



Prospech

Limited
ABN 24 602 043 265

7 May 2025

KORSNÄS METALLURGICAL UPDATE

Highlights:

Prospech Limited (ASX:PRS, **Prospech** or **the Company**) is pleased to announce significant progress in metallurgical test work from PT Geoservices Indonesia as part of its ongoing Korsnäs resource development initiatives. This program is being undertaken to determine the best processing route(s) for the Korsnäs Rare Earth Element (**REE**) resource.

A summary of the metallurgical test work program carried out by PT Geoservices and their preliminary findings are set out below. The PT Geoservices Mineralogy Reports are attached for completeness.

Prospech prepared five 20kg composites from dozens of ALS laboratory coarse-rejects comprising material from drill core, the Tailings Storage Facility (**TSF**) and the Lanthanide Concentrate Stockpile (**LnCS**).

These composites were submitted to PT Geoservices for a limited program of fine grinding, WHIMS, HMS, and potentially TSF lead flotation tests. While the REMHub work incurs no direct cost to Prospech, the timeline was required to be accelerated for metallurgical test work.

The five composite samples analysed:

- Two from 2024 drill core
- One from the LnCS
- Two from the TSF

Key Observations:

- Apatite is the dominant REE mineral and is well-liberated
- Monazite observed as inclusions within some apatite grains
- Liberation characteristics favourable for beneficiation

Managing Director Jason Beckton Comments;

"We are very pleased with the initial progress of our metallurgical test work program, a key step in advancing resource development has been results from PT Geoservices in Indonesia. The liberation results of REEs from the apatite fraction, which is the dominant host at Korsnäs, is particularly pleasing.

In parallel with the work being undertaken by PT Geoservices, collaboration with Oulu University, GTK Mintek and GTK ESPO is delivering valuable insights into REE distribution and beneficiation potential."



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Current Status:

PT Geoservices – characterisation and mineral upgrading testing on all samples continues.

In addition, the metallurgical test work being conducted in Finland with the financial assistance of the EU REMHub grant continues in parallel with the PT Geoservices program. This work includes mineral processing testing at GTK Mintek and mini-pilot mineral processing testing at University of Oulu. Due to the broad collaborative scope of the REMHub program, Prospech has limited scope to accelerate this work and results are not expected until Q3/Q4 2025.

Proposed Program Acceleration:

In order to accelerate the metallurgical test results, the following program is now being undertaken at the PT Geoservices facility:

- Progress to bench-scale REE concentrate production
- Advance hydrometallurgical extraction of a saleable REE chemical product
- Produce a cleaned lanthanide concentrate sample in Australia.
- Conduct preliminary acid leach and purification testing on this sample

This proposed program acceleration is considered to provide the quickest route to metallurgical results while longer term work in Finland in progress.

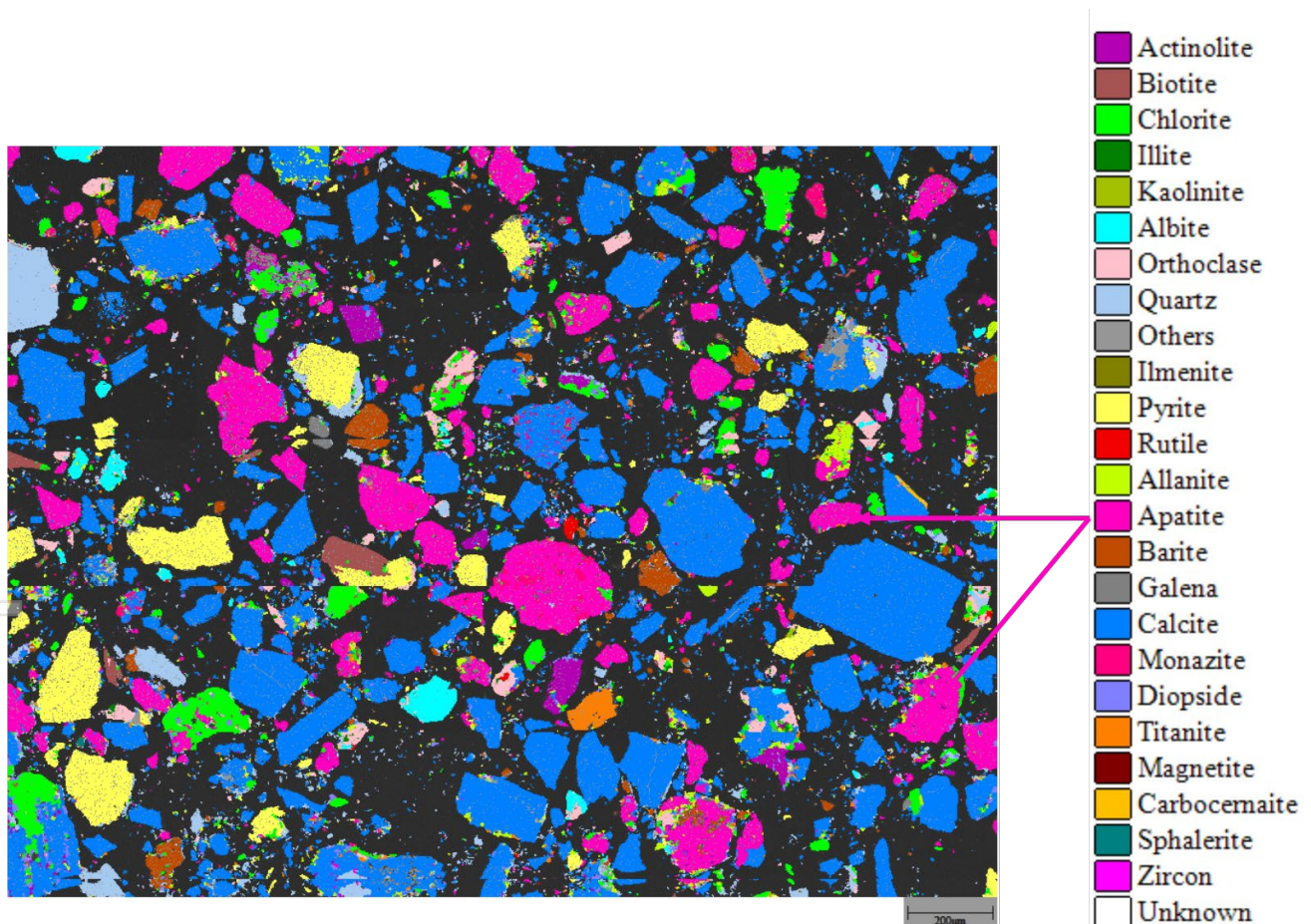


Figure 1. SEM/AMICS Mineral Image of the Polished Resin Mount. Sample ID - LNCS Composite_HG.

REMHub Consortium Participation

The metallurgical program is part of the REMHub consortium, where Prospech, through its subsidiary Bambra Oy, is a contributing member. This collaborative initiative accelerates the development of critical resource projects. Workstreams under the REMHub program are summarised below.

Parallel Finland based hardrock and tailings metallurgical test work

GTK ESPO (Finnish Government) completed **Laser Induced Breakdown Spectroscopy (LIBS)** scanning on-site. This cutting-edge, non-destructive scanning technology identifies, quantifies, and classifies elemental and mineral composition.

Prospech has selected 23 core boxes containing 1/2 core samples from recent drilling, which are undergoing scanning. These results will provide insights into REE mineral distribution across the sampled intervals, guiding further metallurgical studies.

GTK Mintec requires 100kg of drill core to perform comprehensive metallurgical test work. The planned scope includes mineral characterisation, crushing and flotation recovery tests on REE mineralised hard rock material.

TSF and LnCS metallurgical test work

Oulu University is undertaking crushing and flotation tests on TSF and LnCS samples. Key material requirements include:

- 100kg of samples from for TSF and LnCS
- 60kg of tailings material, already drilled and ready for dispatch

In addition, bulk density data has been collated and used to complete the current hard rock Mineral Resource Estimate (MRE).

Shipped material for initial no destructive test work to GTK Helsinki:

Table 1. Available diamond sampled for metallurgical sampling, initially non destructive testwork, followed by standard crushing and floatation testwork. Note Lithology use of the term 'karsi' – generally alteration associated with Rare Earth hosting carbonatite zones as per logging of the sequence since the 1950s that PRS has adopted.

| Hole_ID | From | To | Samples | Metres | Boxes | Weight (kg) 1/2 core | Weight (kg) rejects | Lithology | TREO | NdPrO | NdPrO enrich |
|---------|--------|--------|---------|--------|-------|----------------------|---------------------|--------------------------|-------|-------|--------------|
| KR-305 | 43 | 50.1 | 8 | 7.1 | 3 | 15 | 7 | karsi + klk | 6423 | 1845 | 29% |
| KR-306 | 164.08 | 179.52 | 17 | 16.44 | 5 | 65 | 32 | karsi + klk | 18301 | 3251 | 18% |
| KR-306 | 211 | 216 | 5 | 5 | 2 | 21 | 10 | altered gn | 10522 | 1822 | 17% |
| KR-307 | 95 | 108.75 | 12 | 13.75 | 4 | 34 | 17 | karsi + fault zone | 5654 | 1079 | 19% |
| KR-308 | 82 | 91 | 9 | 9 | 3 | 18 | 9 | karsi | 5834 | 1493 | 26% |
| KR-309 | 134 | 146 | 13 | 13 | 4 | 52 | 26 | mixture of gn/klk/karsi | 19400 | 3567 | 18% |
| KR-310 | 98 | 104.5 | 7 | 6.5 | 2 | 26 | 13 | Karsi/gn/klk - mainly gn | 3295 | 680 | 21% |
| Total | | | 71 | 70.79 | 23 | 229.7 | 114.85 | | | | |

Table 2. Tailings Storage facility samples being prepared for dispatch to Oulu Mining School as per above test work program. In the case of the Lanthanide Dump Auger drilling has been completed only and material may be bulk sampled from excavator use, subject to permitting in the near future.

| No_Holes | Series | No_Samples | Weight [kg] | Note |
|----------|--------|------------|-------------|---------------|
| 57 | TSF | 523 | 1100 | Rejects |
| 7 | M-TSF | 62 | 135 | Fresh samples |

About Prospech Limited

Founded in 2014, the Company focuses on mineral exploration in Finland and Slovakia, with a mission to discover, define, and develop critical elements deposits containing metals such as rare earths, lithium, cobalt, copper, silver, and gold. Prospech is actively positioning itself to contribute to Europe's mobility revolution and energy transition. With a strong portfolio of prospective base and precious metals projects in Slovakia, and the recent focus on rare earth element (REE) projects in Finland, the Company is strategically aligned with the increasing demand for locally sourced minerals in Eastern and Northern Europe, regions that are highly supportive of mining. As demand for these critical elements grows, Prospech aims to become a leading player in the European market.

For further information, please contact:

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This announcement has been authorised for release to the market by the Board of Directors.

Cautionary Statement

The announcement and information, opinions or conclusion expressed in the course of this announcement contains forecasts and forward-looking information. Such forecasts, projections and information are not a guarantee of future performance, involve unknown risks and uncertainties. Actual results and developments will almost certainly differ materially from those expressed or implied. There are a number of risks, both specific to Prospech, and of a general nature which may affect the future operating and financial performance of Prospech, and the value of an investment in Prospech, including and not limited to title risk, renewal risk, economic conditions, stock market fluctuations, commodity demand and price movements, timing of access to infrastructure, timing of environmental approvals, regulatory risks, operational risks, reliance on key personnel, reserve estimations, cultural heritage risks, foreign currency fluctuations, and mining development, construction and commissioning risk.

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JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections.)

| Criteria | Commentary |
|--|--|
| <i>Sampling techniques</i> | Diamond core drilling was undertaken or sampled from storage to produce assays. Core was orientated for structural and geotechnical logging where possible in the case of KR305 to 310. This was not possible for the historic core. |
| <i>Drilling techniques</i> | HQ (63.5mm) diamond core drilling from 8m downhole post mud rotary to pass unsampled till cover. Prior drilling NQ (47.6mm) and BQ (36.4mm) and in minor underground cases AQ (35.3mm - which could not generally be sampled). |
| <i>Drill sample recovery</i> | Recoveries on the 2024 program averaged over 98%. |
| <i>Logging</i> | GTK Loppi Drill Core Library - core ordered was reviewed and photographed (dry and wet) after sampling intervals were marked and submitted. No geological logging was completed in pre 2024 core as geological logs from Outokumpu Oy are to a high standard and it was deemed redundant to relog the geology. 2024 KR305 to KR310 program - Holes were logged at the Korsnäs storage facility with RQD recoveries and orientation lines completed for runs. In general, over 80% of core could be orientated. After orientation then structural measurements were then taken at a frequency of at least one per run orientated. A total of 395 Recovery and RQD recordings are taken from KR305 to KR310. |
| <i>Sub-sampling techniques and sample preparation</i> | GTK Loppi Drill Core Library – Samples are normally 1 metre maximum in regard to half-core. Minimum sample length is 0.20m. Sample intervals marked up when core is returned to core boxes. Geological log then follows and finally dry and wet photography for all core boxes or the entire hole. All samples generated have identification that are registered in internal control spreadsheets. This identification is linked to the name of the hole and interval to which the sample belongs. |
| <i>Quality of assay data and laboratory tests</i> | Assays were carried out by ALS, an internationally certified commercial laboratory following standard procedures (ALS method ME-MS81h for REEs). 2024 KR305 to KR310 Program - Duplicates in quarter-core were inserted, both being quarter-core and results have been analysed in the body of this report. Prospect inserted standards and blanks were not used due to the lack of ready availability of suitable reference materials for REEs. ALS has its own system of standard and blanks which were reported to Prospect and showed no issues. This lack was mitigated by the cross referencing a large numbers of samples with readings from a hand-held pXRF analyser. On average the ALS results for La Ce Nd and Pr were ~10% lower than the pXRF readings. It is Prospect's plan to submit pulps and coarse rejects to a second commercial laboratory for additional assaying and comparison of REE concentrations. |
| <i>Verification of sampling and assaying</i> | 2024 KR305 to KR310 Program – Holes KR308 and KR310 twinned holes were drilled and assays. Results show good correspondence between the holes. Rare Earth Oxide values were calculated from chemical formulas and atomic weights. |
| <i>Location of data points</i> | LIDAR topographical information is available free from the GTK and is used to control the RL collar coordinates for all pre-2024 holes. Mitta OY used an DGPS to survey the collar locations of the 2024 KR305 to KR310 Program in the ETRS-TM35FIN projection (EPSG:3067). |
| <i>Data spacing and distribution</i> | Drill or pierce point spacing in the plane of the polygons files used to estimate the resource, were also controlled in that drill spacing beyond 120m which would not result in resource blocks being estimated to Inferred Resource. Sample compositing was applied prior to block modelling to 1m composites. Section where previously spaced from 10m in the mine area. |
| <i>Orientation of data in relation to geological structure</i> | Full core orientation was completed of key mineralised structures but also host or wall rock foliations and cross cutting, unmineralised structures. A total of 314 structural readings were taken from KR305 to KR309. KR310 was vertical and hence not orientated. |
| <i>Sample security</i> | Samples were sealed securely in double plastic bag and kept in a secure area until despatch to the laboratory by professional courier after being sealed in wooden boxes. |

| Criteria | Commentary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Drill hole Information | Drill Hole Collar Information ETRS-TM35FIN projection (EPSG:3067) below in total 481 drill holes. All significant assays have been reported refer to www.prospech.com.au Below are details of the metallurgical samples dispatched to PT Geoservices. Coordinates have been provided. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Composite Name</th> <th>Hole_Id</th> <th>From</th> <th>To</th> <th>SampleID</th> </tr> </thead> <tbody> <tr><td>Core Allan</td><td>KR-306</td><td>164.08</td><td>165</td><td>M002685</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>165</td><td>166</td><td>M002686</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>166</td><td>167</td><td>M002687</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>168</td><td>169</td><td>M002689</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>171</td><td>172</td><td>M002692</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>172</td><td>173</td><td>M002693</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>173</td><td>174</td><td>M002694</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>174</td><td>175</td><td>M002695</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>175</td><td>176</td><td>M002696</td></tr> <tr><td>Core Allan</td><td>KR-306</td><td>176</td><td>177</td><td>M002697</td></tr> <tr><td>Core 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<tr><td>Core Allan</td><td>KR-309</td><td>142</td><td>143</td><td>M002924</td></tr> <tr><td>Core Allan</td><td>KR-309</td><td>145</td><td>146</td><td>M002928</td></tr> <tr><td>Core Allan</td><td>KR-310</td><td>99</td><td>100</td><td>M002956</td></tr> <tr><td>Core P</td><td>KR-305</td><td>44</td><td>44.5</td><td>M002632</td></tr> <tr><td>Core P</td><td>KR-305</td><td>44.5</td><td>45.1</td><td>M002633</td></tr> <tr><td>Core P</td><td>KR-305</td><td>45.1</td><td>46</td><td>M002634</td></tr> <tr><td>Core P</td><td>KR-305</td><td>46</td><td>47</td><td>M002635</td></tr> <tr><td>Core P</td><td>KR-305</td><td>49</td><td>50.1</td><td>M002638</td></tr> <tr><td>Core P</td><td>KR-306</td><td>93.8</td><td>94.3</td><td>M002661</td></tr> <tr><td>Core P</td><td>KR-306</td><td>97</td><td>98</td><td>M002665</td></tr> <tr><td>Core P</td><td>KR-306</td><td>101</td><td>102</td><td>M002669</td></tr> <tr><td>Core P</td><td>KR-306</td><td>116.8</td><td>117.3</td><td>M002676</td></tr> <tr><td>Core 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P</td><td>KR-309</td><td>136</td><td>137</td><td>M002918</td></tr> </tbody> </table> | Composite Name | Hole_Id | From | To | SampleID | Core Allan | KR-306 | 164.08 | 165 | M002685 | Core Allan | KR-306 | 165 | 166 | M002686 | Core Allan | KR-306 | 166 | 167 | M002687 | Core Allan | KR-306 | 168 | 169 | M002689 | Core Allan | KR-306 | 171 | 172 | M002692 | Core Allan | KR-306 | 172 | 173 | M002693 | Core Allan | KR-306 | 173 | 174 | M002694 | Core Allan | KR-306 | 174 | 175 | M002695 | Core Allan | KR-306 | 175 | 176 | M002696 | Core Allan | KR-306 | 176 | 177 | M002697 | Core Allan | KR-306 | 177 | 178 | M002698 | Core Allan | KR-306 | 178 | 179 | M002699 | Core Allan | KR-306 | 179 | 179.52 | M002701 | Core Allan | KR-306 | 212 | 213 | M002707 | Core Allan | KR-306 | 215 | 216 | M002710 | Core Allan | KR-307 | 60 | 61 | M002748 | Core Allan | KR-307 | 100 | 101 | M002788 | Core Allan | KR-307 | 101 | 102 | M002789 | Core Allan | KR-307 | 105 | 107.6 | M002793 | Core Allan | KR-309 | 139 | 140 | M002921 | Core Allan | KR-309 | 140 | 141 | M002922 | Core Allan | KR-309 | 141 | 142 | M002923 | Core Allan | KR-309 | 142 | 143 | M002924 | Core Allan | KR-309 | 145 | 146 | M002928 | Core Allan | KR-310 | 99 | 100 | M002956 | Core P | KR-305 | 44 | 44.5 | M002632 | Core P | KR-305 | 44.5 | 45.1 | M002633 | Core P | KR-305 | 45.1 | 46 | M002634 | Core P | KR-305 | 46 | 47 | M002635 | Core P | KR-305 | 49 | 50.1 | M002638 | Core P | KR-306 | 93.8 | 94.3 | M002661 | Core P | KR-306 | 97 | 98 | M002665 | Core P | KR-306 | 101 | 102 | M002669 | Core P | KR-306 | 116.8 | 117.3 | M002676 | Core P | KR-307 | 204 | 205 | M002834 | Core P | KR-308 | 85 | 86 | M002861 | Core P | KR-308 | 86 | 87 | M002862 | Core P | KR-308 | 87 | 88.7 | M002863 | Core P | KR-308 | 88.7 | 90 | M002864 | Core P | KR-308 | 90 | 91 | M002865 | Core P | KR-308 | 104 | 105 | M002880 | Core P | KR-308 | 112.9 | 113.4 | M002889 | Core P | KR-309 | 61 | 62 | M002910 | Core P | KR-309 | 62 | 63 | M002911 | Core P | KR-309 | 125.7 | 127 | M002914 | Core P | KR-309 | 135 | 136 | M002917 | Core P | KR-309 | 136 | 137 | M002918 |
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| Core Allan | KR-306 | 164.08 | 165 | M002685 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-306 | 165 | 166 | M002686 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-306 | 166 | 167 | M002687 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-306 | 168 | 169 | M002689 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-306 | 171 | 172 | M002692 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Core Allan | KR-306 | 174 | 175 | M002695 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-306 | 175 | 176 | M002696 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Core Allan | KR-306 | 179 | 179.52 | M002701 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-306 | 212 | 213 | M002707 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Core Allan | KR-307 | 60 | 61 | M002748 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-307 | 100 | 101 | M002788 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-307 | 101 | 102 | M002789 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-307 | 105 | 107.6 | M002793 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-309 | 139 | 140 | M002921 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-309 | 140 | 141 | M002922 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-309 | 141 | 142 | M002923 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-309 | 142 | 143 | M002924 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-309 | 145 | 146 | M002928 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Allan | KR-310 | 99 | 100 | M002956 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-305 | 44 | 44.5 | M002632 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-305 | 44.5 | 45.1 | M002633 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-305 | 45.1 | 46 | M002634 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-305 | 46 | 47 | M002635 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-305 | 49 | 50.1 | M002638 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-306 | 93.8 | 94.3 | M002661 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-306 | 97 | 98 | M002665 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-306 | 101 | 102 | M002669 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-306 | 116.8 | 117.3 | M002676 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-307 | 204 | 205 | M002834 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-308 | 85 | 86 | M002861 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-308 | 86 | 87 | M002862 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-308 | 87 | 88.7 | M002863 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-308 | 88.7 | 90 | M002864 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-308 | 90 | 91 | M002865 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-308 | 104 | 105 | M002880 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-308 | 112.9 | 113.4 | M002889 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-309 | 61 | 62 | M002910 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-309 | 62 | 63 | M002911 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-309 | 125.7 | 127 | M002914 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-309 | 135 | 136 | M002917 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core P | KR-309 | 136 | 137 | M002918 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Criteria | Commentary | | | | |
|----------|------------|-------|-------|---------|--|
| Core P | KR-309 | 158.5 | 159.5 | M002931 | |
| Core P | KR-309 | 159.5 | 160.5 | M002932 | |
| Core P | KR-309 | 160.5 | 161.5 | M002933 | |
| Core P | KR-309 | 164.5 | 165.5 | M002937 | |
| Core P | KR-309 | 167.5 | 168.5 | M002940 | |
| Core P | KR-309 | 168.5 | 169.5 | M002941 | |
| Core P | KR-309 | 185 | 185.5 | M002948 | |
| Core P | KR-310 | 107.4 | 108 | M002965 | |
| Core P | KR-310 | 114 | 114.5 | M002972 | |
| LnCS | LS-01 | 1 | 2 | M002540 | |
| LnCS | LS-01 | 2 | 3 | M002541 | |
| LnCS | LS-01 | 3 | 4 | M002542 | |
| LnCS | LS-01 | 4 | 5 | M002543 | |
| LnCS | LS-01 | 5 | 6 | M002544 | |
| LnCS | LS-01 | 6 | 6.7 | M002545 | |
| LnCS | LS-02 | 0.8 | 1.8 | M002547 | |
| LnCS | LS-02 | 1.8 | 2.8 | M002548 | |
| LnCS | LS-02 | 2.8 | 3.8 | M002549 | |
| LnCS | LS-02 | 3.8 | 4.8 | M002550 | |
| LnCS | LS-02 | 4.8 | 5.8 | M002551 | |
| LnCS | LS-02 | 5.8 | 6.8 | M002552 | |
| LnCS | LS-03 | 1 | 2 | M002554 | |
| LnCS | LS-03 | 2 | 3 | M002555 | |
| LnCS | LS-03 | 3 | 4 | M002556 | |
| LnCS | LS-03 | 4 | 5 | M002557 | |
| LnCS | LS-03 | 5 | 6 | M002558 | |
| LnCS | LS-03 | 6 | 6.5 | M002559 | |
| LnCS | LS-04 | 1.1 | 2.1 | M002503 | |
| LnCS | LS-04 | 2.1 | 3.1 | M002504 | |
| LnCS | LS-04 | 3.1 | 4.1 | M002505 | |
| LnCS | LS-04 | 4.1 | 5.1 | M002506 | |
| LnCS | LS-04 | 5.1 | 6.1 | M002507 | |
| LnCS | LS-04 | 6.1 | 7.1 | M002508 | |
| LnCS | LS-04 | 7.1 | 7.9 | M002509 | |
| LnCS | LS-05 | 0.8 | 1.8 | M002561 | |
| LnCS | LS-05 | 1.8 | 2.8 | M002562 | |
| LnCS | LS-05 | 2.8 | 3.8 | M002563 | |
| LnCS | LS-05 | 3.8 | 4.8 | M002564 | |
| LnCS | LS-05 | 4.8 | 5.8 | M002565 | |
| LnCS | LS-05 | 5.8 | 6.8 | M002566 | |
| LnCS | LS-05 | 6.8 | 7.8 | M002567 | |
| LnCS | LS-06 | 1 | 2 | M002533 | |
| LnCS | LS-06 | 2 | 3 | M002534 | |
| LnCS | LS-06 | 3 | 4 | M002535 | |
| LnCS | LS-06 | 4 | 5 | M002536 | |
| LnCS | LS-06 | 5 | 6 | M002537 | |
| LnCS | LS-06 | 6 | 7 | M002538 | |
| LnCS | LS-07 | 1 | 2 | M002527 | |
| LnCS | LS-07 | 2 | 3 | M002528 | |
| LnCS | LS-07 | 3 | 4 | M002529 | |

| Criteria | | Commentary | | |
|-----------|--------|------------|------|---------|
| LnCS | LS-07 | 4 | 5 | M002530 |
| LnCS | LS-07 | 5 | 6 | M002531 |
| LnCS | LS-08 | 1 | 2 | M002519 |
| LnCS | LS-08 | 2 | 3 | M002520 |
| LnCS | LS-08 | 3 | 4 | M002521 |
| LnCS | LS-08 | 4 | 5 | M002522 |
| LnCS | LS-08 | 5 | 6 | M002523 |
| LnCS | LS-08 | 6 | 7 | M002524 |
| LnCS | LS-08 | 7 | 7.2 | M002525 |
| LnCS | LS-09 | 1 | 2 | M002511 |
| LnCS | LS-09 | 2 | 3 | M002512 |
| LnCS | LS-09 | 3 | 4 | M002513 |
| LnCS | LS-09 | 4 | 5 | M002514 |
| LnCS | LS-09 | 5 | 6 | M002515 |
| LnCS | LS-09 | 6 | 7 | M002516 |
| LnCS | LS-09 | 7 | 7.35 | M002517 |
| TSF Allan | TSF07 | 3 | 4 | 0704 |
| TSF Allan | TSF07 | 4 | 5 | 0705 |
| TSF Allan | TSF08 | 4 | 5 | 0805 |
| TSF Allan | TSF08 | 5 | 6 | 0806 |
| TSF Allan | TSF08A | 4 | 5 | 08A05 |
| TSF Allan | TSF08A | 5 | 6 | 08A06 |
| TSF Allan | TSF09 | 3 | 4 | 0904 |
| TSF Allan | TSF09 | 4 | 5 | 0905 |
| TSF Allan | TSF09 | 5 | 6 | 0906 |
| TSF Allan | TSF09 | 6 | 7 | 0907 |
| TSF Allan | TSF10 | 5 | 6 | 1006 |
| TSF Allan | TSF13 | 3 | 4 | 1304 |
| TSF Allan | TSF14 | 3 | 4 | 1404 |
| TSF Allan | TSF14 | 4 | 5 | 1405 |
| TSF Allan | TSF14A | 3 | 4 | 14A04 |
| TSF Allan | TSF14A | 4 | 5 | 14A05 |
| TSF Allan | TSF15 | 3 | 4 | 1504 |
| TSF Allan | TSF15 | 4 | 5 | 1505 |
| TSF Allan | TSF15 | 5 | 6 | 1506 |
| TSF Allan | TSF16 | 3 | 4 | 1604 |
| TSF Allan | TSF16A | 3 | 4 | 16A04 |
| TSF Allan | TSF16A | 4 | 5 | 16A05 |
| TSF Allan | TSF16A | 5 | 6 | 16A06 |
| TSF Allan | TSF19 | 3 | 4 | 1904 |
| TSF Allan | TSF19 | 4 | 5 | 1905 |
| TSF Allan | TSF20 | 3 | 4 | 2004 |
| TSF Allan | TSF20 | 4 | 5 | 2005 |
| TSF Allan | TSF20A | 3 | 4 | 20A04 |
| TSF Allan | TSF20A | 4 | 5 | 20A05 |
| TSF Allan | TSF22 | 5 | 6 | 2206 |
| TSF Allan | TSF24 | 4 | 5 | 2405 |
| TSF Allan | TSF25 | 3 | 4 | 2504 |
| TSF Allan | TSF25 | 4 | 5 | 2505 |
| TSF Allan | TSF25A | 1 | 2 | 25A02 |

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| Criteria | Commentary | | | |
|-----------|------------|---|---|-------|
| TSF Allan | TSF25A | 4 | 5 | 25A05 |
| TSF Allan | TSF27 | 3 | 4 | 2704 |
| TSF Allan | TSF27 | 4 | 5 | 2705 |
| TSF Allan | TSF30 | 4 | 5 | 3005 |
| TSF Allan | TSF31 | 4 | 5 | 3105 |
| TSF Allan | TSF32 | 4 | 5 | 3205 |
| TSF Allan | TSF32 | 5 | 6 | 3206 |
| TSF Allan | TSF33 | 3 | 4 | 3304 |
| TSF Allan | TSF33 | 4 | 5 | 3305 |
| TSF Allan | TSF33 | 5 | 6 | 3306 |
| TSF Allan | TSF34 | 3 | 4 | 3404 |
| TSF Allan | TSF36 | 5 | 6 | 3606 |
| TSF Allan | TSF37 | 5 | 6 | 3706 |
| TSF Allan | TSF38 | 4 | 5 | 3805 |
| TSF Allan | TSF38 | 5 | 6 | 3806 |
| TSF Allan | TSF38 | 6 | 7 | 3807 |
| TSF Allan | TSF39 | 2 | 3 | 3903 |
| TSF Allan | TSF39 | 3 | 4 | 3904 |
| TSF Allan | TSF44 | 3 | 4 | 4404 |
| TSF Allan | TSF51 | 0 | 1 | 5101 |
| TSF P | TSF04 | 0 | 1 | 0401 |
| TSF P | TSF05 | 1 | 2 | 0502 |
| TSF P | TSF08 | 0 | 1 | 0801 |
| TSF P | TSF08A | 1 | 2 | 08A02 |
| TSF P | TSF13 | 2 | 3 | 1303 |
| TSF P | TSF15 | 2 | 3 | 1503 |
| TSF P | TSF16 | 4 | 5 | 1605 |
| TSF P | TSF18 | 0 | 1 | 1801 |
| TSF P | TSF18 | 5 | 6 | 1806 |
| TSF P | TSF23A | 4 | 5 | 23A05 |
| TSF P | TSF24 | 7 | 8 | 2408 |
| TSF P | TSF27 | 0 | 1 | 2701 |
| TSF P | TSF27 | 1 | 2 | 2702 |
| TSF P | TSF28 | 0 | 1 | 2801 |
| TSF P | TSF29 | 1 | 2 | 2902 |
| TSF P | TSF29 | 5 | 6 | 2906 |
| TSF P | TSF33 | 2 | 3 | 3303 |
| TSF P | TSF34 | 0 | 1 | 3401 |
| TSF P | TSF37 | 3 | 4 | 3704 |
| TSF P | TSF37 | 8 | 9 | 3709 |
| TSF P | TSF39 | 1 | 2 | 3902 |
| TSF P | TSF39 | 6 | 7 | 3907 |
| TSF P | TSF42 | 0 | 1 | 4201 |
| TSF P | TSF44 | 2 | 3 | 4403 |
| TSF P | TSF45 | 0 | 1 | 4501 |
| TSF P | TSF45 | 3 | 4 | 4504 |
| TSF P | TSF45 | 6 | 7 | 4507 |
| TSF P | TSF46 | 1 | 2 | 4602 |
| TSF P | TSF50 | 7 | 8 | 5008 |
| TSF P | TSF50 | 8 | 9 | 5009 |

Data aggregation methods Composites of 1 m were created prior to interpolation; no grade capping applied in this inferred MRE iteration.

| Criteria | Commentary |
|---|--|
| <i>Relationship between mineralisation widths and intercept lengths</i> | Nearly all holes were drilled either vertical or east azimuth. And given the vast bulk of pierce points are on structure dipping 45 degrees East with generally shallower dip zones to the East result in some non-orthogonal intercepts. |
| <i>Diagrams</i> | The location and results received for surface samples are displayed in the attached maps and/or tables. Coordinates are ETRS-TM35FIN projection (EPSG:3067). Figures 3 onwards depict hole locations. |
| <i>Balanced reporting</i> | Histograms of assay values used in the modelling are reported which include the full range of values. |
| <i>Other substantive exploration data</i> | Aside from the exploration activities conducted by Prospech and the historical programs undertaken by Outokumpu Oy, both comprehensively documented in this and other technical reports prepared by Prospech, no additional material exploration work is known to have been carried out on the properties. |
| <i>Further work</i> | Metallurgical test work is underway in the first instance before any further drilling. See report body for more details |

Section 3 Estimation and Reporting of Mineral Resources

| Criteria | Commentary |
|---|---|
| <i>Database Integrity</i> | All data was imported into Micromine software. The database was validated using specific processes to verify the existence of the errors including: No assays present in the assay database but present in the collar file (this was common as most holes assayed for lead only. No survey file present – most holes were measured from drafted sections to interpret dip hence the need for the 2024 program to confirm structural interpretations. |
| <i>Site Visits</i> | Prospech Competent Person have been continuously operating at the project site since April 2023. |
| <i>Geological interpretation</i> | The geology of the deposits is well understood, supported by a large number of historical drillholes, detailed mine records, and recent drilling. This provides a high level of confidence appropriate for a project at this stage of investigation. The primary data sources are historic drill logs and modern assay results. Key assumptions include conventional interpolation between drillholes, guided by well-defined geological controls, relatively close drill spacing, and modern drilling that validates the historical data. No alternative geological interpretation is currently warranted, as the historical mining data strongly supports a preferred model. Continuity is influenced by factors such as host lithology, ground preparation, fluid composition, and flow dynamics—each of which has been evaluated through mineralogical studies presented in this report. |
| <i>Dimensions</i> | The mineral resource is spread across 41 separate block model zones as depicted in the body of the text. |
| <i>Estimation and modelling techniques</i> | NA |
| <i>Moisture</i> | All samples were dried prior to weighing; no moisture correction was applied, and tonnages are reported as dry |
| <i>Cut off Parameters</i> | Cut-off parameters have been assessed by the Competent Person with consideration given to a number of material factors including, amongst other matters, the impact of the world and European geopolitical environment on future REE pricing and, given flatter dips confirmed by detailed structural studies completed by Prospech geologists based on the results from the recent drilling campaign completed by the Company, the potential for a partial open pit mining operation at Korsnäs. It is the Competent Person's opinion that, with more exploration and drilling, some amount of the Exploration Target is likely to be converted to a resource estimate. Further, the 41 separately block modelled zones will likely be consolidated to possibly less than 6 contiguous zones with a consequent increase in quality and quantity of the currently reported Inferred MRE. Based on the assumptions adopted by the Competent Person, a theoretical breakeven cut-off grade is indicated between 0.2% and 0.5% TREO. Given these uncertainties, the Competent Person considers that it is reasonable to classify the mineral resource estimate in the Inferred Category and use a cut-off grade of 0.5% TREO for summary reporting purposes of the Inferred MRE in this announcement. |
| <i>Mining Factors or assumptions</i> | No specific mining method is assumed other than potentially the use of open pit and underground mining methods. |
| <i>Metallurgical Factors or assumptions</i> | Five composite samples were submitted for SEM-EDS and MLA analysis by PT Geoservices. The samples were selected to represent a range of ore types including TSF, fresh rock, and stockpiled material. SEM-based Mineral Liberation Analysis (MLA) was used to assess modal mineralogy, grain size distribution, and mineral liberation characteristics. The methodology is appropriate for early-stage beneficiation assessments. The samples were selected from across the deposit and processing pathways (TSF, core, Lanthanide Concentrate Stockpile) to provide indicative mineralogical characteristics. No quantitative metallurgical recovery was determined at this stage. SEM/EDS spectra and mineral classification were reviewed by a senior mineralogist. No QA/QC concerns were identified at this stage. |

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| Criteria | Commentary |
|----------|--|
| | Apatite is the dominant REE host mineral and shows good liberation in the samples as presented. Monazite occurs as minor inclusions. Liberation characteristics are favourable for downstream beneficiation options. |



PT. GEOSERVICES - MINERALOGY LABORATORY

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MINERALOGY REPORT

SEM MINERALOGICAL TESTING

CIK.MET.02242A

Prepared for:

Bambra Oy

27 April 2025

"The Certification Logo's demonstrate that the laboratory has a Management System to ensure compliance to the System Standards.
The results contained in this report relate only to the sample(s) submitted for testing.
Geoservices – Mineralogy Laboratory accepts no responsibility for the representativeness of the sample(s) submitted for testing.

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Table of Contents

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| | |
|-----------|--|
| 1 | Table of Contents |
| 2 | Disclaimer |
| 3 | Mineralogy Testing Summary |
| 4 | Introduction |
| 5 | SEM Mount Micrographs |
| 6 | SEM BSE Image |
| 7 | SEM Mineral Image |
| 8 | XRD Result |
| 9 | SEM AMICS Modal |
| 9.1 | Mineral Grouping |
| 10 | SEM Element Department & Reconciliation |
| 11 | SEM Mineral Locking |
| 11.1 | Mineral Locking Particle Image |
| 12 | SEM Mineral Liberation |
| 12.1 | Mineral Liberation Class Particle Image |
| 13 | SEM Size Distribution |
| 14 | SEM Mineral of Interest Grain Size |
| 15 | Glossary |
| 16 | References |
| 17 | Appendices |
| 17.1 | Chemical Assay |



Disclaimer

This report has been prepared for the Client by PT. Geoservices – Mineralogy Laboratory. Other parties, at the discretion of the Client may be given access to the report or receive copies of the report, but only in full including this page, the title page and appendices.

PT. Geoservices Ltd has performed the Mineralogy Services reported herein based on the information provided by the Client to PT. Geoservices Ltd and PT. Geoservices Ltd understanding of the Client's requirements.

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PT. Geoservices Ltd has performed the Mineralogy Services and prepared this Report based only upon the sample material that the Client provided to PT. Geoservices Ltd.

PT. Geoservices was not involved in:

- 1.....the drilling, collection or transportation of the samples: and
- 2.....the handling of the samples prior to their delivery to Geoservices

The results presented in this report pertain only to the samples as received.



MINERALOGY TESTING SUMMARY

Samples

Two received samples from Bambra Oy. The samples contain various compositions of silicates, phosphates, sulfates, carbonates/nitrates, sulfides, and oxides/hydroxides. The Minerals of Interest (MoI) in the analysis are the REE-bearing minerals such as allanite, apatite, carbocearnite, monazite, and zircon. The element of interest include Ca, Ce, La, Nd, P and Si.

TSF "P" _HG

The sample is composed of several main minerals, which are Chlorite (20.1%), Orthoclase (20.1%), Quartz (19.0%), and Calcite (12.8%), based on the SEM automated mineralogy method. The observed Minerals of Interest (MoI) are Apatite, Monazite, and Zircon. Calcium (Ca) concentration in the sample is approximately 6.4wt%, Phosphorus (P) is about 0.3wt%, and Silicon (Si) is found at 22.8wt%. The REEs from this sample might have occurred below the detection limit. Apatite is found majorly well-liberated. Monazite is divided mostly in the categories of locked and well liberated, and minorly ranges in low-grade middlings to medium-grade middlings. Zircon is almost entirely well liberated.

TSF "Allan" _HG

The sample is composed of several main minerals, which are Chlorite (27.8%), Orthoclase (17.4%), Quartz (19.0%), and Allanite (9.3%), based on the SEM automated mineralogy method. Allanite is found predominantly mixing and has less REE contentment. Based on BSE identification, Allanite is found in darker color compared to the other samples. The observed Minerals of Interest (MoI) are Allanite, Carbocearnite, Apatite, Monazite, and Zircon. From AMICS calculations, the concentration of rare earth elements (REEs) in the sample is higher than previous sample, with cerium (Ce) at 9103 ppm, and lanthanum (La) at 7258 ppm. Calcium (Ca) concentration in the sample is approximately 6.9wt%, Phosphorus (P) is about 0.4wt%, and Silicon (Si) is found at 21.4wt%. REE are dominantly found in Allanite and Monazite, and very low in Carbocearnite. Allanite and Carbocearnite are predominantly found in locked-low grade middlings, while Monazite is found in high grade middlings, based on the liberation data.

LNCS Composite_HG

The sample is composed of several main minerals, which are Calcite (40.9%), Apatite (16.8%), and Pyrite (12.5%) based on the SEM automated mineralogy method. The observed Minerals of Interest (MoI) are Allanite, Carbocearnite, Apatite, and Monazite. From AMICS calculations, the concentration of rare earth elements (REEs) in the sample is higher than previous sample, with cerium (Ce) at 11168 ppm, lanthanum (La) at 1644 ppm, and Niobium 1989 ppm. Calcium (Ca) concentration in the sample is approximately 23.9wt%, Phosphorus (P) is about 3.6wt%, and Silicon (Si) is found at 6.2wt%. REE are dominantly found in Allanite and Monazite, and very low in Carbonaceite. Calcium content is relatively high at 40.9wt%, due to the presence of abundant calcite in the area captured by the AMICS. In contrast, the silicate content is lower (6.2wt%), indicating low amount of quartz identified. Allanite, Carbocearnite, and Monazite are predominantly found in locked conditions, based on the liberation data.

Modal Mineralogy Summary

SEM/ AMICS Modal Mineralogy

| No. | Mineralogy | | | Samples | | |
|---------------|--|----------------|-------------------|--------------|-----------------|-------------------|
| | Mineral Chemical Formula | Phase | Classification | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| 1 | Ca ₂ (Mg,Fe)5Si ₈ O ₂₂ (OH) ₂ | Actinolite | Silicates | 0,6 | 2,3 | 1,8 |
| 2 | NaAlSi ₃ O ₈ | Albite | Silicates | 6,7 | 3,4 | 1,2 |
| 3 | (Ca,Ce,La,Nd,Y) ₂ (Al,Fe ³⁺) ₃ (SiO ₄) ₃ (OH) | Allanite | Silicates | | 9,3 | 2,5 |
| 4 | Ca _{s-x} (Ce,Nd) _x (PO ₄) ₃ (F,Cl,OH) | Apatite | Phosphates | 1,7 | 1,5 | 16,8 |
| 5 | BaSO ₄ | Barite | Sulfates | 3,9 | 0,3 | 3,1 |
| 6 | K Fe Mg ₂ (AlSi ₃ O ₁₀)(OH) ₂ | Biotite | Silicates | 7,9 | 8,1 | 1,0 |
| 7 | CaCO ₃ | Calcite | Carbonates | 12,8 | 6,4 | 40,9 |
| 8 | (Ca,Na)(Sr,Ce,La,Nd,Ba)(CO ₃) ₂ 2H ₂ O ₃ 2 2H ₂ O | Carbocearnite | Carbonates | | 0,1 | 0,1 |
| 9 | (Mg,Fe) ₅ (Al,Si) ₅ O ₁₀ (OH) ₈ | Chlorite | Silicates | 20,1 | 27,8 | 5,6 |
| 10 | CaMg (SiO ₃) ₂ | Diopside | Silicates | 2,3 | 9,4 | 1,4 |
| 11 | PbS | Galena | Sulfides | 0,4 | 0,6 | 1,4 |
| 12 | (K,H ₃ O) (Al,Mg,Fe) ₂ (Si,Al) ₄ O ₁₀ [(OH) ₂ , (H ₂ O)] | Illite | Silicates | 1,5 | 2,1 | 0,1 |
| 13 | Al ₂ (Si ₂ O ₅)(OH) ₄ | Kaolinite | Silicates | 0,1 | | |
| 14 | Fe ₃ O ₄ | Magnetite | Oxides/Hydroxides | | 0,1 | |
| 15 | (Ce,La,Nd) PO ₄ | Monazite | Phosphates | 0,1 | 0,8 | 2,0 |
| 16 | KAlSi ₃ O ₈ | Orthoclase | Silicates | 20,1 | 17,4 | 2,0 |
| 17 | FeS ₂ | Pyrite | Sulfides | 1,5 | 0,7 | 12,5 |
| 18 | SiO ₂ | Quartz | Silicates | 19,0 | 7,9 | 5,0 |
| 19 | CaTi(SiO ₄)O | Titanite | Silicates | 0,1 | 0,3 | 1,2 |
| 20 | TiO ₂ | Rutile | Oxides/Hydroxides | 0,2 | 0,4 | 0,2 |
| 21 | (Zr,Hf)SiO ₄ | Zircon | Silicates | 0,4 | | |
| 22 | Om | Other Minerals | | 0,8 | 1,2 | 0,9 |
| Total: | | | | 100,0 | 100,0 | 99,9 |

XRD Modal Mineralogy

| No. | Mineralogy | | | Samples | | |
|---------------|--|---------------|-------------------|--------------|-----------------|-------------------|
| | Mineral Chemical Formula | Phase | Classification | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| 1 | NaAlSi ₃ O ₈ | Albite | Silicates | 9,8 | 13,6 | 3,8 |
| 2 | (Ca,La)(AlAlFe ₂₊)O[Si ₂ O ₇][SiO ₄](OH) | Allanite | Silicates | 0,5 | 1,6 | 1,4 |
| 3 | Ca ₅ (PO ₄) ₃ (Cl,F,OH) | Apatite | Phosphates | 0,8 | 0,6 | 14,2 |
| 4 | BaSO ₄ | Barite | Sulfates | 3,8 | 2,1 | 5,6 |
| 5 | K Fe Mg ₂ (AlSi ₃ O ₁₀)(OH) ₂ | Biotite | Silicates | 6,1 | 3,2 | 0,8 |
| 6 | CaCO ₃ | Calcite | Carbonates | 13,5 | 11,8 | 45,0 |
| 7 | (Ca,Na)(Sr,Ce,Ba)(CO ₃) ₂ | Carbocearnite | Carbonates | 1,6 | 0,7 | 2,2 |
| 8 | (Mg,Fe) ₅ (Al,Si) ₅ O ₁₀ (OH) ₈ | Chlorite | Silicates | 8,4 | 25,4 | 5,0 |
| 9 | CaMg (SiO ₃) ₂ | Diopside | Silicates | 7,4 | 2,7 | 0,9 |
| 10 | PbS | Galena | Sulfides | | 0,6 | 1,0 |
| 11 | H ₂ NaCa ₂ (Mg,Fe) ₄ Al ₃ Si ₆ O ₂₄ | Hornblende | Silicates | 6,2 | | 0,7 |
| 12 | (K,H ₃ O) (Al,Mg,Fe) ₂ (Si,Al) ₄ O ₁₀ [(OH) ₂ , (H ₂ O)] | Illite | Silicates | | 2,5 | |
| 13 | Fe ₃ O ₄ | Magnetite | Oxides/Hydroxides | | 0,8 | 0,6 |
| 14 | (Ce,La,Th,Nd) PO ₄ | Monazite | Phosphates | | 0,7 | 1,2 |
| 15 | KAlSi ₃ O ₈ | Orthoclase | Silicates | 21,7 | 21,3 | 8,1 |
| 16 | FeS ₂ | Pyrite | Sulfides | 0,5 | 0,5 | 4,2 |
| 17 | SiO ₂ | Quartz | Silicates | 19,8 | 11,9 | 5,4 |
| Total: | | | | 100,0 | 100,0 | 100,0 |



MINERALOGY TESTING SUMMARY

Chemical Assay - AMICS

| No. | Sample | Element | | | | | |
|-----|-------------------|---------|-----|-----|-----|-----|------|
| | | Ca | Ce | La | Nd | P | Si |
| 1 | TSF "P"_HG | 6,4 | | | | 0,3 | 22,8 |
| 2 | TSF "Allan"_HG | 6,9 | 0,9 | 0,7 | 0,0 | 0,4 | 21,4 |
| 3 | LNCS Composite_HG | 23,9 | 1,1 | 0,2 | 0,2 | 3,6 | 6,2 |

Element Department

| No. | Element | Mineral | | Samples | | |
|-----|---------|----------------|----------------|------------|----------------|-------------------|
| | | Abbreviation | Mineral Phase | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
| 1 | Ca | Act | Actinolite | 0,1 | 0,3 | 0,2 |
| 2 | | Aln | Allanite | | 1,5 | 0,1 |
| 3 | | Ap | Apatite | 0,6 | 0,6 | 6,7 |
| 4 | | Cal | Calcite | 5,1 | 2,6 | 16,2 |
| 5 | | Di | Diopside | 0,4 | 1,7 | 0,3 |
| 6 | | Ttn | Titanite | | 0,1 | 0,2 |
| 7 | | Om | Other minerals | 0,2 | 0,1 | 0,2 |
| 8 | Ce | Aln | Allanite | | 0,7 | 0,7 |
| 9 | | Mnz | Monazite | | 0,2 | 0,4 |
| 10 | | Om | Other minerals | | | |
| 11 | La | Aln | Allanite | | 0,1 | |
| 12 | | Mnz | Monazite | | 0,6 | 0,2 |
| 13 | | Om | Other minerals | | | |
| 14 | Nd | Mnz | Monazite | | | 0,2 |
| 15 | | Om | Other minerals | | | |
| 16 | P | Ap | Apatite | 0,3 | 0,3 | 3,1 |
| 17 | | Mnz | Monazite | | 0,1 | 0,5 |
| 18 | | Om | Other minerals | | | |
| 19 | Si | Act | Actinolite | 0,2 | 0,6 | 0,5 |
| 20 | | Ab | Albite | 2,0 | 1,0 | 0,4 |
| 21 | | Aln | Allanite | | 2,2 | 0,3 |
| 22 | | Bt | Biotite | 1,5 | 1,6 | 0,2 |
| 23 | | Chl | Chlorite | 2,7 | 3,8 | 0,8 |
| 24 | | Di | Diopside | 0,6 | 2,4 | 0,4 |
| 25 | | Ill | Illite | 0,4 | 0,5 | |
| 26 | | Or | Orthoclase | 6,1 | 5,3 | 0,6 |
| 27 | | Qz | Quartz | 8,9 | 3,7 | 2,4 |
| 28 | | Ttn | Titanite | | 0,1 | 0,3 |
| 29 | | Zr | Zircon | 0,1 | | |
| 30 | Om | Other minerals | 0,4 | 0,2 | 0,4 | |

Mineral Locking

| No. | Sample Code | Condition | Mineral of Interest | | | | |
|-----|-------------------|-----------|---------------------|---------|---------------|----------|--------|
| | | | Allanite | Apatite | Carbocernaite | Monazite | Zircon |
| 1 | TSF "P"_HG | Liberated | | 6,2 | | 15,9 | |
| | | Binary | | 8,1 | | 8,6 | |
| | | Ternary | | 85,7 | | 75,5 | 100,0 |
| 2 | TSF "Allan"_HG | Liberated | 9,6 | 16,3 | | 5,6 | |
| | | Binary | 8,7 | 10,7 | 6,1 | 13,0 | |
| | | Ternary | 81,8 | 73,0 | 93,9 | 81,3 | 100,0 |
| 3 | LNCS Composite_HG | Liberated | 4,0 | 0,9 | | 1,8 | |
| | | Binary | 3,6 | 1,8 | | 2,4 | |
| | | Ternary | 92,4 | 97,4 | 100,0 | 95,8 | |

Mineral of Interest Liberation

| Allanite | | | | | |
|---------------|------------------------|--------------|------------|----------------|-------------------|
| No. | Liberation Classes | Surface Area | Sample | | |
| | | | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
| 1 | Locked | < 20% | | 57,8 | 63,2 |
| 2 | Low grade middlings | 20 - 40 % | | 16,2 | 6,6 |
| 3 | Medium grade middlings | 40 - 60 % | | 7,0 | 4,7 |
| 4 | High grade middlings | 60 - 80 % | | 6,2 | 15,6 |
| 5 | Well liberated | 80 - 100% | | 12,8 | 10,0 |
| Total: | | | | 100,0 | 100,0 |



MINERALOGY TESTING SUMMARY

| Apatite | | | | | |
|---------------|------------------------|--------------|--------------|-----------------|--------------------|
| No. | Liberation Classes | Surface Area | Sample | | |
| | | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG |
| 1 | Locked | < 20% | 3,0 | 44,1 | 3,3 |
| 2 | Low grade middlings | 20 - 40 % | 0,8 | 4,5 | 4,6 |
| 3 | Medium grade middlings | 40 - 60 % | 0,9 | 4,1 | 11,4 |
| 4 | High grade middlings | 60 - 80 % | 7,4 | 8,6 | 34,4 |
| 5 | Well liberated | 80 - 100% | 87,9 | 38,7 | 46,3 |
| Total: | | | 100,0 | 100,0 | 100,0 |

| Carbocernaite | | | | | |
|---------------|------------------------|--------------|-------------|-----------------|--------------------|
| No. | Liberation Classes | Surface Area | Sample | | |
| | | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG |
| 1 | Locked | < 20% | | 81,0 | 93,2 |
| 2 | Low grade middlings | 20 - 40 % | | 3,3 | 5,8 |
| 3 | Medium grade middlings | 40 - 60 % | | 9,7 | 1,1 |
| 4 | High grade middlings | 60 - 80 % | | 0,0 | |
| 5 | Well liberated | 80 - 100% | | 6,1 | |
| Total: | | | | 100,0 | 100,0 |

| Monazite | | | | | |
|---------------|------------------------|--------------|--------------|-----------------|--------------------|
| No. | Liberation Classes | Surface Area | Sample | | |
| | | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG |
| 1 | Locked | < 20% | 45,7 | 20,7 | 61,2 |
| 2 | Low grade middlings | 20 - 40 % | 7,1 | 3,6 | 6,4 |
| 3 | Medium grade middlings | 40 - 60 % | 13,3 | 0,5 | 8,8 |
| 4 | High grade middlings | 60 - 80 % | | 57,5 | 3,3 |
| 5 | Well liberated | 80 - 100% | 34,0 | 17,7 | 20,4 |
| Total: | | | 100,0 | 100,0 | 100,0 |

| Zircon | | | | | |
|---------------|------------------------|--------------|--------------|-----------------|--------------------|
| No. | Liberation Classes | Surface Area | Sample | | |
| | | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG |
| 1 | Locked | < 20% | 1,4 | 100,0 | |
| 2 | Low grade middlings | 20 - 40 % | | | |
| 3 | Medium grade middlings | 40 - 60 % | | | |
| 4 | High grade middlings | 60 - 80 % | | | |
| 5 | Well liberated | 80 - 100% | 98,6 | | |
| Total: | | | 100,0 | 100,0 | |

Size Distribution - P80 in µm

| No. | P - Value | Sample | | |
|-----|-----------|-------------|-----------------|--------------------|
| | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG |
| 1 | P-80 | 304,5 | 104,2 | 170,9 |
| 2 | P-50 | 85,8 | 41,7 | 100,5 |
| 3 | P-20 | 21,3 | 12,1 | 45,4 |

Mineral of Interest Grain Size

| Allanite | | | | | |
|----------|-----------|-------------|-----------------|--------------------|--|
| No. | P - Value | Sample | | | |
| | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG | |
| 1 | P-80 | | 9,1 | 20,2 | |
| 2 | P-50 | | 6,1 | 10,3 | |
| 3 | P-20 | | 4,0 | 5,8 | |

| Apatite | | | | | |
|---------|-----------|-------------|-----------------|--------------------|--|
| No. | P - Value | Sample | | | |
| | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG | |
| 1 | P-80 | 119,6 | 17,1 | 147,4 | |
| 2 | P-50 | 109,8 | 8,3 | 87,6 | |
| 3 | P-20 | 13,0 | 4,6 | 44,3 | |



MINERALOGY TESTING SUMMARY

| Carbocernaite | | | | |
|---------------|-----------|-------------|-----------------|-------------------|
| No. | P - Value | Sample | | |
| | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| 1 | P-80 | | 12,2 | 29,5 |
| 2 | P-50 | | 6,7 | 26,5 |
| 3 | P-20 | | 4,9 | 4,7 |

| Monazite | | | | |
|----------|-----------|-------------|-----------------|-------------------|
| No. | P - Value | Sample | | |
| | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| 1 | P-80 | 9,4 | 49,8 | 26,1 |
| 2 | P-50 | 7,9 | 45,0 | 14,4 |
| 3 | P-20 | 4,4 | 5,7 | 6,0 |

| Zircon | | | | |
|--------|-----------|-------------|-----------------|-------------------|
| No. | P - Value | Sample | | |
| | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| 1 | P-80 | 61,0 | 4,5 | |
| 2 | P-50 | 58,0 | 4,3 | |
| 3 | P-20 | 54,9 | 4,1 | |

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Introduction

Project Information

Company: Bambra Oy
Company Representative: John Levings
Project: Metallurgy
Client Reference No : FS1 - LaCon, TSF - HG,SxS,GE,HLS
Laboratory Job Number: CIK.MET.02242A
Mineralogist: Nurarifah Amalian Sari, Hanuladsih Eko Wulan, Nadira Aryanti
Quality Checked: Ivan Ibrahim
Receipt Date: 26/03/2025
Report Issue Date: 27/04/2025

Project objective is to provide mineralogy characterization of client submitted samples. Report is including sample preparation, chemical result, and SEM mineralogy identification and characterization.

Ivan Ibrahim
Mineralogy Operations

Wayne Turner
Minerals Division

Sample Received

Three samples were received from Bambra Oy on 26th March 2025 through Geoservices Mineral Laboratory. Test was commenced on 19th April 2025 for mineralogy characterization analysis.

Sample Information and Scanning Summary

| No. | Sample Code | Measurement | | Sample Weight (gr) | Analysis Time |
|-----|-------------------|-------------|----------|--------------------|---------------|
| | | Mode | Scanning | | |
| 1 | TSF "P"_HG | BMA | Particle | 93,7 | 4 hrs |
| 2 | TSF "Allan"_HG | | | 82,7 | 4 hrs |
| 3 | LNCS Composite_HG | | | 80,1 | 4 hrs |

Received Sample



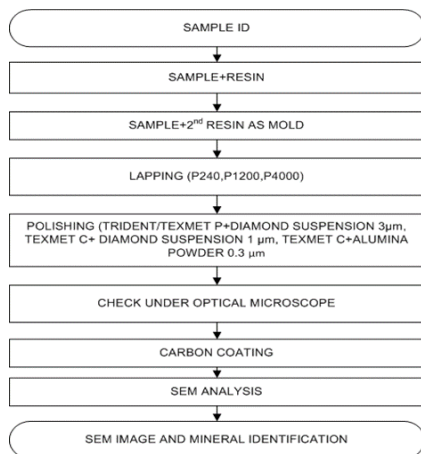


Introduction






Sample Preparation

Each of the polished mounts were viewed under microscope to confirm that the lapping and polishing were of good quality. A photo of each polished mount was taken and basic mineralogy provided. Photos of the mounted samples provided in PRM Micrographs

Mineralogy Testing Preparation Flowchart



Preparation Equipment

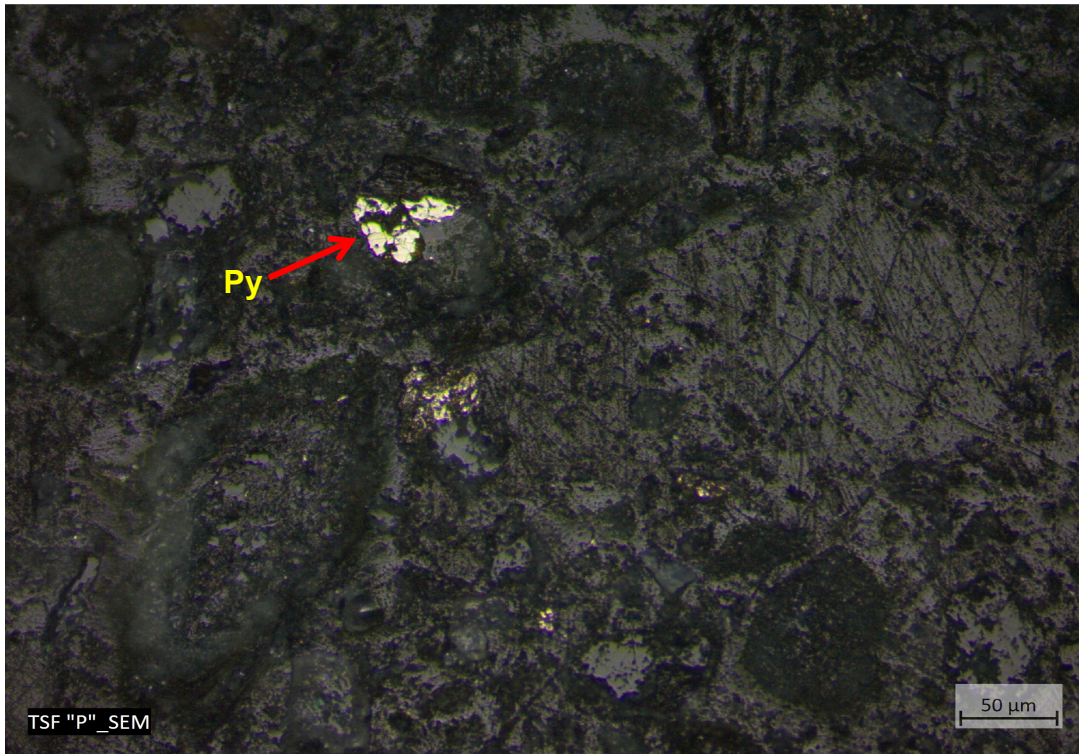
| No. | Equipment | | Equipment Description |
|-----|-------------------------|---|--|
| | Unit | Photograph | |
| 1 | Buehler Cast n' Vac |  | Supplied by Buehler the Cast N' Vac, vacuum Impregnation is used to remove entrapped air when encapsulating samples in epoxy. The vacuum pulls air from the mount, displacing it with epoxy to provide complete bonding and support. This maintains sample integrity during abrasive preparation, reducing chances of cracking or delamination |
| 2 | LECOMET Pressure Vessel |  | Supplied by LECO is used to hardened the impregnated sample. This step used on first and second epoxy mounts. Sample stored inside pressure vessel for 2 days for both mounting phases. |
| 3 | Buehler Ecomet 250 |  | Supplied by Buehler the Ecomet 250 is used on the resin blocks prepared to cut back and expose a fresh surface. This surface is progressively fine polished. The final polished mount is viewed under microscope to confirm the quality of preparation and identification of major minerals. |
| 4 | SPI Carbon Coater |  | The carbon coater machine is supplied by SPI. Carbon coating equipment is used to provide a thin layer of carbon to the prepared resin mount. The choice of carbon is popular choice for EDX analysis as the carbon X-ray peak does not interfere other elemental signals. |
| 5 | Hitachi FlexSEM1000 |  | The method covers for Scanning Electron Microscope (SEM) equipped with Energy Dispersive Spectrometer (EDS) for elemental analysis. This unit is integrated with AMICS as automated mineralogy system which enables full quantification of mineral and composing elements. |

Methods of Analysis

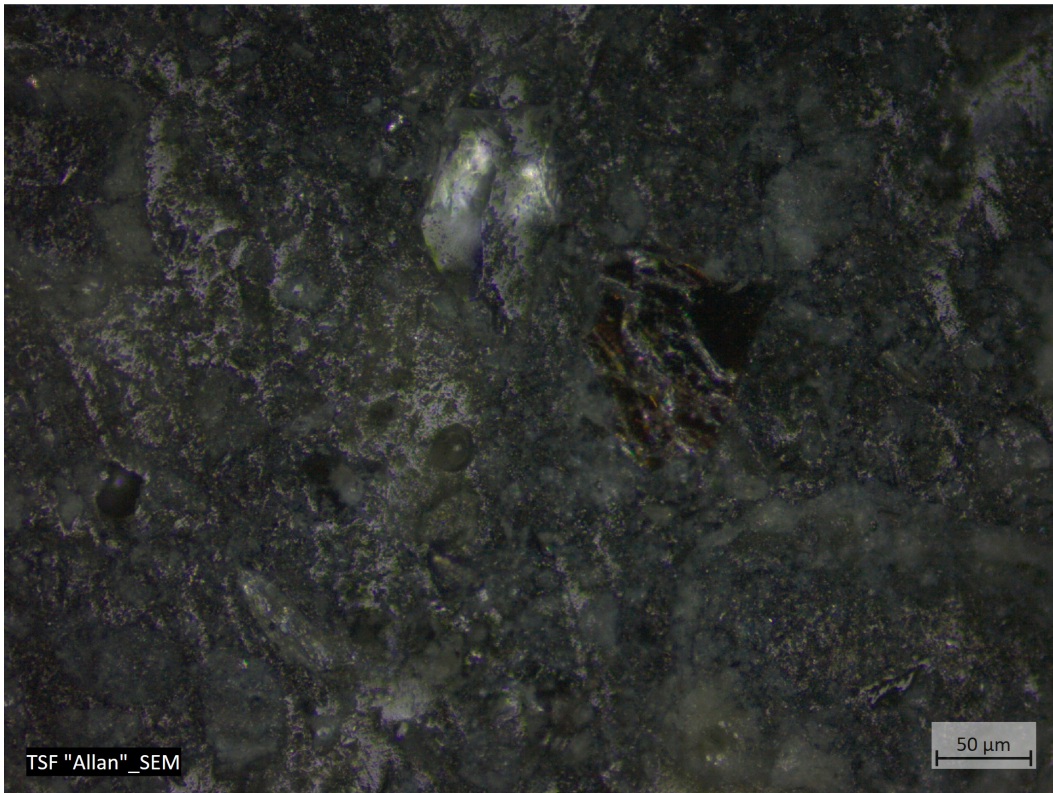
| No. | Method | Description |
|-----|------------------------------|--|
| 1 | SEM Automated Mineralogy | Provide liberation, locking, and size of Mol |
| 2 | X-Ray Diffraction (XRD) | Advance mineral identification |
| 3 | Induced Coupled Plasma (ICP) | Elemental determination in solution |
| 4 | X-Ray Fluorescence (XRF) | Major element identification based on element fluorescence |
| 5 | LECO | Provide total Sulfur of the sample |



TSF "P"_HG



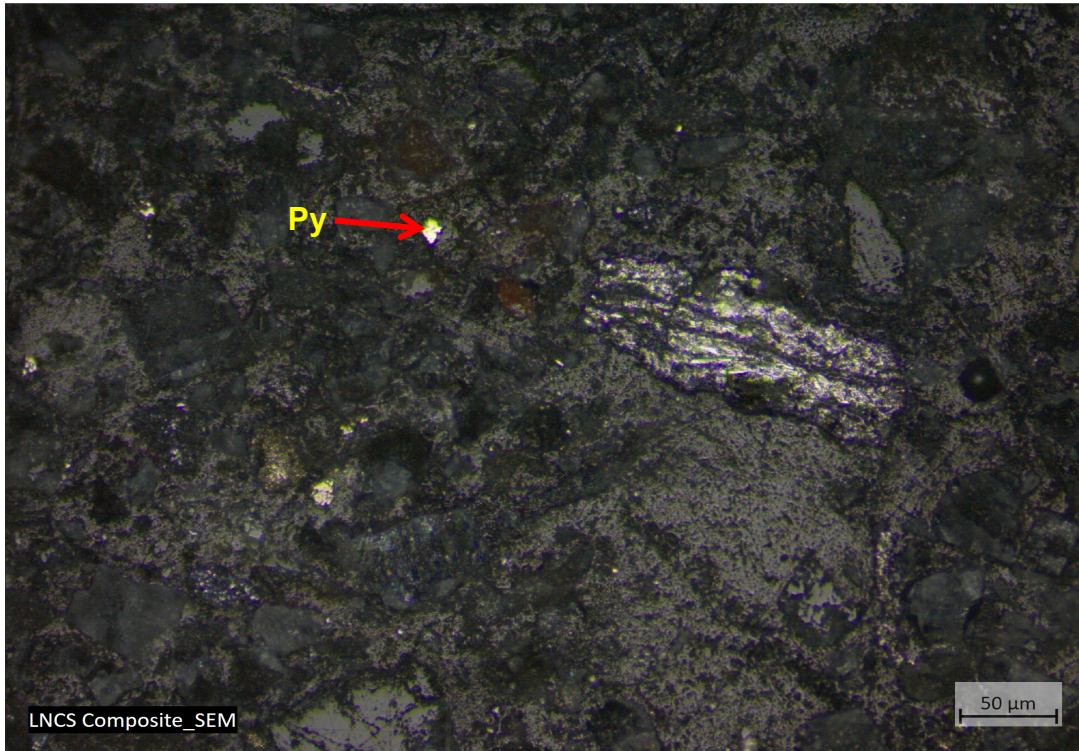
TSF "Allan"_HG



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LNCS Composite_HG

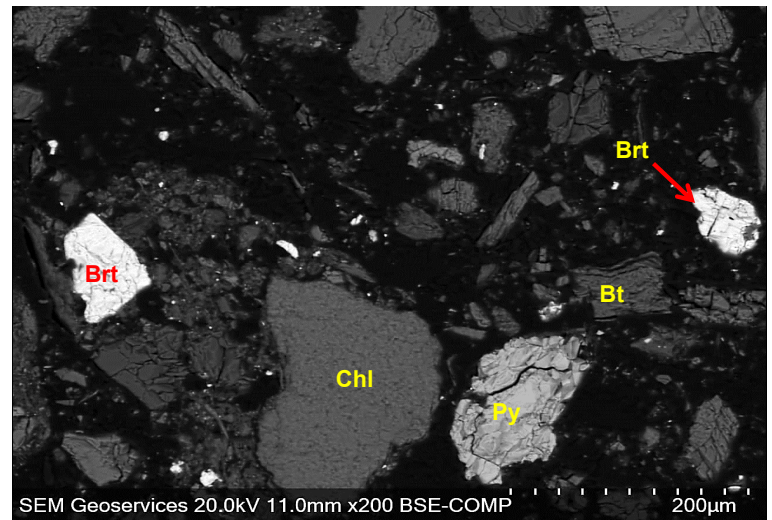
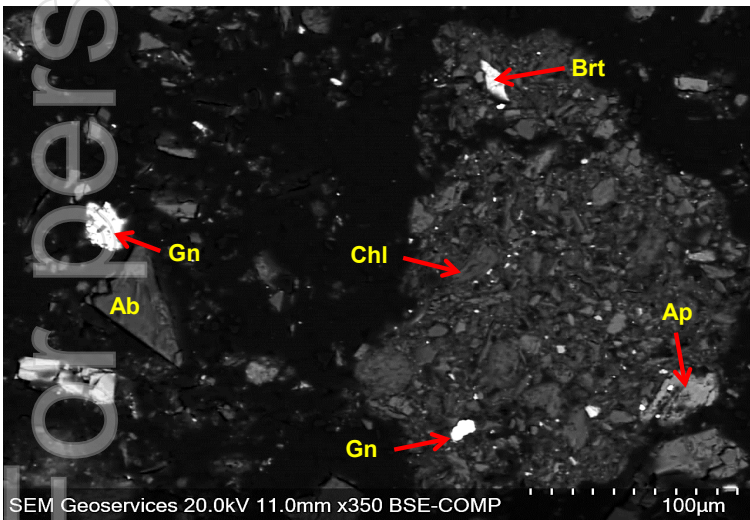
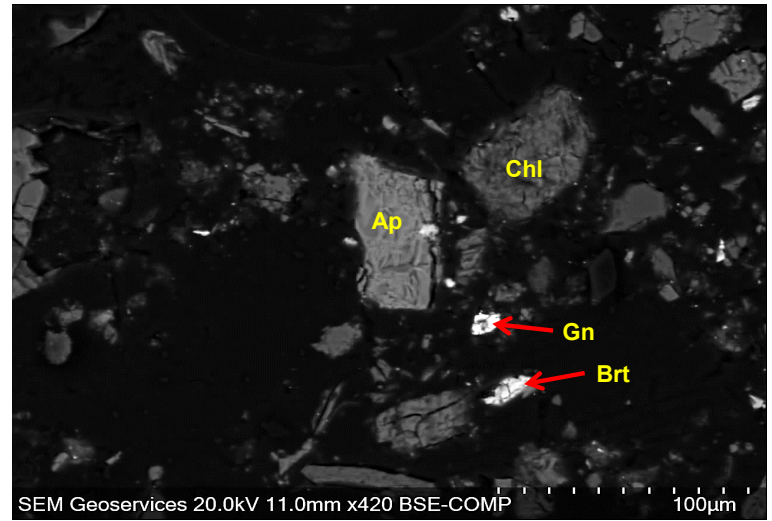
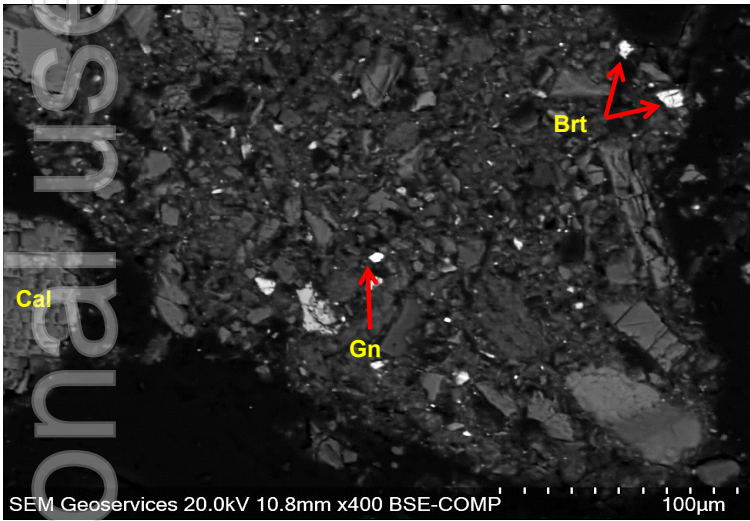
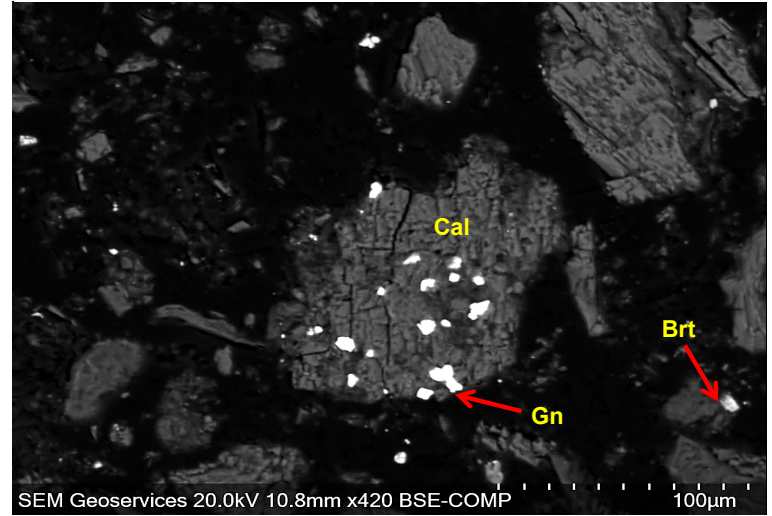
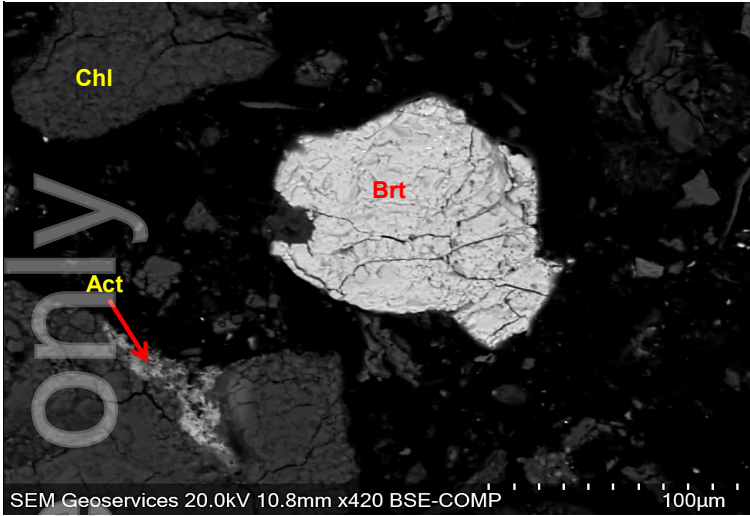


Minerals: Py-Pyrite.

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SAMPLE ID TSF "P" _HG



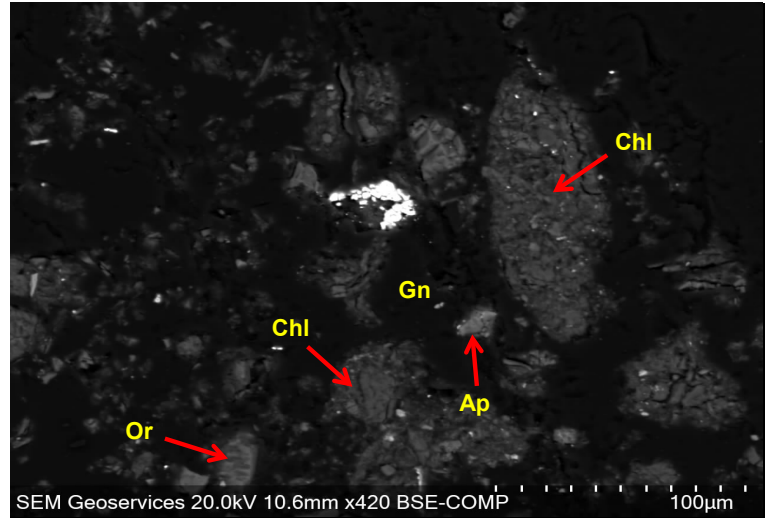
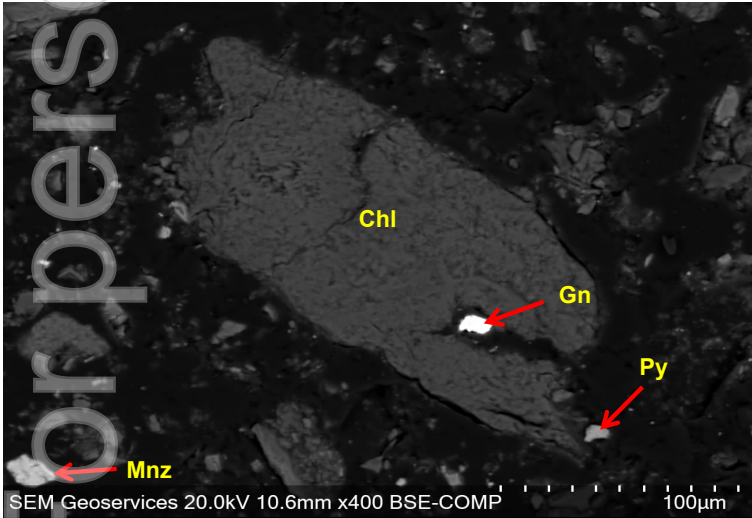
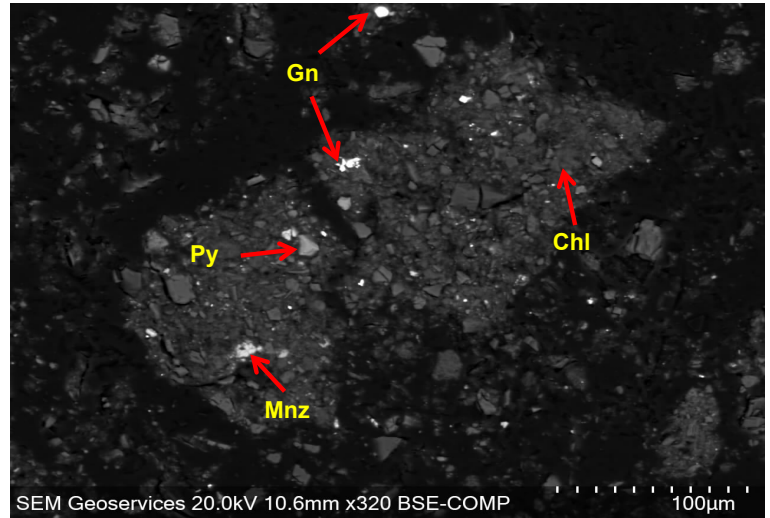
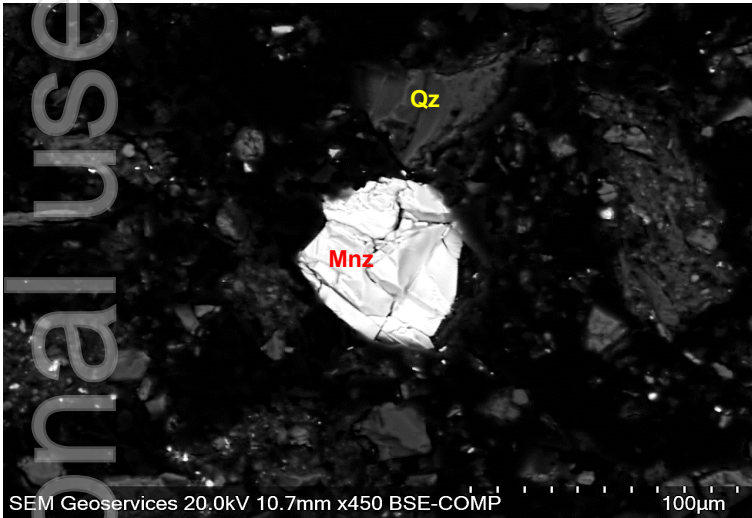
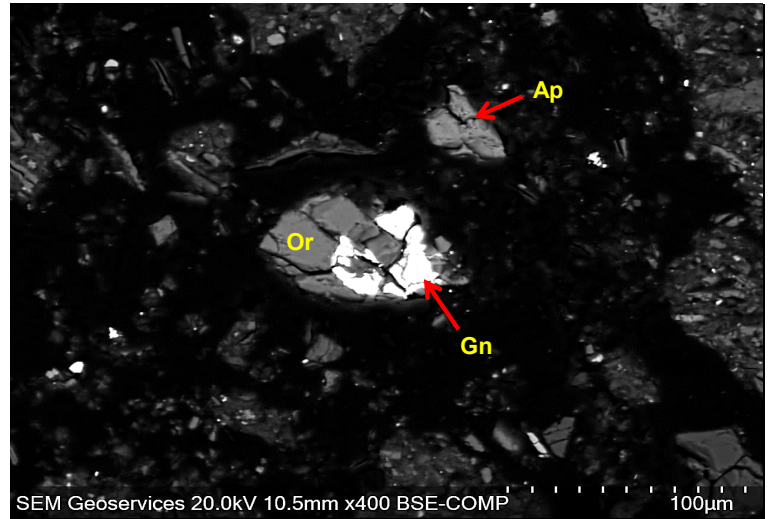
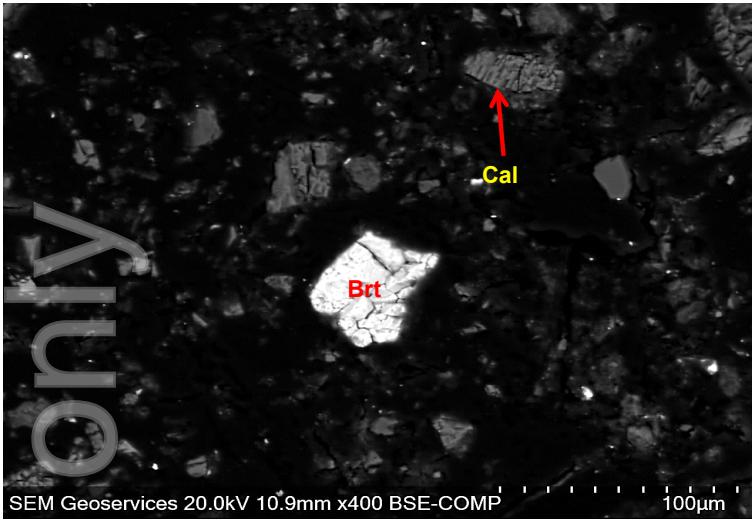
Minerals: **Ab**-Albite, **Act**-Actinolite, **Ap**-Apatite, **Brt**-Barite, **Bt**-Biotite, **Cal**-Calcite, **Chl**-Chlorite, **Gn**-Galena, **Py**-Pyrite.



SEM - Backscattered-Electron Imaging

SAMPLE ID

TSF "Allan" _HG



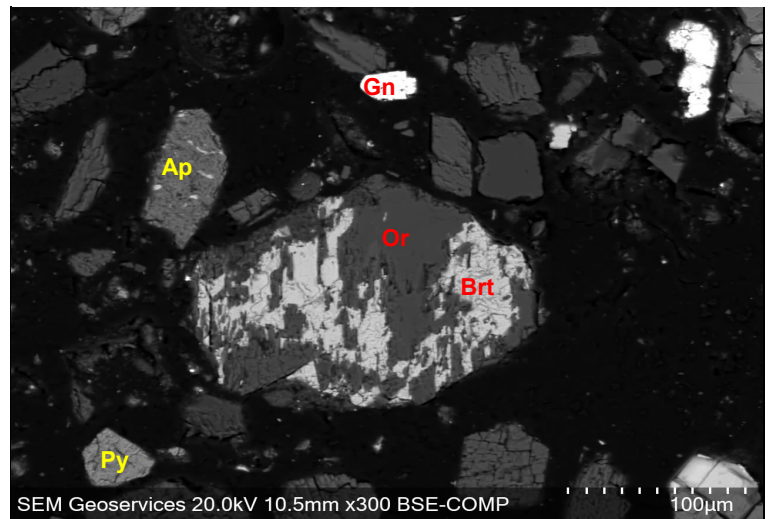
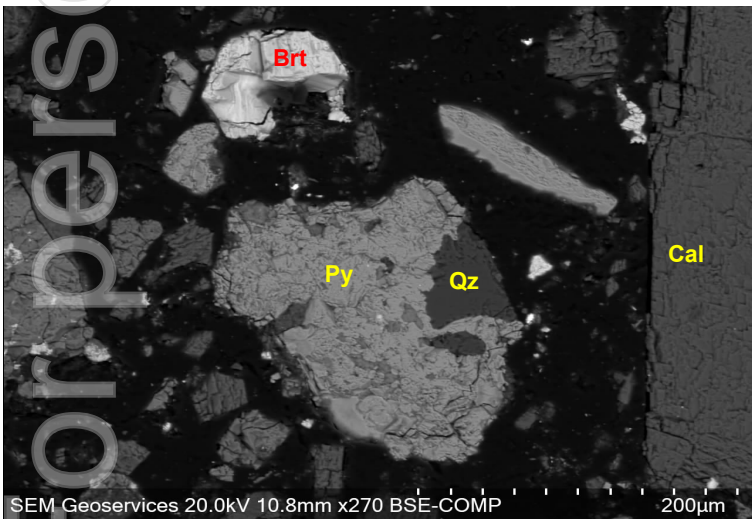
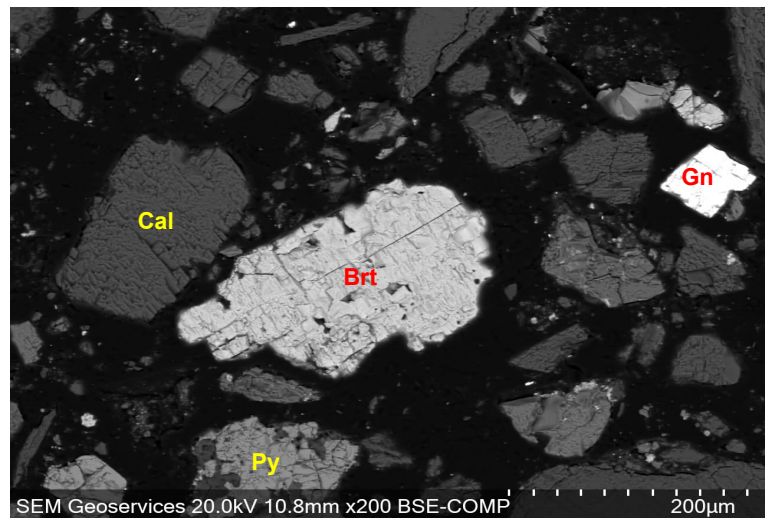
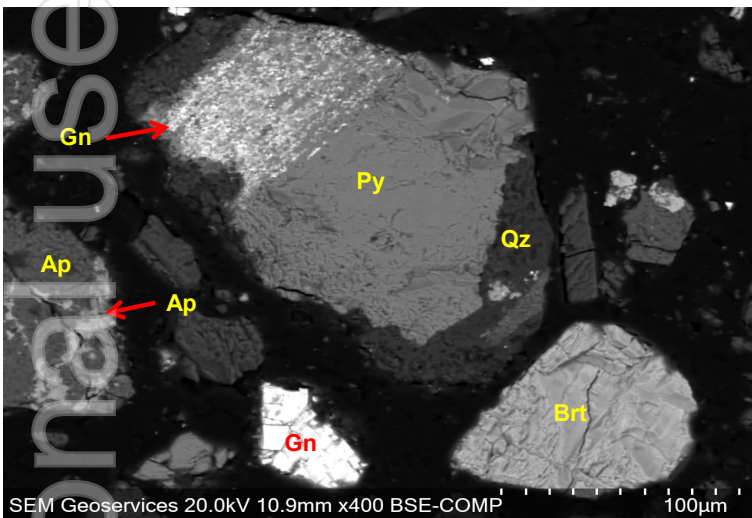
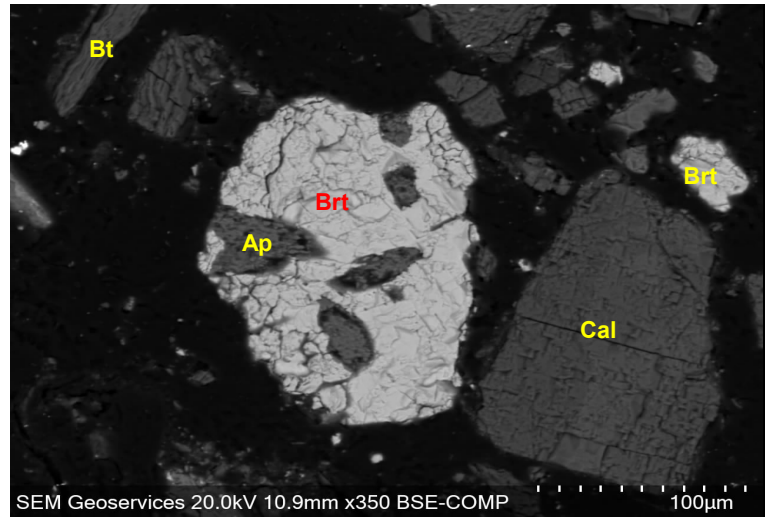
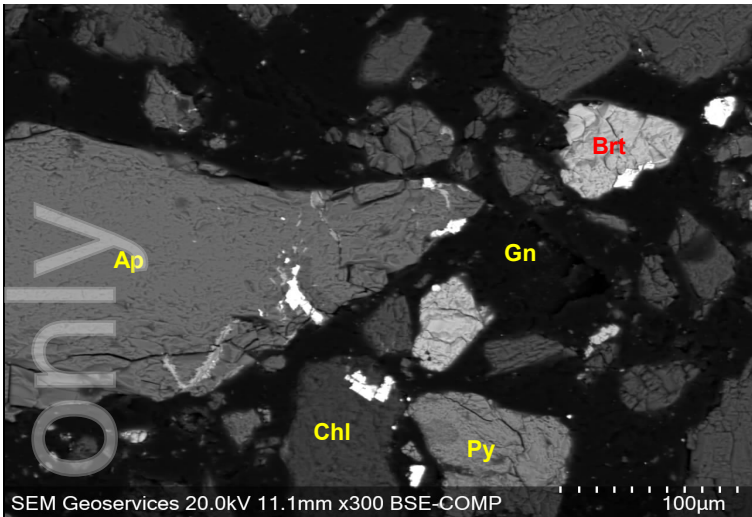
Minerals: **Ap**-Apatite, **Brt**-Barite, **Cal**-Calcite, **Chl**-Chlorite, **Gn**-Galena, **Mnz**-Monazite, **Or**-Orthoclase, **Py**-Pyrite, **Qz**-Quartz.



SEM - Backscattered-Electron Imaging

SAMPLE ID

LNCS Composite_HG

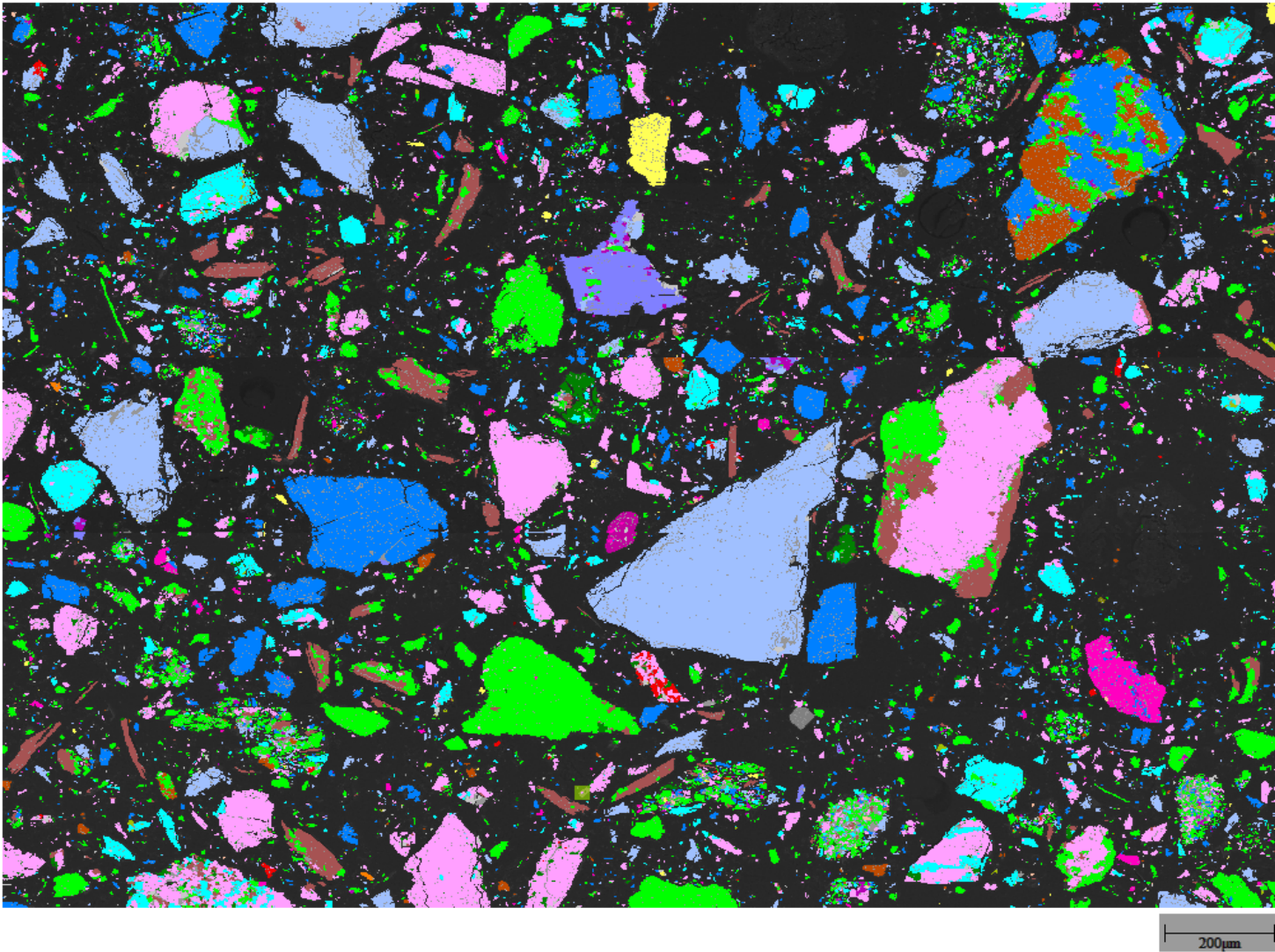


Minerals: Ap-Apatite, Brt-Barite, Bt-Biotite, Cal-Calcite, Chl-Chlorite, Gn-Galena, Mnz-Monazite, Or-Orthoclase, Py-Pyrite, Qz-Quartz.



SEM/AMICS Mineral Image of the Polished Resin Mount

Sample ID TSF "P" _HG



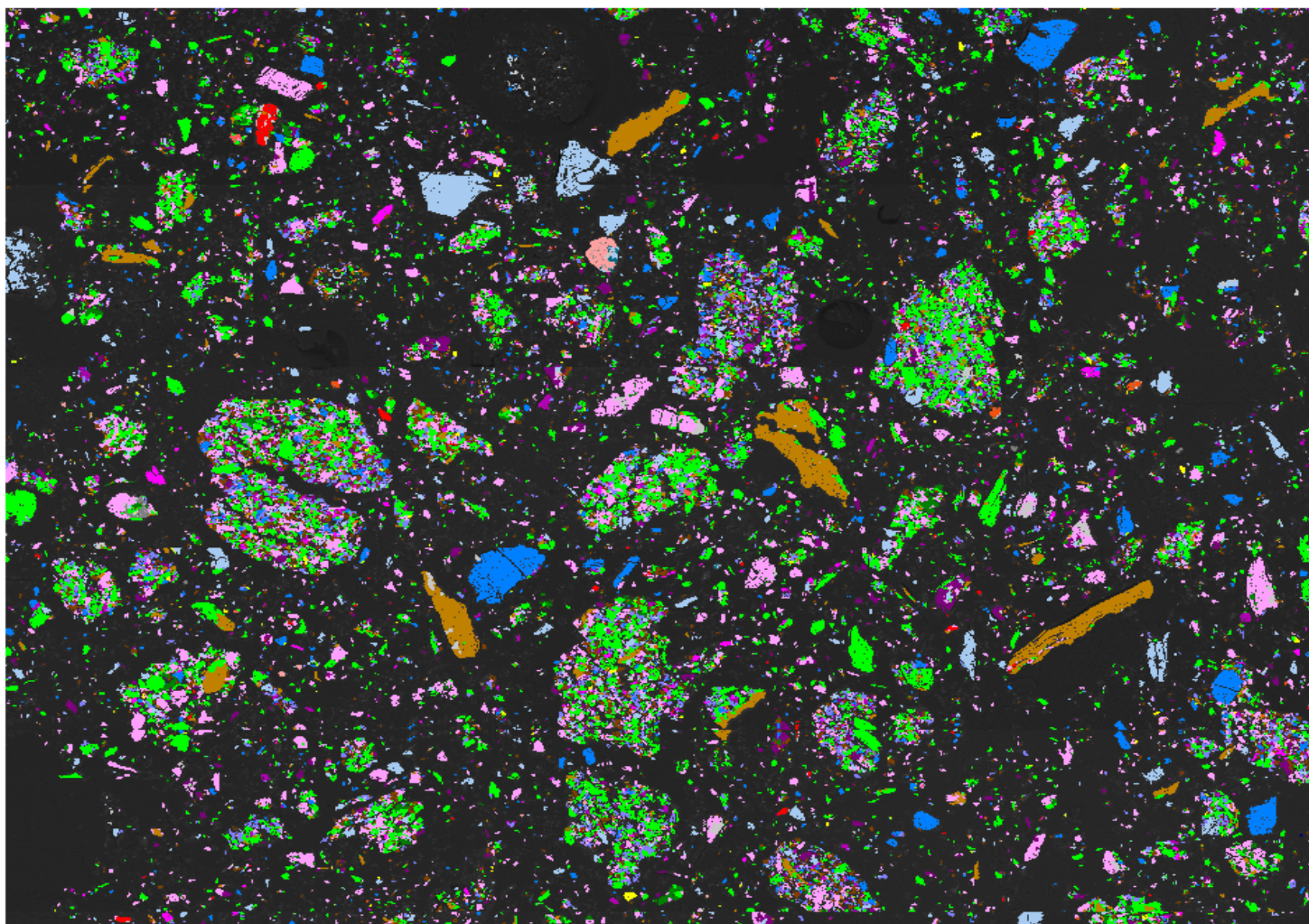
- Titanite
- Unknown
- Actinolite
- Biotite
- Illite
- Others
- Ilmenite
- Albite
- Apatite
- Barite
- Calcite
- Chlorite
- Diopside
- Galena
- Kaolinite
- Magnetite
- Monazite
- Pyrite
- Quartz
- Rutile
- Zircon
- Orthoclase

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SEM/AMICS Mineral Image of the Polished Resin Mount

Sample ID TSF "Allan"_HG



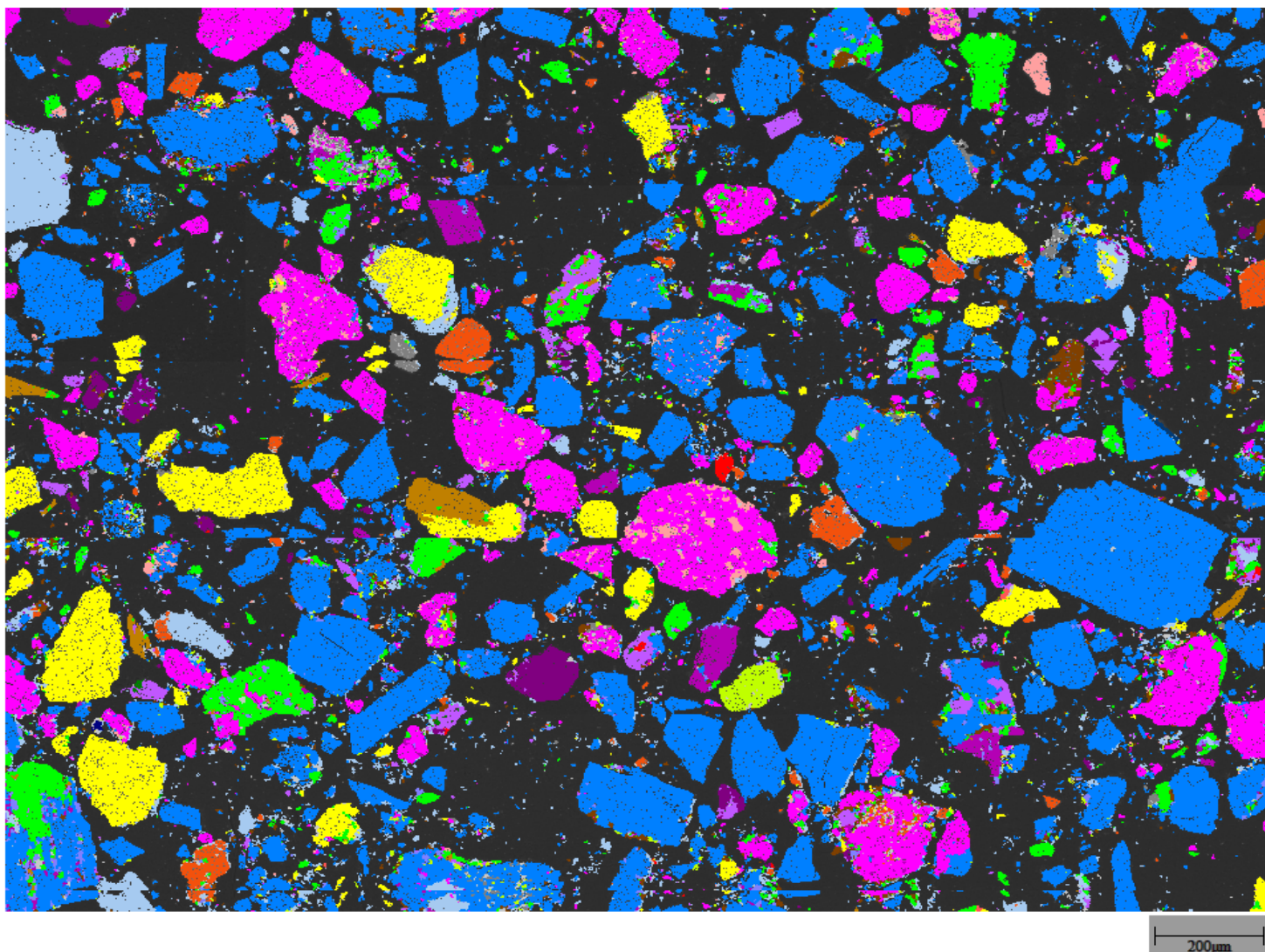
- Sphalerite
- Zircon
- Unknown
- Actinolite
- Biotite
- Chlorite
- Illite
- Kaolinite
- Albite
- Orthoclase
- Quartz
- Others
- Ilmenite
- Pyrite
- Rutile
- Apatite
- Barite
- Galena
- Calcite
- Monazite
- Diopside
- Titanite
- Magnetite
- Allanite
- Carbocemaite

200µm



SEM/AMICS Mineral Image of the Polished Resin Mount

Sample ID LNCS Composite_HG



- Carbocemaite
- Sphalerite
- Zircon
- Unknown
- Actinolite
- Biotite
- Chlorite
- Illite
- Kaolinite
- Albite
- Orthoclase
- Quartz
- Others
- Ilmenite
- Pyrite
- Rutile
- Allanite
- Apatite
- Barite
- Galena
- Calcite
- Monazite
- Diopside
- Titanite
- Magnetite



XRD Result - Phase, Classification, and Grouping

MINERAL PHASE IDENTIFICATION- RIETVELD %

| Abbreviation | Mineral Phase Identification | Mineral Chemical Formula | Mineral Classification | Mineral Group | RIETVELD REFINEMENT WT% | | |
|---------------|------------------------------|---|------------------------|---------------|-------------------------|----------------------|------------------------|
| | | | | | 1 TSF "P" _HG | 2 TSF "Allan" _HG | 3 LNCS Composite_HG |
| Ab | Albite | NaAlSi3O8 | Silicates | Plagioclase | 9,8 | 13,6 | 3,8 |
| Aln_La | Allanite | (CaLa)(AlAlFe2+)O[Si2O7][SiO4](OH) | Silicates | Epidote | 0,5 | 1,6 | 1,4 |
| Ap | Apatite | Ca5(PO4)3(Cl/F/OH) | Phosphates | Apatite | 0,8 | 0,6 | 14,2 |
| Brt | Barite | BaSO4 | Sulfates | Barite | 3,8 | 2,1 | 5,6 |
| Bt | Biotite | K Fe Mg2(AlSi3O10)(OH)2 | Silicates | Mica | 6,1 | 3,2 | 0,8 |
| Cal | Calcite | CaCO3 | Carbonates | Calcite | 13,5 | 11,8 | 45,0 |
| Cbc | Carbocernaite | (Ca,Na)(Sr,Ce,Ba)(CO3)2 | Carbonates | No Group | 1,6 | 0,7 | 2,2 |
| Chl | Chlorite | (Mg,Fe)5 (Al,Si)5 O10 (OH)8 | Silicates | Clay | 8,4 | 25,4 | 5,0 |
| Di | Diopside | CaMg (SiO3)2 | Silicates | Pyroxene | 7,4 | 2,7 | 0,9 |
| Gn | Galena | PbS | Sulfides | No Group | | 0,6 | 1,0 |
| Hbl | Hornblende | H2NaCa2(Mg,Fe)4Al3Si6O24 | Silicates | Amphibole | 6,2 | | 0,7 |
| Ill_MgFe | Illite | (K,H3 O) (Al,Mg,Fe)2 (Si,Al)4 O10 [(OH)2,(H2O)] | Silicates | Clay | | 2,5 | |
| Mag | Magnetite | Fe3O4 | Oxides/Hydroxides | Spinel | | 0,8 | 0,6 |
| Mnz_Cln | Monazite | (Ce,La,Th,Nd) PO4 | Phosphates | Monazite | | 0,7 | 1,2 |
| Or | Orthoclase | KAlSi3O8 | Silicates | K-Feldspar | 21,7 | 21,3 | 8,1 |
| Py | Pyrite | FeS2 | Sulfides | Pyrite | 0,5 | 0,5 | 4,2 |
| Qz | Quartz | SiO2 | Silicates | Quartz | 19,8 | 11,9 | 5,4 |
| Total: | | | | | 100,0 | 100,0 | 100,0 |

MINERAL CLASSIFICATION - SUM OF RIETVELD %

| Sample ID | Column Labels | | | | | | | Grand Total |
|-------------------|---------------|-------------------|----------|------------|----------|------------|--------------|-------------|
| | Silicates | Oxides/Hydroxides | Sulfates | Phosphates | Sulfides | Carbonates | | |
| TSF "P" _HG | 79,9 | | 3,8 | 0,8 | 0,5 | 15,1 | 100,0 | |
| TSF "Allan" _HG | 82,1 | 0,8 | 2,1 | 1,3 | 1,1 | 12,5 | 100,0 | |
| LNCS Composite_HG | 26,0 | 0,6 | 5,6 | 15,5 | 5,2 | 47,2 | 100,0 | |

MINERAL GROUPING - SUM OF RIETVELD %

| Sample ID | Column Labels | | | | | | | | | | | | | | | Grand Total |
|-------------------|---------------|----------|--------|-------------|--------|------|---------|------|----------|----------|------------|--------|---------|-----------|---------|--------------|
| | Quartz | No Group | Spinel | Plagioclase | Barite | Mica | Calcite | Clay | Pyroxene | Monazite | K-Feldspar | Pyrite | Apatite | Amphibole | Epidote | |
| TSF "P" _HG | 19,8 | 1,6 | | 9,8 | 3,8 | 6,1 | 13,5 | 8,4 | 7,4 | | 21,7 | 0,5 | 0,8 | 6,2 | 0,5 | 100,0 |
| TSF "Allan" _HG | 11,9 | 1,3 | 0,8 | 13,6 | 2,1 | 3,2 | 11,8 | 27,9 | 2,7 | 0,7 | 21,3 | 0,5 | 0,6 | | 1,6 | 100,0 |
| LNCS Composite_HG | 5,4 | 3,2 | 0,6 | 3,8 | 5,6 | 0,8 | 45,0 | 5,0 | 0,9 | 1,2 | 8,1 | 4,2 | 14,2 | 0,7 | 1,4 | 100,0 |



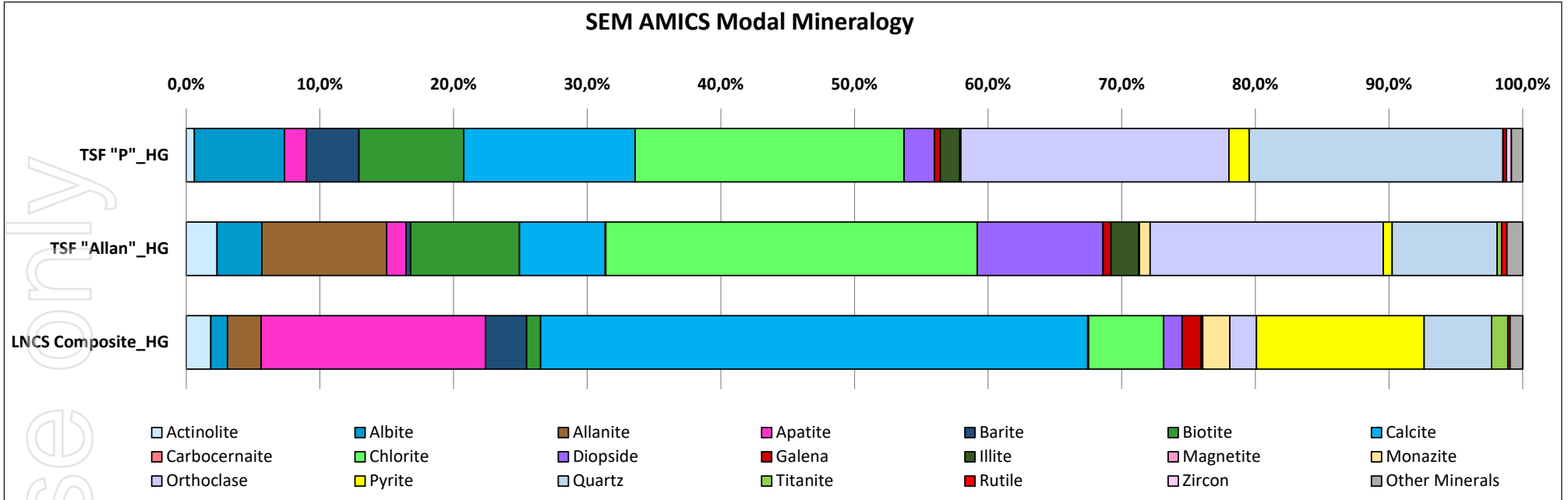
Mineralogical Report - SEM/AMICS Modal Mineralogy

| Abbreviation | Mineral Identification | Mineral Chemical Formula | Mineral Classification | Mineral Group | SAMPLE IDENTIFICATION | | | |
|--------------|------------------------|--|------------------------|---------------|--|-----------------|-------------------|-----|
| | | | | | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG | |
| | | | | | Detection Limit AMICS Identification - <0.1% | | | |
| Act | Actinolite | Ca ₂ (Mg,Fe) ₅ Si ₈ O ₂₂ (OH) ₂ | Silicates | Amphibole | 0,6 | 2,3 | 1,8 | |
| Ab | Albite | NaAlSi ₃ O ₈ | Silicates | Plagioclase | 6,7 | 3,4 | 1,2 | |
| Aln_La | Allanite | (Ca,Ce,La,Nd,Y) ₂ (Al,Fe ³⁺) ₃ (SiO ₄) ₃ (OH) | Silicates | Allanite | | 9,3 | 2,5 | |
| Ap | Apatite | Ca _{5-x} (Ce,Nd) _x (PO ₄) ₃ (F,Cl,OH) | Phosphates | Apatite | 1,7 | 1,5 | 16,8 | |
| Brt | Barite | BaSO ₄ | Sulfates | Barite | 3,9 | 0,3 | 3,1 | |
| Bt | Biotite | KFeMg ₂ (AlSi ₃ O ₁₀)(OH) ₂ | Silicates | Mica | 7,9 | 8,1 | 1,0 | |
| Cal | Calcite | CaCO ₃ | Carbonates | Calcite | 12,8 | 6,4 | 40,9 | |
| Cbc | Carbocernaite | (Ca,Na)(Sr,Ce,La,Nd,Ba)(CO ₃) ₂ ·2H ₂ O | Carbonates | No Group | | 0,1 | 0,1 | |
| Chl | Chlorite | (Mg,Fe) ₅ (Al,Si) ₅ O ₁₀ (OH) ₈ | Silicates | Clay | 20,1 | 27,8 | 5,6 | |
| Di_Fe | Diopside | CaMg _{0.46} Fe _{0.52} Al _{0.60} Si _{1.42} O ₆ | Silicates | Pyroxene | 2,3 | 9,4 | 1,4 | |
| Gn | Galena | PbS | Sulfides | Galena | 0,4 | 0,6 | 1,4 | |
| Ill | Illite | KAl ₂ Si ₃ AlO ₁₀ (OH) ₂ | Silicates | Clay | 1,5 | 2,1 | 0,1 | |
| Mag | Magnetite | Fe ₃ O ₄ | Oxides/Hydroxides | Spinel | | 0,1 | | |
| Mnz | Monazite | (Ce,La,Th,Nd)PO ₄ | Phosphates | Monazite | 0,1 | 0,8 | 2,0 | |
| Or | Orthoclase | KAlSi ₃ O ₈ | Silicates | K-Feldspar | 20,1 | 17,4 | 2,0 | |
| Py | Pyrite | FeS ₂ | Sulfides | Pyrite | 1,5 | 0,7 | 12,5 | |
| Qz | Quartz | SiO ₂ | Silicates | Quartz | 19,0 | 7,9 | 5,0 | |
| Ttn | Titanite | CaTi(SiO ₄)O | Silicates | Titanite | 0,1 | 0,3 | 1,2 | |
| Rt | Rutile | TiO ₂ | Oxides/Hydroxides | Rutile | 0,2 | 0,4 | 0,2 | |
| Zr | Zircon | (Zr,Hf)SiO ₄ | Silicates | Zircon | 0,4 | | | |
| Om | Other Minerals | | | | | 0,8 | 1,2 | 1,0 |
| Total | | | | | 100,0 | 100,0 | 100,0 | |



Mineralogical Report - SEM/AMICS Modal Mineralogy

Graphical representation in the following bar chart of the modal mineralogy

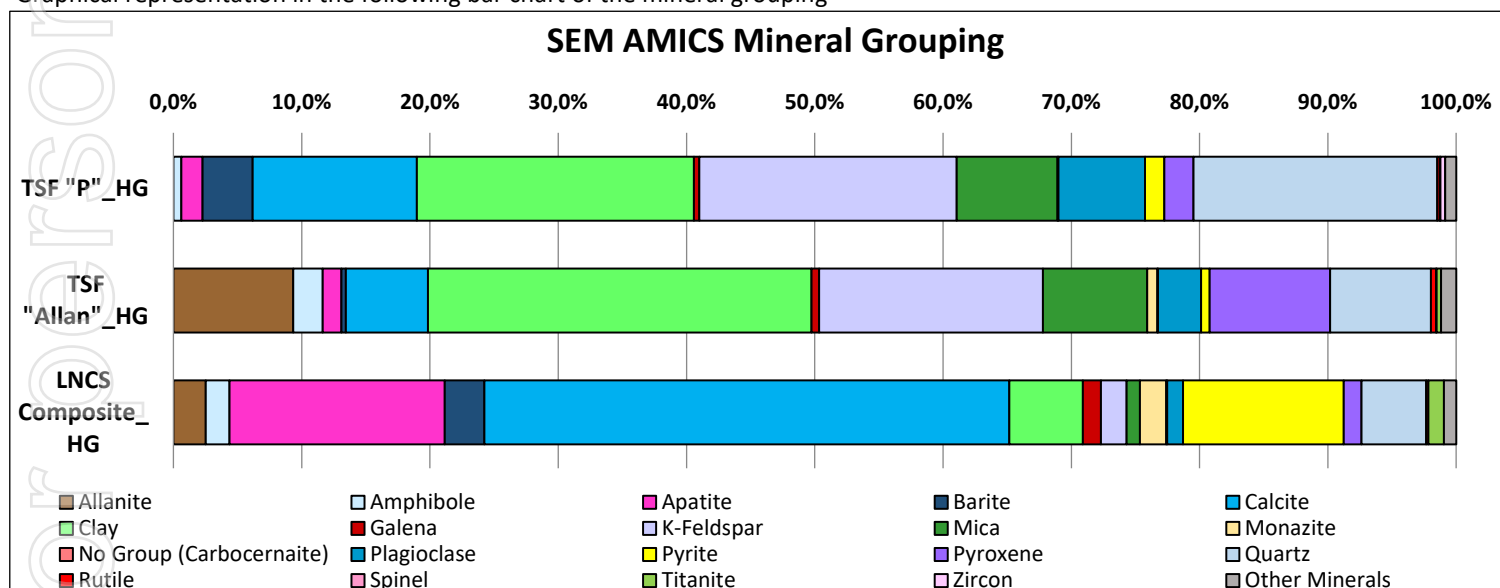




Mineral Grouping

| Mineral Grouping | SAMPLE IDENTIFICATION | | |
|--------------------------|-----------------------|----------------|-------------------|
| | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
| Allanite | | 9,3 | 2,5 |
| Amphibole | 0,6 | 2,3 | 1,8 |
| Apatite | 1,7 | 1,5 | 16,8 |
| Barite | 3,9 | 0,3 | 3,1 |
| Calcite | 12,8 | 6,4 | 40,9 |
| Clay | 21,6 | 29,9 | 5,7 |
| Galena | 0,4 | 0,6 | 1,4 |
| K-Feldspar | 20,1 | 17,4 | 2,0 |
| Mica | 7,9 | 8,1 | 1,0 |
| Monazite | 0,1 | 0,8 | 2,0 |
| No Group (Carbocernaite) | | 0,1 | 0,1 |
| Plagioclase | 6,7 | 3,4 | 1,2 |
| Pyrite | 1,5 | 0,7 | 12,5 |
| Pyroxene | 2,3 | 9,4 | 1,4 |
| Quartz | 19,0 | 7,9 | 5,0 |
| Rutile | 0,2 | 0,4 | 0,2 |
| Spinel | | 0,1 | |
| Titanite | 0,1 | 0,3 | 1,2 |
| Zircon | 0,4 | | |
| Other Minerals | 0,8 | 1,2 | 1,0 |
| Total | 100,0 | 100,0 | 100,0 |

Graphical representation in the following bar chart of the mineral grouping



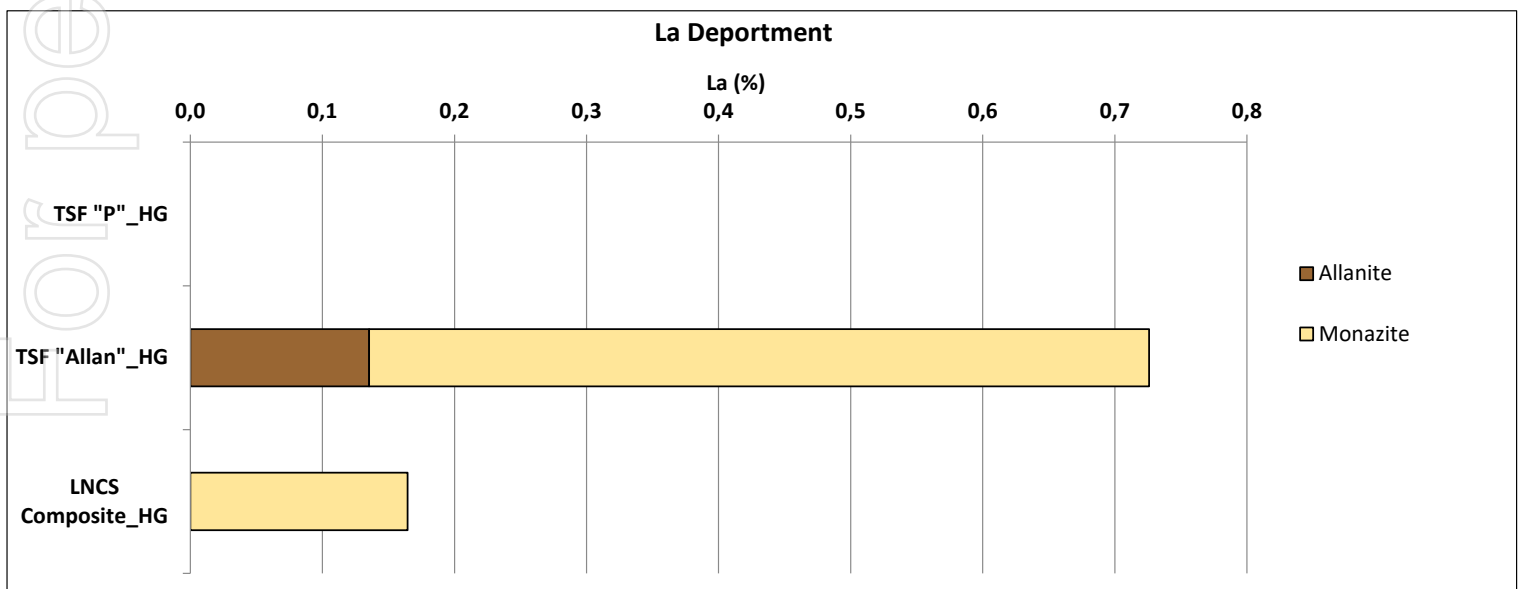
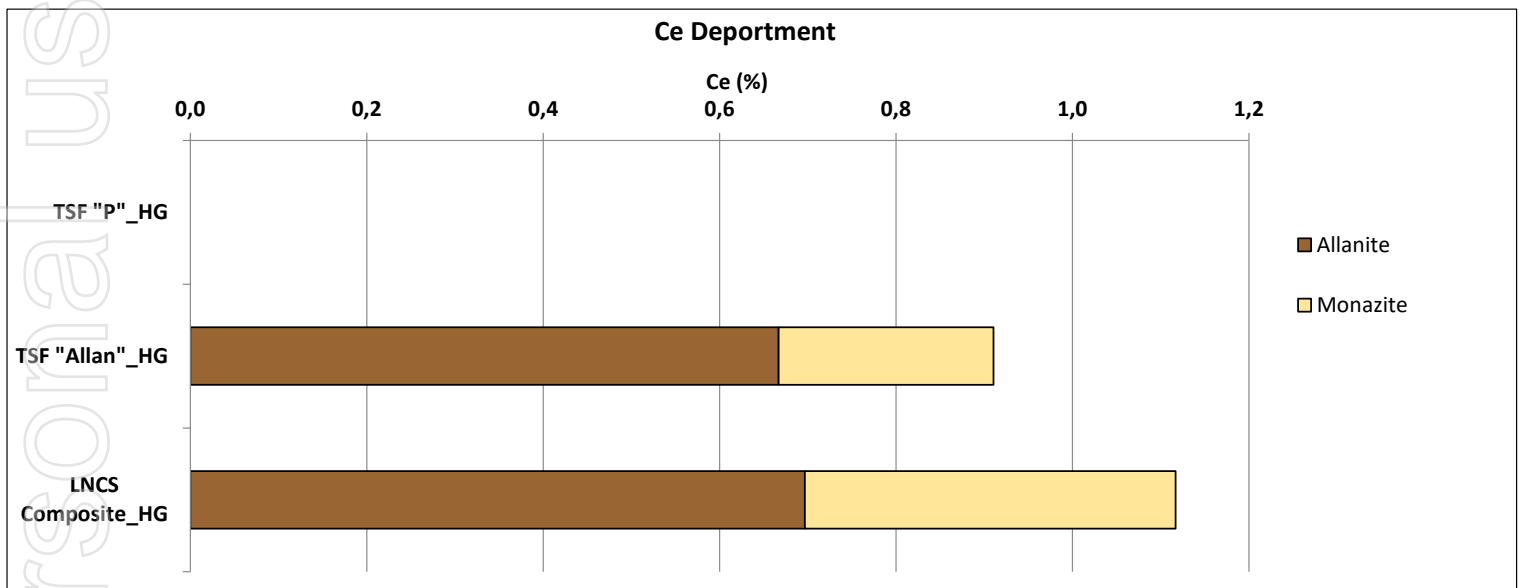
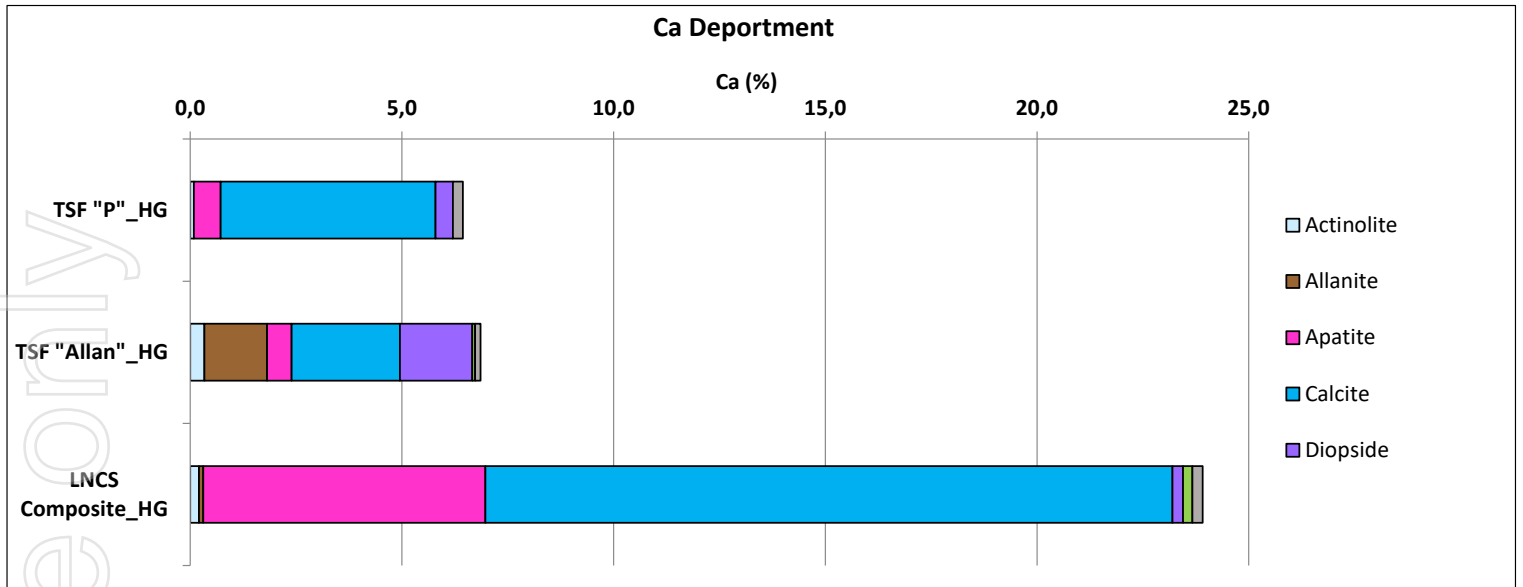


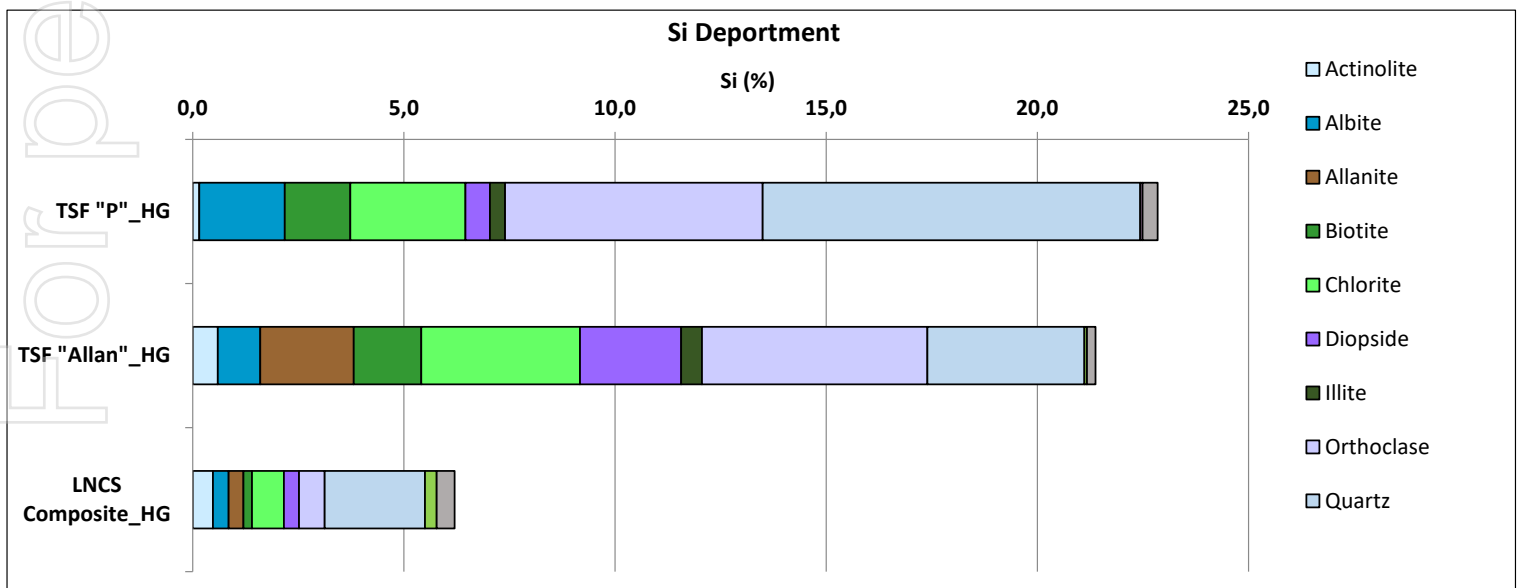
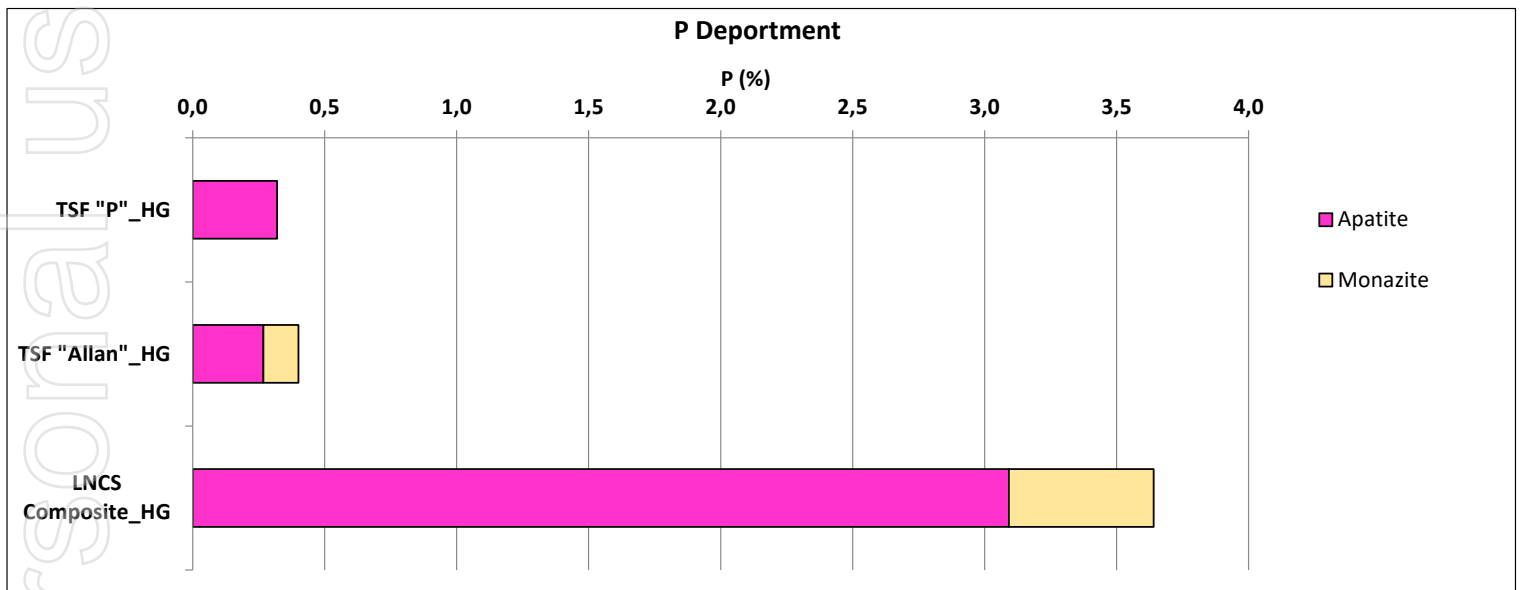
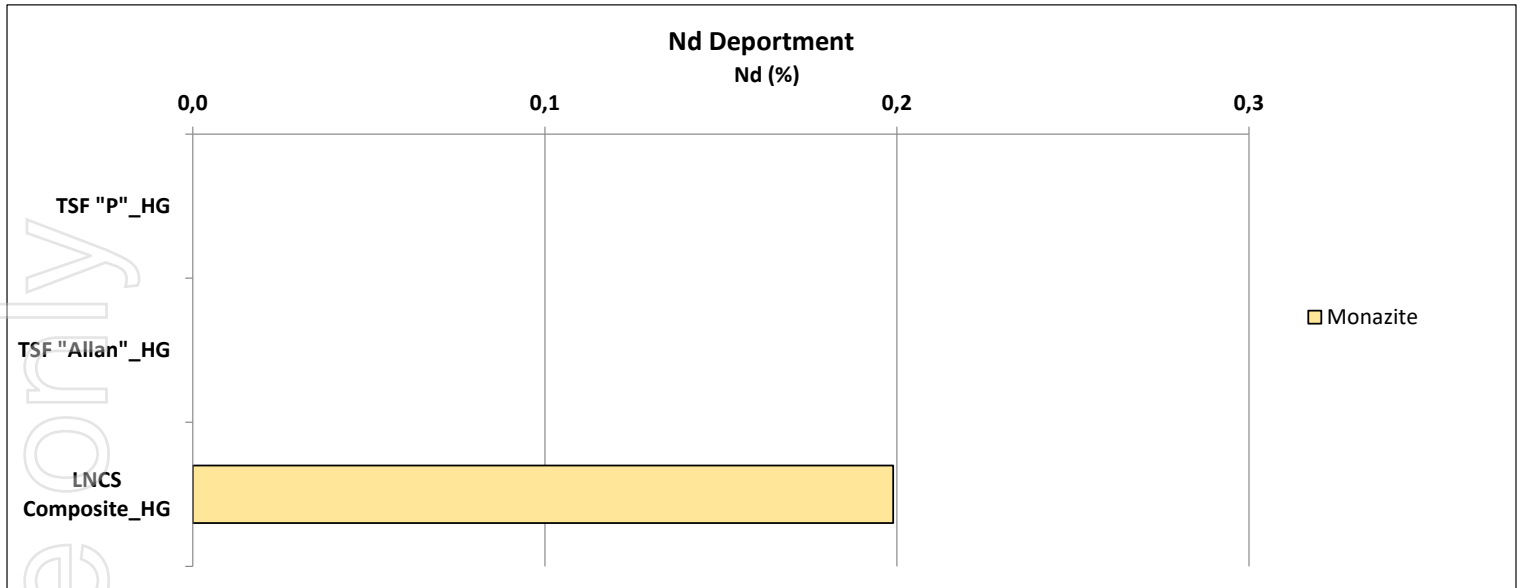
Mineralogical Report - Element Department & Reconciliation

| Major Element Department Mineral | Abbreviation | SAMPLE IDENTIFICATION | | |
|----------------------------------|--------------|-----------------------|----------------|-------------------|
| | | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
| Ca department (%) | | | | |
| Actinolite | Act | 0,1 | 0,3 | 0,2 |
| Allanite | Aln | | 1,5 | 0,1 |
| Apatite | Ap | 0,6 | 0,6 | 6,7 |
| Calcite | Cal | 5,1 | 2,6 | 16,2 |
| Diopside | Di_Fe | 0,4 | 1,7 | 0,3 |
| Titanite | Ttn | | 0,1 | 0,2 |
| Other minerals | Om | 0,2 | 0,1 | 0,2 |
| Ca (SEM/EDS/AMICS) | | 6,4 | 6,9 | 23,9 |
| Ca (chemical) | | 6,72 | 5,08 | 24,17 |
| Ce department (%) | | | | |
| Allanite | Aln | | 0,7 | 0,7 |
| Monazite | Mnz | | 0,2 | 0,4 |
| Other minerals | Om | | | |
| Ce (SEM/EDS/AMICS) | | | 0,9 | 1,1 |
| Ce (chemical) | | 0,20 | 0,39 | 0,85 |
| La department (%) | | | | |
| Allanite | Aln | | 0,1 | |
| Monazite | Mnz | | 0,6 | 0,2 |
| Other minerals | Om | | | |
| La (SEM/EDS/AMICS) | | | 0,7 | 0,2 |
| La (chemical) | | 0,09 | 0,16 | 0,36 |
| Nd department (%) | | | | |
| Monazite | Mnz | | | 0,2 |
| Other minerals | Om | | | |
| Nd (SEM/EDS/AMICS) | | | | 0,2 |
| Nd (chemical) | | 0,12 | 0,24 | 0,54 |
| P department (%) | | | | |
| Apatite | Ap | 0,3 | 0,3 | 3,1 |
| Monazite | Mnz | | 0,1 | 0,5 |
| Other minerals | Om | | | |
| P (SEM/EDS/AMICS) | | 0,3 | 0,4 | 3,6 |
| P (chemical) | | 0,54 | 0,63 | 2,93 |
| Si department (%) | | | | |
| Actinolite | Act | 0,2 | 0,6 | 0,5 |
| Albite | Ab | 2,0 | 1,0 | 0,4 |
| Allanite | Aln | | 2,2 | 0,3 |
| Biotite | Bt | 1,5 | 1,6 | 0,2 |
| Chlorite | Chl | 2,7 | 3,8 | 0,8 |
| Diopside | Di_Fe | 0,6 | 2,4 | 0,4 |
| Illite | Ill | 0,4 | 0,5 | |
| Orthoclase | Or | 6,1 | 5,3 | 0,6 |
| Quartz | Qz | 8,9 | 3,7 | 2,4 |
| Titanite | Ttn | | 0,1 | 0,3 |
| Zircon | Zr | 0,1 | | |
| Other minerals | Om | 0,4 | 0,2 | 0,4 |
| Si (SEM/EDS/AMICS) | | 22,8 | 21,4 | 6,2 |
| Si (chemical) | | 23,23 | 21,44 | 6,36 |



Department Chart

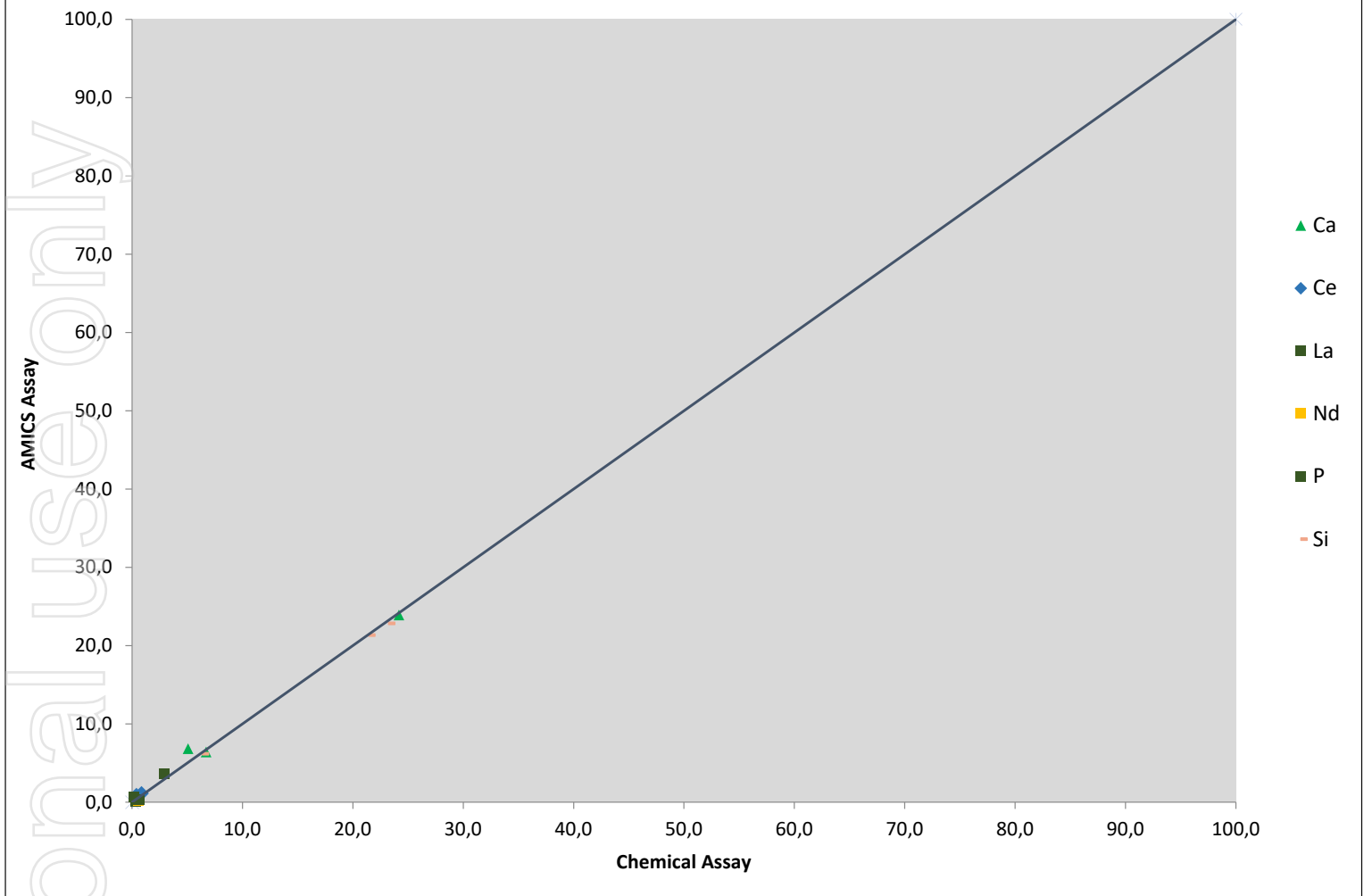






Reconciliation Chart

Assay Reconciliation



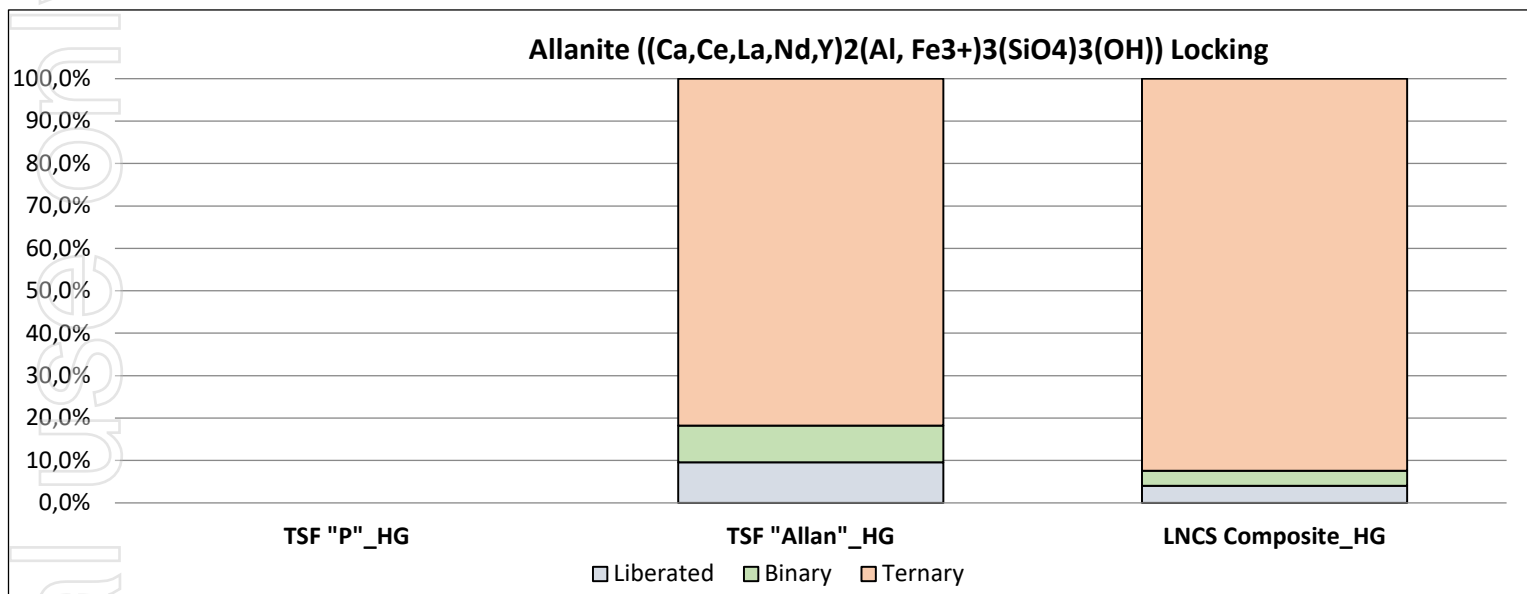
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Mineralogical Report - Mineral Locking

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe₃₊)₃(SiO₄)₃(OH))

| Summary | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
|--------------|------------------------|----------------|-------------------|
| | Locking percentage (%) | | |
| Liberated | | 9,6 | 4,0 |
| Binary | | 8,7 | 3,6 |
| Ternary | | 81,8 | 92,4 |
| Total | | 100,0 | 100,0 |



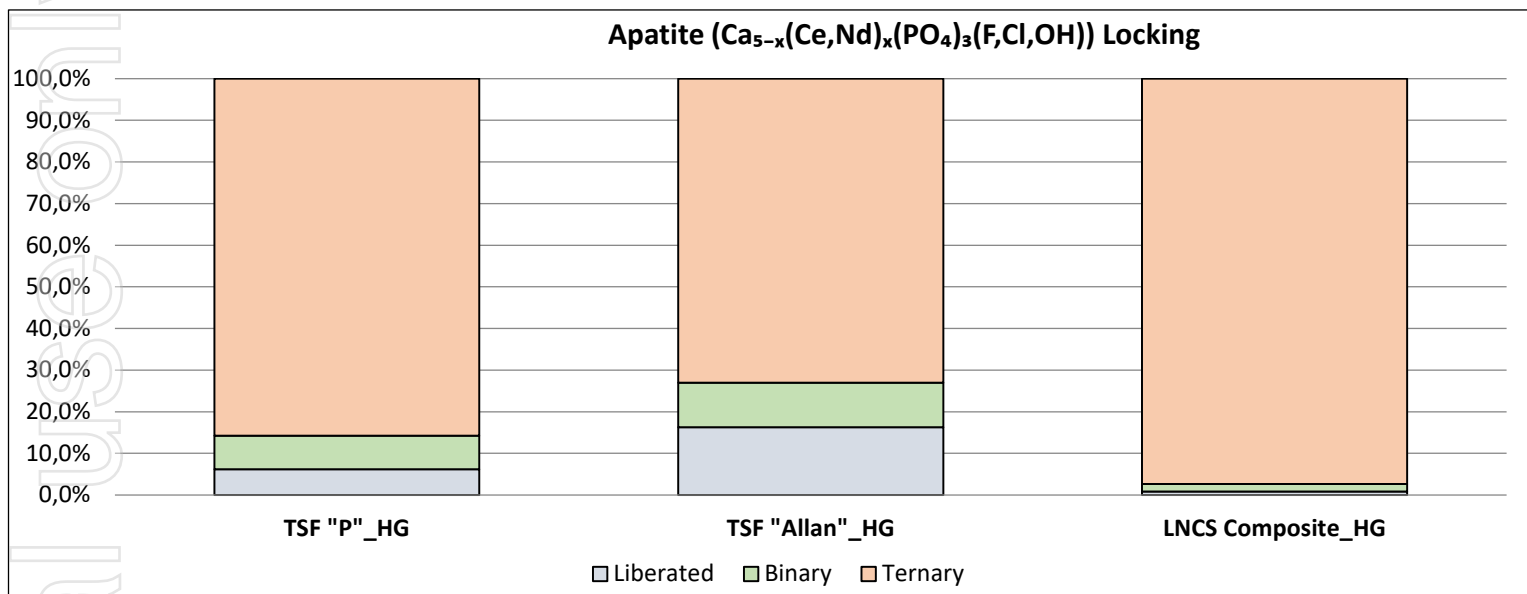
| Locking in | TSF "P"_HG | | TSF "Allan"_HG | | LNCS Composite_HG | |
|---------------|------------|---------|----------------|---------|-------------------|---------|
| | Binary | Ternary | Binary | Ternary | Binary | Ternary |
| Actinolite | | | 0,2 | 2,8 | | 1,8 |
| Albite | | | 0,3 | 3,0 | | 1,2 |
| Apatite | | | 0,2 | 1,8 | 0,1 | 20,9 |
| Barite | | | | 0,4 | | 1,5 |
| Biotite | | | 0,1 | 3,3 | | 1,1 |
| Calcite | | | 0,6 | 3,2 | 0,8 | 29,8 |
| Carbocernaite | | | | | | 0,2 |
| Chlorite | | | 1,6 | 27,1 | 0,6 | 7,3 |
| Diopside | | | 0,5 | 13,3 | 0,2 | 2,7 |
| Galena | | | | 0,4 | | 2,0 |
| Illite | | | 0,1 | 2,2 | | 0,4 |
| Kaolinite | | | | 0,1 | | |
| Monazite | | | | 0,3 | | 0,9 |
| Orthoclase | | | 1,7 | 14,7 | 0,2 | 4,3 |
| Others | | | 1,8 | 2,3 | 0,4 | 4,7 |
| Pyrite | | | | 0,6 | | 2,7 |
| Quartz | | | 1,3 | 4,6 | 1,0 | 7,0 |
| Rutile | | | 0,1 | 0,3 | | 0,1 |
| Titanite | | | 0,1 | 0,6 | 0,1 | 2,4 |
| Unknown | | | 0,1 | 1,0 | | 1,4 |



Mineralogical Report - Mineral Locking

Apatite (Ca_x(Ce,Nd)_x(PO₄)₃(F,Cl,OH))

| Summary | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
|--------------|------------------------|----------------|-------------------|
| | Locking percentage (%) | | |
| Liberated | 6,2 | 16,3 | 0,9 |
| Binary | 8,1 | 10,7 | 1,8 |
| Ternary | 85,7 | 73,0 | 97,4 |
| Total | 100,0 | 100,0 | 100,0 |



| Locking in | TSF "P"_HG | | TSF "Allan"_HG | | LNCS Composite_HG | |
|---------------|------------|---------|----------------|---------|-------------------|---------|
| | Binary | Ternary | Binary | Ternary | Binary | Ternary |
| Actinolite | 0,1 | 9,2 | 0,7 | 1,7 | | 3,8 |
| Albite | | 0,2 | | 1,8 | | 0,2 |
| Allanite | | | 1,7 | 13,9 | | 6,7 |
| Barite | | 0,8 | | 0,1 | | 1,1 |
| Biotite | 0,1 | 0,2 | | 2,1 | | 0,2 |
| Calcite | 0,8 | 33,6 | 0,2 | 4,5 | 0,4 | 15,8 |
| Carbocernaite | | | | | | 0,2 |
| Chlorite | 1,1 | 9,4 | 0,4 | 17,2 | | 8,5 |
| Diopside | | | | 8,5 | | 2,3 |
| Galena | | | | 1,4 | | 1,5 |
| Illite | | 0,3 | | 0,9 | | 0,1 |
| Kaolinite | | | | | | |
| Monazite | | 4,9 | | 3,9 | | 22,4 |
| Orthoclase | 0,1 | 0,6 | 0,2 | 7,5 | | 1,3 |
| Others | 5,2 | 20,4 | 6,6 | 4,2 | 1,2 | 20,8 |
| Pyrite | | | | 0,3 | | 1,3 |
| Quartz | 0,6 | 0,2 | 0,9 | 2,2 | 0,1 | 5,1 |
| Rutile | | | | 0,1 | | |
| Titanite | | | | 0,2 | | 1,9 |
| Zircon | | 0,8 | | | | |
| Unknown | 0,2 | 5,3 | 0,2 | 2,5 | | 4,2 |

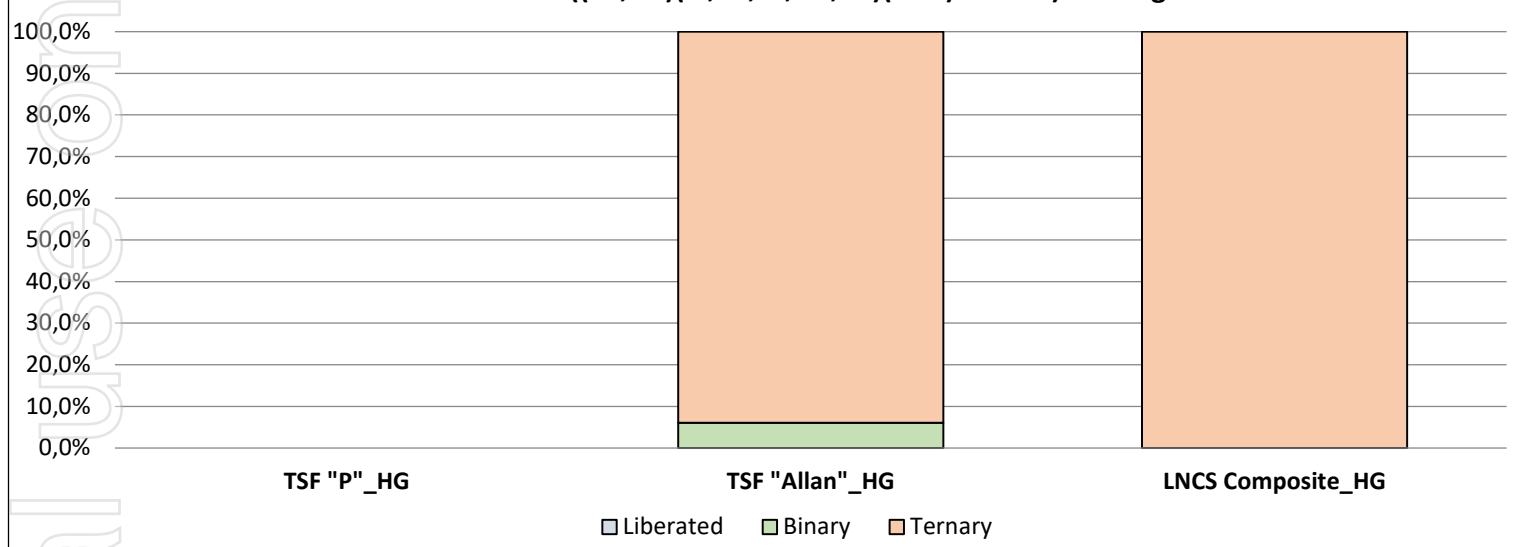


Mineralogical Report - Mineral Locking

Carbocernaite ((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO3)2 2H2O)

| Summary | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
|--------------|------------------------|----------------|-------------------|
| | Locking percentage (%) | | |
| Liberated | | | |
| Binary | | 6,1 | |
| Ternary | | 93,9 | 100,0 |
| Total | | 100,0 | 100,0 |

Carbocernaite ((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO3)2 2H2O) Locking



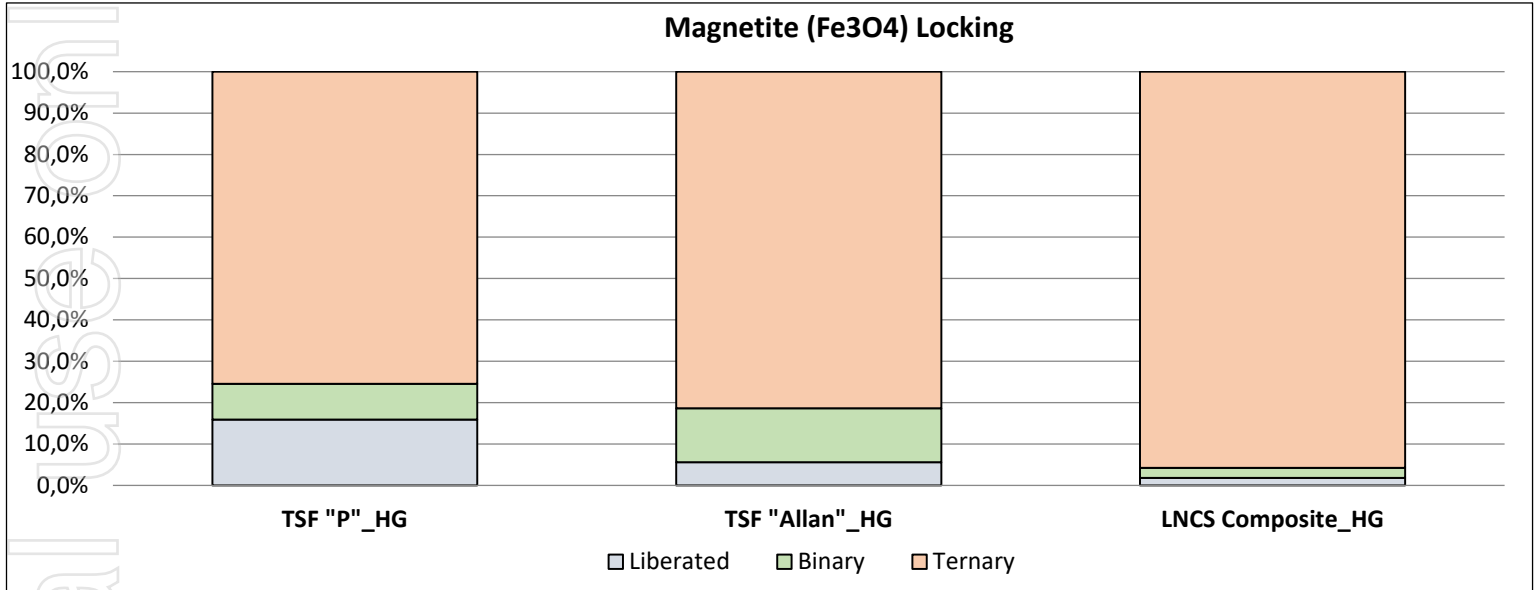
| Locking in | TSF "P"_HG | | TSF "Allan"_HG | | LNCS Composite_HG | |
|------------|------------|---------|----------------|---------|-------------------|---------|
| | Binary | Ternary | Binary | Ternary | Binary | Ternary |
| Actinolite | | | | 0,7 | | 0,2 |
| Allanite | | | | | | 2,6 |
| Apatite | | | | | | 13,3 |
| Barite | | | | | | 2,9 |
| Biotite | | | | | | 0,2 |
| Calcite | | | | | | 60,4 |
| Chlorite | | | | | | 3,1 |
| Diopside | | | | | | 0,8 |
| Galena | | | | | | 0,2 |
| Monazite | | | | 72,8 | | 8,0 |
| Orthoclase | | | | 0,5 | | 0,1 |
| Others | | | | 3,9 | | 2,3 |
| Pyrite | | | | | | 0,2 |
| Quartz | | | | 10,6 | | 2,4 |
| Titanite | | | | | | 1,2 |
| Unknown | | | 6,1 | 2,3 | | 2,3 |



Mineralogical Report - Mineral Locking

Monazite ((Ce,La,Th,Nd) PO₄)

| Summary | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
|--------------|------------------------|----------------|-------------------|
| | Locking percentage (%) | | |
| Liberated | 15,9 | 5,6 | 1,8 |
| Binary | 8,6 | 13,0 | 2,4 |
| Ternary | 75,5 | 81,3 | 95,8 |
| Total | 100,0 | 100,0 | 100,0 |



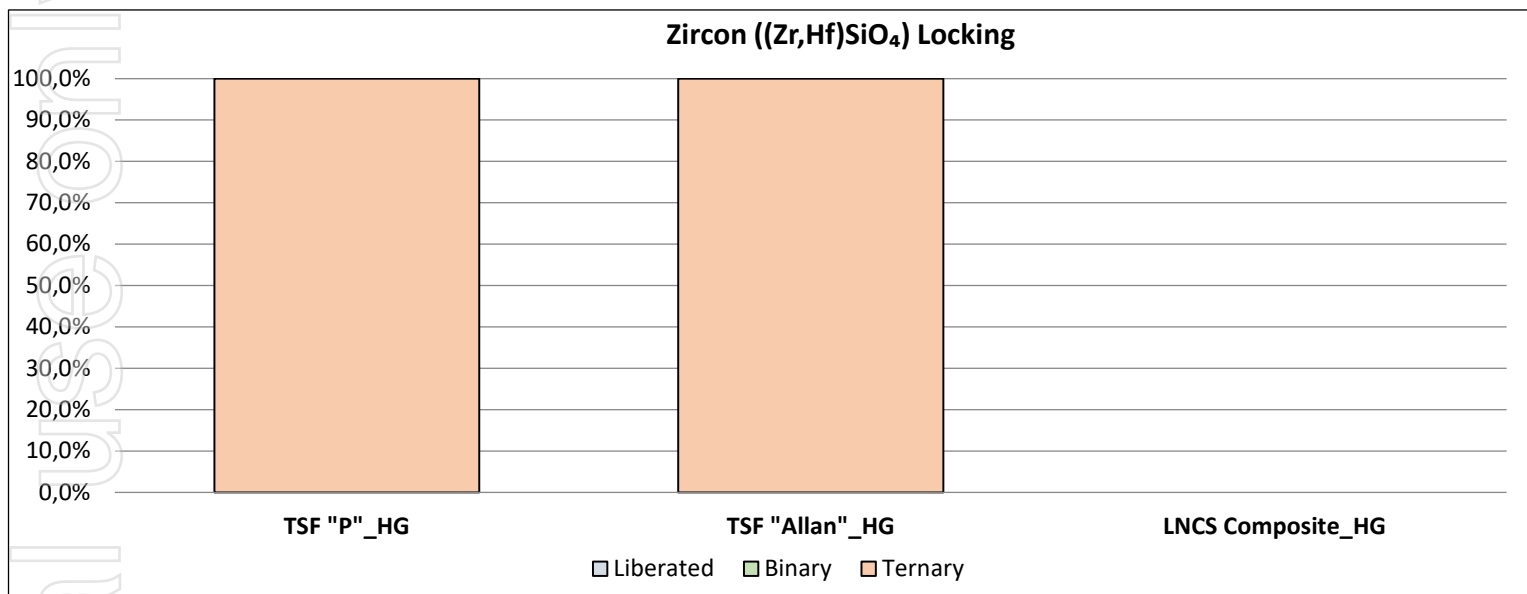
| Locking in | TSF "P"_HG | | TSF "Allan"_HG | | LNCS Composite_HG | |
|---------------|------------|---------|----------------|---------|-------------------|---------|
| | Binary | Ternary | Binary | Ternary | Binary | Ternary |
| Actinolite | | 0,7 | | 2,9 | | 0,4 |
| Albite | | 1,8 | | 0,3 | | 0,0 |
| Allanite | | | | 3,0 | | 1,2 |
| Apatite | | 23,5 | | 1,2 | 0,5 | 51,8 |
| Barite | 2,6 | 0,8 | | 0,2 | | 0,2 |
| Biotite | | 1,6 | | 0,9 | | 0,1 |
| Calcite | | 4,4 | 0,4 | 0,7 | 0,1 | 12,3 |
| Carbocernaite | | | | 21,6 | | 3,2 |
| Chlorite | | 20,6 | 1,1 | 11,2 | | 3,0 |
| Diopside | | 0,2 | | 3,0 | | 0,4 |
| Galena | | | | 0,2 | | 2,9 |
| Illite | | 0,5 | | 0,3 | | |
| Orthoclase | | 3,5 | | 2,8 | | 0,2 |
| Others | 1,8 | 4,3 | 2,7 | 11,1 | 1,2 | 9,6 |
| Pyrite | | 0,7 | | 0,1 | | 0,5 |
| Quartz | | 2,1 | 8,9 | 16,5 | 0,5 | 4,8 |
| Rutile | | | | 0,1 | | |
| Titanite | | | | 0,2 | 0,1 | 0,5 |
| Unknown | 4,3 | 10,8 | | 5,3 | | 4,8 |



Mineralogical Report - Mineral Locking

Zircon ((Zr,Hf)SiO₄)

| Summary | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
|--------------|------------------------|----------------|-------------------|
| | Locking percentage (%) | | |
| Liberated | | | |
| Binary | | | |
| Ternary | 100,0 | 100,0 | |
| Total | 100,0 | 100,0 | |



| Locking in | TSF "P"_HG | | TSF "Allan"_HG | | LNCS Composite_HG | |
|------------|------------|---------|----------------|---------|-------------------|---------|
| | Binary | Ternary | Binary | Ternary | Binary | Ternary |
| Biotite | | 0,3 | | 47,2 | | |
| Chlorite | | 6,1 | | 12,9 | | |
| Albite | | | | 18,5 | | |
| Orthoclase | | 0,1 | | 11,5 | | |
| Quartz | | | | 9,0 | | |
| Others | | 36,5 | | 0,9 | | |
| Apatite | | 35,3 | | | | |
| Calcite | | 1,3 | | | | |
| Unknown | | 20,4 | | | | |



Mineral Locking Particle Image

TSF "P" _HG

Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Liberated Particle

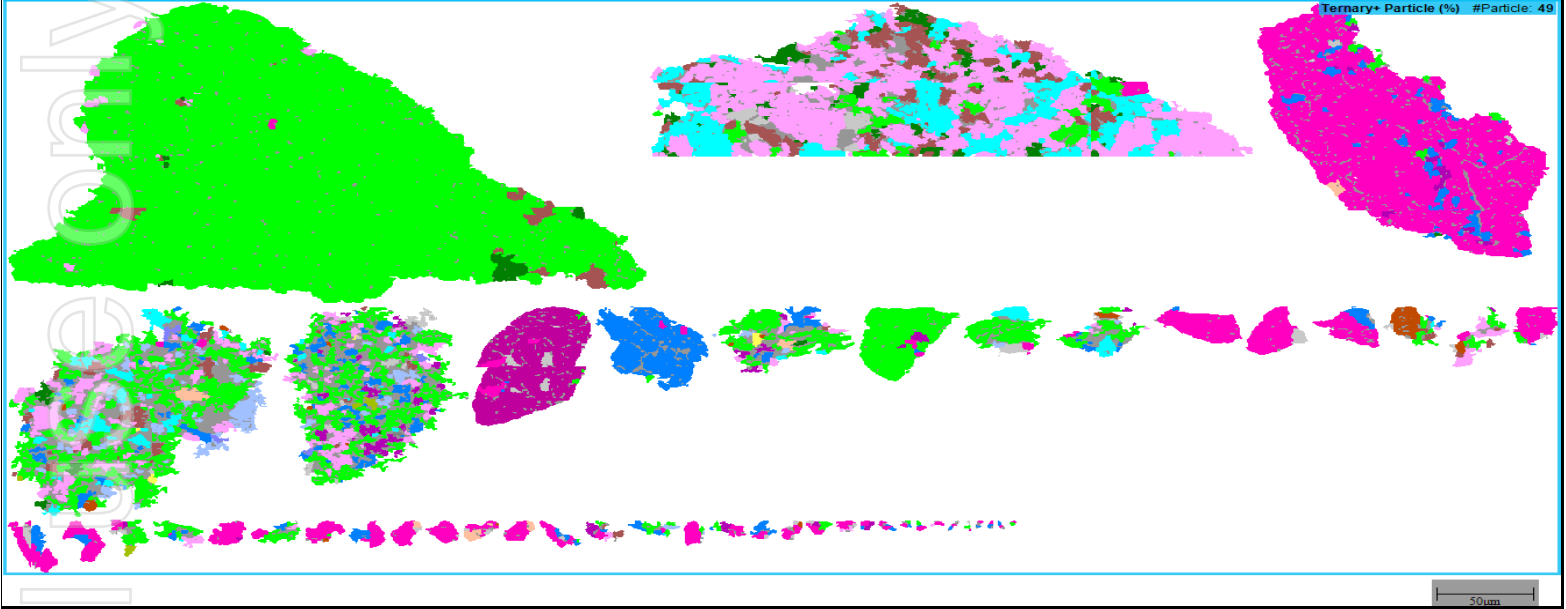
Liberated #Particle: 58

Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Binary Particle

Binary Particle (%) #Particle: 46

Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Ternary Particle

Ternary+ Particle (%) #Particle: 49



Monazite ((Ce,La,Th,Nd) PO4) Liberated Particle

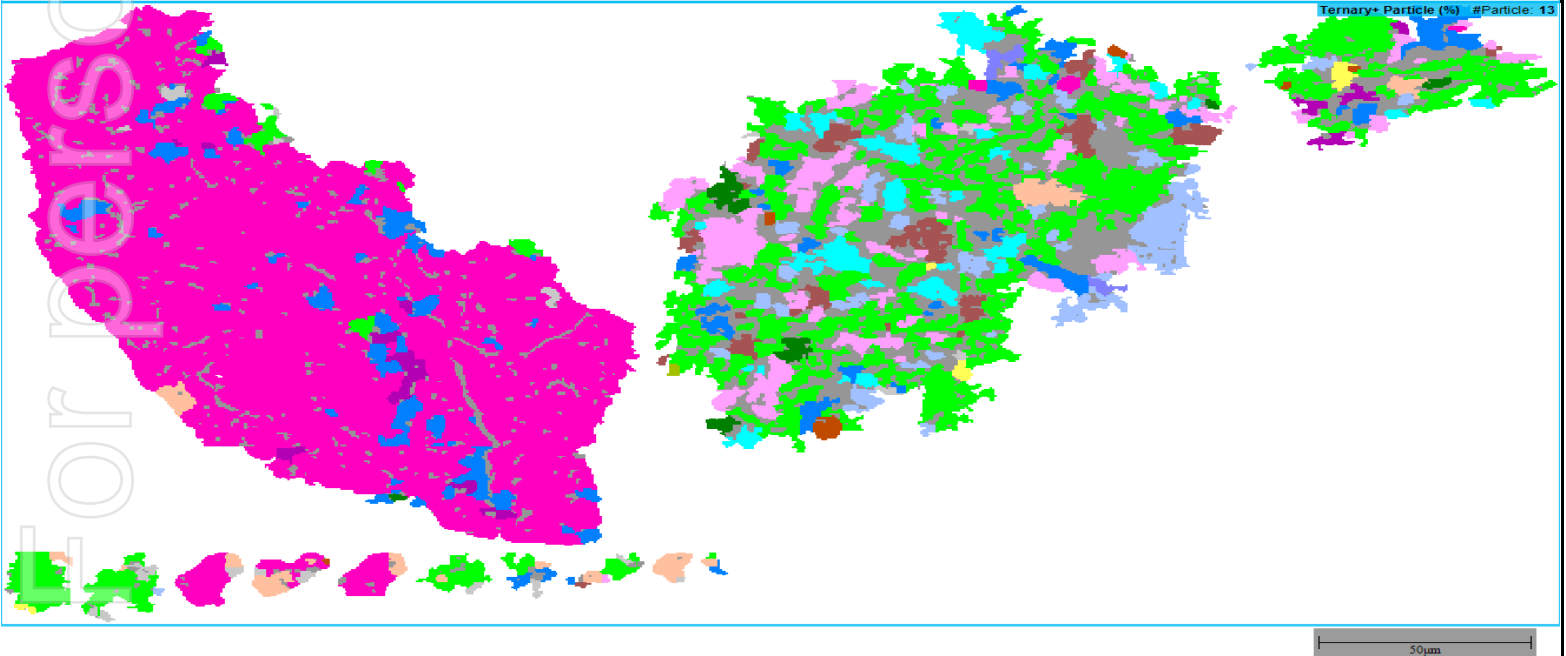
Liberated #Particle: 5

Monazite ((Ce,La,Th,Nd) PO4) Binary Particle

Binary Particle (%) #Particle: 5

Monazite ((Ce,La,Th,Nd) PO4) Ternary Particle

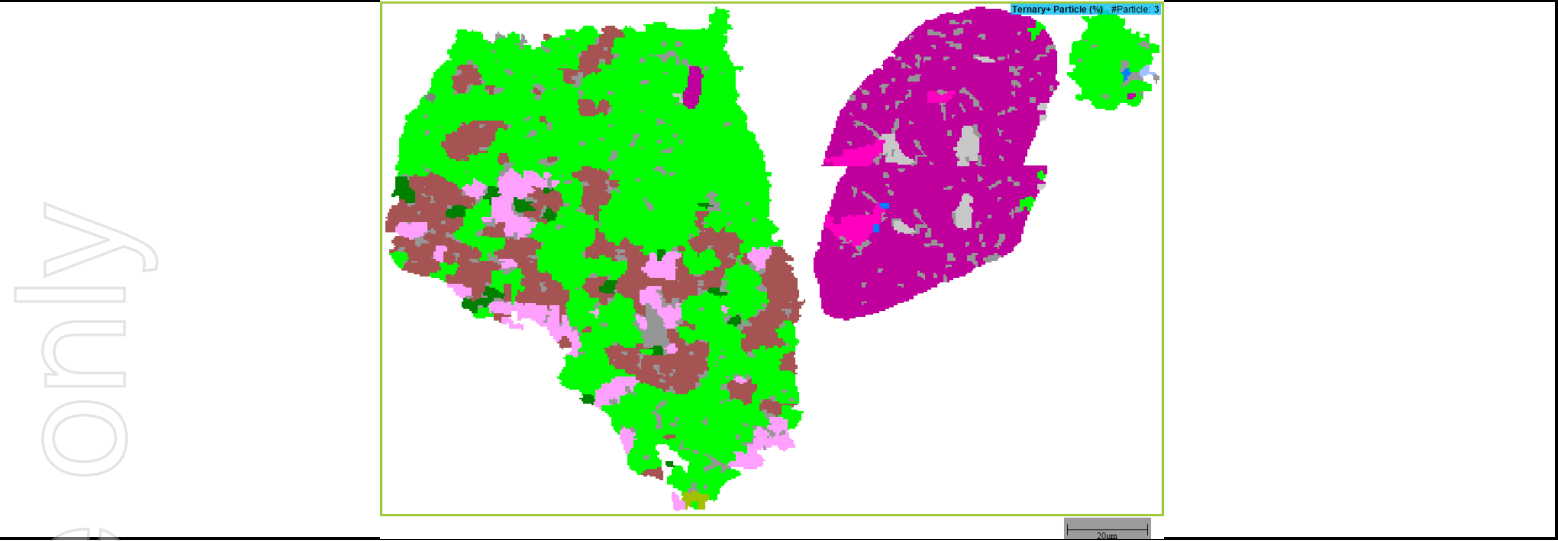
Ternary+ Particle (%) #Particle: 13





Mineral Locking Particle Image

Zircon ((Zr,Hf)SiO₄) Ternary Particle

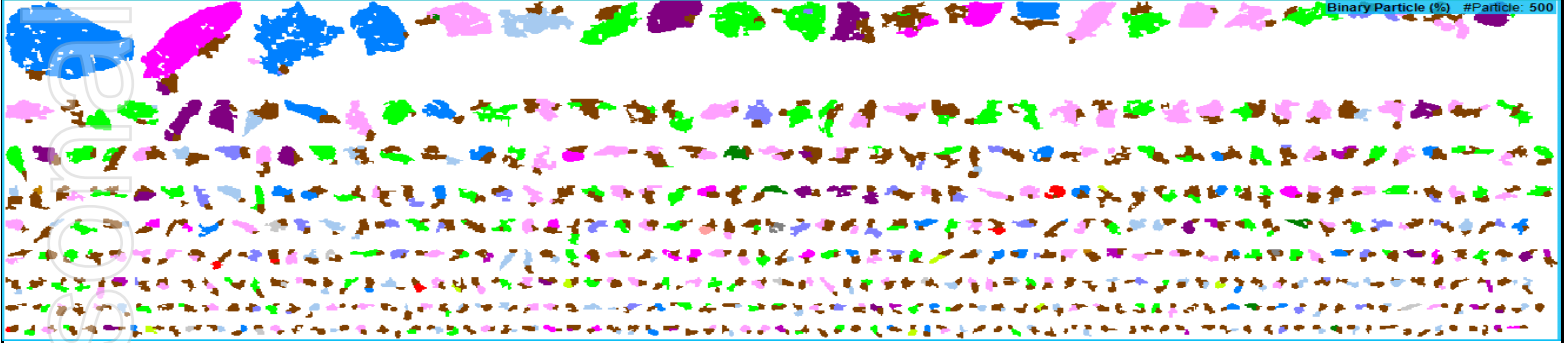


TSF "Allan" _HG

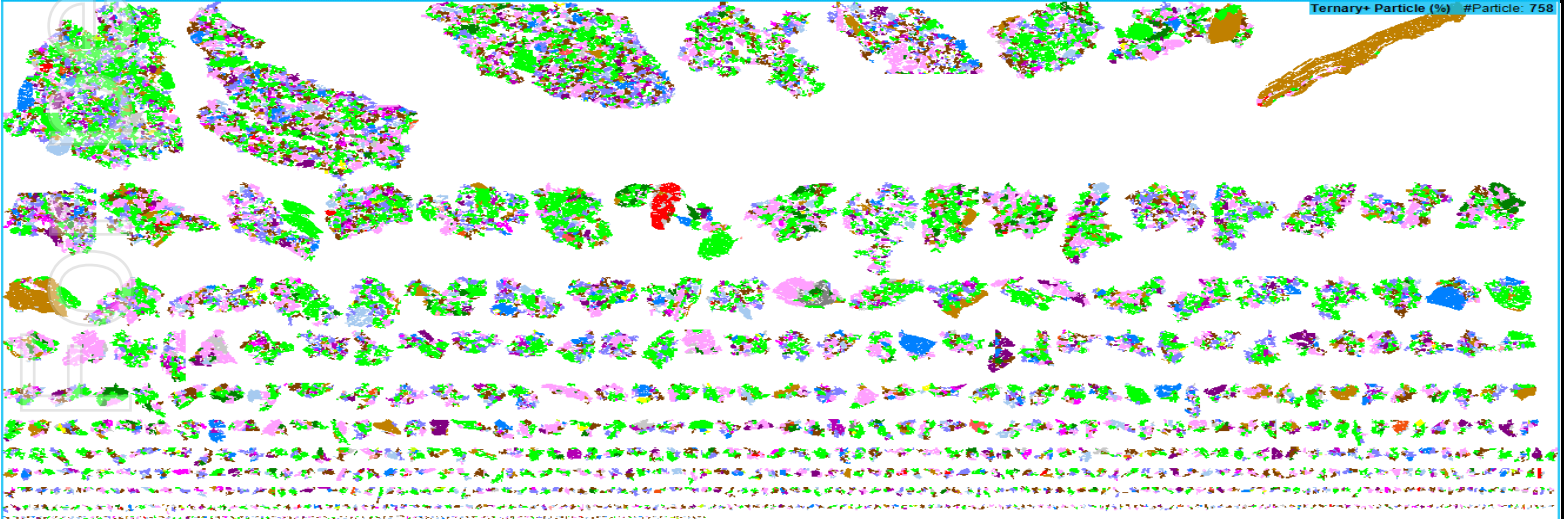
Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Liberated Particle



Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Binary Particle



Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Ternary Particle





Mineral Locking Particle Image

Apatite $(Ca_{5-x}(Ce,Nd)_x(PO_4)_3(F,Cl,OH))$ Liberated Particle

Liberated #Particle: 69



Apatite $(Ca_{5-x}(Ce,Nd)_x(PO_4)_3(F,Cl,OH))$ Binary Particle

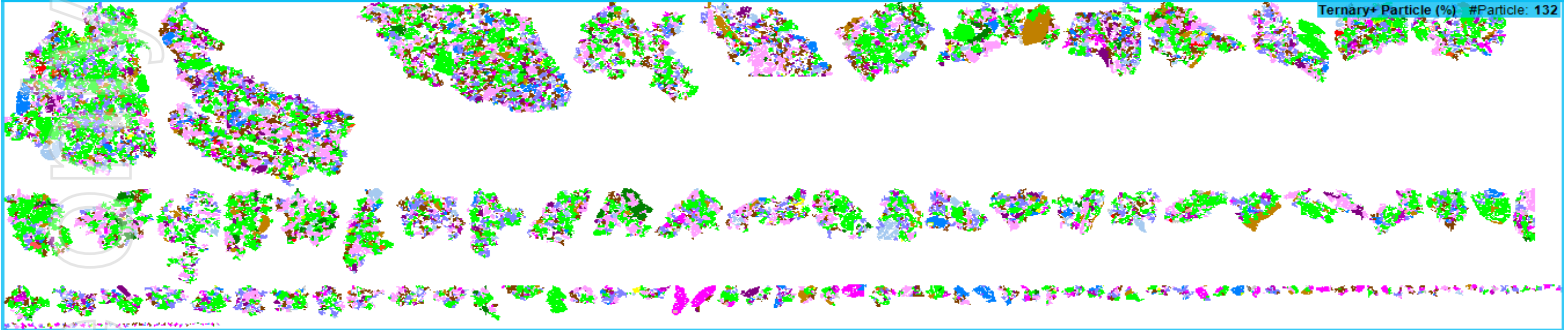
Binary Particle (%) #Particle: 41



50µm

Apatite $(Ca_{5-x}(Ce,Nd)_x(PO_4)_3(F,Cl,OH))$ Ternary Particle

Ternary+ Particle (%) #Particle: 132



200µm

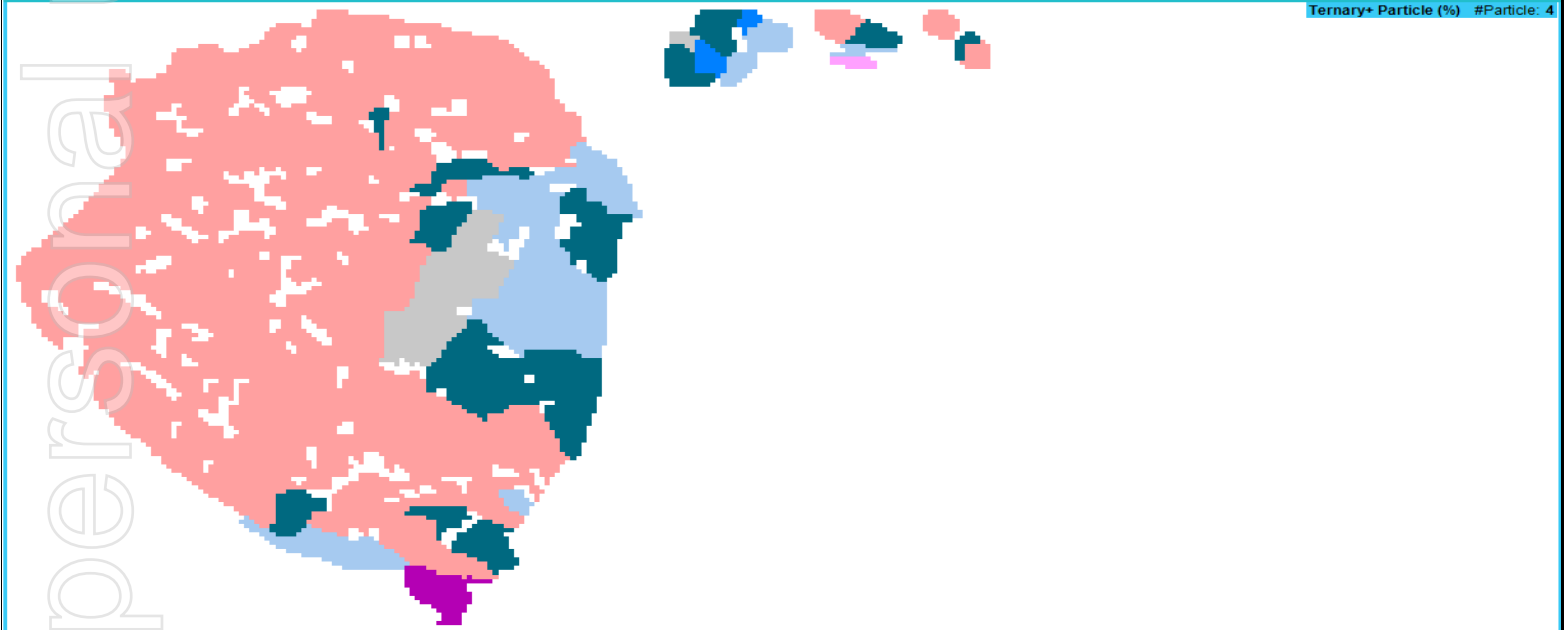
Carbocernaite $((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO_3)_2 \cdot 2H_2O)$ Binary Particle

Binary Particle (%) #Particle: 1



Carbocernaite $((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO_3)_2 \cdot 2H_2O)$ Ternary Particle

Ternary+ Particle (%) #Particle: 4



10µm

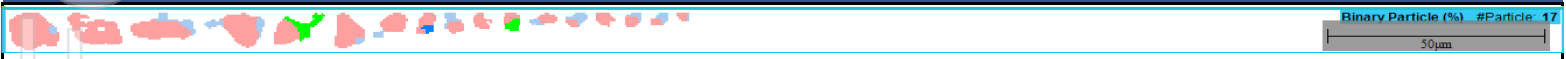
Monazite $((Ce,La,Th,Nd) PO_4)$ Liberated Particle

Liberated #Particle: 10



Monazite $((Ce,La,Th,Nd) PO_4)$ Binary Particle

Binary Particle (%) #Particle: 17

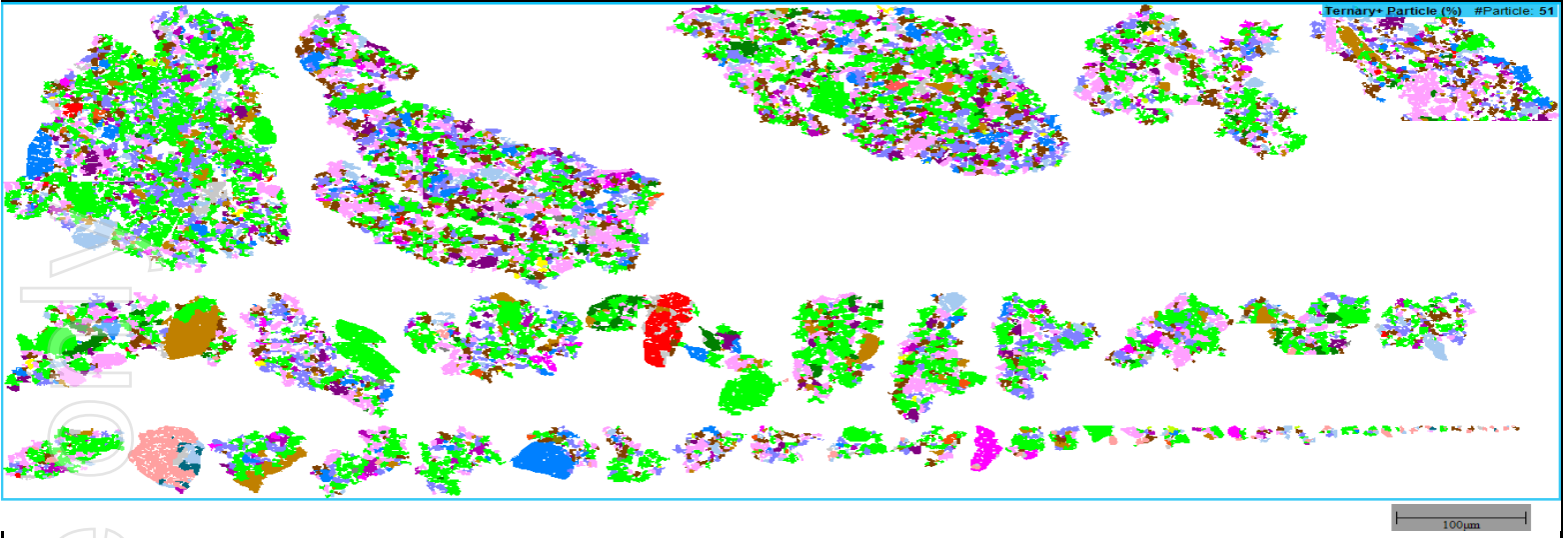


50µm

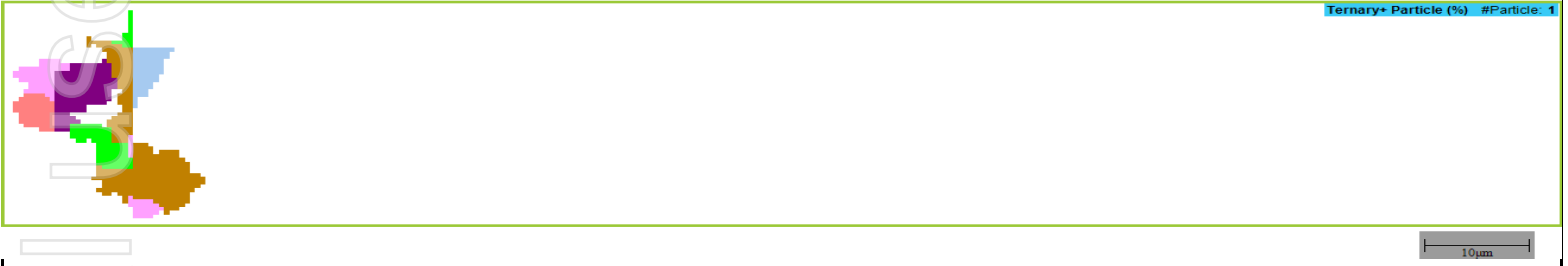


Mineral Locking Particle Image

Monazite ((Ce,La,Th,Nd) PO₄) Ternary Particle



Zircon ((Zr,Hf)SiO₄) Ternary Particle



LNCS Composite_HG

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Liberated Particle



Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Binary Particle

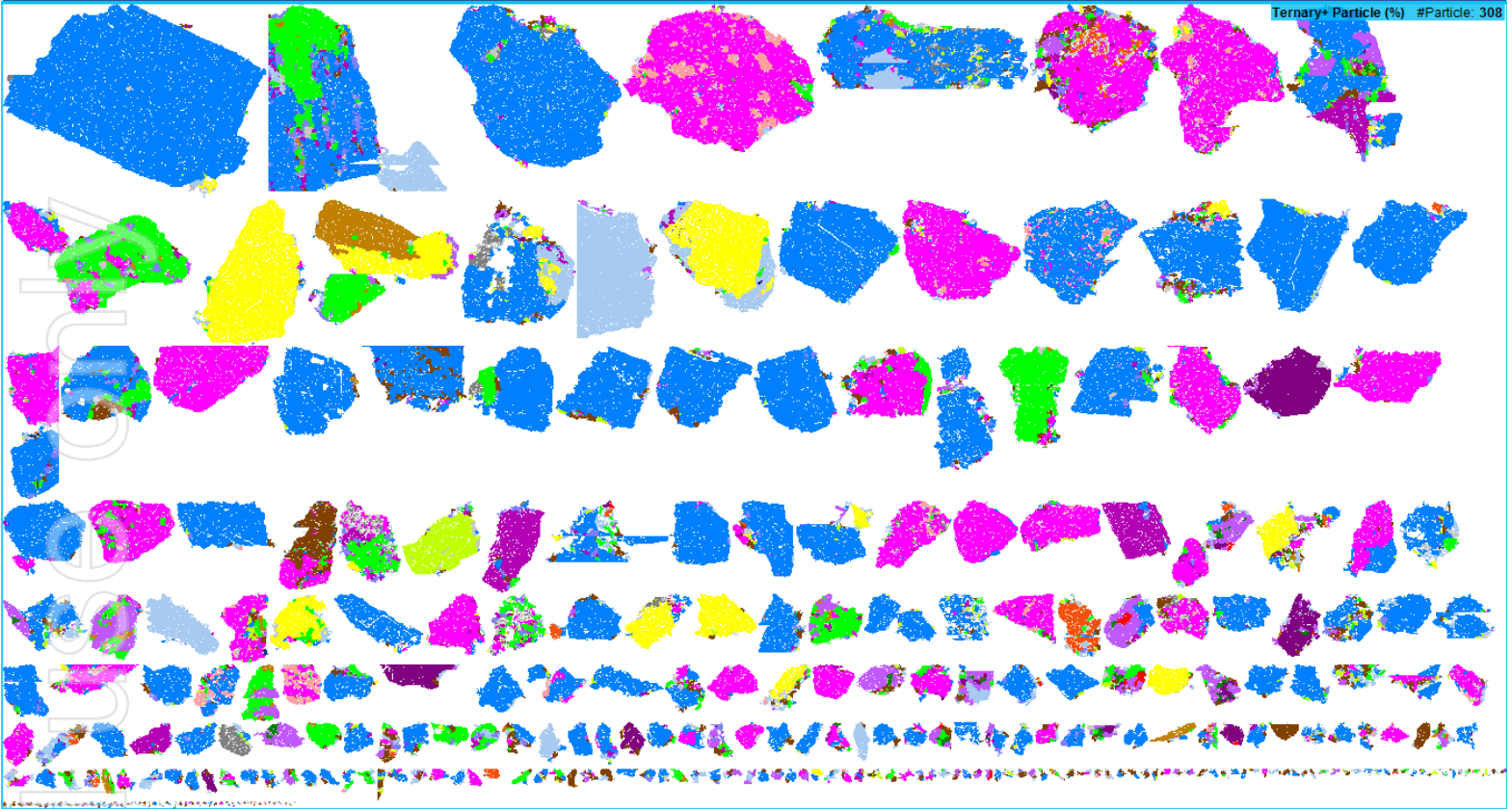




Mineral Locking Particle Image

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Liberated Particle

Ternary+ Particle (%) #Particle: 308



Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Liberated Particle

Liberated #Particle: 79



Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Binary Particle

Binary Particle (%) #Particle: 74

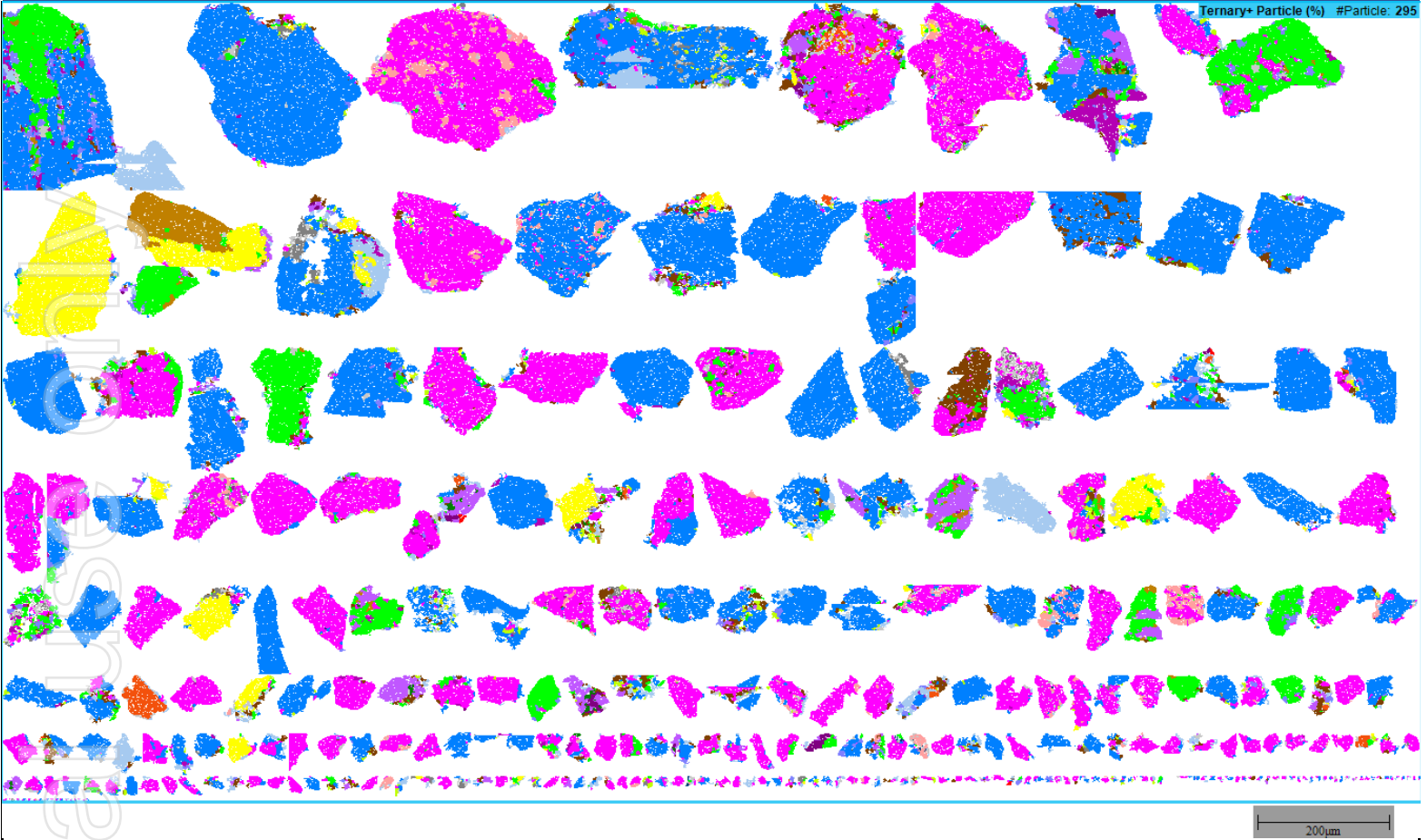




Mineral Locking Particle Image

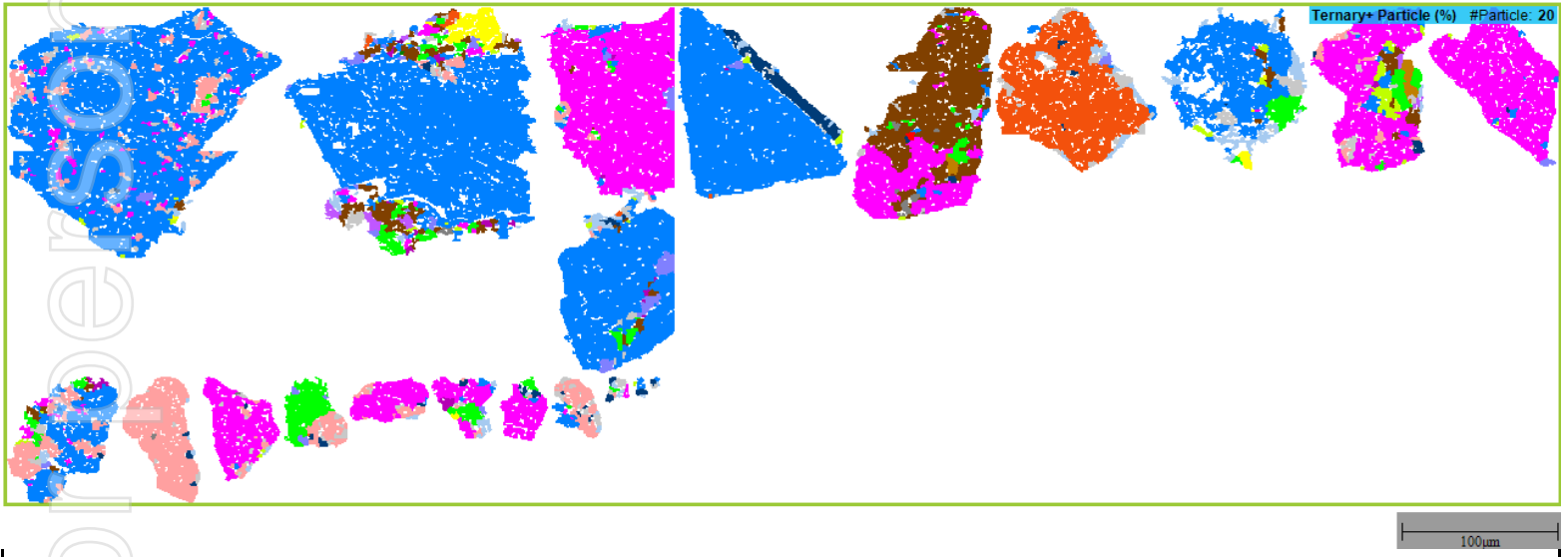
Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Ternary Particle

Ternary+ Particle (%) #Particle: 295



Carbocernaite ($(\text{Ca,Na})(\text{Sr,Ce,La,Nd,Ba})(\text{CO}_3)_2 \cdot 2\text{H}_2\text{O}$) Ternary Particle

Ternary+ Particle (%) #Particle: 20





Mineral Locking Particle Image

Monazite ((Ce,La,Th,Nd) PO4) Liberated Particle

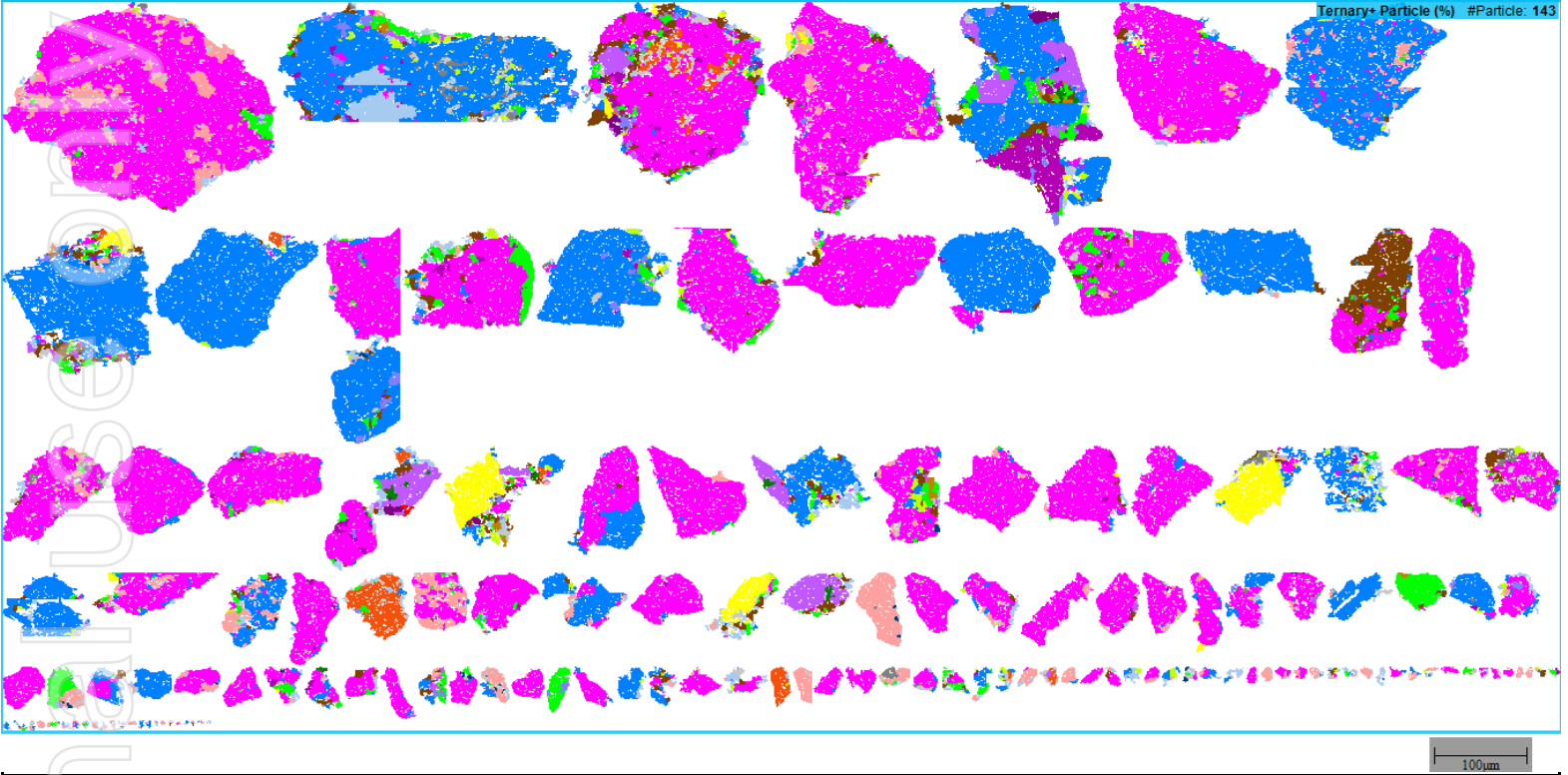
Liberated #Particle: 22

Monazite ((Ce,La,Th,Nd) PO4) Binary Particle

Binary Particle (%) #Particle: 21

Monazite ((Ce,La,Th,Nd) PO4) Ternary Particle

Ternary+ Particle (%) #Particle: 143



For person

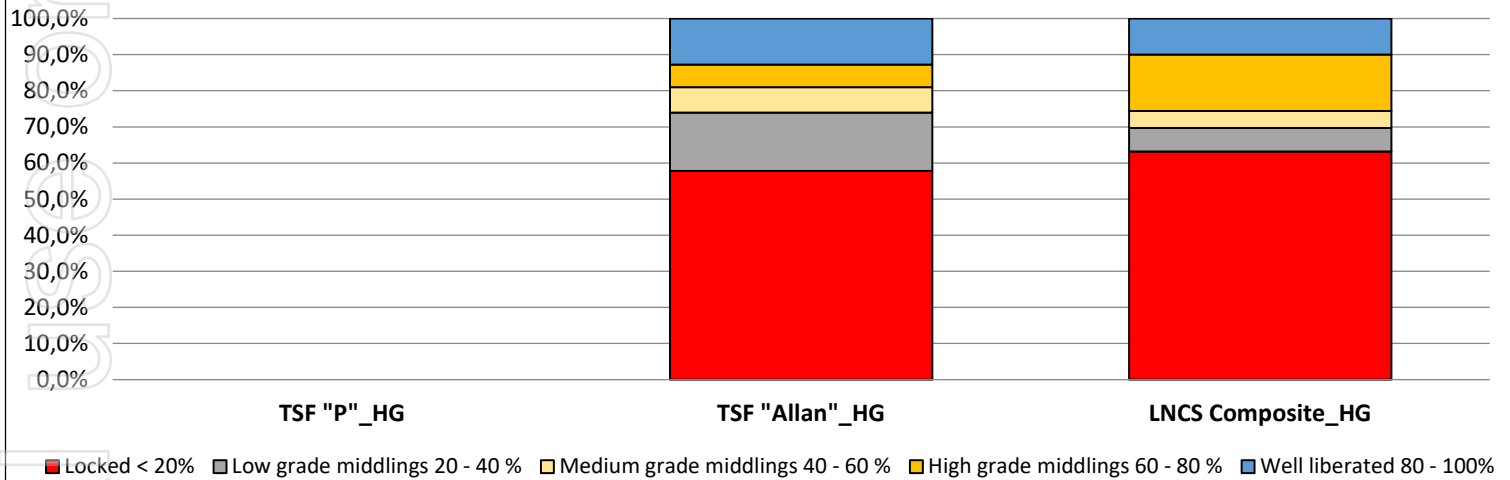


Mineralogical Report - Mineral Liberation

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe₃₊)₃(SiO₄)₃(OH))

| Liberation Classes | Surface Area | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|------------------------|--------------|-------------|-----------------|-------------------|
| Locked | < 20% | | 57,8 | 63,2 |
| Low grade middlings | 20 - 40 % | | 16,2 | 6,6 |
| Medium grade middlings | 40 - 60 % | | 7,0 | 4,7 |
| High grade middlings | 60 - 80 % | | 6,2 | 15,6 |
| Well liberated | 80 - 100% | | 12,8 | 10,0 |
| Total | | | 100,0 | 100,0 |

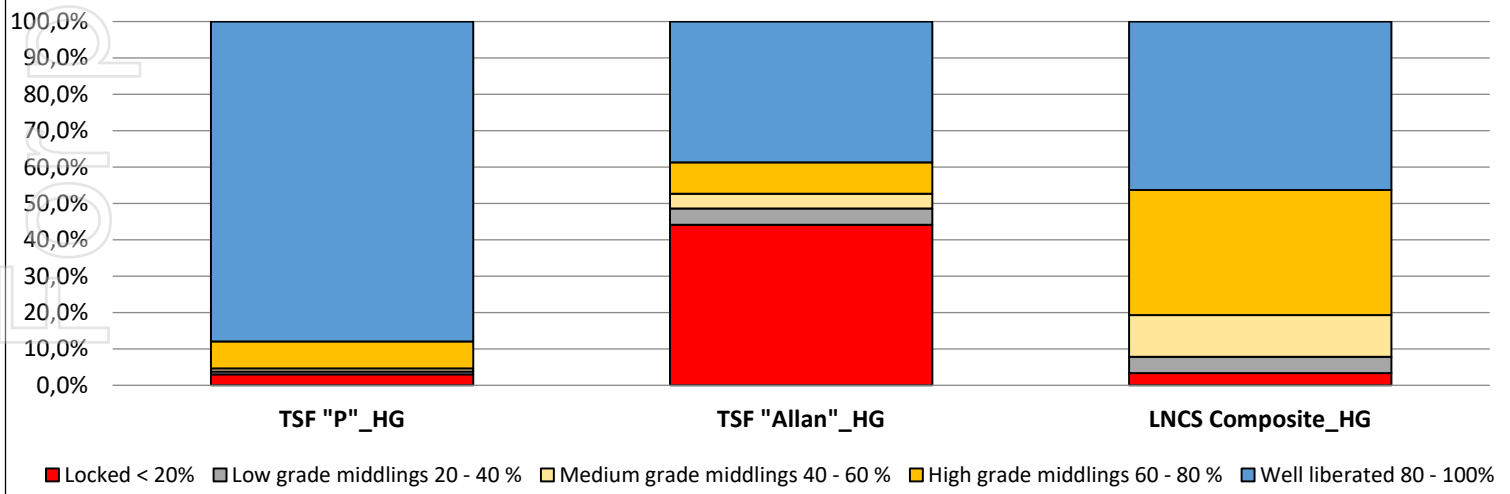
Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe₃₊)₃(SiO₄)₃(OH)) Liberation



Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH))

| Liberation Classes | Surface Area | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|------------------------|--------------|--------------|-----------------|-------------------|
| Locked | < 20% | 3,0 | 44,1 | 3,3 |
| Low grade middlings | 20 - 40 % | 0,8 | 4,5 | 4,6 |
| Medium grade middlings | 40 - 60 % | 0,9 | 4,1 | 11,4 |
| High grade middlings | 60 - 80 % | 7,4 | 8,6 | 34,4 |
| Well liberated | 80 - 100% | 87,9 | 38,7 | 46,3 |
| Total | | 100,0 | 100,0 | 100,0 |

Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Liberation



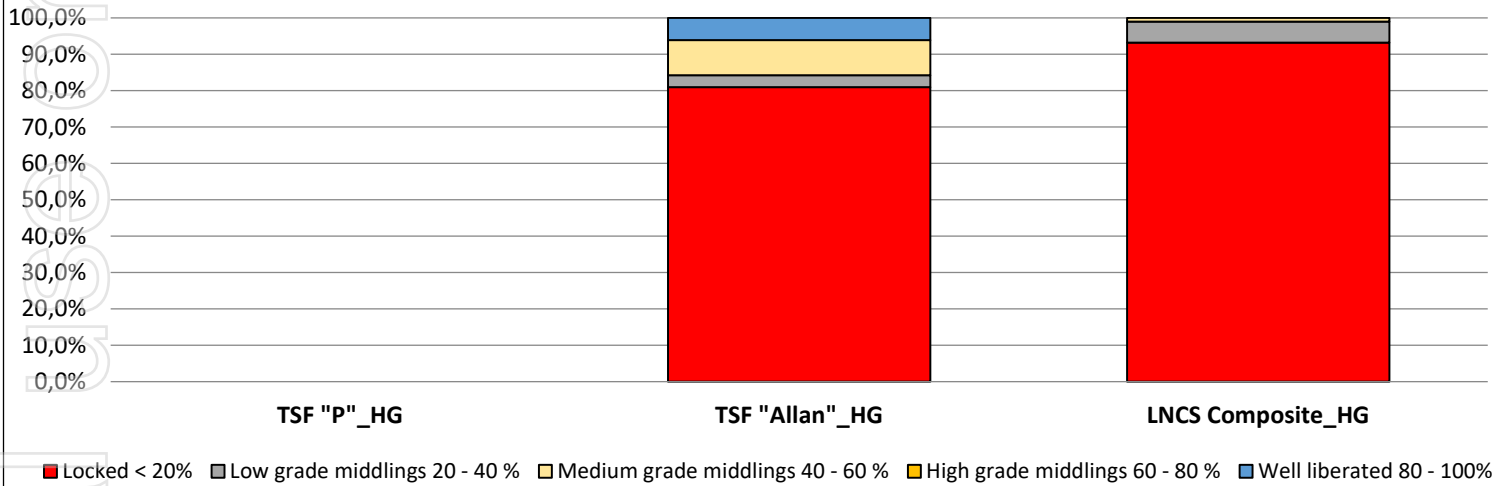


Mineralogical Report - Mineral Liberation

Carbocernaite ((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO3)2 2H2O)

| Liberation Classes | Surface Area | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|------------------------|--------------|-------------|-----------------|-------------------|
| Locked | < 20% | | 81,0 | 93,2 |
| Low grade middlings | 20 - 40 % | | 3,3 | 5,8 |
| Medium grade middlings | 40 - 60 % | | 9,7 | 1,1 |
| High grade middlings | 60 - 80 % | | 0,0 | |
| Well liberated | 80 - 100% | | 6,1 | |
| Total | | | 100,0 | 100,0 |

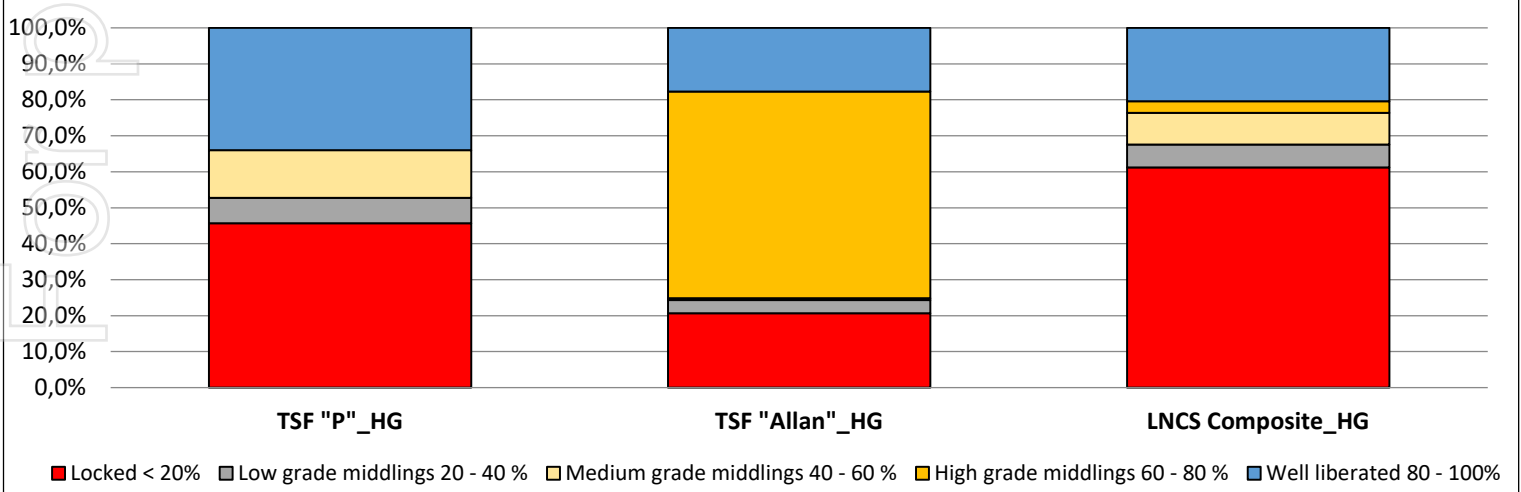
Carbocernaite ((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO3)2 2H2O) Liberation



Monazite ((Ce,La,Th,Nd) PO4)

| Liberation Classes | Surface Area | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|------------------------|--------------|--------------|-----------------|-------------------|
| Locked | < 20% | 45,7 | 20,7 | 61,2 |
| Low grade middlings | 20 - 40 % | 7,1 | 3,6 | 6,4 |
| Medium grade middlings | 40 - 60 % | 13,3 | 0,5 | 8,8 |
| High grade middlings | 60 - 80 % | | 57,5 | 3,3 |
| Well liberated | 80 - 100% | 34,0 | 17,7 | 20,4 |
| Total | | 100,0 | 100,0 | 100,0 |

Monazite ((Ce,La,Th,Nd) PO4) Liberation



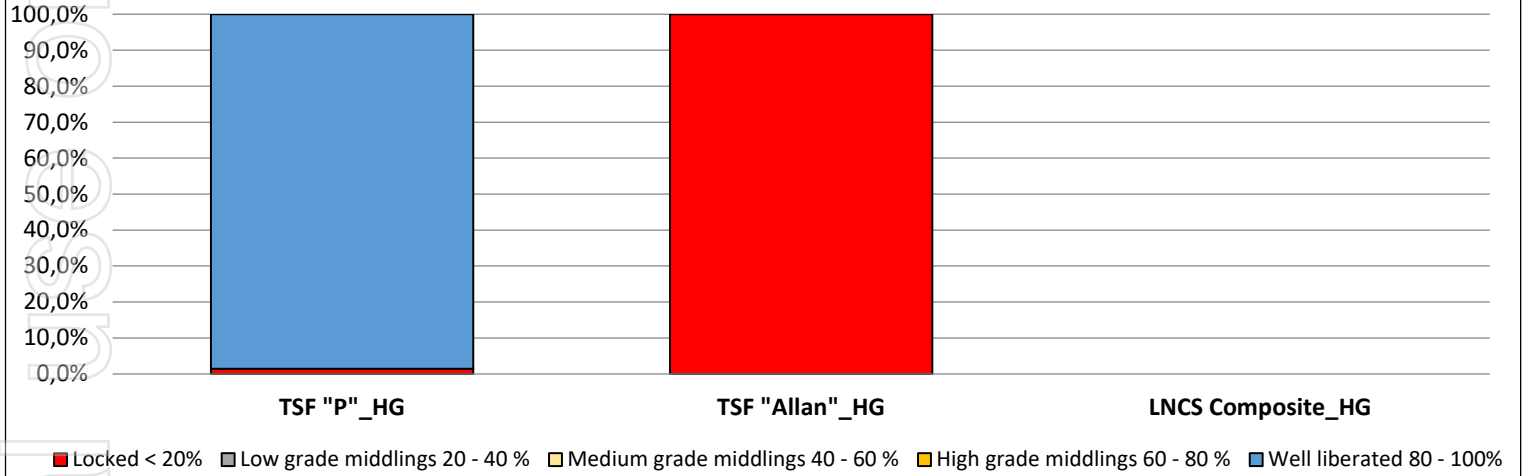


Mineralogical Report - Mineral Liberation

Zircon ((Zr,Hf)SiO₄)

| Liberation Classes | Surface Area | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|------------------------|--------------|--------------|-----------------|-------------------|
| Locked | < 20% | 1,4 | 100,0 | |
| Low grade middlings | 20 - 40 % | | | |
| Medium grade middlings | 40 - 60 % | | | |
| High grade middlings | 60 - 80 % | | | |
| Well liberated | 80 - 100% | 98,6 | | |
| Total | | 100,0 | 100,0 | |

Zircon ((Zr,Hf)SiO₄) Liberation



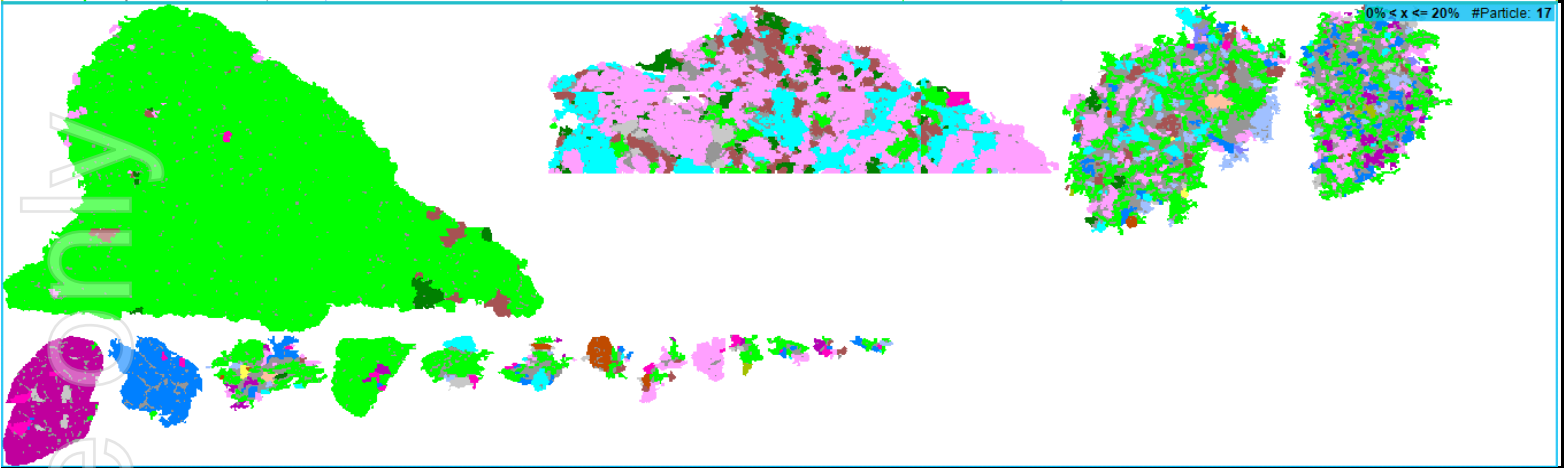


Liberation Class Particle Image

TSF "P"_HG

Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$)

Locked (<20%)



Low Grade Middlings (20-40%)

20% < x <= 40% #Particle: 7

Medium Grade Middlings (40-60%)

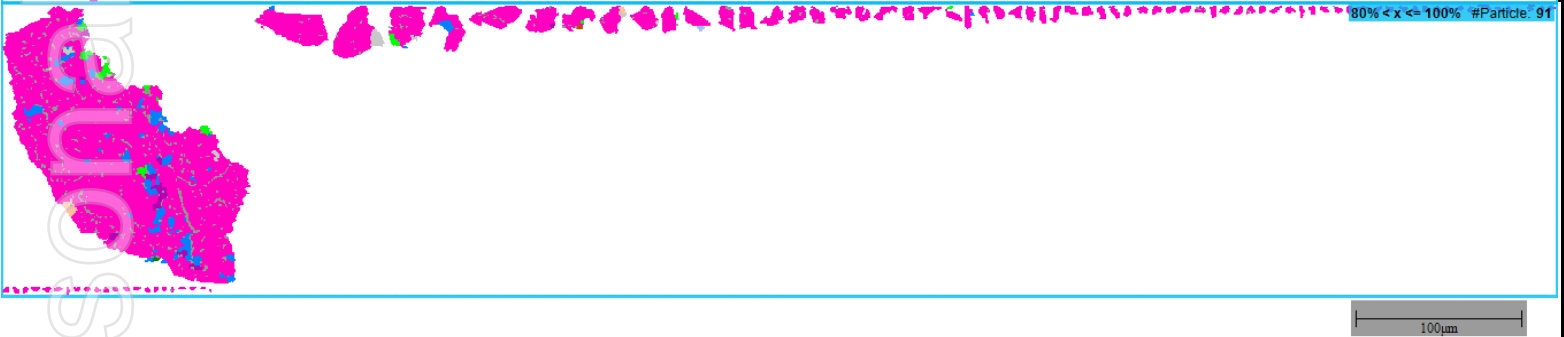
40% < x <= 60% #Particle: 11

High Grade Middlings (60-80%)

60% < x <= 80% #Particle: 27

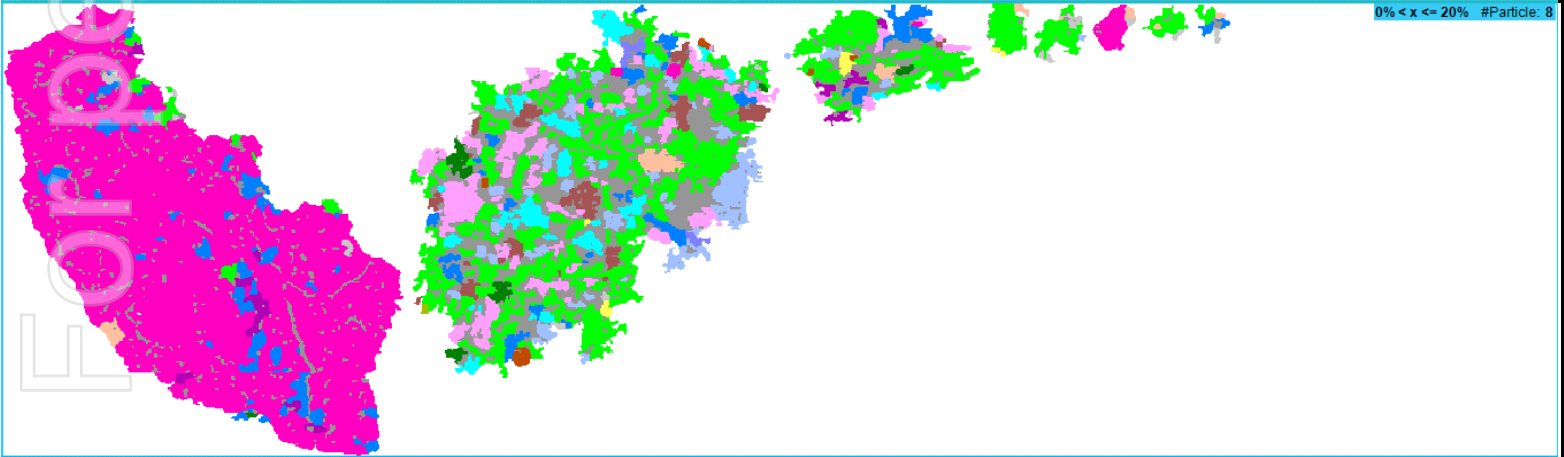
Well-liberated (80-100%)

80% < x <= 100% #Particle: 91



Monazite ((Ce,La,Th,Nd) PO4)

Locked (<20%)





Liberation Class Particle Image

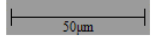
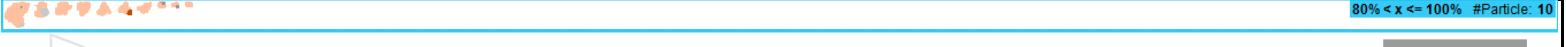
Low Grade Middlings (20-40%)



Medium Grade Middlings (40-60%)

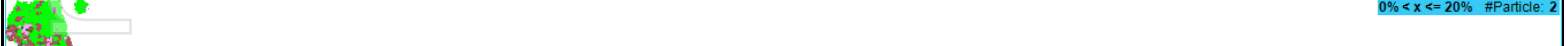


Well-liberated (80-100%)

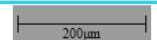


Zircon ((Zr,Hf)SiO₄)

Locked (<20%)



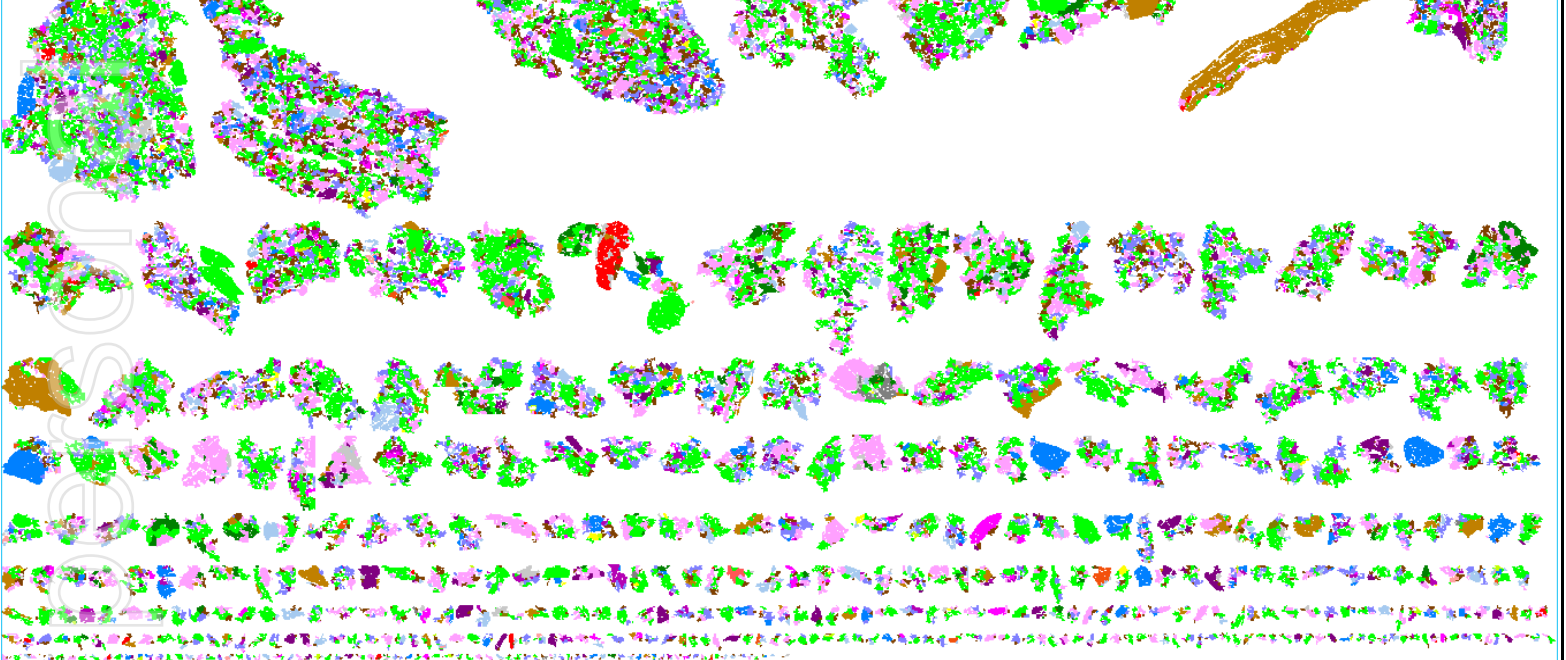
Well-liberated (80-100%)



TSF "Allan" _HG

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH))

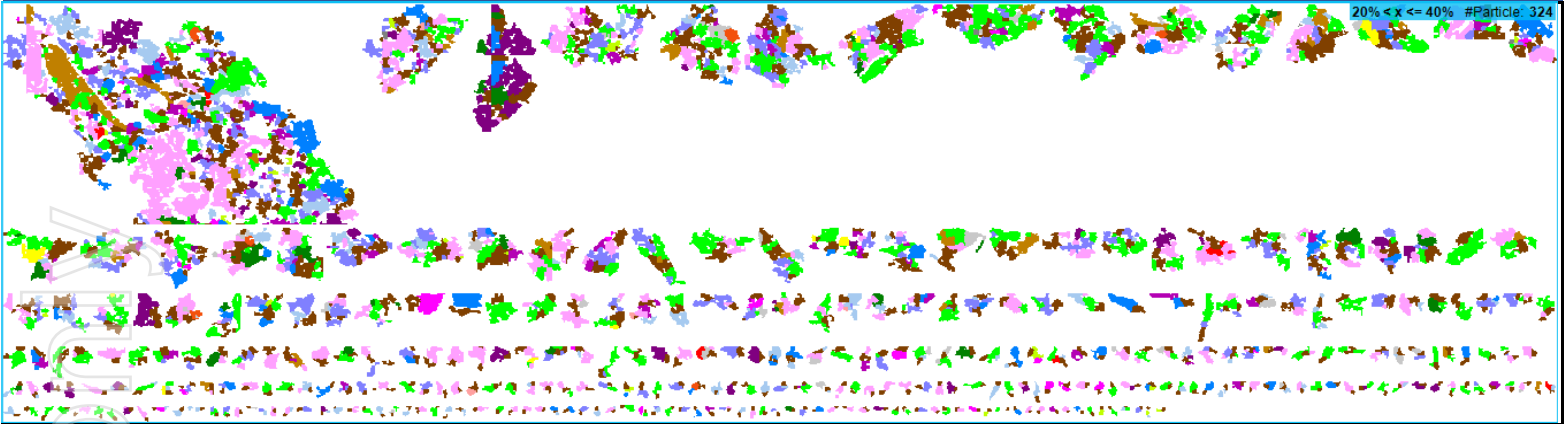
Locked (<20%)





Liberation Class Particle Image

Low Grade Middlings (20-40%)



Medium Grade Middlings (40-60%)



High Grade Middlings (60-80%)

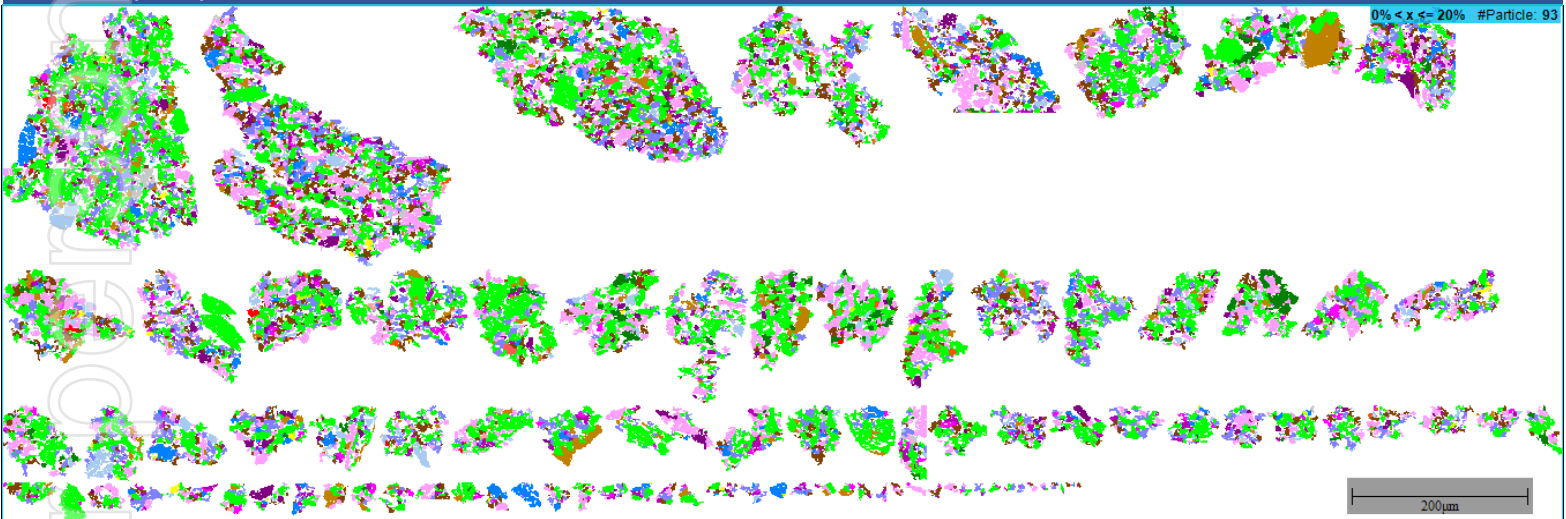


Well-liberated (80-100%)



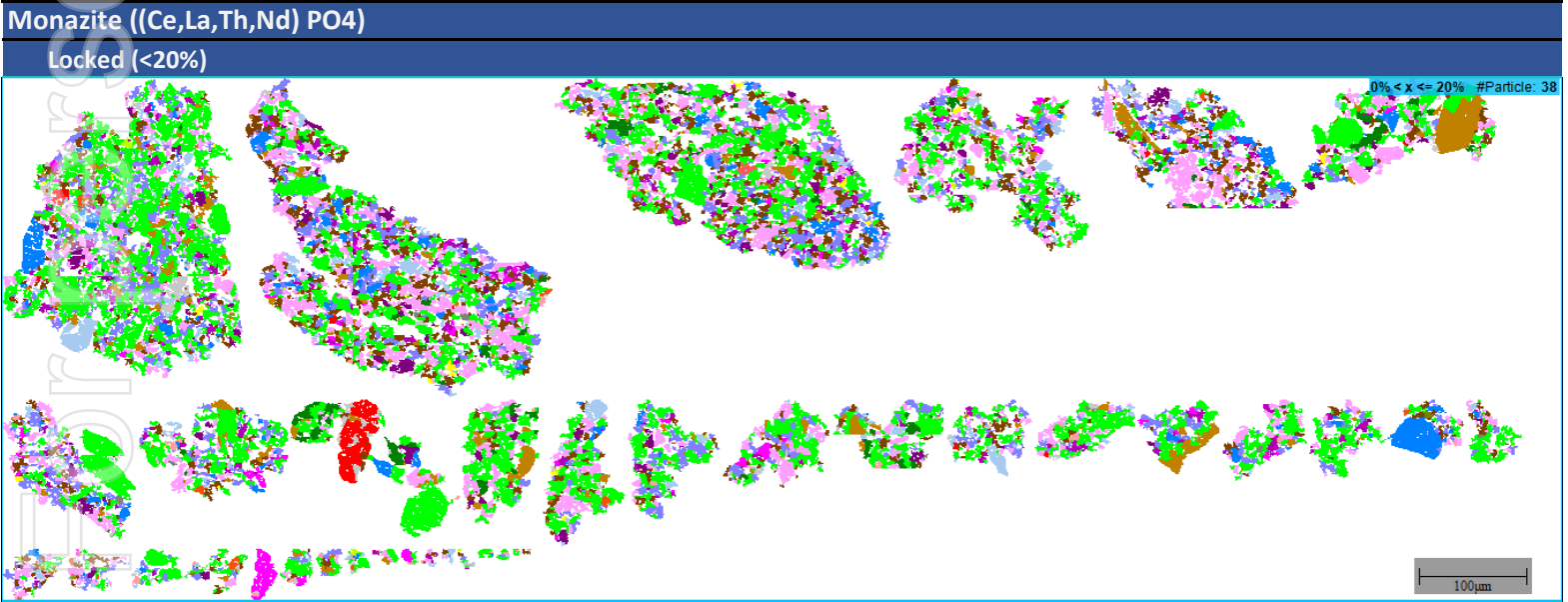
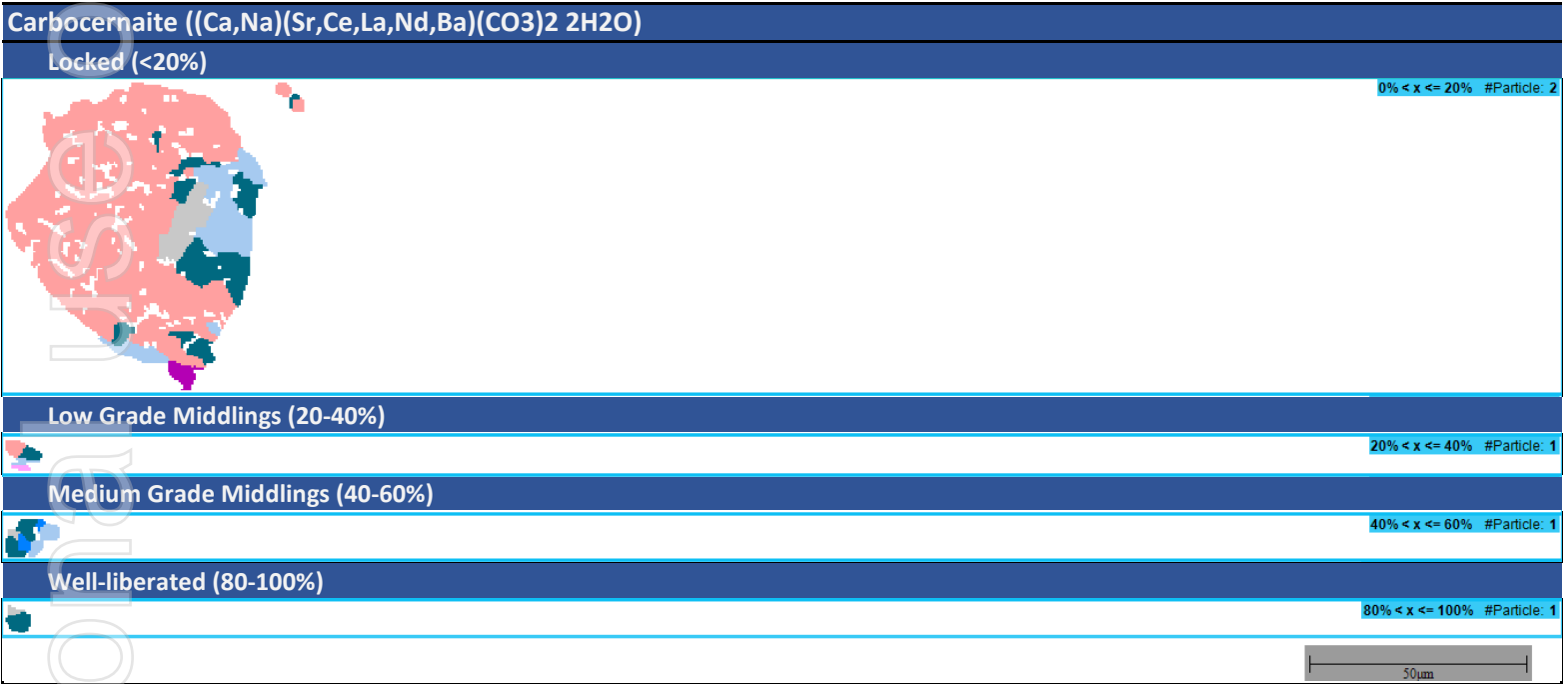
Apatite ($\text{Ca}_{5-x}(\text{Ce}, \text{Nd})_x(\text{PO}_4)_3(\text{F}, \text{Cl}, \text{OH})$)

Locked (<20%)





Liberation Class Particle Image





Liberation Class Particle Image

Low Grade Middlings (20-40%)



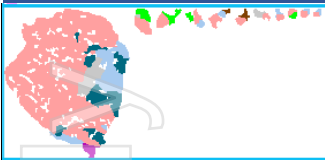
20% < x <= 40% #Particle: 4

Medium Grade Middlings (40-60%)



40% < x <= 60% #Particle: 2

High Grade Middlings (60-80%)

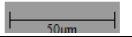


60% < x <= 80% #Particle: 11

Well-liberated (80-100%)



80% < x <= 100% #Particle: 23

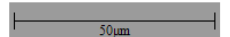


Zircon ((Zr,Hf)SiO₄)

Locked (<20%)



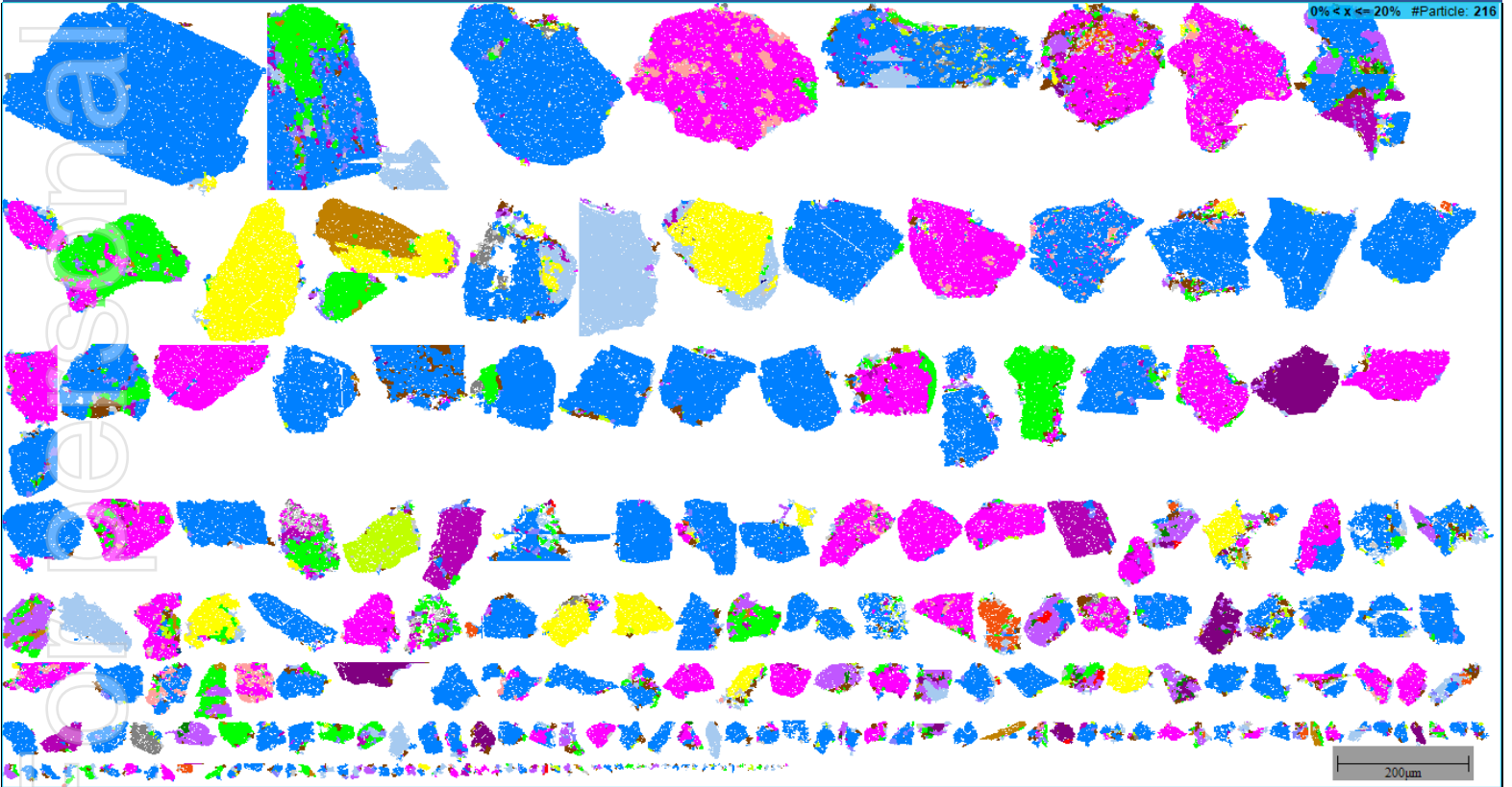
0% < x <= 20% #Particle: 1



LNCS Composite_HG

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH))

Locked (<20%)





Liberation Class Particle Image

Low Grade Middlings (20-40%)

20% < x <= 40% #Particle: 68

Medium Grade Middlings (40-60%)

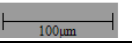
40% < x <= 60% #Particle: 40

High Grade Middlings (60-80%)

60% < x <= 80% #Particle: 33

Well-liberated (80-100%)

80% < x <= 100% #Particle: 83



Apatite ($\text{Ca}_{5-x}(\text{Ce}, \text{Nd})_x(\text{PO}_4)_3(\text{F}, \text{Cl}, \text{OH})$)

Locked (<20%)

0% < x <= 20% #Particle: 141

Low Grade Middlings (20-40%)

20% < x <= 40% #Particle: 43

Medium Grade Middlings (40-60%)

40% < x <= 60% #Particle: 41



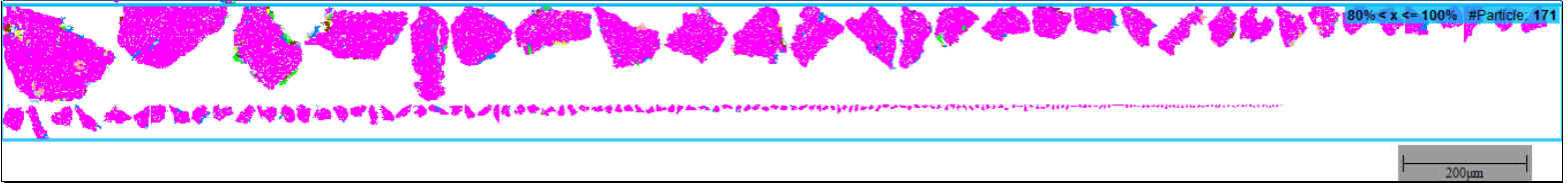
High Grade Middlings (60-80%)

60% < x <= 80% #Particle: 52



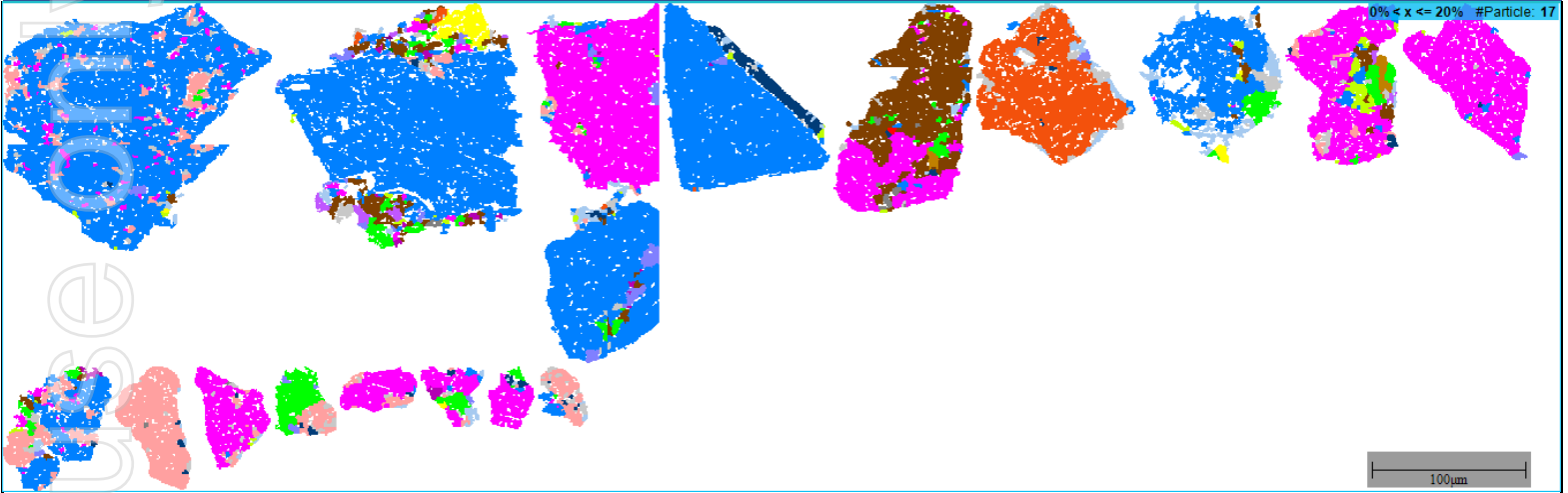
Liberation Class Particle Image

Well-liberated (80-100%)



Carbocernaite ((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO₃)₂·2H₂O)

Locked (<20%)



Low Grade Middlings (20-40%)

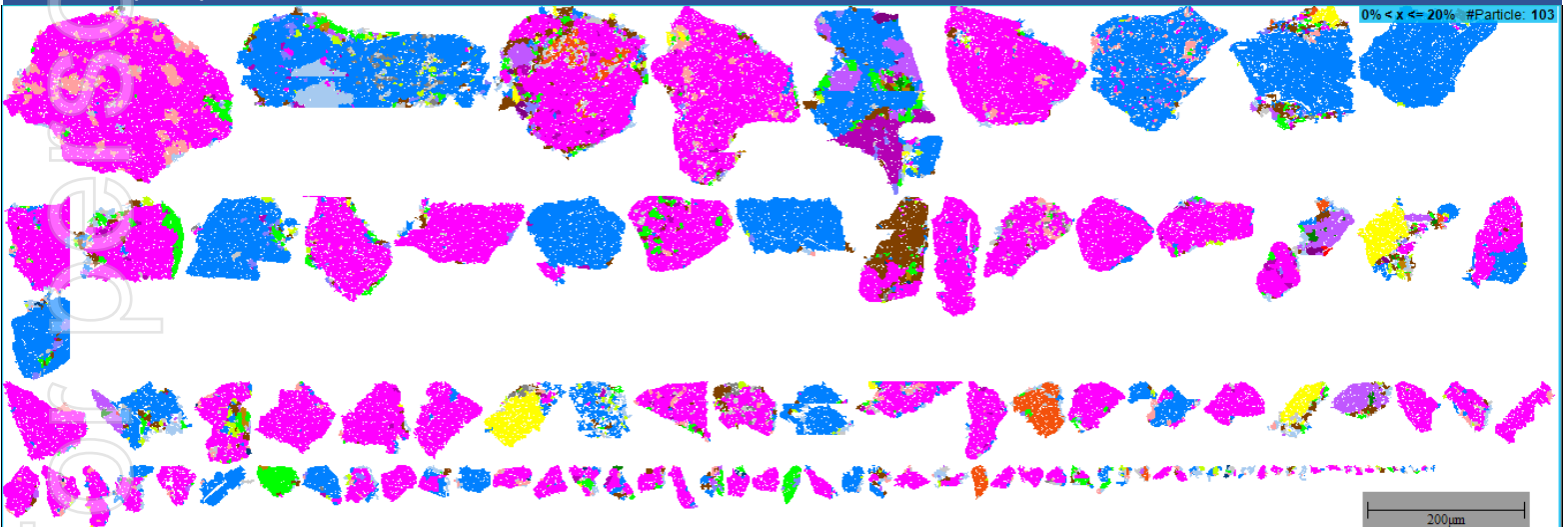


Medium Grade Middlings (40-60%)



Monazite ((Ce,La,Th,Nd) PO₄)

Locked (<20%)





Liberation Class Particle Image

Low Grade Middlings (20-40%)



20% < x <= 40% #Particle: 14

Medium Grade Middlings (40-60%)



40% < x <= 60% #Particle: 18

High Grade Middlings (60-80%)

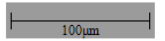


60% < x <= 80% #Particle: 13

Well-liberated (80-100%)



80% < x <= 100% #Particle: 38



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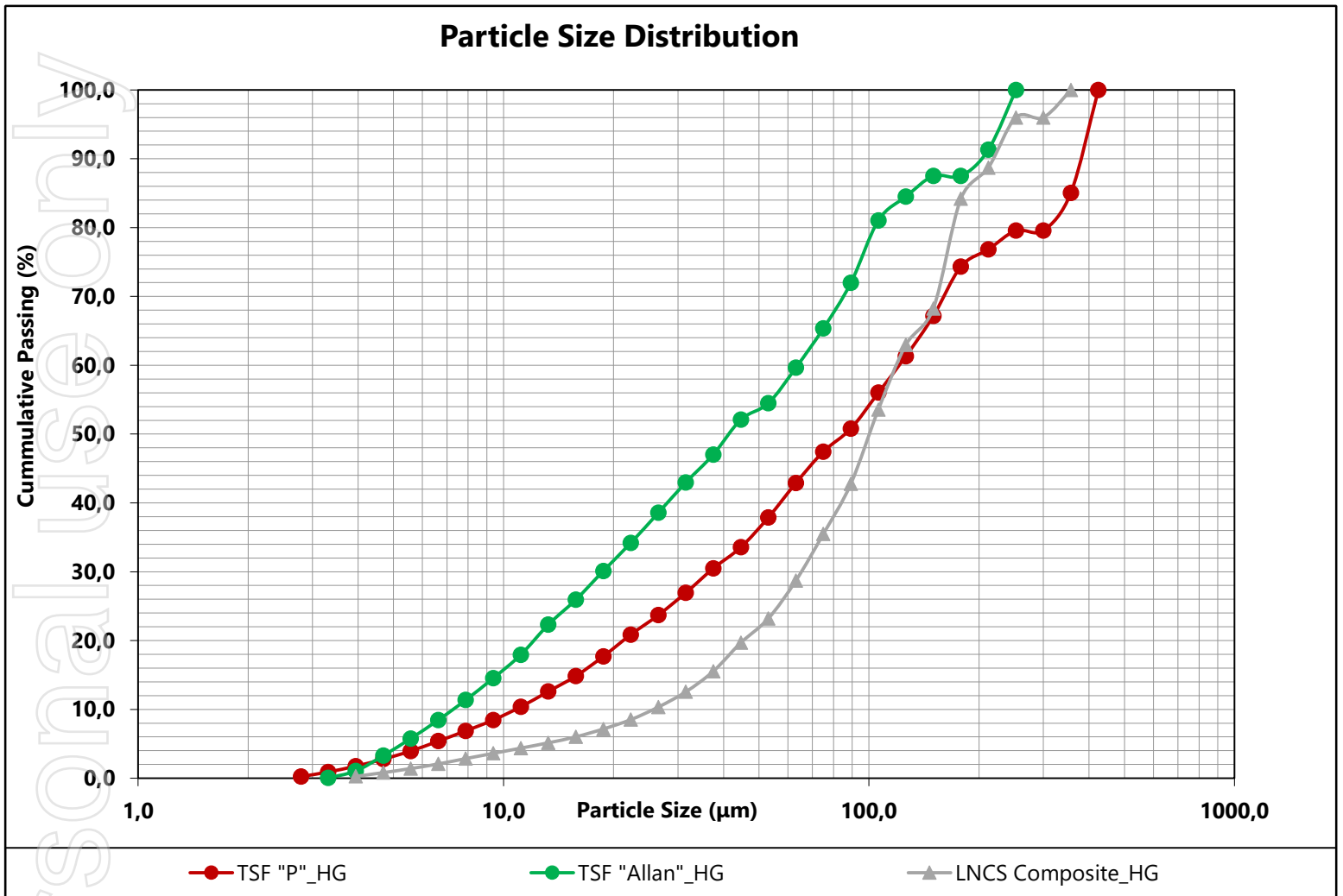
Mineralogical Report - Size Distribution

| Size | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|-------|-------------|-----------------|-------------------|
| 424,3 | 100,0 | | |
| 356,8 | 85,1 | | 100,0 |
| 300,0 | 79,6 | | 96,0 |
| 252,3 | 79,6 | 100,0 | 96,0 |
| 212,1 | 76,8 | 91,3 | 88,7 |
| 178,4 | 74,3 | 87,5 | 84,2 |
| 150,0 | 67,2 | 87,5 | 68,3 |
| 126,1 | 61,3 | 84,5 | 63,0 |
| 106,1 | 56,0 | 81,0 | 53,6 |
| 89,2 | 50,8 | 72,0 | 42,8 |
| 75,0 | 47,5 | 65,4 | 35,5 |
| 63,1 | 42,9 | 59,6 | 28,7 |
| 53,0 | 37,9 | 54,5 | 23,2 |
| 44,6 | 33,6 | 52,1 | 19,7 |
| 37,5 | 30,5 | 47,0 | 15,5 |
| 31,5 | 26,9 | 43,0 | 12,6 |
| 26,5 | 23,7 | 38,6 | 10,3 |
| 22,3 | 20,9 | 34,2 | 8,5 |
| 18,8 | 17,7 | 30,1 | 7,2 |
| 15,8 | 14,8 | 25,9 | 6,0 |
| 13,3 | 12,6 | 22,3 | 5,1 |
| 11,2 | 10,4 | 17,9 | 4,4 |
| 9,4 | 8,5 | 14,6 | 3,6 |
| 7,9 | 6,9 | 11,4 | 2,9 |
| 6,6 | 5,4 | 8,5 | 2,1 |
| 5,6 | 3,9 | 5,8 | 1,4 |
| 4,7 | 2,8 | 3,3 | 0,8 |
| 3,9 | 1,8 | 1,0 | 0,3 |
| 3,3 | 0,9 | 0,1 | |
| 2,8 | 0,2 | | |



Mineralogical Report - Size Distribution

| P-Value | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
|---------|------------|----------------|-------------------|
| P-80 | 304,5 | 104,2 | 170,9 |
| P-50 | 85,8 | 41,7 | 100,5 |
| P-20 | 21,3 | 12,1 | 45,4 |



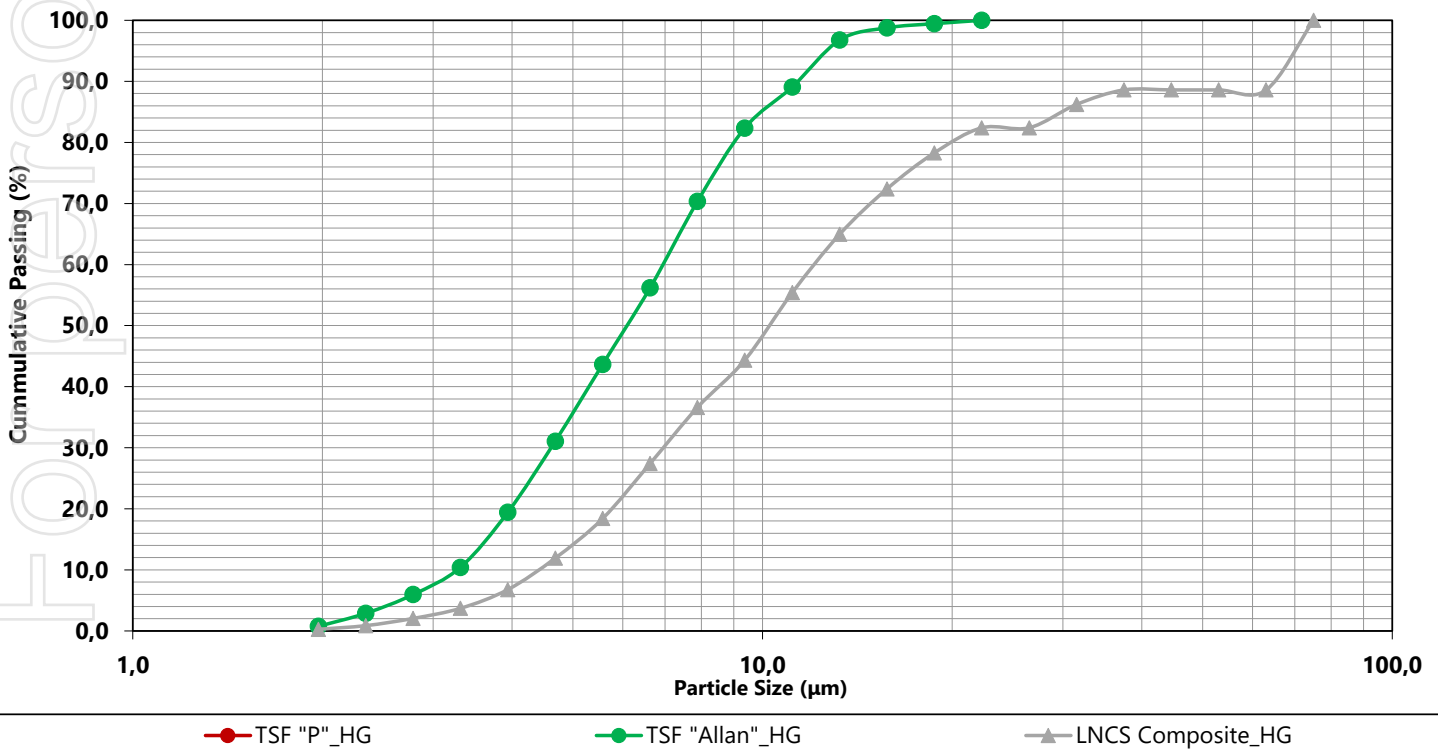


Mineralogical Report - Mineral of Interest Grain Size

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe₃₊)₃(SiO₄)₃(OH))

| Size | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|---------|-------------|-----------------|-------------------|
| 75,0 | | | 100,0 |
| 63,1 | | | 88,6 |
| 53,0 | | | 88,6 |
| 44,6 | | | 88,6 |
| 37,5 | | | 88,6 |
| 31,5 | | | 86,2 |
| 26,5 | | | 82,4 |
| 22,3 | | 100,0 | 82,4 |
| 18,8 | | 99,5 | 78,3 |
| 15,8 | | 98,8 | 72,4 |
| 13,3 | | 96,8 | 65,0 |
| 11,1 | | 89,1 | 55,4 |
| 9,4 | | 82,4 | 44,4 |
| 7,9 | | 70,3 | 36,6 |
| 6,6 | | 56,2 | 27,4 |
| 5,6 | | 43,7 | 18,4 |
| 4,7 | | 31,1 | 11,9 |
| 3,9 | | 19,5 | 6,8 |
| 3,3 | | 10,4 | 3,7 |
| 2,8 | | 6,0 | 2,1 |
| 2,3 | | 2,9 | 0,9 |
| 2,0 | | 0,8 | 0,3 |
| P-Value | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| P-80 | | 9,1 | 20,2 |
| P-50 | | 6,1 | 10,3 |
| P-20 | | 4,0 | 5,8 |

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe₃₊)₃(SiO₄)₃(OH)) Size Distribution





Mineralogical Report - Mineral of Interest Grain Size

Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH))

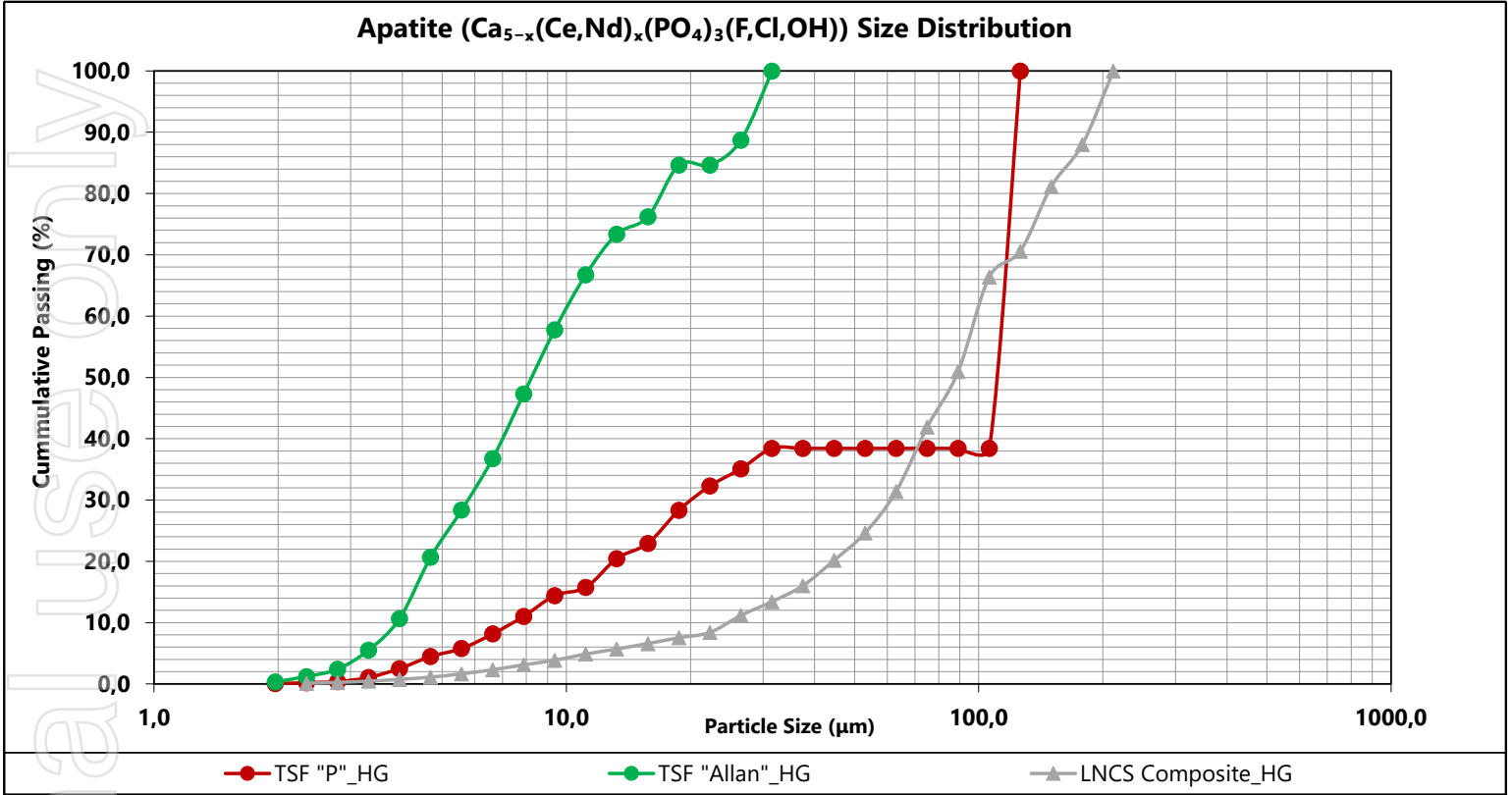
| Size | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite _HG |
|-------|-------------|-----------------|--------------------|
| 212,1 | | | 100,0 |
| 178,4 | | | 88,0 |
| 150,0 | | | 81,2 |
| 126,1 | 100,0 | | 70,6 |
| 106,1 | 38,4 | | 66,4 |
| 89,2 | 38,4 | | 51,0 |
| 75,0 | 38,4 | | 41,9 |
| 63,1 | 38,4 | | 31,4 |
| 53,0 | 38,4 | | 24,6 |
| 44,6 | 38,4 | | 20,2 |
| 37,5 | 38,4 | | 16,0 |
| 31,5 | 38,4 | 100,0 | 13,4 |
| 26,5 | 35,1 | 88,7 | 11,2 |
| 22,3 | 32,3 | 84,7 | 8,4 |
| 18,8 | 28,3 | 84,7 | 7,5 |
| 15,8 | 22,9 | 76,2 | 6,6 |
| 13,3 | 20,5 | 73,4 | 5,7 |
| 11,1 | 15,8 | 66,8 | 4,9 |
| 9,4 | 14,4 | 57,8 | 3,9 |
| 7,9 | 11,0 | 47,3 | 3,1 |
| 6,6 | 8,2 | 36,8 | 2,3 |
| 5,6 | 5,8 | 28,4 | 1,7 |
| 4,7 | 4,5 | 20,7 | 1,1 |
| 3,9 | 2,5 | 10,7 | 0,7 |
| 3,3 | 1,0 | 5,5 | 0,5 |
| 2,8 | 0,4 | 2,4 | 0,2 |
| 2,3 | 0,2 | 1,2 | 0,1 |
| 2,0 | 0,1 | 0,4 | |

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Mineralogical Report - Mineral of Interest Grain Size

| P-Value | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|---------|-------------|-----------------|-------------------|
| P-80 | 119,6 | 17,1 | 147,4 |
| P-50 | 109,8 | 8,3 | 87,6 |
| P-20 | 13,0 | 4,6 | 44,3 |



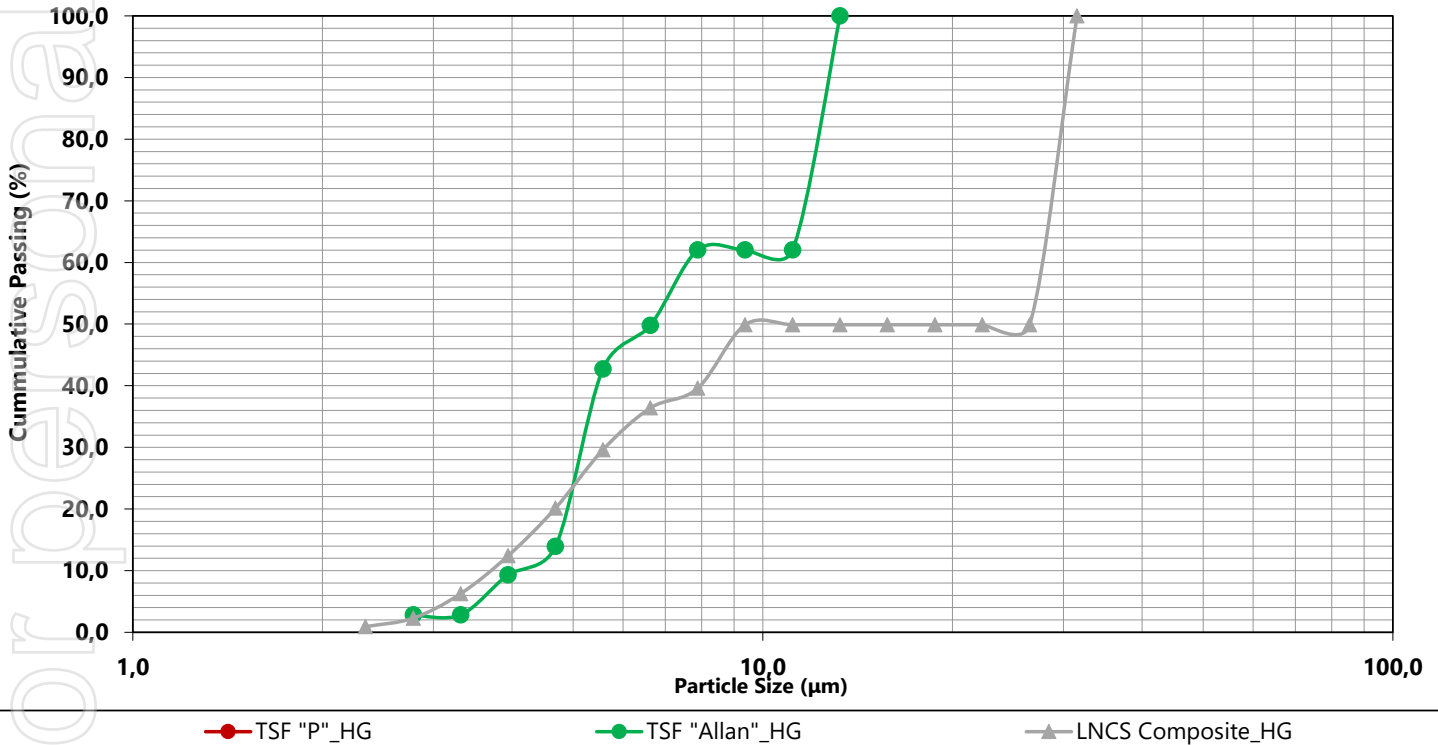


Mineralogical Report - Mineral of Interest Grain Size

Carbocernaite ((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO₃)₂ 2H₂O)

| Size | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|---------|-------------|-----------------|-------------------|
| 31,5 | | | 100,0 |
| 26,5 | | | 49,9 |
| 22,3 | | | 49,9 |
| 18,8 | | | 49,9 |
| 15,8 | | | 49,9 |
| 13,3 | | 100,0 | 49,9 |
| 11,1 | | 62,0 | 49,9 |
| 9,4 | | 62,0 | 49,9 |
| 7,9 | | 62,0 | 39,6 |
| 6,6 | | 49,8 | 36,4 |
| 5,6 | | 42,7 | 29,6 |
| 4,7 | | 13,9 | 20,2 |
| 3,9 | | 9,3 | 12,4 |
| 3,3 | | 2,8 | 6,3 |
| 2,8 | | 2,8 | 2,3 |
| 2,3 | | | 0,9 |
| P-Value | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| P-80 | | 12,2 | 29,5 |
| P-50 | | 6,7 | 26,5 |
| P-20 | | 4,9 | 4,7 |

Carbocernaite ((Ca,Na)(Sr,Ce,La,Nd,Ba)(CO₃)₂ 2H₂O) Size Distribution



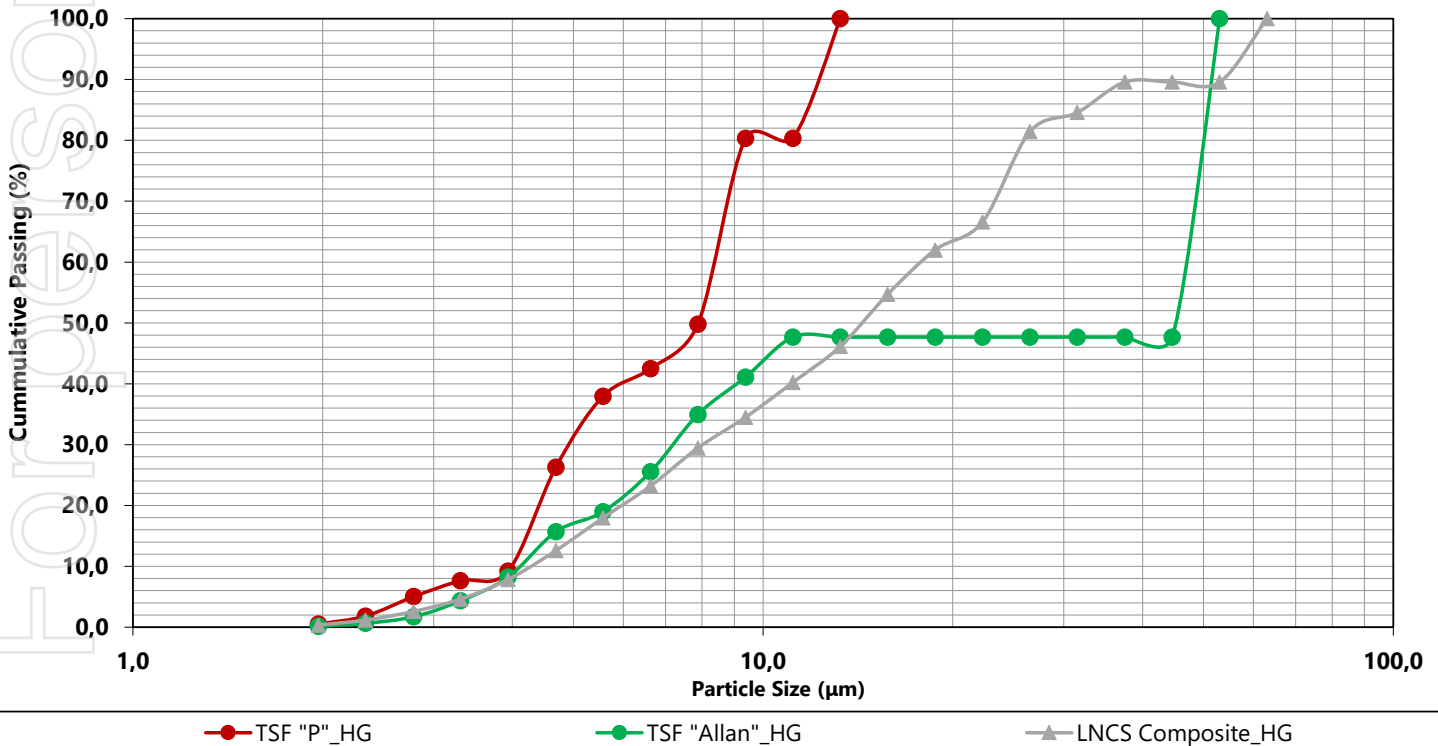


Mineralogical Report - Mineral of Interest Grain Size

Monazite ((Ce,La,Th,Nd) PO₄)

| Size | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|---------|-------------|-----------------|-------------------|
| 63,1 | | | 100,0 |
| 53,0 | | 100,0 | 89,6 |
| 44,6 | | 47,7 | 89,6 |
| 37,5 | | 47,7 | 89,6 |
| 31,5 | | 47,7 | 84,6 |
| 26,5 | | 47,7 | 81,4 |
| 22,3 | | 47,7 | 66,6 |
| 18,8 | | 47,7 | 62,0 |
| 15,8 | | 47,7 | 54,7 |
| 13,3 | 100,0 | 47,7 | 46,2 |
| 11,2 | 80,3 | 47,7 | 40,2 |
| 9,4 | 80,3 | 41,1 | 34,5 |
| 7,9 | 49,8 | 35,0 | 29,5 |
| 6,6 | 42,5 | 25,6 | 23,2 |
| 5,6 | 37,9 | 19,0 | 18,0 |
| 4,7 | 26,3 | 15,7 | 12,6 |
| 3,9 | 9,2 | 8,2 | 7,8 |
| 3,3 | 7,6 | 4,3 | 4,6 |
| 2,8 | 5,0 | 1,7 | 2,6 |
| 2,3 | 1,8 | 0,6 | 1,2 |
| 2,0 | 0,5 | 0,2 | 0,4 |
| P-Value | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| P-80 | 9,4 | 49,8 | 26,1 |
| P-50 | 7,9 | 45,0 | 14,4 |
| P-20 | 4,4 | 5,7 | 6,0 |

Monazite ((Ce,La,Th,Nd) PO₄) Size Distribution



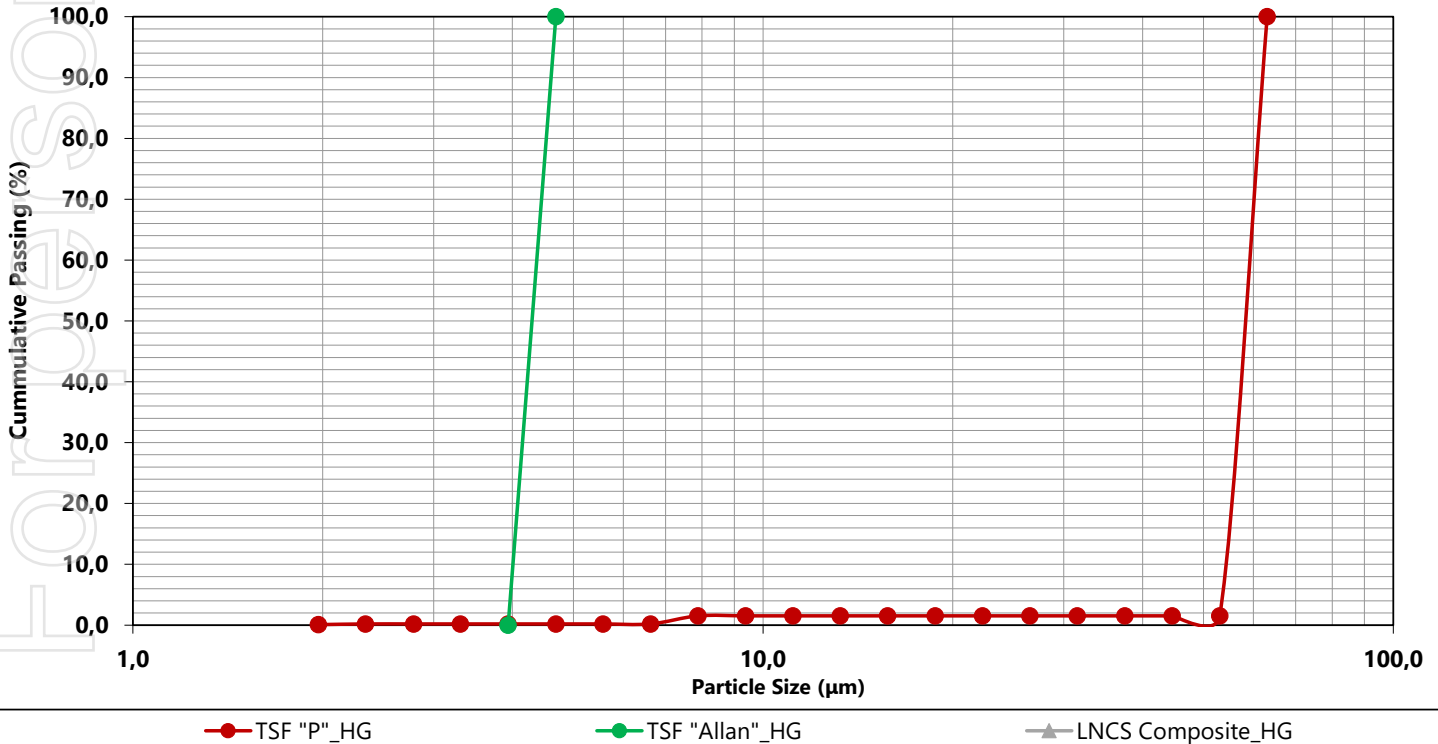


Mineralogical Report - Mineral of Interest Grain Size

Zircon ((Zr,Hf)SiO₄)

| Size | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
|---------|-------------|-----------------|-------------------|
| 63,1 | 100,0 | | |
| 53,0 | 1,5 | | |
| 44,6 | 1,5 | | |
| 37,5 | 1,5 | | |
| 31,5 | 1,5 | | |
| 26,5 | 1,5 | | |
| 22,3 | 1,5 | | |
| 18,8 | 1,5 | | |
| 15,8 | 1,5 | | |
| 13,3 | 1,5 | | |
| 11,2 | 1,5 | | |
| 9,4 | 1,5 | | |
| 7,9 | 1,5 | | |
| 6,6 | 0,2 | | |
| 5,6 | 0,2 | | |
| 4,7 | 0,2 | 100,0 | |
| 3,9 | 0,2 | | |
| 3,3 | 0,2 | | |
| 2,8 | 0,2 | | |
| 2,3 | 0,2 | | |
| 2,0 | 0,1 | | |
| P-Value | TSF "P" _HG | TSF "Allan" _HG | LNCS Composite_HG |
| P-80 | 61,0 | 4,5 | |
| P-50 | 58,0 | 4,3 | |
| P-20 | 54,9 | 4,1 | |

Zircon ((Zr,Hf)SiO₄) Size Distribution





Mineralogical Report - Glossary

Scanning Electron Microscope (SEM)

An electron based mineralogical measurement technique. This method is also supported by Energy Dispersive Spectrometry (EDS), which emits x-ray to define pointed mineral based on the chemical composition.

Mineral Liberation Analysis (MLA)

The Mineral Liberation Analyzer (MLA) is an automated mineral analysis system that can identify minerals in polished sections of drill core, particulate or lump materials, and quantify a wide range of mineral characteristics, such as mineral abundance, grain size and liberation. Mineral texture and liberation potential are fundamental properties of ore and drive its economic treatment; the data gathered by the MLA is therefore invaluable to geologists, mineralogists. At PT. Geoservices, the MLA software is Advance Mineralogical Identification Characterization System (AMICS) by Bruker.

Backscattered Electron (BSE)

BSE come from the deeper regions of the sample. BSE images show high sensitivity to differences in atomic number, The higher the atomic number, the brighter the image appears in the image.

Particle Mineral Analysis (PMA)

This analysis provides mineral composition (including non-sulfide gangue), element mineral department, and mineral fragmentation characteristics (liberation and association). The analysis normally performed on each fraction of sized samples, typically four fractions per sample.

Bulk Mineral Analysis

Rapid line scan analysis in one direction only to provide good statistics on bulk mineralogy. This measurement type not measure full sample area, only intersection lines. BMA is very fast mode. It provides modal mineralogy, calculated assay, estimated particle, grain size, and mineral association data.

Trace Mineral Search

Detailed particle mineralogical information on trace mineral (e.g. precious metals, penalty minerals, and other mineral of interest). This analysis provides mineral liberation, association, and grain size of target minerals.

Specific Mineral Search

Detailed particle mineralogical information on only specific Minerals of Interest (Mol).

Field Scan

Detailed mapping of larger samples (e.g. thin sections).

Modal Mineralogy

The bulk mineralogical composes the sample. Each analysed mineral provides the weight % (wt%) which is calculated from measurement area and uses average mineral densities. The presented mineralogy is in semi-quantitative manner and each minerals are classified by their spectra.

Assay Reconciliation

A comparison between chemical assay and AMICS assay as data validation.

Elemental Map

Distribution of selected element on several grain at certain area. Each elements will be distinguished based on software-based color. This mode is available on Esprit 2.1 software by Bruker.

Elemental Department

Quantify the average distribution of specific elements among the targeted minerals with several common gangue minerals on the sample. The elemental department is also compared to chemical assay as data validation.

Mineral Association

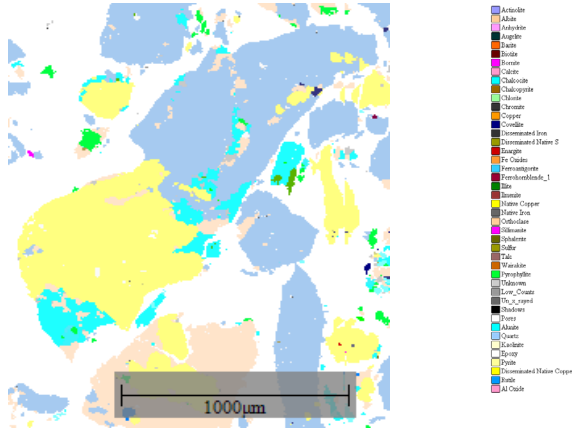
A spatial relationship measurement in terms of shared grain boundaries and mineral association refers to adjacency. Two minerals are "associated" if a pixel of one of the minerals occurs adjacent to a pixel of the other mineral. In this report association takes into account both vertically- and horizontally-adjacent pixels.

Particle

An aggregate of mineral grains. One particle may contain more than one mineral. On the other hand, grain is an individual mineral. A particle usually refers to a fragment of a rock or ore, the size of which is dependent on crushing and milling conditions .

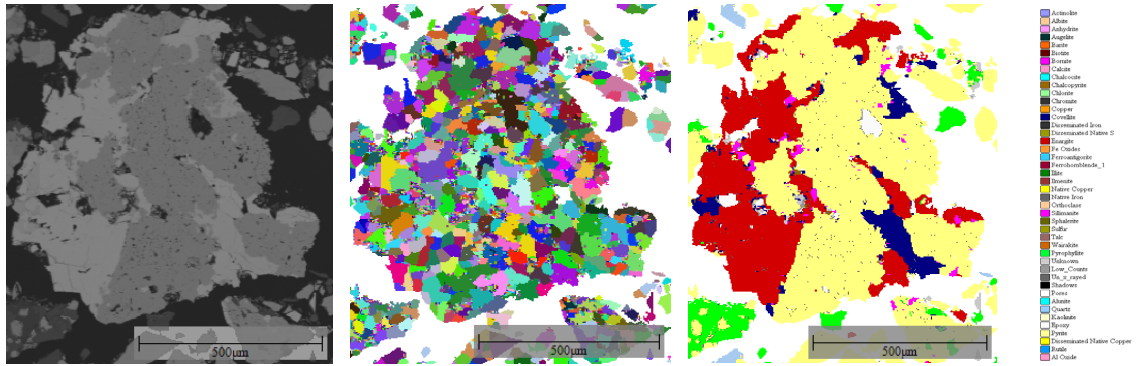


Mineralogical Report - Glossary



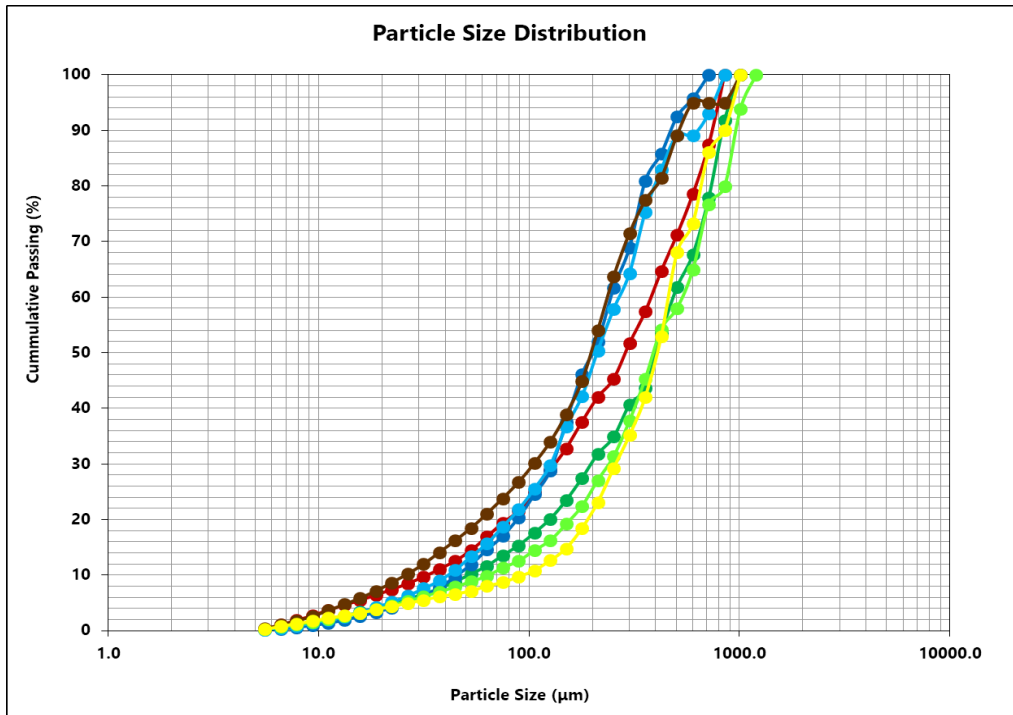
Segmented

Segmented data is an individual data based BSE color similarities. One mineral grain contains several segmented area.



Grain Size

The calculated grain size distribution is presented as cumulative curves. The cumulative weight percentage of grains less than a given grain size for each size fraction is plotted against the logarithm of the particle size



Mineral Image

False color images of certain mineral distribution. The images are determined by the user.



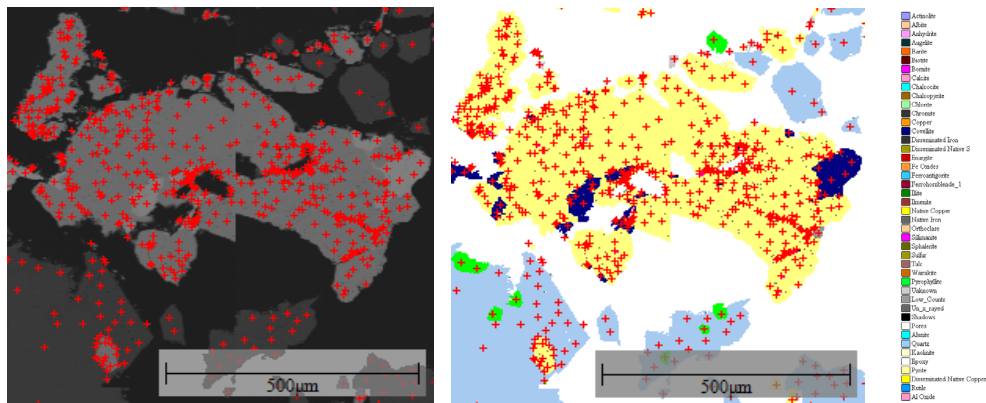
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Mineral Grouping

Several minerals which have the main mineral with one or more attached elements/ minerals. The main mineral has the most intense spectra than the attached element. The group name is based on the most intense mineral presences according to spectra peaks.

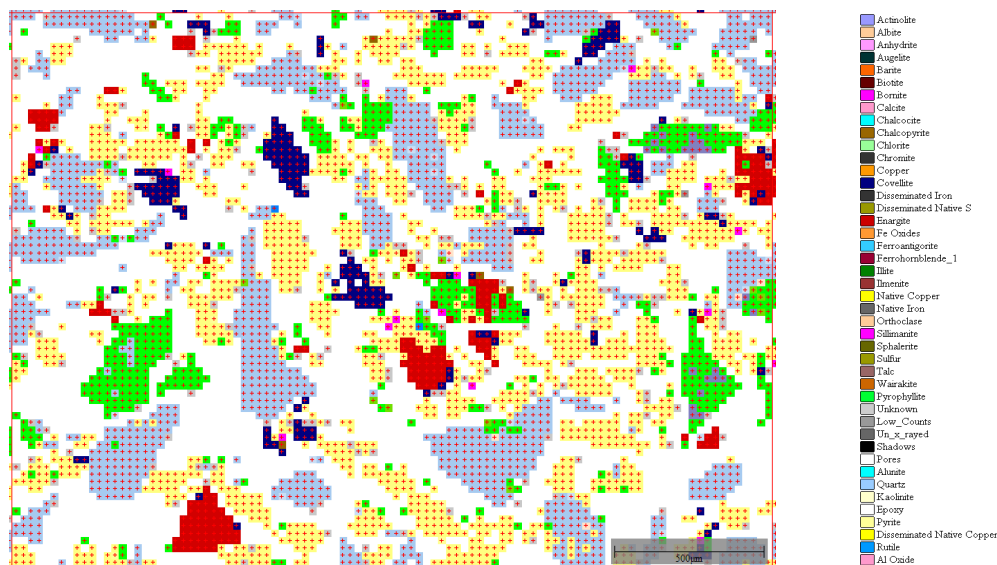
Particle Mode

AMICS measurement mode distinguished by certain mineral BSE level. Different BSE level will be subjected by the x-ray. One x-ray will classify one boundary which has similar BSE level and determine it as a certain mineral. This measurement mode provides a faster scanning mode.



Mapping Mode

A grid-based measurement mode in AMICS. The x-ray will be subjected to each minerals and scanned based on certain x-ray spacing. The x-ray is also subjected to certain mineral based on their boundaries, therefore epoxy will not be scanned. The result is a pixel-like image. This scanning mode consumes longer measurement time, however it provides more detailed result.



Mineral Liberation

The Mineral liberation examines mineral composition on a particle by particle basis. It focuses on the mineral of interest liberation degree. It is calculated according to one of two methods, using area % or surface area% that the target mineral occupies within the particle.

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Mineral Locking

It describes the association of minerals (not necessarily adjacent minerals). Mineral locking is also related to the number of particle locked to Mineral of Interest (Mol), including "binary" (more than 2 minerals attached to Mol) and "ternary" (more than 3 minerals attached to Mol). On the other hand, "liberated" implies for non-locking condition of Mol to other minerals.

Locked

In the context of this report, a mineral of interest is considered locked when the surface area % of the mineral over the total particle is $\leq 20\%$.

Exposed

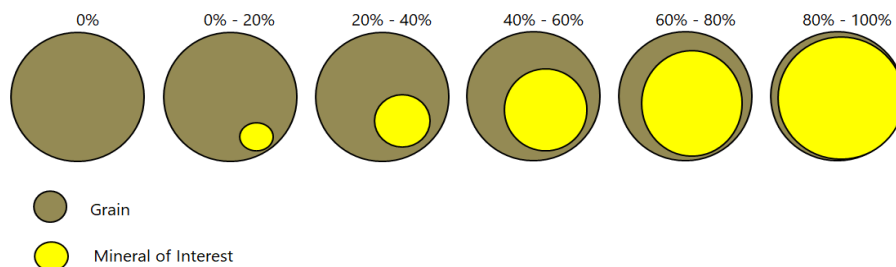
A mineral/grain/particle is considered to be an exposed particle when the surface area% of the mineral of interest in that particle falls between 20 and 80% area%/surface area%.

Liberated

In the context of this report a particle containing > 80 surface area % of the mineral of interest is considered "liberated". The set limit might vary depending on the mineral or process used to treat it. Gold only has to be in contact with the leach medium and thus only needs to be exposed.

Liberation Classes

The classification of targeted mineral (mineral of interest) based on the degree of liberation. It divided into five classes. "Well Liberated" refers to targeted mineral comprises between 80 and 100 % by surface area of the particle. "High Grade Middling" refers to targeted mineral comprises between 60 and 80 by surface area of the particle. "Medium Grade Middling" refers to targeted mineral comprises between 40 and 60 % by surface area of the particle. "Low Grade Middling" refers to targeted mineral comprises between 20 and 40 % by surface area of the particle. "Locked" refers to targeted mineral below 20 % by surface area of the particle.



Size Distribution

Describes list of the particles/grains size and its cumulative percentage. Graph are plotted in logarithmic scale.



References

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- van Leeuwen, T. M. (1993). 25 Years of Mineral Exploration and Discovery in Indonesia. *Journal of Geochemical Exploration*, 13-90.
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APPENDICES



Mineralogical Report - Chemical Analysis

| SCHEME | ANALYTE CODE | DESCRIPTION | UNIT | D.L | TSF "P"_HG | TSF "Allan"_HG | LNCS Composite_HG |
|------------------|--------------|----------------------|------|------|------------|----------------|-------------------|
| MET_GAM04_MS_REE | Ce | Cerium | ppm | 0,1 | 2021,0 | 3853,5 | 8458,5 |
| MET_GAM04_MS_REE | Dy | Dysprosium | ppm | 0,05 | 34,20 | 65,60 | 143,95 |
| MET_GAM04_MS_REE | Er | Erbium | ppm | 0,03 | 10,60 | 18,35 | 45,05 |
| MET_GAM04_MS_REE | Eu | Europium | ppm | 0,02 | 45,30 | 83,10 | 186,35 |
| MET_GAM04_MS_REE | Gd | Gadolinium | ppm | 0,05 | 98,55 | 199,45 | 429,25 |
| MET_GAM04_MS_REE | Ho | Holmium | ppm | 0,01 | 4,15 | 8,30 | 18,20 |
| MET_GAM04_MS_REE | La | Lanthanum | ppm | 0,1 | 891,0 | 1550,8 | 3577,6 |
| MET_GAM04_MS_REE | Lu | Lutetium | ppm | 0,01 | 0,80 | 1,15 | 2,25 |
| MET_GAM04_MS_REE | Nb | Niobium | ppm | 0,05 | 48,05 | 40,30 | 35,90 |
| MET_GAM04_MS_REE | Nd | Neodymium | ppm | 0,1 | 1226,2 | 2420,8 | 5379,4 |
| MET_GAM04_MS_REE | Pr | Praseodymium | ppm | 0,02 | 299,65 | 588,65 | 1301,55 |
| MET_GAM04_MS_REE | Sc | Scandium | ppm | 0,5 | 15,0 | 8,8 | 7,0 |
| MET_GAM04_MS_REE | Sm | Samarium | ppm | 0,03 | 181,50 | 376,80 | 837,85 |
| MET_GAM04_MS_REE | Tb | Terbium | ppm | 0,01 | 9,25 | 16,40 | 36,85 |
| MET_GAM04_MS_REE | Th | Thorium | ppm | 0,05 | 89,45 | 178,90 | 354,15 |
| MET_GAM04_MS_REE | Tm | Thulium | ppm | 0,01 | 1,95 | 3,25 | 5,80 |
| MET_GAM04_MS_REE | U | Uranium | ppm | 0,05 | 53,25 | 147,05 | 235,90 |
| MET_GAM04_MS_REE | Y | Yttrium | ppm | 0,1 | 126,8 | 219,4 | 476,5 |
| MET_GAM04_MS_REE | Yb | Ytterbium | ppm | 0,03 | 5,35 | 9,90 | 18,90 |
| GOI04_ICP | Ba | Barium | % | 0,01 | 1,52 | 1,08 | 2,97 |
| MET_GAM04_MS | Ba | Barium | ppm | 10 | 16033 | 10861 | 29415 |
| MET_GAM04_MS | Cu | Copper | ppm | 0,2 | 50,0 | 52,0 | 118,1 |
| MET_GAM04_MS | Pb | Lead | ppm | 0,5 | 3268,2 | 6504,5 | 9260,8 |
| MET_GAM04_MS | Zn | Zinc | ppm | 2 | 269 | 250 | 1134 |
| MET_LECO_01 | S_TOT | Total Sulfur | % | 0,01 | 0,88 | 0,68 | 3,57 |
| MET_LECO_01 | C_TOT | Total Carbon | % | 0,01 | 1,71 | 1,28 | 7,06 |
| MET_XRFFWR | Al2O3 | Aluminium Oxide | % | 0,01 | 10,93 | 12,84 | 3,13 |
| MET_XRFFWR | BaO | Barium Oxide | % | 0,01 | 1,64 | 1,18 | 2,98 |
| MET_XRFFWR | CaO | Calcium Oxide | % | 0,01 | 9,40 | 7,11 | 33,82 |
| MET_XRFFWR | Cr2O3 | Chromium Dioxide | % | 0,01 | 0,09 | 0,09 | 0,09 |
| MET_XRFFWR | Fe2O3 | Iron (III) Oxide | % | 0,01 | 4,86 | 6,41 | 4,68 |
| MET_XRFFWR | K2O | Potassium Oxide | % | 0,01 | 4,04 | 3,82 | 0,86 |
| MET_XRFFWR | MgO | Magnesium Oxide | % | 0,01 | 4,98 | 7,60 | 1,75 |
| MET_XRFFWR | MnO | Manganese Oxide | % | 0,01 | 0,13 | 0,14 | 0,18 |
| MET_XRFFWR | Na2O | Sodium Oxide | % | 0,01 | 1,69 | 1,62 | 0,39 |
| MET_XRFFWR | P2O5 | Phosphorus Pentoxide | % | 0,01 | 1,23 | 1,44 | 6,72 |
| MET_XRFFWR | SiO2 | Silicon Dioxide | % | 0,01 | 49,70 | 45,87 | 13,60 |
| MET_XRFFWR | SO3 | Sulphur Trioxide | % | 0,01 | 1,42 | 0,68 | 7,79 |
| MET_XRFFWR | SrO | Strontium Oxide | % | 0,01 | 0,49 | 0,35 | 0,83 |
| MET_XRFFWR | TiO2 | Titanium Dioxide | % | 0,01 | 0,34 | 0,30 | 0,28 |
| MET_XRFFWR | LOI | Loss on Ignition | % | 0,01 | 7,53 | 8,30 | 17,18 |
| MET_XRFFWR | Sum | Sum of Oxides + LOI | % | 0,01 | 98,43 | 97,72 | 94,24 |

LOI



PT. GEOSERVICES - MINERALOGY LABORATORY

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MINERALOGY REPORT

SEM MINERALOGICAL TESTING

CIK.MET.02242E

Prepared for:
Bambra Oy

25 April 2025

"The Certification Logo's demonstrate that the laboratory has a Management System to ensure compliance to the System Standards.
The results contained in this report relate only to the sample(s) submitted for testing.
Geoservices – Mineralogy Laboratory accepts no responsibility for the representativeness of the sample(s) submitted for testing.

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Table of Contents

| | |
|-----------|--|
| 1 | Table of Contents |
| 2 | Disclaimer |
| 3 | Mineralogy Testing Summary |
| 4 | Introduction |
| 5 | SEM Mount Micrographs |
| 6 | SEM BSE Image |
| 7 | SEM Mineral Image |
| 8 | XRD Result |
| 9 | SEM AMICS Modal |
| 9.1 | Mineral Grouping |
| 10 | SEM Element Department & Reconciliation |
| 11 | SEM Mineral Locking |
| 11.1 | Mineral Locking Particle Image |
| 12 | SEM Mineral Liberation |
| 12.1 | Mineral Liberation Class Particle Image |
| 13 | SEM Size Distribution |
| 14 | SEM Mineral of Interest Grain Size |
| 15 | Glossary |
| 16 | References |
| 17 | Appendices |
| 17.1 | Chemical Assay |



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PT. Geoservices Ltd has performed the Mineralogy Services and prepared this Report based only upon the sample material that the Client provided to PT. Geoservices Ltd.

PT. Geoservices was not involved in:

- 1.....the drilling, collection or transportation of the sampels: and
- 2.....the handling of the samples prior to their delivery to Geoservices

The results presented in this report pertain only to the samples as received.



MINERALOGY TESTING SUMMARY

Samples

Two received samples from Bambra Oy. The samples contain various compositions of silicates, phosphates, sulfates, carbonates/nitrates, sulfides, and oxides/hydroxides. The Minerals of Interest (Mol) in the analysis are the REE-bearing minerals such as allanite, apatite, carbocearnite, monazite, and zircon. The element of interests are Ca, Ce, La, Nd, P and Si.

Drill Core "P" _SEM

The sample is composed mainly of two minerals: Calcite (36.3%) and Quartz (17.8%), as determined by the SEM automated mineralogy method. The sample also contains actinolite, orthoclase, albite, chlorite, and several other minor minerals. The observed Minerals of Interest (Mol) include allanite, apatite, carbocearnite, monazite, and zircon. The concentration of rare earth elements (REEs) in the sample is below 0.1%, with cerium (Ce) at 122 ppm, lanthanum (La) at 125 ppm, and neodymium (Nd) at 43 ppm. Calcium (17.0 wt%) is the dominant element in the assay and is primarily sourced from the calcite. Allanite is predominantly found in locked to low grade middlings. Carbocearnite also occurs mainly in low grade middlings. Monazite and zircon are entirely locked, while apatite is the only mineral in this sample found in a well-liberated condition, based on the liberation data.

Drill Core "Allan" _SEM

The sample is predominantly composed of calcite (47.4%), orthoclase (9.5%), quartz (9.0%), diopside (7.4%), barite (6.9%), and albite (5.6%). Minerals such as chlorite, actinolite, apatite, biotite, carbocearnite, galena, and others are present in amounts below 5%. The observed Minerals of Interest (Mol) include allanite, apatite, carbocearnite, and monazite. The concentration of rare earth elements (REEs) in this sample is higher than in Drill Core "P" _SEM, with cerium (Ce) at 4918 ppm, lanthanum (La) at 990 ppm, and neodymium (Nd) at 995 ppm. Calcium content is relatively high at 22.1 wt%, due to the presence of abundant calcite in the area captured by the AMICS. In contrast, the silicate content is lower (11.8 wt%), indicating low amount of quartz identified. Apatite is predominantly found in medium to high grade middlings. Zircon ranges from locked to low grade middlings, while allanite and monazite are entirely locked, based on the liberation data.

Modal Mineralogy Summary

SEM/ AMICS Modal Mineralogy

| No. | Mineralogy | | | Samples | |
|---------------|--|---------------|---------------------|---------------------|-------------------------|
| | Mineral Chemical Formula | Phase | Classification | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| 1 | Ca ₂ (Mg,Fe)5Si8O22(OH) ₂ | Actinolite | Silicates | 8,0 | 1,1 |
| 2 | NaAlSi3O8 | Albite | Silicates | 8,7 | 5,6 |
| 3 | (Ca,Ce,La,Nd,Y)2(Al,Fe3+)3(SiO4)3(OH) | Allanite | Silicates | | 0,7 |
| 4 | Ca _{5-x} (Ce,Nd) _x (PO ₄) ₃ (F,Cl,OH) | Apatite | Phosphates | 0,8 | 3,0 |
| 5 | BaSO ₄ | Barite | Sulfates | 0,4 | 6,9 |
| 6 | K Fe Mg ₂ (AlSi3O10)(OH) ₂ | Biotite | Silicates | 4,1 | 1,6 |
| 7 | CaCO ₃ | Calcite | Carbonates/Nitrates | 36,3 | 47,4 |
| 8 | (Ca,Na)(Sr,Ce,La,Nd,Ba)(CO ₃) ₂ 2H ₂ O | Carbocearnite | Carbonates/Nitrates | | 0,7 |
| 9 | (Mg,Fe) ₅ (Al,Si) ₅ O ₁₀ (OH) ₈ | Chlorite | Silicates | 5,4 | 3,7 |
| 10 | CaMg _{0.46} Fe _{0.52} Al _{0.60} Si _{1.42} O ₆ | Diopside | Silicates | 2,4 | 7,4 |
| 11 | PbS | Galena | Sulfides | 0,8 | 0,2 |
| 12 | KAl ₂ Si ₃ AlO ₁₀ (OH) ₂ | Illite | Silicates | 0,8 | 0,3 |
| 13 | Fe ₃ O ₄ | Magnetite | Oxides/Hydroxides | 0,8 | 0,8 |
| 14 | (Ce,La,Nd) PO ₄ | Monazite | Phosphates | | 0,2 |
| 15 | KAlSi3O8 | Orthoclase | Silicates | 8,6 | 9,5 |
| 16 | FeS ₂ | Pyrite | Sulfides | 1,7 | 0,8 |
| 17 | SiO ₂ | Quartz | Silicates | 17,8 | 9,0 |
| 18 | ZnS | Sphalerite | Sulfides | 1,7 | |
| 19 | (Zr,Hf)SiO ₄ | Zircon | Silicates | 0,2 | |
| 20 | Other Minerals | | | 1,3 | 1,0 |
| Total: | | | | 100,0 | 100,0 |

XRD Modal Mineralogy

| No. | Mineralogy | | | Samples | |
|---------------|--|---------------|-------------------|---------------------|-------------------------|
| | Mineral Chemical Formula | Phase | Classification | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| 1 | NaAlSi3O8 | Albite | Silicates | 11,9 | 16,9 |
| 2 | (CeLa)(AlAlFe2+)O[Si2O7][SiO4](OH) | Allanite | Silicates | 0,5 | 4,1 |
| 3 | Ca ₅ (PO ₄) ₃ (Cl/F/OH) | Apatite | Phosphates | 2,0 | 0,5 |
| 4 | BaSO ₄ | Barite | Sulfates | 5,5 | 1,0 |
| 5 | K Fe Mg ₂ (AlSi3O10)(OH) ₂ | Biotite | Silicates | 1,9 | 1,3 |
| 6 | CaCO ₃ | Calcite | Carbonates | 35,5 | 3,4 |
| 7 | (Ca,Na)(Sr,Ce,Ba)(CO ₃) ₂ | Carbocearnite | Carbonates | 1,0 | 1,2 |
| 8 | (Mg,Fe) ₅ (Al,Si) ₅ O ₁₀ (OH) ₈ | Chlorite | Silicates | 3,9 | 6,8 |
| 9 | CaMg(SiO ₃) ₂ | Diopside | Silicates | 5,1 | 31,8 |
| 10 | H ₂ NaCa ₂ (Mg,Fe)4Al ₃ Si ₆ O ₂₄ | Hornblende | Silicates | 0,7 | 6,2 |
| 11 | (K,H ₃ O)(Al,Mg,Fe) ₂ (Si,Al) ₄ O ₁₀ [(OH) ₂ ,(H ₂ O)] | Illite | Silicates | | 5,9 |
| 12 | Fe ₃ O ₄ | Magnetite | Oxides/Hydroxides | 1,8 | 0,7 |
| 13 | (Ce,La,Th,Nd) PO ₄ | Monazite | Phosphates | | 0,6 |
| 14 | KAlSi3O8 | Orthoclase | Silicates | 18,5 | 14,7 |
| 15 | FeS ₂ | Pyrite | Sulfides | 1,0 | 2,0 |
| 16 | SiO ₂ | Quartz | Silicates | 10,7 | 3,0 |
| Total: | | | | 100,0 | 100,0 |



MINERALOGY TESTING SUMMARY

Chemical Assay - AMICS

| No. | Sample | Element | | | | | |
|-----|------------------------|---------|-----|-----|-----|-----|------|
| | | Ca | Ce | La | Nd | P | Si |
| 1 | Drill Core "P"_SEM | 17,0 | | | | 0,2 | 18,0 |
| 2 | Drill Core "Allan"_SEM | 22,1 | 0,5 | 0,1 | 0,1 | 0,6 | 11,8 |

Element Department

| No. | Element | Mineral | | Samples | |
|-----|---------|--------------|----------------|--------------------|------------------------|
| | | Abbreviation | Mineral Phase | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| 1 | Ca | Act | Actinolite | 1,4 | 0,1 |
| 2 | | Aln | Allanite | | 0,2 |
| 3 | | Ap | Apatite | 0,3 | 1,2 |
| 4 | | Cal | Calcite | 14,6 | 19,0 |
| 5 | | Cbc | Carbocernaite | | 0,1 |
| 6 | | Di_Fe | Diopside | 0,4 | 1,3 |
| 7 | | Om | Other minerals | 0,3 | 0,1 |
| 8 | Ce | Aln | Allanite | | 0,2 |
| 9 | | Cbc | Carbocernaite | | 0,2 |
| 10 | | Mnz | Monazite | | 0,1 |
| 11 | | Om | Other minerals | | |
| 12 | La | Om | Other minerals | | 0,1 |
| 13 | Nd | Cbc | Carbocernaite | | 0,1 |
| 14 | | Om | Other minerals | | |
| 15 | P | Ap | Apatite | 0,2 | 0,6 |
| 16 | | Om | Other minerals | | |
| 17 | Si | Act | Actinolite | 2,0 | 0,3 |
| 18 | | Ab | Albite | 2,6 | 1,7 |
| 19 | | Aln | Allanite | | 0,1 |
| 20 | | Bt | Biotite | 0,8 | 0,3 |
| 21 | | Chl | Chlorite | 0,7 | 0,5 |
| 22 | | Di_Fe | Diopside | 0,6 | 1,9 |
| 23 | | Ill | Illite | 0,2 | 0,1 |
| 24 | | Or | Orthoclase | 2,6 | 2,6 |
| 25 | | Qz | Quartz | 8,3 | 4,2 |
| 26 | | Om | Other minerals | 0,2 | 0,2 |

Mineral Locking

| No. | Sample Code | Condition | Mineral of Interest | | | | |
|-----|------------------------|-----------|---------------------|---------|---------------|----------|--------|
| | | | Allanite | Apatite | Carbocernaite | Monazite | Zircon |
| 1 | Drill Core "P"_SEM | Liberated | | 1,0 | | | |
| | | Binary | 32,4 | 3,4 | | 13,7 | |
| | | Ternary | 67,6 | 95,5 | 100,0 | 86,3 | 100,0 |
| 2 | Drill Core "Allan"_SEM | Liberated | 5,7 | 1,0 | 0,1 | | |
| | | Binary | 6,0 | 3,3 | | 1,0 | |
| | | Ternary | 88,3 | 95,7 | 99,9 | 99,0 | |

Mineral of Interest Liberation

| Allanite | | | | | | |
|---------------|------------------------|--------------|--------------------|--|------------------------|--|
| No. | Liberation Classes | Surface Area | Sample | | | |
| | | | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
| 1 | Locked | < 20% | 59,2 | | 71,9 | |
| 2 | Low grade middlings | 20 - 40 % | 40,8 | | 6,4 | |
| 3 | Medium grade middlings | 40 - 60 % | | | 4,3 | |
| 4 | High grade middlings | 60 - 80 % | | | 4,9 | |
| 5 | Well liberated | 80 - 100% | | | 12,5 | |
| Total: | | | 100,0 | | 100,0 | |



MINERALOGY TESTING SUMMARY

| Apatite | | | | |
|---------------|------------------------|--------------|---------------------|-------------------------|
| No. | Liberation Classes | Surface Area | Sample | |
| | | | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| 1 | Locked | < 20% | 0,7 | 0,6 |
| 2 | Low grade middlings | 20 - 40 % | 0,3 | 1,5 |
| 3 | Medium grade middlings | 40 - 60 % | 0,4 | 54,1 |
| 4 | High grade middlings | 60 - 80 % | 16,1 | 24,9 |
| 5 | Well liberated | 80 - 100% | 82,4 | 18,9 |
| Total: | | | 100,0 | 100,0 |

| Carbocernaite | | | | |
|---------------|------------------------|--------------|---------------------|-------------------------|
| No. | Liberation Classes | Surface Area | Sample | |
| | | | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| 1 | Locked | < 20% | 16,7 | 47,4 |
| 2 | Low grade middlings | 20 - 40 % | 83,3 | 45,4 |
| 3 | Medium grade middlings | 40 - 60 % | | 7,1 |
| 4 | High grade middlings | 60 - 80 % | | |
| 5 | Well liberated | 80 - 100% | | 0,1 |
| Total: | | | 100,0 | 100,0 |

| Monazite | | | | |
|---------------|------------------------|--------------|---------------------|-------------------------|
| No. | Liberation Classes | Surface Area | Sample | |
| | | | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| 1 | Locked | < 20% | 58,8 | 69,3 |
| 2 | Low grade middlings | 20 - 40 % | 1,2 | 0,6 |
| 3 | Medium grade middlings | 40 - 60 % | 2,2 | 0,2 |
| 4 | High grade middlings | 60 - 80 % | 33,0 | 0,2 |
| 5 | Well liberated | 80 - 100% | 4,8 | 29,7 |
| Total: | | | 100,0 | 100,0 |

| Zircon | | | | |
|---------------|------------------------|--------------|---------------------|-------------------------|
| No. | Liberation Classes | Surface Area | Sample | |
| | | | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| 1 | Locked | < 20% | 100,0 | |
| 2 | Low grade middlings | 20 - 40 % | | |
| 3 | Medium grade middlings | 40 - 60 % | | |
| 4 | High grade middlings | 60 - 80 % | | |
| 5 | Well liberated | 80 - 100% | | |
| Total: | | | 100,0 | |

Size Distribution - P80 in µm

| No. | P - Value | Sample | |
|-----|-----------|---------------------|-------------------------|
| | | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| 1 | P-80 | 718,3 | 464,7 |
| 2 | P-50 | 396,6 | 242,5 |
| 3 | P-20 | 122,2 | 96,2 |

Mineral of Interest Grain Size

| Allanite | | | | |
|----------|-----------|---------------------|-------------------------|--|
| No. | P - Value | Sample | | |
| | | Drill Core "P" _SEM | Drill Core "Allan" _SEM | |
| 1 | P-80 | 3,7 | 7,9 | |
| 2 | P-50 | 3,1 | 5,5 | |
| 3 | P-20 | 2,4 | 3,7 | |

| Apatite | | | | |
|---------|-----------|---------------------|-------------------------|--|
| No. | P - Value | Sample | | |
| | | Drill Core "P" _SEM | Drill Core "Allan" _SEM | |
| 1 | P-80 | 81,5 | 117,6 | |
| 2 | P-50 | 68,1 | 102,7 | |
| 3 | P-20 | 40,3 | 49,8 | |



MINERALOGY TESTING SUMMARY

| Carbocernaite | | | |
|---------------|-----------|--------------------|------------------------|
| No. | P - Value | Sample | |
| | | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| 1 | P-80 | 6,4 | 48,0 |
| 2 | P-50 | 6,0 | 21,5 |
| 3 | P-20 | 5,6 | 8,9 |

| Monazite | | | |
|----------|-----------|--------------------|------------------------|
| No. | P - Value | Sample | |
| | | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| 1 | P-80 | 10,1 | 28,1 |
| 2 | P-50 | 5,5 | 14,0 |
| 3 | P-20 | 4,2 | 5,0 |

| Zircon | | | |
|--------|-----------|--------------------|------------------------|
| No. | P - Value | Sample | |
| | | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| 1 | P-80 | 61,1 | |
| 2 | P-50 | 58,0 | |
| 3 | P-20 | 55,0 | |

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Introduction

Project Information

Company: Bambra Oy
Company Representative: John Levings
Project: Metallurgy
Client Reference No : FS5 - Drill Core Prep, HG, GE, HLS
Laboratory Job Number: CIK.MET.02242E
Mineralogist: Nurarifah Amalian Sari, Erma Kumala Dewi
Quality Checked: Ivan Ibrahim
Receipt Date: 26/03/2025
Report Issue Date: 25/04/2025

Project objective is to provide mineralogy characterization of client submitted samples. Report is including sample preparation, chemical result, and SEM mineralogy identification and characterization.

Ivan Ibrahim
Mineralogy Operations

Wayne Turner
Minerals Division

Sample Received

Two samples were received from Bambra Oy on 26th March 2025 through Geoservices Metallurgy Laboratory. Test was commenced on 19 April 2025 for mineralogy characterization analysis.

Sample Information and Scanning Summary

| No. | Sample Code | Measurement | | Sample Weight (gr) | Analysis Time |
|-----|------------------------|-------------|----------|--------------------|---------------|
| | | Mode | Scanning | | |
| 1 | Drill Core "P"_SEM | BMA | Particle | 123,5 | 4 hrs/ sample |
| 2 | Drill Core "Allan"_SEM | | | 122,5 | |

Received Sample



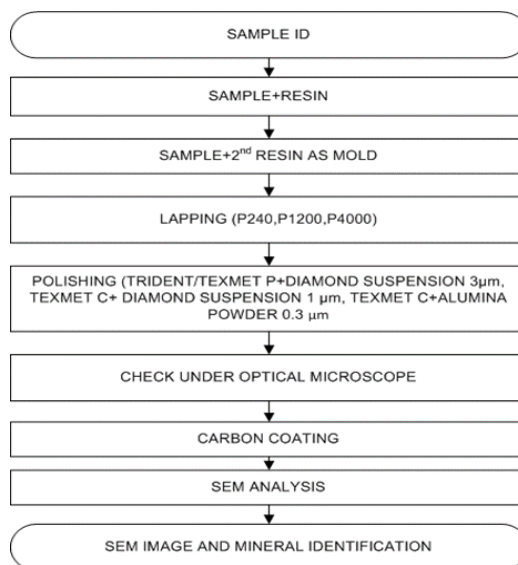


Introduction





Sample Preparation

Each of the polished mounts were viewed under microscope to confirm that the lapping and polishing were of good quality. A photo of each polished mount was taken and basic mineralogy provided. Photos of the mounted samples provided in PRM Micrographs

Mineralogy Testing Preparation Flowchart



Preparation Equipment

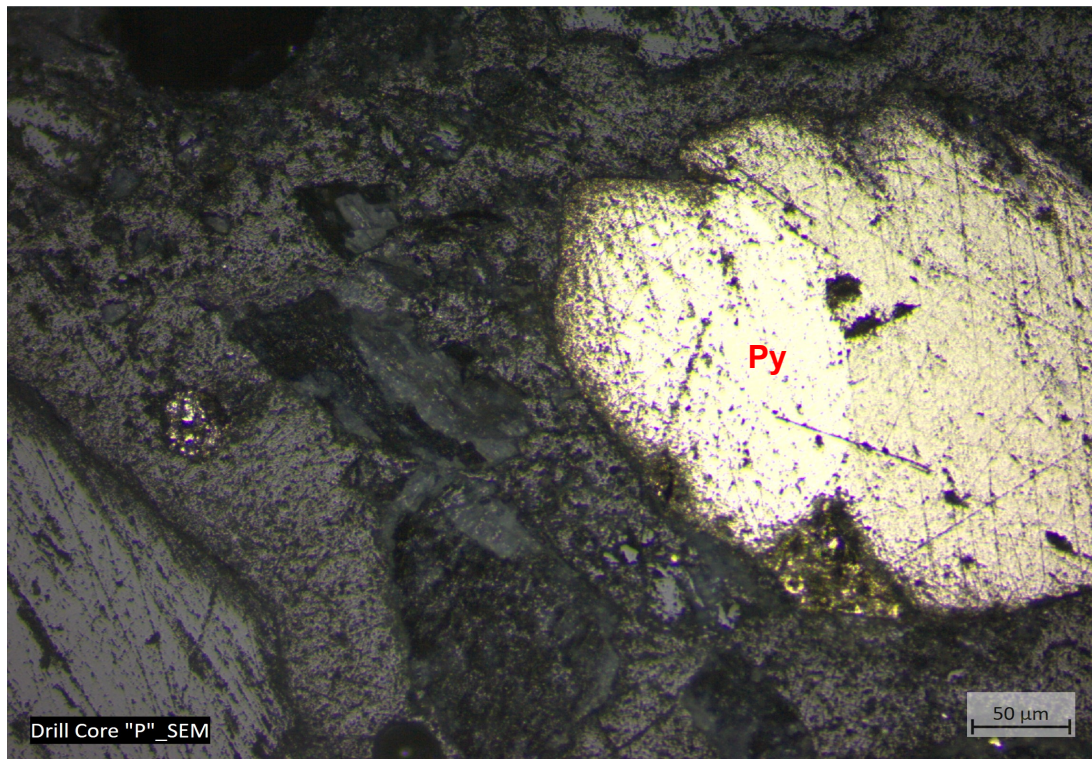
| No. | Equipment | | Equipment Description |
|-----|-------------------------|---|--|
| | Unit | Photograph | |
| 1 | Buehler Cast n' Vac |  | Supplied by Buehler the Cast N' Vac, vacuum Impregnation is used to remove entrapped air when encapsulating samples in epoxy. The vacuum pulls air from the mount, displacing it with epoxy to provide complete bonding and support. This maintains sample integrity during abrasive preparation, reducing chances of cracking or delamination |
| 2 | LECOMET Pressure Vessel |  | Supplied by LECO is used to hardened the impregnated sample. This step used on first and second epoxy mounts. Sample stored inside pressure vessel for 2 days for both mounting phases. |
| 3 | Buehler Ecomet 250 |  | Supplied by Buehler the Ecomet 250 is used on the resin blocks prepared to cut back and expose a fresh surface. This surface is progressively fine polished. The final polished mount is viewed under microscope to confirm the quality of preparation and identification of major minerals. |
| 4 | SPI Carbon Coater |  | The carbon coater machine is supplied by SPI. Carbon coating equipment is used to provide a thin layer of carbon to the prepared resin mount. The choice of carbon is popular choice for EDX analysis as the carbon X-ray peak does not interfere other elemental signals. |

Methods of Analysis

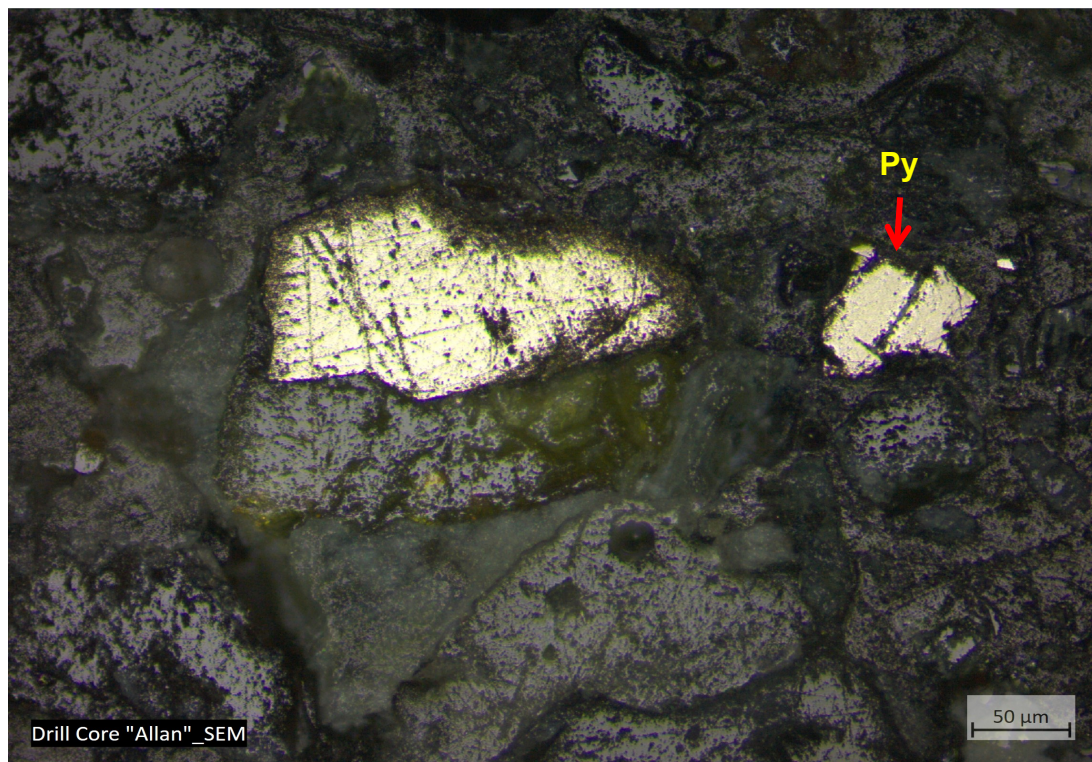
| No. | Method | Description |
|-----|--------------------------|--|
| 1 | SEM Automated Mineralogy | Provide liberation, locking, and size of Mol |
| 2 | X-Ray Diffraction (XRD) | Advance mineral identification |
| 3 | LECO | Total sulfur by combustion |
| 4 | X-Ray Fluorescence (XRF) | Major element identification based on element fluorescence |



Drill Core "P" _SEM



Drill Core "Allan" _SEM

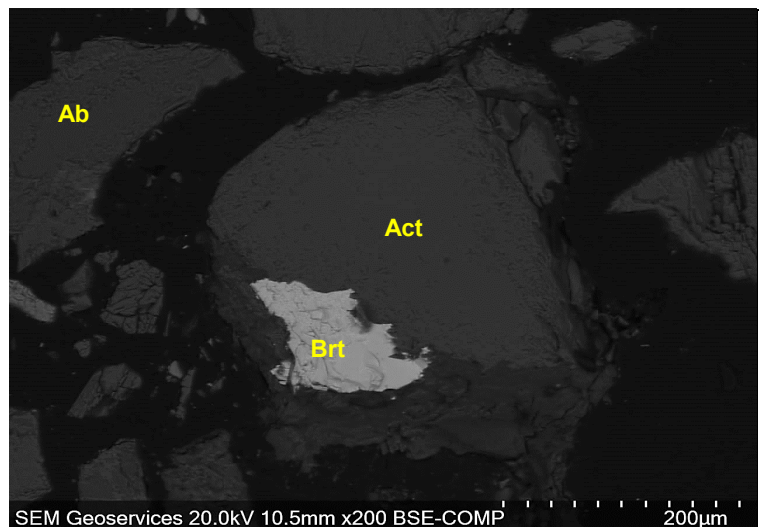
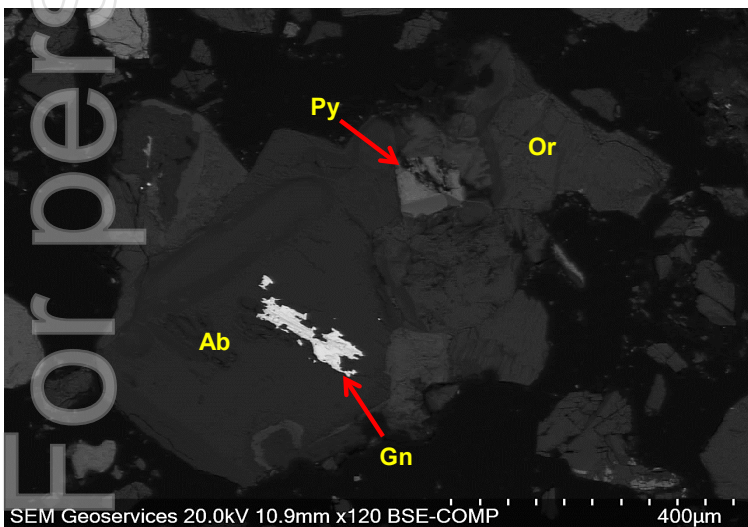
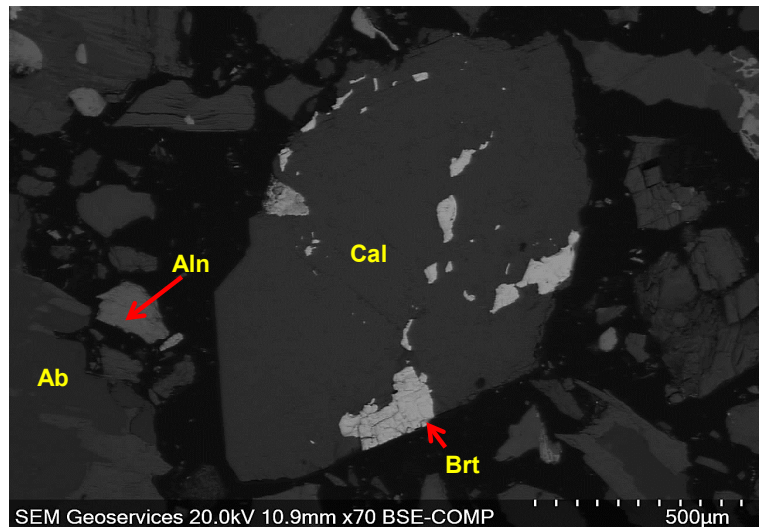
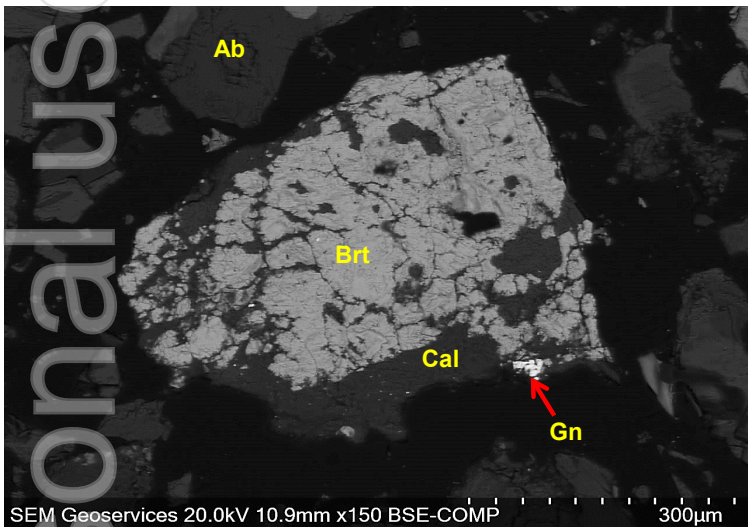
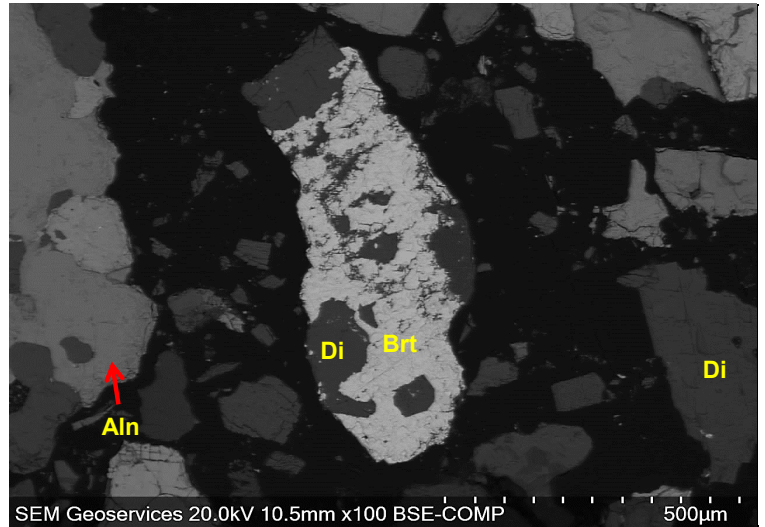
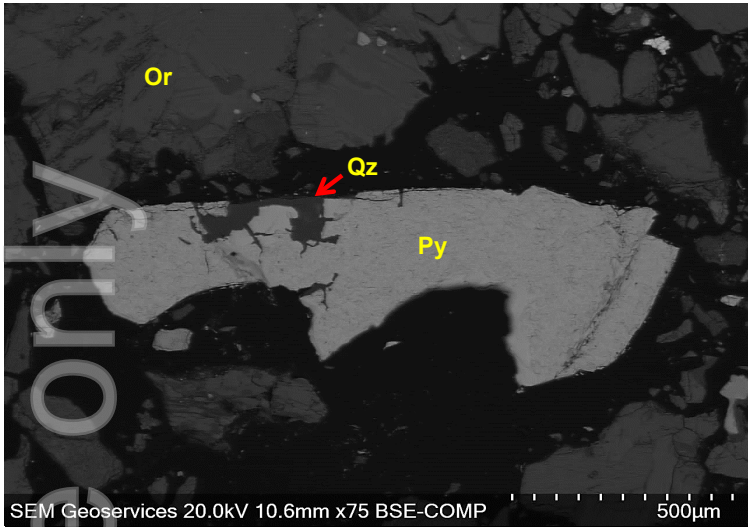


Minerals: Py-Pyrite.



SEM - Backscattered-Electron Imaging

SAMPLE ID Drill Core "P"_SEM

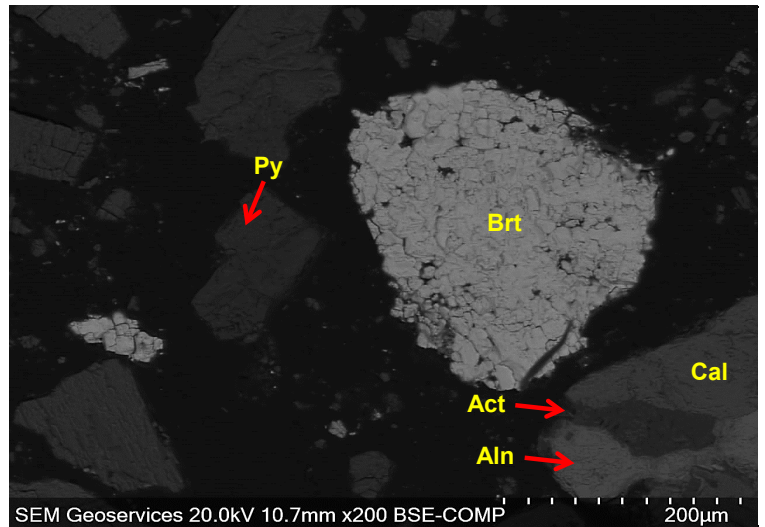
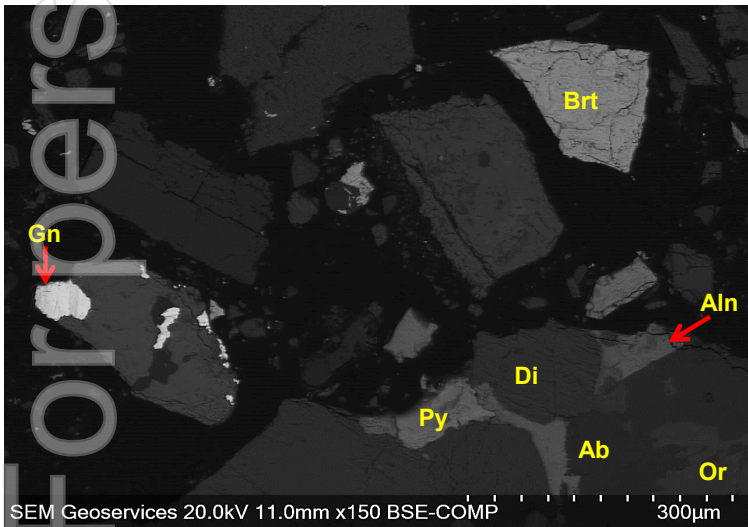
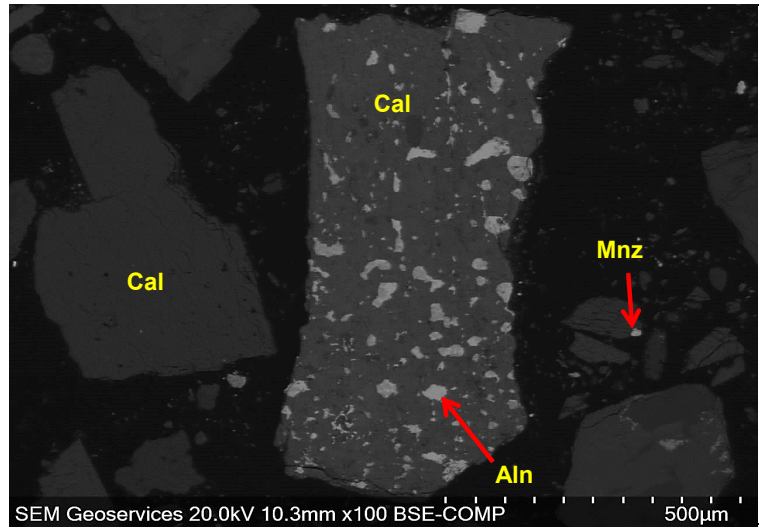
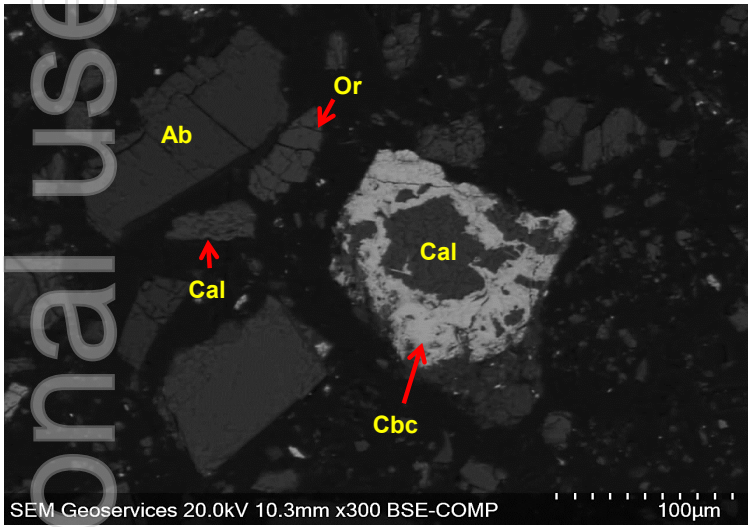
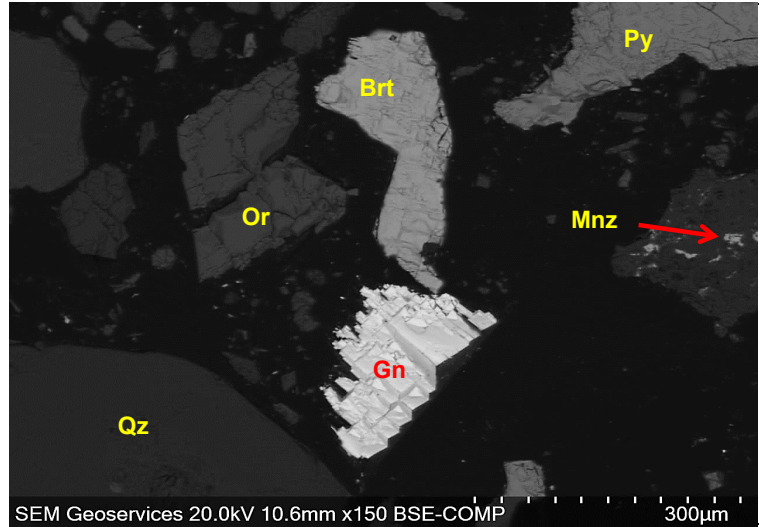
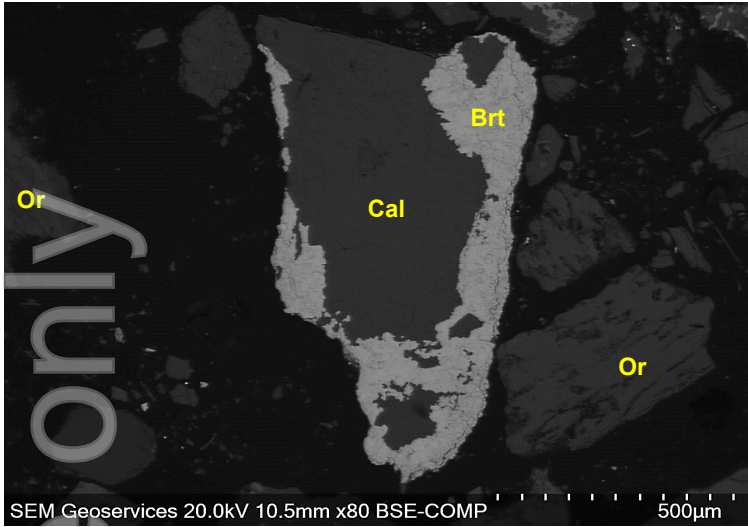


Minerals: **Ab**-Albite, **Act**-Actinolite, **Aln**-Allanite, **Brt**-Barite, **Cal**-Calcite, **Di**-Diopside, **Gn**-Galena, **Or**-Orthoclase, **Py**-Pyrite, **Qz**-Quartz.



SEM - Backscattered-Electron Imaging

SAMPLE ID Drill Core "Allan" _SEM

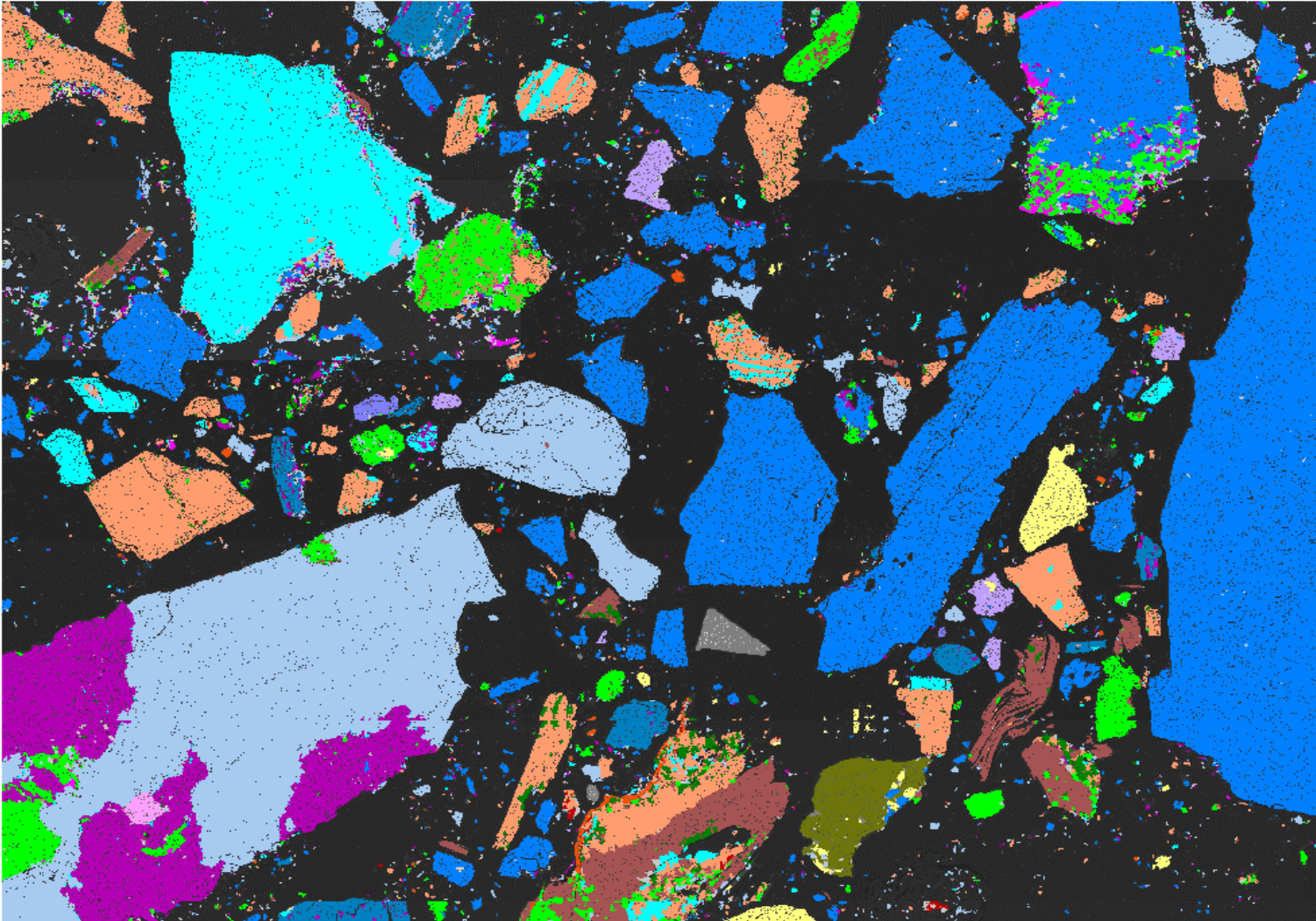


Minerals: Ab-Albite, Act-Actinolite, Aln-Allanite, Brt-Barite, Cal-Calcite, Cbc-Carboceanaite, Di-Diopside, Gn-Galena, Mnz-Monazite, Or-Orthoclase, Py-Pyrite, Qz-Quartz.



SEM/AMICS Mineral Image of the Polished Resin Mount

Sample ID Drill Core "P"_SEM



- Unknown
- Actinolite
- Apatite
- Biotite
- Carbocernaite
- Chlorite
- Illite
- Kaolinite
- Magnetite
- Orthoclase
- Quartz
- Rutile
- Others
- Barite
- Calcite
- Pyrite
- Galena
- Albite
- Diopside
- Monazite
- Sphalerite
- Allanite
- Zircon
- Titanite

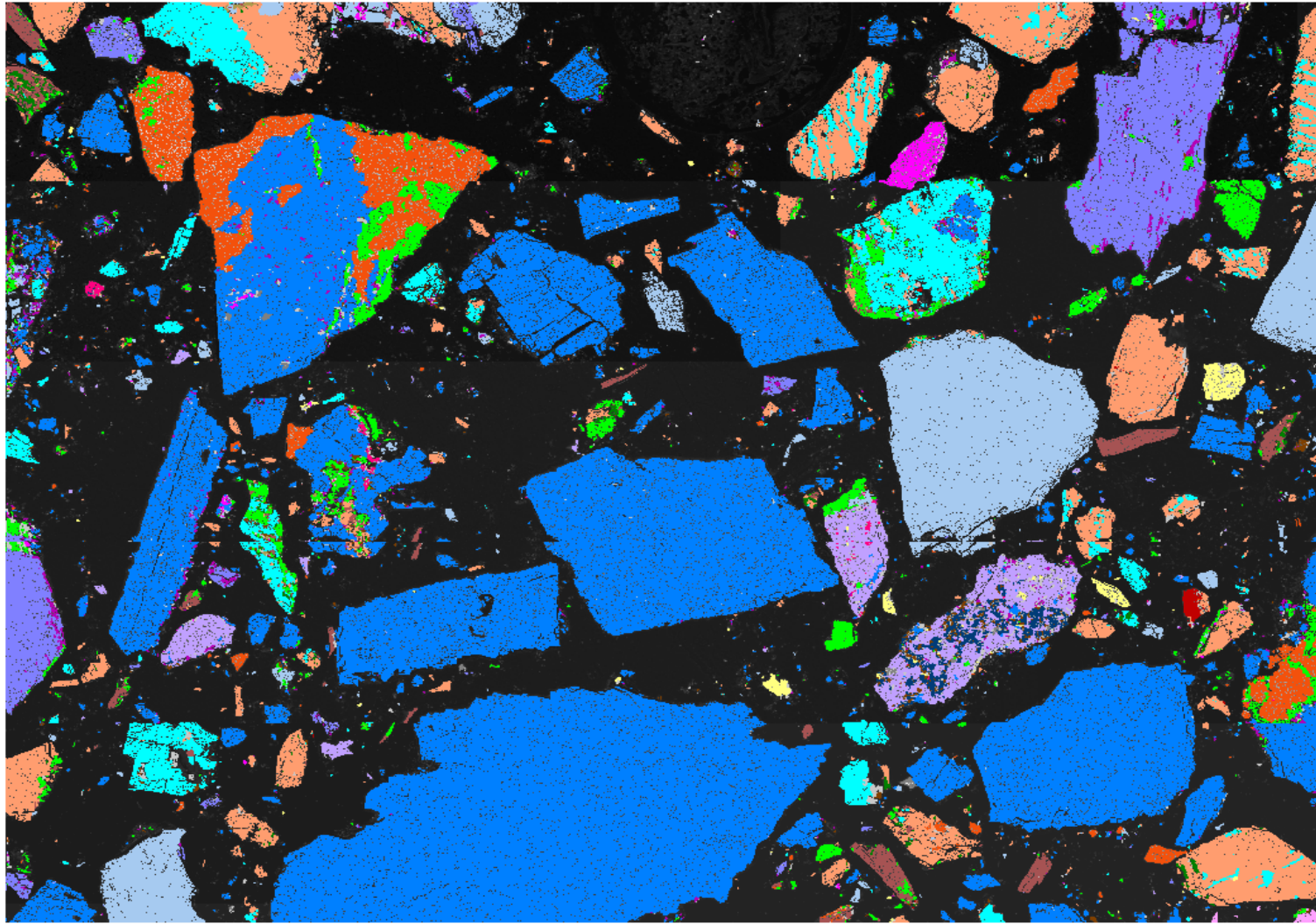
200µm

personal use only



SEM/AMICS Mineral Image of the Polished Resin Mount

Sample ID Drill Core "Allan" _SEM



- Unknown
- Actinolite
- Apatite
- Biotite
- Carbocernaite
- Chlorite
- Illite
- Kaolinite
- Magnetite
- Monazite
- Orthoclase
- Quartz
- Rutile
- Others
- Barite
- Calcite
- Diopside
- Pyrite
- Galena
- Albite
- Allanite
- Titanite

200µm

For personal use only



XRD Result - Phase, Classification, and Grouping

MINERAL PHASE IDENTIFICATION- RIETVELD %

| Abbreviation | Mineral Phase Identification | Mineral Chemical Formula | Mineral Classification | Mineral Group | RIETVELD REFINEMENT WT% | |
|---------------|------------------------------|---|------------------------|---------------|-------------------------|-----------------------------|
| | | | | | 1 Drill Core "P" _HG | 2 Drill Core "Allan" _HG |
| Ab | Albite | NaAlSi3O8 | Silicates | Plagioclase | 11,9 | 16,9 |
| Aln_La | Allanite | (CeLa)(AlAlFe2+)O[Si2O7][SiO4](OH) | Silicates | Epidote | 0,5 | 4,1 |
| Ap | Apatite | Ca5(PO4)3(Cl/F/OH) | Phosphates | Apatite | 2,0 | 0,5 |
| Brt | Barite | BaSO4 | Sulfates | Barite | 5,5 | 1,0 |
| Bt | Biotite | K Fe Mg2(AlSi3O10)(OH)2 | Silicates | Mica | 1,9 | 1,3 |
| Cal | Calcite | CaCO3 | Carbonates | Calcite | 35,5 | 3,4 |
| Cbc | Carbocernaite | (Ca,Na)(Sr,Ce,Ba)[CO3]2 | Carbonates | No Group | 1,0 | 1,2 |
| Chl | Chlorite | (Mg,Fe)5 (Al,Si)5 O10 (OH)8 | Silicates | Clay | 3,9 | 6,8 |
| Di | Diopside | CaMg (SiO3)2 | Silicates | Pyroxene | 5,1 | 31,8 |
| Hbl | Hornblende | H2NaCa2(Mg,Fe)4Al3Si6O24 | Silicates | Amphibole | 0,7 | 6,2 |
| Ill_AlMgFe | Illite | (K,H3 O) (Al,Mg,Fe)2 (Si,Al)4 O10 [(OH)2,(H2O)] | Silicates | Clay | | 5,9 |
| Mag | Magnetite | Fe3O4 | Oxides/Hydroxides | Spinel | 1,8 | 0,7 |
| Minz_Cln | Monazite | (Ce,La,Th,Nd) PO4 | Phosphates | Monazite | | 0,6 |
| Or | Orthoclase | KAlSi3O8 | Silicates | K-Feldspar | 18,5 | 14,7 |
| Py | Pyrite | FeS2 | Sulfides | Pyrite | 1,0 | 2,0 |
| Qz | Quartz | SiO2 | Silicates | Quartz | 10,7 | 3,0 |
| Total: | | | | | 100,0 | 100,0 |

MINERAL CLASSIFICATION - SUM OF RIETVELD %

| Sample ID | Silicates | Oxides/Hydroxides | Sulfates | Phosphates | Sulfides | Carbonates | Grand Total |
|------------------------|-----------|-------------------|----------|------------|----------|------------|-------------|
| Drill Core "P" _HG | 53,2 | 1,8 | 5,5 | 2,0 | 1,0 | 36,5 | 100,0 |
| Drill Core "Allan" _HG | 90,6 | 0,7 | 1,0 | 1,0 | 2,0 | 4,6 | 100,0 |

MINERAL GROUPING - SUM OF RIETVELD %

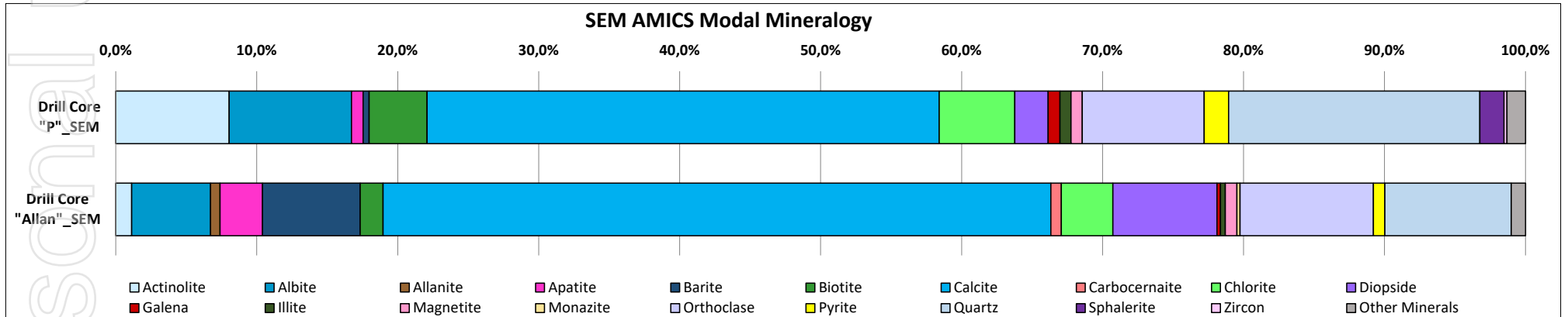
| Sample ID | Quartz | No Group | Spinel | Plagioclase | Barite | Mica | Calcite | Clay | Pyroxene | Monazite | K-Feldspar | Pyrite | Apatite | Amphibole | Epidote | Grand Total |
|------------------------|--------|----------|--------|-------------|--------|------|---------|------|----------|----------|------------|--------|---------|-----------|---------|-------------|
| Drill Core "P" _HG | 10,7 | 1,0 | 1,8 | 11,9 | 5,5 | 1,9 | 35,5 | 3,9 | 5,1 | | 18,5 | 1,0 | 2,0 | 0,7 | 0,5 | 100,0 |
| Drill Core "Allan" _HG | 3,0 | 1,2 | 0,7 | 16,9 | 1,0 | 1,3 | 3,4 | 12,7 | 31,8 | 0,6 | 14,7 | 2,0 | 0,5 | 6,2 | 4,1 | 100,0 |



Mineralogical Report - SEM/AMICS Modal Mineralogy

| Abbreviation | Mineral Identification | Mineral Chemical Formula | Mineral Classification | Mineral Group | SAMPLE IDENTIFICATION | |
|--------------|------------------------|--|------------------------|---------------|--|-------------------------|
| | | | | | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
| | | | | | Detection Limit AMICS Identification - <0.1% | |
| Act | Actinolite | Ca ₂ (Mg,Fe) ₅ Si ₈ O ₂₂ (OH) ₂ | Silicates | Amphibole | 8,0 | 1,1 |
| Ab | Albite | NaAlSi ₃ O ₈ | Silicates | Plagioclase | 8,7 | 5,6 |
| Aln | Allanite | (Ca,Ce,La,Nd,Y)(Al,Fe ³⁺) ₃ (SiO ₄) ₃ (OH) | Silicates | Allanite | | 0,7 |
| Ap | Apatite | Ca _{5-x} (Ce,Nd) _x (PO ₄) ₃ (F,Cl,OH) | Phosphates | Apatite | 0,8 | 3,0 |
| Brt | Barite | BaSO ₄ | Sulfates | Barite | 0,4 | 6,9 |
| Bt | Biotite | KFeMg ₂ (AlSi ₃ O ₁₀)(OH) ₂ | Silicates | Mica | 4,1 | 1,6 |
| Cal | Calcite | CaCO ₃ | Carbonates/Nitrates | Calcite | 36,3 | 47,4 |
| Cbc | Carbocernaite | (Ca,Na)(Sr,Ce,La,Nd,Ba)(CO ₃) ₂ ·2H ₂ O | Carbonates/Nitrates | No Group | | 0,7 |
| Chl | Chlorite | (Mg,Fe) ₅ (Al,Si) ₂ O ₁₀ (OH) ₈ | Silicates | Clay | 5,4 | 3,7 |
| Di_Fe | Diopside | CaMg _{0.46} Fe _{0.52} Al _{0.60} Si _{1.42} O ₆ | Silicates | Pyroxene | 2,4 | 7,4 |
| Gn | Galena | PbS | Sulfides | Galena | 0,8 | 0,2 |
| Ill | Illite | KAl ₂ Si ₃ AlO ₁₀ (OH) ₂ | Silicates | Clay | 0,8 | 0,3 |
| Mag | Magnetite | Fe ₃ O ₄ | Oxides/Hydroxides | Spinel | 0,8 | 0,8 |
| Mnz | Monazite | (Ce,La,Nd)PO ₄ | Phosphates | Monazite | | 0,2 |
| Or | Orthoclase | KAlSi ₃ O ₈ | Silicates | K-Feldspar | 8,6 | 9,5 |
| Py | Pyrite | FeS ₂ | Sulfides | Pyrite | 1,7 | 0,8 |
| Qz | Quartz | SiO ₂ | Silicates | Quartz | 17,8 | 9,0 |
| Sp | Sphalerite | ZnS | Sulfides | Sphalerite | 1,7 | |
| Zrn | Zircon | (Zr,Hf)SiO ₄ | Silicates | Zircon | 0,2 | |
| Om | Other Minerals | | | | 1,3 | 1,0 |
| Total | | | | | 100,0 | 100,0 |

Graphical representation in the following bar chart of the modal mineralogy

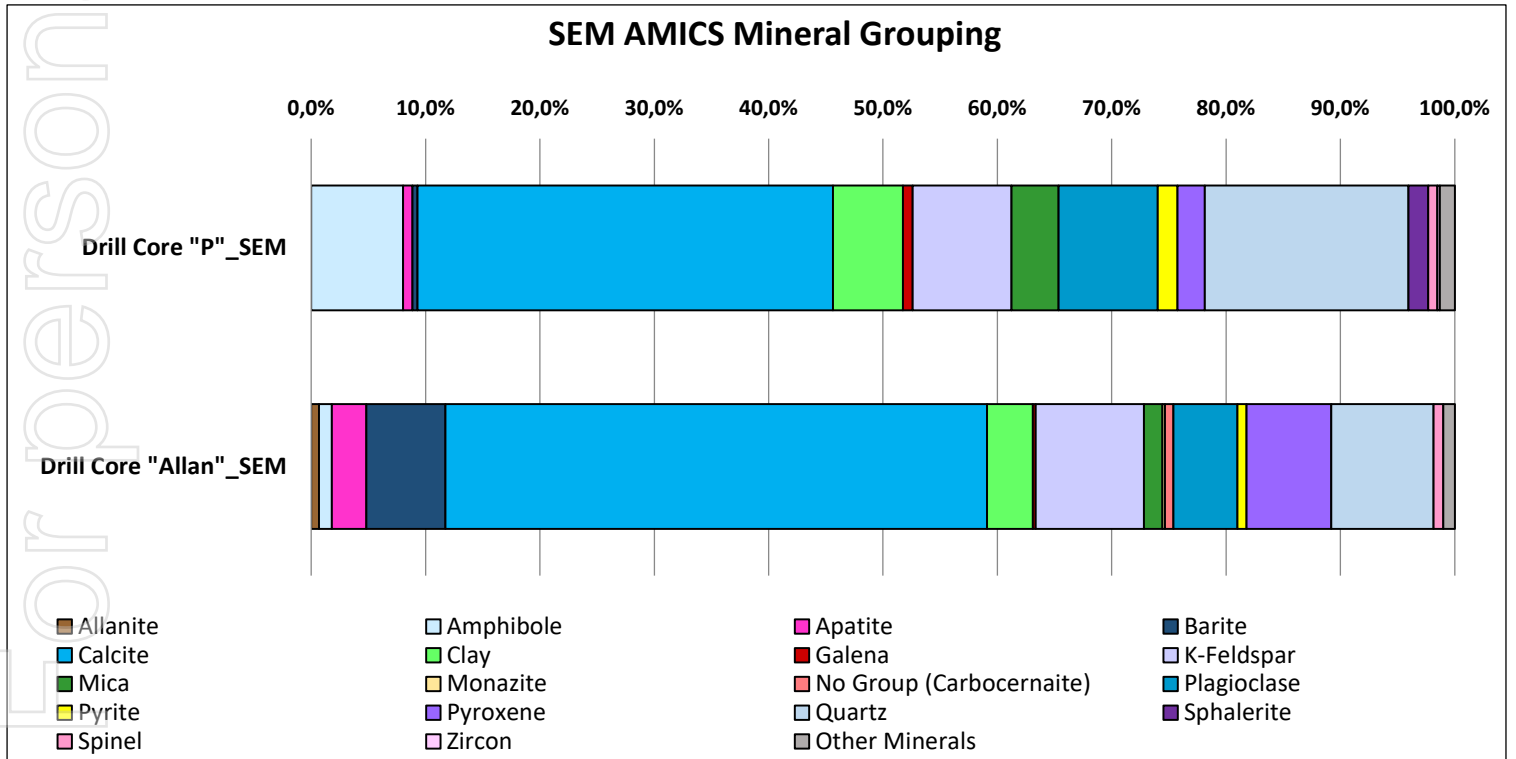




Mineral Grouping

| Mineral Grouping | SAMPLE IDENTIFICATION | |
|--------------------------|-----------------------|------------------------|
| | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| Allanite | | 0,7 |
| Amphibole | 8,0 | 1,1 |
| Apatite | 0,8 | 3,0 |
| Barite | 0,4 | 6,9 |
| Calcite | 36,3 | 47,4 |
| Clay | 6,1 | 4,0 |
| Galena | 0,8 | 0,2 |
| K-Feldspar | 8,6 | 9,5 |
| Mica | 4,1 | 1,6 |
| Monazite | | 0,2 |
| No Group (Carbocernaite) | | 0,7 |
| Plagioclase | 8,7 | 5,6 |
| Pyrite | 1,7 | 0,8 |
| Pyroxene | 2,4 | 7,4 |
| Quartz | 17,8 | 9,0 |
| Sphalerite | 1,7 | |
| Spinel | 0,8 | 0,8 |
| Zircon | 0,2 | |
| Other Minerals | 1,3 | 1,0 |
| Total | 100,0 | 100,0 |

Graphical representation in the following bar chart of the mineral grouping





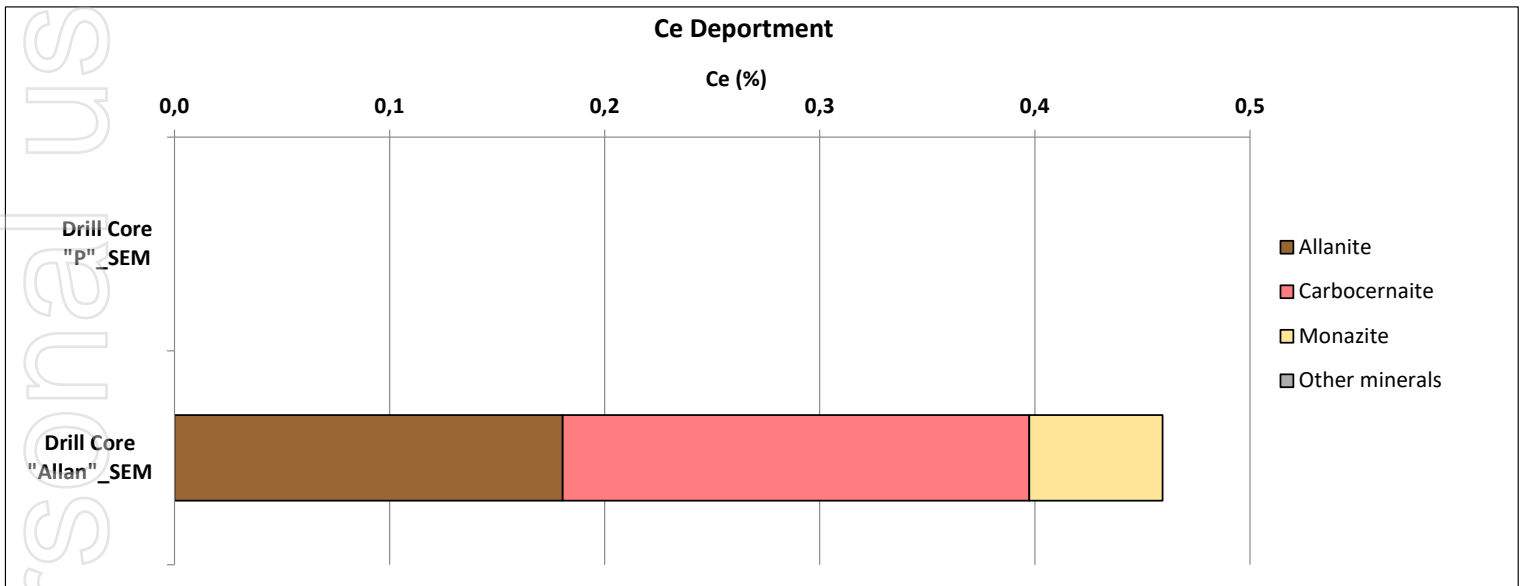
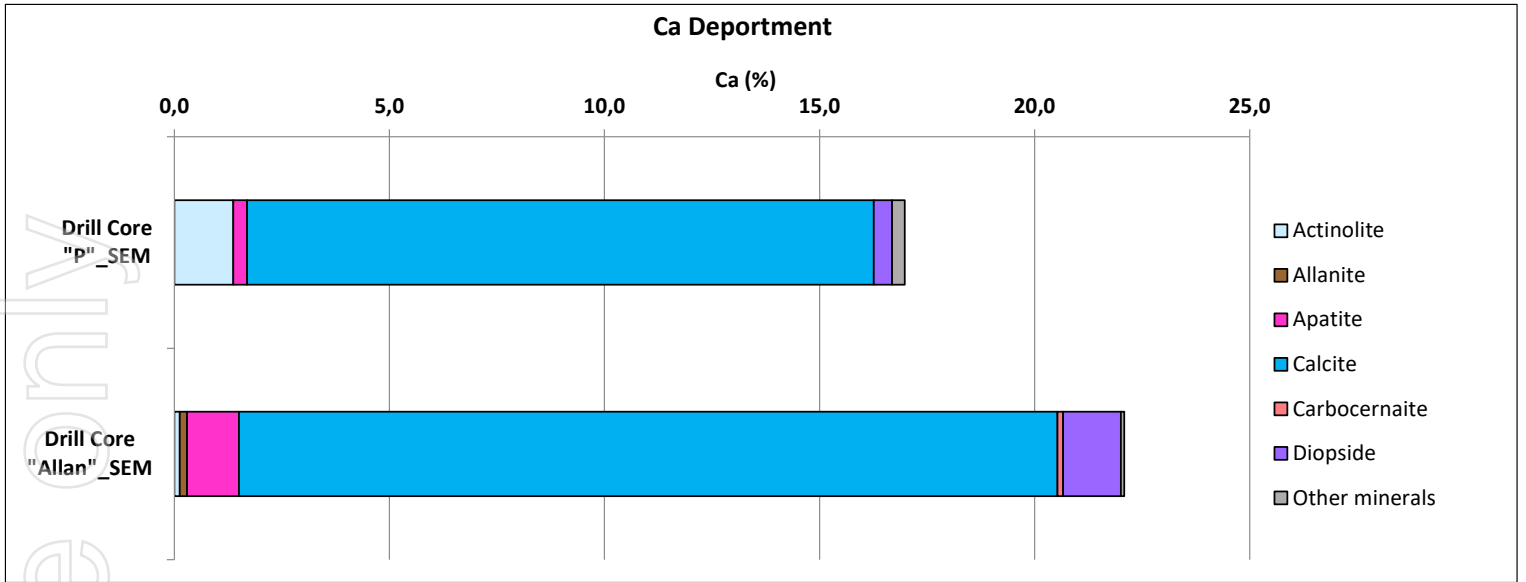
Mineralogical Report - Element Department & Reconciliation

| Major Element Department Mineral | Abbreviation | SAMPLE IDENTIFICATION | |
|-------------------------------------|--------------------|-----------------------|------------------------|
| | | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| Ca department (%) | | | |
| Actinolite | Act | 1,4 | 0,1 |
| Allanite | Aln | | 0,2 |
| Apatite | Ap | 0,3 | 1,2 |
| Calcite | Cal | 14,6 | 19,0 |
| Carbocernaite | Cbc | | 0,1 |
| Diopside | Di_Fe | 0,4 | 1,3 |
| Other minerals | Om | 0,3 | 0,1 |
| | Ca (SEM/EDS/AMICS) | 17,0 | 22,1 |
| | Ca (chemical) | 15,8 | 9,1 |
| Ce department (%) | | | |
| Allanite | Aln | | 0,2 |
| Carbocernaite | Cbc | | 0,2 |
| Monazite | Mnz | | 0,1 |
| Other minerals | Om | | |
| | Ce (SEM/EDS/AMICS) | | 0,5 |
| | Ce (chemical) | 0,1 | 1,0 |
| La department (%) | | | |
| Other minerals | Om | | 0,1 |
| | La (SEM/EDS/AMICS) | | 0,1 |
| | La (chemical) | 0,1 | 0,7 |
| Nd department (%) | | | |
| Carbocernaite | Cbc | | 0,1 |
| Other minerals | Om | | |
| | Nd (SEM/EDS/AMICS) | | 0,1 |
| | Nd (chemical) | 0,1 | 0,3 |
| P department (%) | | | |
| Apatite | Ap | 0,2 | 0,6 |
| Other minerals | Om | | |
| | P (SEM/EDS/AMICS) | 0,2 | 0,6 |
| | P (chemical) | 0,5 | |
| Si department (%) | | | |
| Actinolite | Act | 2,0 | 0,3 |
| Albite | Ab | 2,6 | 1,7 |
| Allanite | Aln | | 0,1 |
| Biotite | Bt | 0,8 | 0,3 |
| Chlorite | Chl | 0,7 | 0,5 |
| Diopside | Di_Fe | 0,6 | 1,9 |
| Illite | Ill | 0,2 | 0,1 |
| Orthoclase | Or | 2,6 | 2,6 |
| Quartz | Qz | 8,3 | 4,2 |
| Other minerals | Om | 0,2 | 0,2 |
| | Si (SEM/EDS/AMICS) | 18,0 | 11,8 |
| | Si (chemical) | 15,8 | 22,3 |



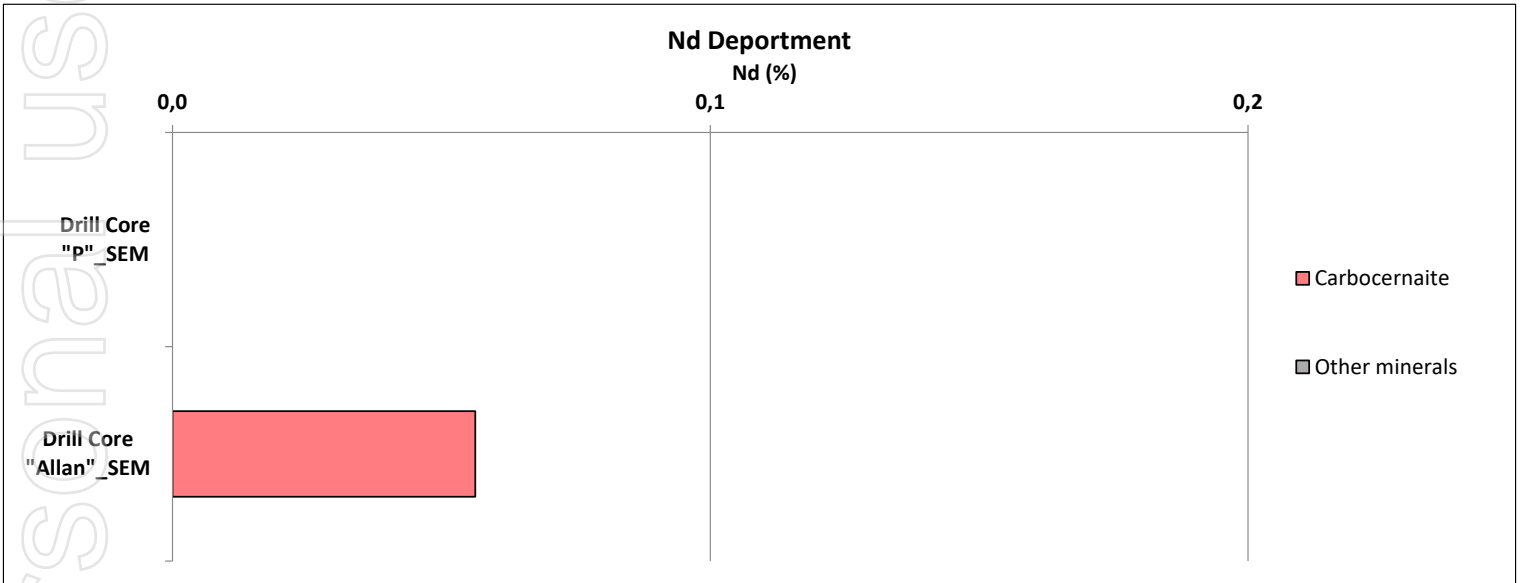
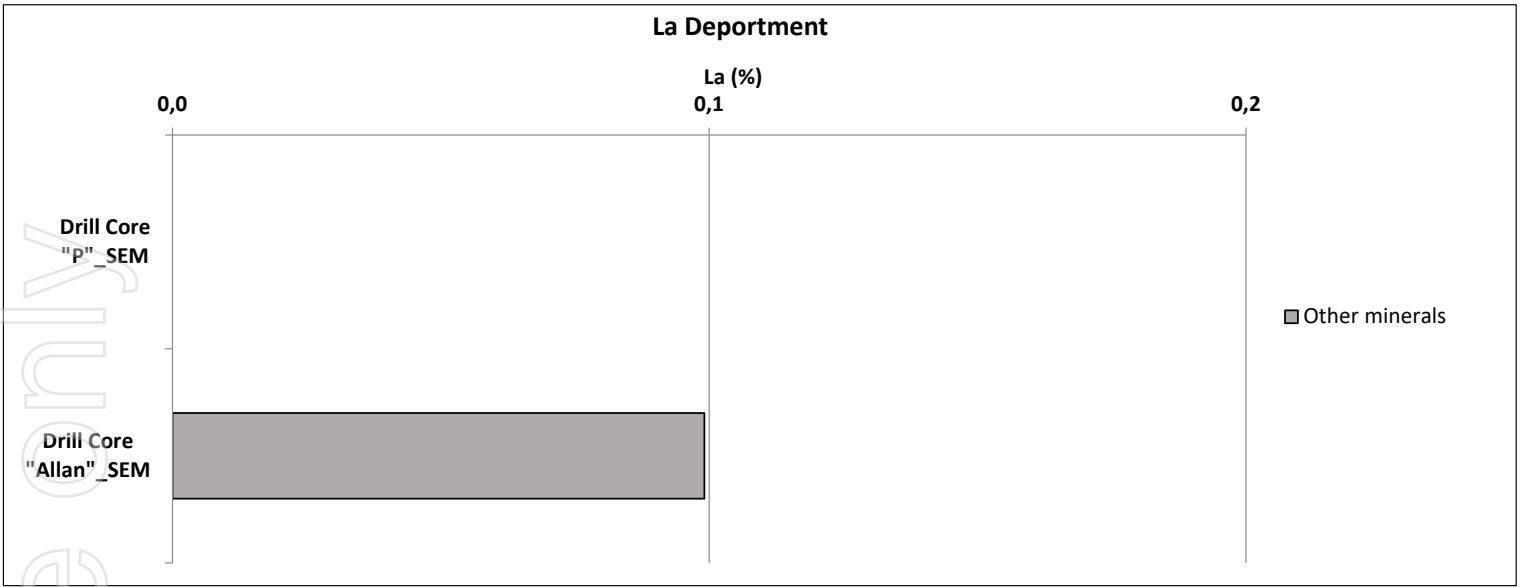
Mineralogical Report - Element Department & Reconciliation

Department Chart



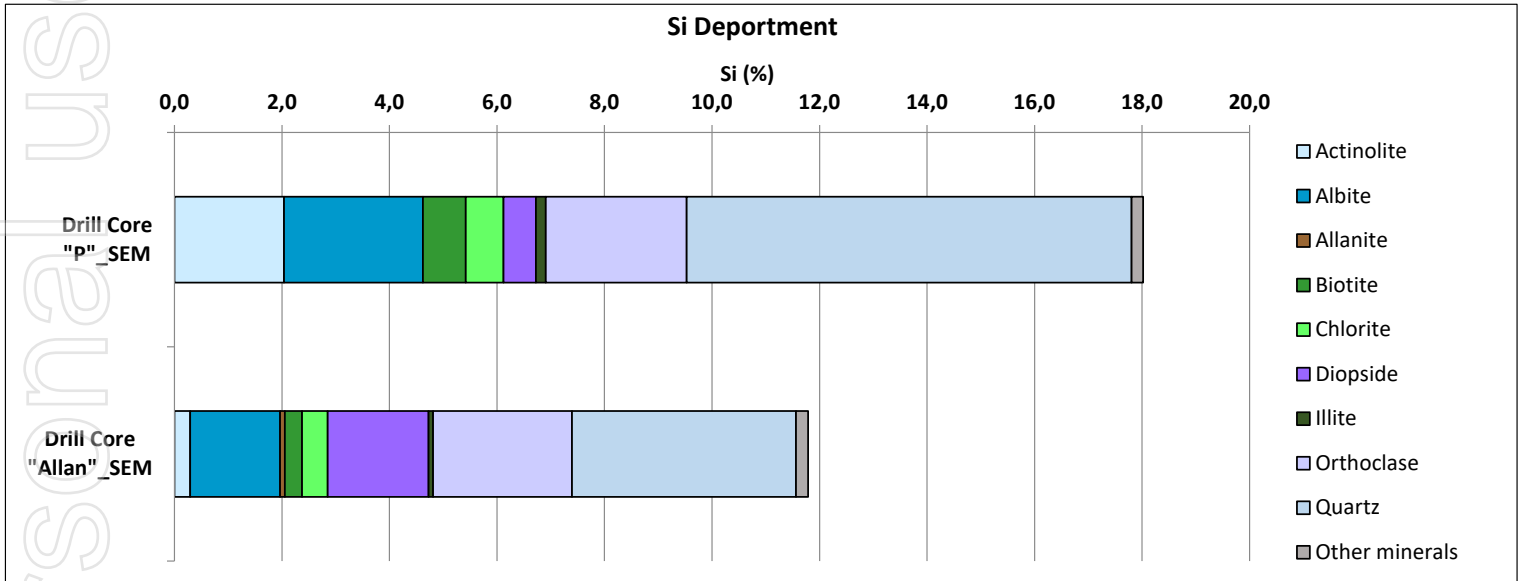
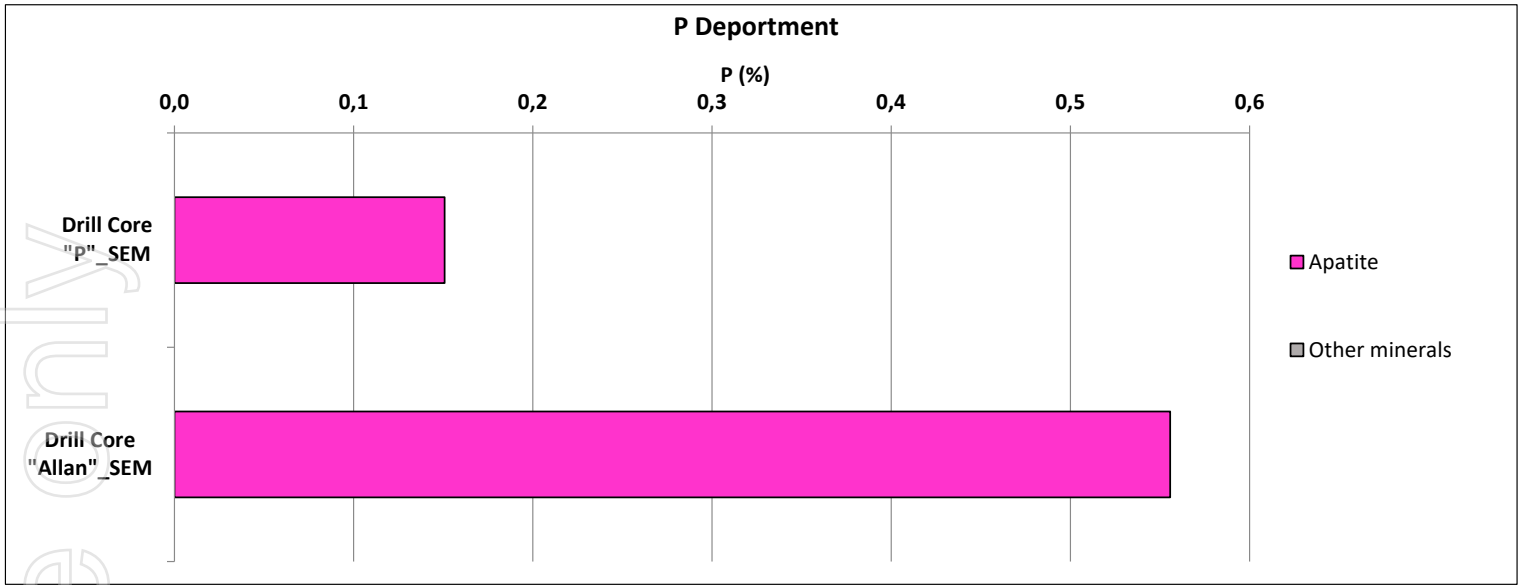


Mineralogical Report - Element Department & Reconciliation



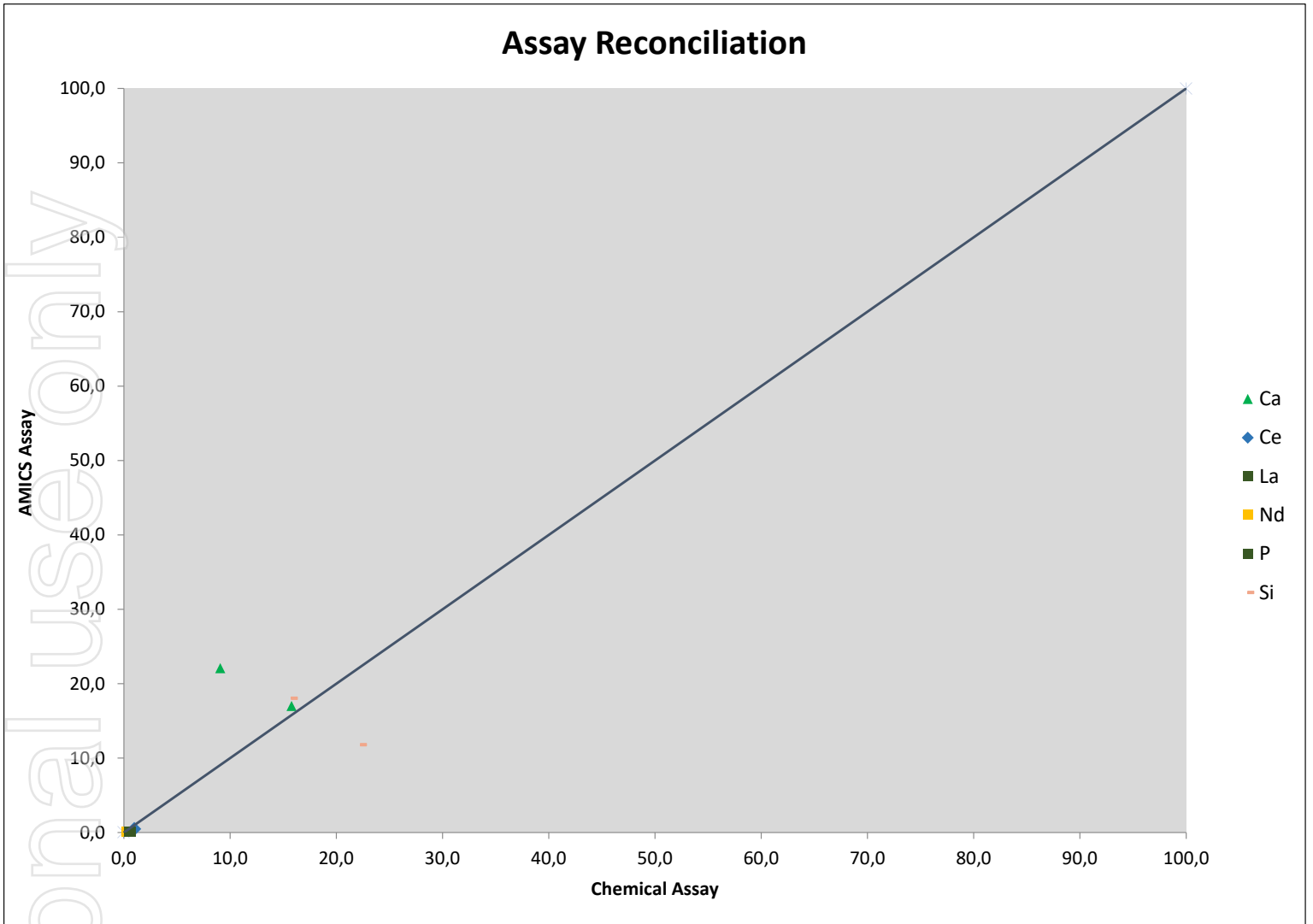


Mineralogical Report - Element Department & Reconciliation





Reconciliation Chart



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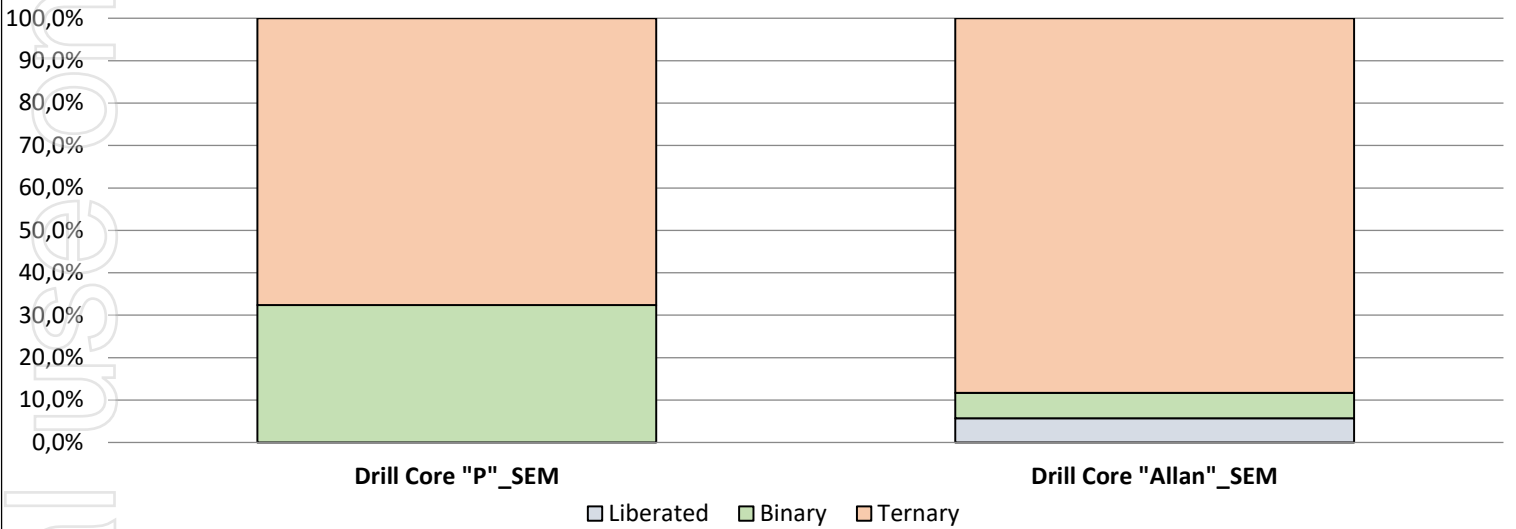


Mineralogical Report - Mineral Locking

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH))

| Summary | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|--------------|------------------------|--|------------------------|--------------|
| | Locking percentage (%) | | | |
| Liberated | | | | 5,7 |
| Binary | 32,4 | | | 6,0 |
| Ternary | 67,6 | | | 88,3 |
| Total | 100,0 | | | 100,0 |

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Locking



| Locking in | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|---------------|--------------------|---------|------------------------|---------|
| | Binary | Ternary | Binary | Ternary |
| Actinolite | | 0,1 | 0,4 | 4,6 |
| Albite | | 10,3 | 0,7 | 10,7 |
| Apatite | | | | 20,7 |
| Barite | | | 0,1 | 2,6 |
| Biotite | | 0,3 | | 1,9 |
| Calcite | | 1,1 | 0,5 | 11,3 |
| Carbocernaite | | | | 9,0 |
| Chlorite | | 1,1 | 0,4 | 5,8 |
| Diopside | | | 0,2 | 1,7 |
| Galena | | | | 1,1 |
| Illite | | 0,1 | | 0,5 |
| Kaolinite | | 0,1 | 0,1 | 0,1 |
| Magnetite | | | | 0,1 |
| Monazite | 32,4 | 20,1 | | 0,5 |
| Orthoclase | | 25,5 | 0,5 | 4,1 |
| Others | | 2,5 | 2,5 | 6,6 |
| Pyrite | | | | 0,6 |
| Quartz | | 1,1 | 0,3 | 1,5 |
| Titanite | | | | 0,3 |
| Unknown | | 5,3 | 0,5 | 4,6 |

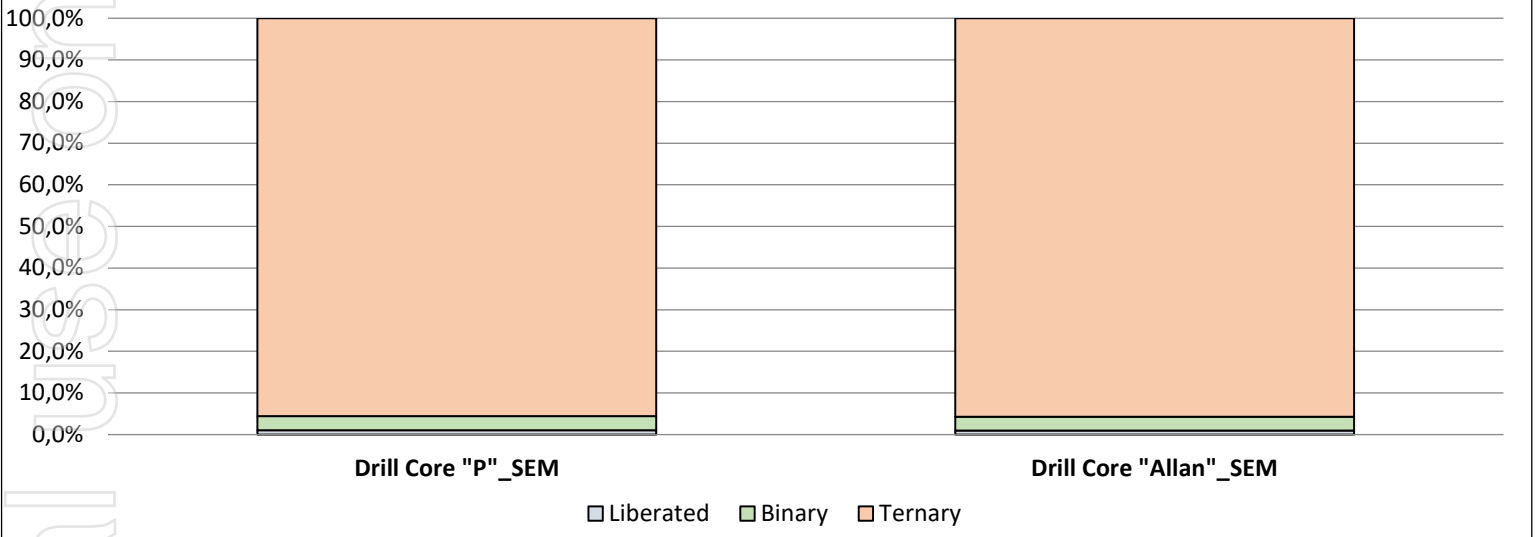


Mineralogical Report - Mineral Locking

Apatite (Ca_x(Ce,Nd)_x(PO₄)₃(F,Cl,OH))

| Summary | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|--------------|------------------------|--|------------------------|--|
| | Locking percentage (%) | | | |
| Liberated | 1,0 | | 1,0 | |
| Binary | 3,4 | | 3,3 | |
| Ternary | 95,5 | | 95,7 | |
| Total | 100,0 | | 100,0 | |

Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Locking



| Locking in | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|---------------|--------------------|---------|------------------------|---------|
| | Binary | Ternary | Binary | Ternary |
| Actinolite | | 0,4 | | 5,7 |
| Albite | | 1,1 | | |
| Allanite | | | | 10,0 |
| Barite | | 4,3 | | 0,1 |
| Biotite | | | | 0,2 |
| Calcite | 0,1 | 2,2 | | 5,9 |
| Carbocernaite | | 0,2 | | 27,2 |
| Chlorite | | 5,7 | | 9,2 |
| Diopside | | 5,1 | | |
| Galena | | 0,7 | | 3,9 |
| Magnetite | | | | 0,4 |
| Monazite | | 1,9 | | 4,0 |
| Orthoclase | | 0,1 | | |
| Others | 3,2 | 40,9 | 3,1 | 16,1 |
| Pyrite | | 11,4 | | 2,5 |
| Quartz | | 1,4 | | 2,3 |
| Unknown | 0,1 | 20,5 | 0,2 | 8,3 |

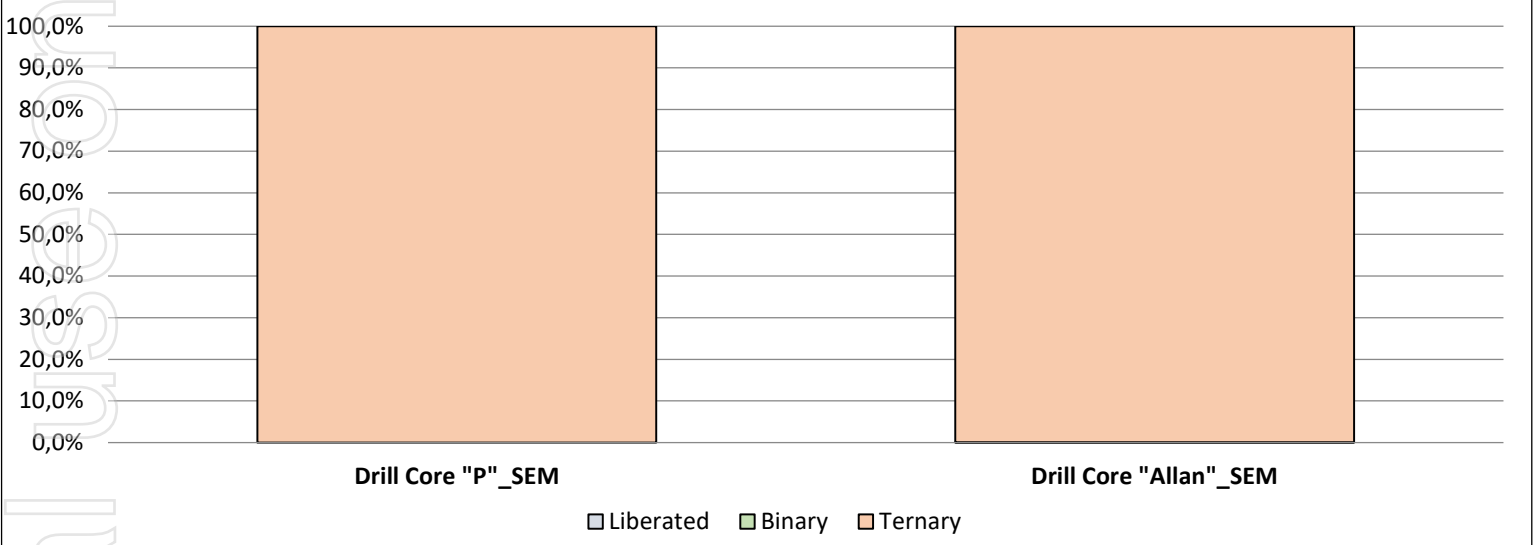


Mineralogical Report - Mineral Locking

Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO₃)₂)

| Summary | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|--------------|------------------------|--------------|------------------------|--------------|
| | Locking percentage (%) | | | |
| Liberated | | | | 0,1 |
| Binary | | | | |
| Ternary | | 100,0 | | 99,9 |
| Total | | 100,0 | | 100,0 |

Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO₃)₂) Locking



| Locking in | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|------------|--------------------|---------|------------------------|---------|
| | Binary | Ternary | Binary | Ternary |
| Actinolite | | | | 2,1 |
| Allanite | | | | 10,0 |
| Apatite | | 13,9 | | 66,2 |
| Barite | | | | 0,3 |
| Biotite | | | | 0,1 |
| Calcite | | 0,1 | | 2,3 |
| Chlorite | | | | 0,6 |
| Galena | | 0,1 | | 3,7 |
| Monazite | | 80,2 | | 0,8 |
| Others | | 4,0 | | 6,2 |
| Pyrite | | 1,4 | | 2,1 |
| Quartz | | | | 0,4 |
| Unknown | | 0,3 | | 5,0 |

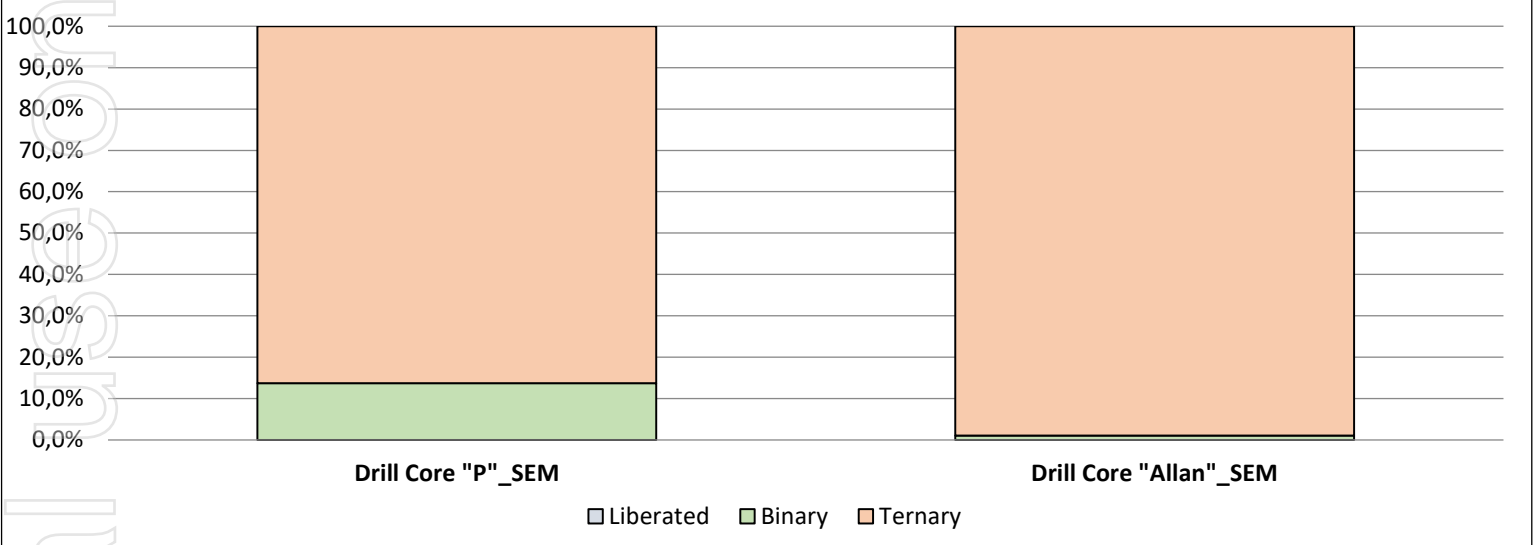


Mineralogical Report - Mineral Locking

Monazite ((Ce,La,Nd)PO₄)

| Summary | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|--------------|------------------------|--|------------------------|--|
| | Locking percentage (%) | | | |
| Liberated | | | | |
| Binary | 13,7 | | 1,0 | |
| Ternary | 86,3 | | 99,0 | |
| Total | 100,0 | | 100,0 | |

Monazite ((Ce,La,Nd)PO₄) Locking



| Locking in | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|---------------|--------------------|---------|------------------------|---------|
| | Binary | Ternary | Binary | Ternary |
| Actinolite | | 1,1 | | 1,3 |
| Albite | | 0,1 | | |
| Allanite | 13,7 | 5,5 | | 1,6 |
| Apatite | | 7,3 | | 19,5 |
| Barite | | 0,2 | | 5,1 |
| Biotite | | 0,3 | | 0,1 |
| Calcite | | 23,0 | | 27,0 |
| Carbocernaite | | 14,3 | | 15,2 |
| Chlorite | | 5,7 | | 7,5 |
| Diopside | | 0,4 | | |
| Galena | | | | 0,1 |
| Illite | | 0,1 | | |
| Magnetite | | 3,6 | | |
| Orthoclase | | 10,8 | | 3,0 |
| Others | | 8,8 | | 12,2 |
| Pyrite | | 0,1 | | 0,2 |
| Quartz | | 2,8 | | 0,7 |
| Unknown | | 2,5 | 1,0 | 5,4 |

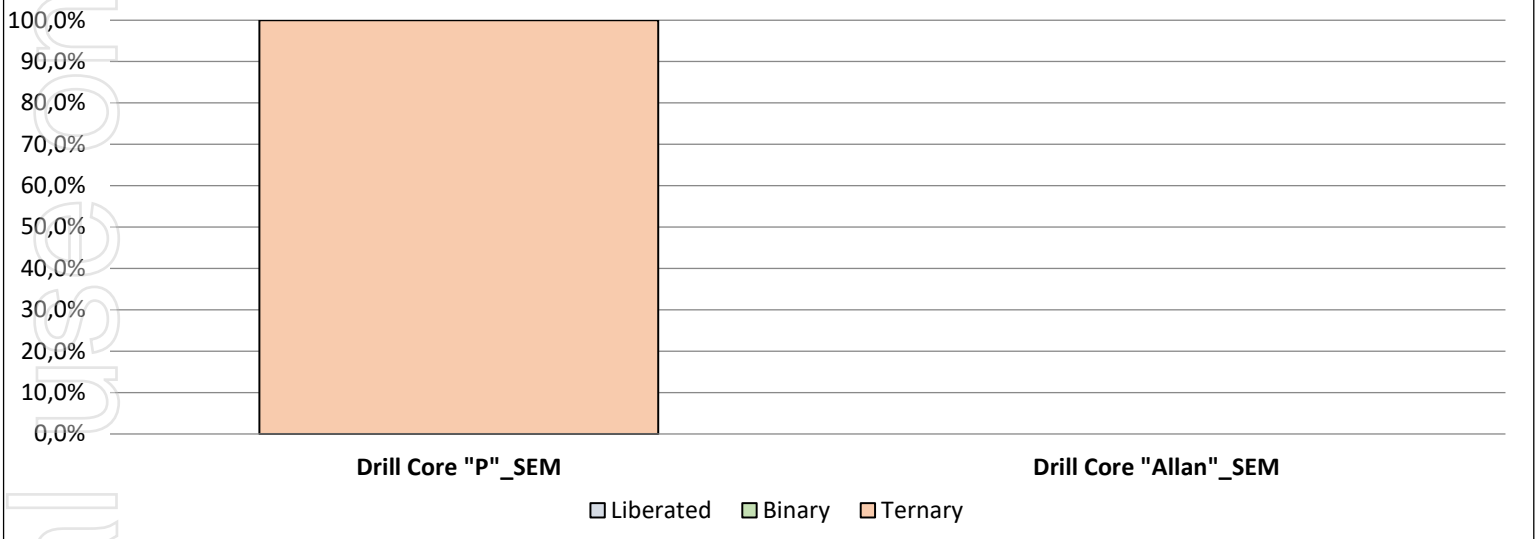


Mineralogical Report - Mineral Locking

Zircon ((Zr,Hf)SiO₄)

| Summary | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|--------------|------------------------|------------------------|
| | Locking percentage (%) | |
| Liberated | | |
| Binary | | |
| Ternary | 100,0 | |
| Total | 100,0 | |

Zircon ((Zr,Hf)SiO₄) Locking



| Locking in | Drill Core "P"_SEM | | Drill Core "Allan"_SEM | |
|------------|--------------------|---------|------------------------|---------|
| | Binary | Ternary | Binary | Ternary |
| Actinolite | | 32,4 | | |
| Albite | | 0,2 | | |
| Biotite | | 0,1 | | |
| Chlorite | | 4,4 | | |
| Magnetite | | 0,2 | | |
| Others | | 2,2 | | |
| Quartz | | 60,0 | | |
| Unknown | | 0,4 | | |

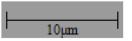


Mineral Locking Particle Image

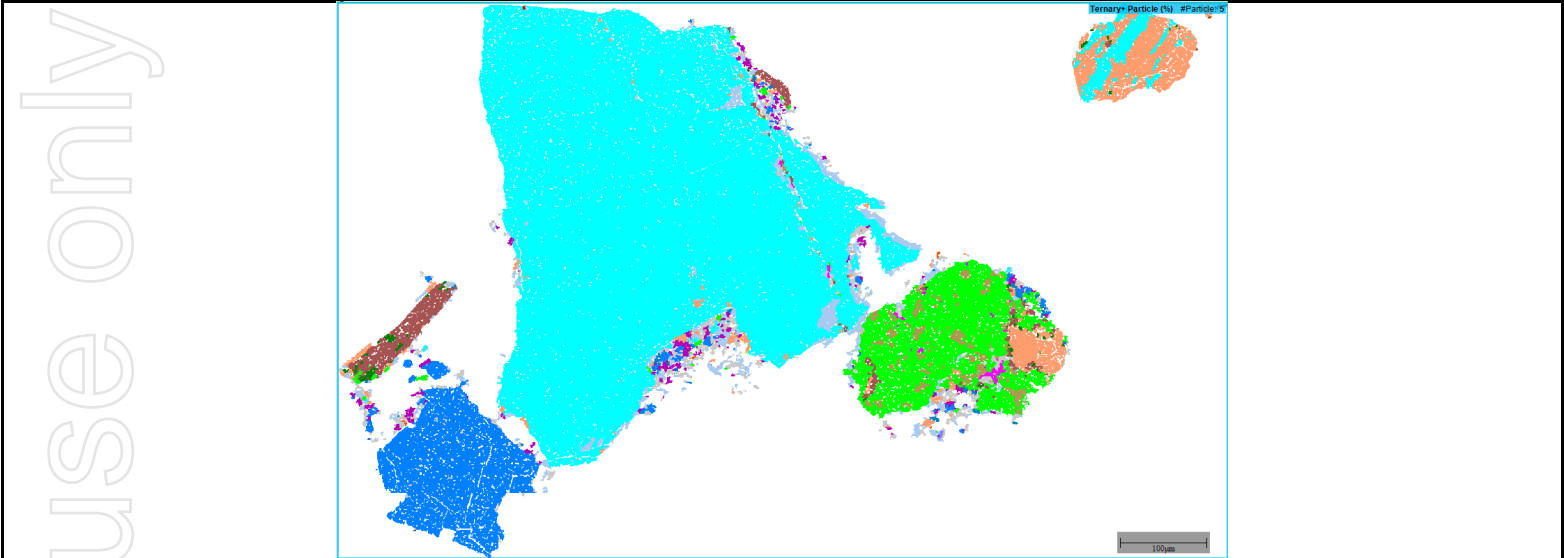
Drill Core "P" _SEM

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Binary Particle

Binary Particle (%) #Particle: 2



Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Ternary Particle



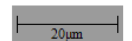
Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Liberated Particle

Liberated #Particle: 8

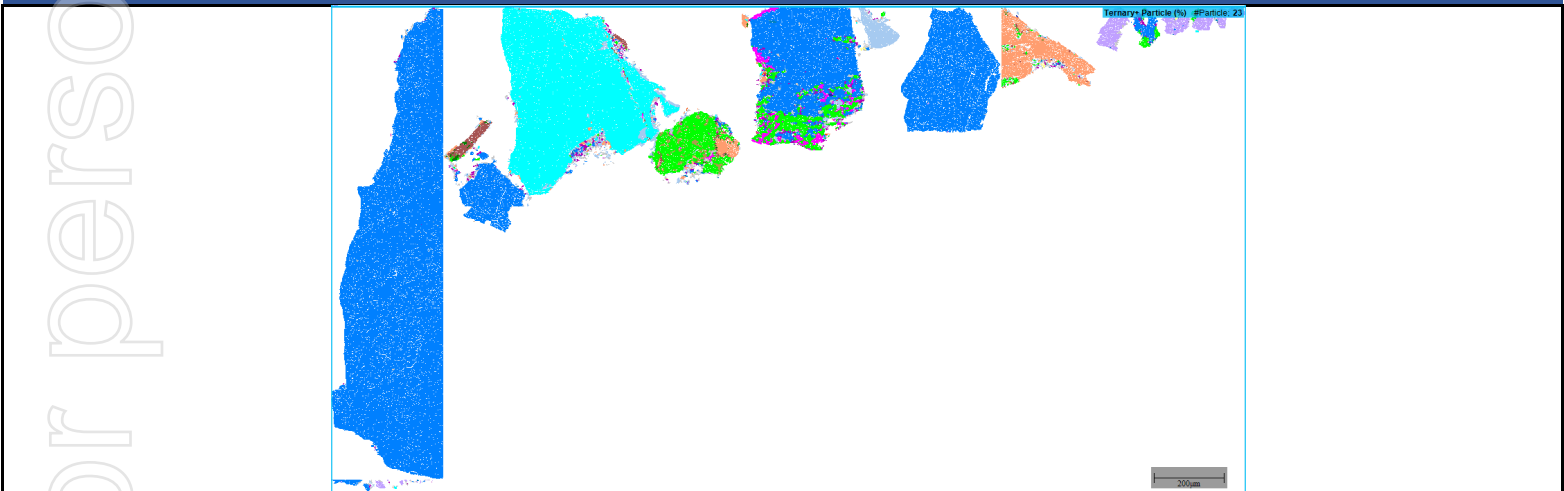


Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Binary Particle

Binary Particle (%) #Particle: 14



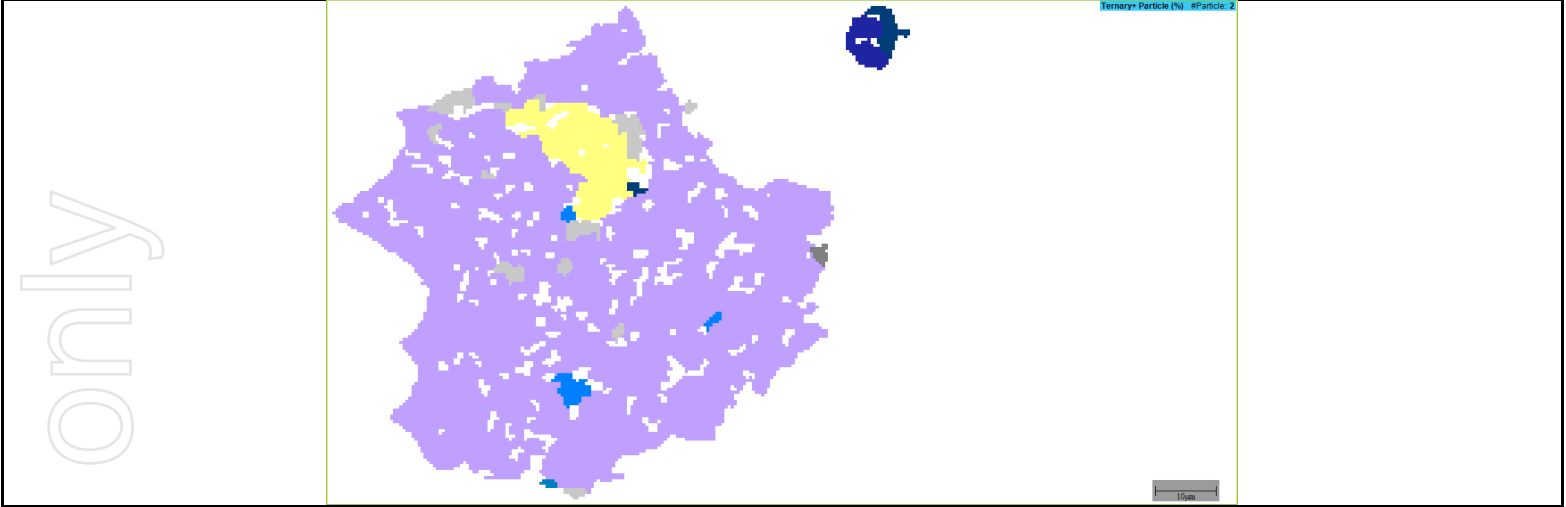
Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Ternary Particle





Mineral Locking Particle Image

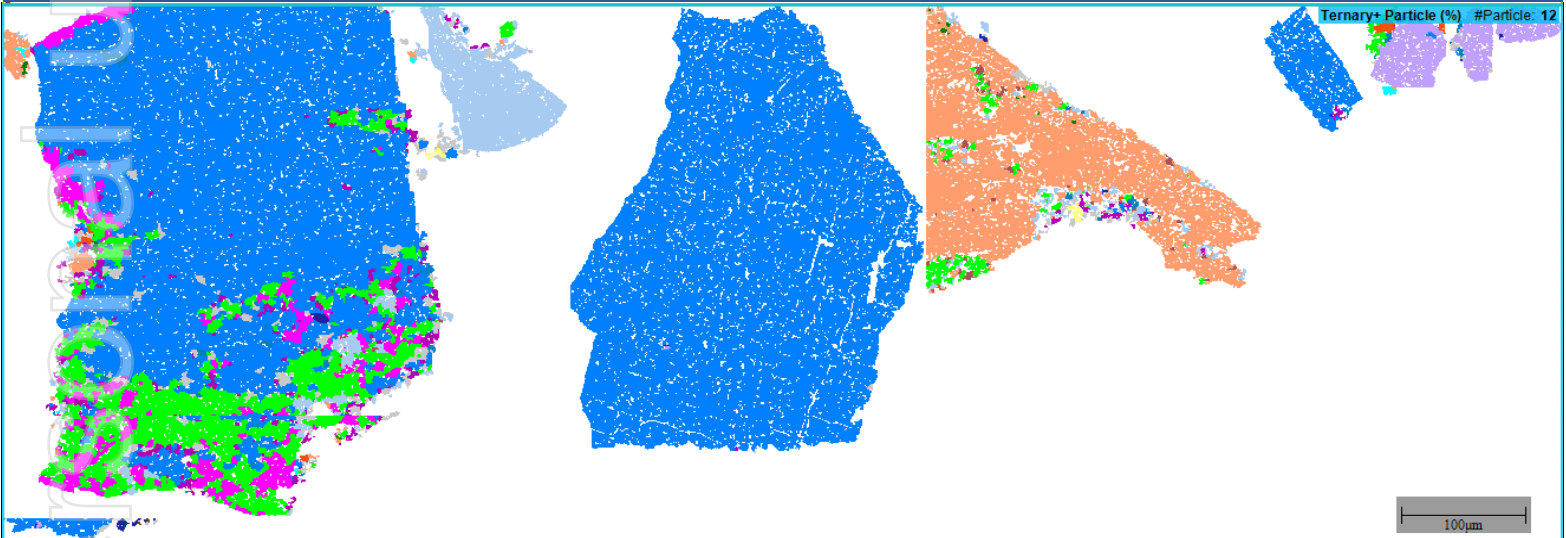
Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO3)2) Ternary Particle



Monazite ((Ce,La,Nd)PO4) Binary Particle



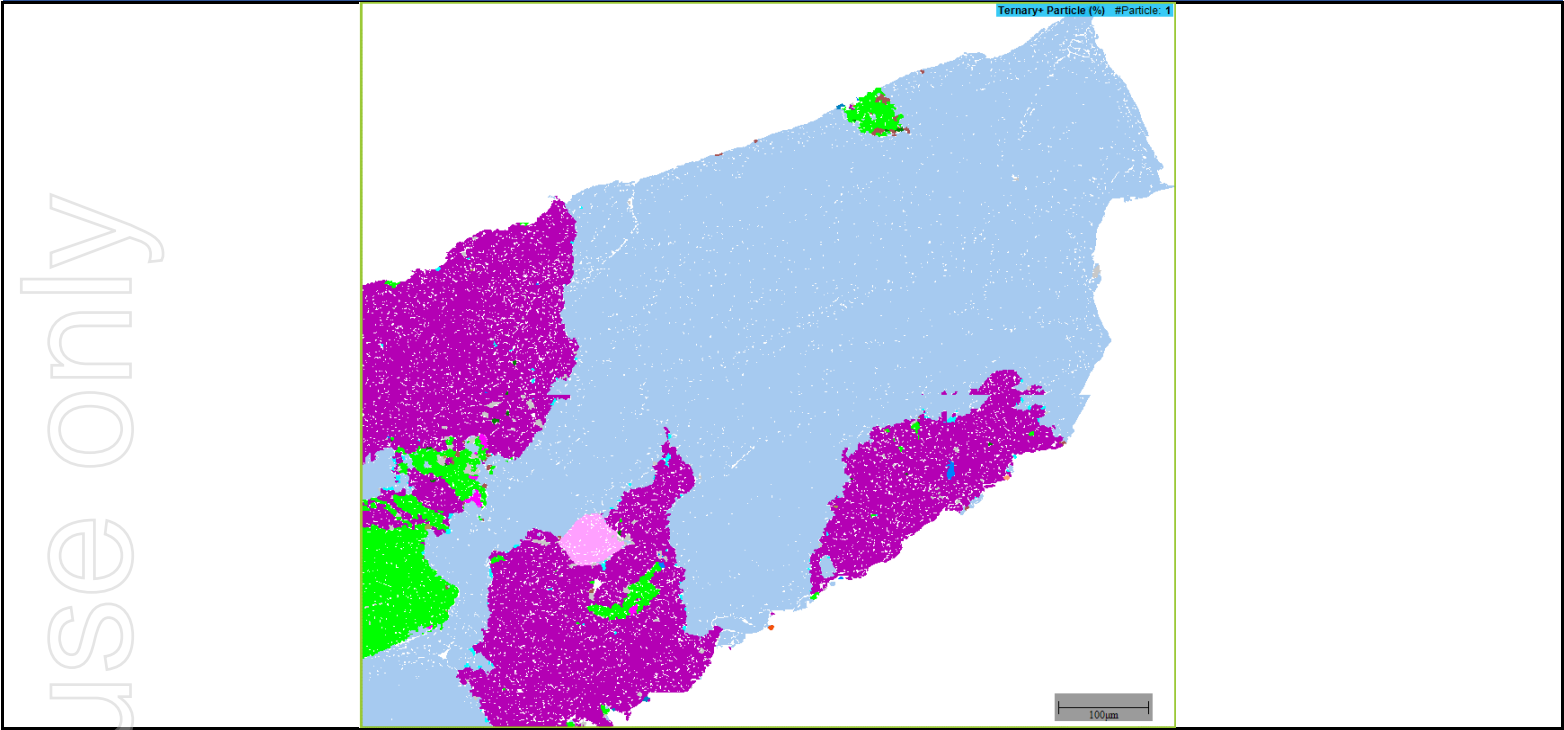
Monazite ((Ce,La,Nd)PO4) Ternary Particle



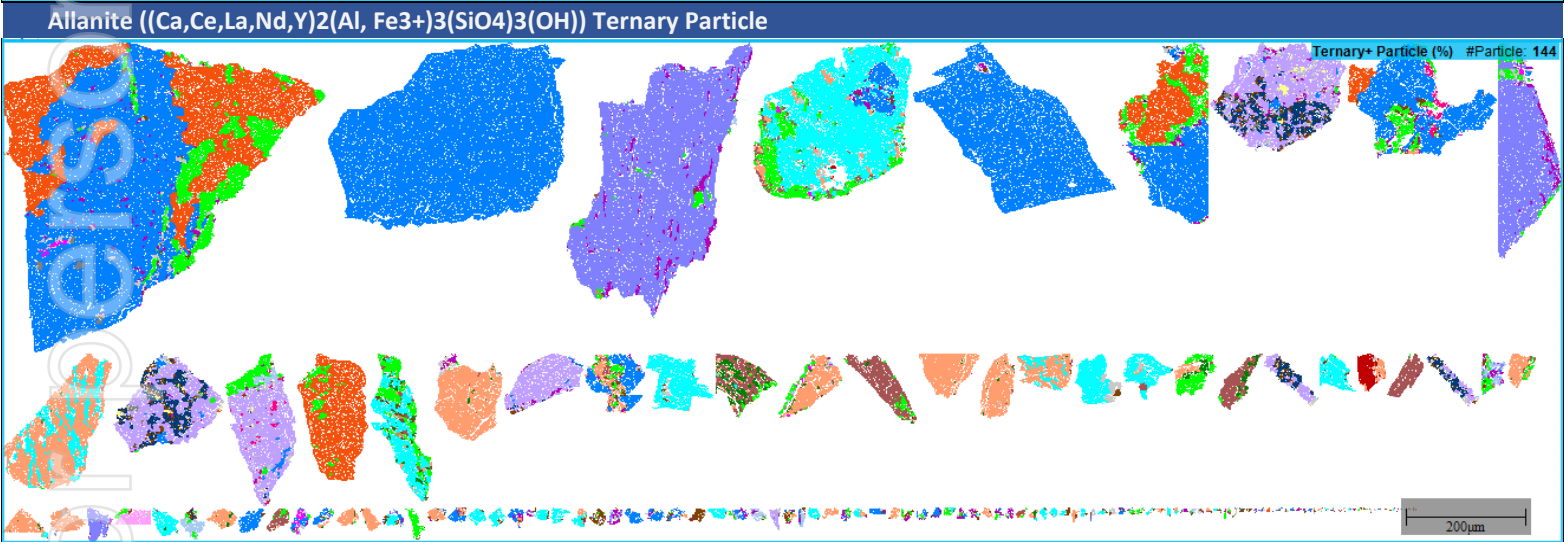
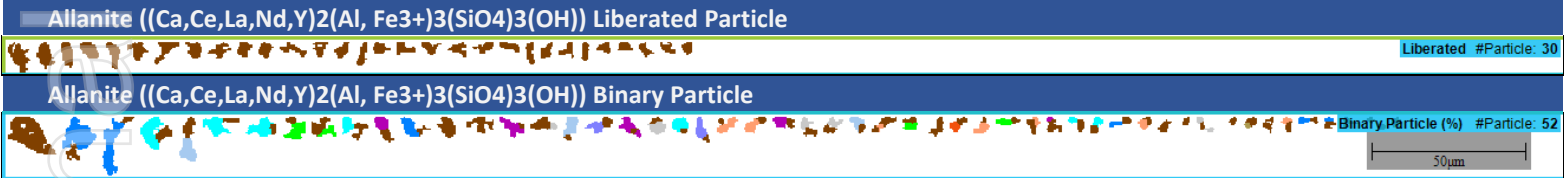


Mineral Locking Particle Image

Zircon ((Zr,Hf)SiO₄) Ternary Particle



Drill Core "Allan" _SEM





Mineral Locking Particle Image

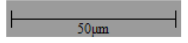
Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Liberated Particle

Liberated #Particle: 20



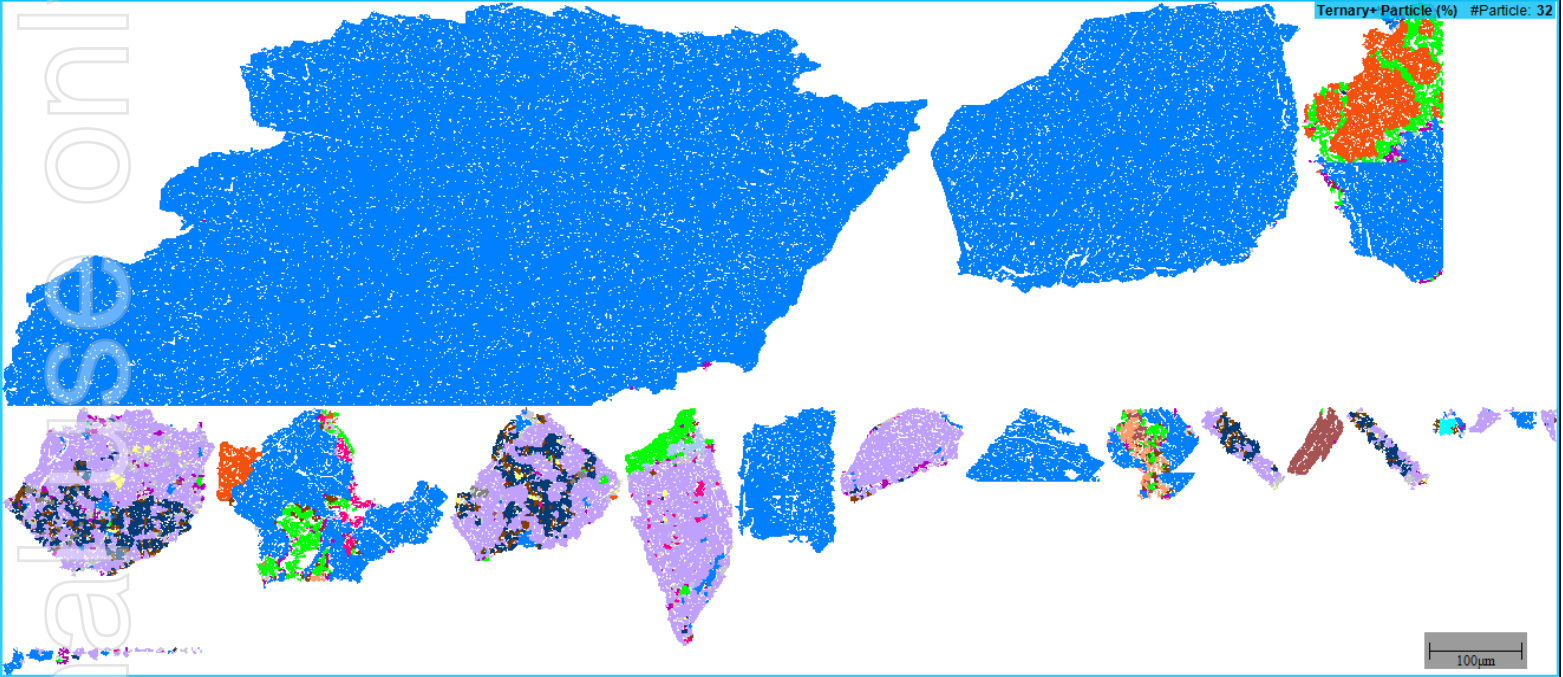
Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Binary Particle

Binary Particle (%) #Particle: 9



Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Ternary Particle

Ternary Particle (%) #Particle: 32



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Mineral Locking Particle Image

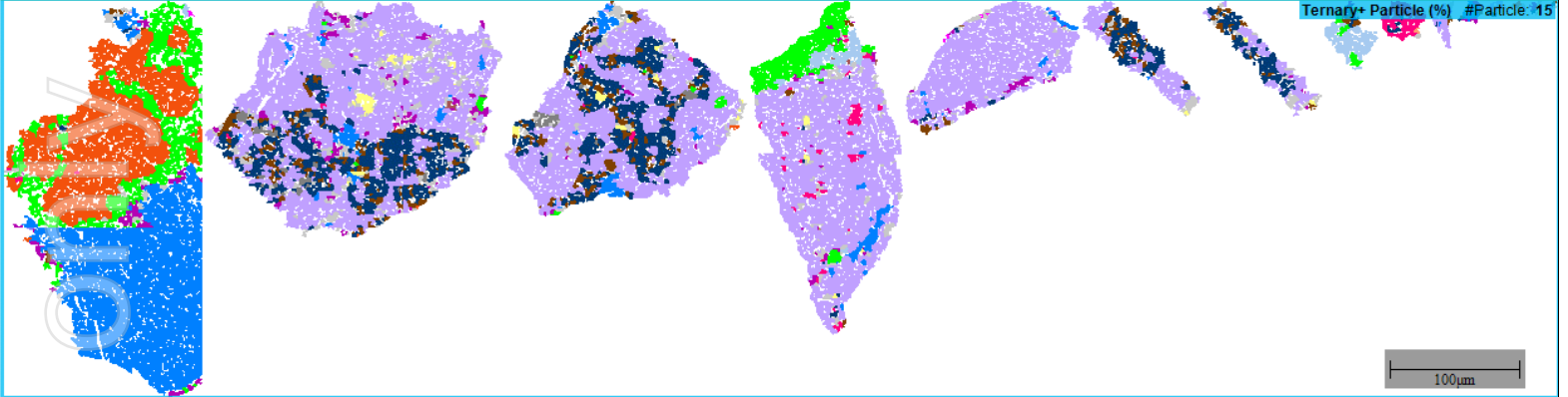
Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO₃)₂) Liberated Particle

Liberated #Particle: 1



Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO₃)₂) Ternary Particle

Ternary+ Particle (%) #Particle: 15



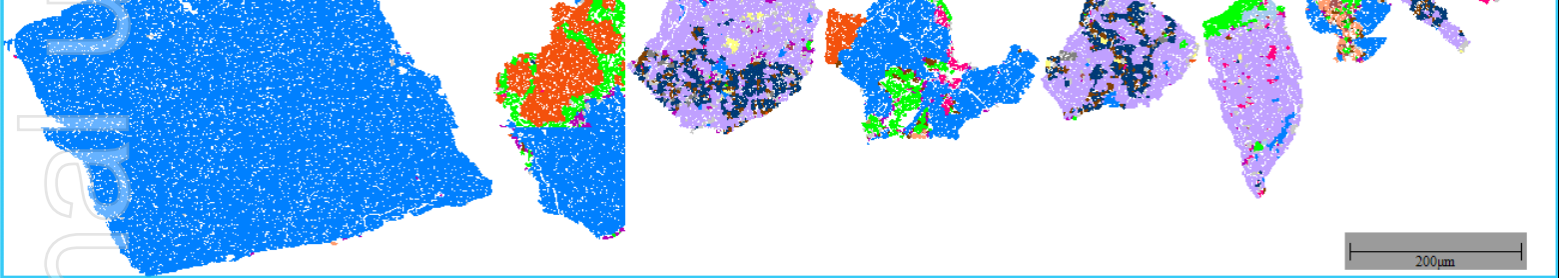
Monazite ((Ce,La,Nd)PO₄) Binary Particle

Binary Particle (%) #Particle: 2



Monazite ((Ce,La,Nd)PO₄) Ternary Particle

Ternary+ Particle (%) #Particle: 13



For persons

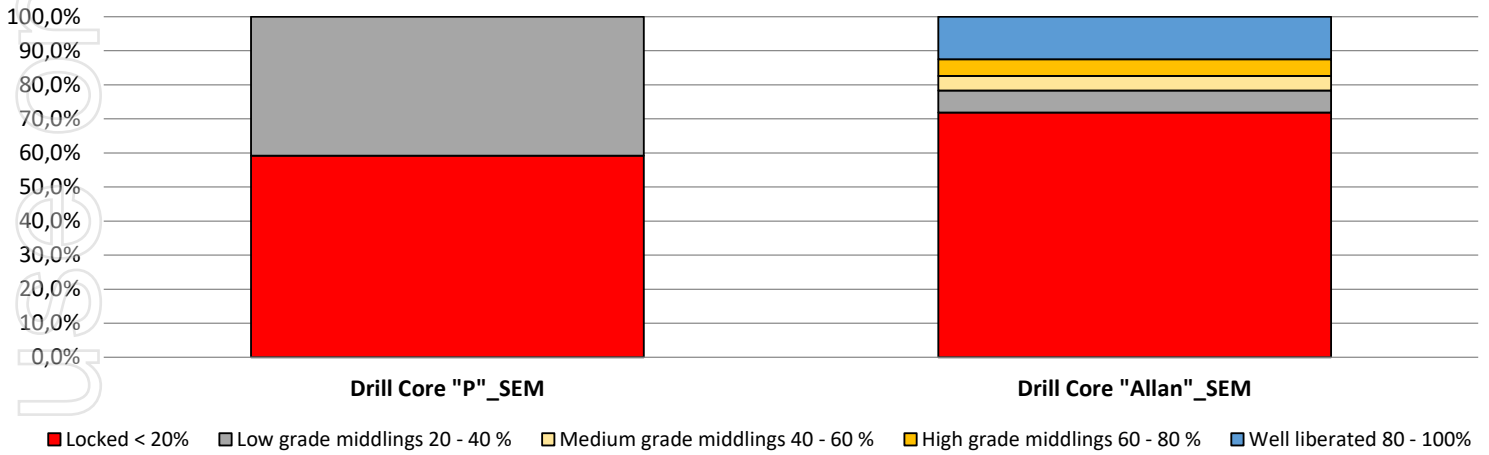


Mineralogical Report - Mineral Liberation

Allanite ((Ca,Ce,La,Nd,Y)2(Al, Fe3+)3(SiO4)3(OH))

| Liberation Classes | Surface Area | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
|------------------------|--------------|---------------------|-------------------------|
| Locked | < 20% | 59,2 | 71,9 |
| Low grade middlings | 20 - 40 % | 40,8 | 6,4 |
| Medium grade middlings | 40 - 60 % | | 4,3 |
| High grade middlings | 60 - 80 % | | 4,9 |
| Well liberated | 80 - 100% | | 12,5 |
| Total | | 100,0 | 100,0 |

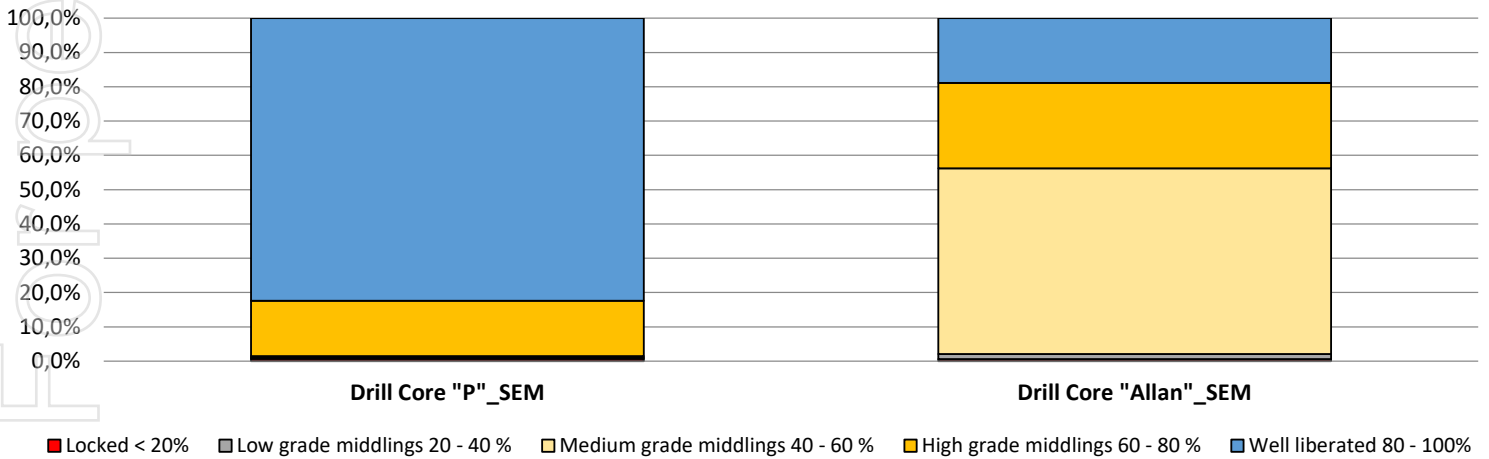
Allanite ((Ca,Ce,La,Nd,Y)2(Al, Fe3+)3(SiO4)3(OH)) Liberation



Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH))

| Liberation Classes | Surface Area | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
|------------------------|--------------|---------------------|-------------------------|
| Locked | < 20% | 0,7 | 0,6 |
| Low grade middlings | 20 - 40 % | 0,3 | 1,5 |
| Medium grade middlings | 40 - 60 % | 0,4 | 54,1 |
| High grade middlings | 60 - 80 % | 16,1 | 24,9 |
| Well liberated | 80 - 100% | 82,4 | 18,9 |
| Total | | 100,0 | 100,0 |

Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH)) Liberation



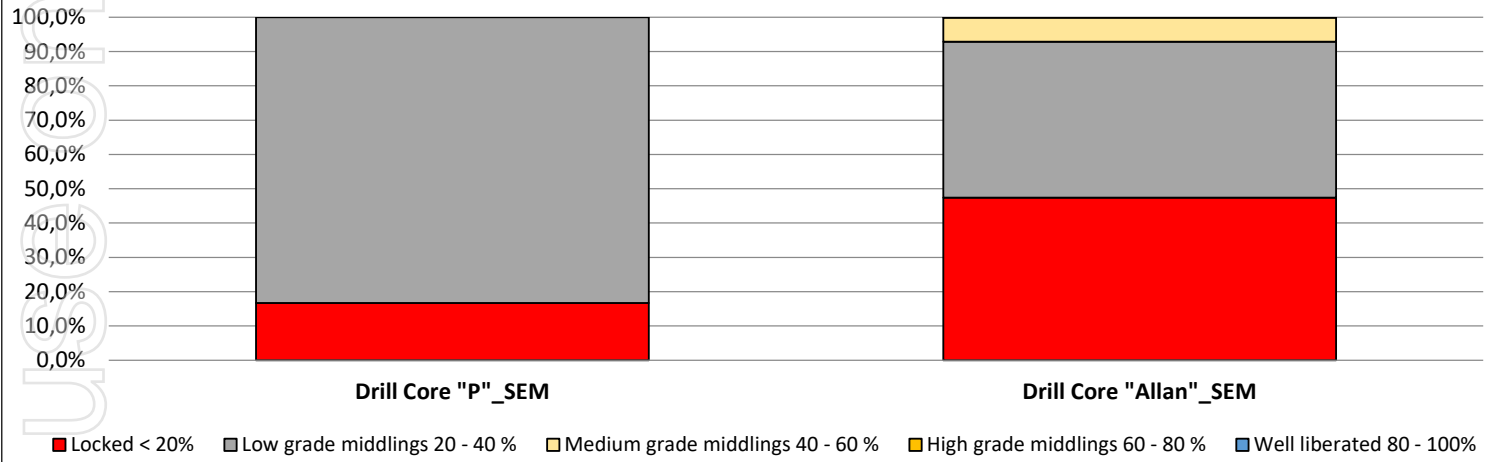


Mineralogical Report - Mineral Liberation

Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO3)2)

| Liberation Classes | Surface Area | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
|------------------------|--------------|---------------------|-------------------------|
| Locked | < 20% | 16,7 | 47,4 |
| Low grade middlings | 20 - 40 % | 83,3 | 45,4 |
| Medium grade middlings | 40 - 60 % | | 7,1 |
| High grade middlings | 60 - 80 % | | |
| Well liberated | 80 - 100% | | 0,1 |
| Total | | 100,0 | 100,0 |

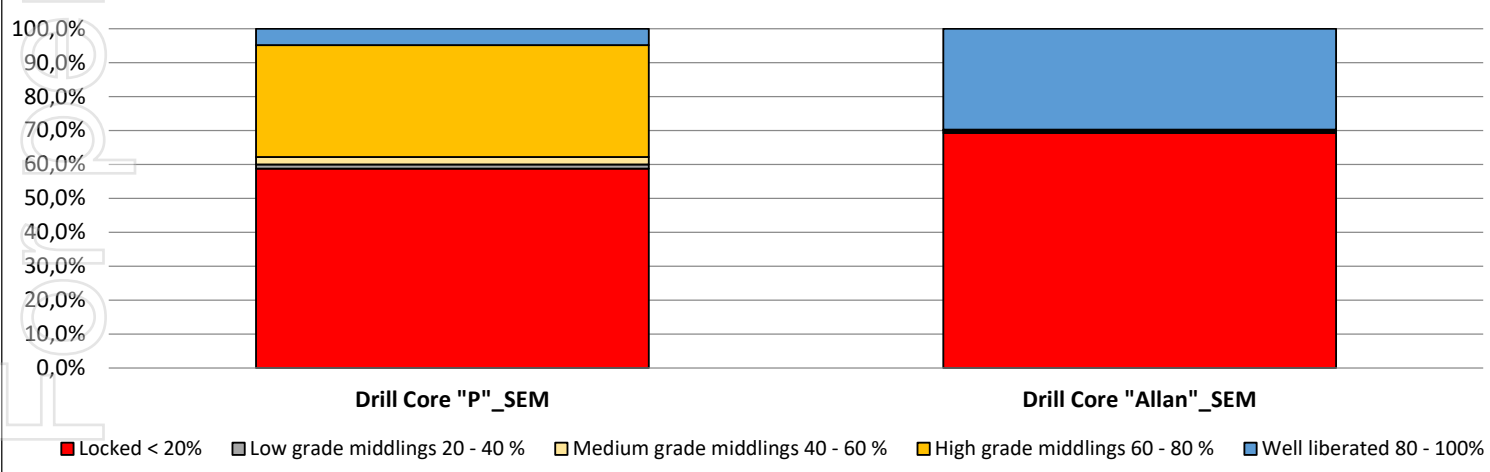
Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO3)2) Liberation



Monazite ((Ce,La,Nd)PO4)

| Liberation Classes | Surface Area | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
|------------------------|--------------|---------------------|-------------------------|
| Locked | < 20% | 58,8 | 69,3 |
| Low grade middlings | 20 - 40 % | 1,2 | 0,6 |
| Medium grade middlings | 40 - 60 % | 2,2 | 0,2 |
| High grade middlings | 60 - 80 % | 33,0 | 0,2 |
| Well liberated | 80 - 100% | 4,8 | 29,7 |
| Total | | 100,0 | 100,0 |

Monazite ((Ce,La,Nd)PO4) Liberation



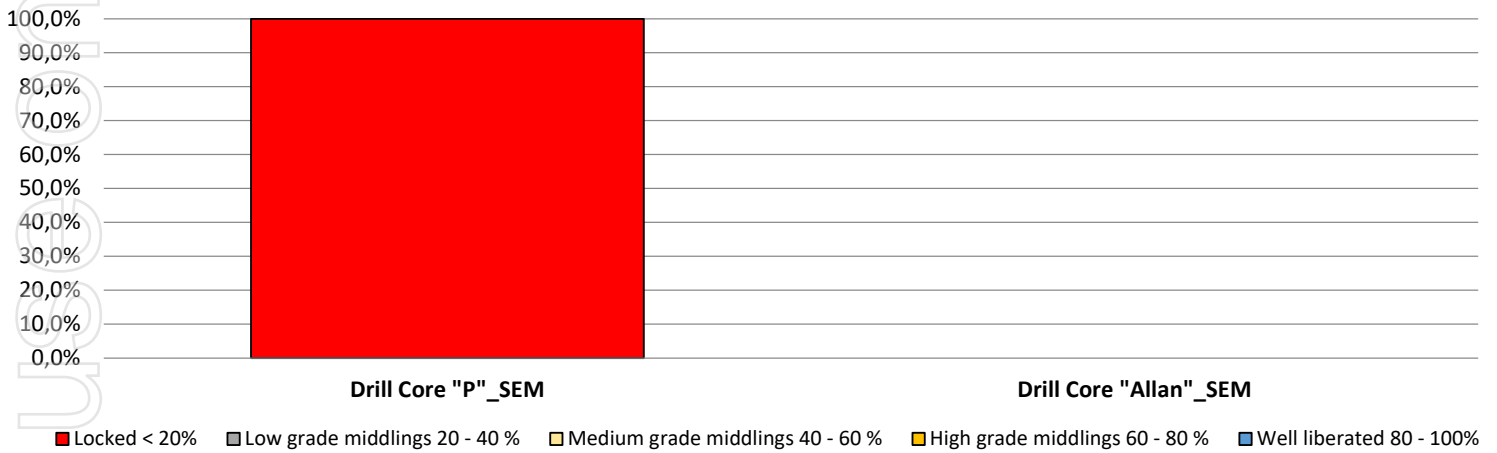


Mineralogical Report - Mineral Liberation

Zircon ((Zr,Hf)SiO₄)

| Liberation Classes | Surface Area | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|------------------------|--------------|--------------------|------------------------|
| Locked | < 20% | 100,0 | |
| Low grade middlings | 20 - 40 % | | |
| Medium grade middlings | 40 - 60 % | | |
| High grade middlings | 60 - 80 % | | |
| Well liberated | 80 - 100% | | |
| Total | | 100,0 | |

Zircon ((Zr,Hf)SiO₄) Liberation





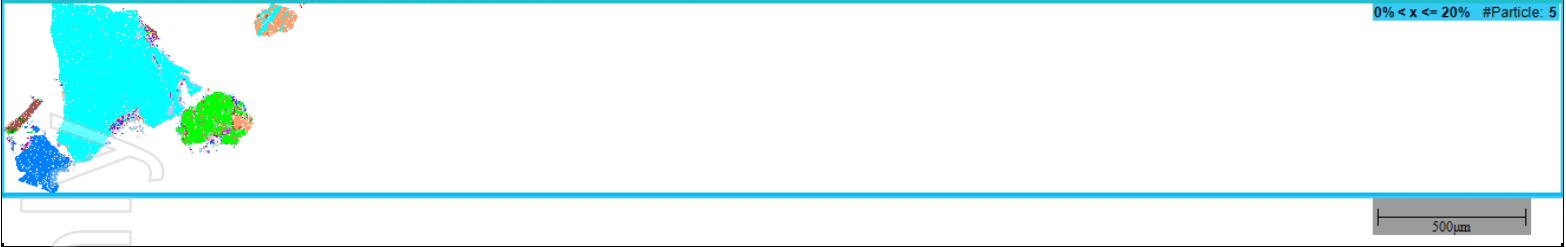
Liberation Class Particle Image

Drill Core "P"_SEM

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH))

Locked (<20%)

0% < x <= 20% #Particle: 5



Apatite (Ca_{5-x}(Ce,Nd)_x(PO₄)₃(F,Cl,OH))

Locked (<20%)

0% < x <= 20% #Particle: 10



Low Grade Middlings (20-40%)

20% < x <= 40% #Particle: 6



Medium Grade Middlings (40-60%)

40% < x <= 60% #Particle: 3



High Grade Middlings (60-80%)

60% < x <= 80% #Particle: 3



Well-liberated (80-100%)

80% < x <= 100% #Particle: 23



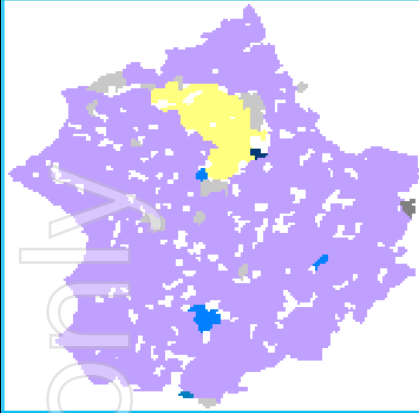


Liberation Class Particle Image

Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO₃)₂)

Locked (<20%)

0% < x <= 20% #Particle: 1



Low Grade Middlings (20-40%)

20% < x <= 40% #Particle: 1

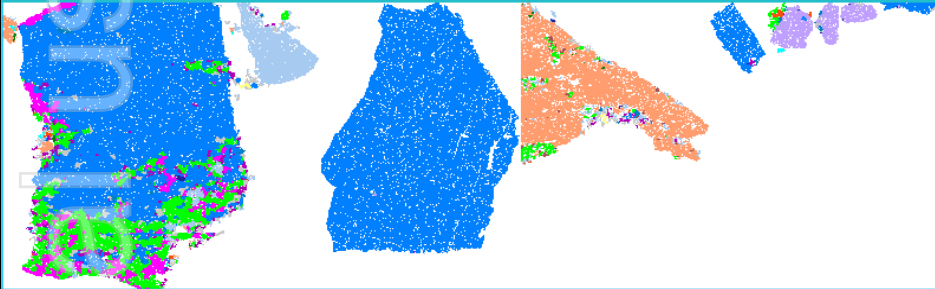


20µm

Monazite ((Ce,La,Nd)PO₄)

Locked (<20%)

0% < x <= 20% #Particle: 8



200µm

Low Grade Middlings (20-40%)

20% < x <= 40% #Particle: 1



Medium Grade Middlings (40-60%)

40% < x <= 60% #Particle: 1



High Grade Middlings (60-80%)

60% < x <= 80% #Particle: 3



Well-liberated (80-100%)

80% < x <= 100% #Particle: 1



10µm



Liberation Class Particle Image

Zircon ((Zr,Hf)SiO₄)

Locked (<20%)

0% < x <= 20% #Particle: 1

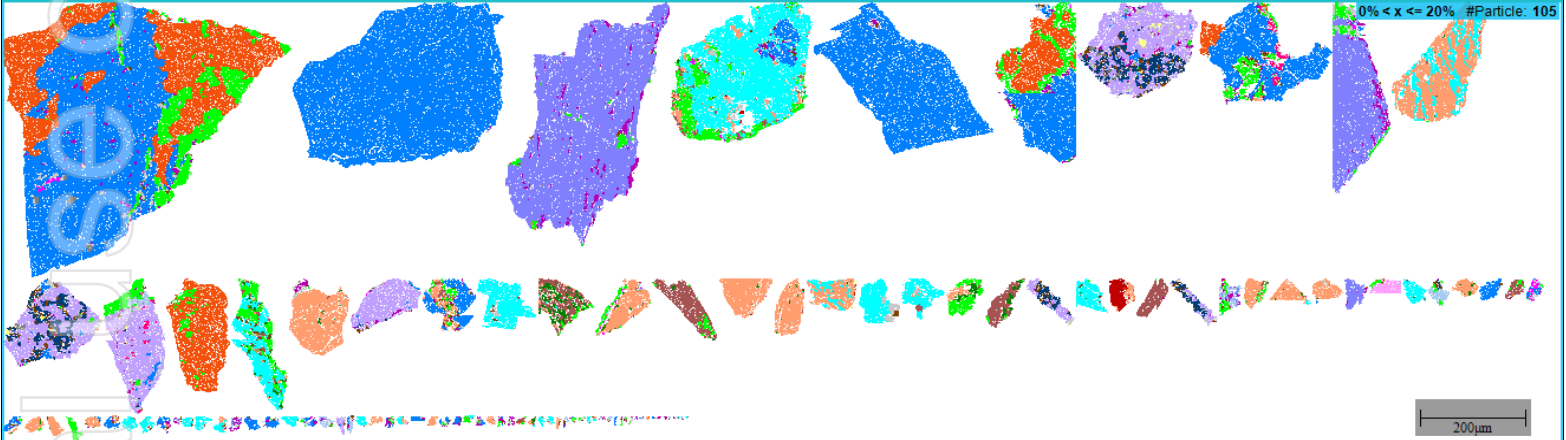


Drill Core "Allan" _SEM

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH))

Locked (<20%)

0% < x <= 20% #Particle: 105



Low Grade Middlings (20-40%)

20% < x <= 40% #Particle: 39



Medium Grade Middlings (40-60%)

40% < x <= 60% #Particle: 23



High Grade Middlings (60-80%)

60% < x <= 80% #Particle: 15



Well-liberated (80-100%)

80% < x <= 100% #Particle: 44

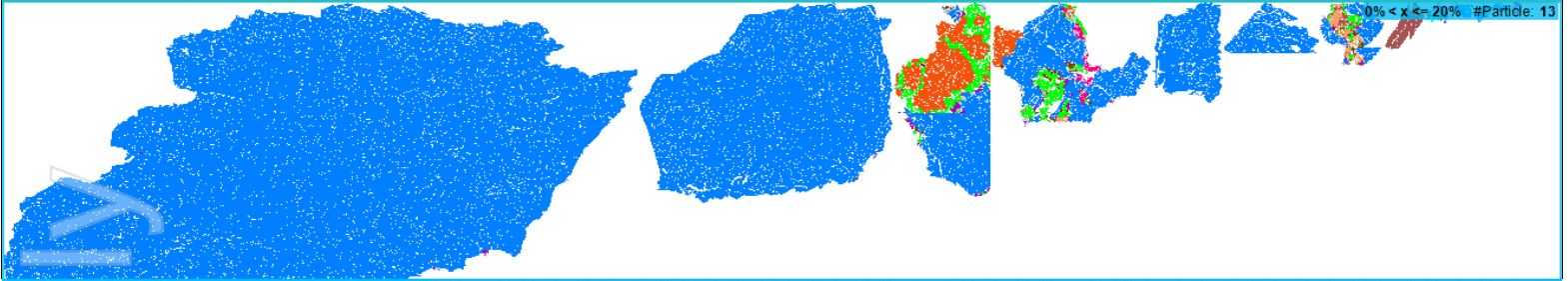




Liberation Class Particle Image

Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$)

Locked (<20%)



Low Grade Middlings (20-40%)



Medium Grade Middlings (40-60%)



High Grade Middlings (60-80%)

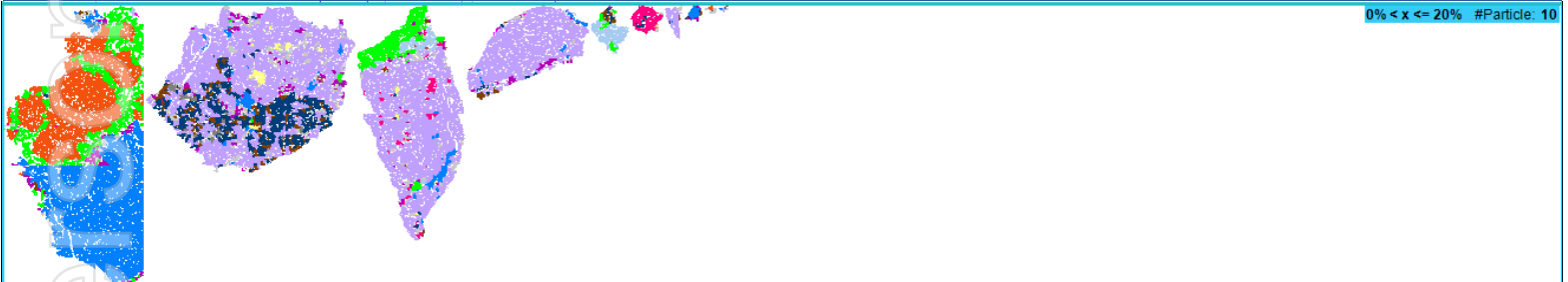


Well-liberated (80-100%)



Carbocernaite ($(\text{Ca,Na})(\text{Sr,Ce,Ba})(\text{CO}_3)_2$)

Locked (<20%)



Low Grade Middlings (20-40%)



Medium Grade Middlings (40-60%)



Well-liberated (80-100%)

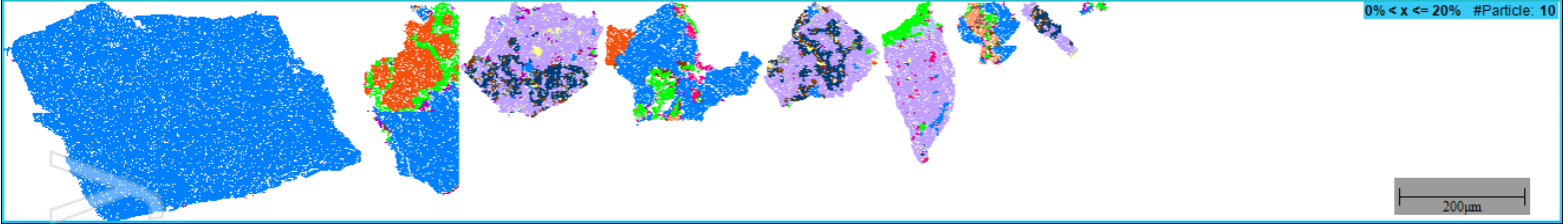




Liberation Class Particle Image

Monazite ((Ce,La,Nd)PO₄)

Locked (<20%)



Low Grade Middlings (20-40%)



Medium Grade Middlings (40-60%)



High Grade Middlings (60-80%)



Well-liberated (80-100%)



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Mineralogical Report - Size Distribution

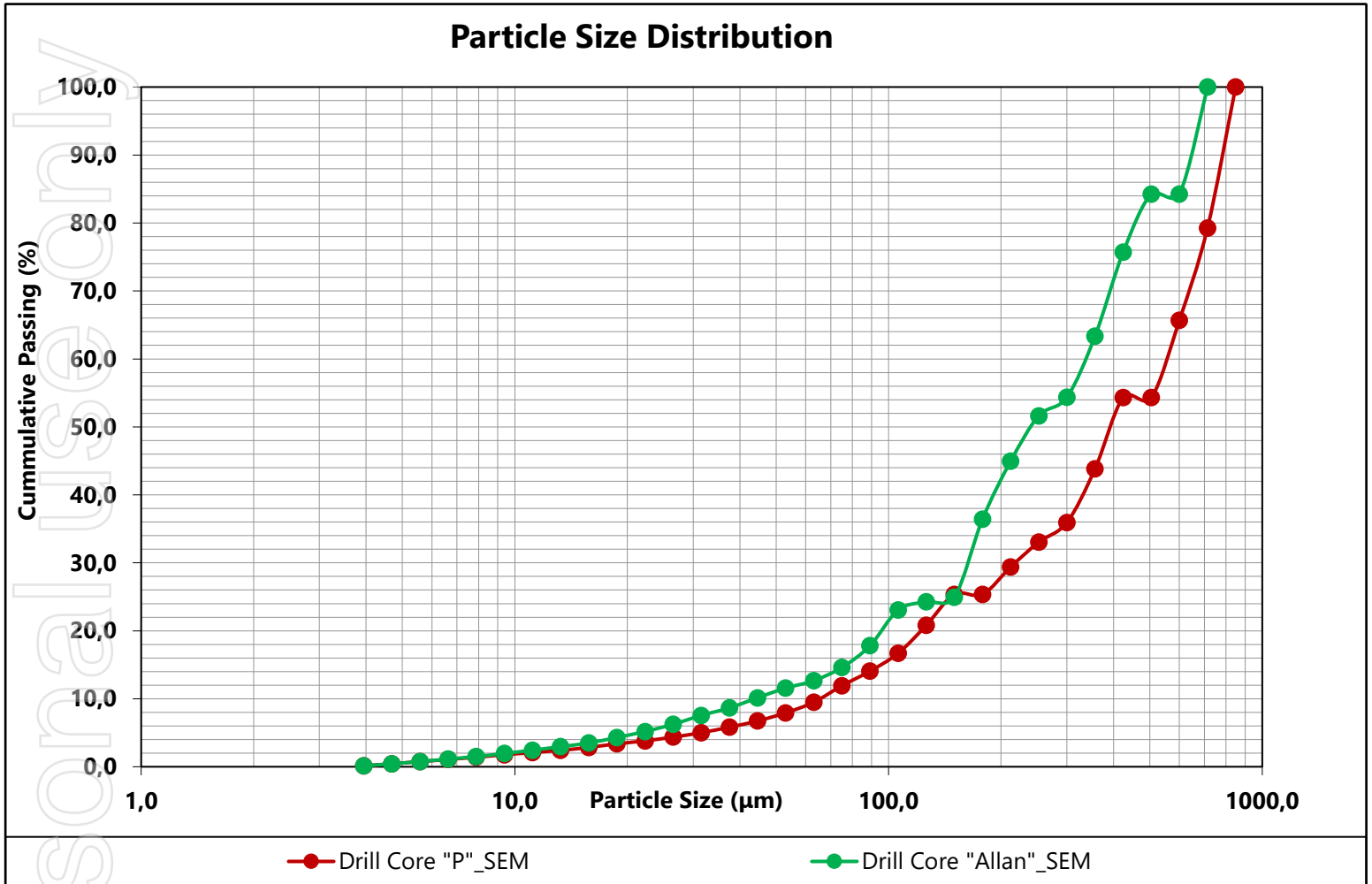
| Size | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
|-------|---------------------|-------------------------|
| 848,5 | 100,0 | |
| 713,5 | 79,3 | 100,0 |
| 600,0 | 65,7 | 84,3 |
| 504,5 | 54,3 | 84,3 |
| 424,3 | 54,3 | 75,7 |
| 356,8 | 43,8 | 63,3 |
| 300,0 | 35,9 | 54,4 |
| 252,3 | 33,1 | 51,6 |
| 212,1 | 29,4 | 44,9 |
| 178,4 | 25,4 | 36,4 |
| 150,0 | 25,4 | 25,0 |
| 126,1 | 20,8 | 24,3 |
| 106,1 | 16,7 | 23,1 |
| 89,2 | 14,1 | 17,8 |
| 75,0 | 11,9 | 14,6 |
| 63,1 | 9,5 | 12,7 |
| 53,0 | 7,9 | 11,6 |
| 44,6 | 6,7 | 10,1 |
| 37,5 | 5,8 | 8,7 |
| 31,5 | 5,0 | 7,6 |
| 26,5 | 4,4 | 6,2 |
| 22,3 | 3,8 | 5,2 |
| 18,8 | 3,4 | 4,3 |
| 15,8 | 2,8 | 3,5 |
| 13,3 | 2,4 | 3,0 |
| 11,1 | 2,1 | 2,4 |
| 9,4 | 1,8 | 2,0 |
| 7,9 | 1,4 | 1,5 |
| 6,6 | 1,1 | 1,1 |
| 5,6 | 0,8 | 0,8 |
| 4,7 | 0,4 | 0,4 |
| 3,9 | 0,1 | 0,1 |

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Mineralogical Report - Size Distribution

| P-Value | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|---------|--------------------|------------------------|
| P-80 | 718,3 | 464,7 |
| P-50 | 396,6 | 242,5 |
| P-20 | 122,2 | 96,2 |



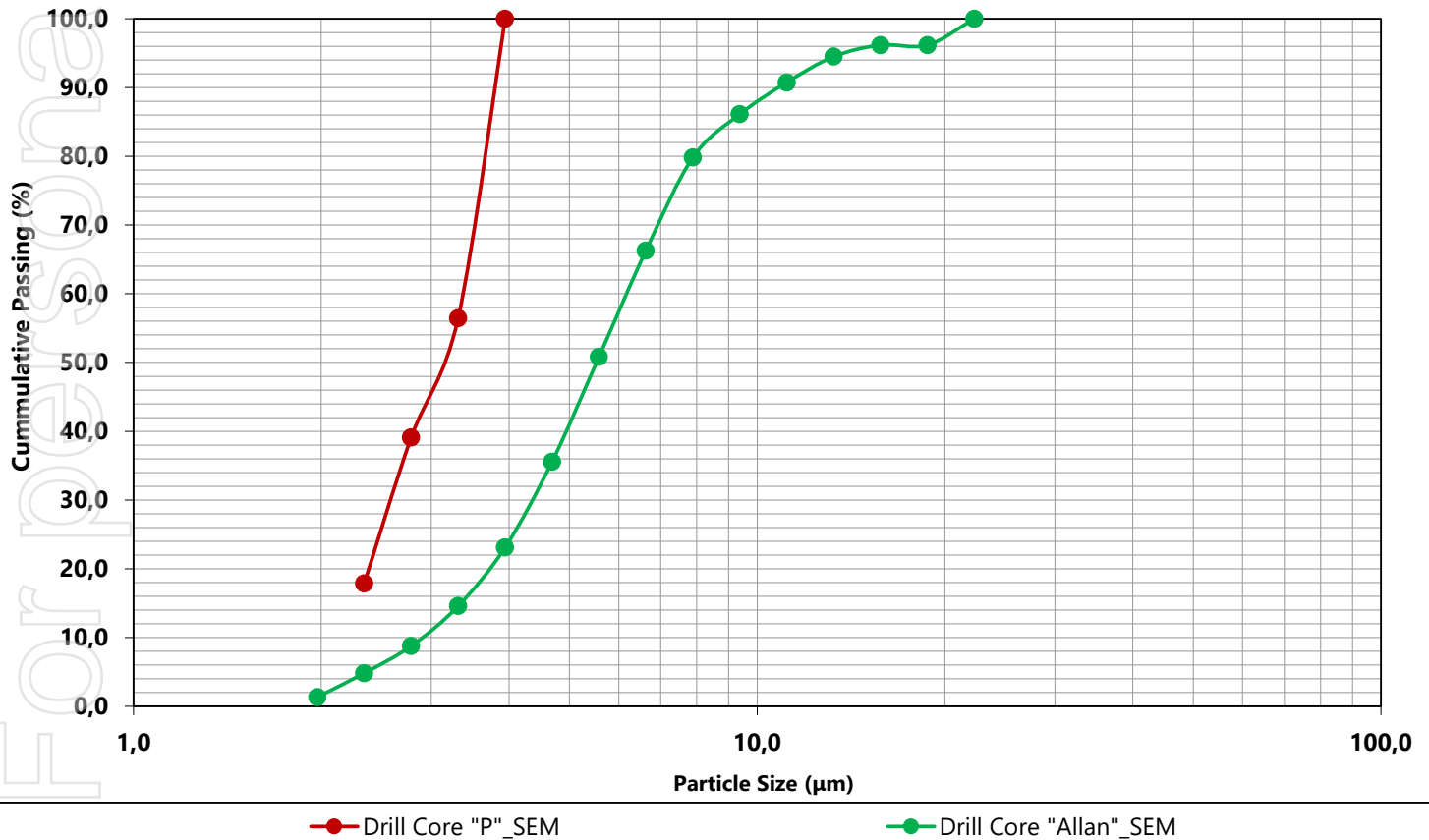


Mineralogical Report - Mineral of Interest Grain Size

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH))

| Size | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|---------|--------------------|------------------------|
| 22,3 | | 100,0 |
| 18,8 | | 96,2 |
| 15,8 | | 96,2 |
| 13,3 | | 94,5 |
| 11,1 | | 90,7 |
| 9,4 | | 86,1 |
| 7,9 | | 79,8 |
| 6,6 | | 66,3 |
| 5,6 | | 50,8 |
| 4,7 | | 35,5 |
| 3,9 | 100,0 | 23,1 |
| 3,3 | 56,4 | 14,6 |
| 2,8 | 39,1 | 8,8 |
| 2,3 | 17,9 | 4,8 |
| 2,0 | | 1,3 |
| P-Value | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| P-80 | 3,7 | 7,9 |
| P-50 | 3,1 | 5,5 |
| P-20 | 2,4 | 3,7 |

Allanite ((Ca,Ce,La,Nd,Y)₂(Al, Fe³⁺)₃(SiO₄)₃(OH)) Size Distribution





Mineralogical Report - Mineral of Interest Grain Size

Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$)

| Size | Drill Core "P" _SEM | Drill Core "Allan" _SEM |
|-------|---------------------|-------------------------|
| 126,1 | | 100,0 |
| 106,1 | | 52,7 |
| 89,2 | 100,0 | 39,0 |
| 75,0 | 63,0 | 26,6 |
| 63,1 | 40,7 | 26,6 |
| 53,0 | 24,9 | 21,5 |
| 44,6 | 24,9 | 17,6 |
| 37,5 | 16,8 | 15,2 |
| 31,5 | 9,5 | 15,2 |
| 26,5 | 9,5 | 15,2 |
| 22,3 | 6,6 | 12,3 |
| 18,8 | 6,6 | 10,3 |
| 15,8 | 6,6 | 7,8 |
| 13,3 | 5,6 | 6,9 |
| 11,2 | 4,9 | 6,2 |
| 9,4 | 4,4 | 5,2 |
| 7,9 | 3,6 | 4,1 |
| 6,6 | 3,1 | 3,0 |
| 5,6 | 2,3 | 2,2 |
| 4,7 | 1,6 | 1,5 |
| 3,9 | 1,0 | 1,2 |
| 3,3 | 0,5 | 0,7 |
| 2,8 | 0,3 | 0,4 |
| 2,3 | 0,2 | 0,2 |
| | | 0,1 |

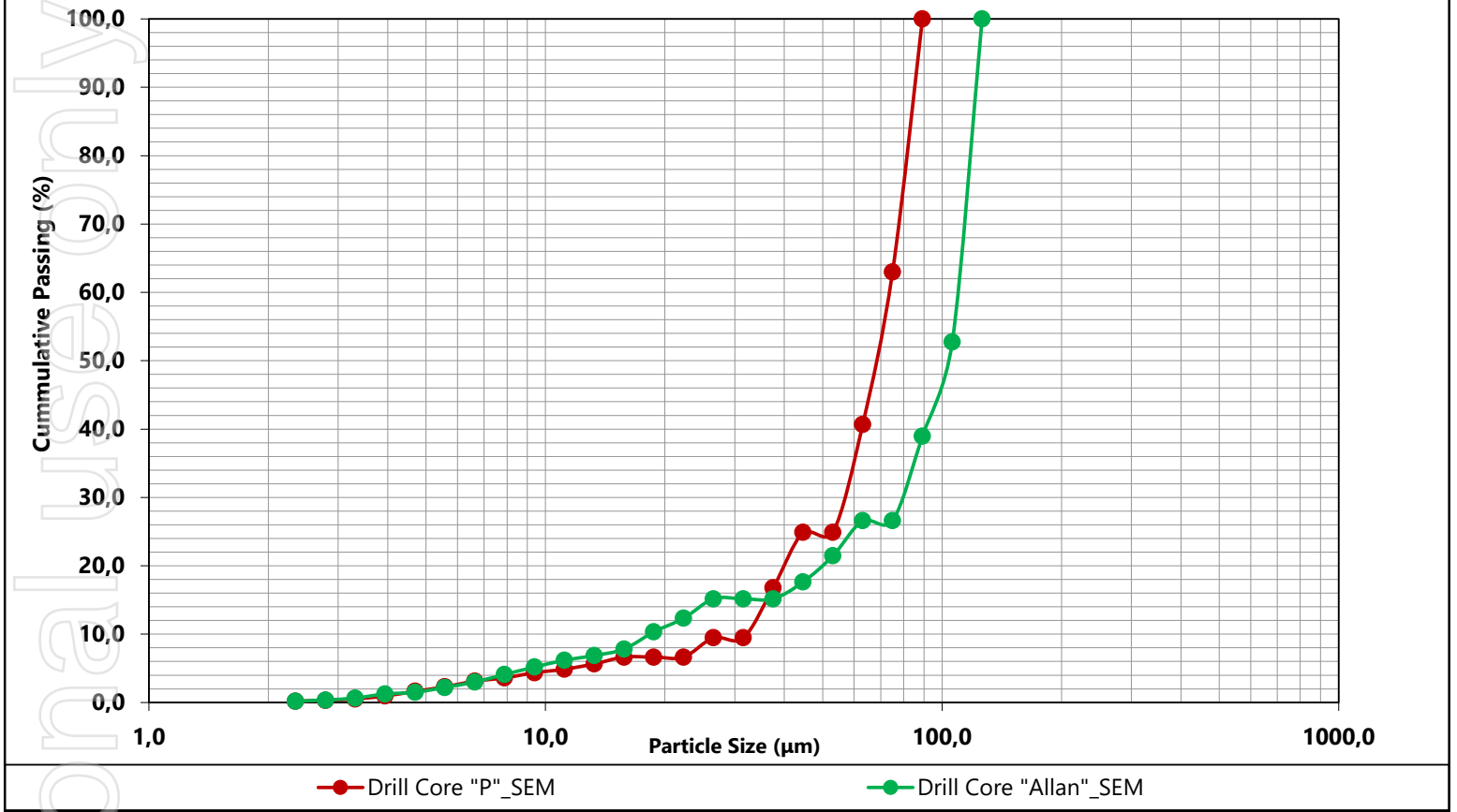
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Mineralogical Report - Mineral of Interest Grain Size

| P-Value | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|---------|--------------------|------------------------|
| P-80 | 81,5 | 117,6 |
| P-50 | 68,1 | 102,7 |
| P-20 | 40,3 | 49,8 |

Apatite ($\text{Ca}_{5-x}(\text{Ce,Nd})_x(\text{PO}_4)_3(\text{F,Cl,OH})$) Size Distribution





Mineralogical Report - Mineral of Interest Grain Size

Carbocernaite ((Ca,Na)(Sr,Ce,Ba)(CO₃)₂)

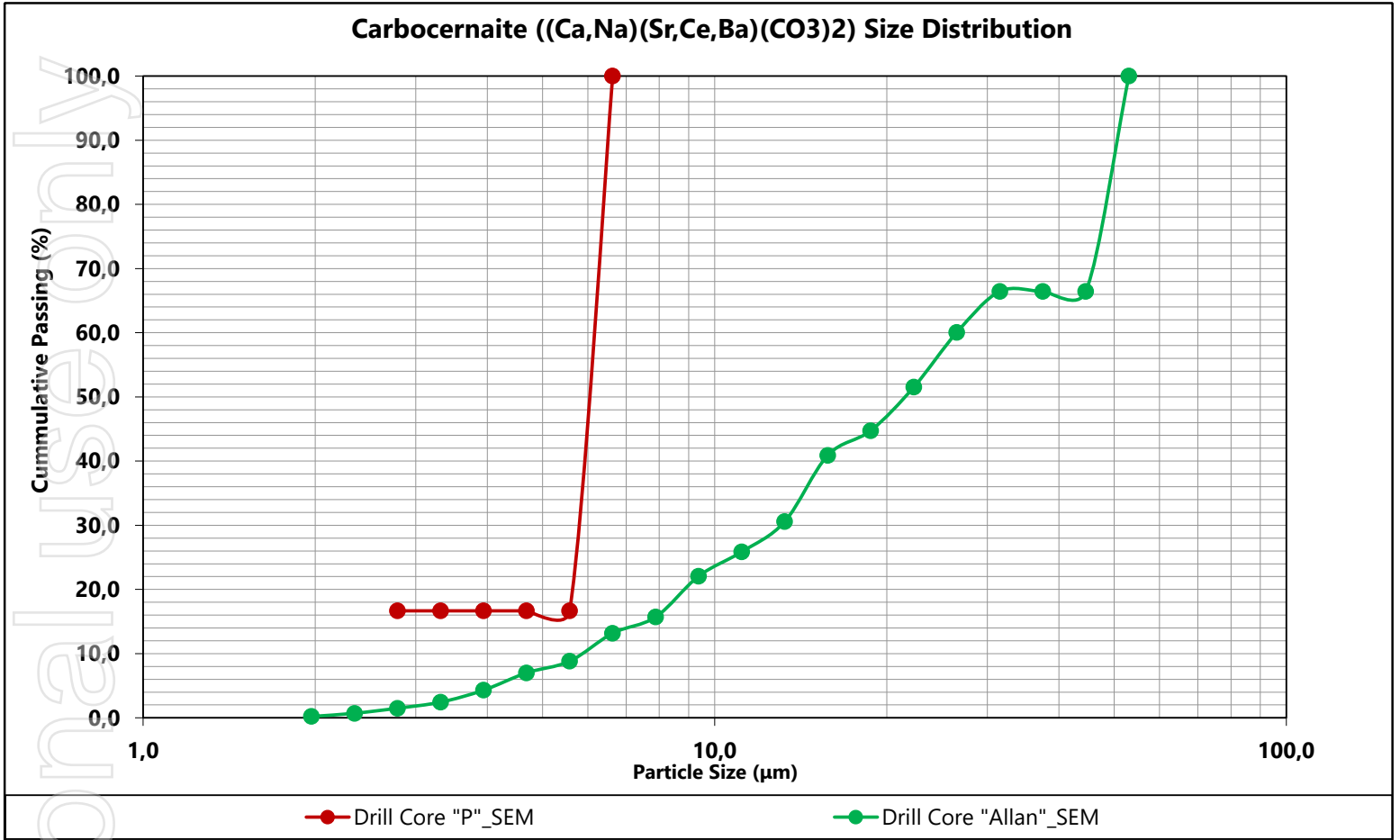
| Size | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|------|--------------------|------------------------|
| 53,0 | | 100,0 |
| 44,6 | | 66,4 |
| 37,5 | | 66,4 |
| 31,5 | | 66,4 |
| 26,5 | | 60,0 |
| 22,3 | | 51,5 |
| 18,8 | | 44,8 |
| 15,8 | | 40,9 |
| 13,3 | | 30,6 |
| 11,1 | | 25,9 |
| 9,4 | | 22,1 |
| 7,9 | | 15,7 |
| 6,6 | 100,0 | 13,2 |
| 5,6 | 16,7 | 8,8 |
| 4,7 | 16,7 | 7,0 |
| 3,9 | 16,7 | 4,3 |
| 3,3 | 16,7 | 2,4 |
| 2,8 | 16,7 | 1,5 |
| 2,3 | | 0,7 |
| 2,0 | | 0,2 |

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Mineralogical Report - Mineral of Interest Grain Size

| P-Value | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|---------|--------------------|------------------------|
| P-80 | 6,4 | 48,0 |
| P-50 | 6,0 | 21,5 |
| P-20 | 5,6 | 8,9 |



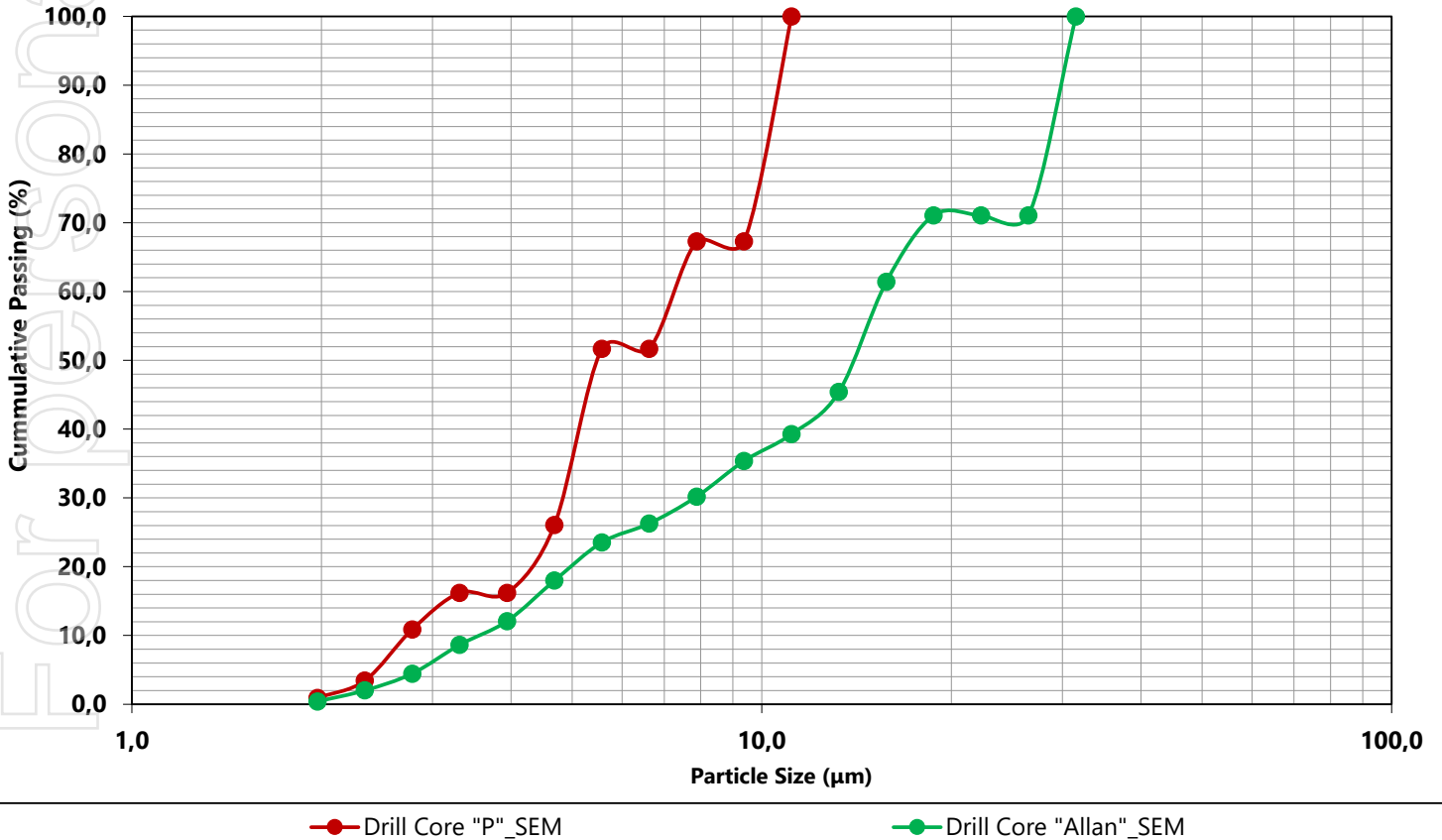


Mineralogical Report - Mineral of Interest Grain Size

Monazite ((Ce,La,Nd)PO₄)

| Size | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|---------|--------------------|------------------------|
| 31,5 | | 100,0 |
| 26,5 | | 71,1 |
| 22,3 | | 71,1 |
| 18,8 | | 71,1 |
| 15,8 | | 61,4 |
| 13,3 | | 45,4 |
| 11,1 | 100,0 | 39,3 |
| 9,4 | 67,3 | 35,4 |
| 7,9 | 67,3 | 30,2 |
| 6,6 | 51,7 | 26,3 |
| 5,6 | 51,7 | 23,5 |
| 4,7 | 26,1 | 18,0 |
| 3,9 | 16,2 | 12,1 |
| 3,3 | 16,2 | 8,7 |
| 2,8 | 10,9 | 4,5 |
| 2,3 | 3,4 | 2,0 |
| 2,0 | 0,9 | 0,4 |
| P-Value | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| P-80 | 10,1 | 28,1 |
| P-50 | 5,5 | 14,0 |
| P-20 | 4,2 | 5,0 |

Monazite ((Ce,La,Nd)PO₄) Size Distribution



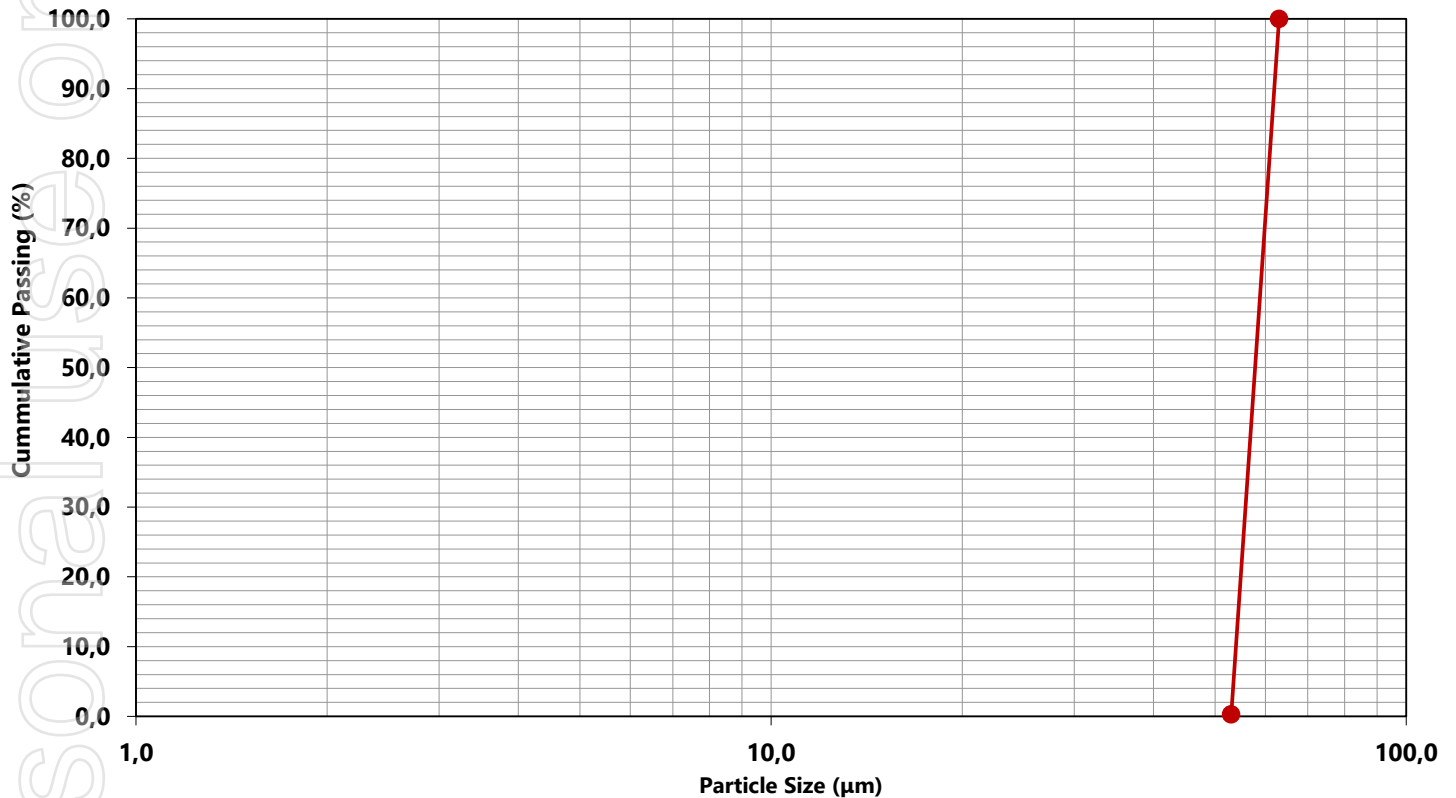


Mineralogical Report - Mineral of Interest Grain Size

Zircon ((Zr,Hf)SiO₄)

| Size | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
|---------|--------------------|------------------------|
| 63,1 | 100,0 | |
| 53,0 | 0,3 | |
| P-Value | Drill Core "P"_SEM | Drill Core "Allan"_SEM |
| P-80 | 61,1 | |
| P-50 | 58,0 | |
| P-20 | 55,0 | |

Zircon ((Zr,Hf)SiO₄) Size Distribution



● Drill Core "P"_SEM

● Drill Core "Allan"_SEM



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Scanning Electron Microscope (SEM)

An electron based mineralogical measurement technique. This method is also supported by Energy Dispersive Spectrometry (EDS), which emits x-ray to define pointed mineral based on the chemical composition.

Mineral Liberation Analysis (MLA)

The Mineral Liberation Analyzer (MLA) is an automated mineral analysis system that can identify minerals in polished sections of drill core, particulate or lump materials, and quantify a wide range of mineral characteristics, such as mineral abundance, grain size and liberation. Mineral texture and liberation potential are fundamental properties of ore and drive its economic treatment; the data gathered by the MLA is therefore invaluable to geologists, mineralogists. At PT. Geoservices, the MLA software is Advance Mineralogical Identification Characterization System (AMICS) by Bruker.

Backscattered Electron (BSE)

BSE come from the deeper regions of the sample. BSE images show high sensitivity to differences in atomic number, The higher the atomic number, the brighter the image appears in the image.

Particle Mineral Analysis (PMA)

This analysis provides mineral composition (including non-sulfide gangue), element mineral department, and mineral fragmentation characteristics (liberation and association). The analysis normally performed on each fraction of sized samples, typically four fractions per sample.

Bulk Mineral Analysis

Rapid line scan analysis in one direction only to provide good statistics on bulk mineralogy. This measurement type not measure full sample area, only intersection lines. BMA is very fast mode. It provides modal mineralogy, calculated assay, estimated particle, grain size, and mineral association data.

Trace Mineral Search

Detailed particle mineralogical information on trace mineral (e.g. precious metals, penalty minerals, and other mineral of interest). This analysis provides mineral liberation, association, and grain size of target minerals.

Specific Mineral Search

Detailed particle mineralogical information on only specific Minerals of Interest (Mol).

Field Scan

Detailed mapping of larger samples (e.g. thin sections).

Modal Mineralogy

The bulk mineralogical composes the sample. Each analysed mineral provides the weight % (wt%) which is calculated from measurement area and uses average mineral densities. The presented mineralogy is in semi-quantitative manner and each minerals are classified by their spectra.

Assay Reconciliation

A comparison between chemical assay and AMICS assay as data validation.

Elemental Map

Distribution of selected element on several grain at certain area. Each elements will be distinguished based on software-based color. This mode is available on Esprit 2.1 software by Bruker.

Elemental Department

Quantify the average distribution of specific elements among the targeted minerals with several common gangue minerals on the sample. The elemental department is also compared to chemical assay as data validation.

Mineral Association

A spatial relationship measurement in terms of shared grain boundaries and mineral association refers to adjacency. Two minerals are "associated" if a pixel of one of the minerals occurs adjacent to a pixel of the other mineral. In this report association takes into account both vertically- and horizontally-adjacent pixels.

Particle

An aggregate of mineral grains. One particle may contain more than one mineral. On the other hand, grain is an individual mineral. A particle usually refers to a fragment of a rock or ore, the size of which is dependent on crushing and milling conditions .



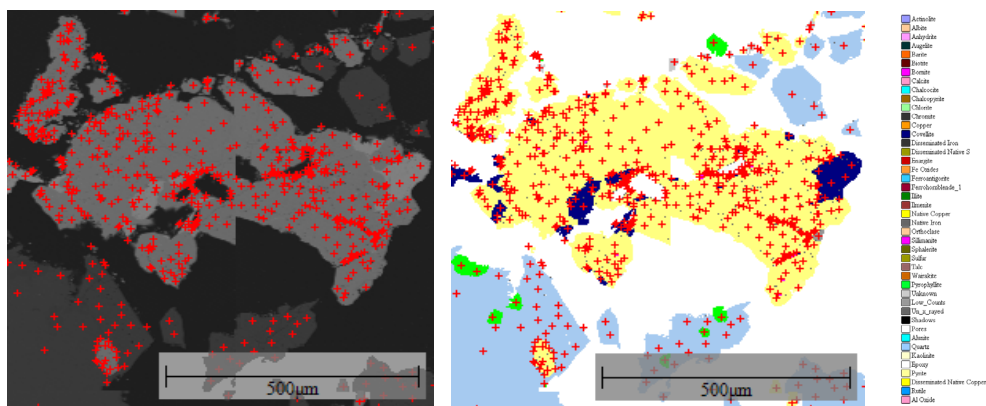
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Mineral Grouping

Several minerals which have the main mineral with one or more attached elements/ minerals. The main mineral has the most intense spectra than the attached element. The group name is based on the most intense mineral presences according to spectra peaks.

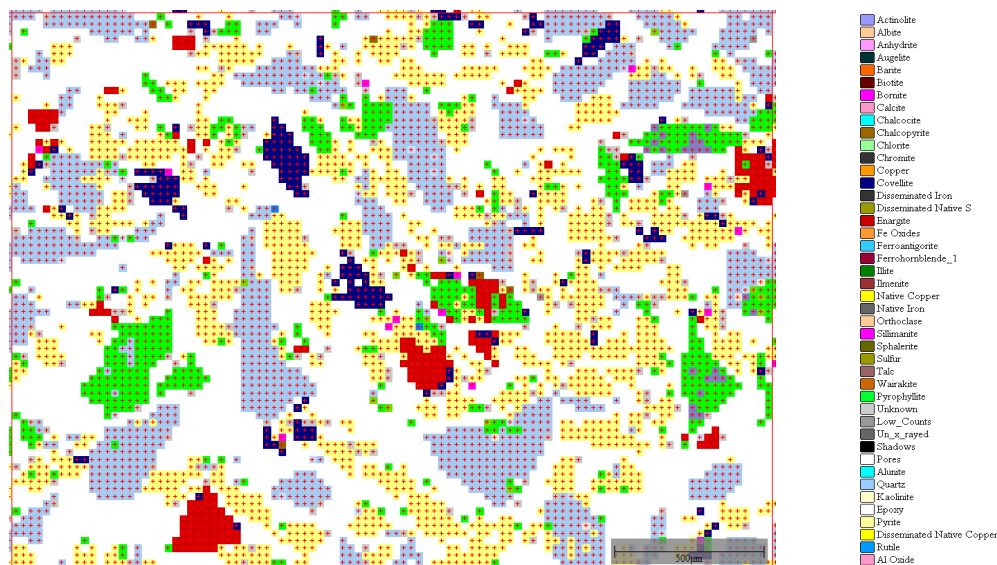
Particle Mode

AMICS measurement mode distinguished by certain mineral BSE level. Different BSE level will be subjected by the x-ray. One x-ray will classify one boundary which has similar BSE level and determine it as a certain mineral. This measurement mode provides a faster scanning mode.



Mapping Mode

A grid-based measurement mode in AMICS. The x-ray will be subjected to each minerals and scanned based on certain x-ray spacing. The x-ray is also subjected to certain mineral based on their boundaries, therefore epoxy will not be scanned. The result is a pixel-like image. This scanning mode consumes longer measurement time, however it provides more detailed result.



Mineral Liberation

The Mineral liberation examines mineral composition on a particle by particle basis. It focuses on the mineral of interest liberation degree. It is calculated according to one of two methods, using area % or surface area% that the target mineral occupies within the particle.

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Mineral Locking

It describes the association of minerals (not necessarily adjacent minerals). Mineral locking is also related to the number of particle locked to Mineral of Interest (Mol), including "binary" (more than 2 minerals attached to Mol) and "ternary" (more than 3 minerals attached to Mol). On the other hand, "liberated" implies for non-locking condition of Mol to other minerals.

Locked

In the context of this report, a mineral of interest is considered locked when the surface area % of the mineral over the total particle is $\leq 20\%$.

Exposed

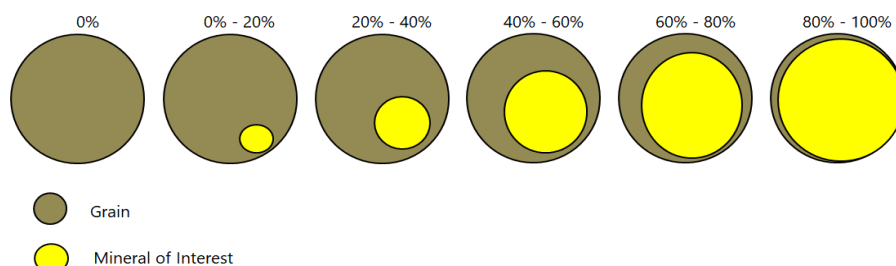
A mineral/grain/particle is considered to be an exposed particle when the surface area% of the mineral of interest in that particle falls between 20 and 80% area%/surface area%.

Liberated

In the context of this report a particle containing > 80 surface area % of the mineral of interest is considered "liberated". The set limit might vary depending on the mineral or process used to treat it. Gold only has to be in contact with the leach medium and thus only needs to be exposed.

Liberation Classes

The classification of targeted mineral (mineral of interest) based on the degree of liberation. It divided into five classes. "Well Liberated" refers to targeted mineral comprises between 80 and 100 % by surface area of the particle. "High Grade Middling" refers to targeted mineral comprises between 60 and 80 by surface area of the particle. "Medium Grade Middling" refers to targeted mineral comprises between 40 and 60 % by surface area of the particle. "Low Grade Middling" refers to targeted mineral comprises between 20 and 40 % by surface area of the particle. "Locked" refers to targeted mineral below 20 % by surface area of the particle.



Size Distribution

Describes list of the particles/grains size and its cumulative percentage. Graph are plotted in logarithmic scale.



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APPENDICES



Mineralogical Report - Chemical Analysis

| SCHEME | ANALYTE CODE | DESCRIPTION | UNIT | D.L | Drill Core "P"_HG | Drill Core "Allan"_HG |
|------------------|--------------|------------------------------|------|------|-------------------|-----------------------|
| MET_GAM04_MS_REE | Ce | Cerium | ppm | 0,1 | 1898,5 | 9687,0 |
| MET_GAM04_MS_REE | Dy | Dysprosium | ppm | 0,05 | 28,85 | 18,75 |
| MET_GAM04_MS_REE | Er | Erbium | ppm | 0,03 | 8,75 | 5,85 |
| MET_GAM04_MS_REE | Ey | Europium | ppm | 0,02 | 37,30 | 39,40 |
| MET_GAM04_MS_REE | Gd | Gadolinium | ppm | 0,05 | 87,86 | 84,70 |
| MET_GAM04_MS_REE | Ho | Holmium | ppm | 0,01 | 3,75 | 2,95 |
| MET_GAM04_MS_REE | La | Lanthanum | ppm | 0,1 | 977,8 | 6472,5 |
| MET_GAM04_MS_REE | Lu | Lutetium | ppm | 0,01 | 0,75 | 0,50 |
| MET_GAM04_MS_REE | Nb | Niobium | ppm | 0,05 | 39,40 | 78,40 |
| MET_GAM04_MS_REE | Nd | Neodymium | ppm | 0,1 | 1071,7 | 2773,4 |
| MET_GAM04_MS_REE | Pr | Praseodymium | ppm | 0,02 | 247,50 | 950,25 |
| MET_GAM04_MS_REE | Sc | Scandium | ppm | 0,5 | 6,5 | 22,0 |
| MET_GAM04_MS_REE | Sm | Samarium | ppm | 0,03 | 162,25 | 226,95 |
| MET_GAM04_MS_REE | Tb | Terbium | ppm | 0,01 | 7,15 | 5,35 |
| MET_GAM04_MS_REE | Th | Thorium | ppm | 0,05 | 55,85 | 151,75 |
| MET_GAM04_MS_REE | Tm | Thulium | ppm | 0,01 | 0,85 | 0,70 |
| MET_GAM04_MS_REE | U | Uranium | ppm | 0,05 | 37,90 | 11,75 |
| MET_GAM04_MS_REE | Y | Yttrium | ppm | 0,1 | 107,5 | 51,3 |
| MET_GAM04_MS_REE | Yb | Ytterbium | ppm | 0,03 | 5,40 | 2,25 |
| MET_GAM04_MS | Ba | Barium | ppm | 10 | >10000 | 7870,00 |
| GOI04_ICP | Ba | Barium | % | 0,01 | 2,26 | 2,24 |
| MET_LECO_S04 | S_TOT | Total Sulfur | % | 0,01 | 2,43 | 1,70 |
| MET_LECO_S04 | C_TOT | Total Carbon | % | 0,01 | 4,17 | 0,26 |
| XRFFWR | Al2O3 | Aluminium Oxide | % | 0,01 | 7,83 | 9,81 |
| XRFFWR | BaO | Barium Oxide | % | 0,01 | 2,55 | 0,93 |
| XRFFWR | CaO | Calcium Oxide | % | 0,01 | 22,10 | 12,67 |
| XRFFWR | Cr2O3 | Chromium (III) Oxide | % | 0,01 | 0,21 | 2,47 |
| XRFFWR | Fe2O3 | Iron (III) Oxide | % | 0,01 | 5,70 | 8,68 |
| XRFFWR | K2O | Potassium Oxide | % | 0,01 | 2,36 | 2,06 |
| XRFFWR | MgO | Magnesium Oxide | % | 0,01 | 2,67 | 7,92 |
| XRFFWR | MnO | Manganese Oxide | % | 0,01 | 0,13 | 0,32 |
| XRFFWR | Na2O | Sodium Oxide | % | 0,01 | 1,31 | 1,64 |
| XRFFWR | P2O5 | Phosphorus Pentoxide | % | 0,01 | 1,06 | 0,04 |
| XRFFWR | SiO2 | Silicon Dioxide | % | 0,01 | 33,77 | 47,63 |
| XRFFWR | SO3 | Sulphur Trioxide (after LOI) | % | 0,01 | 4,27 | 0,46 |
| XRFFWR | SrO | Strontium Oxide | % | 0,01 | 1,57 | 0,69 |
| XRFFWR | TiO2 | Titanium Dioxide | % | 0,01 | 0,26 | 0,87 |
| XRFFWR | LOI | LOI @ 1000 DegC | % | 0,01 | 12,61 | 2,82 |
| XRFFWR | Sum | Sum of Major Oxides + LOI | % | 0,01 | 98,37 | 98,98 |