
43-3L2	2	13.2402	26.5676	3.03548	11.5999	1.78393	1.50576	0.728407	30.8557	0.683054	4.2994	0.133728	0.142507	1.41569	1.02905	0.744488	1.06E-08	97.76
43-3L2	3	14.4985	27.4867	3.07501	12.1845	1.80236	1.41941	0.520244	30.2415	0.370182	2.72308	0.0862866	0.48996	1.15684	0.403813	0.757351	0.00774341	97.22
43-3L2	4	14.1543	26.6587	3.12724	11.7239	1.73972	1.32824	0.699264	29.5993	0.622573	5.0034	0.147678	0.936137	1.22364	0.551177	0.729622	0.0400448	98.28
43-4L	1	15.162	29.0788	3.09131	11.1677	1.59788	1.35896	0.635727	30.5401	1.1711	1.36504	0.119923	0.0352691	1.26308	0.996622	0.805415	1.06E-08	98.39
43-4L	2	13.7378	26.9762	3.03904	11.6834	1.79921	1.4425	0.731111	30.5718	0.790979	3.98086	0.140356	0.083095	1.34772	1.19128	0.651575	0.00672722	98.17
43-4L	3	13.5628	26.4512	3.05961	11.6058	1.79159	1.57248	0.642881	30.7206	0.806949	4.27521	0.153313	0.0967114	1.42635	1.16889	0.667013	0.00426063	98.01
43-4L	4	14.0293	26.4393	3.09825	11.5428	1.92689	1.51441	0.665237	30.5893	0.866476	3.87218	0.142655	0.0812547	1.42999	1.07448	0.626661	0.0215395	97.92
43-4L	5	14.4771	27.7244	3.01609	11.3955	1.62439	1.27137	0.530484	30.3535	0.63031	3.99143	0.146323	0.249212	1.23924	0.914557	0.750162	0.00358435	98.32
43-4L	6	14.5198	27.4882	2.92559	11.1438	1.68031	1.19888	0.532089	30.3654	0.56515	4.32778	0.141535	0.291749	1.20683	0.917662	0.749316	1.06E-08	98.05
43-4L	7	14.5916	27.091	3.11003	11.3006	1.63616	1.29387	0.566003	30.1506	0.557284	4.31371	0.137527	0.300657	1.23359	0.937186	0.664614	0.00604443	97.89
43-4L	8	14.343	27.1686	3.11883	11.744	1.75423	1.31997	0.537364	30.1011	0.503853	3.95194	0.123041	0.355473	1.27264	0.871496	0.740127	0.014278	97.92
44-1L	1	14.0953	28.0624	2.94189	11.6103	1.75811	1.58949	0.81406	30.7097	0.600037	2.47222	0.0998205	0.118529	1.31488	0.668821	0.875151	0.0116229	97.74
44-1L	2	14.4348	28.509	3.20909	11.8365	1.7955	1.61751	0.685148	30.7548	0.50901	2.13755	0.093745	0.126287	1.21054	0.59778	0.896343	0.0031586	98.42
44-1L	3	15.2985	28.7885	3.19524	11.7571	1.83811	1.47814	0.642152	30.6887	0.55985	1.65939	0.0861293	0.0993218	1.25992	0.464304	0.910052	0.00112841	98.73
44-1L	4	14.7027	28.3146	3.0798	11.6551	1.80198	1.44267	0.551918	30.5837	0.547199	2.48011	0.0802546	0.1008	1.15261	0.648056	0.876414	1.06489E-08	98.02
44-1L	5	14.1375	27.3887	2.98676	11.1713	1.75896	1.42479	0.713025	30.5521	0.754817	3.24524	0.124962	0.134552	1.35015	0.870912	0.72321	0.00863013	97.35
44-1L	6	14.1043	27.1767	2.93444	11.506	1.84746	1.50011	0.658605	30.4566	0.699288	3.35943	0.141303	0.262399	1.36678	0.765115	0.761413	1.06346E-08	97.54
44-2p	1	14.1764	27.8735	3.07739	11.9492	1.84865	1.42678	0.566243	30.8697	0.311232	3.95466	0.0997684	0.236558	1.00147	0.74334	0.840125	1.0621E-08	98.98
44-2p	2	15.2679	29.7333	3.16853	12.0699	1.69594	1.42875	0.635642	30.692	0.382051	0.470035	0.0488915	0.0664449	0.975742	0.236914	0.893163	1.07058E-08	97.77
44-2p	3	14.2376	27.2871	3.11483	11.5227	1.89416	1.65489	0.739419	30.7215	0.637795	2.00327	0.100539	0.187698	1.40645	0.564456	0.94292	0.0175856	97.03

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
44-2p	4	13.7637	26.4495	2.96066	11.6407	1.7463	1.39748	0.622818	30.5983	0.472699	4.40563	0.138028	0.193031	1.25017	0.956422	0.846774	0.0135991	97.46
54-1L2	2	13.2399	27.3056	2.9015	11.5261	1.90964	1.54763	0.677037	29.9391	0.648221	3.51775	0.123937	0.382073	1.27478	0.983237	0.740987	0.011581	96.73
54-1L2	3	12.9533	27.5879	3.0197	12.1434	2.02455	1.56717	0.584902	29.7782	0.483005	4.4306	0.119608	0.401393	1.0905	0.921627	0.667155	1.06055E-08	97.77
54-1L2	4	13.2299	27.6038	3.08942	13.1781	2.01047	1.65833	0.511906	29.056	0.355043	4.17119	0.119079	0.741021	0.878988	0.425497	0.660473	0.0127042	97.70
54-1L2	5	13.2112	27.5438	3.04199	13.0108	1.78606	1.49014	0.493024	29.0292	0.403512	4.3883	0.103425	0.822662	0.915573	0.476527	0.655573	0.0115575	97.38
54-3L	1	13.2091	27.3608	2.93202	11.9935	1.94796	1.59818	0.54965	30.1031	0.607432	4.12885	0.13949	0.915156	1.11439	1.11396	0.688662	0.0233453	98.43
54-3L	2	13.4224	27.9861	3.14181	12.5719	2.20634	1.58396	0.422553	30.0264	0.701529	3.91449	0.106024	0.68313	0.648452	0.800699	0.770719	0.00883615	99.00
54-3L	3	13.7686	27.6672	3.11595	12.703	2.25709	1.51357	0.263611	29.6663	0.735678	4.19689	0.145838	0.8323	0.431239	0.696851	0.649357	0.0235137	98.67
54-3L	4	13.9382	27.9994	3.19136	12.6076	2.11372	1.48044	0.314206	29.5034	0.737487	4.27281	0.142745	0.87057	0.457185	0.647085	0.652587	0.0334442	98.96
54-3L	5	13.8713	28.9058	3.15952	12.4858	2.14567	1.31681	0.230698	29.8092	0.607614	4.06076	0.141477	0.720998	0.304192	0.569194	0.705422	1.05842E-08	99.03
54-3L	6	13.6276	28.1911	3.16905	12.4407	2.094	1.40563	0.16631	29.6538	0.703052	4.55239	0.121915	0.75073	0.344911	0.574798	0.668338	0.010612	98.47
54-3L	7	13.2103	27.4418	2.93942	12.357	2.1062	1.47133	0.165719	29.2626	0.810111	5.21423	0.156207	0.937058	0.387156	0.729069	0.644553	0.022536	97.86
54-3L	8	13.4052	26.9424	3.06369	12.1259	2.14767	1.43968	0.25973	29.4464	0.851209	5.38157	0.14625	1.02314	0.429247	0.717301	0.708205	0.0146508	98.10
54-3L	9	13.534	28.3131	3.1656	12.5827	2.20128	1.49513	0.294935	29.905	0.696646	3.97311	0.134658	0.800157	0.517017	0.697331	0.700458	1.05978E-08	99.01
54-3L2	1	13.3534	27.8349	3.14434	12.2628	2.15621	1.68182	0.521438	30.4762	0.567565	3.6536	0.114058	0.325194	0.924207	0.785202	0.681046	0.00561825	98.49
54-3L2	2	13.1978	27.3858	3.1496	12.2998	2.15854	1.73096	0.581036	30.4388	0.615373	4.35836	0.12802	0.522888	0.962745	0.722821	0.694564	1.06182E-08	98.95
54-3L2	3	13.5228	27.2184	2.96213	12.1073	2.09223	1.75571	0.582095	30.0658	0.66157	4.72065	0.124083	0.711178	0.929322	0.726027	0.679346	0.0181139	98.88
54-3L3	1	13.7073	28.3229	3.23072	12.7777	2.24448	1.45716	0.193417	29.7169	0.643517	4.51732	0.114975	0.839058	0.344288	0.64745	0.642656	0.0137785	99.41
54-3L3	2	13.4187	27.8325	3.19746	12.2079	2.12116	1.64995	0.462232	30.478	0.670867	4.14975	0.127213	0.440827	0.861095	0.784791	0.704542	0.00314056	99.11
54-3L3	3	13.7462	28.8813	3.14221	12.6078	2.23018	1.60137	0.304085	30.4698	0.702119	3.06691	0.113713	0.407138	0.53228	0.586134	0.678323	1.06258E-08	99.07
55b-1L	1	14.3645	28.4802	3.10218	11.8334	1.71879	0.987889	0.222394	30.7742	0.382894	4.78392	0.109698	0.418944	0.397947	1.0391	0.732261	0.0243417	99.37
55b-1L	2	14.7216	29.224	3.1402	11.7179	1.64173	0.953386	0.168386	30.5341	0.221115	4.5155	0.0757819	0.503319	0.283309	0.736949	0.671621	0.0160119	99.12
55b-1L	3	14.9413	28.9207	3.13853	11.7608	1.58428	0.887411	0.203642	30.3539	0.196653	4.40006	0.0938811	0.534514	0.240803	0.664795	0.680931	1.05616E-08	98.60
55b-1L	4	14.7561	29.2279	3.00807	11.6953	1.58791	1.06301	0.290878	30.9379	0.207754	3.67243	0.109613	0.274289	0.636042	0.692728	0.742248	0.000224077	98.90
55b-1L	5	14.8115	29.4295	3.24062	11.8332	1.64349	1.09571	0.291396	30.9318	0.1765	3.20393	0.0729813	0.250364	0.542595	0.640561	0.794219	1.06112E-08	98.96
55b-1L2	1	14.6138	29.0031	3.15475	11.7793	1.58333	0.867246	0.183251	30.448	0.200882	4.38106	0.10209	0.482153	0.265302	0.734717	0.769284	0.0196264	98.59
55b-1L2	2	15.4949	29.1953	3.17107	11.8278	1.55836	0.912697	0.195768	30.7067	0.136163	3.13365	0.0864684	0.259727	0.292734	0.646487	0.717957	0.00537594	98.34
55b-1L2	3	13.6714	27.7684	3.12111	11.8218	1.80916	1.07798	0.356844	30.7999	0.39482	4.81382	0.127326	0.285336	0.595595	1.14551	0.711704	0.0239215	98.52
55b-2L	1	13.5041	27.759	3.02364	12.2454	2.07177	1.58868	0.472257	30.2237	0.336988	3.70729	0.090534	0.18784	0.973653	0.853561	0.788542	0.0233799	97.85

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
55b-2L	2	13.4266	27.8069	3.20751	12.4428	2.44004	1.84892	0.579825	30.2078	0.350055	2.82904	0.0842595	0.129314	0.983665	0.642645	0.871432	1.06673E-08	97.85
55b-2L	3	13.5966	27.3688	3.17521	12.5354	2.32297	2.03881	0.582474	29.9201	0.38164	2.68214	0.077546	0.127579	1.06989	0.678041	0.82128	0.00911878	97.39
55b-2L	4	13.7817	28.5259	3.19319	12.6368	2.26777	1.78014	0.579307	30.0512	0.28674	2.11066	0.0713299	0.121742	0.981078	0.58469	0.917852	1.06792E-08	97.89
55b-2L	5	13.7736	28.0401	3.09259	11.9458	1.82139	1.49108	0.522825	30.856	0.334375	2.8858	0.0769833	0.124531	1.11616	1.14653	0.734172	0.0234154	97.99
55b-2L2	1	14.5574	29.6264	3.26193	12.2842	2.07143	1.51016	0.528494	31.9234	0.246225	2.0647	0.0529308	0.133263	0.919877	0.501081	0.857096	0.0196201	100.56
55b-2L2	2	14.7242	29.2456	3.2446	12.3062	1.98919	1.41426	0.470733	31.6975	0.272417	2.02092	0.06836	0.107531	0.875187	0.522131	0.77937	1.0672E-08	99.74
65-1L	1	13.5543	27.6532	3.05632	11.9692	1.9264	1.69451	0.722341	29.4038	0.288665	3.94127	0.0973004	0.917146	1.41539	0.318679	0.595999	0.00932617	97.56
65-1L	2	13.692	28.2114	3.07011	12.0058	1.95214	1.58469	0.627074	29.1165	0.271518	4.03304	0.0869677	0.964575	1.11053	0.264057	0.553322	0.00314604	97.55
65-1L	3	13.907	28.4221	3.04384	12.0423	2.0199	1.60879	0.721147	29.0786	0.279585	4.07909	0.0992552	0.9625	1.08061	0.285019	0.597632	1.06245E-08	98.23
65-1L	4	13.929	28.3817	3.08367	11.9203	1.96851	1.62562	0.541932	29.3405	0.349799	4.1063	0.12116	0.985189	1.16946	0.286833	0.613639	1.06223E-08	98.42
65-1L	5	14.2753	28.4006	3.0813	11.9466	1.86239	1.60379	0.573035	29.238	0.333425	4.19887	0.123871	1.003	1.13262	0.283302	0.616412	1.06142E-08	98.67
65-1L	6	13.8241	28.1217	2.96499	12.0737	1.87597	1.56523	0.609644	29.3739	0.271683	4.21409	0.113656	0.968804	1.11244	0.271614	0.607274	1.06236E-08	97.97
65-1L	7	13.5522	27.9723	3.16634	12.1858	1.8199	1.48512	0.623971	28.9761	0.308153	4.88296	0.125211	1.10354	1.07407	0.309613	0.602117	0.00112077	98.19
65-1L	8	13.0595	26.7962	2.87115	11.6381	1.98706	1.83314	0.825186	30.2958	0.657841	3.98612	0.145481	0.459786	1.88444	0.709553	0.615951	1.06527E-08	97.77
65-1L	9	12.5909	26.8556	2.93959	11.7921	1.99776	1.78679	0.909613	30.3476	0.667039	4.00938	0.134321	0.469983	1.9201	0.7103	0.548411	0.00797088	97.69
65-1L	10	13.1236	27.0431	3.04465	11.8145	1.88492	1.85767	0.862422	30.4929	0.637335	4.0722	0.134767	0.464078	1.96154	0.699814	0.552427	1.06521E-08	98.65
65-1L	11	12.9327	27.3291	2.91691	11.644	1.85785	1.78615	0.862589	30.3604	0.654793	3.94438	0.150568	0.451187	1.9401	0.678737	0.58469	0.000225258	98.09
65-1L	12	12.8456	27.3319	3.05222	11.723	2.05043	1.9774	0.944203	30.2855	0.635951	3.88846	0.137791	0.448509	1.90618	0.670938	0.620334	0.0234646	98.54
65-1L	13	12.9763	26.8448	2.90619	11.8217	1.98244	1.79063	0.833266	30.4194	0.614758	3.91705	0.122074	0.445203	1.88849	0.669112	0.552165	0.0412183	97.82
65-1L	14	12.9316	26.8383	3.0171	11.7484	1.99018	1.82882	0.965369	30.3518	0.661598	3.92303	0.14176	0.464628	1.96133	0.678787	0.591876	0.00631172	98.10
65-1L	15	13.4087	28.3284	3.03956	12.1745	1.82574	1.50136	0.560744	29.336	0.63337	4.31248	0.138396	1.03954	1.13085	0.328451	0.634078	1.06112E-08	98.39
65-1L	16	12.9254	27.7449	2.94975	11.965	1.78762	1.5282	0.684066	29.7264	0.720333	4.59906	0.151235	0.861844	1.37935	0.535983	0.591801	1.06123E-08	98.15
65-1L	17	13.2505	28.3269	2.9481	11.728	1.84314	1.47599	0.81084	30.3922	0.393934	3.46271	0.105567	0.35881	1.64019	0.596289	0.666941	0.0182162	98.02
65-1L	18	13.3072	27.6884	3.03432	11.9434	1.94079	1.64372	0.67816	30.3592	0.425811	3.75989	0.0878113	0.457575	1.62451	0.595756	0.637985	0.000900879	98.19
65-1L	19	13.801	28.1195	3.13456	11.8674	2.00048	1.60189	0.731739	30.5092	0.409957	3.17824	0.102449	0.357669	1.56762	0.54612	0.626806	1.06613E-08	98.55
65-1L	20	13.4807	28.6635	3.07705	12.3801	1.95477	1.49242	0.574159	30.0862	0.170136	3.99817	0.0950504	0.543028	1.04374	0.50833	0.648921	0.000674221	98.72
65-1L	21	13.1871	27.6026	3.03677	12.102	1.93995	1.72007	0.769796	30.0088	0.391346	4.02974	0.118298	0.580427	1.5799	0.643542	0.627677	0.0202402	98.36
65-1L	22	13.6976	27.8459	2.89176	11.9604	1.94388	1.69339	0.652597	30.1766	0.463237	4.0515	0.120333	0.540081	1.4825	0.625399	0.607786	0.008859	98.76
65-1L	23	14.4943	28.3453	3.11225	11.2374	1.72934	1.5555	0.692985	30.3773	0.480064	2.97115	0.105807	0.410274	1.57796	0.659384	0.597811	0.0131963	98.36

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
65-1L	24	14.6021	28.6278	2.78837	11.2881	1.73845	1.53854	0.662857	30.5273	0.496515	3.0892	0.106848	0.389583	1.52501	0.760297	0.570059	0.0186388	98.73
65-3p	1	13.0222	26.8023	2.92018	10.8487	1.72778	1.53688	0.738169	29.9868	0.649577	5.0868	0.155437	0.67202	2.00126	0.947222	0.558952	0.0129171	97.67
65-3p	2	13.0877	27.609	2.81084	11.1003	1.68319	1.48517	0.692772	29.9917	0.58734	4.77128	0.139398	0.554951	1.7064	0.899037	0.606503	0.0154068	97.74
66-3L	1	13.7779	26.6211	3.11451	12.4606	2.1383	1.61826	0.618443	30.3734	0.187931	3.82581	0.0996083	0.21171	1.02513	0.993868	0.944614	0.316728	98.33
66-3L	2	13.1618	26.2884	3.13657	12.5248	1.95265	1.57887	0.617416	30.2283	0.225905	4.83443	0.112447	0.27079	1.0508	1.16601	0.92609	0.69926	98.77
66-3L	3	13.5323	26.3997	3.2888	12.2993	2.04283	1.60441	0.550349	30.2973	0.220703	4.51964	0.109	0.267943	0.958794	1.06006	0.916042	0.22339	98.29
66-3L	4	13.3999	26.4751	3.25194	12.0529	1.95298	1.47675	0.553517	30.2066	0.333954	4.22152	0.10595	0.22662	1.04583	1.06855	0.949196	0.280831	97.60
66-4L	1	14.6322	26.9254	3.05072	11.8879	1.84956	1.41815	0.649908	29.3216	0.194688	3.51625	0.0848575	0.115173	1.01243	1.20223	0.817499	0.572754	97.25
66-4L	2	13.3702	27.078	3.24522	13.0632	2.14384	1.58569	0.64019	29.237	0.1827	3.12869	0.0725593	0.172299	1.01951	0.80492	0.960404	0.241799	96.95
66-4L	3	13.6984	27.5685	3.2382	12.5896	2.15421	1.49578	0.543106	29.1423	0.16031	2.94886	0.0785202	0.193885	0.998573	0.777031	0.943577	0.221225	96.75
66-4L	4	13.6574	25.9014	2.97146	11.4156	1.76085	1.45034	0.525729	29.6028	0.601998	4.95516	0.148054	0.132844	1.14776	1.40345	0.856868	0.27619	96.81
66-4L	5	13.8898	26.2997	2.98022	11.3777	1.72626	1.28046	0.619041	29.4183	0.57476	4.68395	0.131014	0.0781416	1.17672	1.431	0.787279	0.348753	96.80
66-4L	6	13.7623	26.2538	2.95529	11.5125	1.79707	1.35155	0.61936	29.5326	0.528513	4.60427	0.136583	0.0708732	1.3241	1.41873	0.804069	0.401476	97.07
66-4L	7	13.5646	26.3011	2.91273	11.2044	1.72156	1.42106	0.723168	29.4011	0.552127	4.40975	0.120518	0.0618365	1.47653	1.41394	0.893888	0.487264	96.67
66-4L	8	13.2226	26.0635	2.97649	11.1732	1.7729	1.43157	0.683004	29.4447	0.533761	4.42785	0.166361	0.065264	1.55368	1.42688	0.826647	0.476371	96.24
70-1L	1	13.9117	26.9666	3.03098	11.2362	1.72234	1.54339	0.733413	31.0791	0.685847	3.90025	0.104682	0.0989466	1.62555	0.996624	0.6232	1.06E-08	98.26
70-1L	2	14.9594	27.7366	2.88848	11.0957	1.6387	1.37524	0.643601	31.0626	0.677438	3.15241	0.136472	0.0809357	1.49683	0.872767	0.649063	0.0190739	98.49
70-1L	3	14.7338	27.9052	2.97549	11.6782	1.6377	1.32923	0.654744	31.2497	0.565311	3.25877	0.0936035	0.0937249	1.29489	0.821742	0.707372	1.06E-08	99.00
70-1L	4	14.5234	28.1163	3.31849	12.456	1.96847	1.6083	0.477888	30.8667	0.434144	3.27286	0.0903749	0.145322	0.663621	0.764972	0.93954	1.06E-08	99.65
70-1L	5	14.2626	27.793	3.15302	12.3348	1.83934	1.57099	0.547201	30.8835	0.455764	3.47335	0.106324	0.128887	0.935014	0.812289	0.805337	1.06E-08	99.10
70-1L	6	14.3163	27.6621	3.17241	12.1592	1.84303	1.44097	0.502755	30.8262	0.408098	3.4845	0.104306	0.148201	0.876769	0.807499	0.875464	0.0308641	98.66
70-1L	7	14.2408	27.2801	3.17421	12.4173	1.92077	1.53838	0.60453	30.9634	0.428686	3.78027	0.107519	0.153642	0.856968	0.84855	0.878203	0.0163377	99.21
70-1L	8	13.9684	27.2285	3.07061	12.0362	1.94036	1.54805	0.520524	30.7198	0.432879	4.39959	0.127106	0.170255	0.91066	0.944587	0.870096	1.06E-08	98.89
70-1L	9	13.5967	26.2054	2.95579	11.7293	1.84637	1.51742	0.505998	30.5994	0.443239	5.78781	0.145228	0.198006	0.868444	1.16045	0.807912	0.0178195	98.39
70-1L	10	13.2893	26.1077	3.04047	11.6338	1.92337	1.48373	0.47718	30.5897	0.572657	6.023	0.152184	0.269432	0.707043	1.32537	0.874349	0.00646759	98.48
70-1L	11	13.9575	27.0542	3.05995	11.7355	1.83739	1.5508	0.495104	30.7006	0.643029	4.1968	0.124042	0.158033	0.650265	1.01384	0.935131	0.0282822	98.14
70-1L	12	14.3276	27.5309	3.20786	11.9781	1.91563	1.64961	0.524329	30.6316	0.616982	3.72441	0.107895	0.137847	0.739972	0.813947	0.86878	0.00793306	98.78
70-1L	13	14.749	28.3995	3.15429	12.3283	1.87945	1.52993	0.434322	30.7404	0.405452	2.18676	0.0702462	0.0936499	0.985293	0.568827	0.755146	1.07E-08	98.28
70-1L	14	14.9753	28.7658	3.19446	12.3498	1.89012	1.54578	0.476773	30.8071	0.615691	1.53307	0.0875701	0.0663134	1.00435	0.467744	0.788966	0.0367118	98.61

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
70-1L	15	15.0755	28.4533	3.07678	12.2705	1.89806	1.53803	0.512782	30.6588	0.540568	1.64781	0.0848838	0.104706	0.946615	0.464412	0.860104	1.07E-08	98.13
70-3L	1	13.5866	26.5635	3.06792	11.3664	1.67647	1.523	0.77981	30.6799	0.767597	4.03494	0.14957	0.119804	1.77693	1.02093	0.654889	1.06E-08	97.77
70-3L	2	13.523	27.2577	2.96257	11.5231	1.69478	1.36839	0.572957	30.4868	0.53411	4.45905	0.139341	0.146772	1.39919	1.07491	0.685706	0.0147185	97.84
70-3L	3	14.028	27.9527	3.09136	11.897	1.83381	1.6388	0.646142	30.329	0.594157	3.39696	0.115582	0.145008	1.35112	0.758438	0.782005	1.06E-08	98.56
70-3L	4	14.0638	27.1363	3.1037	11.764	1.9033	1.61528	0.743851	30.3656	0.547818	3.40274	0.121457	0.148556	1.34994	0.784887	0.814705	0.00359976	97.87
70-3L	5	15.1399	27.6037	3.06439	11.738	1.88582	1.55689	0.641656	30.37	0.464656	2.92324	0.0987653	0.104909	1.12697	0.694595	0.757253	1.06E-08	98.17
70-3L	6	14.5206	27.2261	2.98998	11.8705	1.92438	1.46726	0.678596	30.5317	0.484184	3.61542	0.10649	0.128463	1.22926	0.861184	0.803087	0.00584123	98.44
70-3L	7	15.6894	29.1854	2.94982	11.5645	1.77334	1.3915	0.563504	30.5331	0.438907	2.58703	0.0790707	0.0891802	1.06749	0.652331	0.777286	0.0020226	99.34
70-3L	8	13.7323	27.2861	2.99806	11.5436	1.85645	1.6192	0.704926	30.4152	0.684836	3.83505	0.133622	0.122919	1.29344	0.943538	0.794795	1.06E-08	97.96
70-3L	9	14.739	28.0588	3.11329	11.7968	1.90114	1.5347	0.645648	30.3247	0.510033	2.3181	0.0997401	0.089796	1.11794	0.631122	0.897367	0.000225326	97.78
70-3L	10	14.2822	27.305	3.09114	11.8238	1.78684	1.68125	0.655494	30.3875	0.774193	3.41309	0.11857	0.108246	1.26117	0.87479	0.854857	1.06E-08	98.42
70-4L	1	14.6453	28.1861	3.11543	11.7678	1.81045	1.42676	0.68395	31.2598	0.630219	2.58178	0.0959311	0.118457	1.27635	0.654306	0.855807	0.00563317	99.11
70-4L	2	14.0535	26.7479	3.09316	11.7307	1.94086	1.65276	0.693166	31.1293	0.792393	2.89097	0.0977235	0.12302	1.40041	0.778478	0.77417	0.019814	97.92
70-4L	3	14.9595	28.3161	3.20351	11.8888	1.7667	1.42521	0.608323	31.1441	0.527019	1.89871	0.0894824	0.108705	1.05075	0.586683	0.796028	1.07E-08	98.37
70-4L	4	15.0359	28.8559	3.23356	11.9359	1.7202	1.39719	0.6089	31.0661	0.426965	1.97116	0.0741442	0.0949968	1.0033	0.47765	0.854193	0.00586356	98.76
70-4L	5	14.991	28.7794	3.14772	11.6118	1.79779	1.31372	0.627609	31.1328	0.425371	2.01232	0.08856	0.0874386	1.03908	0.467647	0.850187	1.07E-08	98.37
70-4L	6	14.5627	27.8087	3.03582	11.5597	1.60531	1.42322	0.627447	30.9588	0.423698	2.87382	0.0990511	0.14015	1.2108	0.633578	0.754249	0.0170628	97.73
70-4L	7	14.861	28.4252	3.22114	11.9115	1.69403	1.31821	0.55979	31.1852	0.505336	2.01937	0.0616491	0.0899296	0.999975	0.513039	0.90686	0.00631465	98.28
70-4L	8	14.1068	27.6864	3.0509	11.3769	1.68141	1.27789	0.568113	31.3029	0.716153	3.56408	0.131392	0.0889687	1.34163	0.899735	0.665831	0.0211011	98.48
70-4L	9	13.9695	27.1263	2.95179	11.2227	1.6505	1.3763	0.539222	31.269	0.694958	3.65146	0.117863	0.0933298	1.45073	0.911649	0.6483	0.00998835	97.68
70-4L	10	14.264	27.6089	3.16003	11.7544	1.85029	1.45991	0.557359	31.2919	0.696157	3.06136	0.113775	0.0965968	1.30148	0.823875	0.744458	1.06E-08	98.78
70-4L	11	14.158	28.0362	3.21289	11.8341	1.86125	1.34596	0.53446	31.0465	0.761607	2.54114	0.109541	0.089924	1.15562	0.699721	0.911474	0.0161559	98.31
70-4L	12	14.8933	28.4344	3.21182	11.7419	1.7695	1.46804	0.559128	31.1523	0.55638	2.20435	0.0900228	0.0994769	1.18071	0.583225	0.807403	0.00865589	98.76
70-4L	13	13.8529	27.4685	3.04619	11.7895	1.85244	1.62605	0.657716	31.1298	0.714165	2.79515	0.110568	0.102202	1.38039	0.732859	0.767856	1.07E-08	98.03
70-4L	14	14.119	27.5556	3.01405	11.9312	1.92391	1.66166	0.643515	31.1433	0.852992	2.58038	0.119101	0.0952613	1.42085	0.712943	0.793017	0.00586188	98.57
70-4L	15	14.3416	27.6703	3.09795	12.0356	1.84223	1.50989	0.632926	31.0723	0.748729	1.64719	0.0853606	0.0909316	1.39924	0.527561	0.855328	1.07E-08	97.56
70-4L2	1	14.113	26.787	3.03498	11.7176	1.64519	1.26235	0.622906	31.1937	0.557129	3.9453	0.134874	0.1483	1.34396	0.934802	0.681656	0.021097	98.14
70-4L2	2	13.7832	27.6068	3.00971	11.7322	1.73008	1.4817	0.689225	31.2164	1.07085	2.4394	0.133254	0.106518	1.35138	0.74725	0.865136	0.0132086	97.98
70-4L2	3	13.9328	27.7031	3.12478	11.2839	1.92251	1.43316	0.725932	31.1457	1.21071	2.15977	0.127643	0.0787899	1.47599	0.712791	0.820148	0.00586277	97.86

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
70-4L2	4	13.3494	26.5718	3.07512	11.4286	1.94251	1.57208	0.730705	31.1734	1.17182	2.92139	0.145722	0.0998767	1.49853	0.876781	0.856247	1.07E-08	97.41
70-4L2	5	14.8255	28.0418	3.34756	11.7286	1.74007	1.34782	0.55817	31.0424	0.679337	2.08352	0.107304	0.0645581	1.13416	0.630269	0.829549	0.0177615	98.18
70-4L2	6	14.131	27.6234	2.86816	11.2601	1.56294	1.34803	0.631485	31.1416	0.703459	3.51793	0.131228	0.106125	1.53416	0.900047	0.648504	0.0118056	98.12
73b-1L	1	13.1479	26.8453	2.80984	11.3487	1.56647	1.23357	0.552972	29.254	0.688827	5.40953	0.168271	0.566547	1.08887	1.0549	0.592985	1.05519E-08	96.33
73b-1L	2	13.259	26.8439	2.92465	11.2928	1.65637	1.42467	0.561455	29.3202	0.796654	4.9299	0.164963	0.448101	1.31171	1.00834	0.613536	0.0121965	96.57

1.9 Avardo gneiss monazite EMP results

	QUANT																	
	POINT	LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
37d-1L	1	14.391	26.939	2.90498	11.3492	1.64426	1.45111	0.689399	31.1247	0.356838	4.09196	0.11219	0.410138	1.42424	1.11881	0.813666	0.248143	99.07
37d-1L	2	14.4686	27.2149	2.86467	11.0166	1.53834	1.3719	0.614602	31.0508	0.343047	4.13688	0.10385	0.260229	1.38667	1.10055	0.830916	0.280961	98.58
37d-1L	3	14.2637	26.6633	2.79043	10.8281	1.60081	1.41719	0.622646	30.8463	0.329496	4.47352	0.126135	0.310089	1.37591	1.18647	0.865216	0.340426	98.04
37d-1L	4	14.3396	26.7226	3.04257	11.027	1.62869	1.4632	0.545835	30.7971	0.337382	3.92498	0.110248	0.279361	1.40643	1.1478	0.872674	0.307424	97.95
51b-1L	1	13.9422	28.0982	3.0322	11.5107	1.69908	1.26952	0.520903	30.7042	0.405246	3.76506	0.121176	0.26353	1.33973	0.90989	0.848965	0.144712	98.58
51b-1L	2	14.3032	27.9929	3.15593	11.8089	1.82509	1.2431	0.481951	30.6696	0.360728	3.11296	0.101934	0.193915	1.22962	0.750993	0.816387	0.152228	98.20
51b-1L	3	14.5209	27.8745	3.07877	11.9633	1.83619	1.34069	0.50957	30.8302	0.407209	3.2987	0.10383	0.21522	1.24621	0.800412	0.813519	0.200967	99.04
51b-1L	4	13.6064	27.2258	3.12559	11.5224	1.63489	1.48417	0.573146	30.7782	0.503957	4.64302	0.117943	0.28956	1.33156	1.15616	0.808989	0.21771	99.02
51b-1L	5	13.7169	27.5698	3.13252	11.6129	1.70531	1.31609	0.56727	30.493	0.396934	4.32859	0.143336	0.278522	1.26263	0.933701	0.863626	0.145879	98.47
51b-1L	6	14.0816	27.6558	3.04387	12.0254	1.91985	1.42733	0.565641	30.5796	0.420489	3.15718	0.102611	0.188147	1.31242	0.770635	0.788249	0.155968	98.19
51b-1L2	1	14.6808	28.255	3.19	11.8617	1.828	1.28321	0.469309	30.59	0.36418	2.90814	0.0966235	0.188514	1.19084	0.773237	0.814995	0.136994	98.63
51b-1L2	2	14.0863	28.1925	3.13997	11.7494	1.7336	1.22383	0.51667	30.6787	0.336344	3.5293	0.115332	0.170107	1.39193	0.92022	0.875101	0.198128	98.86
51b-1L2	3	14.0118	28.1559	3.07152	11.633	1.69796	1.25777	0.536754	30.7278	0.333825	3.48852	0.117466	0.13762	1.42815	0.953935	0.848732	0.246537	98.65
51b-1L2	4	14.0191	27.2242	2.9951	11.623	1.76535	1.31329	0.577388	30.7379	0.263172	3.64274	0.106087	0.113222	1.53892	0.98748	0.794557	0.228702	97.93
51b-1L2	5	14.2881	27.4079	3.01058	11.5513	1.65817	1.29805	0.521073	30.4436	0.300036	3.78781	0.120176	0.177374	1.52863	1.02253	0.839235	0.278956	98.23
51b-1L2	6	14.3621	27.8771	2.96595	11.4055	1.70217	1.23789	0.607661	30.3051	0.286104	3.49367	0.11058	0.251456	1.38945	0.980968	0.79156	0.303498	98.07
51b-4L	1	15.1938	28.9214	3.14581	11.8138	1.54953	1.17778	0.253446	29.414	0.328715	3.97357	0.0856438	0.187835	0.46026	0.970244	0.832028	0.0500599	98.36
51b-4L	2	15.3118	28.8363	3.13144	11.4766	1.56526	1.13919	0.318732	29.4173	0.374547	3.81451	0.112695	0.178768	0.488452	0.911801	0.744492	0.0534543	97.88
51b-4L	3	15.5779	28.7406	3.08419	11.7176	1.59189	1.08974	0.368696	29.3355	0.430218	3.70836	0.109584	0.166935	0.503593	0.88666	0.68964	0.0753324	98.08
51b-4L	4	15.0085	29.3942	3.16953	11.7363	1.58283	1.17579	0.384708	29.3945	0.412305	3.84818	0.141646	0.193252	0.495166	0.926879	0.736678	0.0667569	98.67
51b-4L	5	15.0998	28.9528	3.08196	11.5048	1.72131	1.23809	0.440146	29.3764	0.157549	3.68628	0.10082	0.227049	0.737426	0.825361	0.721605	0.0619459	97.93
51b-4L	6	15.0753	29.0966	3.14451	11.8354	1.83371	1.25834	0.374422	29.286	0.161536	3.5589	0.10064	0.179196	0.821305	0.784116	0.708317	0.0468259	98.27
51b-4L	7	15.7196	28.9376	2.98969	11.4345	1.52152	1.13177	0.304237	29.2209	0.36707	3.30098	0.0999593	0.153968	0.482817	0.764962	0.768786	1.0571E-08	97.20
51b-4L	8	15.7448	28.8096	3.04546	11.2572	1.60775	1.17415	0.419518	29.3665	0.516611	3.33287	0.13356	0.163311	0.573999	0.780254	0.728402	0.00447033	97.66
51b-4L	9	15.4508	28.9055	3.05445	11.5109	1.60282	1.27524	0.315193	28.992	0.624556	3.22136	0.113922	0.219835	0.484727	1.0238	0.850087	0.390092	98.04

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
51b-4L	10	15.7234	27.8569	2.86347	11.2558	1.79949	1.37106	0.343751	28.8771	0.759463	3.59896	0.142314	0.195053	0.532057	1.27958	0.823638	0.534222	97.96
51b-4L	11	15.551	28.8815	3.00681	11.3078	1.57534	1.21893	0.316798	29.1447	0.596818	3.19123	0.116531	0.190809	0.700722	0.784562	0.77986	0.0810968	97.44
51b-4L	12	15.6051	29.4869	3.02394	11.484	1.5042	1.05325	0.29283	29.0863	0.478878	3.29393	0.106423	0.153069	0.544508	0.76066	0.80212	0.0200879	97.70
51b-4L	13	15.9298	29.2294	3.01448	11.4055	1.5351	1.04125	0.230029	29.1511	0.480875	3.21353	0.112624	0.148741	0.529523	0.762555	0.767968	0.00201024	97.55
51b-4L2	1	15.1388	29.3092	3.02204	11.5221	1.60247	1.14608	0.382895	29.2225	0.407099	3.73115	0.105238	0.177188	0.502206	0.918723	0.727004	0.0690214	97.98
51b-4L2	2	15.4869	28.5154	3.07273	11.4694	1.55543	1.26671	0.383652	29.1556	0.232875	3.76246	0.106341	0.199899	0.584376	0.834103	0.760112	0.0632155	97.45
51b-4L2	3	15.1442	29.0625	3.12441	11.7336	1.64602	1.20286	0.441626	29.3051	0.149419	3.49176	0.0906449	0.193958	0.777238	0.797247	0.785627	1.0589E-08	97.95
51b-4L2	4	15.6286	28.9857	2.9616	10.9976	1.55967	1.25286	0.362051	28.8762	0.643303	3.48742	0.129449	0.208589	0.475033	1.11064	0.840609	0.416941	97.94
51b-4L2	5	15.9227	28.8699	3.06235	11.235	1.57741	1.24327	0.329737	28.864	0.605232	3.27385	0.115946	0.197525	0.412183	1.12513	0.844144	0.52094	98.20
51b-4L2	6	15.8451	28.9034	3.08593	11.4053	1.63605	1.17327	0.381985	28.912	0.53119	2.98443	0.119725	0.190494	0.456532	0.961136	0.785812	0.374914	97.75
51b-4L2	7	15.5514	29.0486	3.16259	11.5131	1.61583	1.0722	0.363389	29.0934	0.295148	3.45468	0.0995712	0.177536	0.620867	0.748529	0.766711	0.0320741	97.62
52-1L	1	14.1755	27.7288	2.87912	11.4824	1.91083	1.69021	0.689687	32.0176	0.290983	3.37512	0.0646179	0.185852	1.53026	1.06674	0.903184	0.495806	100.49
52-1L	2	14.2257	27.9428	3.0182	11.5619	1.92528	1.77417	0.702516	31.6811	0.248805	2.68001	0.090815	0.118615	1.53309	0.944082	0.802816	0.4914	99.74
52-1L	3	14.2788	27.849	3.08733	11.4937	1.92295	1.69186	0.716716	31.293	0.24907	2.49176	0.085251	0.104404	1.53119	0.934952	0.940132	0.503128	99.17
52-1L	5	14.3033	28.5888	3.08198	12.9905	2.49054	1.96107	0.571871	30.4722	0.282703	0.939355	0.0425485	0.103888	1.14116	0.612736	1.01168	0.430647	99.02
52-1L	6	13.3656	28.2036	3.26143	13.8287	2.68841	2.00378	0.55212	30.2465	0.294947	0.794801	0.0493322	0.0707003	1.09278	0.55673	1.05302	0.425145	98.49
52-1L	7	14.6942	29.0717	3.23142	11.7507	1.87459	1.69469	0.73938	30.3863	0.291433	1.01197	0.049349	0.0724543	1.48024	0.595922	0.963014	0.390271	98.30
52-1L	9	14.7933	29.2952	3.169	11.8838	1.87038	1.70383	0.656188	30.1245	0.318169	1.03412	0.0538542	0.0900514	1.39924	0.627444	0.945609	0.445082	98.41
52-1L	10	14.3555	27.9634	3.05667	11.2107	1.83073	1.54083	0.660757	29.9591	0.30913	2.30167	0.0873041	0.113949	1.47351	0.868913	0.913162	0.459731	97.11
52-4L	1	13.9592	27.0077	3.11293	11.5034	1.92506	1.53639	0.717761	31.4314	0.258011	3.3928	0.0822134	0.169669	1.51156	1.10558	0.771651	0.500575	98.99
52-4L	2	14.1514	27.6376	3.0411	11.636	1.9398	1.54187	0.753583	31.3985	0.232967	2.55205	0.0713922	0.109042	1.47797	0.906204	0.932284	0.436279	98.82
52-4L	3	14.0133	27.4178	2.98488	11.6092	1.78926	1.64142	0.687558	31.5722	0.231983	2.49545	0.0672024	0.106921	1.53162	0.923082	0.926083	0.504579	98.50
52-4L	4	13.1186	26.1274	3.01467	12.8859	2.95408	2.64235	0.937957	31.4459	0.351832	1.64748	0.0747489	0.122745	1.62173	0.712051	1.02218	0.353148	99.03
52-4L	5	13.0886	26.7198	3.13384	12.6431	2.59922	2.14618	0.765728	31.2795	0.31034	2.94174	0.082768	0.158362	1.48414	0.886865	0.994609	0.364324	99.60
52-4L	6	15.2421	29.8066	3.16628	12.2317	1.46171	0.62187	0.197185	30.9729	0.182888	3.3888	0.0810011	0.31303	0.297623	0.867825	0.903413	0.357496	100.09
52-4L	7	15.0843	29.874	3.21462	12.6234	1.542	0.538032	0.141987	30.9201	0.186845	2.71696	0.0738179	0.223664	0.290182	0.857232	0.951327	0.476466	99.71
52-4L2	1	13.6848	26.6924	3.05216	12.3515	2.58662	2.40451	0.822625	31.5002	0.3412	1.7459	0.06879	0.12765	1.70435	0.775404	1.00495	0.418665	99.28
52-4L2	2	12.9384	26.0378	3.07236	12.9203	2.95227	2.65133	0.901168	31.4287	0.330406	1.67382	0.0571045	0.12692	1.64256	0.671717	0.983179	0.366576	98.75
52-4L2	3	12.6326	25.8583	3.03447	12.6946	3.00447	2.74111	0.976114	31.2549	0.385261	1.83407	0.0895558	0.120837	1.82824	0.735598	1.07834	0.373531	98.64

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
52-4L2	4	13.029	26.4458	3.15076	12.5327	2.35315	2.17843	0.849433	31.211	0.304273	2.60316	0.0816122	0.155104	1.54691	0.883887	0.945677	0.386197	98.66
52-4L2	5	14.6613	28.3476	3.0727	12.4318	1.82998	1.14605	0.337601	30.7367	0.195035	3.62657	0.0843753	0.387201	0.681191	0.813395	0.934444	0.318014	99.60
52-4L2	6	14.0539	28.0694	3.08924	12.5035	2.04285	1.16337	0.419659	30.75	0.174397	3.57129	0.0772635	0.34952	0.733302	0.83507	0.958517	0.377547	99.17
52-4L2	7	13.9903	27.9435	3.09584	12.6724	1.96349	1.17506	0.37827	30.63	0.14435	3.99988	0.113426	0.411846	0.72529	0.812301	0.874779	0.282518	99.21
52-4L2	8	14.1949	27.7627	2.97466	12.1272	1.76524	1.16371	0.375534	30.5793	0.204859	4.76046	0.121007	0.457305	0.690793	0.981578	0.935728	0.314151	99.41
52-4L2	9	13.8924	27.3742	3.13382	11.7792	1.69599	1.09211	0.366753	30.3831	0.205658	5.36912	0.124623	0.580537	0.676347	1.0162	0.8556	0.34107	98.89
52-4L2	10	14.4074	27.4533	3.09653	11.8261	1.61015	1.01759	0.275655	30.443	0.169894	5.27314	0.120167	0.548135	0.675125	1.0315	0.83239	0.35395	99.13
52-4L2	11	14.2274	28.2989	3.00769	12.0936	1.82737	1.07808	0.378101	30.4665	0.175387	4.09816	0.110349	0.47548	0.749997	0.864098	0.877078	0.310407	99.04
52c-2L	1	15.0827	27.7513	2.74775	10.9294	1.53233	1.40824	0.600988	30.1931	0.244081	3.61547	0.0921515	0.2219	1.3452	1.06314	0.844322	0.414665	98.09
52c-2L	2	16.1461	28.7749	2.92549	10.2424	1.12121	0.564541	0.09227	29.15	0.324195	4.39515	0.0997512	0.376533	3.63E-09	1.81904	0.738188	1.24074	98.01
52c-2L	3	16.4049	28.9793	2.85887	10.3282	1.15416	0.59093	0.027401	29.2796	0.320563	4.40575	0.117	0.292149	0.002388	1.87574	0.782396	1.33103	98.75
52c-2L	4	15.8364	29.0845	2.79353	9.87909	1.13815	0.539506	0.038034	28.9911	0.320408	4.37809	0.100395	0.288338	3.62E-09	2.25429	0.766967	1.74914	98.16
52c-2L	5	16.1879	28.5289	2.7193	9.88913	1.13753	0.484525	0.115689	28.9449	0.324585	4.40748	0.112667	0.268969	0.006302	2.26664	0.777193	1.82504	98.00
52c-2L	6	16.1475	28.9069	2.88893	10.1658	1.16388	0.492526	0.034433	28.931	0.319164	4.38773	0.0858895	0.28826	3.62E-09	2.0763	0.714439	1.54898	98.15
52c-2L	7	16.2995	29.0424	2.81377	10.2077	1.11692	0.593695	0.136257	29.0446	0.306274	4.35581	0.110403	0.263049	3.62E-09	2.21797	0.759845	1.731	99.00
52c-2L	8	15.8726	28.8228	2.84366	10.0823	1.09417	0.523674	0.084197	28.5749	0.313289	4.28416	0.0904734	0.312316	3.62E-09	2.21099	0.75494	1.74958	97.61
52c-2L	9	16.3675	28.6709	2.71885	10.048	1.07348	0.552752	3.38E-09	28.8741	0.283358	4.35893	0.104784	0.266483	3.62E-09	2.2925	0.738895	1.83186	98.18
52c-2L	10	15.9831	28.1131	2.77676	10.1086	1.14333	0.486224	0.000505	28.7474	0.321355	4.38937	0.100761	0.274002	3.61E-09	2.35974	0.704962	1.90286	97.41
52c-2L	11	16.2736	28.1124	2.69617	10.2024	1.14732	0.463278	0.083195	28.6975	0.329473	4.43302	0.10924	0.265585	0.004522	2.2918	0.756725	1.79788	97.66
52c-2L	12	16.1138	28.839	2.86625	10.0127	1.18968	0.487836	0.021306	28.8687	0.317417	4.44263	0.106213	0.270974	3.62E-09	2.23237	0.721559	1.7169	98.21
52c-2L	13	16.0082	28.8184	2.85058	10.0235	1.16176	0.548819	0.067718	28.7721	0.338939	4.39823	0.107671	0.278007	3.62E-09	2.19798	0.774884	1.67095	98.02
52c-2L	14	16.0499	28.6764	2.75928	10.1039	1.19234	0.511773	0.096922	28.8594	0.343226	4.40458	0.101781	0.266869	3.62E-09	2.16266	0.770978	1.64759	97.95
52c-2L	15	16.2821	28.9378	2.86316	10.116	1.29309	0.467304	0.104145	28.8072	0.31545	4.29308	0.0882361	0.241407	3.62E-09	2.22301	0.706724	1.79718	98.54
52c-2L	17	16.0274	28.6875	2.73975	10.1065	1.02481	0.503851	0.032178	28.7332	0.325871	4.30645	0.111916	0.243574	3.61E-09	2.34162	0.716649	1.9703	97.87
52c-2L	18	16.0692	28.2369	2.8835	10.0402	1.14317	0.51555	0.016342	28.728	0.3407	4.29959	0.0923039	0.248459	3.62E-09	2.32185	0.783047	1.94563	97.66
52c-2L	19	16.4736	28.0582	2.74902	10.0507	1.09122	0.543128	3.38E-09	28.6104	0.297655	4.25375	0.0939476	0.226155	3.62E-09	2.33541	0.738175	2.00298	97.52
52c-2L	20	16.1845	29.4535	2.82218	10.0814	1.32808	0.515693	0.176393	29.0584	0.309069	4.31211	0.108265	0.257956	3.63E-09	2.07195	0.714019	1.49513	98.89
52c-2L	21	16.2746	29.1291	2.8017	10.0619	1.09591	0.528425	0.007523	28.8889	0.329217	4.32889	0.102038	0.272166	3.63E-09	2.00165	0.719042	1.53218	98.07
52c-2L	22	15.9269	28.7084	2.88779	10.1486	1.11501	0.530579	0.036854	28.8964	0.318067	4.50025	0.118311	0.287416	3.62E-09	2.0893	0.773186	1.59756	97.93

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
52c-2L	23	16.0634	28.9915	2.92384	10.1126	1.1927	0.600091	0.111205	28.7896	0.320665	4.51578	0.101261	0.28112	3.63E-09	2.1342	0.708016	1.63817	98.48
52c-2L	24	16.216	28.7426	2.8508	10.1145	1.18743	0.462863	0.00063	28.7282	0.329875	4.50769	0.106313	0.273887	3.62E-09	2.22454	0.78622	1.71329	98.24
52c-2L	25	16.1452	29.0755	2.88475	10.1209	1.08277	0.47569	0.023078	28.7505	0.342277	4.45832	0.103875	0.290003	3.62E-09	2.11637	0.749493	1.58756	98.21
52c-2L	26	16.1105	28.7791	2.72422	10.1108	1.09992	0.583395	0.011599	28.6357	0.318887	4.52653	0.108518	0.286071	3.62E-09	2.08968	0.761105	1.55482	97.70
52c-2L	27	16.3297	28.8679	2.82803	10.0844	1.23044	0.499765	0.02181	28.6292	0.353092	4.53306	0.106404	0.28583	3.62E-09	2.24159	0.732176	2.0018	98.75
52c-2L	28	16.2205	29.2135	2.79041	10.0211	1.17226	0.484552	0.115547	28.9067	0.317733	4.44573	0.0926297	0.287838	0.008882	2.0636	0.778149	1.52597	98.45
52c-2L	29	14.8961	27.8717	2.80131	10.5083	1.45982	1.40752	0.594129	29.7799	0.243555	4.15745	0.0946027	0.234071	1.09028	1.20862	0.870267	0.515387	97.73
52c-2L	30	14.8188	27.3472	2.8659	10.2189	1.60915	1.59738	0.788321	30.0354	0.208214	3.87895	0.0997065	0.158401	1.41348	1.21353	0.77714	0.534592	97.57
61-1L	1	14.3189	27.2241	3.02373	10.888	1.49077	1.3151	0.727581	30.4248	0.506973	3.14483	0.111775	0.144255	1.66665	1.19753	0.853947	0.531082	97.57
61-1L	2	14.0539	26.9824	2.95138	10.6975	1.56847	1.28051	0.704727	31.0029	0.45786	3.11613	0.106961	0.126559	1.64794	1.18952	0.876409	0.602137	97.37
61-1L	3	13.9765	26.628	2.93942	10.6872	1.58806	1.35817	0.682377	30.8172	0.450603	3.04394	0.107967	0.144756	1.63276	1.04503	0.850699	0.551945	96.50
61-1L	4	14.499	26.6083	2.98654	10.7791	1.51377	1.30705	0.694225	30.5941	0.496586	2.98345	0.114974	0.134442	1.63233	1.01349	0.883755	0.54186	96.78
61-1L	5	14.1207	26.574	2.91111	10.6239	1.52416	1.33425	0.637095	30.3502	0.467079	2.96446	0.100482	0.168091	1.65954	0.977047	0.892325	0.514414	95.82
64-1L	1	13.1632	26.6744	2.9721	11.9233	1.89731	1.65862	0.625542	30.1161	0.352762	4.44772	0.103554	0.24233	1.41244	1.04531	0.852275	0.0927856	97.58
64-1L	2	13.0299	27.0092	3.10708	12.0382	2.03875	1.63586	0.635693	30.0123	0.374432	4.31781	0.118031	0.270078	1.35802	0.959811	0.834486	0.106882	97.85
64-1L	3	13.6315	27.2564	3.09697	11.7096	1.68174	1.02771	0.397726	29.4419	0.306875	5.80848	0.13306	0.465802	0.776108	1.14658	0.852761	0.11903	97.85
64-1L	4	13.6401	27.7758	3.04512	11.6801	1.74853	0.99516	0.329503	29.483	0.278378	5.77546	0.137405	0.465713	0.684759	1.10959	0.755525	0.143935	98.05
64-1L	5	13.9174	28.7253	3.25921	12.2713	1.87508	1.15603	0.3907	29.893	0.2694	3.89868	0.101452	0.274513	0.73975	0.837962	0.822007	0.115864	98.55
64-1L	6	13.4263	27.6902	3.08748	12.024	1.77965	1.04169	0.317763	29.2923	0.297749	5.65004	0.129479	0.453651	0.674428	1.092	0.844055	0.108928	97.91
64-1L	7	13.2237	27.5499	2.9884	11.7652	1.74739	0.995874	0.325686	29.3343	0.347088	6.16835	0.152733	0.493465	0.693533	1.20426	0.780444	0.158826	97.93
64-1L	8	13.4727	28.0954	3.06211	12.1688	1.97697	1.42718	0.45531	29.7587	0.317252	4.05236	0.115216	0.249271	1.02818	0.898853	0.869938	0.120302	98.07
64-1L	9	13.4147	27.53	3.15076	12.0166	1.82928	1.11691	0.429845	29.3729	0.297965	5.819	0.130284	0.453193	0.73155	1.11584	0.815274	0.148322	98.37
64-1L	10	13.2648	26.6494	3.05002	11.7005	1.83924	1.13426	0.448137	29.1878	0.353078	6.50951	0.158024	0.514428	0.814774	1.34304	0.791992	0.181916	97.94
64-1L	11	13.5723	27.7507	3.22011	12.4522	2.02304	1.40869	0.538223	29.6745	0.360363	4.0361	0.117047	0.240585	1.04793	0.960831	0.864406	0.100147	98.37
64-1L	12	13.4504	28.1971	3.09187	12.3069	1.93741	1.26398	0.447483	29.5145	0.296914	3.91577	0.11544	0.275992	0.925346	0.942351	0.862324	0.146735	97.69
64-1L	13	13.7118	27.5992	3.02433	12.1221	1.88372	1.08496	0.33643	29.3283	0.31689	5.07604	0.11796	0.368469	0.737745	1.11107	0.816064	0.121039	97.76
64-1L	14	13.5893	27.7618	3.08103	12.3103	1.92224	1.22349	0.391756	29.4075	0.284293	4.43162	0.124955	0.314629	0.886178	0.993491	0.818178	0.106471	97.65
64-1L	15	14.2085	27.7058	3.08031	11.432	1.72433	1.25652	0.525021	29.6518	0.210523	3.71571	0.0881351	0.194619	1.35859	1.13181	0.817753	0.384533	97.49
64-1L2	1	14.3012	27.1755	2.96574	10.8556	1.52694	1.2955	0.692583	30.1294	0.214146	4.32753	0.110811	0.152948	1.6437	1.32133	0.794772	0.477484	97.99

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
64-1L2	2	13.9151	26.9021	2.91864	11.3529	1.59745	1.30275	0.620246	30.042	0.143795	4.45006	0.109386	0.192079	1.59843	1.35774	0.788705	0.552522	97.84
64-1L2	3	13.3493	26.5278	2.93959	11.3152	1.72448	1.47285	0.662166	30.0216	0.156165	4.55488	0.104107	0.167714	1.7395	1.45088	0.751312	0.610367	97.55
64-1L2	4	13.9153	26.8626	2.85023	11.0903	1.61522	1.34771	0.635872	30.0029	0.310056	4.39265	0.114569	0.151973	1.57215	1.17909	0.782664	0.295222	97.12
64-1L2	5	13.3129	27.4172	3.07784	11.7915	1.81009	1.1398	0.423112	29.3514	0.28041	5.39205	0.129762	0.43334	0.77978	1.08868	0.767865	0.144683	97.34
64-1L2	6	13.7479	27.6193	3.0448	11.8225	1.87965	1.06881	0.376016	29.2567	0.282311	5.564	0.140327	0.438049	0.692035	1.1002	0.804003	0.161363	98.00
64-1L2	7	13.4484	27.6664	3.09248	12.1483	1.92243	1.01216	0.350292	29.4816	0.321637	5.05093	0.117354	0.379283	0.746755	1.04268	0.837891	0.161696	97.78
64-1L2	8	13.7796	27.5424	3.08626	11.9361	1.7117	1.20706	0.462031	29.6367	0.275799	5.28484	0.11438	0.329686	1.07699	1.11832	0.770387	0.167141	98.50
64-1L2	9	14.0661	27.2189	2.92855	11.3226	1.59489	1.37876	0.688582	29.8224	0.284659	3.90826	0.107883	0.143347	1.53015	1.06921	0.816319	0.284523	97.17
64-1L2	10	13.669	27.3405	3.04735	11.2808	1.63236	1.365	0.636673	30.0053	0.234296	3.85366	0.105431	0.147856	1.57375	1.11966	0.795219	0.2976	97.10
64-1L2	11	14.0013	27.3415	3.15639	11.2086	1.64536	1.37322	0.779712	29.9359	0.250646	3.89844	0.109434	0.150764	1.53713	1.14482	0.801164	0.336861	97.67
64-4L	1	13.885	27.5742	3.122	12.1607	1.82051	1.60031	0.657175	30.5683	0.116868	3.2049	0.0922757	0.121857	1.32794	1.01779	0.893727	0.394908	98.56
64-4L	2	14.0709	27.2064	2.84222	11.0225	1.68002	1.37974	0.743731	30.6248	0.241783	3.87592	0.116977	0.137952	1.74783	1.25146	0.772709	0.55724	98.27
64-4L	3	14.4656	27.6566	2.90662	11.0656	1.6374	1.45225	0.67077	30.6476	0.352543	3.55096	0.116223	0.139449	1.55577	1.01785	0.785285	0.34307	98.36
64-4L	4	14.6856	27.3593	3.10365	11.1331	1.4932	1.38929	0.64785	30.537	0.361487	3.56035	0.110433	0.171722	1.47809	0.907877	0.857923	0.225567	98.02
64-4L	5	14.3952	27.592	2.91337	11.4022	1.66527	1.36957	0.690551	30.6089	0.375827	3.39165	0.108476	0.157038	1.4606	0.888589	0.889296	0.205345	98.11
64-4L	6	14.3575	27.8225	3.18202	11.2287	1.72559	1.44123	0.563079	30.6021	0.423738	3.42157	0.0888533	0.171015	1.46093	0.853769	0.885649	0.166702	98.39
64-4L	7	14.8945	28.5946	3.0085	11.0852	1.57025	1.22795	0.566934	30.4567	0.291964	3.2546	0.0939197	0.17845	1.07335	0.789796	0.82402	0.162813	98.07
64-4L	8	14.762	28.3953	3.07622	11.2221	1.66532	1.23733	0.529365	30.5249	0.393782	3.42376	0.109321	0.168318	1.23079	0.882926	0.825687	0.210583	98.66
64-4L	9	14.325	27.5133	2.88857	11.5144	1.59448	1.43279	0.647444	30.5435	0.221702	3.51004	0.108216	0.139095	1.5235	1.06535	0.845075	0.393758	98.27
64-4L	10	13.6356	27.4206	3.02608	11.9947	1.92442	1.56448	0.679265	30.6779	0.121019	3.13596	0.067513	0.132342	1.51621	1.07906	0.921412	0.555262	98.45
64-4L	11	13.609	26.6538	3.11842	11.7787	1.89086	1.70536	0.689756	30.5628	0.0918052	3.77785	0.0855426	0.147234	1.40655	1.15119	0.852948	0.491467	98.01
64-4L	12	13.8667	26.8294	3.06133	11.7907	2.00897	1.65212	0.625745	30.7258	0.123656	4.00321	0.0940728	0.132037	1.48646	1.18546	0.874385	0.427159	98.89
64-4L	13	13.6981	26.3715	2.86302	11.9042	1.93285	1.66511	0.665849	30.5971	0.129636	4.17962	0.0936198	0.160068	1.49865	1.17378	0.836063	0.395379	98.16
64-4L	14	13.4611	26.9553	2.85919	11.9767	1.92861	1.52993	0.635193	30.7049	0.146063	4.28	0.120021	0.164816	1.41169	1.17147	0.855635	0.365855	98.57
64-4L	15	13.5902	27.0199	3.00975	11.9669	1.91713	1.51829	0.613692	30.7525	0.108515	4.43778	0.105057	0.171208	1.29676	1.12499	0.824556	0.27348	98.73
68-3L	1	13.3463	27.2758	2.94062	12.0644	1.88047	1.41483	0.712392	31.4438	0.267401	3.3395	0.107368	0.156385	1.56947	1.18398	0.899647	0.484905	99.09
68-3L	2	13.2015	27.2102	2.92534	12.1914	1.80384	1.47238	0.612349	31.3951	0.240298	3.24894	0.102213	0.130256	1.56161	1.10802	0.895437	0.466266	98.57
68-3L	3	13.154	27.4467	2.96505	11.93	1.86433	1.43028	0.569222	31.2416	0.250695	3.35824	0.102462	0.128821	1.55714	1.10401	0.905987	0.488214	98.50
68-3L	4	13.5134	27.3845	3.07022	11.9776	1.88555	1.43825	0.616734	31.2742	0.232364	3.36671	0.0883553	0.11802	1.55211	1.10541	0.919865	0.463659	99.01

		LA-L	CE-L	PR-L	ND-L	SM-L	GD-L	DY-L	P-K	U-M	TH-M	PB-M	SI-K	Y-L	CA-K	EU-L	S-K	
		Compound	Compound	Compound	Compound	Co mpound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
68-3L	5	13.5166	27.6285	2.98221	12.1305	1.74841	1.45662	0.582606	31.3686	0.256609	3.19262	0.09903	0.140478	1.48691	1.07727	0.937201	0.499152	99.10
68-3L	6	13.5821	27.2299	3.11681	11.9426	1.86843	1.44921	0.673226	31.3454	0.264531	3.23273	0.0844799	0.108609	1.46452	1.11711	0.907587	0.436495	98.82
68-3L	7	13.5845	27.2287	2.89171	12.2408	1.74747	1.3232	0.569373	31.1079	0.244192	3.13297	0.108592	0.121181	1.46822	1.09261	0.907594	0.487906	98.26
68-3L	8	13.2583	27.5123	3.04207	11.8567	1.8699	1.50506	0.654324	31.2362	0.25059	3.20295	0.084826	0.140103	1.55756	1.12751	0.973767	0.462157	98.73
68-3L	9	13.1777	27.3642	3.02866	12.0044	1.77982	1.56717	0.61936	31.113	0.25629	3.17088	0.0947576	0.141387	1.55678	1.15987	0.938421	0.47893	98.45
68-4L	1	14.3481	28.516	3.10023	11.8159	1.60826	1.30113	0.496258	29.2917	0.264155	2.58196	0.0813304	0.145824	1.28316	0.922522	0.868615	0.486998	97.11
68-4L	2	15.3108	29.4829	3.20212	12.0624	1.85586	1.48218	0.464258	29.1442	0.277065	1.10158	0.0426885	0.10542	0.837677	0.6819	1.03025	0.518548	97.60
68-4L	3	14.4281	28.7455	3.13928	12.6504	1.94444	1.67223	0.498759	28.949	0.306691	2.08662	0.0569802	0.148667	0.731954	0.868961	0.935153	0.579144	97.74
68-4L	4	14.2414	29.3582	3.18201	12.3497	1.90729	1.4391	0.553397	29.129	0.275785	1.38694	0.0473046	0.12006	0.985059	0.62563	0.936247	0.363187	96.90
68-4L2	1	14.411	28.936	3.01404	12.0986	1.82252	1.41359	0.481229	29.3458	0.296104	1.66881	0.0634189	0.12818	1.03349	0.738479	0.932368	0.439381	96.82
68-4L2	2	14.5301	29.4236	3.18877	12.6439	1.94313	1.53267	0.422522	29.1338	0.294938	1.29862	0.0456952	0.0975859	0.916616	0.707738	1.00198	0.503527	97.69
68-4L2	3	14.3691	29.6269	3.23224	12.5483	1.89446	1.46373	0.5619	29.2709	0.256139	1.16056	0.042378	0.113975	0.874734	0.570379	0.984117	0.390016	97.36

1.10 Svartsjöbäcken schist monazite EMP results

Sample Nr	24B-5-2	24b-1-3	24b-1-4	24b-1-5	24b-1-6	24b-2-7	24b-2-8	24b-3-9	24b-4-10	24b-4-11	24b-6-12	24b-7-13	24b-7-14	24-1-15	24-1-16	24-1-17	24-2-18	24-2-19
La-L+	13.217	13.904	13.326	13.466	13.371	13.09	13.666	13.852	13.459	13.663	12.837	13.552	13.271	13.081	12.846	12.755	13.267	12.174
Ce-L+	26.563	27.43	27.222	27.948	27.856	26.695	27.559	27.872	26.643	27.131	25.113	27.617	28	26.64	26.619	27.228	27.643	24.725
Pr-L+	2.931	3.077	2.985	3.029	2.913	2.983	3.03	3.056	2.849	2.946	2.76	2.839	3.023	2.689	3.041	3.034	2.949	2.497
Nd-L+	11.529	11.531	11.646	11.672	11.656	11.696	11.844	11.86	11.281	11.676	10.6	11.808	11.612	11.958	11.992	11.97	11.53	10.806
Sm-L+	1.894	1.749	1.755	1.753	1.867	1.963	1.907	1.843	1.783	1.871	1.564	1.924	1.929	1.938	2.005	1.918	1.753	1.723
Gd-L+	1.477	1.389	1.382	1.501	1.465	1.621	1.478	1.506	1.427	1.412	1.312	1.545	1.576	1.514	1.582	1.406	1.191	1.726
Dy-L+	0.533	0.52	0.483	0.488	0.585	0.53	0.552	0.528	0.448	0.536	0.496	0.586	0.521	0.536	0.602	0.612	0.508	0.655
P-K+	30.518	30.544	30.78	30.665	30.83	31.535	31.613	31.047	30.149	30.401	30.271	31.051	30.821	29.402	30.147	30.273	30.167	30.383
U-M+	0.454	0.509	0.556	0.438	0.484	0.549	0.261	0.33	0.437	0.423	0.335	0.484	0.535	0.455	0.64	0.456	0.355	0.596
Th-M+	4.146	3.167	3.861	3.397	2.936	3.999	2.627	2.475	3.31	3.453	3.462	3.265	3.224	4.06	4.469	4.214	3.116	4.207
Pb-M+	0.124	0.116	0.116	0.099	0.077	0.129	0.074	0.096	0.096	0.088	0.091	0.107	0.094	0.125	0.135	0.128	0.081	0.121
Si-K+	0.293	0.138	0.159	0.17	0.173	0.286	0.314	0.332	1.055	0.627	3.531	0.196	0.19	0.471	0.452	0.422	0.367	0.675
Y-L+	1.001	1.02	1.099	1.021	1.016	1.051	1.092	1.002	0.978	0.973	0.909	1.062	1.061	1.123	1.272	1.237	0.867	1.318
Ca-K+	0.982	0.713	0.936	0.754	0.732	0.949	0.705	0.709	0.884	0.867	0.985	0.836	0.875	0.888	0.937	1.083	0.807	1.087
Eu-L+	0.975	1.072	1.05	1.048	1.065	0.97	0.987	1.03	0.924	1.001	0.806	1.01	1.049	0.865	0.829	0.915	0.833	0.754
S-K+	0.038	0.011	0.002	0	0.008	0.042	0.025	0.034	0.033	0.031	0.035	0.03	0	0	0.026	0.01	0.006	0.052
O-K	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

1.11 Monazite EMP graphs without low PbO values

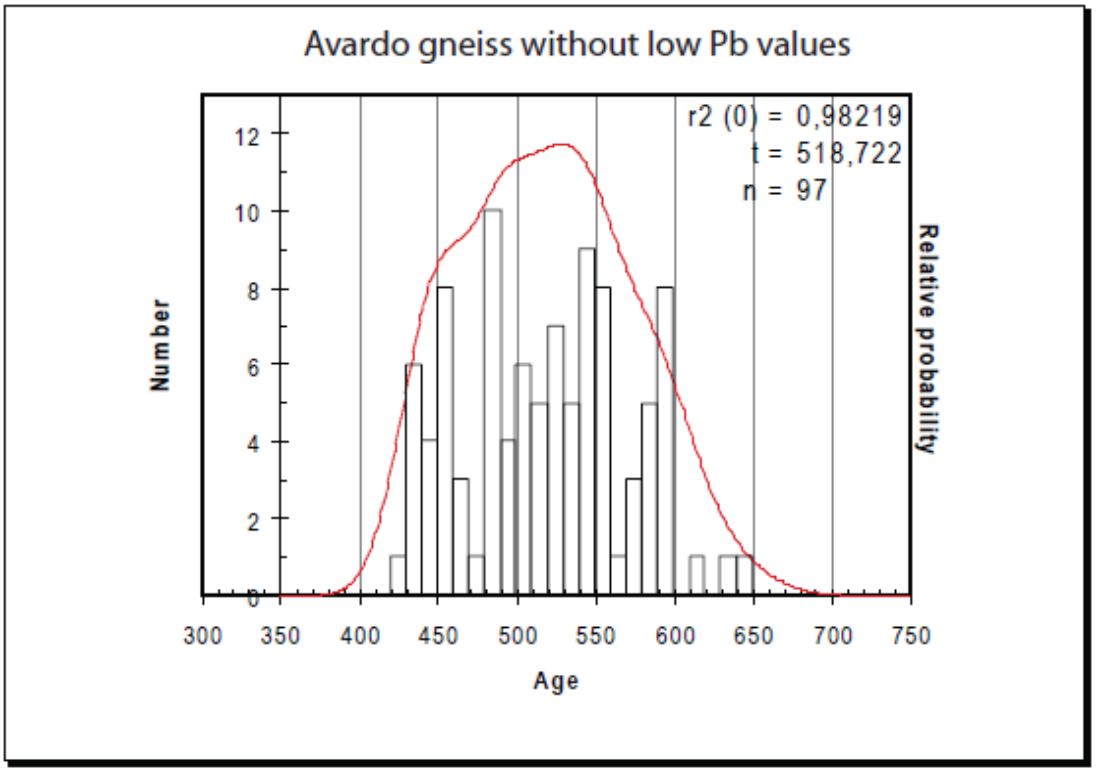

Figure 1-56 Cumulative EMP Monazite age diagram of the Avardo gneiss. All low PbO values (<0.01 wt % PbO) are deleted. Number of analysis and relative probability is plotted against different age ranges. The peak of the probability curve corresponds to the mean apparent age (t). Also the r^2 and n are given

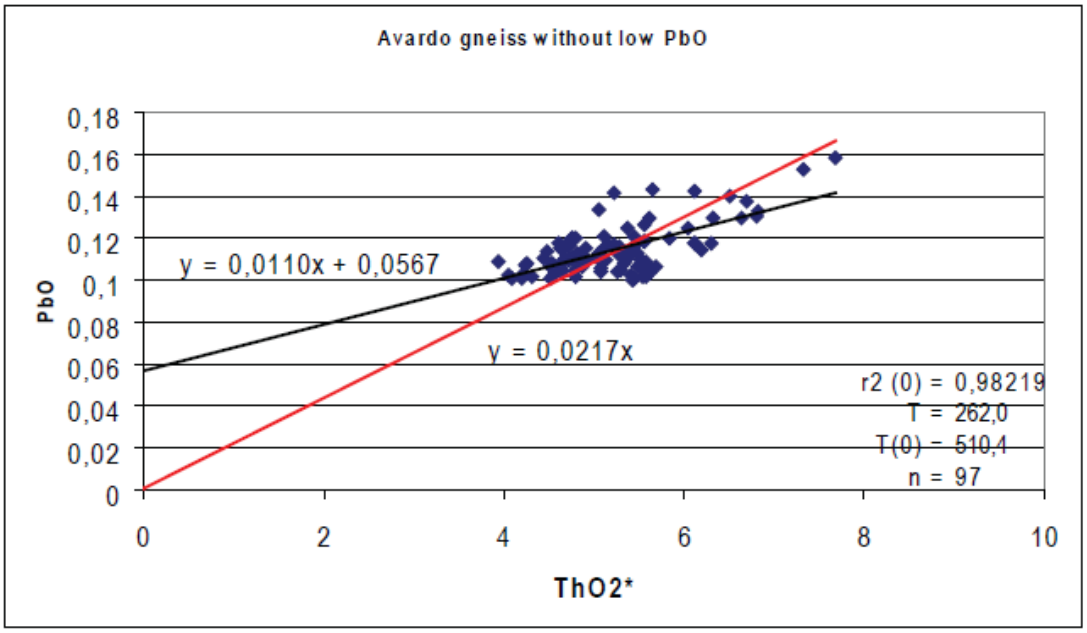

Figure 1-57 Isochron plot of the standard monazite with corresponding ages (T and T(0)), number of measurements and certainty level. Formulas correspond to the corresponding trend lines.

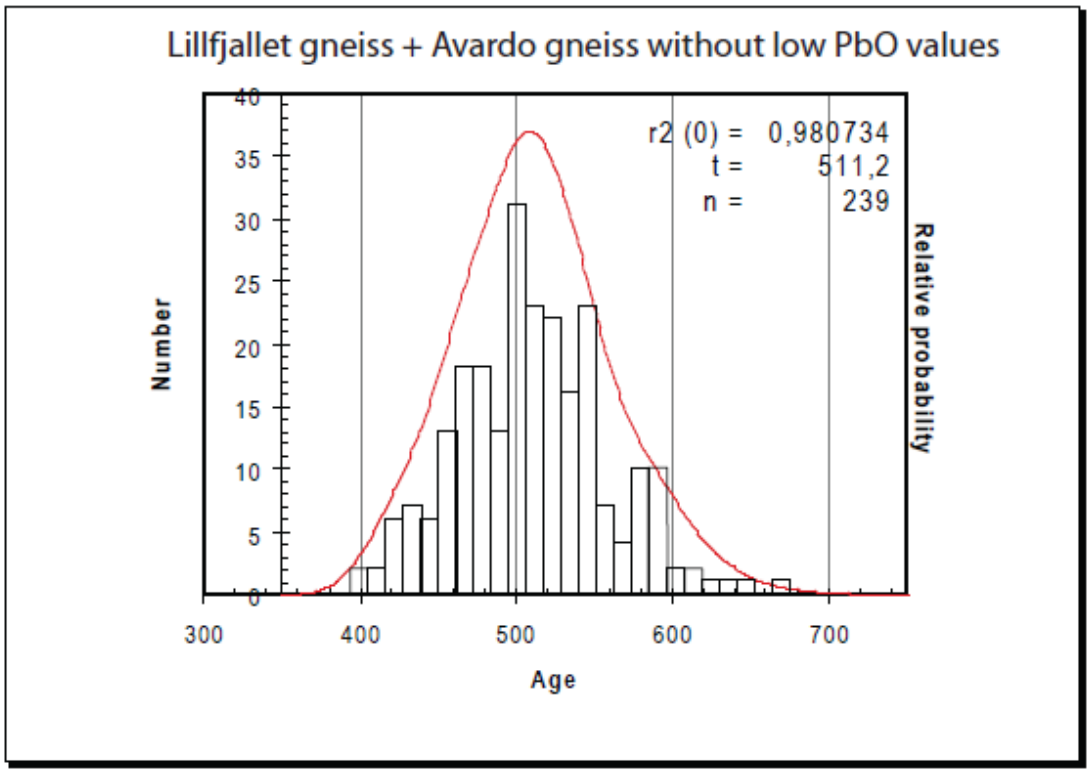

Figure 1-58 Cumulative EMP Monazite age diagram of the Lillfjället and Avardo gneiss. All low PbO values (<0.01 wt % PbO) are deleted. Number of analysis and relative probability is plotted against different age ranges. The peak of the probability curve corresponds to the mean apparent age (t). Also the r^2 and n are given

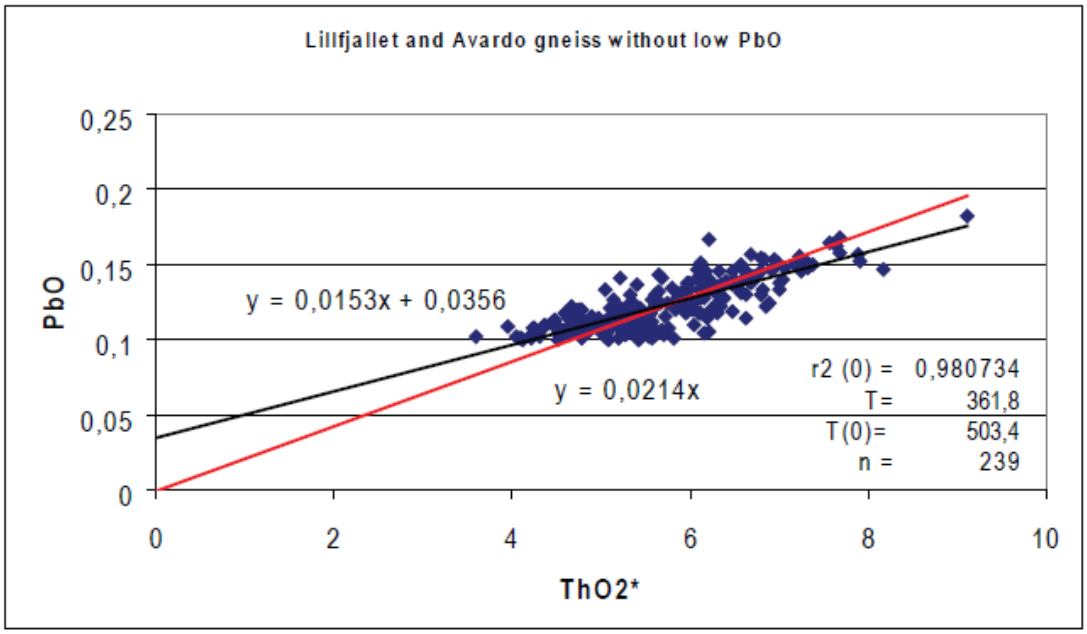

Figure 1-59 Isochron plot of the standard monazite with corresponding ages (T and T(0)), number of measurements and certainty level. Formulas correspond to the corresponding trend lines.

1.12 EMP mineral analyses

garnet	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	NA-K	TI-K	CR-K	TOTAL
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	
grt42-1	1	36.4925	20.4559	31.558	6.22502	2.93449	1.71623	2.20E-09	0.0164805	0.0116817	99.41
	2	36.7031	20.4383	30.5843	7.3472	2.80701	1.5301	2.19E-09	0.0394525	0.0237947	99.47
	3	36.7716	20.2125	30.4979	8.01342	2.74526	1.4223	0.00961428	0.0256695	0.0141661	99.71
	4	36.8966	20.3362	30.06	8.38818	2.65928	1.46468	0.0116603	0.0135609	1.57E-08	99.83
	5	36.6172	20.2293	29.5724	8.82226	2.66434	1.34782	0.00617482	0.0349304	0.00337831	99.30
	6	36.2385	20.3478	29.0341	9.11834	2.60893	1.30417	0.00452499	0.0200258	0.0150994	98.69
	7	36.168	20.2625	28.9232	9.30507	2.57462	1.29677	0.00589994	0.0122245	1.57E-08	98.55
	8	36.6845	20.1264	29.1115	9.61422	2.50631	1.24575	2.20E-09	0.016111	1.57E-08	99.30
	9	36.1101	20.1034	28.7727	9.79107	2.53357	1.19933	0.016768	0.0127924	0.000900934	98.54
	12	35.8567	20.1938	28.7086	10.2023	2.498	1.23473	0.00289084	0.00952469	0.00855685	98.72
	13	35.8928	19.7339	28.225	10.2949	2.50087	1.29556	2.20E-09	0.0495199	0.00811707	98.00
	14	35.9759	19.8749	28.3443	10.4851	2.42239	1.22515	0.00214587	0.0240572	0.0108164	98.36
	15	35.9506	19.8281	27.8368	10.4466	2.39076	1.29991	0.00920527	0.00282106	0.0101566	97.77
	16	35.9159	20.1301	28.0225	10.3162	2.44021	1.26613	0.0211448	0.0353106	0.021559	98.17
	17	35.4709	19.9116	28.2351	10.143	2.46707	1.19162	0.0231163	0.0325277	0.0148671	97.49
	19	35.6	19.7207	28.7609	9.63797	2.48469	1.25581	2.21E-09	0.0390864	0.00247543	97.50
	20	35.1519	19.6976	29.2655	9.17758	2.58972	1.26053	2.21E-09	0.0364182	0.0199911	97.20
	21	34.8898	19.6695	29.5357	8.82396	2.67312	1.2575	0.010352	0.0246088	0.00134625	96.89
	22	34.7118	19.8169	29.3326	8.44757	2.68705	1.33562	0.00143243	0.0635143	1.56E-08	96.40
	23	34.8124	19.7363	29.8433	8.244	2.69634	1.34903	2.21E-09	0.0476348	1.56E-08	96.73
	24	34.6474	19.7226	29.8491	8.04384	2.78229	1.3983	2.21E-09	0.0246387	0.0232779	96.49
	25	34.5884	19.6931	29.9726	7.93534	2.75108	1.43706	0.0147597	0.0413939	0.0159245	96.45
	26	34.5039	19.5447	30.4873	7.73787	2.81539	1.4746	0.00373253	0.0408836	1.56E-08	96.61
	27	34.7566	19.5173	30.4043	7.35756	2.71845	1.54462	0.0035877	0.0093035	0.00448326	96.32
	28	34.1907	19.5133	30.7461	6.88404	2.79653	1.61094	0.00455867	0.0167678	1.56E-08	95.76

	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	NA-K	TI-K	CR-K	TOTAL
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	
	29	33.6952	19.6446	31.0194	6.21268	2.89083	1.62959	2.22E-09	1.31E-08	0.00559057	95.10
	30	33.7873	19.528	31.9288	5.53564	2.91401	1.75352	2.22E-09	0.0166345	0.00245594	95.47
grt42-2	1	37.9348	20.7238	32.8737	4.04037	3.03991	2.18601	0.00599519	0.0306355	0.0166596	100.85
	2	37.7749	20.7983	32.2513	4.46723	3.0818	2.07243	0.00585072	0.029287	0.0178007	100.50
	3	37.9707	20.8306	32.5783	4.89247	3.06141	1.97204	0.00886588	0.0432036	1.57E-08	101.36
	4	37.9715	20.7485	32.0576	5.44286	3.0308	1.98296	2.18E-09	0.0280472	0.0126166	101.27
	5	38.0354	20.8805	32.05	5.86592	3.0277	1.77881	2.19E-09	0.013087	0.0207102	101.67
	6	37.8456	20.7985	31.6233	6.23413	3.0165	1.71166	0.0117383	0.00519295	0.00360276	101.25
	7	37.7376	20.9435	31.4561	6.47521	2.97409	1.57493	0.00860002	0.0127775	0.0204861	101.20
	8	37.8024	20.9837	31.1288	6.68537	2.96329	1.5929	2.18E-09	0.00954891	0.0144219	101.18
	9	37.7141	20.7716	31.2996	6.79882	2.92425	1.54378	0.00669634	0.0191103	0.00697802	101.08
	10	37.9779	20.7637	30.8738	7.09323	2.92559	1.52802	0.00354767	0.0347645	0.00901679	101.21
	11	37.7352	20.6056	30.6226	7.16395	2.88043	1.55002	2.19E-09	0.0307996	1.57E-08	100.59
	12	37.7774	20.7911	30.8526	7.55141	2.84371	1.47774	0.0277557	0.0513428	0.026566	101.40
	13	37.5051	20.6548	29.7014	8.17654	2.79041	1.41788	0.00573178	0.0303193	0.0137687	100.30
	14	37.7451	20.7674	29.6121	8.53303	2.79151	1.40826	0.0263334	0.0422286	0.028691	100.95
	15	37.8284	20.6454	29.0917	8.99614	2.71433	1.32436	2.18E-09	0.0245671	1.57E-08	100.62
	16	37.6191	20.5663	28.9251	9.36318	2.68475	1.37973	0.00341443	0.0520168	0.0174064	100.61
	17	37.6933	20.7447	29.3423	9.5808	2.62578	1.29114	2.19E-09	0.0709144	1.57E-08	101.35
	18	37.6872	20.7915	29.0134	9.85885	2.68632	1.28955	0.00213035	0.0345942	0.00474432	101.37
	19	37.354	20.6465	28.5436	9.8923	2.61864	1.2752	0.00915616	0.0397788	0.0063293	100.39
	20	37.5058	20.7652	28.8864	10.0172	2.57098	1.27981	0.0305155	0.0311757	0.00903541	101.10
	21	37.7335	20.744	28.4883	9.91098	2.56411	1.23635	0.0163803	0.0212786	0.0289579	100.74
	22	37.4898	20.6581	28.5274	10.0048	2.59665	1.22421	0.0142128	0.0393776	0.00135627	100.56
	23	37.8703	20.6593	29.1006	9.98632	2.56561	1.22376	2.19E-09	0.0167207	0.00858014	101.43
	24	37.6029	20.782	28.7853	9.85398	2.6312	1.26908	2.19E-09	0.00633886	0.0316929	100.96
	25	37.5505	20.8323	29.3151	9.89646	2.6344	1.30938	2.19E-09	0.0333402	0.00496526	101.58
	26	37.7047	20.7376	29.0148	9.63151	2.55642	1.34408	0.0027343	0.00941459	1.57E-08	101.00
	27	37.5382	20.7396	29.2943	9.43708	2.72641	1.34858	0.00369272	0.0158026	1.57E-08	101.10

	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	NA-K	TI-K	CR-K	TOTAL
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	
	28	37.8685	20.7009	29.4368	9.21029	2.70555	1.33312	2.19E-09	0.0192126	0.0194193	101.29
	29	37.5796	20.6906	29.411	8.92945	2.74303	1.36657	0.0237684	0.0373538	0.000677399	100.78
	30	37.675	20.669	29.8248	8.42537	2.7194	1.38138	2.19E-09	0.0591693	0.000676943	100.75
grt54-1	1	37.3268	21.2074	33.2759	1.19016	3.10011	4.70127	0.022945	0.0341408	0.00386465	100.86
	2	37.379	21.1533	33.5228	1.22004	3.12454	4.4326	0.0281117	0.0503131	0.00363165	100.91
	3	37.4001	21.1328	33.2834	1.28004	3.07236	4.28065	0.0143179	0.0542728	0.00522068	100.52
	4	37.5988	21.1493	33.1467	1.36422	3.01086	4.25955	0.0229476	0.027742	0.0158959	100.60
	5	37.4532	21.072	33.6982	1.44701	3.09719	4.19599	0.0441709	0.0556168	0.00883943	101.07
	6	37.3334	21.1155	33.949	1.57242	3.09416	4.05761	0.00583371	0.0226762	1.58E-08	101.15
	7	37.6685	21.2297	33.3271	1.61674	3.04197	4.04262	0.00851556	0.0193445	1.58E-08	100.95
	8	37.4549	21.1109	33.6507	1.67772	2.99475	4.30369	0.00420137	0.0655225	1.58E-08	101.26
	9	37.6571	21.0343	33.5173	1.78935	3.01847	3.95102	0.0410691	0.0150206	0.00656929	101.03
	10	37.1877	21.0404	33.9291	1.82475	3.03161	3.85407	2.17E-09	0.0290025	0.0108502	100.91
	11	37.4054	21.2129	34.1614	1.95302	3.09675	3.57516	2.18E-09	0.0255327	0.00722449	101.44
	12	37.297	21.0185	33.882	2.10474	3.04705	3.49961	2.18E-09	0.0269743	0.00970785	100.89
	14	37.2975	20.9774	33.8164	2.07537	3.06503	3.24565	0.0106043	0.0223217	1.57E-08	100.51
	15	37.1835	20.9545	34.2657	2.09632	3.12865	3.23134	2.18E-09	0.0434088	0.00810969	100.91
	16	37.3889	20.8788	34.1933	1.89508	3.09821	3.24452	0.0148357	0.079584	0.00428306	100.80
	18	37.4449	21.1073	34.5926	1.72483	3.17681	3.15879	0.0366481	0.203749	1.57E-08	101.45
	19	37.3265	20.9857	34.2615	1.99264	3.16399	3.24716	0.0223257	0.0984342	0.00540963	101.10
	20	37.391	20.931	33.1815	2.18361	3.04277	3.37968	2.17E-09	0.0383411	1.57E-08	100.15
	21	37.2854	20.9987	33.5257	2.28971	2.97987	3.37457	0.00366939	0.0246733	0.0137755	100.50
	22	37.3942	21.0873	33.6706	2.19512	2.93927	3.30546	0.00448484	0.0316149	0.00496633	100.63
	23	37.1924	20.9017	33.5455	2.05125	3.00041	3.3621	2.17E-09	0.0297261	0.0155795	100.10
	24	37.4215	20.8947	33.9671	1.96016	2.98123	3.5579	0.0156408	0.032028	1.57E-08	100.83
	25	37.0743	21.1166	33.7994	1.78723	3.05201	3.69124	0.016431	0.0416016	0.00180783	100.58
	26	37.0131	20.8783	34.195	1.63784	3.07952	3.76072	0.0175533	0.00603732	1.57E-08	100.59
	27	37.2633	21.0136	33.55	1.47408	3.08742	3.92781	0.00474068	0.02539	0.00928289	100.36
	28	37.025	20.9915	33.4221	1.41069	3.09269	4.07868	0.00419761	0.0311611	0.00770263	100.06

	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	NA-K	TI-K	CR-K	TOTAL
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	
	29	36.9122	20.9021	33.736	1.2572	3.0885	4.18327	0.00867832	0.022992	0.00226403	100.11
	30	37.2114	21.0039	33.3682	1.12822	3.10507	4.31979	2.16E-09	0.0203647	0.0310646	100.19
grt54-2	1	37.6898	20.7832	32.8839	1.68477	3.00003	4.44207	0.00742979	0.00159065	0.0115915	100.50
	2	37.7164	20.777	33.1226	1.84236	2.90511	4.4044	0.0162421	0.0182956	0.00499591	100.81
	3	38.0242	20.8595	32.659	1.92776	2.94991	4.48716	0.00111934	0.0280984	0.0106951	100.95
	4	37.9583	20.882	32.3425	2.04785	2.88895	4.50609	0.00111827	0.0144032	0.0207709	100.66
	5	37.5539	20.8935	33.1706	2.11522	2.99599	4.4521	0.0143588	0.0169335	1.58E-08	101.21
	6	37.9148	20.7584	32.3749	2.13531	2.90843	4.37395	2.16E-09	0.0270858	1.58E-08	100.49
	7	37.9304	20.8697	32.906	2.19531	2.90493	4.22871	0.0160995	0.0362237	0.0177161	101.11
	8	37.6764	20.7084	32.6654	2.26565	2.88678	4.07969	2.16E-09	0.0277959	0.027626	100.34
	9	37.5929	20.7607	32.5814	2.25621	2.90869	4.30659	2.16E-09	0.015735	0.000681714	100.42
	10	37.5701	20.9503	32.5821	2.30051	2.86428	4.14203	0.0113598	0.0012903	0.0190774	100.44
	11	37.6541	20.8557	32.9559	2.33023	2.89557	4.16032	0.0159865	0.013887	0.00816882	100.89
	12	37.3773	20.8037	32.353	2.35134	2.86805	4.24155	0.00581457	0.0256034	0.00159074	100.03
	13	37.7415	20.8427	32.2311	2.48213	2.93549	4.13947	0.0229581	0.0470524	0.0255896	100.47
	14	37.3196	20.6628	32.3572	2.59926	2.87827	4.15399	0.00070235	0.0188745	0.00567718	100.00
	15	37.3773	20.6838	32.3294	2.53758	2.84906	4.11829	0.00270733	0.0159728	0.0143075	99.93
	16	37.2899	20.7065	32.7175	2.61586	2.8604	4.09027	0.0211619	1.33E-08	0.0156491	100.32
	17	37.5517	20.591	32.5535	2.63124	2.88543	4.09213	0.0239847	0.0148145	0.0129375	100.36
	18	37.5536	20.6333	32.6008	2.61145	2.87991	4.07851	0.00474349	0.0136825	0.0186094	100.39
	19	37.296	20.7189	32.2398	2.64875	2.80589	4.21367	0.0198997	0.0396582	1.58E-08	99.98
	20	37.3987	20.5884	32.6299	2.55022	2.89866	4.00995	0.0127443	0.034325	0.0211655	100.14
	21	37.6049	20.8196	33.2849	2.52268	2.90326	4.03849	0.0199638	0.0478094	1.58E-08	101.24
	22	37.4869	20.8522	32.7037	2.41996	2.92684	4.06227	0.0219348	0.0277346	0.00771567	100.51
	23	37.426	20.6798	32.7922	2.28011	2.86718	4.0794	0.0214114	0.021676	0.022086	100.19
	24	37.1935	20.6425	32.2463	2.1845	2.8459	4.46139	0.0463922	0.0405595	0.0166031	99.68
	25	37.4925	20.803	32.9016	1.98567	2.93123	4.40541	0.000421116	9.93E-05	0.00227127	100.52
	26	37.0939	20.9327	32.9022	1.65553	2.83546	4.80808	0.020559	0.0330138	0.00250149	100.28
	27	37.3317	20.8104	32.868	1.47521	2.94081	4.80272	0.0149937	0.0285653	0.00318523	100.28

	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	NA-K	TI-K	CR-K	TOTAL
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	
	28	37.3984	20.806	32.623	1.31828	2.95918	5.18046	0.0195445	0.0185009	1.59E-08	100.32
	29	37.4621	20.8083	32.3467	1.12382	2.89509	5.31298	0.0213898	0.0245087	0.0194245	100.01
	30	37.4087	20.8029	32.4614	1.02685	2.83778	5.52669	2.15E-09	0.00798847	1.59E-08	100.07

Plagioclase	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	K-K	NA-K	TI-K	CR-K	
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
plag42-1	1	60.7271	24.4169	0.0329375	7.85E-09	6.33E-09	5.64287	0.0928535	8.09591	1.46E-08	1.81E-08	99.01
	2	60.21	24.5151	0.0302786	0.00554628	0.00318142	5.782	0.090438	8.00232	1.46E-08	0.0251658	98.66
	3	60.3968	24.597	0.0632107	0.0166307	0.00499922	5.78833	0.102306	7.94021	1.46E-08	0.00259598	98.91
	4	58.7627	23.994	0.0157613	7.85E-09	6.32E-09	5.38408	0.0969149	7.58699	0.00255493	0.0111574	95.85
	5	60.4102	24.3563	0.00248023	0.00739268	6.33E-09	5.635	0.102354	7.94054	1.46E-08	1.81E-08	98.45
	6	60.2918	24.6876	1.03E-08	7.85E-09	6.32E-09	5.82844	0.0871213	7.7535	0.00717699	0.0127151	98.67
	7	60.7652	24.2844	0.00318897	7.85E-09	0.0066429	5.64102	0.0862104	8.1056	1.46E-08	1.81E-08	98.89
	8	61.0415	24.1751	0.0279831	0.00554765	6.33E-09	5.24525	0.0487303	8.20737	1.46E-08	1.81E-08	98.75
	9	61.0977	23.8989	0.013461	7.85E-09	6.34E-09	5.00549	0.0501802	8.45007	0.00993213	0.00285631	98.53
	10	60.7631	23.864	0.00124034	7.85E-09	6.34E-09	5.18989	0.0720269	8.26082	0.0180217	0.00778456	98.18
	11	60.1623	24.0842	1.03E-08	0.0425059	6.33E-09	5.44035	0.102856	8.0541	1.46E-08	1.81E-08	97.89
	12	59.971	24.2119	0.0198311	0.0332619	6.34E-09	5.6428	0.129384	8.0769	0.0186205	1.81E-08	98.10
	13	60.0414	24.1543	1.03E-08	7.85E-09	6.33E-09	5.73676	0.1498	7.84327	1.46E-08	1.81E-08	97.93
	14	60.0046	24.3669	0.0134579	7.85E-09	6.33E-09	5.70178	0.133185	7.94793	1.46E-08	0.00467372	98.17
	15	59.225	24.3602	1.03E-08	0.0314119	6.33E-09	5.83628	0.165845	7.86973	0.0232921	0.0121941	97.52
	16	59.5453	24.3383	0.0449743	7.85E-09	6.33E-09	5.65212	0.173055	7.8424	1.46E-08	1.81E-08	97.60
	17	58.8947	24.7008	0.0419622	7.85E-09	0.0126627	5.48865	0.244068	7.65787	0.00103277	1.81E-08	97.04
	18	59.0611	24.2757	1.03E-08	7.85E-09	6.33E-09	5.65692	0.151208	7.8227	0.0150402	1.81E-08	96.98
	19	58.8114	24.2498	0.0419597	0.0277155	0.0137153	5.62104	0.161154	7.88183	0.0165568	1.81E-08	96.83
	20	58.7105	24.2316	0.107106	7.84E-09	6.34E-09	5.57885	0.132917	7.99823	1.46E-08	1.81E-08	96.76
plag42-2	1	59.5747	24.2593	0.0389516	7.85E-09	0.00586336	5.89987	0.176042	7.93642	1.46E-08	0.00285582	97.89
	2	59.5052	24.2942	0.0431982	7.85E-09	0.00643127	5.91211	0.209462	7.99956	0.0187867	1.81E-08	97.99
	3	59.8101	24.5742	1.03E-08	0.0129347	6.33E-09	5.89156	0.215911	7.97216	1.46E-08	1.81E-08	98.48
	4	59.33	24.5478	0.0132783	0.0129342	6.33E-09	5.99533	0.223429	7.78875	0.00527434	1.81E-08	97.92
	5	59.5504	24.5333	1.03E-08	0.0609726	6.33E-09	5.91953	0.19974	7.93473	1.46E-08	1.81E-08	98.20
	6	59.01	24.4809	0.0115074	0.0258674	6.33E-09	5.99787	0.229095	7.76645	0.00505671	1.81E-08	97.53
	7	58.9857	24.4416	0.0653232	0.00184837	6.33E-09	5.99626	0.22268	7.82124	1.46E-08	0.00441278	97.54
	8	59.4739	24.98	1.03E-08	0.0443474	6.32E-09	5.85621	0.18983	7.55733	0.00222903	1.81E-08	98.10

	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	K-K	NA-K	TI-K	CR-K	
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
	9	59.4955	24.4827	1.03E-08	0.0110871	6.33E-09	5.8454	0.207855	7.88017	0.00657894	1.81E-08	97.93
	10	59.3688	24.6692	0.0237248	7.85E-09	6.33E-09	5.93823	0.18955	7.77786	1.46E-08	1.81E-08	97.97
	11	59.3089	24.3502	1.03E-08	0.0184775	6.33E-09	5.84852	0.202135	7.92156	0.0222613	0.0142698	97.69
	12	58.8308	24.4171	0.0270878	7.85E-09	6.34E-09	5.76935	0.1948	7.95269	0.00108731	1.81E-08	97.19
	13	59.3258	24.491	1.03E-08	0.0665168	0.00551139	5.87037	0.149231	7.89023	0.00010874	1.81E-08	97.80
	14	59.4408	24.212	0.0196548	7.85E-09	0.000318166	5.66833	0.133412	7.9614	1.46E-08	1.81E-08	97.44
	15	59.5389	24.2267	1.03E-08	7.85E-09	6.34E-09	5.50632	0.131317	8.25054	0.00125027	1.81E-08	97.66
	17	60.0278	23.9652	0.0233754	7.85E-09	6.34E-09	5.1911	0.138305	8.3239	0.00955282	1.81E-08	97.68
	18	59.8835	23.7458	0.0175316	7.85E-09	0.00634006	5.10514	0.120497	8.48454	0.00385836	0.0173819	97.38
	19	59.7471	23.9703	0.0138027	0.417344	0.00196939	5.12257	0.137956	8.39063	0.0473253	1.81E-08	97.85
	20	59.7338	23.777	0.0575488	7.85E-09	6.35E-09	5.11482	0.10979	8.51058	0.0119388	1.81E-08	97.32
plag54-1	1	59.2544	24.6475	0.105149	0.0258645	6.34E-09	6.09336	0.0818104	7.84637	0.0115091	1.81E-08	98.07
	2	59.2381	24.6107	0.0833748	0.0480334	0.00529938	6.11606	0.0896297	7.88087	0.00347906	1.81E-08	98.08
	3	59.0609	24.5798	0.111688	0.0443347	6.34E-09	6.23758	0.0997886	7.82074	1.46E-08	0.0165977	97.97
	4	59.5033	24.7227	0.0247874	7.85E-09	6.33E-09	6.18326	0.0884587	7.74684	1.46E-08	1.81E-08	98.27
	5	59.1472	24.5728	0.0251401	0.0240204	6.33E-09	6.14993	0.0751731	7.79911	1.46E-08	1.81E-08	97.79
	6	59.1666	24.5588	0.0626681	0.0184756	0.00575238	6.27268	0.0782293	7.75535	1.46E-08	0.020493	97.94
	7	59.161	24.8405	0.0614283	0.00369673	6.33E-09	6.41437	0.0900608	7.68398	1.46E-08	1.81E-08	98.26
	8	58.8035	24.6923	0.00867497	7.85E-09	6.33E-09	6.38008	0.094807	7.6802	1.46E-08	1.81E-08	97.66
	9	58.6437	24.7344	0.0329276	0.014781	6.33E-09	6.31427	0.0900709	7.6493	1.46E-08	1.81E-08	97.48
	10	58.8077	24.9525	0.0431917	0.0351013	6.33E-09	6.4019	0.0864953	7.62446	1.46E-08	0.0256811	97.98
	11	58.7767	24.8007	0.0426648	7.84E-09	0.000688964	6.29538	0.0784632	7.70259	0.00304518	1.81E-08	97.70
	12	58.8705	24.7605	0.0246071	0.0240189	6.33E-09	6.2866	0.103115	7.72708	0.00125068	0.00103846	97.80
	13	58.6483	24.7604	1.03E-08	7.84E-09	0.00609621	6.43245	0.0907608	7.65569	0.0197158	0.0119354	97.63
	14	58.353	24.7096	0.00708131	7.84E-09	6.33E-09	6.4957	0.0924057	7.57151	1.46E-08	1.81E-08	97.23
	15	58.6362	24.8338	0.0325722	7.84E-09	6.33E-09	6.42252	0.101183	7.7193	0.0108075	0.00597241	97.76
	16	58.4924	24.7747	0.0472644	7.84E-09	6.33E-09	6.47499	0.0971428	7.61317	1.46E-08	0.0080421	97.51
	17	58.6696	24.9843	0.031509	0.0258652	6.33E-09	6.57739	0.0914418	7.52857	0.00739633	1.81E-08	97.92
	18	58.272	25.1355	0.0631894	0.0147788	6.33E-09	6.64423	0.0982849	7.46448	1.46E-08	0.00597151	97.70

	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	K-K	NA-K	TI-K	CR-K	
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
	19	58.5721	24.9136	0.0884991	0.0314045	0.0113532	6.65768	0.0897578	7.45084	0.0118392	1.81E-08	97.83
	20	58.0872	24.9229	1.03E-08	7.84E-09	6.33E-09	6.67674	0.0926024	7.49406	1.46E-08	0.000779136	97.27
plag54-2	1	59.6856	24.8984	0.251143	7.84E-09	0.000371549	6.24634	0.0680322	7.83834	1.46E-08	1.81E-08	98.99
	2	59.2869	24.8931	0.170627	7.84E-09	0.00644989	6.39086	0.0805732	7.68757	0.00141346	0.00985387	98.53
	4	59.1431	24.8111	0.271113	7.84E-09	0.00353329	6.38101	0.0428857	7.91106	1.46E-08	1.81E-08	98.56
	5	59.306	24.9329	0.155406	0.00184806	0.0106428	6.4375	0.0841221	7.71437	1.46E-08	1.81E-08	98.64
	6	59.0629	25.074	0.189904	7.84E-09	6.33E-09	6.5107	0.0739131	7.66177	0.0110756	1.81E-08	98.58
	7	59.1099	25.1107	0.126553	7.84E-09	6.33E-09	6.59186	0.0736712	7.72838	0.00521987	1.81E-08	98.75
	8	59.296	24.8814	0.153107	7.84E-09	6.34E-09	6.28535	0.0623391	7.90139	0.00402259	0.00881672	98.59
	9	59.3851	24.7467	0.16019	0.00738926	0.00262752	6.2701	0.0291574	7.89143	1.46E-08	0.0114098	98.50
	10	59.756	25.1946	0.237162	0.00369574	6.34E-09	6.29766	0.0521481	7.79248	1.46E-08	1.81E-08	99.33
	11	59.5025	24.8998	0.248299	0.0166231	0.0125708	6.26515	0.0462187	7.89388	1.46E-08	0.00622692	98.89
	12	59.073	24.7615	0.176464	7.84E-09	0.00831489	6.32909	0.0630403	7.85404	1.46E-08	1.81E-08	98.27
	13	59.5259	24.6693	0.131346	0.0147795	6.34E-09	6.18574	0.047184	7.91399	0.00706682	1.81E-08	98.50
	14	59.0892	24.6917	0.170449	7.84E-09	0.00842853	6.21534	0.0502541	7.97429	0.0079903	1.81E-08	98.21
	15	59.1749	24.8823	0.1791	0.0720335	6.34E-09	6.24098	0.0737096	7.82128	0.00532585	1.81E-08	98.45
	16	58.7821	24.7222	0.127272	7.84E-09	6.33E-09	6.27782	0.0507246	7.68724	0.0159626	1.81E-08	97.66
	17	58.9465	24.8005	0.14867	0.0203188	6.34E-09	6.40464	0.0675265	7.83642	0.0259499	0.00467185	98.26
	18	58.9495	24.7726	0.138237	0.00369614	0.0029186	6.35395	0.0817586	7.81741	1.46E-08	0.00181699	98.12
	19	58.8923	24.8602	0.152043	7.84E-09	6.34E-09	6.29597	0.0739467	7.80046	1.46E-08	1.81E-08	98.07
	20	58.8999	24.6014	0.0628421	0.0295598	6.34E-09	6.20732	0.0687504	7.90316	1.46E-08	1.81E-08	97.77

	QUANT											
Biotite	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	K-K	NA-K	TI-K	CR-K	
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
bio42-2	1	33.8494	18.183	21.4238	0.0907319	8.90912	0.0750891	7.75552	0.0596817	2.46564	0.039287	92.85
	2	33.9892	17.8518	21.4776	0.11564	9.28838	0.0105205	8.2997	0.0825679	2.54634	0.0249317	93.69
	3	34.8475	18.4357	19.9673	0.114116	9.22397	2.54E-09	9.26734	0.194599	2.54742	0.0443892	94.64
	4	34.8904	18.3639	20.0704	0.0837961	9.20449	2.54E-09	9.31822	0.201803	2.50098	0.0513719	94.69
	5	34.8226	18.6002	19.7392	0.123066	9.20392	2.54E-09	9.30882	0.227363	2.44379	0.0514172	94.52
	6	34.8463	18.4647	19.9548	0.0962891	9.20962	2.54E-09	9.27316	0.186229	2.45306	0.0501771	94.53
	7	35.0029	18.5662	19.7431	0.101674	9.19763	2.54E-09	9.22444	0.219878	2.43605	0.0446591	94.54
	8	34.6812	18.5934	19.8564	0.0713332	9.2164	0.0172278	9.36233	0.220329	2.45751	0.0492311	94.53
	9	34.9197	18.602	19.9485	0.133741	9.18764	2.54E-09	9.23039	0.211801	2.4325	0.0296729	94.70
	10	34.7525	18.6296	19.9314	0.0695458	9.16697	2.54E-09	9.2732	0.240207	2.46083	0.0470459	94.57
	11	34.721	18.6243	20.3359	0.117632	9.25197	2.54E-09	9.36137	0.208547	2.45366	0.0428997	95.12
	12	34.7693	18.509	19.8368	0.156925	9.25775	2.54E-09	9.29372	0.21623	2.42976	0.0434339	94.51
	13	34.9253	18.4963	20.048	0.0748947	9.33251	0.000656029	9.21725	0.195965	2.44251	0.0192959	94.75
	14	34.6743	18.5346	19.7659	0.0980968	9.33751	2.54E-09	9.25447	0.215877	2.40788	0.011736	94.30
	15	34.7477	18.7171	19.8583	0.142672	9.39591	2.54E-09	9.19473	0.22007	2.34923	0.0550125	94.68
	16	34.712	18.7198	20.0312	0.133725	9.28946	0.00170584	9.25643	0.224385	2.31741	0.0325563	94.72
	17	34.6106	18.6667	19.8432	0.203278	9.3089	2.54E-09	9.23691	0.222147	2.27066	0.0359425	94.40
	18	34.8947	18.9151	19.3432	0.142777	9.33263	2.55E-09	9.22156	0.211945	2.21213	0.0241643	94.30
	19	34.8538	18.8849	19.5344	0.110631	9.44331	2.54E-09	9.28629	0.180801	2.21014	0.0391297	94.54
	20	34.7156	18.9184	19.3478	0.0945896	9.39174	2.55E-09	9.14978	0.213126	2.13781	0.0388959	94.01
bio54-2	1	35.736	18.5104	18.1846	7.56E-09	10.5314	2.55E-09	8.90558	0.219868	2.26082	0.037129	94.39
	2	35.6864	18.2829	18.4615	0.0214554	10.4069	2.55E-09	8.88437	0.185693	2.33695	0.0220617	94.29
	3	35.5931	18.0908	18.584	0.0268108	10.2256	2.55E-09	9.03286	0.192866	2.57067	1.67E-08	94.32
	4	35.785	18.2803	18.402	0.0393375	10.323	2.55E-09	8.85313	0.226344	2.49234	0.00601921	94.41
	5	35.7532	18.3072	18.9182	7.55E-09	10.2511	2.55E-09	8.9251	0.202802	2.54966	0.0140469	94.92
	6	35.5963	18.0816	18.4528	7.55E-09	10.1692	2.55E-09	8.9829	0.198926	2.75934	0.00794607	94.25
	7	35.2833	17.987	18.8189	0.00533413	10.065	2.54E-09	9.00346	0.168391	2.95811	0.0118691	94.30

		SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	K-K	NA-K	TI-K	CR-K	
		Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	TOTAL
	8	35.4588	18.1747	18.572	0.0071154	10.0818	2.55E-09	8.97875	0.178607	2.93159	0.0336989	94.42
	9	35.5427	18.055	18.6596	0.0500341	10.0842	2.55E-09	9.08917	0.213878	2.89619	0.0191486	94.61
	10	35.5846	18.0173	18.9537	0.0392987	10.0371	2.54E-09	9.01332	0.202488	2.85002	0.0360811	94.73
	11	35.1031	17.991	18.8506	7.54E-09	9.99401	2.54E-09	8.86955	0.190766	2.87035	0.0121055	93.88
	12	34.7792	17.9792	19.0412	0.0553484	10.0153	2.54E-09	8.96263	0.179272	2.86111	0.0287897	93.90
	13	35.284	18.0929	18.892	0.0125046	10.054	2.54E-09	8.88176	0.183792	2.8562	0.00600922	94.26
	14	35.3357	18.0261	18.5087	7.55E-09	10.0467	2.55E-09	8.96809	0.213819	2.85347	0.00962794	93.96
	15	35.2776	17.9865	18.4377	0.033957	10.0557	2.55E-09	9.01286	0.191938	2.79107	0.0278807	93.82
	16	34.9272	18.452	18.6073	0.078614	9.99966	2.55E-09	9.07699	0.196285	2.66806	1.67E-08	94.01
	17	34.2953	19.2426	18.8332	0.014289	9.95391	2.55E-09	9.1384	0.217464	2.5115	0.0355886	94.24
	18	34.3608	19.3863	18.7387	7.55E-09	9.84727	2.55E-09	9.09295	0.261097	2.39307	0.0130757	94.09
	19	34.6286	19.3308	18.5639	0.00893544	9.9658	2.55E-09	9.03506	0.23596	2.3542	0.0203526	94.14
	20	34.4182	19.6125	18.8887	0.0625104	9.57745	0.0142458	8.85464	0.215004	2.20009	0.0234655	93.87

Muscovite	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	K-K	NA-K	TI-K	CR-K	Total
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	
mus42-2	1	45.4238	35.6984	1.38106	0.284533	0.92889	2.64E-09	7.8472	0.337992	0.753861	0.0483602	92.70
	2	46.184	35.7325	1.361	7.79E-09	0.910481	0.00398999	7.6098	0.339381	0.742862	0.04479	92.93
	3	45.5336	36.0848	1.44269	7.79E-09	0.903826	0.0044256	7.56613	0.324946	0.765828	0.0360234	92.66
	4	45.5459	35.8951	1.32453	0.0348961	0.874868	0.0120252	7.98084	0.333366	0.704425	0.0360356	92.74
	5	45.3744	35.9611	1.3219	7.79E-09	0.86516	2.65E-09	7.96999	0.368784	0.740482	0.0429859	92.64
	6	45.3596	36.0015	1.21019	7.79E-09	0.859835	2.65E-09	7.71929	0.30651	0.776403	0.016739	92.25
	7	45.6624	36.0571	1.24901	0.00367158	0.845088	2.65E-09	7.49596	0.351847	0.800926	0.0229173	92.49
	8	45.3019	36.053	1.24754	0.0220438	0.811909	0.0117743	7.64824	0.364049	0.801175	0.0417093	92.30
	9	45.517	36.256	1.24111	0.00734839	0.829358	0.00393486	7.62653	0.347256	0.843342	0.0411974	92.71
	10	45.4604	35.8518	1.18391	7.79E-09	0.844002	0.00606828	7.77984	0.351716	0.858038	0.0460989	92.38
	11	45.2043	36.2653	1.33224	0.0422408	0.849698	0.00639313	7.72403	0.309932	0.823601	0.0483853	92.61

	POINT	SI-K	AL-K	FE-K	MN-K	MG-K	CA-K	K-K	NA-K	TI-K	CR-K	Total
	<unitless>	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	
	12	45.3567	36.1514	1.26916	7.79E-09	0.815162	0.00423567	7.69166	0.355724	0.852731	0.0236861	92.52
	13	45.1134	35.9085	1.34168	0.0165305	0.835968	0.00374276	7.58787	0.37461	0.838903	0.032944	92.05
	14	45.3709	36.205	1.24777	0.00550644	0.811414	0.00262306	7.60026	0.334464	0.854203	0.0453152	92.48
	15	45.8732	36.1236	1.21411	7.79E-09	0.811372	0.00224099	7.66057	0.3297	0.87263	0.0275559	92.91
	16	45.387	36.27	1.3641	0.016529	0.815402	0.000901505	7.70338	0.356777	0.85615	0.0527572	92.82
	17	45.542	35.9279	1.31653	0.00550623	0.829658	2.65E-09	7.58324	0.358663	0.827702	0.0316631	92.42
	18	44.9763	36.2583	1.28693	7.79E-09	0.807977	2.65E-09	7.73601	0.33219	0.857871	0.0566308	92.31
	19	45.1798	36.0989	1.19404	0.0422511	0.821154	0.00303318	7.64987	0.326878	0.852335	0.0476373	92.22
	20	45.2754	36.3316	1.2483	7.79E-09	0.729119	2.65E-09	7.61546	0.377834	0.814342	0.0151911	92.41
mus54-2	1	47.5016	35.9552	1.33508	7.79E-09	1.15165	0.00786781	7.33303	0.579614	0.815901	0.00437437	94.68
	2	47.6433	36.199	1.28908	7.79E-09	1.0131	0.00546347	7.4212	0.651129	0.883999	0.0283277	95.13
	3	46.8234	36.9743	1.24711	0.0275604	0.8072	0.00598319	7.5436	0.694927	0.820929	0.0131329	94.96
	4	46.9442	37.0526	1.20975	0.00918788	0.782041	0.00887847	7.47794	0.697593	0.882215	0.004118	95.07
	5	46.9643	37.0972	1.2616	7.79E-09	0.759697	0.00494418	7.47447	0.743841	0.863478	0.0185403	95.19
	6	46.9212	37.0887	1.07061	7.79E-09	0.791979	2.65E-09	7.47444	0.717829	0.906486	0.0149454	94.99
	7	47.0011	36.8122	1.1941	7.79E-09	0.765484	2.65E-09	7.52417	0.730182	0.899545	0.00798475	94.93
	8	47.102	37.0109	1.16805	0.0128635	0.744298	0.00759508	7.54477	0.713218	0.929096	1.79E-08	95.23
	9	46.7971	36.9292	1.11758	7.79E-09	0.743461	0.0146124	7.51989	0.729044	0.927304	0.0051492	94.78
	10	47.1212	37.0744	1.14696	0.0202141	0.763935	2.65E-09	7.53064	0.766916	0.867423	0.0345183	95.33
	11	46.7814	36.907	0.84314	0.00367419	0.781463	2.65E-09	7.64515	0.74478	0.898282	1.79E-08	94.60
	12	47.2089	36.7864	0.977451	7.80E-09	0.762729	0.00893715	7.45352	0.736452	0.904082	0.0190756	94.86
	13	46.7574	36.8909	1.00727	0.0349228	0.779771	2.65E-09	7.40725	0.718784	0.91746	0.0188136	94.53
	14	47.1772	36.8025	1.15727	0.0110275	0.817303	0.00240449	7.38542	0.703096	0.819586	0.0105623	94.89
	15	46.7912	36.7861	1.22502	7.79E-09	0.814497	0.00344276	7.72055	0.741564	0.931182	0.00077207	95.01
	16	46.8048	36.6012	1.3703	7.79E-09	0.829536	0.00786306	7.41587	0.690025	1.00713	0.00952409	94.74
	17	46.7319	36.7639	1.21701	0.00918679	0.802096	2.64E-09	7.48131	0.662665	1.00696	0.0363117	94.71
	18	47.6889	36.0823	1.31194	0.0275647	1.12664	2.65E-09	7.50265	0.475429	0.792408	0.0175107	95.03
	19	46.7371	36.2849	1.28543	0.0110238	0.921613	0.00753605	7.41269	0.560336	1.07015	0.0128744	94.30
	20	47.0933	35.9695	1.38919	7.79E-09	0.931454	0.00518756	7.42073	0.571941	1.03502	0.0342353	94.45

1.13 Monazite locations and GPS coordinates

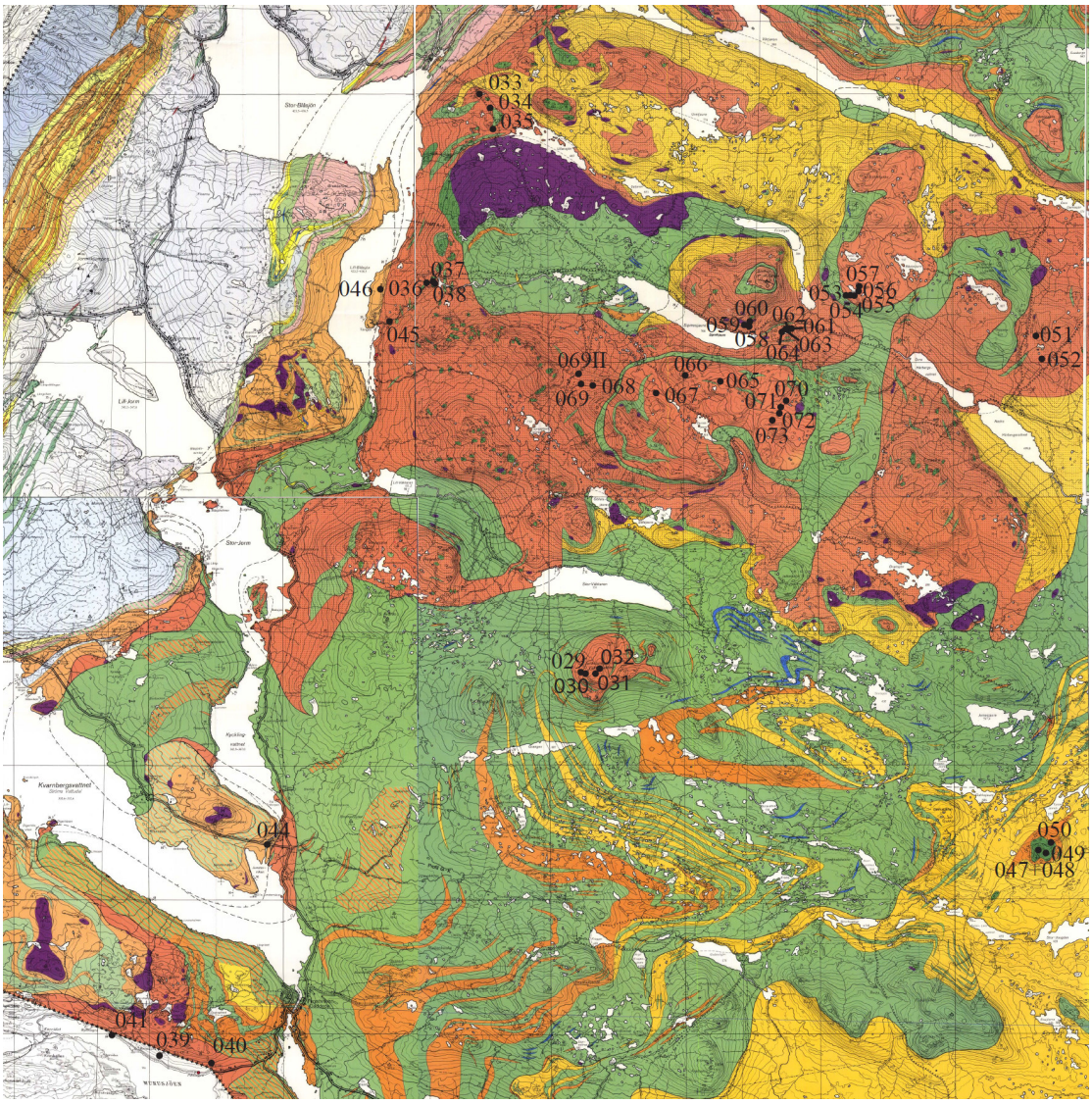

Figure 1-60 Map of the fieldwork area. The black spots and number correspond to places where the samples where taken.

Sample	Coordinate1	Coordinate2	Height(m)	Accuracy (m)
1	518769	7237599	543	
2	518930	7237826	631	
3	519051	7237947	669	
4	520170	7240239	top	
5	519905	7240192	875	
6	519942	7239944	866	6.9
7	517404	7234797	880	21.9
8	517527	7234940	880	6.3
9	517459	7235104	849	7
10	517635	7234947	871	6.6
11	517943	7234773	903	6
12	517773	7234562	913	6.1
13	517526	7234508	888	5.7
14	517770	7215702	1027	13.1
15	517945	7215877	1113	8.5
16	518112	7216281	1192	5.5
17	517865	7217041	1154	13.1
18	517493	7217915	1305	10.2
19	517687	7218544	1389	9.2
20	517445	7218888	1430	12.7
21	514422	7217892	1011	12.8
22	514835	7217776	1102	9.8
23	515625	7218466	990	7.5
24	508384	7219094	561	11.5
25	511241	7208105	551.3	9.7
26	514947	7213166	875	9.3
27	513721	7212982	821.7	4.9
28	513946	7212742	780	13.9
29	469744	7165593	1009	14.8
30	469837	7165524	1032	18.8
31	470349	7165526	1152	14
32	470469	7165662	1135	10.3
33	465799	7187486	606	10.2
34	466206	7187017	624	9.3
35	466467	7186244	727.9	5.9
36	464132	7180067	574	9.9
37	463966	7180109	571	9.2
38	464231	7180083	580.8	6.2
39	454294	7151490	409	7.3
40	455213	7151178	410	13
41	452490	7152000	308	7.8
42	458970	7145129	515	11.7
43	458785	7145185	545	10
44	458088	7159236	306	10.9
45	462486	7178703	440	14
46	462083	7179746	402	14.1
47	486957	7159038	844	9.3
48	486957	7159038		
49	487256	7159410	822	14
50	486874	7159810	809	14.1

Sample	Coordinate1	Coordinate2	Height (m)	Accuracy (m)
51	486659	7178618	885	13
52	486868	7177578	844	10.8
53	479559	7179982	860	11
54	479715	7179900	852	10.7
55	479856	7179851	866	10.7
56	480004	7180129	871	12.6
57	480053	7180361	870	10.3
58	476057	7178790	744	17.7
59	476007	7178874	760	11.1
60	476050	7178935	750	10.8
61	477566	7178709	677	18.6
62	477511	7178546	748	13
63	477399	7178510	816	5.8
64	477298	7178329	812	8.3
65	474852	7176605	1051	11.6
66	473639	7176780	996	8.5
67	472473	7176032	870	12
68	470144	7176338	1028	10.8
69	469746	7176398	1005	8.8
69II	469566	7176838	937	9.4
70	477187	7176676		
71	477131	7176319	1025	
72	477049	7176099		
73	477007	7174843	1126	3

Table 3 Sample coordinates with corresponding heights and accuracy