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ZIGZAG LAKE PROJECT

CRESCENT LAKE AREA, NORTHWEST ONTARIO
NTS 52I08

FALL 2021 SAMPLING PROGRAM

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Nuinsco Resources Limited
Ottawa, ON

August 23, 2022

Revised December 15, 2022

ZIGZAG LAKE PROPERTY, CRESCENT LAKE AREA, NW ONTARIO

ASSESSMENT REPORT ON THE 2021 SAMPLING PROGRAM

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ZIGZAG LAKE PROPERTY

1.0 Introduction

In June 2021, Nuinsco Resources Ltd (Nuinsco) optioned the Zigzag Lake Property (Property) in the Crescent Lake Area of northwestern Ontario. The Property includes the historic Tebishogeshik showing, a series of lithium and tantalum bearing pegmatite lenses.

In September 2021, Nuinsco was able to arrange a site visit to the Property after several delays due to lack of helicopter availability in the region because of a bad forest fire season. One day was spent on site during which geologists were able to investigate available exposures of the pegmatite lenses and to obtain samples for analysis and for petrographic study.

Grab sampling by Nuinsco returned values of up to **3.55% Li_2O** (sample 82063; with 113ppm Ta_2O_5 and 534ppm Rb_2O), and **836ppm Ta_2O_5** (82061; 0.02% Li_2O, 725ppm Rb_2O), and **4003ppm Rb_2O** (82067; with 0.09% Li_2O and 250ppm Ta_2O_5).

All coordinates provided in the report are given in a NAD 83 zone 16 projection. Units are metric unless otherwise specified. Historic references may be presented in imperial units. All dollar values are in Canadian dollars.

Table 1. Glossary of Terms

Code	Term
AA	Atomic Absorption
ACTLABS	Activation Laboratories Ltd
Az	Azimuth
BCMC	Boundary Cell Mining Claim
BR	Bedrock
Cs	Cesium
FA	Fire Assay
g	Gram
g/t	Grams per ton (metric)
HAE	Height Above Ellipsoid
IP	Induced Polarization
kg	Kilogram
km	Kilometre
Li	Lithium
m	Metre
MCMC	Multi-cell Mining Claim
MSL	Mean Sea Level
NAD83	North American Datum 83
NTS	National Topographic System
NWI	Nuinsco Resources Limited
ppm	Parts per million
Rb	Rubidium
SCMC	Single Cell Mining Claim
Ta	Tantalum
UTM	Universal Transverse Mercator

2.0 Property Location, Access, and Ownership

Property Location and Access

The Zigzag Lake Property is located within the Crescent Lake Area of northwestern Ontario, NTS52I08, approximately 68 kilometres east-northeast of the town of Armstrong, Ontario. Armstrong is the nearest community for services.

During the summer the property is primarily accessible via helicopter. During the winter, the Tebishogeshik showing can be reached by old logging trails which are only suitable for winter use. These trails were last used for the 2010/2011 drilling program on the claims by the exploration company Canadian Orebodies and will require maintenance and upgrade to be used again.

Figure 1. Property Location

Property Ownership

The Zigzag Lake Property was optioned by Nuinsco Resources Limited ("Nuinsco") in June 2021 from Kenneth Fenwick (Thunder Bay, ON), George Lucuik (Sault Ste Marie, ON), and Donald Deveraux (Thunder Bay, ON).

The property consists of 6 unpatented mining claims (6 claim units). Of the 6 converted claims (Table 2), 4 are classified as Single Cell Mining Claims (SCMC) meaning that the claim holder holds the entirety of the mining cell, while the remaining 2 converted claims are classified as Boundary Cell Mining Claims (BCMC), meaning that it covers only part of the map-based claim cell, and the mining cell is shared with another property owner.

The terms of the option agreement on the Zigzag Lake property are an $8,000 cash payment and 200,000 common shares of the Company on signing of the agreement; on the first anniversary a $15,000 cash payment and 200,000 common shares of the Company; on the second anniversary a $20,000 cash payment and 200,000 common shares of the Company; on the third anniversary a $30,000 cash payment and 200,000 shares of the Company; on the fourth anniversary a $40,000 cash payment and 200,000 shares of the Company. The optionors will retain a 2% Net Smelter Return royalty, 1% of which can be acquired by Nuinsco for $1,200,000. Work commitments of $6,000, $10,000, $20,000, and $40,000 are required in years one through four, respectively, of the option term.

Table 2. ZigZag Lake Property Mining Claims*

Disposition No	Claim Type	Recording Date	Anniversary Date	Work Requirement (CDN $)	Reserve (CDN $)
296117	SCMC	Apr 10, 2018	Oct 27, 2022	400.00	-
146285	SCMC	Apr 10, 2018	Oct 27, 2022	400.00	-
109505	SCMC	Apr 10, 2018	Oct 27, 2022	400.00	-
192834	SCMC	Apr 10, 2018	Oct 27, 2022	400.00	-
192833	BCMC	Apr 10, 2018	Oct 27, 2022	200.00	-
140819	BCMC	Apr 10, 2018	Oct 27, 2022	200.00	-
			TOTAL =	**$2,000**	**$0**

* Ownership = Kenneth George Fenwick (100%)

Permitting and Annual Work Requirements

The Zigzag Lake mining claims requires $2,000 of work annually to keep the Property in good standing. There are no current exploration reserves for the Property.

Work during 2021 consisted solely of a site visit and prospecting and therefore did not require a permit. An Exploration Permit application was submitted by Nuinsco in May 2022 and is currently pending approval. The Exploration Permit would allow for:

Mechanized Drilling (assembles weight >150kg)
Mechanized Stripping (>100m2 in 200m radius)
Pitting and Trenching (>3m2 in 200m radius)

Not prescribed activities which may also be undertaken in addition to those requested in the permit include:

- Creating trails for the purpose of early exploration
- Ground geophysics without a generator
- Setting up a camp for up to 6 persons

The Ontario Government has identified that the following First Nations groups may be impacted by future work on the project and included them in consultations during the permitting process:

- Animbiigoo Zaagi'igan Anishinaabek
- Métis Nation of Ontario – Region 2
- Red Sky Métis Independent Nation
- Whitesand First Nation

The Property does not include any land with Surface Rights.

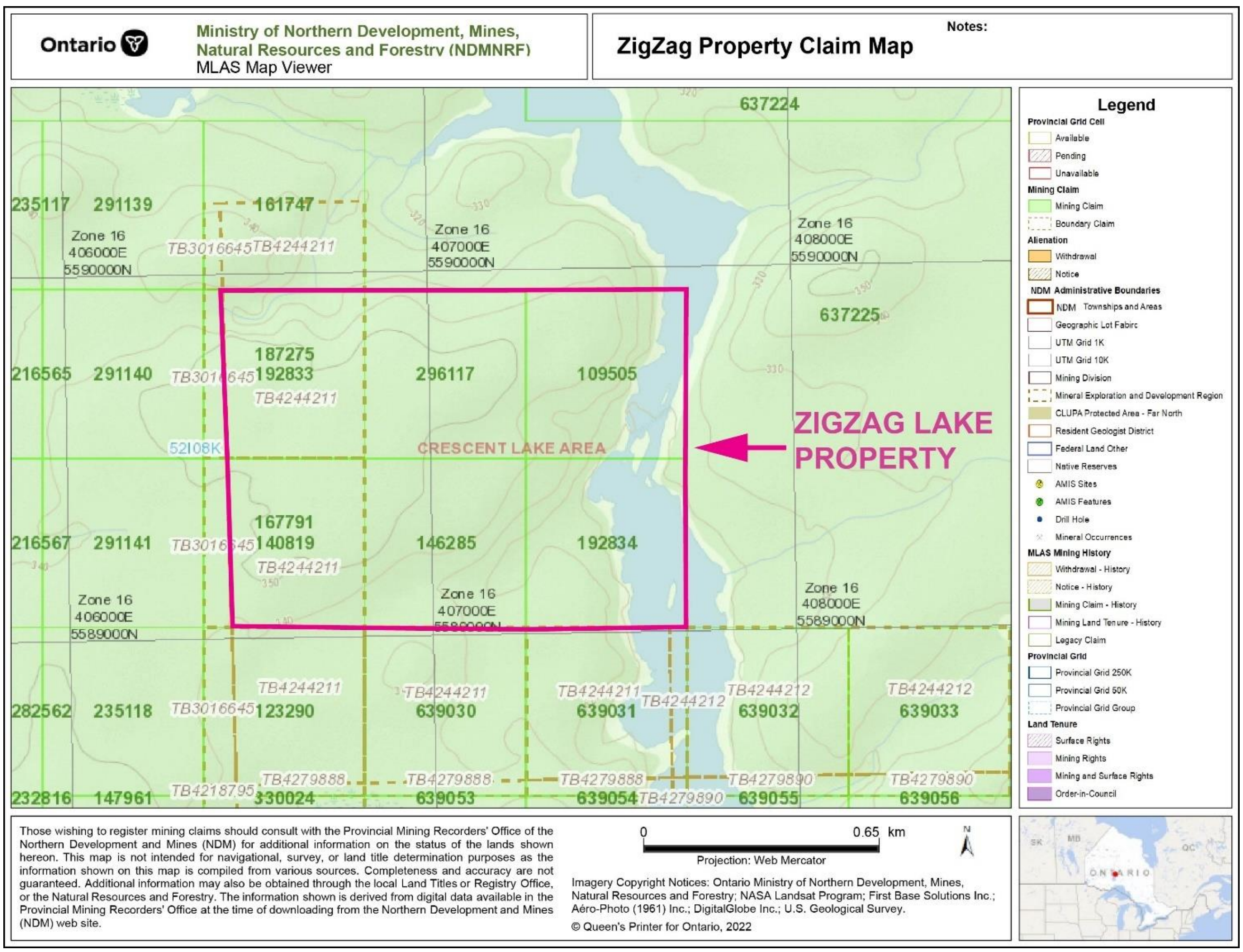

Figure 2. Claim Map

3.0 Exploration History

1956: The lithium-bearing pegmatite lenses known as the Tebishogeshik (or Zig Zag Lake) Deposit was first discovered by Frank Tebishogeshik (alternately Tebishgoeshik) – a prospector from Ferland, Ontario. The ground was staked and optioned to Dempster Explorations Limited.

1957: Detailed mapping, trenching, and sampling of the pegmatite dyke area by Dempster Explorations Ltd. One drill hole was attempted under the east end of lens No. 4 with a 7/8" core diameter packsack drill but it was found that the drill was too light for such hard rock as there was too much grinding of the core. No log was filed but it was reported by Hoiles (1958) that the dyke continued downwards at 65° at "about the sample attitude as at surface".

1958-1960: Dempster Explorations Ltd drilled 29 holes with a packsack drill on several pegmatite targets, primarily east of to the east Zig Zag Lake/Little Jackfish River/Tettares Lake. Four of the holes were drilled on the eastern most lens of the Tebishogeshik occurrence (holes 23, 24, 30 & 31). Logs are available for three of the holes but do not include assays. Hole 23 intersected 1.6 feet of pegmatite at the end of the hole containing some altered spodumene, fine grained feldspar, and green mica. Hole 31 intersected 4 inches of pegmatite plus 20.6 feet of barren pegmatite consisting of feldspar, dark quartz biotite and green mica.

1975-1982: Bird River Mines performed geochemical and magnetometer surveying over the Tebishogeshik occurrence. Their plans outline a target area 'Potential No. 2' to the southeast of the main occurrence and directly west of Tettares Lake. No description of the target area is provided in their reporting though another target outline (off the current property) is described to the east of Tettares Lake.

1979: A geochemical survey was completed under a joint venture between Cominco Ltd and E&B Explorations Inc- (Burns, 1980). Five grid areas were mapped shortly after line-cutting was completed. One grid, Grid C, included the current Zigzag property.

1997: Complex Minerals undertook MAG and VLF-EM geophysical and reconnaissance geological surveying (Bowbridge, 1998). Their aim was to determine if geophysical surveying could be used to locate further occurrences of the spodumene-bearing pegmatite. They determined that the geophysical methods were not effective, and that mechanical stripping of the overburden was a better option to trace the extension of the pegmatite bodies.

2002: Clark Exploration Consulting was hired to evaluate claims held by Platinova Resources Ltd sampling, which included the Tebishogeshik occurrence (Cullem, 2002). A one-day site visit to the property was done to confirm historic sampling. Grab samples returned tantalum values of up to 0.17%. Eight (8) holes were drilled across the Tebishogeshik occurrence

2010-11: Canadian Orebodies Inc contracted Fladgate Exploration Consulting Corp to complete a diamond drilling program on the Zigzag Property (Thompson and Henderson, 2011). Eight (8) holes were drilled totalling 484.6m. Drill hole CO-10-007 intersected 1.49% Li_2O, 240.18ppm Ta_2O5, with 580ppm Rb, 146.8ppm Be, 39.07ppm Cs, 82.42ppm Nb. Grab samples were also collected.

2016: Canadian Orebodies commissioned a structural study of a larger property area which included the Tebishogeshik/Zigzag Lake area (Birt, 2016).

4.0 Regional and Property Geology

The Property is situated within the Caribou Lake Greenstone Belt (CLGB) which is located to the north of Lake Nipigon. The CLGB is an area that is 3.5-15km (N-S) wide by 80-100km (E-W) and is an extension of the Onaman-Tashota Greenstone Belt, which dominates the eastern portion of the Wabigoon Subprovince.

The Zigzag Property is comprised of a metamorphosed volcanic unit on the northern portion of the Property, and a granitic intrusion to the south. The volcanic unit has been metamorphosed to amphibolite facies.

The primary commodities of interest on the Property are lithium and tantalum, with rubidium and cesium also being of interest. Mineralization on the Property is confined to the pegmatite dykes of the Tebishogeshik occurrence. The pegmatite occurs as lenses within the volcanics, approximately 80-100 feet north of and along the strike of, the contact with the granitic intrusion to the south. The Tebishogeshik lithium-tantalum occurrence (MDI52I08NW00017), is a series of coarser grained pegmatite lenses containing large spodumene crystals, as well as equally large muscovite, feldspar, and quartz throughout the entire strike length of the showing (~800m).

Lithium mineralization occurs within the coarse-grained spodumene crystals which can be readily observed in outcrop and drill core, with crystal sizes averaging 3-15cm in size. Tantalum occurs as tantalite, which occurs as finer-grained crystals and is not as easily seen in outcrop or drill core, though historically up to 2-inch laths have been reported.

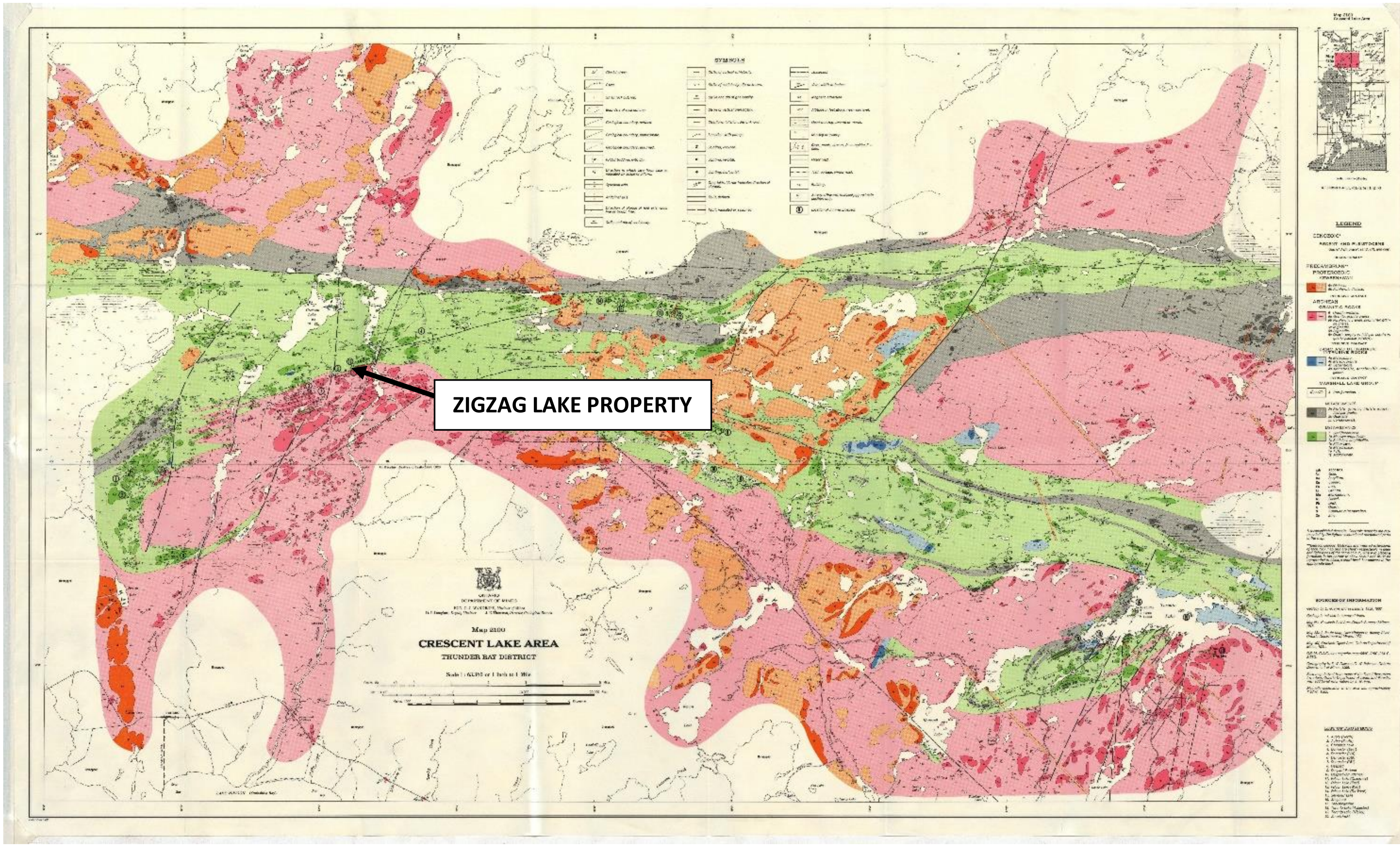

Figure 3. Zigzag Lake Regional Geology
(Pye, 1968)

Figure 4. Zigzag Lake Property Geology
(Modified after Pye, 1968)

5.0 2021 Sampling Program

A site visit to the Zigzag Lake Property was undertaken on September 21st, 2021, by geologists Paul Jones (CEO, Nuinsco Resources Ltd) and Filippo Ferri (independent consultant). The site visit had been rescheduled several times because of a lack of availability earlier in the season in part due to a bad forest fire season.

During the summer the property is only accessible via helicopter. During the winter, the Tebishogeshik showing can be reached by old logging trails which are only suitable for winter use. These trails were last used for the 2010/2011 drilling program on the claims by the exploration company Canadian Orebodies and will require maintenance and upgrade to be used again.

The geologists obtained accommodations in Thunder Bay before and after the site visit. A Bell 206 helicopter was hired from Wiskair based Thunder Bay, Ontario. The flight initially scheduled to depart on the morning of the September 20th was further delayed by a day due to bad weather. The helicopter made stops in Armstrong, Ontario on route to the Property for refueling.

One day was spent on site during which geologists were able to investigate available exposures of the pegmatite lenses and to obtain samples for analysis and for petrographic study. Prior to any field work, an effort to compile all historic data for the Property was started with historic mapping including historic outcrop outlines/pegmatite lens outlines, drilling, and sampling information being digitized into MapInfo/Discover format.

Samples were organized and prepared for delivery to the laboratory the following day (September 22nd). Thirteen samples collected on the claims were submitted to ActLabs in Thunder Bay for analysis using their Ultratrace 7 (UT-7) package. Complete analytical data is provided in Appendix B.

The grab sampling by Nuinsco returned values of up to **3.55% Li_2O** (sample 82063; with 113ppm Ta_2O_5 and 534ppm Rb_2O), and **836ppm Ta_2O_5** (82061; 0.02% Li_2O, 725ppm Rb_2O), and **4003ppm Rb_2O** (82067; with 0.09% Li_2O and 250ppm Ta_2O_5). Figure 5 shows the distribution of the sampling.

Table 3. Daily Work Log

Date	Geologists	Work Description
Sept 19, 2021	P Jones, F Ferri	Travel by truck from another of Company's projects near Atikokan, ON. Preparations to travel into site next day. Overnight in Thunder Bay.
Sept 20, 2021	P Jones, F Ferri	Waiting on break in weather, Helicopter flight called off. Additional preparation for another attempt tomorrow. Overnight in Thunder Bay.
Sept 21, 2021	P Jones, F Ferri	To Thunder Bay airport at 0700. Departure to Armstrong at 0735. Helicopter from Thunder Bay (Wisk Air – Bel 206L LongRanger). Refueling at Armstrong airfield in both directions. Drop-off west of Nuinsco's property boundary on a suitable clearing located on the trend of the pegmatite bodies. From the landing site we initially followed a possible access trail until we found it detoured too far to the northwest (likely a drill trail dating from the last drill program, 2010). At that point we traversed through open bush on a compass heading to re-acquire the trend of pegmatite bodies. The bush consisted of relatively open birch, balsam, and evergreens (mainly spruce) trees with locally dense underbrush and heavy sphagnum moss. The pegmatite zone outcrop exposure is generally poor, with only local patches that are visible and not covered by moss. Considerable time was expended looking for outcrops and old trenches. Exposure was made by clearing debris in old trenches and scraping moss where necessary Mineralization observed is consistently pegmatitic texture, coarse to very coarse grained. Spodumene crystals are of variable size ranging from sub centimetre to a maximum of 15 cm as randomly oriented, pale green laths within the quartz-felspar groundmass. Several old drill casings were located. One clearly marked as drill hole CO-10-006 (Canadian Orebodies). There was not enough time to examine pegmatite zone furthest to the east. 13 samples collected for assay, 1 large specimen sample collected, 3 samples typical of the mineralized pegmatite were collected for thin section study. Helicopter returned to Thunder Bay at approximately 1800.

Sept 22, 2021	P Jones, F Ferri	Preparation of samples (bagging and tagging, paperwork). Samples delivered in person to ActLabs in Thunder Bay.

Table 4. 2021 Sampling Results

Sample ID	Date	*NAD83 zone 16U*		Li2O (%)	Ta2O5 (ppm)	Rb2O (ppm)	Cs2O (ppm)	Sample Description*
		Easting	Northing					
82056	2021-09-21	406959	5589444	0.84	187	675	36.3	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82057	2021-09-21	406959	5589444	2.00	129	918	53.2	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82058	2021-09-21	406959	5589444	2.56	128	490	59.3	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82059	2021-09-21	406962	5589447	0.63	300	890	68.6	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82060	2021-09-21	406965	5589449	0.27	98	270	20.5	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82061	2021-09-21	406959	5589444	0.02	836	725	54.9	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82062	2021-09-21	406952	5589442	2.22	314	451	54.1	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82063	2021-09-21	406918	5589456	3.55	113	534	40.4	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82064	2021-09-21	406918	5589456	0.07	226	1148	62.0	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix

82065	2021-09-21	406925	5589454	0.05	97	1542	89.1	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82066	2021-09-21	406918	5589450	0.05	58	3915	126.2	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82067	2021-09-21	406810	5589420	0.09	250	4003	287.3	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix
82068	2021-09-21	406803	5589424	0.02	155	3128	149.5	PEG, BR, subhedral mg-cg to vcg pale green elongate prismatic spodumene crystals with finer dark green mica books (MUSC?), FSP-QTZ matrix

* BR=bedrock, FL=float, FSP = feldspar, MUSC=muscovite, PEG=pegmatite, QTZ=quartz; fg=fine grained, mg=medium grained, cg=coarse grained, vcg=very coarse grained

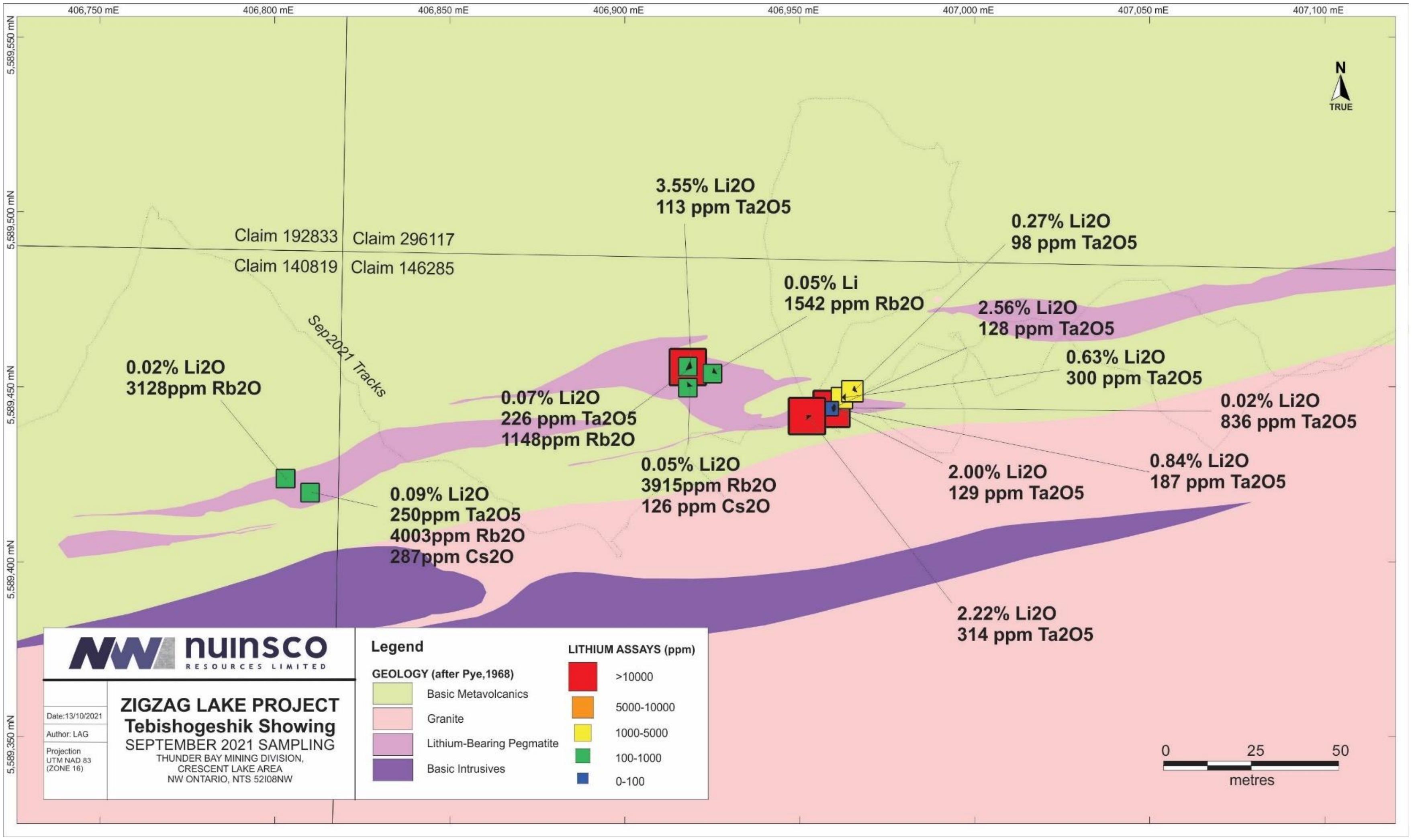

Figure 5. Sketch 2021 Sampling Plan

6.0 Petrographic Study

During the September 2021 visit to the Property three pegmatite samples were collected for petrographic examination. The study was done by consulting mineralogist Ingrid Kjarsgaard, PhD in Ottawa, Ontario. The Kjarsgaard report is attached as Appendix C along with the semi-quantitative SEM data.

The samples were found to consist of feldspar (microcline and albite), quartz, muscovite, and varying amounts of pale green spodumene. Trace minerals included spessartine garnet, beryl, U-bearing microlite (Ta-pyrochlore), zircon, and columbite.

7.0 Discussion and Recommendations

The site visit in September 2021 provided the Company with a better understanding of access to the Property as well as the state of historic exposures to the pegmatite lenses. During the visit, the trend of the host-pegmatite was traversed for approximately 600m of strike. Discontinuous, exposed, coarse-grained, spodumene-bearing pegmatite outcrops were encountered, and grab samples were collected at several locations along 160m of strike. Sampling confirmed lithium and tantalum mineralization identified during historic work programs with peak grab sample assays of up to 3.55% Li2O, 836ppm, and 4003ppm Rb2O.

Permitting is currently under way to allow for a more substantial follow up work program on the Property including diamond drilling along the trend of the mineralized pegmatite bodies.

8.0 References

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Birt, T., 2016. Assessment Report, Summer 2016 Regional Structural Study and Drilling Program, Crescent Lake Project, Falcon Lake and Zigzag Properties, Canadian Orebodies, 149p.

Bowbridge, C.R., 1998. Nolan Cox, Complex Minerals Corp, Zigzag Lake Lithium Property, Report on Preliminary Geophysical Surveys and Geological Reconnaissance, AFRI 52I08NW2001, 20p.

Burns, R.F., 1980. Cominco Ltd, EBJV Crescent Lake 1979 Assessment Report on Claims…, AFRI 52I08NW0004, 14p.

Cullen, D., 2002. Platinova Resources Ltd, Property Evaluation of The Zigzag Tantalum – Lithium Property, AFRI 52I08NW2002, 25p.

Hoiles, R.G., 1958. Geological Report, The West Group of Claims of Dempster Explorations Limited, AFRI 52I08NW0028 (plus 52I08NW0010, -0012, & -0015), 12p.

Map 2100, 1966. Crescent Lake Area, 1 inch to 50 miles.

MDI52I08NW00017, Mineral Deposit Inventory for Ontario, Zig Zag Lake – 1956, Tebishogeshik Deposit - 1956

Pye, E.G., 1968. Geology of Crescent Lake Area, Ontario Department of Mines, Geological Report 55, 72p.

Smith, V., Vos, M.A., and Abolins, T., 1982, Zigzag Lake (Dempster) Lithium Deposit *in* Open File Report 5388, Industrial Minerals of Northern Ontario – supplement 1, p. 187-191

Thompson, M. and Henderson, A., 2011. Assessment Report, Winter 2010/2011 Drilling Program, ZigZag Property, Canadian Orebodies, 162p.

9.0 Certificate of Author

Certificate for the report titled "Nuinsco Resources Limited, Zigzag Lake Project, Crescent Lake Area, Northwestern Ontario, NTS 52I08, Fall 2021 Sampling Program".

Laura Giroux, BScH, MSc, PGeo
Chief Geologist, Nuinsco Resources Limited

23 August 2022

Revised 15 December 2022

APPENDIX A

2021 Sampling and Track Map

LEGEND
Lithologies
Albite-microcline Granite
Li-bearing Pegmatite
Basic Intrusives
Schistose Basic Volcanics
Features
Claims
Property Boundary
Historic Drilling - 2010 (CO-10-##; CDN Orebodies)
Historic Drilling - 1950's (##; Dempster Expl)
Historic Outcrop Exposures
Samples (Sept 2021)
Waypoints (Sept 2021)
Tracks (Jones & Ferri; Sept 2021)
406,250 mE
406,500 mE
406,750 mE
407,000 mE
407,250 mE
407,500 mE
407,750 mE
N
ZIGZAG PROPERTY BOUNDARY
MINING CLAIM 187275
MINING CLAIM 192833
MINING CLAIM 296117
MINING CLAIM 109505
ZIGZAG LAKE
OLD GRAVEL PIT
CO-10-011
#30
#31
#23
#24
CO-10-009
CO-10-010
82063
82064
82065
82066
82059
82058
82068
82067
CO-10-004
CO-10-005
CO-10-006
CO-10-007
CO-10-008
HISTORIC OUTCROP AREAS
MINING CLAIM 167791
MINING CLAIM 140819
MINING CLAIM 146285
MINING CLAIM 192834
TETTARES LAKE
HELICOPTER LANDING SITE
ZIGZAG PROPERTY BOUNDARY
nuinsco RESOURCES LIMITED
ZIGZAG PROPERTY
SEPT 2021 SAMPLING
AND SITE VISIT
NTS 52I08, CRESCENT LAKE AREA, NORTHWEST ONTARIO
Date: 2022-08-08
Author: L. Giroux
Office:
Drawing:
Scale: 1:2000
Projection: UTM Zone 16 (NAD 83)
0 25 50 100
metres

APPENDIX B

ActLabs Analytical Certificates

Report No.:	**A21-17782**
Report Date:	**07-Oct-21**
Date Submitted:	**22-Sep-21**
Your Reference:	

Nuinsco Resources Limited
80 Richmond St, West 18th Floor
Toronto ON M5H2A4
Canada

ATTN: Paul Jones

CERTIFICATE OF ANALYSIS

22 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
UT-7	QOP Sodium Peroxide (Sodium Peroxide Fusion ICPOES + ICPMS)	2021-10-01 12:21:29

REPORT **A21-17782**

Notes:

SCC Accredited LAB
LAB Accrédité CCN TM

LabID: 266

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control Coordinator

Analyte Symbol	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Ho	Hf	In
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	5	10	3	3	2	0.01	2	0.8	0.2	30	0.1	2	0.3	0.1	0.1	0.05	0.2	0.1	0.7	0.2	10	0.2
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
82051	8.95	< 5	< 10	53	142	18	0.11	< 2	< 0.8	1.4	110	55.5	< 2	0.8	0.4	< 0.1	0.61	92.8	0.7	5.1	< 0.2	10	< 0.2
82052	10.6	< 5	< 10	21	131	3	0.04	< 2	2.4	1.6	110	66.9	2	0.4	< 0.1	< 0.1	0.74	131	1.8	5.5	< 0.2	< 10	< 0.2
82053	8.36	6	< 10	14	155	3	0.05	< 2	1.2	0.9	90	57.6	< 2	0.6	0.2	< 0.1	0.39	87.4	0.6	6.3	< 0.2	10	< 0.2
82054	8.26	< 5	< 10	17	159	84	0.06	< 2	1.2	0.4	120	72.0	< 2	0.5	< 0.1	< 0.1	0.47	93.8	0.4	5.7	< 0.2	< 10	< 0.2
82055	7.64	5	< 10	10	75	98	< 0.01	< 2	0.9	1.0	110	96.0	< 2	0.4	0.2	< 0.1	0.40	78.2	0.5	5.6	< 0.2	< 10	< 0.2
82056	8.88	< 5	< 10	12	102	5	0.12	< 2	4.6	0.7	90	34.2	3	2.0	0.3	< 0.1	0.46	75.6	4.7	4.1	0.2	10	< 0.2
82057	9.33	< 5	< 10	7	121	< 2	0.05	< 2	2.1	0.6	110	50.2	7	0.8	< 0.1	< 0.1	0.59	81.0	1.5	5.8	< 0.2	< 10	< 0.2
82058	8.27	< 5	< 10	7	162	13	< 0.01	< 2	1.4	0.8	110	55.9	12	0.6	< 0.1	< 0.1	0.59	71.6	0.4	6.7	< 0.2	< 10	< 0.2
82059	7.43	< 5	20	15	326	29	0.10	< 2	1.9	1.0	110	64.7	5	1.2	0.1	< 0.1	0.43	68.8	2.4	4.0	< 0.2	< 10	< 0.2
82060	8.79	< 5	< 10	22	79	< 2	0.13	< 2	2.4	< 0.2	90	19.3	3	0.9	0.2	< 0.1	0.40	60.0	1.8	5.8	< 0.2	< 10	< 0.2
82061	9.93	< 5	< 10	8	79	2	0.15	< 2	1.3	0.6	80	51.8	2	0.9	< 0.1	< 0.1	0.30	80.0	1.7	5.0	< 0.2	30	< 0.2
82062	8.78	< 5	< 10	5	246	7	0.07	< 2	1.3	0.5	90	51.0	< 2	0.5	< 0.1	< 0.1	0.58	77.1	1.4	5.3	< 0.2	< 10	< 0.2
82063	9.82	< 5	< 10	6	25	22	0.05	< 2	2.5	< 0.2	120	38.1	< 2	1.5	0.2	< 0.1	0.82	111	3.8	4.0	< 0.2	20	< 0.2
82064	8.54	< 5	< 10	6	319	< 2	0.14	< 2	1.6	0.6	90	58.5	< 2	0.3	< 0.1	< 0.1	0.21	52.2	0.8	5.7	< 0.2	< 10	< 0.2
82065	8.97	< 5	< 10	9	121	11	0.14	< 2	1.5	0.5	100	84.0	< 2	1.2	0.2	< 0.1	0.55	104	1.6	4.0	< 0.2	< 10	< 0.2
82066	7.96	< 5	10	< 3	106	< 2	0.05	< 2	1.1	0.6	70	119	< 2	0.6	< 0.1	< 0.1	0.31	41.4	0.6	4.5	< 0.2	< 10	< 0.2
82067	13.5	< 5	10	52	8	< 2	0.04	< 2	4.8	0.6	80	271	4	< 0.3	< 0.1	< 0.1	1.13	155	1.1	3.1	< 0.2	< 10	0.3
82068	13.1	< 5	< 10	78	5	< 2	0.11	< 2	< 0.8	2.1	60	141	< 2	0.3	< 0.1	< 0.1	0.56	75.2	0.3	3.6	< 0.2	< 10	< 0.2
82069	8.32	< 5	< 10	17	280	57	0.09	< 2	3.4	2.1	80	77.2	4	0.9	0.2	< 0.1	0.69	81.0	2.3	5.0	< 0.2	< 10	< 0.2
82070	7.51	< 5	10	5	230	27	0.10	< 2	2.2	1.7	120	55.5	6	0.4	< 0.1	< 0.1	0.48	90.8	1.5	6.0	< 0.2	10	< 0.2
82071	8.82	< 5	< 10	6	169	< 2	0.18	< 2	1.7	1.1	60	27.8	< 2	0.5	< 0.1	< 0.1	0.35	67.1	0.6	5.6	< 0.2	10	< 0.2
82072	8.03	< 5	< 10	8	196	104	0.13	< 2	3.4	0.6	50	50.2	< 2	1.0	0.5	< 0.1	0.32	78.1	1.5	6.4	< 0.2	20	< 0.2

Results **Activation Laboratories Ltd.** **Report: A21-17782**

Analyte Symbol	K	La	Li	Mg	Mn	Mo	Nb	Nd	Ni	Pb	Pr	Rb	S	Sb	Se	Si	Sm	Sn	Sr	Ta	Tb	Te	Th
Unit Symbol	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.4	3	0.01	3	1	2.4	0.4	10	0.8	0.1	0.4	0.01	2	8	0.01	0.1	0.5	3	0.2	0.1	6	0.1
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
82051	1.1	0.5	9160	0.03	1580	1	37.4	< 0.4	40	12.0	< 0.1	578	< 0.01	< 2	14	> 30.0	< 0.1	20.3	23	110	< 0.1	7	3.2
82052	1.3	1.1	> 10000	0.03	1030	< 1	21.2	1.3	30	8.8	0.2	782	< 0.01	< 2	< 8	29.3	1.3	25.9	14	54.5	0.2	< 6	4.0
82053	1.2	0.9	3870	0.01	1860	5	97.8	< 0.4	30	14.1	0.1	657	< 0.01	< 2	14	> 30.0	0.6	20.3	12	233	0.1	< 6	5.9
82054	1.1	< 0.4	7660	0.02	1200	< 1	72.7	< 0.4	50	8.8	< 0.1	740	0.01	< 2	13	> 30.0	0.9	19.2	15	257	0.1	< 6	3.2
82055	1.8	0.7	7720	0.02	847	3	53.4	< 0.4	20	9.8	< 0.1	1270	< 0.01	< 2	< 8	> 30.0	0.4	22.0	10	219	0.1	< 6	2.7
82056	1.1	1.8	3910	< 0.01	852	1	81.2	3.7	30	9.0	0.4	617	< 0.01	< 2	21	> 30.0	2.8	22.2	15	153	0.5	< 6	10.9
82057	1.3	0.7	9290	< 0.01	1380	2	62.5	< 0.4	20	8.8	0.2	839	< 0.01	< 2	< 8	> 30.0	0.6	30.5	12	106	0.3	< 6	3.6
82058	0.7	0.9	> 10000	0.01	1440	4	59.9	0.4	20	7.8	< 0.1	448	< 0.01	< 2	14	> 30.0	0.8	20.4	14	105	0.1	7	3.4
82059	1.4	0.7	2920	< 0.01	691	7	66.2	1.0	30	9.2	0.2	814	< 0.01	< 2	< 8	> 30.0	1.2	30.2	11	246	0.4	< 6	6.4
82060	0.5	0.7	1250	0.01	1590	3	55.7	1.0	20	6.0	0.3	247	< 0.01	< 2	34	> 30.0	2.7	9.8	15	80.1	0.3	7	5.1
82061	0.9	0.6	96	0.01	1650	< 1	161.1	< 0.4	20	9.2	< 0.1	663	< 0.01	< 2	34	> 30.0	1.2	21.6	11	685	0.3	< 6	6.8
82062	0.7	0.5	> 10000	< 0.01	1400	1	99.8	< 0.4	30	5.9	0.1	412	< 0.01	< 2	14	> 30.0	0.6	21.8	17	257	0.2	< 6	4.6
82063	0.8	1.1	> 10000	0.02	864	3	69.7	1.6	10	21.1	0.5	488	< 0.01	< 2	< 8	> 30.0	2.8	42.3	14	92.9	0.7	< 6	7.2
82064	1.7	0.8	306	< 0.01	710	1	53.5	0.9	20	20.0	0.1	1050	< 0.01	< 2	< 8	> 30.0	0.8	15.8	14	185	0.1	7	3.2
82065	2.1	< 0.4	232	< 0.01	684	2	44.0	0.5	30	13.6	0.2	1410	< 0.01	< 2	< 8	> 30.0	1.0	62.1	14	79.5	0.4	< 6	5.1
82066	5.6	0.6	249	0.01	247	3	27.3	0.7	20	19.9	< 0.1	3580	< 0.01	< 2	14	> 30.0	0.6	10.3	12	47.7	< 0.1	< 6	2.0
82067	6.3	2.6	420	0.06	287	3	143.7	2.0	30	17.5	0.6	3660	< 0.01	< 2	< 8	> 30.0	1.6	92.8	19	205	< 0.1	13	8.3
82068	7.2	< 0.4	112	0.02	181	< 1	23.3	0.7	20	30.4	< 0.1	2860	< 0.01	< 2	< 8	> 30.0	0.2	28.1	28	127	< 0.1	15	2.9
82069	1.3	1.2	9840	0.03	1030	4	61.1	1.0	30	13.4	0.5	640	< 0.01	< 2	< 8	> 30.0	2.7	21.9	12	149	0.3	< 6	5.1
82070	0.7	1.3	8350	0.02	1470	4	65.2	0.6	60	8.0	0.3	450	< 0.01	< 2	< 8	> 30.0	0.4	23.3	20	235	0.1	7	4.3
82071	0.5	1.0	67	< 0.01	1490	1	106.5	< 0.4	20	6.2	0.2	203	< 0.01	< 2	< 8	> 30.0	0.5	10.9	27	348	0.2	< 6	4.3
82072	1.1	1.7	63	< 0.01	1510	1	152.1	1.8	10	7.8	0.4	554	< 0.01	< 2	< 8	> 30.0	1.7	14.6	18	352	0.3	< 6	5.7

Analyte Symbol	Ti	Tl	Tm	U	V	W	Y	Yb	Zn
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	0.1	0.1	5	0.7	0.1	0.1	30
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
82051	< 0.01	4.1	< 0.1	5.9	< 5	6.1	7.8	0.6	30
82052	< 0.01	6.5	< 0.1	2.4	< 5	4.0	2.1	< 0.1	60
82053	< 0.01	4.8	< 0.1	7.3	< 5	7.3	5.4	0.3	< 30
82054	< 0.01	5.2	< 0.1	4.9	< 5	5.7	1.7	0.2	130
82055	< 0.01	9.6	< 0.1	5.3	< 5	4.8	1.5	0.2	200
82056	< 0.01	3.6	< 0.1	10.4	< 5	3.8	13.4	< 0.1	290
82057	< 0.01	5.1	< 0.1	2.5	< 5	4.5	4.2	< 0.1	90
82058	< 0.01	3.1	< 0.1	2.7	< 5	4.0	5.2	0.1	60
82059	< 0.01	4.8	< 0.1	7.6	< 5	4.3	3.6	0.3	140
82060	< 0.01	1.5	< 0.1	4.2	< 5	3.8	5.6	0.1	70
82061	< 0.01	3.6	< 0.1	8.6	9	5.8	6.3	0.2	40
82062	< 0.01	2.4	< 0.1	4.9	< 5	3.1	3.7	0.2	50
82063	< 0.01	2.8	< 0.1	5.2	< 5	3.5	16.9	0.4	240
82064	< 0.01	7.2	< 0.1	3.9	< 5	3.2	4.1	0.2	210
82065	< 0.01	8.2	< 0.1	4.8	14	5.3	6.4	0.3	60
82066	< 0.01	27.8	< 0.1	2.4	< 5	2.0	1.2	< 0.1	30
82067	0.03	23.9	< 0.1	1.8	51	8.7	1.0	0.2	90
82068	< 0.01	20.7	< 0.1	0.9	19	4.9	0.6	< 0.1	40
82069	< 0.01	5.6	< 0.1	3.9	< 5	4.2	3.6	0.3	90
82070	< 0.01	2.8	< 0.1	5.0	< 5	3.4	3.7	< 0.1	190
82071	< 0.01	1.2	< 0.1	6.9	< 5	3.5	4.7	0.3	< 30
82072	< 0.01	3.6	< 0.1	7.6	< 5	1.8	11.8	0.3	40

Analyte Symbol	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Ho	Hf	In
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	5	10	3	3	2	0.01	2	0.8	0.2	30	0.1	2	0.3	0.1	0.1	0.05	0.2	0.1	0.7	0.2	10	0.2
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
PTM-1a Meas		2250								> 5000			> 10000										
PTM-1a Cert		2200								20500.00			249600.00										
NIST 696 Meas	> 25.0										320												
NIST 696 Cert	28.9										321.0												
DTS-2b Meas	0.22						0.04																
DTS-2b Cert	0.240						0.0900																
Oreas 74a (Fusion) Meas		47								536	1810		1190				14.1						
Oreas 74a (Fusion) Cert		50								581	1800.00		1240.000				13.7						
OREAS 101a (Fusion) Meas																	10.7						
OREAS 101a (Fusion) Cert																	11.06						
NCS DC86314 Meas												2930											
NCS DC86314 Cert												2830											
CZN-4 Meas	0.07	343						2540		85.0			3980										
CZN-4 Cert	0.0715	356.0000						2604.0000		93.5			4030.000										
OREAS 922 (Peroxide Fusion) Meas	7.71						0.48										5.69						
OREAS 922 (Peroxide Fusion) Cert	7.59						0.49										5.71						
CCU-1e Meas	0.14	1100						78		306			> 10000				> 30.0						
CCU-1e Cert	0.139	1010						74.2		301			229000				30.7						
OREAS 680 (Peroxide Fusion) Meas	7.42						5.61										11.8						
OREAS 680 (Peroxide Fusion) Cert	7.19						5.80										11.9						
OREAS 139 (Peroxide Fusion) Meas	3.84						1.21										11.8						
OREAS 139 (Peroxide Fusion) Cert	3.70						1.20										11.9						
OREAS 624 (Peroxide Fusion) Meas	4.43	120		1070		22	1.54	134	33.4	271		2.4	> 10000				16.3	22.5					4.0
OREAS 624 (Peroxide Fusion) Cert	4.32	115		1070		21.3	1.49	133	32.9	273		1.32	30800				16.3	22.1					4.14
OREAS 124 (Peroxide Fusion) Meas	4.57						< 0.01										1.50						
OREAS 124 (Peroxide Fusion) Cert	4.62						0.0880										1.56						
AMIS 0346 (Peroxide Fusion) Meas																	> 30.0						

Analyte Symbol	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Ho	Hf	In
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	5	10	3	3	2	0.01	2	0.8	0.2	30	0.1	2	0.3	0.1	0.1	0.05	0.2	0.1	0.7	0.2	10	0.2
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
AMIS 0346 (Peroxide Fusion) Cert																	44.3						
NCS DC73520 Meas		5				7		< 2		14.5	70		49							5.4			
NCS DC73520 Cert		5				7		0.5		12.9	20		46							6.0			
OREAS 148 (Peroxide Fusion) Meas	5.42	61		1090	37	19	0.86		706		120	345	343	5.4	1.6	5.8	2.97	20.6	13.6		0.7	10	3.9
OREAS 148 (Peroxide Fusion) Cert	5.37	59		1010	39	19	0.90		795		69	311	351	6.1	2.0	7.2	3.06	29.2	15.8		0.9	4	4.2
82057 Orig	9.41	< 5	< 10	9	124	< 2	0.04	< 2	2.4	0.5	120	49.1	11	1.0	0.2	< 0.1	0.61	79.7	1.7	5.8	< 0.2	< 10	< 0.2
82057 Dup	9.26	< 5	< 10	4	117	< 2	0.06	< 2	1.7	0.6	100	51.3	3	0.6	< 0.1	< 0.1	0.58	82.4	1.2	5.7	< 0.2	< 10	< 0.2
82065 Orig	8.75	< 5	10	11	118	11	0.14	< 2	1.4	0.4	100	83.8	< 2	1.0	0.2	< 0.1	0.53	101	1.8	4.5	< 0.2	< 10	< 0.2
82065 Dup	9.19	< 5	< 10	6	123	11	0.14	< 2	1.7	0.5	90	84.2	< 2	1.5	0.2	< 0.1	0.56	107	1.4	3.5	< 0.2	< 10	< 0.2
82071 Orig	8.75	< 5	< 10	6	168	< 2	0.20	< 2	1.5	1.2	60	27.6	3	0.5	< 0.1	< 0.1	0.34	65.1	0.7	5.6	< 0.2	10	< 0.2
82071 Dup	8.89	< 5	< 10	7	169	< 2	0.15	< 2	2.0	1.1	50	27.9	< 2	0.5	0.1	< 0.1	0.35	69.2	0.6	5.7	< 0.2	10	< 0.2
82072 Orig	8.03	< 5	< 10	8	196	104	0.13	< 2	3.4	0.6	50	50.2	< 2	1.0	0.5	< 0.1	0.32	78.1	1.5	6.4	< 0.2	20	< 0.2
82072 Split PREP DUP	8.04	< 5	< 10	9	201	106	0.08	< 2	2.7	1.3	50	50.7	6	1.7	0.3	< 0.1	0.32	74.5	1.5	5.4	< 0.2	20	< 0.2
Method Blank	< 0.01	< 5	< 10	< 3	< 3	< 2	< 0.01	< 2	< 0.8	0.7	40	0.3	5	< 0.3	< 0.1	< 0.1	< 0.05	< 0.2	< 0.1	< 0.7	< 0.2	< 10	< 0.2
Method Blank	< 0.01	< 5	< 10	< 3	< 3	< 2	< 0.01	< 2	< 0.8	1.4	80	0.6	3	< 0.3	< 0.1	< 0.1	< 0.05	< 0.2	< 0.1	< 0.7	< 0.2	< 10	< 0.2

Analyte Symbol	K	La	Li	Mg	Mn	Mo	Nb	Nd	Ni	Pb	Pr	Rb	S	Sb	Se	Si	Sm	Sn	Sr	Ta	Tb	Te	Th
Unit Symbol	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.4	3	0.01	3	1	2.4	0.4	10	0.8	0.1	0.4	0.01	2	8	0.01	0.1	0.5	3	0.2	0.1	6	0.1
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
PTM-1a Meas									> 10000				22.4										
PTM-1a Cert									474400.00				22.4										
NIST 696 Meas																							
NIST 696 Cert																							
DTS-2b Meas				> 30.0												19.2							
DTS-2b Cert				29.8												18.4							
Oreas 74a (Fusion) Meas									> 10000				7.64			15.8							
Oreas 74a (Fusion) Cert									32400.00				7.25			15.14							
OREAS 101a (Fusion) Meas	2.3			1.15																			
OREAS 101a (Fusion) Cert	2.34			1.23																			
NCS DC86314 Meas			> 10000									> 5000						159					
NCS DC86314 Cert			18100.00									11400						152					
CZN-4 Meas										1750			> 25.0		118	0.26							
CZN-4 Cert										1861.0000			33.07		86.7	0.295							
OREAS 922 (Peroxide Fusion) Meas	2.6			1.60									0.37			> 30.0							
OREAS 922 (Peroxide Fusion) Cert	2.60			1.61									0.389			30.51							
CCU-1e Meas				0.73	97					> 5000			> 25.0	105								73	
CCU-1e Cert				0.706	96.0					7030			35.3	104								61.8	
OREAS 680 (Peroxide Fusion) Meas	1.3			3.65									5.15			21.3							
OREAS 680 (Peroxide Fusion) Cert	1.29			3.71									5.14			20.6							
OREAS 139 (Peroxide Fusion) Meas	3.4			0.50									16.0			16.9							
OREAS 139 (Peroxide Fusion) Cert	3.30			0.501									16.04			16.34							
OREAS 624 (Peroxide Fusion) Meas	1.0	16.9	39	1.28	691	19	8.0	16.5		> 5000	4.9	28.2	13.4	69		21.0			42				3.9
OREAS 624 (Peroxide Fusion) Cert	0.991	17.3	10.3	1.31	660	17.8	5.78	16.8		6120	4.27	33.0	13.2	72.0		20.5			47.6				4.12
OREAS 124 (Peroxide Fusion) Meas	2.6			0.21												> 30.0							
OREAS 124 (Peroxide Fusion) Cert	2.62			0.224												38.2							
AMIS 0346 (Peroxide Fusion) Meas																							

Analyte Symbol	K	La	Li	Mg	Mn	Mo	Nb	Nd	Ni	Pb	Pr	Rb	S	Sb	Se	Si	Sm	Sn	Sr	Ta	Tb	Te	Th
Unit Symbol	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.4	3	0.01	3	1	2.4	0.4	10	0.8	0.1	0.4	0.01	2	8	0.01	0.1	0.5	3	0.2	0.1	6	0.1
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
AMIS 0346 (Peroxide Fusion) Cert																							
NCS DC73520 Meas					8290	1490			70	12.7			0.41	< 2				5.6					
NCS DC73520 Cert					9100	1500			50	10.5			0.44	0.6				4.5					
OREAS 148 (Peroxide Fusion) Meas	1.6	460	4820	0.44	386	10	1622.6	240			75.8	1440		17		> 30.0	27.4	1300	193		2.0		47.8
OREAS 148 (Peroxide Fusion) Cert	1.5	478	4760	0.47	380	10	1680.0	260			82.0	1360		16		36.0	34.3	1160	209		1.6		51.0
82057 Orig	1.3	0.7	9490	0.01	1420	2	61.8	1.0	30	9.5	0.1	839	< 0.01	< 2	21	> 30.0	1.1	29.1	13	106	0.2	15	3.7
82057 Dup	1.3	0.7	9080	< 0.01	1350	3	63.1	< 0.4	20	8.0	0.3	840	< 0.01	< 2	< 8	> 30.0	0.2	32.0	11	107	0.3	< 6	3.5
82065 Orig	2.1	< 0.4	232	< 0.01	663	2	41.4	0.4	30	14.8	0.3	1410	< 0.01	< 2	< 8	> 30.0	1.1	61.0	14	79.0	0.3	9	5.1
82065 Dup	2.2	0.7	232	< 0.01	705	1	46.6	0.6	20	12.5	0.2	1420	< 0.01	< 2	14	> 30.0	1.0	63.1	13	80.1	0.4	< 6	5.0
82071 Orig	0.5	0.9	67	0.01	1520	1	106.8	< 0.4	20	7.6	0.2	198	< 0.01	< 2	14	> 30.0	0.6	9.9	29	355	0.2	7	4.4
82071 Dup	0.5	1.2	66	< 0.01	1470	2	106.3	< 0.4	20	4.8	0.2	207	< 0.01	< 2	< 8	> 30.0	0.5	11.9	26	342	0.1	< 6	4.2
82072 Orig	1.1	1.7	63	< 0.01	1510	1	152.1	1.8	10	7.8	0.4	554	< 0.01	< 2	< 8	> 30.0	1.7	14.6	18	352	0.3	< 6	5.7
82072 Split PREP DUP	1.1	1.2	63	< 0.01	1580	1	141.3	1.2	20	8.4	0.5	550	< 0.01	< 2	< 8	> 30.0	1.3	14.9	13	333	0.2	< 6	6.1
Method Blank	< 0.1	< 0.4	15	< 0.01	4	2	3.0	< 0.4	10	6.1	< 0.1	1.8	< 0.01	< 2	14	< 0.01	0.1	0.7	7	1.8	< 0.1	7	< 0.1
Method Blank	< 0.1	< 0.4	23	< 0.01	< 3	< 1	3.9	< 0.4	20	4.0	< 0.1	2.7	< 0.01	< 2	13	< 0.01	< 0.1	< 0.5	10	1.4	< 0.1	7	< 0.1

Analyte Symbol	Ti	Tl	Tm	U	V	W	Y	Yb	Zn
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	0.1	0.1	5	0.7	0.1	0.1	30
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
PTM-1a Meas									
PTM-1a Cert									
NIST 696 Meas					384				
NIST 696 Cert					403.0000				
DTS-2b Meas									
DTS-2b Cert									
Oreas 74a (Fusion) Meas									
Oreas 74a (Fusion) Cert									
OREAS 101a (Fusion) Meas	0.38								
OREAS 101a (Fusion) Cert	0.395								
NCS DC86314 Meas						80.6			
NCS DC86314 Cert						79.0			
CZN-4 Meas									> 10000
CZN-4 Cert									550700.00
OREAS 922 (Peroxide Fusion) Meas	0.43								
OREAS 922 (Peroxide Fusion) Cert	0.439								
CCU-1e Meas		2.6							> 10000
CCU-1e Cert		2.69							30200
OREAS 680 (Peroxide Fusion) Meas	0.52								
OREAS 680 (Peroxide Fusion) Cert	0.523								
OREAS 139 (Peroxide Fusion) Meas	0.16								
OREAS 139 (Peroxide Fusion) Cert	0.157								
OREAS 624 (Peroxide Fusion) Meas	0.15	1.1		1.3	38	8.1	17.2	2.4	> 10000
OREAS 624 (Peroxide Fusion) Cert	0.146	0.940		1.34	43.3	4.58	17.3	1.94	24100
OREAS 124 (Peroxide Fusion) Meas	0.26								
OREAS 124 (Peroxide Fusion) Cert	0.254								
AMIS 0346 (Peroxide Fusion) Meas	14.7				2800				

Analyte Symbol	Ti	Ti	Tm	U	V	W	Y	Yb	Zn
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	0.1	0.1	5	0.7	0.1	0.1	30
Method Code	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
AMIS 0346 (Peroxide Fusion) Cert	15.0				2700				
NCS DC73520 Meas						525			410
NCS DC73520 Cert						518			370
OREAS 148 (Peroxide Fusion) Meas	0.34	11.0	0.2	8.2	53	10.0	16.7	1.2	180
OREAS 148 (Peroxide Fusion) Cert	0.35	12.3	0.2	8.6	56	6.42	19.4	1.4	160
82057 Orig	< 0.01	5.1	< 0.1	2.6	< 5	5.3	5.1	0.2	110
82057 Dup	< 0.01	5.2	< 0.1	2.3	< 5	3.8	3.2	< 0.1	70
82065 Orig	< 0.01	8.1	< 0.1	4.9	15	5.9	6.8	0.3	40
82065 Dup	< 0.01	8.2	< 0.1	4.8	13	4.7	6.1	0.3	90
82071 Orig	< 0.01	1.2	< 0.1	6.9	< 5	3.4	6.0	0.4	< 30
82071 Dup	< 0.01	1.3	< 0.1	6.8	< 5	3.6	3.4	0.2	< 30
82072 Orig	< 0.01	3.6	< 0.1	7.6	< 5	1.8	11.8	0.3	40
82072 Split PREP DUP	< 0.01	4.0	< 0.1	7.4	< 5	2.5	8.7	0.6	< 30
Method Blank	< 0.01	< 0.1	< 0.1	0.2	< 5	5.9	< 0.1	< 0.1	< 30
Method Blank	< 0.01	< 0.1	< 0.1	0.2	< 5	3.4	< 0.1	< 0.1	< 30

Quality Analysis ... **Actlabs** *Innovative Technologies*

Report No.:	**A21-17782-Final2**
Report Date:	**08-Oct-21**
Date Submitted:	**22-Sep-21**
Your Reference:	

Nuinsco Resources Limited
80 Richmond St, West 18th Floor
Toronto ON M5H2A4
Canada

ATTN: Paul Jones

CERTIFICATE OF ANALYSIS

22 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
8-Peroxide ICPMS/ICP	QOP Sodium Peroxide (Sodium Peroxide Fusion ICPMS & ICP)	2021-10-07 14:47:00
UT-7	QOP Sodium Peroxide (Sodium Peroxide Fusion ICPOES + ICPMS)	

REPORT **A21-17782-Final2**

Notes:

SCC Accredited LAB / LAB Accrédité CCN

LabID: 266

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control Coordinator

Analyte Symbol	Li
Unit Symbol	%
Lower Limit	0.001
Method Code	FUS-MS-Na2O2
82052	1.98
82058	1.19
82062	1.03
82063	1.65

Analyte Symbol	Li
Unit Symbol	%
Lower Limit	0.001
Method Code	FUS-MS-Na2O2
NCS DC86314 Meas	1.88
NCS DC86314 Cert	1.81
Lithium Tetraborate FX-LT 100 lot#220610B Meas	7.86
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8
OREAS 148 (Peroxide Fusion) Meas	0.482
OREAS 148 (Peroxide Fusion) Cert	0.476

APPENDIX C

Petrographic Study and SEM Data

THREE PEGMATITE SAMPLES

Petrographic Examination by Ingrid Kjarsgaard, Consulting Mineralogist, Ottawa
for Paul Jones, NUINSCO Resources Ltd.
October 2021

Overview

The three pegmatite samples consisted of feldspar (microcline and albite), quartz, muscovite and varying amounts of pale green spodumene, which in sample 1 was strongly altered but abundant and fresh in sample 3. Under the microscope additional trace minerals were discovered (most of them in sample 3A): spessartine garnet, beryl, U-bearing microlite (Ta-pyrochlore), zircon and columbite. One grain of microlite measured ca. 100µm (see photo on p.7), others were intergrown as an aggregate in a 550µm grain of columbite (photo on p.9). Tiny grains of columbite (≤25 µm) were also found disseminated in albite.

The individual petrographic descriptions follow below, including photos of the relevant minerals and areas. Note that the modal estimates vary strongly between thin sections because of the coarse grained nature of the rocks. SEM data were compiled on a separate page (wt.% oxide) in the workbook “Pegmatite SEM data” and fitted with a formula calculation.

SEM data

Semi-quantitative data for the major and minor mineral phases in sample 3 were obtained by SEM-EDS (see workbook “Pegmatite SEM data”). Li and Be could not be analyzed because they do not produce strong enough X-ray-fluorescence. Li_2O and BeO values from literature were added to the spodumene and beryl analyses, respectively, to produce a more complete analysis. The resulting formula calculation yielded a fairly close approximation of those minerals and confirms their identification.

Microlite contains between 59 to 77 wt.% Ta_2O_5, 6.4 to 7.4 wt.% UO_2 and 2.5 to 4.8 wt.% Nb_2O_5. Columbite contained between 29 and 42 wt.% Ta_2O_5 and 30 to 50 wt.% Nb_2O_5.

In sample 3A a colourless mineral with the optical characteristics of beryl was found, which showed wispy bright areas in BSE image in the centre of one grain that produced significant values of Cs (> 2wt.% Cs_2O), which is not unusual for beryl from LCT pegmatites (see attached excerpt on beryl from “Handbook of Mineralogy”).

Petrographic Descriptions

Note that the modal estimates vary strongly between thin sections because of the coarse grained nature of the rocks.

1) **Sample 1:** hand sample: triangular tapering piece, 13 x 6.5 x 7cm long consisting of ca. 60% pale feldspar (perthitic microcline and plagioclase), 25% grey quartz and 15% pale olive green muscovite; the thin section shows additional altered remnants of spodumene, trace fine grained, isometric spessartine garnet (≤ 0.5 mm), no opaques or other accessory minerals.

   Quartz (60%) colourless, anhedral, medium to coarse grained (up to 1.2 cm), fractured, with slight undulous extinction (slightly deformed)

   Microcline (10%) coarse (up to 1.5 cm), anhedral, perthitic with patchy exsolutions of plagioclase

   Muscovite (10%) coarse, colourless, subhedral slightly bent grains (up to 1 cm), some with quite low ifc.

   Plagioclase (5%) medium grained (up to 0.5 cm) elongate, subhedral to anhedral, tabular, slightly deformed crystals intergrown with quartz and microcline

   Spodumene (1%) colourless, high relief, disaggregated remnants surrounded by pale beige micaceous alteration with low ifc. (Li-Al-clay?)

   Spessartine garnet (tr.) small (. μm) colourless high relief isometric grains (≤ 400 μm) in muscovite

2) **Sample 2:** triangular tapering piece, 12 x 6 x 7cm long, consisting of ca. 75% feldspar, an elongated greenish-brownish mineral (altered spodumene?), grey quartz, minor pale olive green muscovite; potentially dark rectangular grain a few mm. The thinsection shows only quartz and feldspar with trace garnet.

   Quartz (25%) colourless, anhedral, medium to coarse grained (up to 1.0 cm), fractured, with slight undulous extinction (slightly deformed)

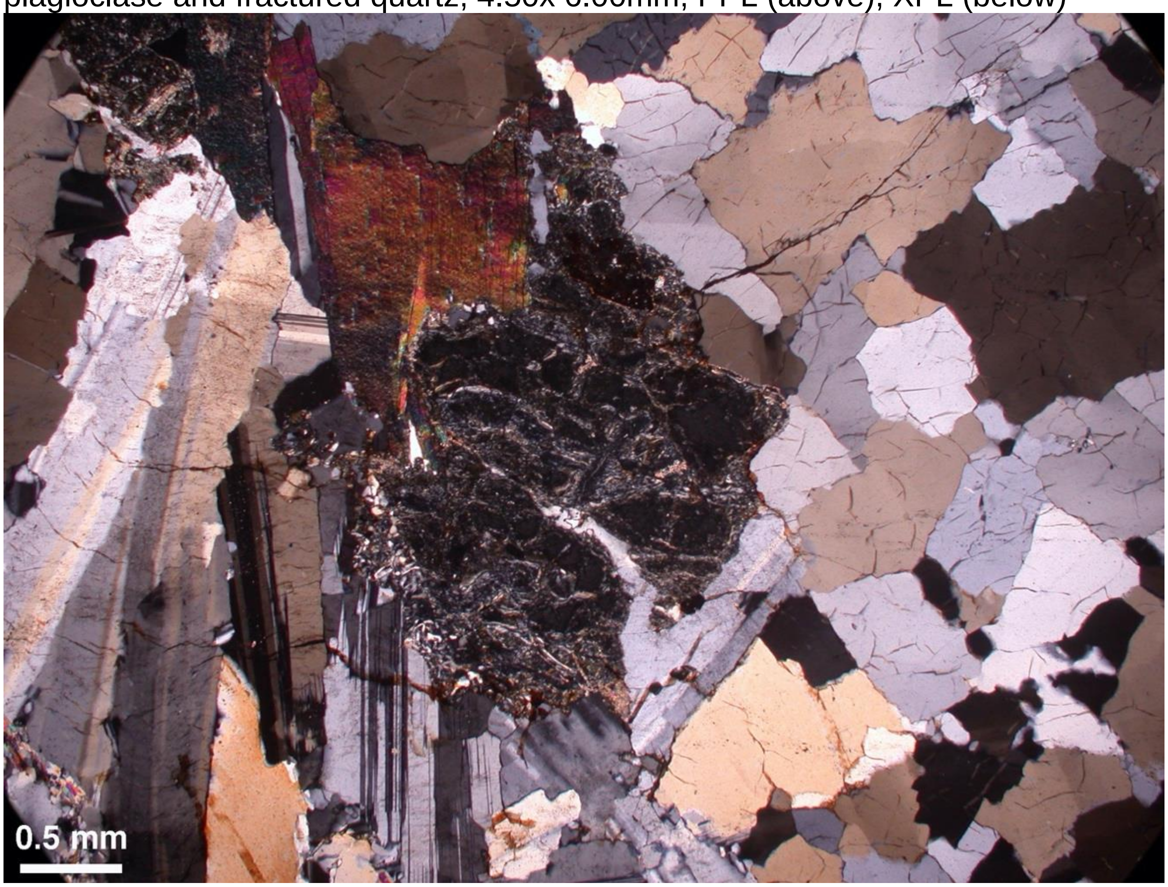
   Microcline (50%) fine granular to very coarse (up to 2 cm), anhedral, with small inclusions of plagioclase, and thin veinlets of qtz; finer grained around grain boundaries of large grains

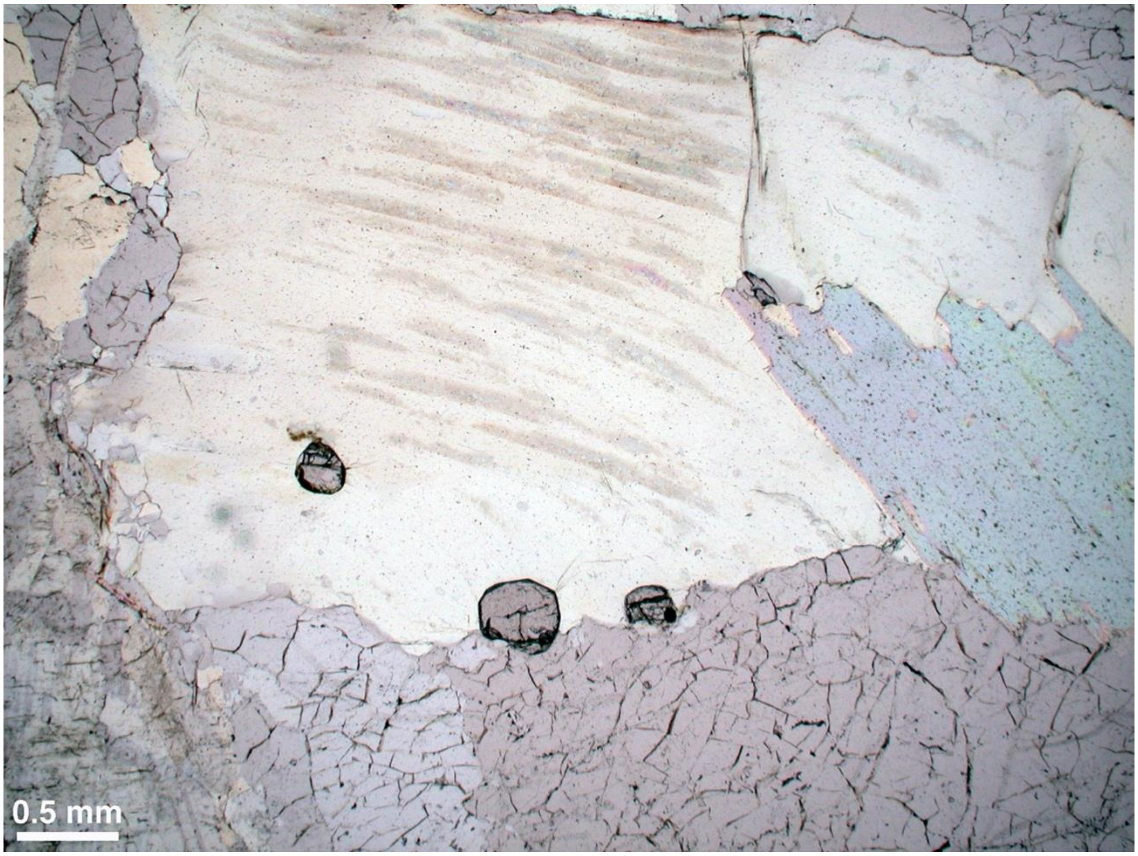
   Plagioclase (25%) medium grained (up to 1.5 cm) elongate, bladed crystals (cleavelandite?) intergrown with quartz and microcline

   Almandine-spessartine garnet (tr.) small (≤300 μm) colourless high relief isometric grains in qtz-fsp

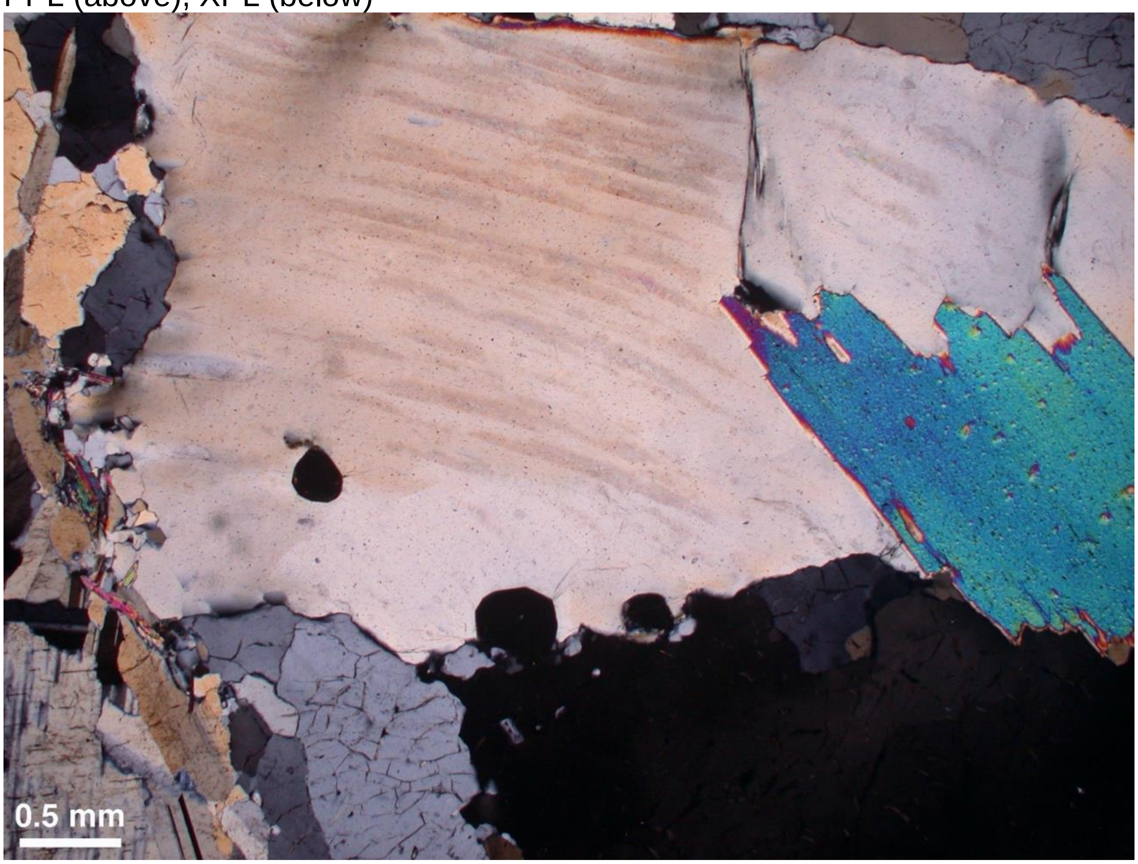
   Muscovite (tr.) very small, very rare as single crystals or aggregates along grain boundaries of plagioclase

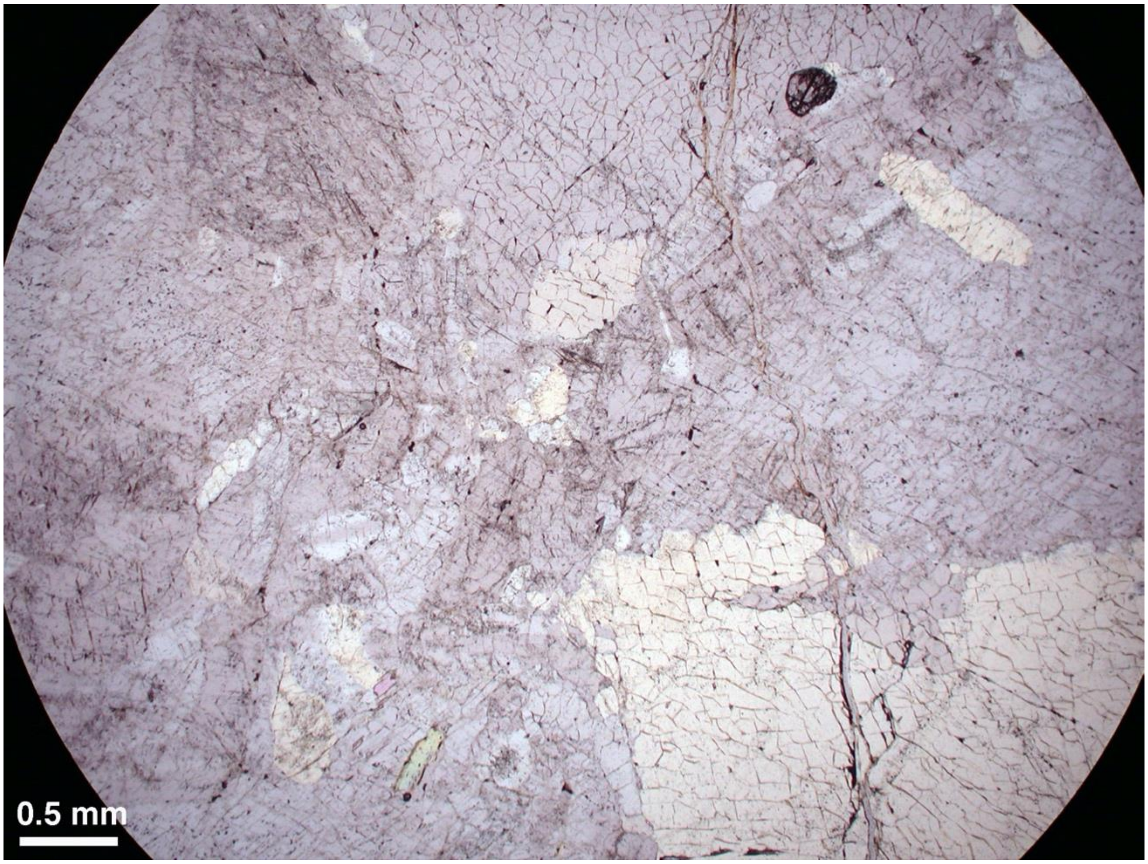
Sample 1 (1) spodumene remnants surrounded by alteration, intergrown with muscovite, plagioclase and fractured quartz; 4.50x 6.00mm; PPL (above), XPL (below)





Sample 1 (2) three small spessartine garnets in muscovite adjacent to quartz; 4.50x 6.00mm; PPL (above), XPL (below)





Sample 2 (1) small spessartine garnet in qtz-fsp with small muscovite flakes (lower left); F.o.V. 4.78x6.37mm (PPL, above, XPL, next page)

3) **Sample 3**: massive piece (13 x 10 x 8cm) with white fsp (albite), pale green elongate spodumene laths, grey quartz, white mica and some lichen. In addition, the thin section 3A shows a few isometric garnet grains (almost colourless, up to 1.2 mm), beryl, and small granular high relief grains of yellowish brown U-microlite, pale brown (zircon), and pale olive greenish microlite intergrown with very inhomogeneous opaque columbite. The section was examined by SEM to confirm the mineral identification, however, Li and Be cannot be detected by either SEM or microprobe because the elements are too light to produce characteristic X-rays. This means any Li-content in spodumene, muscovite or Be in beryl could not be detected. The beryl showed some Cs-rich domains in the BSE image.

Spodumene (55%) faintly coloured (pale yellowish to grey, pleochroic) coarse (up to 2cm long) colourless (low 1st order ifc.), subhedral, rounded, high relief grains with strong fracturing and cleavage, frayed around the edges and surrounded by myrmekitic intergrowth of quartz and colourless mica (muscovite, lepidolite?), some twinned

Quartz (18%) colourless, anhedral, medium grained (up to 0.3 cm), fractured, with slight undulous extinction (slightly deformed)

Plagioclase (22%) medium grained (up to 0.5 cm) elongate, bladed crystals intergrown with quartz

Muscovite (2%) colourless, anhedral deformed grains (up to 3 mm) intergrown with quartz & fsp; ii) in fine grained intergrowth with quartz around spodumene crystals

Spessartine garnet (tr.) small (200 to 800 μm) colourless high relief isometric grains in qtz-fsp

Beryl? (3%) colourless, fine grained, euhedral to anhedral grains in qtz-fsp matrix (slightly higher relief and pebbly surface texture), largest grain 0.5 cm

Columbite (tr.) i) opaque subhedral grain (600μm) overgrowing granular aggregate of microlite; ii) as very fine grained (≤ 25 μm), deep red translucent almost opaque euhedral grains with high reflectance (light grey) intergrown with spodumene and albite

U-Microlite (tr.) dark yellowish brown translucent, round very high relief isometric grain (100 μm) with radioactive burn marks, isotropic (cubic and/or metamict). – circle 1

Zircon (tr.) brown, anisotropic, high relief rounded lozenge shaped grains (50-100μm) attached to opaque columbite – circle 2

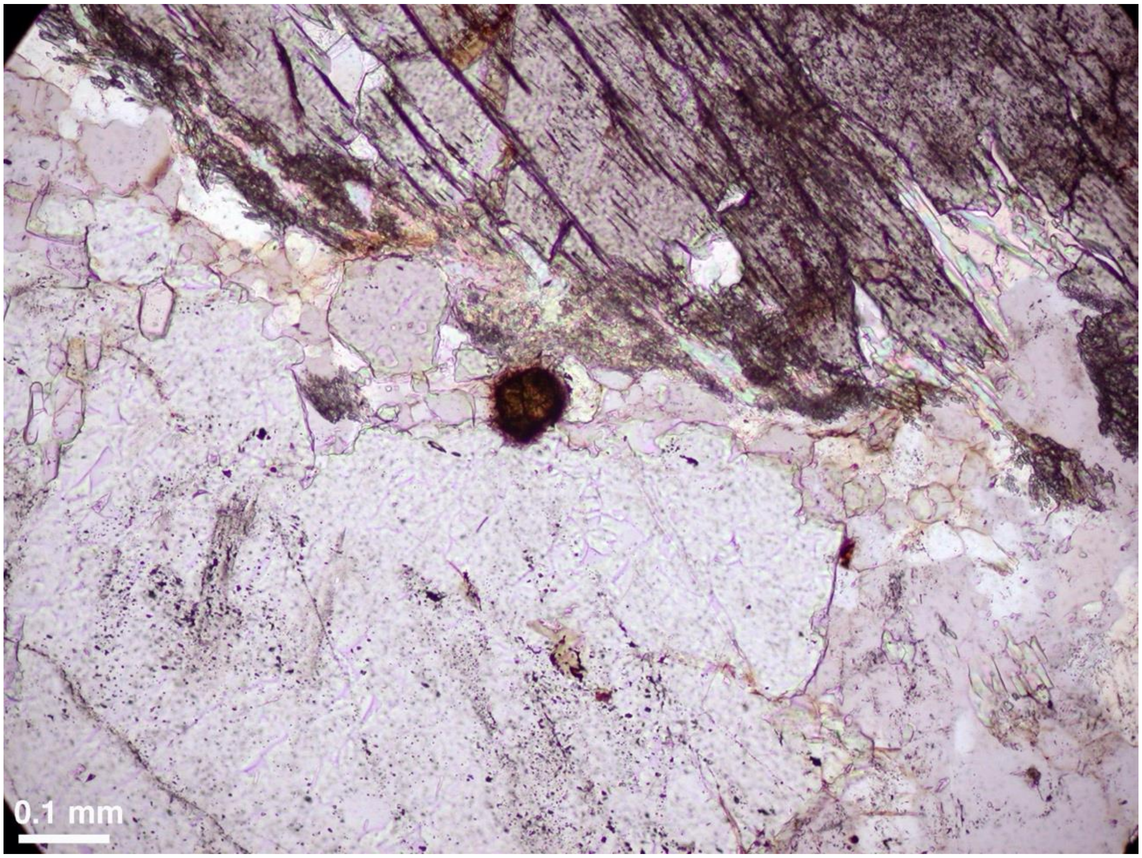
Microlite (tr.) greenish-brownish translucent high relief granular aggregate (200μm) intergrown with opaque columbite

3A circles:

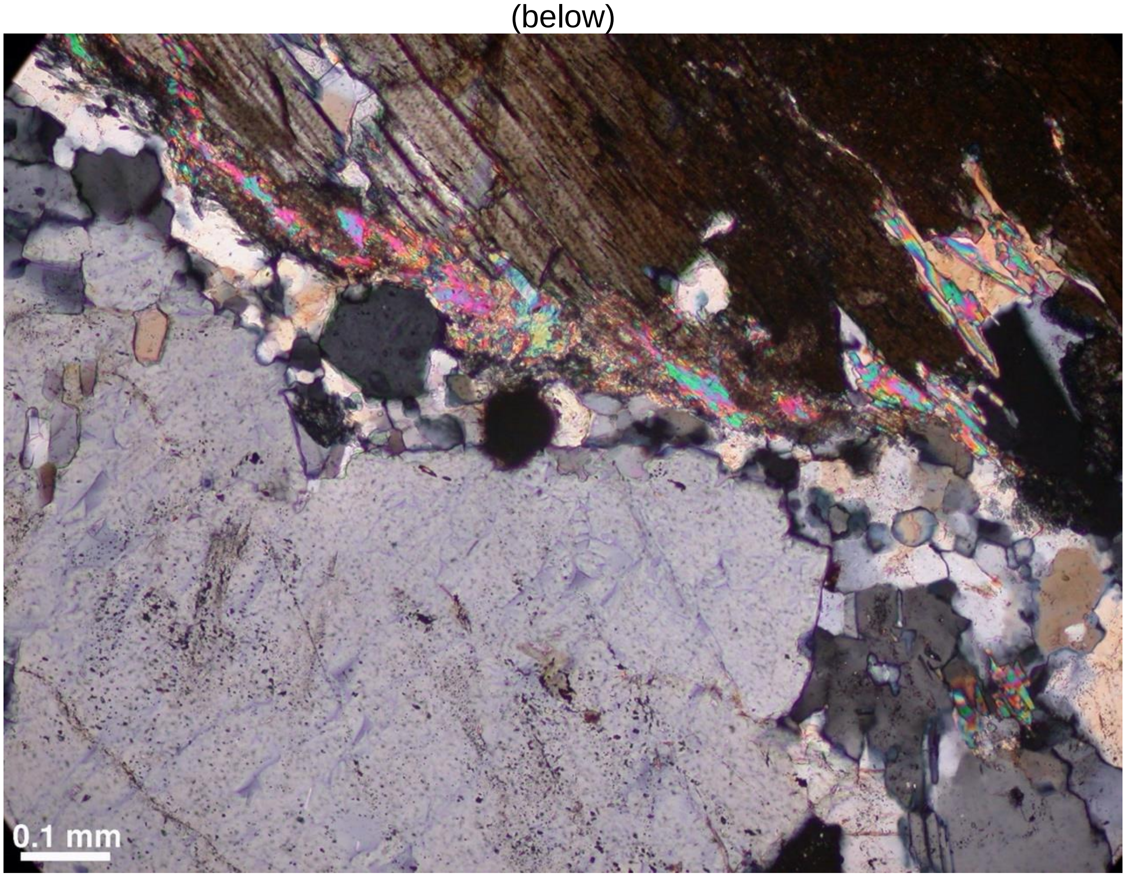
1) top right: U-microlite in albite between large apatite and spodumene, with garnet at edge

2) middle: zircon attached to columbite with inclusions of microlite in large beryl

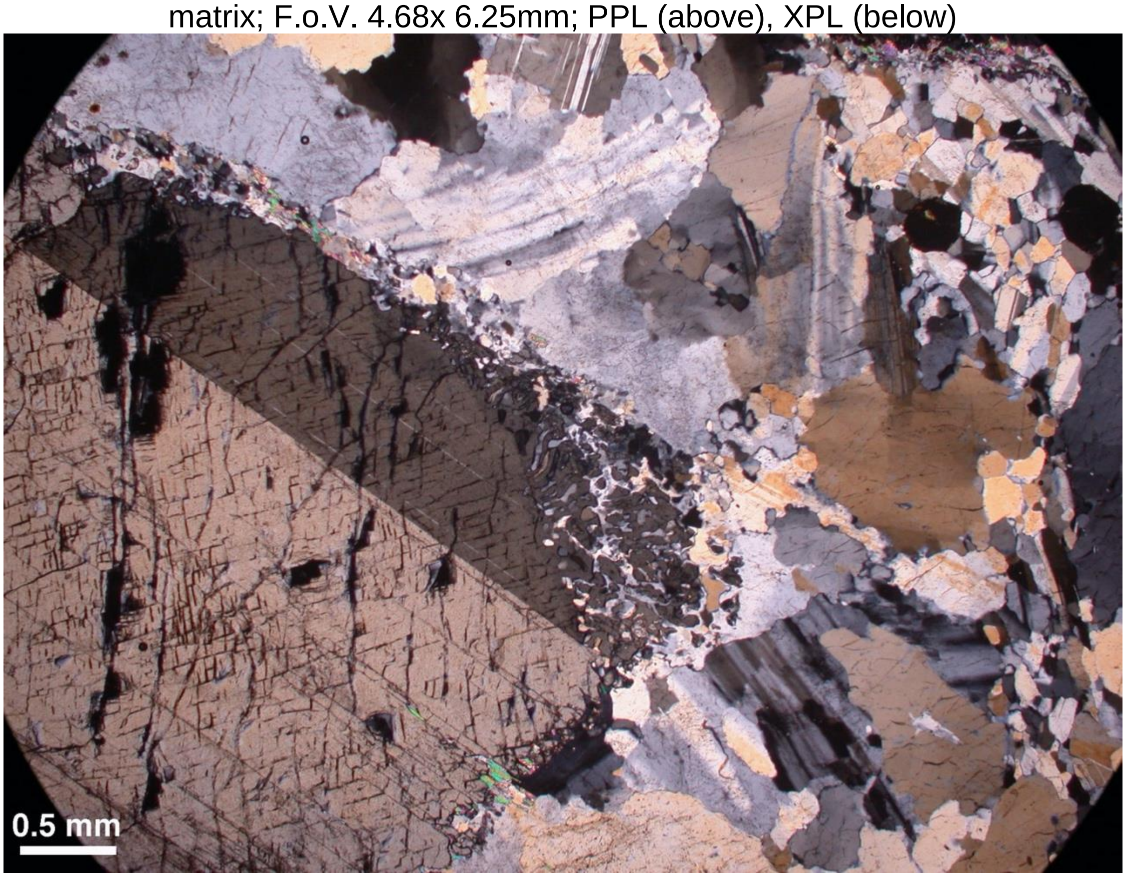
3) large beryl in centre, garnet closer to edge and euhedral crystal of columbite

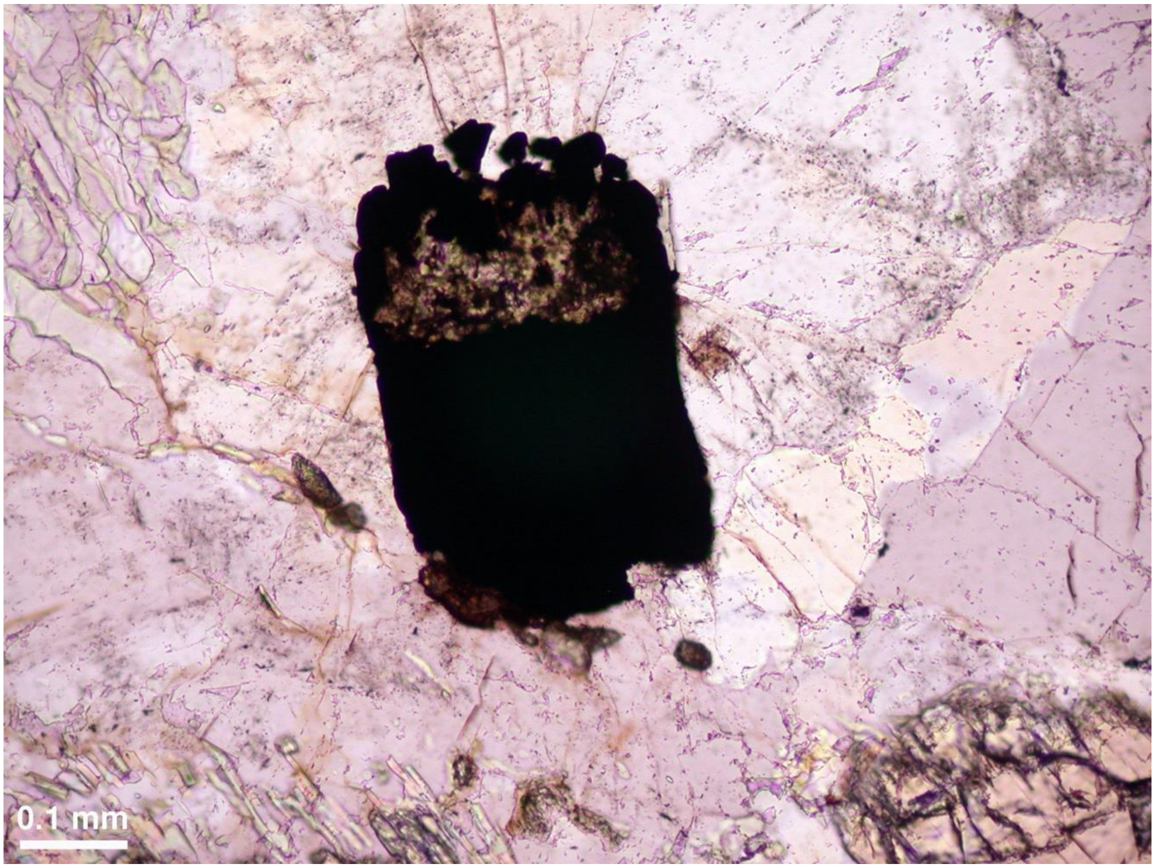


Sample 3A (1) brown U-bearing microlite (Ta-pyrochlore) adjacent to mica-rimmed spodumene and coarse colourless beryl(?) in qtz, F.o.V. 1.02 x 1.36 PPL (above) XPL (below)

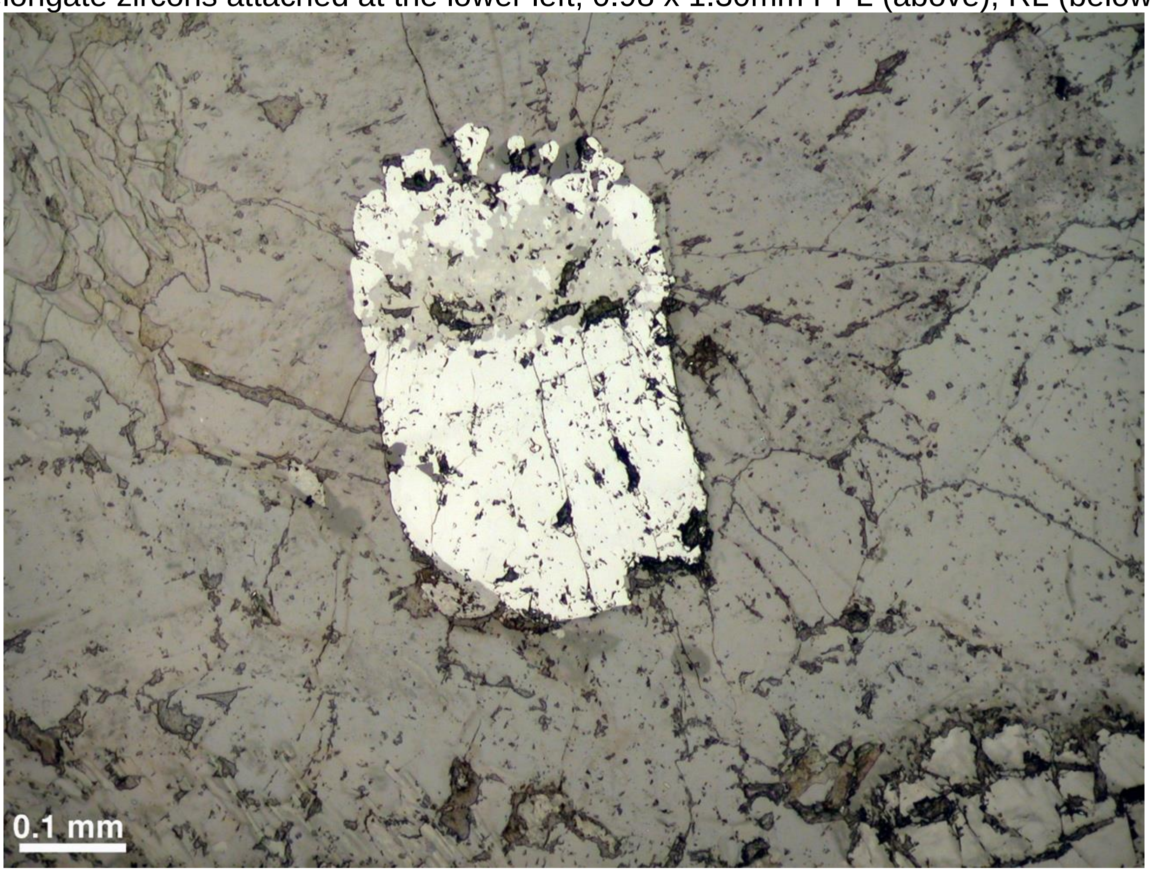


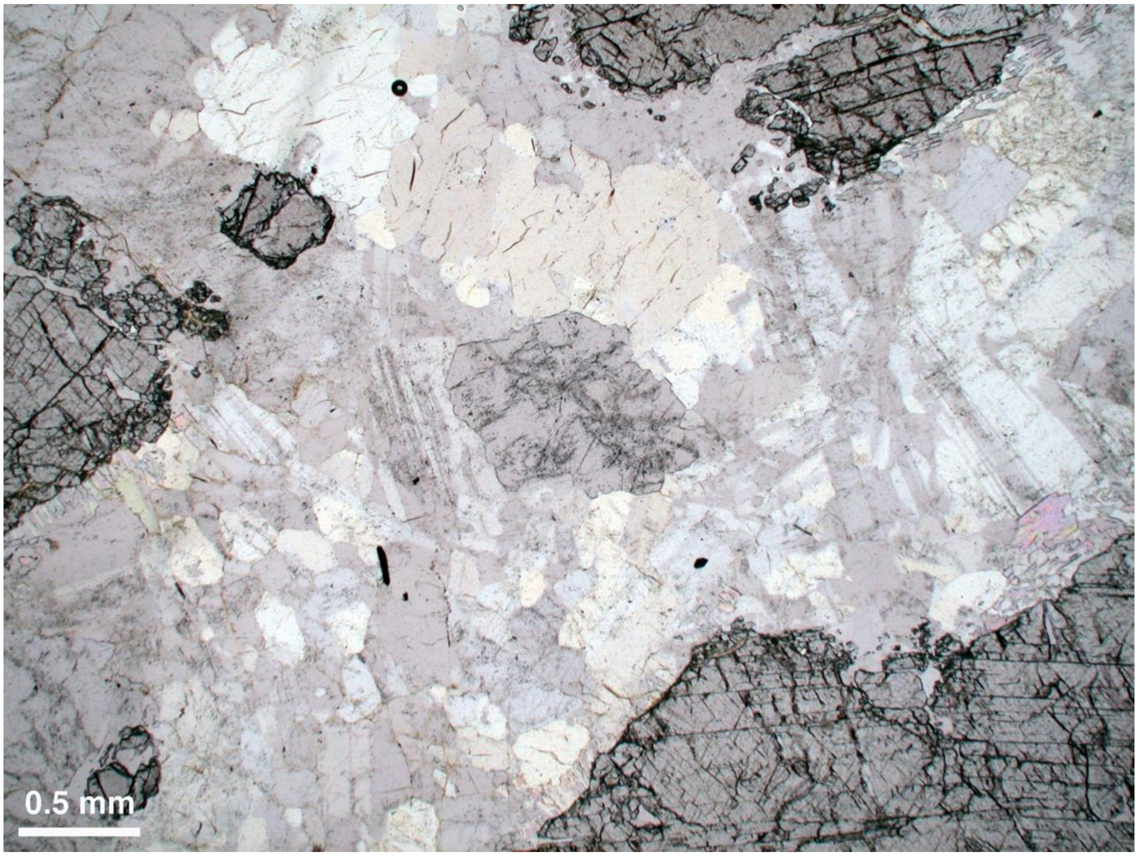
Sample 3A (2) coarse twinned spodumene and two spessartine garnet grains in qtz-albite matrix; F.o.V. 4.68x 6.25mm; PPL (above), XPL (below)



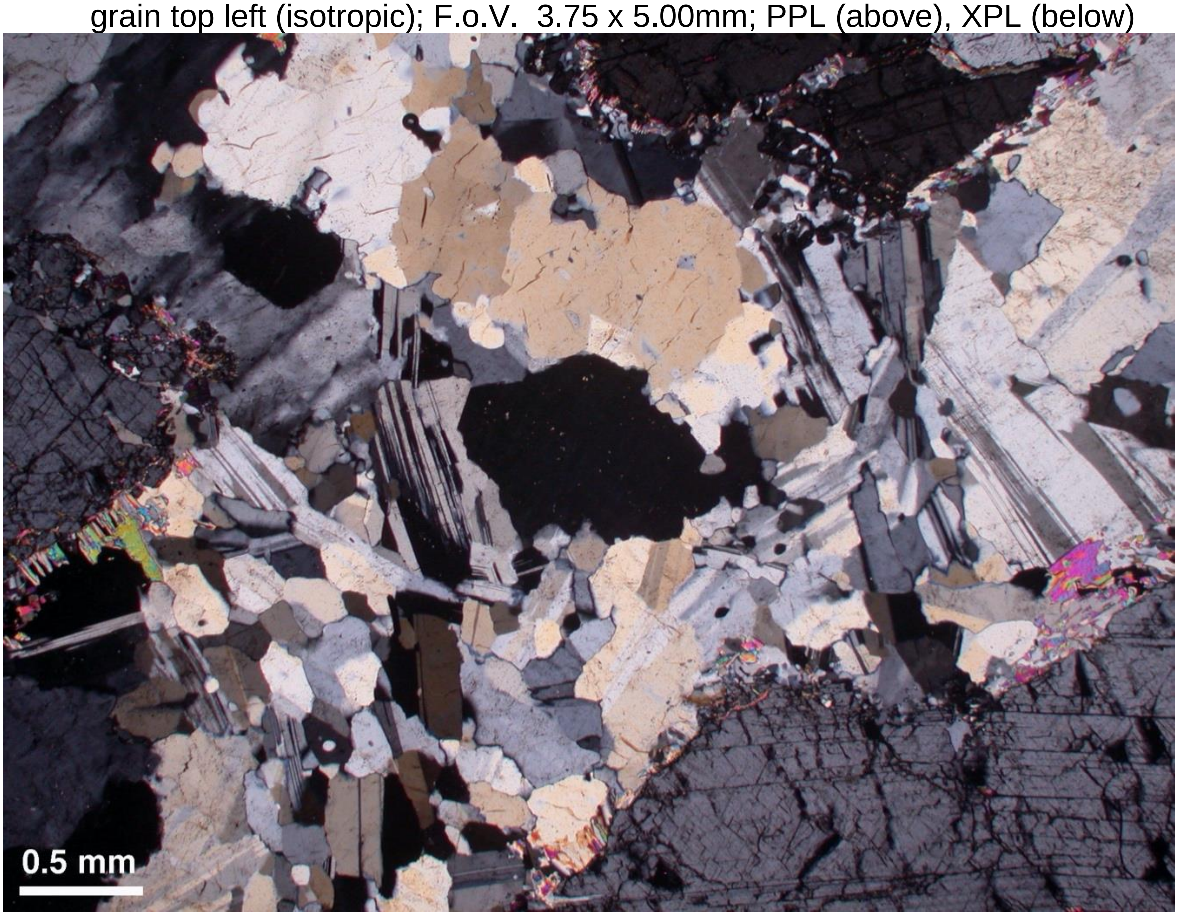


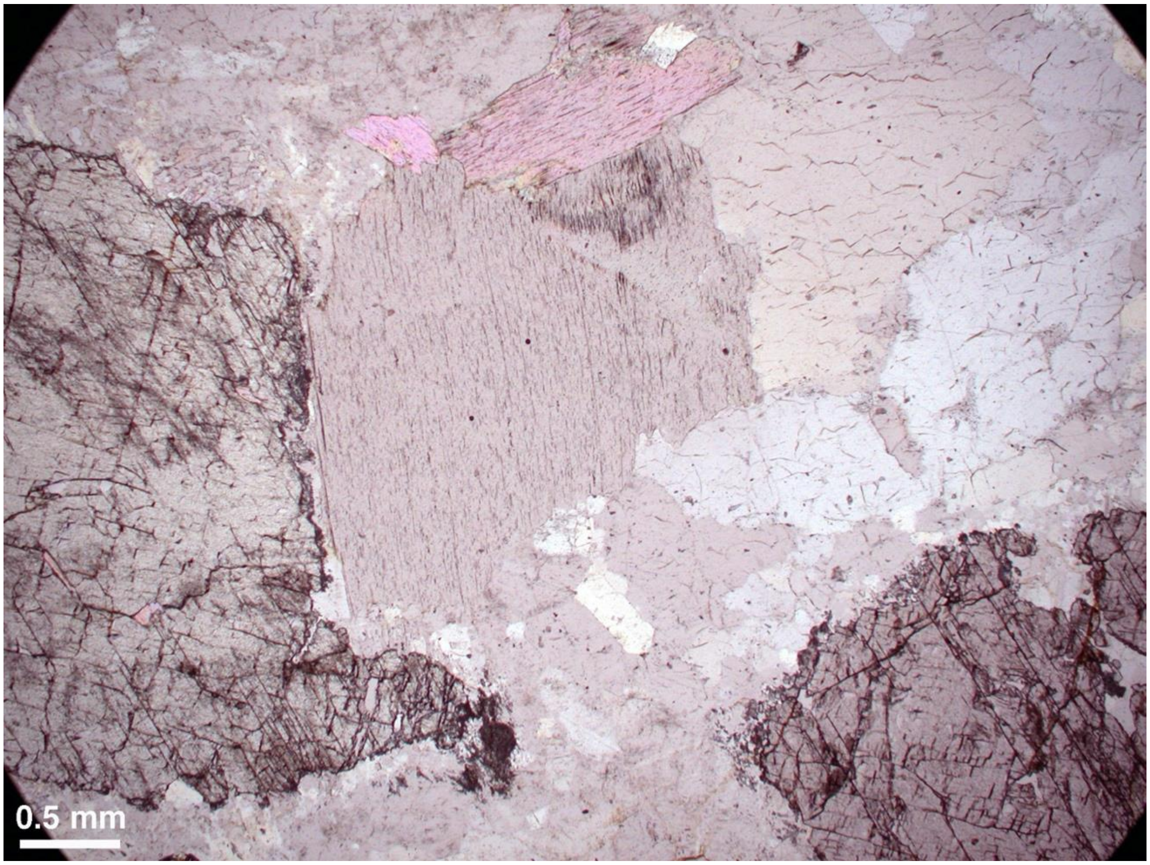
Sample 3A (3) translucent brownish microlite intergrown with opaque columbite with a few elongate zircons attached at the lower left; 0.98 x 1.30mm PPL (above), RL (below)



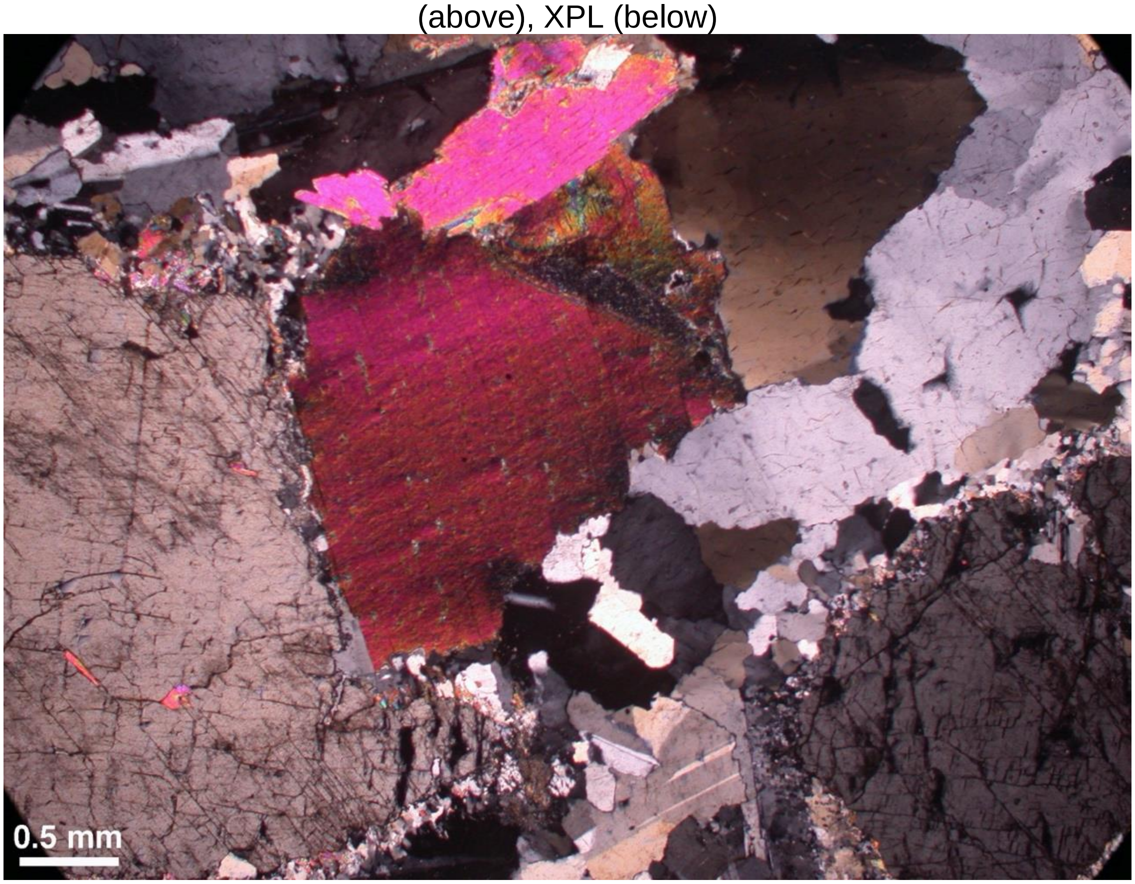


Sample 3A (4) beryl(?) in centre in qtz-fsp matrix between spodumene with one spessartine grain top left (isotropic); F.o.V. 3.75 x 5.00mm; PPL (above), XPL (below)





Sample 3A (5) coarse muscovite between spodumene and quartz; F.o.V. 4.64x 6.18mm, PPL (above), XPL (below)



4) **Section 3B** consists almost entirely of extremely coarse subhedral crystals of microcline with blebby inclusions of plagioclase, and veined by fine to medium grained plagioclase and enclosing altered spodumene remnants intergrown with colourless mica (no photos)

Microcline (90%) extremely coarse single crystal occupying almost the entire section, faint tartan twinning, one good cleavage, blebby inclusions of plagioclase

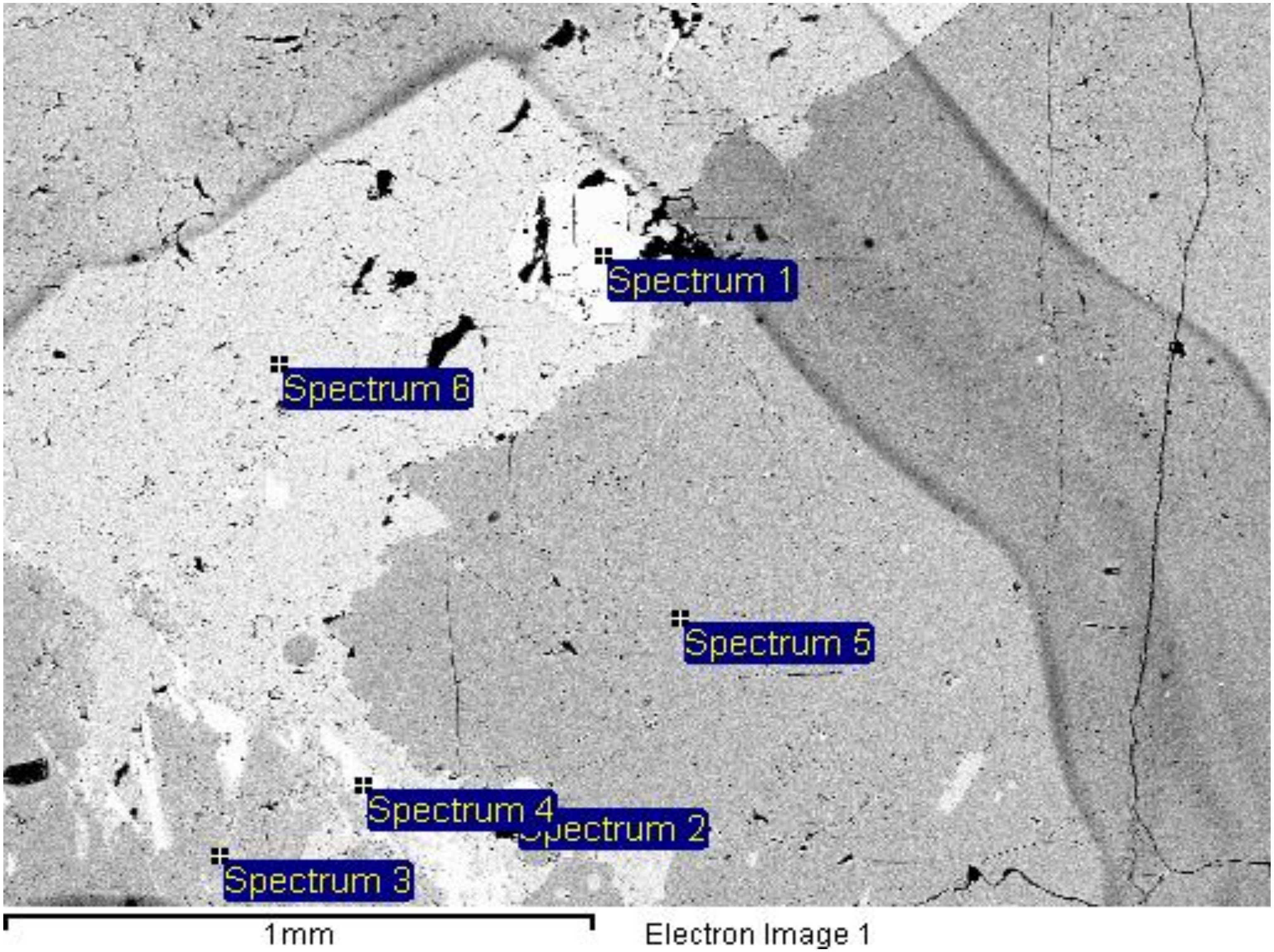
Plagioclase (5%) small blebby inclusions in microcline and on grain boundaries

Spodumen-alteration (5%) high relief remnants in pale olive brownish alteration mineral

Muscovite (tr.) fine grained flakes surrounding altered spodumene

Pegmatite 3A SEM Data

circle 1



Pegmatite 3A SEM Data

Project: NUINSCO Pegmatite
Owner: INCA
Site: Site of Interest 1(circle 1)

Sample: NUPEG 3A
Type: Default
ID: 3A

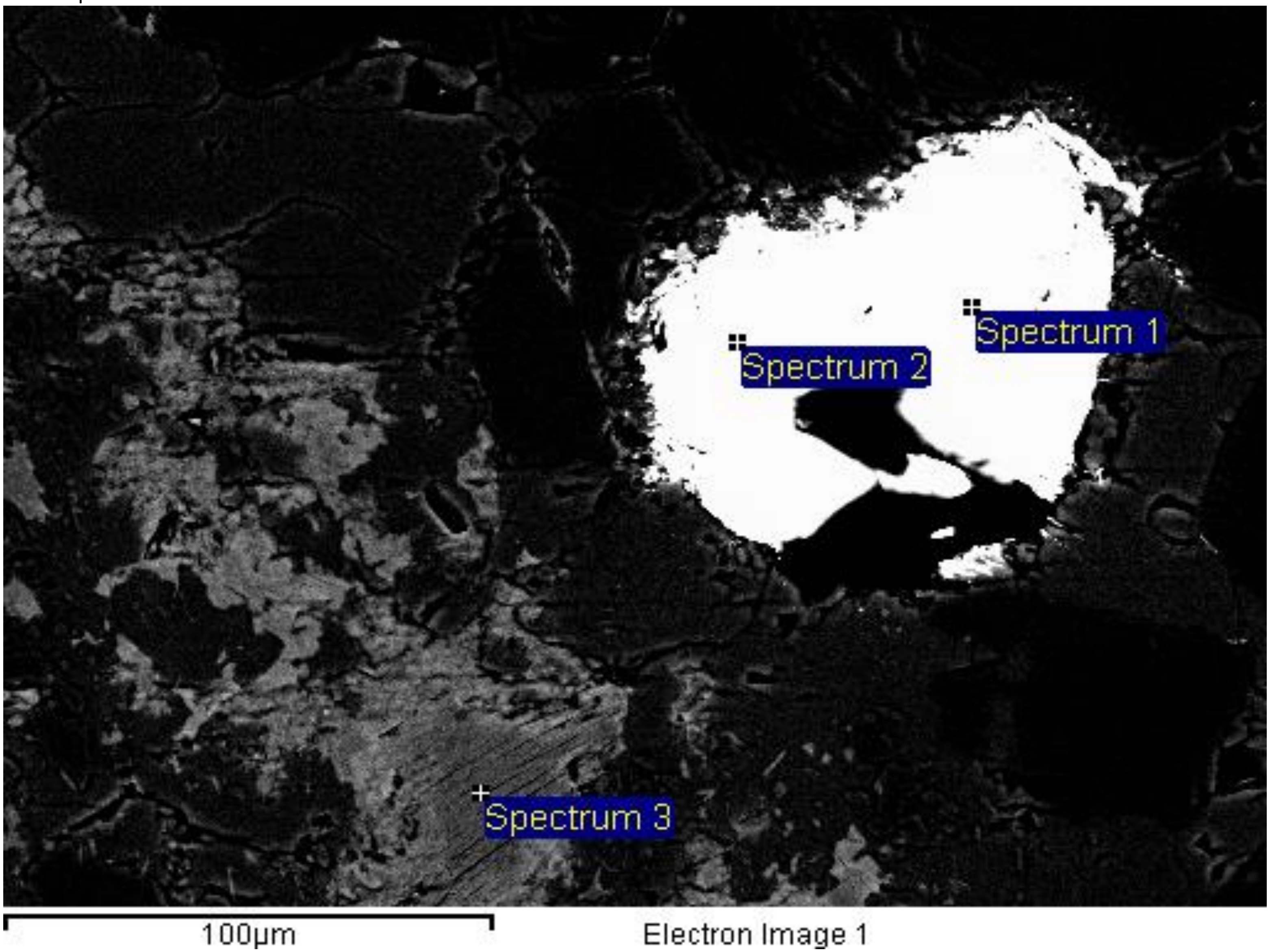
Processing option : Oxygen by stoichiometry (Normalised)

All results in weight%

Spectrum	In stats.	Na	Al	Si	K	Ca	Ti	Mn	Fe	Nb	Ta	U	O	Total
Spectrum 1	Spessartine	0	10.14	16.77	0	0.19	0	27.42	7.22	0	0	0	38.26	100
Spectrum 2	microlite	0	0	3.19	0	11.56	1.43	0.85	1.03	3.44	49.68	5.82	22.99	100
Spectrum 3	spodumene	0	13.83	33.7	0	0	0	0	1.38	0	0	0	51.09	100
Spectrum 4	muscovite	0	19.44	22.88	9.73	0	0	0	2.01	0	0	0	45.93	100
Spectrum 5	? Li-min?	0.95	10.48	36.89	0	0	0	0	0	0	0	0	51.68	100
Spectrum 6	albite	8.43	9.8	32.64	0	0.21	0	0	0	0	0	0	48.92	100

Pegmatite 3A SEM Data

close-up of microlite



Pegmatite 3A SEM Data

Project: NUINSCO Pegmatite
Owner: INCA
Site: Site of Interest 1(circle 1) 2

Sample: NUPEG 3A
Type: Default
ID: 3A

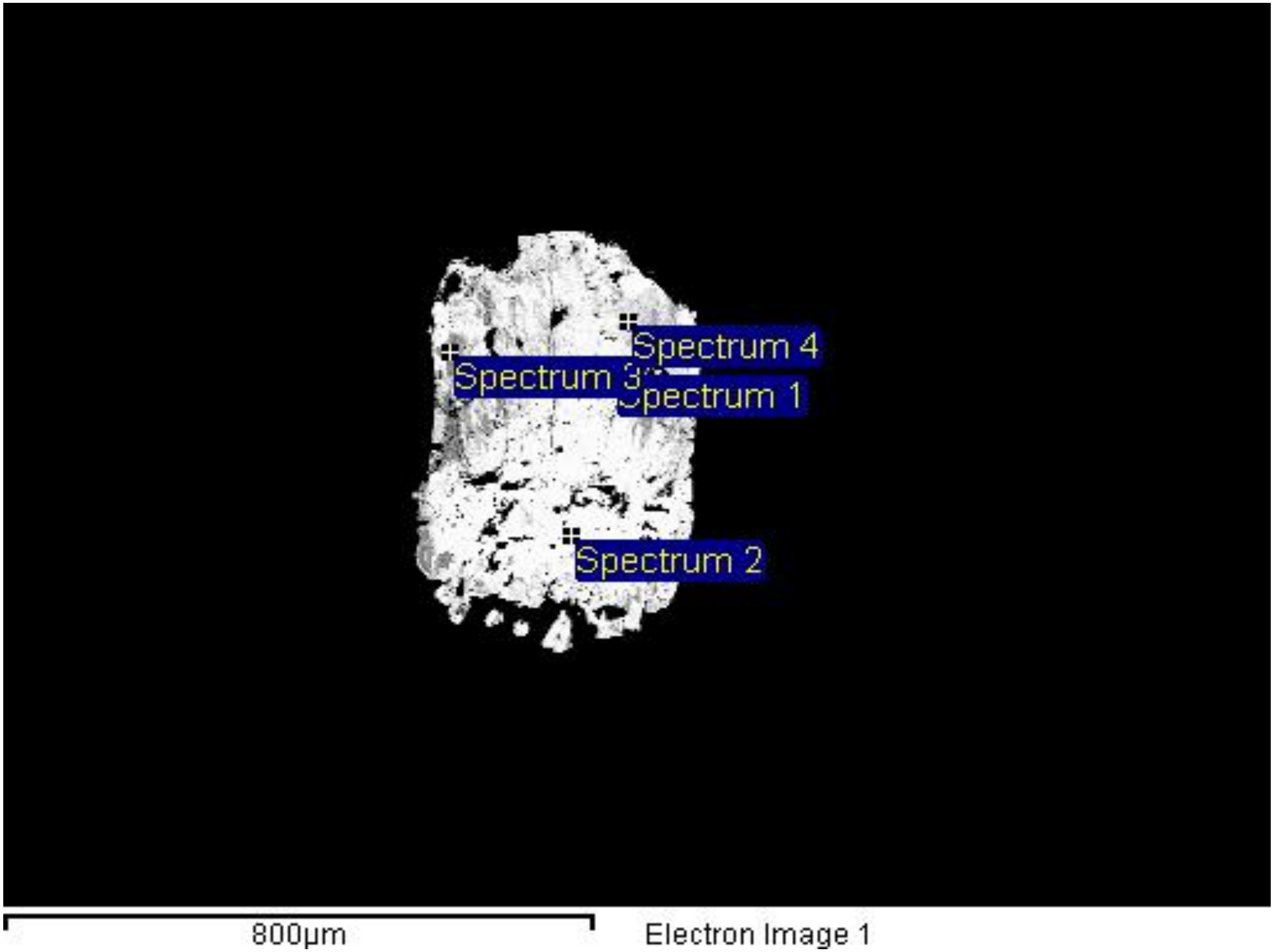
Processing option : Oxygen by stoichiometry (Normalised)

All results in weight%

Spectrum	In stats.	Al	Si	K	Ca	Ti	Mn	Fe	Nb	Ta	U	O	Total
Spectrum 1	microlite	0	2.84	0	11.18	0.95	0.67	0.95	3.27	51.45	6.25	22.43	100
Spectrum 2	microlite	0	4.07	0	10.96	1.09	0.94	0.83	3.47	48.56	6.7	23.38	100
Spectrum 3	muscovite	19.12	23.34	9.52	0	0	0	1.92	0	0	0	46.1	100

Pegmatite 3A SEM Data

circle 2



Pegmatite 3A SEM Data

Project: NUINSCO Pegmatite
Owner: INCA
Site: Site of Interest 1(circle 2)

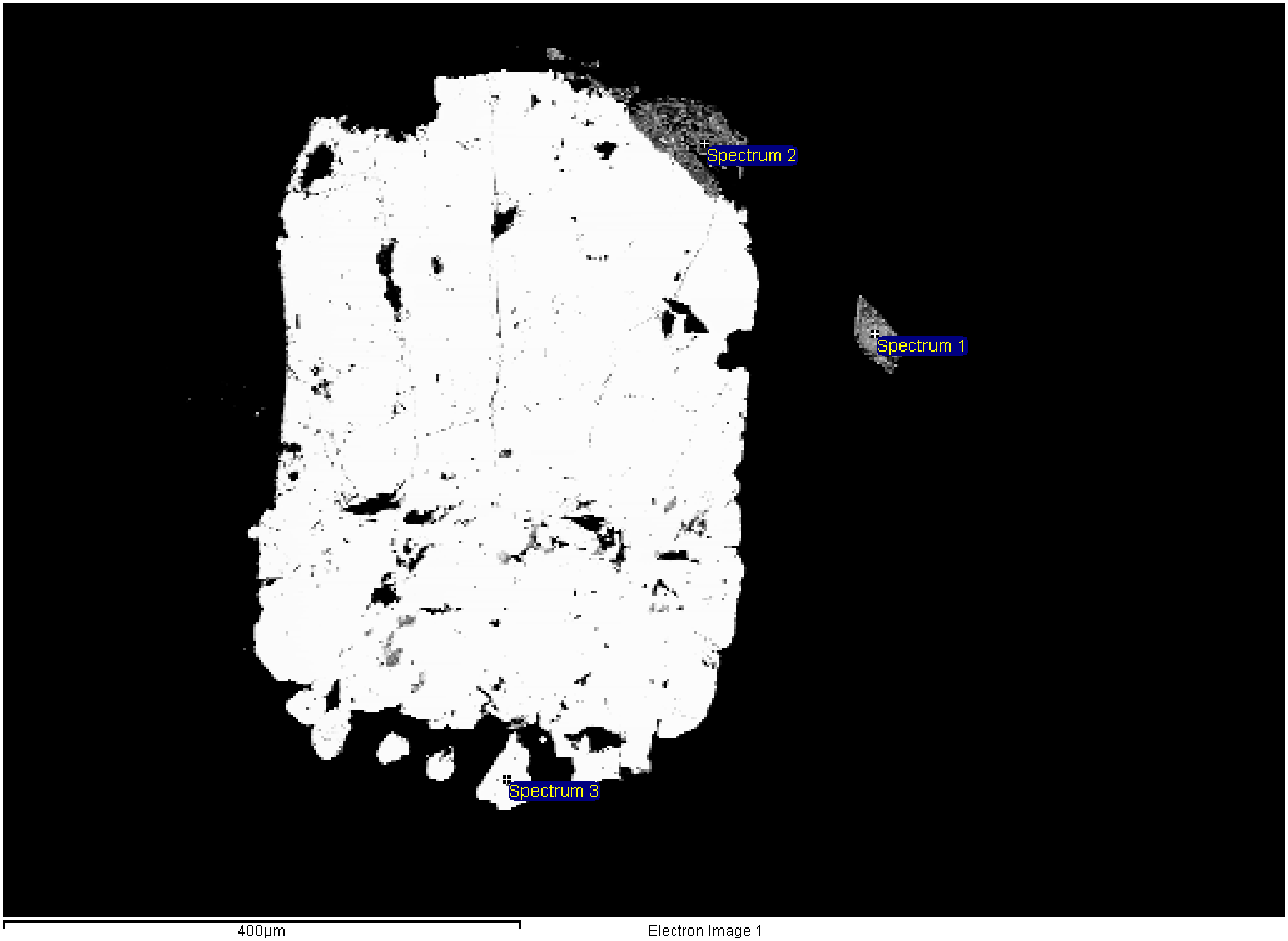
Sample: NUPEG 3A
Type: Default
ID: 3A

Processing option : Oxygen by stoichiometry (Normalised)

All results in weight%

Spectrum	In stats.	Na	Ca	Mn	Fe	Nb	Ta	O	Total
Spectrum 1	columbite	0	0	7.99	6.06	20.67	42.84	22.43	100
Spectrum 2	microlite	1.15	11.04	0.73	0	1.76	65.15	20.18	100
Spectrum 3	columbite	0	0	8.87	7.17	35.2	23.73	25.03	100
Spectrum 4	columbite	0	0	8.29	6.2	27.65	34.21	23.65	100

Pegmatite 3A SEM Data



Pegmatite 3A SEM Data

Project: NUINSCO Pegmatite
Owner: INCA
Site: Site of Interest 1(circle 2) 2

Sample: NUPEG 3A
Type: Default
ID: 3A

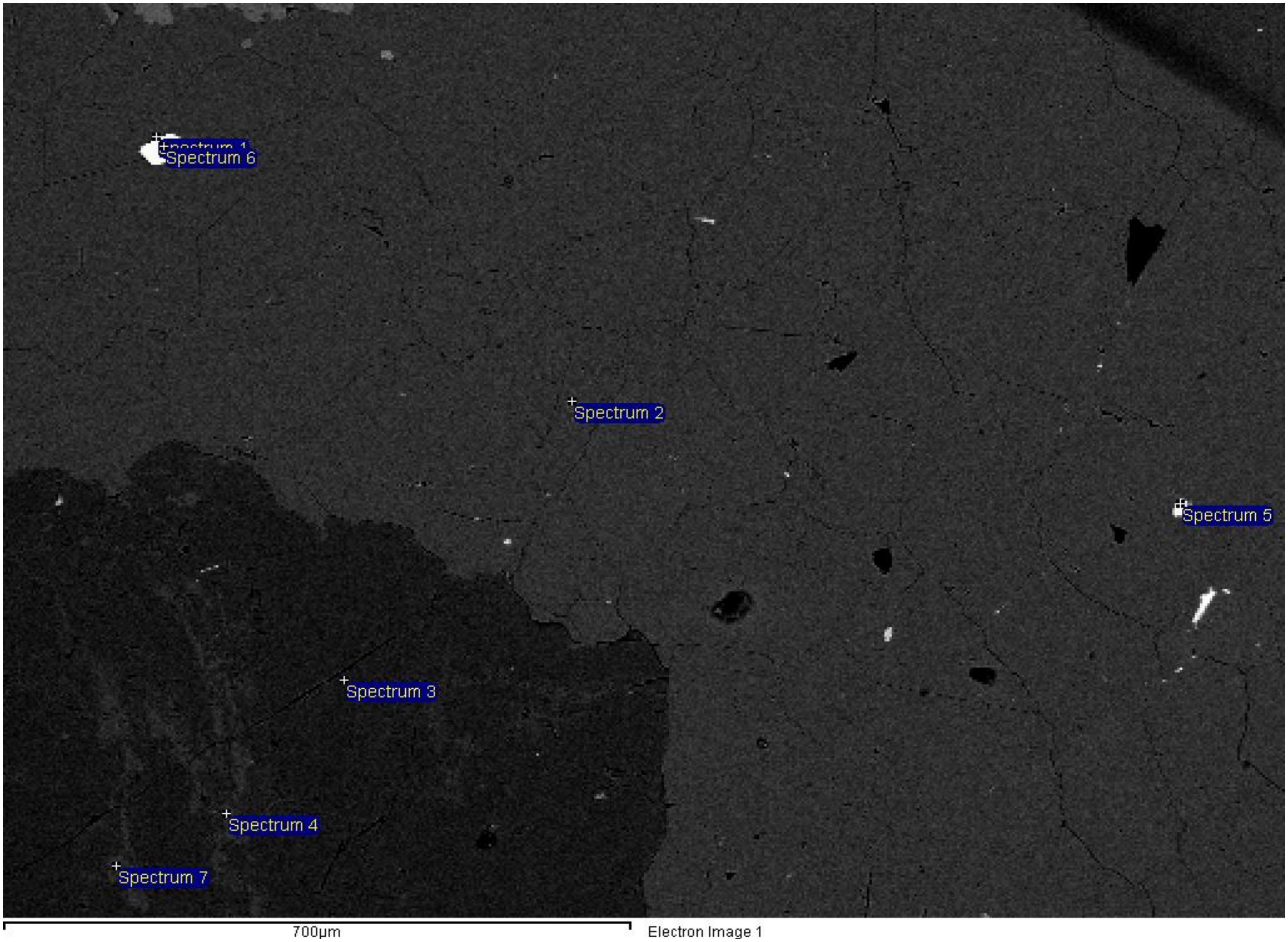
Processing option : Oxygen by stoichiometry (Normalised)

All results in weight%

Spectrum	In stats.	Si	Ca	Mn	Fe	Zr	Nb	Hf	Ta	O	Total
Spectrum 1	zircon	15.01	1.27	0	0	39.91	1.29	8.78	0	33.74	100
Spectrum 2	zircon	14.03	0.91	0.41	0.59	42.41	2.01	6.16	0	33.48	100
Spectrum 3	columbite	3.22	0	8.26	7.55	0	21.36	0	34.54	25.07	100

Pegmatite 3A SEM Data

circle 3



Pegmatite 3A SEM Data

there is some Cs in the schlieren of the dark phase
probably contains Li, too

Project: NUINSCO Pegmatite
Owner: INCA
Site: Site of Interest 3

Sample: NUPEG 3A
Type: Default
ID: 3A

Processing option : Oxygen by stoichiometry (Normalised)

All results in weight%

Spectrum	In stats.	Na	Al	Si	Ca	Mn	Fe	Nb	Cs	Ta	O	Total
Spectrum 1	albite	8.26	9.88	32.81	0	0	0	0	0	0	49.05	100
Spectrum 2	albite	8.19	9.9	32.71	0.2	0	0	0	0	0	49	100
Spectrum 3	beryl?	1.03	10.94	36.44	0	0	0	0	0	0	51.6	100
Spectrum 4	beryl?	1.58	10.55	35.25	0	0	0	0	2.39	0	50.24	100
Spectrum 5	mixture	6.29	7.44	24.92	1.35	0.88	0.88	13.97	0	0	44.27	100
Spectrum 6	columbite	0	0	3.07	0	8.31	6.91	26.26	0	29.7	25.76	100
Spectrum 7	beryl?	1.8	9.59	35.9	0	0	0	0	2.5	0	50.21	100

Semi-Quantitative SEM data in wt.% oxide

circle	Spectrum	Mineral	Formula	Li2O*	BeO*	Nb2O5	Ta2O5	ZrO2	HfO2	UO2	SiO2	TiO2	Al2O3
1	Spectrum 1	Spessartine	Mn3Al2(SiO4)3			0.00	0.00	0.00	0.00	0.00	35.88	0.00	19.16
1	Spectrum 2	microlite	(Ca,Na)2(Ta, Nb)2O6(O,OH,F)			4.77	58.84	0.00	0.00	6.40	6.62	2.31	0.00
1	Spectrum 3	spodumene	LiAlSi2O6	8.03		0.00	0.00	0.00	0.00	0.00	66.33	0.00	24.04
1	Spectrum 4	muscovite	KAl2AlSi3O8			0.00	0.00	0.00	0.00	0.00	48.95	0.00	36.73
1	Spectrum 5	beryl ?	Be3Al2Si6O18		13.5	0	0	0	0	0	68.27	0	17.13
1	Spectrum 6	albite	NaAlSi3O8			0.00	0.00	0.00	0.00	0.00	69.83	0.00	18.52
1b	Spectrum 1	U-microlite	(Ca,Na)2(Ta, Nb)2O6(O,OH,F)			4.54	60.94	0.00	0.00	6.88	5.89	1.54	0.00
1b	Spectrum 2	U-microlite	(Ca,Na)2(Ta, Nb)2O6(O,OH,F)			4.82	57.52	0.00	0.00	7.37	8.45	1.76	0.00
1b	Spectrum 3	muscovite				0.00	0.00	0.00	0.00	0.00	49.93	0.00	36.13
2	Spectrum 1	columbite	(Fe,Mn)(Nb,Ta)2O6			29.57	52.31	0.00	0.00	0.00	0.00	0.00	0.00
2	Spectrum 2	microlite	(Ca,Na)2(Ta, Nb)2O6(O,OH,F)			2.44	77.16	0.00	0.00	0.00	0.00	0.00	0.00
2	Spectrum 3	columbite	(Fe,Mn)(Nb,Ta)2O6			50.35	28.98	0.00	0.00	0.00	0.00	0.00	0.00
2	Spectrum 4	columbite	(Fe,Mn)(Nb,Ta)2O6			39.55	41.77	0.00	0.00	0.00	0.00	0.00	0.00
2	Spectrum 1	zircon	ZrSiO4			1.85	0.00	53.91	10.35	0.00	32.11	0.00	0.00
2	Spectrum 2	zircon	ZrSiO4			2.88	0.00	57.29	7.26	0.00	30.01	0.00	0.00
2	Spectrum 3	columbite	(Fe,Mn)(Nb,Ta)2O6			30.56	42.18	0.00	0.00	0.00	6.89	0.00	0.00
3	Spectrum 1	albite	NaAlSi3O8			0.00	0.00	0.00	0.00	0.00	70.19	0.00	18.67
3	Spectrum 2	albite	NaAlSi3O8			0.00	0.00	0.00	0.00	0.00	69.98	0.00	18.71
3	Spectrum 3	beryl?	Be3Al2Si6O18		13.5	0.00	0.00	0.00	0.00	0.00	67.43	0.00	17.88
3	Spectrum 4	beryl? + Cs	Be3Al2Si6O18		11.5	0.00	0.00	0.00	0.00	0.00	66.74	0.00	17.64
3	Spectrum 5	mixture				19.98	0.00	0.00	0.00	0.00	53.31	0.00	14.06
3	Spectrum 6	columbite	(Fe,Mn)(Nb,Ta)2O6			37.57	36.27	0.00	0.00	0.00	6.57	0.00	0.00
3	Spectrum 7	beryl? + Cs	Be3Al2Si6O18		11.5	0.00	0.00	0.00	0.00	0.00	67.97	0.00	16.04
			molecular weight factor			0.6990	0.8190	0.7403	0.8480	0.8815	0.4674	0.5995	0.5293

Note: these are semi-quantitative SEM data

*Li2O and BeO from literature added and total adjusted to 100% including thos

** Note: totals for microlite were normalized to 97% to account for OH, F, (

Semi-Quantitative SEM data in wt.% oxide

circle	FeO	MnO	CaO	Na2O	K2O	Cs2O	Total**		Li	Be	Nb	Ta	Zr	Hf	U	Si
1	9.29	35.41	0.27	0.00	0.00	0.00	100.00		0	0	0.000	0.000	0.000	0.000	0.000	2.997
1	1.29	1.06	15.69	0.00	0.00	0.00	96.99	0.97	0	0	0.175	1.297	0.000	0.000	0.116	0.537
1	1.63	0.00	0.00	0.00	0.00	0.00	100.03		1.006	0	0.000	0.000	0.000	0.000	0.000	2.066
1	2.59	0.00	0.00	0.00	11.72	0.00	99.99		0	0	0.000	0.000	0.000	0.000	0.000	3.122
1	0	0	0	1.11	0	0	100.00		0	2.914	0.000	0.000	0.000	0.000	0.000	6.134
1	0.00	0.00	0.29	11.36	0.00	0.00	100.00		0	0	0.000	0.000	0.000	0.000	0.000	3.041
1b	1.19	0.84	15.17	0.00	0.00	0.00	96.98	0.97	0	0	0.171	1.378	0.000	0.000	0.127	0.490
1b	1.04	1.18	14.88	0.00	0.00	0.00	97.00	0.97	0	0	0.174	1.247	0.000	0.000	0.131	0.673
1b	2.47	0.00	0.00	0.00	11.47	0.00	100.00		0	0	0.000	0.000	0.000	0.000	0.000	3.173
2	7.80	10.32	0.00	0.00	0.00	0.00	99.99		0	0	0.952	1.013	0.000	0.000	0.000	0.000
2	0.00	0.91	14.98	1.50	0.00	0.00	97.01	0.97	0	0	0.102	1.938	0.000	0.000	0.000	0.000
2	9.22	11.45	0.00	0.00	0.00	0.00	100.01		0	0	1.453	0.503	0.000	0.000	0.000	0.000
2	7.98	10.70	0.00	0.00	0.00	0.00	100.01		0	0	1.208	0.767	0.000	0.000	0.000	0.000
2	0.00	0.00	1.78	0.00	0.00	0.00	100.00		0	0	0.026	0.000	0.830	0.093	0.000	1.014
2	0.76	0.53	1.27	0.00	0.00	0.00	100.00		0	0	0.041	0.000	0.889	0.066	0.000	0.955
2	9.71	10.67	0.00	0.00	0.00	0.00	100.00		0	0	0.880	0.731	0.000	0.000	0.000	0.439
3	0.00	0.00	0.00	11.13	0.00	0.00	99.99		0	0	0.000	0.000	0.000	0.000	0.000	3.049
3	0.00	0.00	0.28	11.04	0.00	0.00	100.00		0	0	0.000	0.000	0.000	0.000	0.000	3.042
3	0.00	0.00	0.00	1.20	0.00	0.00	100.01		0	2.918	0.000	0.000	0.000	0.000	0.000	6.067
3	0.00	0.00	0.00	1.88	0.00	2.24	100.01		0	2.555	0.000	0.000	0.000	0.000	0.000	6.173
3	1.13	1.14	1.89	8.48	0.00	0.00	99.99		0	0	0.000	0.000	0.000	0.000	0.000	0.000
3	8.89	10.73	0.00	0.00	0.00	0.00	100.02		0	0	1.053	0.611	0.000	0.000	0.000	0.407
3	0.00	0.00	0.00	2.15	0.00	2.35	100.00		0	2.557	0.000	0.000	0.000	0.000	0.000	6.290
	0.7773	0.7745	0.7147	0.7419	0.8301	0.9432				25.01	265.8098	441.8928	123.2188	210.4888	270.0278	60.0843

se

Cl	0.5	1	2.5	2.5	2	2	2	2

Semi-Quantitative SEM data in wt.% oxide

circle	Ti	Al	Fe2+	Mn	Ca	Na	K	Cs	∑cations	oxygens
1	0.000	1.886	0.649	2.505	0.024	0.000	0.000	0.000	8.060	12.000
1	0.141	0.000	0.087	0.073	1.363	0.000	0.000	0.000	3.788	7.000
1	0.000	0.882	0.043	0.000	0.000	0.000	0.000	0.000	3.996	6.000
1	0.000	2.761	0.138	0.000	0.000	0.000	0.954	0.000	6.974	11.000
1	0.000	1.814	0.000	0.000	0.000	0.193	0.000	0.000	11.055	18.000
1	0.000	0.950	0.000	0.000	0.014	0.959	0.000	0.000	4.964	8.000
1b	0.096	0.000	0.082	0.059	1.352	0.000	0.000	0.000	3.754	7.000
1b	0.106	0.000	0.069	0.080	1.271	0.000	0.000	0.000	3.749	7.000
1b	0.000	2.706	0.131	0.000	0.000	0.000	0.930	0.000	6.939	11.000
2	0.000	0.000	0.464	0.622	0.000	0.000	0.000	0.000	3.052	6.000
2	0.000	0.000	0.000	0.072	1.483	0.269	0.000	0.000	3.864	7.000
2	0.000	0.000	0.492	0.619	0.000	0.000	0.000	0.000	3.067	6.000
2	0.000	0.000	0.450	0.612	0.000	0.000	0.000	0.000	3.038	6.000
2	0.000	0.000	0.000	0.000	0.060	0.000	0.000	0.000	2.023	4.000
2	0.000	0.000	0.020	0.014	0.043	0.000	0.000	0.000	2.029	4.000
2	0.000	0.000	0.518	0.576	0.000	0.000	0.000	0.000	3.144	6.000
3	0.000	0.956	0.000	0.000	0.000	0.938	0.000	0.000	4.942	8.000
3	0.000	0.958	0.000	0.000	0.013	0.931	0.000	0.000	4.944	8.000
3	0.000	1.896	0.000	0.000	0.000	0.209	0.000	0.000	11.090	18.000
3	0.000	1.923	0.000	0.000	0.000	0.338	0.000	0.088	11.078	18.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
3	0.000	0.000	0.461	0.564	0.000	0.000	0.000	0.000	3.096	6.000
3	0.000	1.749	0.000	0.000	0.000	0.385	0.000	0.093	11.074	18.000
	79.8988	101.96128	71.8464	70.9374	56.0794	61.979	94.1954	281.8102		

2	1.5	1	1	1	0.5	0.5	0.5

APPENDIX D

Tabulated Program Costs and Receipts

ZIGZAG 2021 WORK PROGRAM: Tabulated Program Costs

ZigZag Property
September to November, 2021

Item	Date	Name	Units	Rate	Subtotal
SITE VISIT / SAMPLING					
Personnel & Accommodations					
Geologist	Sep 19th-22nd	F Ferri	3	650/day	$ 1,950.00
Geologist	Sep 19th-22nd	P Jones	3	750/day	$ 2,250.00
Hampton Inn	Sep 19th-21st	F Ferri			$ 405.60
Hampton Inn	Sep 19th-21st	P Jones			$ 367.12
Meals	Sep 19th-21st	Various			$ 655.91
Transport					
Truck Rental (Budget) (25% of total invoice)					$ 325.73
Fuel	22-Sep-21	Various			$ 115.05
Flights (one way)	22-Sep-21	F Ferri			$ 856.25
Flights (one way)	22-Sep-21	P Jones			$ 479.12
Helicopter	21-Sep-21	WiskAir			$ 7,734.00
Geochemistry					
Analytical (13 samples = 60% of total invoice)	7-Oct-21	Actlabs			$ 1,108.80
PETROGRAPHIC STUDY					
Thin Section Prep		U of O	4 x $45		$ 180.00
Consultant		I .Kjarsgaard			$ 1,385.00
DATA COMPILATION/MAP PREPARATION/REPORTING					
Geologist		L Giroux	8		$ 4,000.00
	Total (excluding HST) =				**$ 21,812.58**