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NTS: 42D04D

# GRASS ROOTS PROSPECTING REPORT
# KENZIE PROPERTY
# BOSTON TOWNSHIP, ONTARIO
# For:
# GOLDENFIRE MINERALS INC.
# London, Ontario

**By: Robert Dillman**
**ARJADEE PROSPECTING**
**Mount Brydges, Ontario**

**I N D E X**

**Summary**

This report discusses the results of prospecting on the Kenzie Property in Boston Township, Ontario. Work on the property was completed in 5 days, these being:

| | |
|---|---|
| June 4, 2020 | 1 day |
| June 8 to June 10, 2020 | 3 days |
| July 4, 2020 | 1 day |

In addition to assay results from rock samples collected on the above dates, assays for rock samples collected during a short property on June 14, 2021 are also included in this report.

The Kenzie Property consists of 6 contiguous nonpatent mining claims: 553002 to 553005 (incl.), 555591, 557286. The property covers an area of 67.7 ha.

At the time the field work was completed, the claims were owned by Jim Renaud and (author) Robert Dillman. At the time of this report, title to all six claims had been transferred to Goldenfire Minerals Inc., a company owned by Jim Renaud and Robert Dillman.

The property hosts the Kenzie Mine (also known as the R.A.P. Property) and the Boston Creek Mine. Historic workings around the mine site include: two shafts, pits and muck piles.

Fifty-two (52) rock samples were collected on the property. All samples were assayed for gold. Eight (8) samples were assayed for multiple elements. Assays ranged as high as 58.9 g/t Au, 4.8 ppm Ag, and 1,450 ppm Cu. All samples containing high gold, silver and copper values were collected from muck piles around the mine site. Native gold was observed in several of the samples.

**Location and Access**

The Kenzie Property is in the southeast section of Boston Township in the Larder Lake Mining Division of Ontario. The property is located approximately 16.3 kilometres southeast of the town of Kirkland Lake (Figure 1).

The property can be seasonally accessed by truck. From the town of Kirkland Lake, travel southwest on Highway 66 to Highway 112. Travel south on Highway 112 to Provincial Road 526 also known as the Boston Creek Road. Travel east on the Boston Creek Road to the hamlet of Boston Creek. The property is 0.5 km north of the hamlet of Boston Creek and is accessible by a small gravel road on the east side the town.

**Claim Logistics and Location of Work**

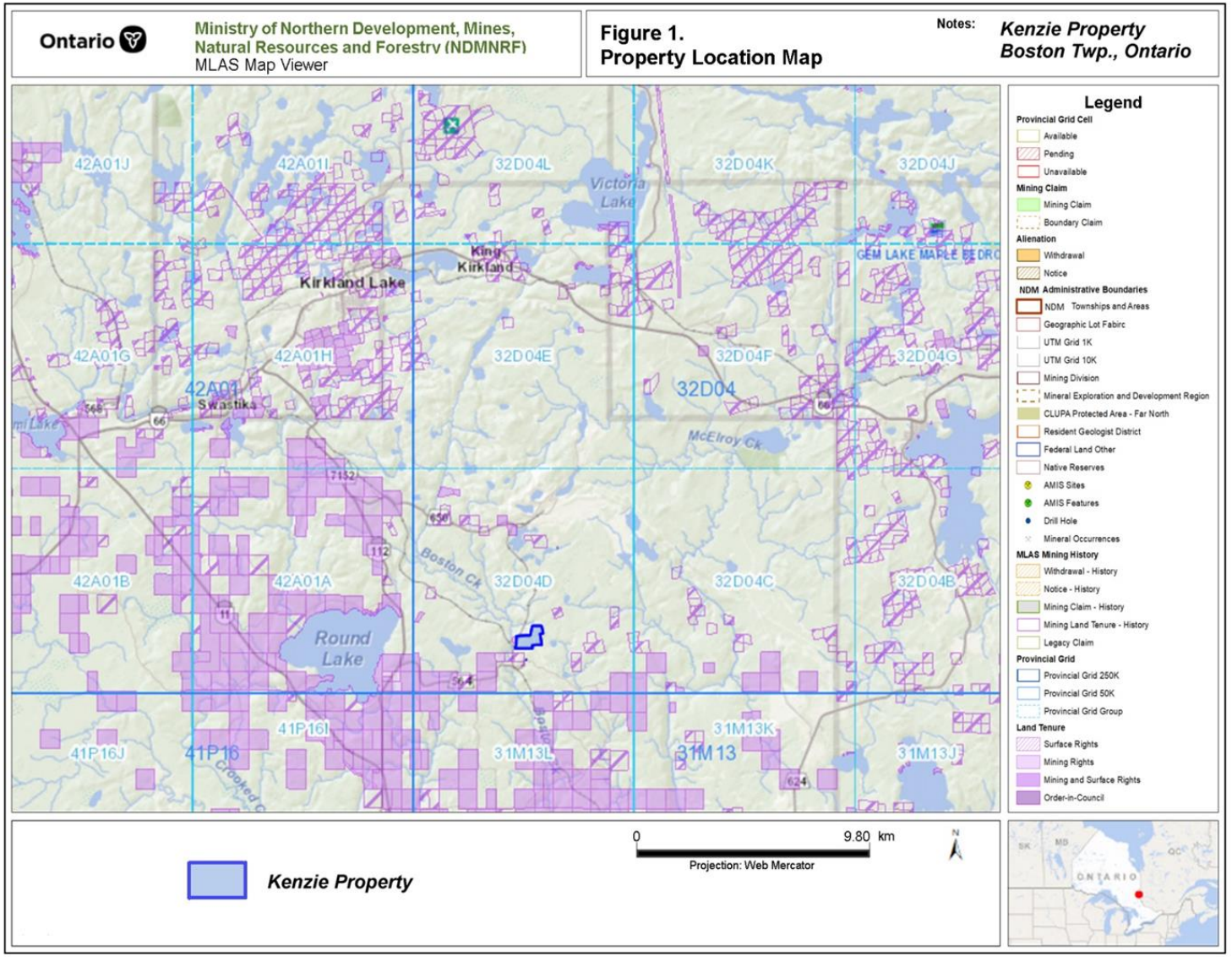
The Kenzie Property is comprised of following 6 contiguous non-patent mining claims in Boston Township, Ontario (Figure 2):

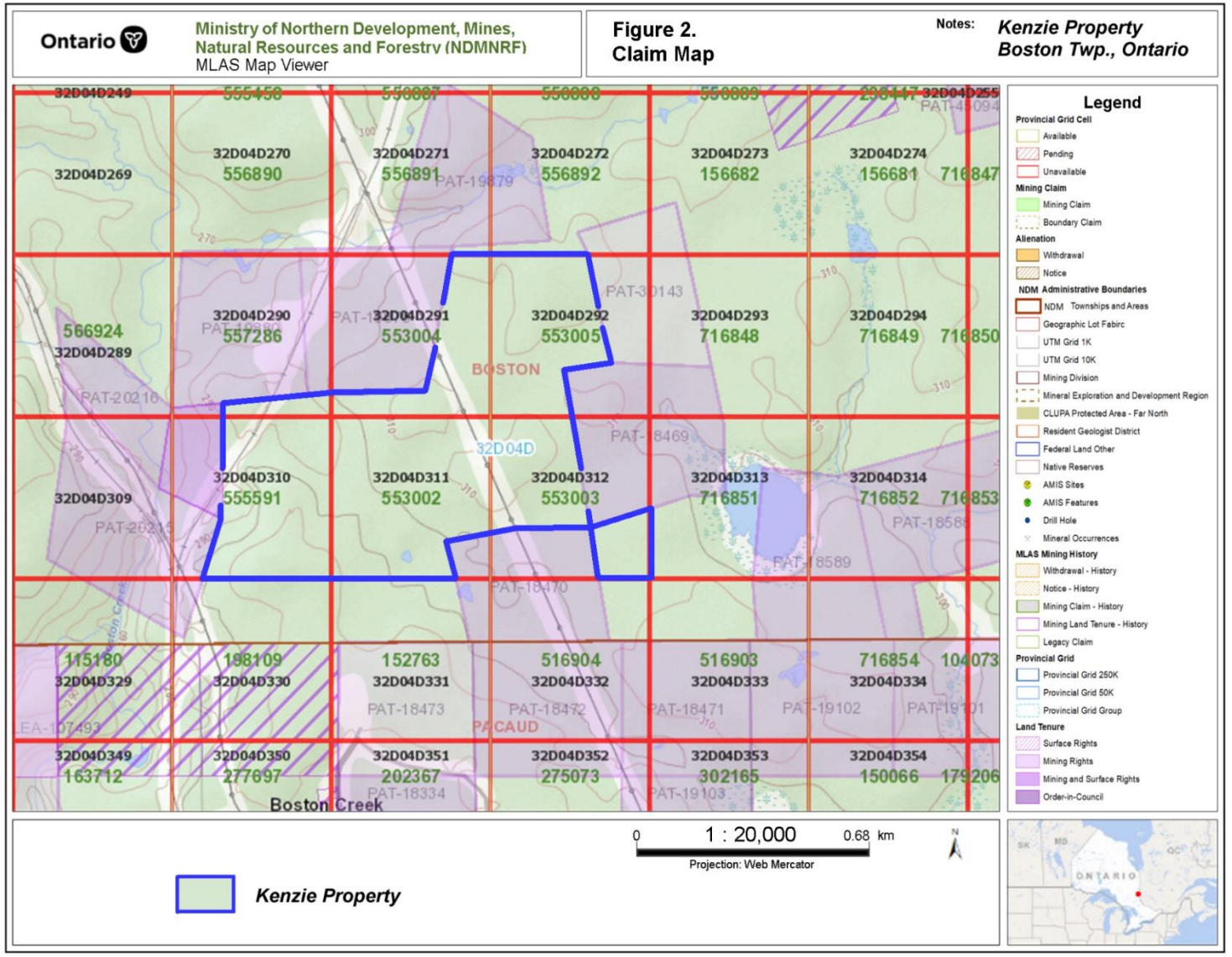
| | | | |
|---|---|---|---|
| 553002 | 32D04D311 | July 2, 2022 | $400 |
| 553003 | 32D04D312 | July 2, 2022 | $400 |
| 553004 | 32D04D291 | July 2, 2022 | $400 |
| 553005 | 32D04D292 | July 2, 2022 | $400 |
| 555591 | 32D04D310 | August 10, 2022 | $400 |
| 557286 | 32D04D290 | September 7, 2022 | $400 |

The property covers an approximate area of 67.7 ha. Mining patents surround most of the property.

Work was performed on sections of all six claims.

At the time of the survey, all claims were registered to author, Robert Dillman of Mount Brydges, Ontario and Dr. Jim Renaud of London, Ontario. Recently, in April of 2022, title of the Kenzie Property was transferred to Goldenfire Minerals Inc. which is owned by Jim Renaud and Robert Dillman.


Ontario
Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF)
MLAS Map Viewer
Figure 1.
Property Location Map
Notes:
Kenzie Property
Boston Twp., Ontario
Legend
Provincial Grid Cell
Available
Pending
Unavailable
Mining Claim
Mining Claim
Boundary Claim
Alienation
Withdrawal
Notice
NDM Administrative Boundaries
NDM Townships and Areas
Geographic Lot Fabric
UTM Grid 1K
UTM Grid 10K
Mining Division
Mineral Exploration and Development Region
CLUPA Protected Area - Far North
Resident Geologist District
Federal Land Other
Native Reserves
AMIS Sites
AMIS Features
Drill Hole
Mineral Occurrences
MLAS Mining History
Withdrawal - History
Notice - History
Mining Claim - History
Mining Land Tenure - History
Legacy Claim
Provincial Grid
Provincial Grid 250K
Provincial Grid 50K
Provincial Grid Group
Land Tenure
Surface Rights
Mining Rights
Mining and Surface Rights
Order-in-Council
42A01J
42A01I
32D04L
32D04K
32D04J
Victoria Lake
King Kirkland
Kirkland Lake
GEM LAKE MAPLE RIDGE
42A01G
42A01H
32D04E
32D04F
32D04G
42A01
Swastika
32D04
McElroy Ck
Boston Ck
42A01B
42A01A
32D04D
32D04C
32D04B
Round Lake
41P16I
41P16J
41P16
31M13L
31M13K
31M13
31M13J
Kenzie Property
0
9.80 km
Projection: Web Mercator
N
ONTARIO


Ontario
Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF)
MLAS Map Viewer
Figure 2.
Claim Map
Notes:
Kenzie Property
Boston Twp., Ontario
Legend
Provincial Grid Cell
Available
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Mining Claim
Mining Claim
Boundary Claim
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Legacy Claim
Provincial Grid
Provincial Grid 250K
Provincial Grid 50K
Provincial Grid Group
Land Tenure
Surface Rights
Mining Rights
Mining and Surface Rights
Order-in-Council
32D04D249
555458
556887
556888
556889
296447
32D04D255
32D04D269
32D04D270
556890
32D04D271
556891
32D04D272
556892
32D04D273
156682
32D04D274
156681
716847
32D04D289
566924
32D04D290
557286
32D04D291
553004
32D04D292
553005
32D04D293
716848
32D04D294
716849
716850
BOSTON
32D04D309
32D04D310
555591
32D04D311
553002
32D04D312
553003
32D04D313
716851
32D04D314
716852
716853
32D04D329
115180
32D04D330
198109
32D04D331
152763
32D04D332
516904
32D04D333
516903
32D04D334
716854
104073
PACAUD
32D04D349
163712
32D04D350
277697
32D04D351
202367
32D04D352
275073
32D04D353
302165
32D04D354
150066
179206
Boston Creek
0
1 : 20,000
0.68 km
Projection: Web Mercator
Kenzie Property
ONTARIO

**Land Status and Topography**

The Kenzie Property is situated entirely on Crown Land. The property is uninhabited. There are no buildings or habitats. A gravel road runs through the property to access an electrical powerline crossing through the midsection of the property. An unused railway line to the Adams Iron Mine crosses the northwest section of claims.

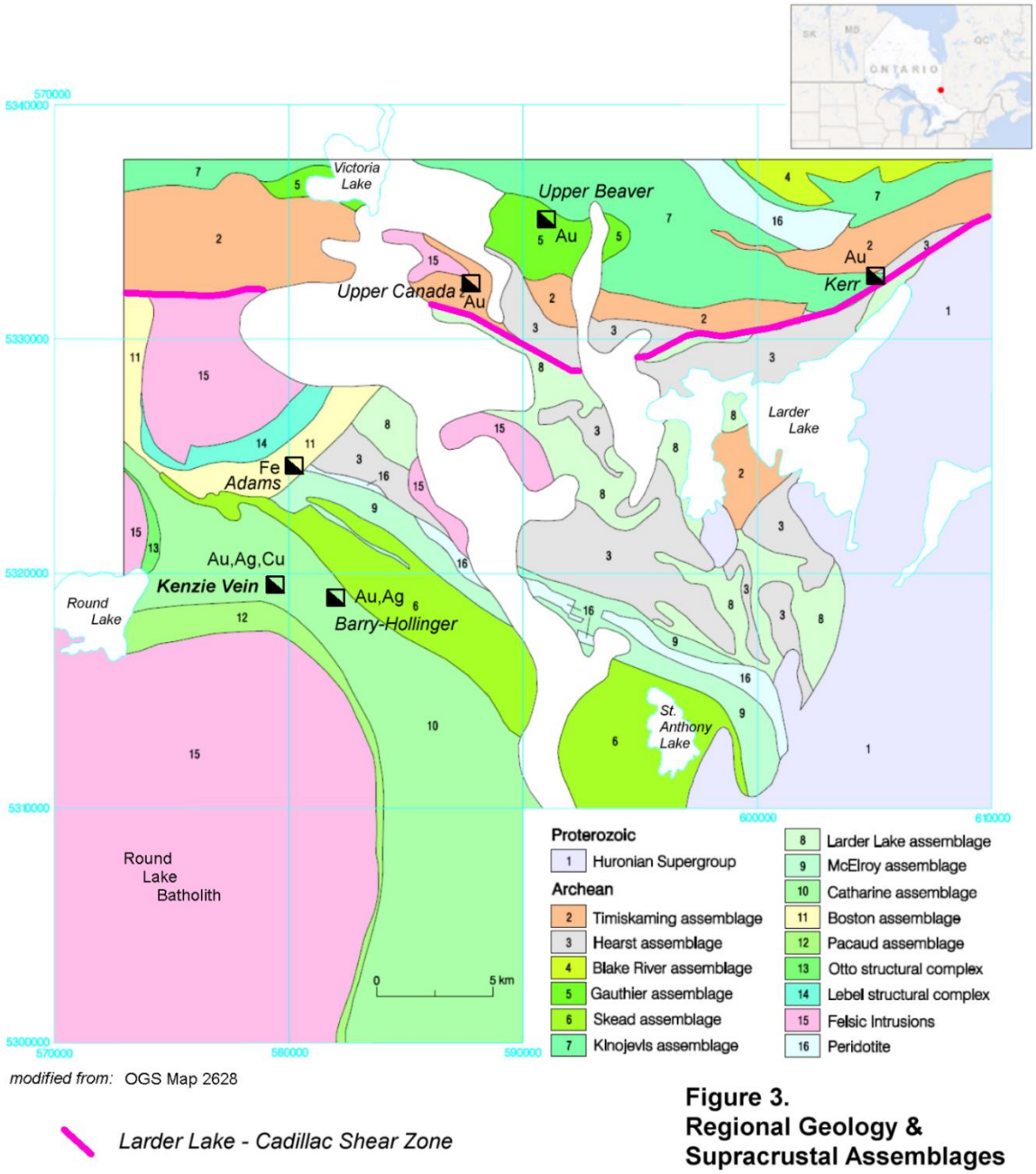
The property is at an elevation ranging 290 m to 310 m above sea level. Relief is considered moderately gentle. A northwest orientated valley crosses the property and marks the Pacaud Fault. The valley contains a small northwest flowing creek.

The east section of the property is well-forested with large trees of spruce, balsam, poplar, and birch. Alders, cedar and hemlock grow in low areas. The west section of the property has been clear-cut logged at various times. Older logged areas are forested with alders, small poplar, balsam, and birch trees.

There is good outcrop exposure in most sections of the property. Outcrops are mostly found in the higher elevations. Overburden appears to be thin in low areas where outcrops are sparse. Overburden consists of till deposited by a glacier moving from north to south,

**Regional and Local Geology**

The Kenzie Property is in the Boston Creek section of the Abitibi Greenstone Belt. The Abitibi Greenstone Belt is part of the Superior Province and extends east-west approximately 600 km from Timmins, Ontario to Chibougamau, Quebec. Numerous precious and base metal deposits have been discovered in the Abitibi Greenstone Belt including Timmins, Kirkland Lake, Harker-Holloway, Rouyn Noranda, Val d'Or and Chibougamau mining camps.




*modified from:* OGS Map 2628

*Larder Lake - Cadillac Shear Zone*

**Figure 3.**
**Regional Geology & Supracrustal Assemblages Kirkland Lake - Larder Lake - Boston Creek Area, Ontario**

Boston Township is underlain by a series of Archean greenstone assembles and peridotite sills ranging ~2675 to 2750 Ma. Rock units generally trend northwest-southeast, dip steeply northeast to southwest and arc around large Archean felsic intrusions consisting of granite. The area has been intruded by northwest to northeast trending Proterozoic diabase dikes, younger lamprophyre dikes of variable orientations and kimberlite pipes.

The Kenzie Property is approximately 16 km south of the Kirkland Lake section of the Larder Lake – Cadillac Shear Zone. Faults and shear zones found in Boston Township strike northwest-southeast paralleling the general trend of the greenstone assemblages. Faults also occur in a northeast-southwest direction, perpendicular to the general trend of rock units.

The Kenzie Property is underlain by Archean metavolcanic units of the Catharine Assemblage dated ~2720 Ma and consist of basalt, gabbro, pyroxene rich komatiite rocks and argillaceous metasedimentary units. The midsection of property is crossed by the Pacaud Fault which strikes northwest. Rock units east of the fault also trend northwest however, units west of the fault become more strained and increasingly trend westerly with distance from the fault as units arc around the Round Lake Batholith, a large granitic intrusive situated 1 km southwest of the property.

The Kenzie Property is within the Boston Creek section of the Kirkland Lake gold camp. Numerous gold, silver and copper occurrences have been discovered in the immediate area. Production of gold and silver have occurred at several locations including the Kenzie Vein and Boston Creek mines and at the Barry-Hollinger Mine located 1.3 km southeast from the Kenzie shaft. Platinum group metals have been discovered in the Boston Creek Komatiite Sill which crosses the northeast section of the property. Shafts exist on several copper-gold prospects (Amity, Patterson and Trethewey-Ossian) found adjacent to the Round Lake Batholith 1 km south of the property. Iron has been mined in the Adams Mine 5 km north of the property. Diamonds have been found in lamprophyre in Boston and Pacaud Township's.

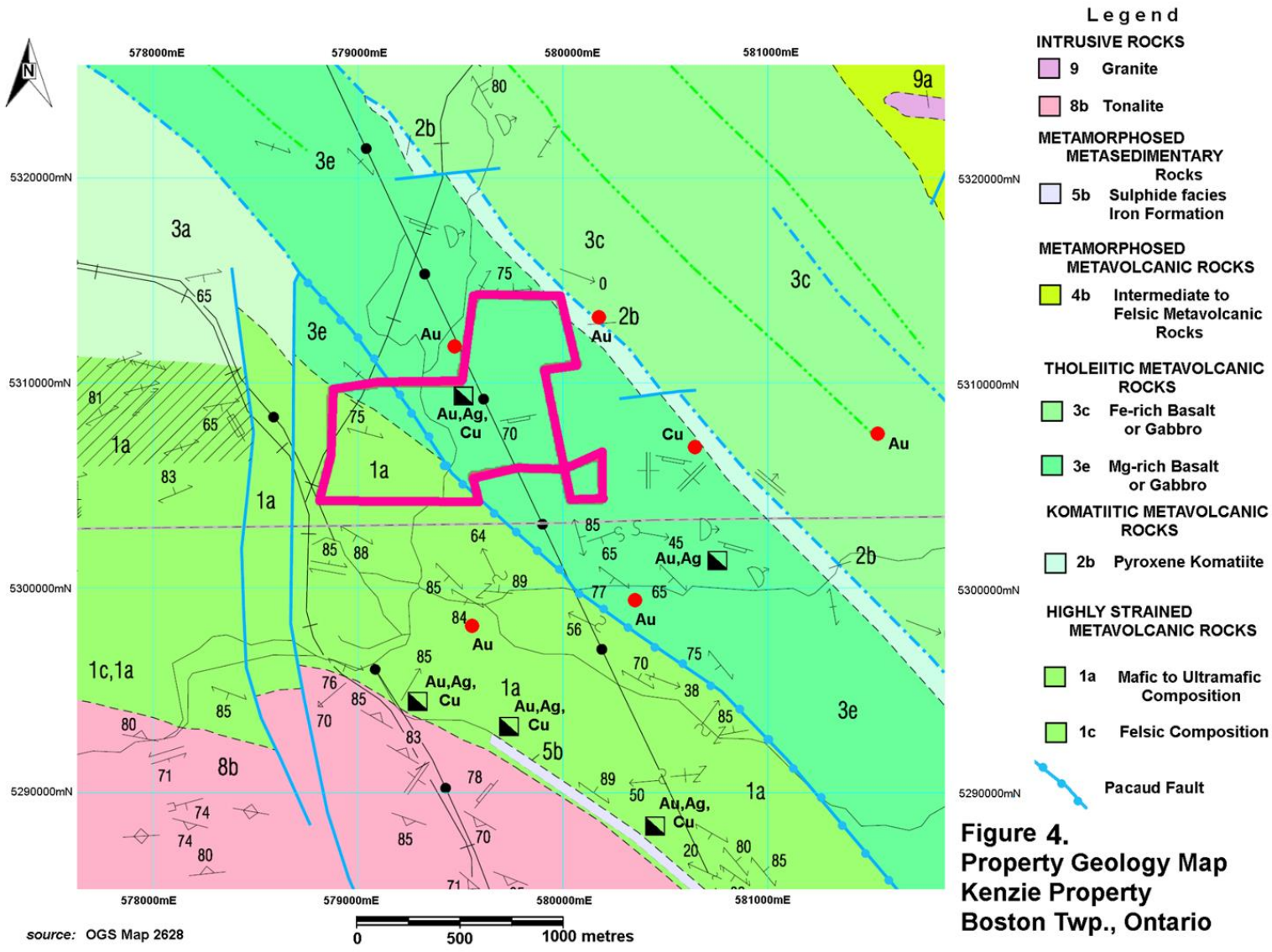



**Figure 4.**
**Property Geology Map**
**Kenzie Property**
**Boston Twp., Ontario**

**History of Exploration**

There are numerous reports of exploration in the surrounding region, however very little work has been reported on the Kenzie Property due to the property being held under a mining patented for most of its existence.

The Kenzie Vein, also known as the R.A.P. Prospect was discovered in 1914 by La Rosa Mines Limited. The vein is described as 5 feet (1.5 metres) wide, striking northeast and dipping to the southeast. It consists of quartz plus silicified and brecciated wallrock mineralized with chlorite, pyrite, and chalcopyrite. Historic assays of chlorite rich quartz are reported to range 1.21 to 1.45 oz/ton Au (41.7 to 50 g/t).

In 1916, considerable underground development by Boston Creek Mining Company Limited began. The vein was accessed through the R.A.P. Shaft which was rented with hoisting equipment from the R.A.P Syndicate. The shaft was vertical with levels at 100, 200, 300 and 400 feet (122 metres) and, 975 feet (297 metres) of lateral development on all four levels. The workings also provided underground access to the Boston Creek vein which was like the Kenzie vein. It is not known how many tons was mined and the amount of gold produced from the Kenzie and Boston Creek veins. Spectacular gold samples were reported in the first 30 feet of the veins and smaller shoots occurring at depth.

In 1994, Miss Wendy Keller completed ground magnetometer and VLF-EM surveys on claims which partially cover the southeast corner of the Kenzie Property. The work was preformed on behalf of claim owner, Alexander H. Perron.

In 1996, Mary Greer completed geological and ground VLF-EM surveys on claims which partially cover the southeast corner of the Kenzie Property. The work was preformed on behalf of claim owner, Alexander H. Perron.

In 1997, Joseph D. Horne completed ground geophysical surveys consisting of magnetometer and Horizontal Loop EM (MAX-MIN) surveys and rock sampling on his Boston

Property which partially included the east section of the current Kenzie Property. Geophysical attempts to find the eastern extension of the Kenzie Vein were hampered by the hydro transmission line obscuring readings. Thirty-six rock samples were collected, some from the muck piles by the Kenzie Vein with the highest reported as 857 ppb Au.

In 2005, several days were spent by James H. Forbes on his Golden Darling Property in Boston Twp. Forty-one rock samples were collected from muck piles around the Kenzie and Boston Creek shafts. Assays for gold ran as high as 59.79 g/t Au.

In 2007, Mr. Forbes completed a ground magnetometer survey on his Golden Property.

In 2011, James R. Atkinson collected additional rock samples from the muck piles around the Kenzie and Boston Creek shafts. He reports values as high as 15.6 g/t Au. The work was completed for Pro Minerals as part of their exploration program on the Golden Darling Property. At some point, the claims were allowed to lapse.

**Survey Dates and Personal**

The Kenzie Property was prospected in 5 days, these being:

| | |
|---|---|
| June 4, 2020 | 1 day |
| June 8 to June 10, 2020 | 3 days |
| July 4, 2020 | 1 day |

A short property visit was also made on June 14, 2021 when 9 rock samples were collected. The assay results are included with this report.

The work was preformed by Dr. Jim Renaud of London, Ontario and by the author, Robert Dillman of Mount Brydges, Ontario .

**Survey Logistics**

Prospecting traverses are plotted at a scale of 1 : 5,000 on the accompanying Traverse and Waypoint Location Map. Geology recorded during the traverses and rock sample locations with assays are plotted at a scale of 1 : 5,000 on the accompanying Geology and Rock Sample Location Map. Rock samples with assays for samples collected around the mine site are plotted at a scale of 1 : 1,250 in Figure 5. Approximately 2.6 km was traversed on the Kenzie Property.

A compass and several GPS units were used to navigate. The GPS units included a Garmin GPS model ASTRO 900, a Garmin RHINO 750 and a Garmin GPSMAP 66st. All the GPS units was set to NAD83, Zone 17. Waypoints (WP) for the traverses were periodically recorded and are listed in Table 1.

A total of 52 rock samples were collected on the Kenzie Property. Rock sample locations, descriptions and assay results also are presented in Table 1 and plotted with the geology map included with this report. All the rock samples were delivered to AGAT Laboratory for analysis. The lab is in Mississauga, Ontario. All the rock samples were Fire Assayed for gold using a 50 gram charge and finished by Inductively Coupled Plasma – Optical Emission Spectroscopy (ICP-OES) to measure the gold concentration. Eight (8) samples were assayed for an additional 45 elements by Aqua Regia Digest - ICP-OES finish. Assay certificates from the lab are appended to this report.

**Survey Results**

**June 4, 2020 Traverse:** First visit to the property. Access to the mine site was made by following the hydro transmission line from the forest access road at the north end of the property. Along this route, no outcrop was found from the property boundary to the mine site. The mine site is now overgrown but easily recognizable by two muck piles extending into the clearing for the hydro transmission line. Just to the west of the two muck piles there is a large pit believed to be the collapsed remnants of Kenzie Shaft. Additional pits and muck piles were found going in a southwest direction. All the pits have collapsed, and no outcrop is exposed. A cemented opening believed to be the shaft for the Boston Creek Mine was found 60 metres to the southwest from the pit marking the Kenzie Shaft. The shaft for the Boston Creek Mine and a long trench situated to the west of the shaft are flooded.

Seven rock samples were collected from the muck piles. Several generations of quartz were observed during the sampling including white quartz with copper minerals such as chalcopyrite, bornite and malachite, a dark grey quartz associated with brecciated silicified rhyolite wallrock and a dull green quartz with chlorite. Assay results for gold ranged 0.053 to 8.91 ppm Au, with the best assay from chlorite-rich green quartz. Silver and copper assays on several of the samples ranged 1.6 to 2.5 ppm Ag and 44.7 to 1,450 ppm Cu.

**June 8, 2020 Traverse:** The traverse focused on exploring the southwest section of the property. A logging road provided access to the area. The traverse was mostly conducted along the logging road. The area has been recently clear-cut logged and many outcrops are exposed as a result.

The area is mostly underlain by basalt and minor argillaceous units. Many of the outcrops observed contain small fracture controlled quartz stringers ranging <1 cm wide and striking at various directions. Some of the argillaceous rocks with quartz stringers were brecciated and contained specular hematite. Assay results were low for basalt and argillite with quartz stringers ranging 0.002 to 0.005 ppm Au. Two large boulders of white quartz were found, one assaying 0.069 ppm Au and a smaller one assaying 0.339 ppm Au.

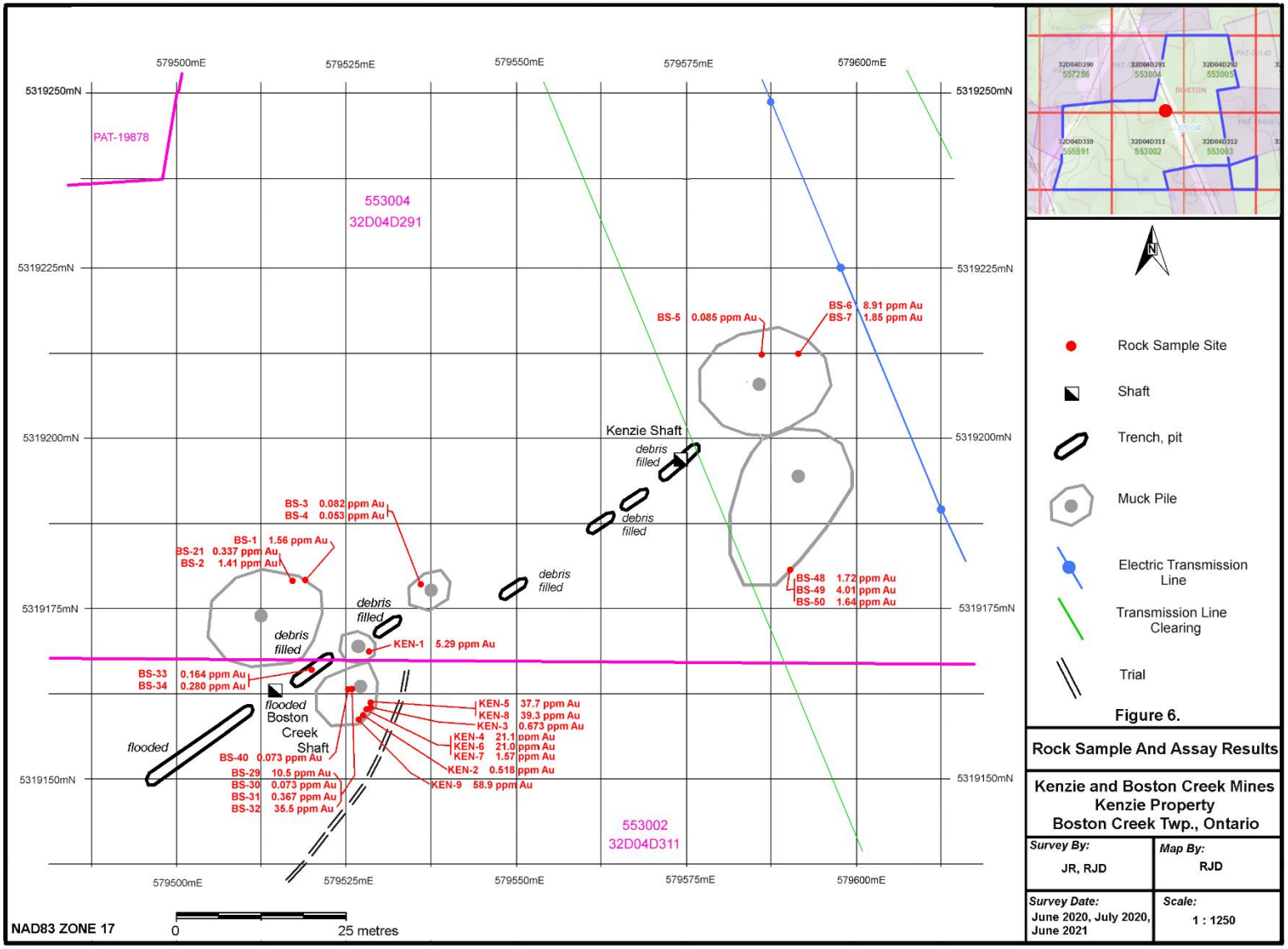
**Muck piles on power line.**

**Kenzie Shaft. Collapsed**

**Boston Creek Shaft**

**Collapse trench**

**Figure 5.**


579500mE
579525mE
579550mE
579575mE
579600mE
5319250mN
5319225mN
5319200mN
5319175mN
5319150mN
PAT-19878
553004
32D04D291
553002
32D04D311
Kenzie Shaft
debris filled
flooded
Boston Creek Shaft
BS-1 1.56 ppm Au
BS-21 0.337 ppm Au
BS-2 1.41 ppm Au
BS-3 0.082 ppm Au
BS-4 0.053 ppm Au
BS-5 0.085 ppm Au
BS-6 8.91 ppm Au
BS-7 1.85 ppm Au
BS-33 0.164 ppm Au
BS-34 0.280 ppm Au
BS-40 0.073 ppm Au
BS-29 10.5 ppm Au
BS-30 0.073 ppm Au
BS-31 0.367 ppm Au
BS-32 35.5 ppm Au
BS-48 1.72 ppm Au
BS-49 4.01 ppm Au
BS-50 1.64 ppm Au
KEN-1 5.29 ppm Au
KEN-2 0.518 ppm Au
KEN-3 0.673 ppm Au
KEN-4 21.1 ppm Au
KEN-5 37.7 ppm Au
KEN-6 21.0 ppm Au
KEN-7 1.57 ppm Au
KEN-8 39.3 ppm Au
KEN-9 58.9 ppm Au
NAD83 ZONE 17
0
25 metres
Rock Sample Site
Shaft
Trench, pit
Muck Pile
Electric Transmission Line
Transmission Line Clearing
Trial
Figure 6.
Rock Sample And Assay Results
Kenzie and Boston Creek Mines
Kenzie Property
Boston Creek Twp., Ontario
Survey By: JR, RJD
Map By: RJD
Survey Date: June 2020, July 2020, June 2021
Scale: 1 : 1250

**June 9, 2020 Traverse:** Part of the day was focused on exploring the northwest section of the property in the vicinity to the Pacaud fault. This area of the property has been selectively logged recently and outcrop exposure is moderately good. Most of the outcrops observed consisted of basalt and one altered syenite dike(?) was located. Although the fault was not observed, outcrops proximal to the fault are weakly carbonated and many contain small quartz stringers like those seen elsewhere on the property. Good examples of carbonate altered basalt with quartz stringers can be found in the rock cuts along the old railway line to the Adams Mine. Unfortunately assays results for rock samples collected in this area of the property were low ranging 0.003 to 0.046 ppm Au.

The remainder of the day focused on further exploration in the vicinity to the Kenzie - Boston Creek Mine. Access to the site was made via an old overgrown access trail located south of the mine site. Several overgrown pits were observed along the route. One of the pits closest to the hydro transmission line exposes a small quartz vein with traces of chalcopyrite. Samples of the basalt wallrock and vein assayed 0.004 ppm Au and 0.239 ppm Au, respectively.

Additional rock samples were collected from the mine site. Two samples were collected from rubble in a trench excavated northeast of the Boston Creek Shaft. The samples assayed 0.164 ppm Au and 0.280 ppm Au. Both samples consisted of siliceous and brecciated rhyolite with greyish quartz and very fine pyrite.

Several pieces of quartz with visible gold and most likely ore from the Boston Creek Mine were discovered in a muck pile situated between the Boston Creek Shaft and the old access road. Quartz found in the muck pile varied from white to greyish-green, chlorite-rich and low sulphide content made up of very fine silver to red-tarnished euhedral pyrite cubes. Sample BS-29 of the lighter quartz with fine pyrite assayed 10.5 ppm Au, 1.3 ppm Ag and 422 ppm Cu. Sample BS-32 consisting of greyish-green chlorite-rich quartz with no sulphides assayed 35.5 ppm Au, 4.8 ppm Ag and 67.7 ppm Cu. Two samples from the muck pile of brecciated rhyolite wallrock with 5-10% fine-grained pyrite and quartz assayed 0.073 and 0.367 ppm Au.

**June 10, 2020 Traverse:** The traverse focused on exploring the east side of the Pacaud Fault in the mid and south section of the property. Most of the area has been logged and is starting to overgrow with alders, small poplar and birch. Outcrop exposure was sporadic. Overburden exists where the extension of the Kenzie-Boston Creek vein is projected to strike through the area.

Outcrops observed along the traverse consisted mostly of gabbro and some basalt. Small quartz stringers and weak pyrite mineralization in gabbro were sampled returning low assays of 0.003 and 0.004 ppm Au. A basalt outcrop by the start of the old access trail to the mine contains a small quartz vein 12 cm wide with traces pyrite and chalcopyrite but assayed only 0.001 ppm Au. A weakly carboned basalt outcrop and float were found in the creek following the Pacaud Fault roughly 150 metres northwest of the access road to the property. Assays of 2 samples of float returned 0.010 and 0.012 ppm Au, respectively. Mineralized quartz and several pieces of lamprophyre were found where the access road crosses the creek however the material appears to have been dumped for road-fill.

**July 4, 2020 Traverse:** The traverse was conducted through the area east of the mine site. This section of the property is heavily forested. Outcrop exposure is good to sporadic however, the area where the Kenzie-Boston Creek vein is projected to strike was covered by overburden.

There are numerous outcrops with shallow overburden in the north section of the property. The outcrops consist of gabbro and basalt. Samples were taken of both gabbro and basalt with thin quartz stringers like those found elsewhere on the property. Some of the quartz stringer contain pyrite and chalcopyrite. Two samples returned assays of 0.006 ppm Au and 0.010 ppm Au.

Roughly, a 150 metre wide section of overburden covers the area where the Kenzie-Boston Creek vein is projected to strike to the east. South of this area, there is a large basalt outcrop along the hydro transmission line exposing northwest striking pyrite stringers crossed by a carbonated shear striking to the northeast. Samples of the pyrite mineralization and the

shear assayed 0.025 ppm Au and 0.006 ppm Au, respectively. Further to the south, quartz stringers can be found in the outcrop. A sample returned 0.003 ppm Au upon assay. Several pieces of rusty white quartz float were found on the outcrop along the east side of the hydro line clearing. Two samples of the quartz float assayed 0.012 ppm Au and 0.018 ppm Au.

The traverse ended at the mine site. Three samples were taken in the south muck pile which extends into the hydro line clearing. All 3 samples consisted of brecciated and silicified rhyolite wallrock and chlorite-rich quartz with varying amounts of fine disseminated to 20% semi-massive pyrite. The samples assayed 1.72 ppm Au, 4.01 ppm Au and 1.64 ppm Au.

**June 14, 2021 Traverse:** A short property visit was made to mine site during which time mapping of the mine features was completed and 5 rock samples were collected from 2 muck piles by the Boston Creek Shaft. Sampling focused on collecting chlorite-rich quartz and rhyolite wallrock with chlorite-rich quartz. Three samples of silicified and brecciated wallrock with chlorite-rich quartz assayed 0.518 ppm Au, 5.29 ppm Au, and 0.673 ppm Au. Visible gold was observed in 3 samples of greyish-green chlorite-rich quartz. Prior to assay, two samples of quartz (KEN-4, KEN-5) were broken down into several samples based on the presence of visible gold. Sample KEN-4 assayed 21.2 ppm Au and a second sample; KEN-6 assayed 21.0 ppm Au. A sample of rhyolite wallrock from KEN-4 assayed 1.50 ppm Au. Sample KEN-5 assayed 37.7 ppm Au and a second sample KEN-8 assayed 39.3 ppm Au. Green, chlorite-rich quartz sample KEN-9 with several pieces of visible gold assayed 58.9 ppm Au.

**Table 1. Waypoint & Rock Sample Locations**
**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

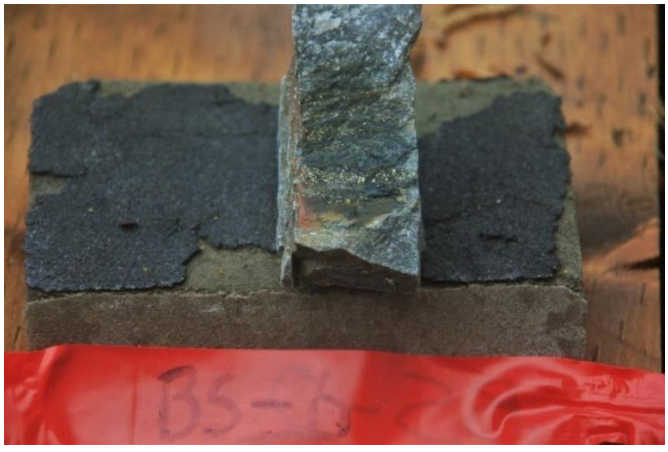
| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample Number | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| BS-1 | June 4, 2020 1:45pm | 579520 | 5319181 | 553004, 32D04D291 | BS-1 | 1.56 | 2.3 | 1450 | Muck pile, white quartz + calcite with <1% patchy chalcopyrite and pyrite, some malachite. |
| BS-2 | June 4, 2020 1:59pm | 579518 | 5319183 | **553004, 32D04D291** | BS-2 | 1.41 | 1.6 | 44.7 | Muck pile, brecciated rhyolite with grey quartz, 5-15% fine disseminated to semi-massive pyrite in rhyolite |
| BS 3-4 | June 4, 2020 2.06pm | 579536 | 5319182 | 553004, 32D04D291 | BS-3 | 0.082 | | | Muck pile, white quartz with traces of pyrite |
| BS 3-4 | June 4, 2020 2.06pm | 579536 | 5319182 | 553004, 32D04D291 | BS-4 | 0.053 | | | Muck pile , white quartz and rhyolite wallrock, 1-5% fine pyrite in rhyolite |
| BS-5 | June 4, 2020 2.23pm | 579586 | 5319212 | 553004, 32D04D291 | BS-5 | 0.085 | | | Muck pile, white rusty quartz and silicified wallrock , Tr,-5% pyrite in wallrock |
| BS 6-7 | June 4, 2020 2.24pm | 579591 | 5319212 | 553004, 32D04D291 | BS-6 | 8.91 | 2.5 | 160 | Muck pile, silicified rhyolite with grey-green quartz, wall rock well mineralized with file pyrite. |
| BS 6-7 | June 4, 2020 2.24pm | 579591 | 5319212 | 553004, 32D04D291 | BS-7 | 1.85 | <0.2 | 203 | Muck pile, rhyolite with altered syenite?/orange feldspar and white quartz with Tr.-2% pyrite +/- chalcopyrite. |
| BS-8 | June 4, 2020 2:57pm | | | OFF PROPERTY | BS-8 | 4.42 | <0.2 | 26.3 | grey quartz |
| BS-9 | June 4, 2020 3:06pm | | | OFF PROPERTY | BS-9 | 8.15 | 0.7 | 13.2 | grey quartz |
| BS-10 | June 4, 2020 3:09pm | | | OFF PROPERTY | BS-7 | 0.194 | | | sulphides in altered mafic metavolcanic |

**BS-1 1.56 ppm Au, 2.3 ppm Ag, 1,450 ppm Cu**

**BS-2 1.41 ppm Au, 1.6 ppm Ag, 44.7 ppm Cu**


**BS-4 0.053 ppm Au**


**BS-5 0.085 ppm Au**



**BS-6 8.91 ppm Au, 2.5 ppm Ag, 160 ppm Cu**


**BS-7 1.85 ppm Au, <0.2 ppm Ag, 203 ppm Cu**

**Table 1. Waypoint & Rock Sample Locations**
**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample Number | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| BS 11-12 | June 8, 2020 1:43pm | | | OFF PROPERTY | BS-11 | 0.022 | | | fine-grained sucrosic quartz stringers 2-5 cm in basalt No sulphides. |
| BS 11-12 | June 8, 2020 1:43pm | | | OFF PROPERTY | BS-12 | 0.003 | | | fine-grained sucrosic quartz stringers 2-5 cm in basalt No sulphides. |
| BS-13 | June 8, 2020 1:56pm | | | OFF PROPERTY | BS-13 | 0.003 | | | mafic metavolcanic with 3 cm quartz stringer in basalt with trace fine -grained disseminated pyrite |
| BS-14 | June 8, 2020 2:04pm | | | OFF PROPERTY | BS-14 | 0.066 | | | fine-grained sucrosic quartz stringers 2-5 cm in basalt No sulphides. |
| BS-15 | June 8, 2020 2:20pm | 579084 | 5318716 | 555591, 32D04D309 | BS-15 | 0.004 | | | brecciated argillite with quartz+ feldspar stringers with Tr-15% specular hematite. |
| BS-16 | June 8, 2020 2.22pm | 579085 | 5318715 | 555591, 32D04D309 | BS-16 | 0.003 | | | white quartz in basalt, no sulphides, odd spot of orange feldspar |
| BS-17 | June 8, 2020 2.52pm | 579012 | 5318753 | 555591, 32D04D309 | BS-17 | 0.005 | | | basalt with white coarse-grained quartz, trace pyrite along contact |
| BS-18 | June 8, 2020 3:08pm | 579014 | 5318759 | 555591, 32D04D309 | BS-18 | 0.002 | | | gossaned mafic metavolcanic with 1-3%fine-grained pyrite best 0.5 m |
| BS-19 | June 8, 2020 3:22pm | 578925 | 5318756 | 555591, 32D04D309 | BS-19 | 0.002 | | | mafic metavolcanic with popcorn size quartz feldspar anhedral nodules , trace large pyrite crystals. |
| BS-20 | June 8, 2020 3:22pm | 578943 | 5318767 | 555591, 32D04D309 | BS-20 | 0.069 | | | Large quartz float beside logging road. Possibly moved during road construction. |
| Qtz float | June 8, 2020 3:54pm | 578943 | 5318767 | 555591, 32D04D309 | | | | | large, rounded boulder of white quartz. No sulphides. Could have been moved during road construction. BS-20 |
| BS-21 | June 8, 2020 3:54pm | 579107 | 5318814 | 555591, 32D04D309 | BS-21 | 0.337 | | | Quartz float in till on basalt outcrop. Football size and shape. White quartz with thin chlorite seams. |


BS-15 0.004 ppm Au

BS-15


**BS-16 0.003 ppm Au**


**BS-17 0.005 ppm Au**


**BS-18 0.002 ppm Au**


**BS-19 0.002 ppm Au**

**BS-20 0.069 ppm Au**

**BS-21 0.337 ppm Au**

**Table 1. Waypoint & Rock Sample Locations**
**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Glac 0' | June 9, 2020 12:08pm | 579277 | 5319173 | 553004, 32DO4D291 | | | | | $0^0$ glacial striation in basalt |
| BS-22 | June 9, 2020 12:27pm | 579159 | 5319082 | 555591, 32D04D310 | BS-22 | 0.003 | | | chloritized mafic metavolcanic with white quartz + chlorite stringers |
| BS-23 | June 9, 2020 12:49pm | 579127 | 5319129 | 555591, 32D04D310 | BS-23 | 0.007 | | | altered syenite, <0.5 cm wide quartz stingers, 1% fine disseminated pyrite |
| BS-24 | June 9, 2020 2:06pm | 579020 | 5319060 | 555591, 32D04D310 | BS-24 | 0.005 | | | basalt, weakly Fec, quartz stringers, trace pyrite |
| Old RR 25' | June 9, 2020 1:56pm | 578978 | 5319077 | 555591, 32D04D310 | | | | | basalt, weakly Fec, quartz stringers |
| BS 25-26 | June 9, 2020 2:32pm | 579025 | 5319156 | 555591, 32D04D310 | BS-25 | 0.003 | | | <5 cm wide quartz stringers in cliff face, minor FeC, tr. pyrite |
| BS 25-26 | June 9, 2020 2:32pm | 579025 | 5319156 | 555591, 32D04D310 | BS-26 | 0.046 | | | <5 cm wide quartz stringers in cliff face, minor FeC, tr. pyrite |
| Tr | June 9, 2020 3:26pm | 579478 | 5319072 | 553002, 32DO4D311 | | | | | trench in basalt, overburden filled |
| Tr | June 9, 2020 3:28pm | 579532 | 5319073 | 553002, 32DO4D311 | | | | | trench in basalt, overburden filled |
| BS 27-28 | June 9, 2020 4:04pm | 579552 | 5319083 | 553002, 32DO4D311 | BS-27 | 0.004 | | | basalt adjacent quartz vein 12 cm, trace chalcopyrite |
| BS 27-28 | June 9, 2020 4:04pm | 579552 | 5319083 | 553002, 32DO4D311 | BS-28 | 0.239 | | | quartz vein 12 cm, trace chalcopyrite |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-29 | 10.5 | 1.3 | 422 | muck pile, white to greyish-green quartz and chlorite, tr. silver and red-tarnished pyrite. Several gold grains + and fine gold around red-tarnished pyrite. |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-30 | 0.073 | | | muck pile, rhyolite and white quartz with Tr.-2% pyrite +/- chalcopyrite + malachite |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-31 | 0.367 | | | muck pile, rhyolite breccia with dark quartz matrix, 1-5% fine-grained pyrite |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-32 | 35.5 | 4.8 | 67.7 | muck pile, greyish-green quartz and chlorite, trace-2% silver and red-tarnished pyrite. Several grains of coarse gold 0.5cm |
| Adit | June 9, 2020 4:34pm | 579514 | 5319162 | 553002, 32DO4D311 | | | | | Boston Creek Shaft, open, flooded |
| BS 33-34 | June 9, 2020 4:50pm | 579521 | 5319163 | 553002, 32DO4D311 | BS-33 | 0.164 | | | loose pieces in collapsed trench east of Boston Creek shaft. Greyish quartz and brecciated rhyolitic wallrock with 5-10% very fine pyrite |
| BS 33-34 | June 9, 2020 4:50pm | 579521 | 5319163 | 553002, 32DO4D311 | BS-34 | 0.280 | | | loose pieces in collapsed trench east of Boston Creek shaft. Greyish quartz and brecciated rhyolitic wallrock with 5-10% very fine pyrite |


**BS-22 0.003 ppm Au**

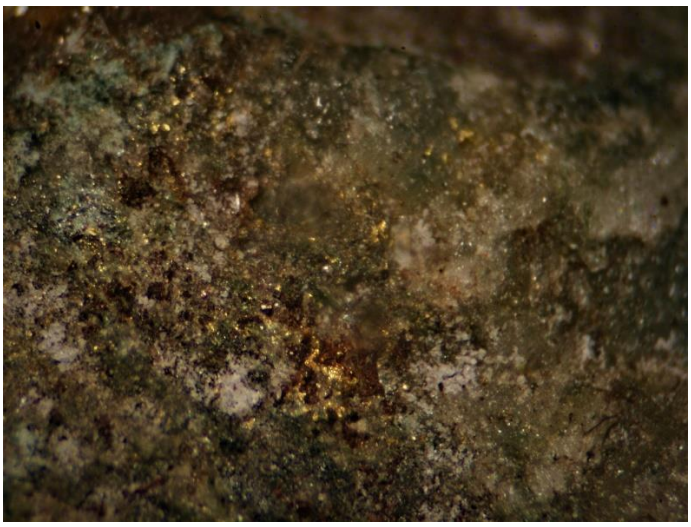

**BS-23 0.007 ppm Au**


**BS-24 0.005 ppm Au**


**BS-25 0.003 ppm Au**


**BS-28 0.239 ppm Au**

**BS-29 10.5 ppm Au, 1.33 ppm Ag, 422 ppm Cu**



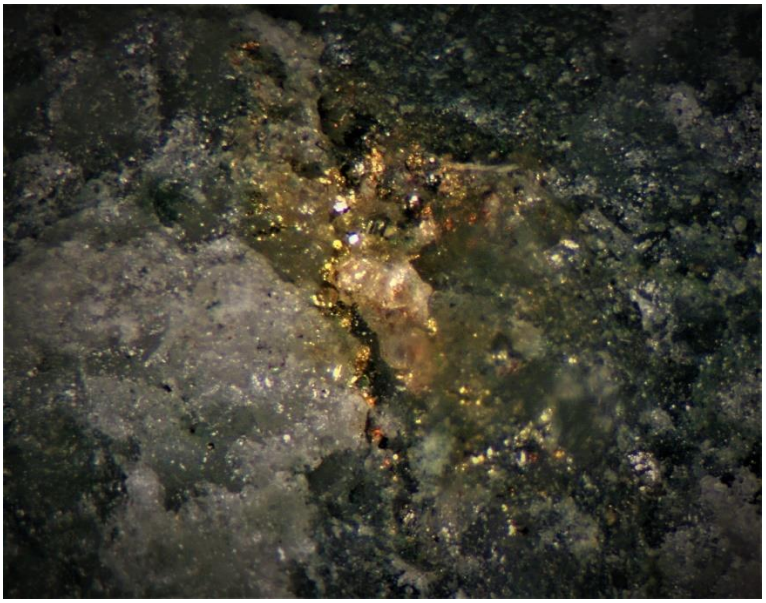
**BS-29 fine-grained visible gold**



**BS-30 0.073 ppm Au**


**BS-31 0.367 ppm Au**


**BS-32 35.5 ppm Au, 4.8 ppm Ag, 67.7 ppm Cu**



**BS-32 fine-grain visible gold**


**BS-33 0.164 ppm Au**


**BS-34 0.280 ppm Au**

**Table 1. Waypoint & Rock Sample Locations**
**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 170 Stria | June 10, 2020 12:52pm | 579295 | 5319146 | 553002, 32D04D311 | | | | | $170^0$ glacial striation in basalt |
| BS-35 | June 10, 2020 1:01pm | 579284 | 5319144 | 553002, 32D04D311 | BS-35 | 0.004 | | | <0.5 cm wide quartz stringers in dark gabbro, traces of pyrite in wallrock |
| BS-36 | June 10, 2020 1:20pm | 579269 | 5319142 | 553002, 32D04D311 | BS-36 | 0.003 | | | epidote stringers in mafic metavolcanic, trace pyrite in wallrock. |
| OC4 | June 10, 2020 1:23pm | 579289 | 5319149 | 553002, 32D04D311 | | | | | gabbro outcrop |
| Gabbro | June 10, 2020 1:29pm | 579296 | 5319172 | 553002, 32D04D311 | | | | | gabbro outcrop |
| Oc 1 py | June 10, 2020 1:40pm | 579393 | 5318997 | 553002, 32D04D311 | | | | | basalt outcrop with traces of pyrite |
| Gabbro | June 10, 2020 1:45pm | 579391 | 5318977 | 553002, 32D04D311 | | | | | gabbro outcrop |
| Gabbro | June 10, 2020 1:50pm | 579394 | 5318959 | 553002, 32D04D311 | | | | | gabbro outcrop |
| Lamp in Gabbro | June 10, 2020 2:18pm | 579391 | 5318958 | 553002, 32D04D311 | | | | | light brown fine-grained matrix lamprophyre with mica nodules, 15 cm |
| Gabb qtz | June 10, 2020 2:26pm | 579394 | 5318959 | 553002, 32D04D311 | | | | | gabbro outcrop with white quartz lenses |
| BS 37-38 | June 10, 2020 2:42pm | 579341 | 5318869 | 553002, 32D04D311 | BS-37 | 0.012 | | | float along creek, football size, sheared felsic, FeC, 1-3% disseminated cubic pyrite. Close to bedrock. |
| BS 37-38 | June 10, 2020 2:42pm | 579341 | 5318869 | 553002, 32D04D311 | BS-38 | 0.010 | | | $2^{nd}$ float along creek, football size, altered syenite? FeC, Trace fine-grained pyrite. Close to bedrock. |
| 1a | June 10, 2020 2:46pm | 579340 | 5318865 | 553002, 32D04D311 | | | | | basalt outcrop along creek |
| BS-39 | June 10, 2020 3:09pm | 579441 | 5319081 | 553002, 32D04D311 | BS-39 | 0.001 | | | 12 cm quartz vein with traces cpy and pyrite in basalt |
| BS-40 | June 10, 2020 3:32pm | 579519 | 5319163 | 553002, 32D04D311 | BS-40 | 0.073 | | | muck pile, rhyolite breccia with remnants of orange feldspar dike? Some dark quartz as matrix. 1-3% pyrite. |


**BS-36 0.003 ppm Au**


**BS-37 0.012 ppm Au**


**BS-38 0.010 ppm Au**

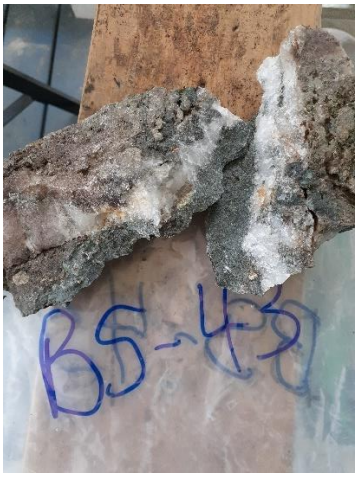

**BS-39 0.001 ppm Au**


**BS-40 0.073 ppm Au**

**Table 1. Waypoint & Rock Sample Locations**
**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| OC 4 | July 4, 2020 11:35pm | 579639 | 5319623 | 553004, 32D04D291 | | | | | gabbro outcrop |
| BS41 | July 4, 2020 11:48pm | 579639 | 5319605 | 553004, 32D04D291 | BS-41 | 0.006 | | | gabbro with quartz stringers <3 cm wide with trace pyrite+ chalcopyrite, best grab |
| OC 1 | July 4, 2020 12:06pm | 579620 | 5319554 | 553004, 32D04D291 | | | | | basalt outcrop |
| OB | July 4, 2020 12:10pm | 579621 | 5319505 | 553004, 32D04D291 | | | | | Overburden, spruce, balsam |
| BS42 | July 4, 2020 12:22pm | 579639 | 5319508 | 553004, 32D04D291 | BS-42 | 0.010 | | | basalt with quartz stringers <3 cm wide with trace pyrite, best grab |
| OC 1 | July 4, 2020 12:33pm | 579700 | 5319475 | 553005, 32D04D292 | | | | | basalt outcrop |
| OC 1 | July 4, 2020 12:40pm | 579735 | 5319457 | 553005, 32D04D292 | | | | | basalt outcrop |
| OC 4? | July 4, 2020 12:33pm | 579713 | 5319413 | 553005, 32D04D292 | | | | | gabbro? outcrop |
| OC 1 | July 4, 2020 12:51pm | 579738 | 5319354 | 553005, 32D04D292 | | | | | basalt outcrop |
| OC PY EPI | July 4, 2020 1:11pm | 579726 | 5319326 | 553005, 32D04D292 | | | | | basalt outcrop, epidote stringers and alteration, trace pyrite. |
| OC 1 | July 4, 2020 1:14pm | 579710 | 5319306 | 553005, 32D04D292 | | | | | basalt outcrop |
| OC 1 | July 4, 2020 1:17pm | 579712 | 5319282 | 553005, 32D04D292 | | | | | basalt outcrop |
| OB TILL | July 4, 2020 1:20pm | 579707 | 5319249 | 553005, 32D04D292 | | | | | Overburden, local boulder till, spruce, balsam |
| WET | July 4, 2020 1:24pm | 579694 | 5319180 | 553005, 32D04D292 | | | | | Wet overburden, spruce, balsam, cedar |
| OB | July 4, 2020 1:27pm | 579688 | 5319158 | 553002, 32D04D311 | | | | | Overburden, spruce, balsam |
| BS43QTZ | July 4, 2020 2:24pm | 579694 | 5319004 | 553003, 32D04D312 | BS-43 | 0.003 | | | basalt with quartz stringers <3 cm wide with trace pyrite, best grab |
| BS44-45 | July 4, 2020 2:24pm | 579700 | 5319020 | 553003, 32D04D312 | BS-44 | 0.012 | | | white, rusty quartz float on basalt OC, several pieces, trace pyrite |
| BS44-45 | July 4, 2020 2:24pm | 579700 | 5319020 | 553003, 32D04D312 | BS-45 | 0.018 | | | white, rusty quartz float, several pieces, trace pyrite |
| SZ | July 4, 2020 2:33pm | 579674 | 5319054 | 553002, 32D04D311 | | | | | Fec shear in basalt, 1.2 m wide strikes $62^0$, vertical dip |
| BS46 | July 4, 2020 2:35pm | 579677 | 5319062 | 553002, 32D04D311 | BS-46 | 0.025 | | | Pyrite stringers in basalt striking $153^0$, dipping $72^0$SE |
| BS47 | July 4, 2020 2:41pm | 579675 | 5319048 | 553002, 32D04D311 | BS-47 | 0.006 | | | FeC shear in basalt, 1.2 m wide strikes $62^0$, vertical dip |
| PY | July 4, 2020 2:49pm | 579670 | 5319066 | 553002, 32D04D311 | | | | | North striking pyrite stringers in basalt |
| BS48-50 MP | July 4, 2020 2:57pm | 579604 | 5319179 | 553004, 32D04D291 | BS-48 | 1.72 | | | muck pile, brecciated rhyolite wallrock & chlorite rich quartz, 20% fine grained semi-massive pyrite in wallrock along contact |
| BS48-50 MP | July 4, 2020 2:57pm | 579604 | 5319179 | 553004, 32D04D291 | BS-49 | 4.01 | | | muck pile, brecciated rhyolite wallrock & chlorite rich quartz, 5-10% fine grained semi-massive pyrite in wallrock |
| BS48-50 MP | July 4, 2020 2:57pm | 579604 | 5319179 | 553004, 32D04D291 | BS-50 | 1.64 | | | Muck pile, same as above |


**BS-42 0.010 ppm Au**



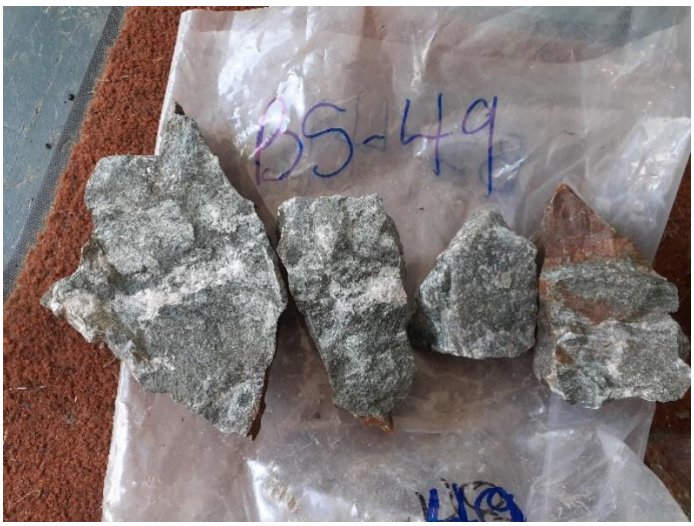

**BS-43 0.003 ppm Au**


**BS-45 0.018 ppm Au**


**BS-46 0.25 ppm Au**


**BS-47 0.006 ppm Au**


**BS-48 1.72 ppm Au**




**BS-49 4.01 ppm Au**

**Table 1. Waypoint & Rock Sample Locations**
**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Shaft | June 14, 2021 2:35pm | 579574 | 5319195 | 553004, 32D04D291 | | | | | Kenzie Shaft, RAP Shaft, deep pit, collapsed, trees in pit. |
| Pile 1 | June 14, 2021 2:57pm | 579586 | 5319209 | 553004, 32D04D291 | | | | | muck pile |
| Pile 2 | June 14, 2021 3:03pm | 579592 | 5319195 | 553004, 32D04D291 | | | | | muck pile |
| Pit | June 14, 2021 3:09pm | 579565 | 5319190 | 553004, 32D04D291 | | | | | 2x3 m collapsed |
| Pit | June 14, 2021 3:10pm | 579562 | 5319187 | 553004, 32D04D291 | | | | | 2x3 m collapsed |
| Pit | June 14, 2021 3:11pm | 579546 | 5319177 | 553004, 32D04D291 | | | | | 2x3 m collapsed |
| Pit | June 14, 2021 3:15pm | 579531 | 5319174 | 553004, 32D04D291 | | | | | 7x3 m collapsed, rubble |
| Pile 3 | June 14, 2021 3:18pm | 579565 | 5319190 | 553004, 32D04D291 | | | | | muck pile |
| Shaft | June 14, 2021 3:24pm | 579514 | 5319162 | 553002, 32D04D311 | | | | | Boston Creek Shaft, cement collar, flooded |
| Pit | June 14, 2021 3:27pm | 579500 | 5319154 | 553002, 32D04D311 | | | | | 10x3 m flooded |
| Pile 5 | June 14, 2021 3:29pm | 579512 | 5319174 | 553004, 32D04D291 | | | | | muck pile |
| Pile 7 | June 14, 2021 3:36pm | 579527 | 5319163 | 553002, 32D04D311 | | | | | muck pile |
| Pile 6 | June 14, 2021 3:43pm | 579527 | 5319169 | 553004, 32D04D291 | | | | | muck pile |
| Ken2 | June 14, 2021 4:00pm | 579528 | 5319160 | 553002, 32D04D311 | Ken-2 | 0.518 | | | muck pile, brecciated rhyolite wallrock & chlorite rich quartz, 20% fine grained semi-massive pyrite along contact |
| Ken1 | June 14, 2021 4:01pm | 579527 | 5319169 | 553004, 32D04D291 | Ken-1 | 5.29 | | | muck pile, chloritized schistose wallrock with 5% fine disseminated pyrite, boudened quartz stringer 3 cm wide parallel schistosity. |
| Ken3 | June 14, 2021 4:02pm | 579528 | 5319163 | 553002, 32D04D311 | Ken-3 | 0.673 | | | muck pile, brecciated rhyolite wallrock with grey quartz+ 10-20% fine to coarse pyrite matrix |
| Ken4 | June 14, 2021 4:11pm | 579529 | 5319161 | 553002, 32D04D311 | Ken-4 | 21.2 | | | muck pile, chlorite rich quartz, 1-5% disseminated silver and red tarnished pyrite, fine visible gold |
| Ken5 | June 14, 2021 4:15pm | 579528 | 5319165 | 553002, 32D04D311 | Ken-5 | 37.7 | | | chlorite-rich grey quartz with visible gold, 3 pieces with gold remove from sample. |
| Ken6 | June 14, 2021 | 579527 | 5319160 | 553002, 32D04D311 | Ken-6 | 21.0 | | | resample of Ken-4, visible gold |
| Ken7 | June 14, 2021 | 579529 | 5319161 | 553002, 32D04D311 | Ken-7 | 1.50 | | | Pieces of Ken-4, brecciated rhyolite wallrock adjacent chlorite-rich quartz vein with VG. |
| Ken8 | June 14, 2021 | 579528 | 5319165 | 553002, 32D04D311 | Ken-8 | 39.3 | | | Small pieces of Ken-5, with actinolite? crystals and Tr.-2% fine silver and red tarnished py |
| Ken9 | June 14, 2021 | 579527 | 5319160 | 553002, 32D04D311 | Ken-9 | 58.9 | | | muck pile, grey green chlorite rich quartz with visible gold, tr. py |


**KEN-1 5.29 ppm Au**


**KEN-2 0.518 ppm Au**


**KEN-3 0.673 ppm Au**


**KEN-4 21.2 ppm Au**


**KEN-6 21.0 ppm Au**


**KEN-7 1.50 ppm Au**


**KEN-5 37.7 ppm Au**


**KEN-8 39.3 ppm Au**


**KEN-9 58.9 ppm Au**

**KEN-9 visible gold**

**Discussion of Results**

The structural orientation of mineralization is towards the northeast making the Kenzie-Boston Creek Mine one of a series gold deposits which include the Barry-Hollinger Mine and the Miller-Independence Prospect that strike in a northeast direction and cross the dominate structural trend such as that exhibited by the Pacaud Fault. The mine site is situated in a broad, subtle topographic low which trends northeast from the Pacaud Fault. Unfortunately, during this program no new geological and structural information was gained on the deposit due to the lack of outcrop around the mine site. However, the large outcrop situated under the powerline southeast from the mine clearly shows perpendicular directions of structures and mineralization.

Assay results from rock samples collected from the muck piles are consistent with historic reports of strong gold mineralization in the chlorite-rich green quartz. This would have been the primary ore mostly likely sorted by hand and free-milled due to the presence of coarse gold and low sulphide content. Rhyolitic wallrock also contains good gold grades but are lower than the green quartz and much higher in sulphide content. This material is abundant in the muck piles and could be a potential resource.

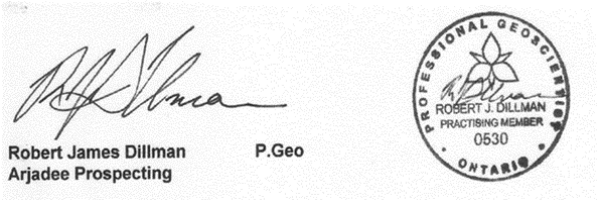
Similar gold mineralization to the Kenzie-Boston Creek Mine is exposed along the power line northwest of the Kenzie Property. It is good evidence of additional mineralization occurring in the area and potentially on the Kenzie Property.

## Conclusions and Recommendations

The Kenzie Property is situated in an area where high-grade gold mineralization occurs. Additional exploration work is warranted to evaluate the potential of ore remaining in the Kenzie-Boston Creek Mine and to located additional gold mineralization on the property. It is recommended that a grid be cut for additional prospecting, geological mapping, petrology, mechanized overburden stripping and a ground magnetometer survey. The cost of the proposed work is $75,000 and outlined as follows:

| | |
|---|---|
| Grid | $15,000 |
| Prospecting | 10,000 |
| Geological Mapping | 15,000 |
| Petrology | 15,000 |
| Magnetometer Survey | 15,000 |
| Assays | 5,000 |
| | **$75,000** |

Respectfully submitted,




Robert Dillman B.Sc. P.Geo.

May 7, 2022

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**Weller, W. K., 1994**. Detail Vertical Gradiometer, Magnetometer and Electromagnetic Surveys on O'Donald Lake Claim 010, Boston Township, Larder Lake Mining Division District Of Timiskaming, Ontario, *for*: Alexander H. Perron. Unpublished Assessment Report 32D04SW0083.

**Robert J. Dillman P.Geo, B.Sc.**
**ARJADEE PROSPECTING**
**8901 Reily Drive, Mount Brydges, Ontario, Canada, N0L1W0**
**Phone/ fax (519) 264-9278**

**CERIFICATE of AUTHOR**

**I, Robert J. Dillman, Professional Geologist, do certify that:**

1. **I am the President and the holder of a Certificate of Authorization for:**

   **ARJADEE PROSPECTING**
   **8901 Reily Drive, Mount Brydges, Ontario, Canada N0L1W0**

2. **I graduated in 1991 with a Bachelor of Science Degree in Geology from the University of Western Ontario.**

3. **I am an active member of:**

   **Professional Geoscientists of Ontario, PGO**
   **Prospectors and Developers Association of Canada, PDAC**

4. **I have been a licensed Prospector in Ontario since 1984.**

5. **I have worked continuously as a Professional Geologist for 31 years.**

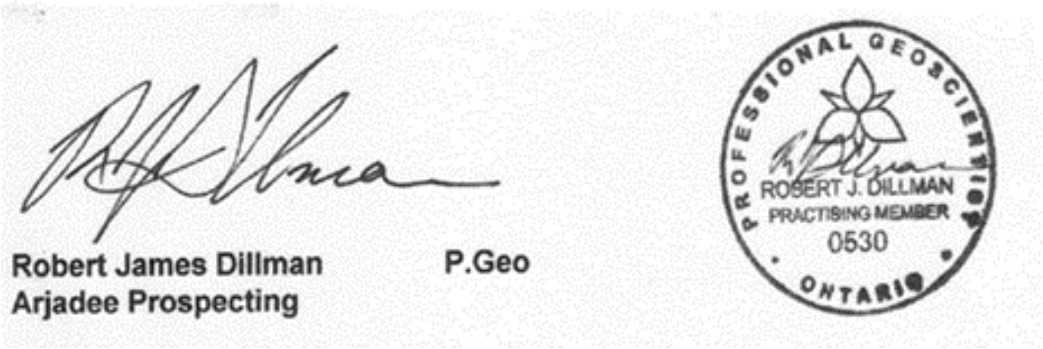
6. **Unless stated otherwise, I am responsible for the preparation of all sections of the Assessment Report titled:**

   **GRASS ROOTS PROSPECTING REPORT: KENZIE PROPERTY**
   **BOSTON TOWNSHIP, ONTARIO**

   **dated, May 7, 2022**

7. **I am not aware of any material fact or material change with respect to the subject matter of the Assessment Report that is not contained in the Assessment Report and its omission to disclose makes the Assessment Report misleading.**

   **Dated this 25th day of May, 2022**



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CLIENT NAME: MISC AGAT CLIENT ON
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MOUNT BRYDGES, ON N0L 1W0
519-264-9278

ATTENTION TO: Robert Dillman

PROJECT:

AGAT WORK ORDER: 20T614949

SOLID ANALYSIS REVIEWED BY: Jing Xiao, Data Reviewer

DATE REPORTED: Jul 09, 2020

PAGES (INCLUDING COVER): 14

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

*NOTES
VERSION 2:Additional Aqua Regia Analysis requested on July 7, 2020

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (200-) Sample Login Weight

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Sample Login Weight |
|---|---|
| Unit: | kg |
| Sample ID (AGAT ID) RDL: | 0.01 |
| BS1 (1208571) | 1.3113 |
| BS2 (1208572) | 2.0854 |
| BS3 (1208573) | 1.4508 |
| BS4 (1208574) | 1.6412 |
| BS5 (1208575) | 2.8686 |
| BS6 (1208576) | 1.1352 |
| BS7 (1208577) | 1.1038 |
| BS8 (1208578) | 2.4100 |
| BS9 (1208579) | 2.3962 |
| BS10 (1208580) | 1.3901 |
| BS11 (1208581) | 2.4479 |
| BS12 (1208582) | 1.0803 |
| BS13 (1208583) | 1.8866 |
| BS14 (1208584) | 1.2856 |
| BS15 (1208585) | 2.0635 |
| BS16 (1208586) | 1.2377 |
| BS17 (1208587) | 1.2707 |
| BS18 (1208588) | 1.0645 |
| BS19 (1208589) | 2.2914 |
| BS20 (1208590) | 1.4844 |
| BS21 (1208591) | 1.8656 |
| BS22 (1208592) | 1.4973 |
| BS23 (1208593) | 1.6762 |
| BS24 (1208594) | 1.2310 |
| BS25 (1208595) | 1.4892 |
| BS26 (1208596) | 0.7499 |
| BS27 (1208597) | 1.3038 |
| BS28 (1208598) | 1.8001 |
| BS29 (1208599) | 2.3993 |
| BS30 (1208600) | 1.7965 |
| BS31 (1208601) | 2.0429 |

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (200-) Sample Login Weight

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Sample Login Weight |
|---|---|
| Unit: | kg |
| Sample ID (AGAT ID) RDL: | 0.01 |
| BS32 (1208602) | 0.8474 |
| BS33 (1208603) | 1.5932 |
| BS34 (1208604) | 1.7034 |
| BS35 (1208605) | 1.0142 |
| BS36 (1208606) | 2.4536 |
| BS37 (1208607) | 2.5508 |
| BS38 (1208608) | 1.6289 |
| BS39 (1208609) | 1.5920 |
| BS40 (1208610) | 2.1144 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (201-073) Aqua Regia Digest - Metals Package, ICP-OES finish

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Ce | Co | Cr | Cu | Fe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit: | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % |
| Sample ID (AGAT ID) RDL: | 0.2 | 0.01 | 1 | 5 | 1 | 0.5 | 1 | 0.01 | 0.5 | 1 | 0.5 | 0.5 | 0.5 | 0.01 |
| BS1 (1208571) | 2.3 | 0.85 | 100 | <5 | 8 | <0.5 | <1 | 3.29 | <0.5 | 4 | 39.7 | 229 | 1450 | 7.67 |
| BS2 (1208572) | 1.6 | 0.25 | 79 | <5 | 10 | <0.5 | <1 | 1.17 | 0.5 | 2 | 24.1 | 168 | 44.7 | 4.11 |
| BS6 (1208576) | 2.5 | 0.84 | 54 | <5 | 8 | <0.5 | <1 | 2.44 | 0.8 | 2 | 21.7 | 206 | 160 | 4.50 |
| BS7 (1208577) | <0.2 | 0.72 | 7 | <5 | 14 | <0.5 | <1 | 10.5 | <0.5 | <1 | 44.4 | 179 | 203 | 5.04 |
| BS8 (1208578) | <0.2 | 0.97 | <1 | <5 | 10 | <0.5 | <1 | 4.17 | <0.5 | 12 | 22.0 | 246 | 26.3 | 2.97 |
| BS9 (1208579) | 0.7 | 1.09 | <1 | <5 | 93 | <0.5 | <1 | 4.90 | <0.5 | 8 | 35.9 | 258 | 13.2 | 5.00 |
| BS29 (1208599) | 1.3 | 0.83 | 83 | <5 | 52 | <0.5 | <1 | 12.3 | 0.7 | <1 | 15.3 | 145 | 422 | 4.40 |
| BS32 (1208602) | 4.8 | 0.73 | 51 | <5 | 46 | <0.5 | <1 | 10.9 | <0.5 | <1 | 6.0 | 147 | 67.7 | 2.19 |

| Analyte: | Ga | Hg | In | K | La | Li | Mg | Mn | Mo | Na | Ni | P | Pb | Rb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit: | ppm | ppm | ppm | % | ppm | ppm | % | ppm | ppm | % | ppm | ppm | ppm | ppm |
| Sample ID (AGAT ID) RDL: | 5 | 1 | 1 | 0.01 | 1 | 1 | 0.01 | 1 | 0.5 | 0.01 | 0.5 | 10 | 0.5 | 10 |
| BS1 (1208571) | 22 | <1 | <1 | 0.04 | <1 | 4 | 1.07 | 475 | <0.5 | 0.05 | 94.6 | 322 | 20.6 | <10 |
| BS2 (1208572) | 11 | <1 | <1 | 0.06 | <1 | 1 | 0.25 | 119 | 4.7 | 0.04 | 60.1 | 161 | 31.4 | <10 |
| BS6 (1208576) | 14 | 1 | <1 | 0.04 | <1 | 5 | 0.94 | 365 | <0.5 | 0.03 | 64.1 | 87 | 19.0 | <10 |
| BS7 (1208577) | 17 | 4 | <1 | 0.13 | <1 | 6 | 0.86 | 827 | 2.5 | 0.04 | 68.4 | 192 | 7.3 | 12 |
| BS8 (1208578) | 13 | 2 | <1 | 0.03 | 5 | 4 | 1.07 | 430 | 5.6 | 0.03 | 48.0 | 299 | 7.1 | <10 |
| BS9 (1208579) | 19 | 1 | <1 | 0.57 | 2 | 8 | 1.47 | 758 | 28.4 | 0.03 | 88.5 | 446 | 11.3 | 36 |
| BS29 (1208599) | 16 | 3 | <1 | 0.02 | <1 | 10 | 1.32 | 881 | <0.5 | 0.01 | 37.6 | 133 | 41.3 | <10 |
| BS32 (1208602) | 8 | 2 | <1 | <0.01 | <1 | 5 | 1.05 | 700 | <0.5 | <0.01 | 14.9 | 78 | 7.5 | <10 |

| Analyte: | S | Sb | Sc | Se | Sn | Sr | Ta | Te | Th | Ti | Tl | U | V | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit: | % | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm |
| Sample ID (AGAT ID) RDL: | 0.01 | 1 | 0.5 | 10 | 5 | 0.5 | 10 | 10 | 5 | 0.01 | 5 | 5 | 0.5 | 1 |
| BS1 (1208571) | 6.62 | 5 | 6.6 | <10 | <5 | 28.8 | <10 | <10 | <5 | 0.11 | <5 | <5 | 79.3 | <1 |
| BS2 (1208572) | 4.11 | 5 | 4.9 | <10 | <5 | 8.2 | <10 | <10 | <5 | 0.08 | <5 | <5 | 49.8 | <1 |
| BS6 (1208576) | 3.67 | 1 | 9.8 | <10 | <5 | 11.3 | <10 | <10 | <5 | 0.05 | <5 | <5 | 87.2 | <1 |
| BS7 (1208577) | 3.83 | <1 | 8.4 | <10 | <5 | 57.4 | <10 | <10 | <5 | 0.08 | <5 | <5 | 82.6 | <1 |
| BS8 (1208578) | 1.52 | <1 | 3.2 | <10 | <5 | 42.9 | <10 | <10 | <5 | 0.06 | <5 | <5 | 56.5 | <1 |
| BS9 (1208579) | 3.69 | <1 | 4.3 | <10 | <5 | 137 | <10 | <10 | <5 | 0.12 | <5 | <5 | 82.3 | <1 |
| BS29 (1208599) | 3.62 | 3 | 5.1 | <10 | <5 | 171 | <10 | <10 | <5 | 0.04 | <5 | <5 | 76.9 | <1 |
| BS32 (1208602) | 1.25 | 2 | 4.1 | <10 | <5 | 135 | <10 | <10 | <5 | 0.02 | <5 | <5 | 35.8 | <1 |

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949
PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (201-073) Aqua Regia Digest - Metals Package, ICP-OES finish

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Y | Zn | Zr |
|---|---|---|---|
| Unit: | ppm | ppm | ppm |
| Sample ID (AGAT ID) RDL: | 1 | 0.5 | 5 |
| BS1 (1208571) | 6 | 59.1 | <5 |
| BS2 (1208572) | 3 | 50.9 | <5 |
| BS6 (1208576) | 5 | 118 | <5 |
| BS7 (1208577) | 4 | 52.9 | <5 |
| BS8 (1208578) | 3 | 26.7 | 6 |
| BS9 (1208579) | 4 | 35.9 | 9 |
| BS29 (1208599) | 4 | 203 | <5 |
| BS32 (1208602) | 2 | 56.3 | <5 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Au |
|---|---|
| Unit: | ppm |
| Sample ID (AGAT ID) RDL: | 0.001 |
| BS1 (1208571) | 1.56 |
| BS2 (1208572) | 1.41 |
| BS3 (1208573) | 0.082 |
| BS4 (1208574) | 0.053 |
| BS5 (1208575) | 0.085 |
| BS6 (1208576) | 8.91 |
| BS7 (1208577) | 1.85 |
| BS8 (1208578) | 4.42 |
| BS9 (1208579) | 8.15 |
| BS10 (1208580) | 0.194 |
| BS11 (1208581) | 0.022 |
| BS12 (1208582) | 0.003 |
| BS13 (1208583) | 0.003 |
| BS14 (1208584) | 0.066 |
| BS15 (1208585) | 0.004 |
| BS16 (1208586) | 0.003 |
| BS17 (1208587) | 0.005 |
| BS18 (1208588) | 0.002 |
| BS19 (1208589) | 0.002 |
| BS20 (1208590) | 0.069 |
| BS21 (1208591) | 0.337 |
| BS22 (1208592) | 0.003 |
| BS23 (1208593) | 0.007 |
| BS24 (1208594) | 0.005 |
| BS25 (1208595) | 0.003 |
| BS26 (1208596) | 0.046 |
| BS27 (1208597) | 0.004 |
| BS28 (1208598) | 0.239 |
| BS29 (1208599) | >10 |
| BS30 (1208600) | 0.073 |
| BS31 (1208601) | 0.367 |
| BS32 (1208602) | >10 |

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949
PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Au |
|---|---|
| Unit: | ppm |
| Sample ID (AGAT ID) RDL: | 0.001 |
| BS33 (1208603) | 0.164 |
| BS34 (1208604) | 0.280 |
| BS35 (1208605) | 0.004 |
| BS36 (1208606) | 0.003 |
| BS37 (1208607) | 0.012 |
| BS38 (1208608) | 0.010 |
| BS39 (1208609) | 0.001 |
| BS40 (1208610) | 0.073 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (202-564) Fire Assay - Au Ore Grade, Gravimetric finish (50g charge)

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Au-Grav |
|---|---|
| Unit: | g/t |
| Sample ID (AGAT ID) RDL: | 0.5 |
| BS29 (1208599) | 10.5 |
| BS32 (1208602) | 35.5 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## Sieving - % Passing (Crushing)

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| | Analyte: | Pass % |
|---|---|---|
| | Unit: | % |
| Sample ID (AGAT ID) | RDL: | 0.01 |
| BS1 (1208571) | | 76.87 |

Comments: RDL - Reported Detection Limit

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# Certificate of Analysis

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## Sieving - % Passing (Pulverizing)

DATE SAMPLED: Jun 17, 2020 | DATE RECEIVED: Jun 18, 2020 | DATE REPORTED: Jul 09, 2020 | SAMPLE TYPE: Rock

| Analyte: | Pass % |
|---|---|
| Unit: | % |
| Sample ID (AGAT ID) RDL: | 0.01 |
| BS1 (1208571) | 89.73 |

Comments: RDL - Reported Detection Limit

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# Quality Assurance - Replicate

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (201-073) Aqua Regia Digest - Metals Package, ICP-OES finish

| | REPLICATE #1 | | | | REPLICATE #2 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | Sample ID | Original | Replicate | RPD | | | | | | | | | | |
| Ag | 1208571 | 2.3 | 2.3 | 0.0% | 1208602 | 4.8 | 4.6 | 4.3% | | | | | | | | | | |
| Al | 1208571 | 0.855 | 0.871 | 1.9% | 1208602 | 0.732 | 0.738 | 0.8% | | | | | | | | | | |
| As | 1208571 | 100 | 99 | 1.0% | 1208602 | 51 | 54 | 5.7% | | | | | | | | | | |
| B | 1208571 | < 5 | < 5 | 0.0% | 1208602 | < 5 | < 5 | 0.0% | | | | | | | | | | |
| Ba | 1208571 | 8 | 7 | 13.3% | 1208602 | 46 | 47 | 2.2% | | | | | | | | | | |
| Be | 1208571 | < 0.5 | < 0.5 | 0.0% | 1208602 | < 0.5 | < 0.5 | 0.0% | | | | | | | | | | |
| Bi | 1208571 | < 1 | < 1 | 0.0% | 1208602 | < 1 | < 1 | 0.0% | | | | | | | | | | |
| Ca | 1208571 | 3.29 | 3.19 | 3.1% | 1208602 | 10.9 | 11.0 | 0.9% | | | | | | | | | | |
| Cd | 1208571 | < 0.5 | < 0.5 | 0.0% | 1208602 | < 0.5 | < 0.5 | 0.0% | | | | | | | | | | |
| Ce | 1208571 | 4 | 4 | 0.0% | 1208602 | < 1 | < 1 | 0.0% | | | | | | | | | | |
| Co | 1208571 | 39.7 | 39.1 | 1.5% | 1208602 | 6.0 | 6.0 | 0.0% | | | | | | | | | | |
| Cr | 1208571 | 229 | 223 | 2.7% | 1208602 | 147 | 149 | 1.4% | | | | | | | | | | |
| Cu | 1208571 | 1450 | 1400 | 3.5% | 1208602 | 67.7 | 68.8 | 1.6% | | | | | | | | | | |
| Fe | 1208571 | 7.67 | 7.52 | 2.0% | 1208602 | 2.19 | 2.20 | 0.5% | | | | | | | | | | |
| Ga | 1208571 | 22 | 22 | 0.0% | 1208602 | 8 | 8 | 0.0% | | | | | | | | | | |
| Hg | 1208571 | < 1 | 2 | | 1208602 | 2 | 4 | | | | | | | | | | | |
| In | 1208571 | < 1 | < 1 | 0.0% | 1208602 | < 1 | < 1 | 0.0% | | | | | | | | | | |
| K | 1208571 | 0.04 | 0.04 | 0.0% | 1208602 | < 0.01 | < 0.01 | 0.0% | | | | | | | | | | |
| La | 1208571 | < 1 | < 1 | 0.0% | 1208602 | < 1 | < 1 | 0.0% | | | | | | | | | | |
| Li | 1208571 | 4 | 5 | 22.2% | 1208602 | 5 | 4 | 22.2% | | | | | | | | | | |
| Mg | 1208571 | 1.07 | 1.07 | 0.0% | 1208602 | 1.05 | 1.05 | 0.0% | | | | | | | | | | |
| Mn | 1208571 | 475 | 472 | 0.6% | 1208602 | 700 | 702 | 0.3% | | | | | | | | | | |
| Mo | 1208571 | < 0.5 | 0.8 | | 1208602 | < 0.5 | < 0.5 | 0.0% | | | | | | | | | | |
| Na | 1208571 | 0.047 | 0.043 | 8.9% | 1208602 | < 0.01 | < 0.01 | 0.0% | | | | | | | | | | |
| Ni | 1208571 | 94.6 | 95.2 | 0.6% | 1208602 | 14.9 | 14.9 | 0.0% | | | | | | | | | | |
| P | 1208571 | 322 | 330 | 2.5% | 1208602 | 78 | 76 | 2.6% | | | | | | | | | | |
| Pb | 1208571 | 20.6 | 19.2 | 7.0% | 1208602 | 7.54 | 9.07 | 18.4% | | | | | | | | | | |
| Rb | 1208571 | < 10 | < 10 | 0.0% | 1208602 | < 10 | < 10 | 0.0% | | | | | | | | | | |
| S | 1208571 | 6.62 | 6.60 | 0.3% | 1208602 | 1.25 | 1.25 | 0.0% | | | | | | | | | | |
| Sb | 1208571 | 5 | 4 | 22.2% | 1208602 | 2 | 1 | | | | | | | | | | | |
| Sc | 1208571 | 6.6 | 6.5 | 1.5% | 1208602 | 4.15 | 4.19 | 1.0% | | | | | | | | | | |

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# Quality Assurance - Replicate

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Se | 1208571 | < 10 | < 10 | 0.0% | 1208602 | < 10 | < 10 | 0.0% | | | | | | | | |
| Sn | 1208571 | < 5 | < 5 | 0.0% | 1208602 | < 5 | < 5 | 0.0% | | | | | | | | |
| Sr | 1208571 | 28.8 | 28.7 | 0.3% | 1208602 | 135 | 137 | 1.5% | | | | | | | | |
| Ta | 1208571 | < 10 | < 10 | 0.0% | 1208602 | < 10 | < 10 | 0.0% | | | | | | | | |
| Te | 1208571 | < 10 | < 10 | 0.0% | 1208602 | < 10 | < 10 | 0.0% | | | | | | | | |
| Th | 1208571 | < 5 | < 5 | 0.0% | 1208602 | < 5 | < 5 | 0.0% | | | | | | | | |
| Ti | 1208571 | 0.106 | 0.100 | 5.8% | 1208602 | 0.02 | 0.02 | 0.0% | | | | | | | | |
| Tl | 1208571 | < 5 | < 5 | 0.0% | 1208602 | < 5 | < 5 | 0.0% | | | | | | | | |
| U | 1208571 | < 5 | < 5 | 0.0% | 1208602 | < 5 | < 5 | 0.0% | | | | | | | | |
| V | 1208571 | 79.3 | 79.0 | 0.4% | 1208602 | 35.8 | 35.6 | 0.6% | | | | | | | | |
| W | 1208571 | < 1 | < 1 | 0.0% | 1208602 | < 1 | < 1 | 0.0% | | | | | | | | |
| Y | 1208571 | 6 | 6 | 0.0% | 1208602 | 2 | 3 | | | | | | | | | |
| Zn | 1208571 | 59.1 | 59.1 | 0.0% | 1208602 | 56.3 | 58.4 | 3.7% | | | | | | | | |
| Zr | 1208571 | < 5 | < 5 | 0.0% | 1208602 | < 5 | < 5 | 0.0% | | | | | | | | |

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

| | REPLICATE #1 | | | | REPLICATE #2 | | | | REPLICATE #3 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | Sample ID | Original | Replicate | RPD | Sample ID | Original | Replicate | RPD | | | | |
| Au | 1208571 | 1.56 | 1.65 | 5.6% | 1208585 | 0.0038 | 0.0030 | 23.5% | 1208596 | 0.046 | 0.006 | | | | | |

## (202-564) Fire Assay - Au Ore Grade, Gravimetric finish (50g charge)

| | REPLICATE #1 | | | | REPLICATE #2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | Sample ID | Original | Replicate | RPD | | | | | | | | |
| Au-Grav | 1208599 | 10.5 | 11.0 | 4.7% | 1208602 | 35.5 | 41.1 | 14.6% | | | | | | | | |

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# Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 20T614949

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Robert Dillman

## (201-073) Aqua Regia Digest - Metals Package, ICP-OES finish

| | CRM #1 (ref.ME-1308) | | | | CRM #2 (ref.1P5R) | | | | CRM #3 (ref.GS4E) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits | Expect | Actual | Recovery | Limits | Expect | Actual | Recovery | Limits | | | | |
| Ag | 45.7 | 43.2 | 95% | 80% - 120% | | | | | | | | | | | | |
| Cu | 3980 | 3732 | 94% | 80% - 120% | | | | | | | | | | | | |
| Pb | 5410 | 5043 | 93% | 80% - 120% | | | | | | | | | | | | |
| Zn | 4290 | 3979 | 93% | 80% - 120% | | | | | | | | | | | | |

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

| | CRM #1 (ref.GS6F) | | | | CRM #2 (ref.1P5R) | | | | CRM #3 (ref.GS4E) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits | Expect | Actual | Recovery | Limits | Expect | Actual | Recovery | Limits | | | | |
| Au | 6.87 | 6.82 | 99% | 90% - 110% | 1.81 | 1.78 | 99% | 90% - 110% | 4.19 | 4.43 | 106% | 90% - 110% | | | | |

## (202-564) Fire Assay - Au Ore Grade, Gravimetric finish (50g charge)

| | CRM #1 | | | | CRM #2 (ref.1P5R) | | | | CRM #3 (ref.GS4E) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits | Expect | Actual | Recovery | Limits | Expect | Actual | Recovery | Limits | | | | |
| Au-Grav | 37.08 | 35.9 | 96% | 95% - 105% | | | | | | | | | | | | |

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# Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 20T614949

PROJECT:

ATTENTION TO: Robert Dillman

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|---|---|---|
| Solid Analysis | | | |
| Sample Login Weight | MIN-12009 | | BALANCE |
| Ag | MIN-200-12020 | | ICP/OES |
| Al | MIN-200-12020 | | ICP/OES |
| As | MIN-200-12020 | | ICP/OES |
| B | MIN-200-12020 | | ICP/OES |
| Ba | MIN-200-12020 | | ICP/OES |
| Be | MIN-200-12020 | | ICP/OES |
| Bi | MIN-200-12020 | | ICP/OES |
| Ca | MIN-200-12020 | | ICP/OES |
| Cd | MIN-200-12020 | | ICP/OES |
| Ce | MIN-200-12020 | | ICP/OES |
| Co | MIN-200-12020 | | ICP/OES |
| Cr | MIN-200-12020 | | ICP/OES |
| Cu | MIN-200-12020 | | ICP/OES |
| Fe | MIN-200-12020 | | ICP/OES |
| Ga | MIN-200-12020 | | ICP/OES |
| Hg | MIN-200-12020 | | ICP/OES |
| In | MIN-200-12020 | | ICP/OES |
| K | MIN-200-12020 | | ICP/OES |
| La | MIN-200-12020 | | ICP/OES |
| Li | MIN-200-12020 | | ICP/OES |
| Mg | MIN-200-12020 | | ICP/OES |
| Mn | MIN-200-12020 | | ICP/OES |
| Mo | MIN-200-12020 | | ICP/OES |
| Na | MIN-200-12020 | | ICP/OES |
| Ni | MIN-200-12020 | | ICP/OES |
| P | MIN-200-12020 | | ICP/OES |
| Pb | MIN-200-12020 | | ICP/OES |
| Rb | MIN-200-12020 | | ICP/OES |
| S | MIN-200-12020 | | ICP/OES |
| Sb | MIN-200-12020 | | ICP/OES |
| Sc | MIN-200-12020 | | ICP/OES |
| Se | MIN-200-12020 | | ICP/OES |
| Sn | MIN-200-12020 | | ICP/OES |
| Sr | MIN-200-12020 | | ICP/OES |
| Ta | MIN-200-12020 | | ICP/OES |
| Te | MIN-200-12020 | | ICP/OES |
| Th | MIN-200-12020 | | ICP/OES |
| Ti | MIN-200-12020 | | ICP/OES |
| Tl | MIN-200-12020 | | ICP/OES |
| U | MIN-200-12020 | | ICP/OES |
| V | MIN-200-12020 | | ICP/OES |
| W | MIN-200-12020 | | ICP/OES |
| Y | MIN-200-12020 | | ICP/OES |
| Zn | MIN-200-12020 | | ICP/OES |
| Zr | MIN-200-12020 | | ICP/OES |
| Au | MIN-12006, MIN-12004 | | ICP/OES |
| Au-Grav | MIN-12004 | | BALANCE |
| Pass % | | | BALANCE |

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CLIENT NAME: ROBERT DILLMAN
8901 REILY DRIVE
MOUNT BRYDGES, ON N0L 1W0
519-264-9278

ATTENTION TO: ROBERT DILLMAN

PROJECT:

AGAT WORK ORDER: 20T626203

SOLID ANALYSIS REVIEWED BY: Sherin Moussa, Senior Technician

DATE REPORTED: Jul 28, 2020

PAGES (INCLUDING COVER): 8

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.

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# Certificate of Analysis

AGAT WORK ORDER: 20T626203
PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (200-) Sample Login Weight

DATE SAMPLED: Jul 16, 2020 | DATE RECEIVED: Jul 16, 2020 | DATE REPORTED: Jul 28, 2020 | SAMPLE TYPE: Rock

| Analyte: | Sample Login Weight |
|---|---|
| Unit: | kg |
| Sample ID (AGAT ID) RDL: | 0.01 |
| BS-41 (1278801) | 1.8805 |
| BS-42 (1278802) | 1.0322 |
| BS-43 (1278803) | 1.2097 |
| BS-44 (1278804) | 1.2262 |
| BS-45 (1278805) | 1.2362 |
| BS-46 (1278806) | 1.7037 |
| BS-47 (1278807) | 2.5686 |
| BS-48 (1278808) | 1.8376 |
| BS-49 (1278809) | 3.2066 |
| BS-50 (1278810) | 1.5696 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Certified By: Sherin Moussa

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# Certificate of Analysis

AGAT WORK ORDER: 20T626203
PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

DATE SAMPLED: Jul 16, 2020 | DATE RECEIVED: Jul 16, 2020 | DATE REPORTED: Jul 28, 2020 | SAMPLE TYPE: Rock

| Analyte: | Au |
|---|---|
| Unit: | ppm |
| Sample ID (AGAT ID) RDL: | 0.001 |
| BS-41 (1278801) | 0.006 |
| BS-42 (1278802) | 0.010 |
| BS-43 (1278803) | 0.003 |
| BS-44 (1278804) | 0.012 |
| BS-45 (1278805) | 0.018 |
| BS-46 (1278806) | 0.025 |
| BS-47 (1278807) | 0.006 |
| BS-48 (1278808) | 1.72 |
| BS-49 (1278809) | 4.01 |
| BS-50 (1278810) | 1.64 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Certified By: Sherin Moussa

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# Certificate of Analysis

AGAT WORK ORDER: 20T626203

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## Sieving - % Passing (Crushing)

DATE SAMPLED: Jul 16, 2020 | DATE RECEIVED: Jul 16, 2020 | DATE REPORTED: Jul 28, 2020 | SAMPLE TYPE: Rock

| Analyte: | Pass % |
|---|---|
| Unit: | % |
| Sample ID (AGAT ID) RDL: | 0.01 |
| BS-41 (1278801) | 77.75 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Certified By: Sherin Moussa

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# Certificate of Analysis

AGAT WORK ORDER: 20T626203

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## Sieving - % Passing (Pulverizing)

DATE SAMPLED: Jul 16, 2020 | DATE RECEIVED: Jul 16, 2020 | DATE REPORTED: Jul 28, 2020 | SAMPLE TYPE: Rock

| | Analyte: | Pass % |
|---|---|---|
| | Unit: | % |
| Sample ID (AGAT ID) | RDL: | 0.01 |
| BS-41 (1278801) | | 87.75 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Certified By: Sherin Moussa

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# Quality Assurance - Replicate

AGAT WORK ORDER: 20T626203

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

| | REPLICATE #1 | | | | REPLICATE #2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | Sample ID | Original | Replicate | RPD | | | | | | | | |
| Au | 1278801 | 0.006 | 0.005 | 18.2% | 1278810 | 1.64 | 1.67 | 1.8% | | | | | | | | |

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# Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 20T626203

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

| | CRM #1 (ref.GS6F) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits | | | | | | | | | | | | |
| Au | 6.87 | 6.72 | 98% | 90% - 110% | | | | | | | | | | | | |

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# Method Summary

CLIENT NAME: ROBERT DILLMAN

AGAT WORK ORDER: 20T626203

PROJECT:

ATTENTION TO: ROBERT DILLMAN

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|---|---|---|
| Solid Analysis | | | |
| Sample Login Weight | MIN-12009 | | BALANCE |
| Au | MIN-12006, MIN-12004 | | ICP/OES |
| Pass % | | | BALANCE |

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CLIENT NAME: ROBERT DILLMAN
8901 REILY DRIVE
MOUNT BRYDGES, ON N0L 1W0
519-264-9278

ATTENTION TO: ROBERT DILLMAN

PROJECT:

AGAT WORK ORDER: 21T767098

SOLID ANALYSIS REVIEWED BY: Jeffrey Xiong, Lab Team Lead

DATE REPORTED: Aug 31, 2021

PAGES (INCLUDING COVER): 9

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*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 90 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
- Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.
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# Certificate of Analysis

AGAT WORK ORDER: 21T767098

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (200-) Sample Login Weight

DATE SAMPLED: Jun 27, 2021 | DATE RECEIVED: Jun 28, 2021 | DATE REPORTED: Aug 31, 2021 | SAMPLE TYPE: Rock

| Analyte: | Sample Login Weight |
|---|---|
| Unit: | kg |
| Sample ID (AGAT ID) RDL: | 0.005 |
| KEN-1 (2667671) | 2.16 |
| KEN-2 (2667672) | 2.77 |
| KEN-3 (2667673) | 2.09 |
| KEN-4 (2667674) | 2.47 |
| KEN-5 (2667675) | 1.58 |
| KEN-6 (2667676) | 1.63 |
| KEN-7 (2667677) | 1.04 |
| KEN-8 (2667678) | 1.29 |
| KEN-9 (2667679) | 0.40 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)
Insufficient Sample : IS
Sample Not Received : SNR

Certified By:

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# Certificate of Analysis

AGAT WORK ORDER: 21T767098
PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

DATE SAMPLED: Jun 27, 2021 | DATE RECEIVED: Jun 28, 2021 | DATE REPORTED: Aug 31, 2021 | SAMPLE TYPE: Rock

| Analyte: | Au |
|---|---|
| Unit: | ppm |
| Sample ID (AGAT ID) RDL: | 0.001 |
| KEN-1 (2667671) | 5.29 |
| KEN-2 (2667672) | 0.518 |
| KEN-3 (2667673) | 0.673 |
| KEN-4 (2667674) | >10 |
| KEN-5 (2667675) | >10 |
| KEN-6 (2667676) | >10 |
| KEN-7 (2667677) | 1.50 |
| KEN-8 (2667678) | >10 |
| KEN-9 (2667679) | >10 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)
Insufficient Sample : IS
Sample Not Received : SNR

Certified By:

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# Certificate of Analysis

AGAT WORK ORDER: 21T767098
PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-564) Fire Assay - Au Ore Grade, Gravimetric finish (50g charge)

DATE SAMPLED: Jun 27, 2021 | DATE RECEIVED: Jun 28, 2021 | DATE REPORTED: Aug 31, 2021 | SAMPLE TYPE: Rock

| Analyte: | Au-Grav |
|---|---|
| Unit: | g/t |
| Sample ID (AGAT ID) RDL: | 0.5 |
| KEN-4 (2667674) | 21.2 |
| KEN-5 (2667675) | 37.7 |
| KEN-6 (2667676) | 21.0 |
| KEN-8 (2667678) | 39.3 |
| KEN-9 (2667679) | 58.9 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)
Insufficient Sample : IS
Sample Not Received : SNR

Certified By:

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# Certificate of Analysis

AGAT WORK ORDER: 21T767098

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## Sieving - % Passing (Crushing)

DATE SAMPLED: Jun 27, 2021 | DATE RECEIVED: Jun 28, 2021 | DATE REPORTED: Aug 31, 2021 | SAMPLE TYPE: Rock

| Analyte: | Crush-Pass % |
|---|---|
| Unit: | % |
| Sample ID (AGAT ID) RDL: | 0.01 |
| KEN-1 (2667671) | 79.76 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)
Insufficient Sample : IS
Sample Not Received : SNR

Certified By:

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# Certificate of Analysis

AGAT WORK ORDER: 21T767098

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## Sieving - % Passing (Pulverizing)

DATE SAMPLED: Jun 27, 2021 | DATE RECEIVED: Jun 28, 2021 | DATE REPORTED: Aug 31, 2021 | SAMPLE TYPE: Rock

| Analyte: | Pul-Pass % |
|---|---|
| Unit: | % |
| Sample ID (AGAT ID) RDL: | 0.01 |
| KEN-1 (2667671) | 88.67 |

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)
Insufficient Sample : IS
Sample Not Received : SNR

Certified By:

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# Quality Assurance - Replicate

AGAT WORK ORDER: 21T767098

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

| | REPLICATE #1 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | | | | | | | | | | | | |
| Au | 2667671 | 5.29 | 6.39 | 18.8% | | | | | | | | | | | | |

## (202-564) Fire Assay - Au Ore Grade, Gravimetric finish (50g charge)

| | REPLICATE #1 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | | | | | | | | | | | | |
| Au-Grav | 2667674 | 21.2 | 22.9 | 7.9% | | | | | | | | | | | | |

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# Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 21T767098

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

| | CRM #1 (ref.GS7K) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits | | | | | | | | | | | | |
| Au | 7.06 | 7.01 | 99% | 90% - 110% | | | | | | | | | | | | |

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TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

# Method Summary

CLIENT NAME: ROBERT DILLMAN

AGAT WORK ORDER: 21T767098

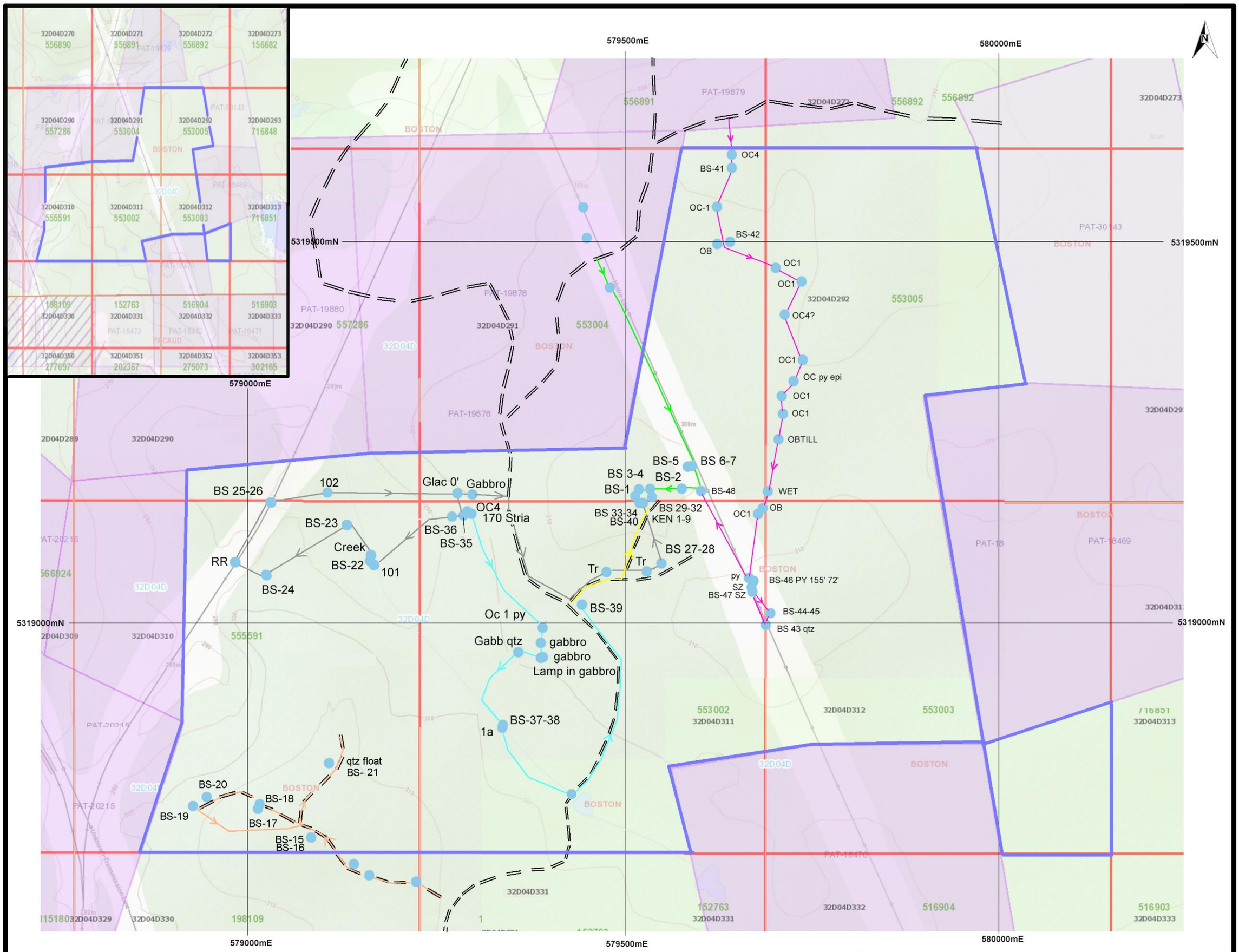
PROJECT:

ATTENTION TO: ROBERT DILLMAN

SAMPLING SITE:

SAMPLED BY:

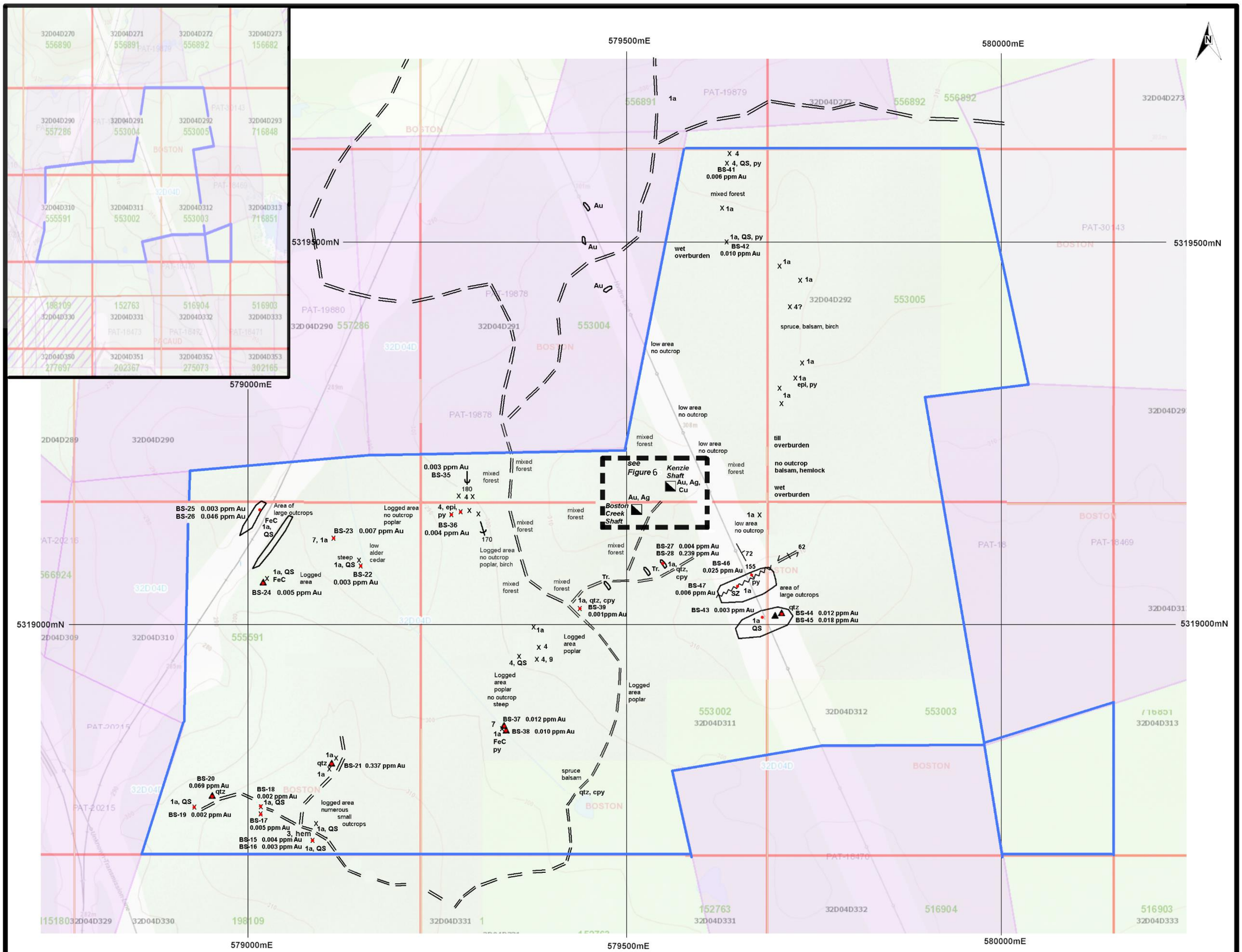
| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|---|---|---|
| Solid Analysis | | | |
| Sample Login Weight | MIN-12009 | | BALANCE |
| Au | MIN-12006, MIN-12004 | | ICP/OES |
| Au-Grav | MIN-12004 | | BALANCE |
| Crush-Pass % | | | BALANCE |
| Pul-Pass % | | | BALANCE |




# TRAVERSE & WAYPOINT LOCATION MAP

## KENZIE PROPERTY
## BOSTON TWP., ONTARIO

| | |
|---|---|
| ***Survey Date:*** June 2020, July 2020 June 2021 | ***Map By:*** RJD |
| ***Survey By:*** JR, RJD | ***Scale:*** 1 : 5,000 |




| | | | | | |
|---|---|---|---|---|---|
| 9 | Lamprophyre | X | Outcrop | FeC | Iron Carbonate |
| 7 | Syenite | BS-24 | Rock Sample | | Shaft |
| 4 | Gabbro | Au | Gold | Tr. | Pits, trenches |
| 3 | Argillite | Ag | Silver | SZ | Shear Zone |
| 1a | Basalt | Cu | Copper | | Strike & Dip |
| | | py | Pyrite | | Shearing |
| | | cpy | Chalcopyrite | | Boulder, float |
| | | hem | Hematite | | Road, trail |
| | | qtz | Quartz | | |
| | | QS | Quartz Stringers | | |

NAD 83, Zone 17

# GEOLOGY & ROCK SAMPLE LOCATIONS and ASSAY RESULTS

## KENZIE PROPERTY
## BOSTON TWP., ONTARIO

| Survey Date: | Map By: |
|---|---|
| June 2020, July 2020<br>June 2021 | RJD |
| **Survey By:** | **Scale:** |
| JR, RJD | 1 : 5,000 |

# Petrographic and Electron Microprobe Examination of Gold-bearing samples from the Kenzie Vein Prospect, Boston Township, Larder Lake Mining Division, Ontario

By: Dr. Jim Renaud of Renaud Geological Consulting Ltd.,

London, Ontario

May 15 2022

# Contents

## List of Figures



## List of Tables

**Summary**

This report details the petrographic work completed on 1 rock submitted for petrographic and electron- microprobe investigation by Mr. Robert Dillman and Mr. Jim Renaud. The main purpose of the study was to examine the rock and provide details of textures and mineral compositions, alteration, assemblages and associated mineralization and to find occurrences of gold-bearing phases. The samples were collected from the Kenzie Vein Prospect, Boston Township, during two separate site visits on June 9 2020 and June 14 2021. Samples BS29 and BS32 were collected June 9 2020 and sample Ken 9 was collected June 14 2021. These three samples comprise the petrographic and electron microprobe investigations comprising this report. The samples were collected as part of two traverses by property owners: Dr. Jim Renaud and Robert Dillman. The samples were collected on claim:

**553002, cell 32D04D311**

The 6 claim (59.1 ha) Kenzie property and 8 claim (124.6 ha) Boston Creek covers the Kenzie Vein, also known as the R.A.P. Prospect. Excellent access is provided to the property via roads and trails which provide access to the historic Kenzie shafts. These shafts target the Kenzie vein which is de-scribed as 5 feet (1.5 metres) wide, striking northeast and dipping to the southeast. It consists of quartz plus silicified and brecciated rock mineralized with chlorite, pyrite and chalcopyrite. The country rock, including altered greenstone and porphyry, has been brecciated and partly replaced by vein-forming solutions of quartz of several generations, and by calcite and other carbonates. Some minerals which characterize deposits that are formed at high temperatures are found in the veins at Boston creek. Historically, actinolite was noted in a thin section of material from the Kenzie vein, and specularite has been frequently observed in other veins. It is probable that the deposits were formed at great depth, but not at extremely high temperature.

## Location and Access

The Boston Creek property is located approximately 18 kilometres south southeast of the town of Kirkland Lake, Ontario which is approximately 585 kilometres by road north of Toronto, Ontario. The property is accessible by motorized vehicle from Kirkland Lake via Highway 66 to Highway 112, then travelling south along Highway 112 to Highway 564 to the village of Boston Creek and then eastwards for approximately 1 kilometre along a gravel road to the property.

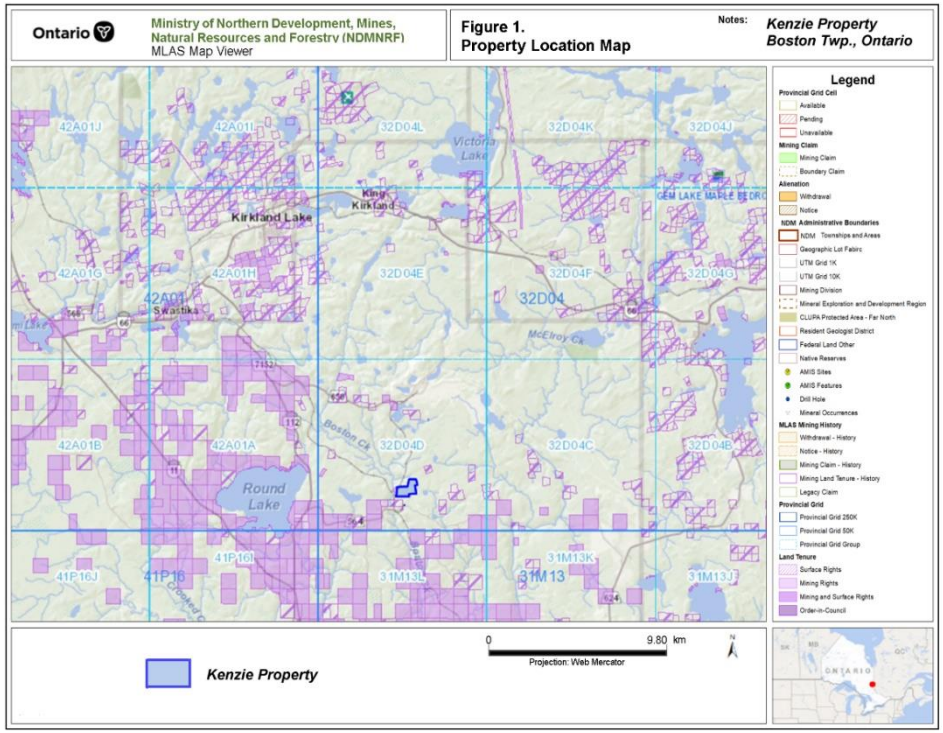



*Figure 1 Location Map*

## Claim Logistics and Location of Work

The 6 claim (59.1 ha) Kenzie property and 8 claim (124.6 ha) Boston Creek covers the Kenzie Vein, also known as the R.A.P. Prospect. All claims comprising the Kenzie Property and Boston Creek are held entirely by Goldenfire Minerals Inc.

## Land Status and Topography

The property has topography typical of the Canadian shield with mixed forests, streams and lakes. The claim group is situated entirely on Crown Land. The property is uninhabited. There are no buildings or habitats on the claims. An electrical powerline cuts through the claim block in a northwesterly direction. The claims are generally flat with overburden depths less than 20' and on average close to 10'. There appears to be limited overburden over the area allowing for easy stripping. A beaver pond located immediately south of the area to provide an adequate source of water for washing stripped areas.

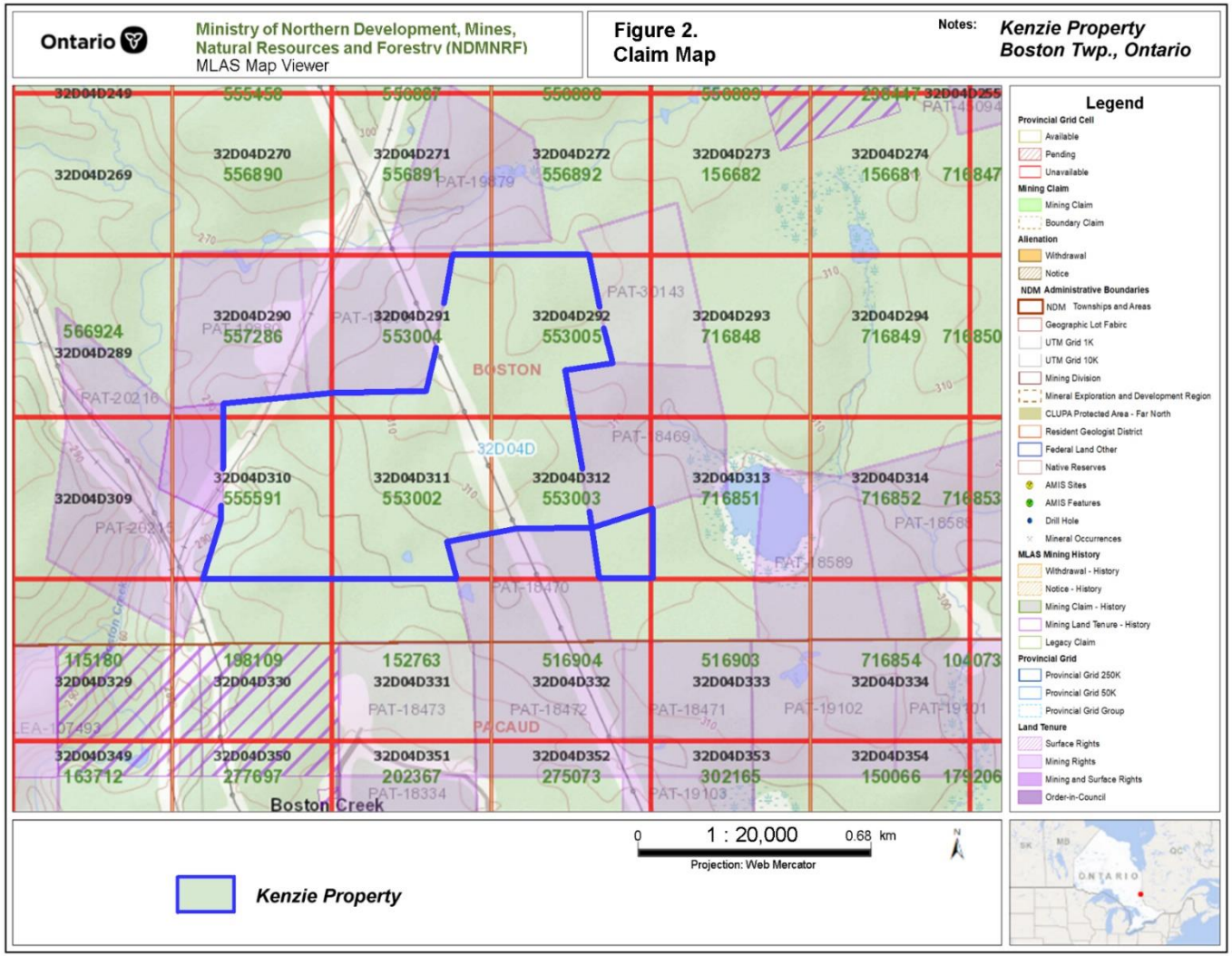



*Figure 2 Claim Map*

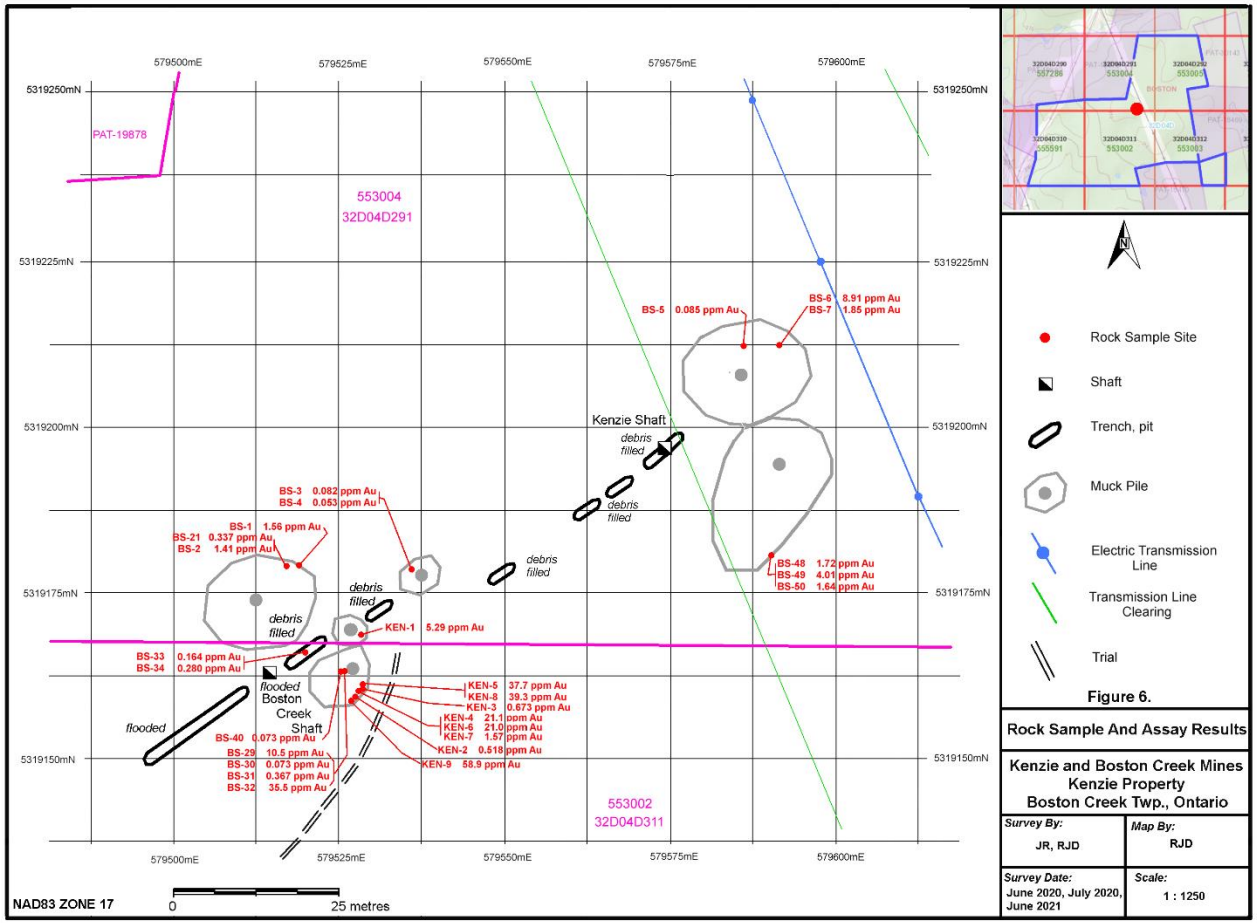



*Figure 3 Sample Locations*

## History

A detailed history of the area is presented here based on the assessment report of Atkinson (2011). Gold was first discovered in Boston Township in 1914 on what was called the Kenzie vein which was located at that time on the boundary of claims L3665 to L5163 (ODM, 1957). During 1916, work on the claims was completed by the R.A.P. Syndicate who continued development work on the 100 and 200 foot level for a distance of 250 feet east and 175 feet west. Work was also undertaken on the adjacent property to the southwest by Boston Creek Mines who used the R.A.P. workings to access their claim. They completed a raise to surface from the existing 200 foot level and sunk an internal winze to the 400 foot level. They completed at least 300 feet of drifting to the west on the 400 foot level. The Boston Creek Mine is reported to have discovered a high grade gold section in the upper parts of the winze and other ore shoots were reported in the lower workings. The work completed by these mining operations indicated that the ore occurred in shoots in the vein which ranges up to 5 feet in width. The vein strikes 030° and dips 65° to the south. The vein is described as hosting quartz of different generations, silicified mafic volcanics, red calcite and brecciated and altered feldspar porphyry. Mineralization is interpreted to be related to the intrusion of the feldspar porphyry dyke or the dyke. Gold mineralization may have been introduced along a pre-existing structure. The gold occurs generally in very fine grained green quartz. The green color is attributed to the presence of fine-grained chlorite. Pyrite is the most common sulphide, followed in abundance by chalcopyrite, galena and molybdenite. Historic thin section work showed that gold is associated with the pyrite in chlorite and calcite seams near the footwall of the quart- rich parts of the vein. Values of up to 1 oz/ton have been reported from the mineralized parts of the vein. The probable extension of the Kenzie vein is reported on the adjacent property to the northeast where Barlow and Hopkins describe the presence of a mineralized band of schist with quartz about 1 foot wide with visible gold. The property was explored in 1998 by J. D. Horne who failed to identify any mineralization of interest on this property. The northern part of Pacaud Township has also seen some interest in the past. The Barry Hollinger mine occurs approximately 1000m to the southwest of the Kenzie vein. The mine was in operation in 1917 and 1918 but was destroyed by a forest fire in 1919. Twelve veins were discovered on the property but only one was developed. An inclined shaft was sunk 215 feet on the

Number 7 Vein with levels at 100 and 200 feet with drifts on these levels. Some stoping was completed on these levels and recovered ore contained approximately 0.5 ounces gold per ton. The mineralization is found in banded quartz of fine grain size associated with pyrite, minor chalcopyrite and sphalerite. The veins were narrow, averaging 12 to 30 inches in width. The area has seen only sporadic exploration since the early 20th century and the only work recorded in the Government of Ontario Assessment files on the Golden Darling claims in the Boston Creek Area was completed by J.D. Horne in 1998. The program consisted of line cutting, ground magnetic and electromagnetic surveying, geological mapping and rock sampling on claim number 4252284. The work resulted in no significant mineralization being discovered and did not identify any interesting geophysical anomalies.

- Historic assays of chlorite rich quartz are reported to range 1.21 to 1.45 oz/ton Au (41.7 to 50 g/t).
- A 5 day sampling program completed in May 2005 produced assays up to 59.79 g/t.
- In 2007, line cutting and a magnetic survey were conducted over the claim area. Results indicate magnetic lows correlate with zones of interest.
- Rock samples collected during the 2020 campaign from large muck piles of rock in the vicinity of the shaft assayed high-grade gold values up to 35.5 g/t with anomalous silver and copper; A sample collected from a muck pile in 2021 assayed 58.9 g/t Au

Table 1: Sample List

**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Glac 0' | June 9, 2020 12:08pm | 579277 | 5319173 | 553004, 32DO4D291 | | | | | 0° glacial striation in basalt |
| BS-22 | June 9, 2020 12:27pm | 579159 | 5319082 | 555591, 32D04D310 | BS-22 | 0.003 | | | chloritized mafic metavolcanic with white quartz + chlorite stringers |
| BS-23 | June 9, 2020 12:49pm | 579127 | 5319129 | 555591, 32D04D310 | BS-23 | 0.007 | | | altered syenite, <0.5 cm wide quartz stingers, 1% fine disseminated pyrite |
| BS-24 | June 9, 2020 2:06pm | 579020 | 5319060 | 555591, 32D04D310 | BS-24 | 0.005 | | | basalt, weakly Fec, quartz stringers, trace pyrite |
| Old RR 25' | June 9, 2020 1:56pm | 578978 | 5319077 | 555591, 32D04D310 | | | | | basalt, weakly Fec, quartz stringers |
| BS 25-26 | June 9, 2020 2:32pm | 579025 | 5319156 | 555591, 32D04D310 | BS-25 | 0.003 | | | <5 cm wide quartz stringers in cliff face, minor FeC, tr. pyrite |
| BS 25-26 | June 9, 2020 2:32pm | 579025 | 5319156 | 555591, 32D04D310 | BS-26 | 0.046 | | | <5 cm wide quartz stringers in cliff face, minor FeC, tr. pyrite |
| Tr | June 9, 2020 3:26pm | 579478 | 5319072 | 553002, 32DO4D311 | | | | | trench in basalt, overburden filled |
| Tr | June 9, 2020 3:28pm | 579532 | 5319073 | 553002, 32DO4D311 | | | | | trench in basalt, overburden filled |
| BS 27-28 | June 9, 2020 4:04pm | 579552 | 5319083 | 553002, 32DO4D311 | BS-27 | 0.004 | | | basalt adjacent quartz vein 12 cm, trace chalcopyrite |
| BS 27-28 | June 9, 2020 4:04pm | 579552 | 5319083 | 553002, 32DO4D311 | BS-28 | 0.239 | | | quartz vein 12 cm, trace chalcopyrite |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-29 | 10.5 | 1.3 | 422 | muck pile, white to greyish-green quartz and chlorite, tr. silver and red-tarnished pyrite. Several gold grains + and fine gold around red-tarnished pyrite. |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-30 | 0.073 | | | muck pile, rhyolite and white quartz with Tr.-2% pyrite +/- chalcopyrite + malachite |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-31 | 0.367 | | | muck pile, rhyolite breccia with dark quartz matrix, 1-5% fine-grained pyrite |
| BS 29-32 | June 9, 2020 4:32pm | 579526 | 5319163 | 553002, 32DO4D311 | BS-32 | 35.5 | 4.8 | 67.7 | muck pile, greyish-green quartz and chlorite, trace-2% silver and red-tarnished pyrite. Several grains of coarse gold 0.5cm |
| Adit | June 9, 2020 4:34pm | 579514 | 5319162 | 553002, 32DO4D311 | | | | | Boston Creek Shaft, open, flooded |
| BS 33-34 | June 9, 2020 4:50pm | 579521 | 5319163 | 553002, 32DO4D311 | BS-33 | 0.164 | | | loose pieces in collapsed trench east of Boston Creek shaft. Greyish quartz and brecciated rhyolitic wallrock with 5-10% very fine pyrite |
| BS 33-34 | June 9, 2020 4:50pm | 579521 | 5319163 | 553002, 32DO4D311 | BS-34 | 0.280 | | | loose pieces in collapsed trench east of Boston Creek shaft. Greyish quartz and brecciated rhyolitic wallrock with 5-10% very fine pyrite |

**Kenzie Property, Boston Township, Ontario NAD 83 Zone 17**

| Waypoint | Date | Easting | Northing | Claim Cell | Rock Sample | Gold ppm | Silver ppm | Copper ppm | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Shaft | June 14, 2021 2:35pm | 579574 | 5319195 | 553004, 32D04D291 | | | | | Kenzie Shaft, RAP Shaft, deep pit, collapsed, trees in pit. |
| Pile 1 | June 14, 2021 2:57pm | 579586 | 5319209 | 553004, 32D04D291 | | | | | muck pile |
| Pile 2 | June 14, 2021 3:03pm | 579592 | 5319195 | 553004, 32D04D291 | | | | | muck pile |
| Pit | June 14, 2021 3:09pm | 579565 | 5319190 | 553004, 32D04D291 | | | | | 2x3 m collapsed |
| Pit | June 14, 2021 3:10pm | 579562 | 5319187 | 553004, 32D04D291 | | | | | 2x3 m collapsed |
| Pit | June 14, 2021 3:11pm | 579546 | 5319177 | 553004, 32D04D291 | | | | | 2x3 m collapsed |
| Pit | June 14, 2021 3:15pm | 579531 | 5319174 | 553004, 32D04D291 | | | | | 7x3 m collapsed, rubble |
| Pile 3 | June 14, 2021 3:18pm | 579565 | 5319190 | 553004, 32D04D291 | | | | | muck pile |
| Shaft | June 14, 2021 3:24pm | 579514 | 5319162 | 553002, 32D04D311 | | | | | Boston Creek Shaft, cement collar, flooded |
| Pit | June 14, 2021 3:27pm | 579500 | 5319154 | 553002, 32D04D311 | | | | | 10x3 m flooded |
| Pile 5 | June 14, 2021 3:29pm | 579512 | 5319174 | 553004, 32D04D291 | | | | | muck pile |
| Pile 7 | June 14, 2021 3:36pm | 579527 | 5319163 | 553002, 32D04D311 | | | | | muck pile |
| Pile 6 | June 14, 2021 3:43pm | 579527 | 5319169 | 553004, 32D04D291 | | | | | muck pile |
| Ken2 | June 14, 2021 4:00pm | 579528 | 5319160 | 553002, 32D04D311 | Ken-2 | 0.518 | | | muck pile, brecciated rhyolite wallrock & chlorite rich quartz, 20% fine grained semi-massive pyrite along contact |
| Ken1 | June 14, 2021 4:01pm | 579527 | 5319169 | 553004, 32D04D291 | Ken-1 | 5.29 | | | muck pile, chloritized schistose wallrock with 5% fine disseminated pyrite, boudened quartz stringer 3 cm wide parallel schistosity. |
| Ken3 | June 14, 2021 4:02pm | 579528 | 5319163 | 553002, 32D04D311 | Ken-3 | 0.673 | | | muck pile, brecciated rhyolite wallrock with grey quartz+ 10-20% fine to coarse pyrite matrix |
| Ken4 | June 14, 2021 4:11pm | 579529 | 5319161 | 553002, 32D04D311 | Ken-4 | 21.2 | | | muck pile, chlorite rich quartz, 1-5% disseminated silver and red tarnished pyrite, fine visible gold |
| Ken5 | June 14, 2021 4:15pm | 579528 | 5319165 | 553002, 32D04D311 | Ken-5 | 37.7 | | | chlorite-rich grey quartz with visible gold, 3 pieces with gold remove from sample. |
| Ken6 | June 14, 2021 | 579527 | 5319160 | 553002, 32D04D311 | Ken-6 | 21.0 | | | resample of Ken-4, visible gold |
| Ken7 | June 14, 2021 | 579529 | 5319161 | 553002, 32D04D311 | Ken-7 | 1.50 | | | Pieces of Ken-4, brecciated rhyolite wallrock adjacent chlorite-rich quartz vein with VG. |
| Ken8 | June 14, 2021 | 579528 | 5319165 | 553002, 32D04D311 | Ken-8 | 39.3 | | | Small pieces of Ken-5, with actinolite? crystals and Tr.-2% fine silver and red tarnished py |
| Ken9 | June 14, 2021 | 579527 | 5319160 | 553002, 32D04D311 | Ken-9 | 58.9 | | | muck pile, grey green chlorite rich quartz with visible gold, tr. py |

## Regional Geology

A well summarized regional and property scale geological synopsis was presented by Atkinson (2011) and used here to supplement thie current report. The regional geology map of Burrows and Hopkins (1916) is presented below.

All of the rocks on the property are Precambrian aged and belong to the Superior Province of the Canadian Shield. The general stratigraphy of the area has been defined by R. H. Ridler (1970), L. S. Jensen (1980). The results of their work are summarized, from oldest to youngest, as follows:

The Pacaud tuffs: consist of calc-alkalic waterlain tuffs, and mafic greywackes. These rocks are generally metamorphosed to sericite-chlorite schists and hornblende-chlorite schists.

The Wawbewawa Group: consists of komatiitic basalts which are pillowed and flow banded with minor interflow sediment observed. Ultramafic and gabbroic bodies intruding the volcanic pile have been observed in the area.

The Catharine Group: comprised of dominantly tholeiitic basalt and dacitic pyroclastics.

The Skead Group: comprised of calc-alkaline volcanics including andesite, dacite and rhyolite flows as well as thick sequences of rhyo-dacitic pyroclastics and interflow sediments.

All of the above sequences have been intruded by plugs, dikes and sills of granitic, syenitic, dioritic and gabbroic composition. Some areas have been intruded by large gabbroic to locally ultramafic bodies which may be part of the volcanic sequence. The Otto Syenite Stock occurs along the northwest boundary of the area and the Round Lake Batholith appears to underlie the sequence on the south and west.

Structurally this sequence forms a north-northeast facing and steeply dipping homoclinal sequence of differentiated volcanic rocks. No folding except on a centimeter scale has been observed in the area. Some faults have been mapped by previous workers in the area and it may be possible to infer some faults from stratigraphic displacements.

Metamorphic rocks of amphibolite facies occur as amphibolites, amphibole gneisses, quartz biotite gneisses and biotite schists adjacent to the Otto Syenite Stock. It is not clear whether these highly metamorphosed rocks are metamorphic equivalents of the Wawbewawa Group or if they have an older basement association and were uplifted during the emplacement of the Otto Stock.

Gold mineralization in the area is associated with quartz veins cutting the volcanic units, quartz stockwork zones within intrusive sills generally of syenitic composition or cherty interflow units. The quartz veins cutting the volcanics and many of the syenitic dykes occur with a northeast/southwest trend and may be radial to the Round Lake Batholith which occurs to the southwest of the area. Mineralization in the interflow sediments tends to be oriented in a northwestsoutheast direction parallel to the dominant trend of the volcanic units.

## Property Geology

Geological mapping by previous investigators and government geologists found the property to be largely underlain by a differentiated sequence of volcanic flows and pyroclastic rocks with minor clastic and chemical interflow sediments. The rocks form a steeply dipping, north-northeast facing homoclinal sequence with no major folding. Stocks, plugs and dikes of ultramafic to granitic composition have intruded the volcanic sequence at various times. The stratigraphic sequence on the property has been defined by previous workers in the area and from oldest to youngest the stratigraphic sequence is as follows: the Pacaud Tuffs, the Wawbewawa Group of komatiitic volcanic rocks, the Catharine Group of tholeiitic volcanic rocks and the Skead Group of calc-alkaline volcanic rocks.

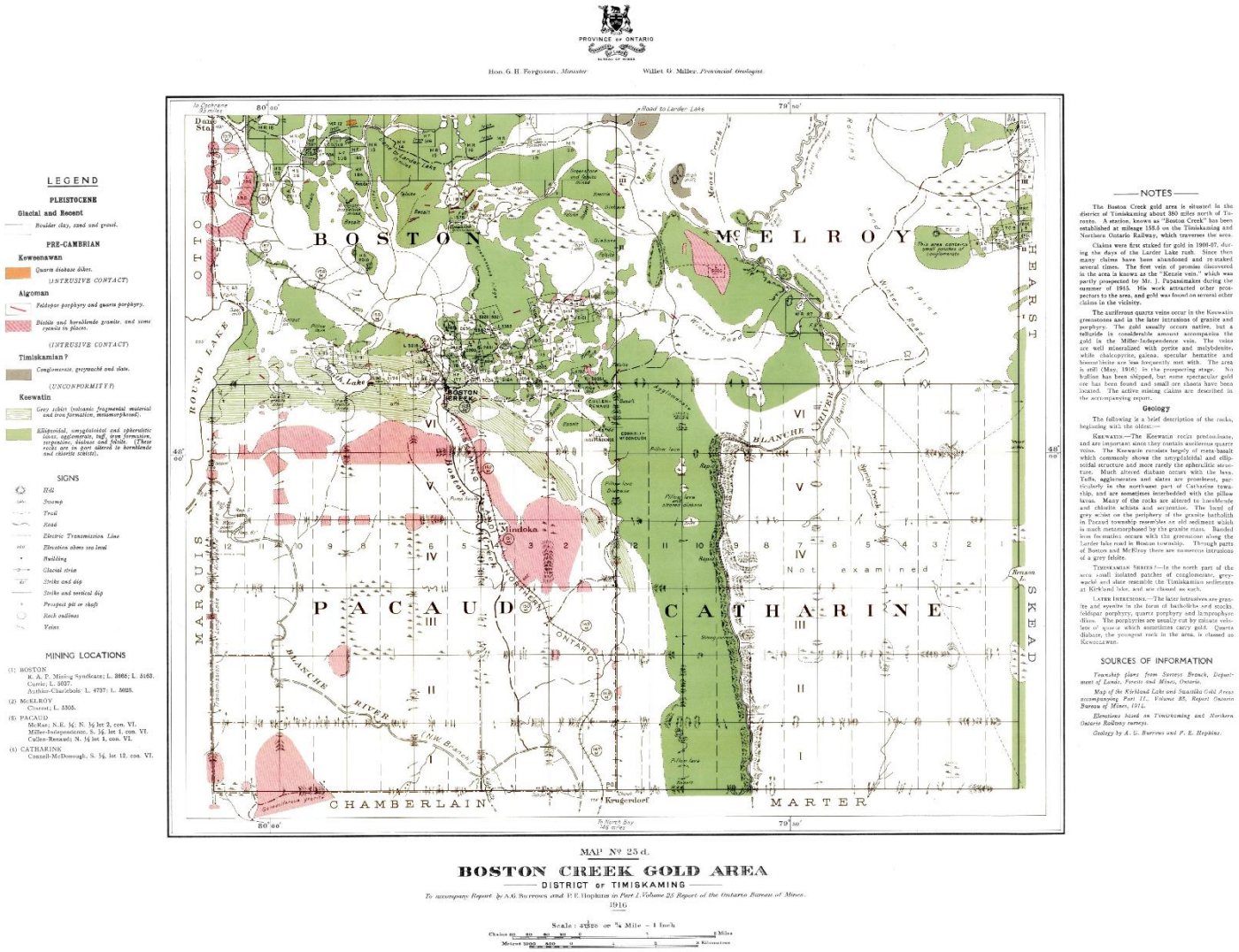



*Figure 4 Regional Geology Map*

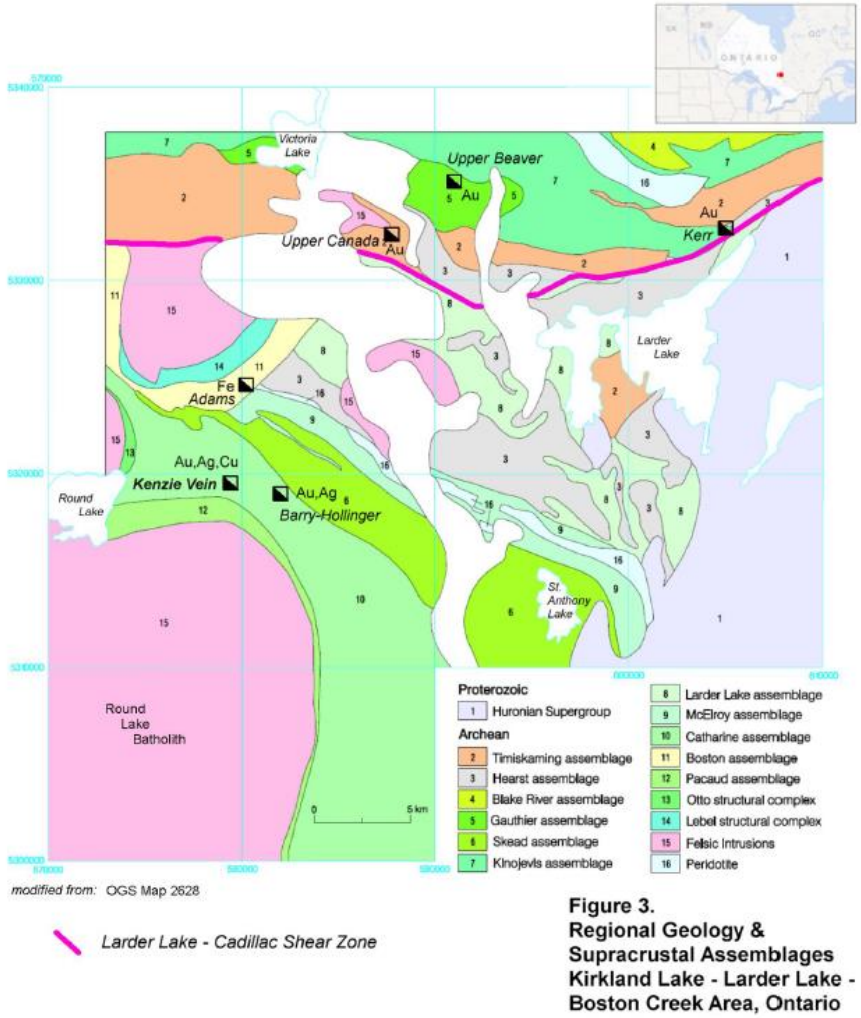



**Figure 3.**
**Regional Geology & Supracrustal Assemblages Kirkland Lake - Larder Lake - Boston Creek Area, Ontario**

*Figure 5 Regional Geology and Supracrustal Assemblages*

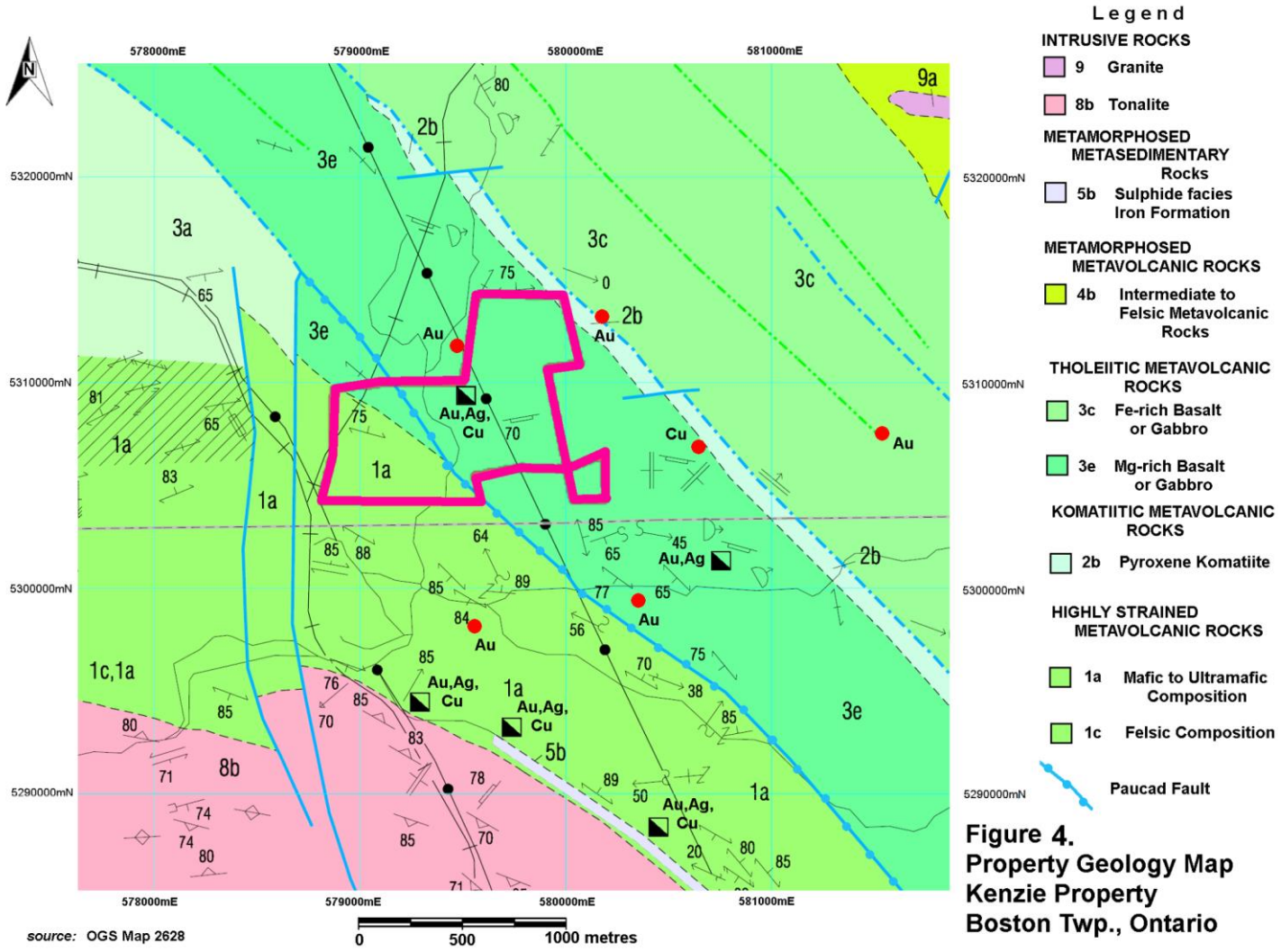



**Figure 4.**
**Property Geology Map**
**Kenzie Property**
**Boston Twp., Ontario**

*Figure 6 Property Geology Map (modified from OGS Map 2628)*

## Survey Date and Personnel

The samples were collected as part of two prospecting traverses on June 9, 2020 (Samples BS29 and BS32) and June 14, 2021 (Sample Ken 9). The traverses were completed by: Jim Renaud of London, Ontario and Robert Dillman of Mount Brydges, Ontario.

## Survey Logistics

The traverses were initiated to prospect areas around the old Kenzie Vein prospect and the Boston Creek Mine area. Outcrop, waste piles, and muck piles were investigated and sampled during the traverses. The petrographic samples detailed in this report were obtained from muck piles on the property adjacent to an old shaft.

A compass and a Garmin GPS model GPSMAP 66st were used to navigate. The GPS unit was set to NAD83, Zone 17.

All rock samples from the property were delivered to AGAT Laboratory for analyses. The lab is in Mississauga, Ontario. All rock samples were Fire Assayed for gold using a 50 gram charge and finished by Inductively Coupled Plasma – Optical Emission Spectroscopy (ICP-OES) to measure the gold concentration. Two samples were assay for gold using a Total Metallic Assay method. Assay certificates from the lab are appended to this report.

Rock sample locations, descriptions and assay results are also presented in Table 1 and plotted at a scale of 1 : 1250 (Figure 3).

### Petrographic and Electron Microprobe Methods

The samples were cut and 2 polished thin section were made of each sample. Samples were subsequently carbon coated and examined in transmitted and reflected light with a Zeiss petrographic microscope. Regions of interest were photographed using the petrographic microscope and circled with a diamond scribe to enable relocation of the selected areas when in the microprobe. Samples were examined in detail using the Oxford Instrument Energy Dispersive System (EDS) on the microprobe and relevant minerals analyzed using the EDS system. Backscattered electron detector images of relevant and interesting mineralogical and textural relationships were collected digitally. For each backscatter image a scale bar in microns is located at the bottom of each image which is useful in evaluating the grain sizes of the various minerals. All minerals were analyzed using a JEOL JXA 733 electron microprobe equipped with a Tracor Northern EDS and five wavelength spectrometers.

*Figure 7 JEOL JXA-733 Superprobe equipped with an Oxford Xact EDS system housed in the Laboratory of Renaud Geological Consulting Ltd.*

## Results

Two polished thin sections were created from Sample 32. Sample 32 assayed 35.5 g/t Au and 4.8 g/t Ag. The rocks are hydrothermally altered and brecciated quartz veins with multiple generations of quartz development. The rocks host coarse-grained multigranular quartz and interstitial fine-grained sugary cryptocrystalline quartz development. The dominant mineralogy is altered by late stage carbonate alteration and late stage carbonate-chlorite veins hosting visible gold and coarse patches of cubic pyrite growth and randomly disseminated pyrite growth throughout the rock. Electron microprobe investigations revealed that the cubic pyrite grains are mineralogically zoned with dark areas of pyrite and brighter growth zones of arsenian pyrite with up to 4 wt% As in the brightest growth zones. Interestingly, the bright arsenian pyrite growth zones are host to polymetallic mineral assemblages including chalcopyrite, galena, arsenopyrite, tennantite, Ag-tennantite, and electrum.

Two polished thin sections were created from Sample 29. Sample 29 assayed 10.5 g/t Au, 1.3 g/t Ag, and 422 ppm Cu. This rock is comprised of extremely fine-grained sugary quartz grains and coarse-grained dog-tooth quartz intergrown with plagioclase-feldspar which displays polysynthetic twinning. There are polycrystalline multigranular quartz veins with Berlin-blue chlorite and carbonate which host sulphides. The thin sections contained minor electrum. The sulphide inventory was dominated by fine- to medium-grained pyrite grains zoned in arsenic. The arsenic-rich growth zones within the pyrite grains hosted inclusions of Fe-sphalerite, chalcopyrite, arsenopyrite, and electrum.

Two polished thin sections were created from Sample Ken 9. Sample Ken 9 assayed 58.9 g/t Au. The rocks are hydrothermally altered and brecciated quartz veins with multiple generations of quartz development. The rocks host coarse-grained multigranular quartz and interstitial fine-grained sugary cryptocrystalline quartz development. Late stage carbonate alteration and late stage carbonate-chlorite veins are intergrown with fine-grained acicular laths of actinolite. These chlorite-quartz-actinolite veins host visible gold. Coarse patches of cubic pyrite growth and randomly disseminated pyrite growth occur throughout the rock. Electron microprobe investigations revealed that the cubic pyrite grains are mineralogically zoned with dark areas of pyrite and brighter growth zones of arsenian pyrite with up to 2.5 wt% As in the brightest growth zones. Interestingly, the bright arsenian pyrite growth zones are host to polymetallic mineral assemblages including Cd-sphalerite, tennantite,

arsenopyrite, chalcopyrite, Ag-telluride, Au-Ag-telluride, and electrum. The electrum grains were coarser in this sample which allowed more accurate compositional determination (Au = 89%, Ag=11%). Compositional determination of the electrum was completed by EDS analysis.

## Recommendations

In addition to further prospecting, ground magnetics, and VLF surveys, it is recommended that a further mineralogical study of the chlorite-bearing quartz veins and carbonate altered rocks in the area should be undertaken. An ore characterization study will also contribute to the understanding of the mineralization process and the value of the critical minerals associated with this prospect.

## Budget

Prospecting (2 Geologists)……$15,000
Assays and Geochemistry……...….$3000
Trenching…….$8000
Ground Magnetometer Survey…….$5000
VLF Survey……..$5000
Petrographic Investigation and Ore Characterization Study…….. $8000

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$44,000

**Jim Renaud**
**Renaud Geological Consulting Ltd.**
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## CERTIFICATE of AUTHOR

I, Jim Renaud, **Professional Geologist**, do certify that:

1.I am the **President** and the holder of a **Certificate of Authorization** for:
Renaud Geological Consulting Ltd.,
21272 Denfield Rd
London, Ontario, Canada
N6H-5L2

2.That I have the degree of Bachelor of Science (Chemistry and Geology), 1999, from Western University; the degree of Honors Standing in Geology, 2000, from Western University; Masters of Science (Economic Geology), 2003, from Western University; and Doctor of Philosophy in Geology, 2014, from Western University;

3.I am an active member of:
Association of Professional Geoscientists of Ontario, APGO
Prospectors and Developers Association of Canada, PDAC

4.I have been a **licensed Prospector in Ontario** since 2000
.
5.I have worked continuously as a Geologist for 19 years.

6.Unless stated otherwise, **I am responsible** for the preparation of all sections of the Assessment Report titled:
**Petrographic and Electron Microprobe Examination of Gold-bearing samples**
**from the Kenzie Vein Prospect, Boston Township, Larder Lake Mining Division, Ontario**
7.I am not aware of any material fact or material change with respect to the subject matter of the Assessment Reportthat is not contained in the Assessment Report and its omission to disclose makes the Assessment Report misleading.

**Dated this 15th day of May 2022**

## References

Atkinson, J., 2011. Report of Work – Field Investigation Golden Darling Property Boston Township Prepared for Pro Minerals.

Barlow and Hopkins, ARV 30 pt 06, Memoir #17E, Geological Survey of Canada.

Burrows, A.G. and Hopkins, P.F., 1916. Map No. 25D, Boston Creek Gold Area *in* Part 1 Volume 25 Report of the Ontario Bureau of Mines.

Jensen, L. S., 1980. Gold mineralization in the Kirkland Lake - Larder Lake Areas.

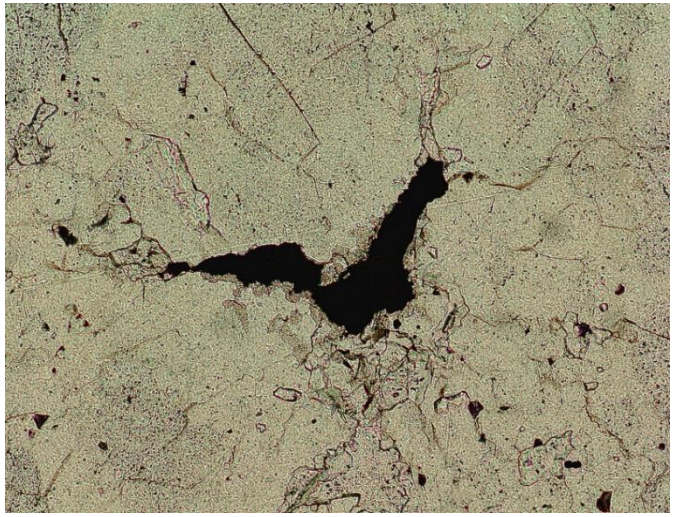
ODM, 1957. Vol.66, pt.5, p.33, 34 (Claims L5163 and L5216 (R.A.P. Syndicate))

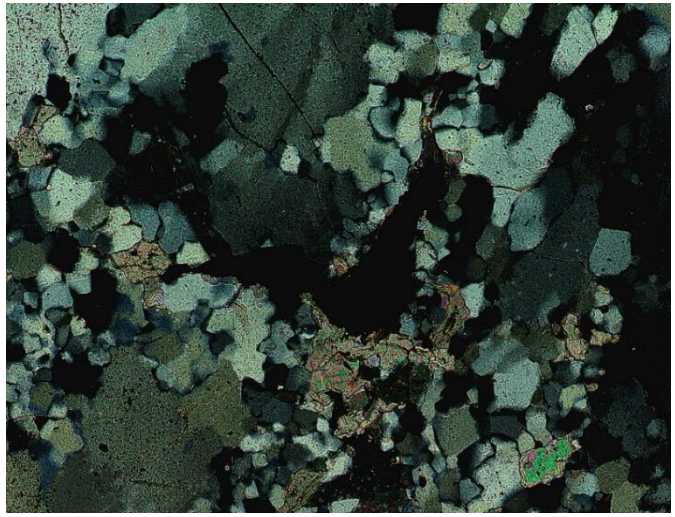
OGS Map 2628 NTS 32D/4, Precambrian Geology, Larder Lake Area, 1995.

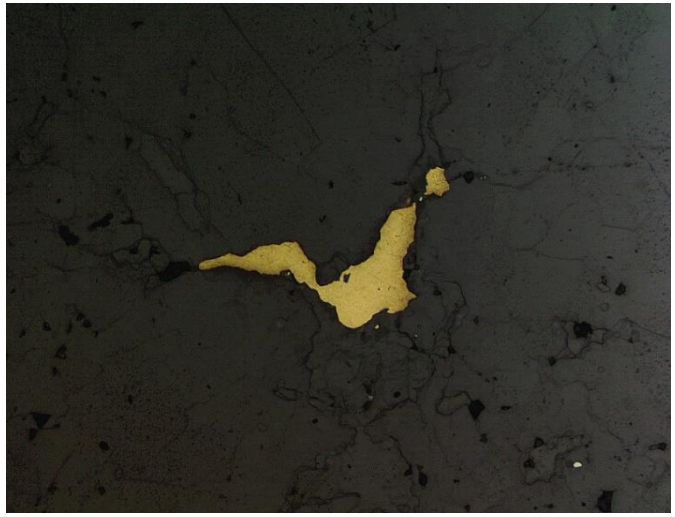
Ridler, R. H., 1970. Relationship of Mineralization to Volcanic Stratigraphy in the Kirkland - Larder Lake Areas; Geological Association of Canada, Volume 21, pp. 33-41.

# APPENDIX

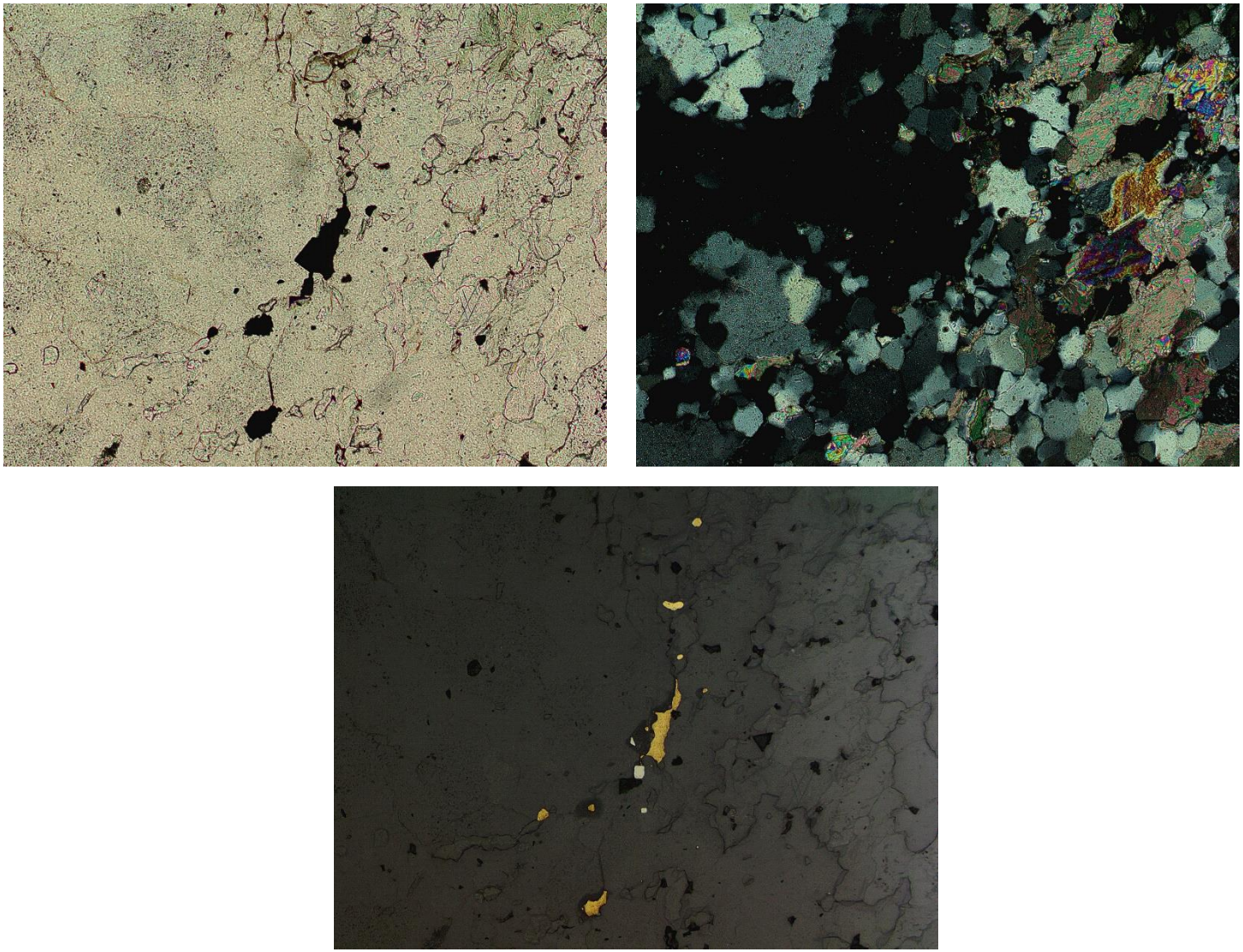

# Sample 32 A,B



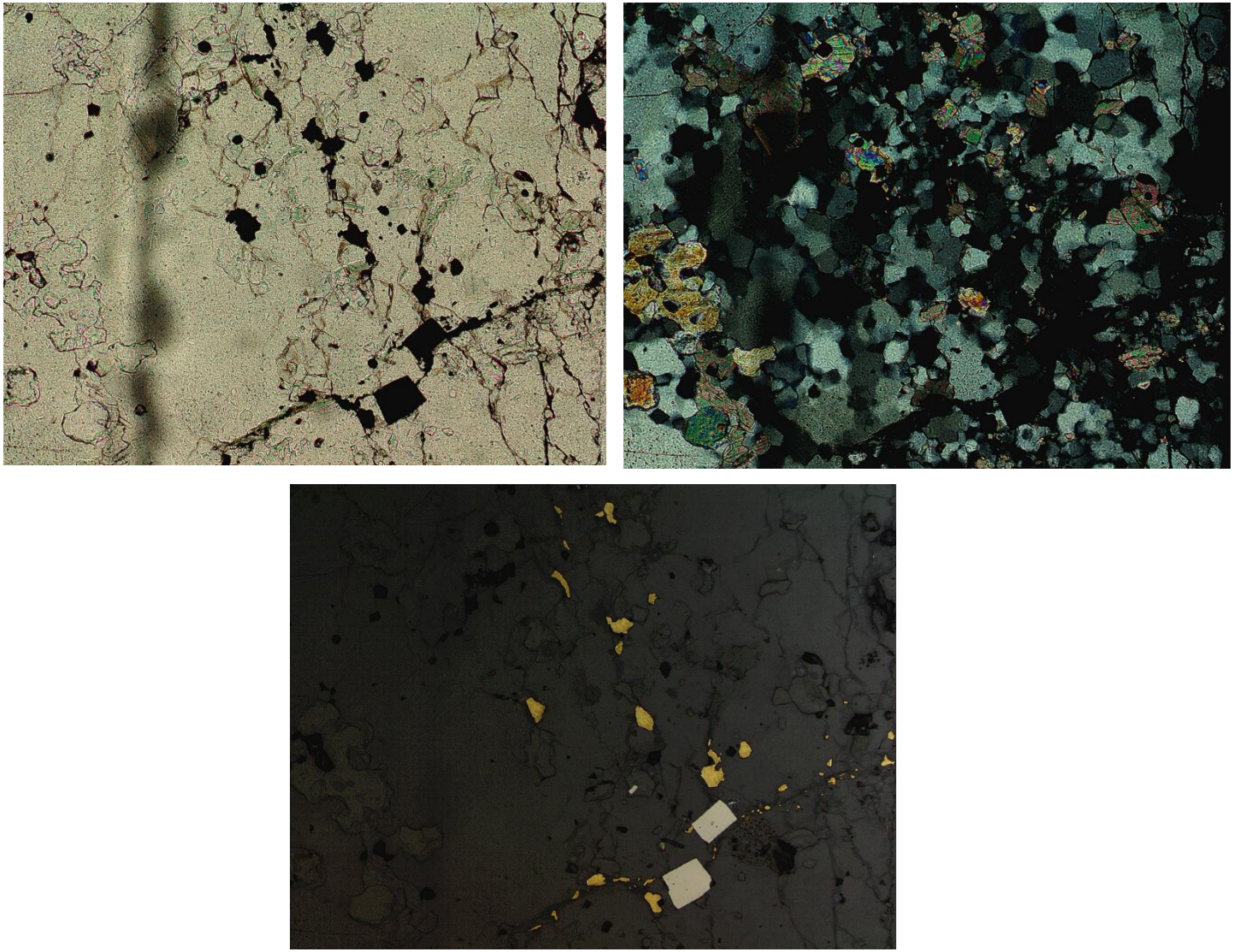




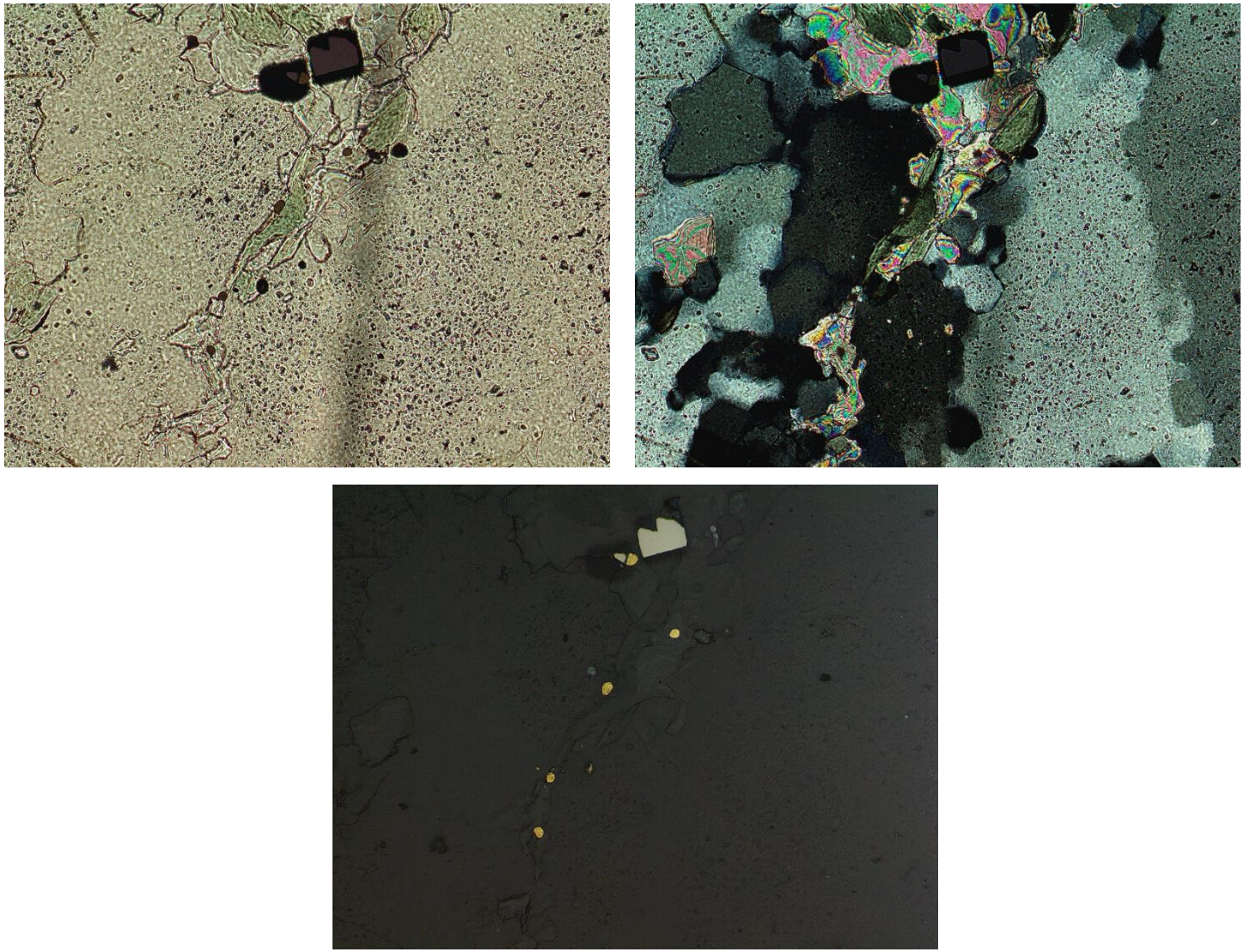
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating visible gold development in late stage fracture associated with highly birefringent carbonate and first-order birefringent chlorite. Field of View = 2 mm



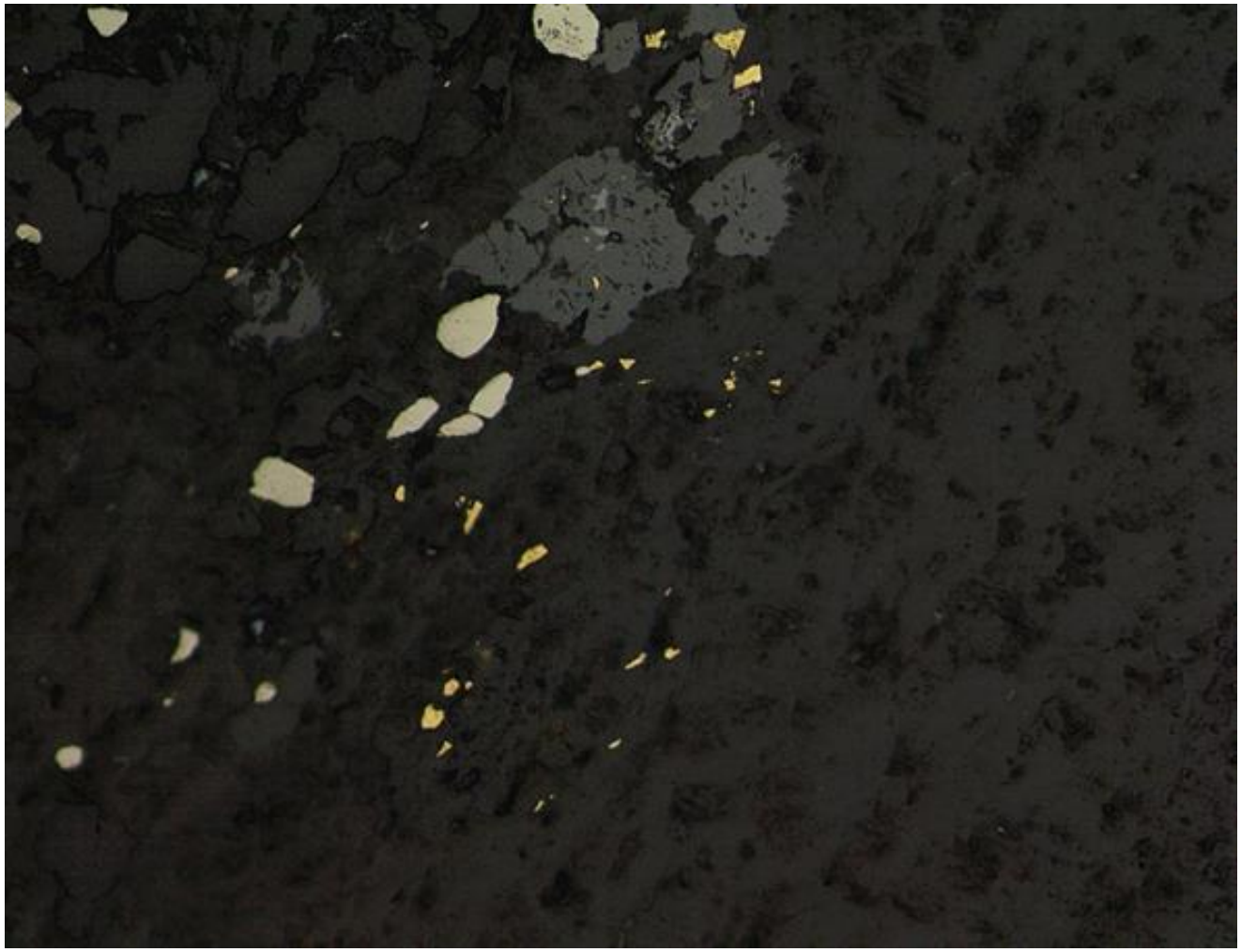
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating multiple grains of visible gold in late stage fracture associated with highly birefringent carbonate and first-order birefringent chlorite. Field of View = 2 mm.



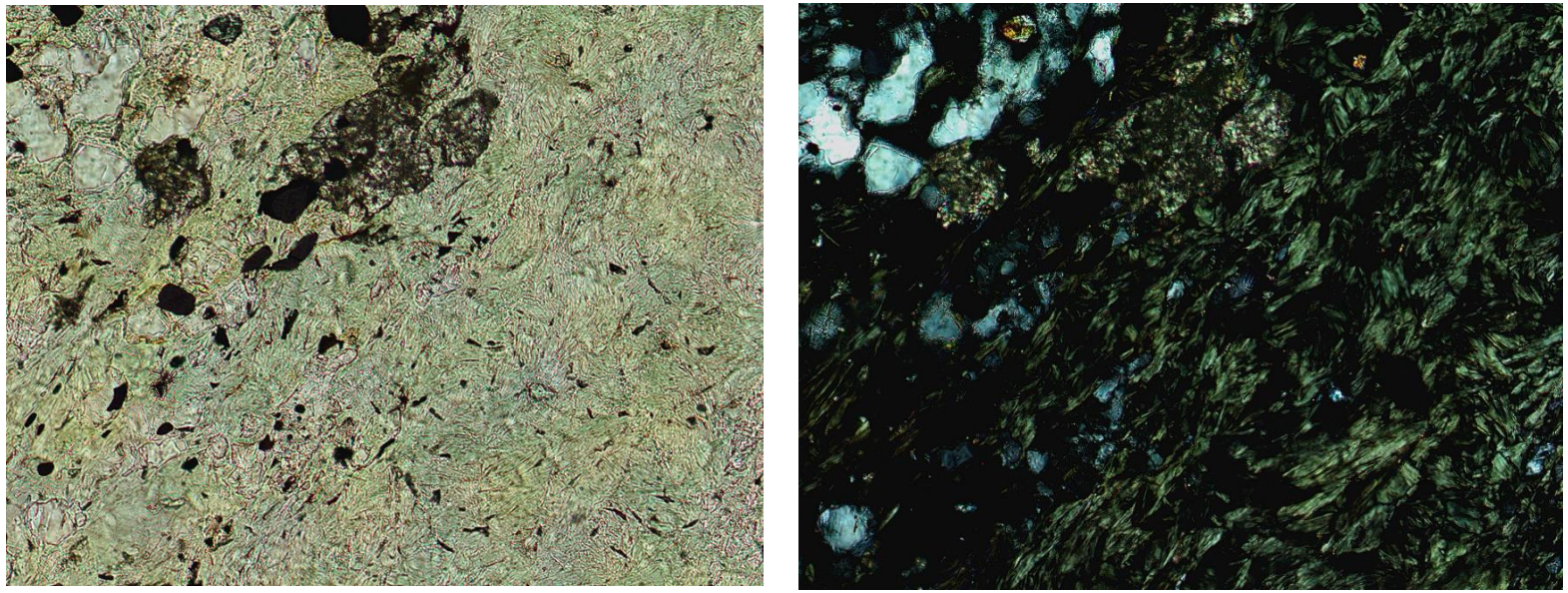
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating visible gold development in late stage fracture associated with cubic pyrite, highly birefringent carbonate and first-order birefringent chlorite. Field of View = 2 mm



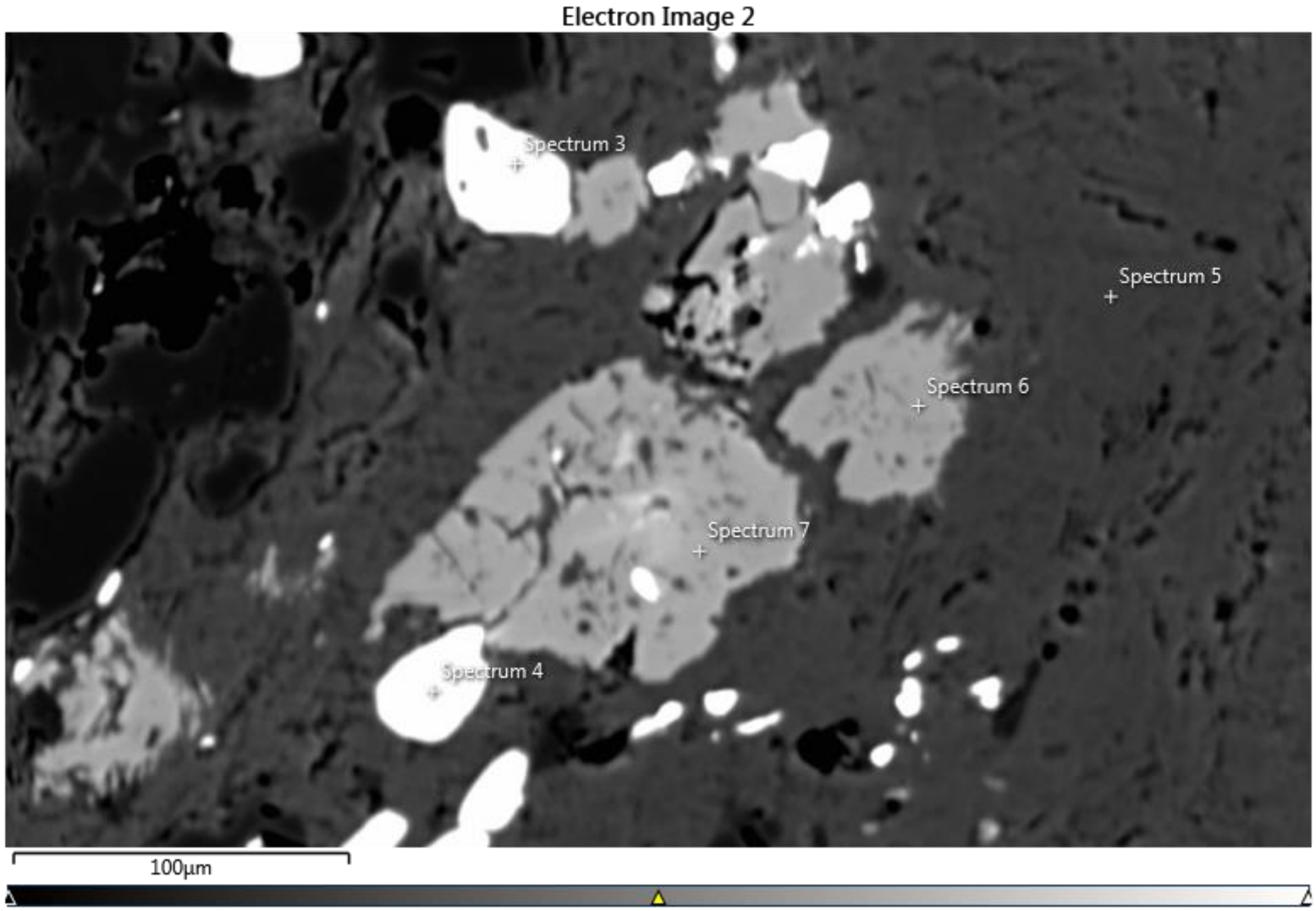
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating visible gold development in late stage fracture associated with pyrite cubes, highly birefringent carbonate and first-order birefringent chlorite. Field of View = 1.2 mm



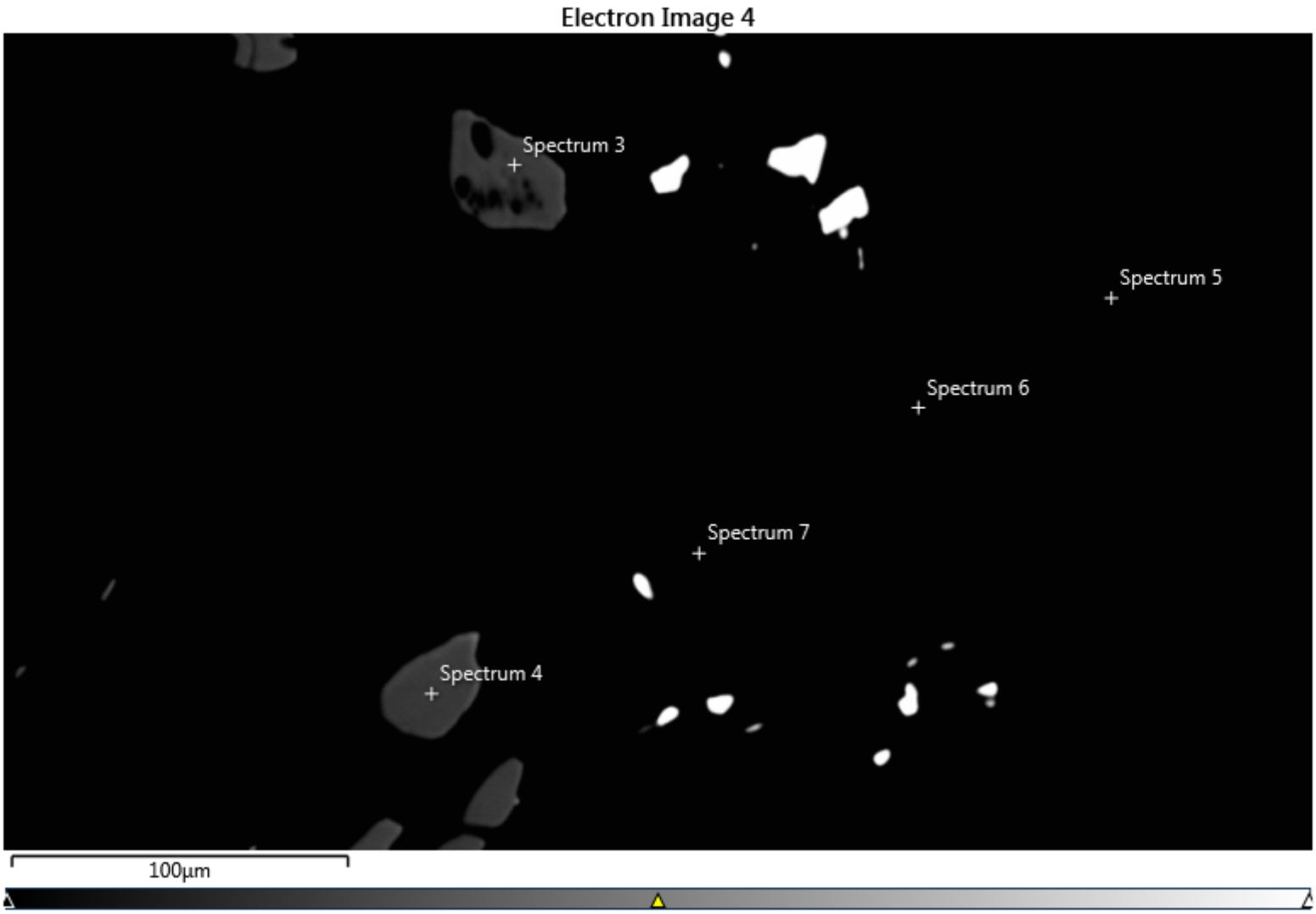
Reflected light image of electrum grains in a grab sample around the Kenzie vein area. The electrum is associated with the retrogressive chlorite and titanite mineralogy. The electrum grains are the deep yellow grains. The creamy yellow grains are pyrite. Field of view is 1.2mm



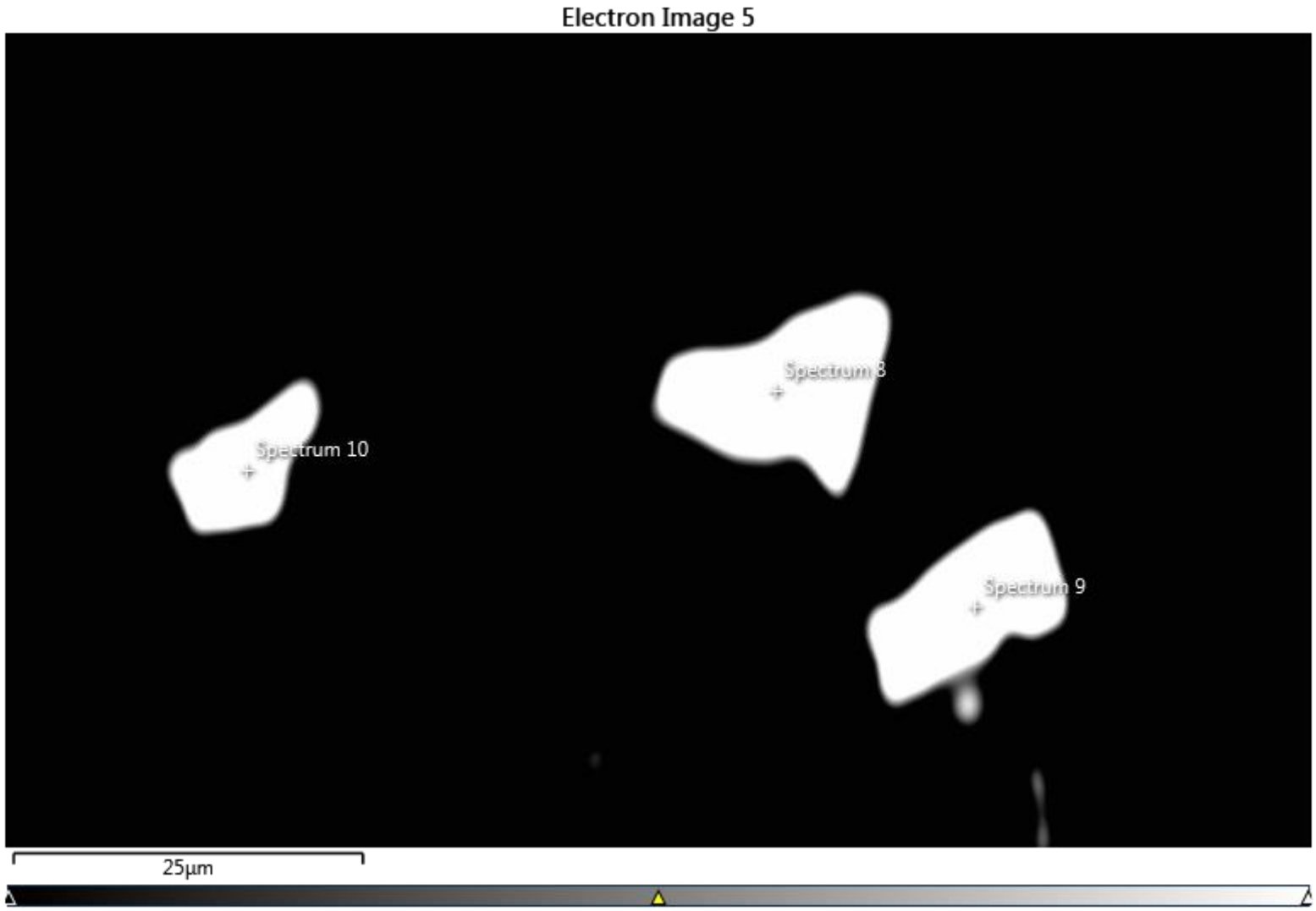
Plane and crossed-polarized light images illustrating the same electrum grains in green-blue chlorite.



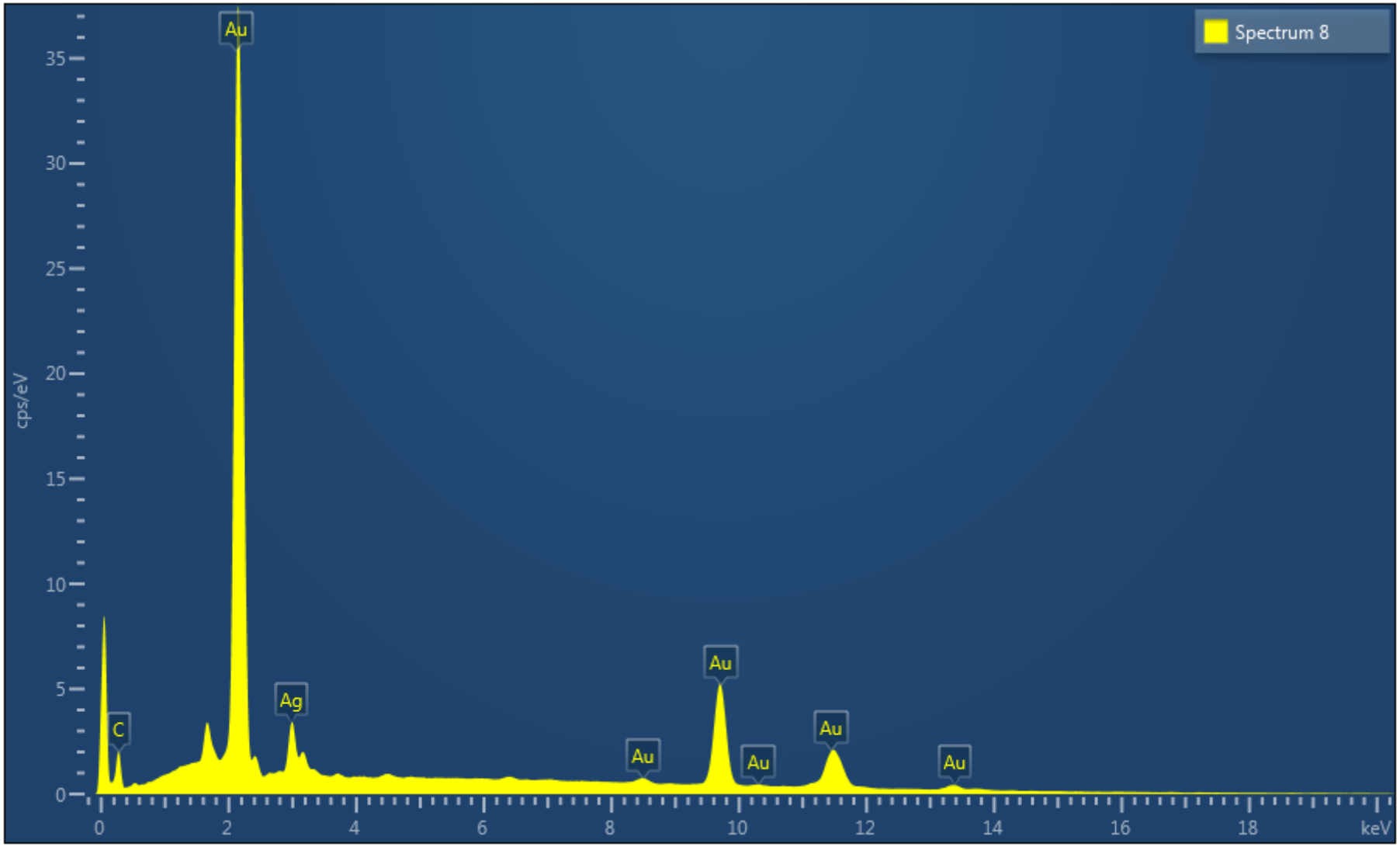

Backscatter image illustrating brightest grains of electrum in association with chlorite and on margins of titanite. These electrum grains appear quite amenable to processing. Spectrum 3 and 4 are grains of pyrite; Spectrum 5 is chlorite; Spectrum 6 and 7 are titanite.

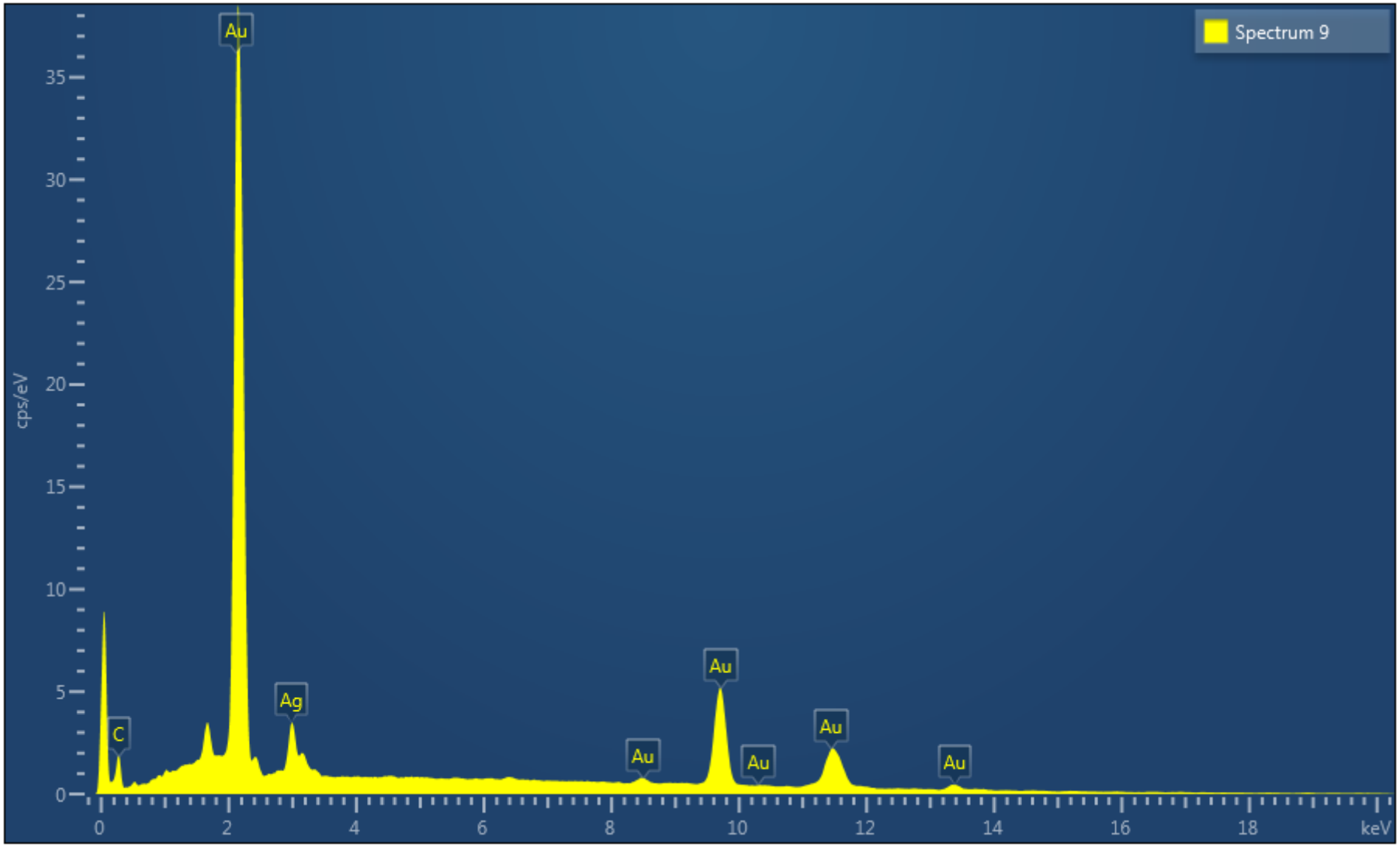


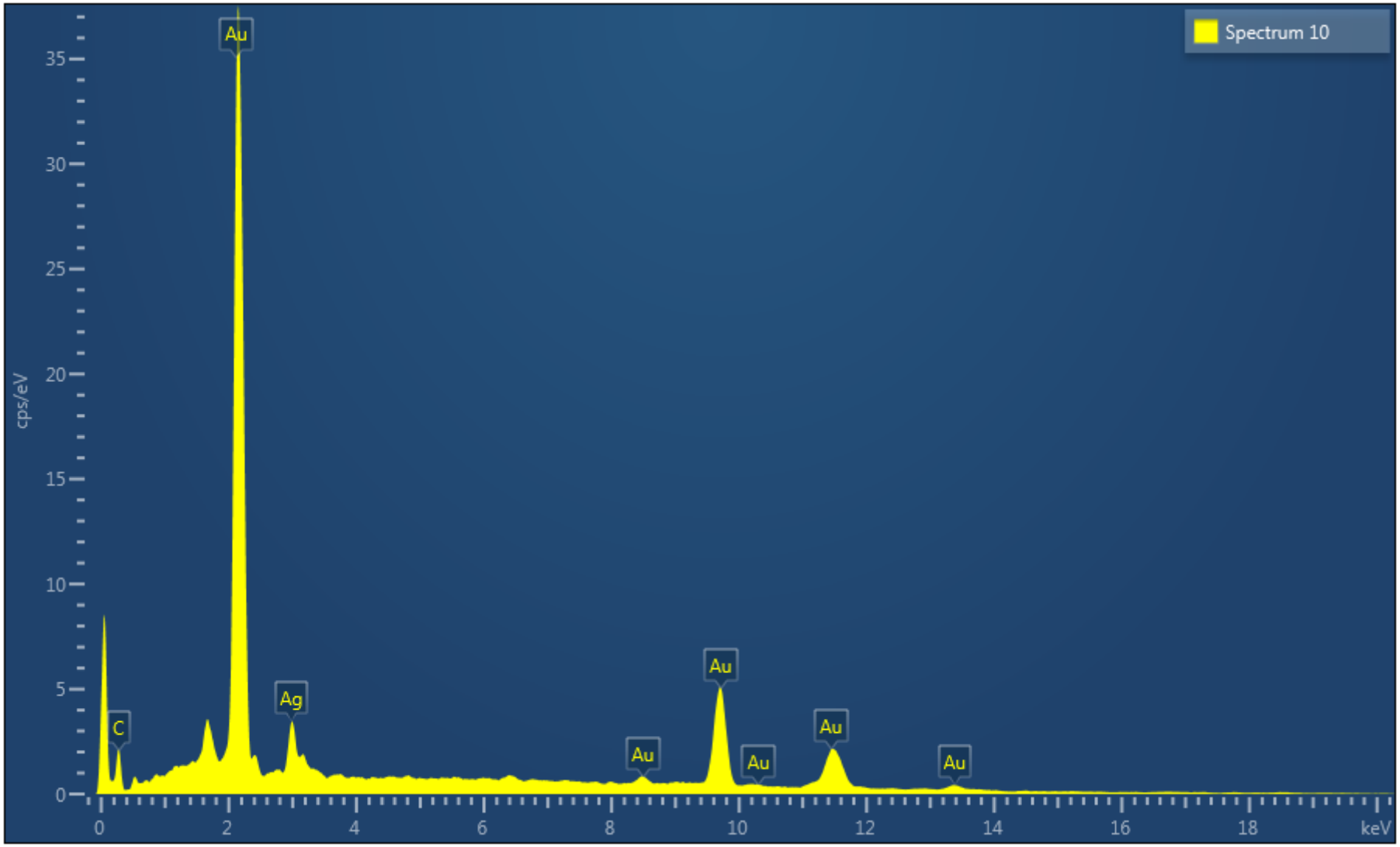

Backscatter image of same field of view as above with brightness turned down. Brightest grains are grains of electrum.

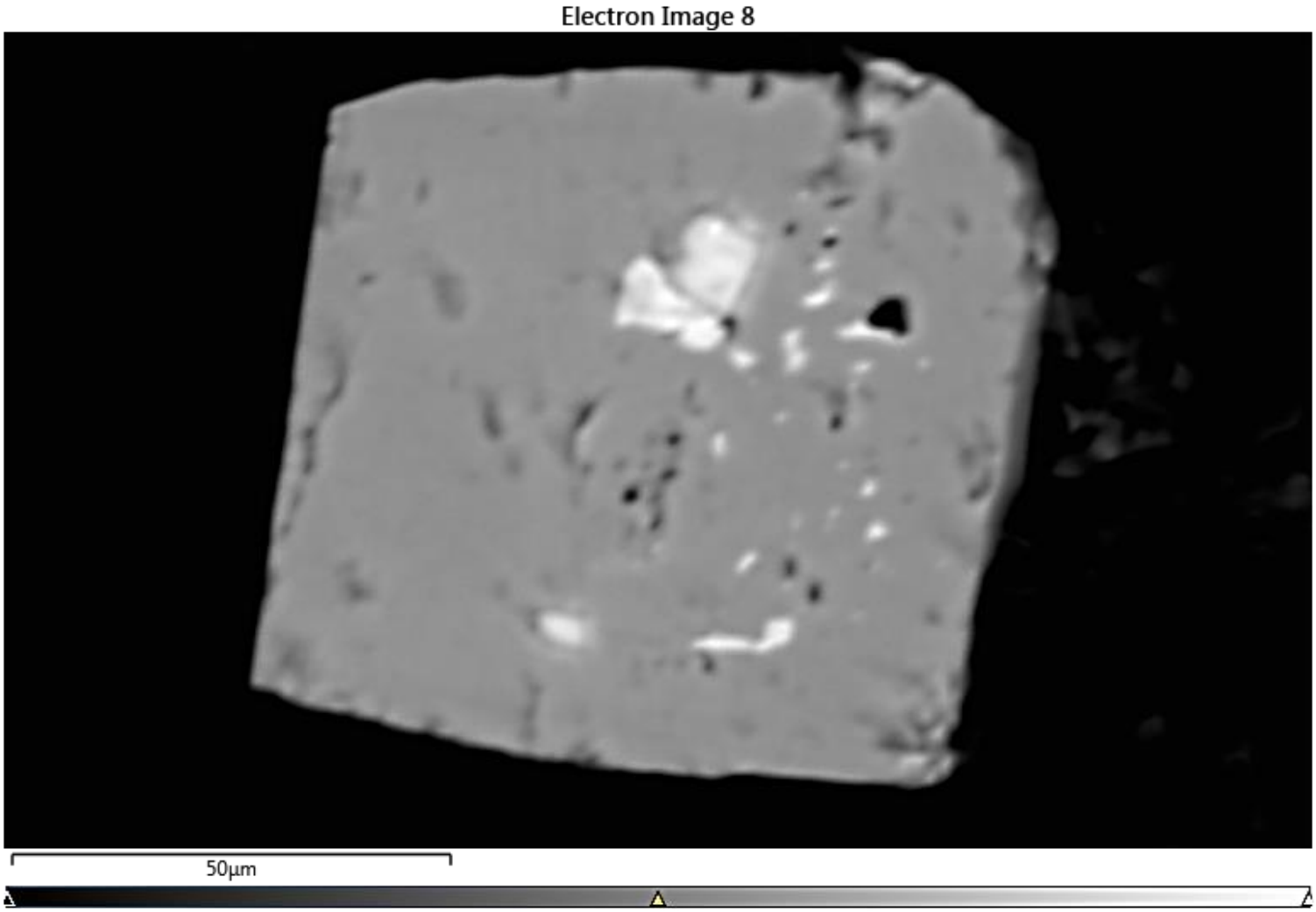



Backscatter image illustrating the three largest electrum grains in the photos above. The EDS spectra of each grain is presented below. The grains are compositionally 90% Au and 10% Ag.

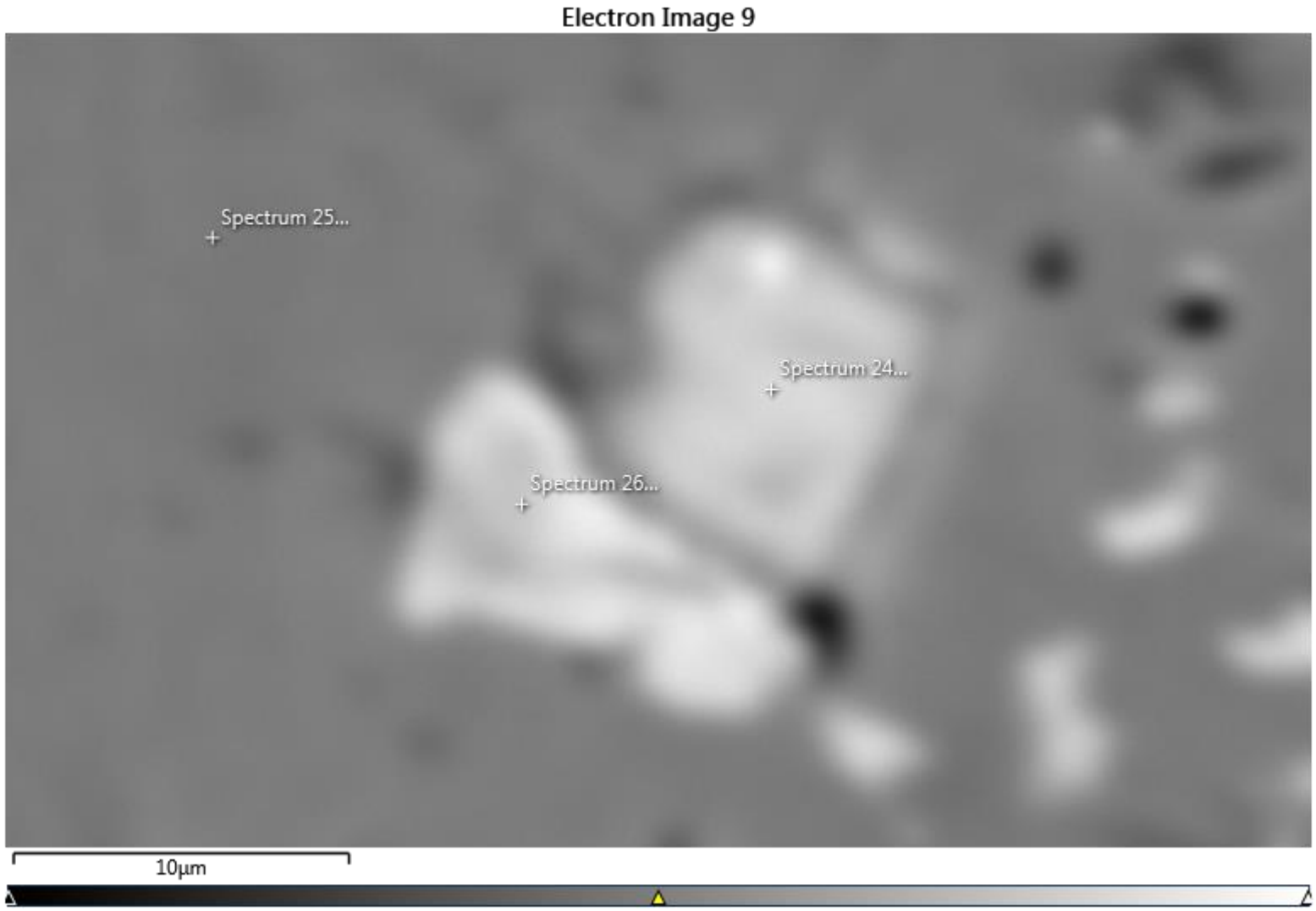

Spectrum 8
cps/eV
keV
Au
Ag
C
Au
Au
Au
Au
Au
0
5
10
15
20
25
30
35
0
2
4
6
8
10
12
14
16
18


Spectrum 9
Au
Ag
C
Au
Au
Au
Au
Au
cps/eV
0
5
10
15
20
25
30
35
0
2
4
6
8
10
12
14
16
18
keV

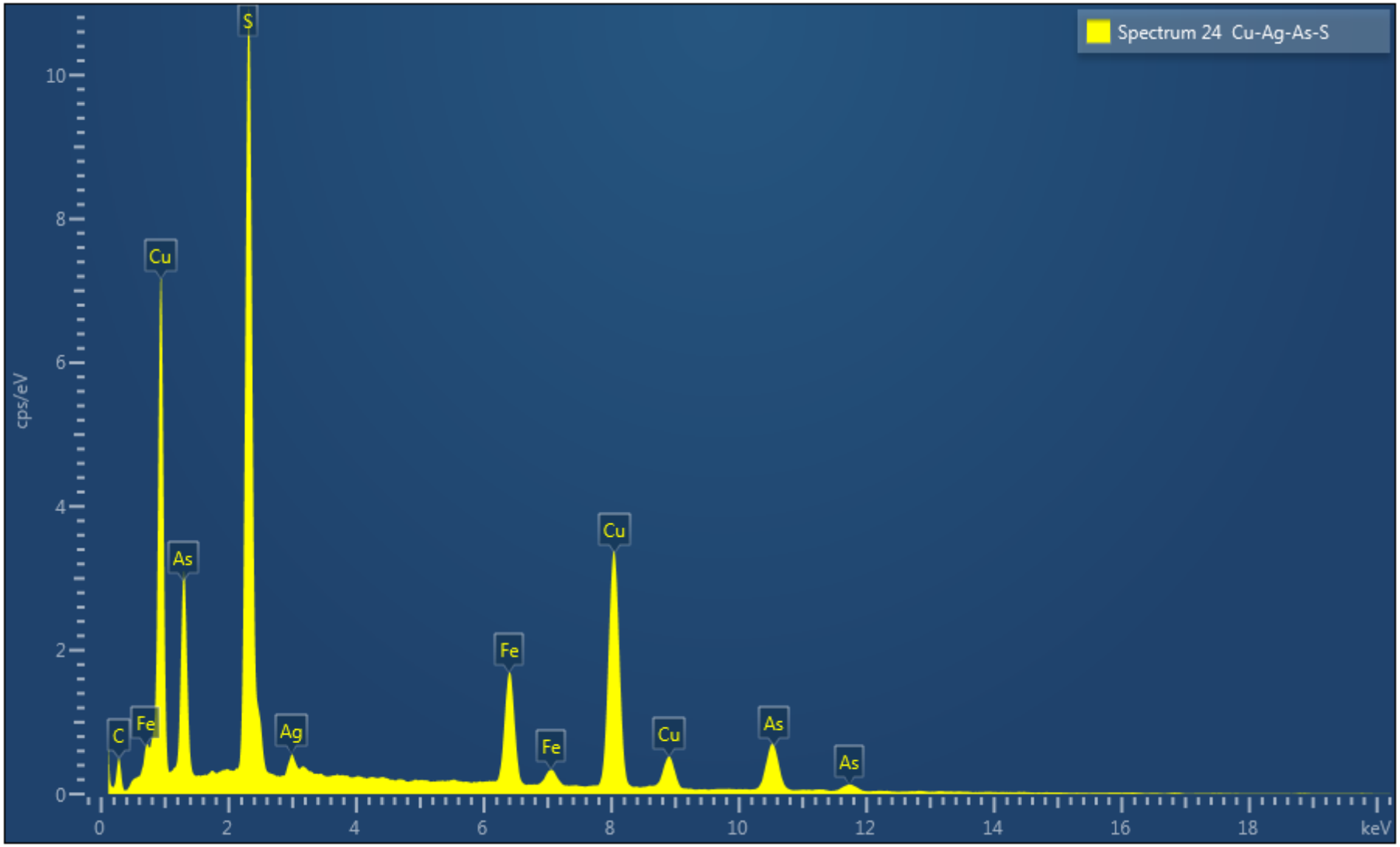

Spectrum 10
cps/eV
keV
Au
Ag
C
Au
Au
Au
Au
Au
0
5
10
15
20
25
30
35
0
2
4
6
8
10
12
14
16
18

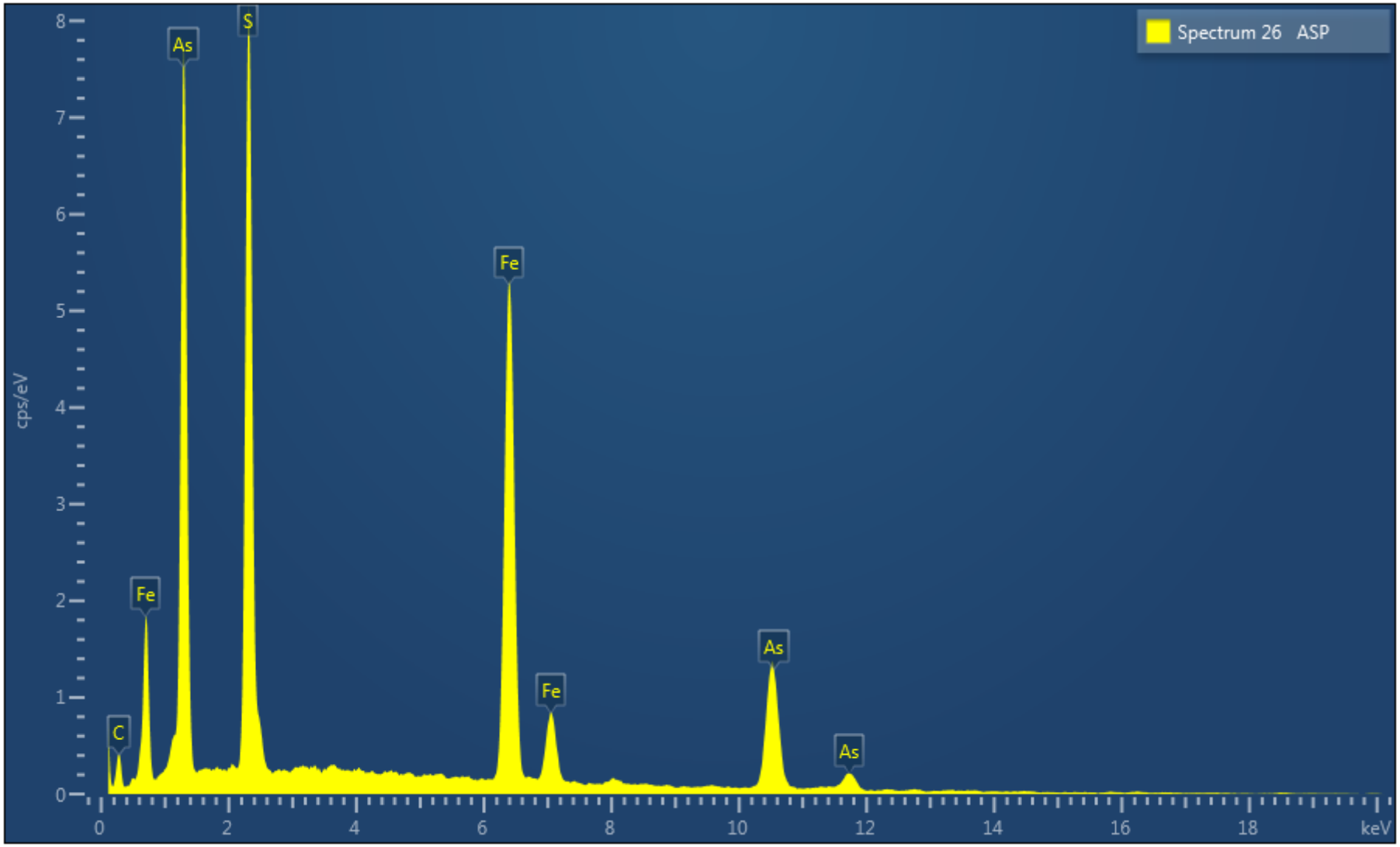


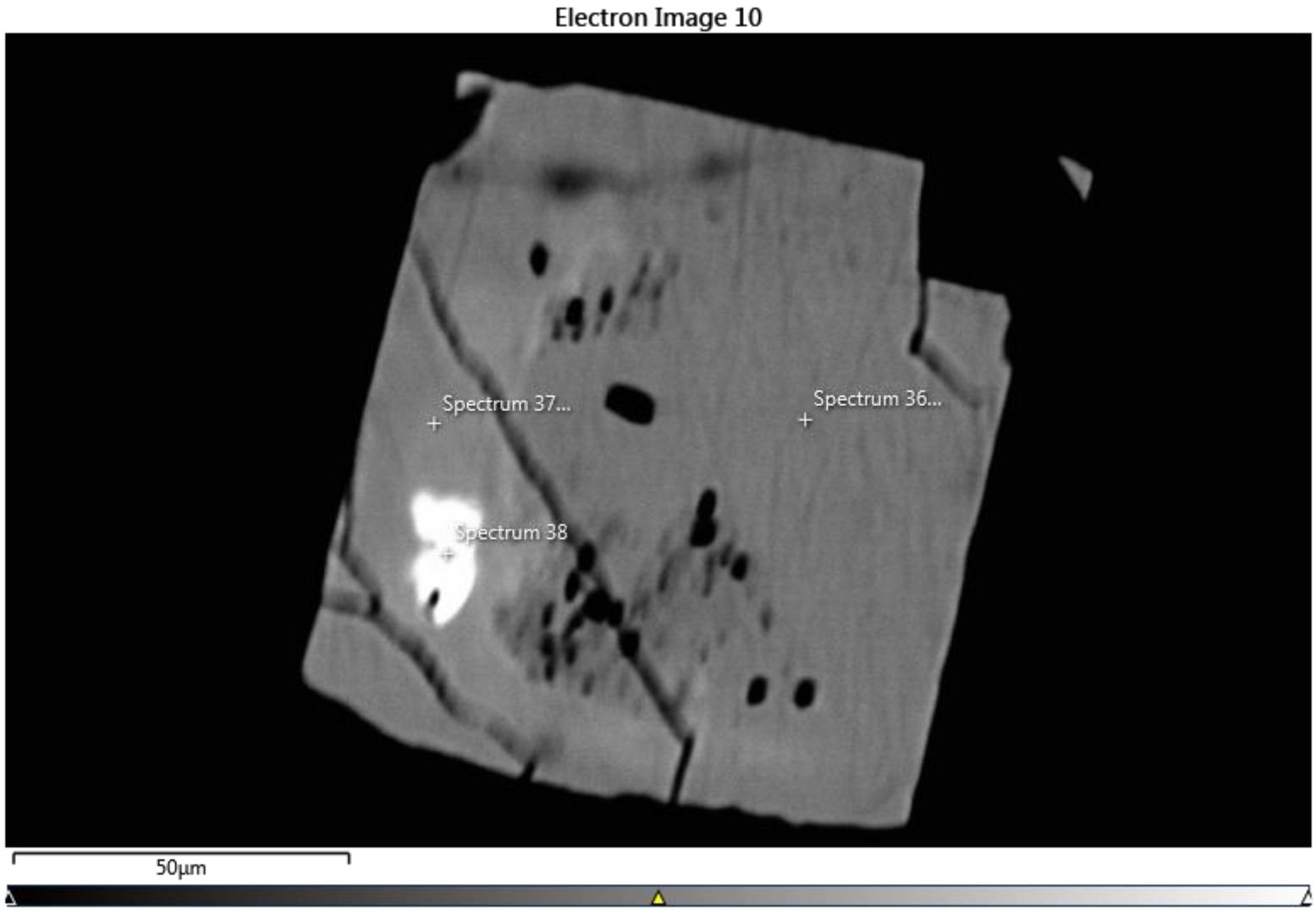

Backscatter image illustrating a grain of arsenian pyrite hosting minute inclusions of tennantite and arsenopyrite.



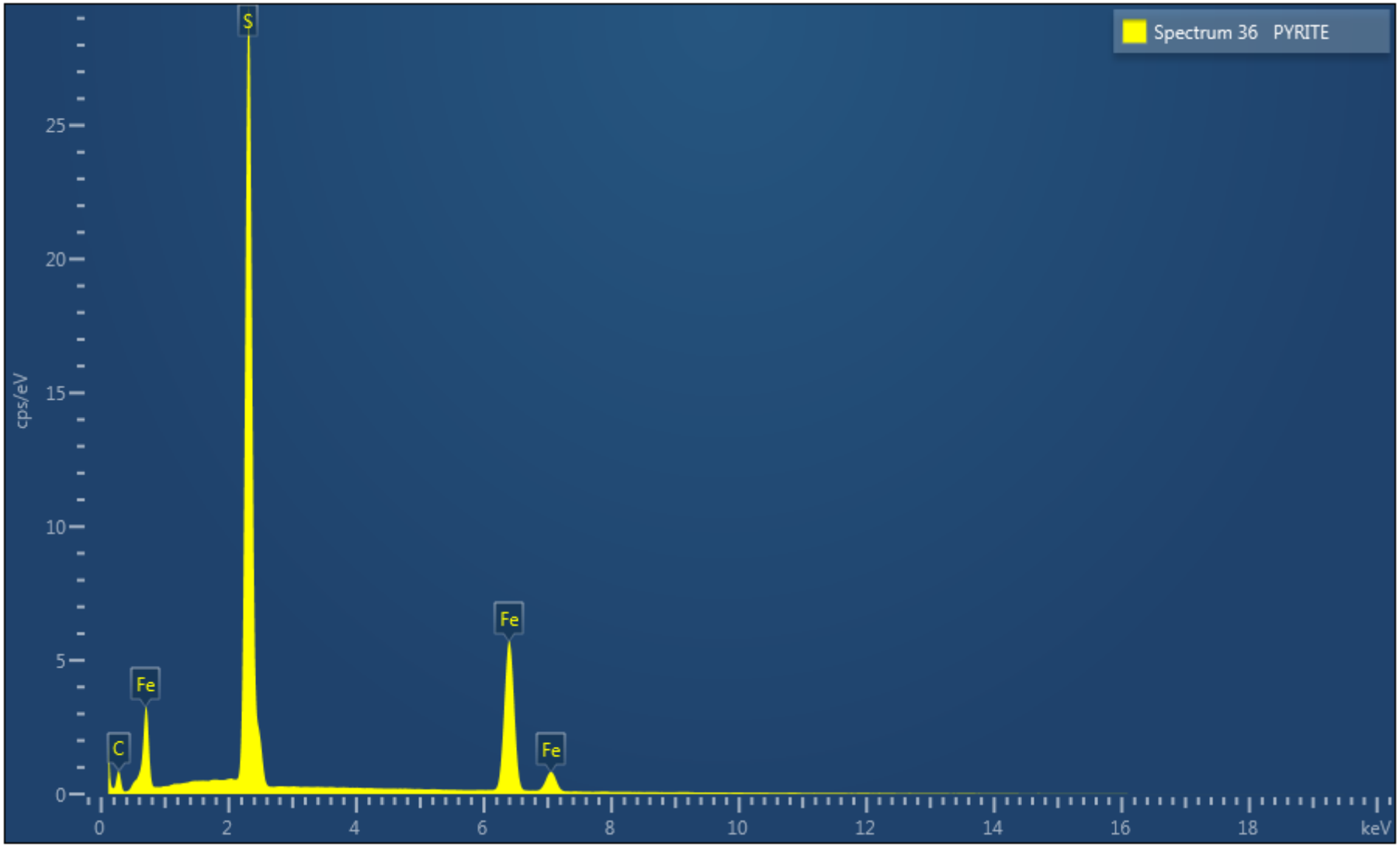

Backscatter image illustrating a grain of arsenian pyrite (spectrum 25) hosting minute inclusions of tennantite (spectrum 24) and arsenopyrite (spectrum 26).

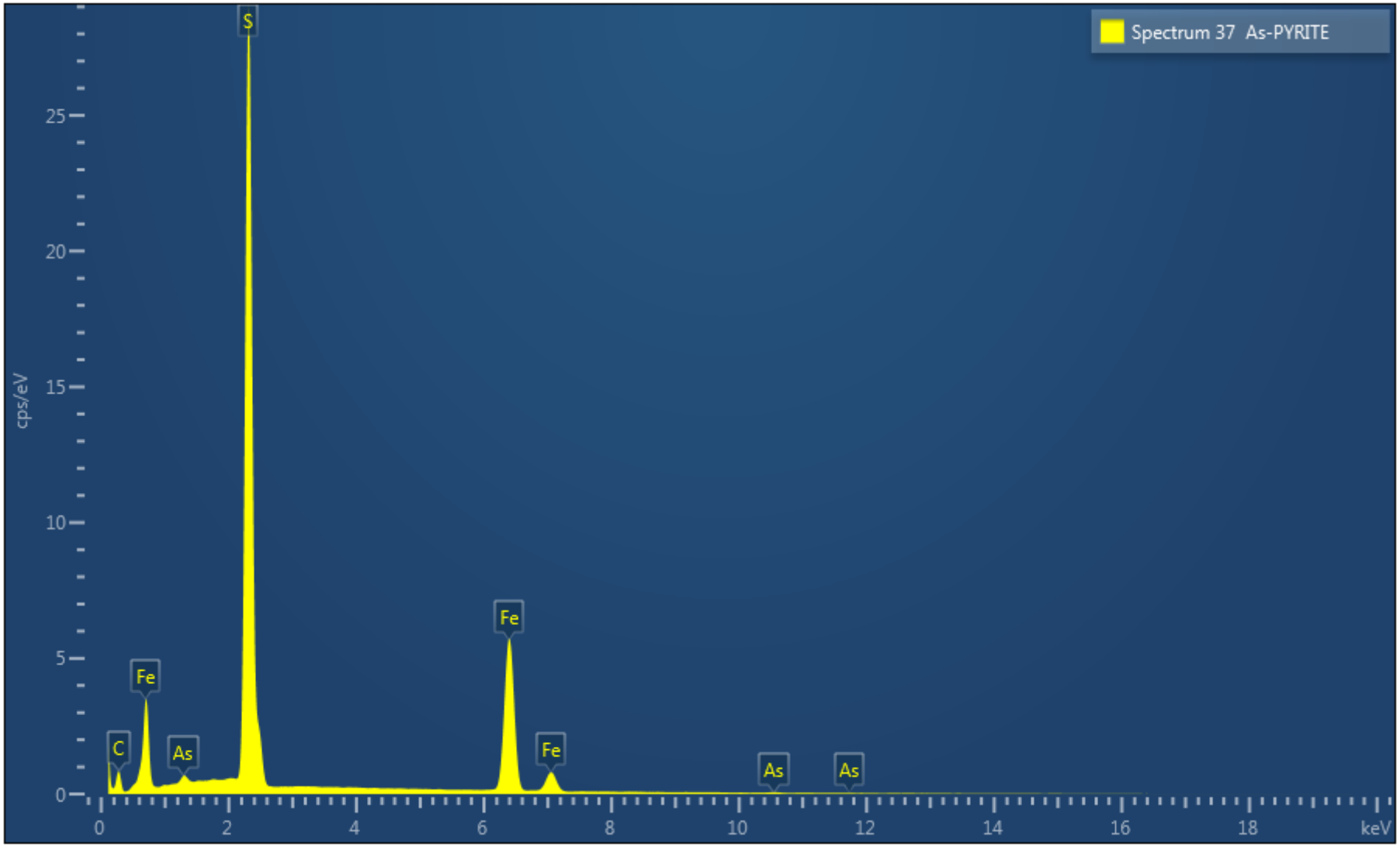

Spectrum 24 Cu-Ag-As-S
cps/eV
keV
C
Fe
Cu
As
S
Ag
Fe
Fe
Cu
Cu
As
As
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10

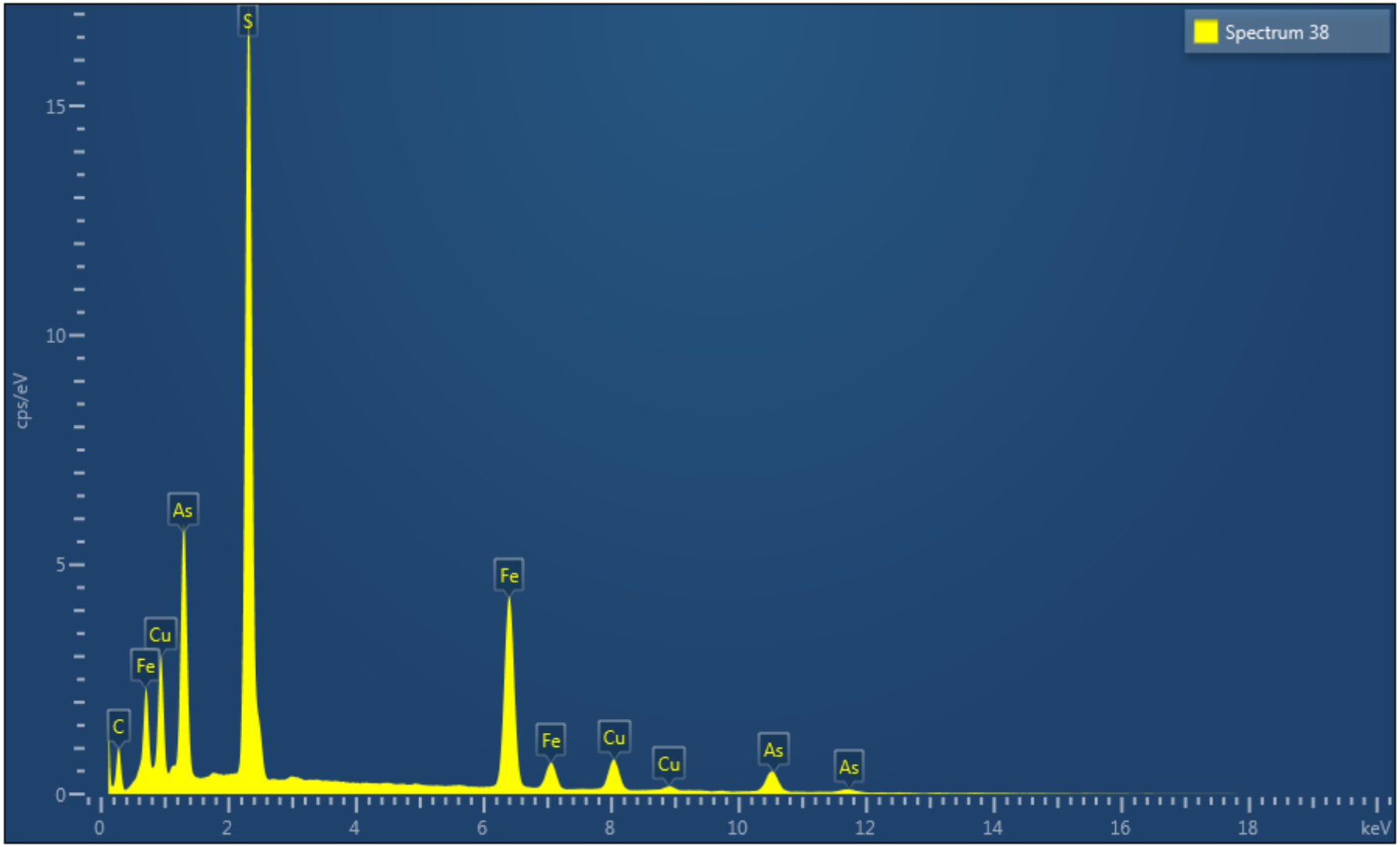

Spectrum 26 ASP
cps/eV
keV
C
Fe
As
S
Fe
Fe
As
As
0
1
2
3
4
5
6
7
8
0
2
4
6
8
10
12
14
16
18

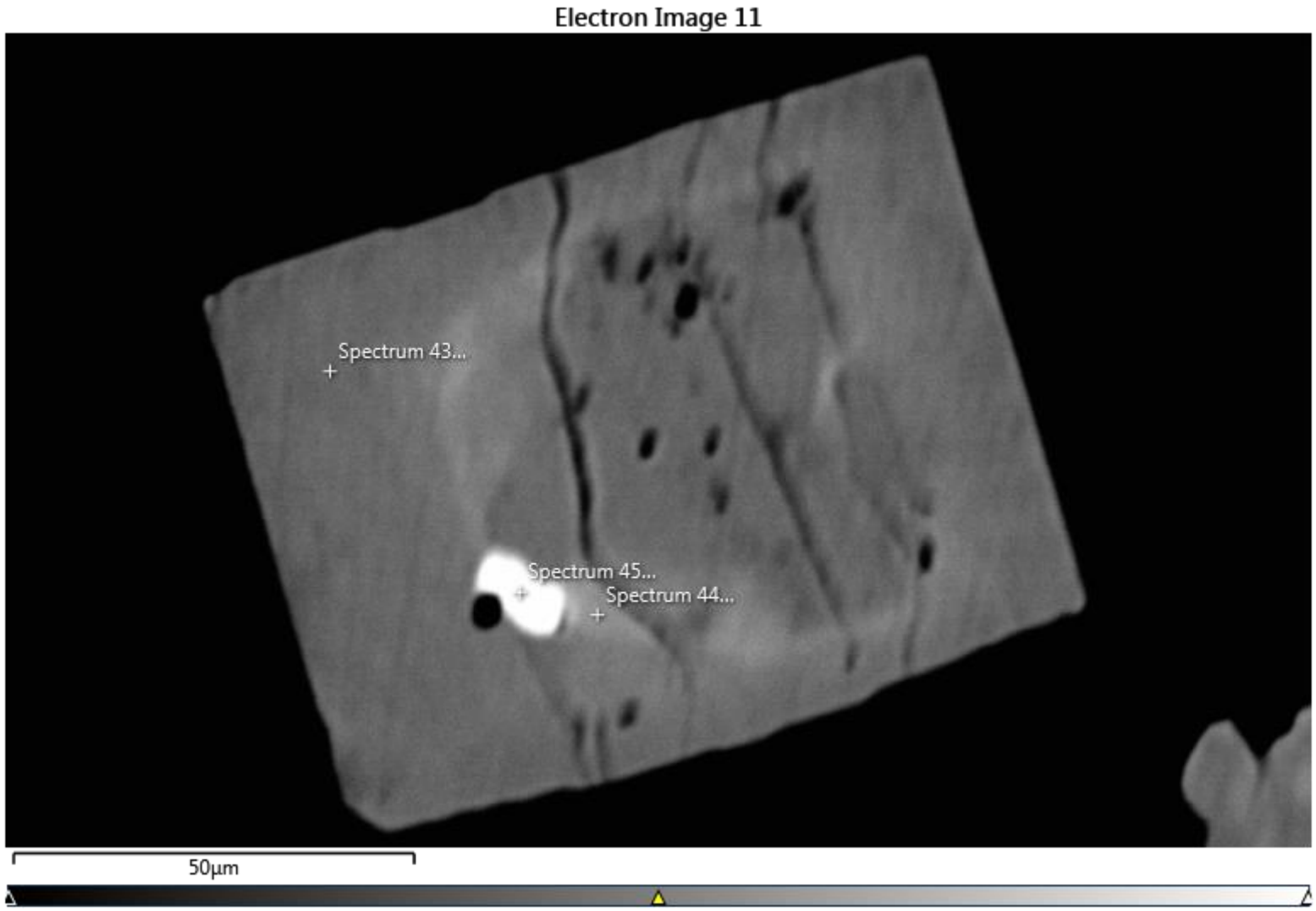



Backscatter image illustrating a cubic pyrite grain (spectrum 36) with brighter arsenian pyrite growth zone (spectrum 37) hosting inclusion of tennantite (spectrum 38).

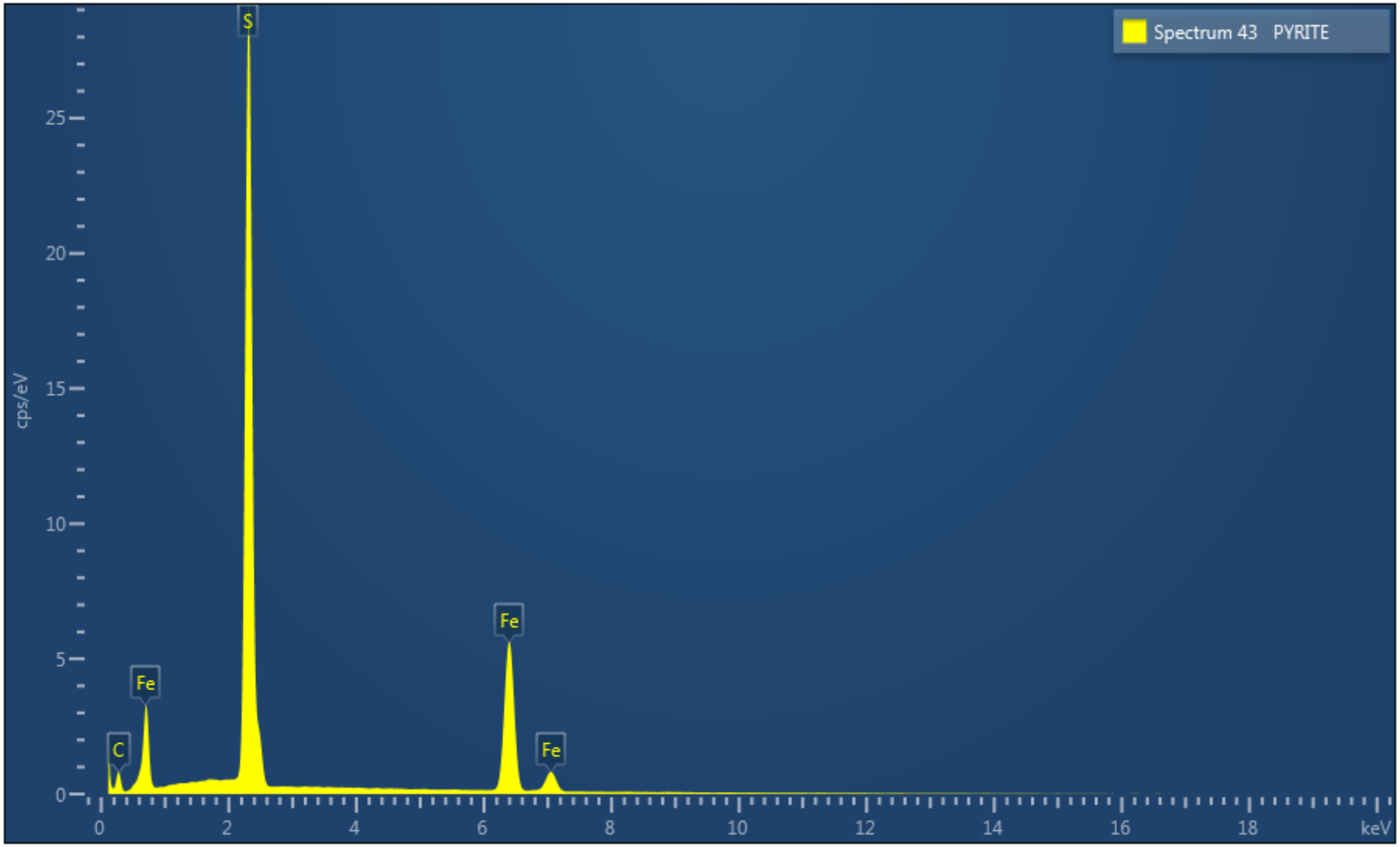

Spectrum 36 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18
keV

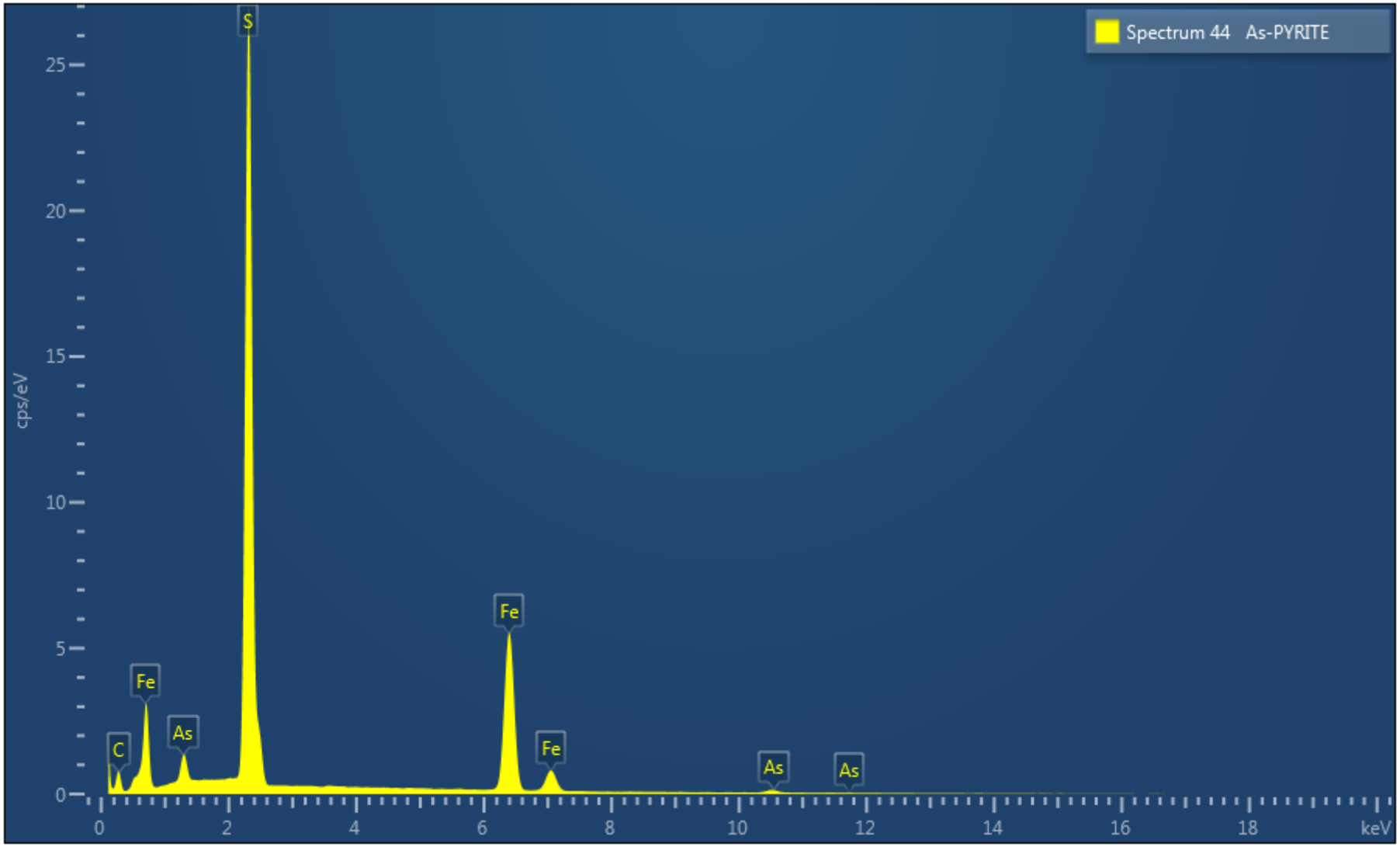

Spectrum 37 As-PYRITE
cps/eV
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18
keV
C
Fe
As
S
Fe
Fe
As
As

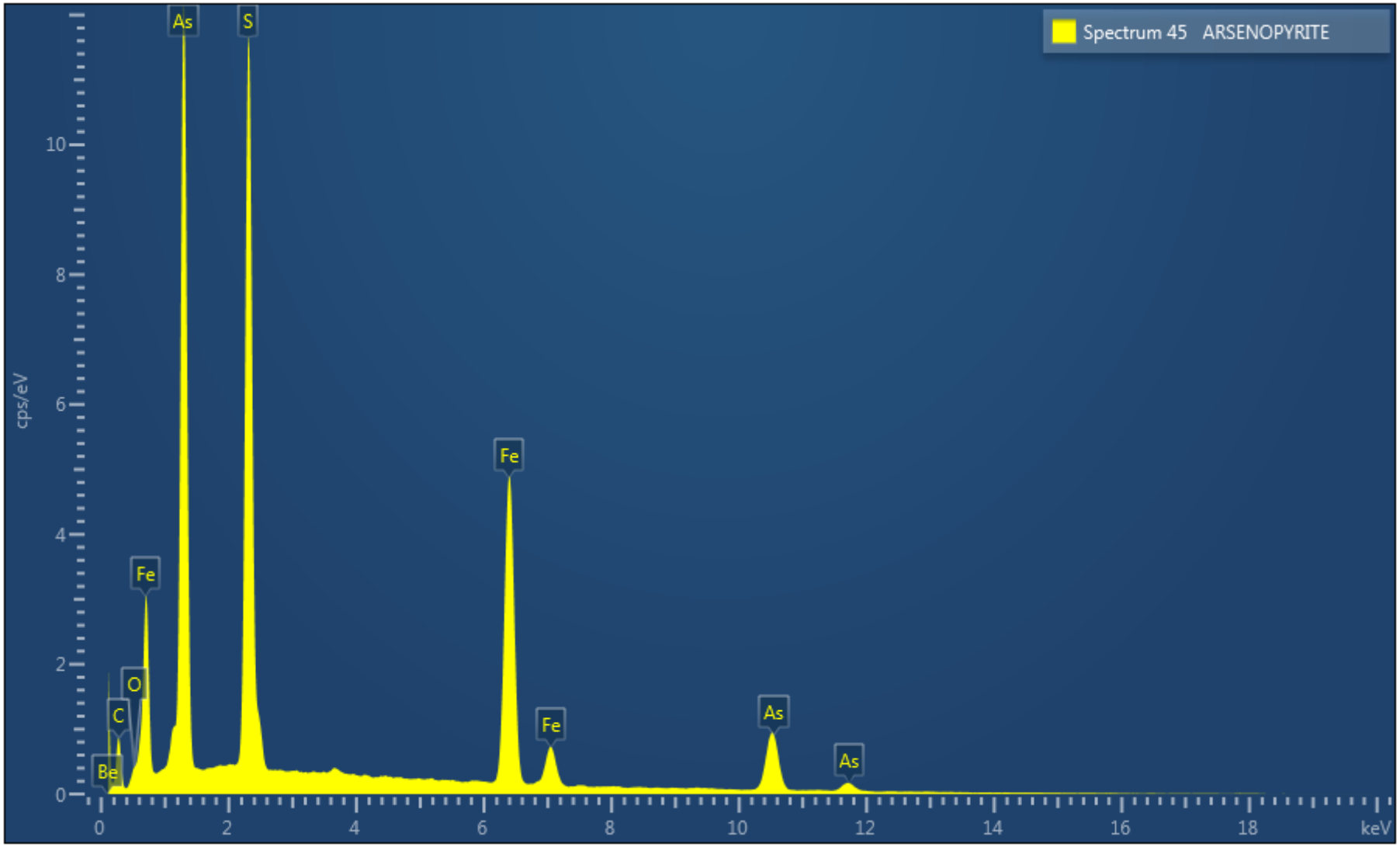

Spectrum 38
cps/eV
keV
0
5
10
15
0
2
4
6
8
10
12
14
16
18
C
Fe
Cu
As
S
Fe
Fe
Cu
Cu
As
As

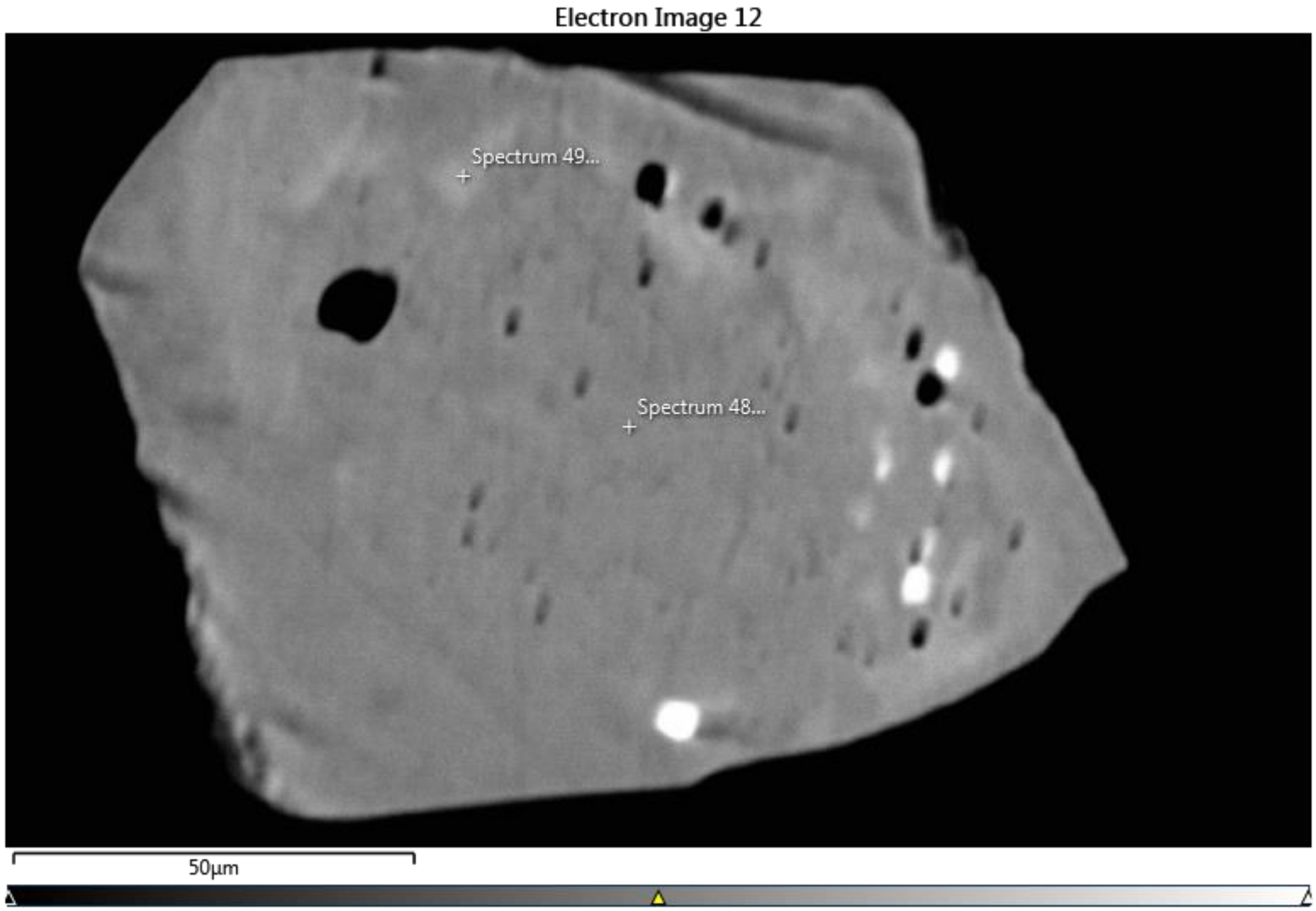



Backscatter image illustrating a cubic pyrite grain (spectrum 43) with an arsenian pyrite growth zone (spectrum 44) with an inclusion of arsenopyrite (spectrum 45).

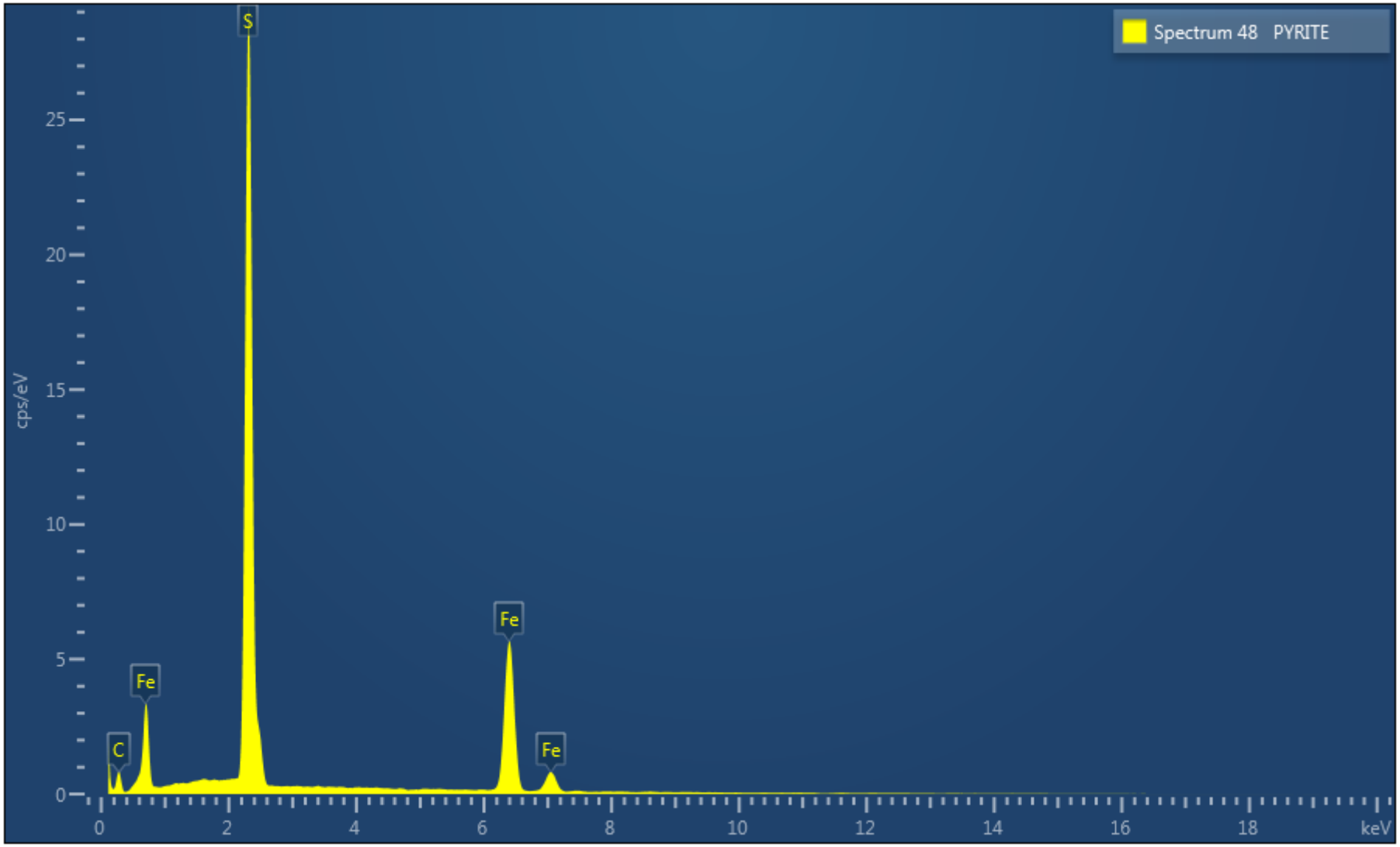

Spectrum 43 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18
keV

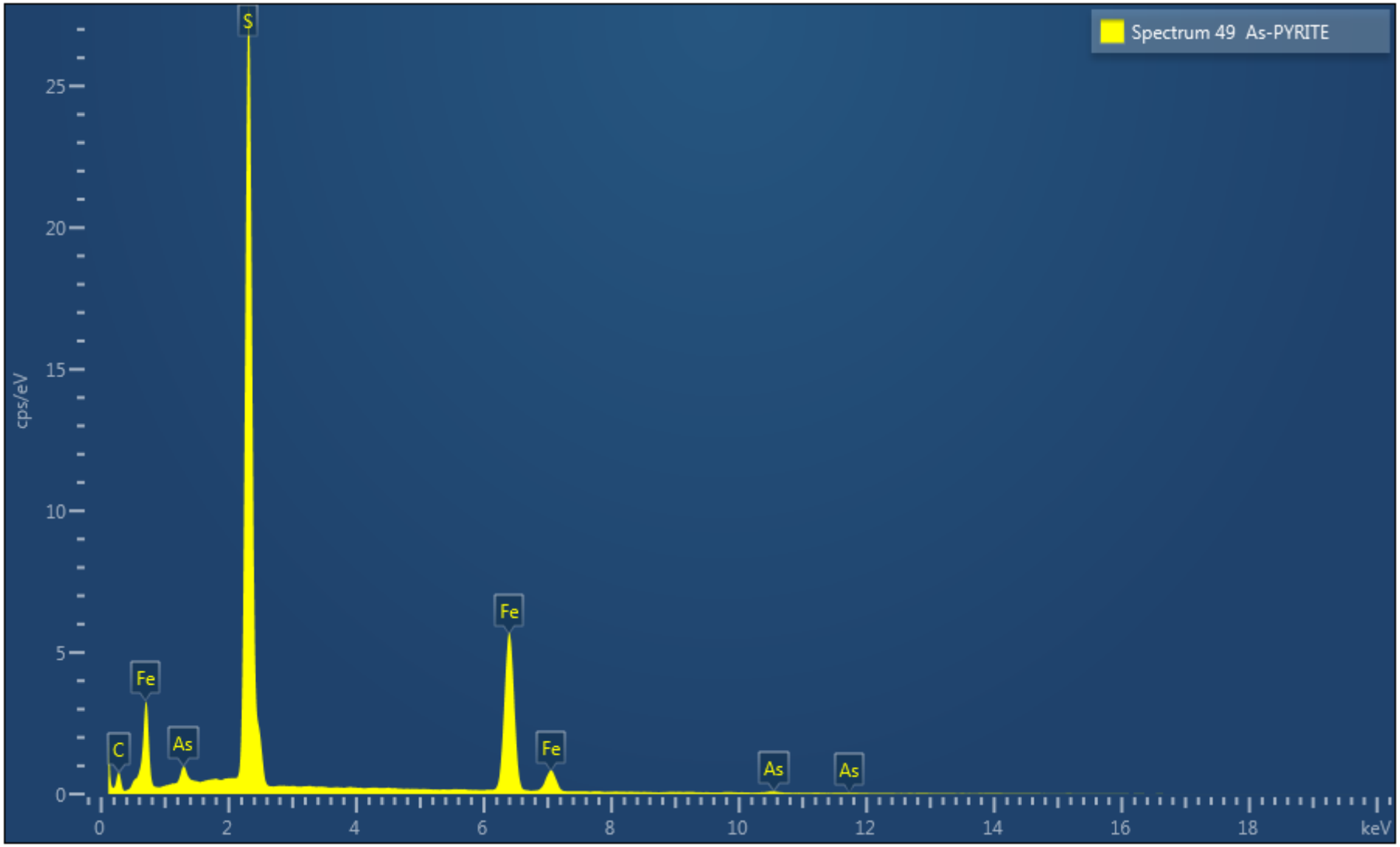

Spectrum 44 As-PYRITE
cps/eV
25
20
15
10
5
0
S
Fe
As
C
Fe
Fe
As
As
0
2
4
6
8
10
12
14
16
18
keV

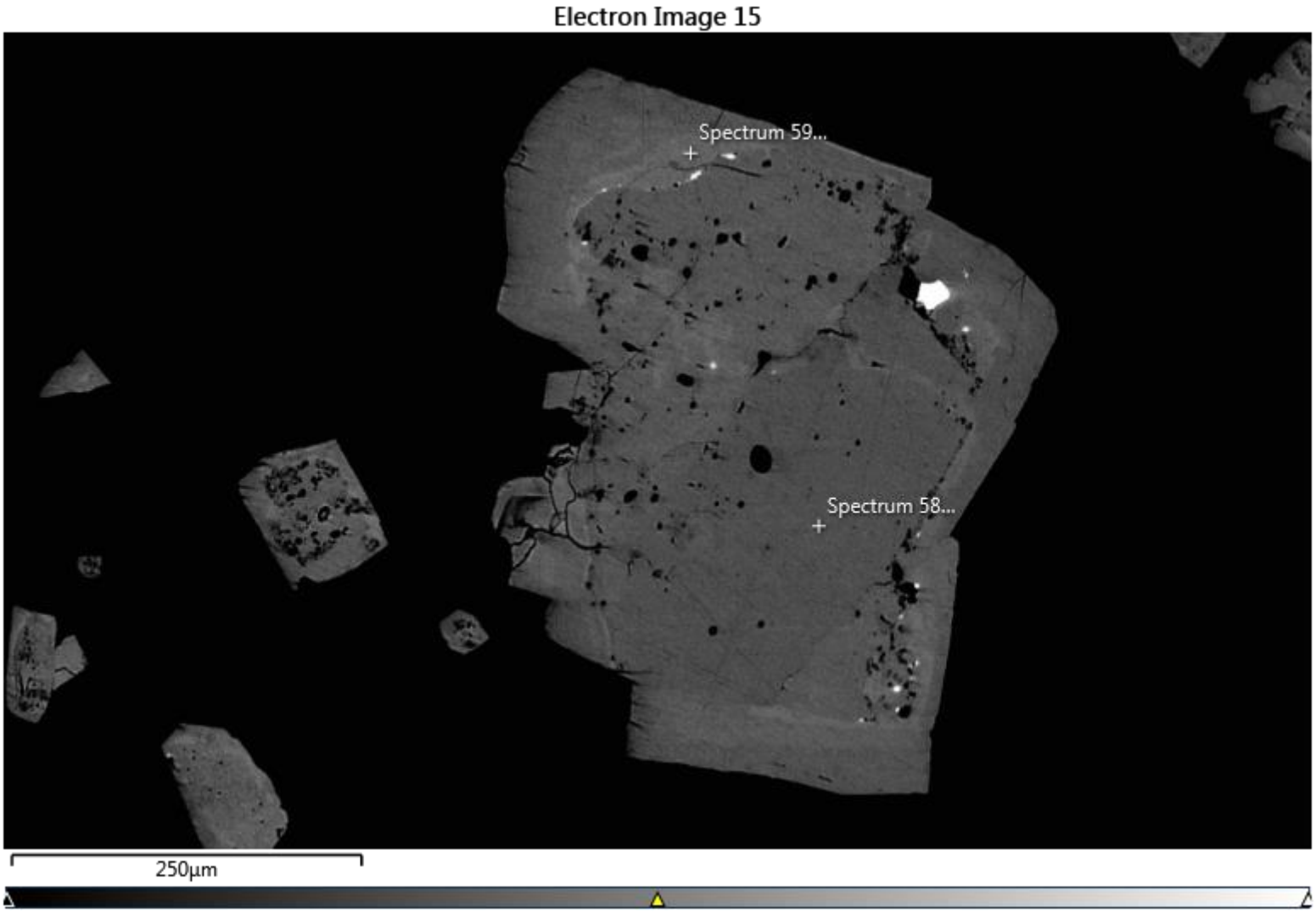

Spectrum 45 ARSENOPYRITE
cps/eV
keV
As
S
Fe
O
C
Be
Fe
Fe
As
As
0
2
4
6
8
10
12
14
16
18



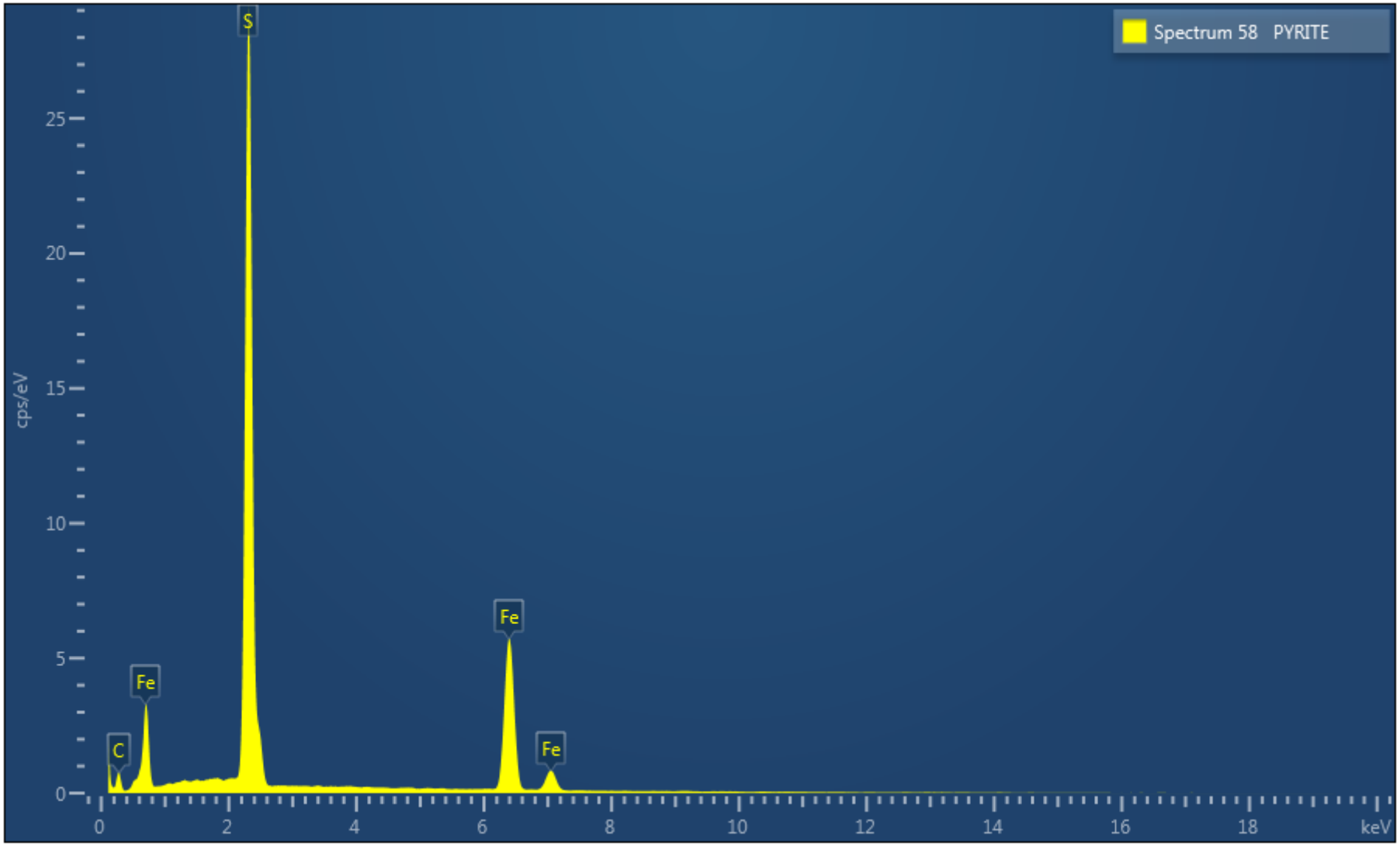

Backscatter image illustrating a grain of pyrite (spectrum 48) with brighter growth zones of arsenian pyrite (spectrum 49) hosting inclusions of arsenopyrite, galena and electrum.

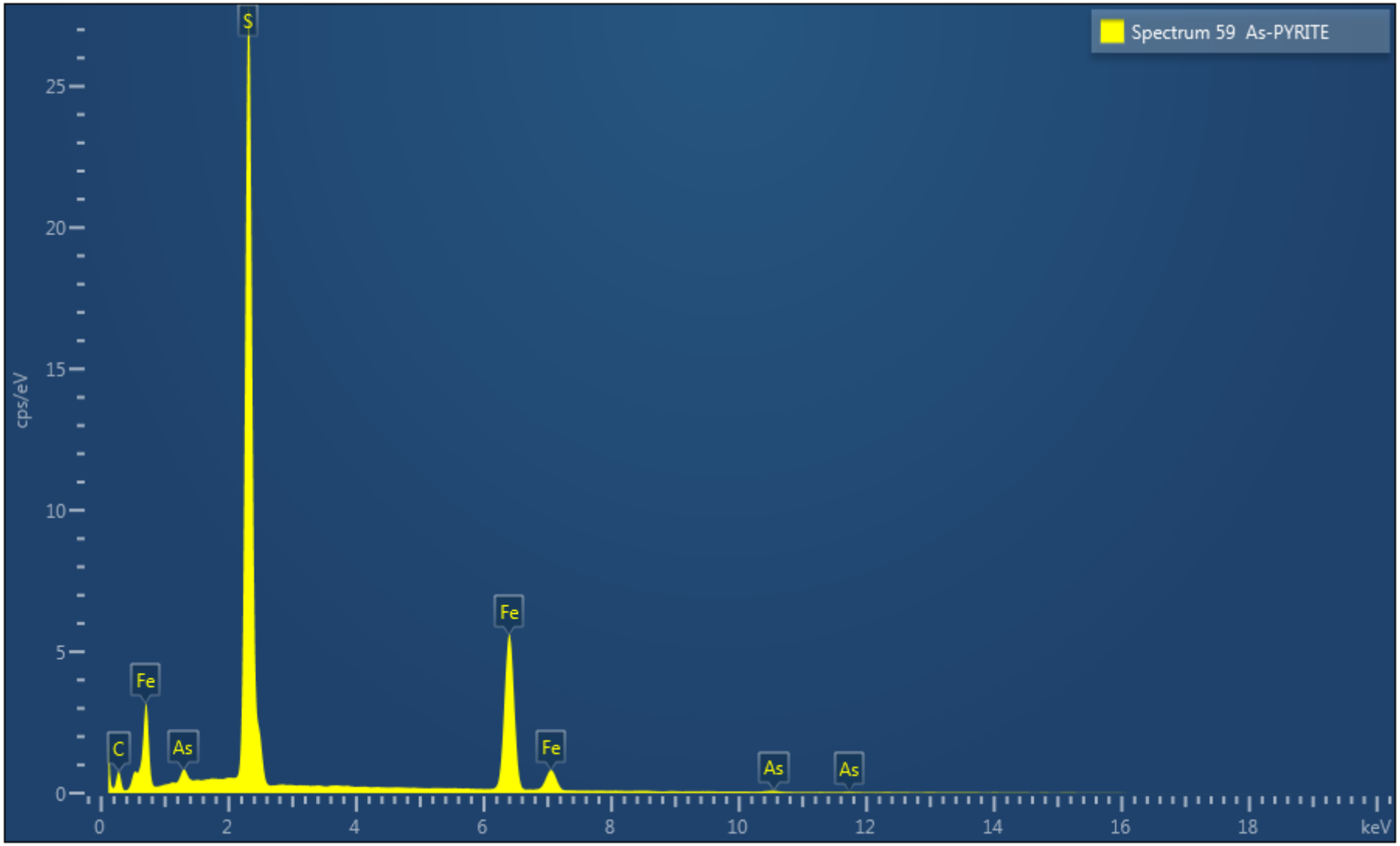

Spectrum 48 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18
keV

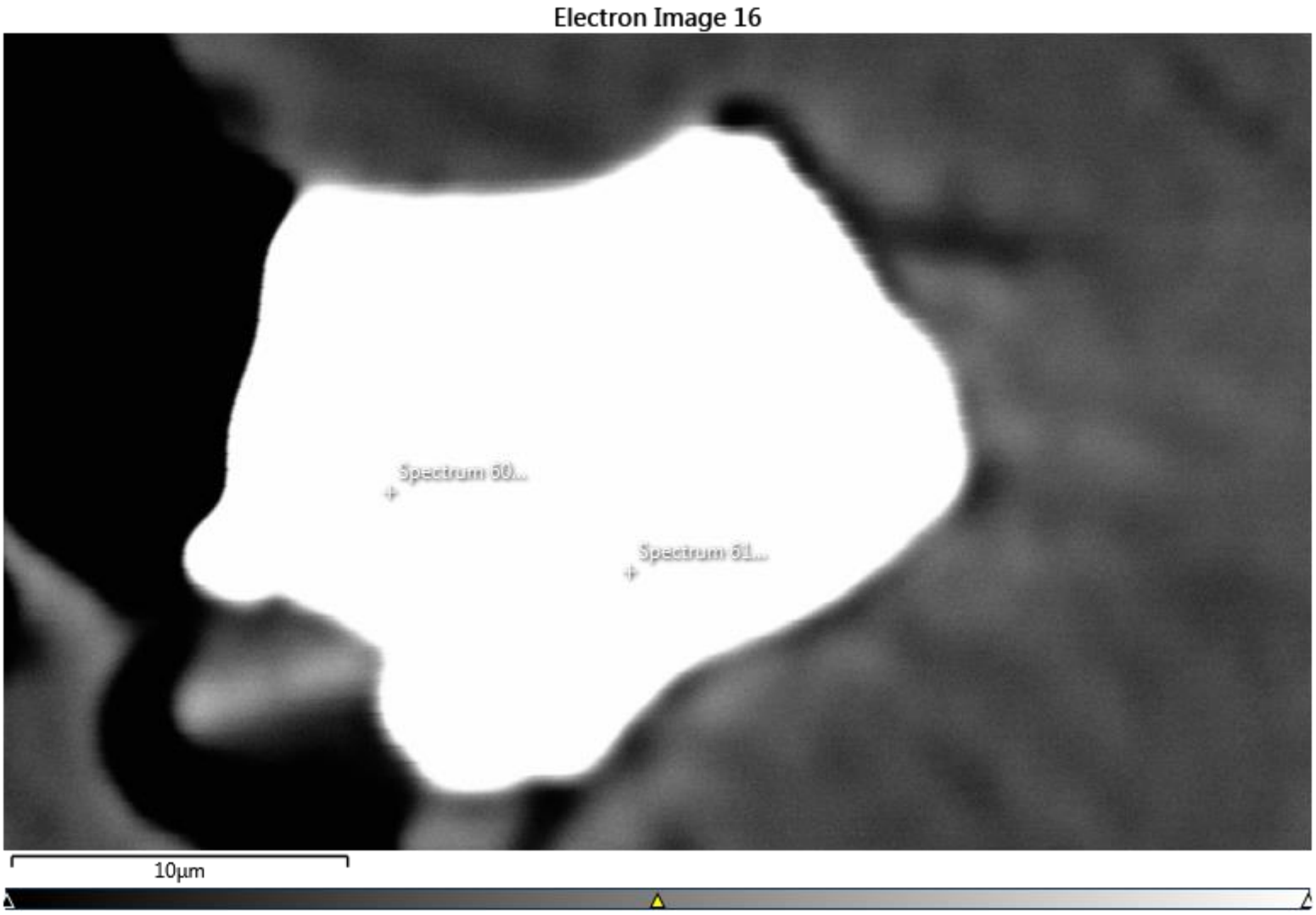

Spectrum 49 As-PYRITE
cps/eV
keV
S
Fe
C
As
Fe
Fe
As
As
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18



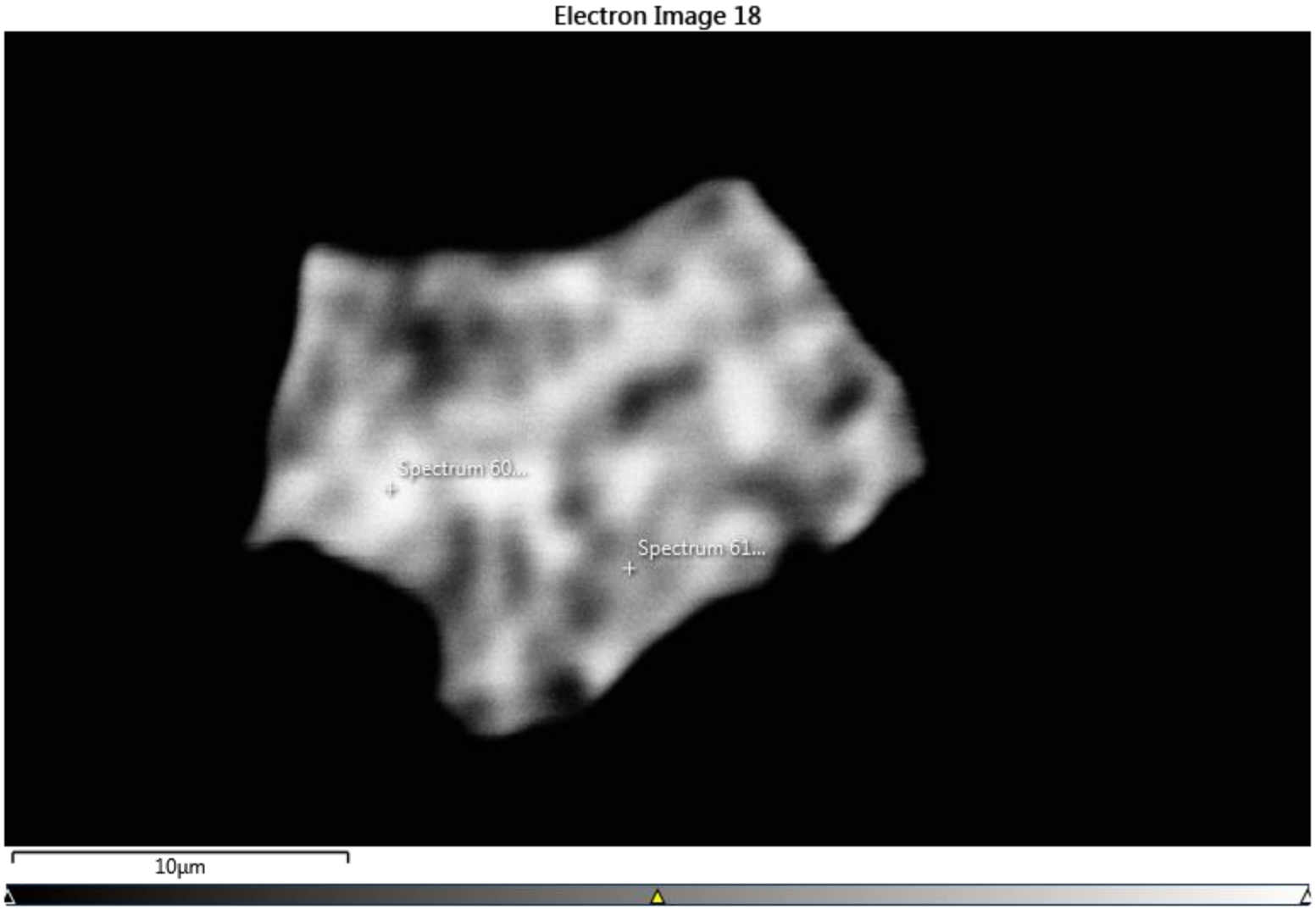

Backscatter image of a grain of pyrite (spectrum 58) with outer growth zones of arsenian pyrite (spectrum 59) hosting inclusions of arsenopyrite and a coarse-grain of electrum (bright top right).


Spectrum 58 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18
keV

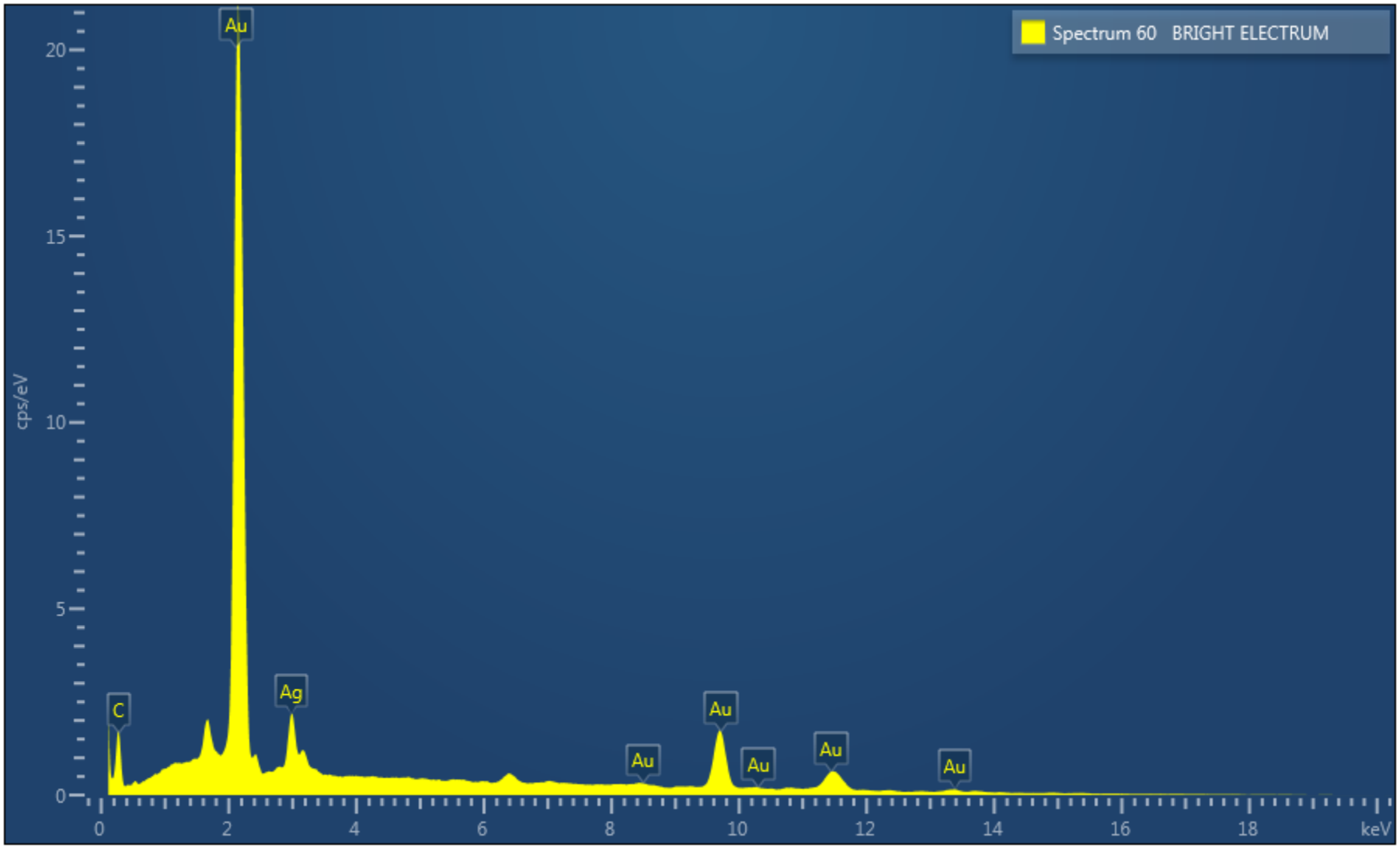

Spectrum 59 As-PYRITE
cps/eV
keV
S
Fe
C
As
Fe
Fe
As
As
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18

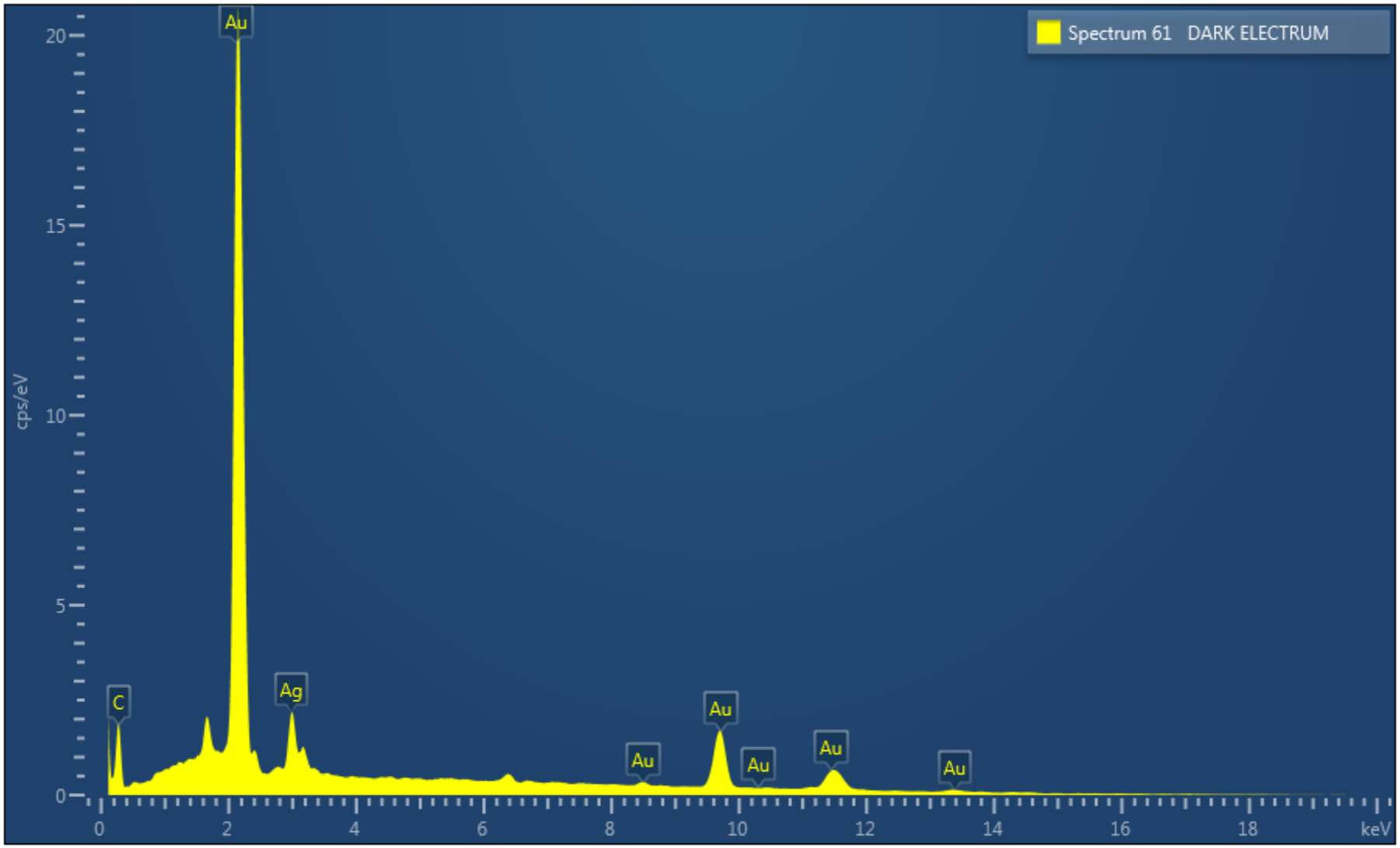


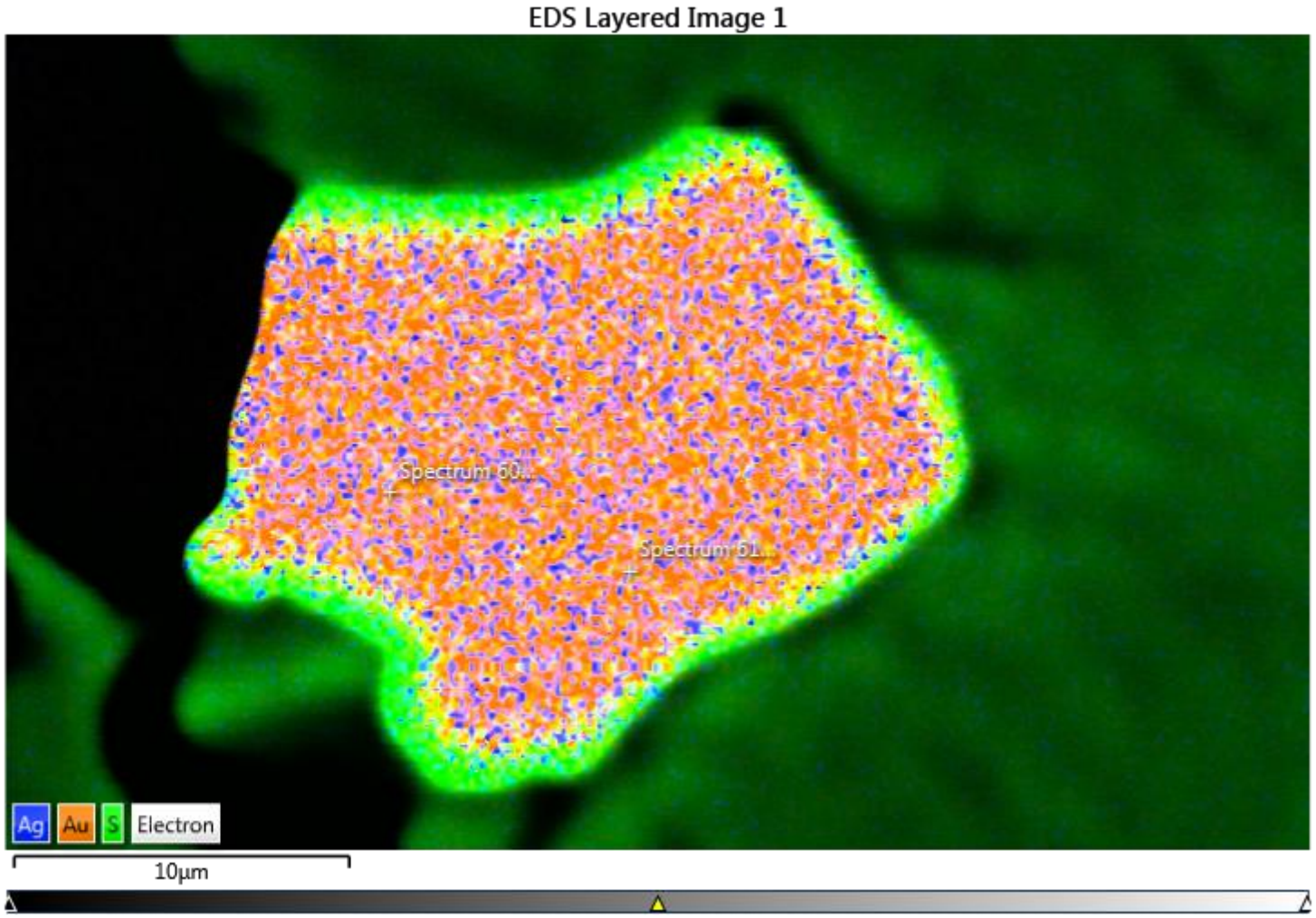

Higher magnification image of the electrum grain from the previous image.



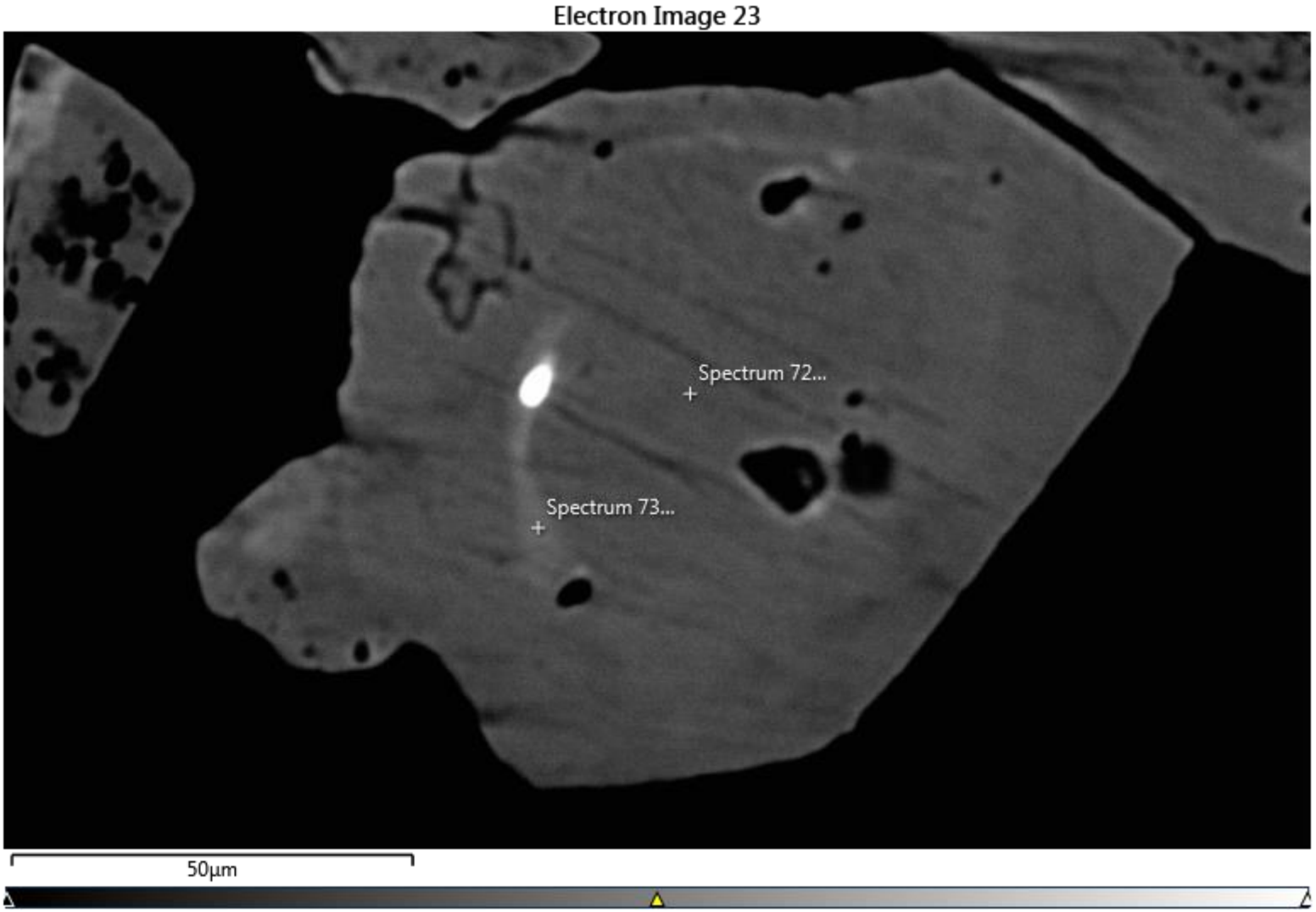

Same backscatter image as above with brightness reduced to illustrate the compositional zoning within the electrum. Brighter areas contain more gold while darker areas contain more silver.


Spectrum 60 BRIGHT ELECTRUM
cps/eV
keV
C
Au
Ag
Au
Au
Au
Au
Au
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18

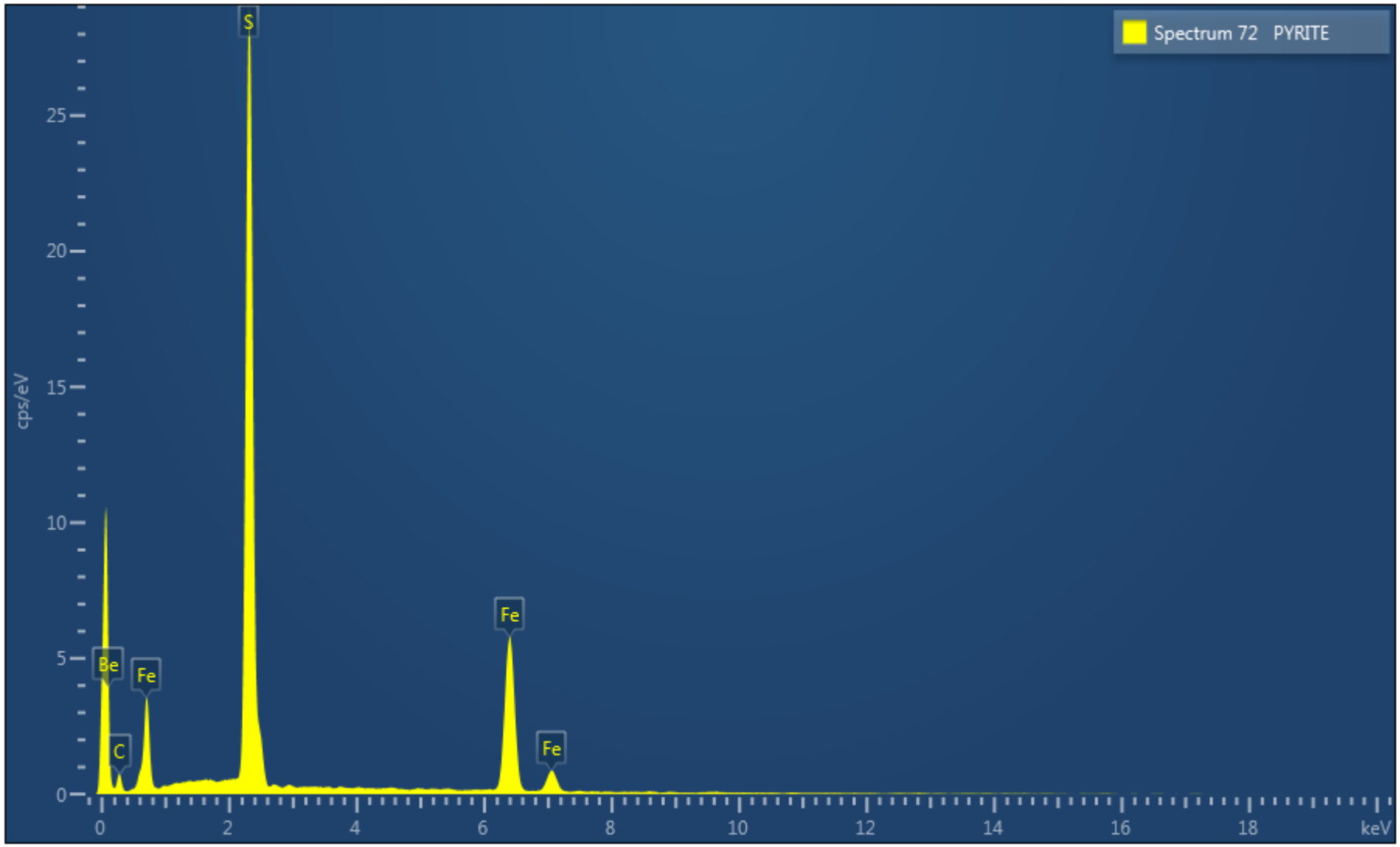

Spectrum 61 DARK ELECTRUM
cps/eV
keV
Au
Ag
C
Au
Au
Au
Au
Au
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18

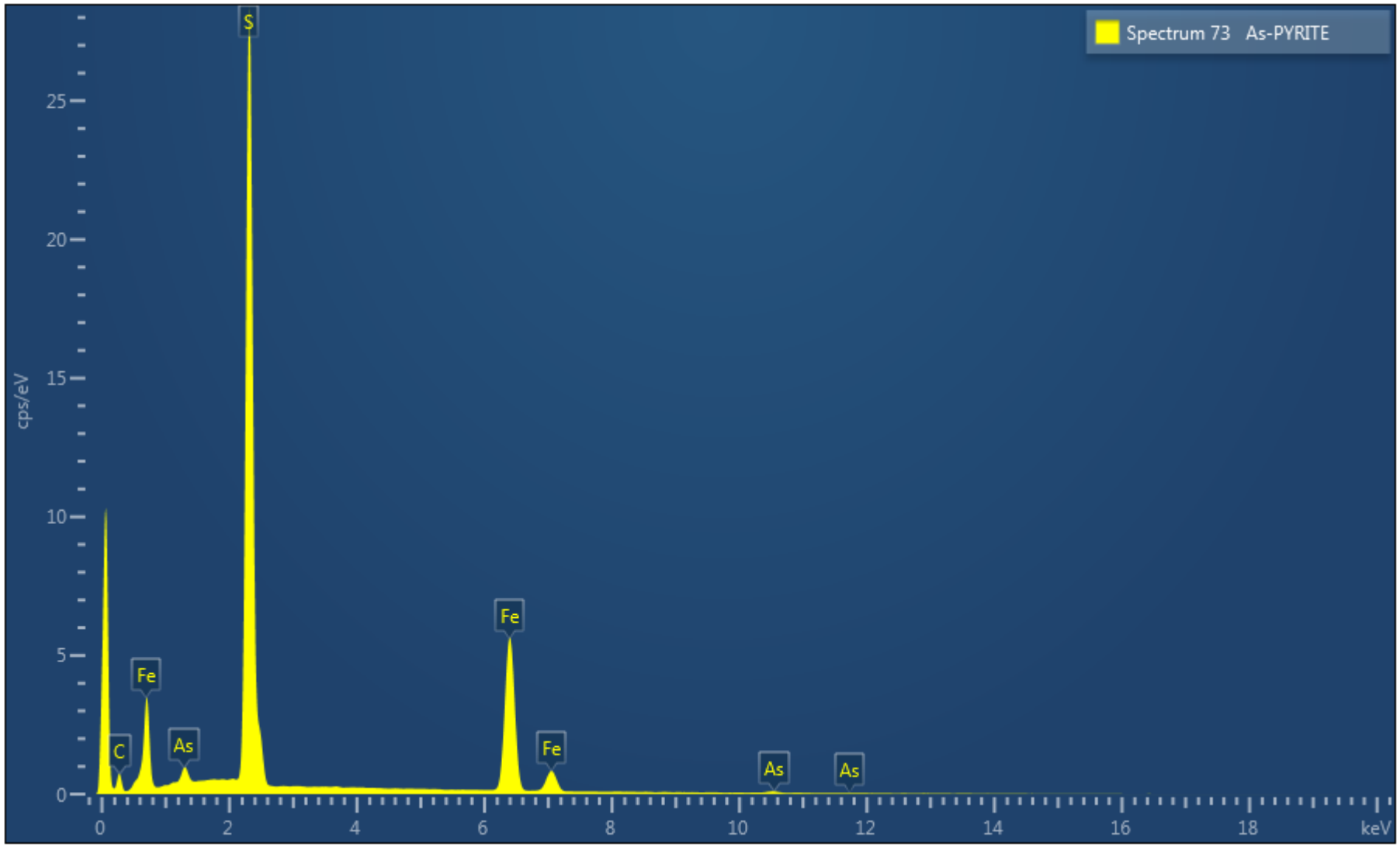


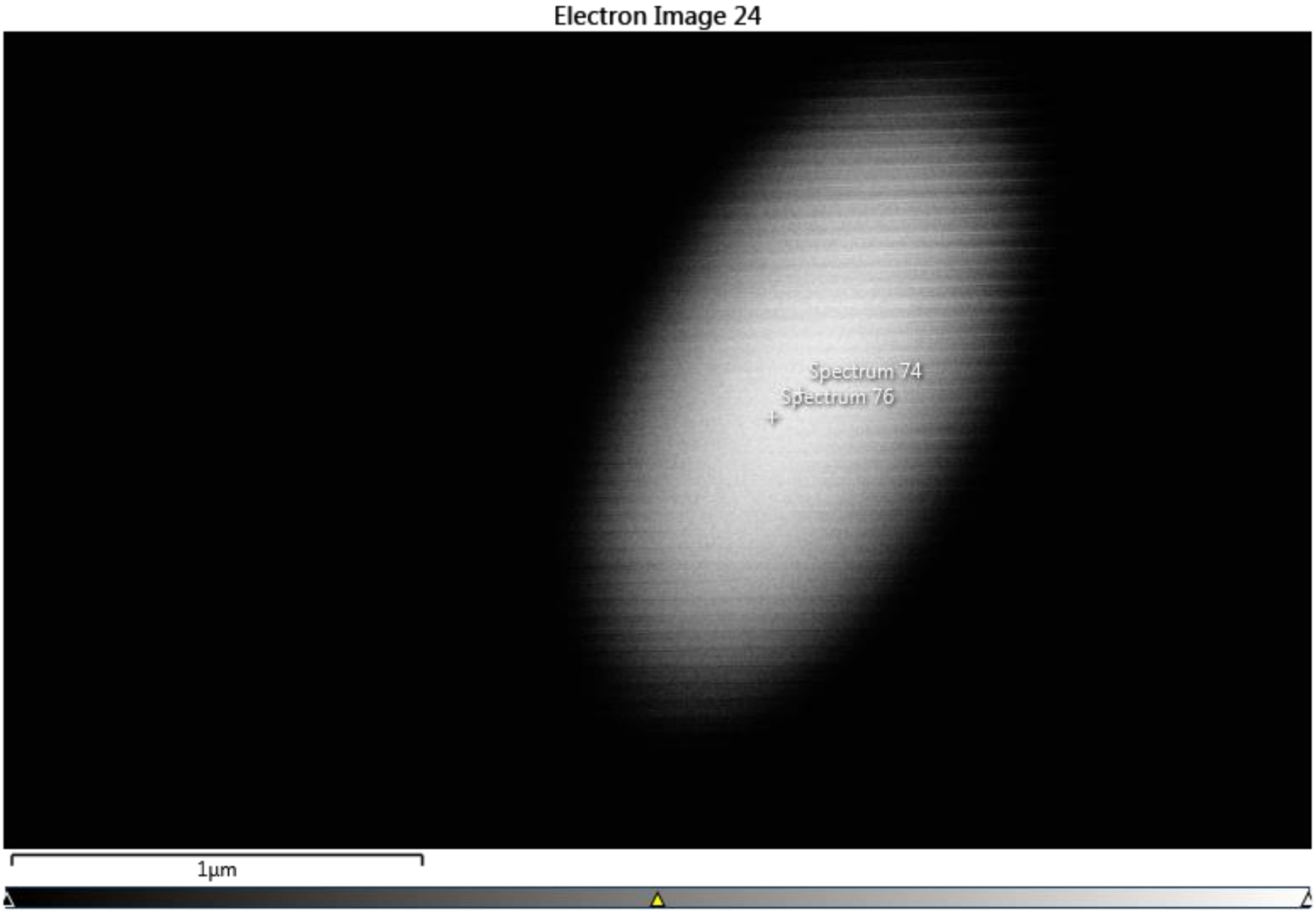

A false image element map illustrating the Au-Ag compositional variation from within the backscatter image above. The green colour represents the sulfur component within the pyrite.



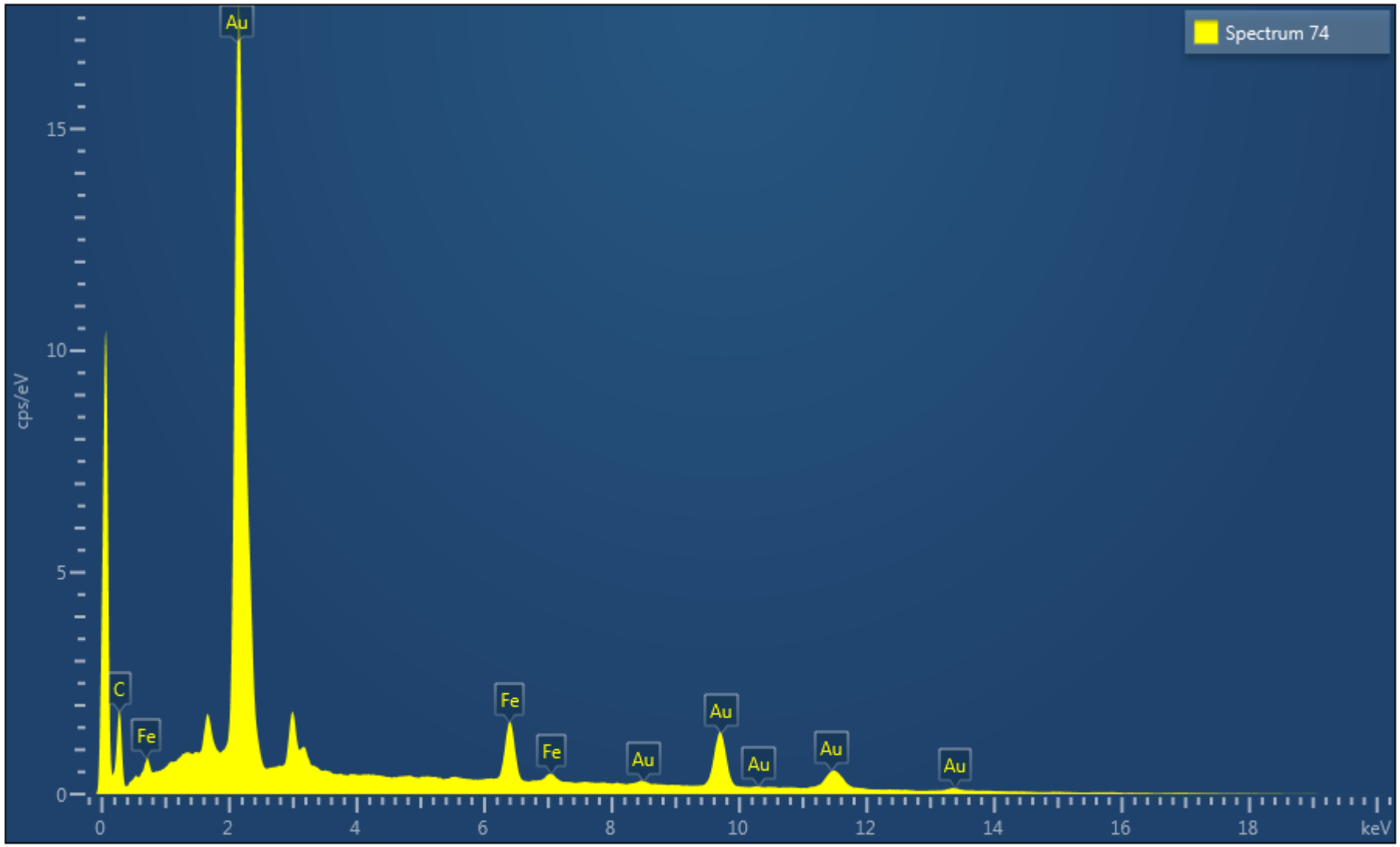

Backscatter image of a pyrite grain (spectrum 72) with a brighter growth zone of arsenian pyrite (spectrum 73) hosting a bright inclusion of electrum.

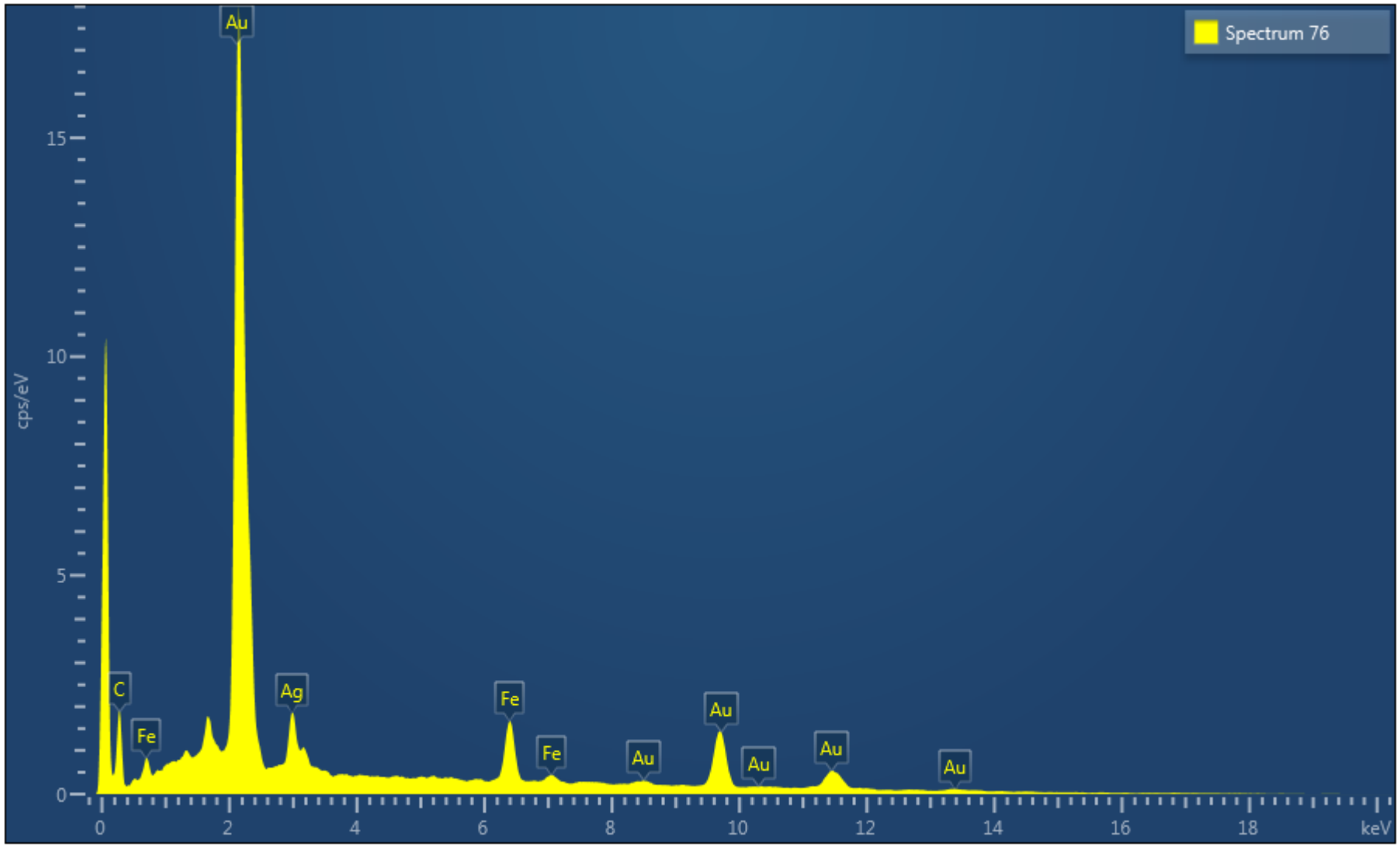

Spectrum 72 PYRITE
S
Be
C
Fe
Fe
Fe
cps/eV
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18
keV

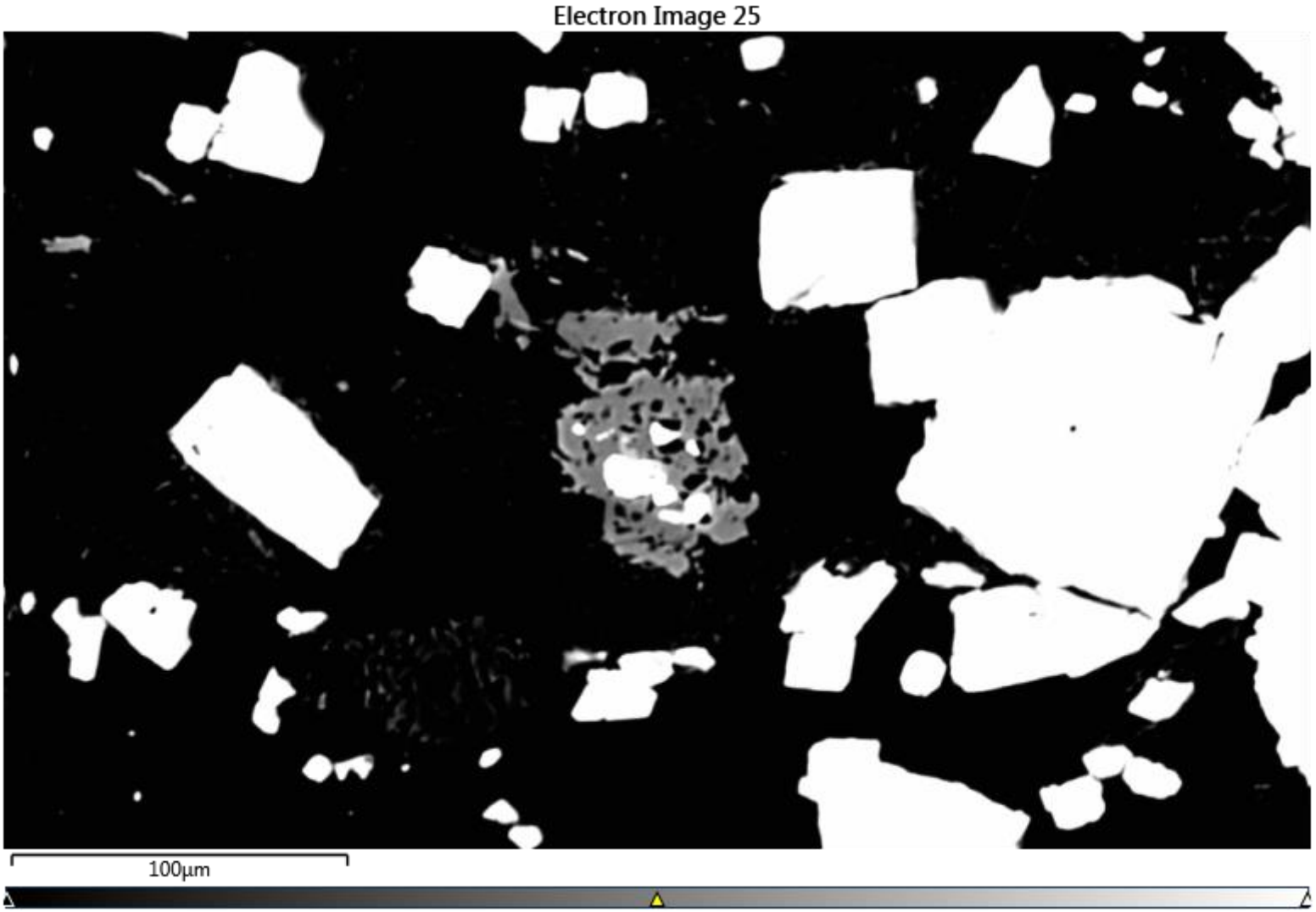

Spectrum 73 As-PYRITE
cps/eV
25
20
15
10
5
0
S
Fe
As
C
Fe
Fe
As
As
0
2
4
6
8
10
12
14
16
18
keV




Higher magnification backscatter image of the electrum grain from within the previous image. Due to the fine-grained nature of the electrum grain, the spectra 74 and 76 below capture the Fe-S peaks of the host pyrite.

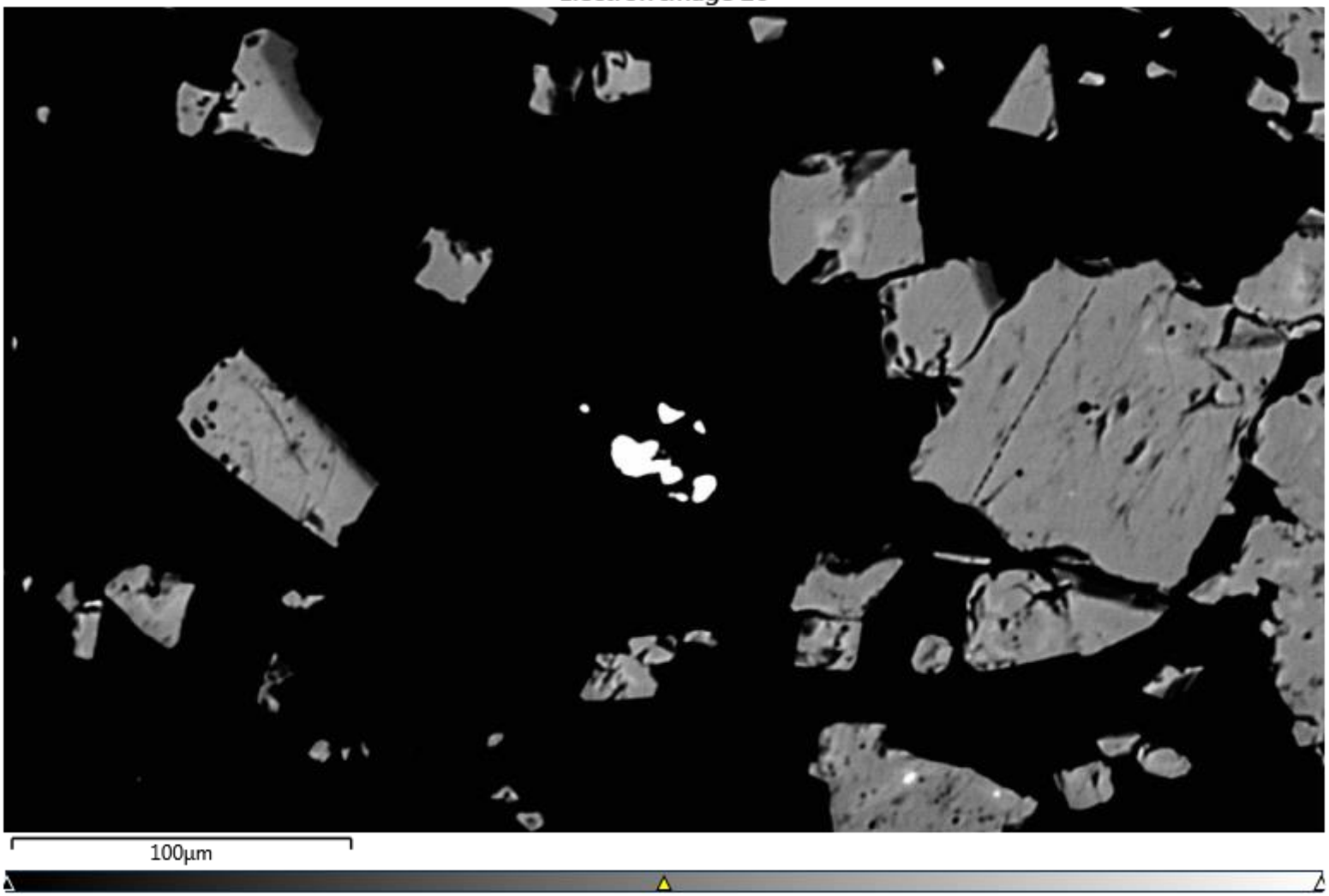

Spectrum 74
cps/eV
0
5
10
15
0
2
4
6
8
10
12
14
16
18
keV
Au
C
Fe
Au
Fe
Fe
Au
Au
Au
Au
Au


Spectrum 76
cps/eV
0
5
10
15
0
2
4
6
8
10
12
14
16
18
keV
C
Fe
Au
Ag
Fe
Fe
Au
Au
Au
Au
Au

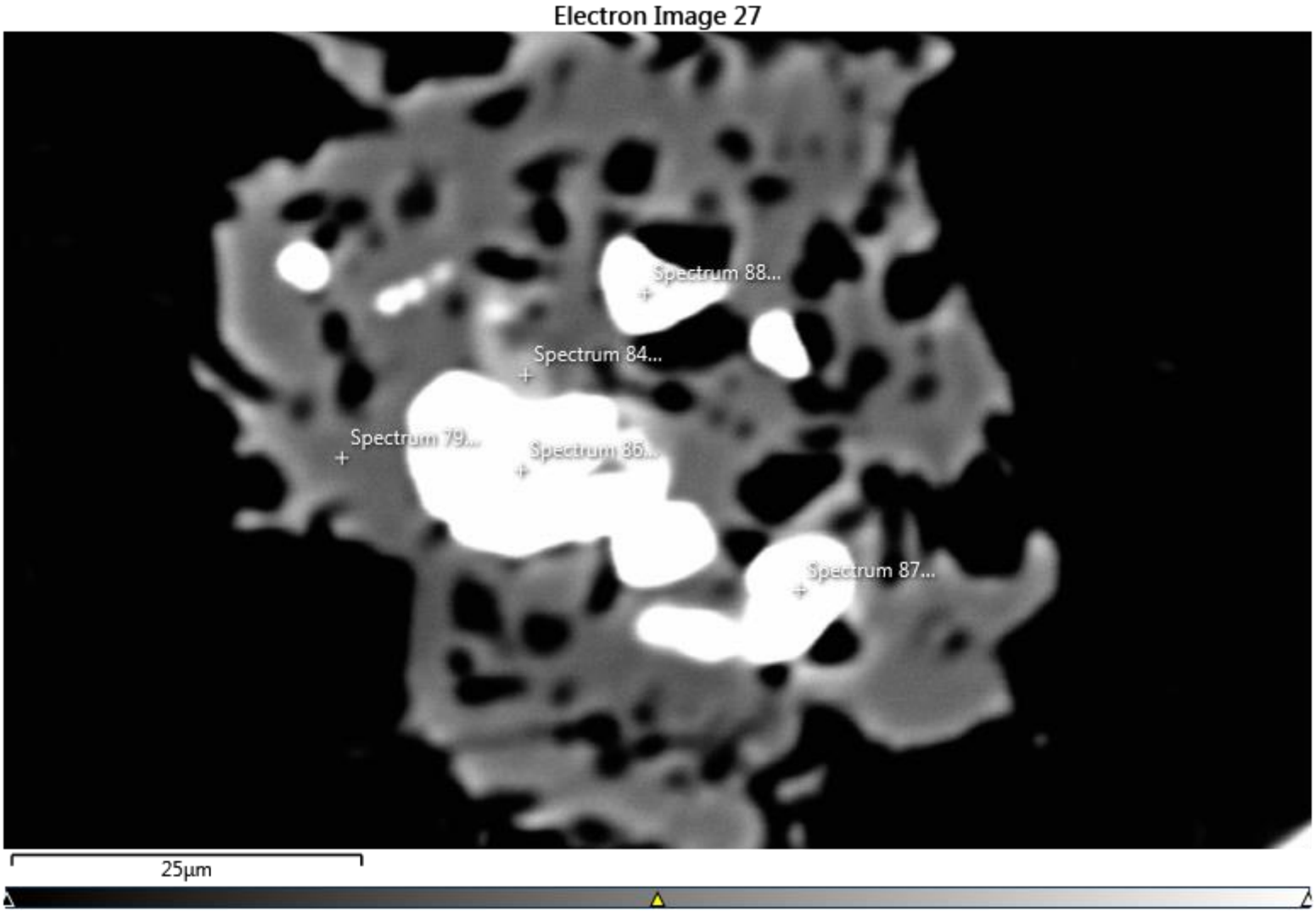



A backscatter image illustrating a cluster of arsenian pyrite grains and a grain of sphene hosting inclusions of electrum. All grains are hosted within a quartz-chlorite-calcite alteration domain.

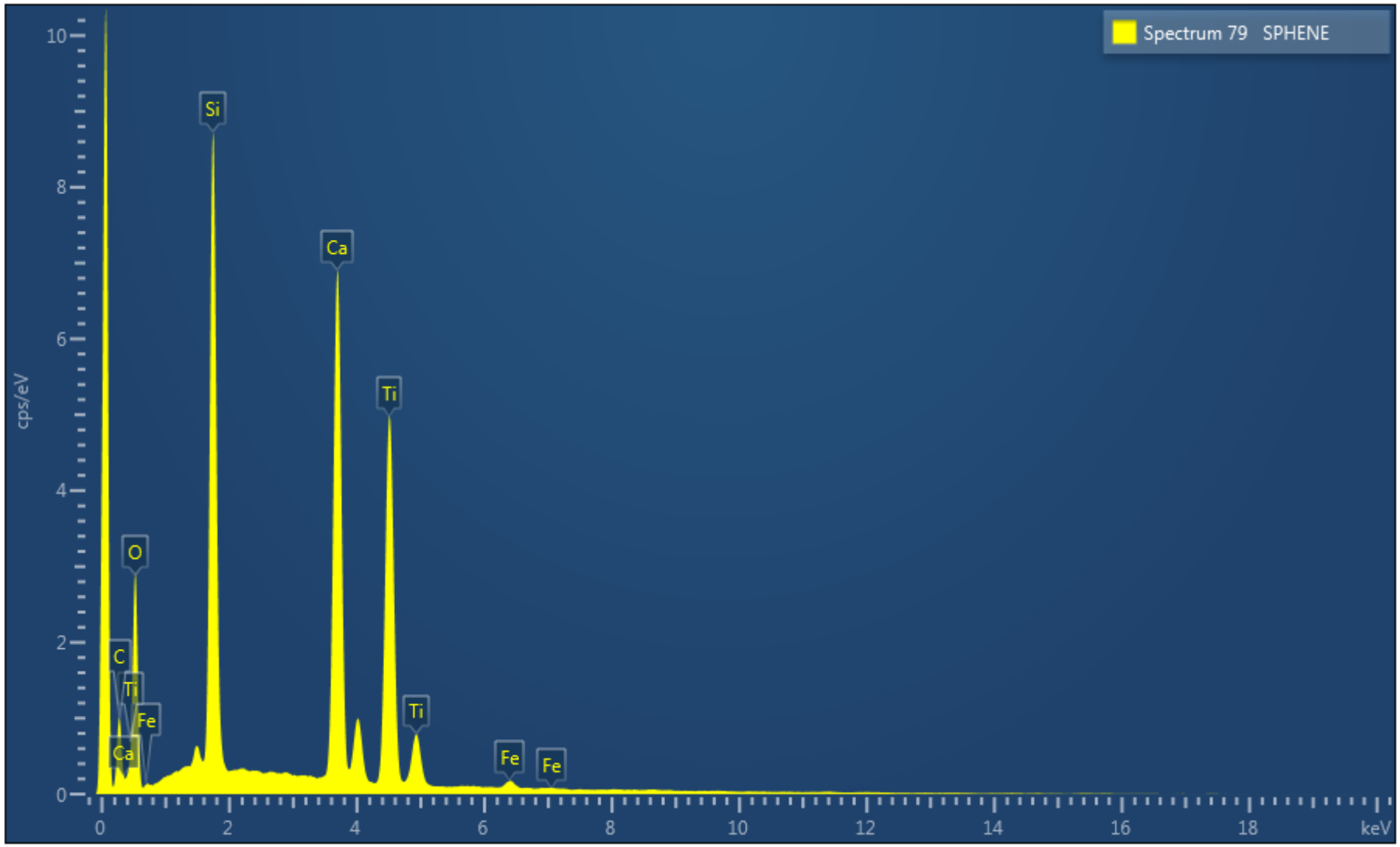
Electron Image 26

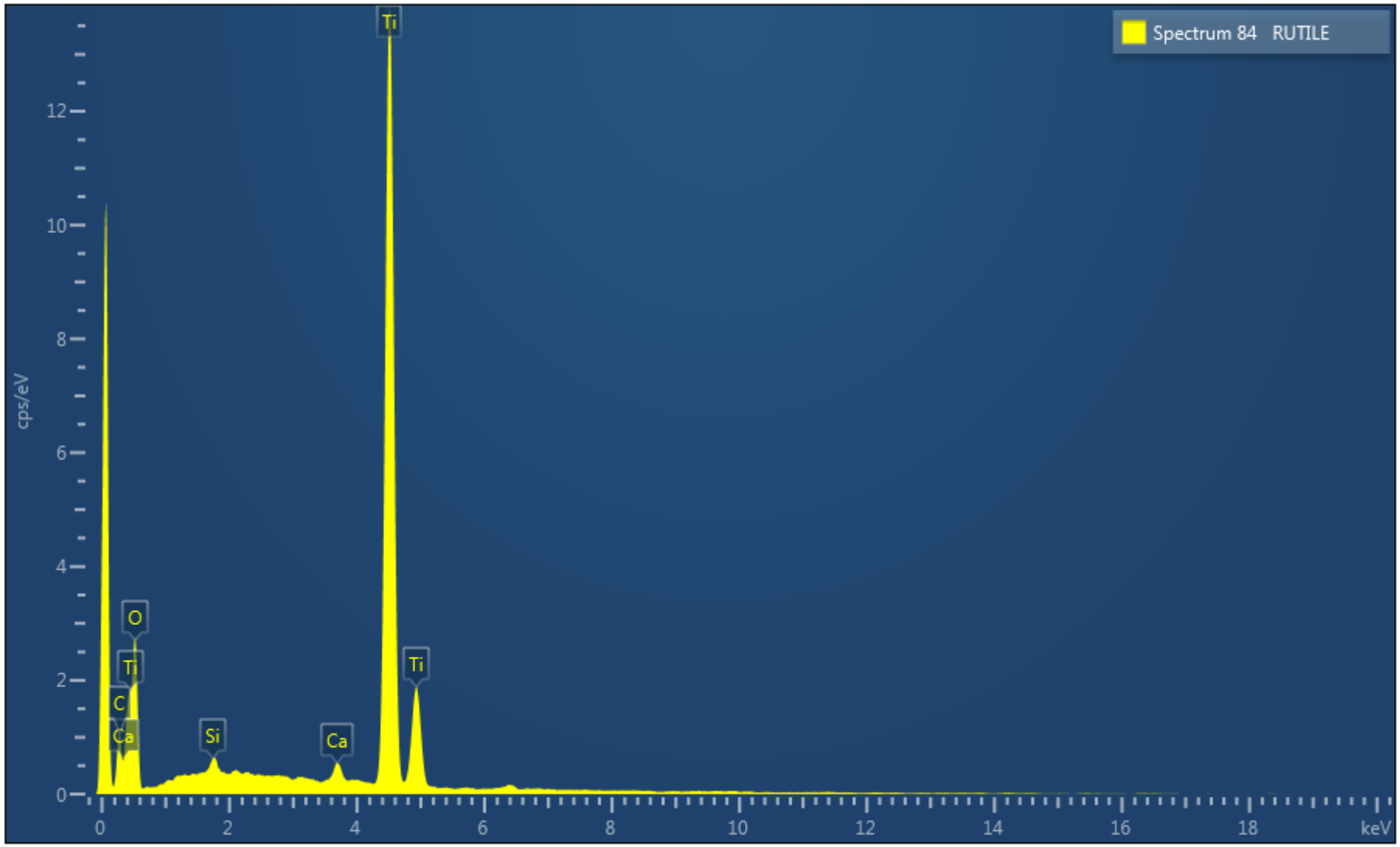


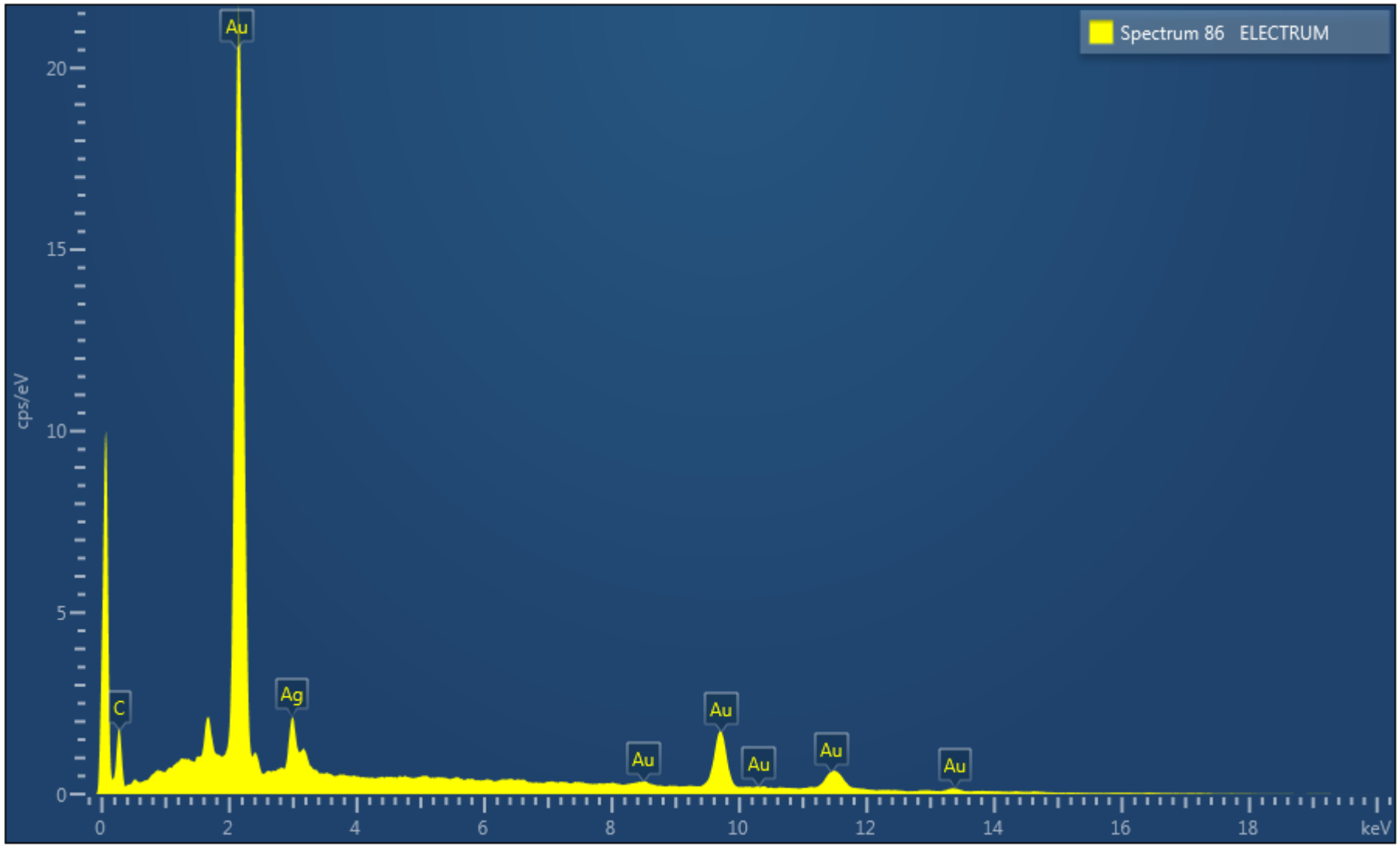

Same image as above with brightness reduced to illustrate the compositional variation in pyrite and the bright central cluster of electrum grains.

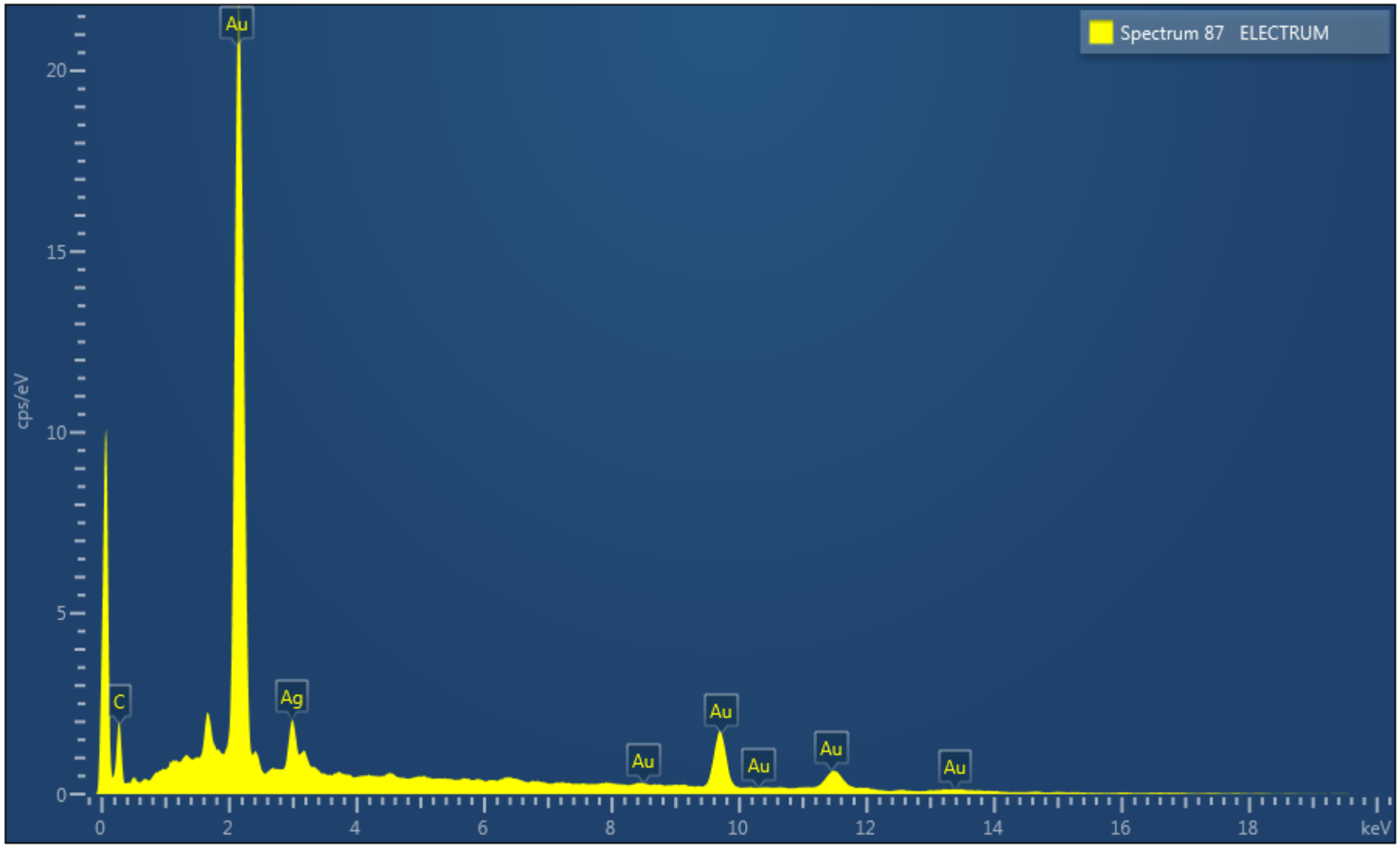


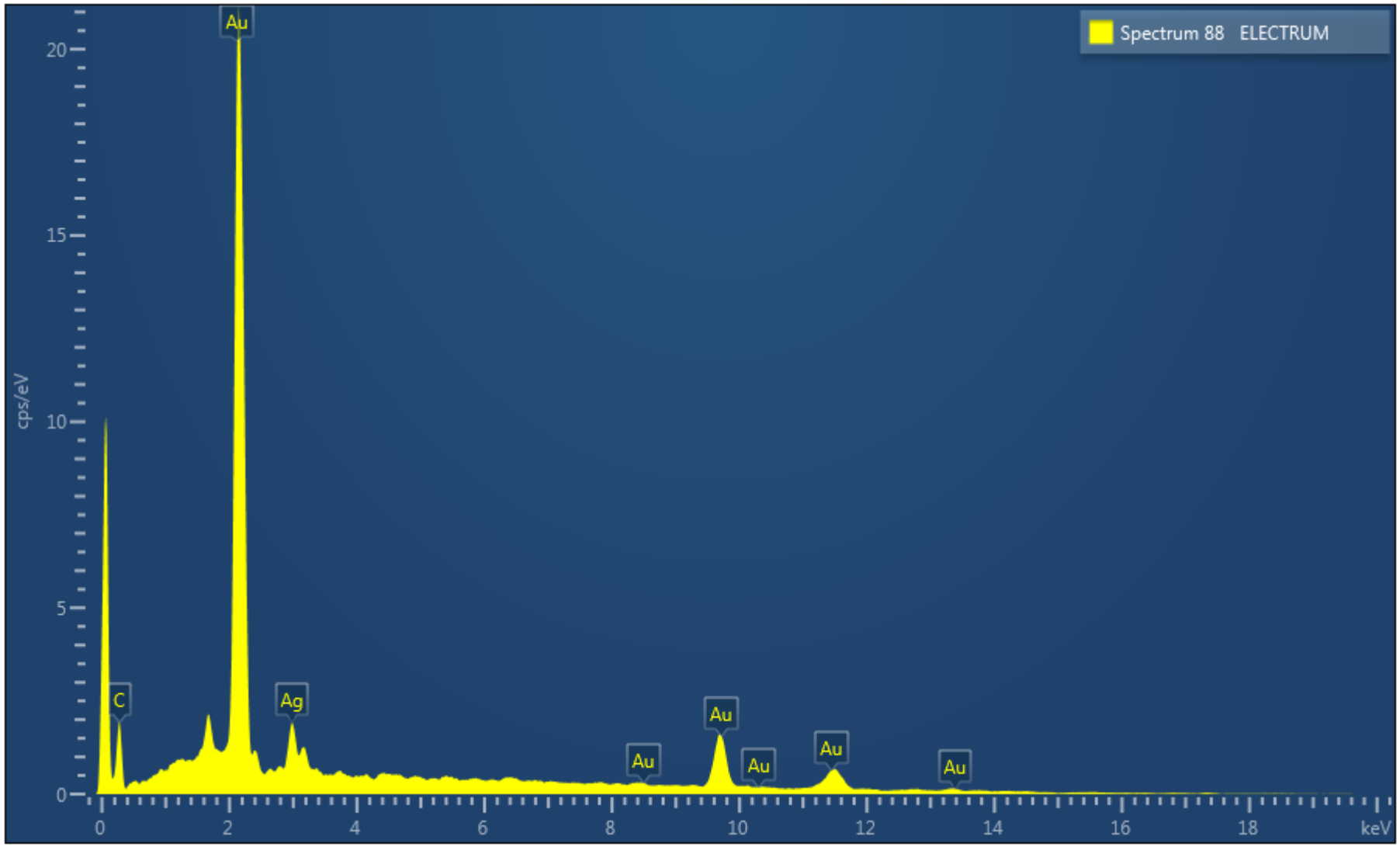

A higher magnification image of the grain of sphene (spectrum 79) and rutile (spectrum 84) hosting inclusions of electrum. See spectra below. Due to the fine-grained nature of the rutile, the rutile spectrum has captured the Ca-Si components of the adjacent sphene domain.

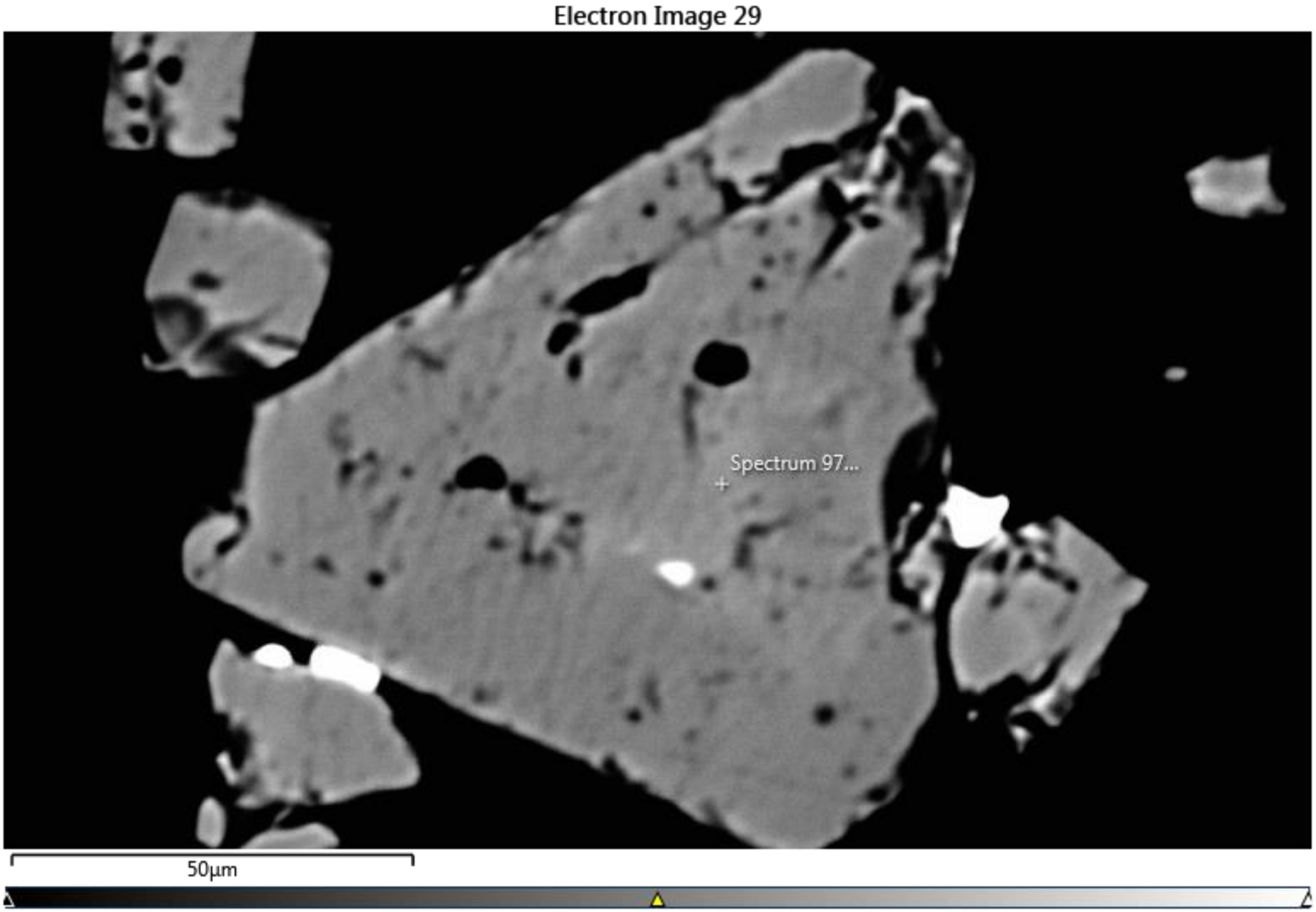

Spectrum 79 SPHENE
cps/eV
keV
Si
Ca
Ti
O
C
Ti
Fe
Ca
Ti
Fe
Fe


Spectrum 84 RUTILE
cps/eV
keV
Ti
O
Ti
C
Ca
Si
Ca
Ti
0
2
4
6
8
10
12
14
16
18

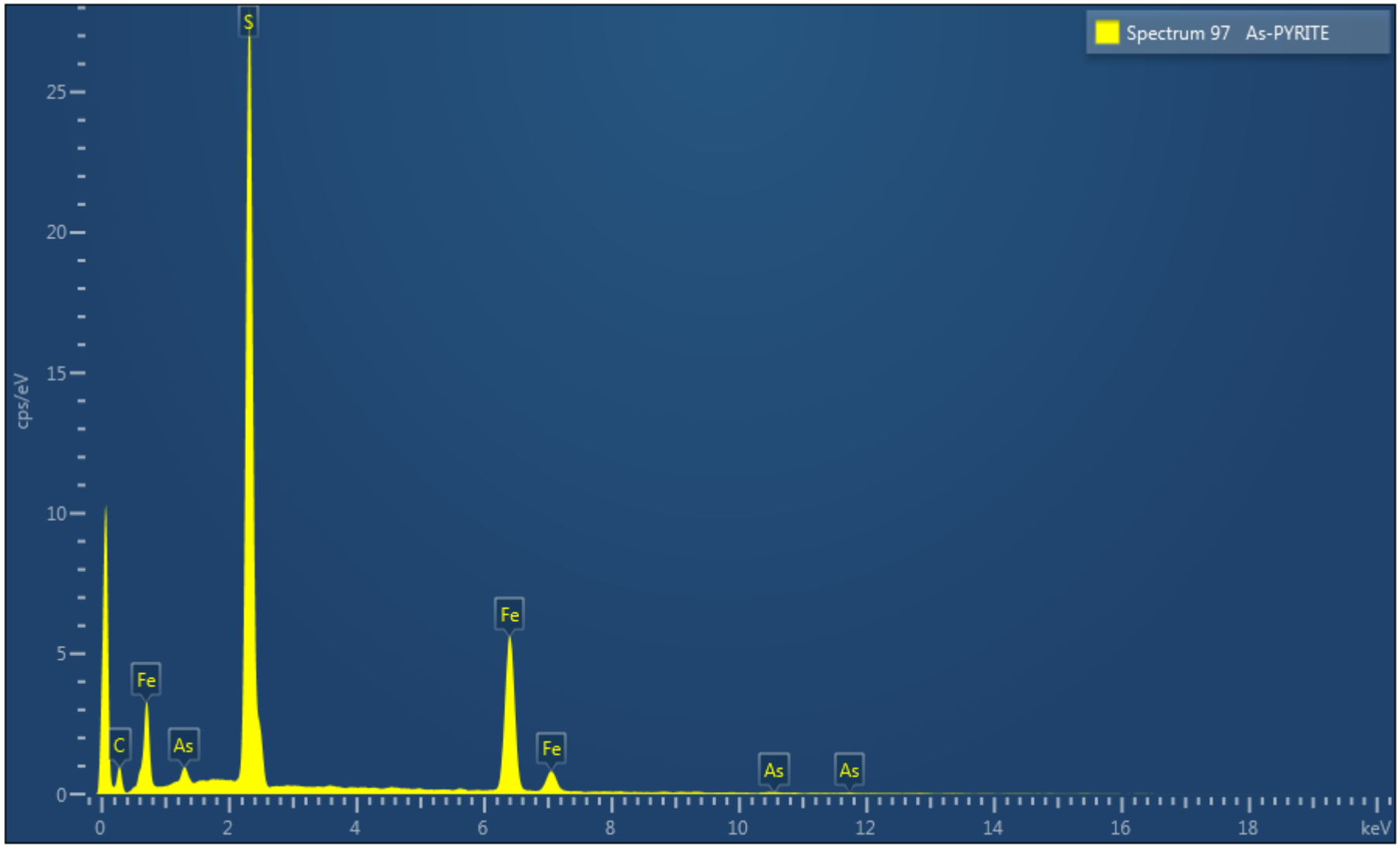

Spectrum 86 ELECTRUM
cps/eV
keV
Au
C
Ag
Au
Au
Au
Au
Au
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18

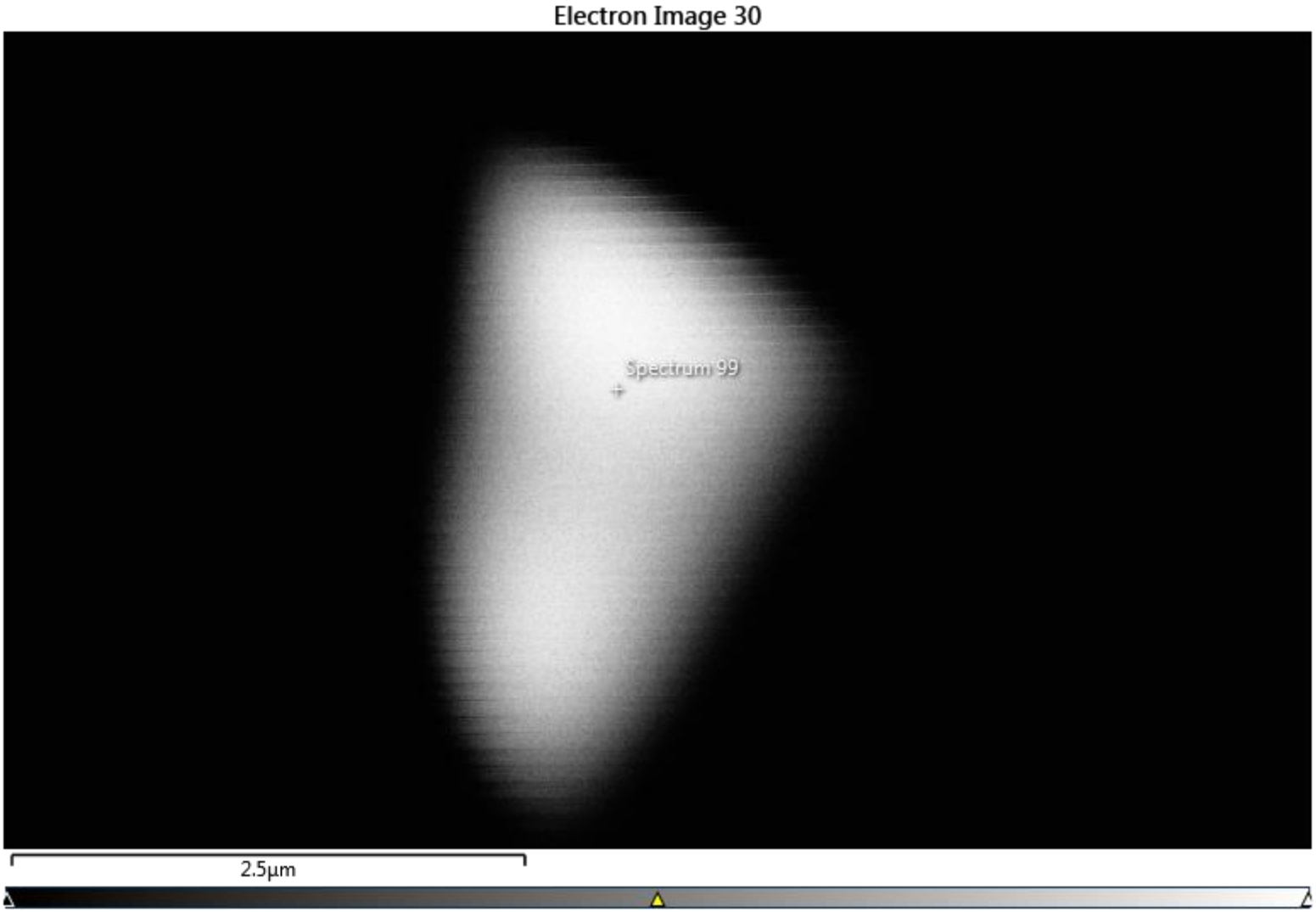

Spectrum 87 ELECTRUM
cps/eV
keV
Au
C
Ag
Au
Au
Au
Au
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18


Spectrum 88 ELECTRUM
cps/eV
keV
Au
C
Ag
Au
Au
Au
Au
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18

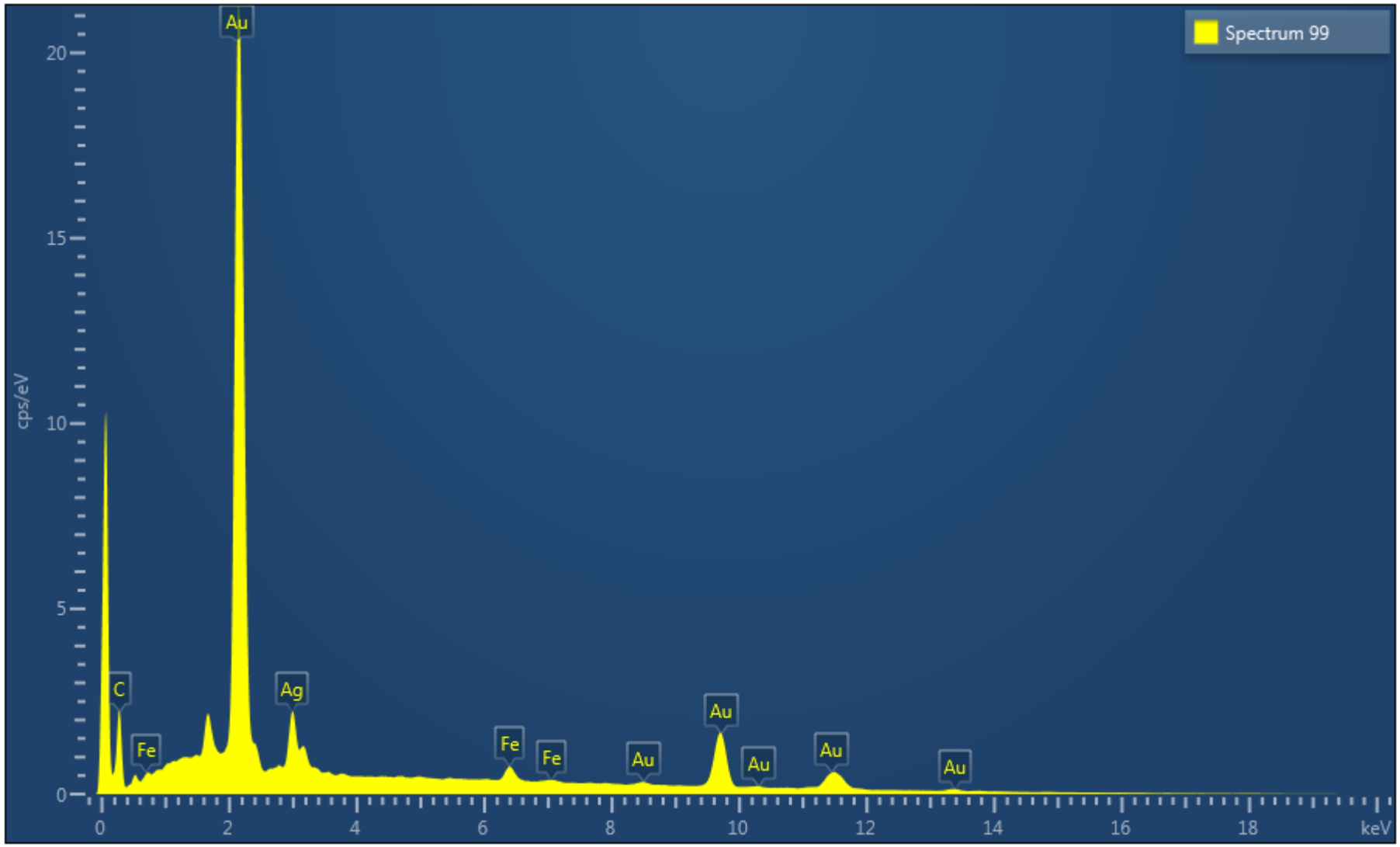


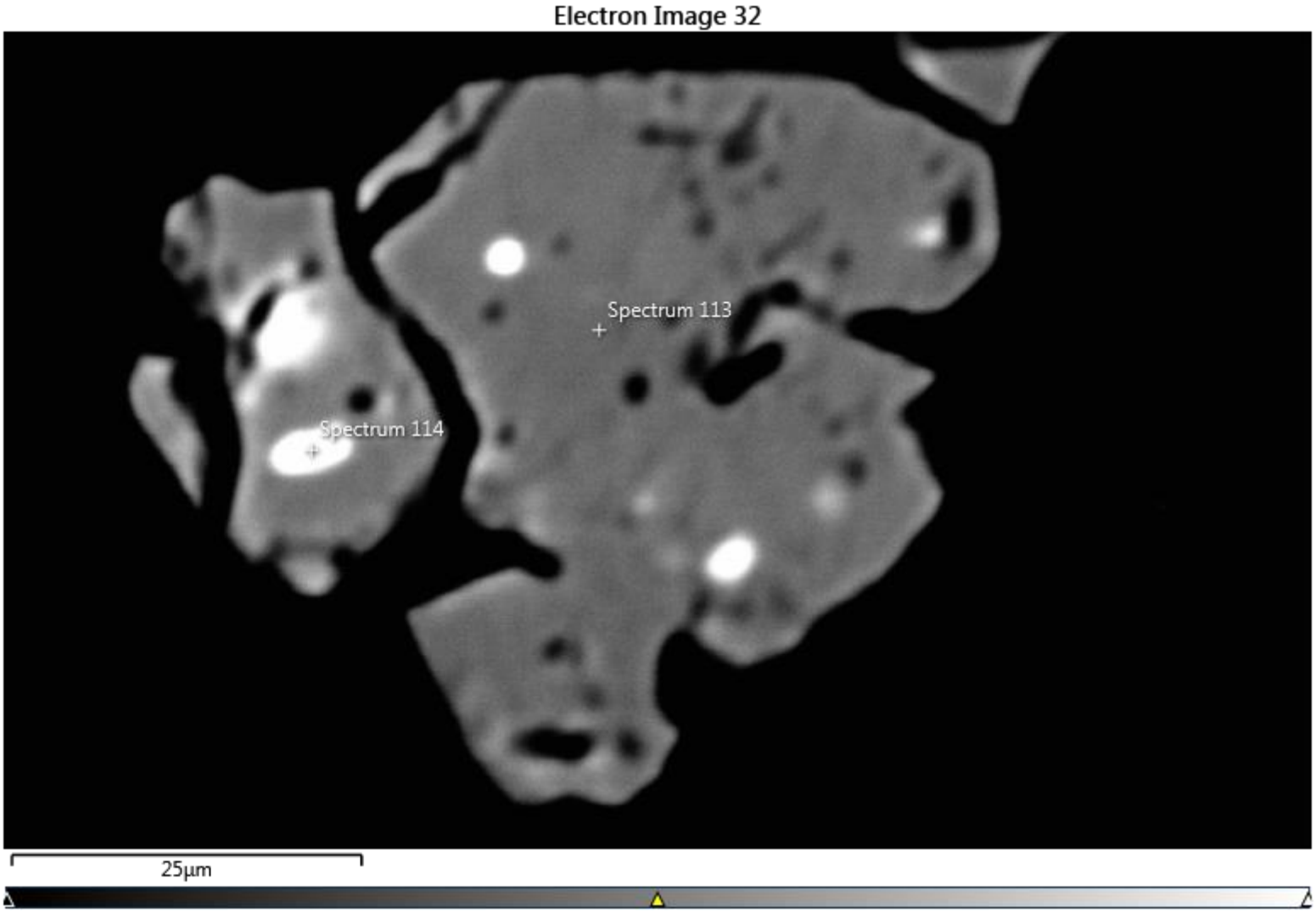

Backscatter image of a grain of pyrite and arsenian pyrite (spectrum 97) hosting a minute inclusion of arsenopyrite and bright marginal growth of electrum.


Spectrum 97 As-PYRITE
cps/eV
25
20
15
10
5
0
S
Fe
C
As
Fe
Fe
As
As
0
2
4
6
8
10
12
14
16
18
keV

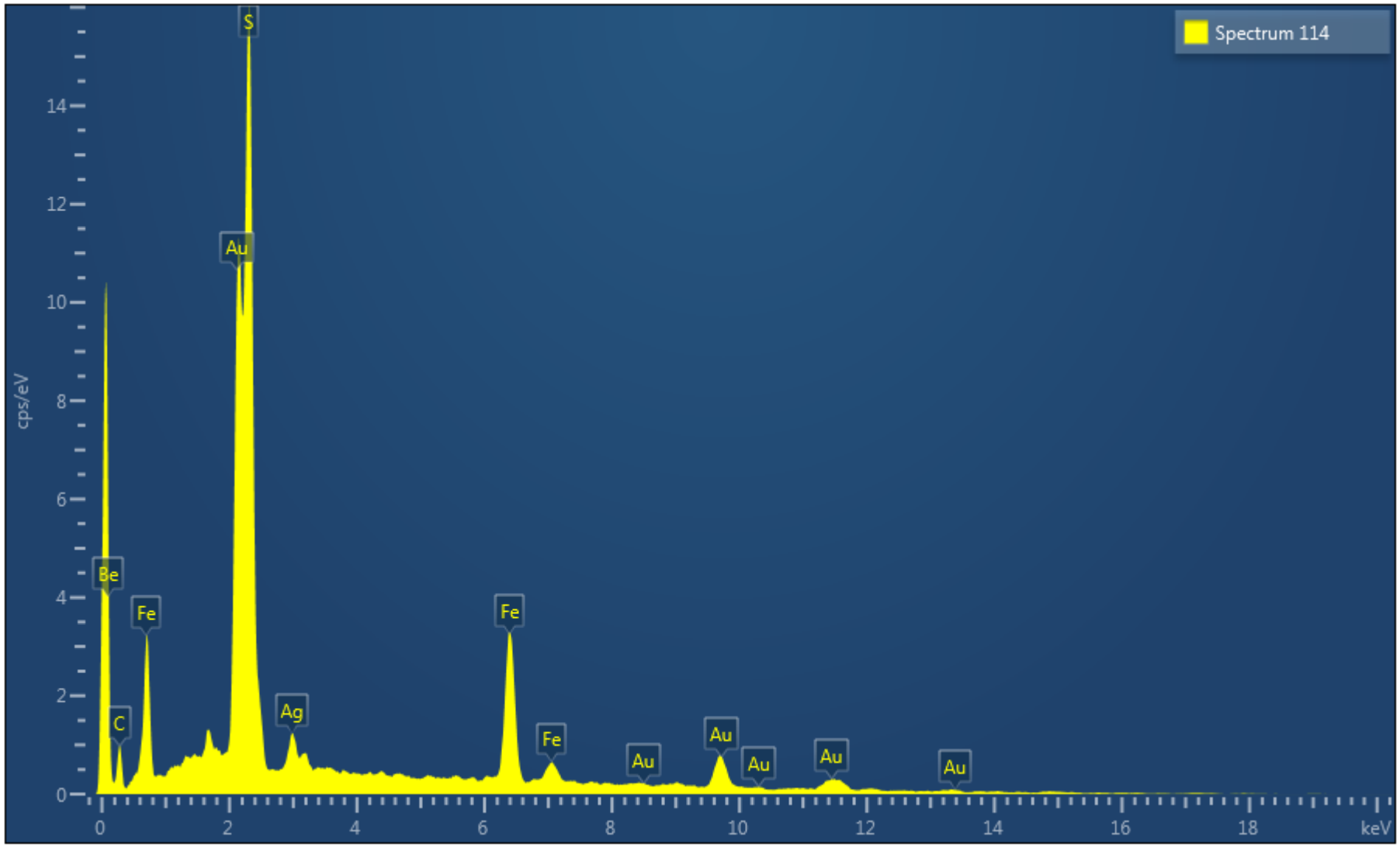


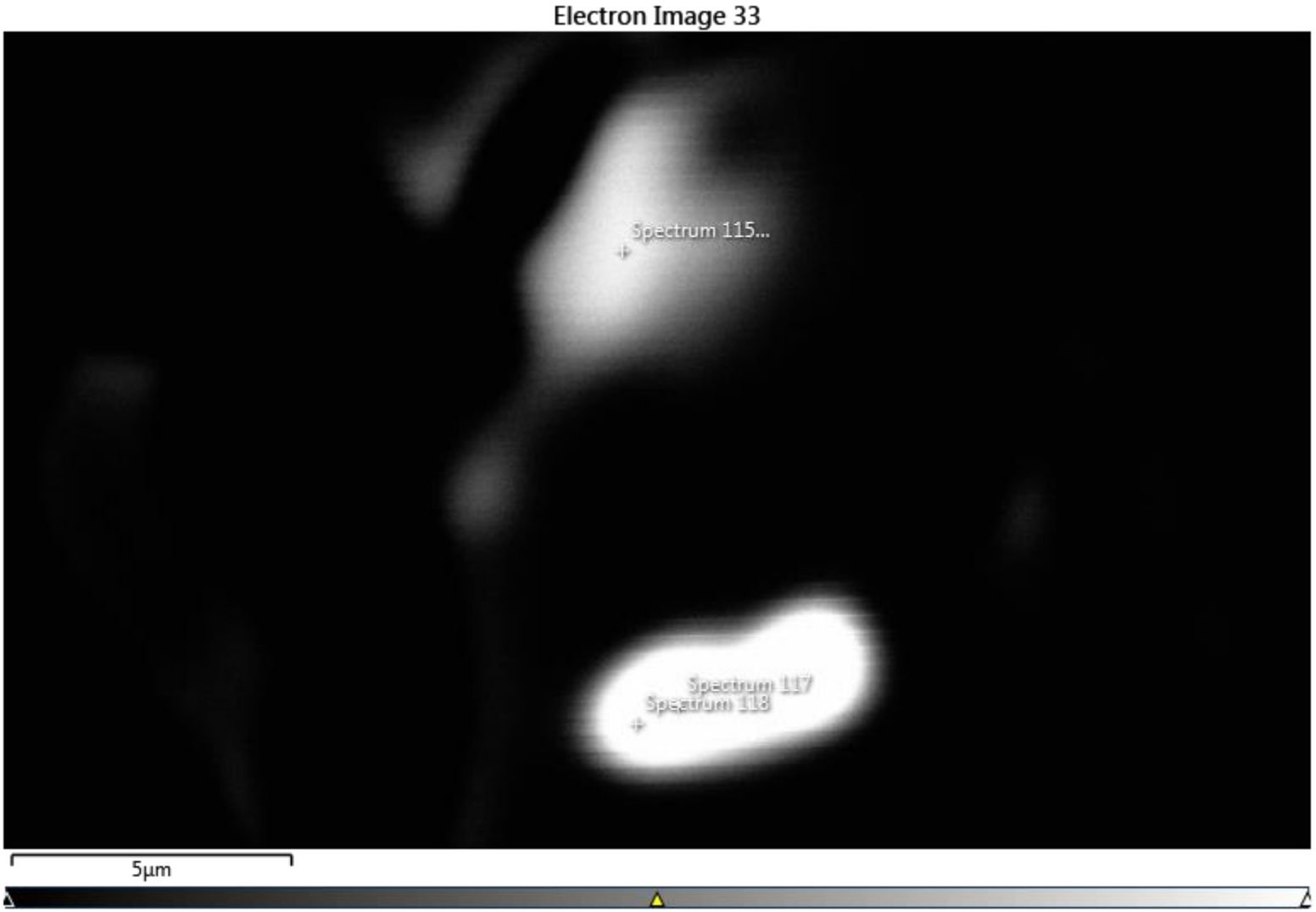

Higher magnification of the electrum grain from above. Due to the fine-grained nature of the electrum, a portion of the pyrite Fe-S components are included in the electrum spectrum presented below.


Spectrum 99
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV
Au
C
Fe
Ag
Fe
Fe
Au
Au
Au
Au

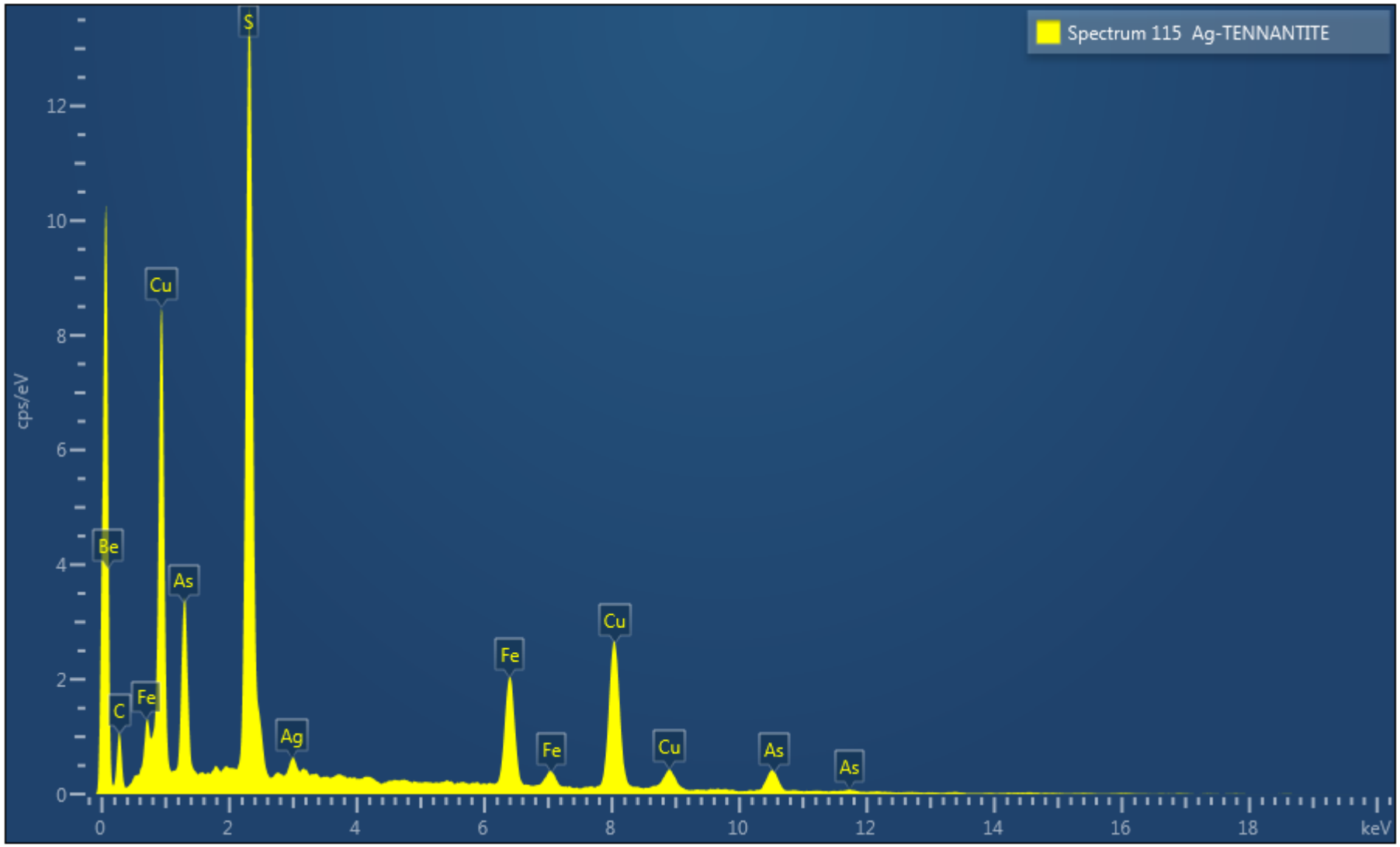


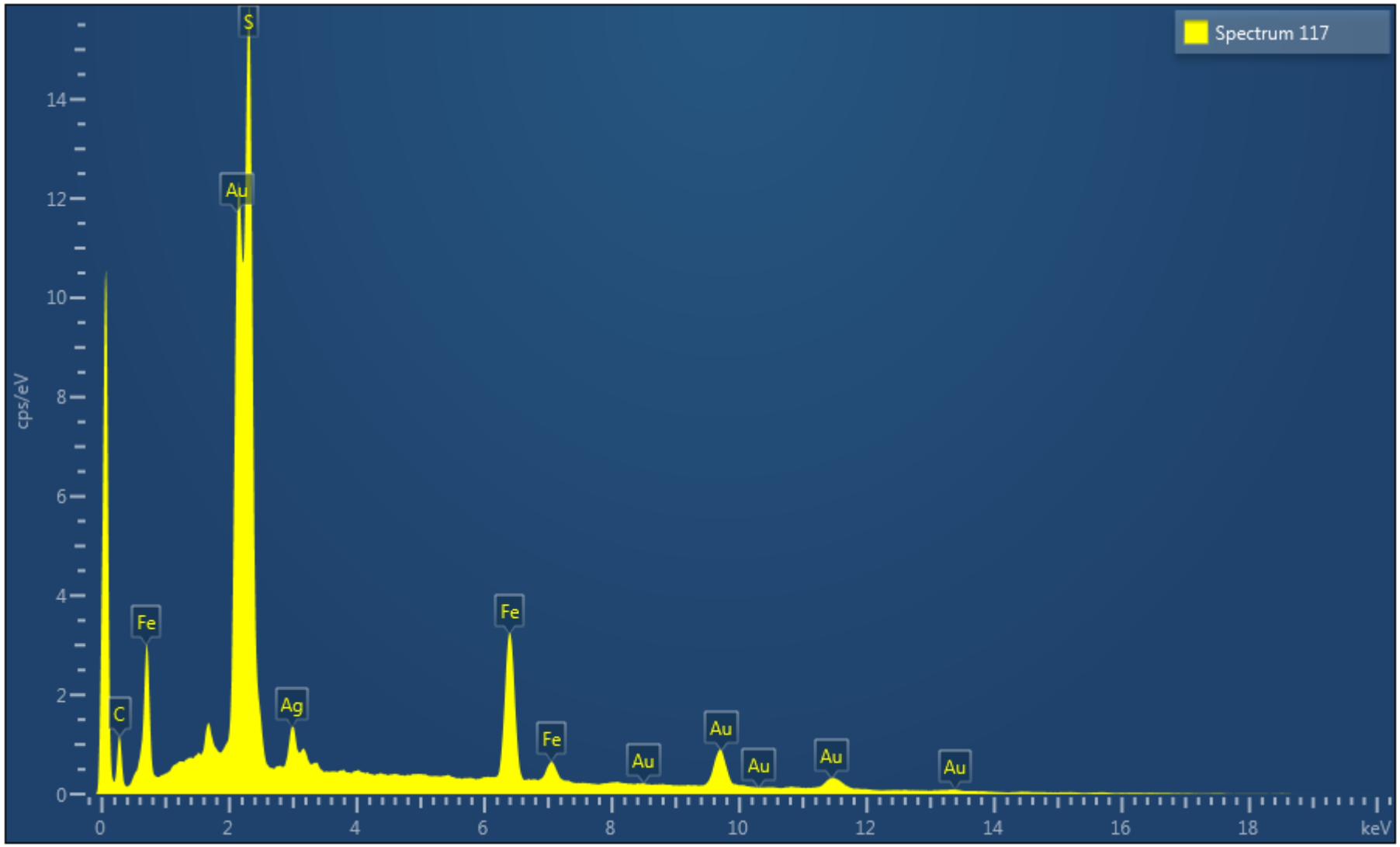

Backscatter image of a grain of arsenian pyrite hosting multiple inclusions of electrum (spectrum 114) and Ag-tennantite. Due to the fine-grained nature of the electrum, a portion of the pyrite Fe-S components are included in the electrum spectrum presented below.

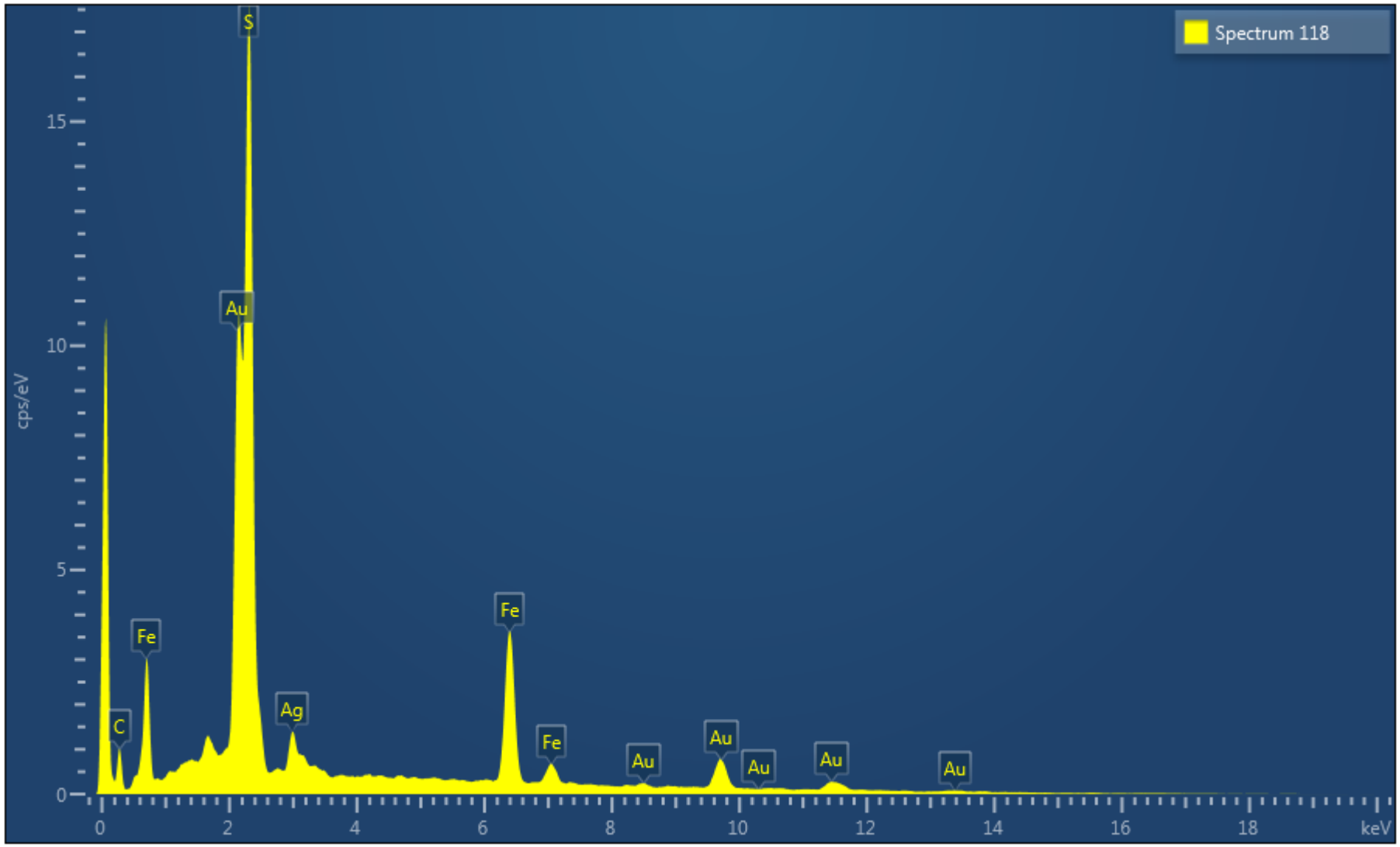

Spectrum 114
cps/eV
keV
S
Au
Be
Fe
C
Ag
Fe
Fe
Au
Au
Au
Au
Au
0
2
4
6
8
10
12
14
16
18

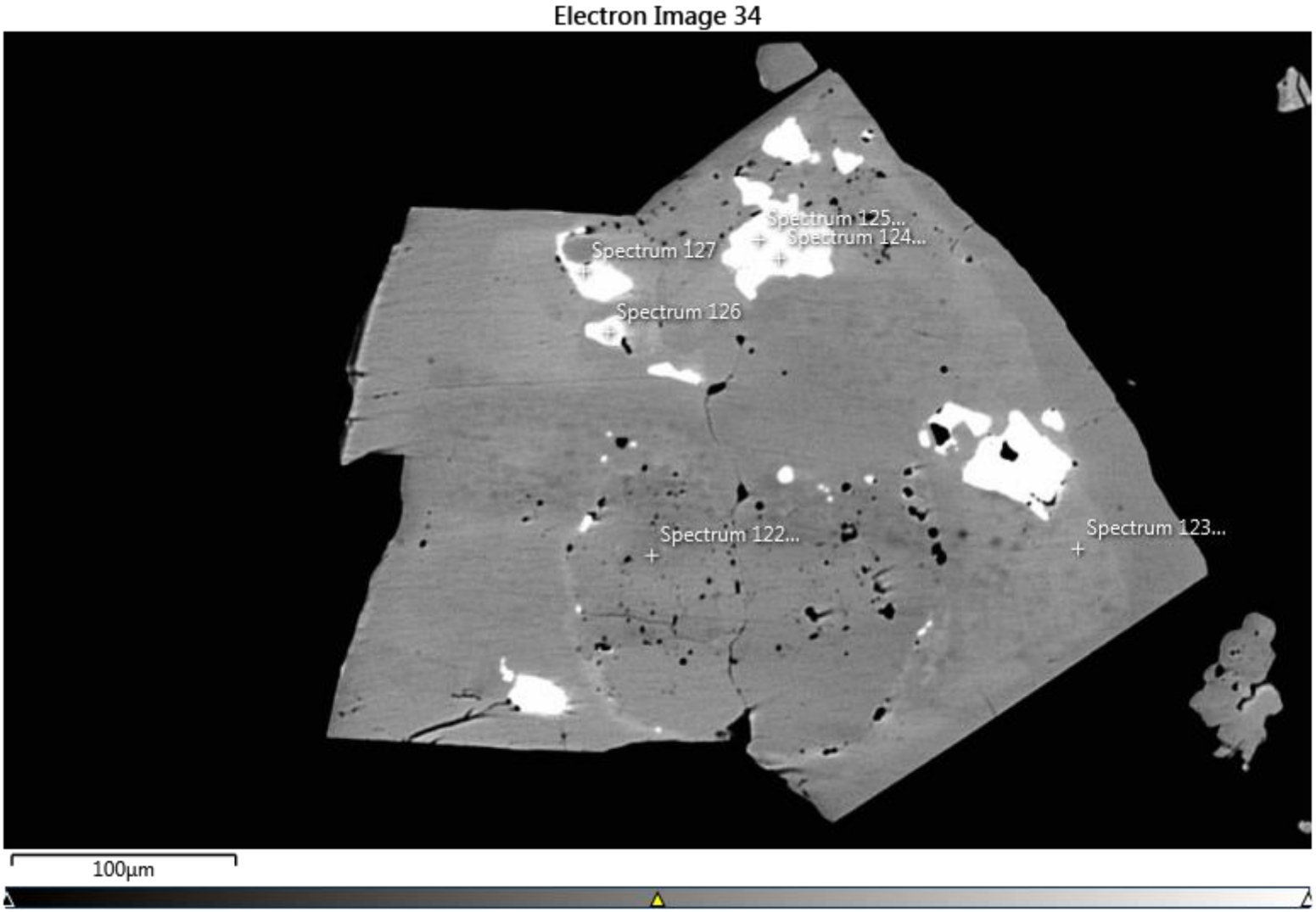



Higher magnification image of the above image illustrating the inclusions of Ag-tennantite (spectrum 115) and electrum (spectrum 117). Due to the fine-grained nature of the electrum, a portion of the pyrite Fe-S components are included in the electrum spectrum presented below.

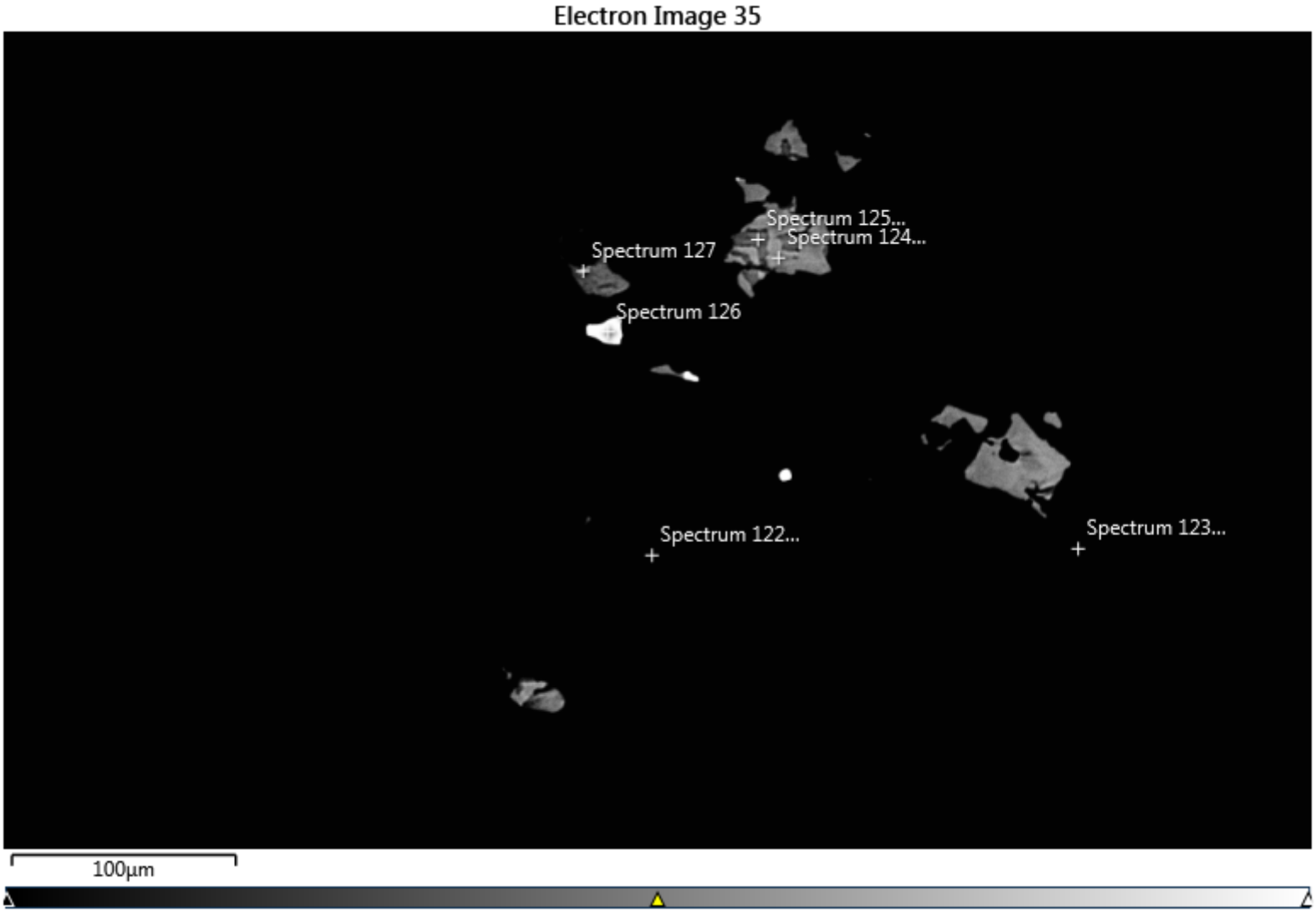

Spectrum 115 Ag-TENNANTITE
cps/eV
keV
S
Cu
Be
As
C
Fe
Ag
Fe
Fe
Cu
Cu
As
As


Spectrum 117
cps/eV
keV
S
Au
Fe
C
Ag
Fe
Fe
Au
Au
Au
Au
0
2
4
6
8
10
12
14
16
18

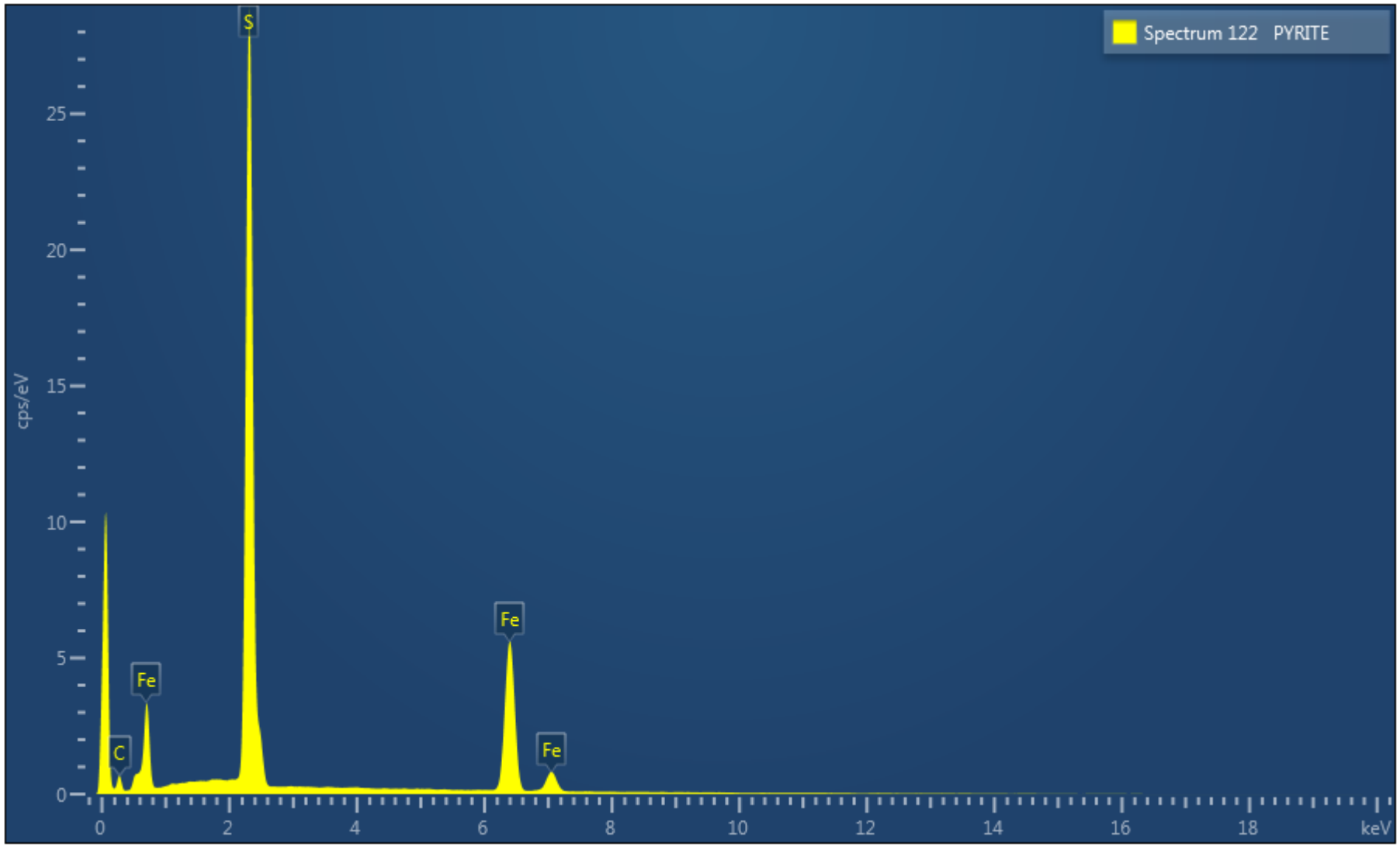

Spectrum 118
cps/eV
0
5
10
15
0
2
4
6
8
10
12
14
16
18
keV
S
Au
Fe
C
Fe
Ag
Fe
Fe
Au
Au
Au
Au
Au

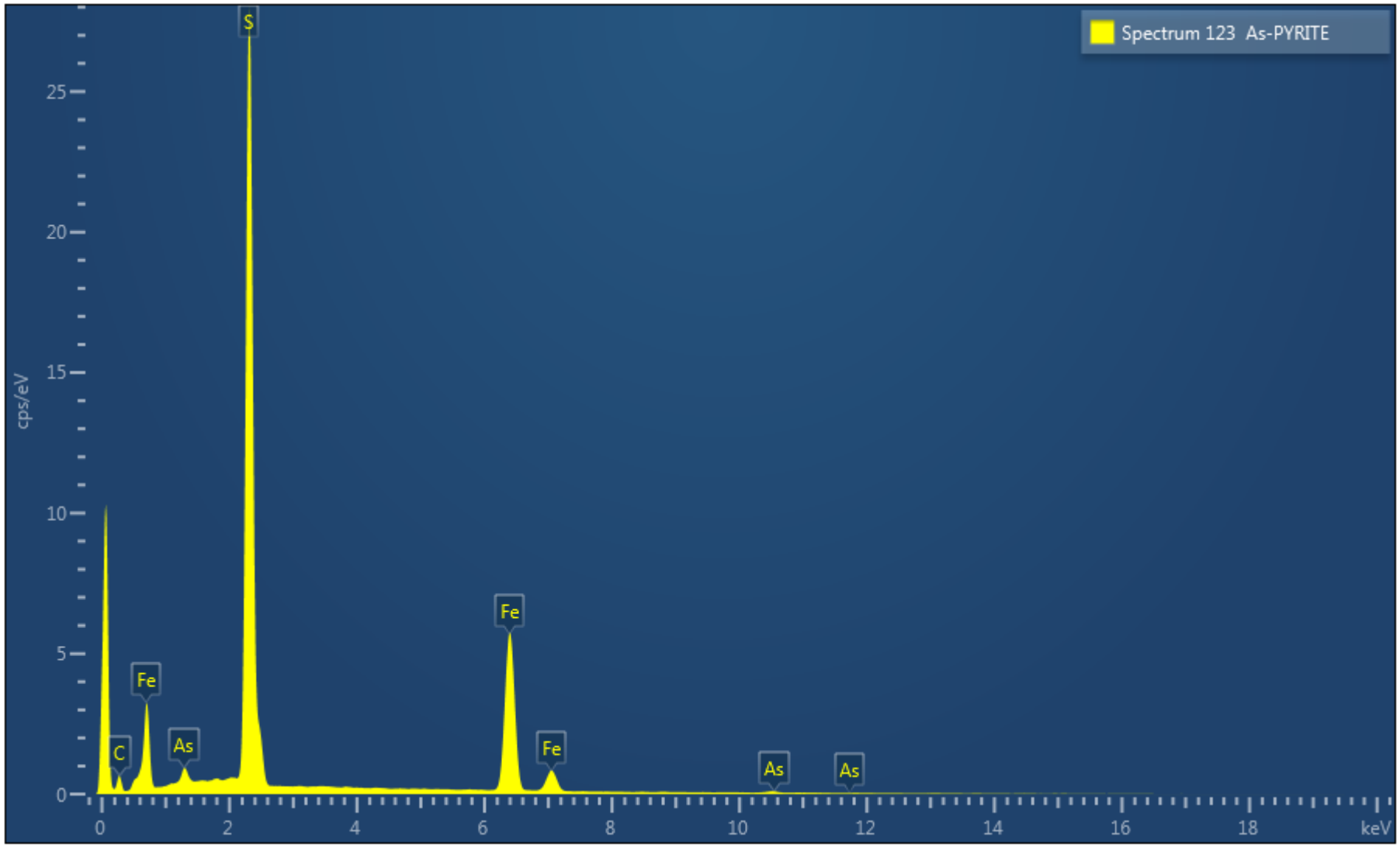


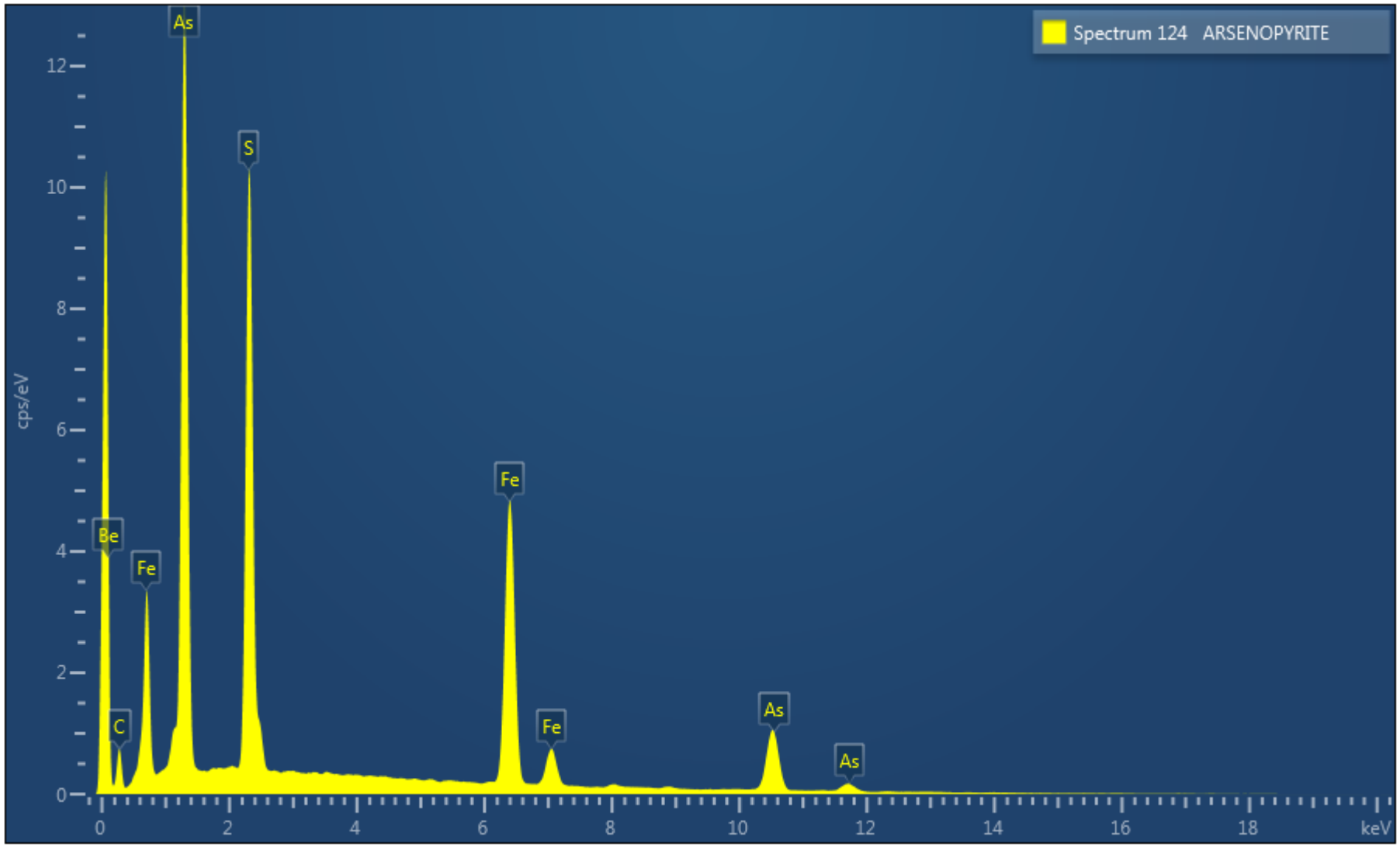

Backscatter image of a pyrite grain (spectrum 122) with bright growth zones of arsenian pyrite (spectrum 123) hosting multiple inclusions of arsenopyrite (spectrum 124), Ag-tennantite (spectrum 125), tennantite (spectrum 127), and electrum (spectrum 126).

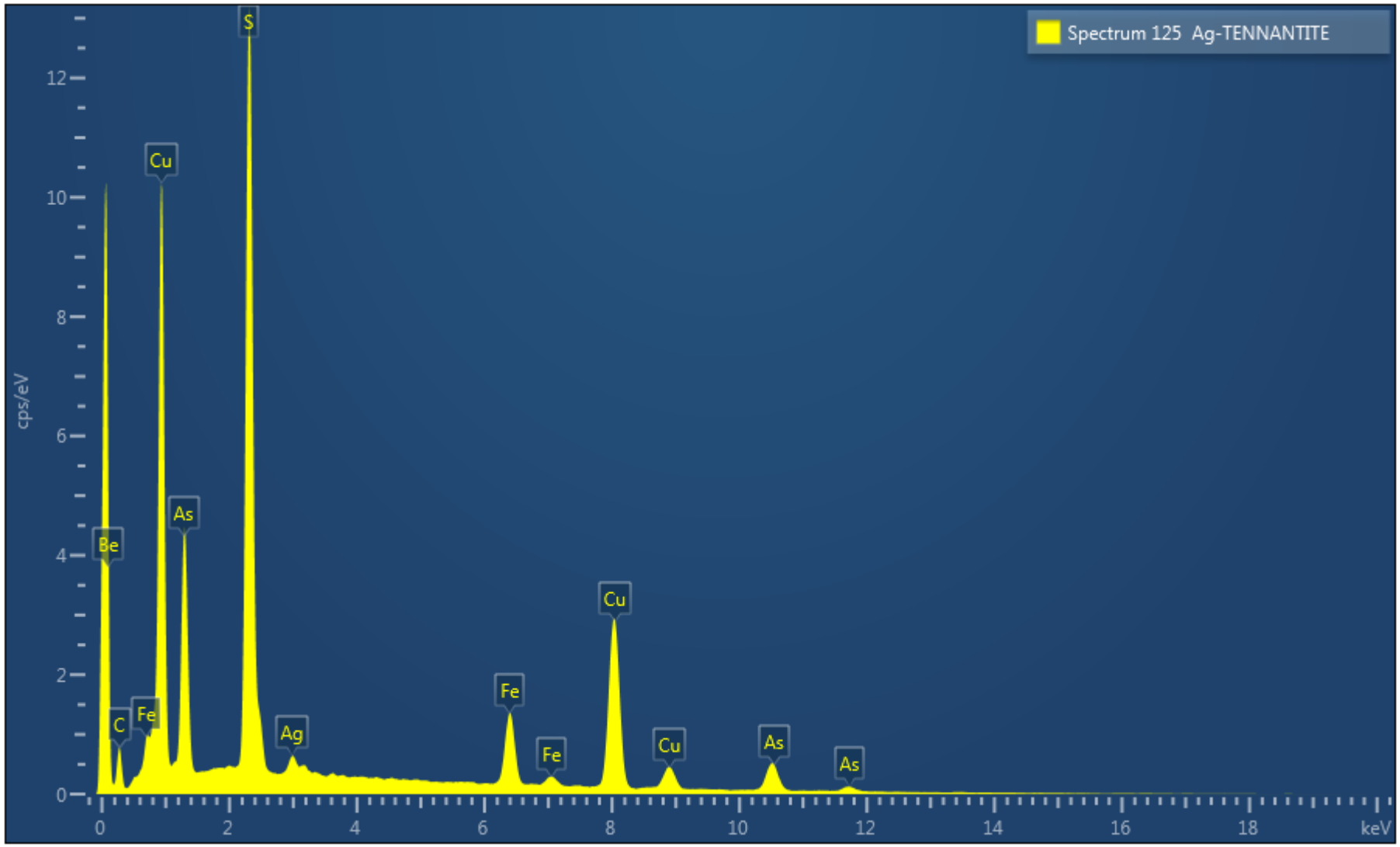


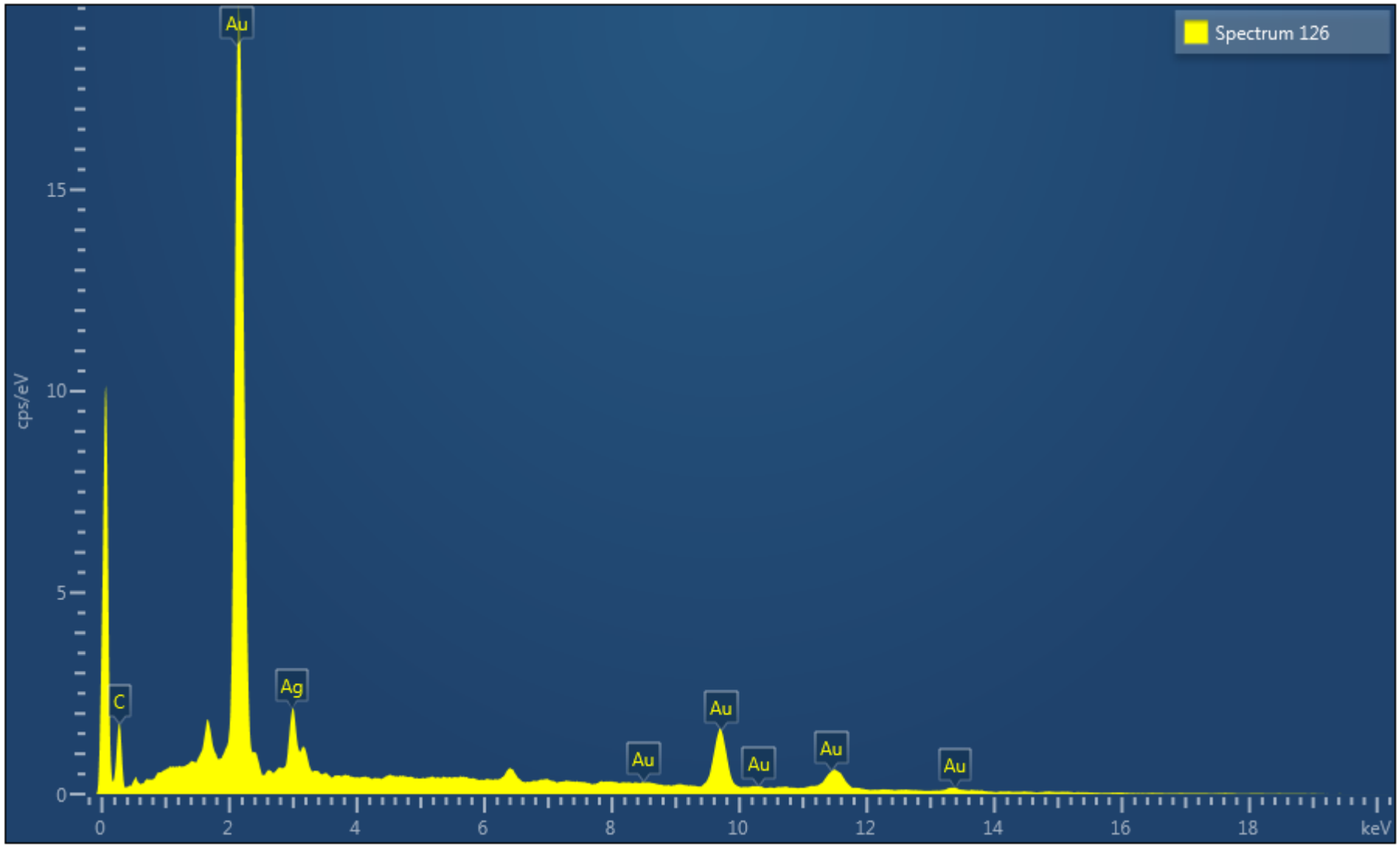

Same image as above with brightness reduced to illustrate the various metal phases within the arsenian pyrite domains.

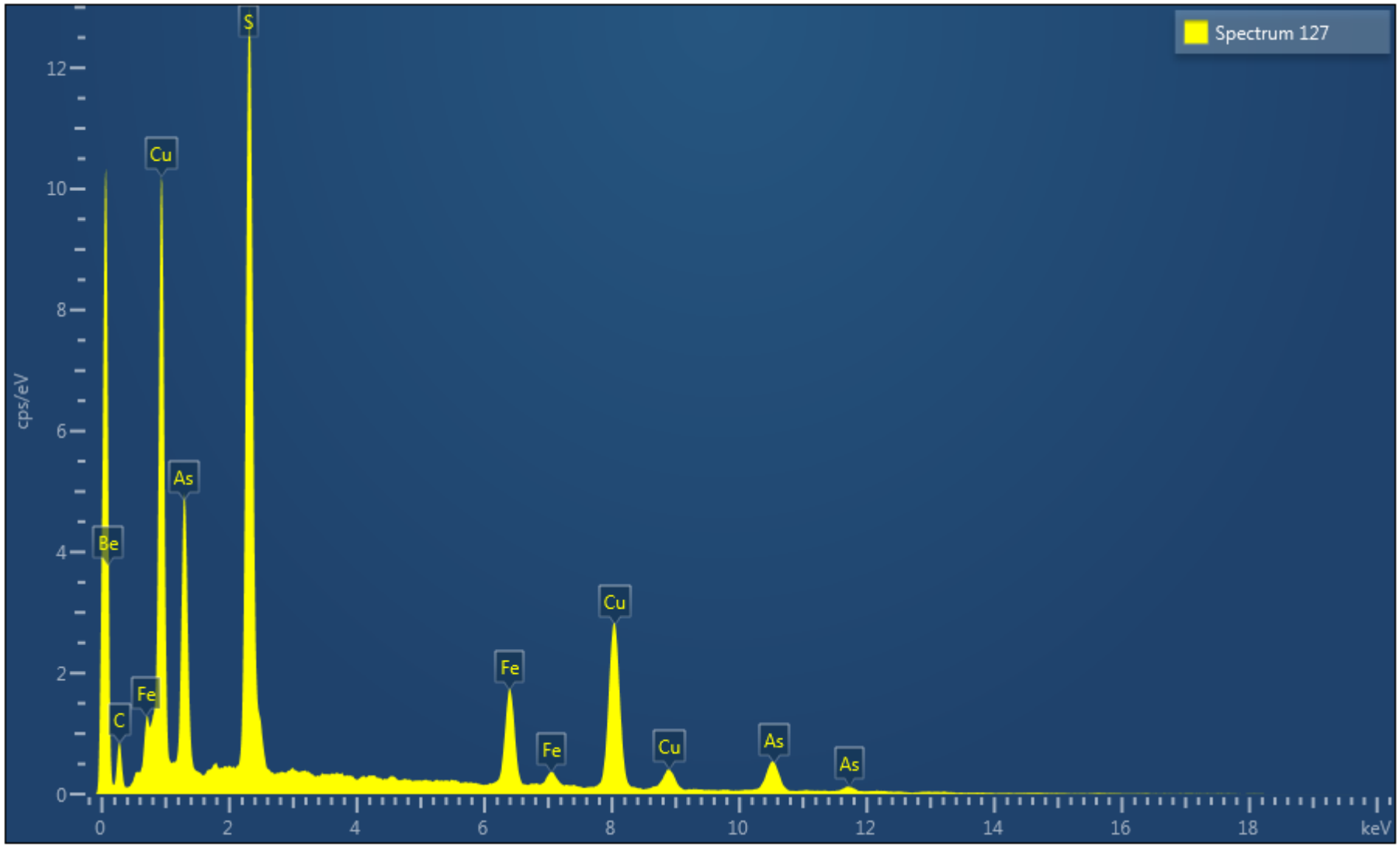

Spectrum 122 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
25
0
2
4
6
8
10
12
14
16
18
keV


Spectrum 123 As-PYRITE
cps/eV
25
20
15
10
5
0
S
Fe
C
As
Fe
Fe
As
As
0
2
4
6
8
10
12
14
16
18
keV

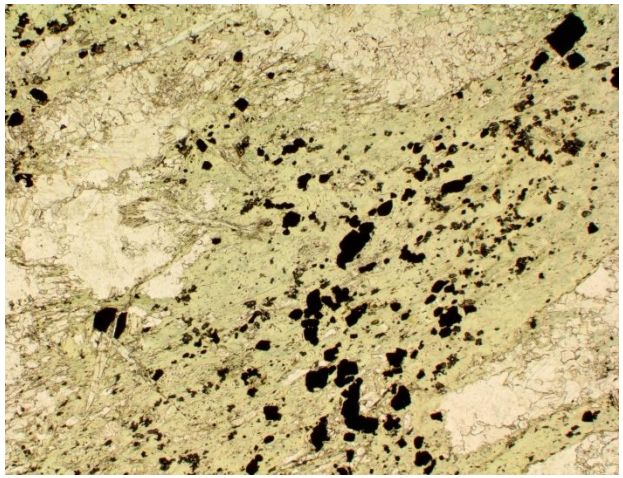

Spectrum 124 ARSENOPYRITE
As
S
Fe
Be
Fe
C
Fe
As
As
cps/eV
0
2
4
6
8
10
12
14
16
18
keV

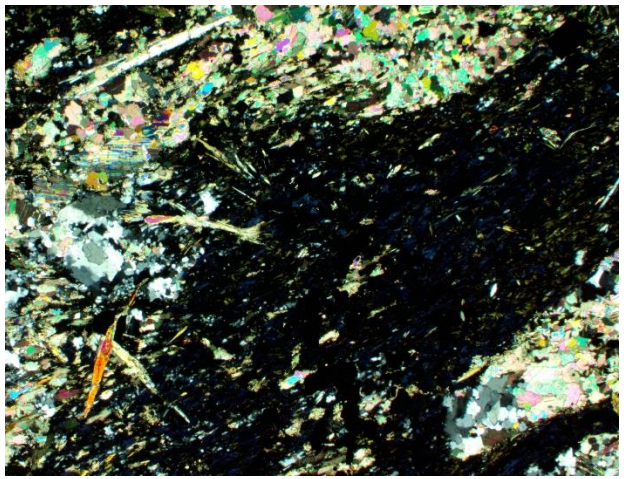

Spectrum 125 Ag-TENNANTITE
cps/eV
keV
S
Cu
As
Be
C
Fe
Ag
Fe
Fe
Cu
Cu
As
As

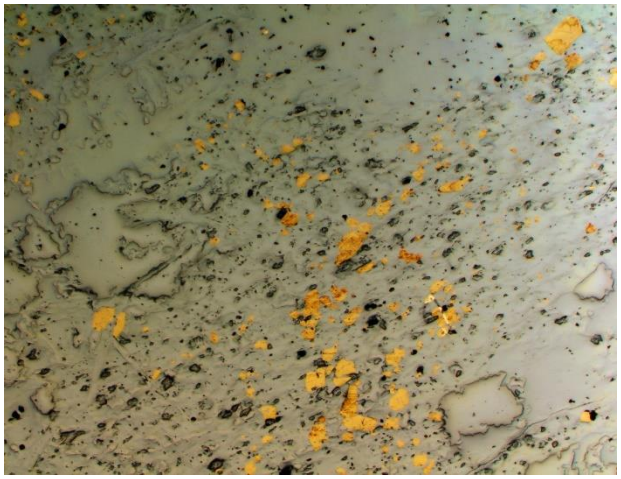

Spectrum 126
cps/eV
0
5
10
15
0
2
4
6
8
10
12
14
16
18
keV
C
Au
Ag
Au
Au
Au
Au
Au


Spectrum 127
cps/eV
keV
S
Cu
As
Be
Fe
C
Fe
Fe
Cu
Cu
As
As
0
2
4
6
8
10
12
14
16
18

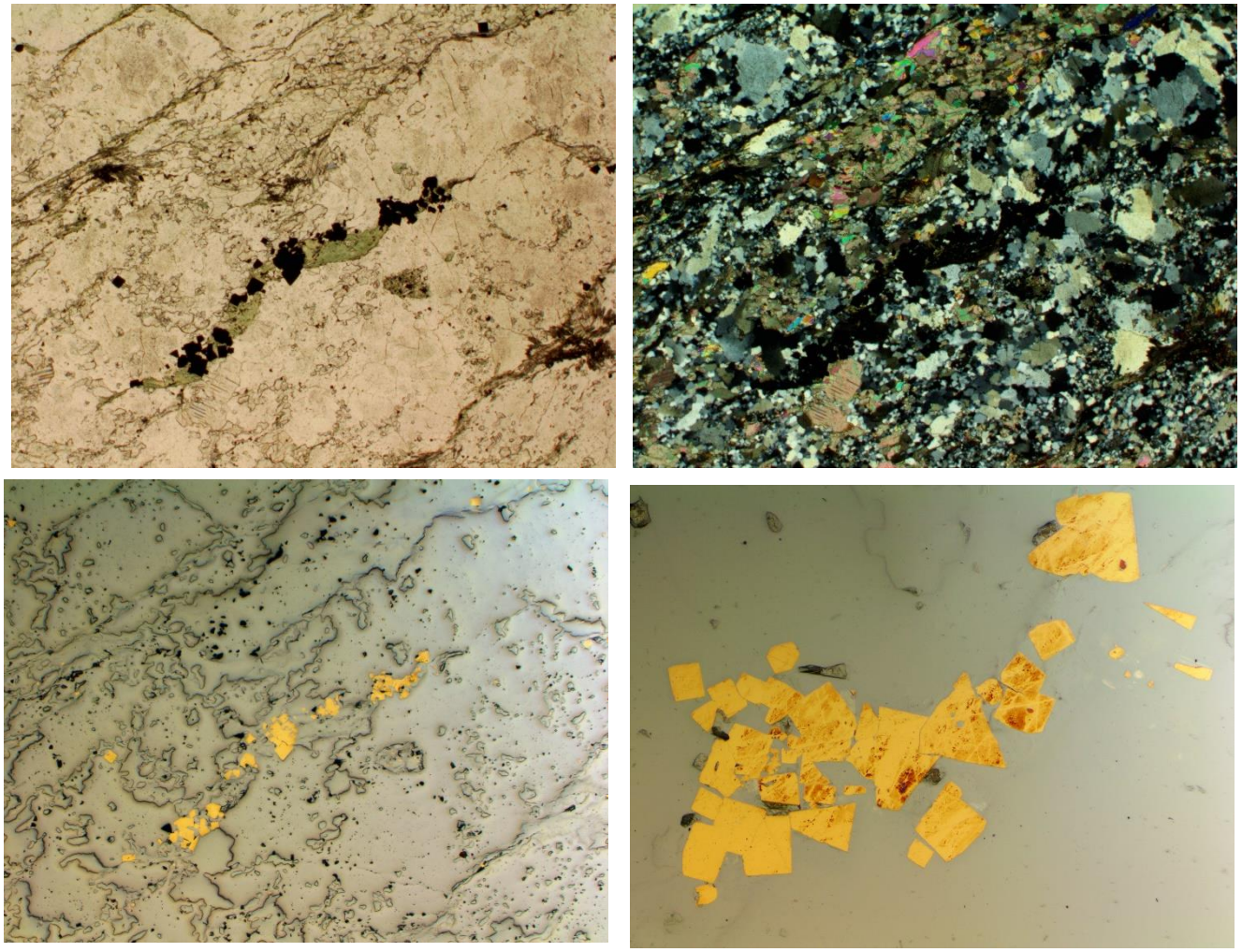
# Sample Ken 9 A,B

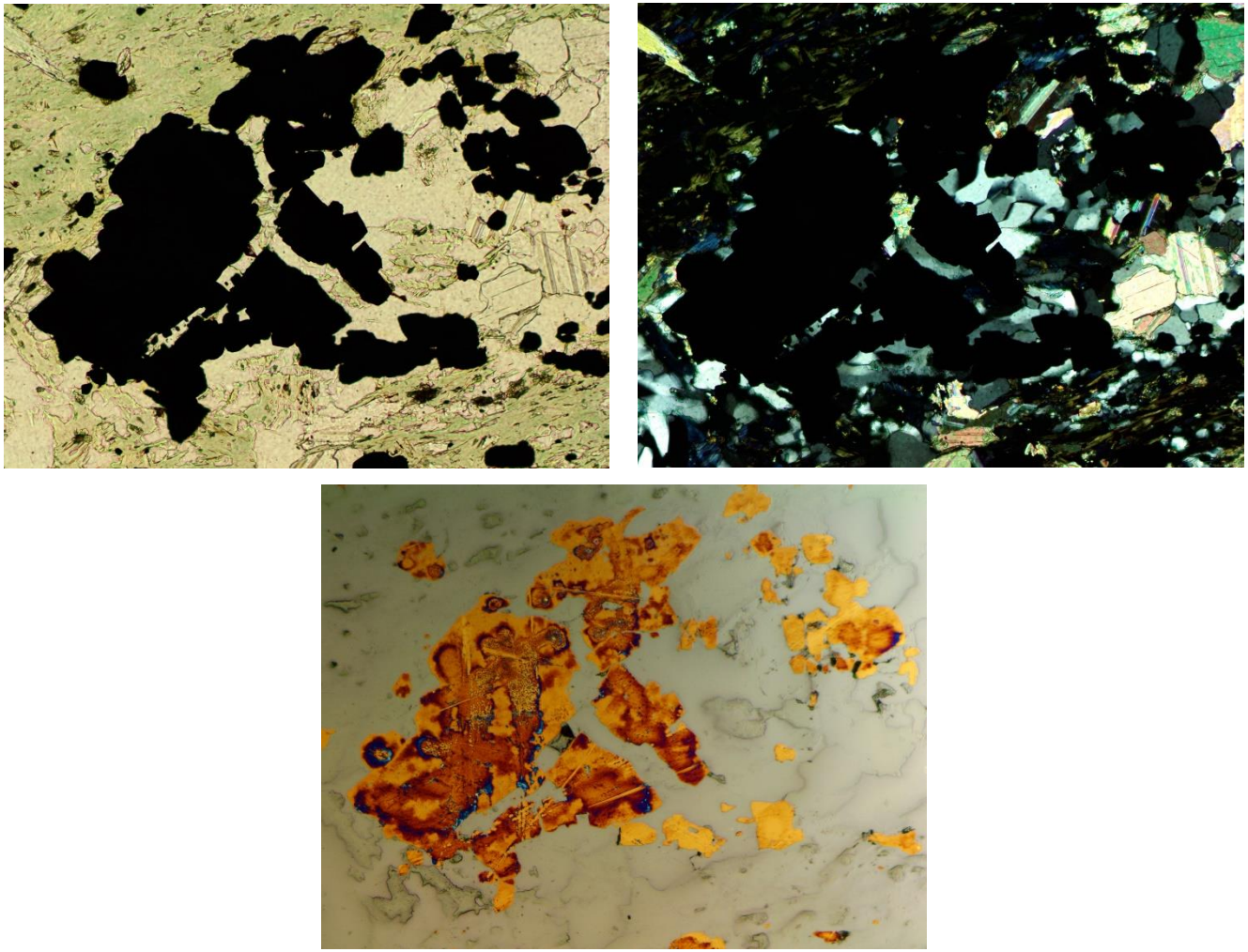




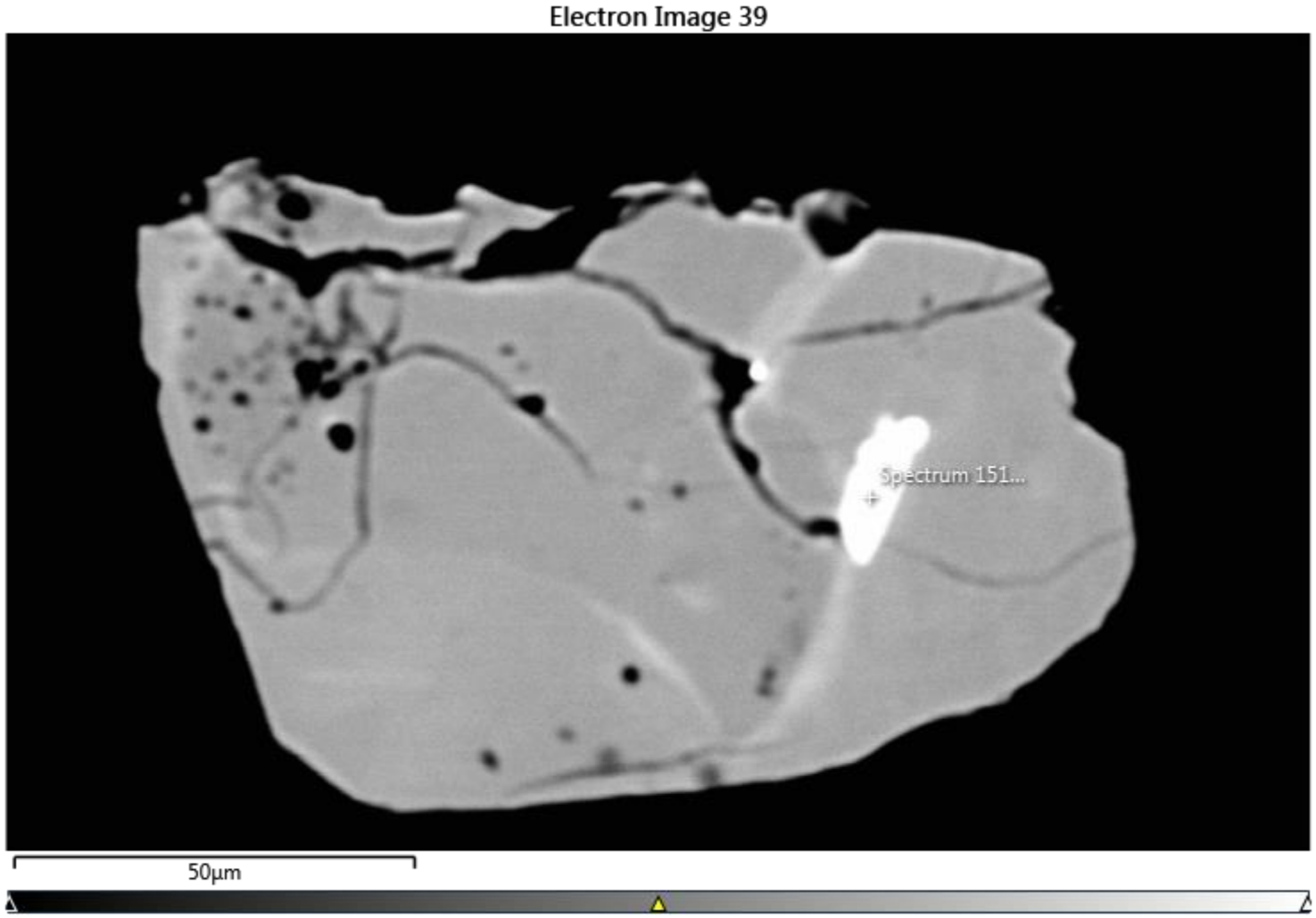
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating a chlorite-calcite veinlet with acicular laths of birefringent actinolite. The vein host sulphides including cubic pyrite and arsenian pyrite hosting electrum. The sections are carbon coated and as a result, the electrum is represented by the red coloured inclusions within the arsenian pyrite (bottom right image). Field of View = 9 mm (top left and right)



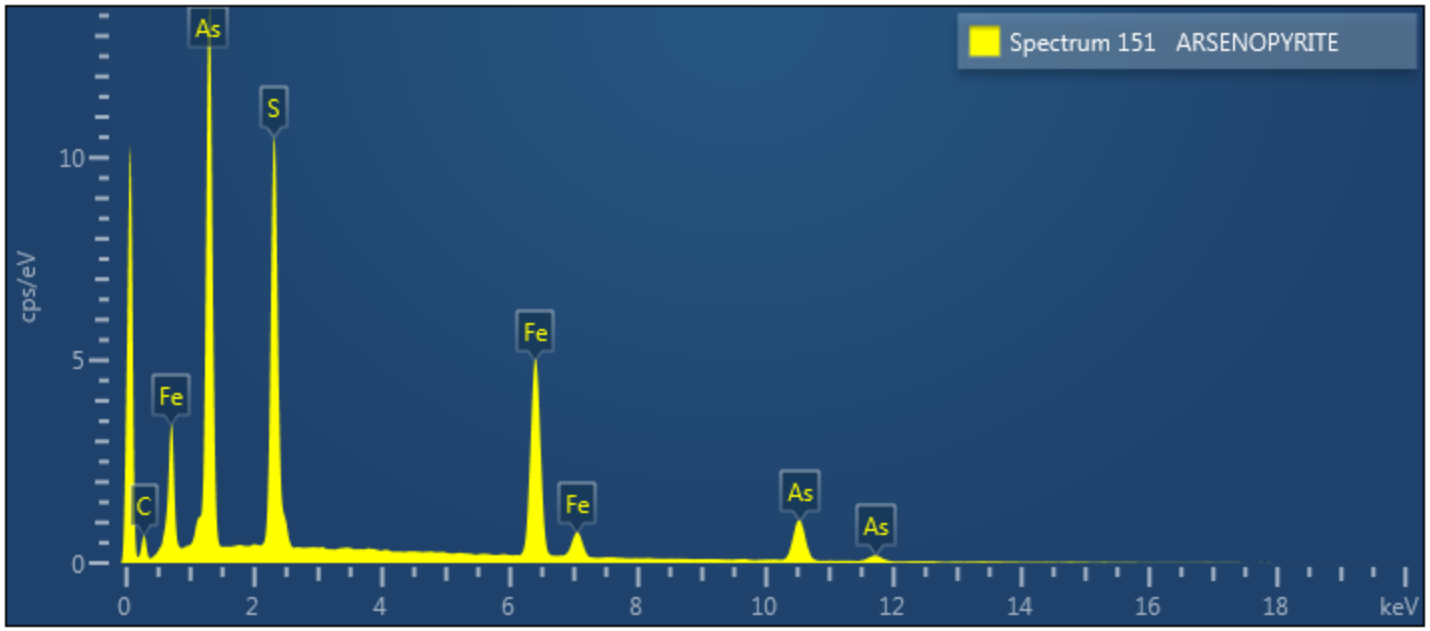
Plane light (top left), crossed polarized light (top right) and reflected light images (bottom left and right) photomicrographs illustrating a chlorite veinlet hosting sulphides and cubic pyrite and arsenian pyrite hosting electrum. The sections are carbon coated and as a result, the electrum is represented by the red coloured inclusions within the arsenian pyrite (bottom right image). Field of View = 9 mm (top left and right, bottom left images); Field of View = 1.2 mm (bottom right image).



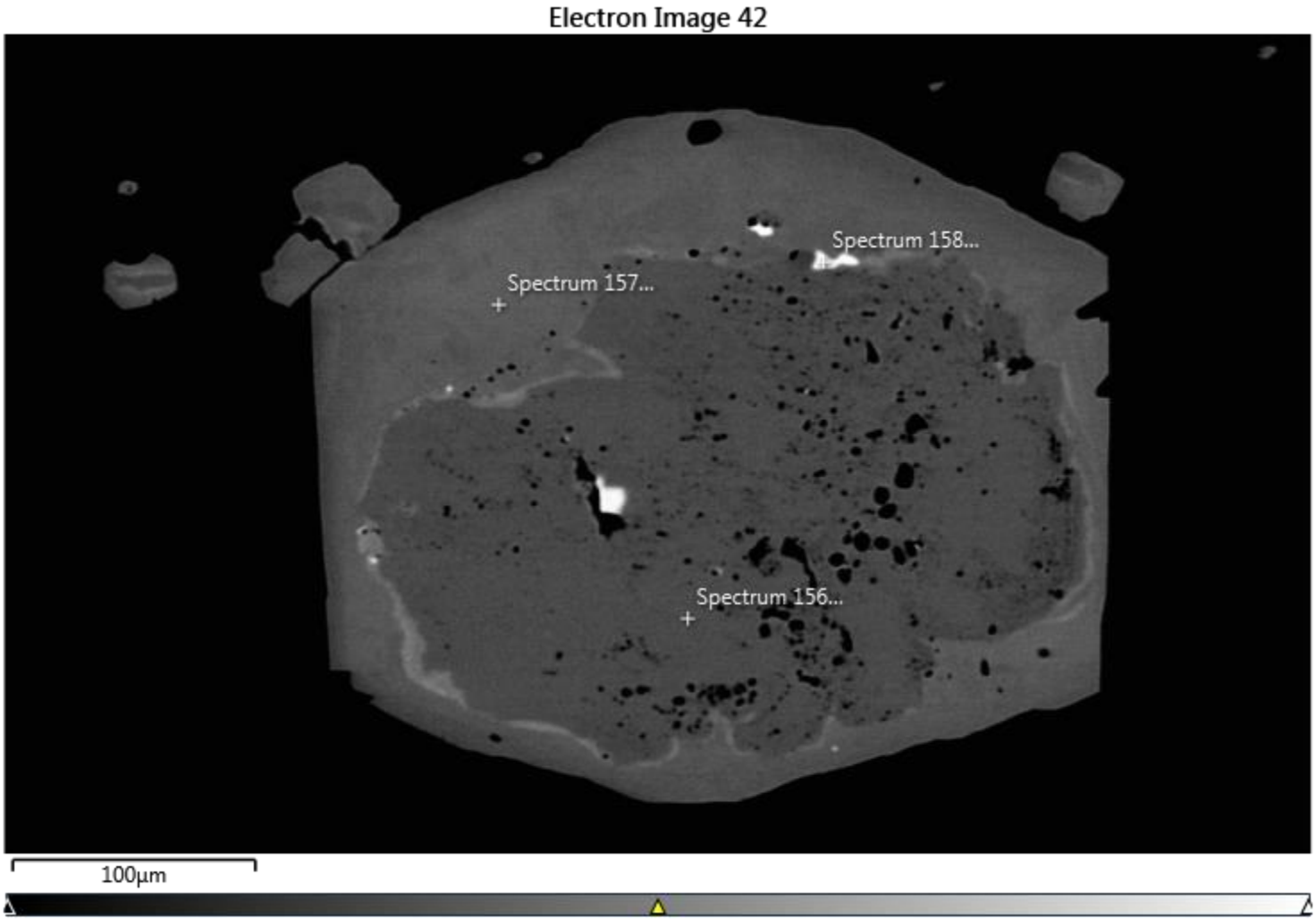
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating a higher magnification image of the Berlin-blue chlorite alteration hosting sulphides and visible gold associated with cubic pyrite and arsenian pyrite. The sections are carbon coated so electrum is depicted as red coloured in reflected light. Field of View = 2.2 mm.



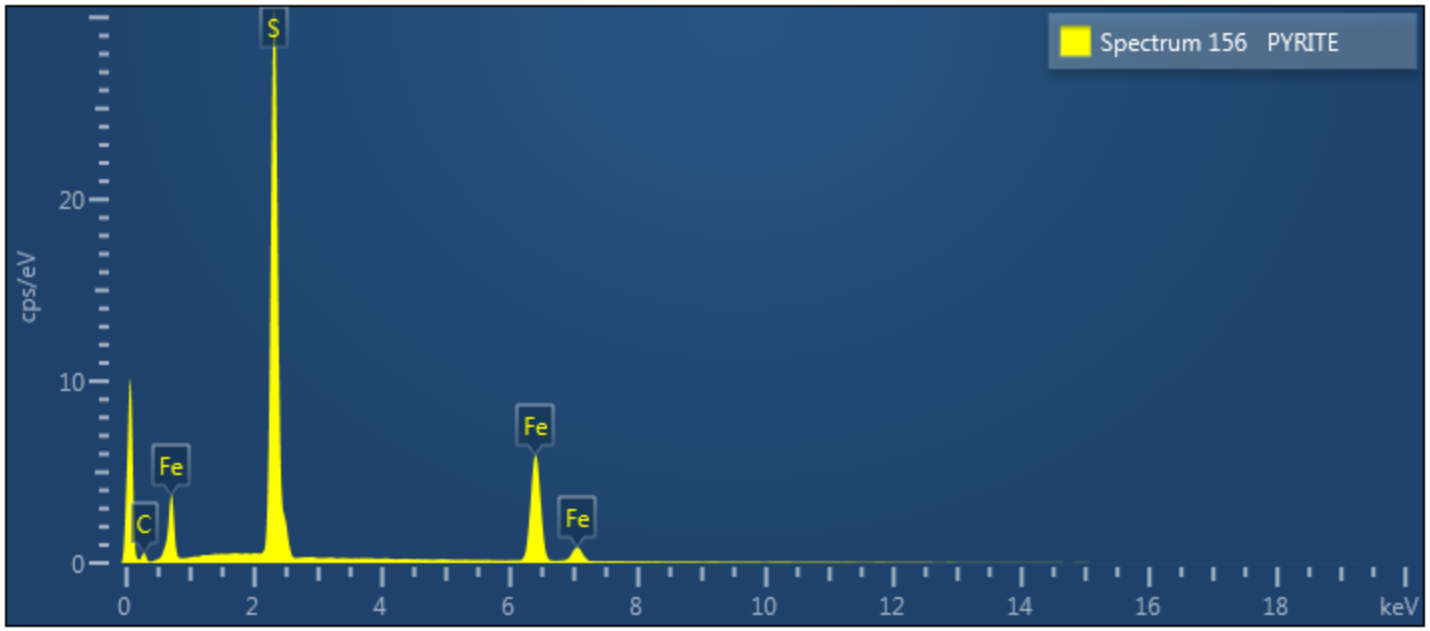

Backscatter image of a pyrite grain with growth zones of brighter arsenian pyrite hosting an inclusion of arsenopyrite (spectrum 151).



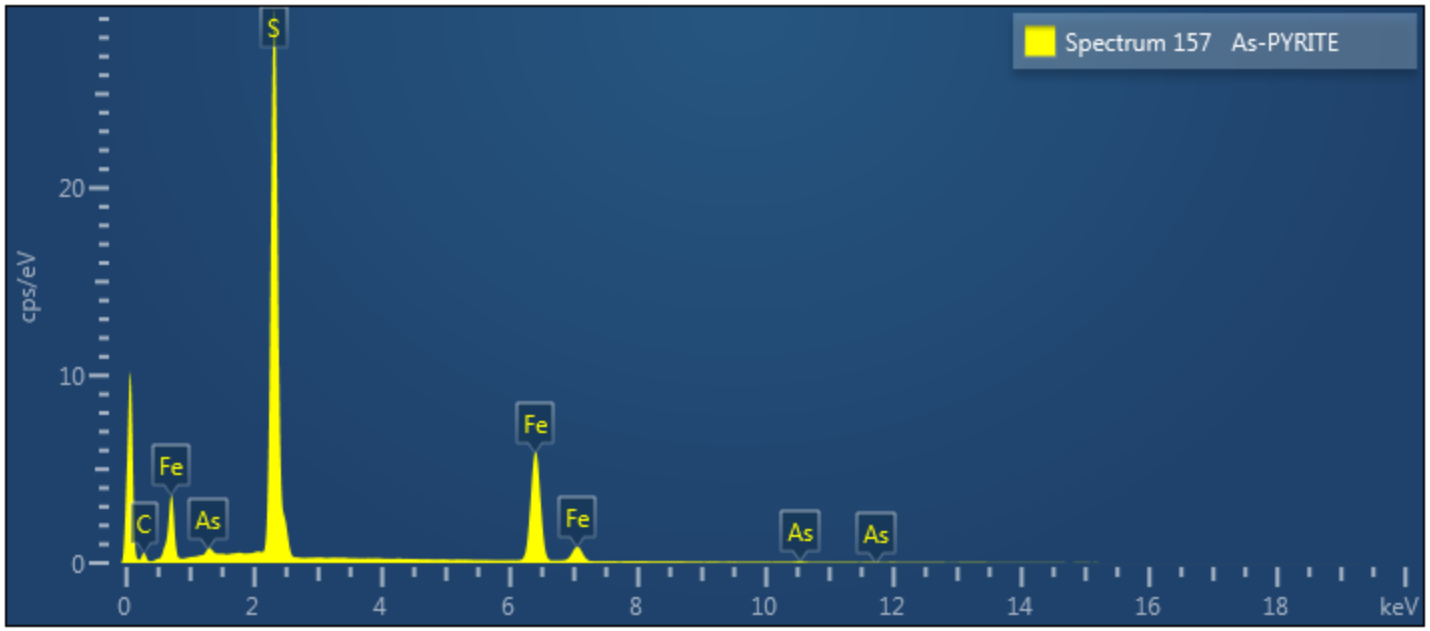

| Spectrum 151 ARSENOPYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 22.26 | 0.26 | 36.81 |
| Fe | K series | 33.76 | 0.36 | 32.05 |
| As | L series | 43.99 | 0.37 | 31.13 |
| Total | | 100.00 | | 100.00 |



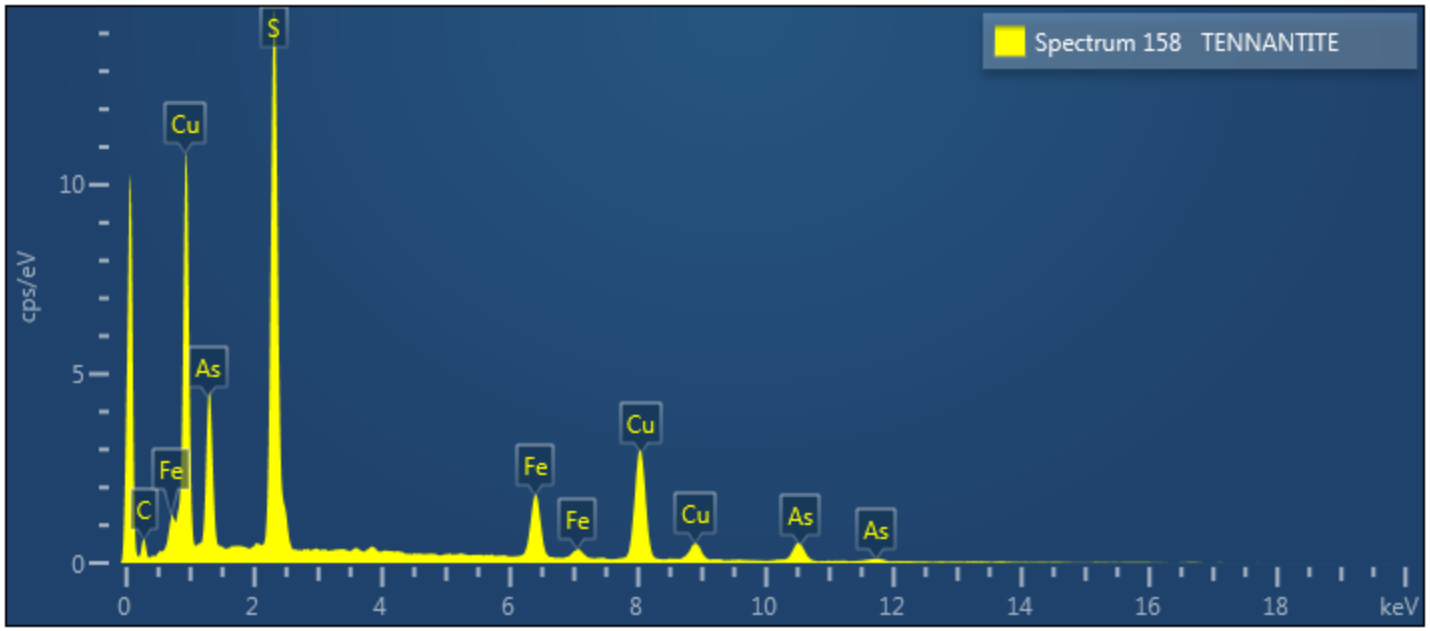

Backscatter image of a coarse grain of pyrite (spectrum 156) with brighter arsenian pyrite growth zones (spectrum 157). Note the bright inclusion of tennantite (spectrum 158) within the brightest arsenian growth zone.



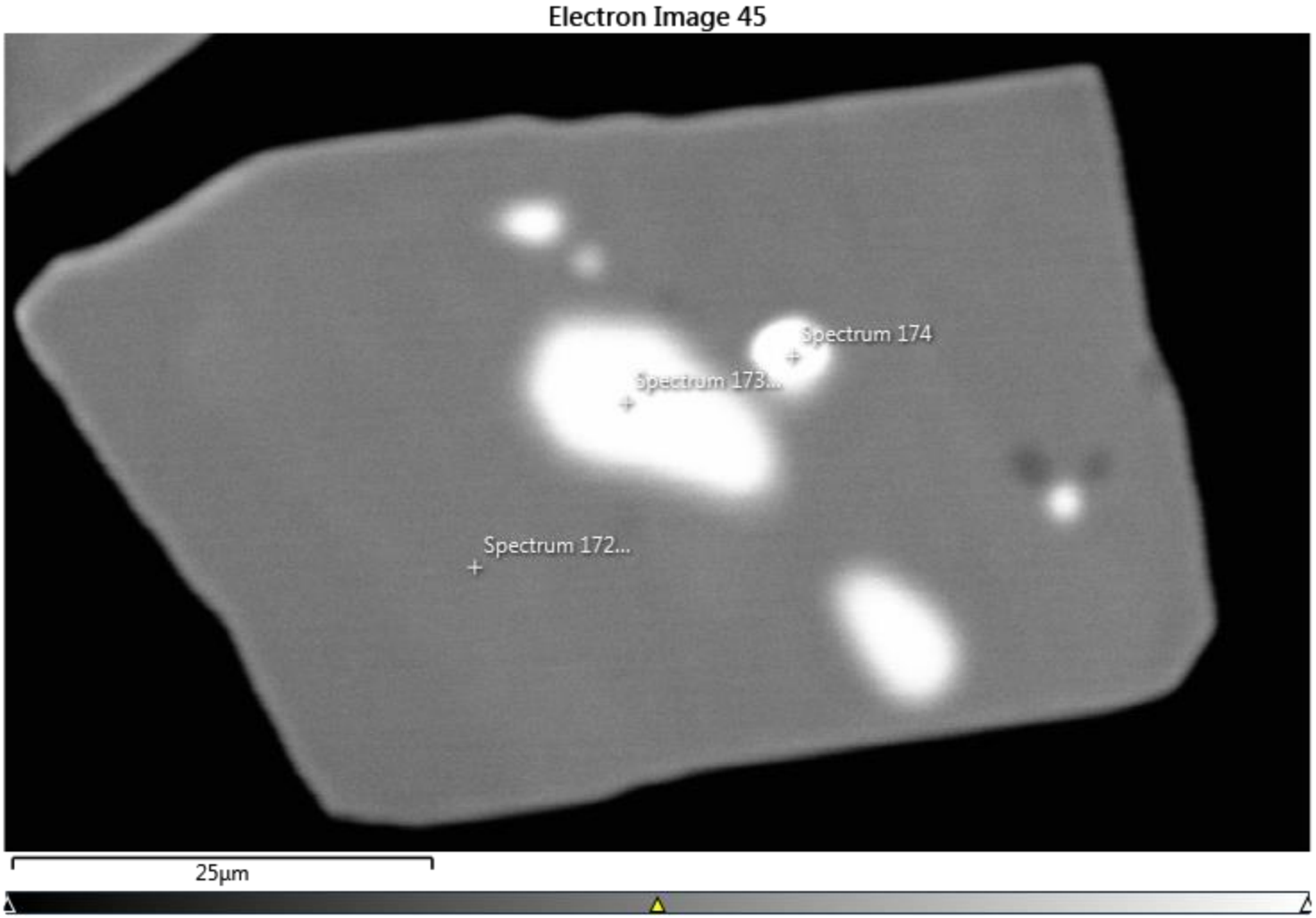

| Spectrum 156 PYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 54.98 | 0.38 | 68.02 |
| Fe | K series | 45.02 | 0.38 | 31.98 |
| Total | | 100.00 | | 100.00 |



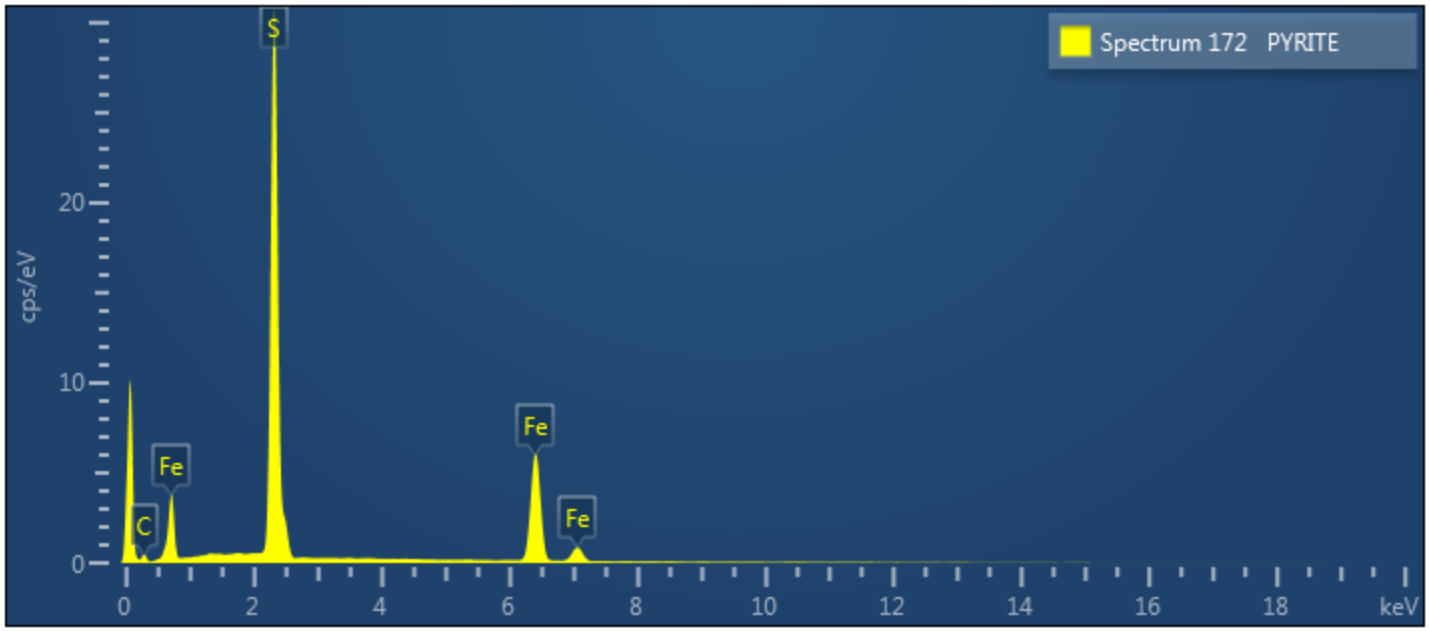

| Spectrum 157 As-PYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 53.63 | 0.27 | 67.01 |
| Fe | K series | 44.88 | 0.27 | 32.19 |
| As | L series | 1.49 | 0.16 | 0.79 |
| Total | | 100.00 | | 100.00 |



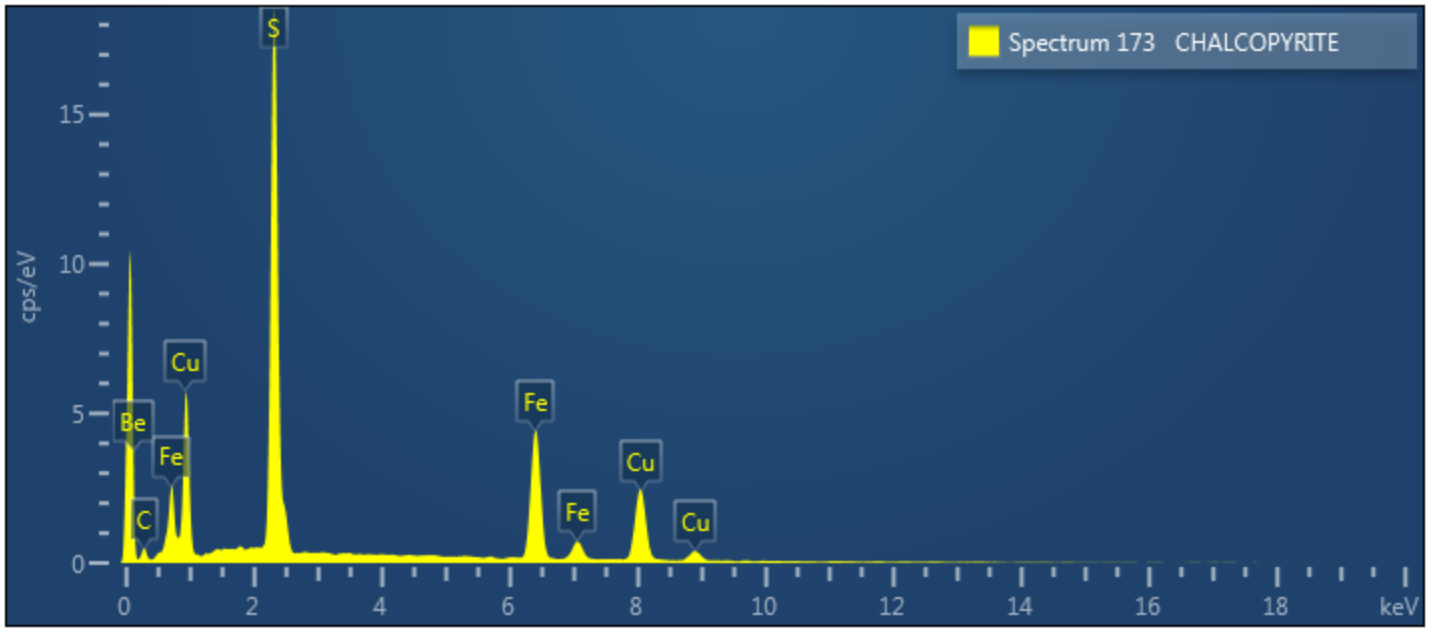

| Spectrum 158 TENNANTITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 30.48 | 0.67 | 47.03 |
| Fe | K series | 11.04 | 0.54 | 9.78 |
| Cu | K series | 38.70 | 0.93 | 30.13 |
| As | L series | 19.78 | 0.80 | 13.06 |
| Total | | 100.00 | | 100.00 |



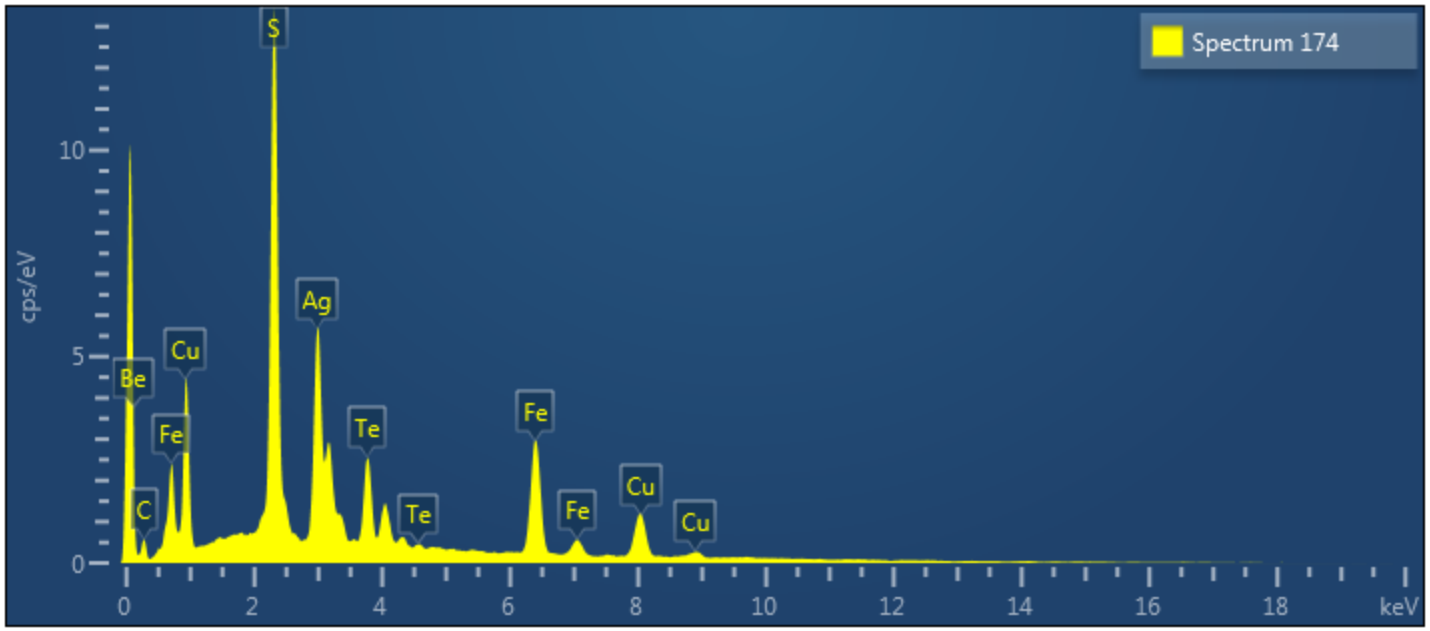

Backscatter image of a grain of arsenian pyrite (spectrum 172) with multiple inclusions of chalcopyrite (spectrum 173), and Ag-telluride (spectra 174 and 175).



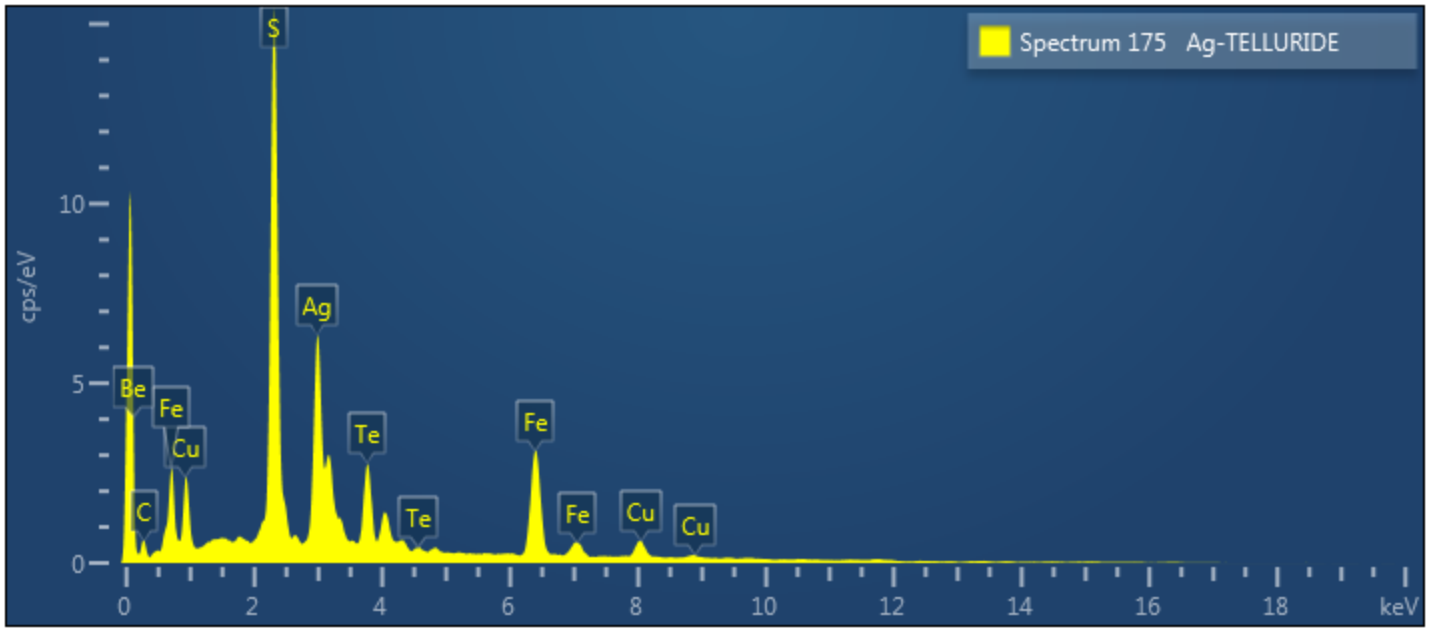

| Spectrum 172 PYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 54.65 | 0.31 | 67.73 |
| Fe | K series | 45.35 | 0.31 | 32.27 |
| Total | | 100.00 | | 100.00 |



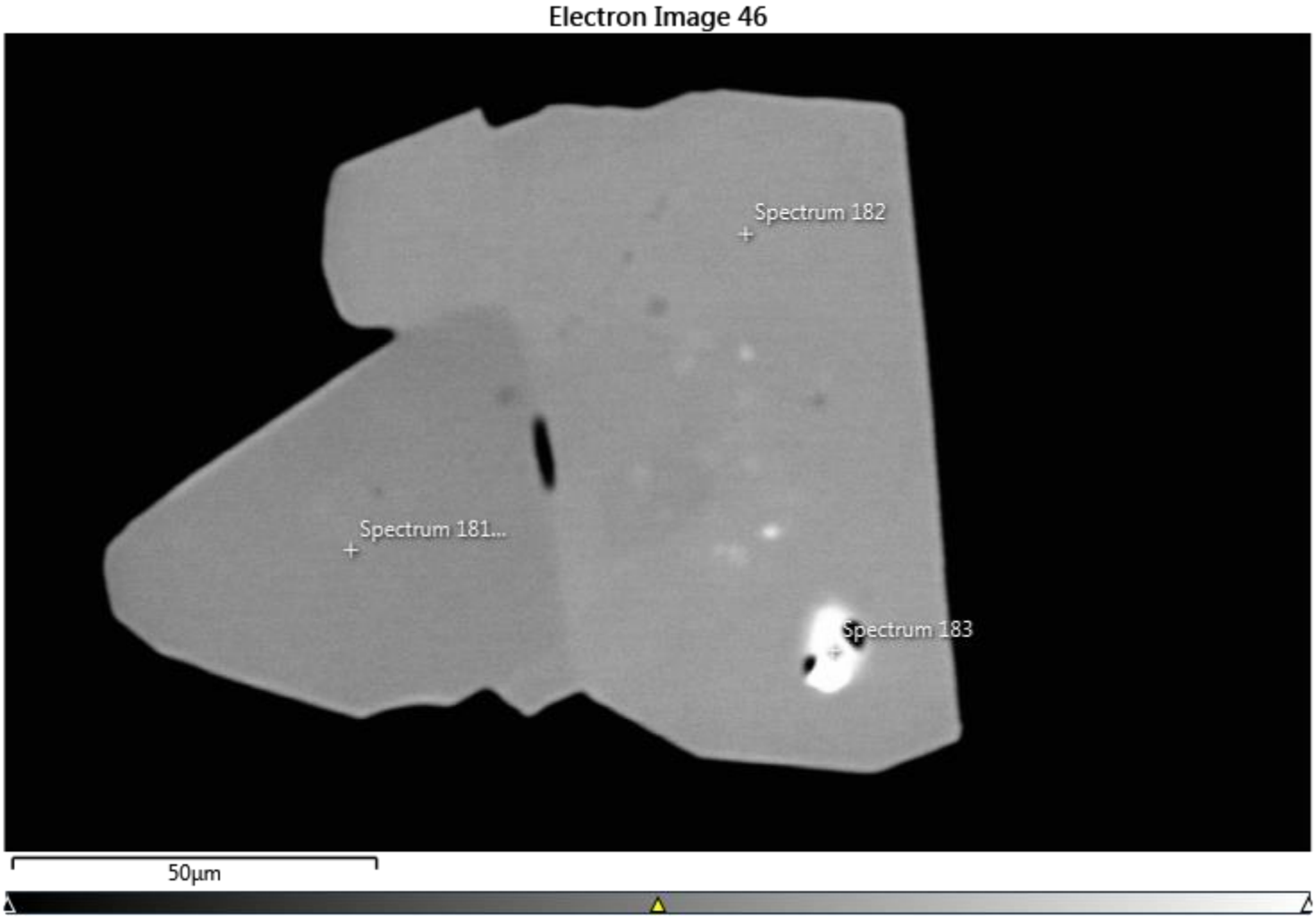

| Spectrum 173 CHALCOPYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 4.03 | 0.45 | 1.27 |
| Fe | K series | 4.60 | 0.52 | 0.84 |
| Cu | K series | 5.05 | 0.58 | 0.81 |
| Be | K series | 86.32 | 1.53 | 97.09 |
| Total | | 100.00 | | 100.00 |



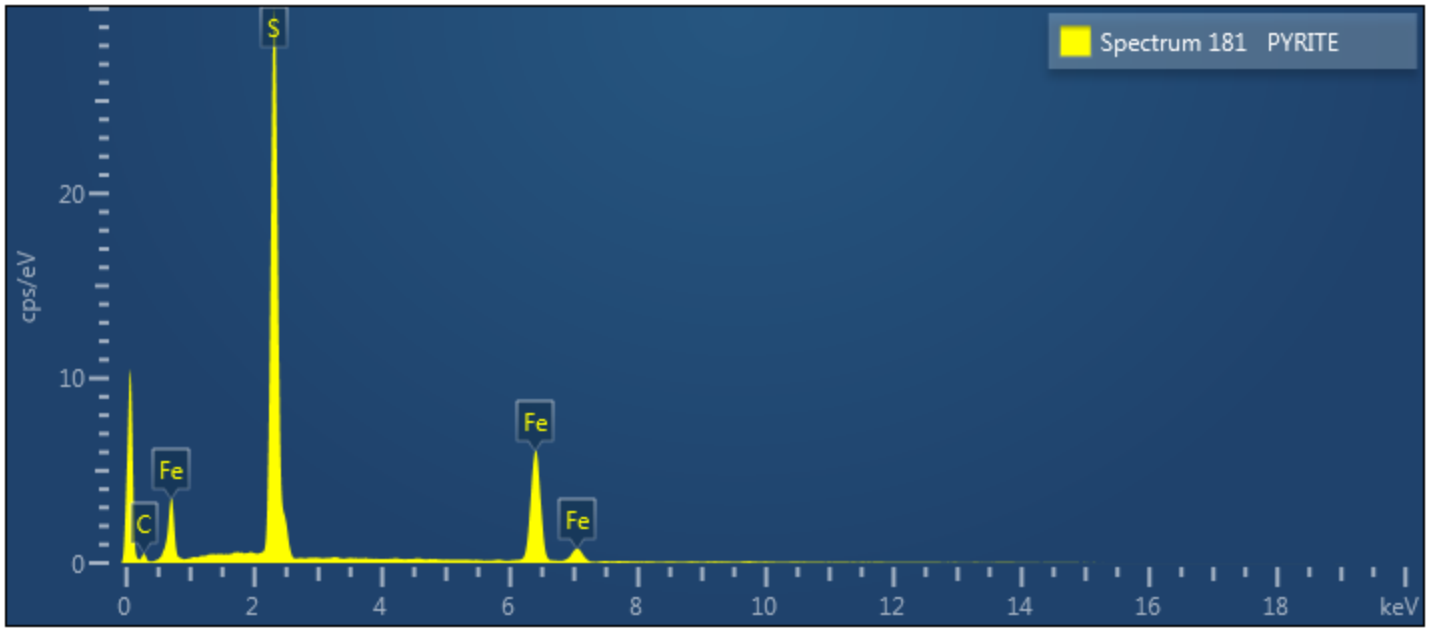

| Spectrum 174 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 3.00 | 0.35 | 0.97 |
| Fe | K series | 3.30 | 0.40 | 0.62 |
| Cu | K series | 2.35 | 0.30 | 0.39 |
| Ag | L series | 4.42 | 0.53 | 0.43 |
| Te | L series | 2.59 | 0.32 | 0.21 |
| Be | K series | 84.34 | 1.84 | 97.39 |
| Total | | 100.00 | | 100.00 |



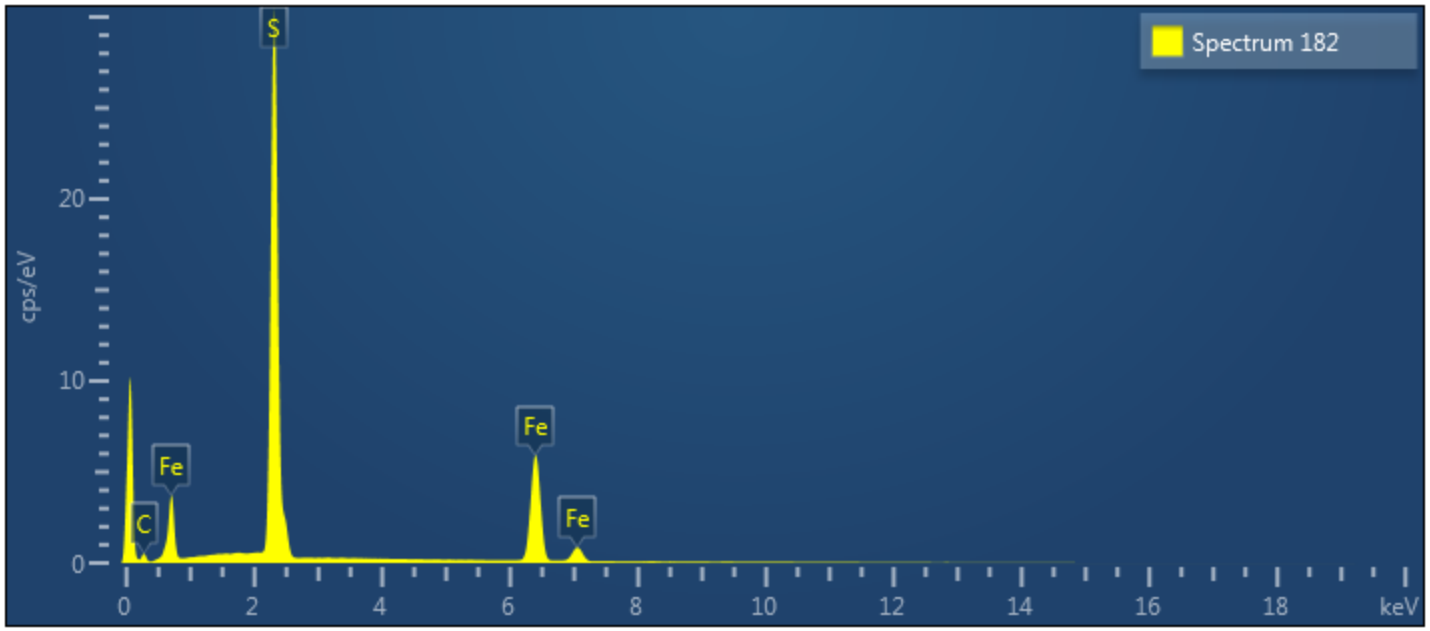

| Spectrum 175 Ag-TELLURIDE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 3.01 | 0.37 | 0.96 |
| Fe | K series | 3.08 | 0.38 | 0.56 |
| Cu | K series | 0.95 | 0.15 | 0.15 |
| Ag | L series | 4.18 | 0.52 | 0.39 |
| Te | L series | 2.37 | 0.30 | 0.19 |
| Be | K series | 86.41 | 1.64 | 97.74 |
| Total | | 100.00 | | 100.00 |



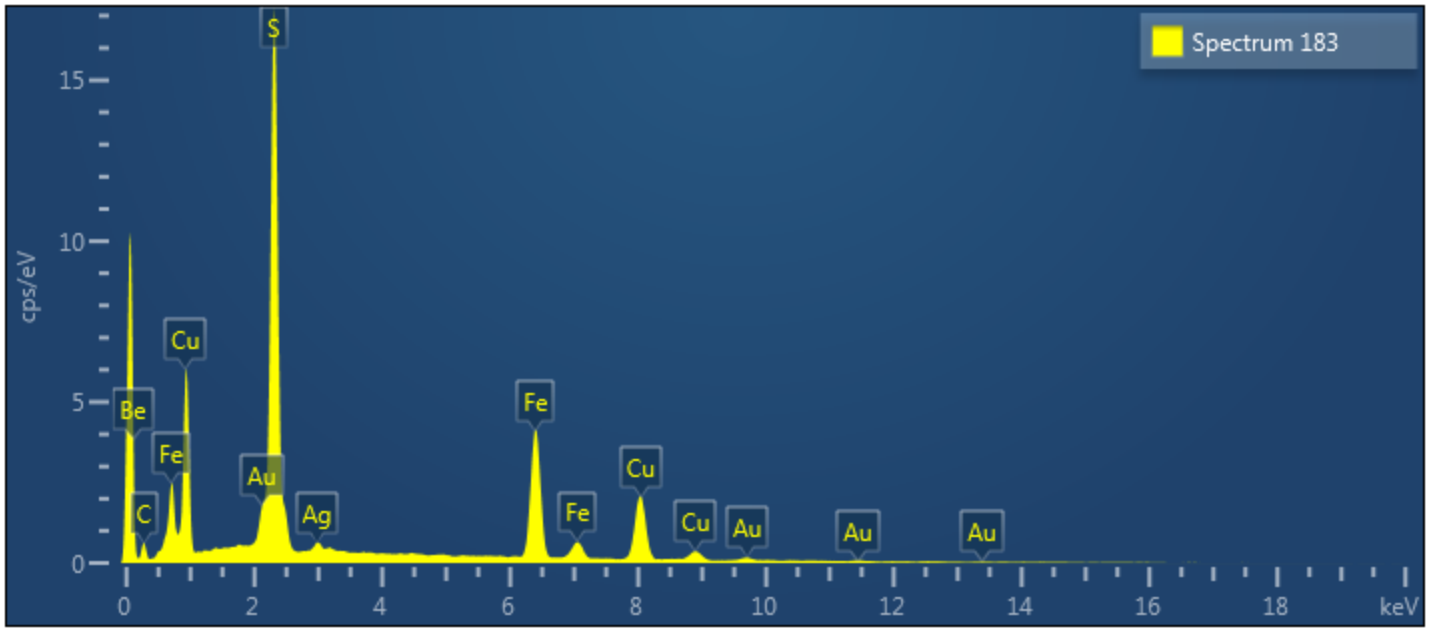

Backscatter image of a compositionally zoned pyrite (spectrum 181) with a an outer growth zone of arsenian pyrite (spectrum 182). Note the bright inclusion containing chalcopyrite and Au-Ag-telluride.



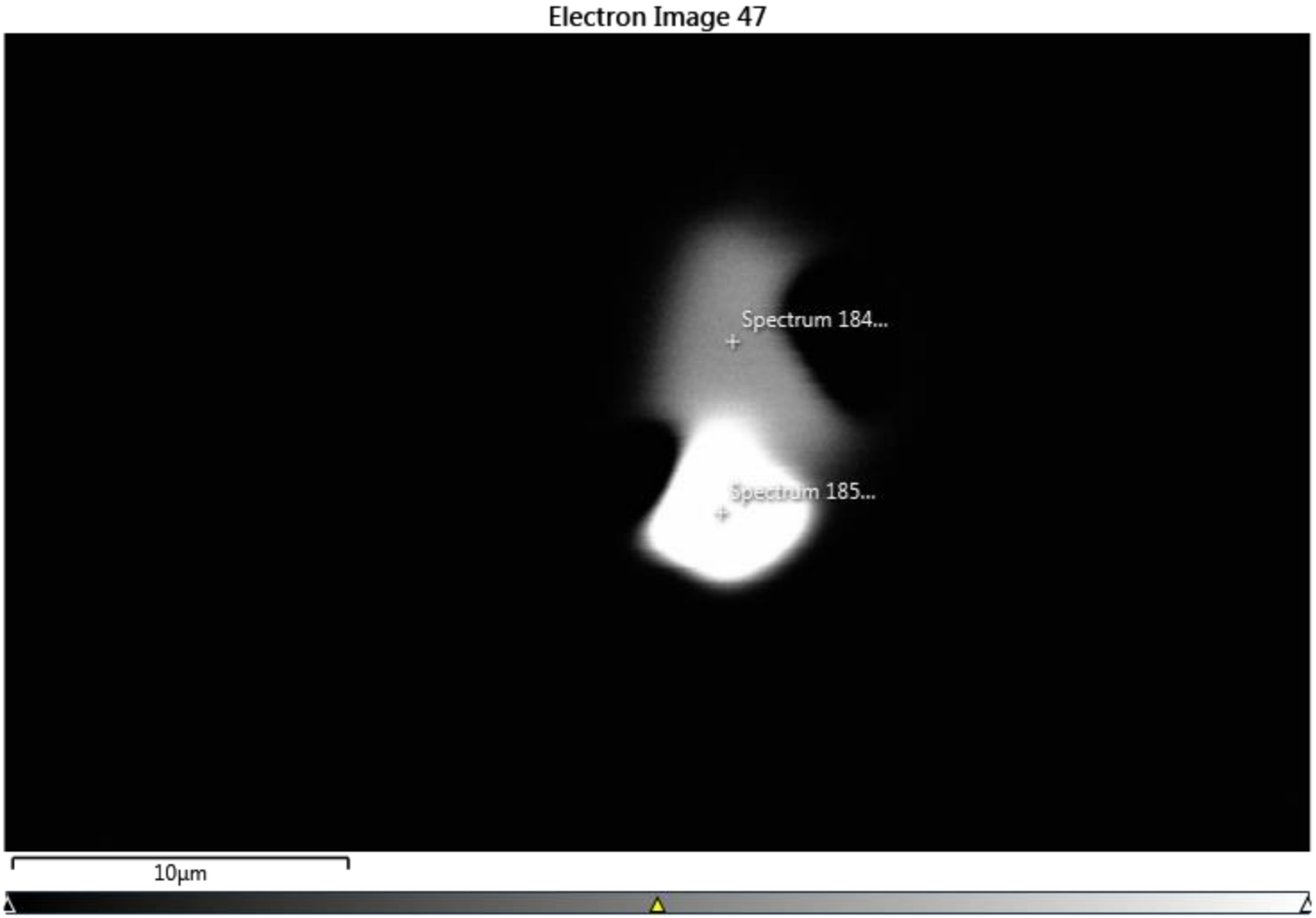

| Spectrum 181 PYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 54.28 | 0.64 | 67.41 |
| Fe | K series | 45.72 | 0.64 | 32.59 |
| Total | | 100.00 | | 100.00 |



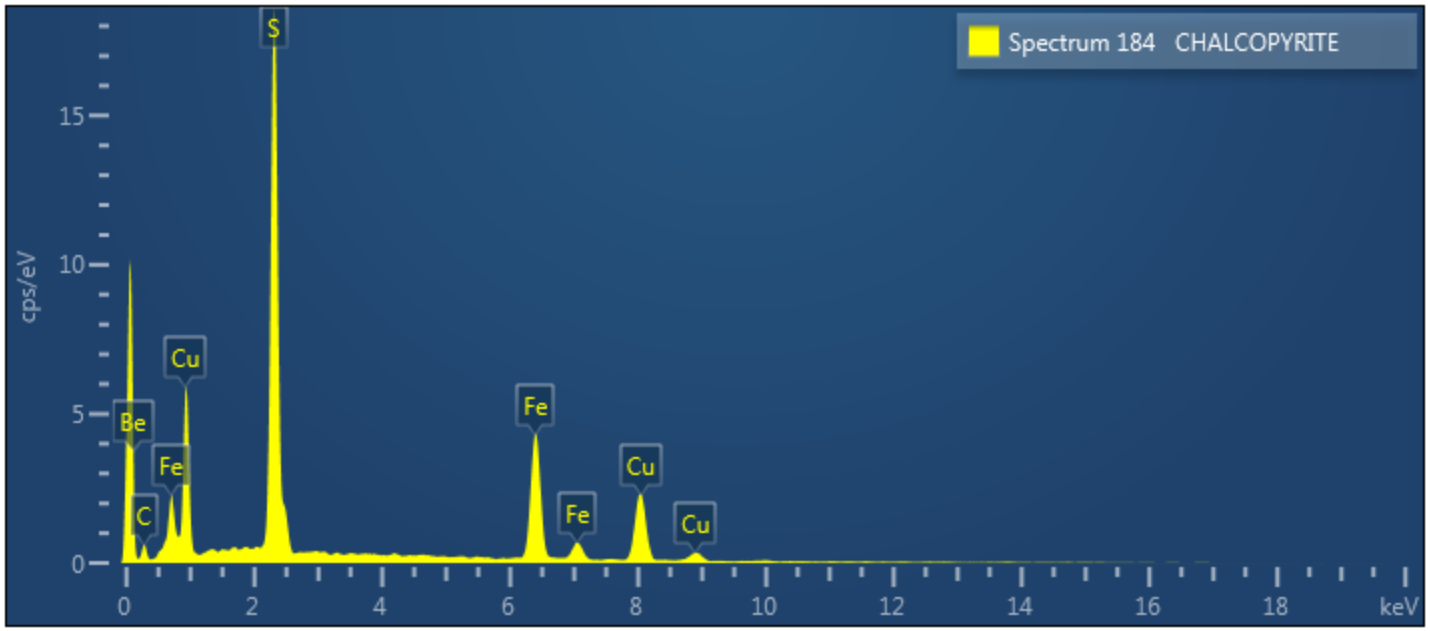

| Spectrum 182 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 54.91 | 0.23 | 67.96 |
| Fe | K series | 45.09 | 0.23 | 32.04 |
| Total | | 100.00 | | 100.00 |



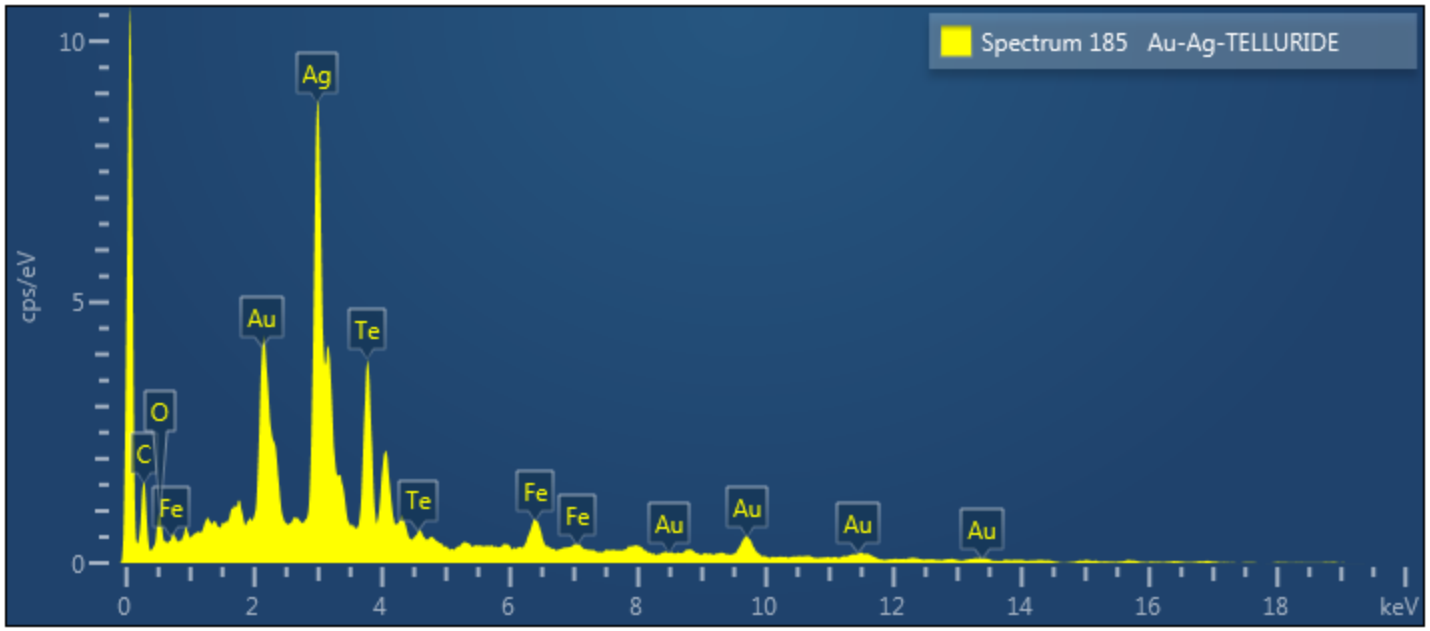

| Spectrum 183 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 3.71 | 0.34 | 1.17 |
| Fe | K series | 4.30 | 0.40 | 0.78 |
| Cu | K series | 4.21 | 0.40 | 0.67 |
| Be | K series | 86.89 | 1.20 | 97.33 |
| Ag | L series | 0.23 | 0.05 | 0.02 |
| Au | M series | 0.65 | 0.11 | 0.03 |
| Total | | 100.00 | | 100.00 |




Higher magnification backscatter image of the inclusion from the previous image illustrating and intergrowth of chalcopyrite (spectrum 184) and Au-Ag-telluride (spectrum 185). Due to the fine-grained nature of the inclusions, the spectra below show the Fe-S peaks of the adjacent pyrite host.

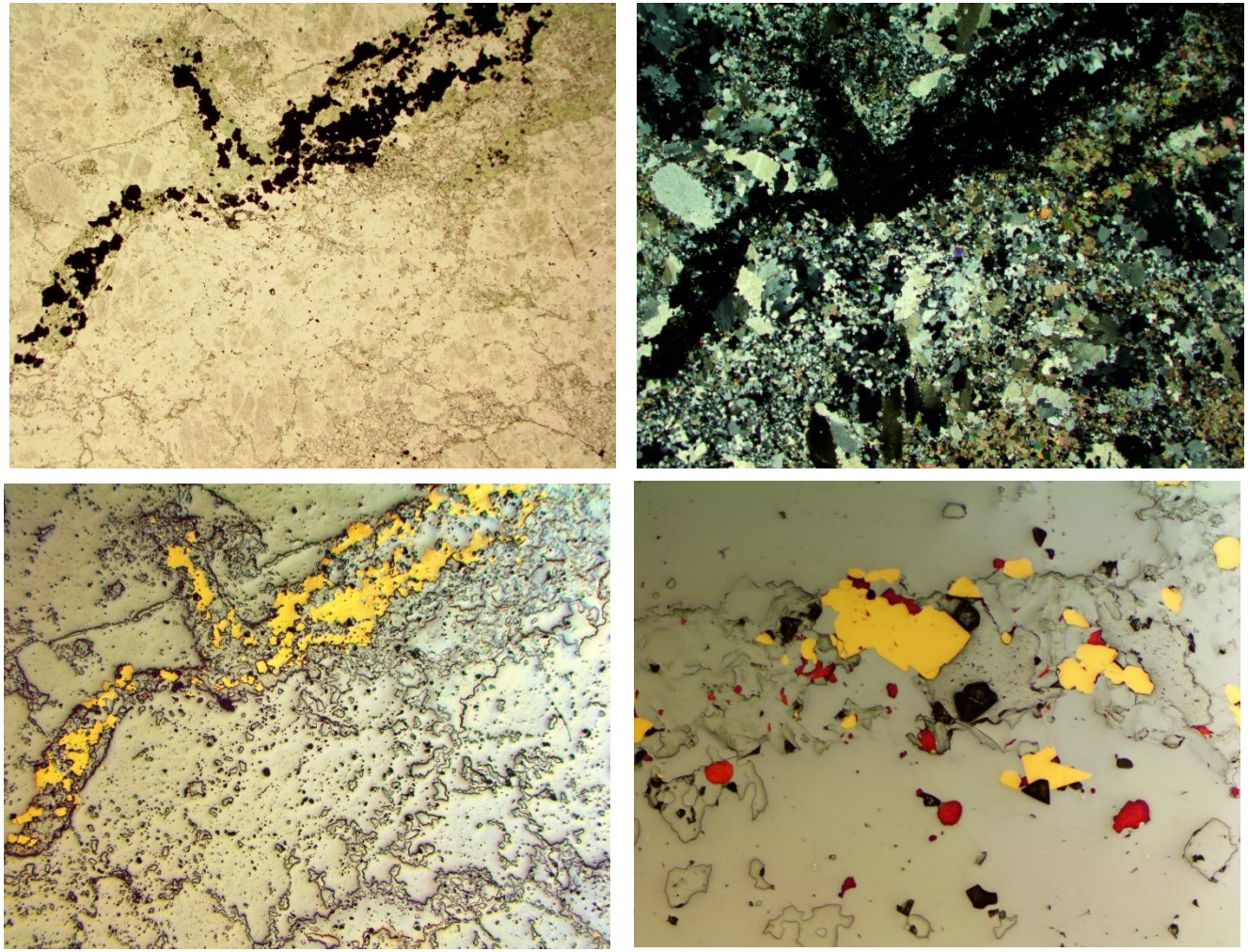



| Spectrum 184 CHALCOPYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 4.25 | 0.65 | 1.34 |
| Fe | K series | 4.72 | 0.73 | 0.86 |
| Cu | K series | 4.98 | 0.79 | 0.80 |
| Be | K series | 86.06 | 2.14 | 97.00 |
| Total | | 100.00 | | 100.00 |

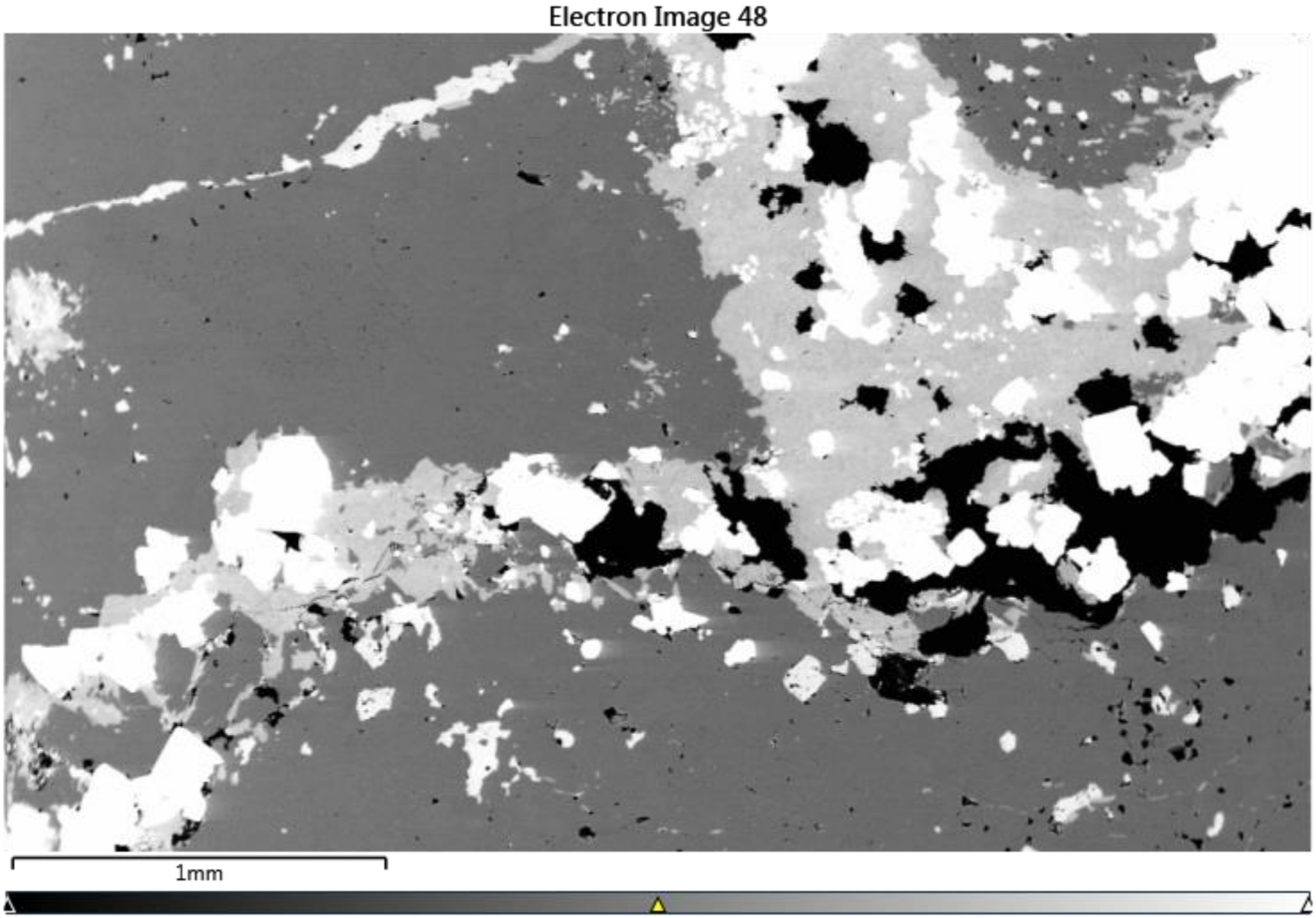



| Spectrum 185 Au-Ag-TELLURIDE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Fe | K series | 3.57 | 0.69 | 5.29 |
| Ag | L series | 45.34 | 1.71 | 34.83 |
| Te | L series | 29.87 | 1.42 | 19.40 |
| Au | M series | 14.59 | 1.61 | 6.14 |
| O | K series | 6.63 | 1.54 | 34.34 |
| Total | | 100.00 | | 100.00 |

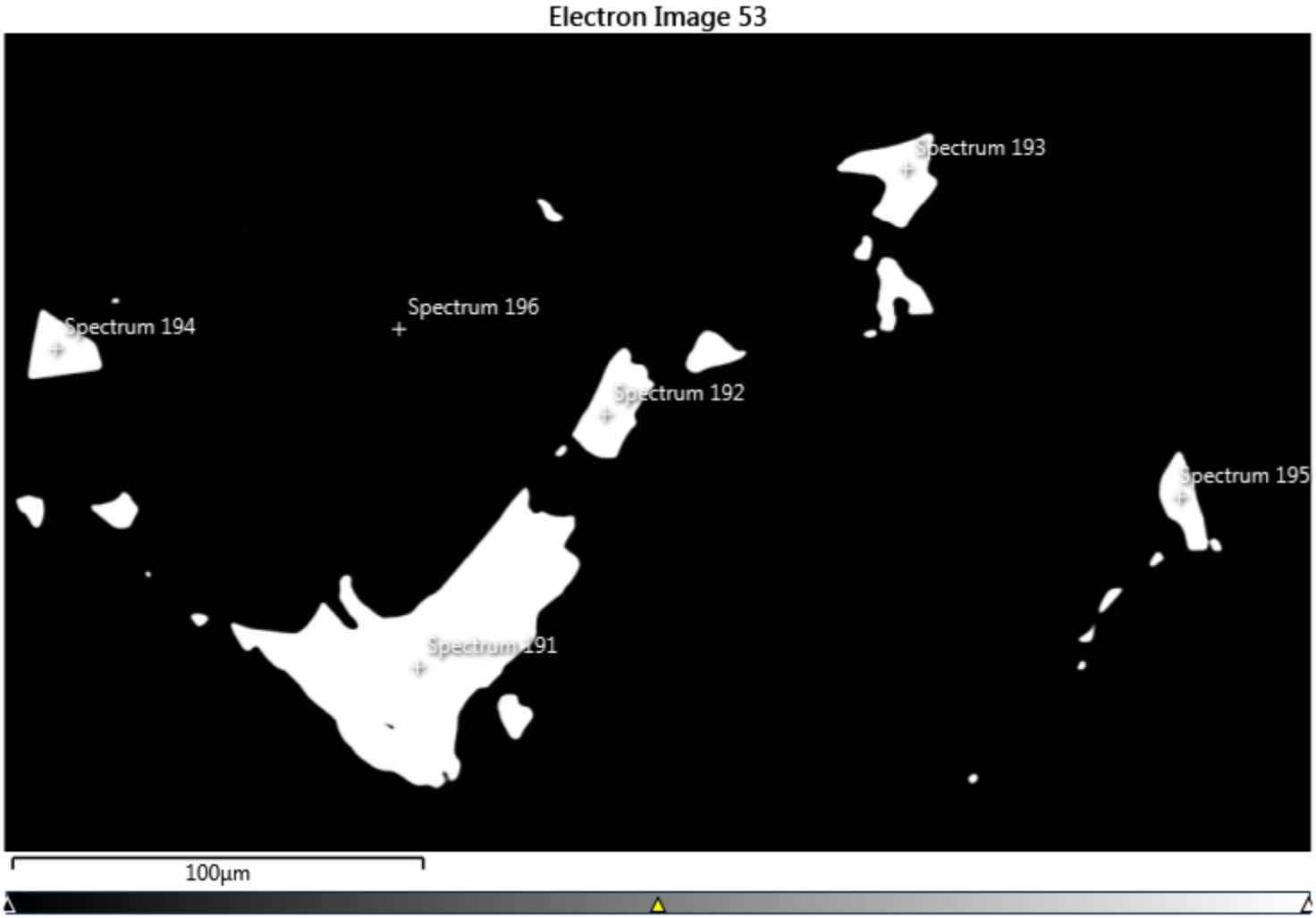
# Sample Ken 9b



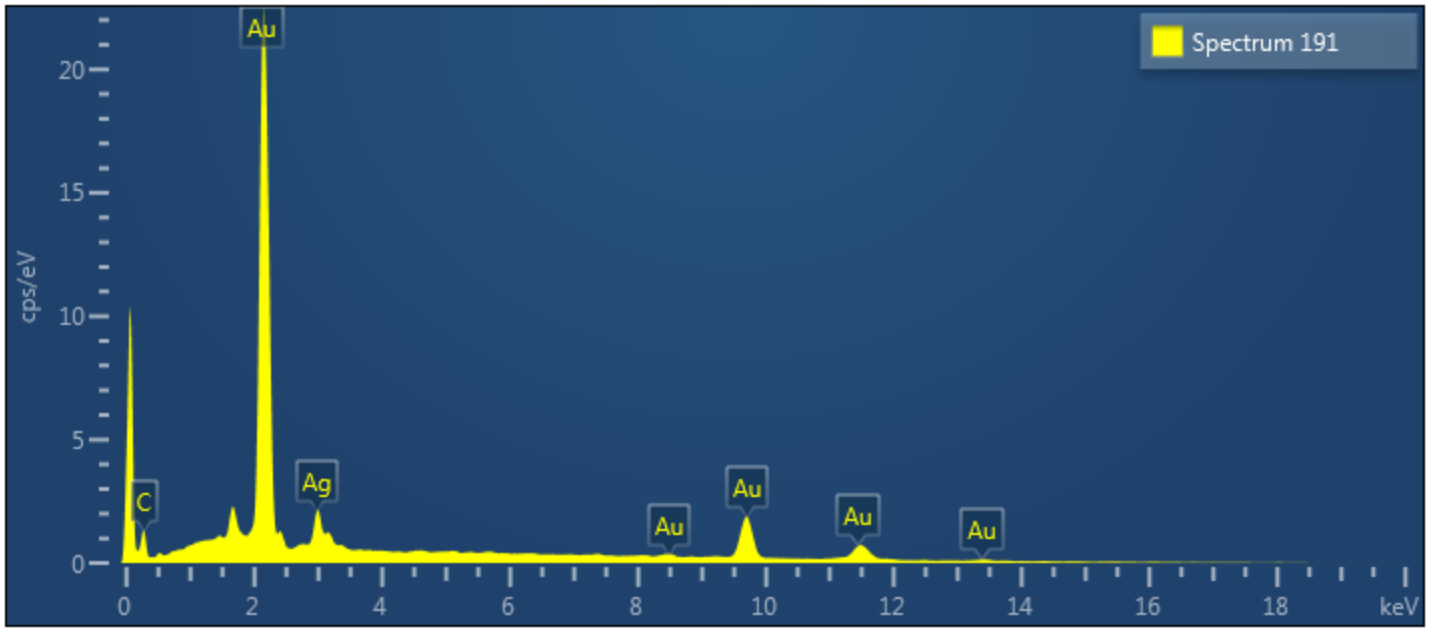
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating Berlin-blue chlorite alteration hosting sulphides and visible gold associated with cubic pyrite and arsenian pyrite. The sections are carbon coated so electrum is depicted as red coloured in reflected light (bottom left image). Field of View = 17 mm (top left, top right, bottom left images); Field of View = 2.2 mm (bottom right)



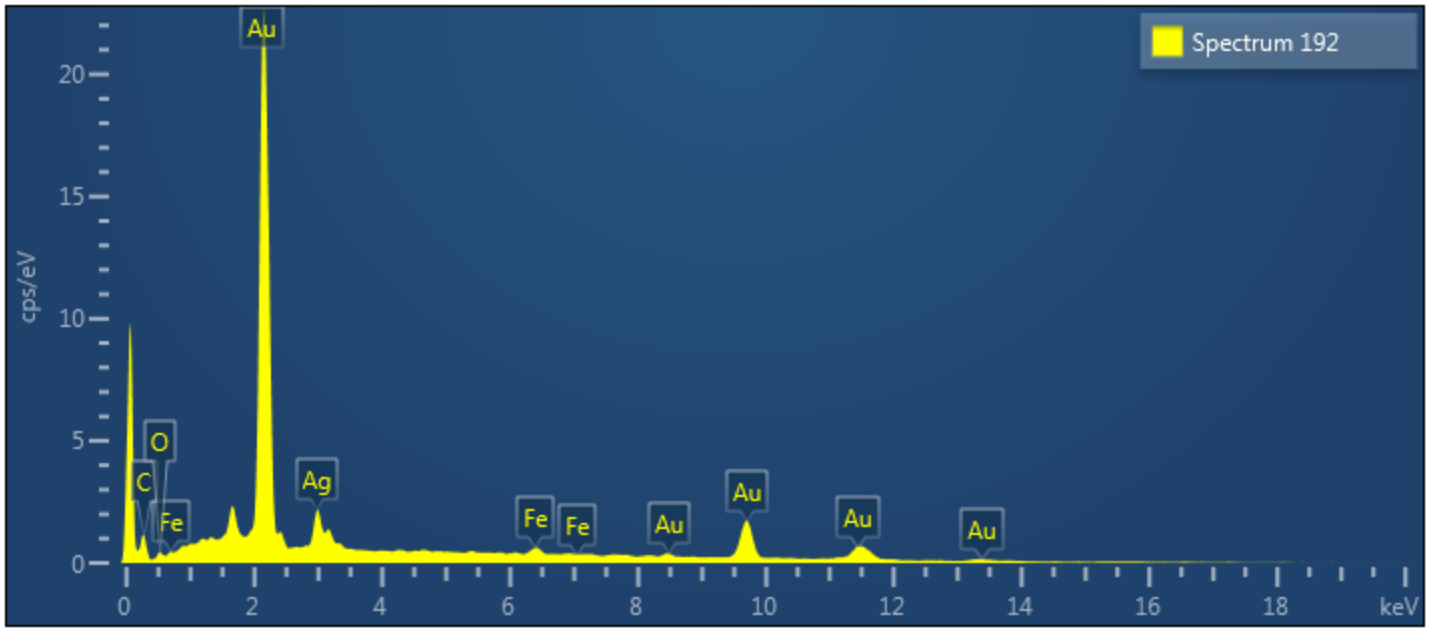

Backscatter image illustrating a vein of chlorite and carbonate hosting multiple grains of compositionally zoned pyrite-arsenian pyrite grains hosting electrum.



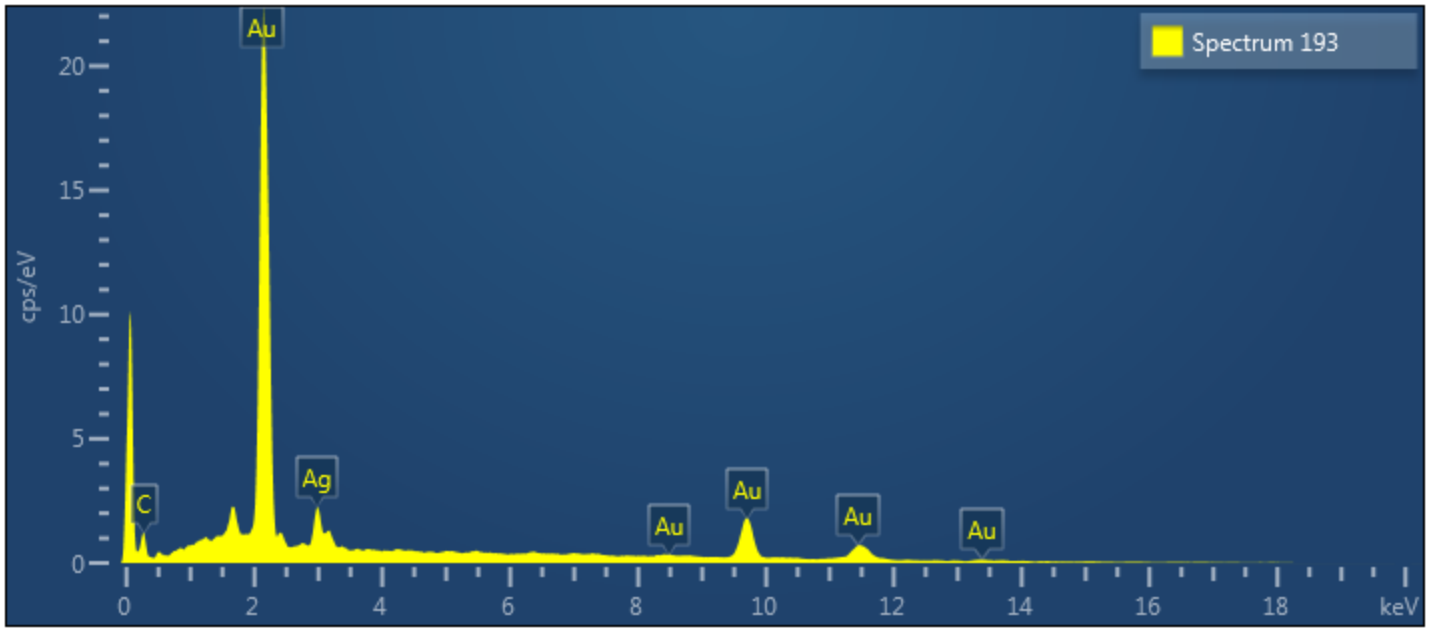

Higher magnification image of the above vein illustrating the coarse-grained nature of the electrum. Some of the finer-grained electrum grains show the Fe-S spectra due to beam-spillover onto the adjacent pyrite host.



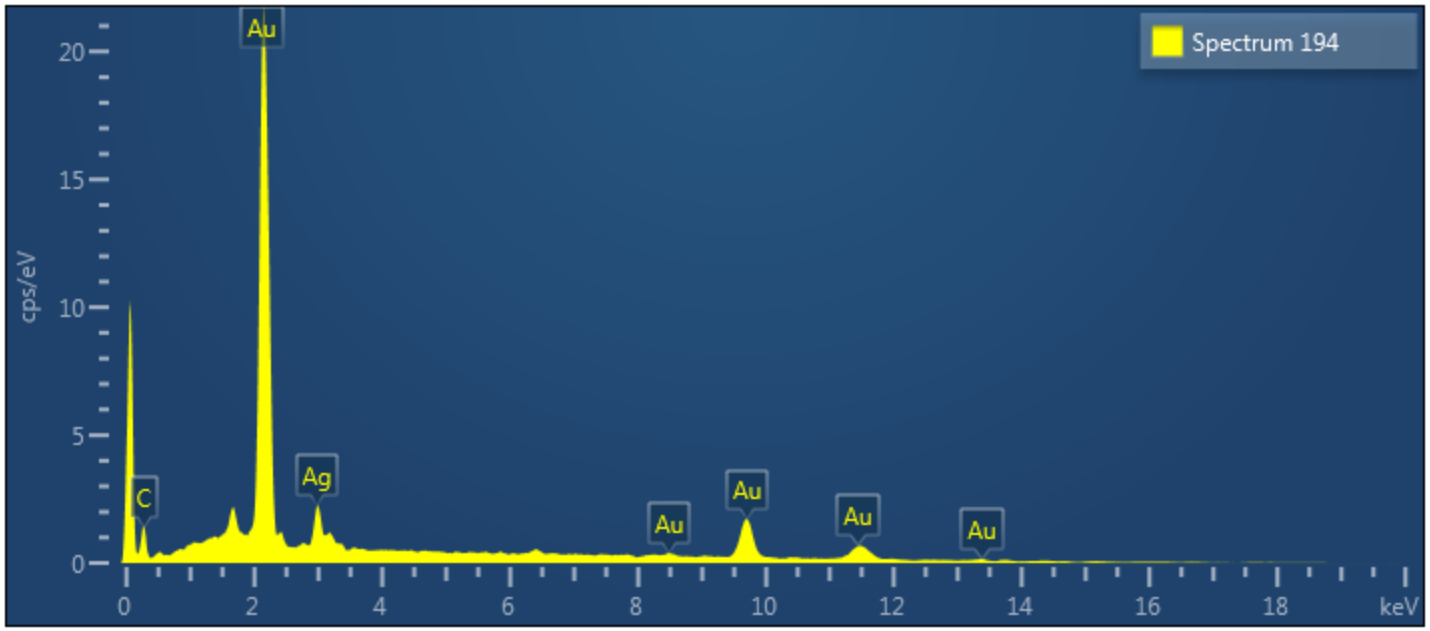

| Spectrum 191 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 11.24 | 0.64 | 18.78 |
| Au | M series | 88.76 | 0.64 | 81.22 |
| Total | | 100.00 | | 100.00 |



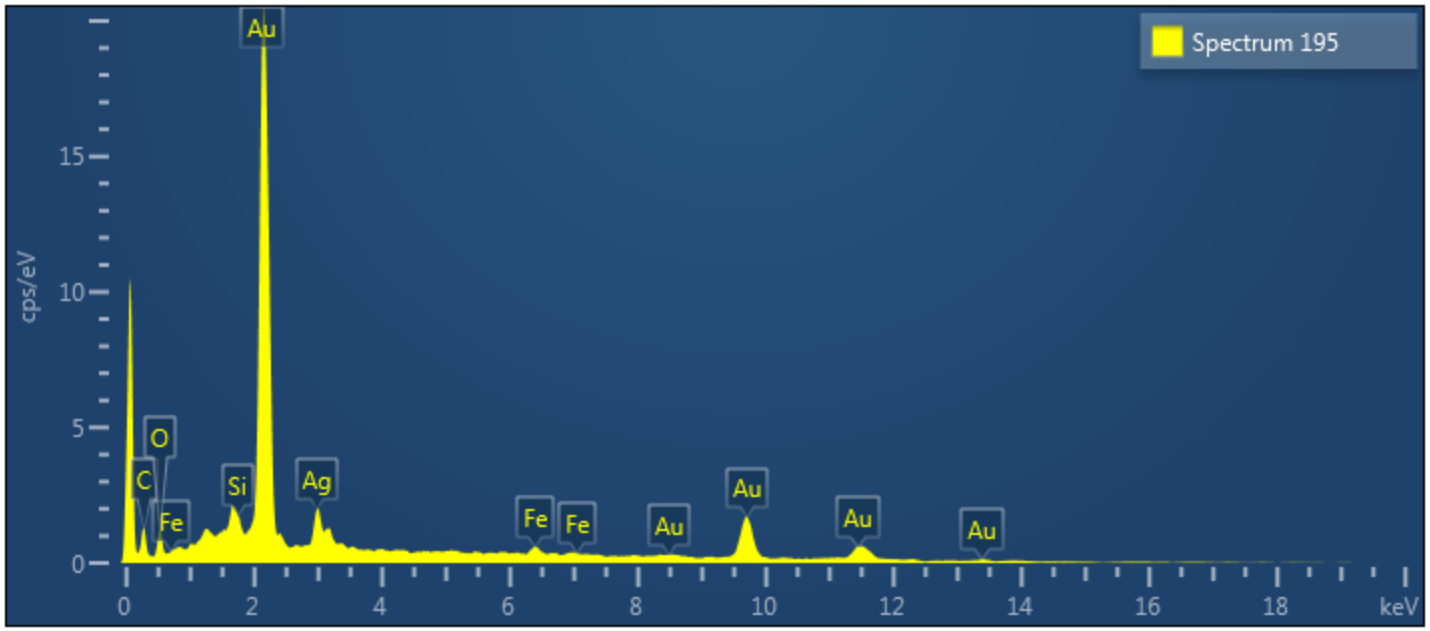

| Spectrum 192 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 10.90 | 0.82 | 14.39 |
| Au | M series | 85.34 | 1.03 | 61.73 |
| Fe | K series | 1.52 | 0.36 | 3.87 |
| O | K series | 2.25 | 0.64 | 20.00 |
| Total | | 100.00 | | 100.00 |



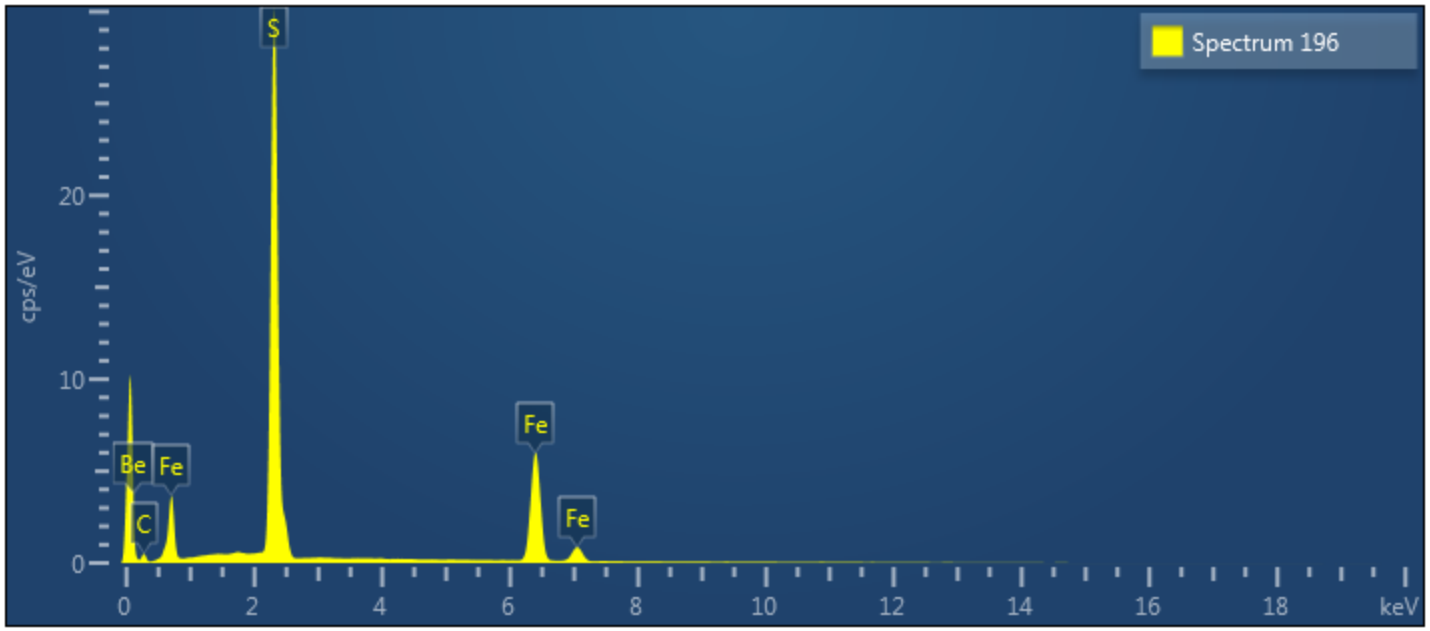

| Spectrum 193 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 12.75 | 0.85 | 21.07 |
| Au | M series | 87.25 | 0.85 | 78.93 |
| Total | | 100.00 | | 100.00 |



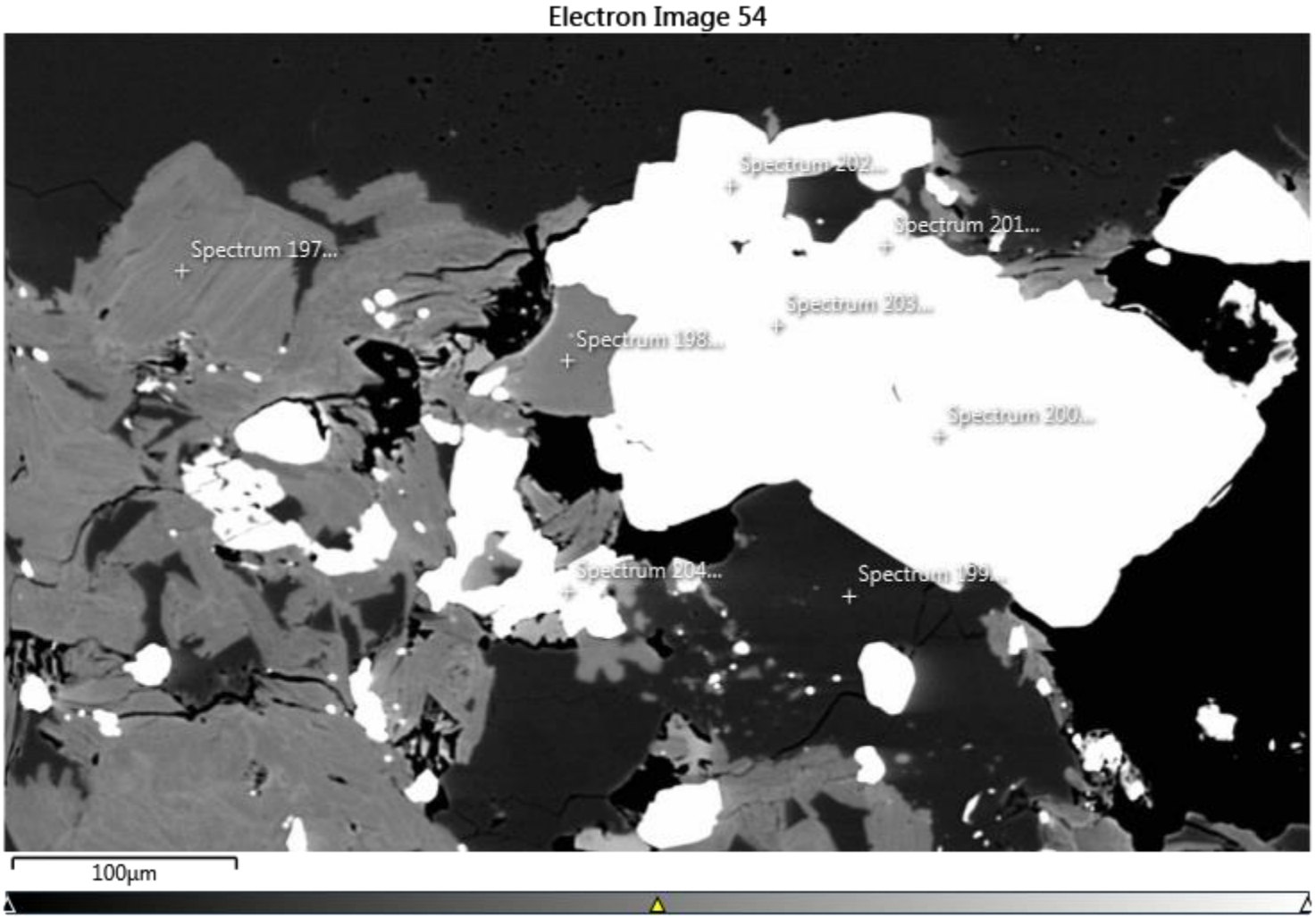

| Spectrum 194 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 13.34 | 0.96 | 21.94 |
| Au | M series | 86.66 | 0.96 | 78.06 |
| Total | | 100.00 | | 100.00 |



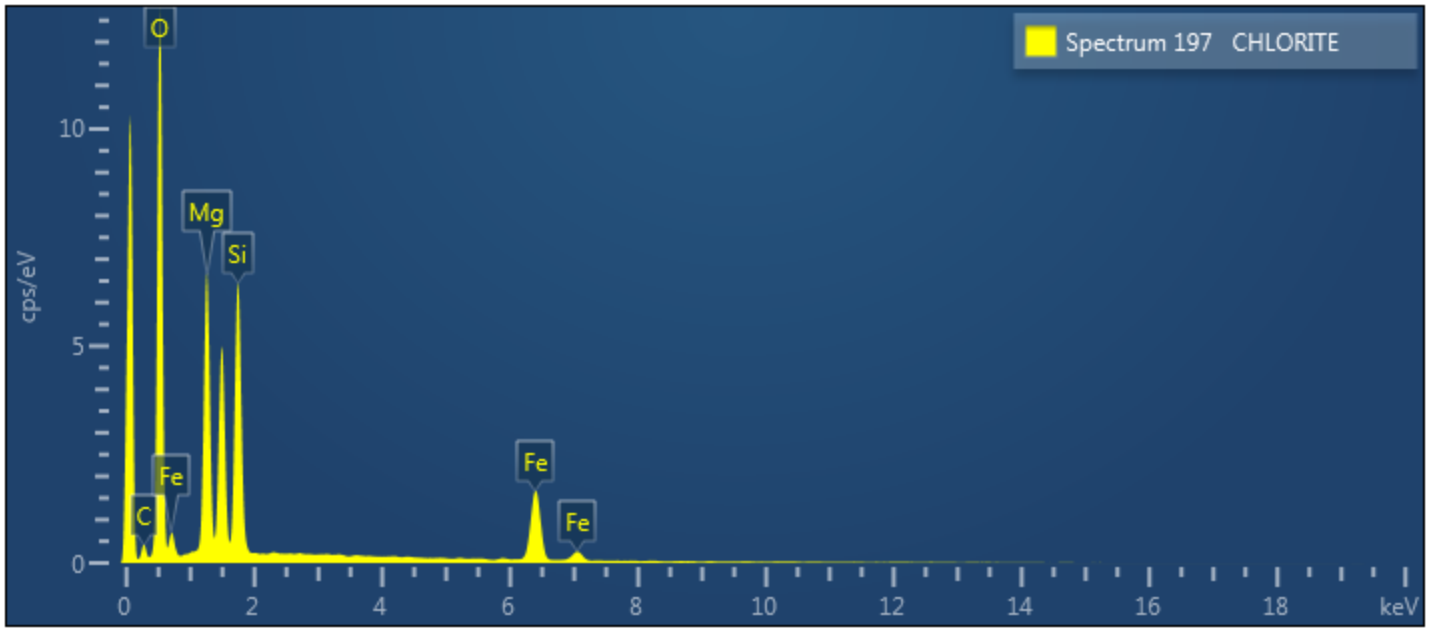

| Spectrum 195 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 10.60 | 1.01 | 9.22 |
| Au | M series | 78.73 | 1.38 | 37.51 |
| O | K series | 8.17 | 1.06 | 47.91 |
| Fe | K series | 1.81 | 0.45 | 3.04 |
| Si | K series | 0.70 | 0.22 | 2.33 |
| Total | | 100.00 | | 100.00 |



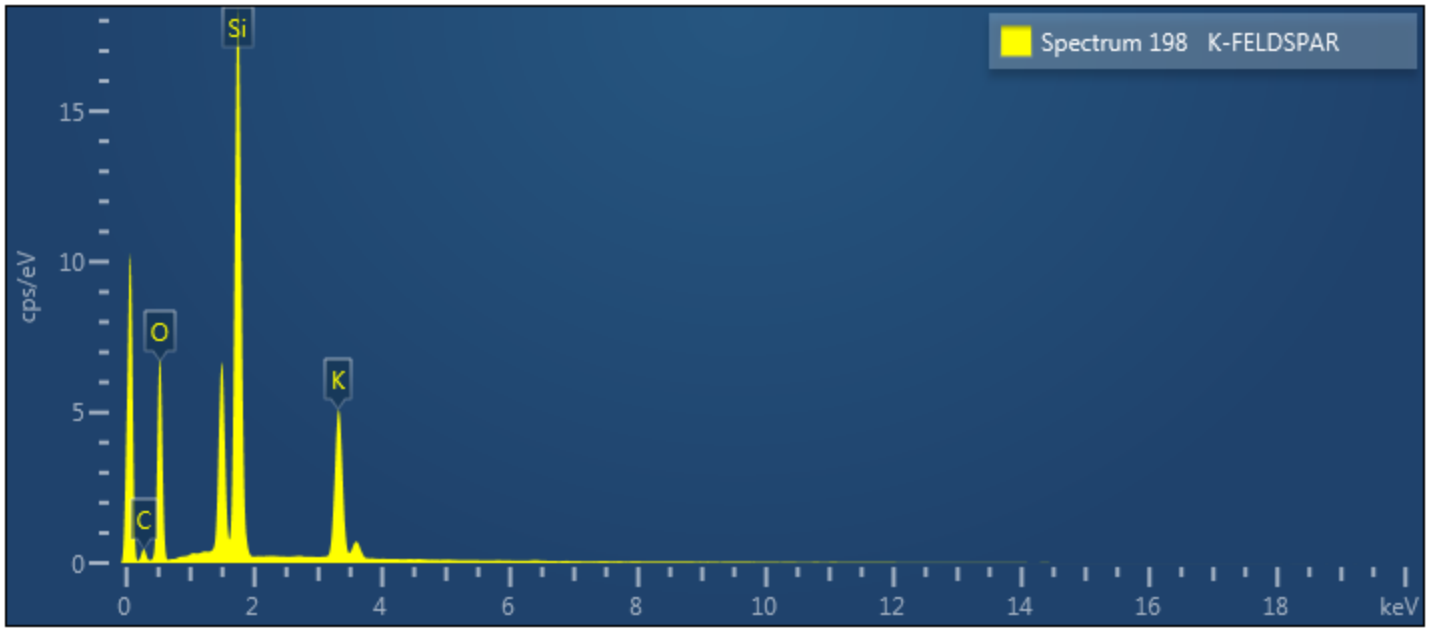

| Spectrum 196 | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 7.62 | 0.35 | 2.43 |
| Fe | K series | 7.66 | 0.36 | 1.40 |
| Be | K series | 84.72 | 0.71 | 96.16 |
| Total | | 100.00 | | 100.00 |



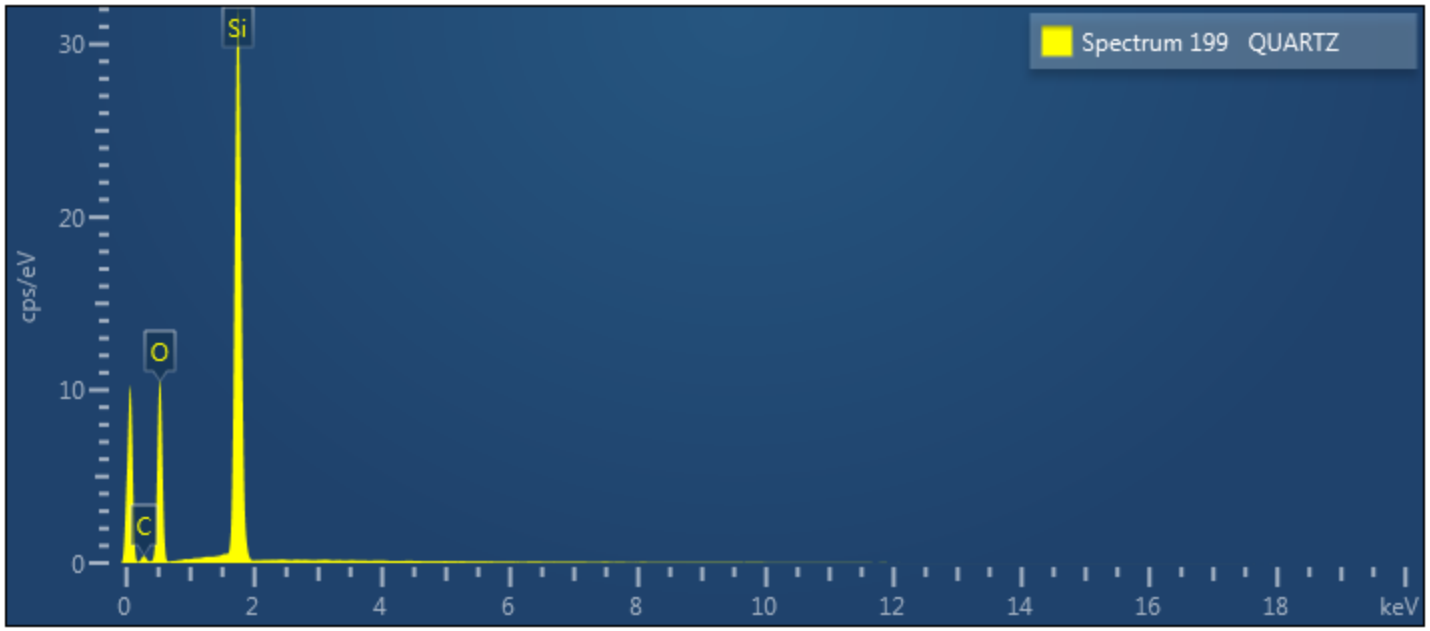

Backscatter image of a different area within the late chlorite (spectrum 197), K-feldspar (spectrum 198), quartz (spectrum 199)-carbonate vein illustrating extremely bright grains of fine- to coarse-grained electrum and chalcopyrite (spectrum 203).



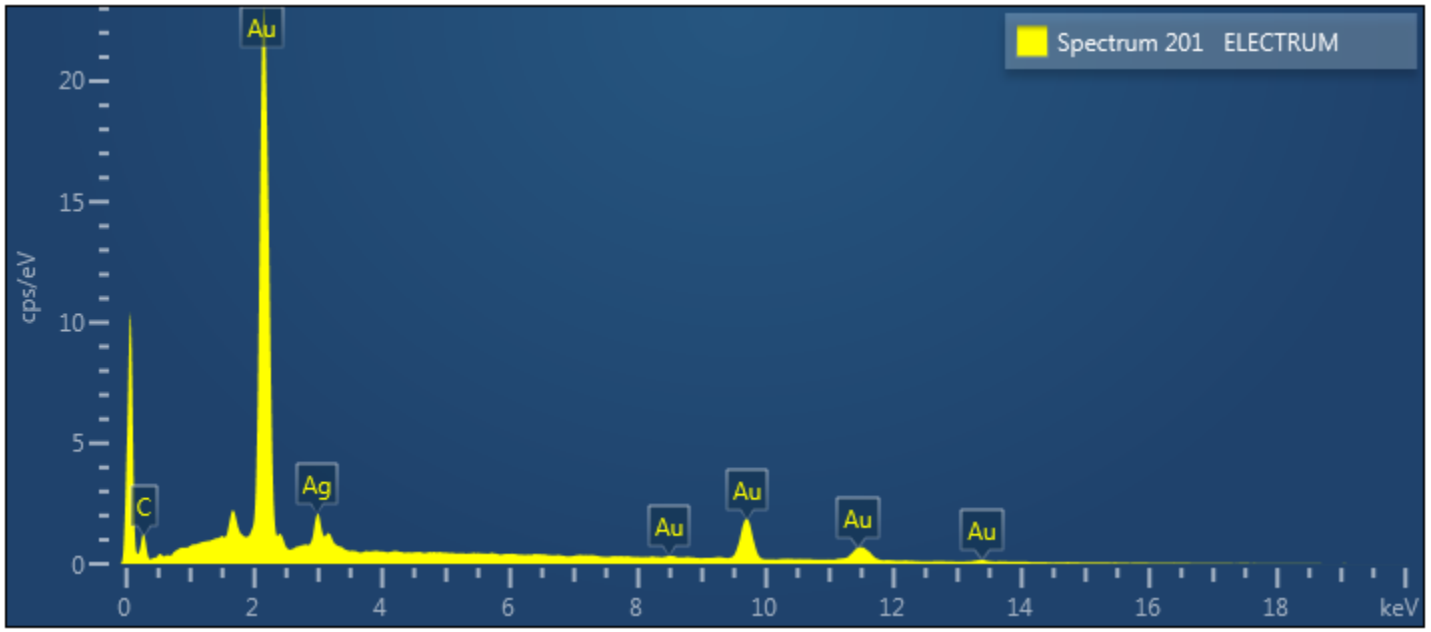

| Spectrum 197 CHLORITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| O | K series | 50.49 | 0.34 | 66.15 |
| Mg | K series | 13.35 | 0.20 | 11.51 |
| Al | K series | 10.04 | 0.18 | 7.80 |
| Si | K series | 12.73 | 0.18 | 9.51 |
| Fe | K series | 13.39 | 0.26 | 5.02 |
| Total | | 100.00 | | 100.00 |



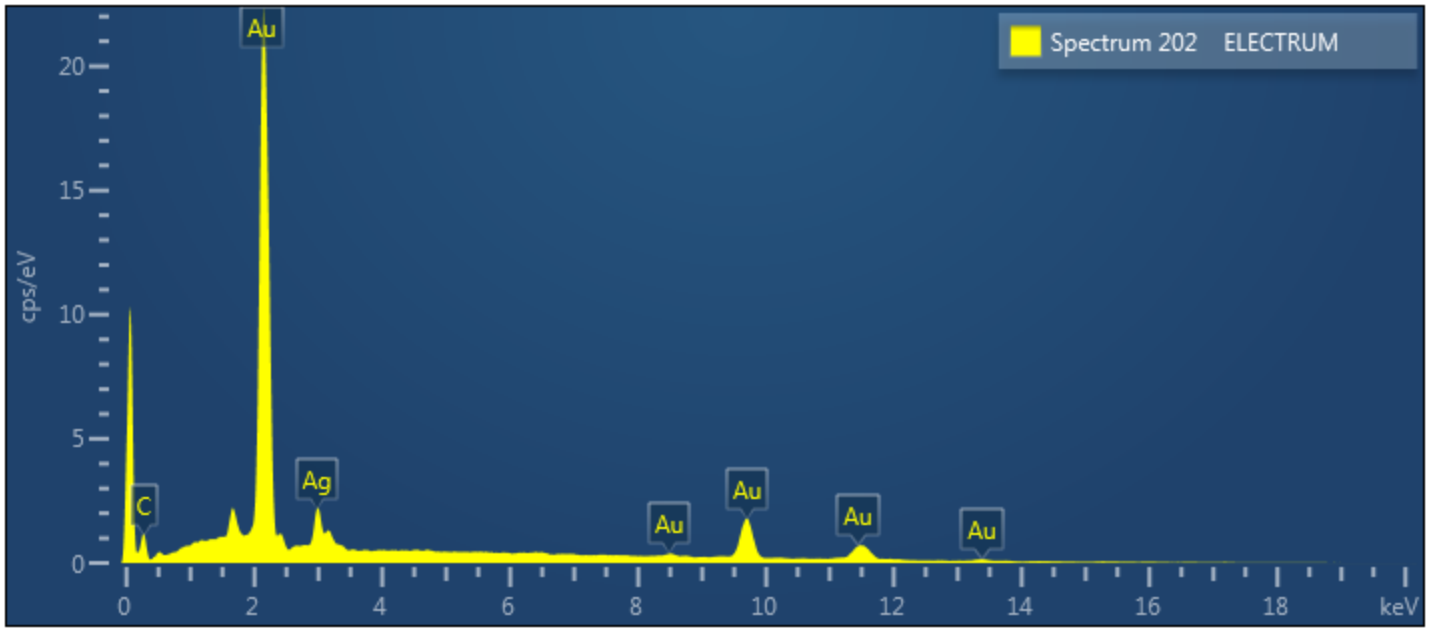

| Spectrum 198 K-FELDSPAR | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** | **Oxide** | **Oxide %** | **Oxide % Sigma** |
| O | K series | 46.01 | 0.17 | 61.55 | | | |
| Al | K series | 9.88 | 0.11 | 7.84 | Al2O3 | 18.67 | 0.20 |
| Si | K series | 30.17 | 0.15 | 22.99 | SiO2 | 64.55 | 0.33 |
| K | K series | 13.93 | 0.13 | 7.62 | K2O | 16.78 | 0.15 |
| Total | | 100.00 | | 100.00 | | 100.00 | |



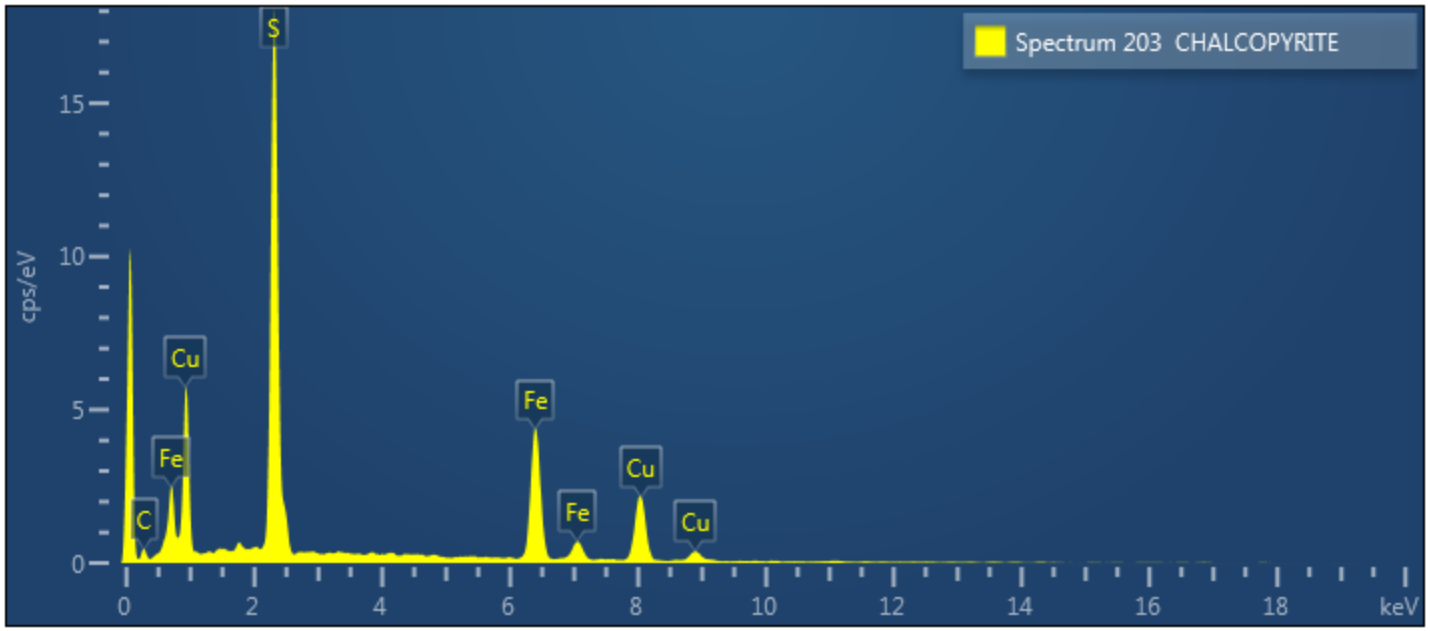

| Spectrum 199 QUARTZ | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** | **Oxide** | **Oxide %** | **Oxide % Sigma** |
| O | K series | 53.26 | 0.22 | 66.67 | | | |
| Si | K series | 46.74 | 0.22 | 33.33 | SiO2 | 100.00 | 0.47 |
| Total | | 100.00 | | 100.00 | | 100.00 | |



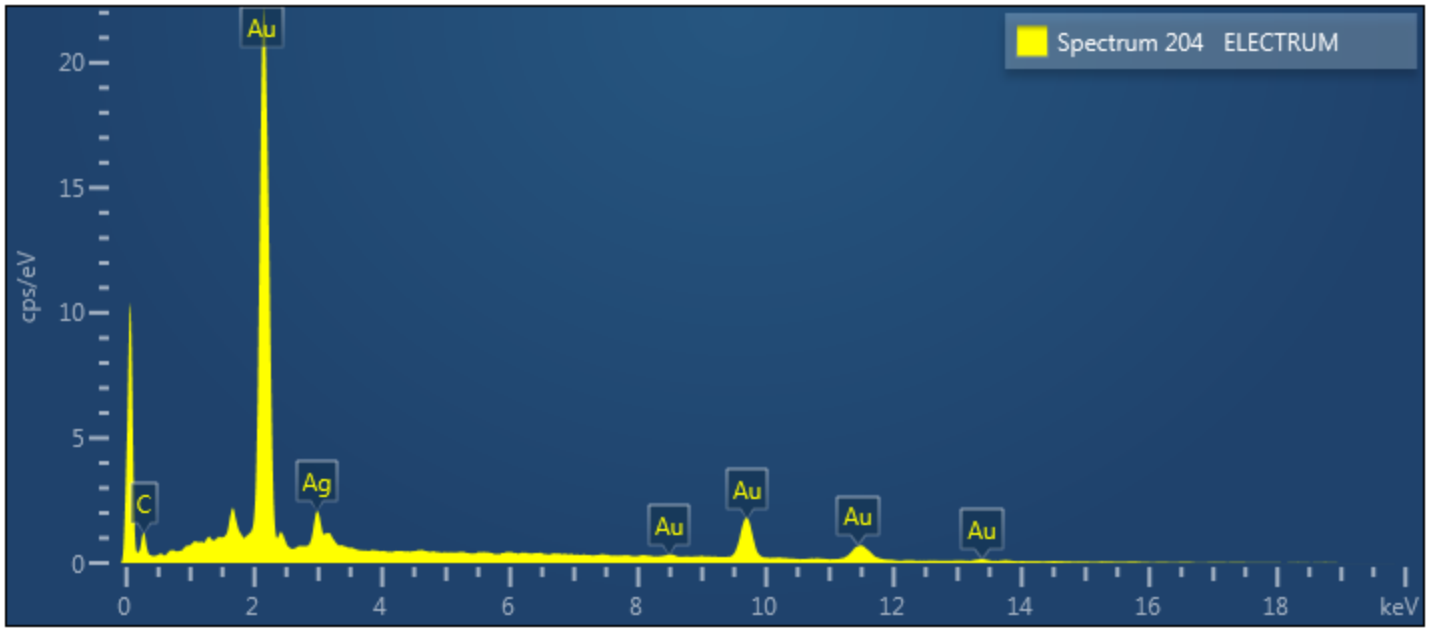

| Spectrum 201 ELECTRUM | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 10.99 | 0.64 | 18.40 |
| Au | M series | 89.01 | 0.64 | 81.60 |
| Total | | 100.00 | | 100.00 |



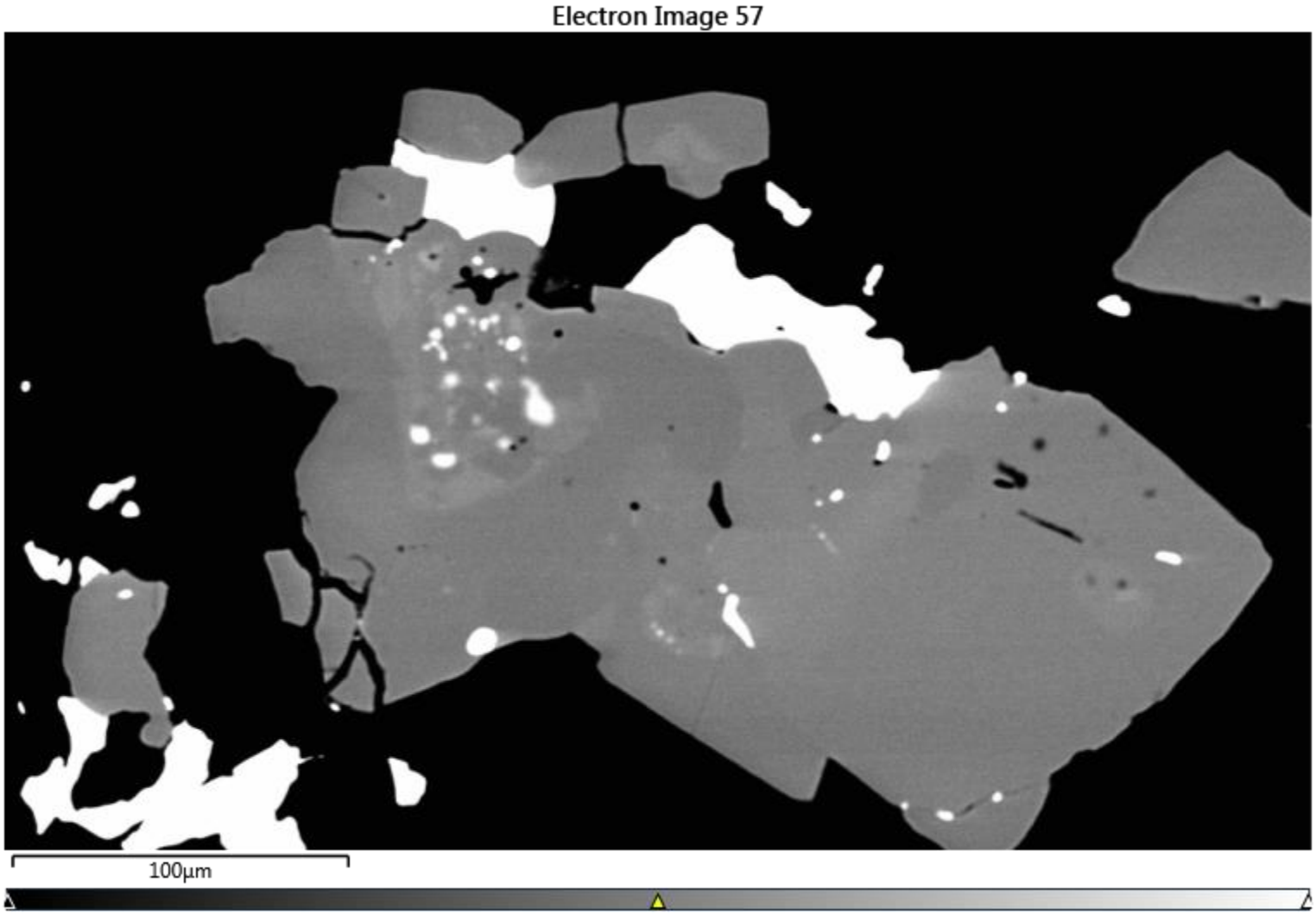

| Spectrum 202 ELECTRUM | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 12.50 | 0.65 | 20.69 |
| Au | M series | 87.50 | 0.65 | 79.31 |
| Total | | 100.00 | | 100.00 |



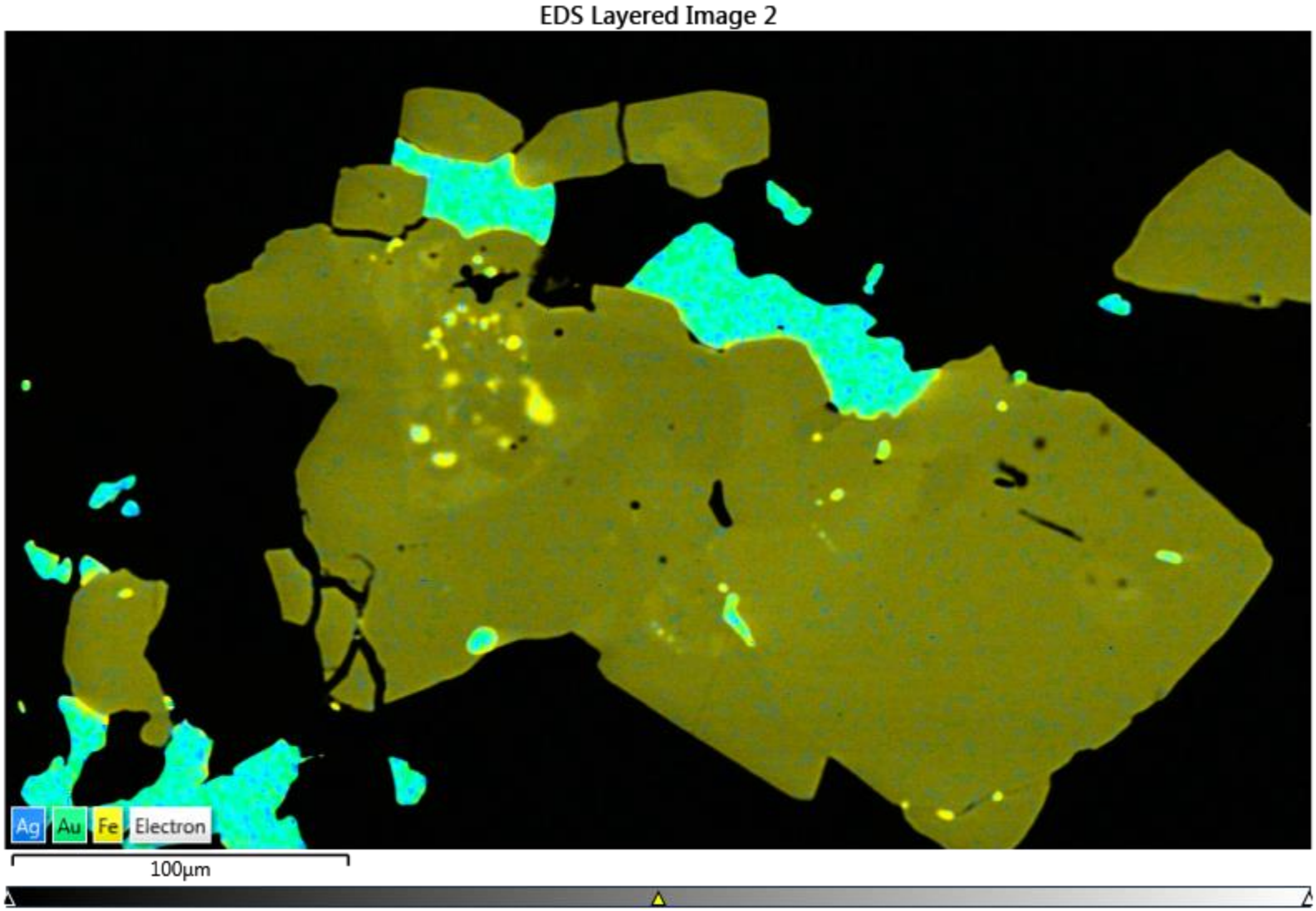

| Spectrum 203 CHALCOPYRITE | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** | **Oxide** | **Oxide %** | **Oxide % Sigma** |
| S | K series | 20.63 | 0.48 | 16.67 | SO3 | 51.51 | 1.21 |
| Fe | K series | 19.19 | 0.62 | 8.90 | FeO | 24.69 | 0.79 |
| Cu | K series | 19.01 | 0.79 | 7.75 | CuO | 23.80 | 0.99 |
| O | K series | 41.17 | 0.72 | 66.67 | | | |
| Total | | 100.00 | | 100.00 | | 100.00 | |



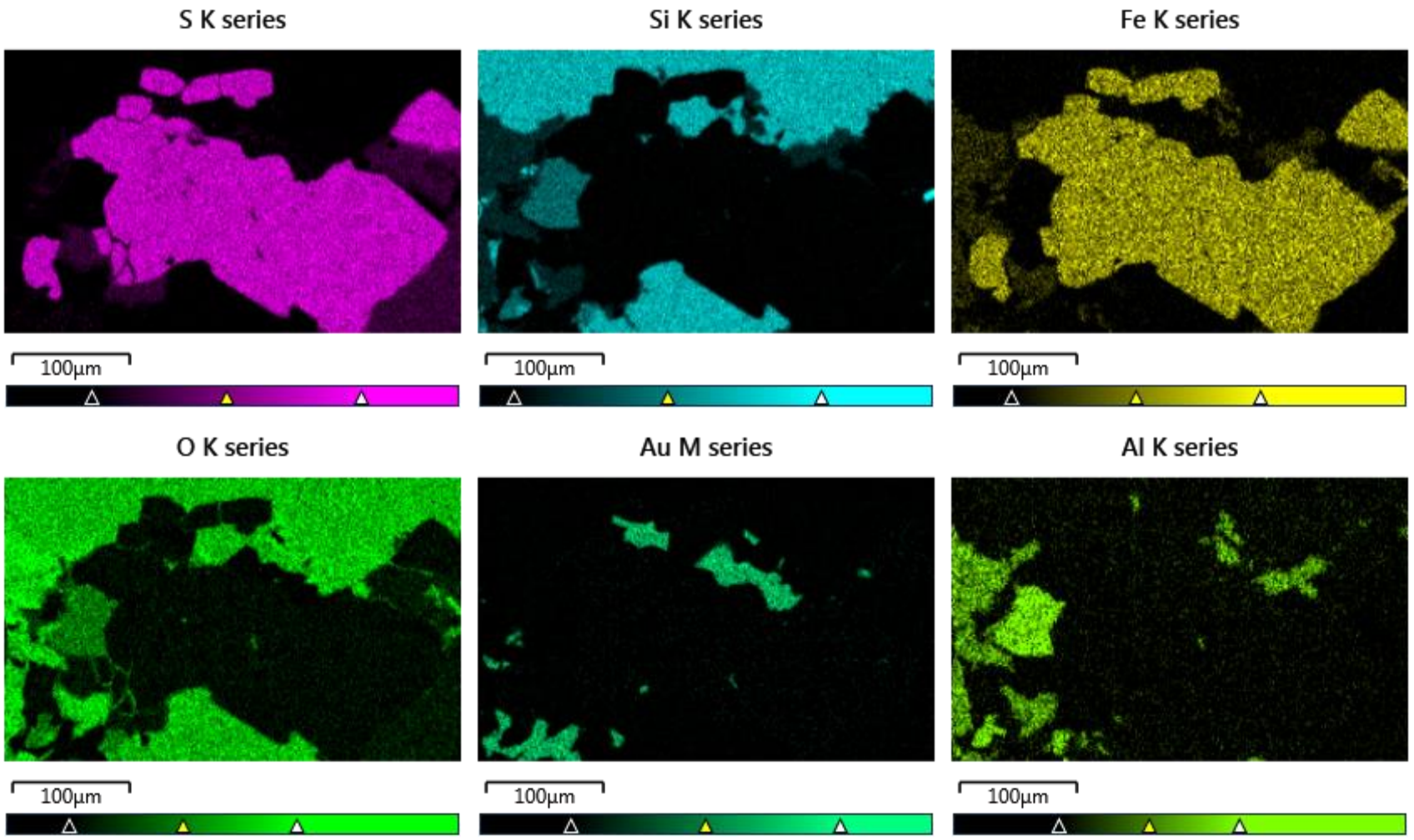

| Spectrum 204 ELECTRUM | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Ag | L series | 10.61 | 0.91 | 17.81 |
| Au | M series | 89.39 | 0.91 | 82.19 |
| Total | | 100.00 | | 100.00 |



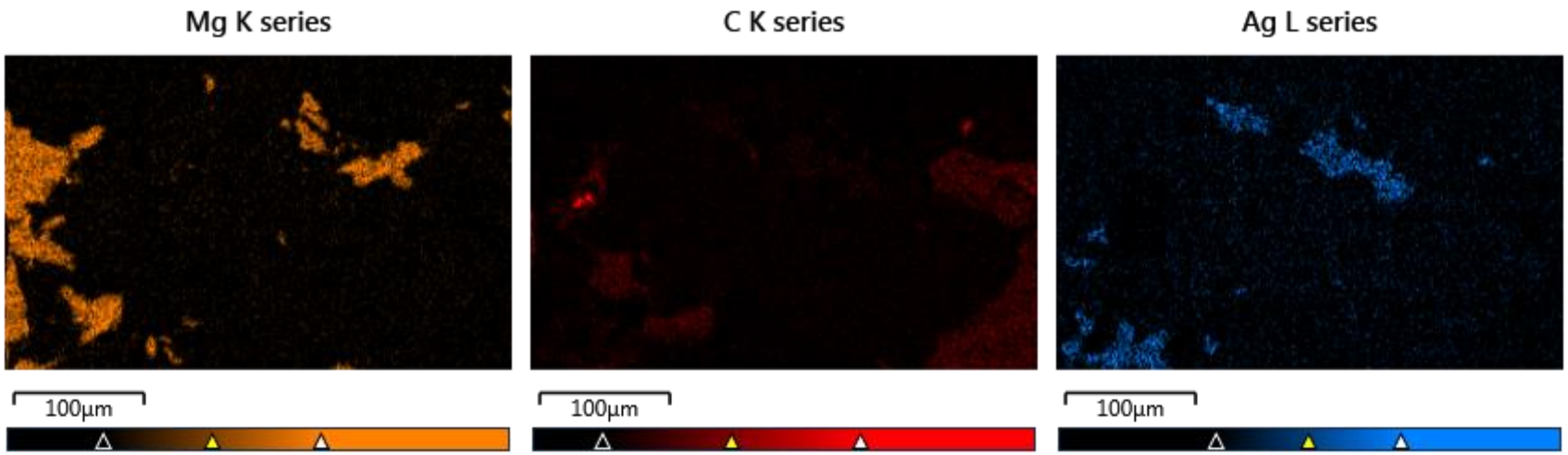

Backscatter image of a compositionally zoned pyrite and arsenian-pyrite grain riddled with inclusions of electrum, arsenopyrite, and chalcopyrite. See the element maps below illustrating the Au-Ag false colour maps.



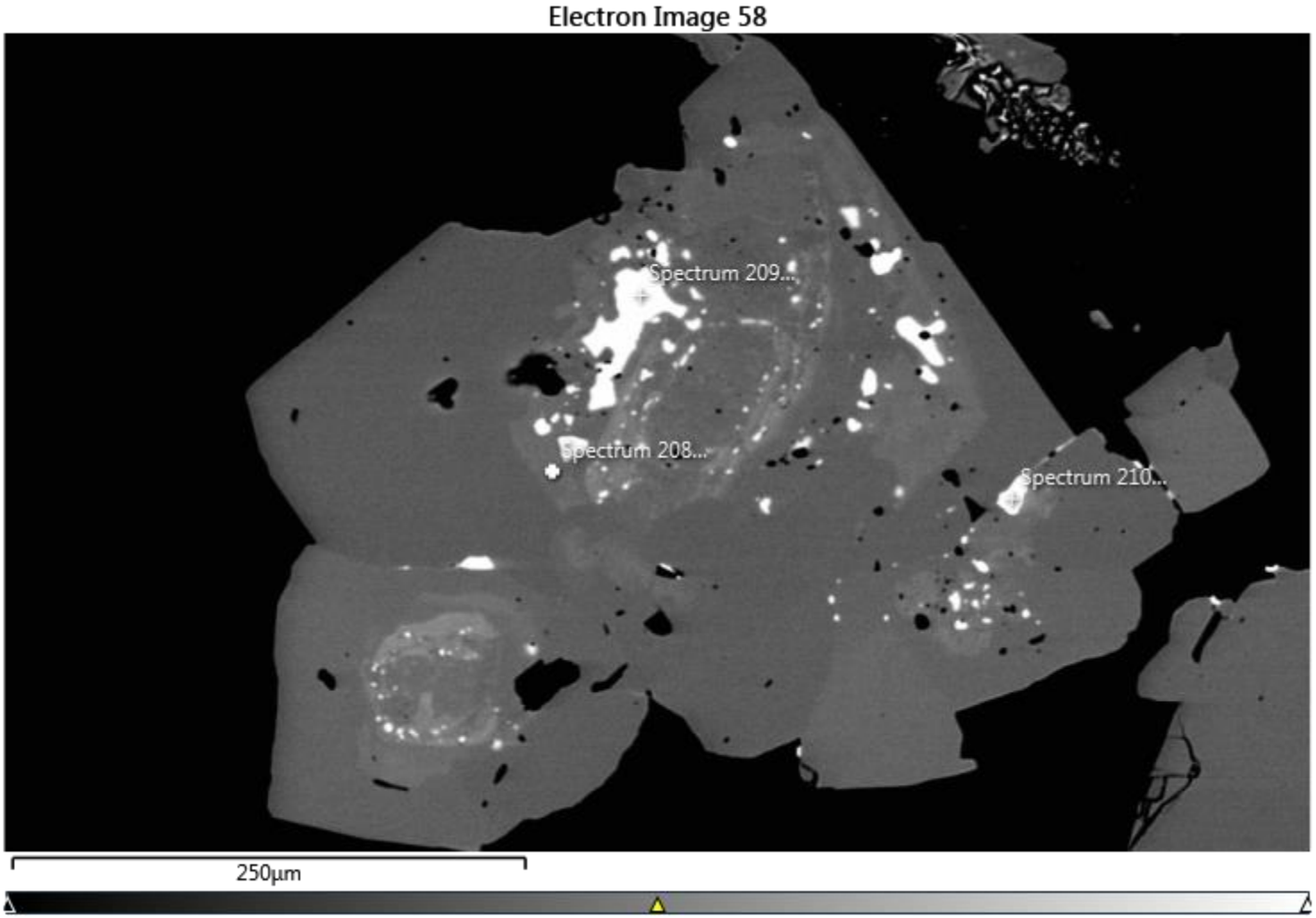

Element map illustrating the location of the Au-Ag domains within arsenian-pyrite.



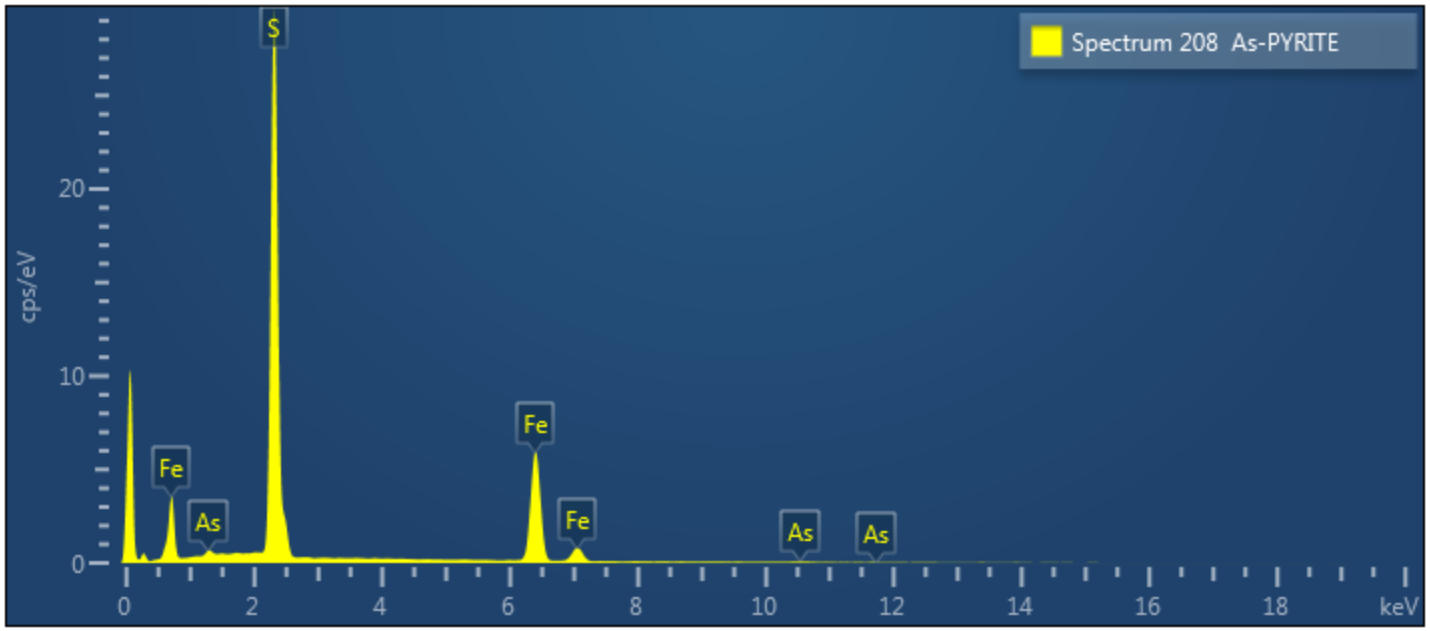

Elemental maps of the various elements detected by the EDS system within the image above.



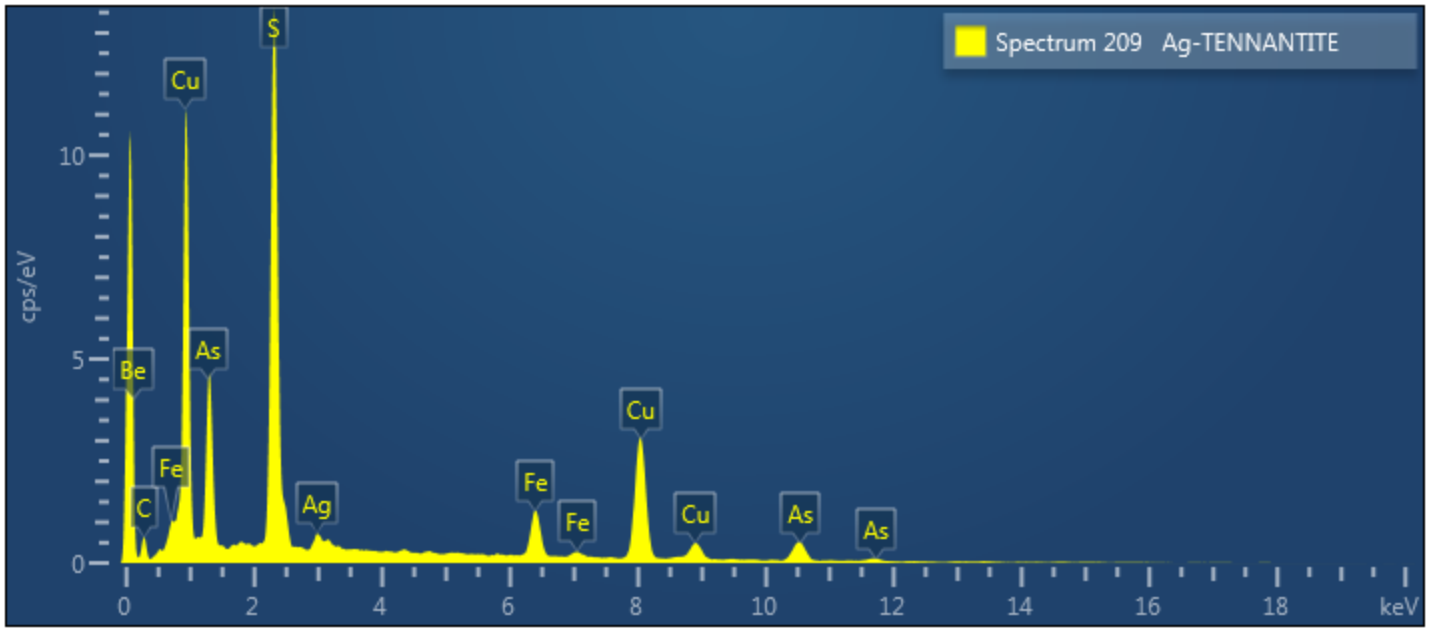

Elemental maps of the various elements detected by the EDS system within the image above.

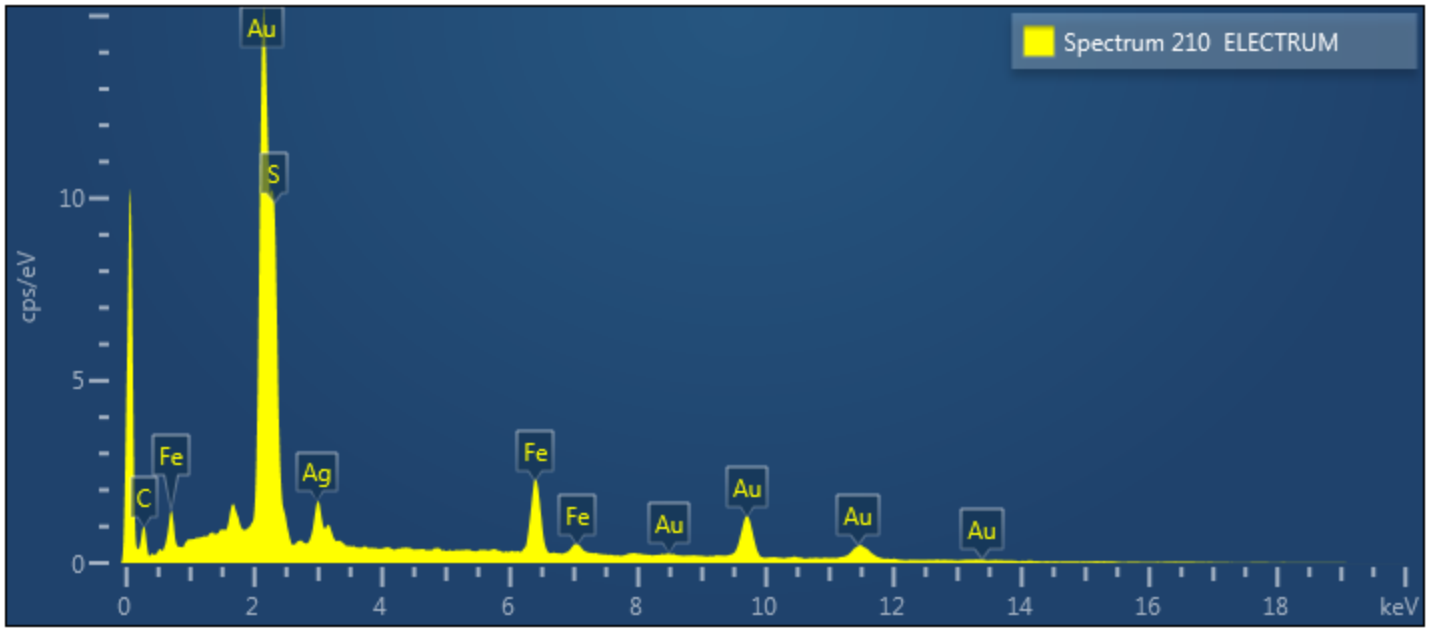



Backscatter image of pyrite and arsenian-pyrite (spectrum 208) riddled with inclusions of electrum (spectrum 210) and Ag-tennantite (spectrum 209).

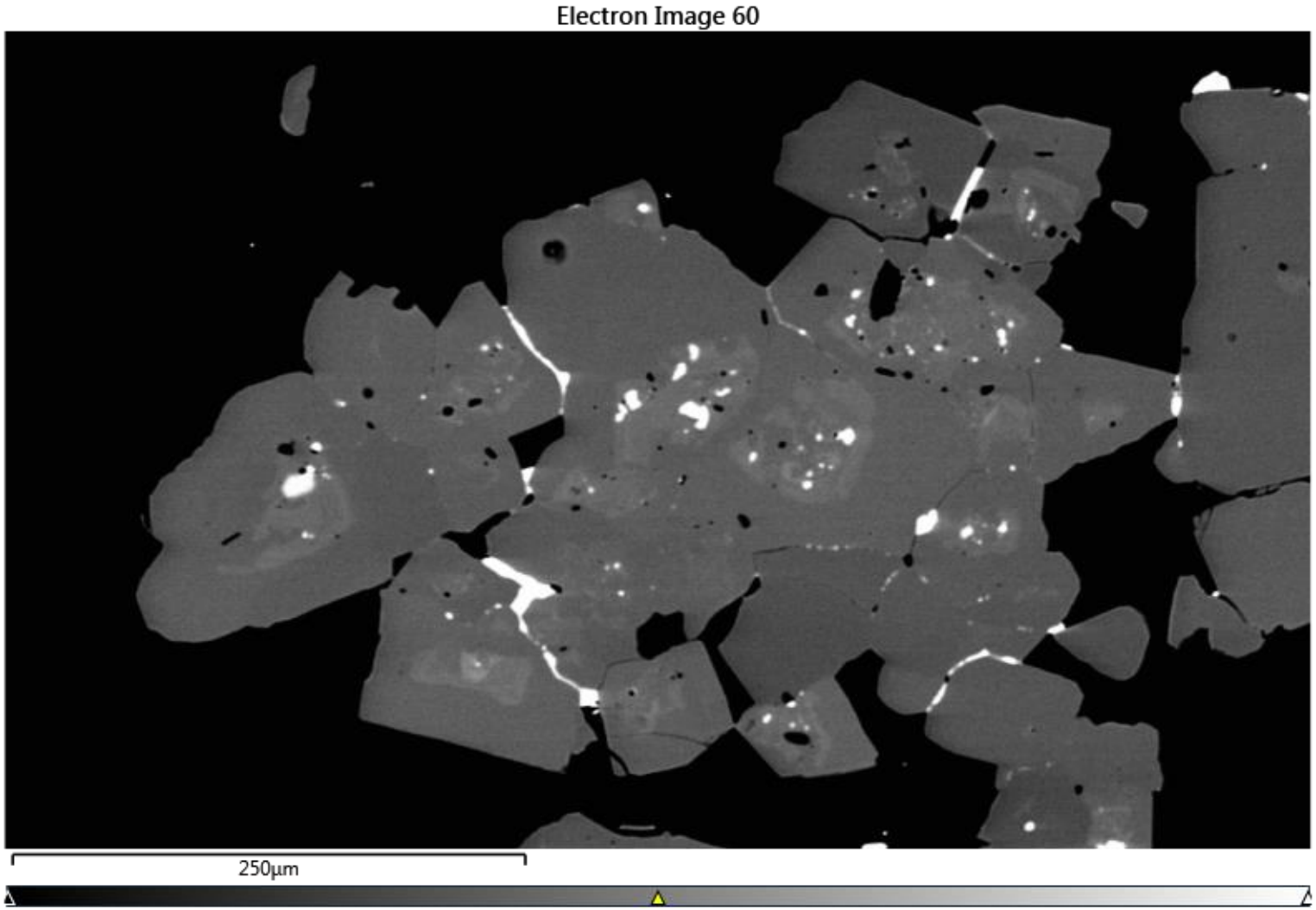



| Spectrum 208 As-PYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 54.10 | 0.36 | 67.38 |
| Fe | K series | 44.79 | 0.36 | 32.03 |
| As | L series | 1.11 | 0.21 | 0.59 |
| Total | | 100.00 | | 100.00 |

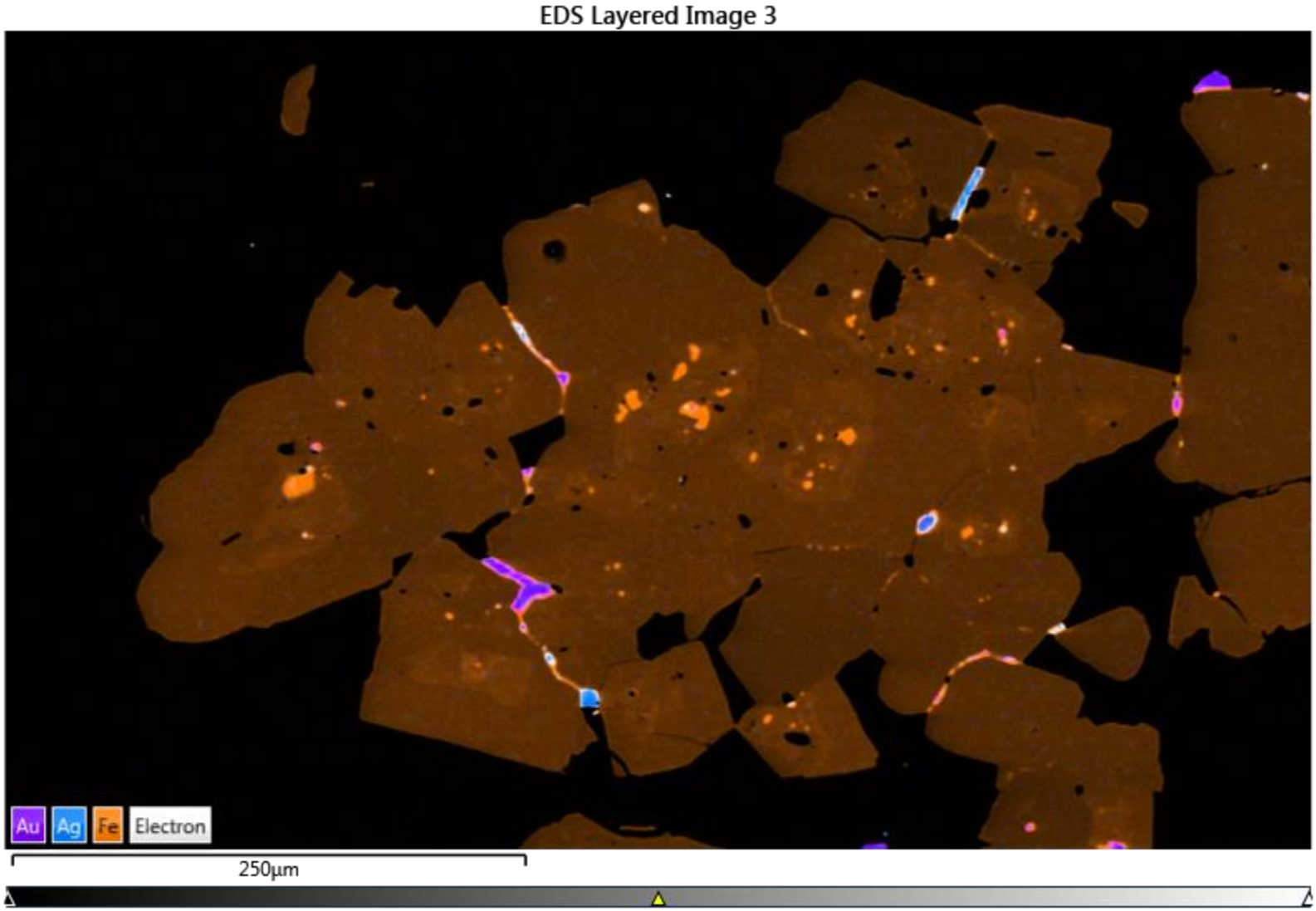

Spectrum 209 Ag-TENNANTITE
cps/eV
10
5
0
S
Cu
As
Be
Fe
C
Ag
Fe
Fe
Cu
Cu
As
As
0
2
4
6
8
10
12
14
16
18
keV



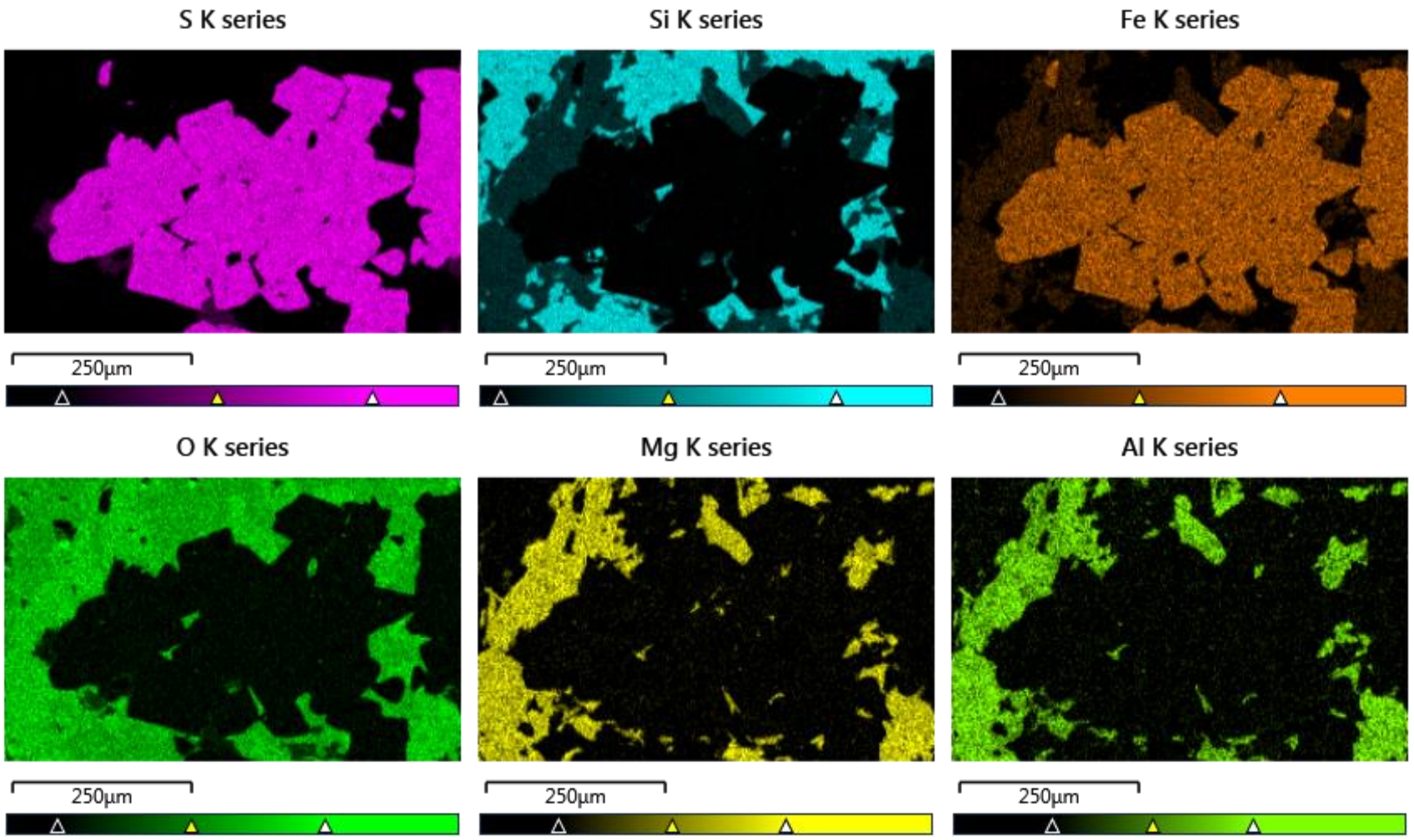

| Spectrum 210 ELECTRUM | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| Fe | K series | 12.47 | 0.51 | 18.14 |
| Au | M series | 59.18 | 0.93 | 24.41 |
| S | K series | 20.27 | 0.64 | 51.36 |
| Ag | L series | 8.08 | 0.66 | 6.09 |
| Total | | 100.00 | | 100.00 |



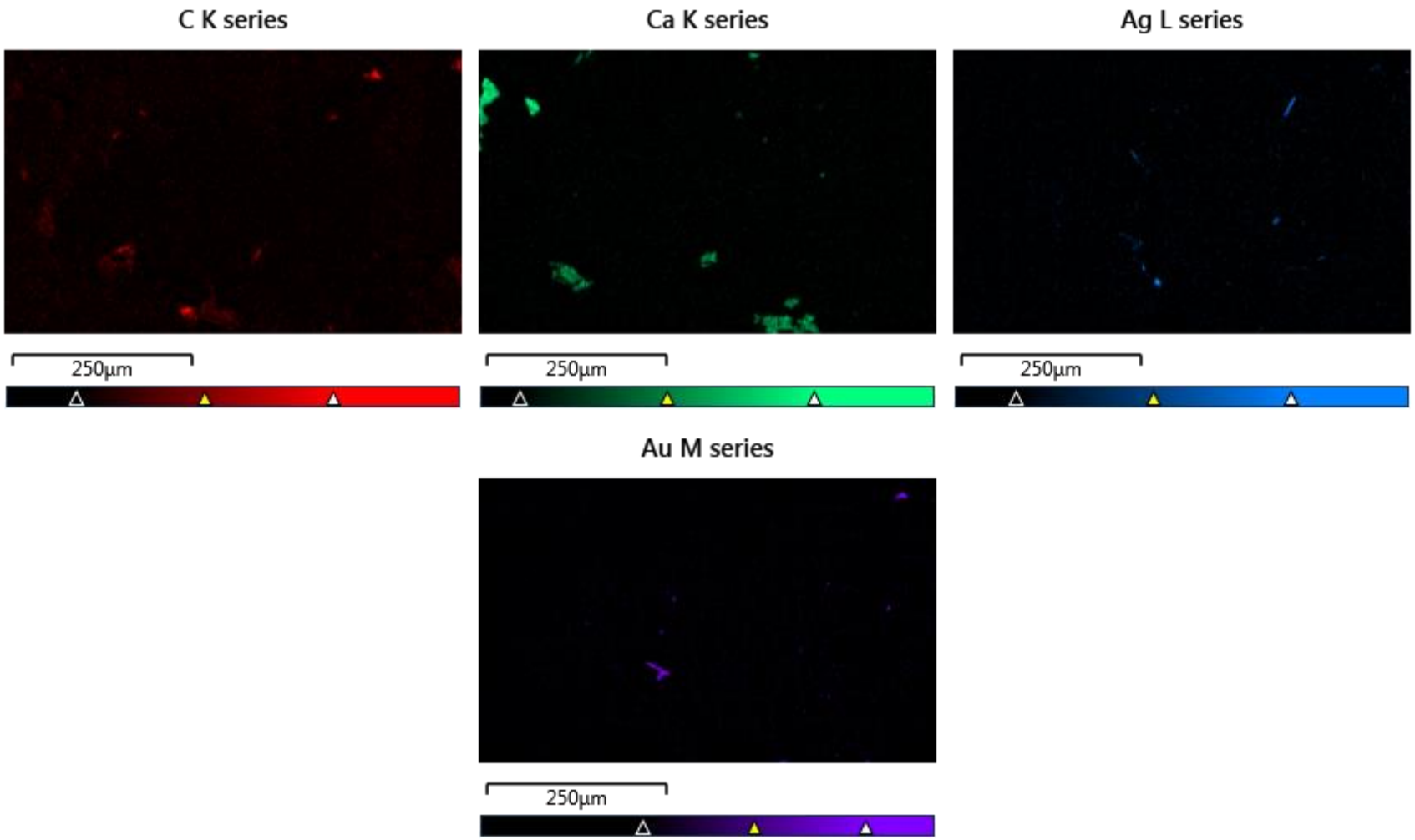

Backscatter image illustrating darker pyrite domains and brighter arsenian-pyrite growth zones hosting inclusions of electrum and chalcopyrite. See the false coloured element maps illustrating the Au-Ag inclusions.




Element map illustrating the Au-Ag domains within this cluster of arsenian-pyrite grains.

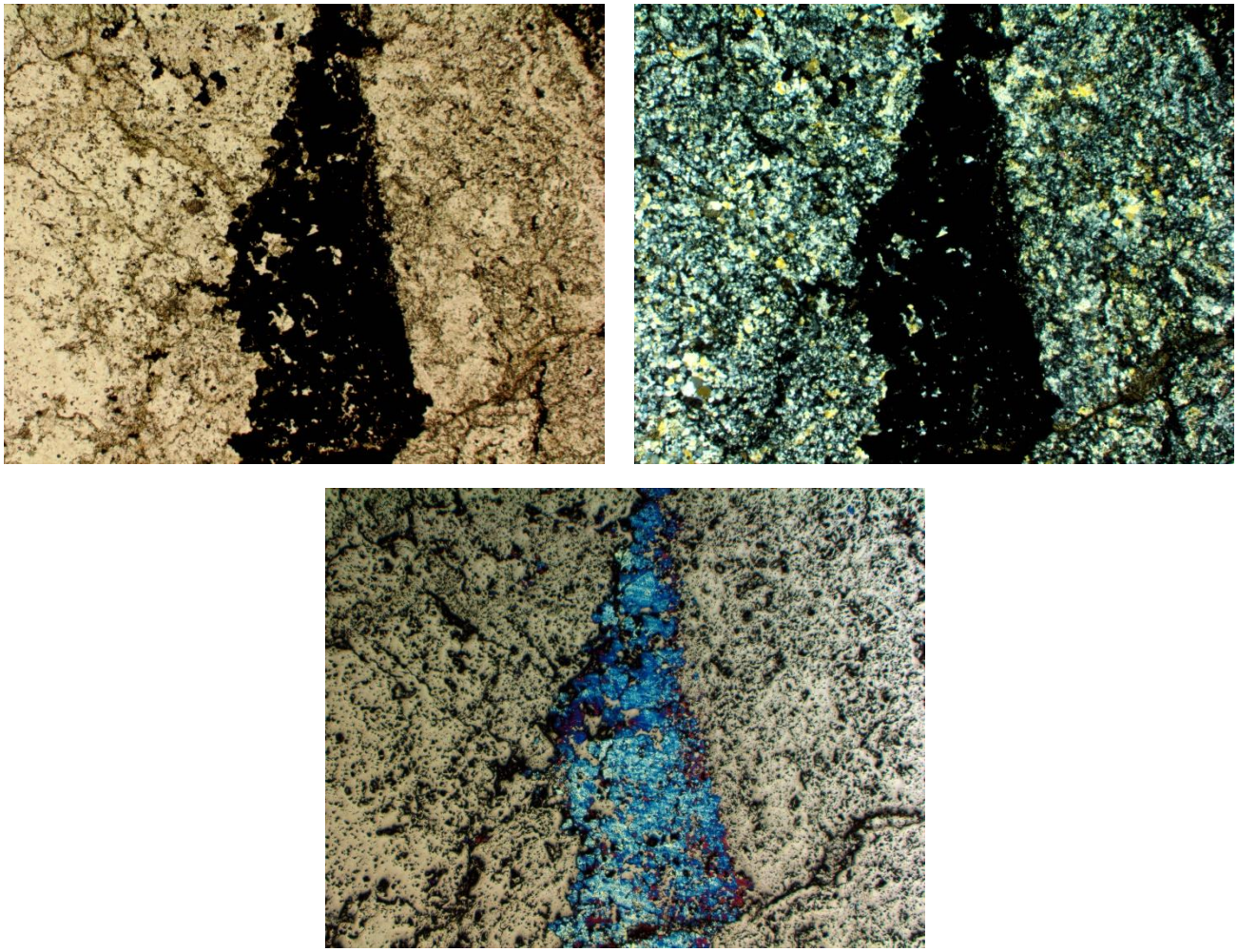



Element maps illustrating the different elements detected by the EDS system from within the arsenian-pyrite cluster in the previous image.

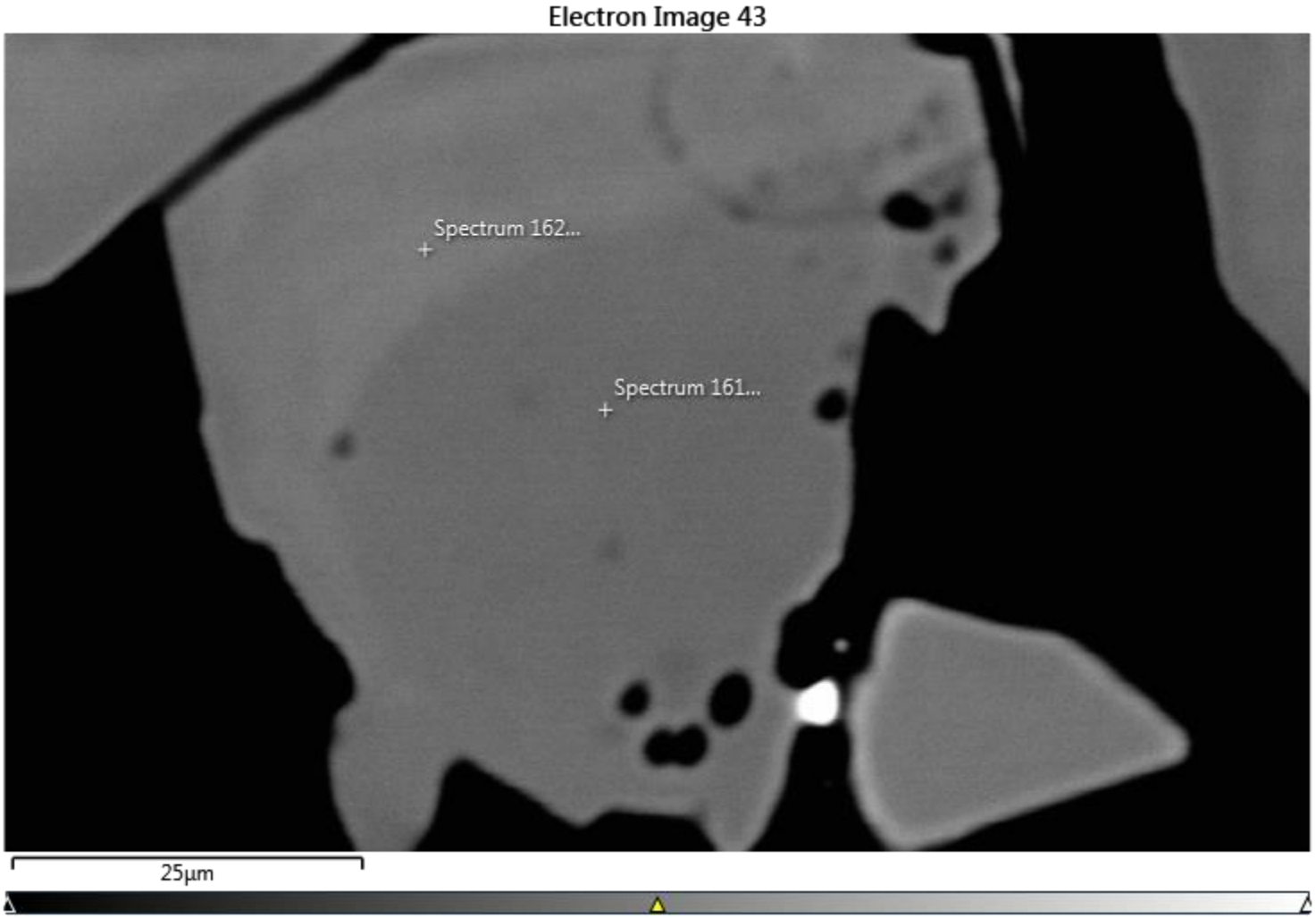



Element maps illustrating the different elements detected by the EDS system from within the arsenian-pyrite cluster in the previous image.

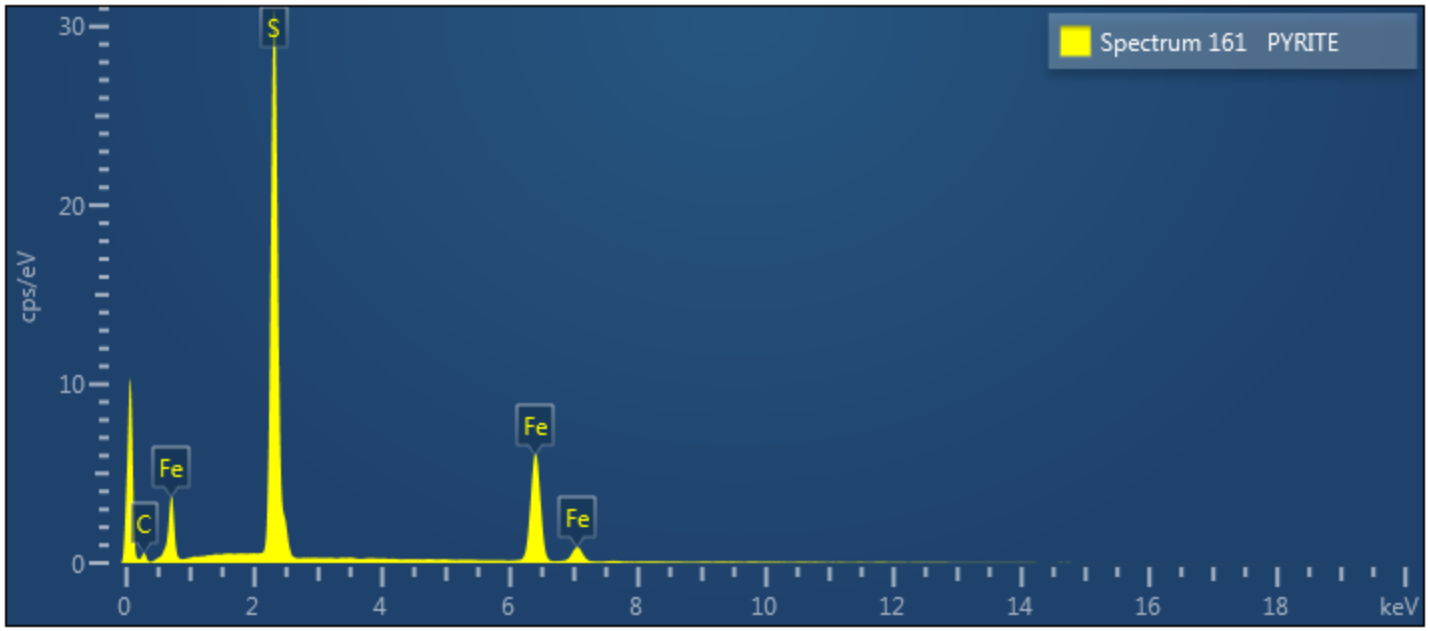

# Sample 29A,B



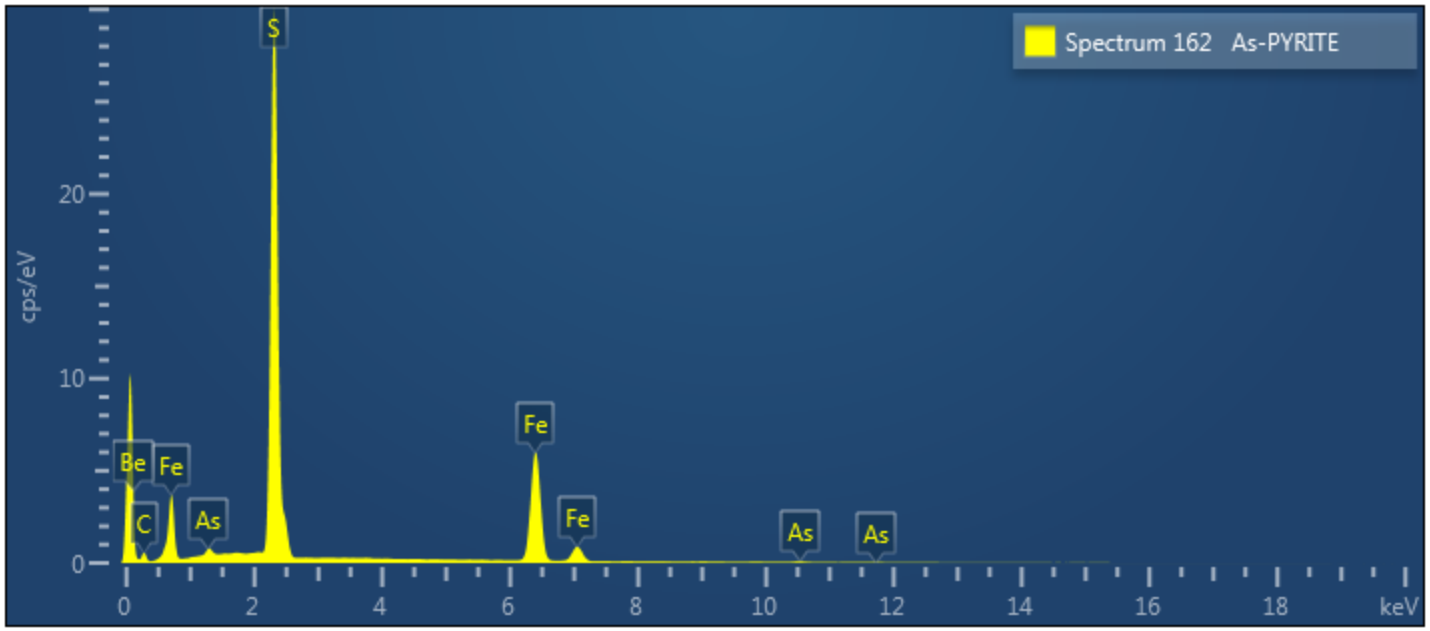
Plane light (top left), crossed polarized light (top right) and reflected light (bottom) photomicrographs illustrating a quartz and feldspar dominated rock with a late veinlet hosting chalcopyrite, Fe-sphalerite, and pyrite. Only one minor inclusion of electrum was noted associated with cubic pyrite and arsenian pyrite. The sections are carbon coated so chalcopyrite is blue in reflected light. Field of View = 2.2 mm.

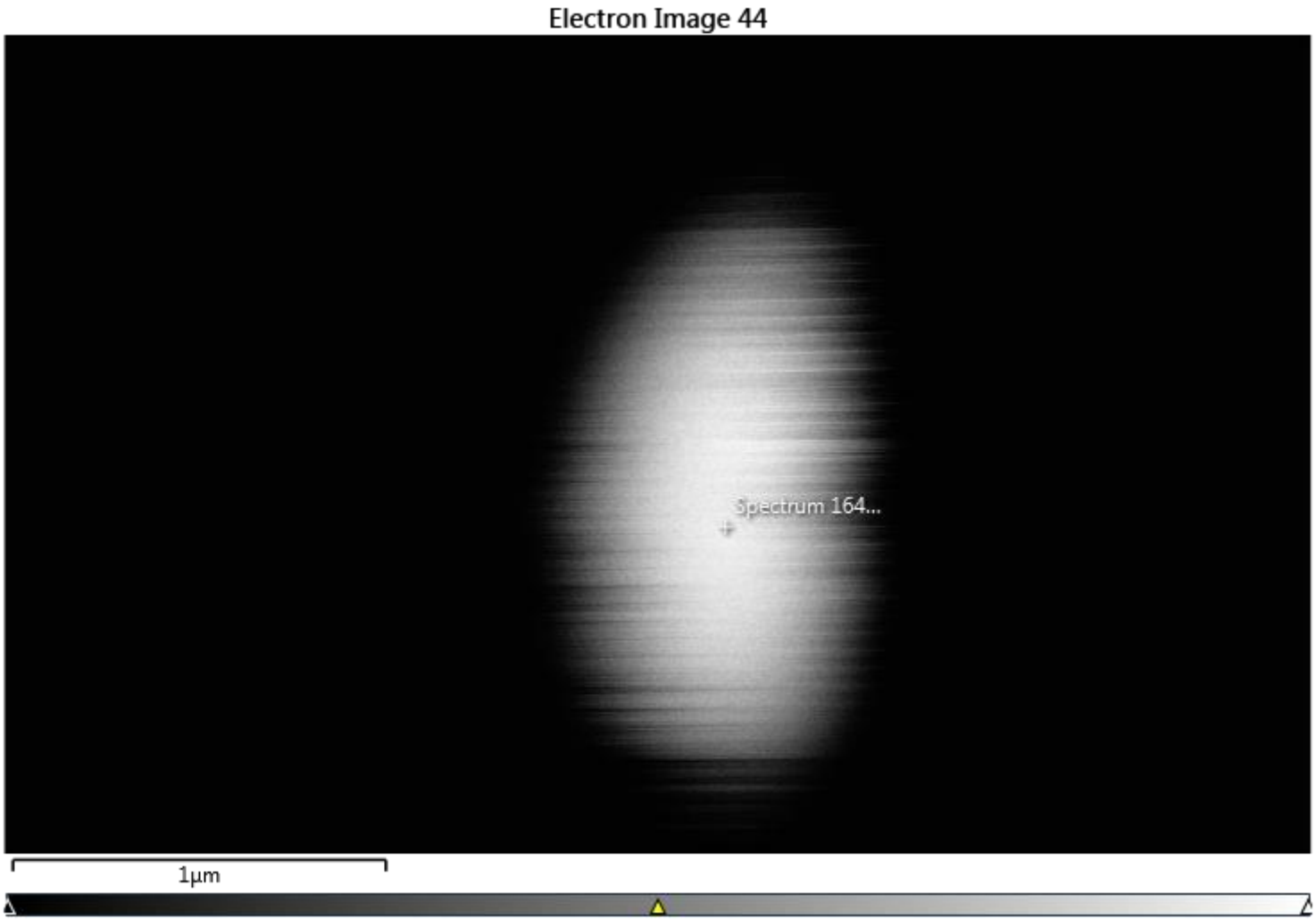



Backscatter image of a compositionally zoned pyrite grain with dark central (spectrum 161) and brighter more arsenian pyrite outer growth zone (spectrum 162). Note the brightest spot is a minute grain of free electrum.

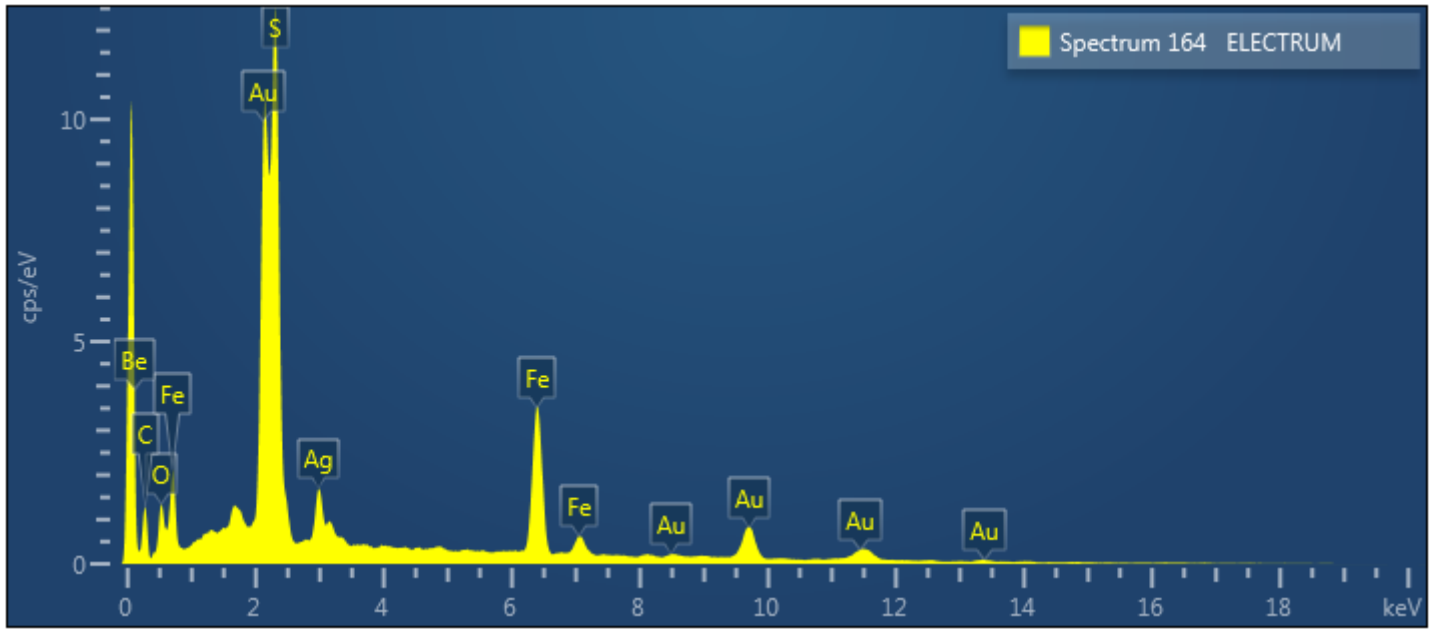


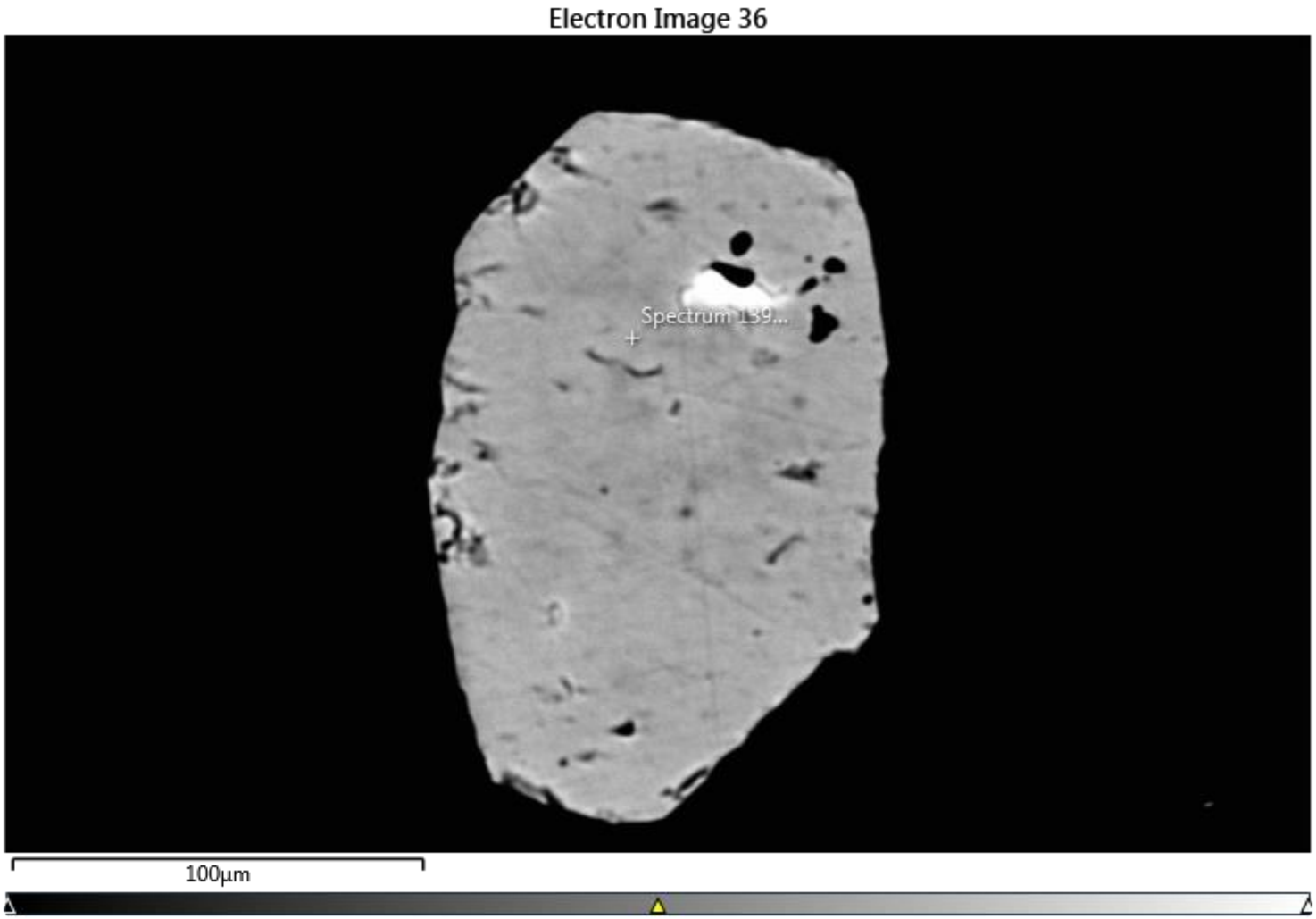

| Spectrum 161 PYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 54.65 | 0.42 | 67.73 |
| Fe | K series | 45.35 | 0.42 | 32.27 |
| Total | | 100.00 | | 100.00 |


Spectrum 162 As-PYRITE
cps/eV
20
10
0
S
Be
Fe
C
As
Fe
Fe
As
As
0
2
4
6
8
10
12
14
16
18
keV

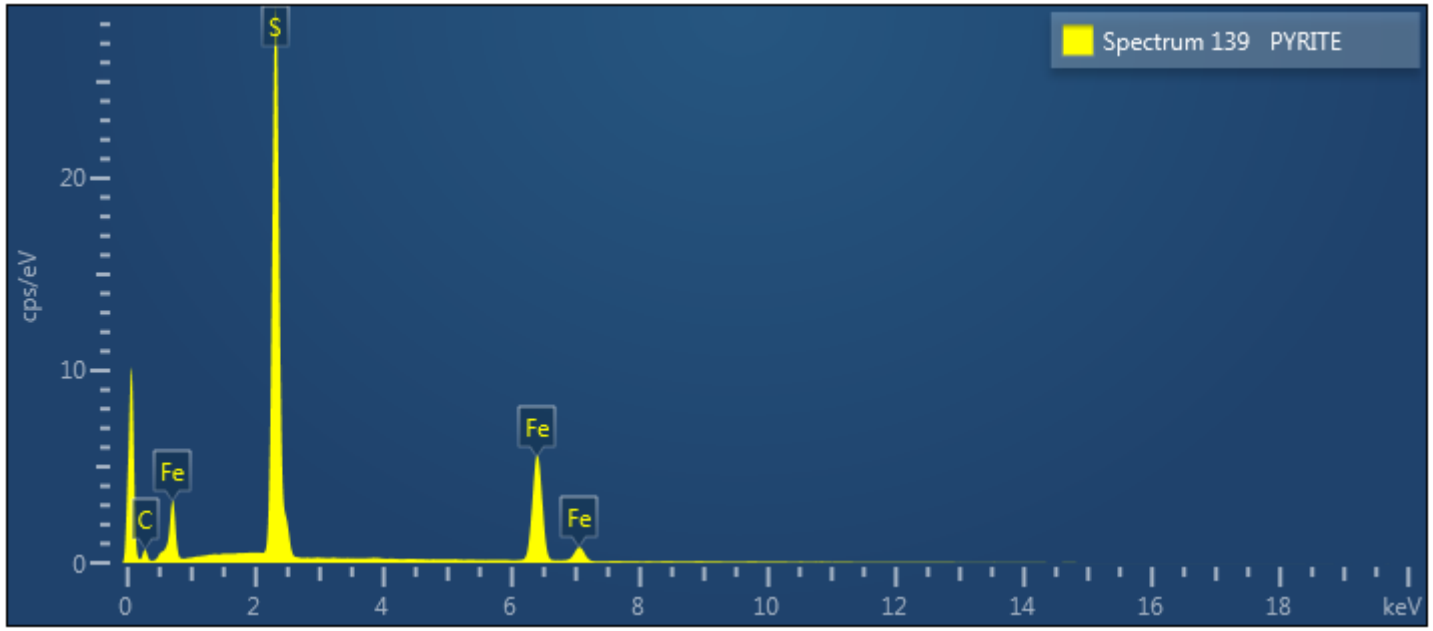



Backscatter image of a minute micron-sized grain of electrum from the image above. Note that the spectrum below shows Fe-S peaks due to beam spill-over onto the adjacent pyrite phase.

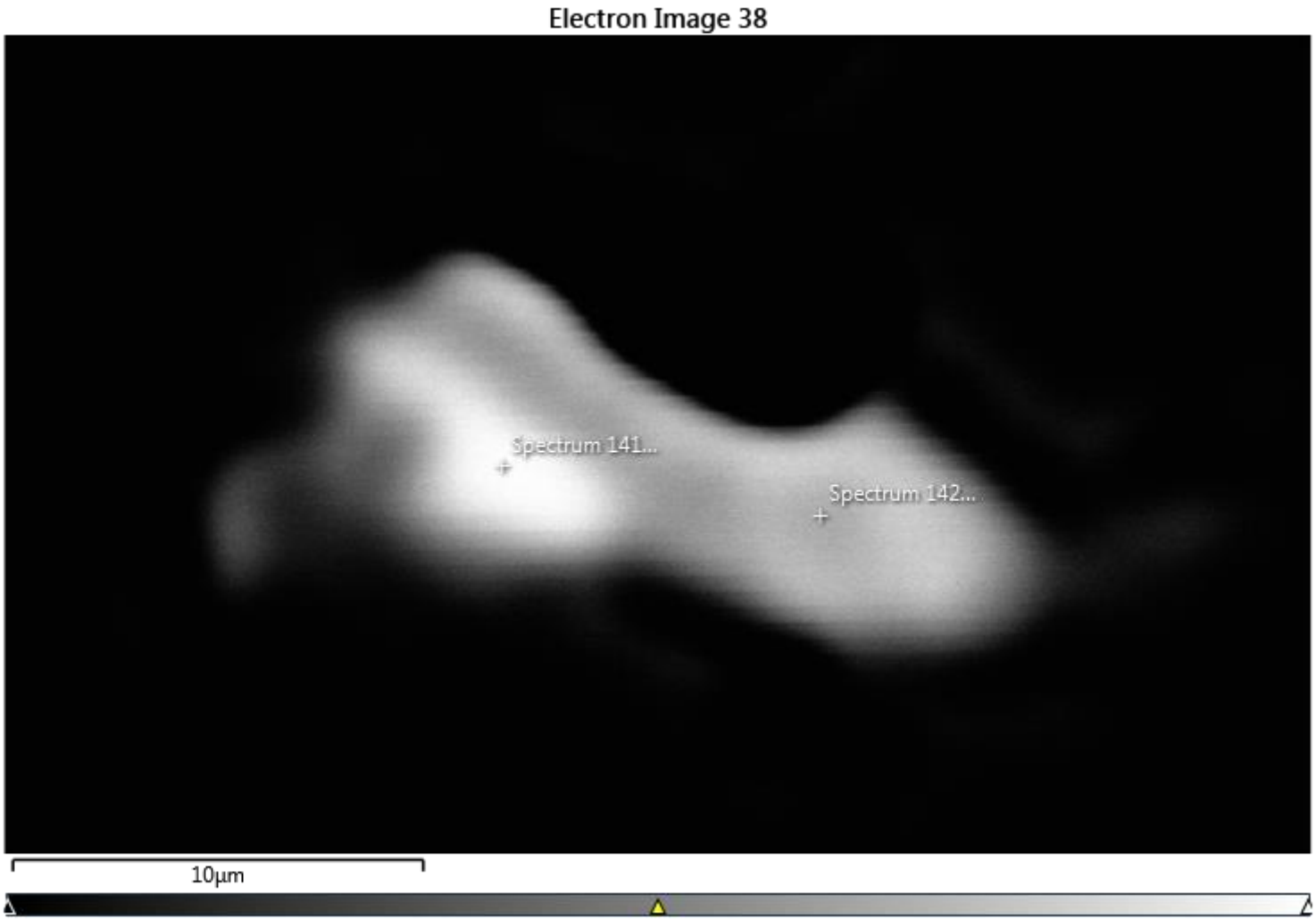

Spectrum 164 ELECTRUM
cps/eV
keV
S
Au
Be
Fe
C
O
Ag
Fe
Fe
Au
Au
Au
Au
0
5
10
0
2
4
6
8
10
12
14
16
18



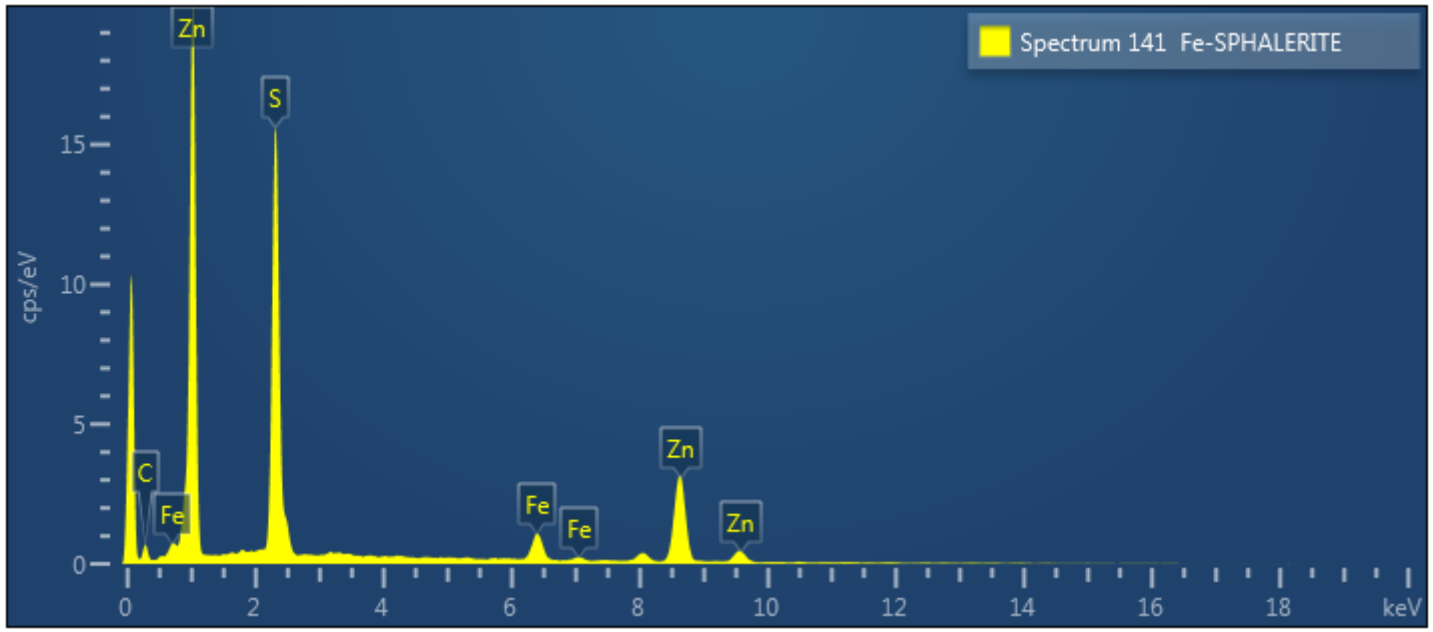

Backscatter image of a grain of pyrite (spectrum 139) hosting an inclusion of chalcopyrite and sphalerite.



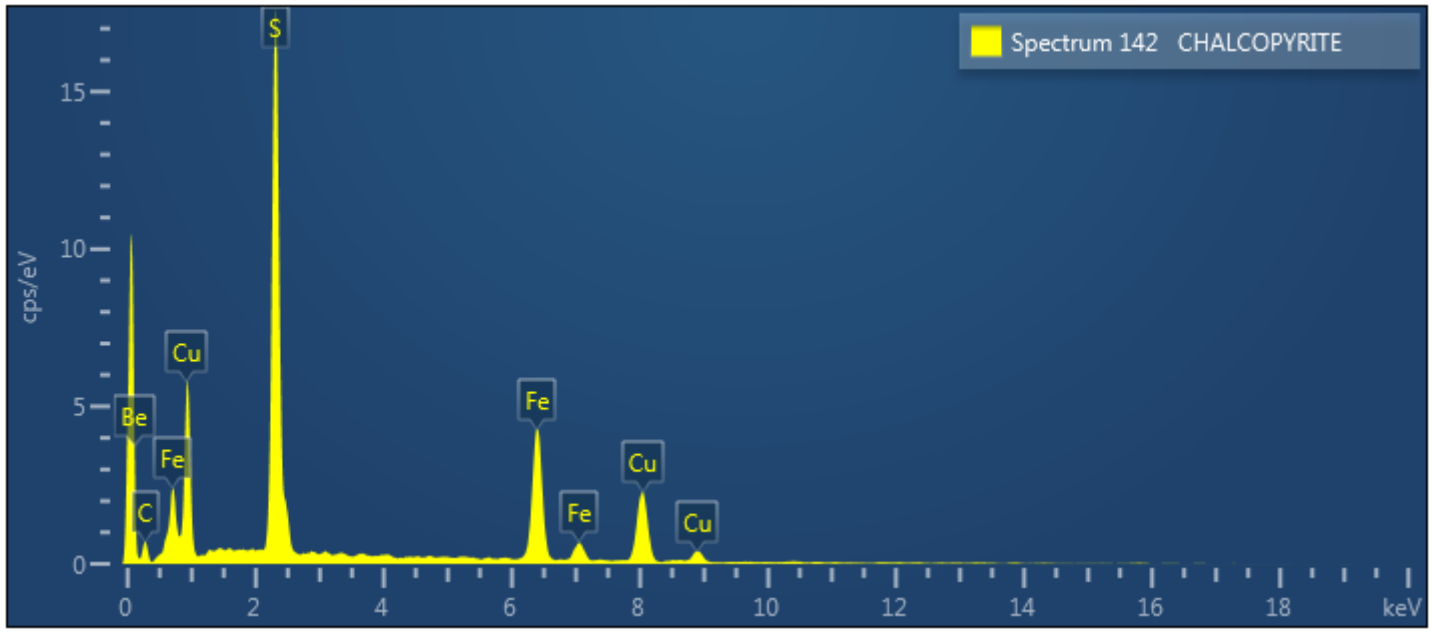

| Spectrum 139 PYRITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 54.87 | 0.32 | 67.93 |
| Fe | K series | 45.13 | 0.32 | 32.07 |
| Total | | 100.00 | | 100.00 |




Backscatter image of the inclusion above illustrating the intergrowth of Fe-sphalerite (spectrum 141) and chalcopyrite (spectrum 142).




| Spectrum 141 Fe-SPHALERITE | | | | |
|---|---|---|---|---|
| **Element** | **Line Type** | **Weight %** | **Weight % Sigma** | **Atomic %** |
| S | K series | 35.56 | 0.84 | 52.51 |
| Fe | K series | 6.54 | 0.52 | 5.55 |
| Zn | K series | 57.90 | 0.95 | 41.94 |
| Total | | 100.00 | | 100.00 |


Spectrum 142 CHALCOPYRITE
cps/eV
0
5
10
15
S
Cu
Be
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18
keV