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**N.T.S. 32D05J**

# REPORT ON
# HEAVY MINERAL SAMPLING
# AND ELECTRON MICROPROBE ANALYSES
# IN THE VICINITY TO THE MIRON Cu-Ag-Au VMS PROSPECT
# TANNAHILL TWP., ONTARIO

## LARDER LAKE MINING DIVISION

**Written by:**

**Robert J. Dillman**
**Arjadee Prospecting**
**8901 Reily Drive, Mount Brydges, Ontario**

**June 1, 2022**

**For:**

**Brandy Brook Mines Limited**
**8901 Reily Drive, Mount Brydges, Ontario**

**I N D E X**

**Summary**

This report discusses the results of heavy mineral sampling in the Magusi River in the vicinity of the Miron Cu-Ag-Au VMS Prospect in Tannahill township, Ontario. Four samples of gravel were collected in the section of the river by the prospect in cells 32D05J363, 32D05J364 and 32D05J3883 of claim 529540. The samples were collected by Jim Renaud and Robert Dillman (author) on July 10, 2021. Heavy mineral concentrates were prepared and examined under a microscope by the author over 8 days in August 2021 at his facilities in Mount Brydges, Ontario. Minerals of interest which included grains of sulphides and potential kimberlite indicator minerals were submitted to Jim Renaud of Renaud Geological Consulting Ltd. (RGC) for electron microprobe analyses and mineral identification. This work was conducted at the lab of RGC in London, Ontario in November and early December. Seventy-one (71) mineral grains were submitted for analyses.

Minerals identified in the heavy mineral concentrates included: chalcopyrite, chalcopyrite with inclusions of sphalerite, pyrite, pyrite with inclusions of chalcopyrite, arsenian pyrite, almandine and spessartine garnets, Cr-andradite garnet, uvarovite garnet, olivine, epidote, Mg- and Mn-ilmenite, chromite, magnetite, albite, REE silicate, quartz and iron oxide grains.

Chalcopyrite and pyrite grains were observed in all 4 samples but particularly abundant in 3 of the samples. Well preserved grain morphology such as euhedral crystal shapes, striations, twinning and composite grains such as chalcopyrite + quartz indicate very little erosional transport has occurred and sample sites are close to source. Most of the sulphides are believed to be associated with the Miron Cu-Ag-Au VMS Prospect where chalcopyrite is the dominate sulphide mineral over pyrite. Several delicate composite grains of quartz + chalcopyrite + malachite and well-preserved cubic crystals of Fe oxide in a sample collected 100 metres upstream from the Miron Prospect suggests additional copper mineralization occurs in the area.

Kimberlite indicator minerals were not identified in the samples however, a fair number of bright green Cr-rich andradite garnets and a uvarovite garnet were identified. The relationship of these minerals to the Miron Prospect is unknown. Demantoid, a Cr-rich variety of andradite garnet is a gemstone and considered to be the rarest and most valuable member of the garnet group.

## Location and Access

The Tannahill Property is situated in Tannahill and Holloway Townships in the Larder Lake Mining Division, Ontario. The property is located approximately 40 kilometres northeast of the town of Kirkland Lake (Figure 1).

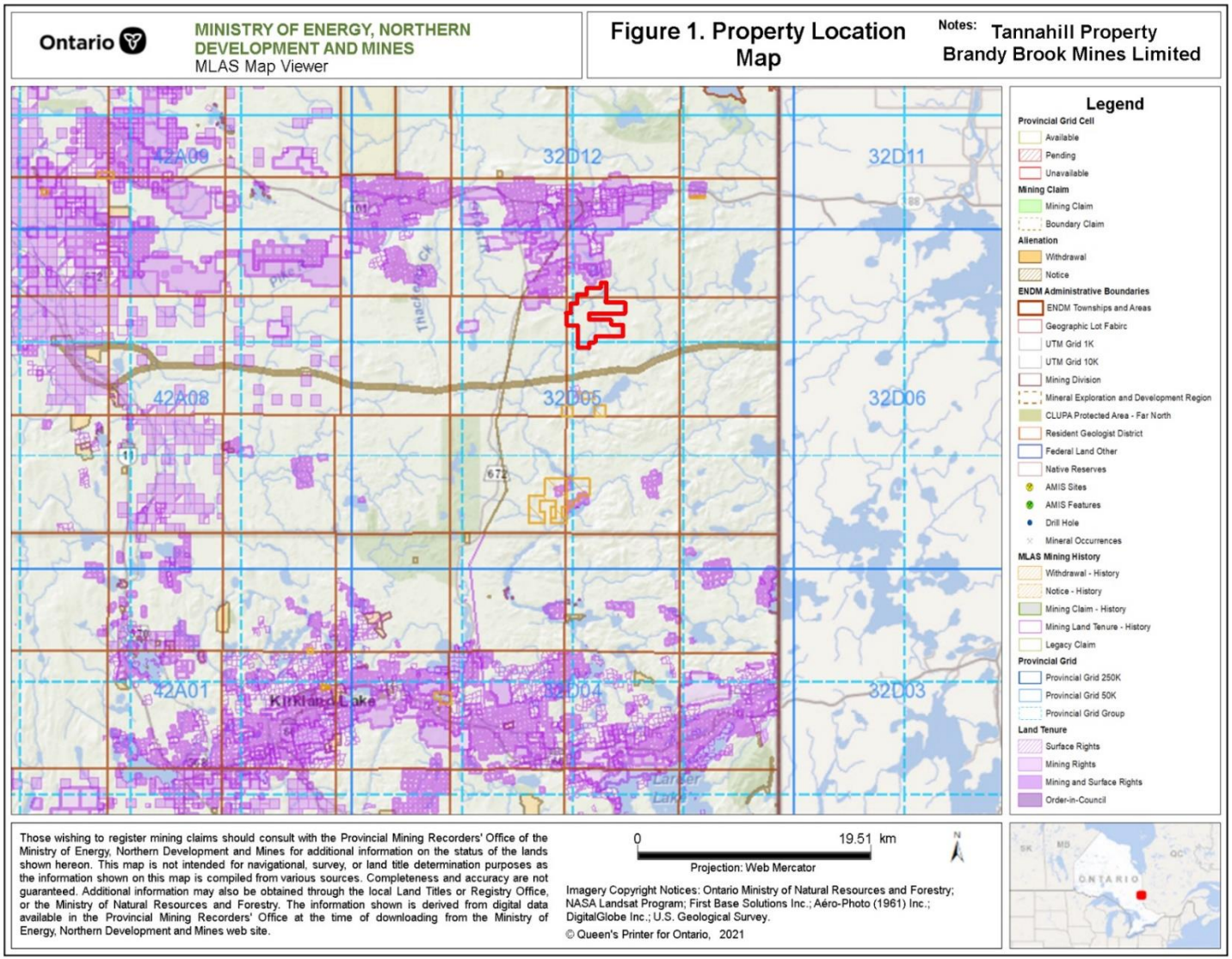
The property is accessible by truck and ATV. It can be reached by travelling 16 km east of Kirkland Lake on Highway 66 to Highway 672, also known as the Esker Lakes Highway. Proceed north on Highway 672 for a distance of approximately 28 km to the Magusi Road also known as the Roscoe Road and turn east. The Roscoe Road crosses Tannahill Township 1.2 km's south of the property. An over-grown logging road located 300 metres west of the 18 km marker on the Roscoe Road provides ATV access to the south section of the property and the area where this survey was conducted. Another road at the 17 km marker on the Roscoe Road provides access to the northeast section of the property.

## Claim Logistics and Location of Work

The Tannahill Property consists of 52 cells and 21 partial cells which are divided into 24 mining claims and 21 boundary claims (Figure 2).

All claims comprising the Tannahill Property are held by Brandy Brook Mines Limited.

Four samples of gravel were collected in the Magusi River in cells 32D05J363, 32D05J364 and 32D05J3883 of claim 529540 (Figure 3).


Ontario
MINISTRY OF ENERGY, NORTHERN DEVELOPMENT AND MINES
MLAS Map Viewer
Figure 1. Property Location Map
Notes: Tannahill Property
Brandy Brook Mines Limited
42A09
32D12
32D11
42A08
32D05
32D06
42A01
Kirkland Lake
32D04
32D03
Legend
Provincial Grid Cell
Available
Pending
Unavailable
Mining Claim
Mining Claim
Boundary Claim
Alienation
Withdrawal
Notice
ENDM Administrative Boundaries
ENDM 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
Those wishing to register mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Energy, Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources and Forestry. The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Energy, Northern Development and Mines web site.
0
19.51 km
Projection: Web Mercator
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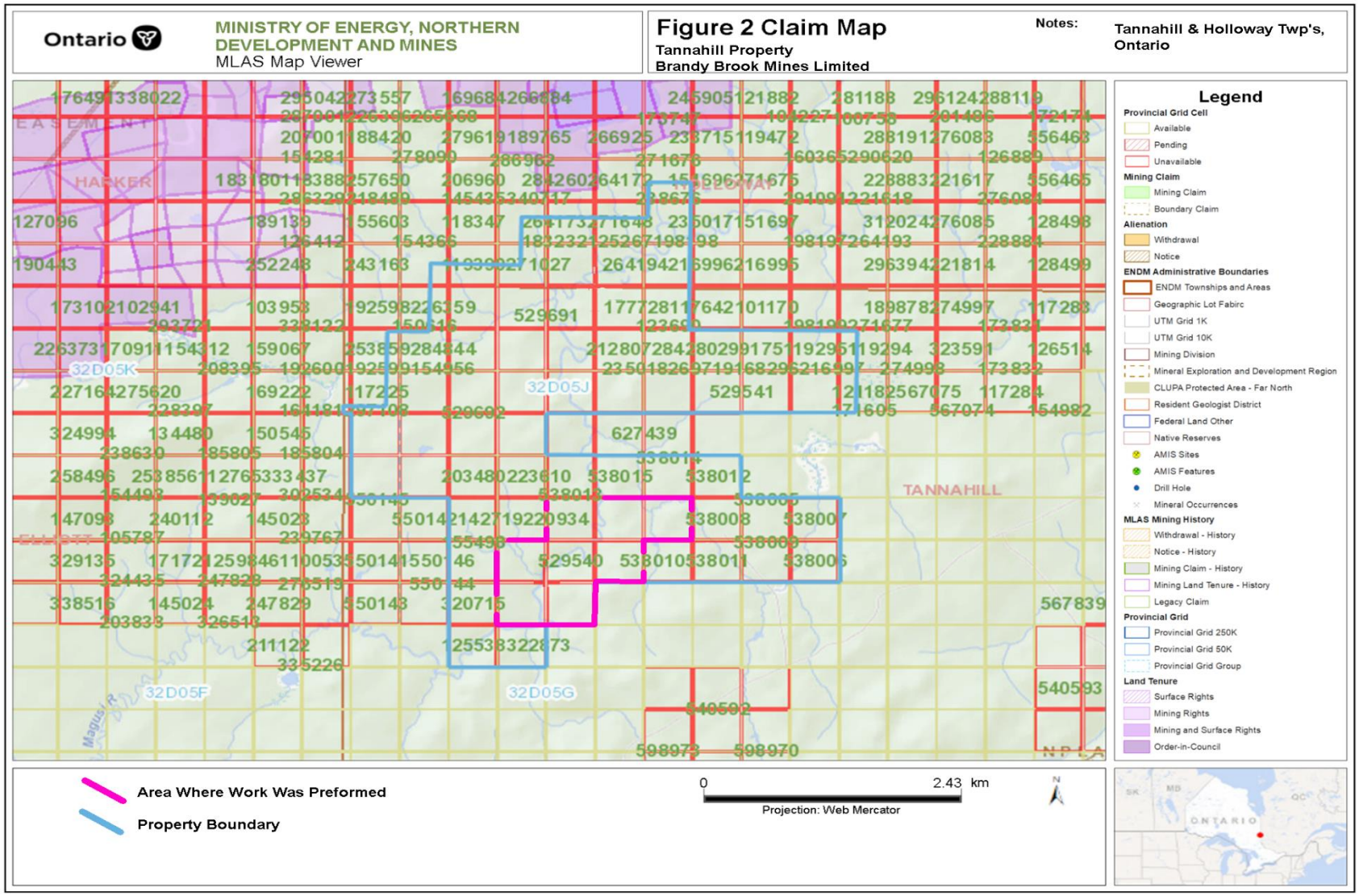
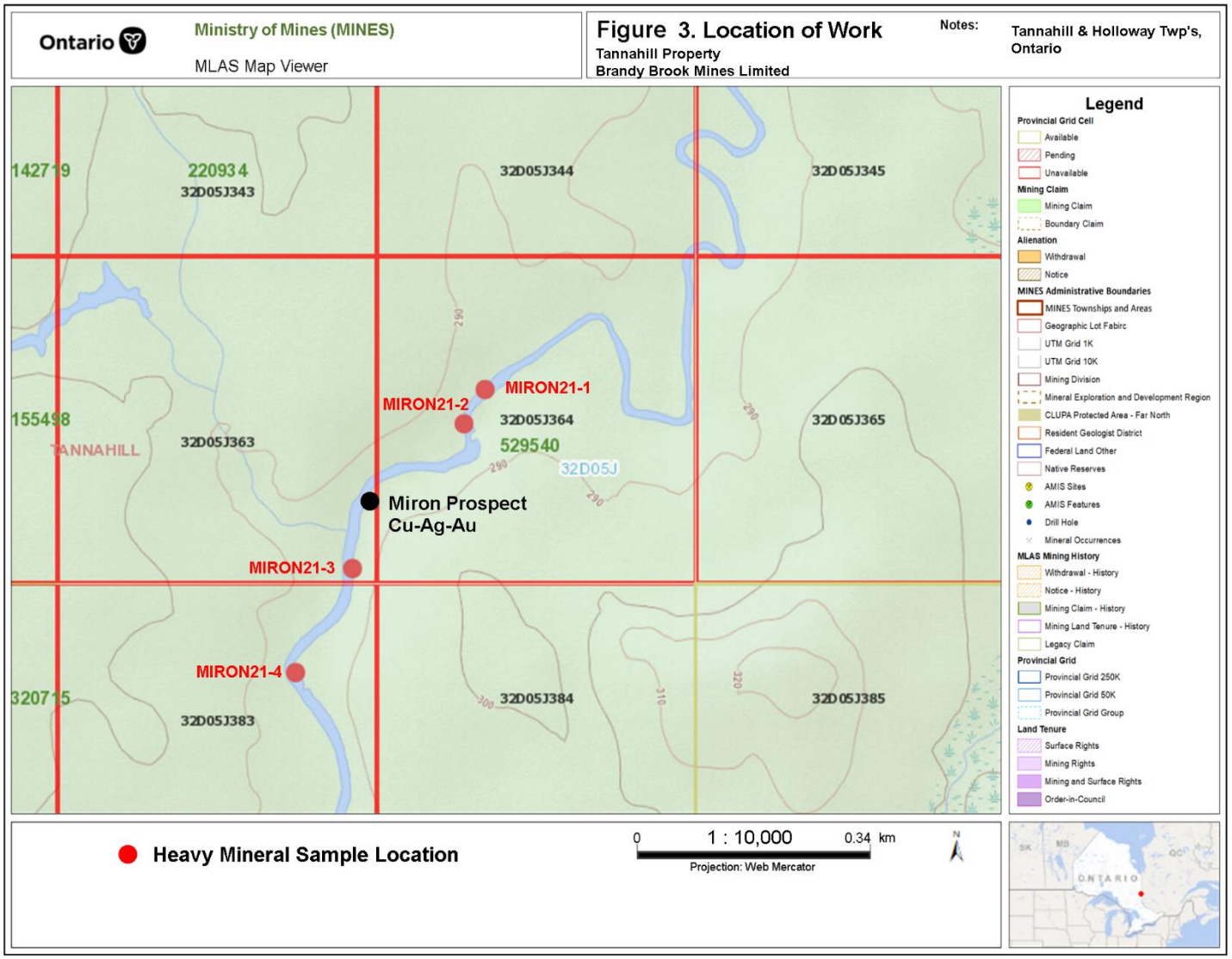

Ontario
MINISTRY OF ENERGY, NORTHERN DEVELOPMENT AND MINES
MLAS Map Viewer
Figure 2 Claim Map
Tannahill Property
Brandy Brook Mines Limited
Notes:
Tannahill & Holloway Twp's, Ontario
Legend
Provincial Grid Cell
Available
Pending
Unavailable
Mining Claim
Mining Claim
Boundary Claim
Alienation
Withdrawal
Notice
ENDM Administrative Boundaries
ENDM 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
TANNAHILL
HARKER
32D05K
32D05J
32D05F
32D05G
Magusi R
Area Where Work Was Preformed
Property Boundary
0
2.43 km
Projection: Web Mercator
ONTARIO


Ontario
Ministry of Mines (MINES)
MLAS Map Viewer
Figure 3. Location of Work
Tannahill Property
Brandy Brook Mines Limited
Notes:
Tannahill & Holloway Twp's, Ontario
142719
220934
32D05J343
32D05J344
32D05J345
155498
TANNAHILL
32D05J363
MIRON21-2
MIRON21-1
32D05J364
529540
32D05J
32D05J365
Miron Prospect
Cu-Ag-Au
MIRON21-3
MIRON21-4
320715
32D05J383
32D05J384
32D05J385
Legend
Provincial Grid Cell
Available
Pending
Unavailable
Mining Claim
Mining Claim
Boundary Claim
Alienation
Withdrawal
Notice
MINES Administrative Boundaries
MINES Townships and Areas
Geographic Lot Fabirc
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
Heavy Mineral Sample Location
0
1 : 10,000
0.34 km
Projection: Web Mercator
N
SK
MB
ONTARIO
QC

**Land Status and Topography**

The Tannahill Property is situated entirely on Crown Land. The property is uninhabited. There are no buildings or electrical powerlines. A system of non-maintained logging roads provide access to most areas of the property.

Sections of the property have been logged within the last 2 decades. Some areas are partially reforested with spruce trees. Other areas are meadow-like with grass, alder, and sparse spruce trees. Uncut forest borders streams and along the Magusi River. Large spruce, poplar and balsam trees grow in un-cut areas.

The property is at a mean elevation of 290 metres above sea level. Relief is gentle, ranging 20 metres.

The Magusi River forms a zig-zag pattern across the property. The river flows north from the southwest to the northeast corners of the property. The river frequently meanders and is slow flowing with short sections of rocky rapids usually occurring near outcrops.

**Regional and Local Geology**

The Tannahill Property is in the Harker-Holloway section of the Abitibi Greenstone Belt. The property is underlain by Archean units of the Lower and Upper Blake River assemblage dated 2704 to 2696 Ma. Rock units consist of massive to pillowed and brecciated basalt to andesite flows, minor argillite to fine-grained clastic interbedded sediments, gabbroic sills and younger gabbro plutons. The region is crossed by north to northwest striking diabase dikes of various ages.

The Tannahill property is on the north limb of a syncline structure. Rock units on the property generally strike east to northeast and dip moderately to steeply south. Rock units appear to be within the chlorite grade of greenschist facies metamorphism.

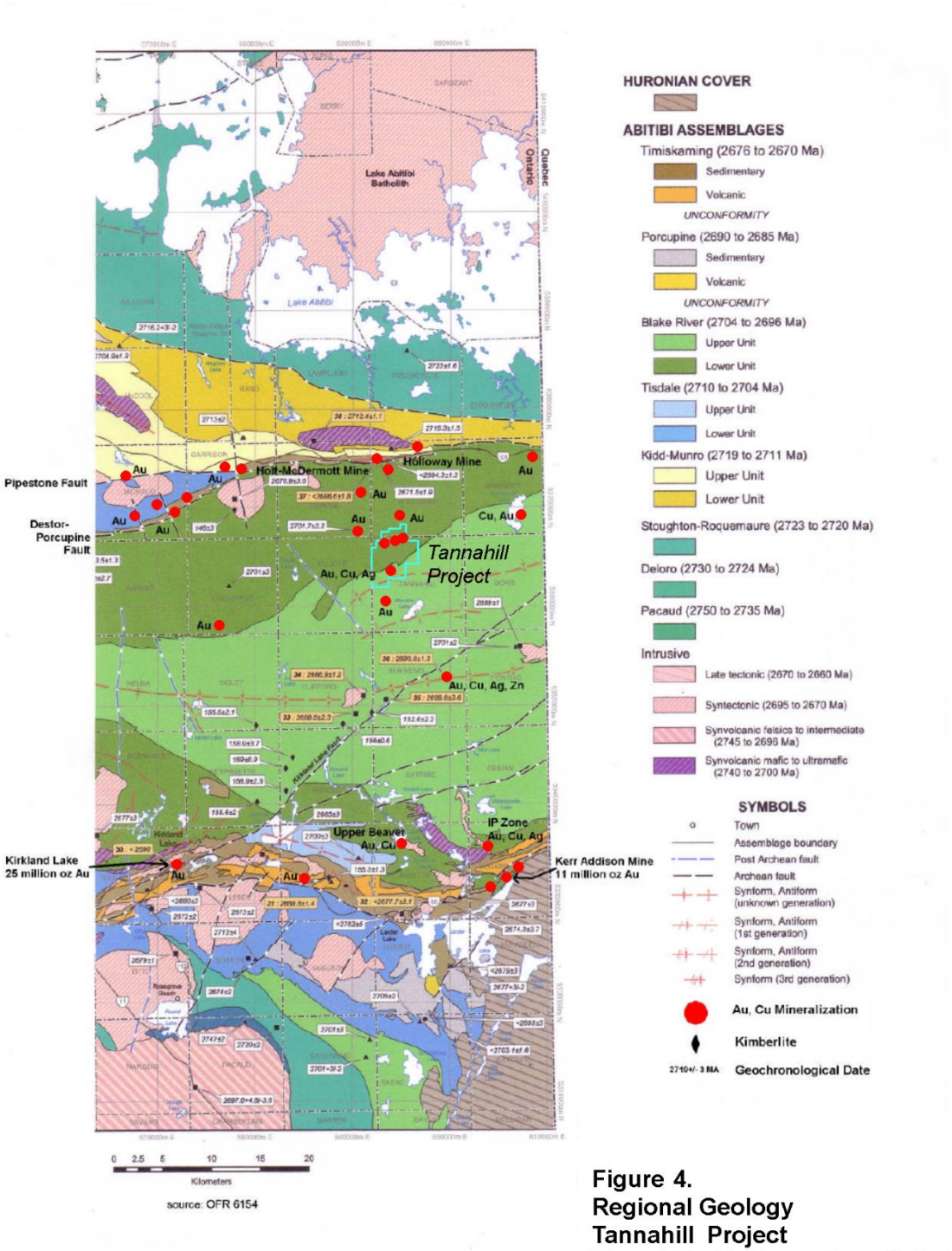
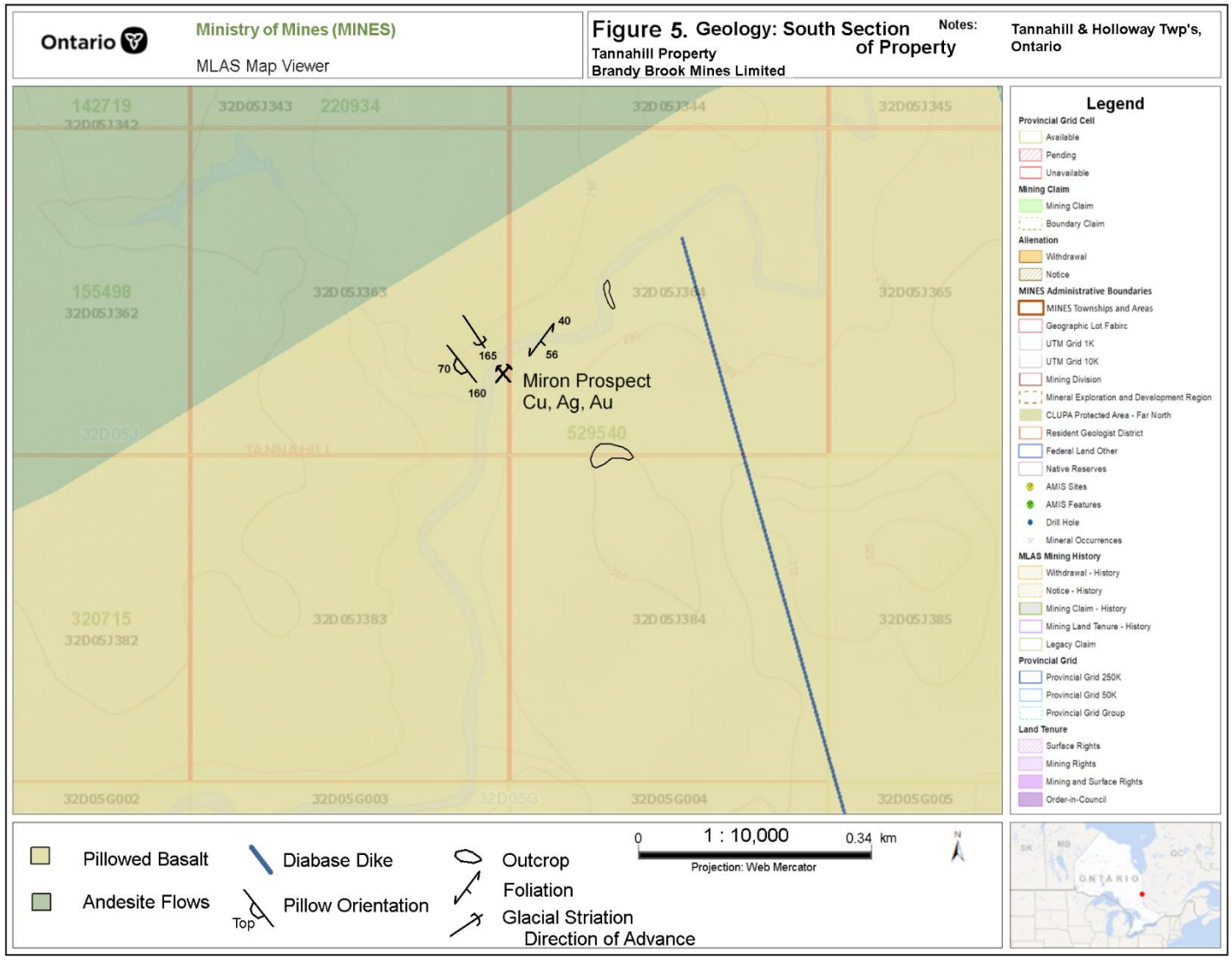



**Figure 4.**
**Regional Geology**
**Tannahill Project**
**Tannahill - Holloway Twp. Ontario**
**Brandy Brook Mines Limited**

The north section of the property which is underlain by the Lower Blake River Formation is crossed by northeast trending splay faults and shears associated with the Destor Porcupine Fault Zone situated 8 km to the north. These structures are offset by younger north to northwest trending structures. Faults and shears are less prevalent in the Upper Blake River Formation in the south section of the property. The Upper Blake River Formation consists of pillowed basalt, andesite and gabbroic flow which have been intruded by younger gabbro plutons, fine-grained mafic and diabase dikes.

There are very few outcrops in the area where samples were collected, several of which can be found on the east side of the river. All the outcrops consist of pillowed and massive flows of basalt. The Miron Prospect is hosted by pillowed basalt. The mineralization consists of stringers and massive blebs of chalcopyrite and pyrite occurring in pillow salvages and quartz stringers. The mineralization is characteristic of Volcanogenic Massive Sulphide (VMS) style mineralization. Assays show good values of copper and silver and highly anomalous gold and zinc.


Ontario
Ministry of Mines (MINES)
MLAS Map Viewer
Figure 5. Geology: South Section of Property
Tannahill Property
Brandy Brook Mines Limited
Notes:
Tannahill & Holloway Twp's, Ontario
Miron Prospect
Cu, Ag, Au
165
40
70
56
160
Legend
Provincial Grid Cell
Available
Pending
Unavailable
Mining Claim
Mining Claim
Boundary Claim
Alienation
Withdrawal
Notice
MINES Administrative Boundaries
MINES Townships and Areas
Geographic Lot Fabirc
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
Pillowed Basalt
Andesite Flows
Diabase Dike
Pillow Orientation
Top
Outcrop
Foliation
Glacial Striation
Direction of Advance
0
1 : 10,000
0.34 km
Projection: Web Mercator
N
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**History of Exploration**

The Miron Prospect was discovered in 1986, by prospector Ted Miron of Sudbury, Ontario. A limited amount of overburden stripping was completed and a gold assay of 0.29 oz/ton was reported from a small pit on the east side of the river (MDI32D05NE00039).

In 1987, the gold occurrence was acquired by prospectors: Ivan Gagne and Andre St. Amant. They proceeded to strip overburden, power wash the outcrop and blast several trenches across the outcrop. Five rock samples are reported to have assayed: 0.002 to 1.26 oz/ton gold, 0.11 to 0.41 oz/ton silver and 1.01 to 3.80% copper (Assessment File 32D05NE0036).

In 1988, Gagne and Amant completed an airborne magnetometer and VLF electromagnetic (EM) survey over their property. The survey was performed by H. Ferderber Geophysics Ltd. of Val D'Or, Quebec. The survey was flown at a terrain clearance of 300 feet (91 metres) on flight lines spaced 440 feet (135 metres) apart. Navigation of the survey was aided by video tracing. Two conductive zones were detected by the survey (Assessment File 32D05NE0039).

Between 1988 and 1992, Gagne and St. Amant drilled nine X-Ray holes. Numerous intersections of chalcopyrite were noted in the drill logs however no assays are reported. (Assessment Files: 32D05NE0032, 32D05NE0045, 32D05NE9357, 32D05NE9358)

In 1995, Strike Minerals had an option on the Miron occurrence and completed a mechanized trenching program on the mineralization. Strike reported assay values ranging trace to 583 ppb (0.016 oz/ton) gold, trace to 37.0 ppm (1.01 oz/ton) silver, 287 to 87,100 ppm (8.71%) copper and 91 to 1,360 ppm (0.136 %) zinc. The property lapsed in 2011.

In 2011, Brandy Brook Mines Limited staked the Miron occurrence. Up to present, Brandy Brook has completed various ground surveys (Figure 6). These survey included: ground magnetometer and VLF-EM surveys, collected rock samples, recorded geology and collected several heavy mineral concentrates from the Magusi River. The magnetometer survey indicated the Miron

Prospect coincides with a northeast trending magnetic “low”. Several additional northeast trending magnetic features were detected proximal to the mineralization. Some of the magnetic anomalies have coincident VLF conductors.

Rock samples collected from the Miron Prospect by Brandy Brook assayed: <0.02 to 1.46 g/t gold, 0.5 to 46.8 g/t silver, 0.007 to 8.61% copper and <0.001 to 0.12% zinc. The mineralization also shows anomalous values nickel and cobalt. The heavy mineral concentrates collected in the Magusi River contained abundant pyrite and chalcopyrite grains. Microprobe analyses indicated many sulphide grains contained inclusions of sphalerite. Large gold grain were present in heavy mineral samples collected in the river adjacent to the Miron Prospect and in a sample collected 200 metres upstream from the mineralization. Chalcopyrite and magnetite grains coated with malachite were found in a heavy mineral sample collected 150 metres downstream from the Miron Prospect.

In 2016, Brandy Brook Mines collected additional rock samples at the Miron Prospect. Several channel cuts were made using a gas powered rock saw. Although sampling was limited to a small area, best results included an 80 cm cut which averaged 1.7% Cu, 10.9 g/t Ag, 0.06 g/t Au, 204 ppm Co, 338 ppm Ni, 434 ppm Zn, 2.1 ppm Mo and 97.5 ppm V.

In 2017, Brandy Brook collected soil samples over the area around the prospect. Two anomalies were delineated, a northeast-southwest trending anomaly coinciding with the Miron Prospect and a second anomaly coinciding with magnetic and VLF-EM features situated on the west and north side of the river.

In 2021, rock samples were collected from the Miron Prospect for assay and petrographic examination . Assays of 6.69% Cu, 0.67 ppm Au, 36.2 ppm Ag, 565 ppm Co, 858 and 1,060 ppm Zn were recovered. Petrographic examination of the rocks by Renaud Geological Consulting Limited (RGC) reenforced mineralization in the prospect is associated with VMS style mineralization. A sample collected at the time consisting of a fine-grained mafic dike with spiderweb-like calcite stringers assayed 48 ppm Ce, 0.02% Cr, 22 ppm La, 0.264% ppm P, 10.7 ppm Pb, 0.011% Sr, 10 ppm Y and 38 ppm Zr. The dike cuts across the Miron Prospect.

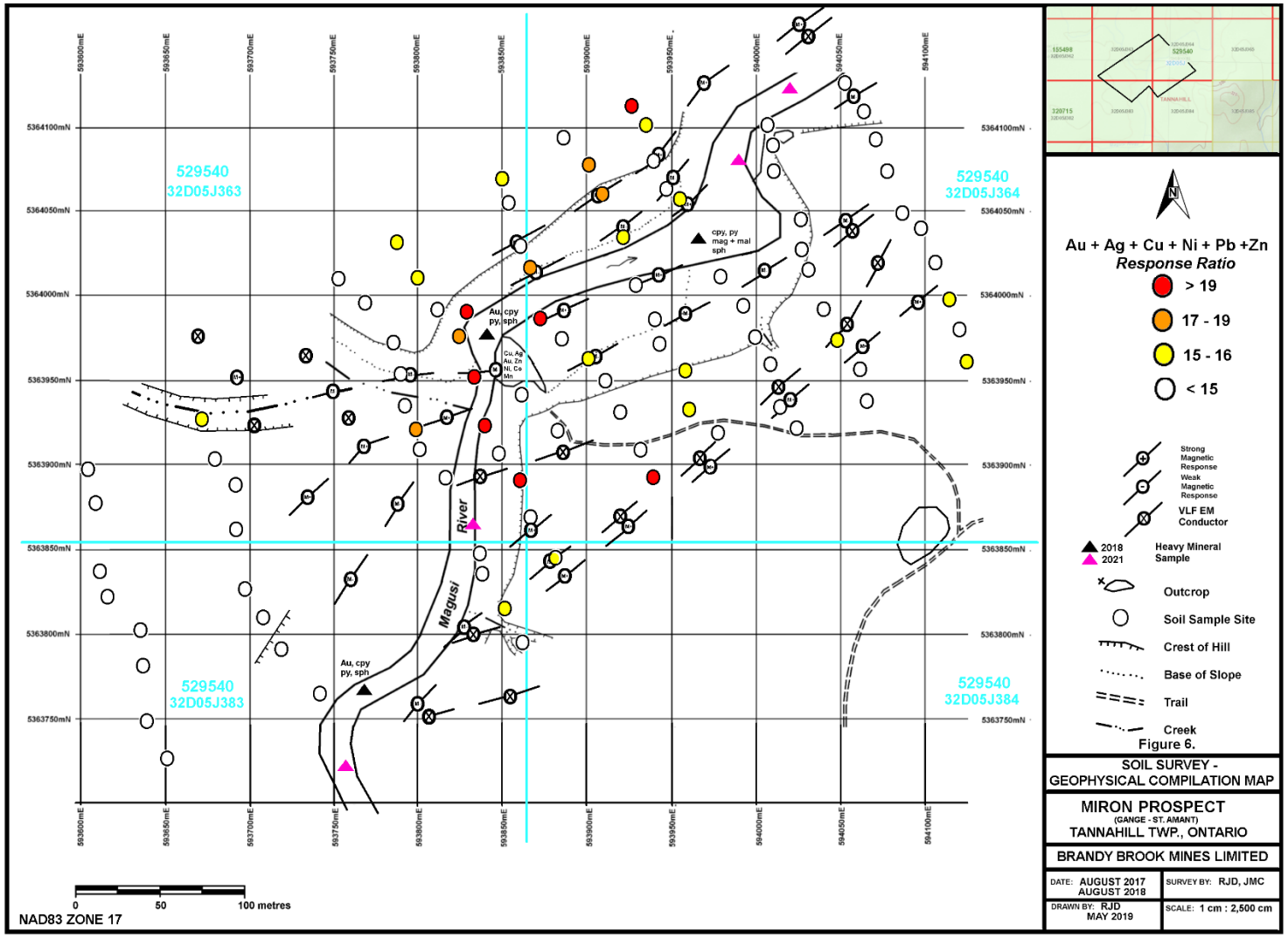

529540
32D05J363
529540
32D05J364
529540
32D05J383
529540
32D05J384
River
Magusi
cpy, py
mag + mal
sph
Au, cpy
py, sph
Cu, Ag
Au, Zn
Ni, Co
Mn
Au, cpy
py, sph
5364100mN
5364050mN
5364000mN
5363950mN
5363900mN
5363850mN
5363800mN
5363750mN
593600mE
593650mE
593700mE
593750mE
593800mE
593850mE
593900mE
593950mE
594000mE
594050mE
594100mE
0
50
100 metres
NAD83 ZONE 17
Au + Ag + Cu + Ni + Pb +Zn
Response Ratio
> 19
17 - 19
15 - 16
< 15
Strong Magnetic Response
Weak Magnetic Response
VLF EM Conductor
2018
2021
Heavy Mineral Sample
Outcrop
Soil Sample Site
Crest of Hill
Base of Slope
Trail
Creek
SOIL SURVEY -
GEOPHYSICAL COMPILATION MAP
MIRON PROSPECT
(GANGE - ST. AMANT)
TANNAHILL TWP., ONTARIO
BRANDY BROOK MINES LIMITED
DATE: AUGUST 2017
AUGUST 2018
SURVEY BY: RJD, JMC
DRAWN BY: RJD
MAY 2019
SCALE: 1 cm : 2,500 cm

Figure 6.

**Survey Dates and Personal**

Heavy mineral samples were collected in one day on July 10, 2021. Samples were collected by author, Robert Dillman of Mount Brydges, Ontario and Jim Renaud of London, Ontario.

**Survey Logistics**

Four (4) heavy mineral samples were collected from gravel in the Magusi River. The logistics of the samples including locations are outlined in Table 1. UTM coordinates of the sample site locations were recorded using a Garmin GPS model GPSMAP 66st. The GPS unit was set to NAD83, Zone 17. Gravel from the riverbed was collected using a shovel. Gravel material was passed through a 1.0 cm mesh screen and collected in sample bags at the site. Approximately 5 litres of gravel was collected at each location.

Heavy minerals were extracted from the gravels using a combination of gravity settling and density liquid techniques (Figure 7). At the lab, the sample was further screened down using a 1.0 mm mesh sieve. The –1.0 mm fraction is then fed into a Innex cable jib equipped with a No. 80 Tyler sieve (180 $\mu$m). With the jig running, this screen forms a crude heavy mineral concentrate and removes fine silt and clay from the sample. The -1.0 mm heavy mineral concentrate from the jig is dried and then bathed in Lithium Metatungstate which has a specific gravity of 2.95. Minerals with a lower specific gravity are floated off and discarded. Minerals of higher specific gravity are washed, dried and weighed and were examined by binocular microscope for sulphides, gold and kimberlite indicator minerals. A total of 504.3 grams of concentrate was examined and 71 mineral grains were selected for electron microprobe analyses by Dr. Jim Renaud. Microprobe data is appended to this report.

The selected grains were organized by mineral species and grain size and mounted on glass slides and polished. The polished sections were carbon coated and examined in transmitted and reflected light with a Zeiss Axioscope petrographic microscope. Samples were examined in detail using RGC's new Oxford Instruments Energy Dispersive System (EDS) on the microprobe and relevant minerals analyzed using the wavelength spectrometers.

Table 1.Logistics of Heavy Mineral Samples and Minerals Present

| Sample Number | UTM Coordinates | Claim Number | Cell Number | Weight of Heavy Mineral Concentrate +2.95 sp.g. | # of Sulphide Grains | Pyrite Grains | Chalcopyrite Grains | Cr-Andradite Garnet Grains | Number of Grains Analyzed by Microprobe |
|---|---|---|---|---|---|---|---|---|---|
| **MIR21-1** | 594021mE 5364130mN | 529540 | 32D05J364 | 175.2 g | 27 | 7 | 12 | 10 | 22 8 sulphides, 14 KIM |
| **MIR21-2** | 593992mE 5364081mN | 529540 | 32D05J364 | 154.3 g | 35 | 10 | 25 | 4 **1 uvarovite** | 13 6 sulphides, 7 KIM |
| **MIR21-3** | 593833mE 5363869mN | 529540 | 32D05J363 | 66.5 g | 49 | 32 | 7 | 5 | 19 10 sulphides, 9 KIM |
| **MIR21-4** | 593756mE 5363723mN | 529540 | 32D05J383 | 108.3 g | 17 | 14 | 3 | 4 | 17 9 sulphides, 8 KIM |

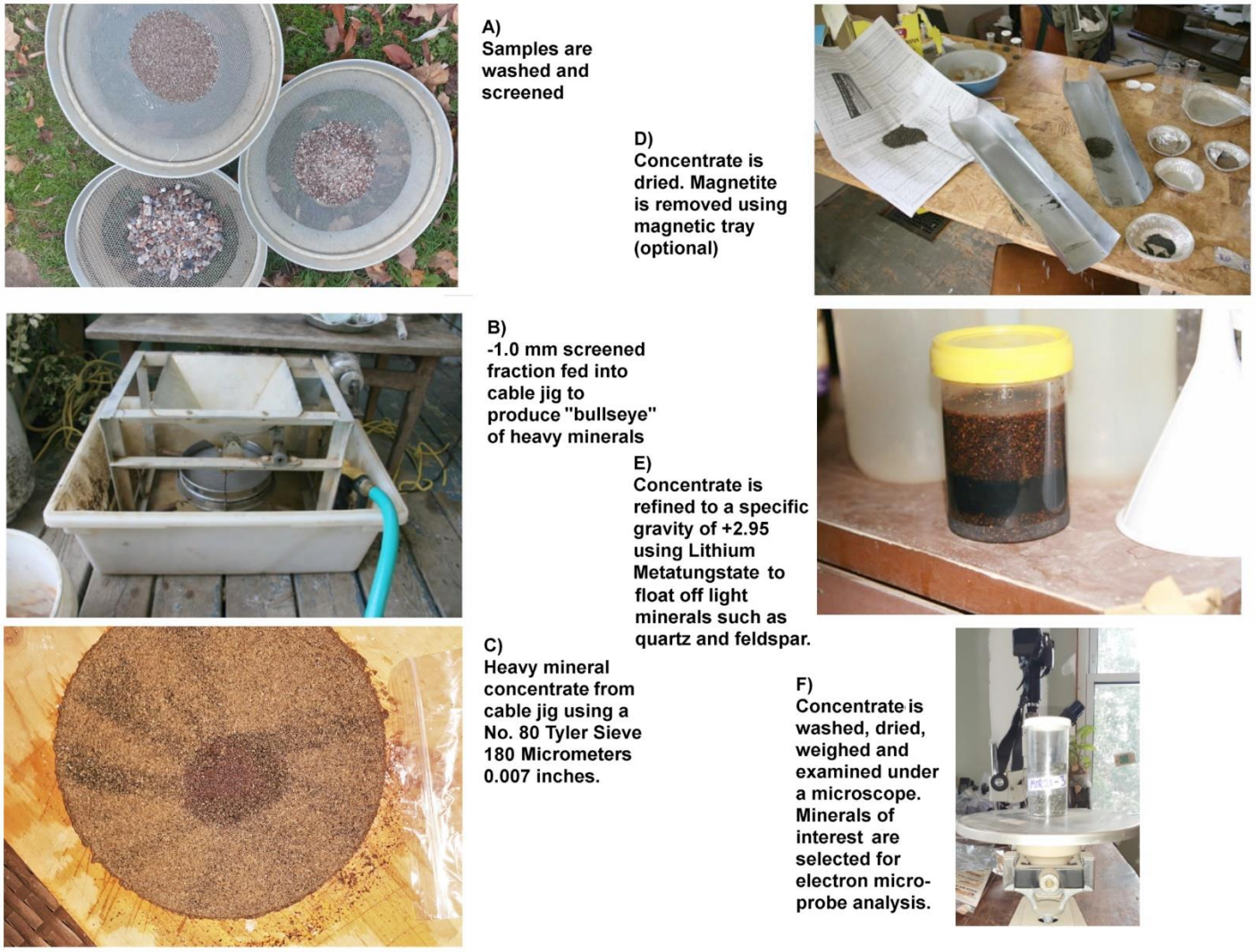



**Figure 7. Procedure to make a Heavy Mineral Concentrate**

Backscattered electron detector images of relevant and interesting mineralogical and textural relationships were collected digitally. The scale bar is located below each backscatter image to help evaluate the grain sizes of the various minerals. All minerals were analyzed using a JEOL JXA 733 electron microprobe equipped with an Oxford Instruments EDS and five wavelength spectrometers. Analyses of the minerals are included in a separate report accompanying this report.

The -180 $\mu$m fraction of each sample which passed through the Tyler sieve in the jig were sent to AGAT Laboratories for multi-element assays that include Au and Cu. The largest samples, MIR21-2 and MIR21-3 were analyzed by Sodium Peroxide Fusion followed by ICP-OES finish to measure the elements present. The smaller samples, MIR21-1 and MIR21-4 were assayed by Aqua Regia Digest followed by ICP/ICP-MS finish to measure elements present. Gold assays were completed on samples MIR21-2 and MIR21-3 using fire assays followed by ICP-OES to measure gold content. Assay certificates from the lab are included with this report. AGAT Laboratories is located at 5623 McAdam Road in Mississauga, Ontario.

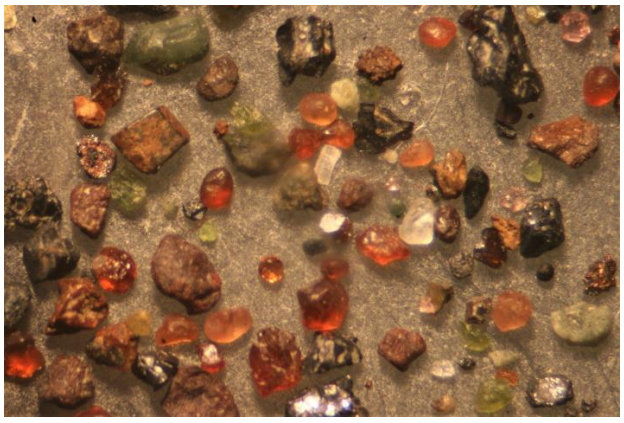
**Survey Results**

The heavy mineral concentrates derived from the -1.0 mm fraction of each sample were examined under microscope for kimberlite indicator minerals (M#K) and sulphide minerals (M#S). The following grain images depict the minerals selected from the heavy mineral concentrates for electron microprobe analyses. Identification of each mineral accompanies each picture.

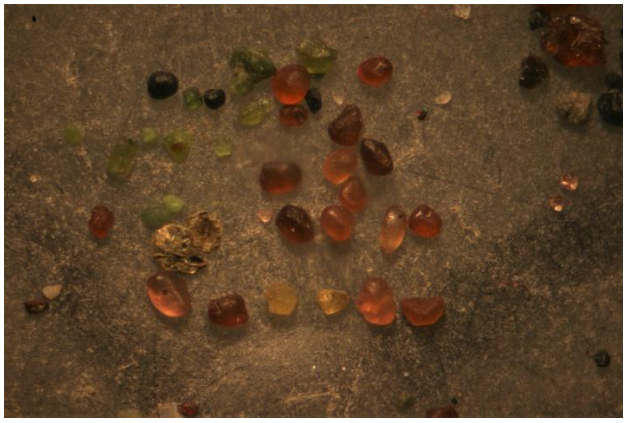
<u>Sulphides</u>

Sulphides were present in all 4 samples with the greatest concentrations occurring in MIR21-3, collected 100 metres upstream from the Miron Prospect and in MIR21-2, collected 120 metres downstream from the prospect. The sulphides consist of chalcopyrite and pyrite. Chalcopyrite occurs in all the samples and is the dominate sulphide mineral in MIR21-1, MIR21-2 and MIR22-3. Pyrite also occurs in all the sample with MIR21-4 having the greatest concentration.

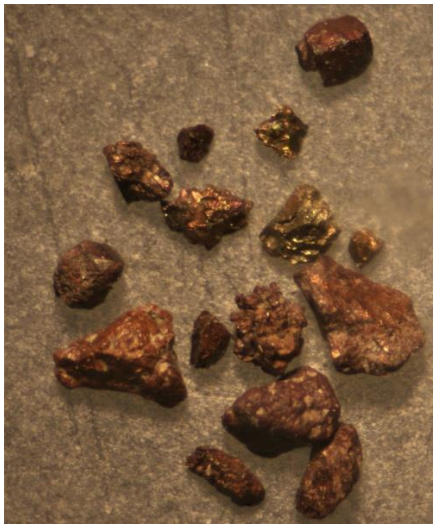
**Sample: MIR21-1**

Minerals of interest
Picked from concentrate



Potential kimberlite indicator minerals
garnets, pyroxene, chromite, mica

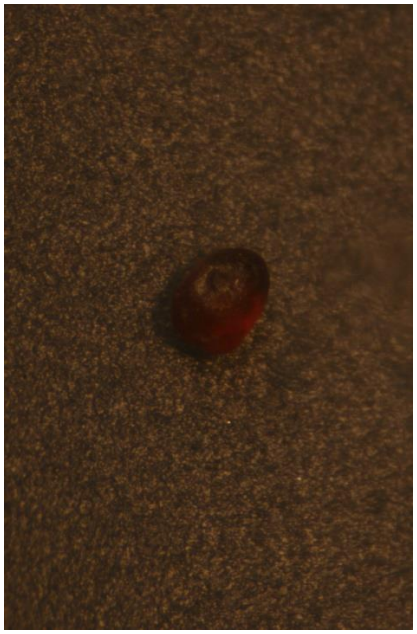


Chalcopyrite

Unknown sulphides

Silver pyrite grains

**MIR21-1: M1K**



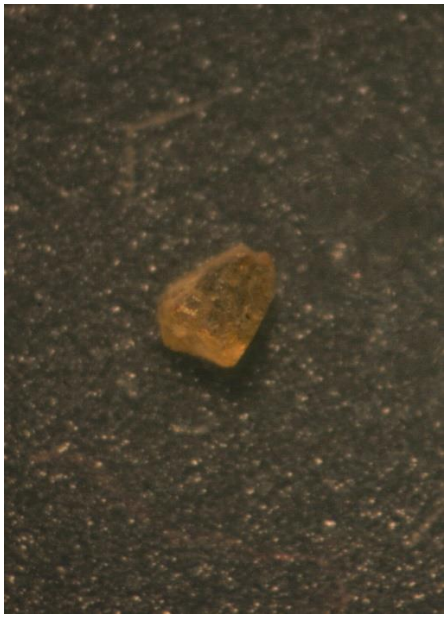
M1K Grain 1
Mn-garnet

M1K Grain 2
Mn-garnet

M1K Grain 3
Almandine garnet

M1K Grain 4
RRE Silicate

M1K Grain 5
Quartz



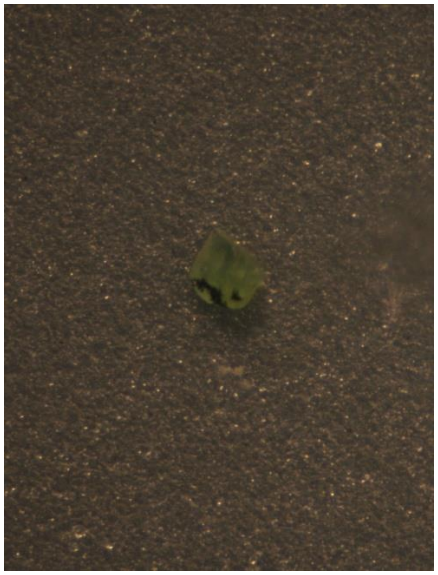
M1K Grain 6
Fe-olivine

**MIR21-1: M1K**

M1K Grain 7
Low Cr-chromite

M1K Grain 8
albite

M1K Grain 9
Low Cr-chromite with monazite



M1K Grain 10
Cr-andradite garnet

M1K Grain 11
Epidote

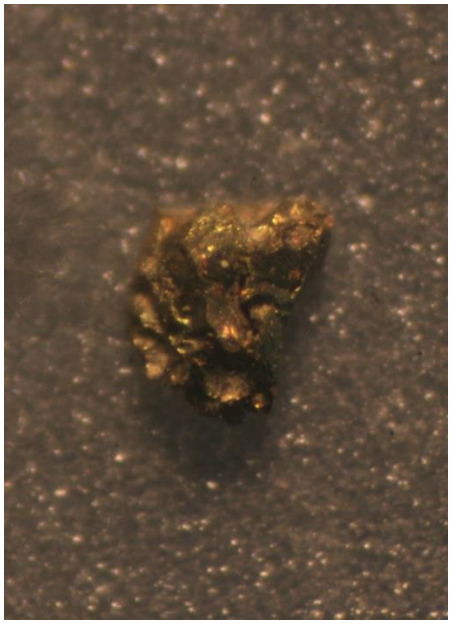
M1K Grain 12
Cr-andradite garnet

**MIR21-1: M1K**

M1K Grain 13
Cr-andradite garnet

M1K Grain 14
Cr-andradite garnet

**MIR21-1: M1S**



M1S Grain 1
Chalcopyrite

M1S Grain 2
Chalcopyrite

M1S Grain 3
Chalcopyrite

**MIR21-1: M1S**

M1S Grain 4
Chalcopyrite

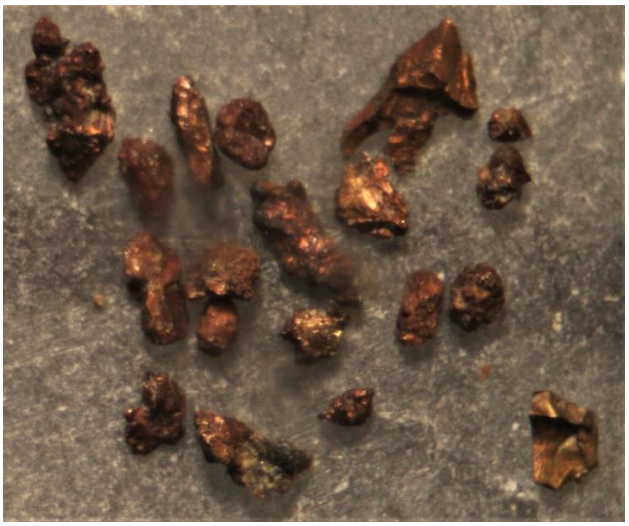
M1S Grain 5
Spinel

M1S Grain 6
Arsenian pyrite with quartz

M1S Grain 7
Pyrite

M1S Grain 8
Pyrite with chalcopyrite inclusions

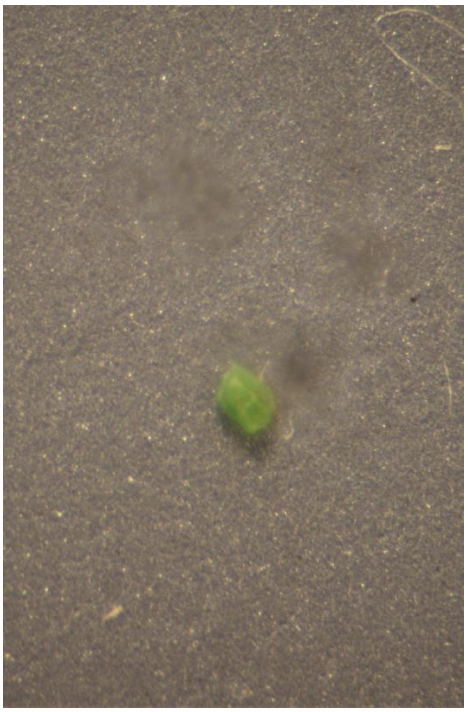
**Sample: MIR21-2**



Chalcopyrite

**MIR21-2: M2K**

M2K Grain 1
Cr- Andradite garnet



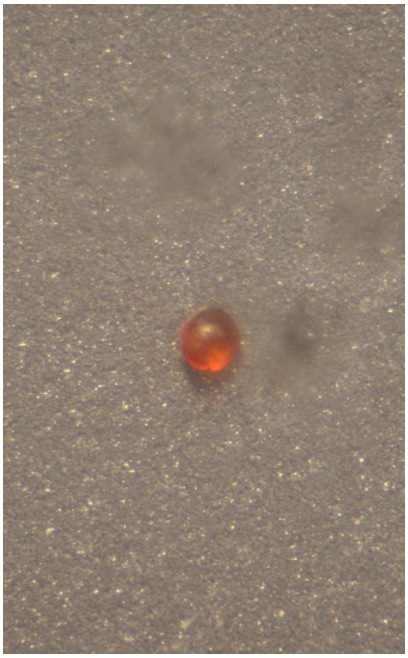
M2K Grain 2
Cr- Andradite garnet

M2K Grain 3
Uvarovite garnet

**MIR21-2: M2K**

M2K Grain 4
Na-amphibole

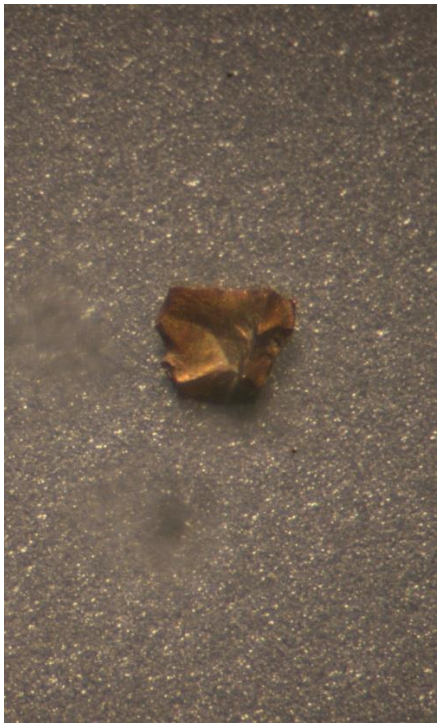
M2K Grain 5
Low Cr-chromite



M2K Grain 6
Almandine garnet

M2K Grain 7
Almandine garnet

**MIR21-2: M2S**



M2S Grain 1
Chalcopyrite

M2S Grain 2
Chalcopyrite

M2S Grain 3
Chalcopyrite with sphalerite

M2S Grain 4
Chalcopyrite

M2S Grain 5
Chalcopyrite

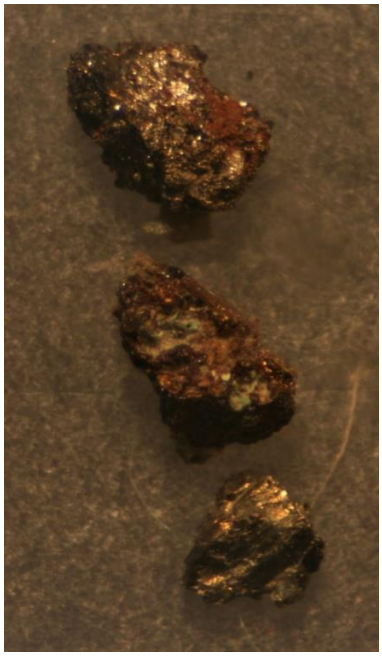
M2S Grain 6
Chalcopyrite

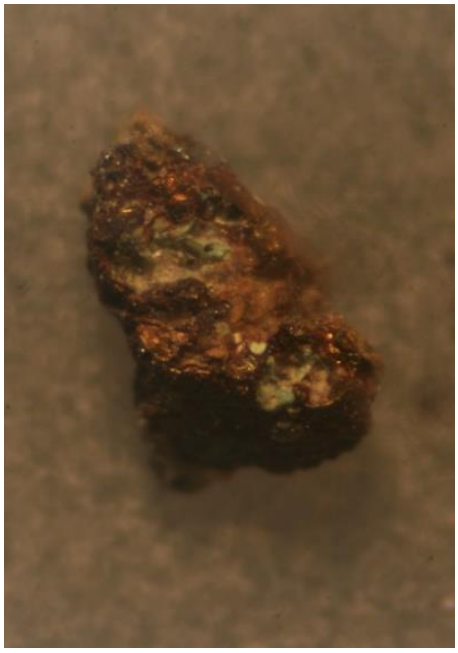
**Sample: MIR21-3**

Potential kimberlite mineral selection

Chalcopyrite and pyrite grains

Quartz + sulphide grains





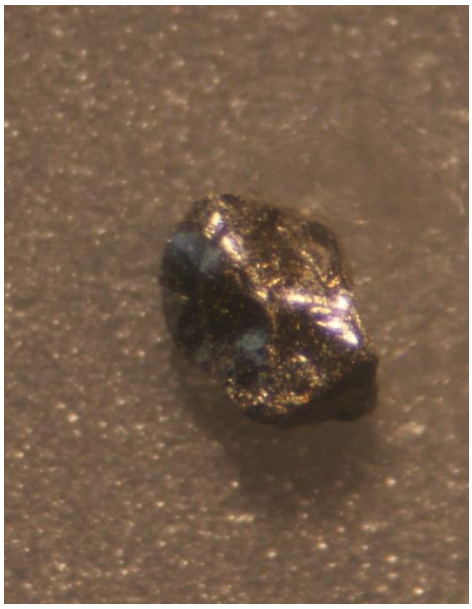
Chalcopyrite + malachite + quartz grains

**MIR21-3: M3K**

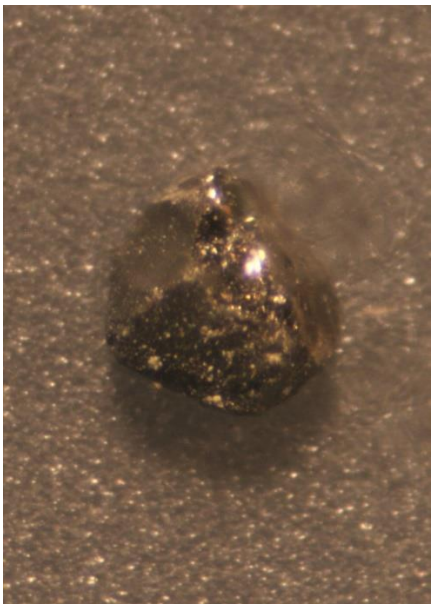
M3K Grain 1
Cr-andradite garnet

M3K Grain 2
Epidote

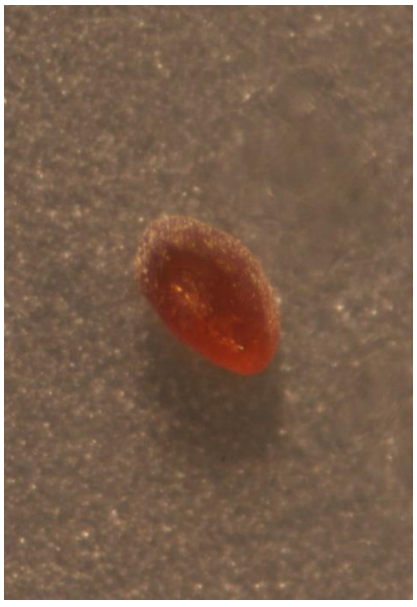
M3K Grain 3
Epidote



M3K Grain 4
Picroilmenite



M3K Grain 5
Magnetite



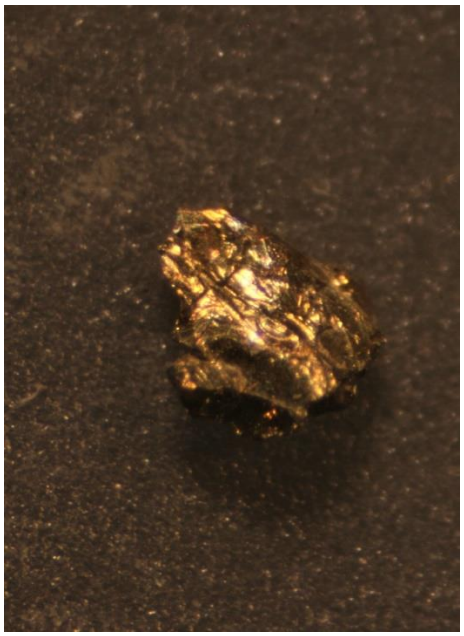
M3K Grain 6
Almandine garnet

**MIR21-3: M3K**

M3K Grain 7
Almandine garnet

M3K Grain 8
Cr-andradite garnet with serpentine

**MIR21-3: M3S**



M3S Grain 1
Chalcopyrite

M3S Grain 2
Fe-oxide

M3S Grain 3
Fe-oxide

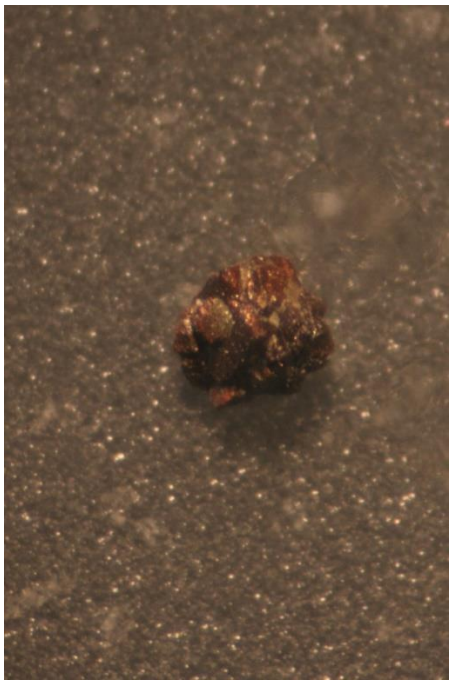
**MIR21-3: M3S**

M3S Grain 4
Fe-oxide

M3S Grain 5
Fe-oxide

M3S Grain 6
Fe-oxide

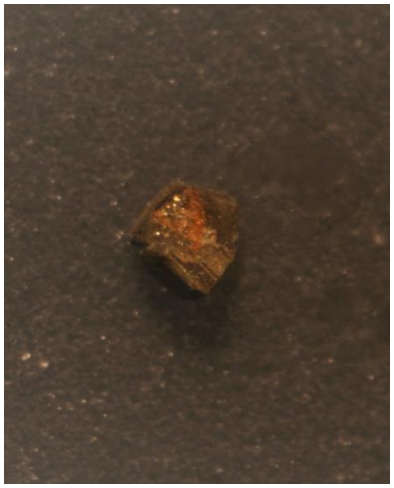
M3S Grain 7
Fe-oxide



M3S Grain 8
Fe-oxide + epidote

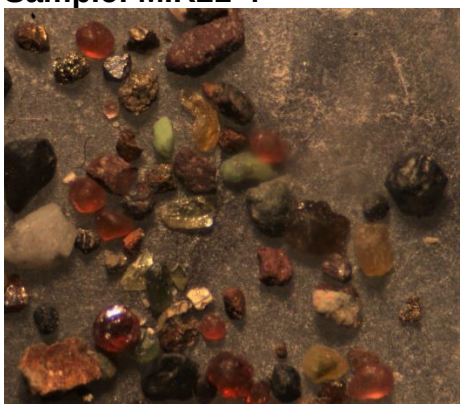
M3S Grain 9
Pyrite

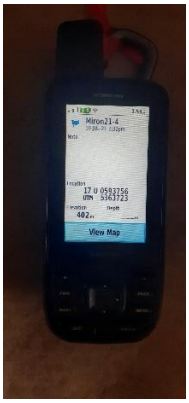
**MIR21-3: M3S**



M3S Grain 10
Pyrite

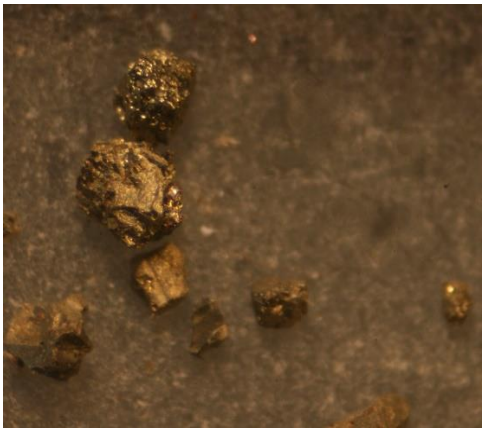
**Sample: MIR21-4**



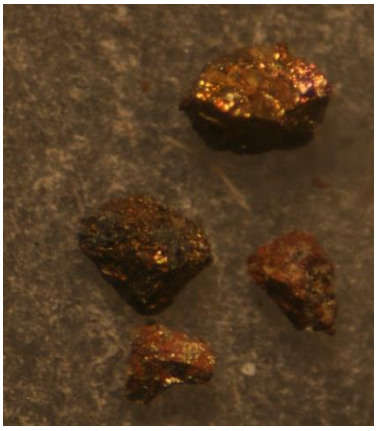



Minerals of interest

Pyrite +/- quartz



Silver pyrite



**MIR21-4: M4K**

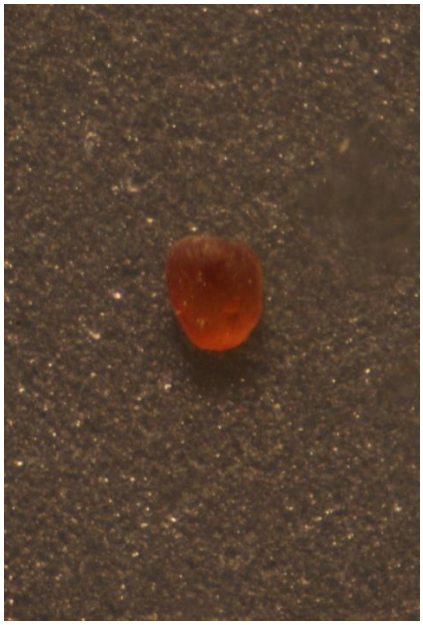
M4K Grain 1
Cr-andradite garnet

M4K Grain 2
Cr-andradite garnet

M4K Grain 3
Fe-olivine

M4K Grain 4
Almandine garnet

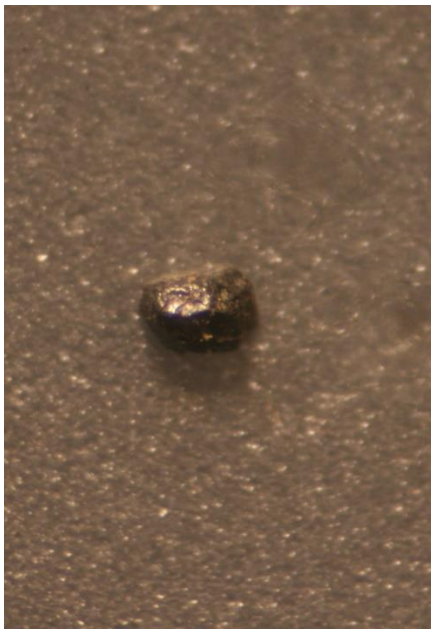
M4K Grain 5
Almandine garnet



M4K Grain 6
Almandine garnet

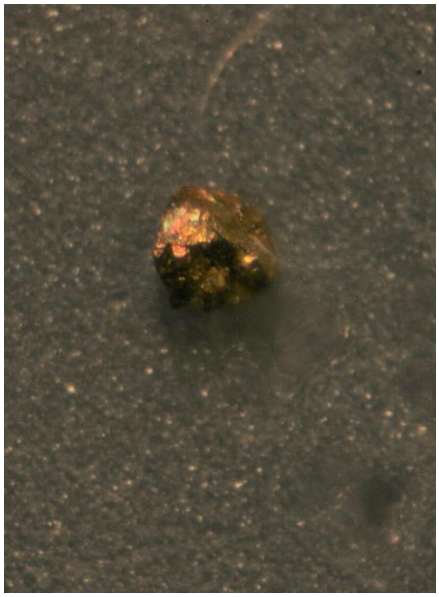
**MIR21-4: M4K**

M4K Grain 7
Almandine garnet



M4K Grain 8
Mn-ilmenite

**MIR21-4: M4S**



M4S Grain 1
Pyrite

M4S Grain 2
Pyrite + sphalerite

M4S Grain 3
Pyrite

**MIR21-4: M4S**

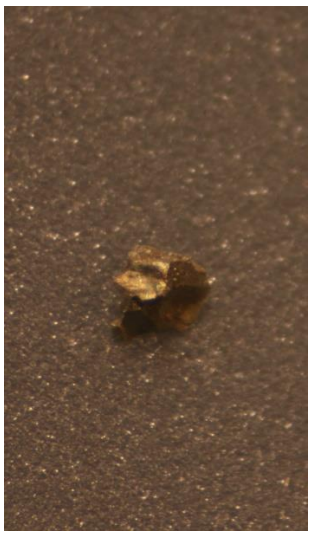
M4S Grain 4
Pyrite with quartz

M4S Grain 5
Pyrite

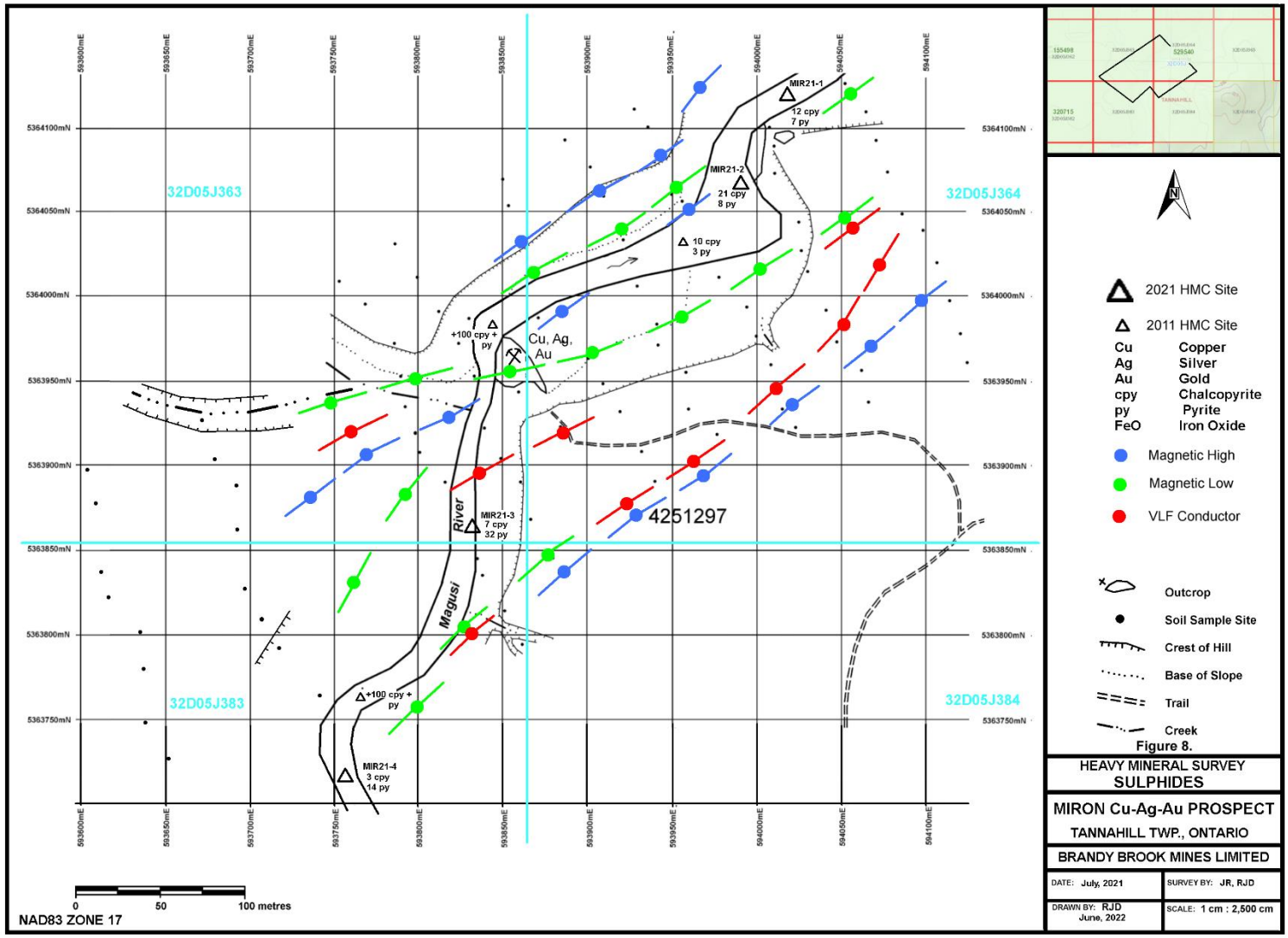
M4S Grain 6
Pyrite

M4S Grain 7
Pyrite + chalcopyrite

M4S Grain 8
Pyrite



M4S Grain 9
Pyrite


MIR21-1
12 cpy
7 py
MIR21-2
21 cpy
8 py
10 cpy
3 py
+100 cpy + py
Cu, Ag, Au
MIR21-3
7 cpy
32 py
MIR21-4
3 cpy
14 py
+100 cpy + py
River
Magusi
4251297
32D05J363
32D05J364
32D05J383
32D05J384
5364100mN
5364050mN
5364000mN
5363950mN
5363900mN
5363850mN
5363800mN
5363750mN
593600mE
593650mE
593700mE
593750mE
593800mE
593850mE
593900mE
593950mE
594000mE
594050mE
594100mE
0
50
100 metres
NAD83 ZONE 17
2021 HMC Site
2011 HMC Site
Cu Copper
Ag Silver
Au Gold
cpy Chalcopyrite
py Pyrite
FeO Iron Oxide
Magnetic High
Magnetic Low
VLF Conductor
Outcrop
Soil Sample Site
Crest of Hill
Base of Slope
Trail
Creek
Figure 8.
HEAVY MINERAL SURVEY
SULPHIDES
MIRON Cu-Ag-Au PROSPECT
TANNAHILL TWP., ONTARIO
BRANDY BROOK MINES LIMITED
DATE: July, 2021
SURVEY BY: JR, RJD
DRAWN BY: RJD
June, 2022
SCALE: 1 cm : 2,500 cm

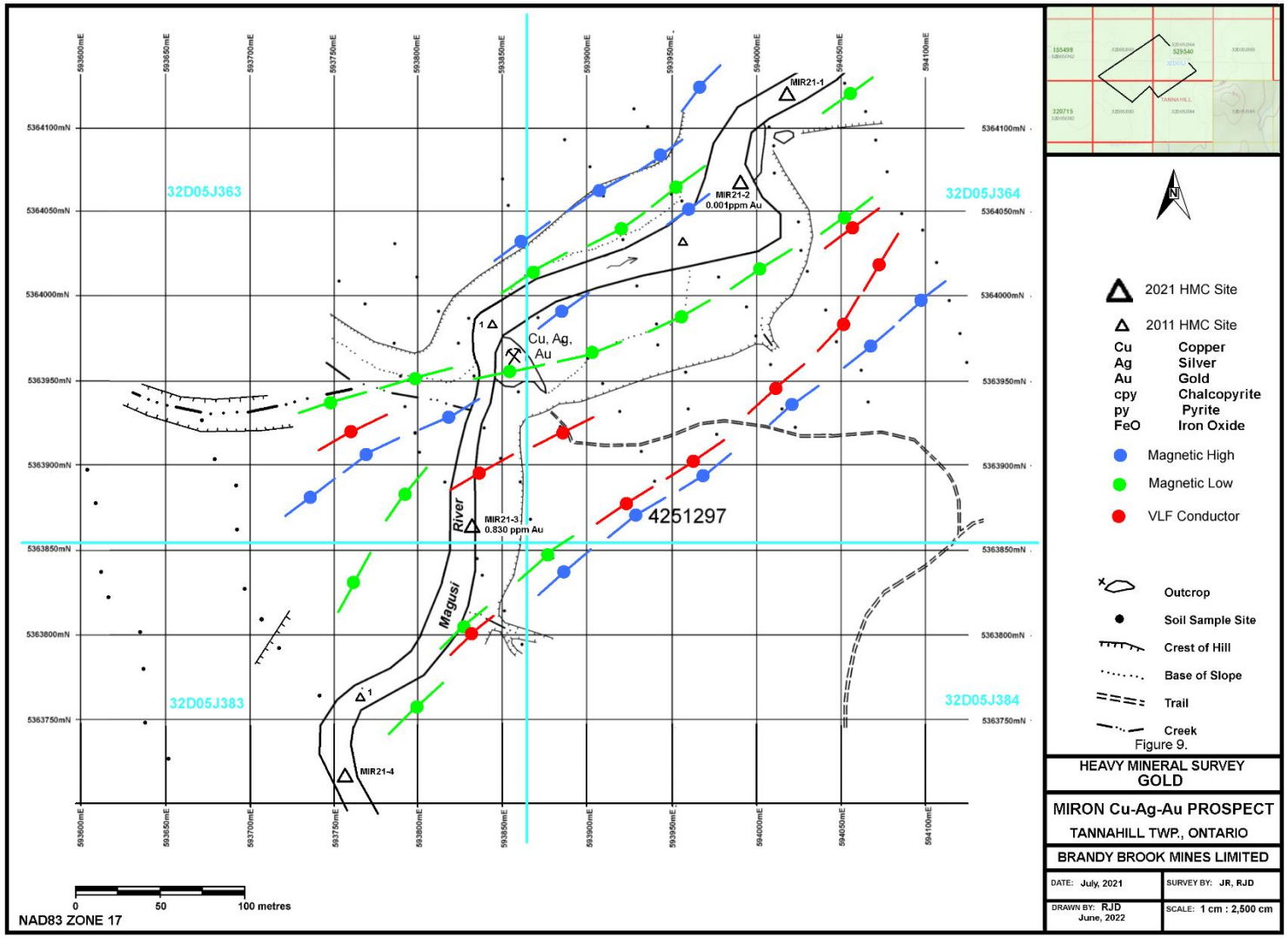
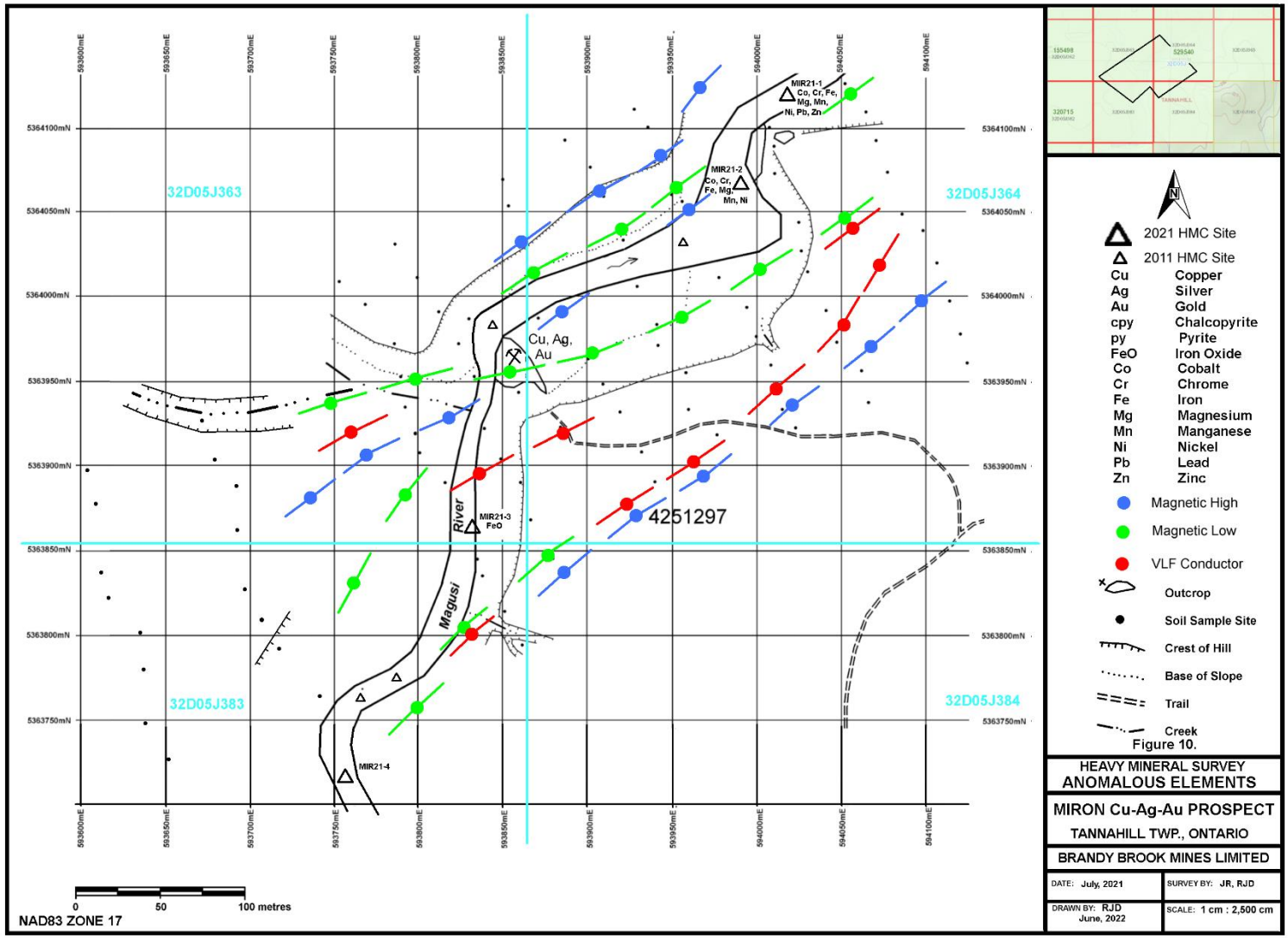
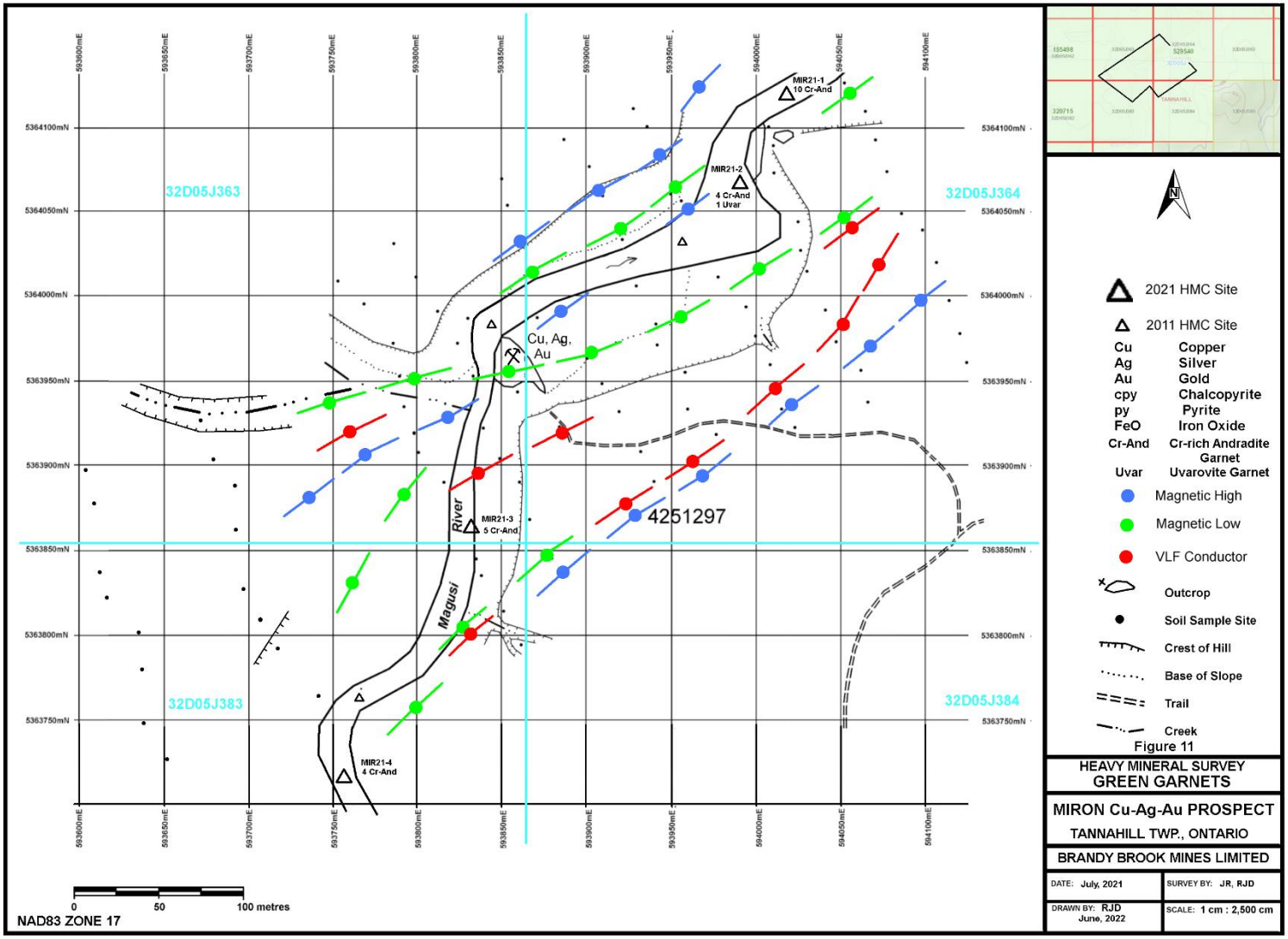

MIR21-1
MIR21-2
0.001ppm Au
MIR21-3
0.830 ppm Au
MIR21-4
Cu, Ag, Au
4251297
River
Magusi
32D05J363
32D05J364
32D05J383
32D05J384
5364100mN
5364050mN
5364000mN
5363950mN
5363900mN
5363850mN
5363800mN
5363750mN
593600mE
593650mE
593700mE
593750mE
593800mE
593850mE
593900mE
593950mE
594000mE
594050mE
594100mE
0
50
100 metres
NAD83 ZONE 17
2021 HMC Site
2011 HMC Site
Cu Copper
Ag Silver
Au Gold
cpy Chalcopyrite
py Pyrite
FeO Iron Oxide
Magnetic High
Magnetic Low
VLF Conductor
Outcrop
Soil Sample Site
Crest of Hill
Base of Slope
Trail
Creek
HEAVY MINERAL SURVEY
GOLD
MIRON Cu-Ag-Au PROSPECT
TANNAHILL TWP., ONTARIO
BRANDY BROOK MINES LIMITED
DATE: July, 2021
SURVEY BY: JR, RJD
DRAWN BY: RJD
June, 2022
SCALE: 1 cm : 2,500 cm

Figure 9.


MIR21-1
Co, Cr, Fe, Mg, Mn, Ni, Pb, Zn
MIR21-2
Co, Cr, Fe, Mg, Mn, Ni
MIR21-3
FeO
MIR21-4
Cu, Ag, Au
4251297
River
Magusi
32D05J363
32D05J364
32D05J383
32D05J384
0
50
100 metres
NAD83 ZONE 17
2021 HMC Site
2011 HMC Site
Cu Copper
Ag Silver
Au Gold
cpy Chalcopyrite
py Pyrite
FeO Iron Oxide
Co Cobalt
Cr Chrome
Fe Iron
Mg Magnesium
Mn Manganese
Ni Nickel
Pb Lead
Zn Zinc
Magnetic High
Magnetic Low
VLF Conductor
Outcrop
Soil Sample Site
Crest of Hill
Base of Slope
Trail
Creek
Figure 10.
HEAVY MINERAL SURVEY
ANOMALOUS ELEMENTS
MIRON Cu-Ag-Au PROSPECT
TANNAHILL TWP., ONTARIO
BRANDY BROOK MINES LIMITED
DATE: July, 2021
SURVEY BY: JR, RJD
DRAWN BY: RJD
June, 2022
SCALE: 1 cm : 2,500 cm


MIR21-1
10 Cr-And
MIR21-2
4 Cr-And
1 Uvar
MIR21-3
5 Cr-And
MIR21-4
4 Cr-And
32D05J363
32D05J364
32D05J383
32D05J384
Cu, Ag, Au
4251297
River
Magusi
0
50
100 metres
NAD83 ZONE 17
2021 HMC Site
2011 HMC Site
Cu Copper
Ag Silver
Au Gold
cpy Chalcopyrite
py Pyrite
FeO Iron Oxide
Cr-And Cr-rich Andradite Garnet
Uvar Uvarovite Garnet
Magnetic High
Magnetic Low
VLF Conductor
Outcrop
Soil Sample Site
Crest of Hill
Base of Slope
Trail
Creek
Figure 11
HEAVY MINERAL SURVEY
GREEN GARNETS
MIRON Cu-Ag-Au PROSPECT
TANNAHILL TWP., ONTARIO
BRANDY BROOK MINES LIMITED
DATE: July, 2021
SURVEY BY: JR, RJD
DRAWN BY: RJD
June, 2022
SCALE: 1 cm : 2,500 cm

Visually, there are two populations of pyrite based on color: silver and bronze. Both populations are present in all the samples. Microprobe analyses shows some of the grains of silver pyrite contain inclusions of chalcopyrite and some contain traces of arsenic and can be classified as Arsenian pyrite. Some of the chalcopyrite grains also contain inclusions of sphalerite.

Many of the sulphide grains have well-preserved crystal shapes such including cubic crystals, twinned crystals and striated crystal faces. Many sulphides form composite grains with quartz and epidote. Several chalcopyrite grains observed in sample MIR21-3 were delicate composites with quartz and malachite. Well-preserved crystals, striations and composite grains are indicative of close proximity to source. This is most evident in samples MIR21-3 and MIR21-2 and to a lesser extent in samples MIR21-1 and MIR21-4.

A population of euhedral cubes of iron oxide were observed in MIR21-3. The iron oxides are magnetic and are unique to sample MIR21-3.

Potential Kimberlite Minerals

Mineral grains were selected from each sample as possible kimberlite indicator minerals and submitted for microprobe examination. These included garnets, spinel, pyroxenes, ilmenite and olivine. Although some of the grains were identified as chromite, picroilmenite and olivine these grains do not have sufficient MgO or Cr to fall within compositional fields known to kimberlite.

Bright green grains were present in all the samples and were suspected of being chrome diopside but were identified as chrome-rich andradite garnets with up to 5.74 wt% $Cr_2O_3$ and one as uvarovite containing 16.74 wt% $Cr_2O_3$.

A pellet-shaped rare earth silicate was identified in MIR21-1. The grain contains Lanthanum and Cerium. A similar grain was also selected from the sample but was not submitted for microprobe analysis.

A clear, colorless grain from sample MIR21-3 was selected as a potential diamond but was determined to be a zircon upon microprobe analysis.

Concentrate Assays

Multi-element assays completed on the -180 $\mu$m fractions from the samples show elevated values of Co, Cr, Fe, Mg, Mn, Ni, Pb and Zn in samples MIR21-1 and MIR21-2. Both samples were collected downstream from the Miron Prospect.

Fire assays for gold were completed on two of the -180 $\mu$m fractions. Sample MIR21-2 assayed 0.001 ppm Au and MIR21-3 assayed 0.830 ppm.

**Discussion of Results**

Heavy mineral sampling in the Magusi River shows there is a significant sulphide anomaly focused on the Miron Prospect. Chalcopyrite is the dominate mineral associated with the sulphide anomaly and is also the main copper mineral in the Miron Prospect.

Exploration in the area is difficult because of poor outcrop exposure. Heavy mineral sampling has shown to be a useful tool however it is limited to the river because of a thick layer of clay covering glacial till. Several outcrops beside the river including that of the Miron Prospect reveals the river is eroding to the till layer and down to bedrock. However, the river flows north against the general direction of an advancing glacier that gradually changed from the northeast to northwest during three ice events. Thus, minerals from the Miron Prospect would be dispersed in till deposited to the south and in river sediments to the north.

Considering its small size, sample MIR21-3 has the greatest concentration of sulphides compared to the other samples. The sample was collected 100 metres upstream from the Miron Prospect, In addition to chalcopyrite, MIR21-3 has fragile composite grains of quartz + chalcopyrite + malachite and well-preserved cubes of magnetitic iron oxide grains most likely being magnetite. The delicate quartz + chalcopyrite + malachite grains and cubes of iron oxide are unique to this sample site and indicate very little transport from source has occurred. The grains suggest either bedrock mineralization of the Miron Prospect is more extensive in the area or different mineralized sources potentially exist close to the sample site. By coincidence, the sample was collected downstream and very close to a combined northeast trending magnetic + conductive geophysical feature which could potentially be the source of the minerals.

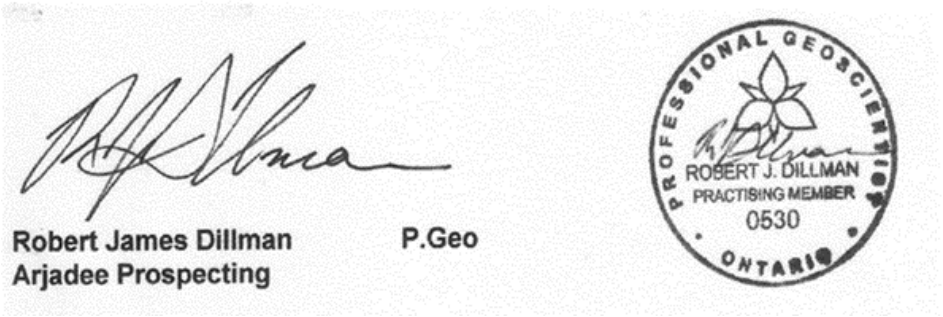
Previous heavy mineral sampling in the river has identified gold grains upstream from MIR21-3 sample site and downstream by the Miron Prospect. The high gold assay obtained from the -180 $\mu$m fraction of the MIR21-3 sample further reflects the presence of a gold anomaly in section of river by Miron Prospect. Gold is present in the Miron Prospect and could be a source of gold grains in the river however other sources in the immediate area may exist also.

Although kimberlites occur in the region, kimberlite indicator minerals such as pyrope garnet and chrome diopside were not present in the samples. The bright green grains suspected as being chrome diopside were discovered to be chrome-rich garnets suggested by Renaud (2021) to be a variety of andradite garnet called demantoid and uvarovite. The andradite garnets are present in all the samples and are a unique anomaly for the area. Gem quality chrome-rich andradite garnet is the most valuable gem of the garnet family and at times favored more as a gemstone over diamond. It is unclear if the garnets have any relation to the Miron Prospect or are derived from an entirely different source in the area. They may have some association with non-kimberlitic grains of chromite, picroilmenite and olivine also present in the samples. Cr-andradite garnet is present in all the samples and additional heavy mineral sampling upstream is may led to a source.

## Conclusions and Recommendations

Heavy mineral sampling by the Miron Prospect has helped define a chalcopyrite-pyrite-gold anomaly in the section of the Magusi River by the prospect and add evidence of additional sources of copper and gold mineralization in the area. Sampling has also identified bright green demantoid garnets, a potential gemstone variety of Cr-rich andradite garnet. Further heavy mineral sampling is recommended to further evaluate the mineral anomalies. Sampling should be conducted beyond the area covered by this survey. The cost of the proposed work is $15,000.

Respectfully submitted,




Robert Dillman B.Sc. P.Geo.
June 1, 2022

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**Dillman, R.J. 2011**. Report On Ground Magnetometer and VLF-Electromagnetic Surveys GRID A: Tannahill Property, Tannahill Township, Ontario. Unpublished assessment report. For: Brandy Brook Mines Limited.

**Dillman, R.J. 2011.** Report On Heavy Mineral Sampling, Tannahill Property, Tannahill Township, Ontario. Unpublished assessment report. For: Brandy Brook Mines Limited.

**Forbes, C.P. 1996**. Report on Stripping and Trenching on the Strike Minerals Inc. Tannahill Township Property, Larder Mining Division. Contains: Report by Alex Bath 1987, Gagne/St. Amant Prospect Tannahill Township, Larder Lake Mining Division. Unpublished assessment report 32D05NE0070.

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**Gagne, Y. 1988**. X-Ray Drill Logs Holes: 3, 4 & 5. Gagne-St. Amant Prospect. Unpublished assessment report 32D05NE0045.

**Gagne, Y. 1989**. X-Ray Drill Logs Holes: 6 & 7. Gagne-St. Amant Prospect. Unpublished assessment report 32D05NE0032.

**Gagne, Y. 1991**. X-Ray Drill Logs Hole: 8. Gagne-St. Amant Prospect. Unpublished assessment report 32D05NE9358.

**Gagne, Y. 1991**. X-Ray Drill Logs Hole: 9. Gagne-St. Amant Prospect. Unpublished assessment report 32D05NE9357.

**Renaud, J. 2021.** Classification of the Miron Prospect and the Magusi Trench as VMS Prospects, Tannahill Property Larder Lake Mining Division, Tannahill- Holloway Townships, Ontario. For: Brandy Brook Mines Limited

**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 N0L 1W0**

2. **I am President and CEO of Brandy Brook Mines Limited**

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

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

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

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

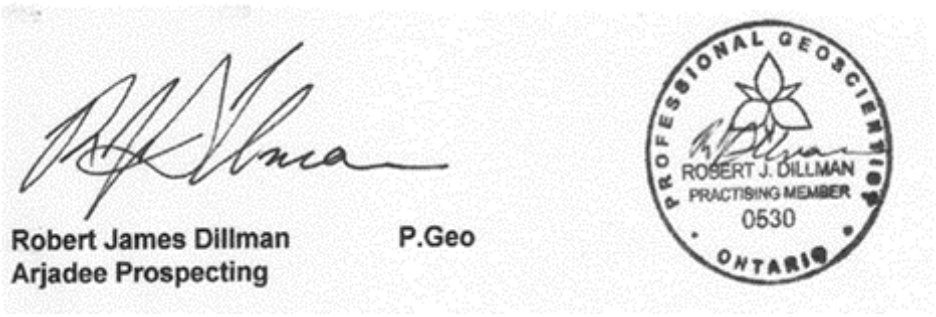
6. **I have worked continuously as a Professional Geologist for 31 years.**

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

   **REPORT ON HEAVY MINERAL SAMPLING AND ELECTRON MICROPROBE ANALYSES IN THE VICINITY TO THE MIRON Cu-Ag-Au VMS PROSPECT, TANNAHILL TWP., ONTARIO, LARDER LAKE MINING DIVISION dated, June 1, 2022**

8. **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 1st day of June, 2022**



A series of grains were picked by Robert Dillman and submitted to Renaud Geological Consulting Ltd. for microprobe determinations. The grains consisted of a coarse- and fine-grained size fraction. The grains were mounted on glass slides, polished, carbon coated, and then analyzed with a JEOL-733 electron microprobe. The grains consisted of: Cr-andradite garnets, uvarovite garnet, almandine garnet, spessartine garnet, REE-silicate, quartz, Fe-olivine, epidote, picro-ilmenite, zircon, pyrite, arsenian pyrite, chalcopyrite, and Fe-sphalerite.

The data for Cr-andradite garnets, uvarovite, and the picro-ilmenite are presented below (Tables 1 and 2). The Cr-andradite grains in this investigation belonged to samples: M1K Grains 10, 12, 13, 14/ M2K Grains 1, 2/ M3K Grains 1, 8/ M4K Grains 1, 2. Andradite garnet, $Ca_3Fe_2Si_3O_{12}$, is a rock-forming mineral typically found in metamorphic rocks such as skarns and rodingites. In this particular study, the andradite garnets contained a substantial Cr-component (up to 5.74 wt% $Cr_2O_3$) giving rise their vivid green colour. Cr-Andradite, variety demantoid, is considered a rare gem mineral. The uvarovite grain (M2K Grain 3) is also a vivid green colour containing 16.74 wt% $Cr_2O_3$. The uvarovite has a stronger Al- and Fe-component relative to the Cr-andradite grains. A ternary plot is presented below (Figure 1) for the green coloured garnets, Cr-andradite and uvarovite. Note the andradite data points are pulled towards the Cr- apex of the ternary, representing the Cr-content of the grains.

The ilmenite grain (M3K Grain 4) is considered a picro-ilmenite due to the presence of Mg in the crystal structure (2.51 wt% MgO). The data point is plotted on Figure 2 and falls within the non-kimberlitic field.

About the Electron Microprobe (EMPA):

EMPA uses a high-energy focused beam of electrons to generate X-rays characteristic of the elements within a sample from volumes as small as 3 micrometers across. The resulting X-rays are diffracted by analyzing crystals (TAP, PET, LIF) and counted using gas-flow and sealed proportional detectors. Chemical composition is determining by comparing the intensity of X-rays from standards (known composition) with those from unknown materials and correcting for the effects of absorption and fluorescence in the sample.

The electron microprobe is designed specifically for detecting and measuring characteristic X-rays. It uses an electron beam current from 10 to 200 nanoamps, roughly 1000 times greater than that in a scanning-electron microscope (SEM). These higher beam currents produce more X-rays from the sample and improve both the detection limits and accuracy of the resulting analysis. Analysis locations are selected using a transmitted-light optical microscope, which allows positioning accurate to about 1 micrometer, a feature not available on an SEM. The resulting data yield *quantitative* chemical information in a textural context. Variations in chemical composition within a material, such as a mineral grain or metal, can be readily determined.

The microprobe is operated using an Advanced Microbeam "Probe for Windows" operating system to drive the Tracor Northern TN-5600 spectrometer and stage automation system. Representative sulphide-bearing minerals from the different samples were qualitatively and analyzed using the "Energy Dispersive System (EDS)". Specific minerals were then analyzed by wavelength dispersive analysis with the wavelength spectrometers on the microprobe.

The chemical compositions were measured using a 15 kV accelerating voltage and 15 nA probe current. The beam diameter was set to 5 microns. Count times for major elements were 20 s on peak and 10 s on each side of the peak for background measurements. For trace elements, both peak and background times were 40 s. For calibration a set of microbeam standards of pure metals (from SPI) and natural minerals from the Smithsonian Institution were utilized (Jarosewich, 2002). Data reduction was performed using the ZAF correction.

TABLE 1: GARNETS (Cr-ANDRADITE/UVAROVITE/ALMANDINE), BRANDY BROOK, December 2021, R.G.C.

| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SIO2 | 35.10 | | 33.09 | | 36.52 | | 34.18 | | 35.68 | | 33.05 | | 35.48 | | 31.97 | |
| TIO2 | .02 | | .07 | | .56 | | .13 | | .68 | | .32 | | .22 | | .27 | |
| A2O3 | 1.63 | | 2.65 | | 1.16 | | .64 | | 1.08 | | 1.07 | | 9.56 | | 1.62 | |
| C2O3 | 4.40 | | 3.42 | | 5.04 | | 4.42 | | 2.91 | | 5.74 | | 16.74 | | 2.26 | |
| FEO | 25.91 | | 28.02 | | 20.91 | | 25.44 | | 24.72 | | 24.87 | | .52 | | 31.21 | |
| MGO | .25 | | .64 | | 1.47 | | .19 | | .17 | | .30 | | .30 | | .84 | |
| MNO | .34 | | .80 | | .25 | | .19 | | .00 | | .42 | | 5.30 | | .00 | |
| CAO | 33.10 | | 31.69 | | 33.26 | | 34.62 | | 34.29 | | 33.47 | | 30.93 | | 32.16 | |
| NA2O | .02 | | .01 | | .02 | | .01 | | .01 | | .00 | | .00 | | .00 | |
| SUM | 100.77 | | 100.39 | | 99.19 | | 99.82 | | 99.54 | | 99.24 | | 99.05 | | 100.33 | |
| SI | 6.188 | * | 5.924 | * | 6.376 | * | 6.133 | * | 6.324 | * | 5.975 | * | 5.810 | * | 5.826 | * |
| AL | .000 | 6.188 | .076 | 6.000 | .000 | 6.376 | .000 | 6.133 | .000 | 6.324 | .025 | 6.000 | .190 | 6.000 | .174 | 6.000 |
| AL | .339 | * | .483 | * | .239 | * | .135 | * | .226 | * | .203 | * | 1.655 | * | .174 | * |
| TI | .003 | * | .009 | * | .074 | * | .018 | * | .091 | * | .044 | * | .027 | * | .037 | * |
| CR | .613 | * | .484 | * | .696 | * | .627 | * | .408 | * | .821 | * | 2.167 | * | .326 | * |
| FE | 3.820 | * | 4.195 | * | 3.053 | * | 3.818 | * | 3.664 | * | 3.760 | * | .071 | * | 4.756 | * |
| MN | .051 | * | .121 | * | .037 | * | .029 | * | .000 | * | .064 | * | .735 | * | .000 | * |
| MG | .066 | * | .171 | * | .383 | * | .051 | * | .045 | * | .081 | * | .073 | * | .228 | * |
| CA | 6.252 | * | 6.079 | * | 6.222 | * | 6.656 | * | 6.511 | * | 6.484 | * | 5.427 | * | 6.279 | * |
| NA | .007 | 11.149 | .003 | 11.546 | .007 | 10.709 | .003 | 11.336 | .003 | 10.947 | .000 | 11.457 | .000 | 10.156 | .000 | 11.800 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| F/M | 58.923 | | 25.275 | | 8.078 | | 75.693 | | 81.587 | | 47.309 | | 11.012 | | 20.847 | |
| F/FM | .983 | | .962 | | .890 | | .987 | | .988 | | .979 | | .917 | | .954 | |

1 BRANDY BROOK M1K GRAIN 10 (CR-ANDRADITE) (SMALL SIZE FRACTION)
2 BRANDY BROOK M1K GRAIN 12 (CR-ANDRADITE) (SMALL SIZE FRACTION)
3 BRANDY BROOK M1K GRAIN 13 (CR-ANDRADITE) (SMALL SIZE FRACTION)
4 BRANDY BROOK M1K GRAIN 14 (CR-ANDRADITE) (SMALL SIZE FRACTION)
5 BRANDY BROOK M2K GRAIN 1 (CR-ANDRADITE) (SMALL SIZE FRACTION)
6 BRANDY BROOK M2K GRAIN 2 (CR-ANDRADITE)
7 BRANDY BROOK M2K GRAIN 3 (UVAROVITE)
8 BRANDY BROOK M3K GRAIN 1 (CR-ANDRADITE)

TABLE 1: GARNETS (Cr-ANDRADITE/UVAROVITE/ALMANDINE), BRANDY BROOK, December 2021, R.G.C.

| | 9 | | 10 | | 11 | | 12 | |
|---|---|---|---|---|---|---|---|---|
| SIO2 | 35.39 | | 35.90 | | 31.09 | | 31.90 | |
| TIO2 | .06 | | 1.40 | | .17 | | .20 | |
| A2O3 | 22.72 | | 1.10 | | 1.32 | | 1.09 | |
| C2O3 | .00 | | 5.51 | | 4.08 | | 4.37 | |
| FEO | 29.43 | | 20.00 | | 31.16 | | 29.72 | |
| MGO | 6.57 | | .99 | | .30 | | 2.36 | |
| MNO | .05 | | .00 | | .00 | | .18 | |
| CAO | 6.73 | | 34.58 | | 32.43 | | 30.97 | |
| NA2O | .01 | | .01 | | .04 | | .01 | |
| SUM | 100.96 | | 99.49 | | 100.59 | | 100.80 | |
| SI | 5.562 | * | 6.260 | * | 5.700 | * | 5.760 | * |
| AL | .438 | 6.000 | .000 | 6.260 | .285 | 5.985 | .232 | 5.991 |
| AL | 3.769 | * | .226 | * | .000 | * | .000 | * |
| TI | .007 | * | .184 | * | .023 | * | .027 | * |
| CR | .000 | * | .760 | * | .591 | * | .624 | * |
| FE | 3.868 | * | 2.916 | * | 4.778 | * | 4.487 | * |
| MN | .007 | * | .000 | * | .000 | * | .028 | * |
| MG | 1.539 | * | .257 | * | .082 | * | .635 | * |
| CA | 1.133 | * | 6.460 | * | 6.371 | * | 5.991 | * |
| NA | .003 | 10.327 | .003 | 10.806 | .014 | 11.859 | .004 | 11.796 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| F/M | 2.518 | | 11.335 | | 58.277 | | 7.109 | |
| F/FM | .716 | | .919 | | .983 | | .877 | |

9 BRANDY BROOK M3K GRAIN 6 (ALMANDINE)
10 BRANDY BROOK M3K GRAIN 8 (CR-ANDRADITE)
11 BRANDY BROOK M4K GRAIN 1 (CR-ANDRADITE)
12 BRANDY BROOK M4K GRAIN 2 (CR-ANDRADITE)

TABLE 2: ILMENITE, BRANDY BROOK, December 2021, R.G.C.

| | 1 |
|---|---|
| SIO2 | .00 |
| TIO2 | 53.45 |
| A2O3 | .06 |
| C2O3 | .05 |
| FEO | 44.25 |
| MNO | .59 |
| MGO | 2.51 |
| ZNO | .00 |
| NIO | .00 |
| N2O5 | .04 |
| SUM | 100.95 |

| | | |
|---|---|---|
| SI | .000 | * |
| TI | 10.556 | * |
| AL | .019 | * |
| CR | .010 | * |
| FE | 9.719 | * |
| MN | .131 | * |
| MG | .983 | * |
| ZN | .000 | * |
| NI | .000 | * |
| NB | .005 | 21.422 |
| O | 32.000 | * |
| F/M | 10.025 | |
| F/FM | .909 | |

1 BRANDY BROOK M3K GRAIN 4

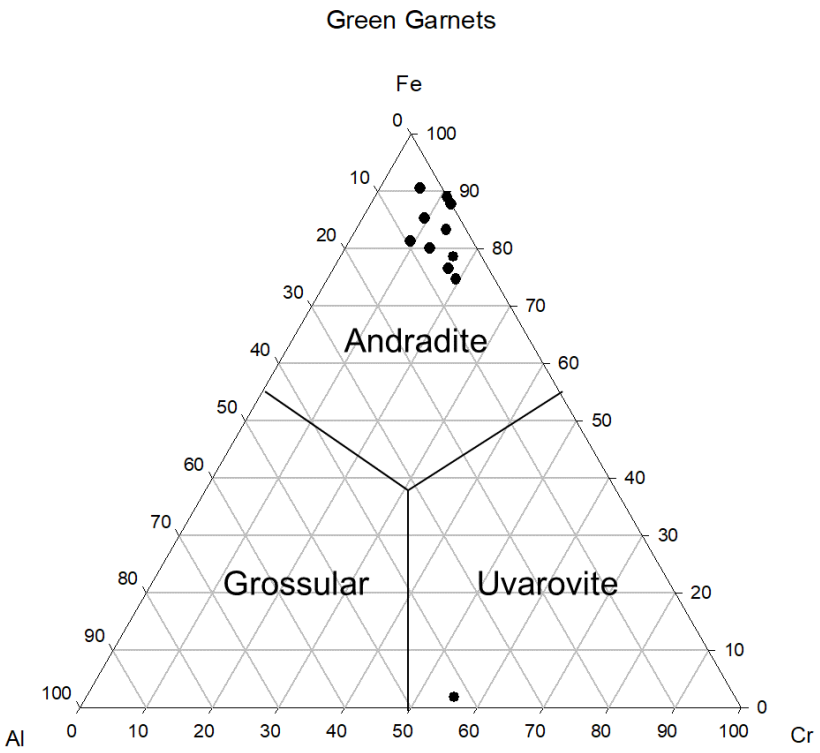



Figure 1: A ternary plot illustrating the distribution of garnet points within the andradite and uvarovite field (after Stubna et al., 2019).

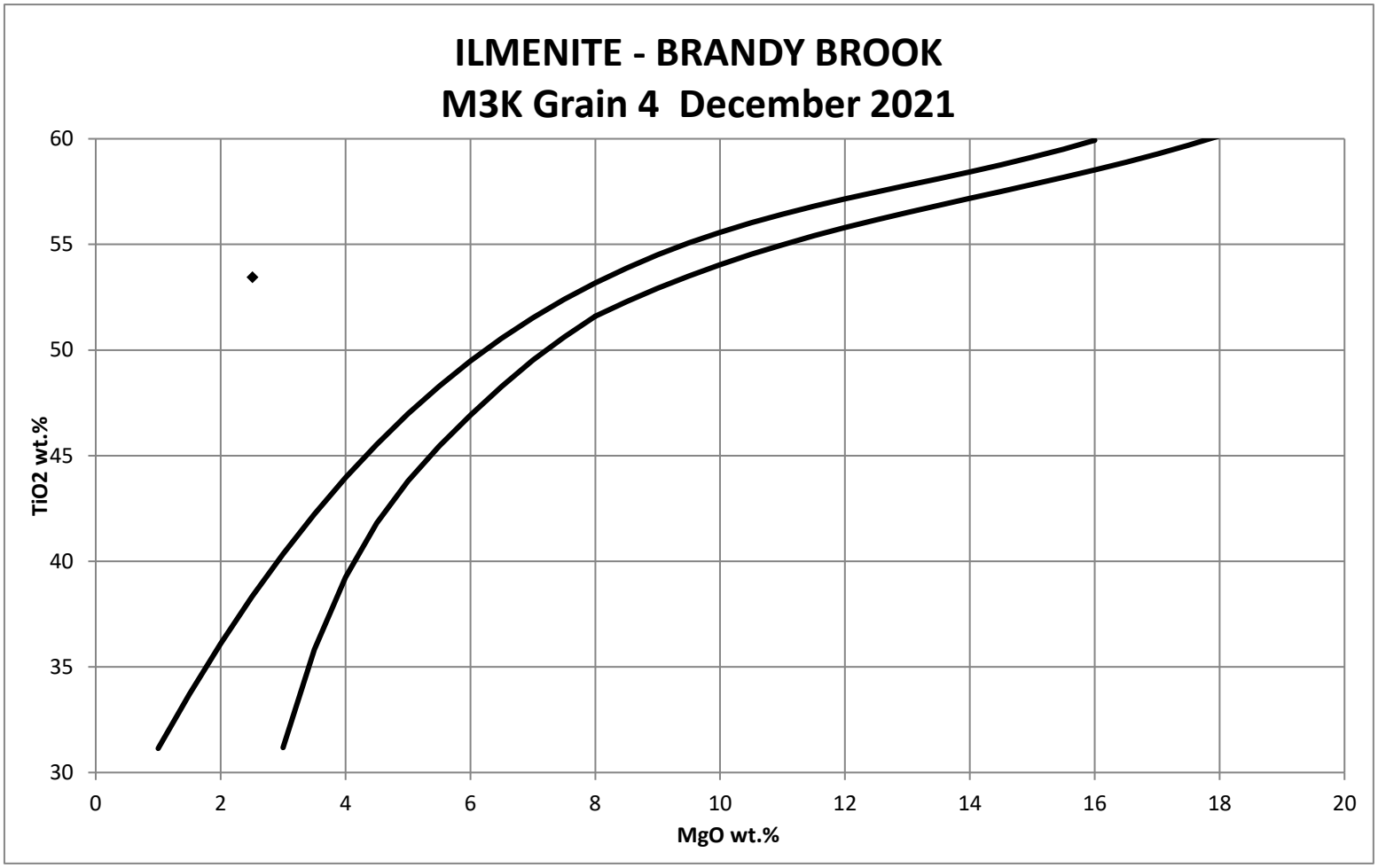
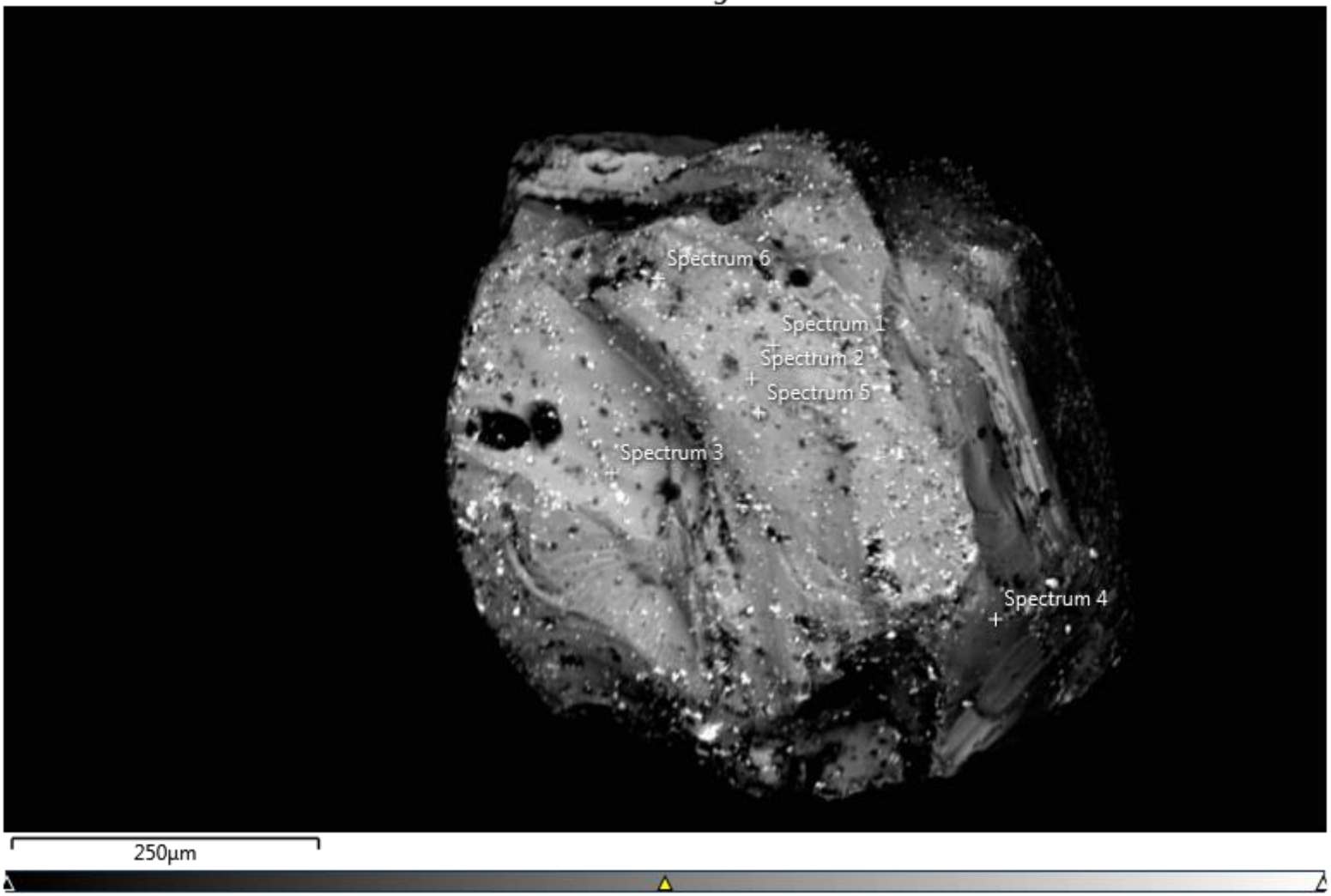
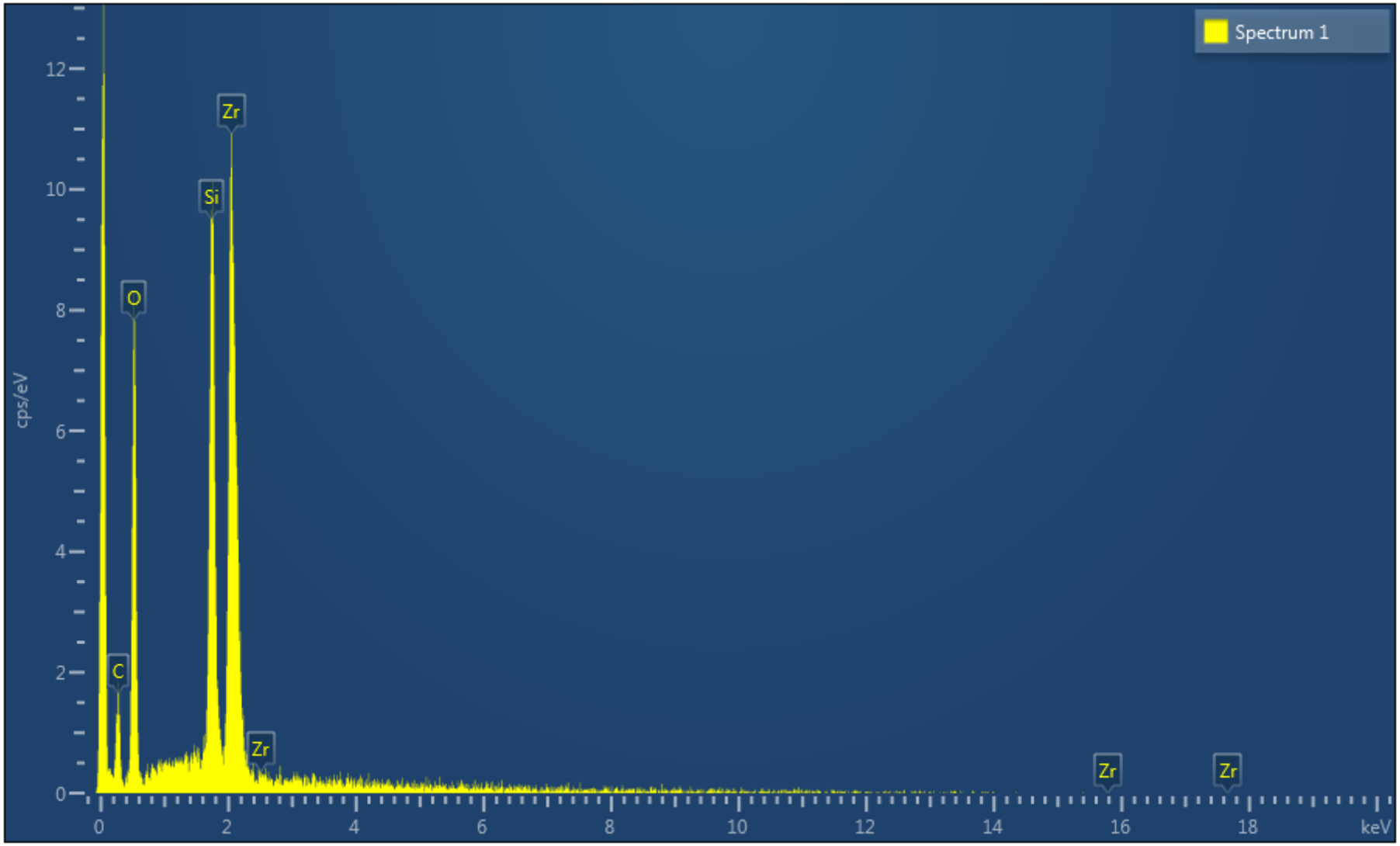



Figure 2: Ilmenite plots utilized by the diamond exploration industry. The ilmenite graph MgO-TiO2 shows the arcuate lines defining kimberlitic picro-ilmenite trends. The lower line represents the bounding reference line of kimberlitic ilmenite compositions. The upper line represents the boundary denoting the line of non-kimberlitic grains. The picro-ilmenite that was picked (M3K Grain 4) falls above the line suggesting it is not kimberlitic in origin.

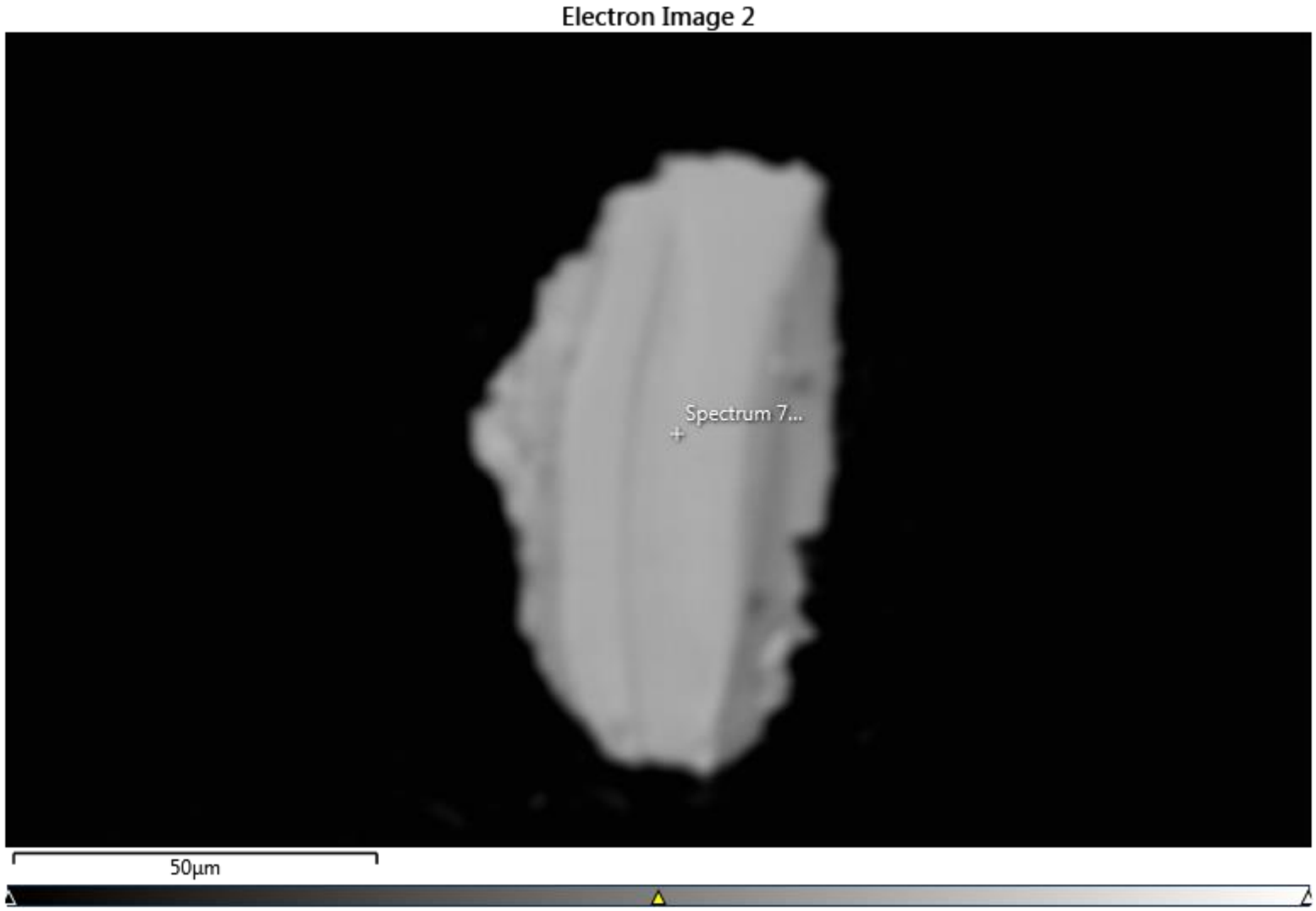
Electron Image 1



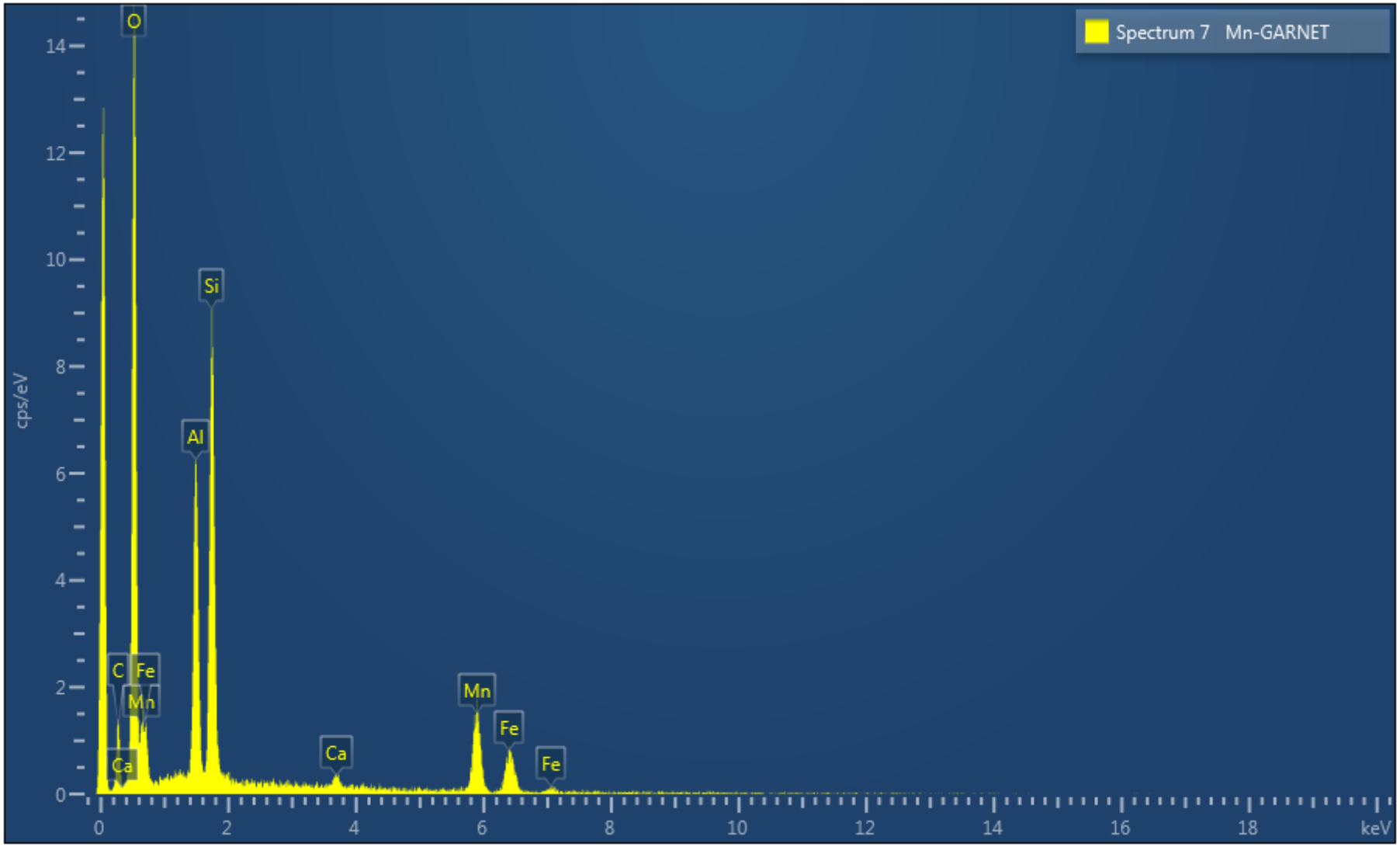

Grain picked as possible diamond was picked and placed on carbon tape. Grain is actually zircon.

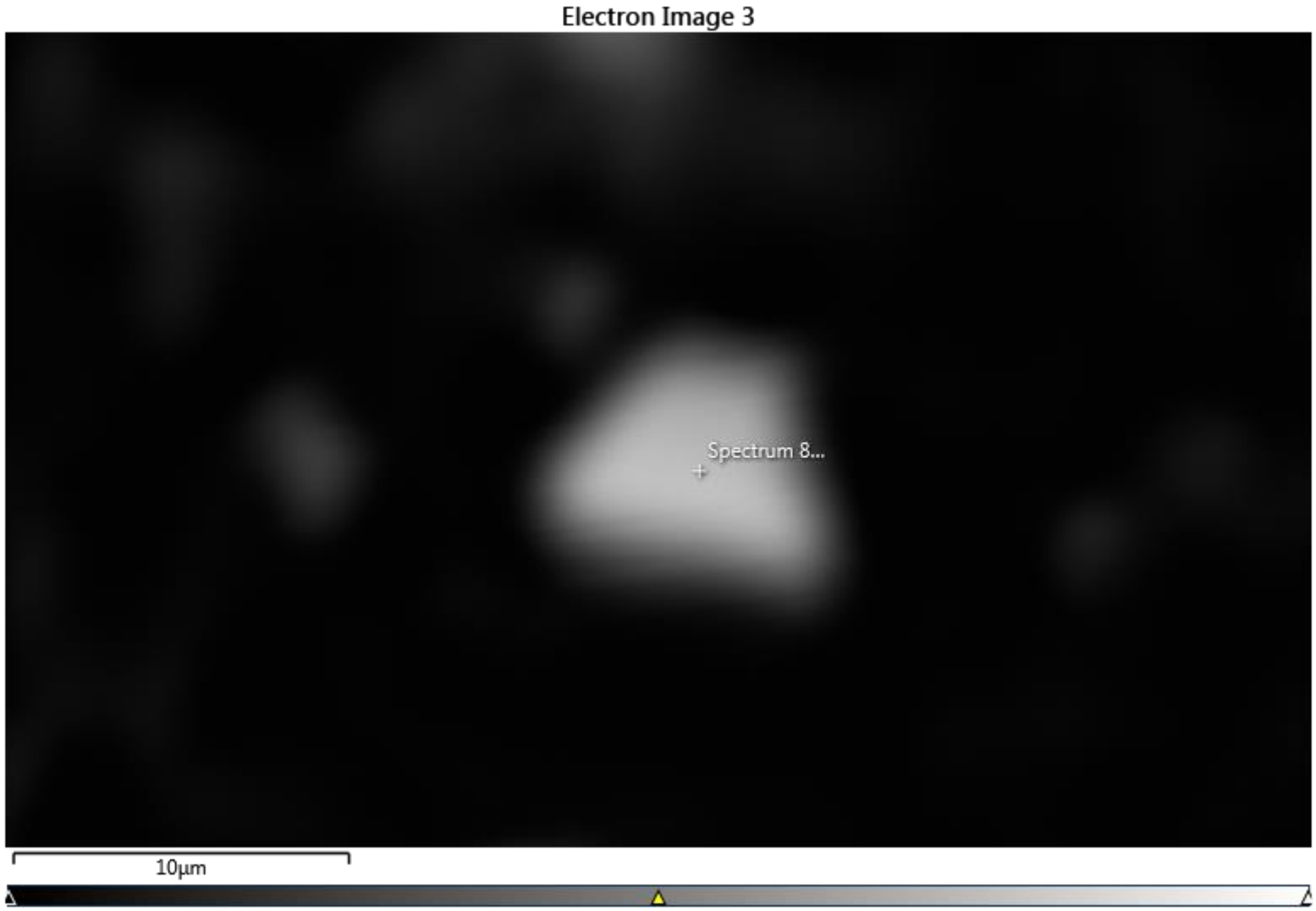



EDS spectrum of the zircon grain.

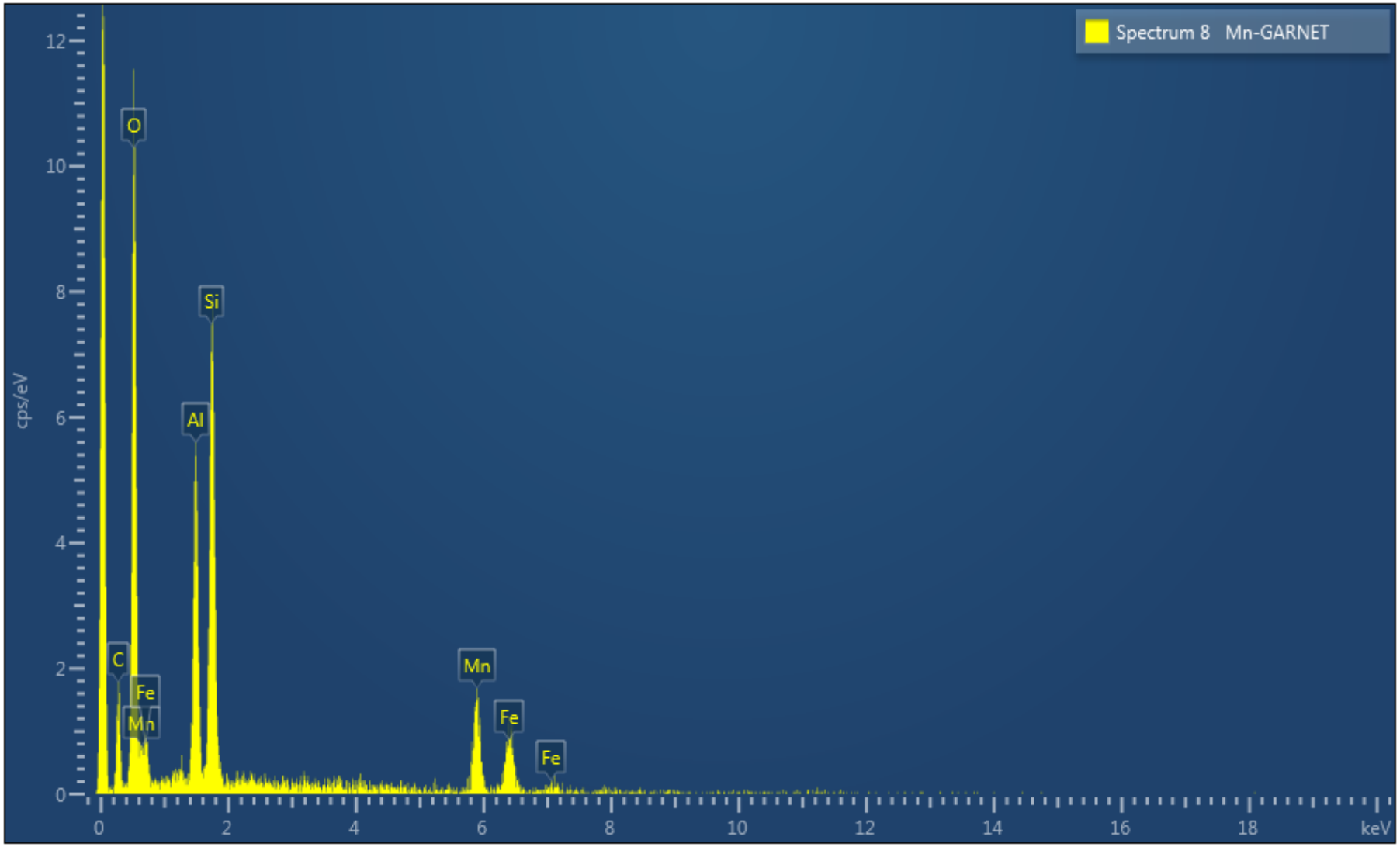


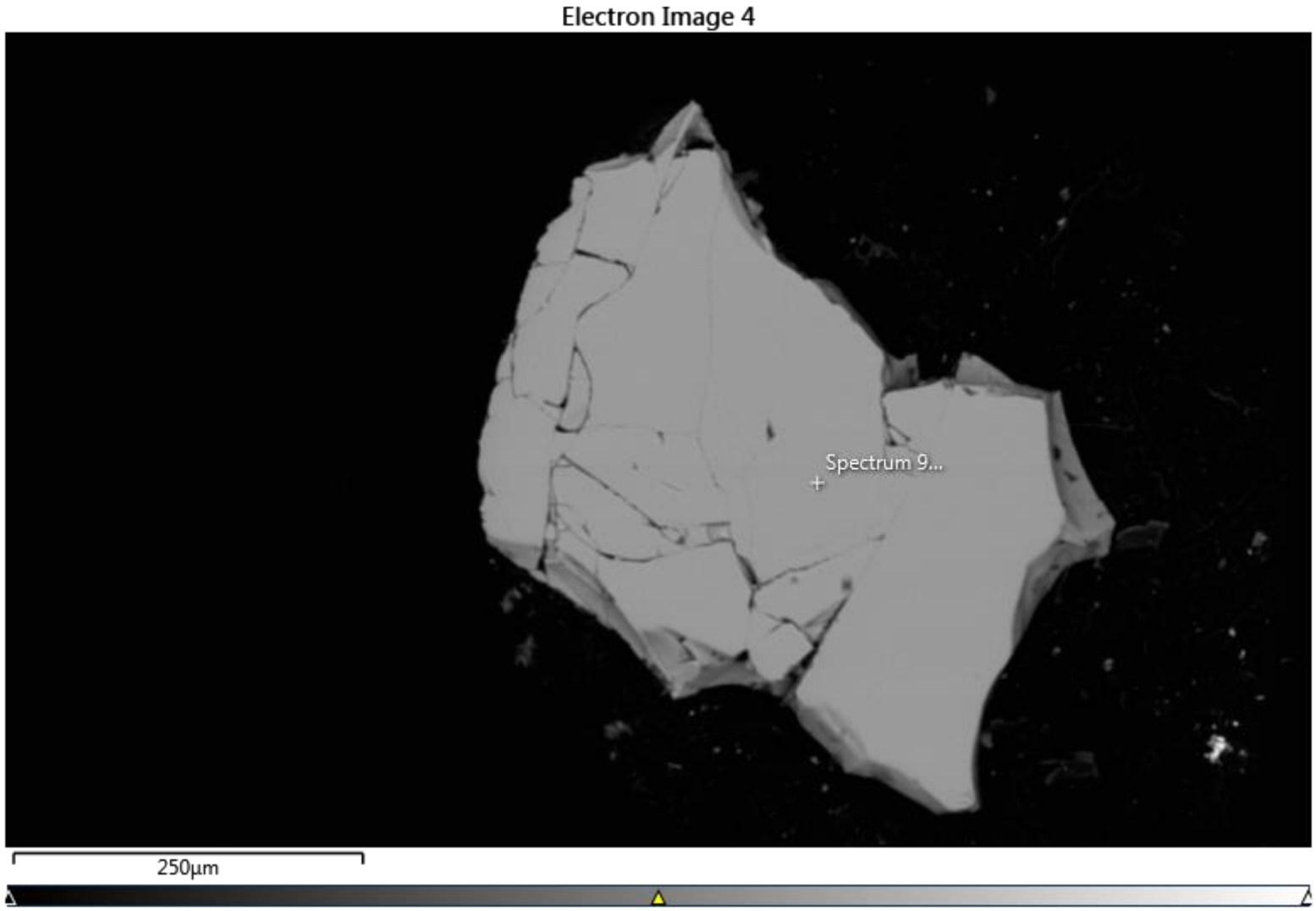

M1K Grain 1: Mn-Garnet (see EDS spectrum below).


Spectrum 7 Mn-GARNET
cps/eV
keV
O
Si
Al
C
Fe
Mn
Ca
Ca
Mn
Fe
Fe
0
2
4
6
8
10
12
14
16
18

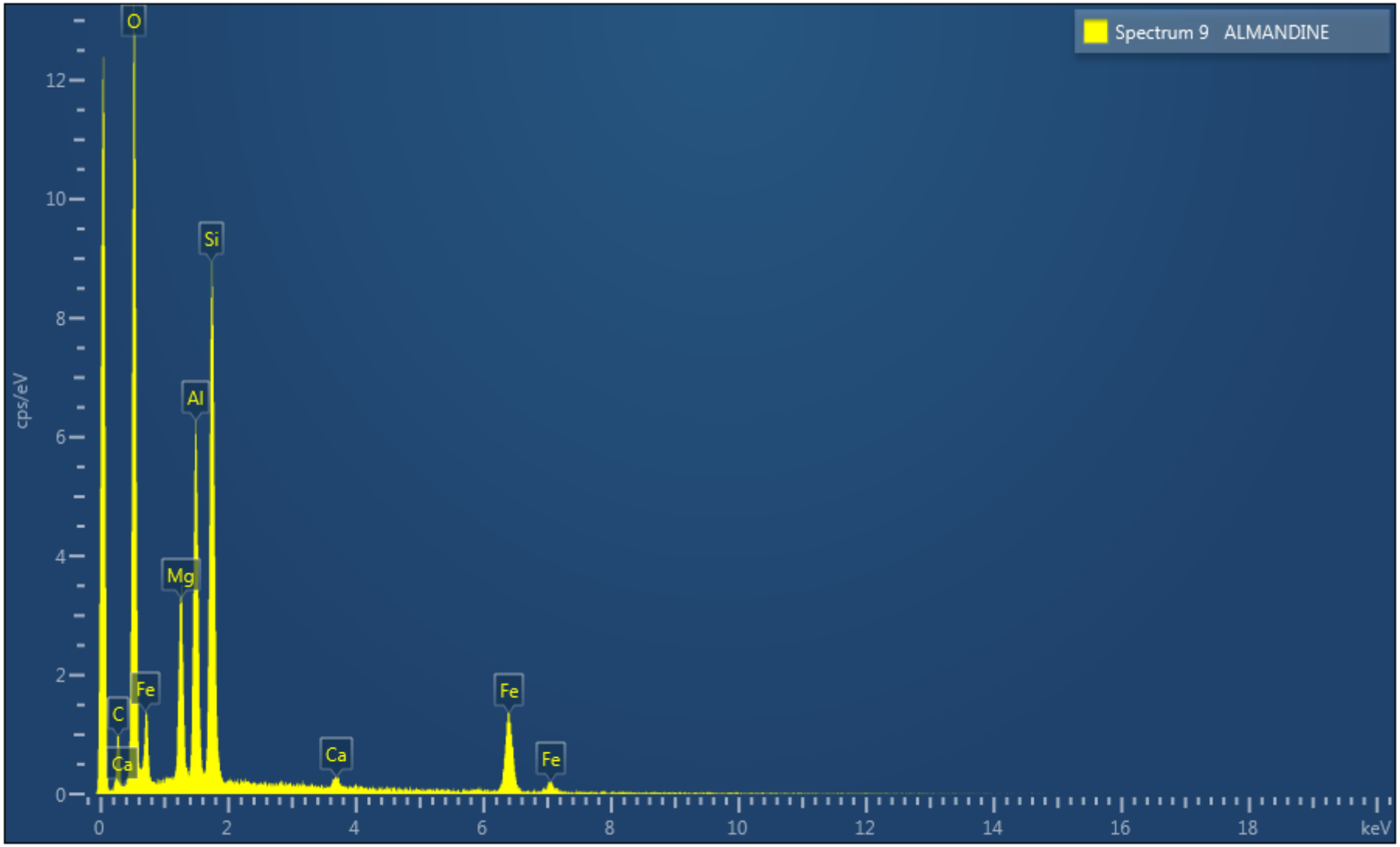


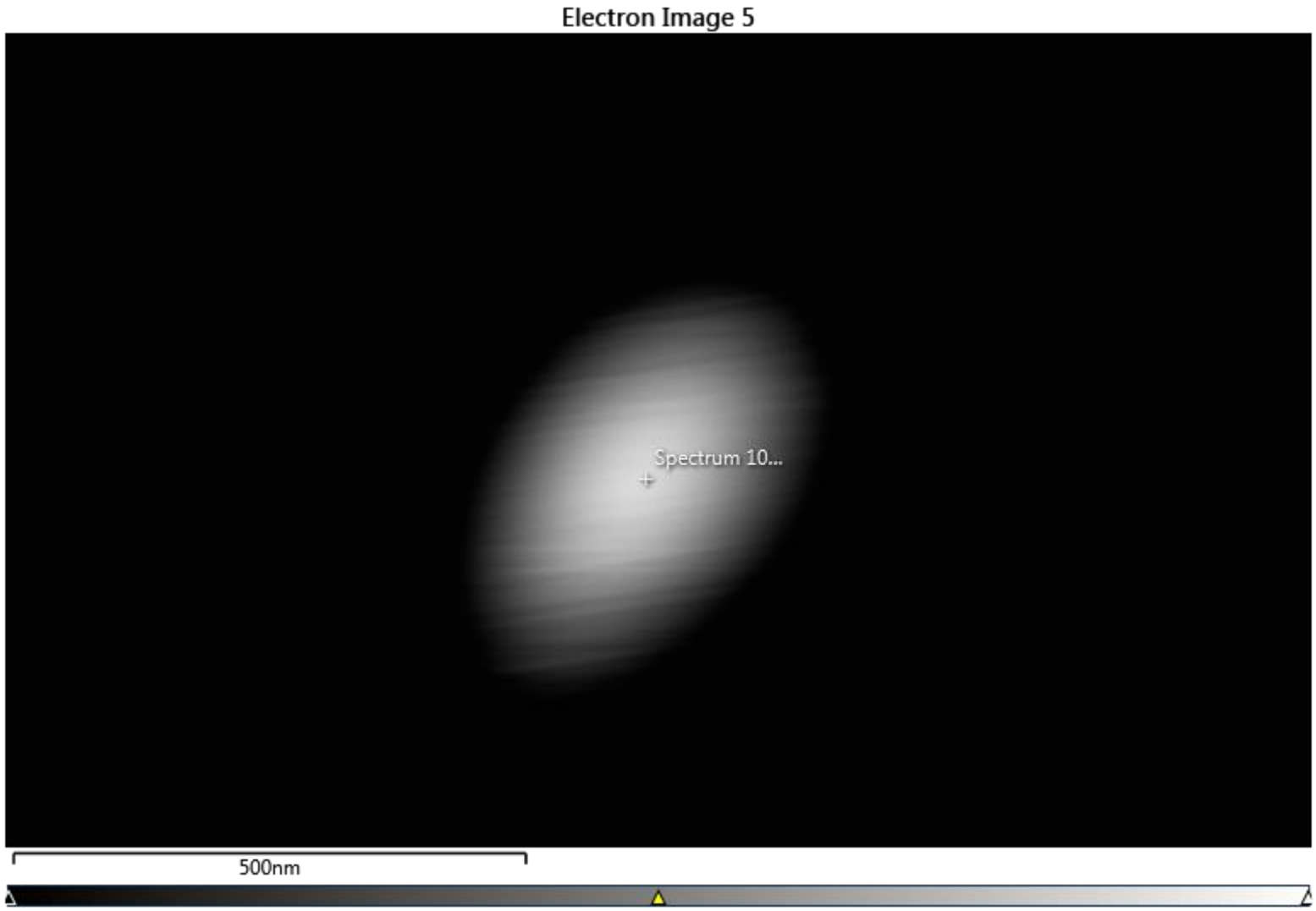

M1K Grain 2: Mn-Garnet (see EDS spectrum below).


Spectrum 8 Mn-GARNET
cps/eV
keV
O
Si
Al
C
Fe
Mn
Mn
Fe
Fe
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12

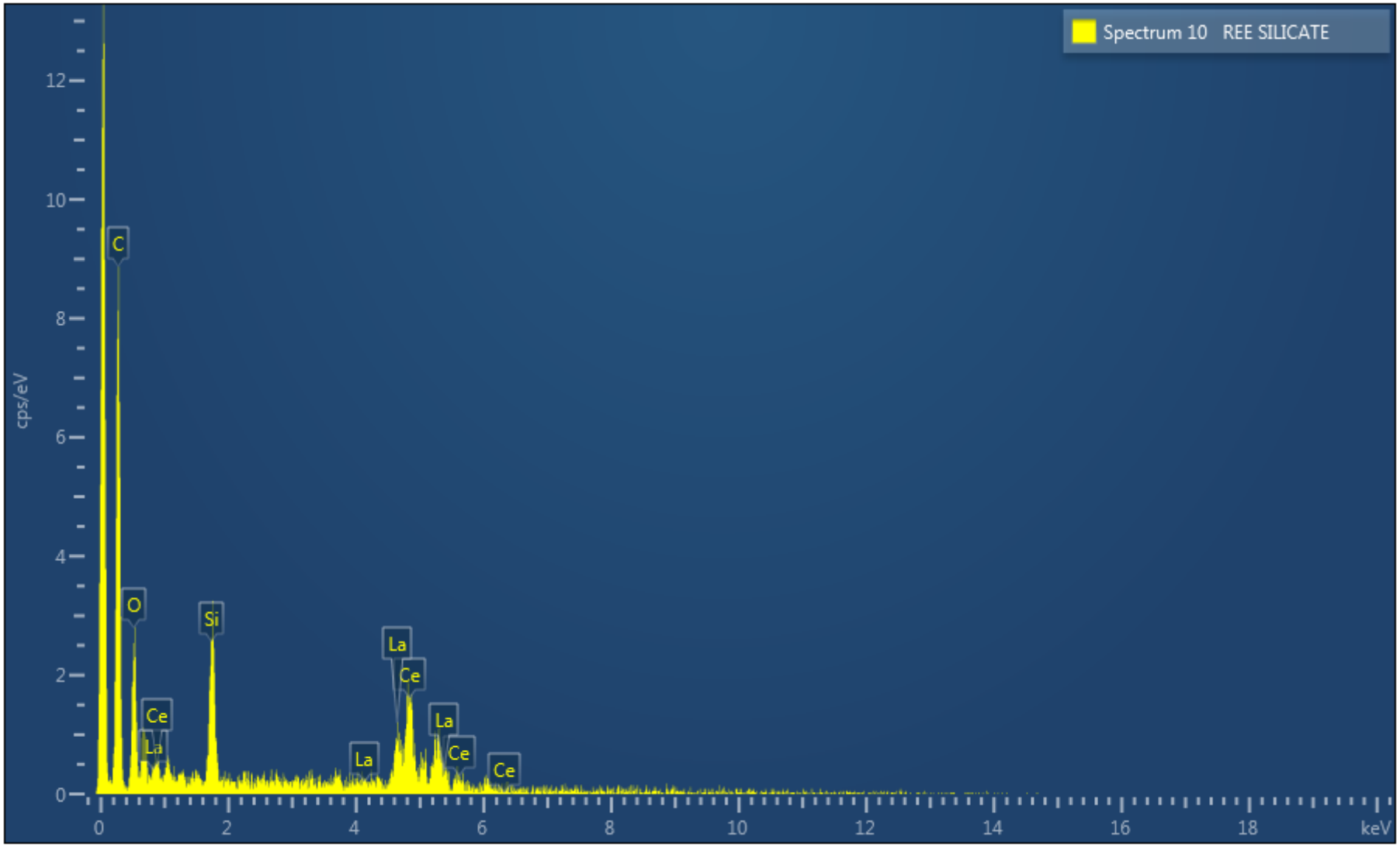


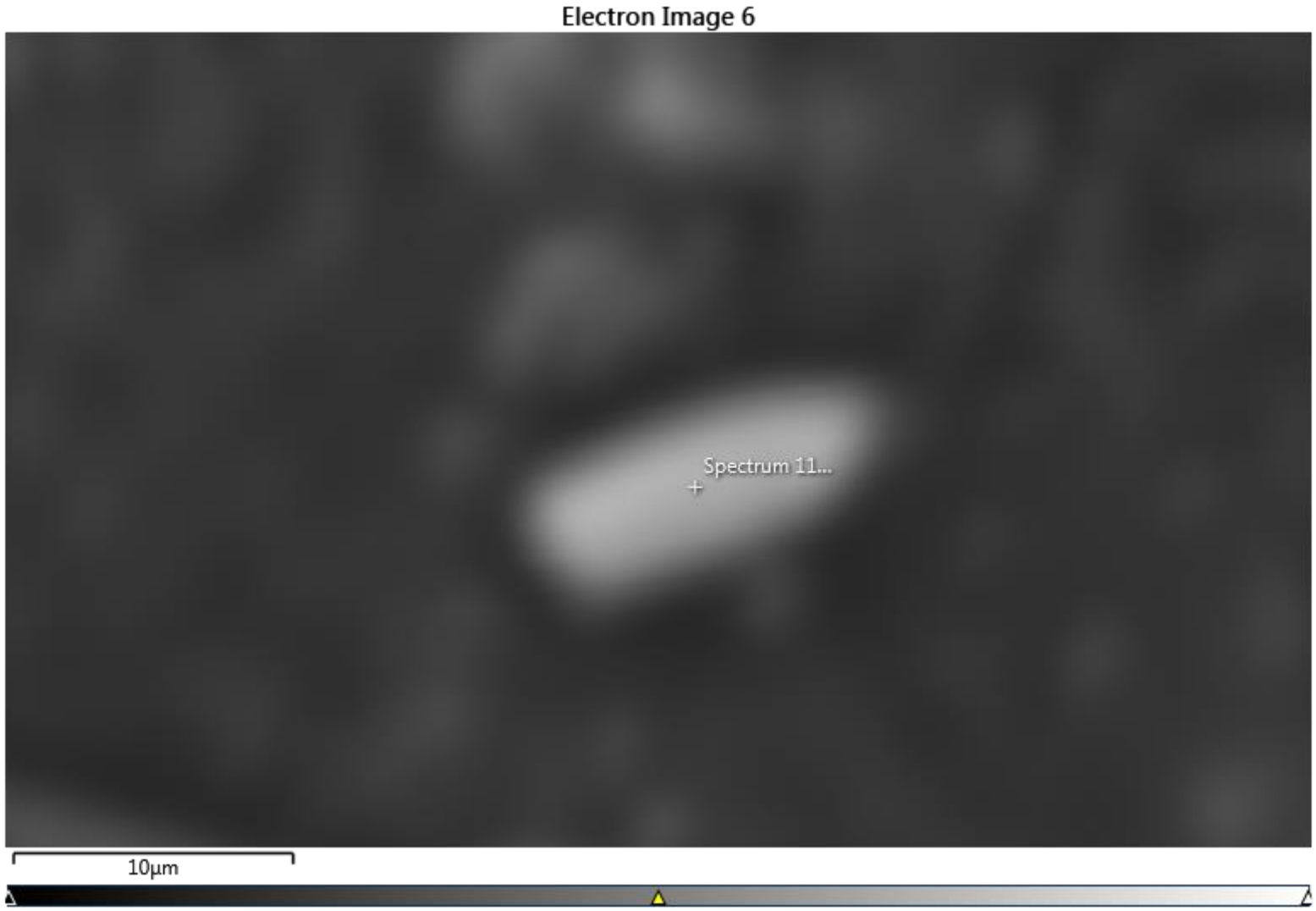

M1K Grain 3: Almandine Garnet (see EDS spectrum below).


Spectrum 9 ALMANDINE
cps/eV
keV
O
Si
Al
Mg
Fe
C
Ca
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18

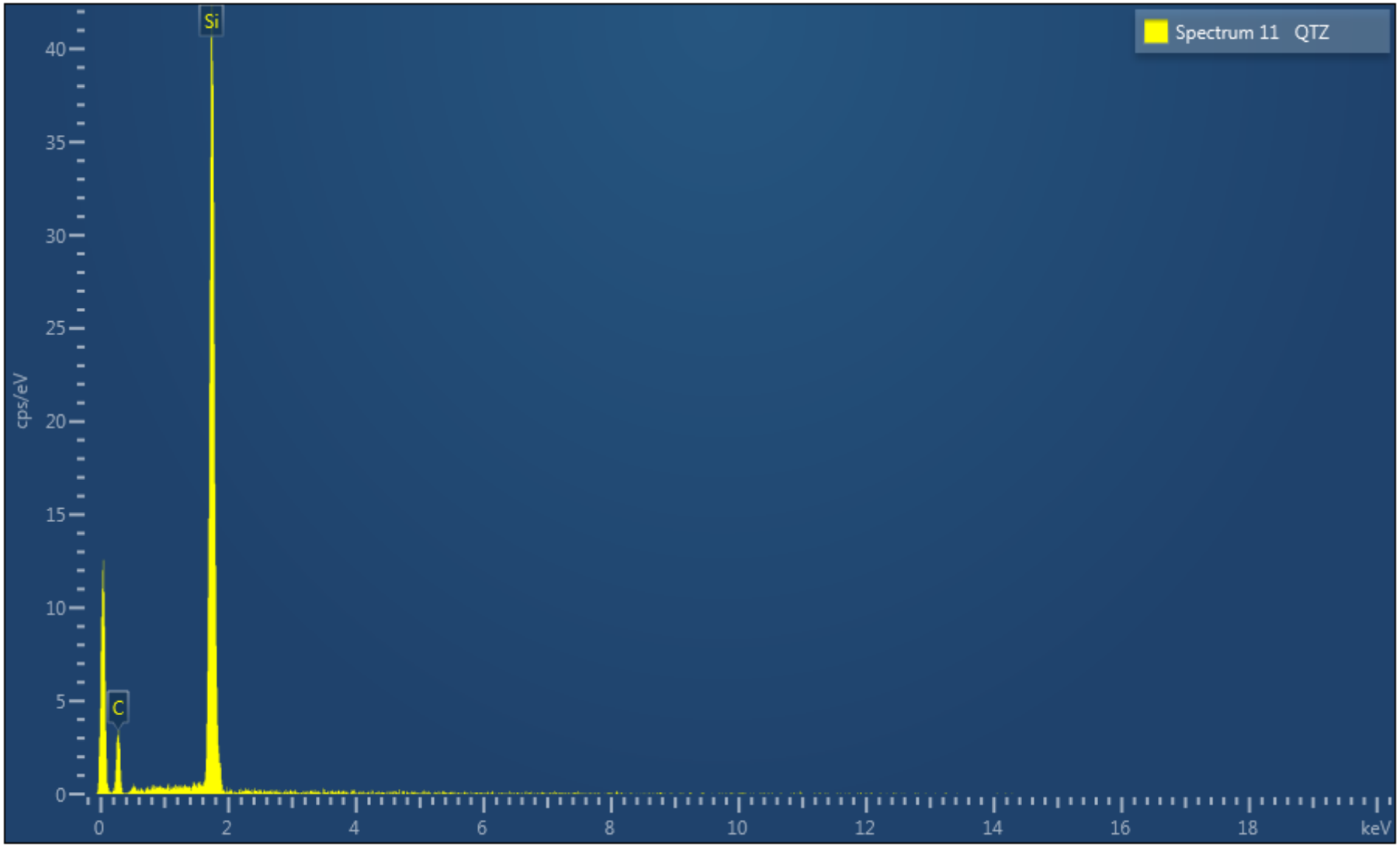


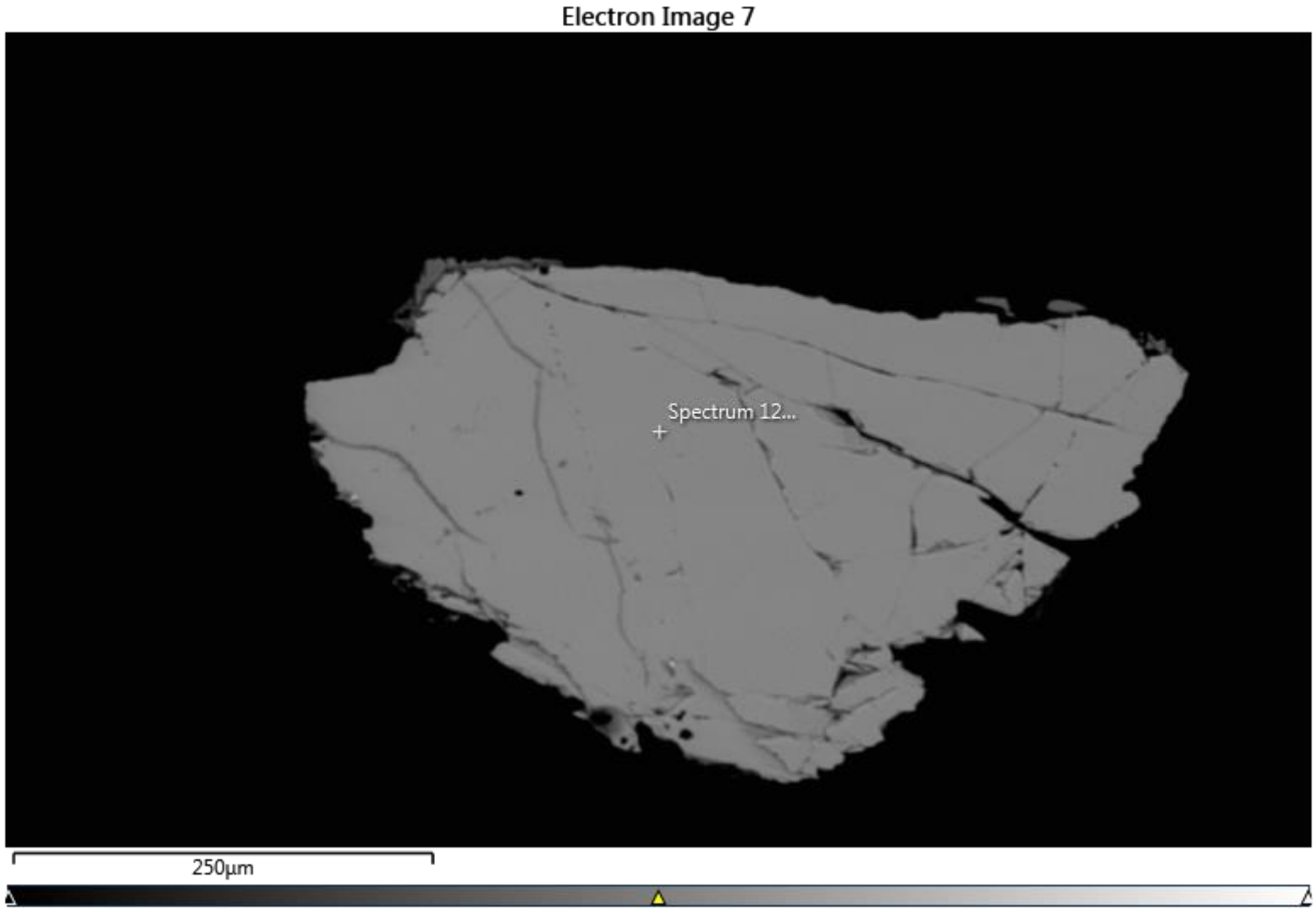

M1K Grain 4: REE-Silicate (see EDS spectrum below).


Spectrum 10 REE SILICATE
cps/eV
0
2
4
6
8
10
12
keV
0
2
4
6
8
10
12
14
16
18
C
O
Si
Ce
La
La
Ce
La
La
Ce
Ce

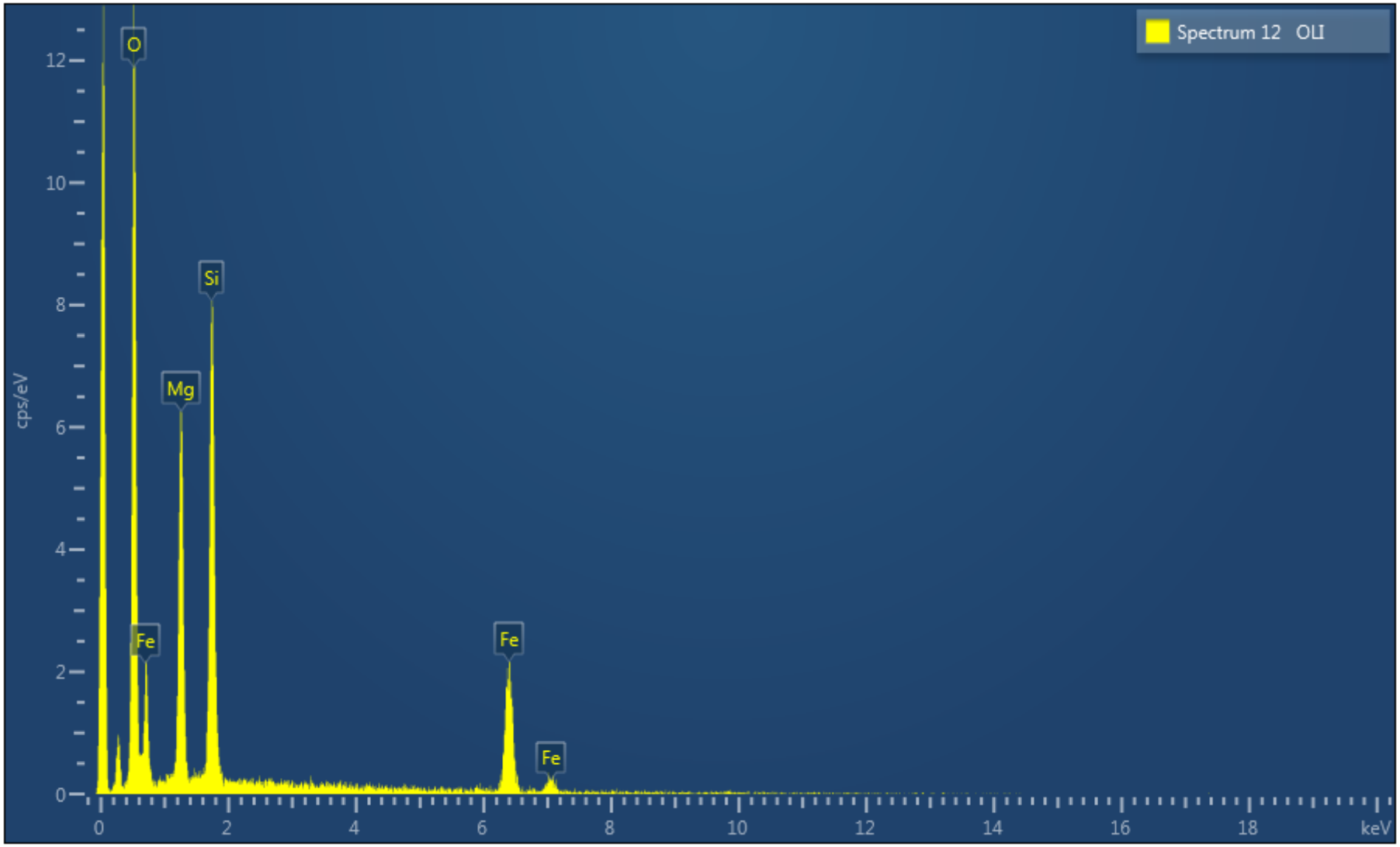


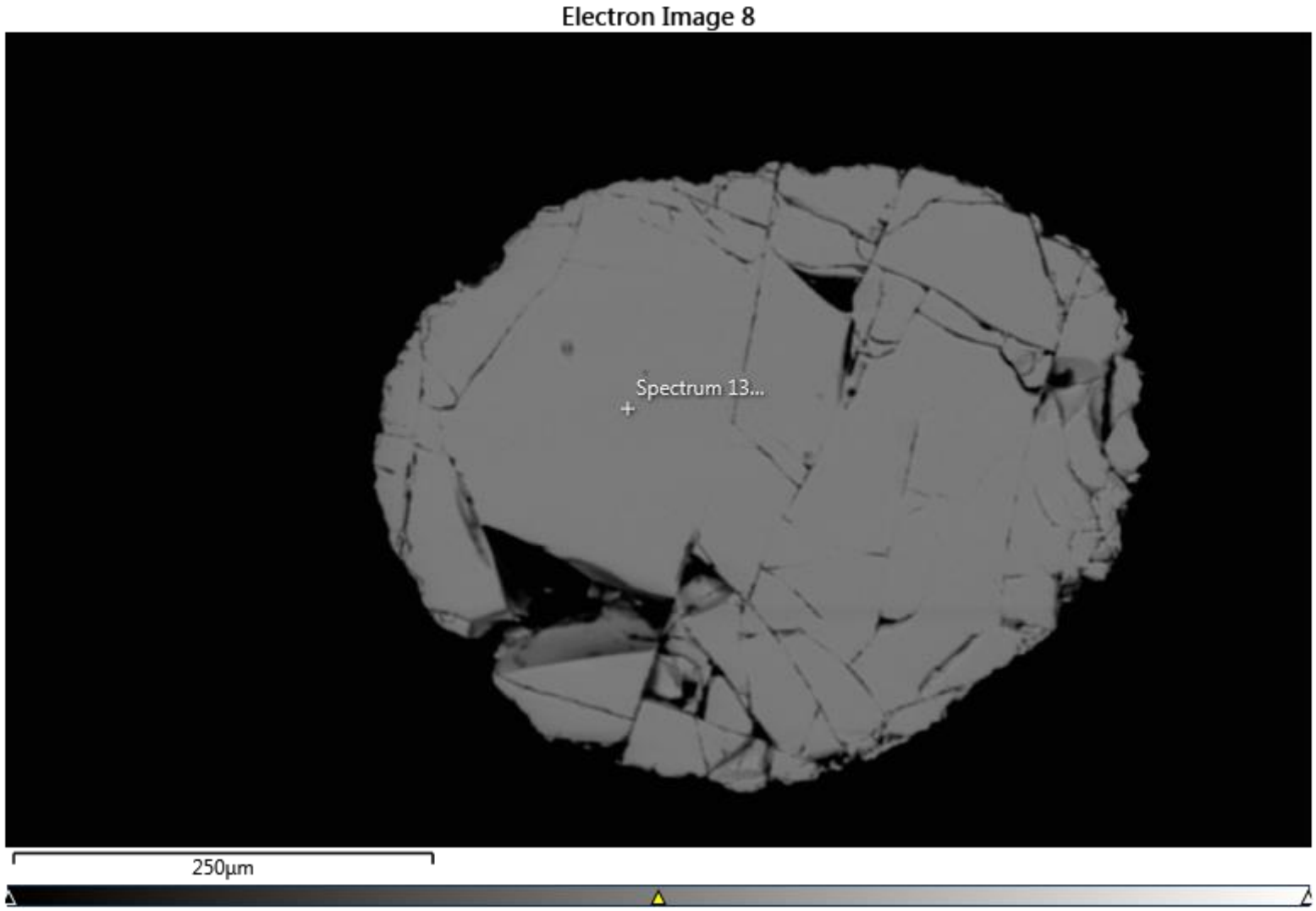

M1K Grain 5: Quartz (see EDS spectrum below).


Spectrum 11 QTZ
Si
C
cps/eV
0
5
10
15
20
25
30
35
40
0
2
4
6
8
10
12
14
16
18
keV

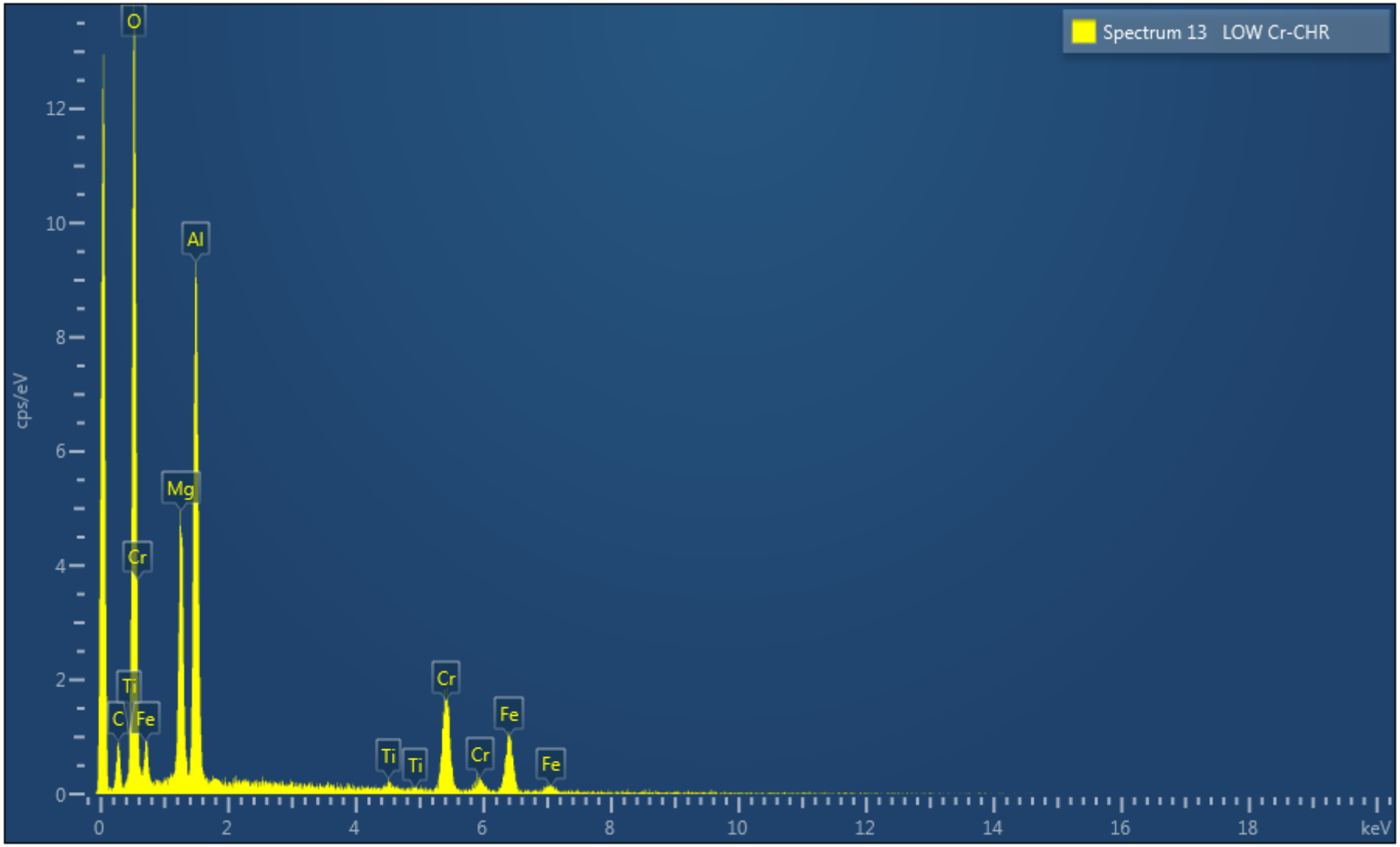


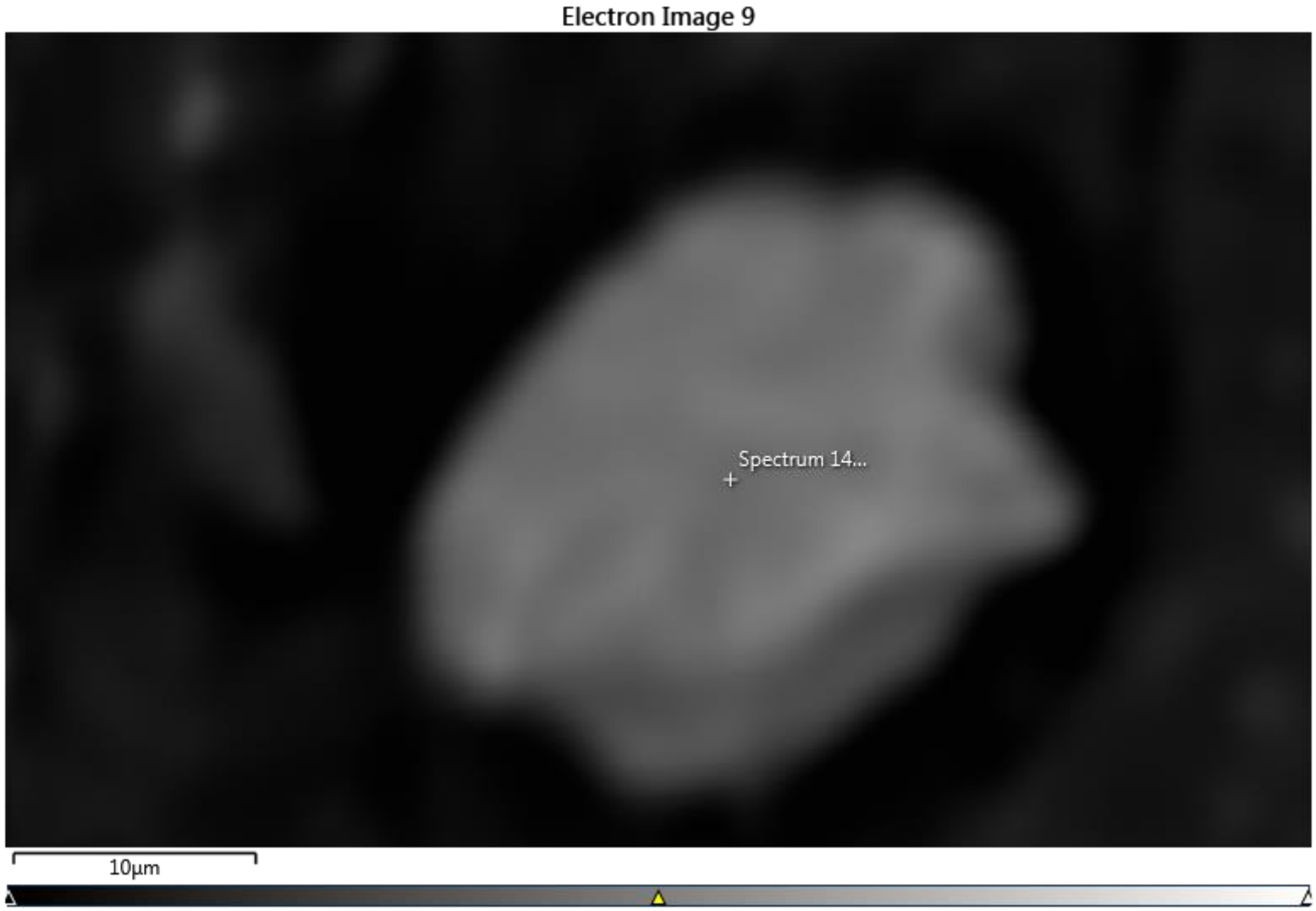

M1K Grain 6: Fe-Olivine (see EDS spectrum below).


Spectrum 12 OLI
O
Si
Mg
Fe
Fe
Fe
cps/eV
0
2
4
6
8
10
12
0
2
4
6
8
10
12
14
16
18
keV

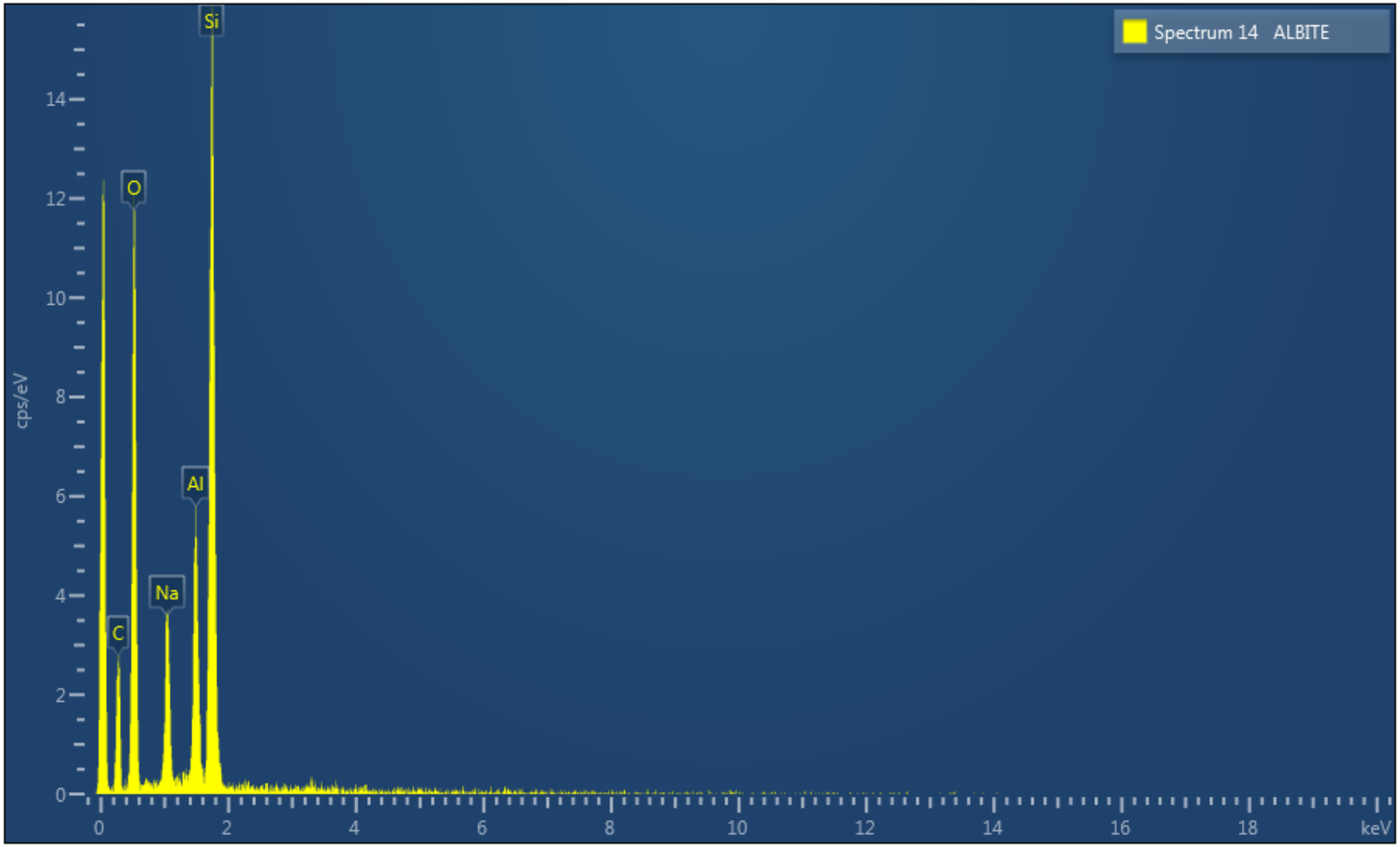


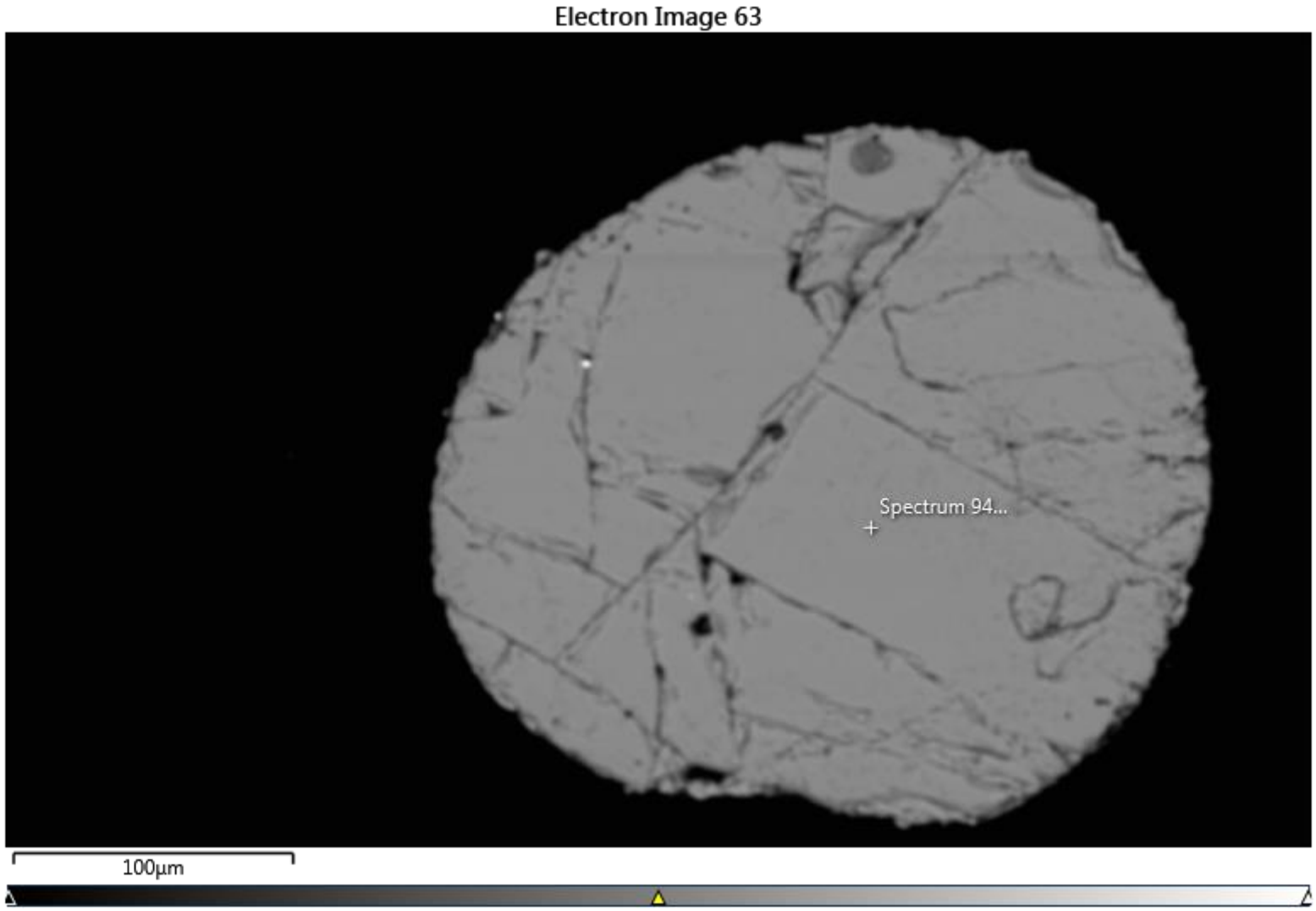

M1K Grain 7: Low-Cr Chromite (see EDS spectrum below).


Spectrum 13 LOW Cr-CHR
cps/eV
keV
O
Al
Mg
Cr
Ti
C
Fe
Ti
Ti
Cr
Cr
Fe
Fe

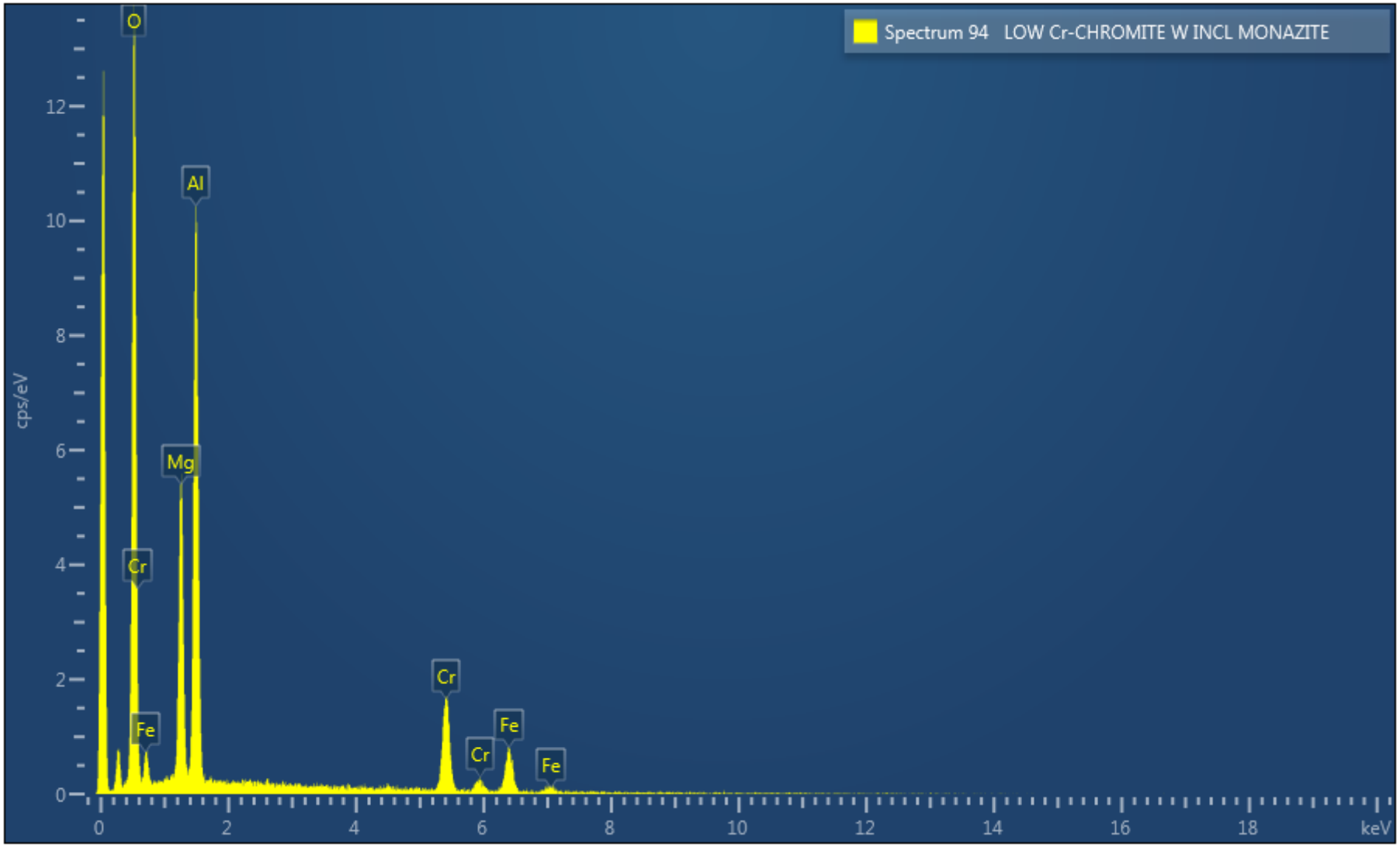


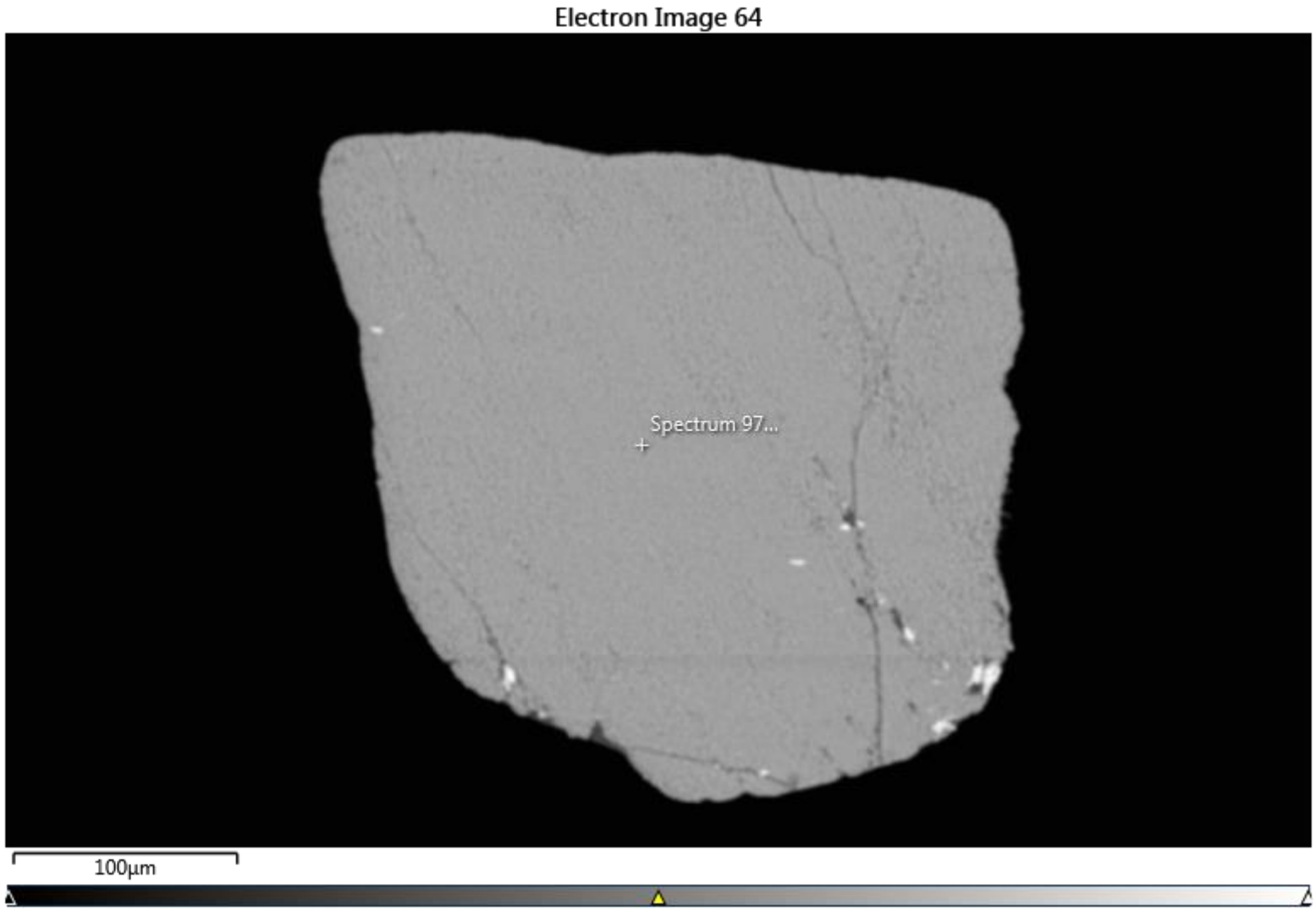

M1K Grain 8: Albite (see EDS spectrum below).


Spectrum 14 ALBITE
Si
O
Al
Na
C
cps/eV
0
2
4
6
8
10
12
14
16
18
keV

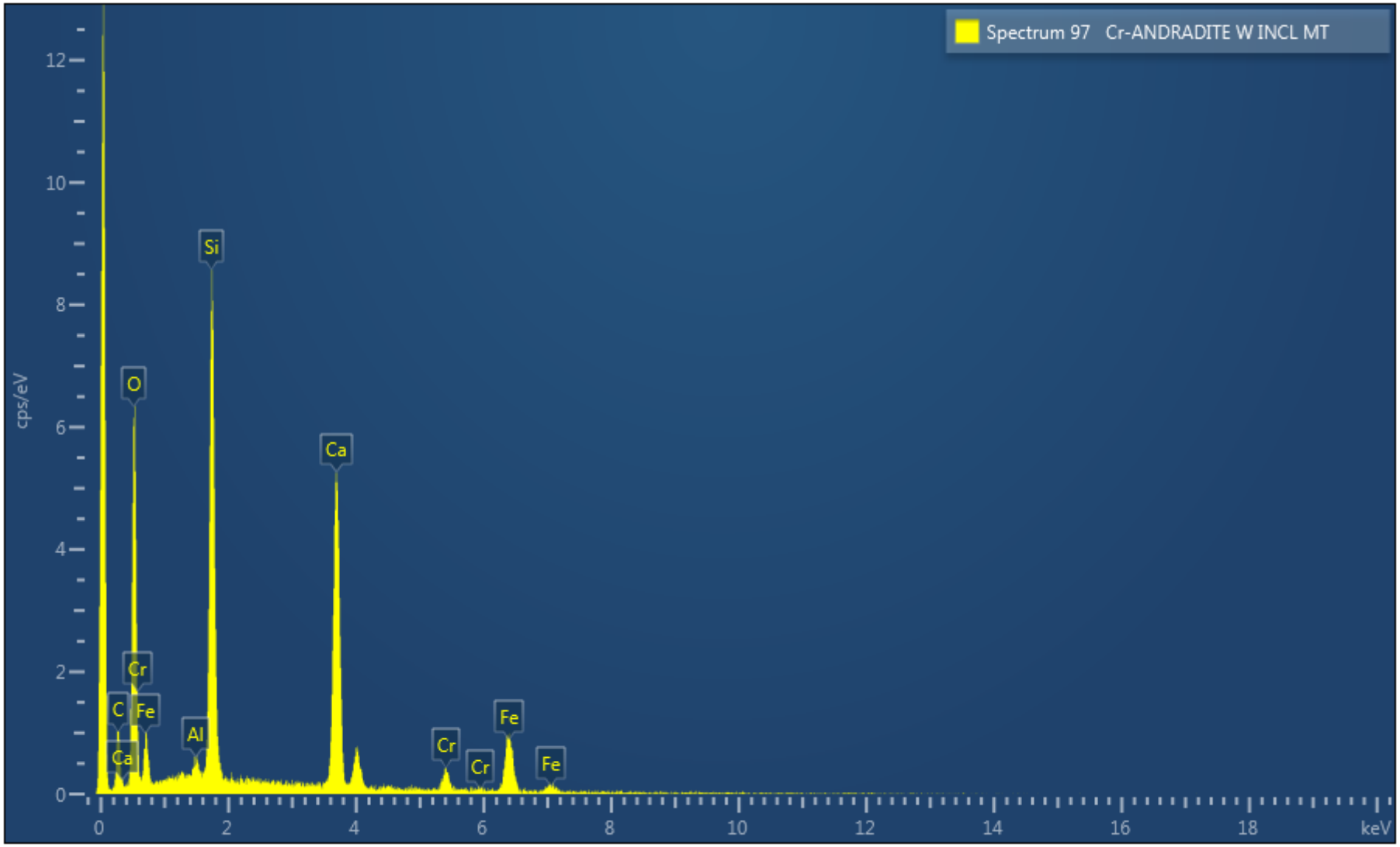


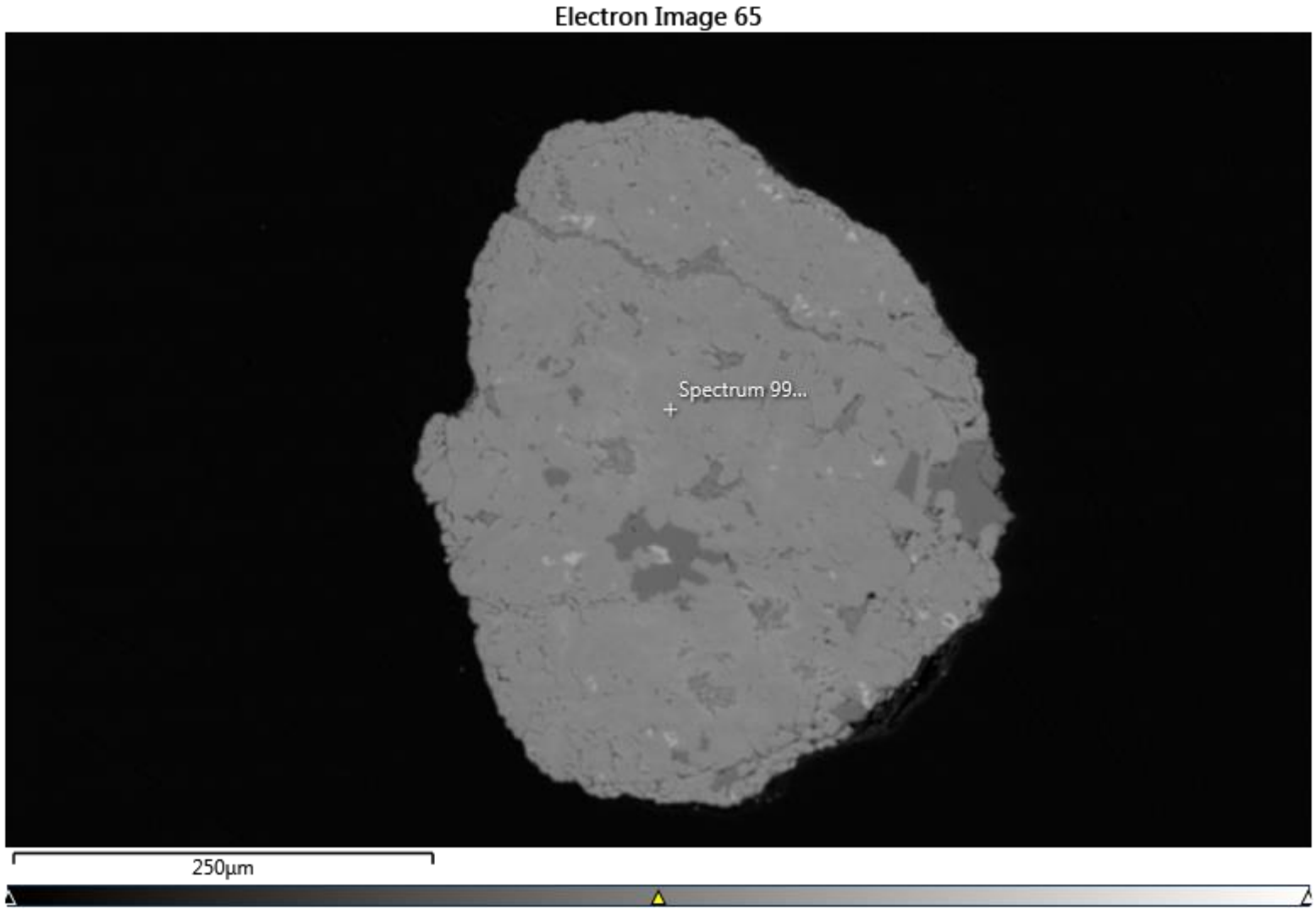

M1K Grain 9: Low-Cr Chromite with inclusion of Monazite (see EDS spectrum below).


Spectrum 94 LOW Cr-CHROMITE W INCL MONAZITE
cps/eV
keV
O
Al
Mg
Cr
Fe
Cr
Cr
Fe
Fe
0
2
4
6
8
10
12
14
16
18

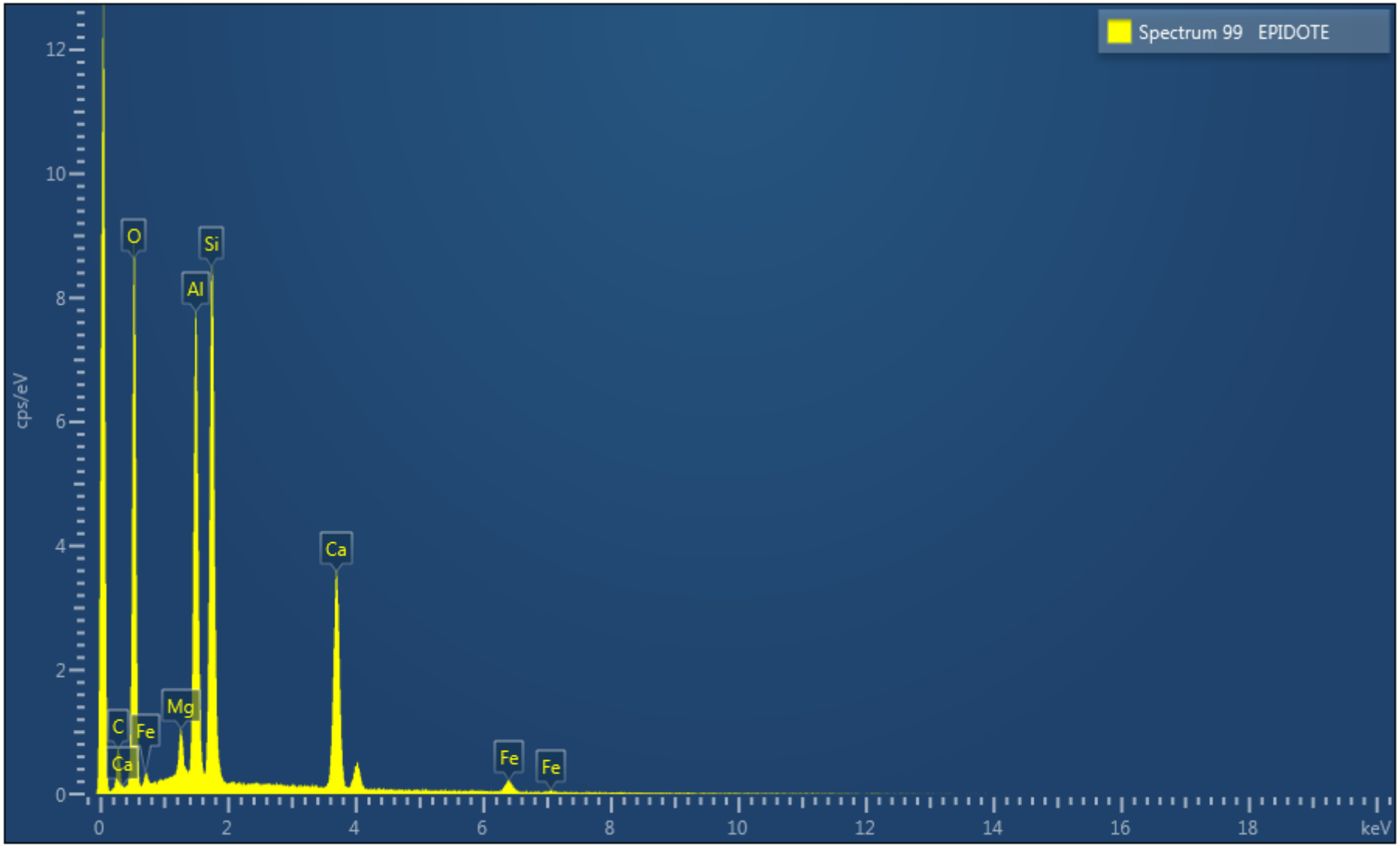


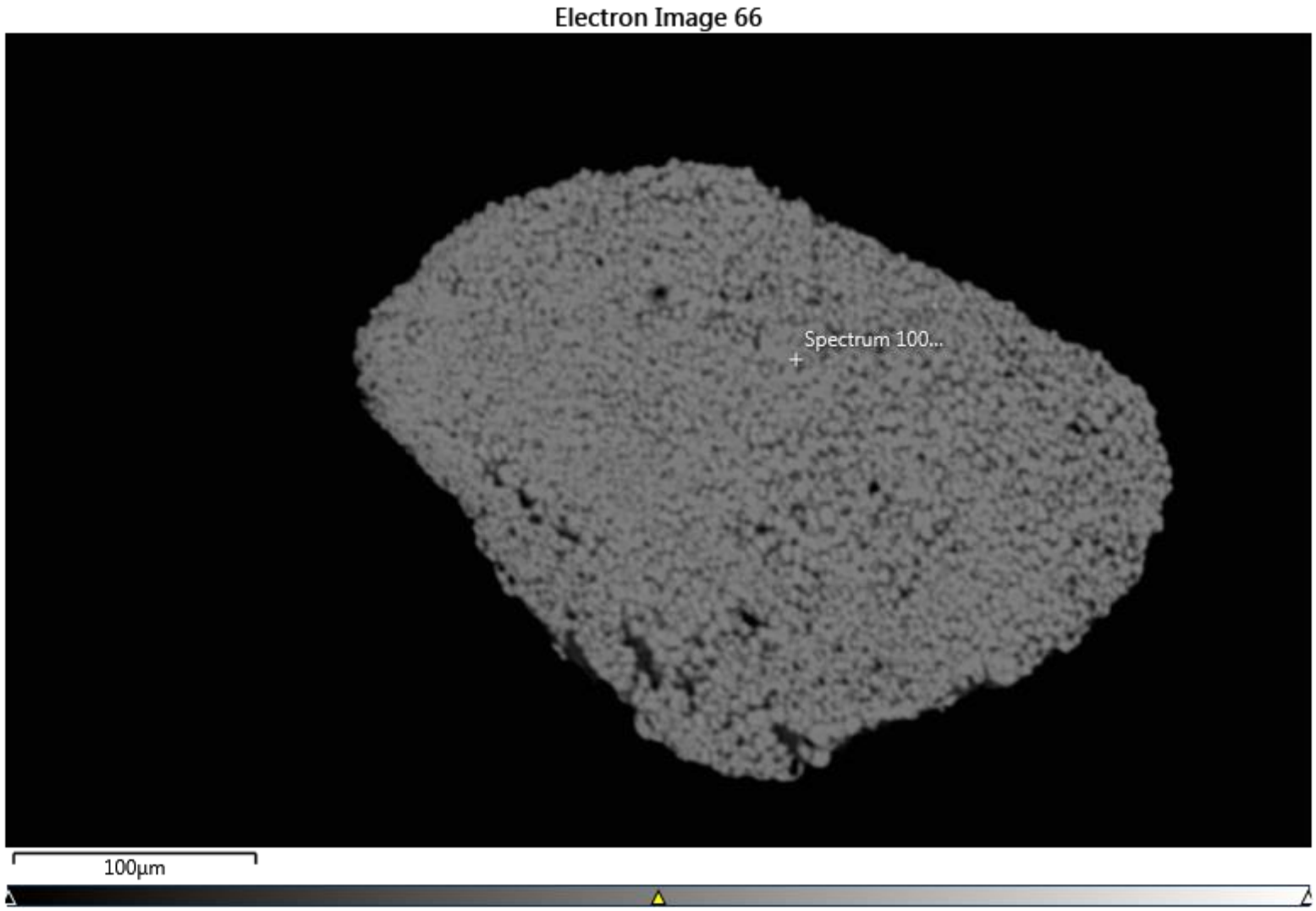

M1K Grain 10: Cr-Andradite with inclusions of Magnetite (see EDS spectrum below).


Spectrum 97 Cr-ANDRADITE W INCL MT
cps/eV
keV
O
Si
Ca
Cr
C
Fe
Al
Ca
Cr
Cr
Fe
Fe

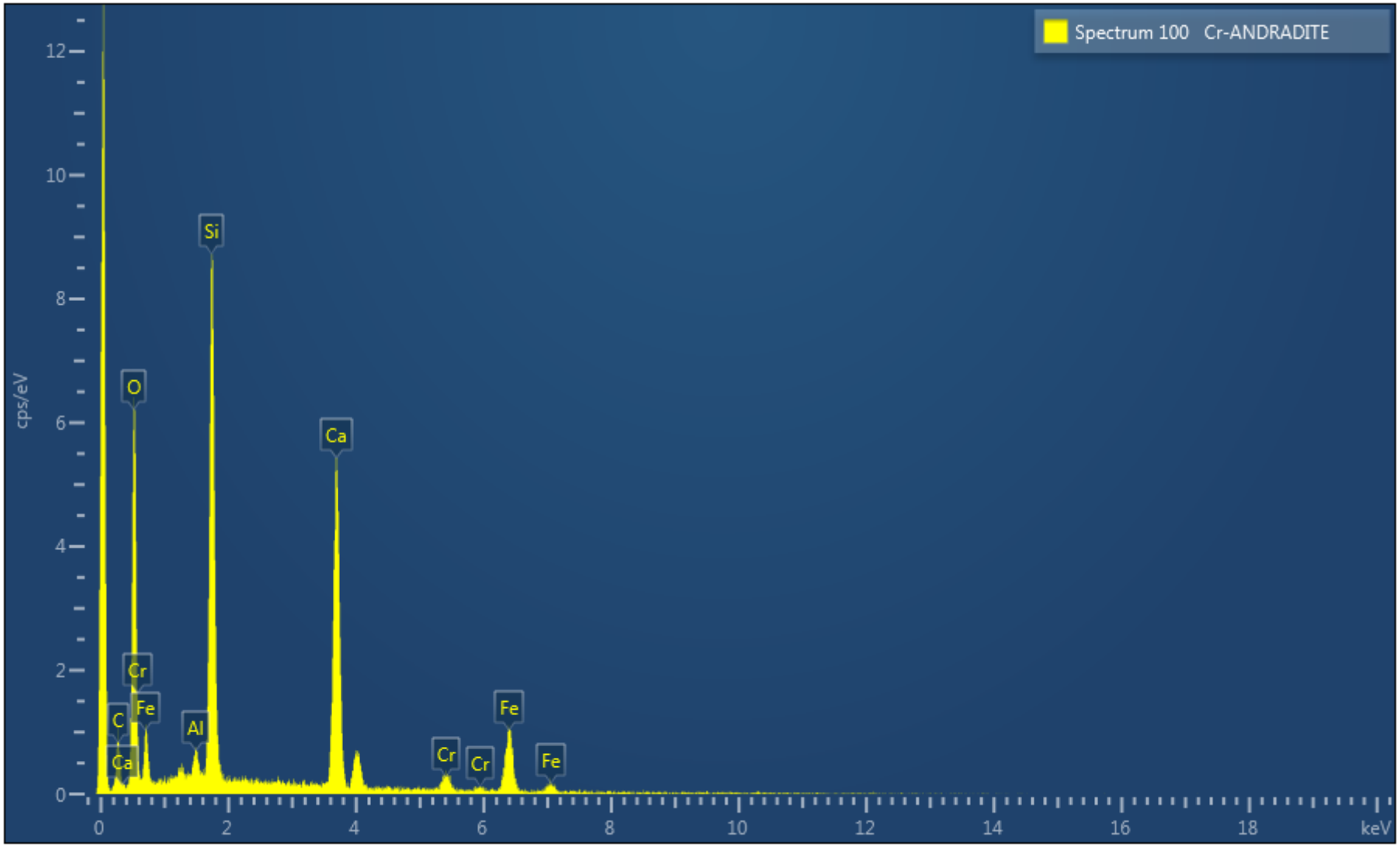


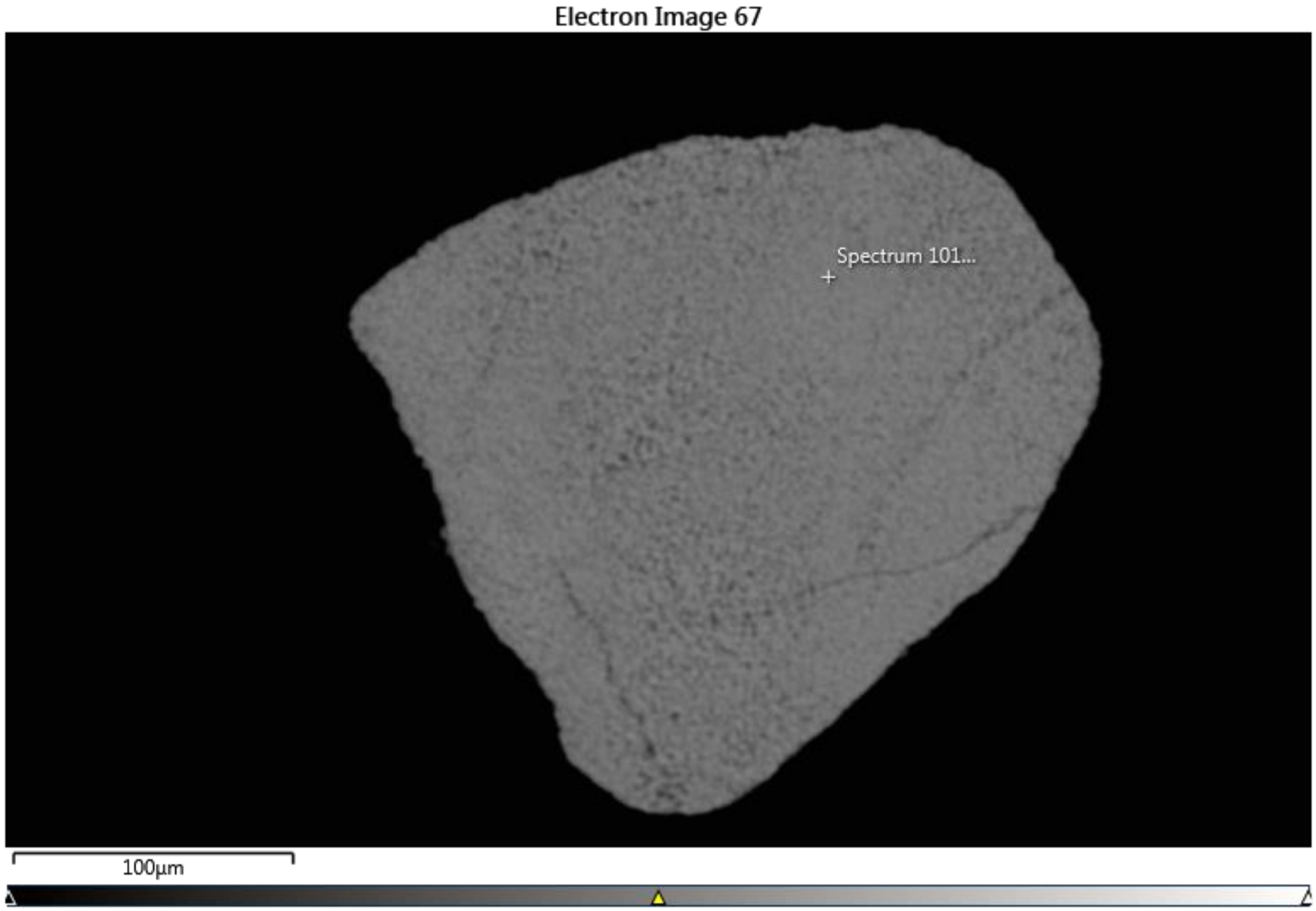

M1K Grain 11: Epidote (see EDS spectrum below).


Spectrum 99 EPIDOTE
cps/eV
keV
O
Si
Al
Ca
Mg
C
Fe
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18

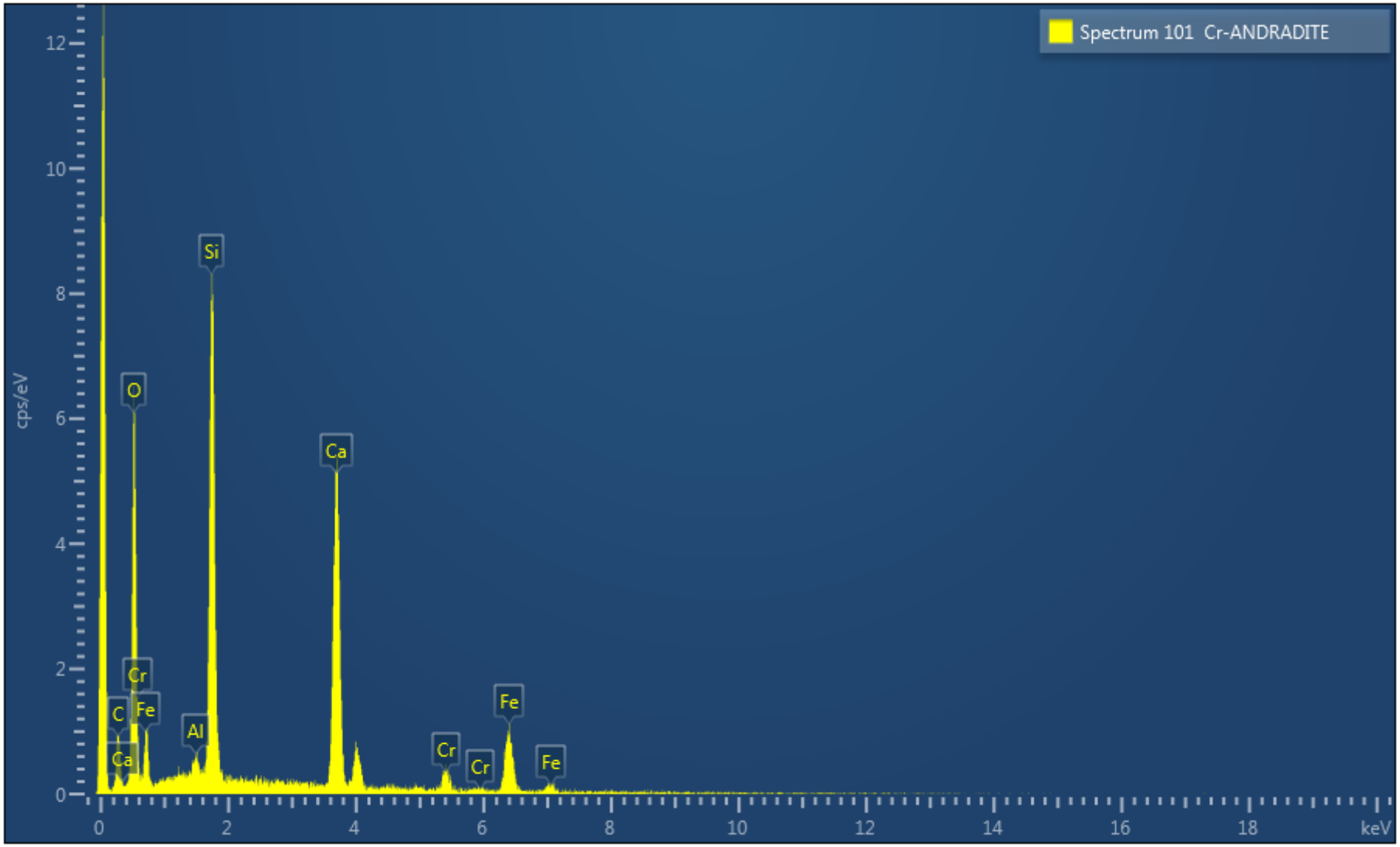


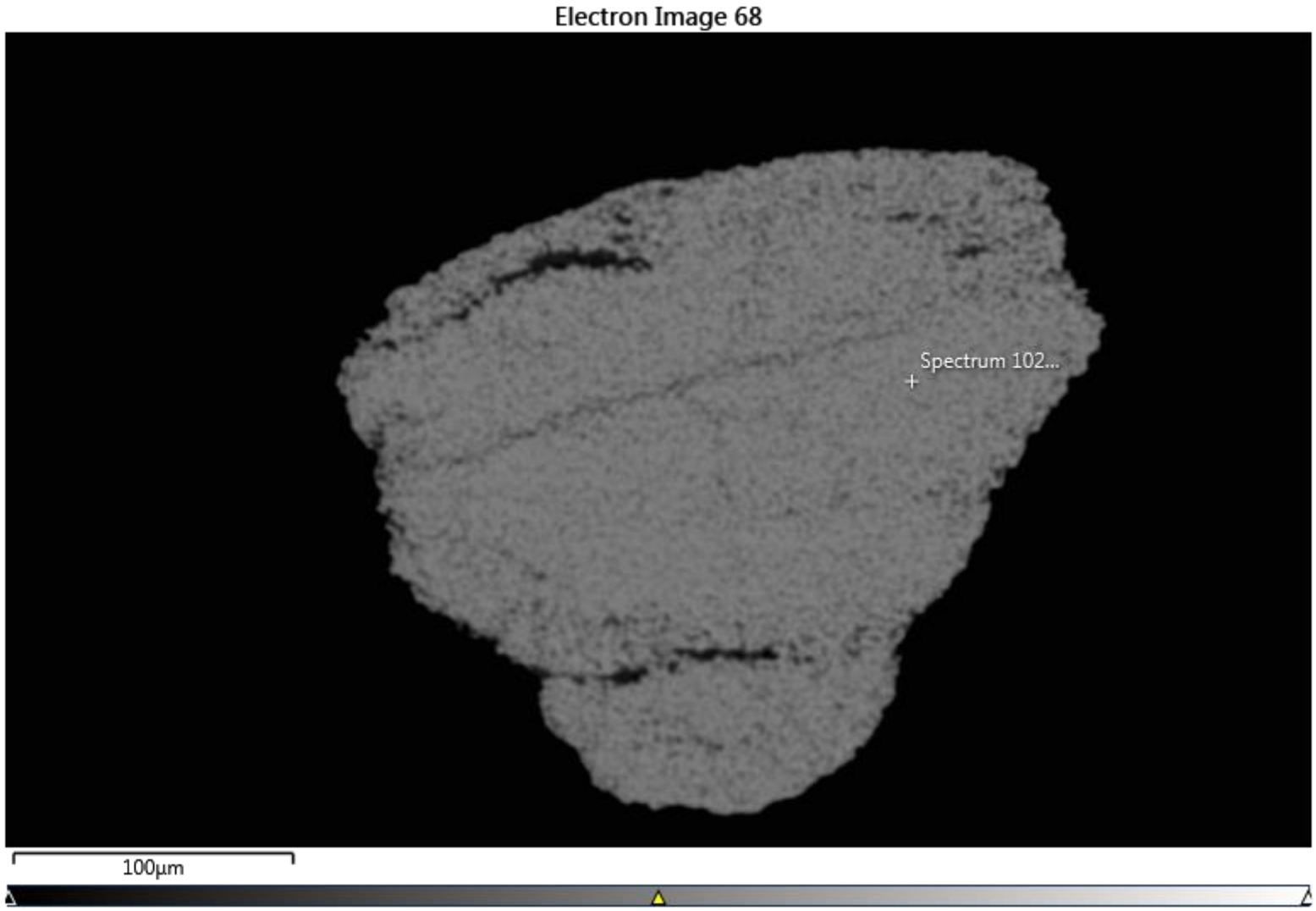

M1K Grain 12: Cr-Andradite (see EDS spectrum below).


Spectrum 100 Cr-ANDRADITE
cps/eV
keV
O
Si
Ca
Cr
Fe
C
Al
Ca
Cr
Cr
Fe
Fe

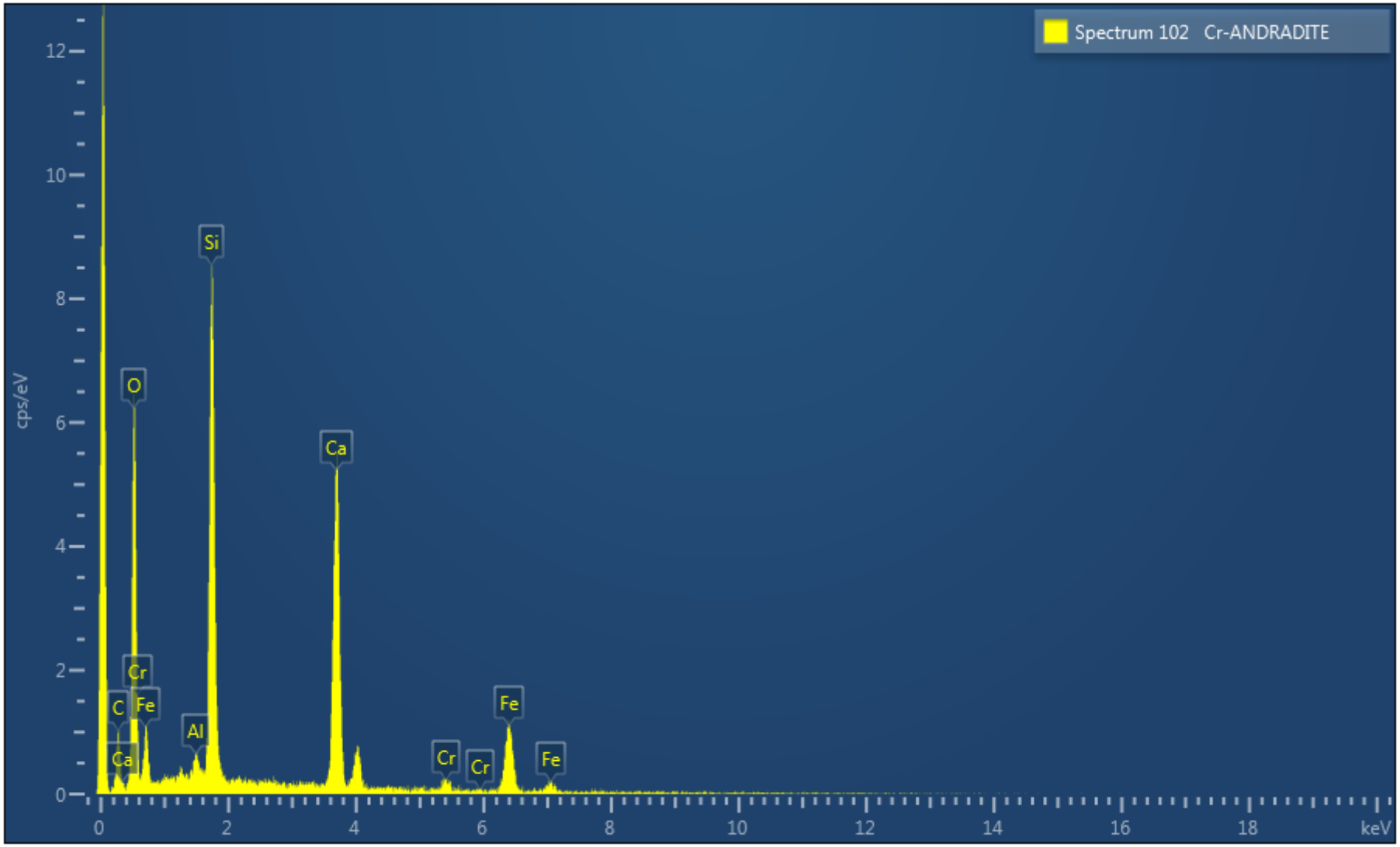


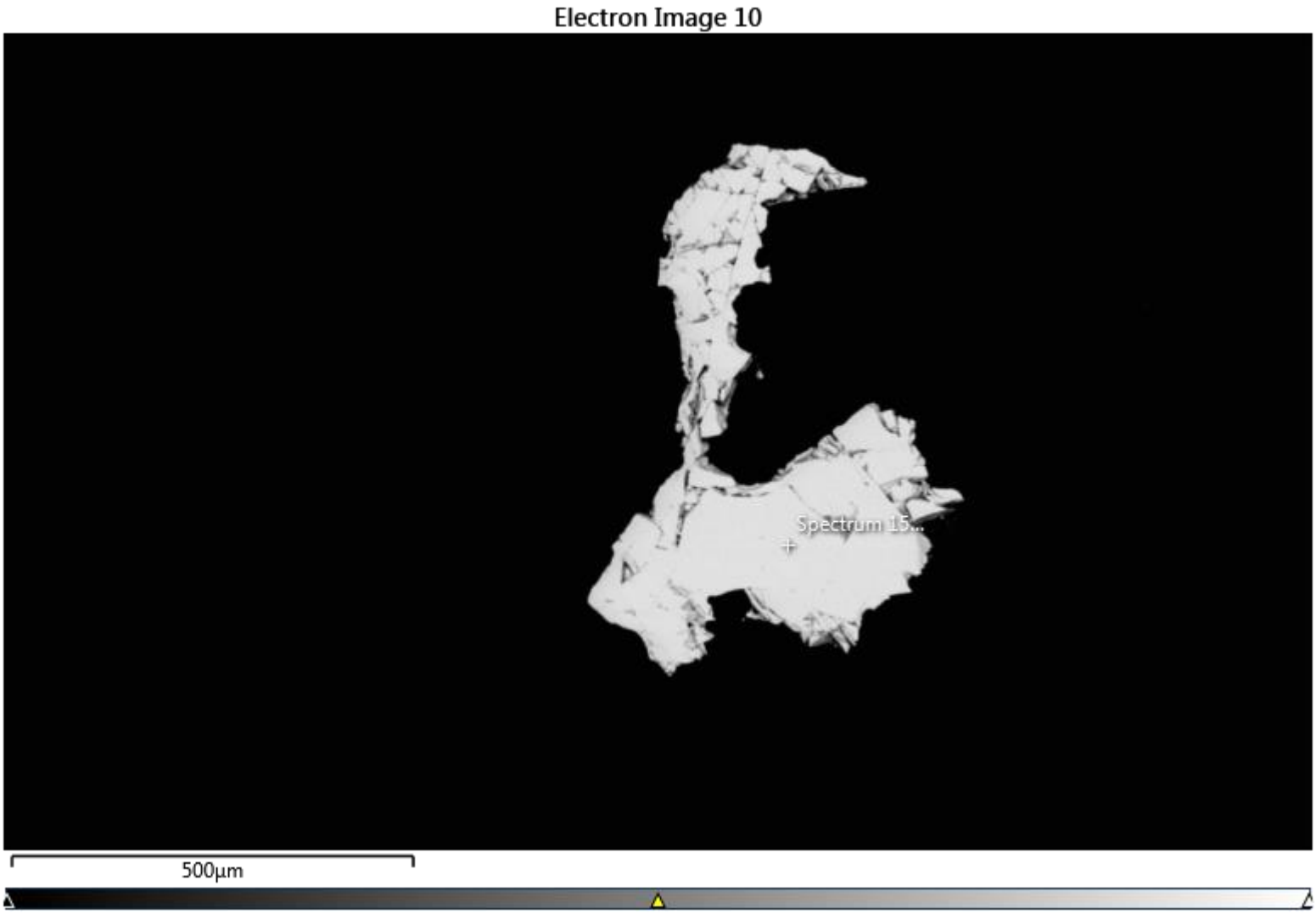

M1K Grain 13: Cr-Andradite (see EDS spectrum below).


Spectrum 101 Cr-ANDRADITE
cps/eV
keV
O
Si
Ca
C
Fe
Cr
Al
Ca
Cr
Cr
Fe
Fe

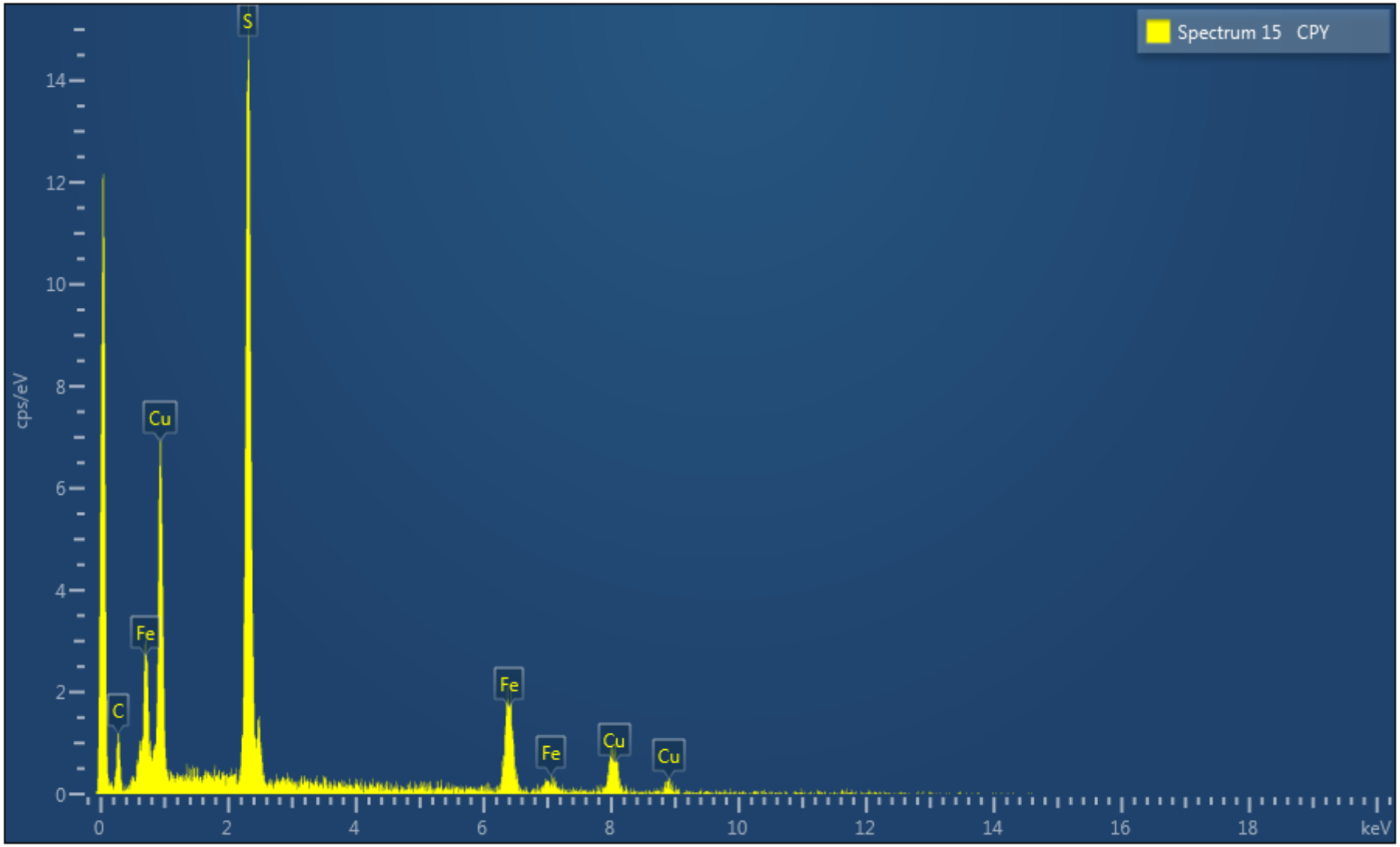


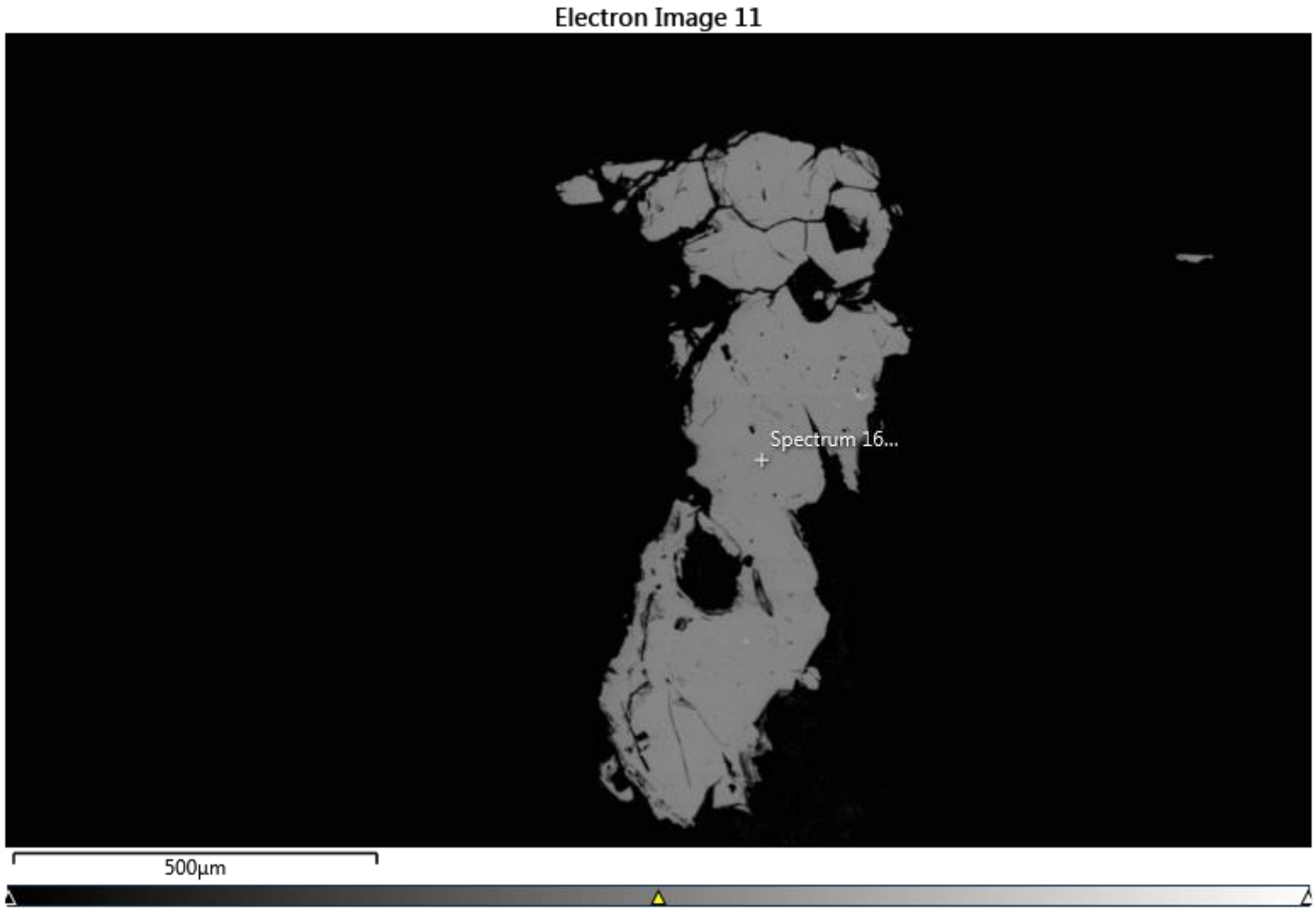

M1K Grain 14: Cr-Andradite (see EDS spectrum below).


Spectrum 102 Cr-ANDRADITE
cps/eV
keV
O
Si
Ca
C
Fe
Cr
Al
Ca
Cr
Cr
Fe
Fe

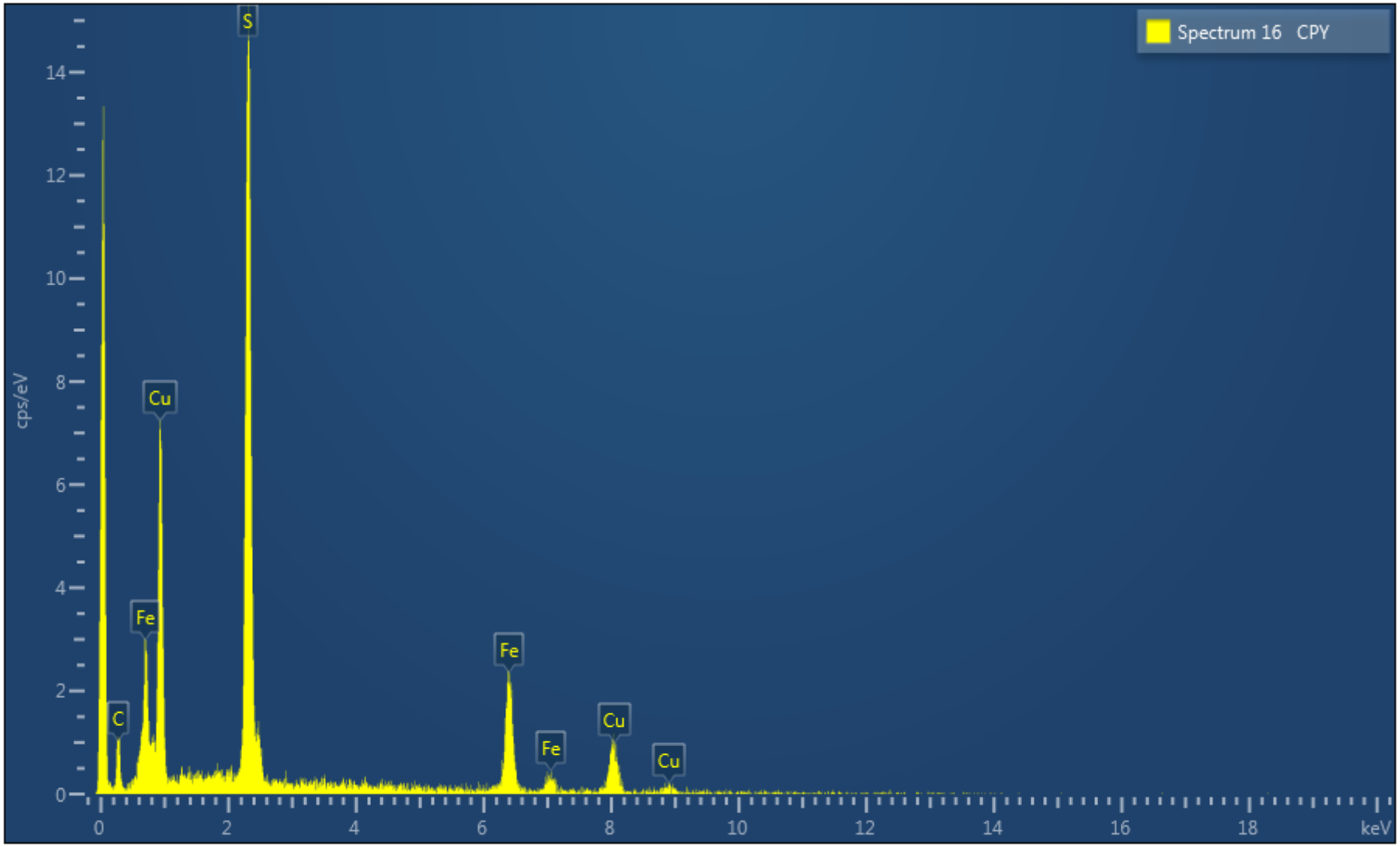


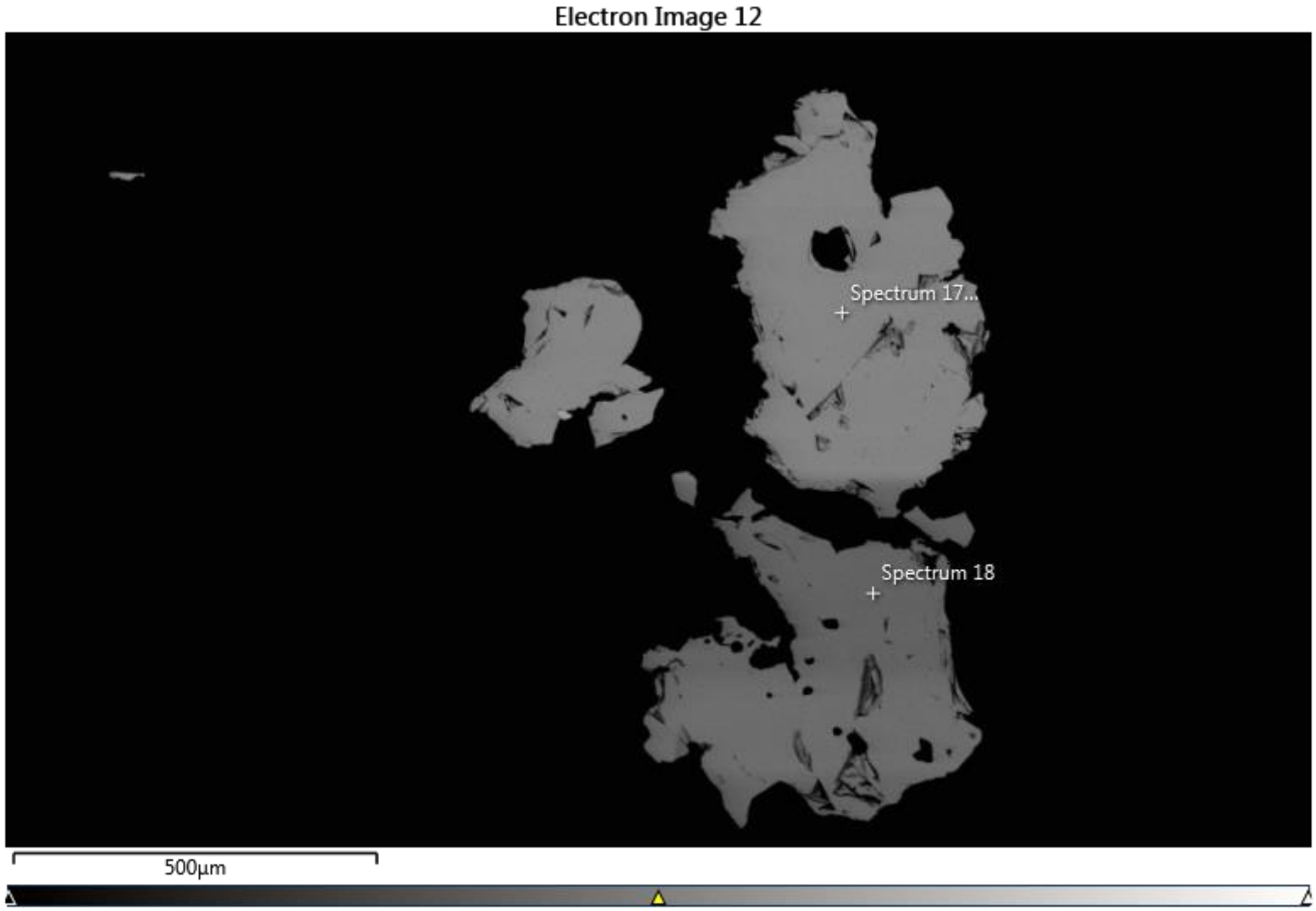

M1S Grain 1: Chalcopyrite (see EDS spectrum below).


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

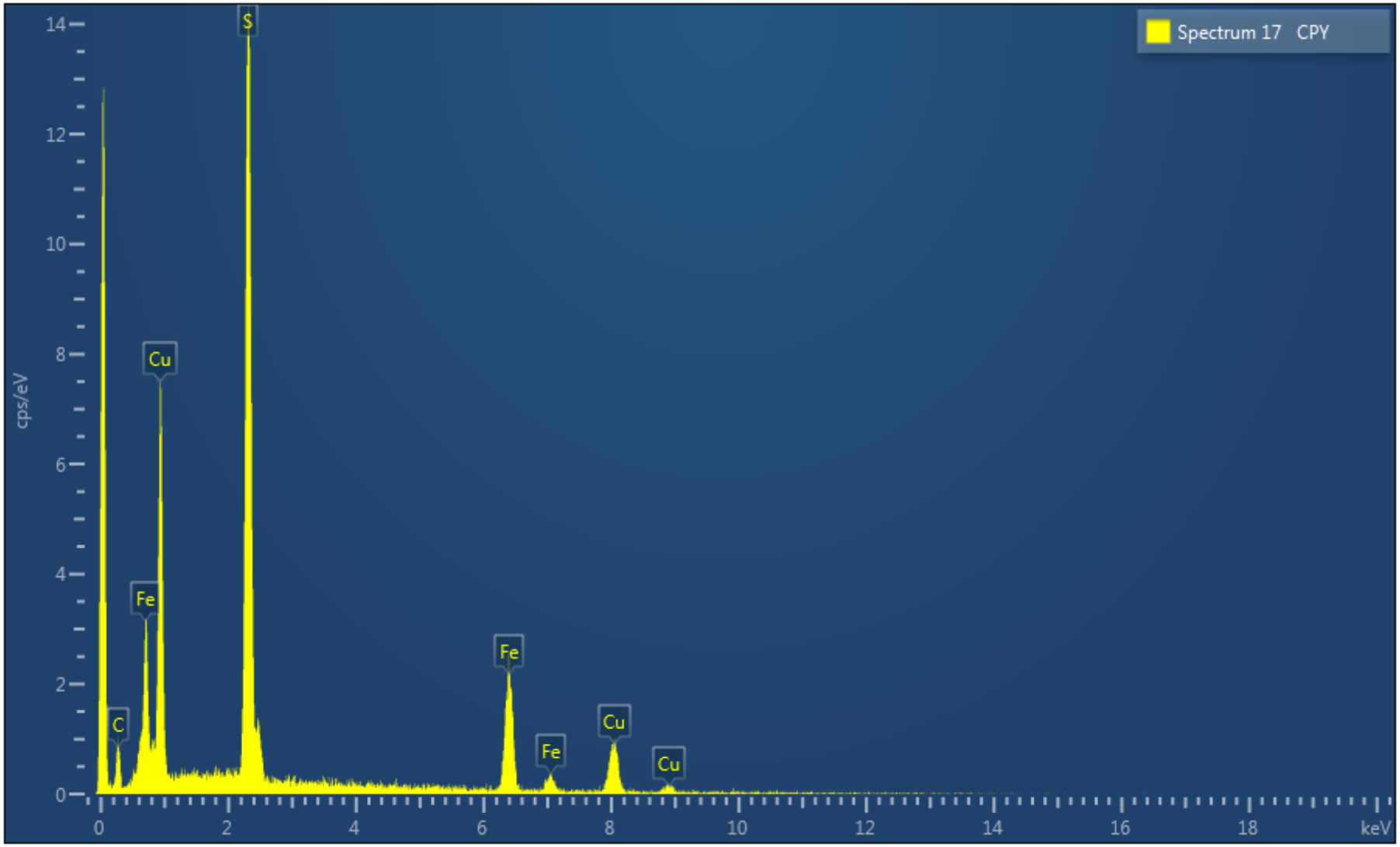


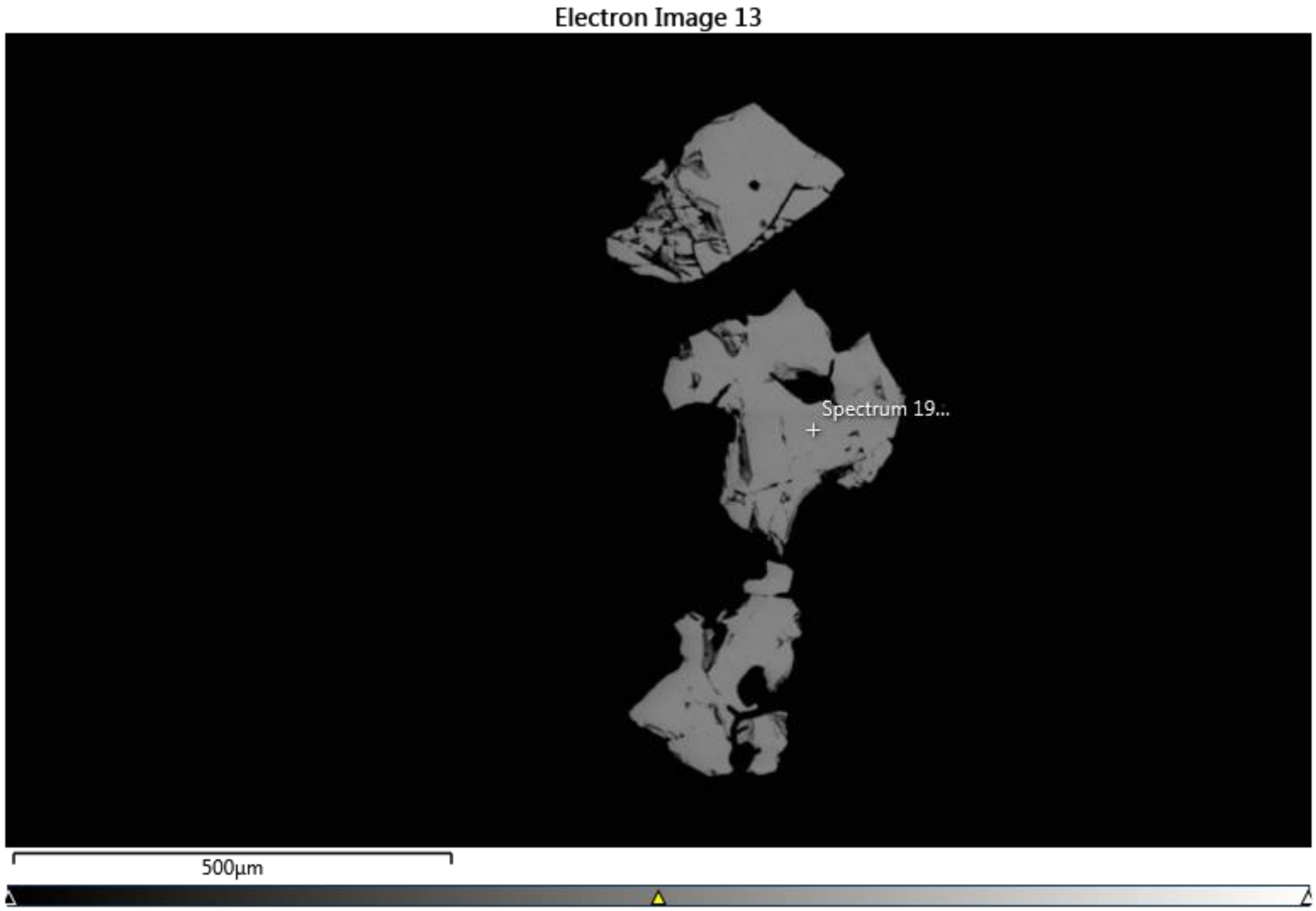

M1S Grain 2: Chalcopyrite (see EDS spectrum below).


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

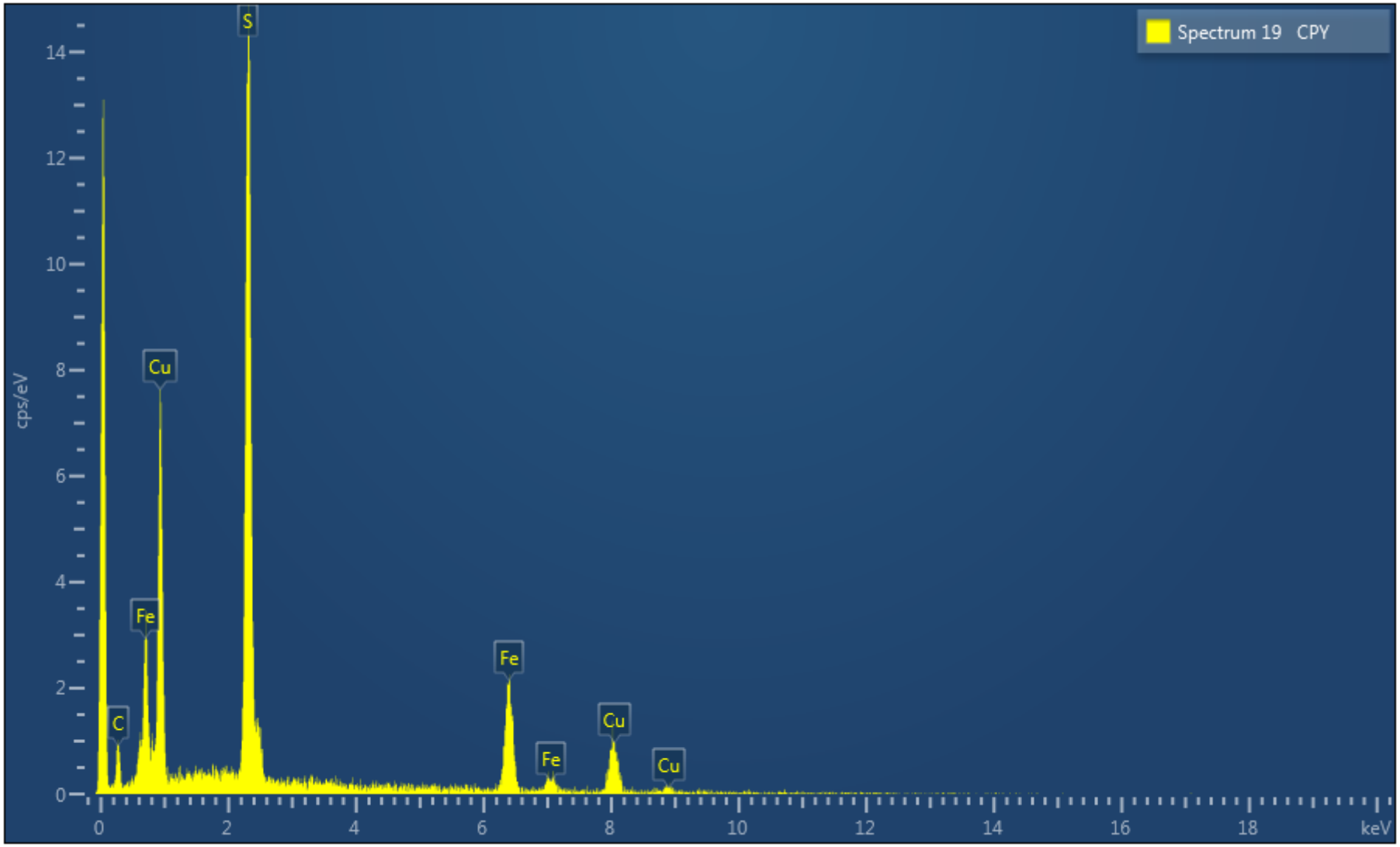


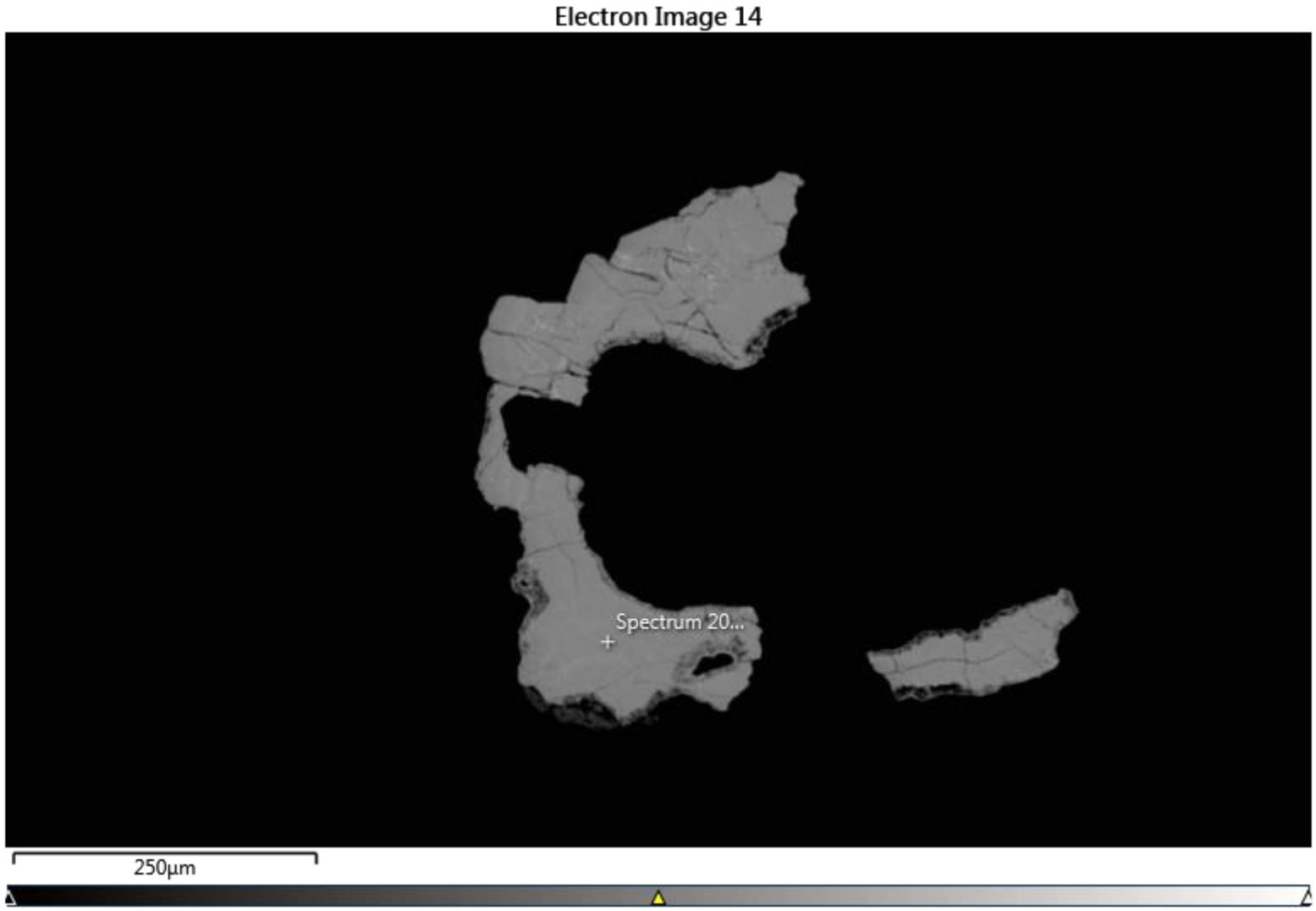

M1S Grain 3: Chalcopyrite (see EDS spectrum below).


Spectrum 17 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18

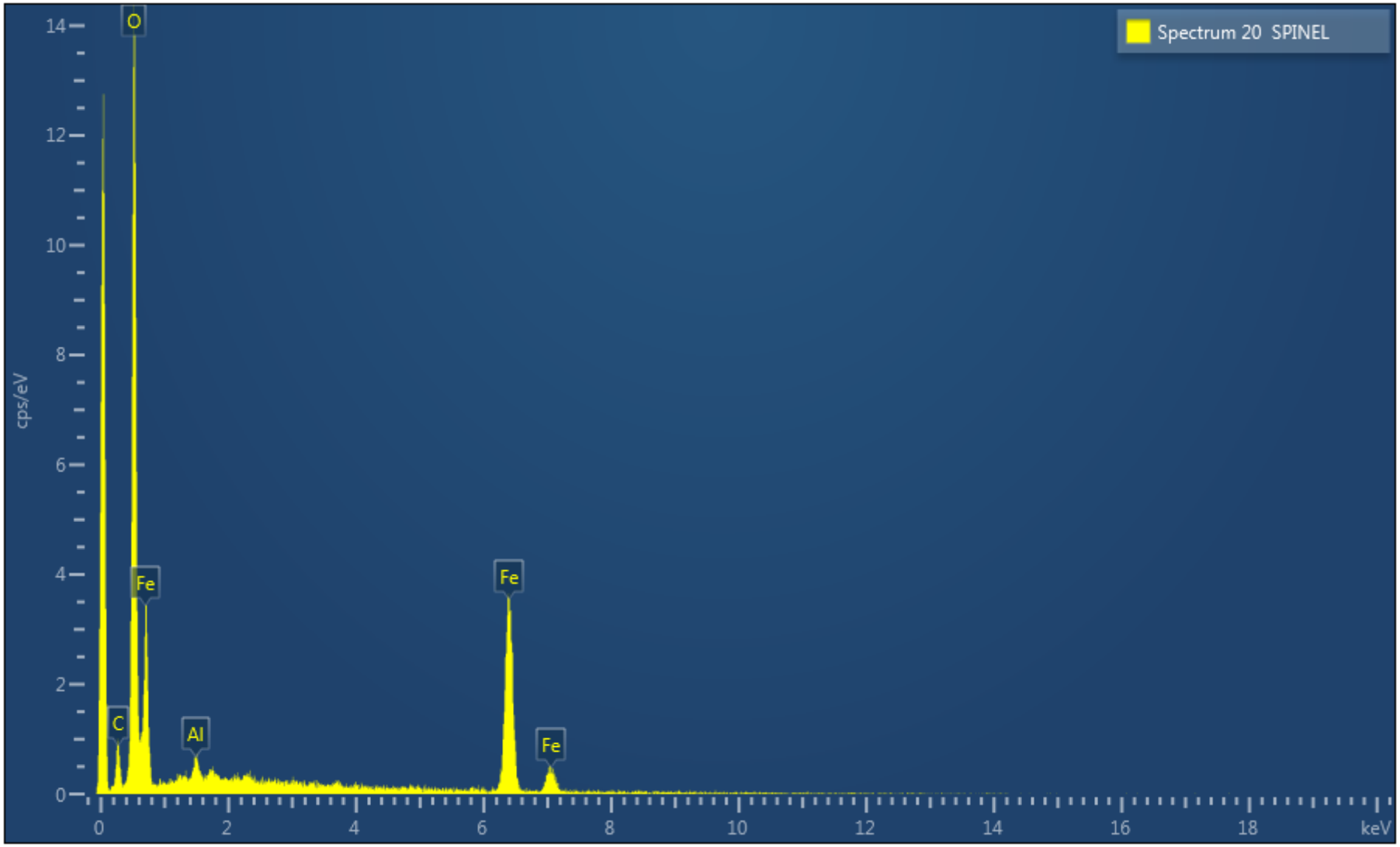


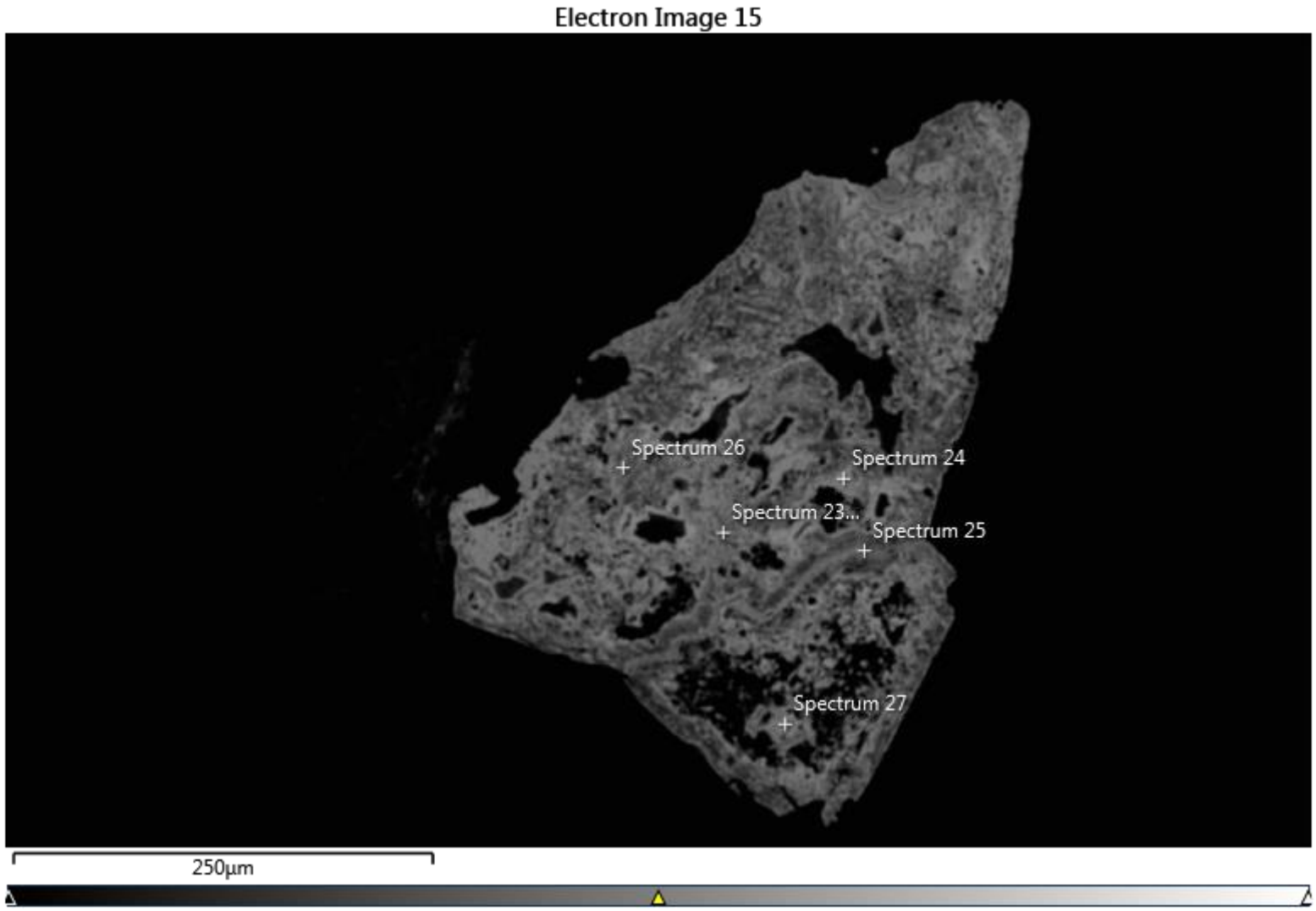

M1S Grain 4: Chalcopyrite (see EDS spectrum below).


Spectrum 19 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18

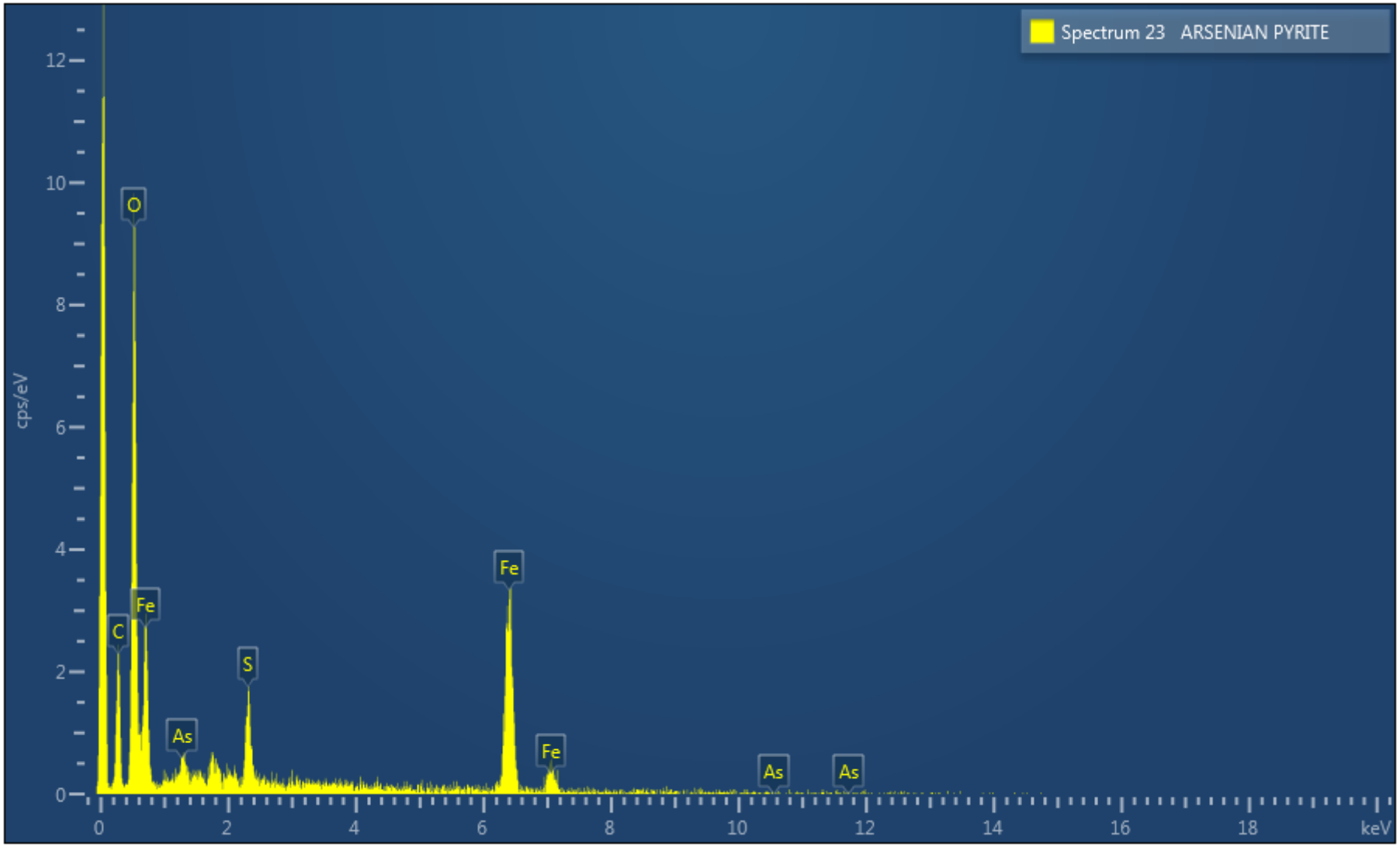


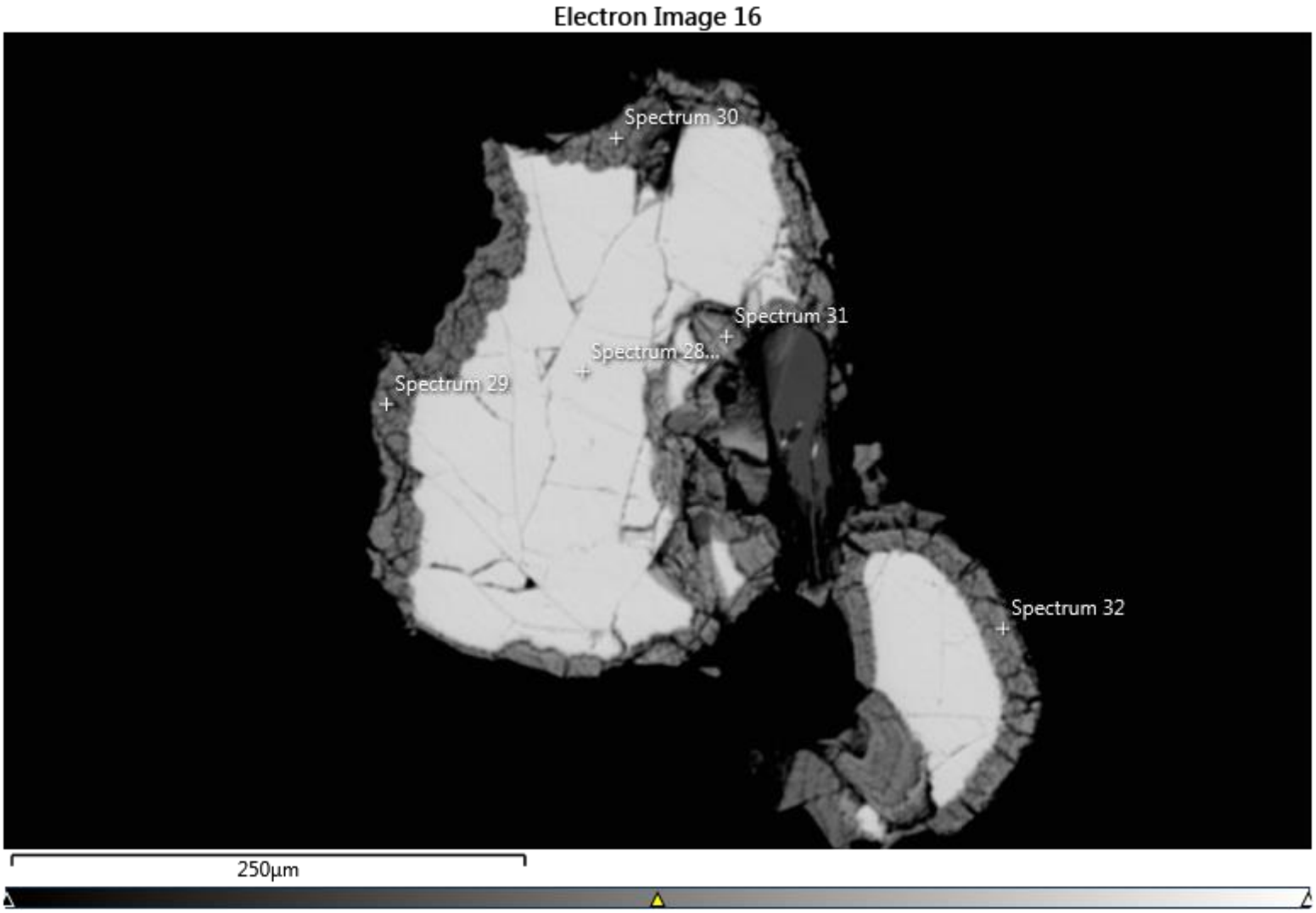

M1S Grain 5: Spinel (see EDS spectrum below).


Spectrum 20 SPINEL
cps/eV
14
12
10
8
6
4
2
0
O
Fe
C
Al
Fe
Fe
0
2
4
6
8
10
12
14
16
18
keV

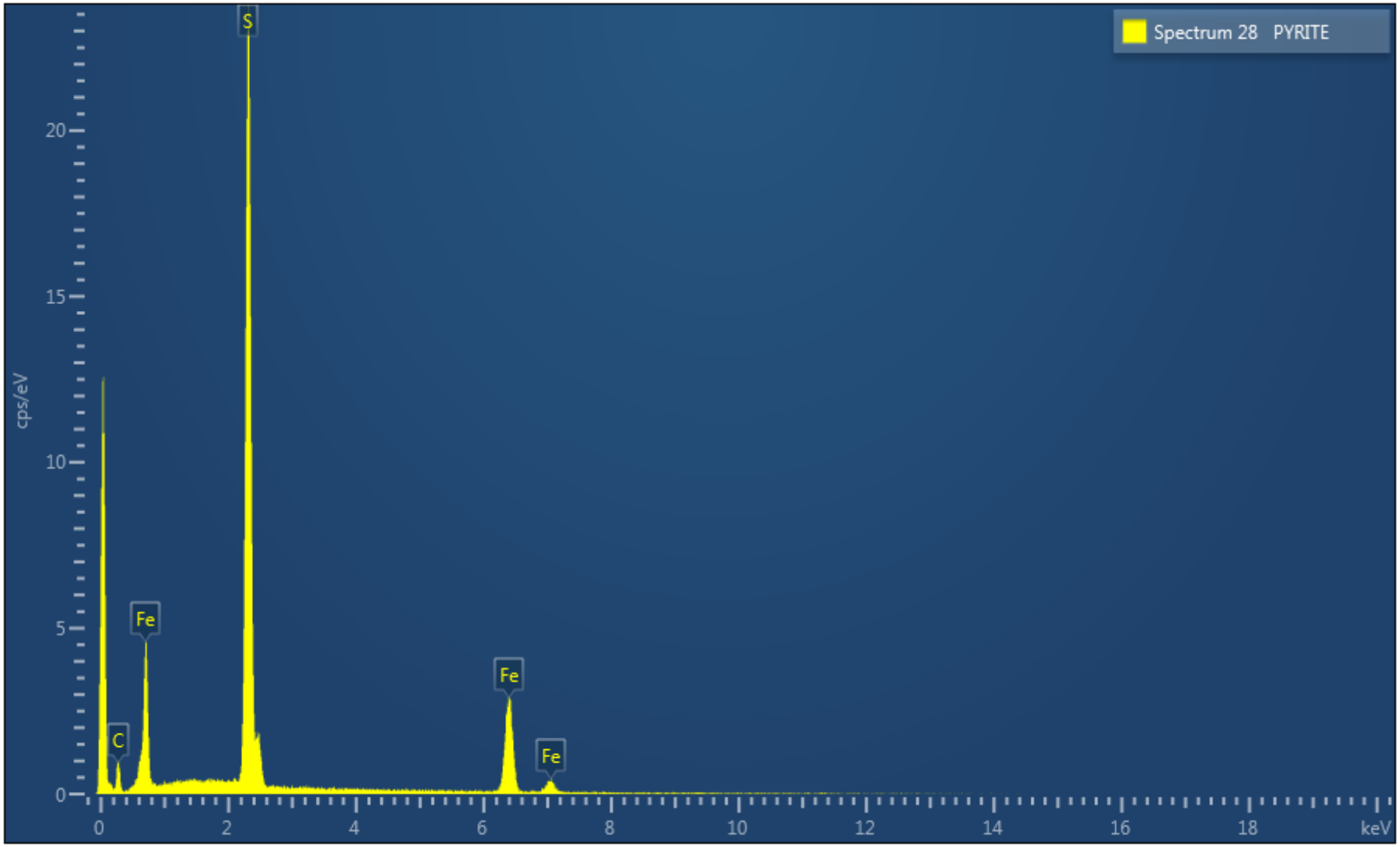


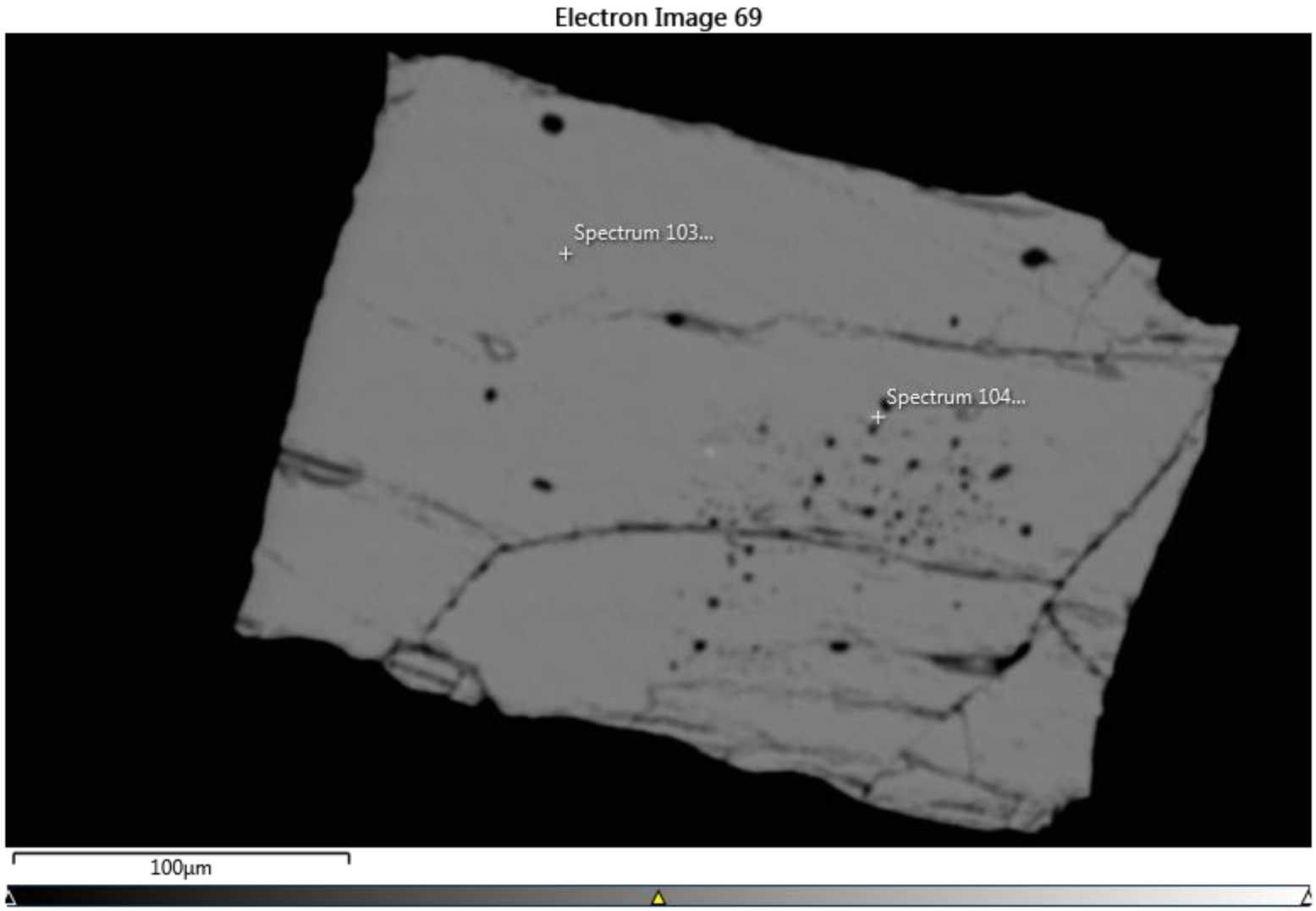

M1S Grain 6: Arsenian Pyrite (see EDS spectrum below).


Spectrum 23 ARSENIAN PYRITE
cps/eV
keV
O
C
Fe
S
As
Fe
Fe
As
As

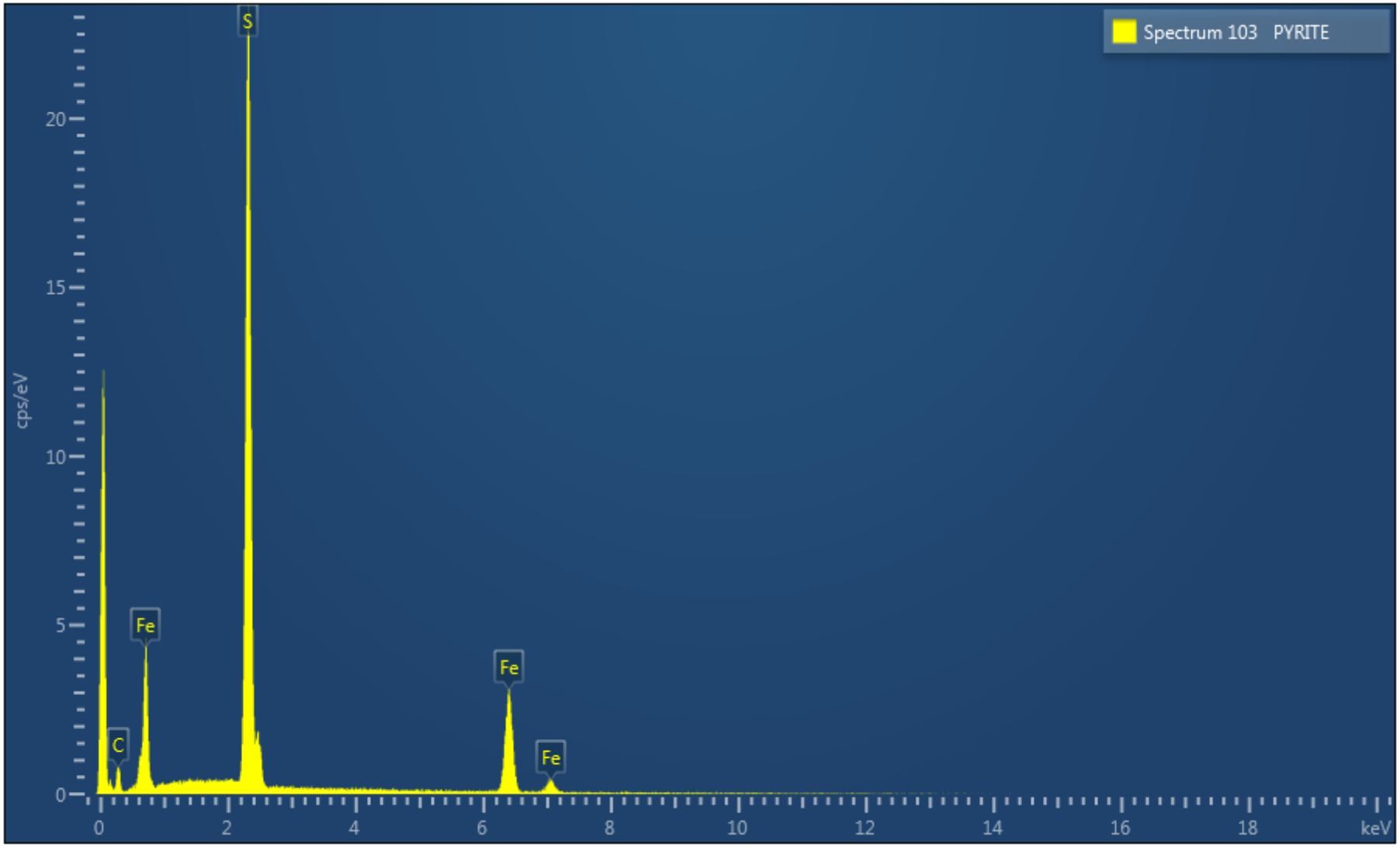


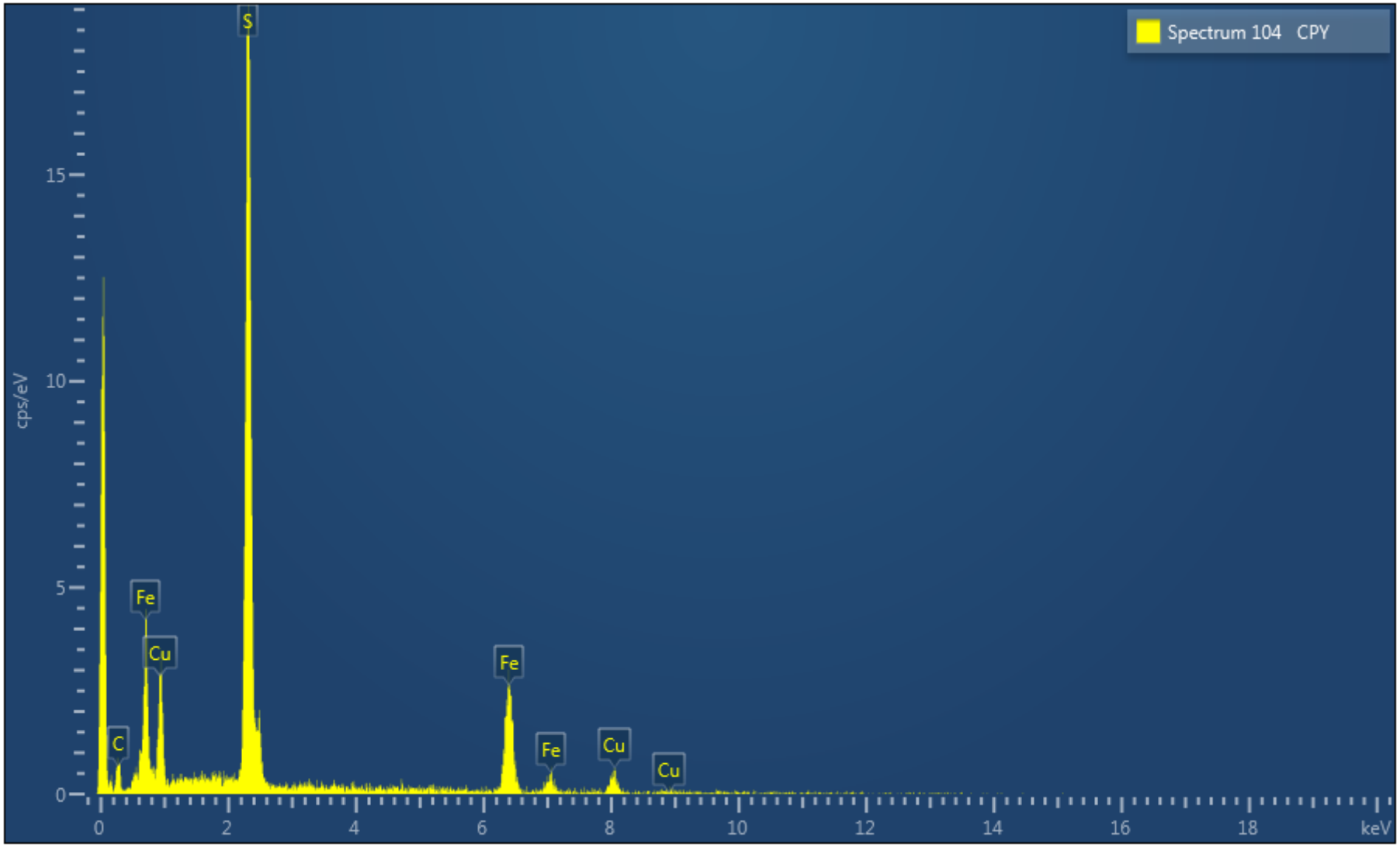

M1S Grain 7: Pyrite (see EDS spectrum below).

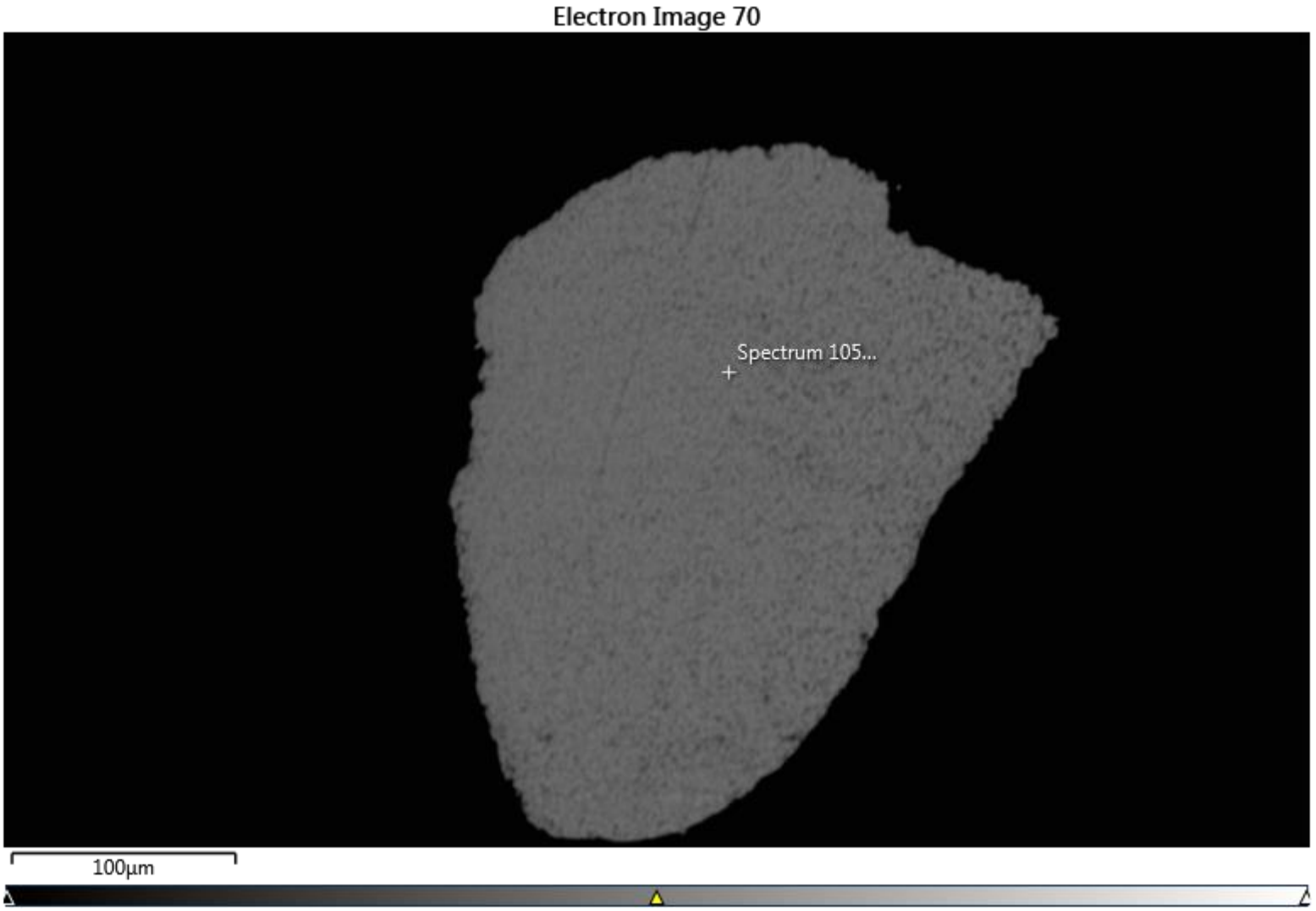

Spectrum 28 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV



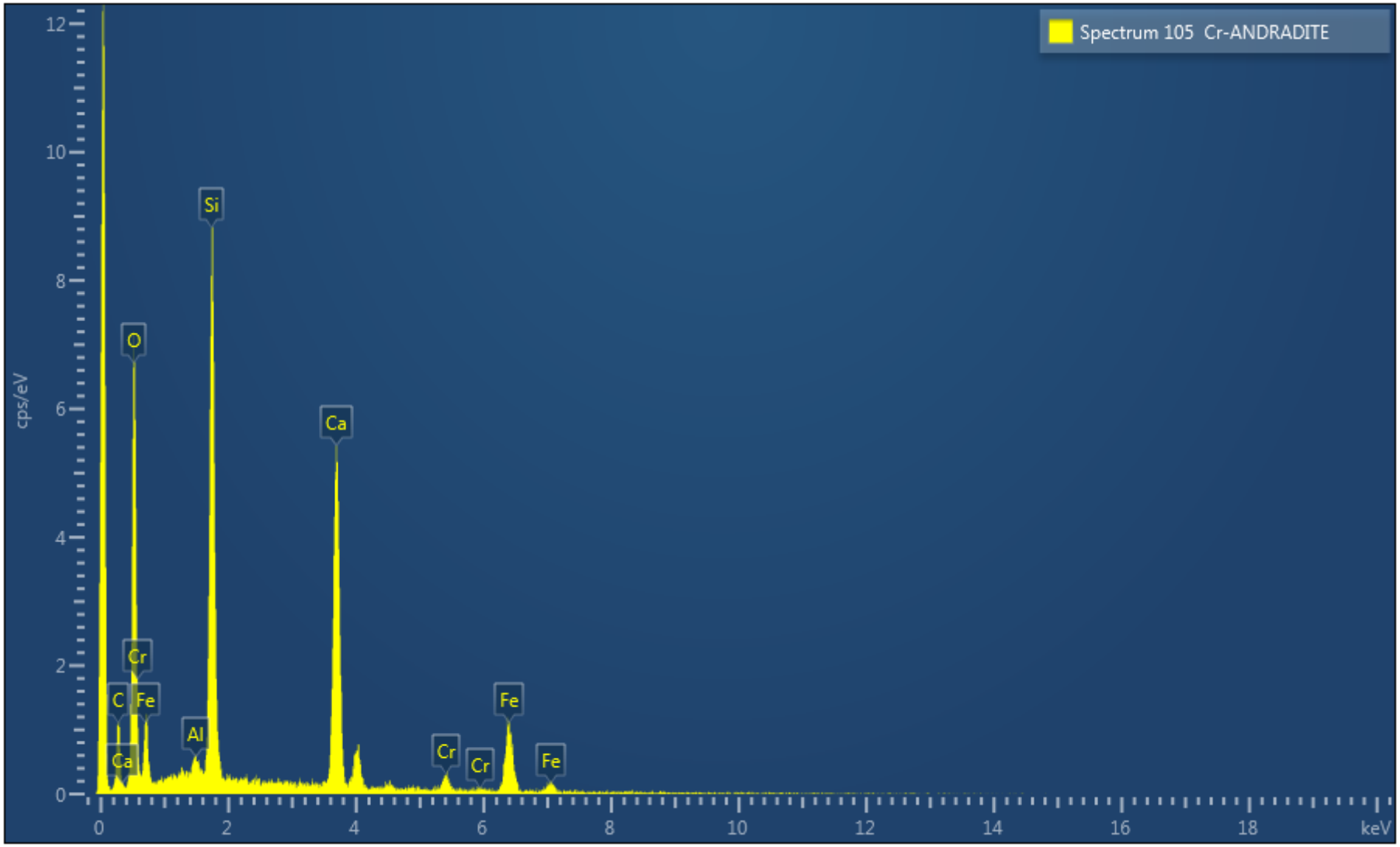

M1S Grain 8: Pyrite (spectrum 103) with inclusions of chalcopyrite (spectrum 104) (see EDS spectra below).

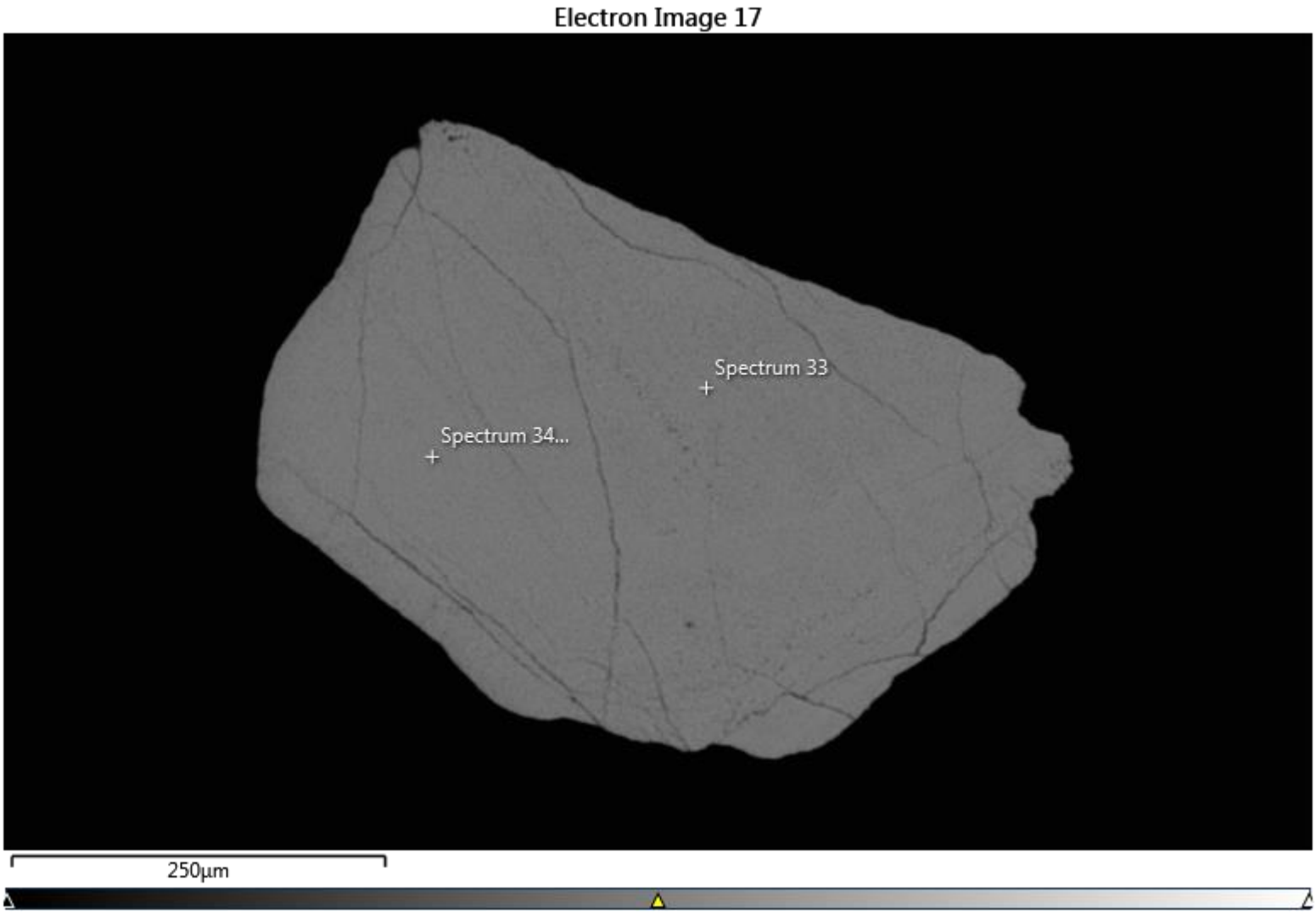

Spectrum 103 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV


Spectrum 104 CPY
cps/eV
0
5
10
15
0
2
4
6
8
10
12
14
16
18
keV
S
Fe
Cu
C
Fe
Fe
Cu
Cu

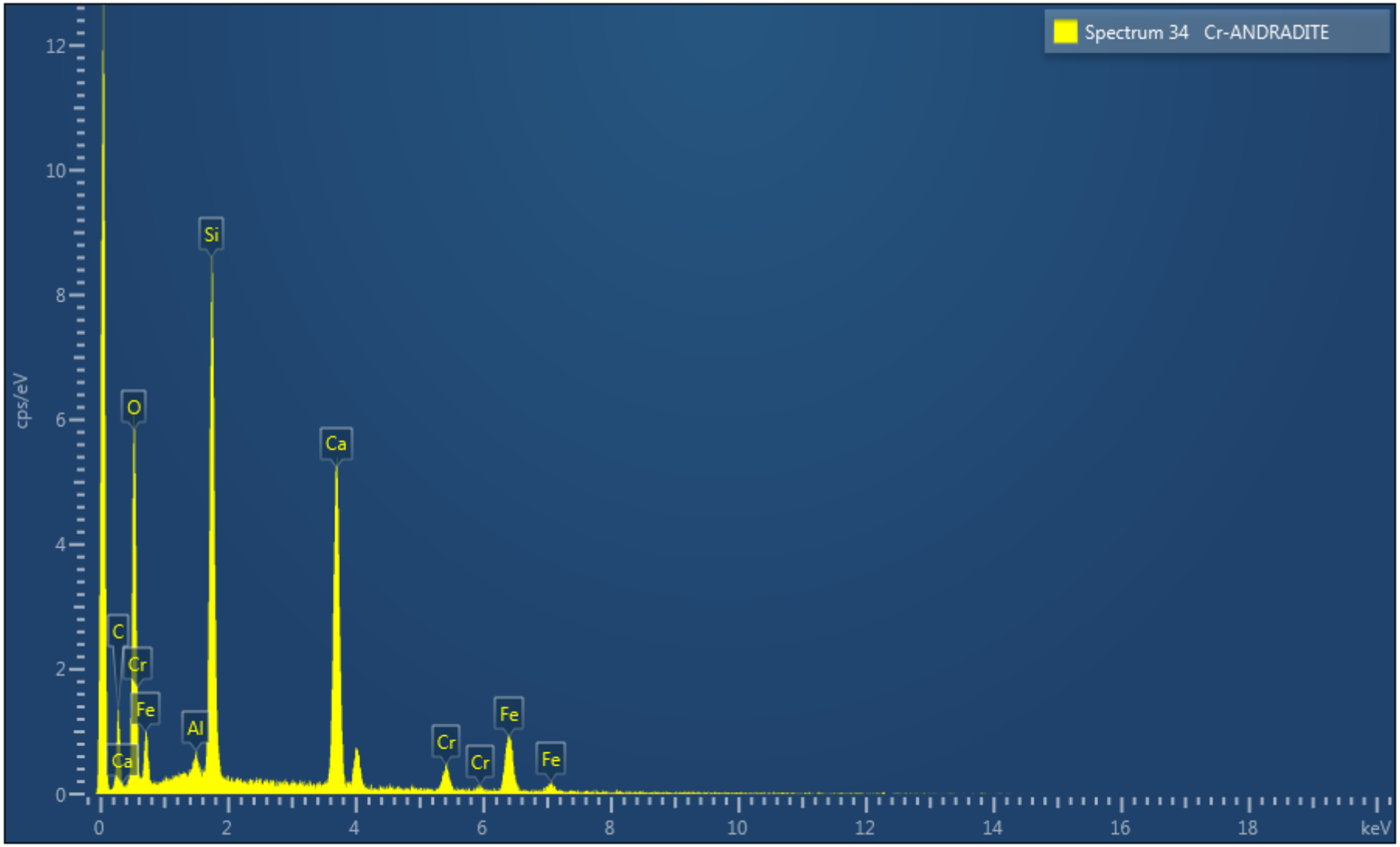


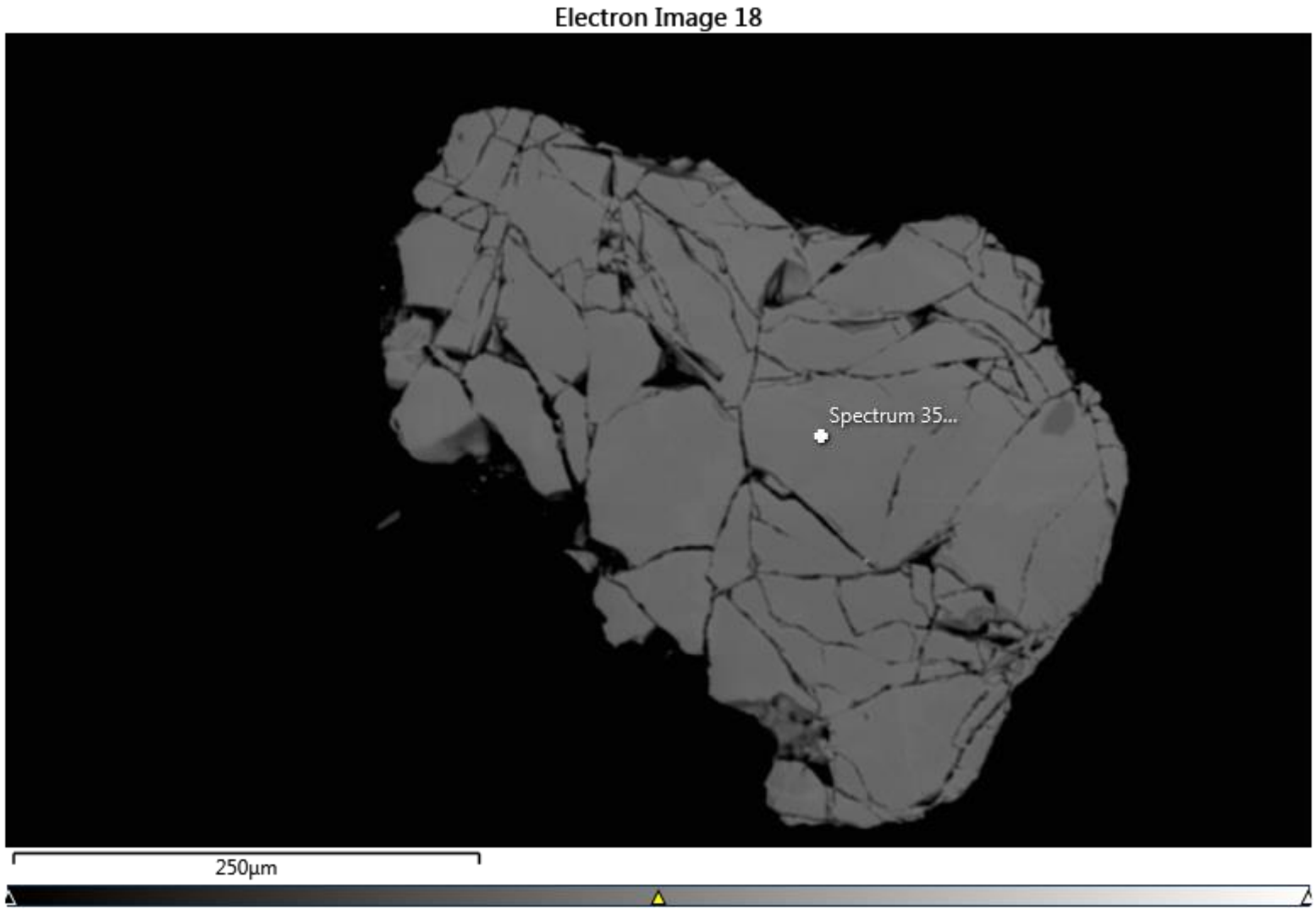

M2K Grain 1: Cr-Andradite (see EDS spectrum below).


Spectrum 105 Cr-ANDRADITE
cps/eV
keV
O
Si
Ca
Cr
C
Fe
Al
Ca
Cr
Cr
Fe
Fe

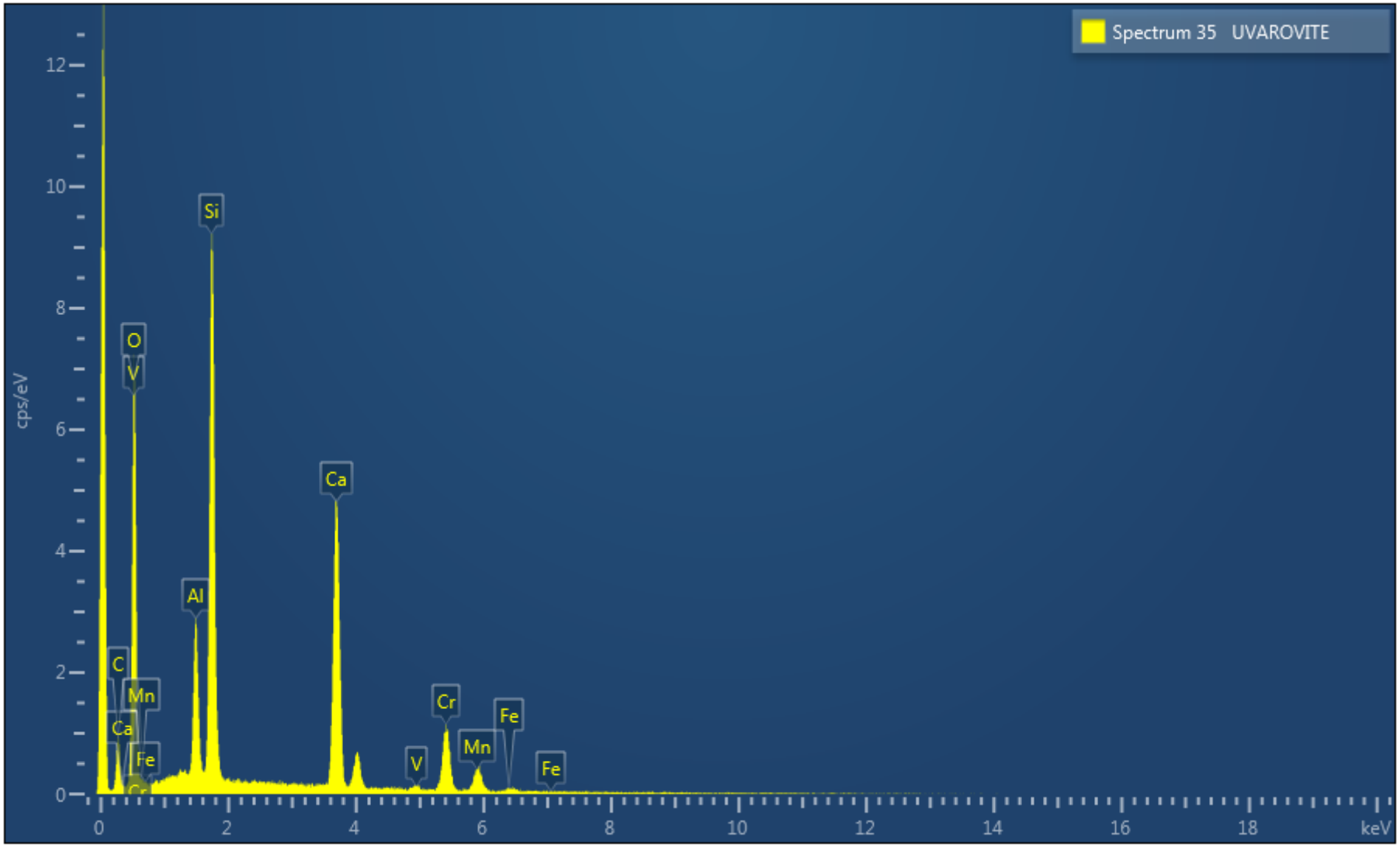


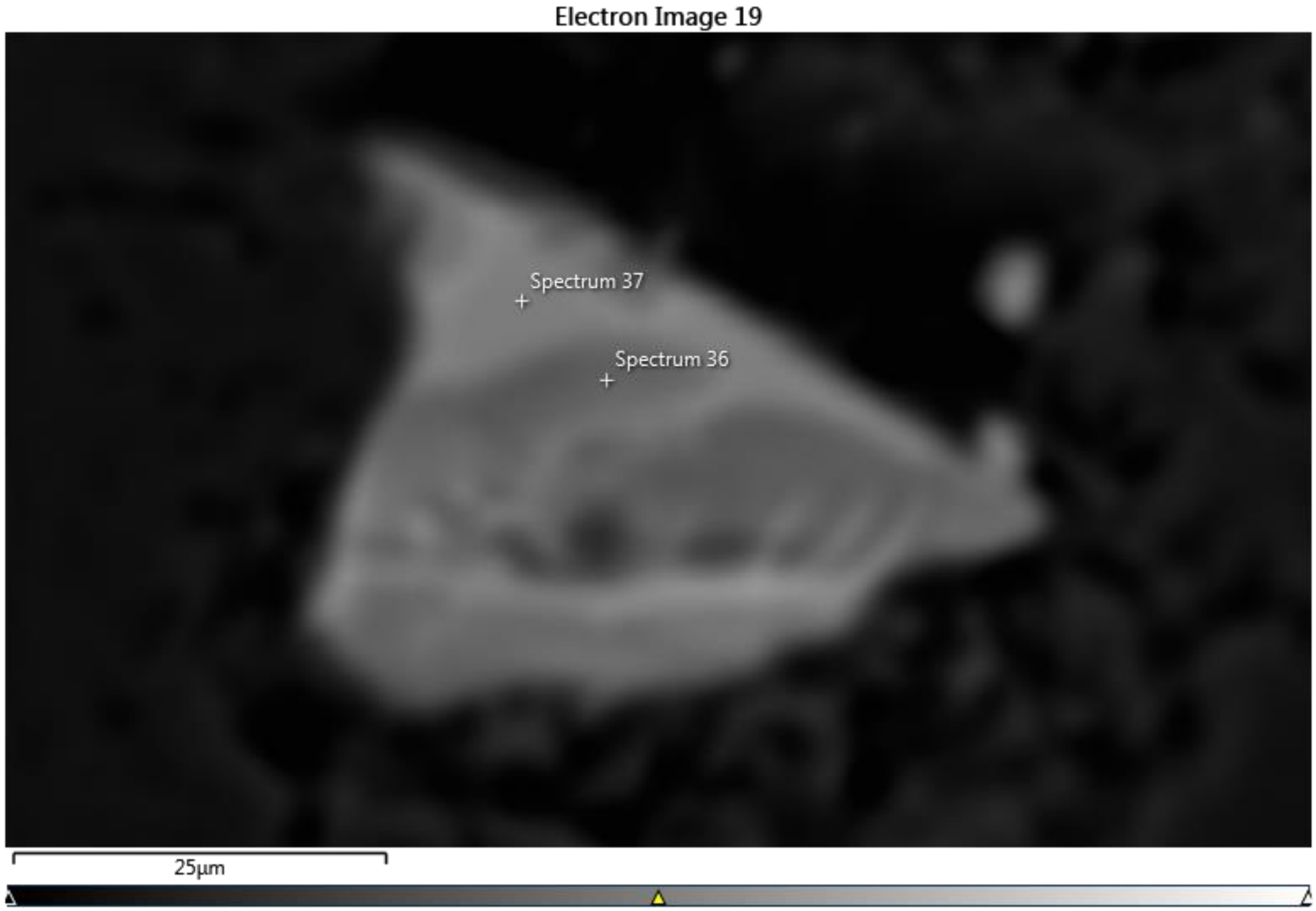

M2K Grain 2: Cr-Andradite (see EDS spectrum below).


Spectrum 34 Cr-ANDRADITE
cps/eV
keV
O
Si
Ca
C
Cr
Fe
Al
Ca
Cr
Cr
Fe
Fe

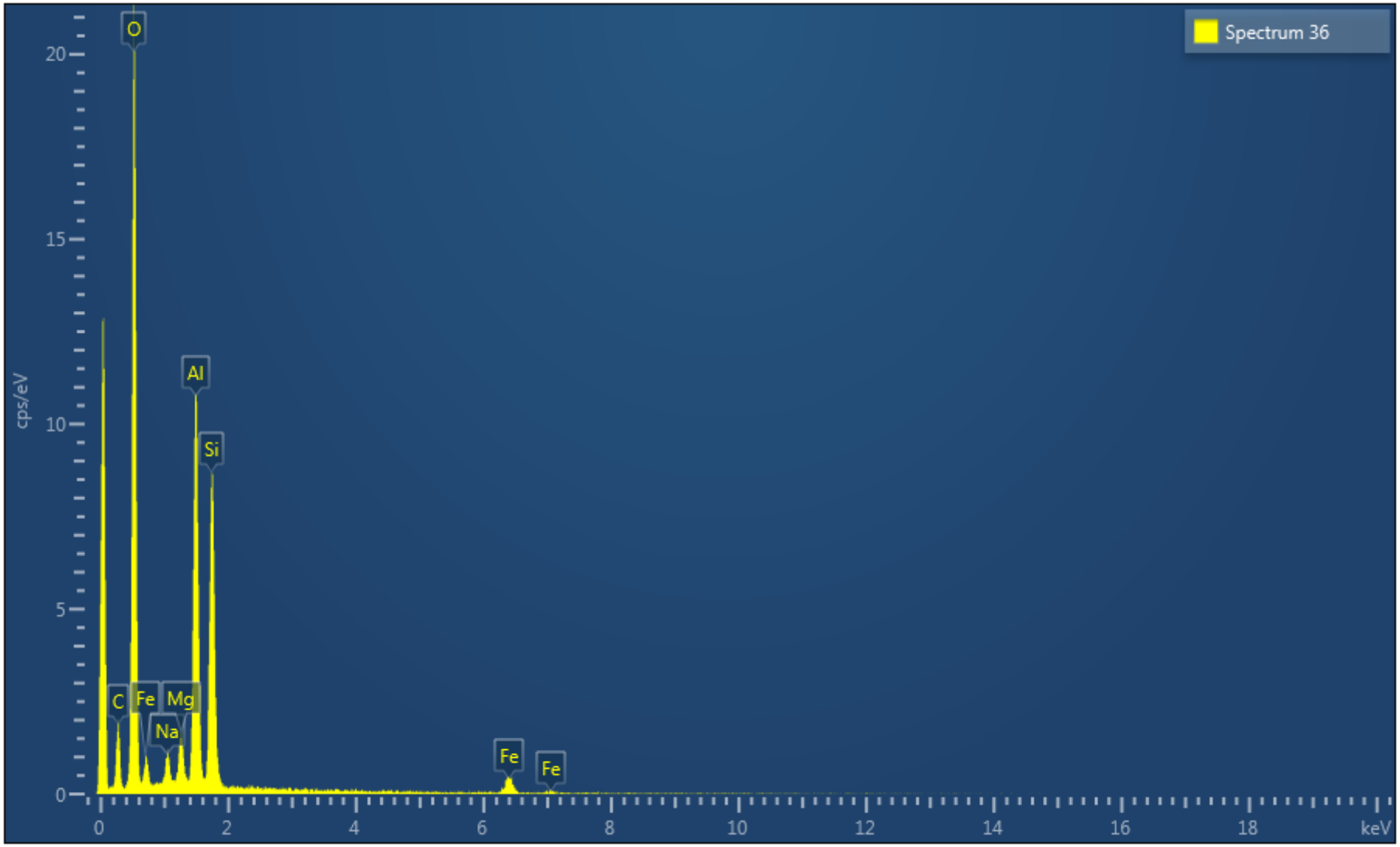


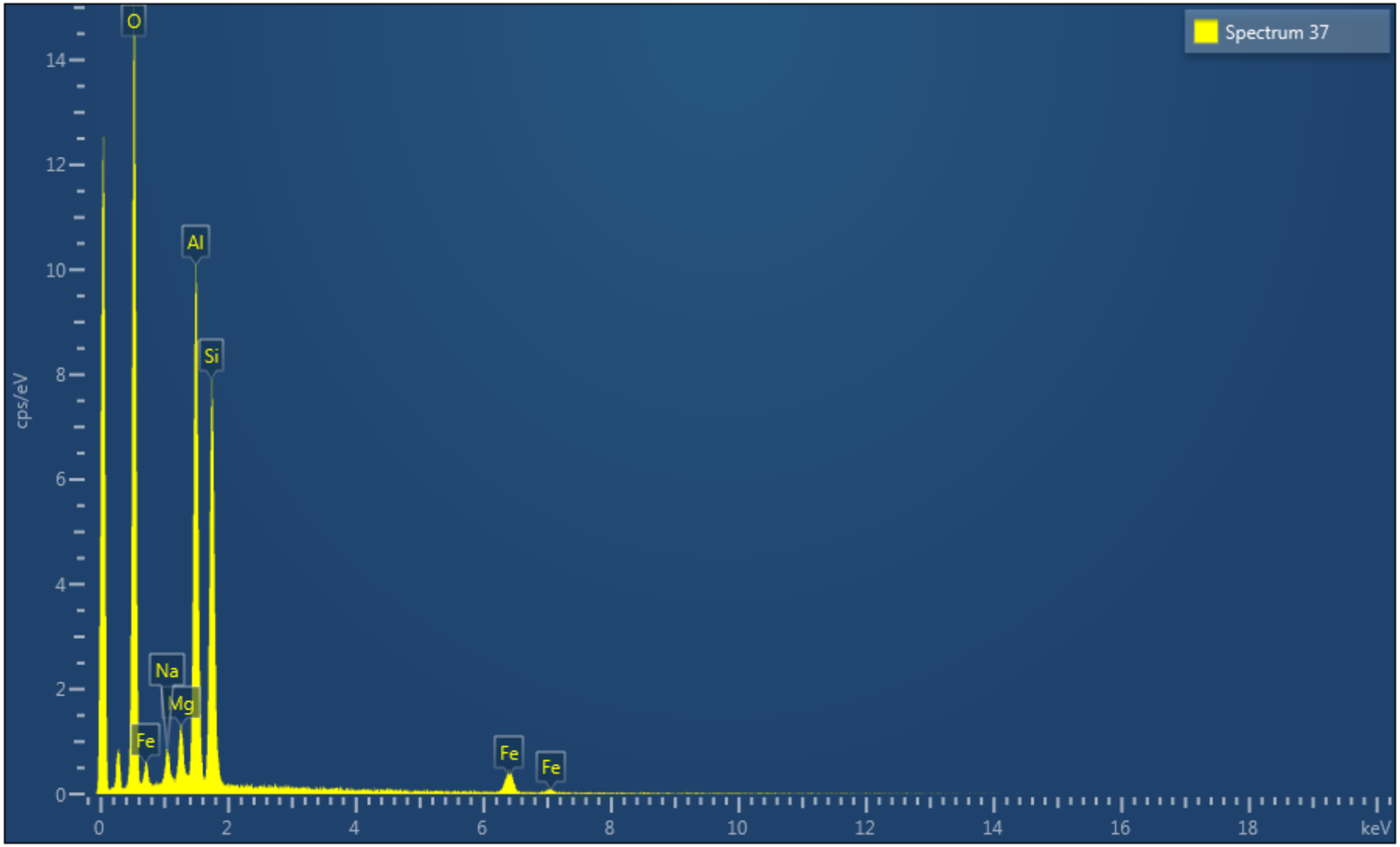

M2K Grain 3: Vanadiferous Uvarovite (see EDS spectrum below).

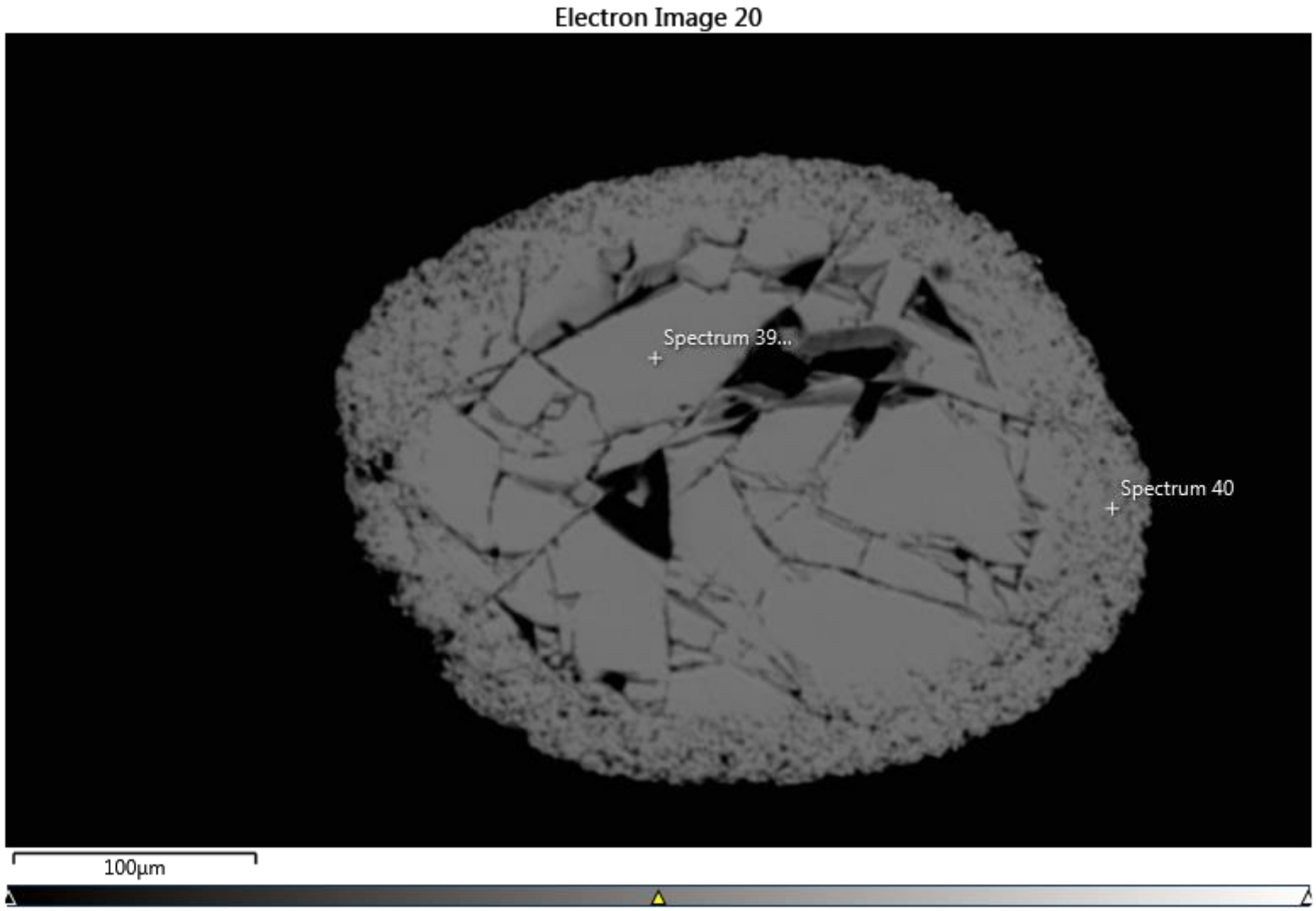

Spectrum 35 UVAROVITE
cps/eV
keV
O
V
Si
Ca
Al
C
Mn
Ca
Fe
V
Cr
Mn
Fe
Fe



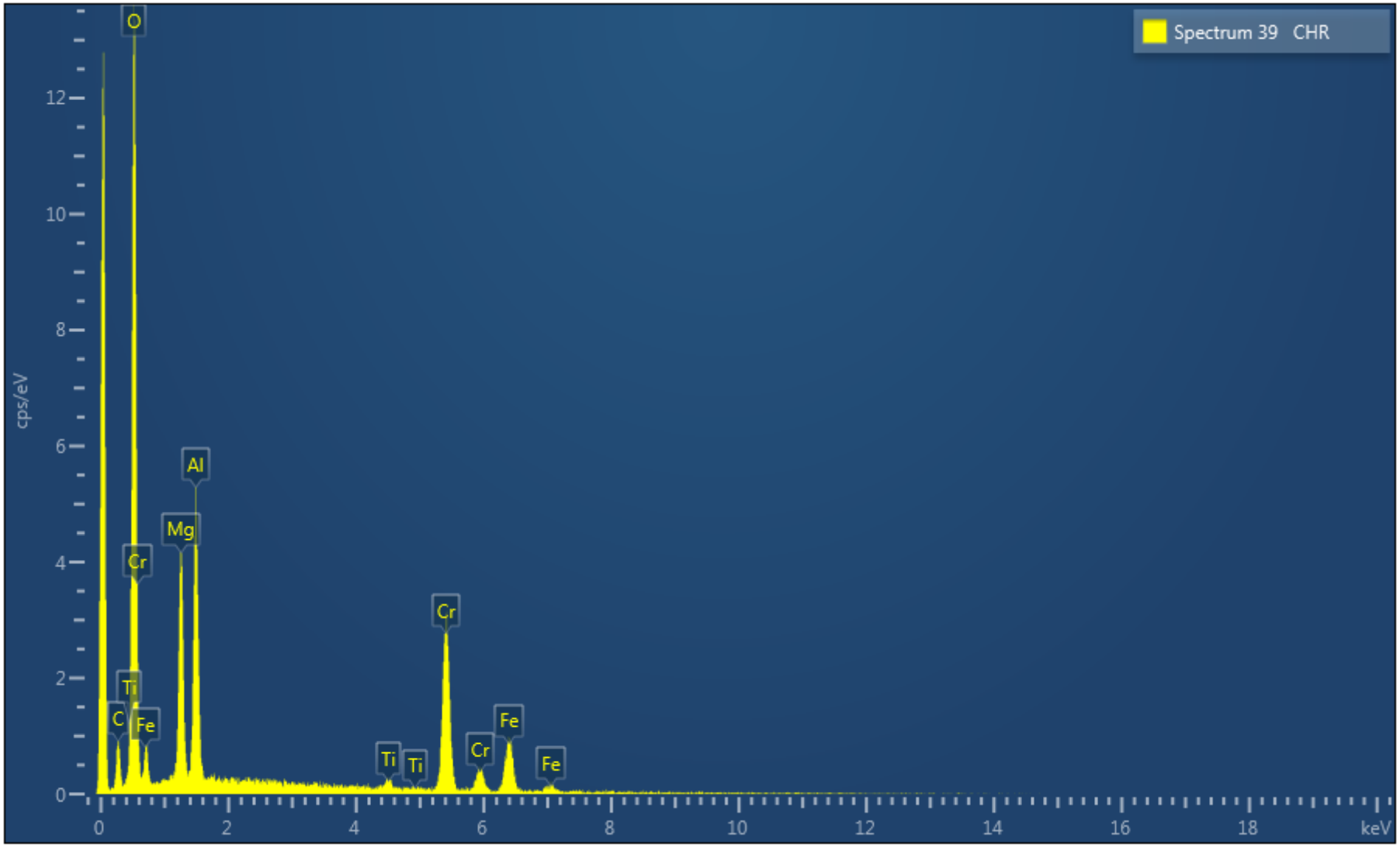

M2K Grain 4: Na-Amphibole (see EDS spectrum below).

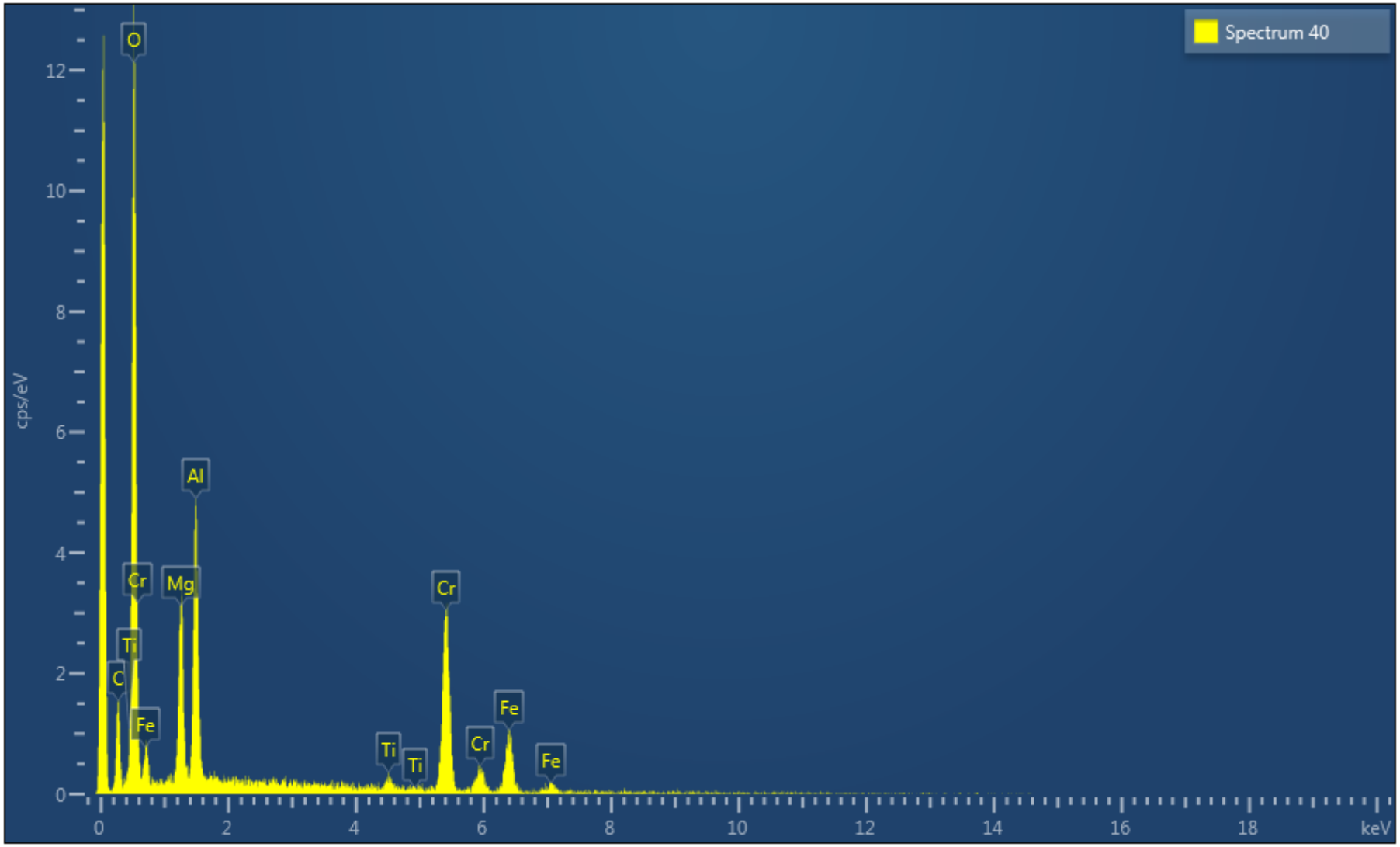

Spectrum 36
O
Al
Si
C
Fe
Mg
Na
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV

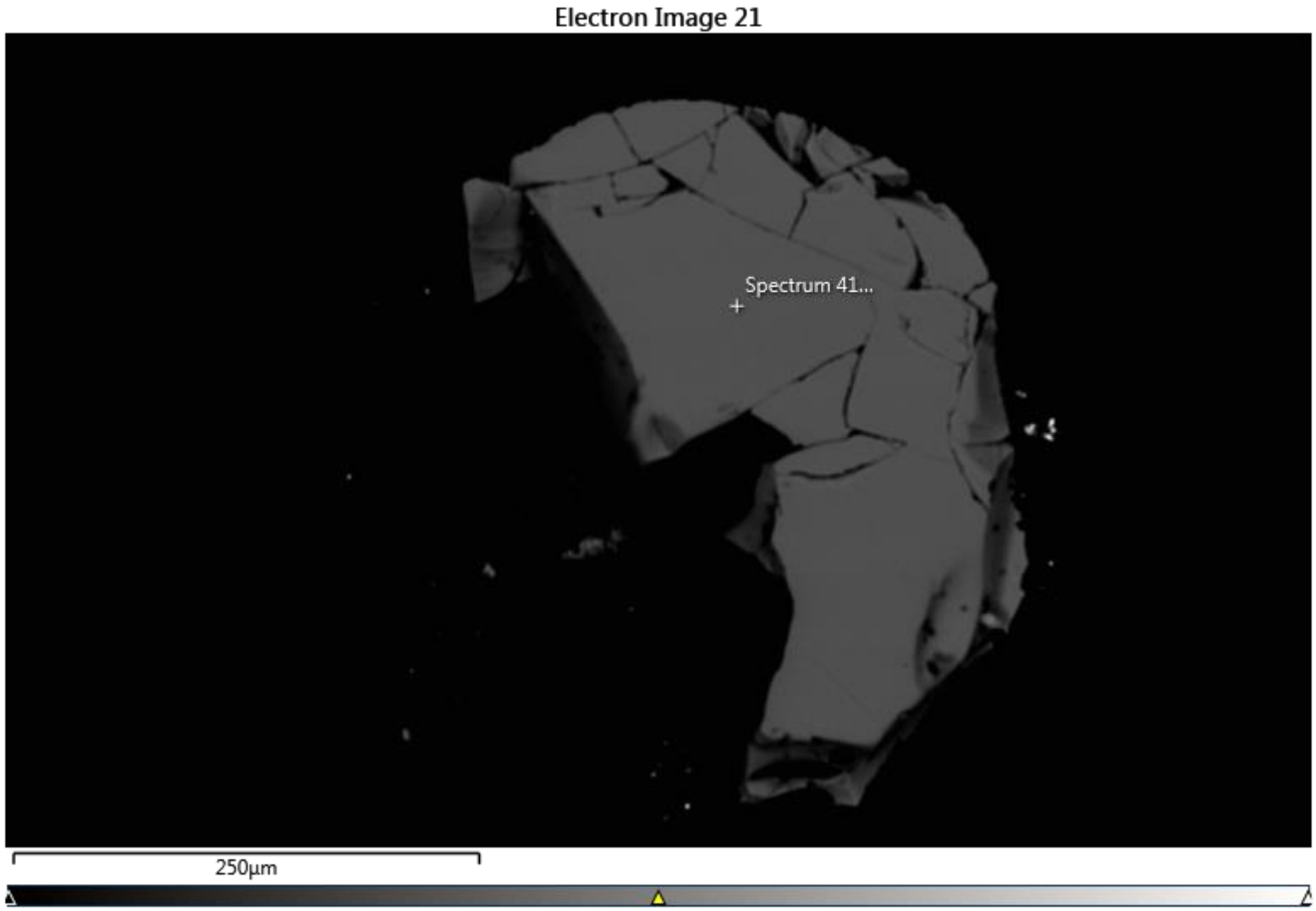

Spectrum 37
O
Al
Si
Na
Mg
Fe
Fe
Fe
cps/eV
0
2
4
6
8
10
12
14
16
18
keV



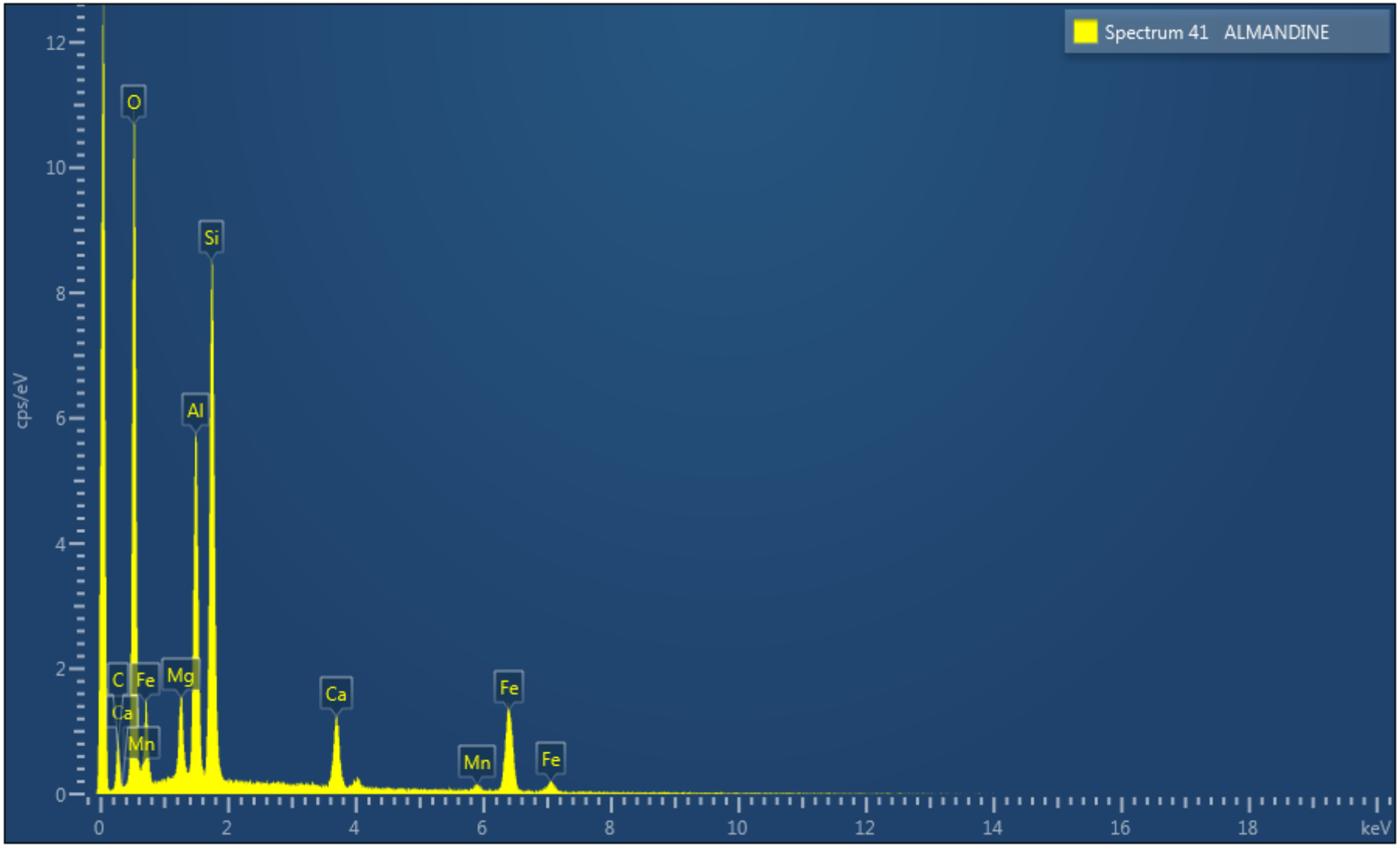

M2K Grain 5: Low-Cr Chromite (see EDS spectrum below).

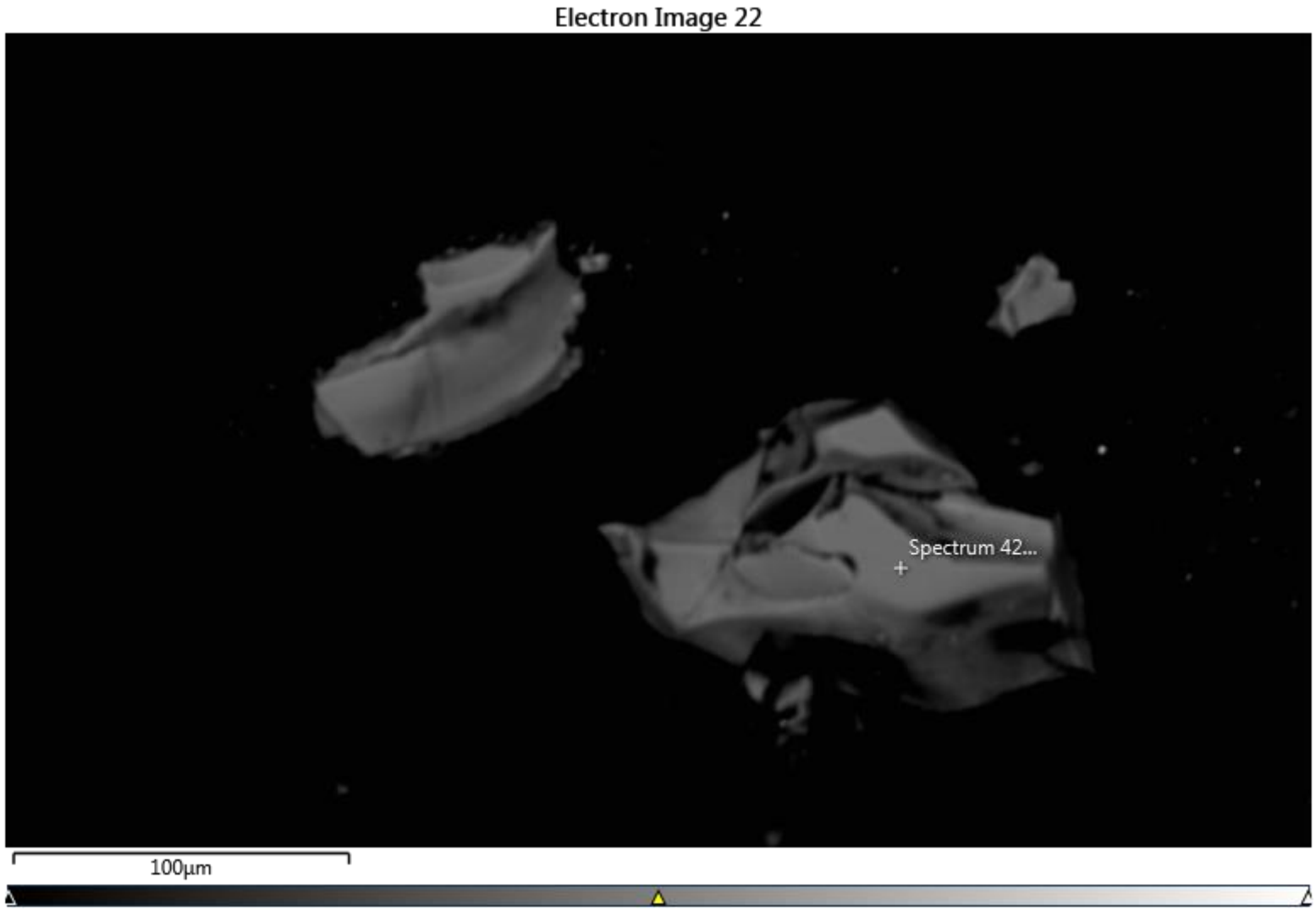

Spectrum 39 CHR
cps/eV
keV
O
Al
Mg
Cr
Ti
C
Fe
Ti
Ti
Cr
Cr
Fe
Fe
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12


Spectrum 40
cps/eV
keV
O
Al
Cr
Mg
Ti
C
Fe
Ti
Ti
Cr
Cr
Fe
Fe
0
2
4
6
8
10
12
14
16
18

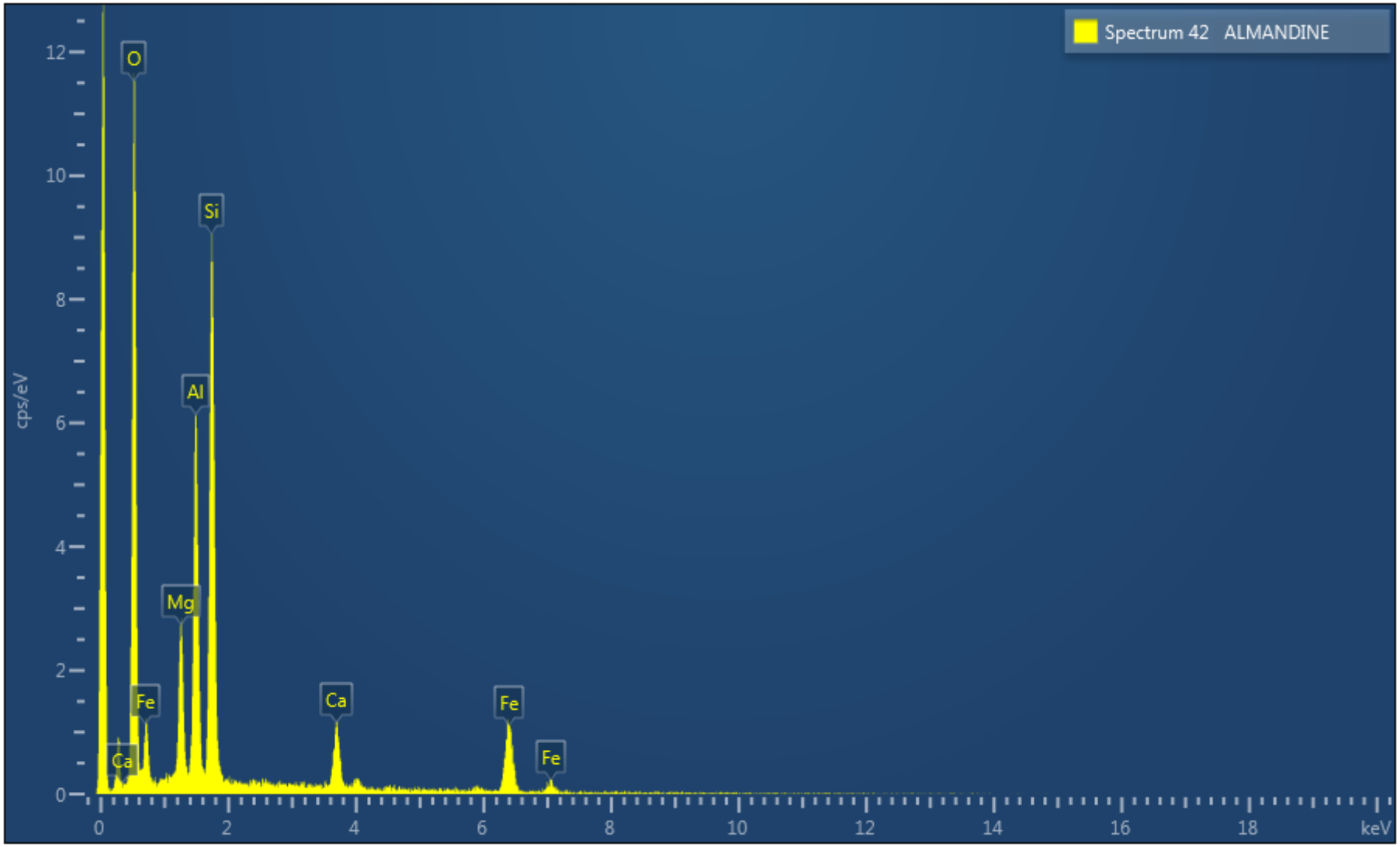


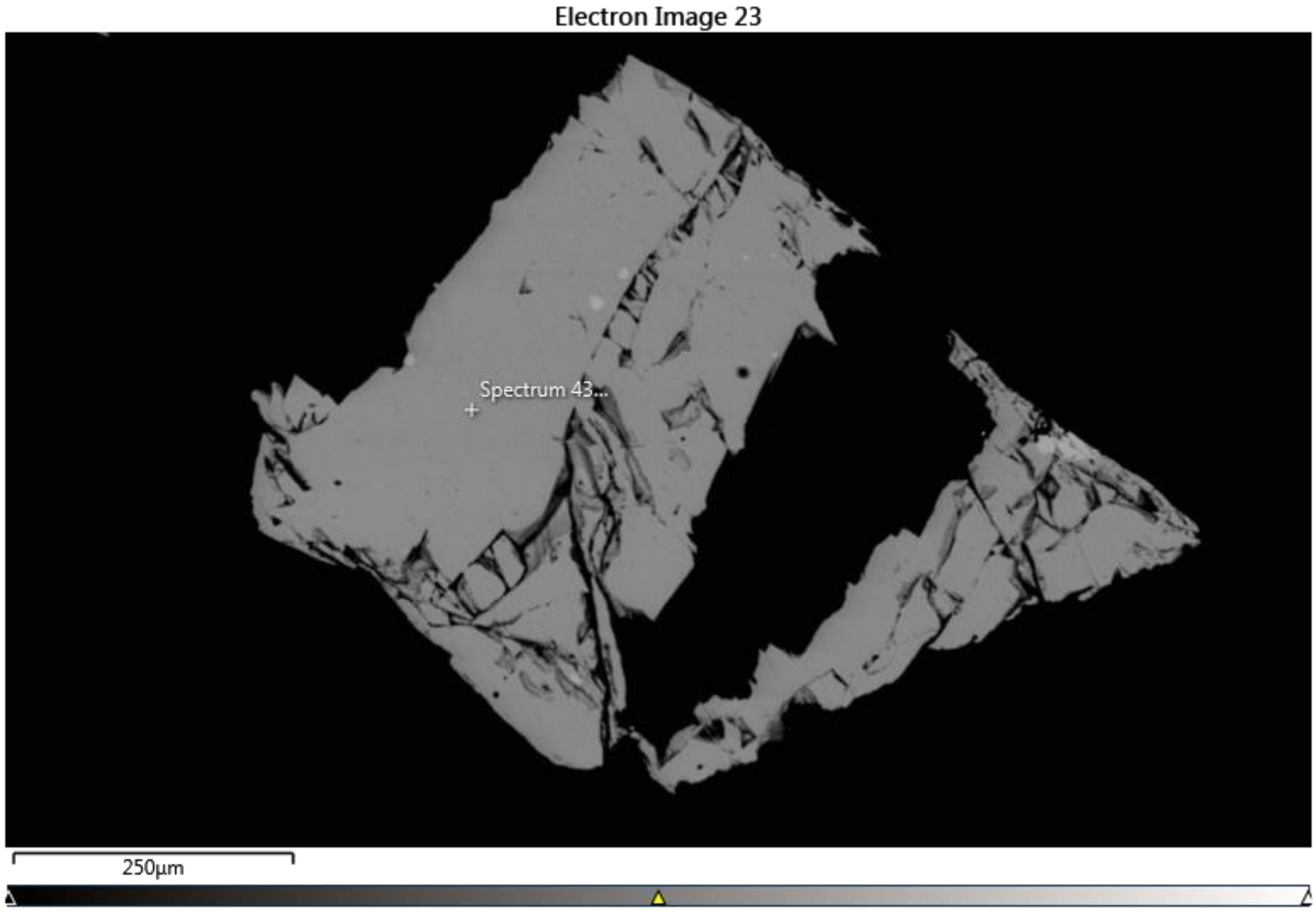

M2K Grain 6: Almandine (see EDS spectrum below).


Spectrum 41 ALMANDINE
cps/eV
keV
O
Si
Al
C
Fe
Mg
Ca
Mn
Ca
Mn
Fe
Fe
0
2
4
6
8
10
12
14
16
18

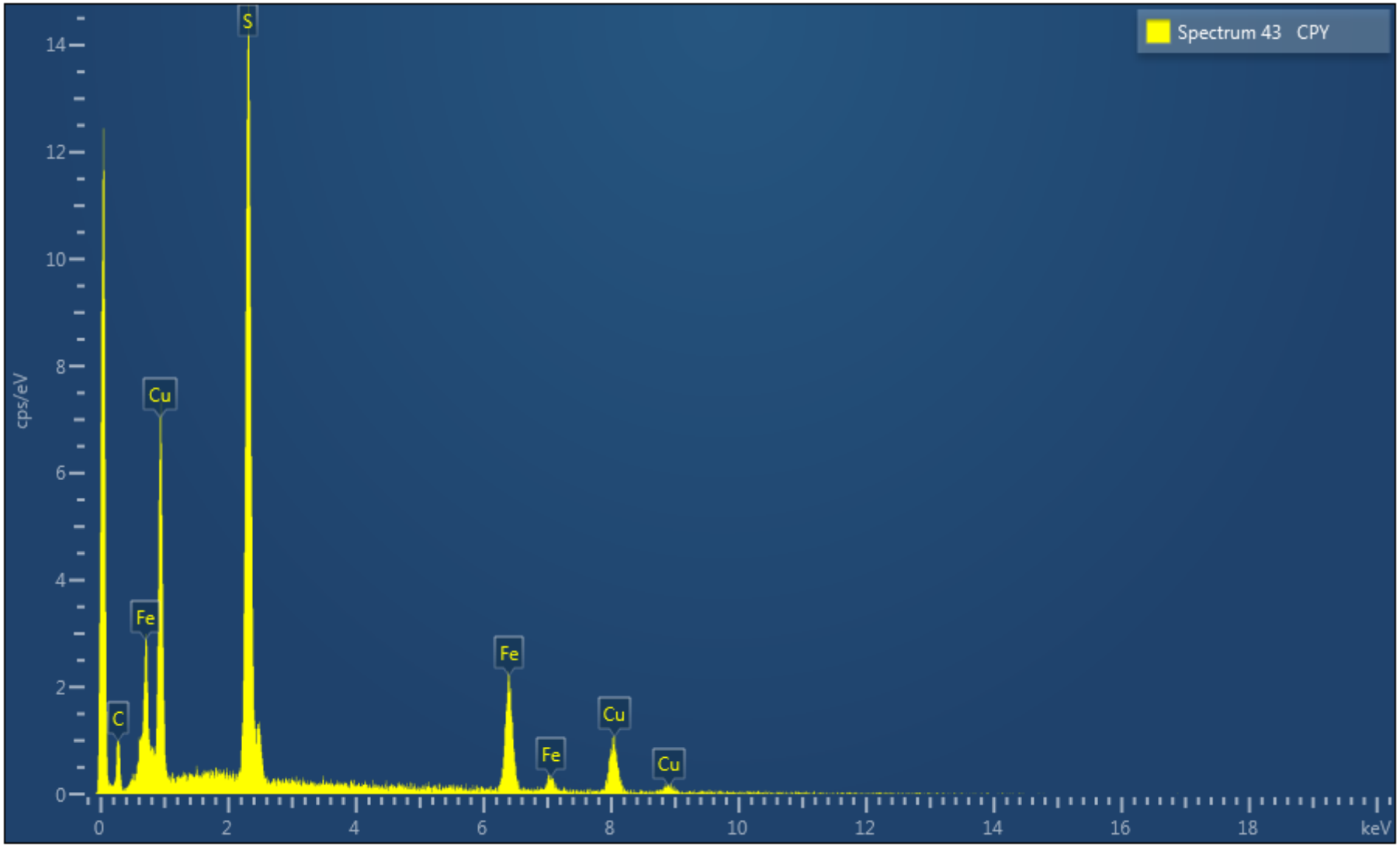


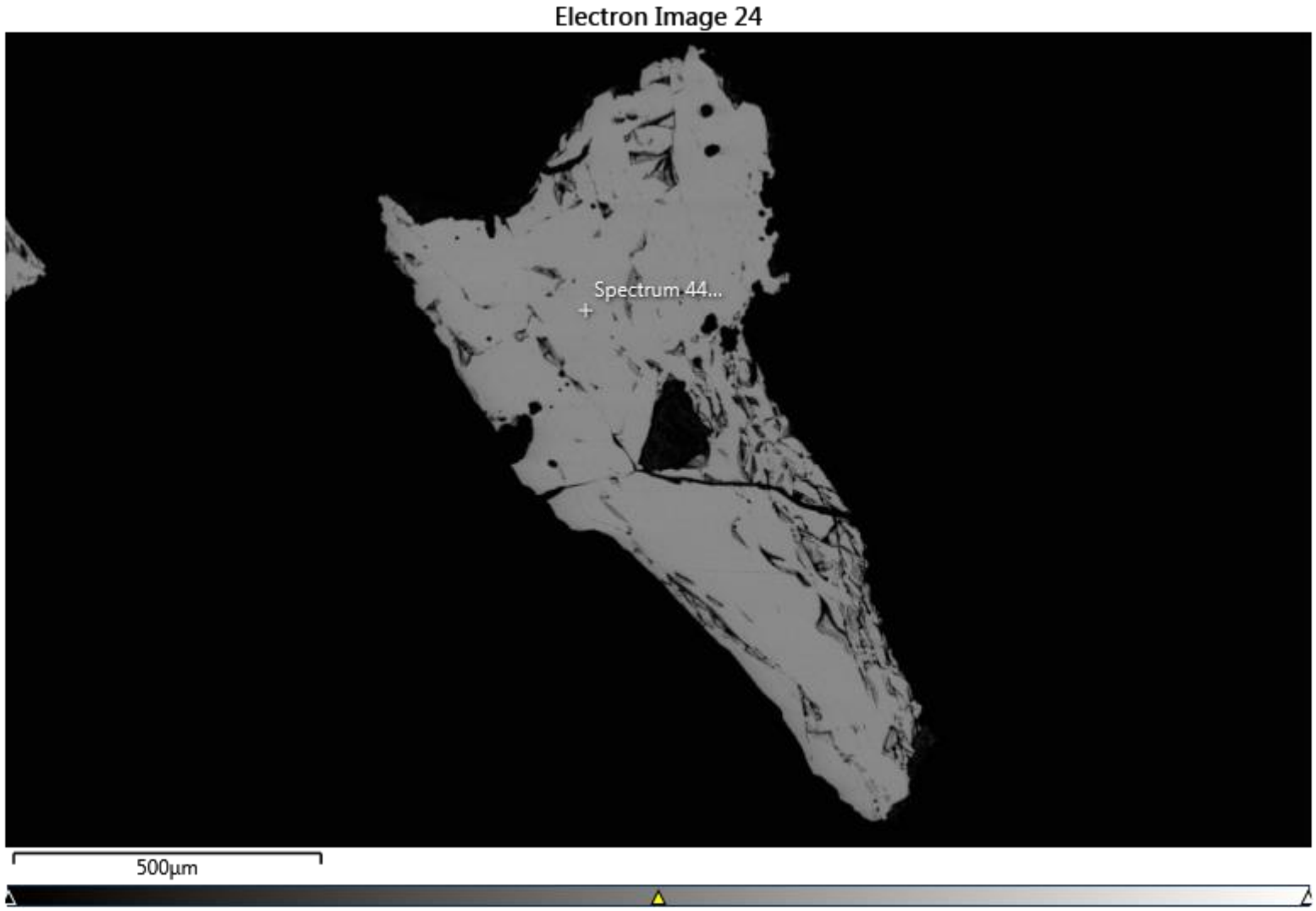

M2K Grain 7: Almandine (see EDS spectrum below).


Spectrum 42 ALMANDINE
cps/eV
keV
O
Si
Al
Mg
Fe
Ca
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18

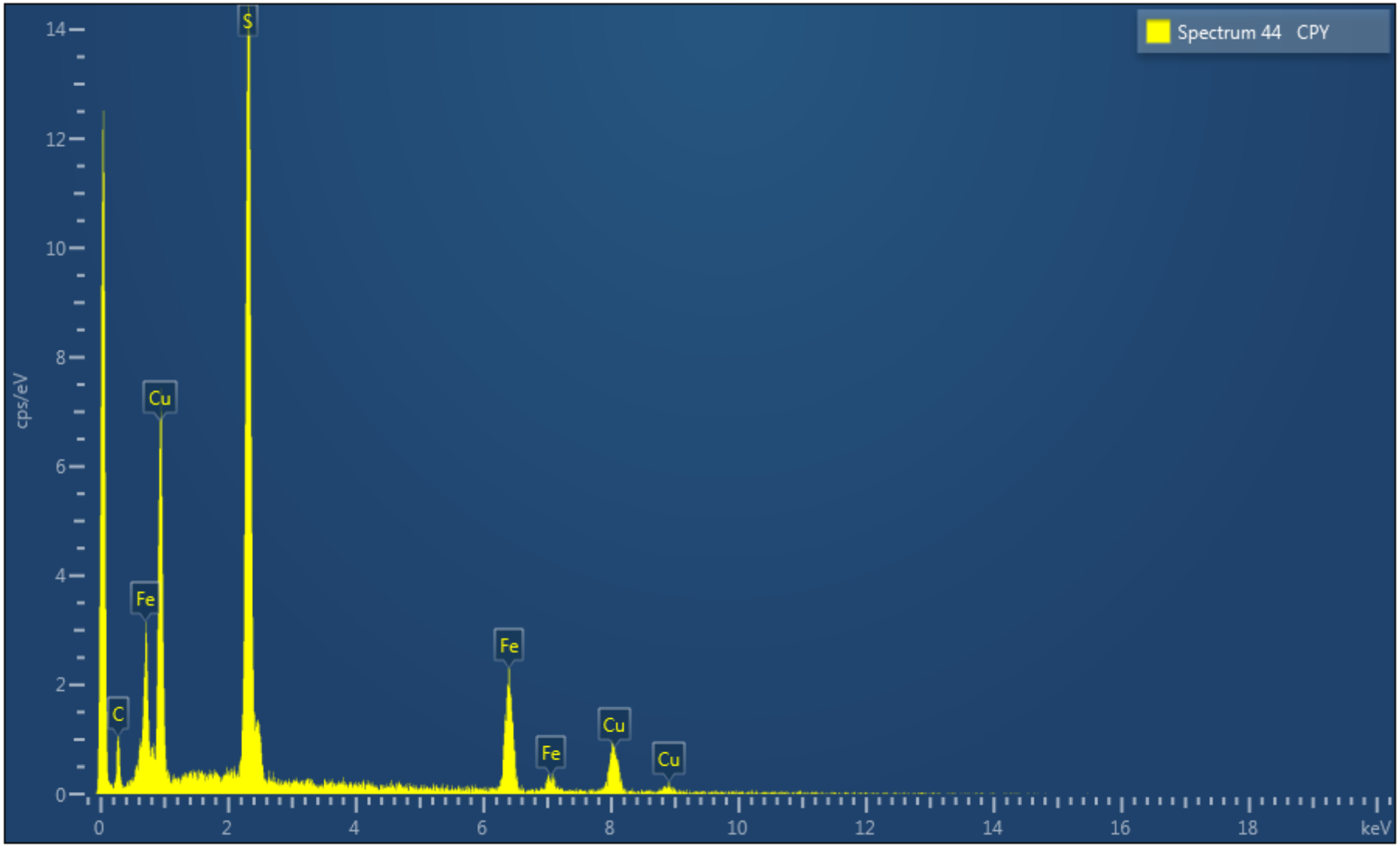



M2S Grain 1: Chalcopyrite (see EDS spectrum below).

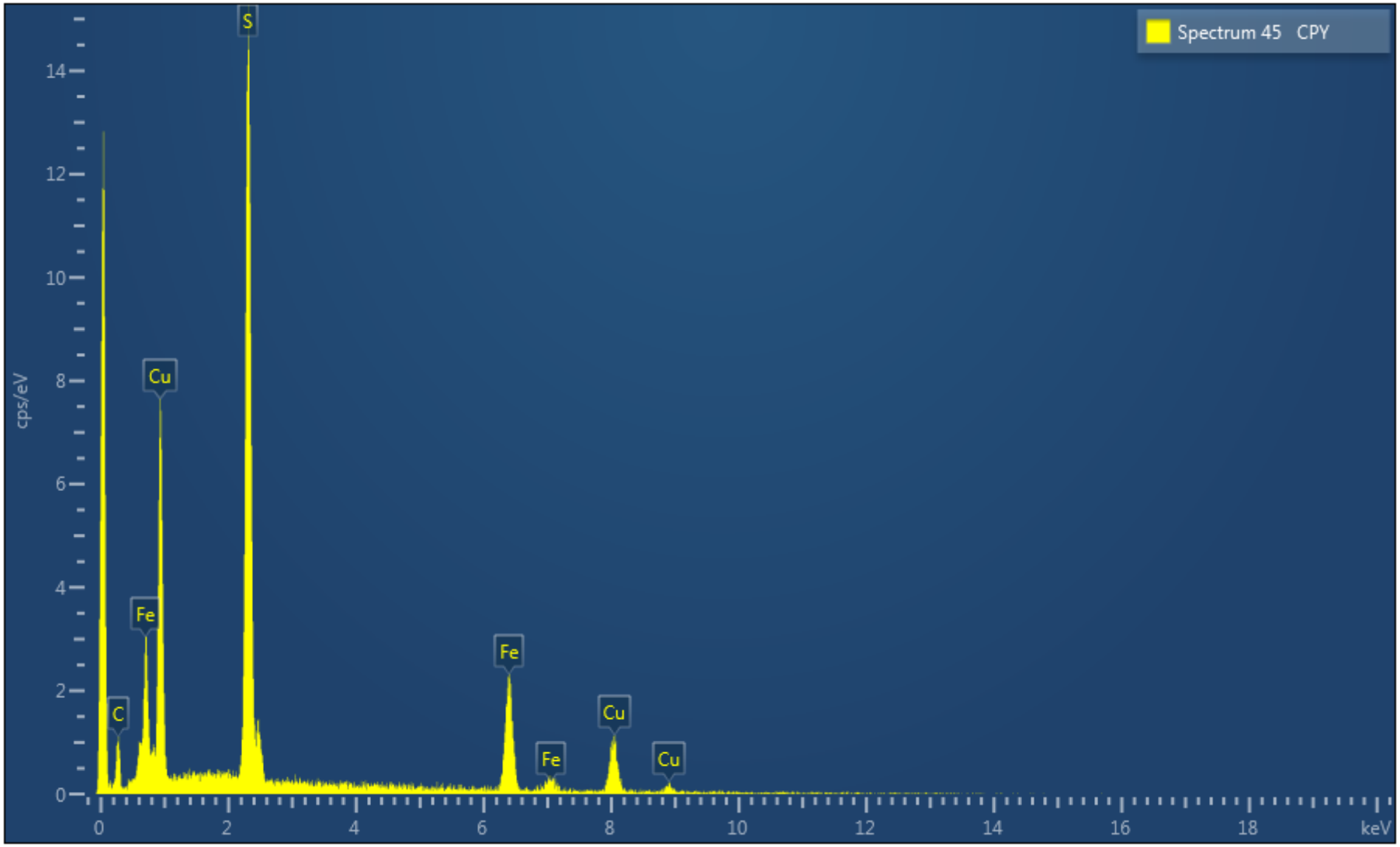

Spectrum 43 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12
14

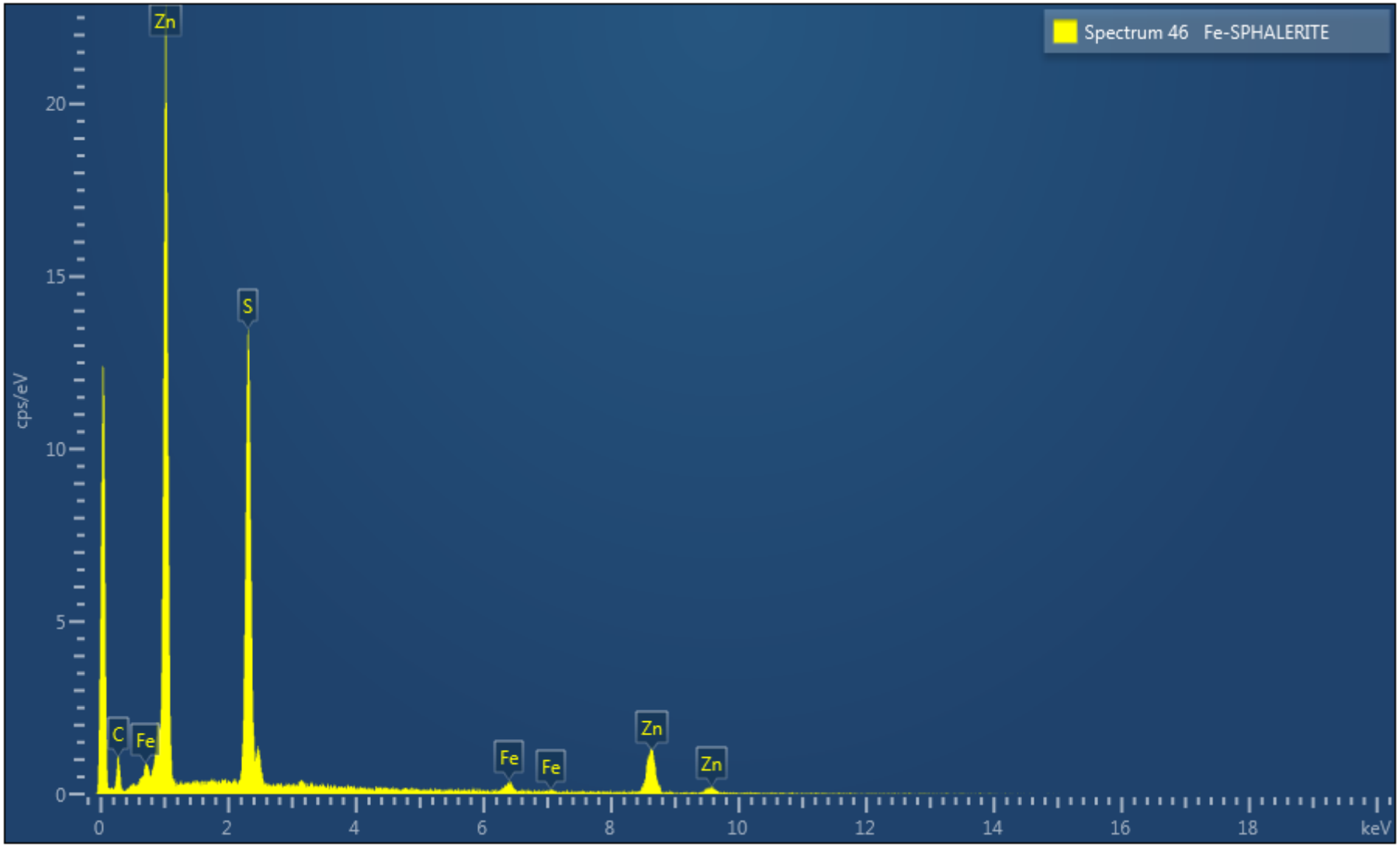


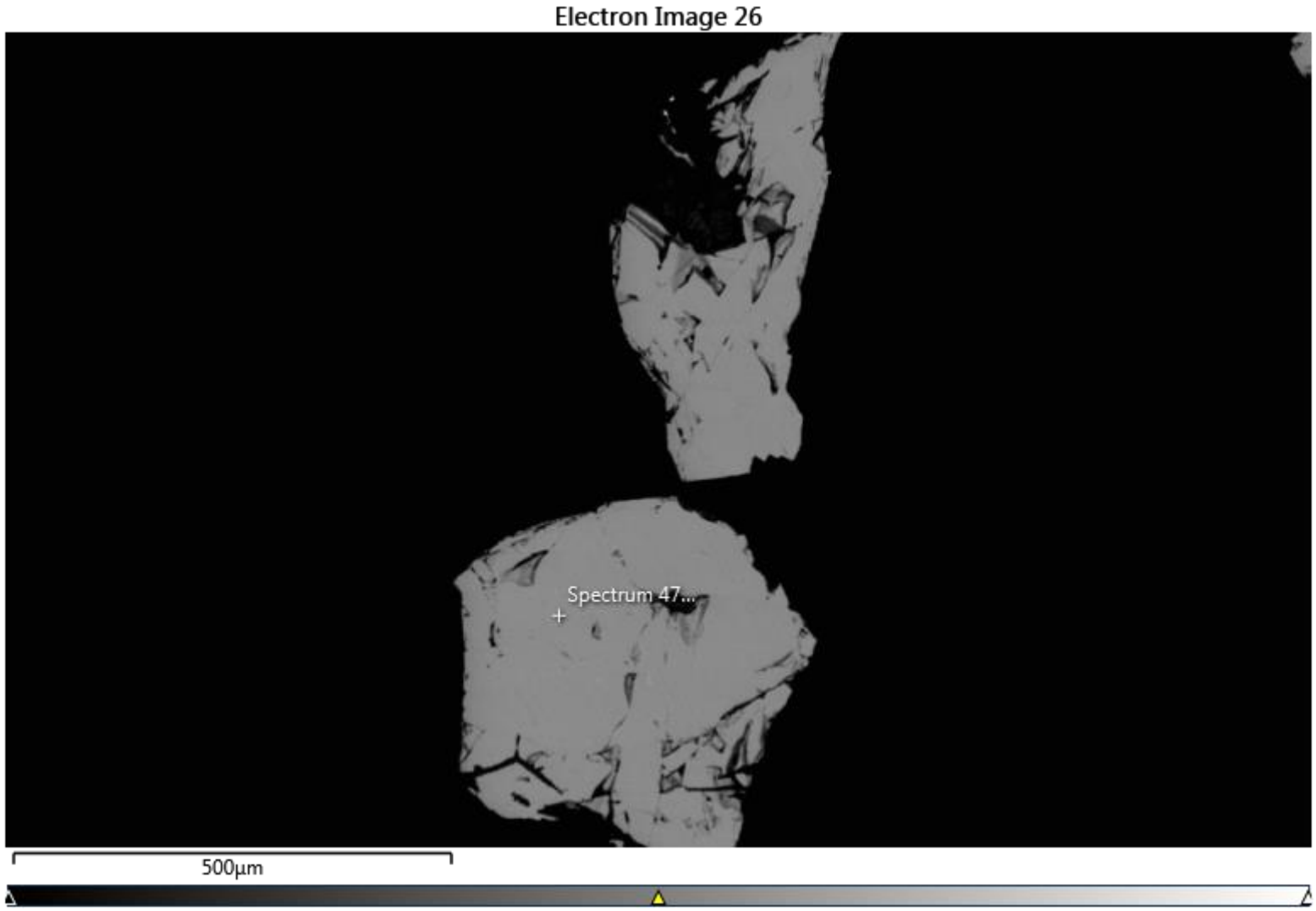

M2S Grain 2: Chalcopyrite (see EDS spectrum below).


Spectrum 44 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12
14

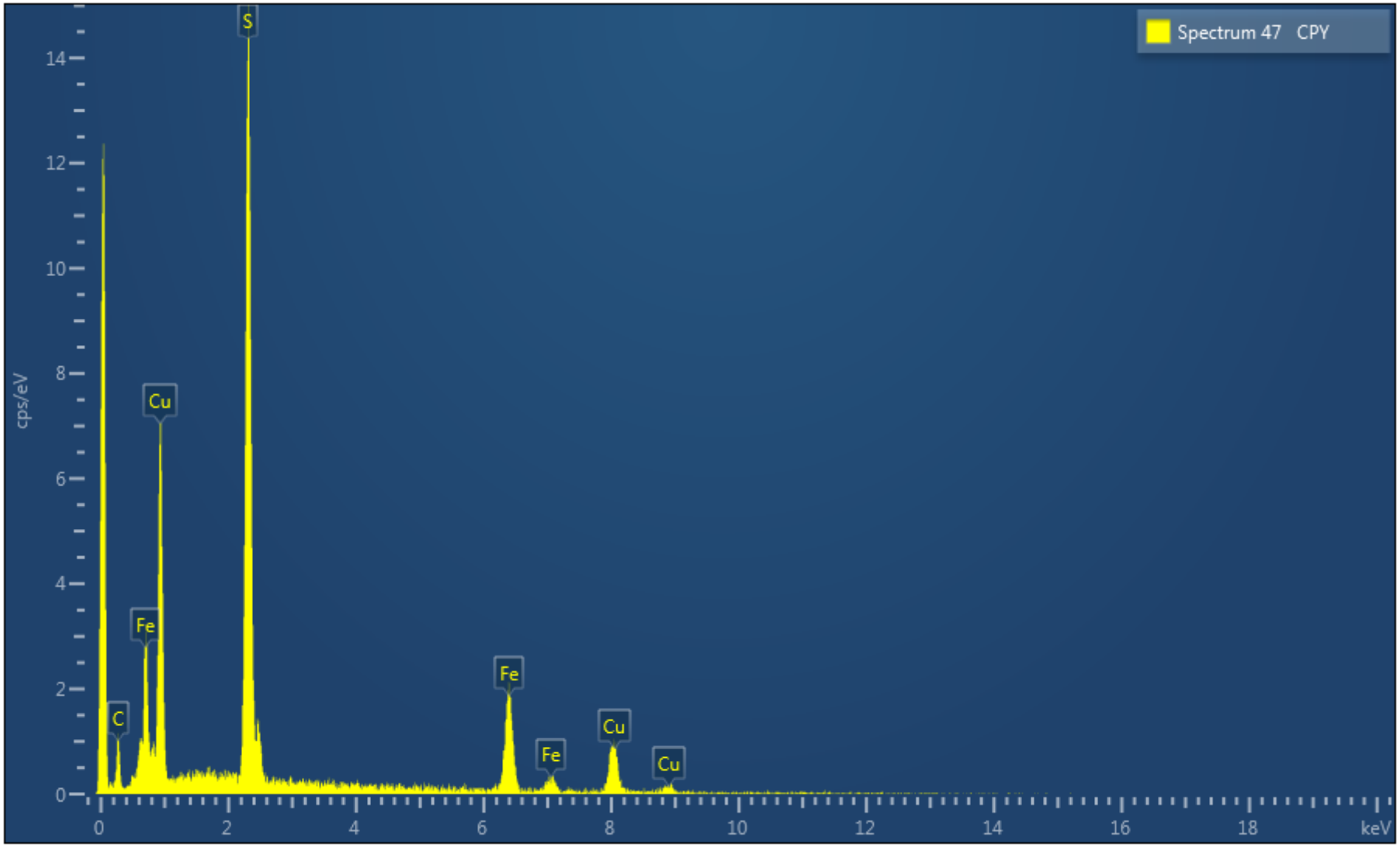

M2S Grain 3: Chalcopyrite (spectrum 45) and Fe-Sphalerite (spectrum 46) (see EDS spectra below).

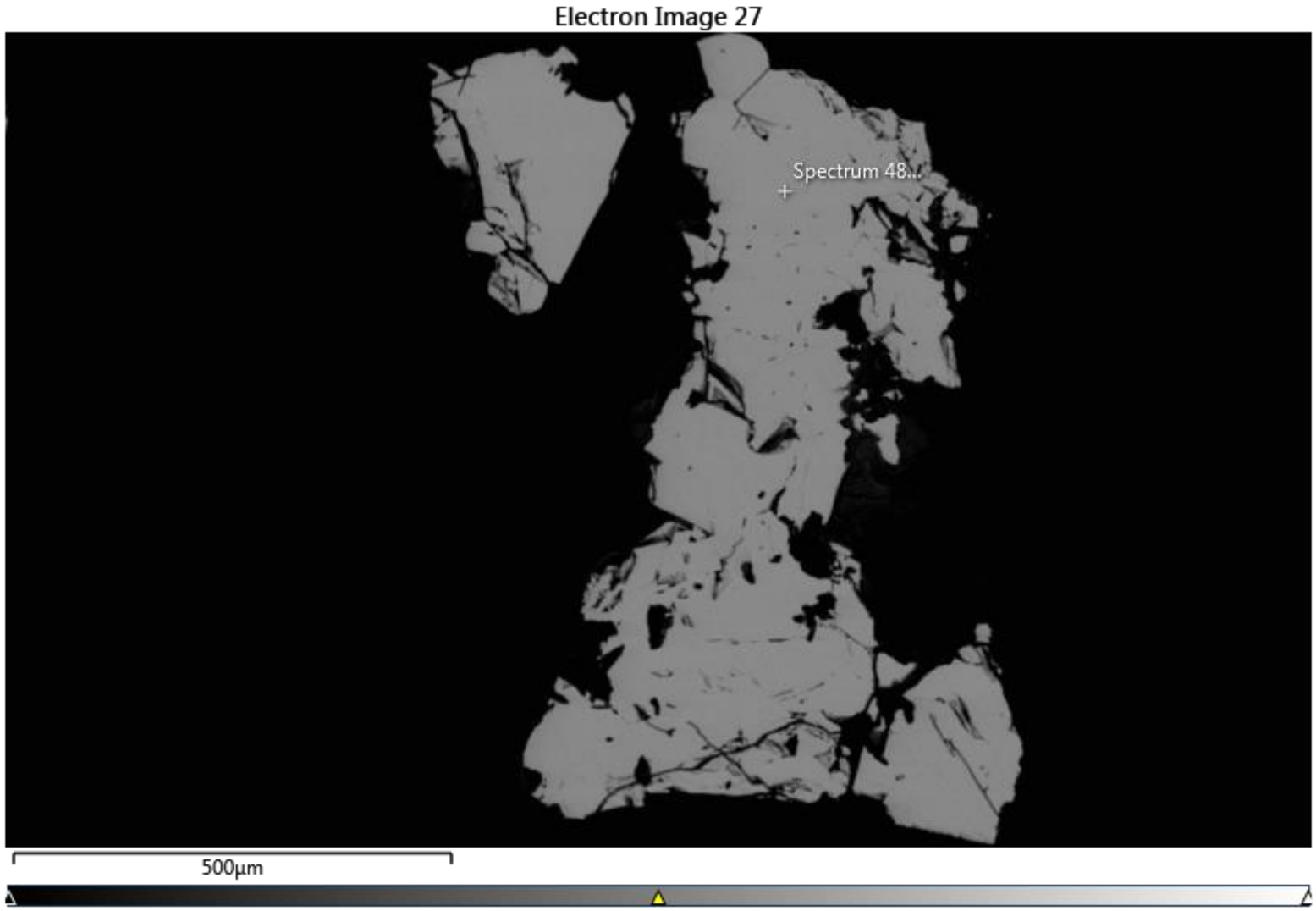

Spectrum 45 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18


Spectrum 46 Fe-SPHALERITE
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV
Zn
S
C
Fe
Fe
Fe
Zn
Zn

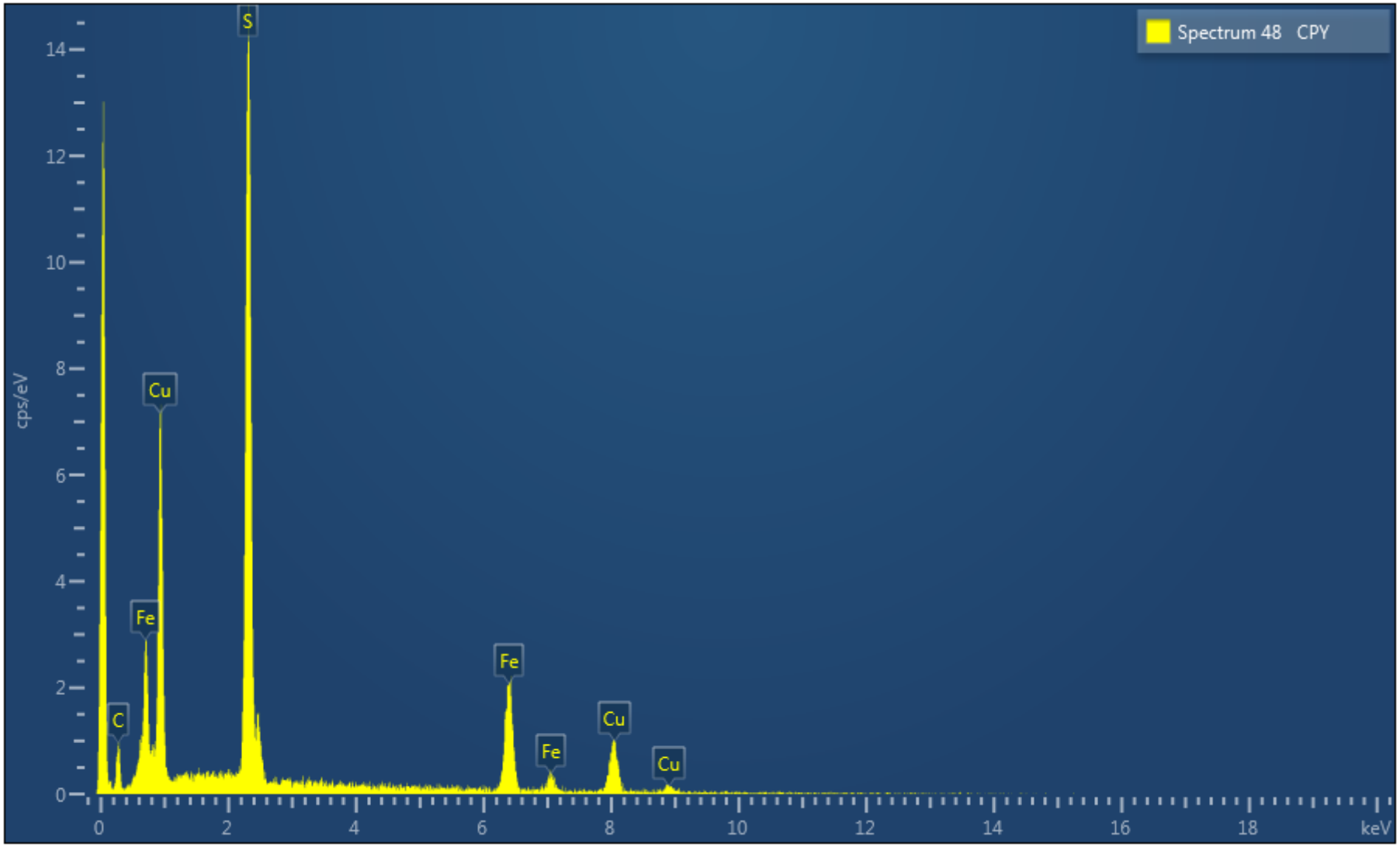


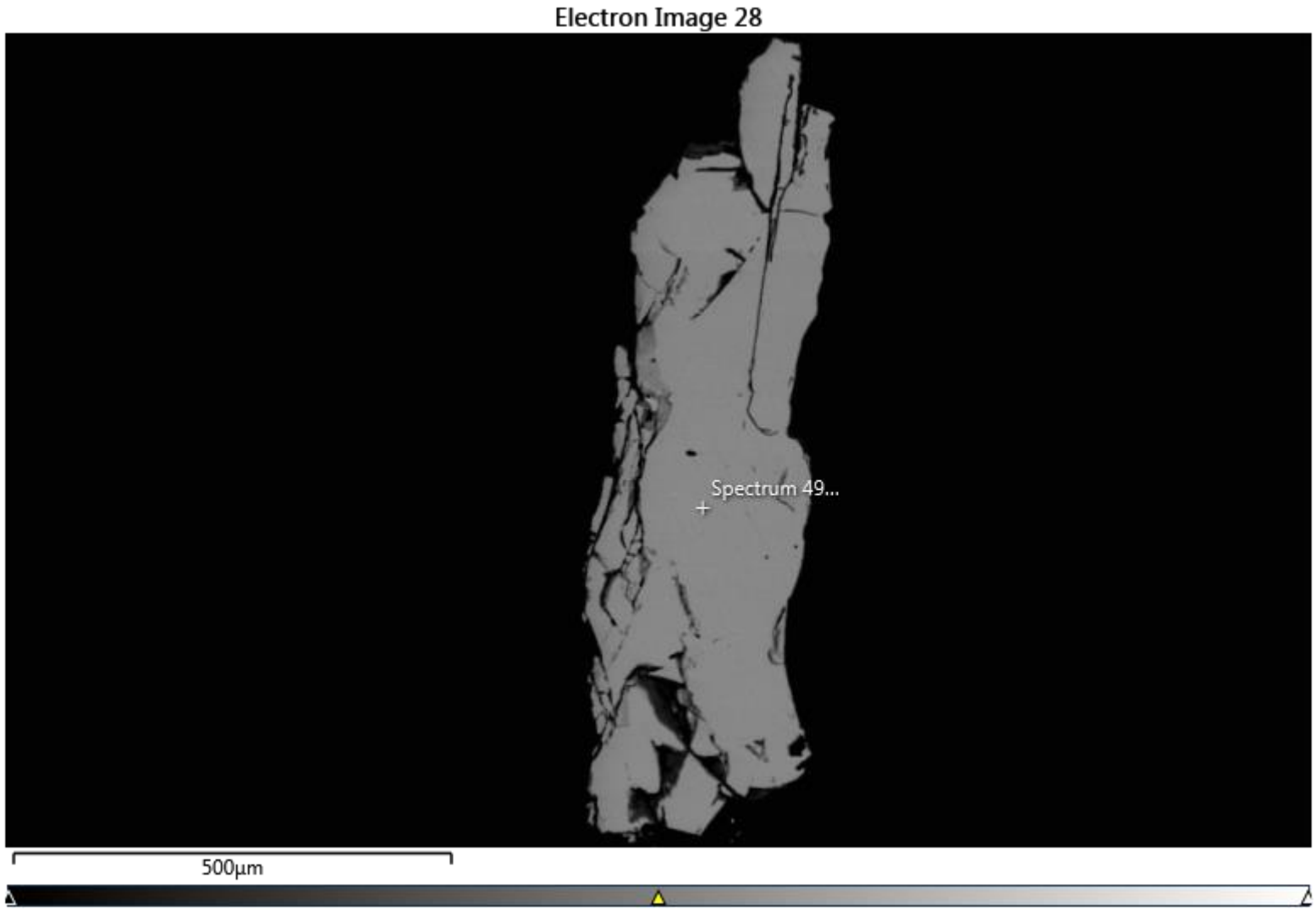

M2S Grain 4: Chalcopyrite (see EDS spectrum below).


Spectrum 47 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18

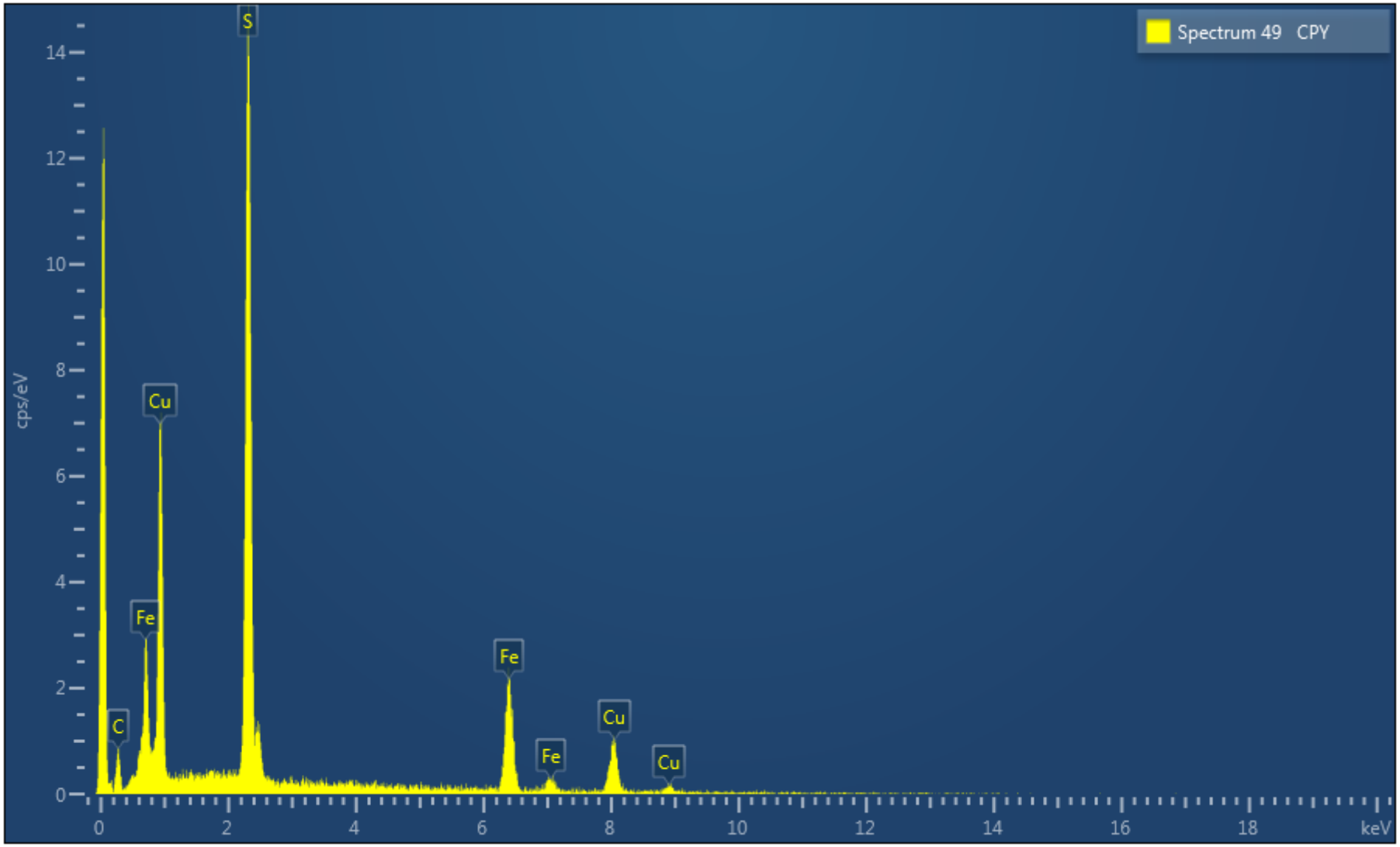


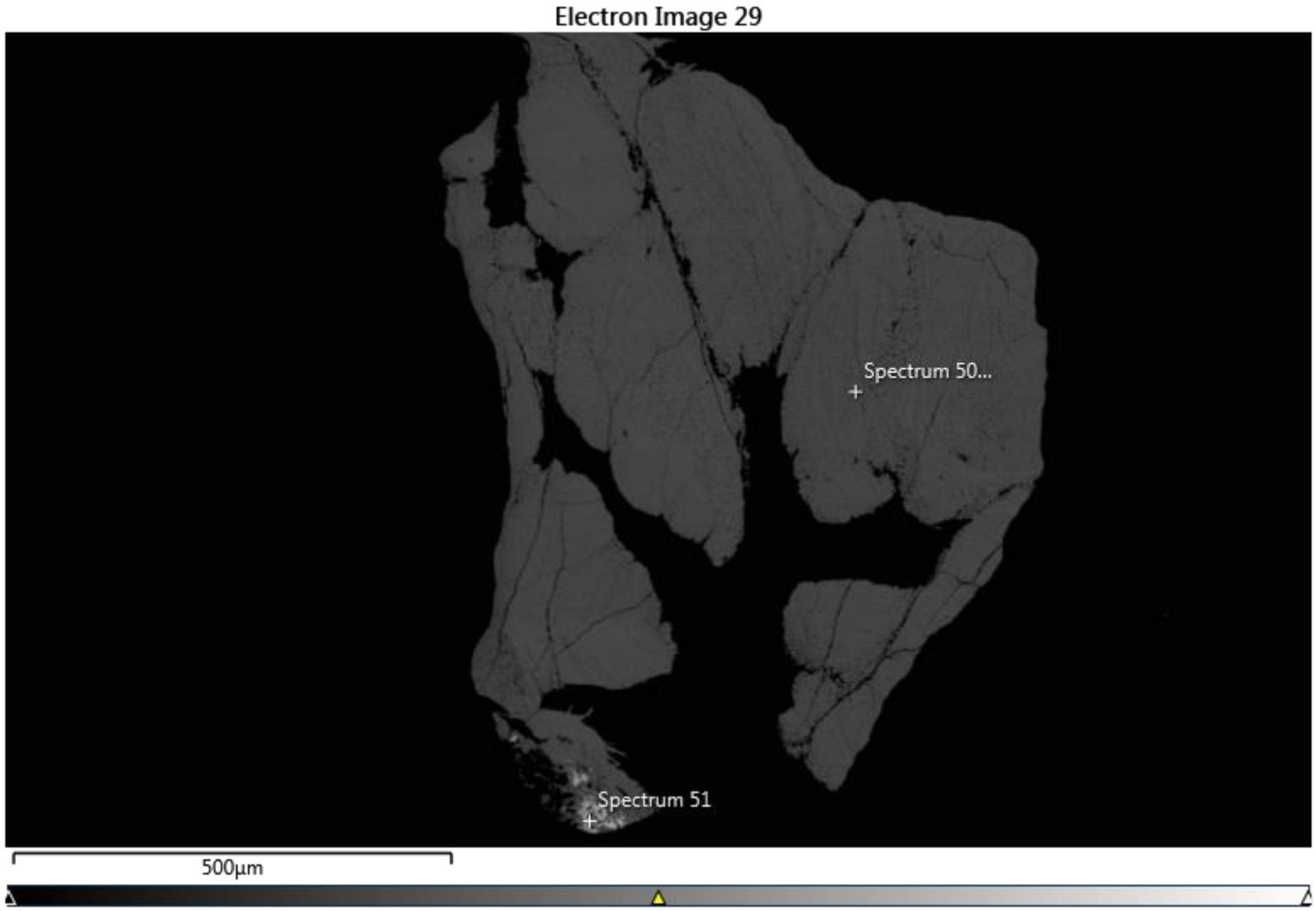

M2S Grain 5: Chalcopyrite (see EDS spectrum below).


Spectrum 48 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18

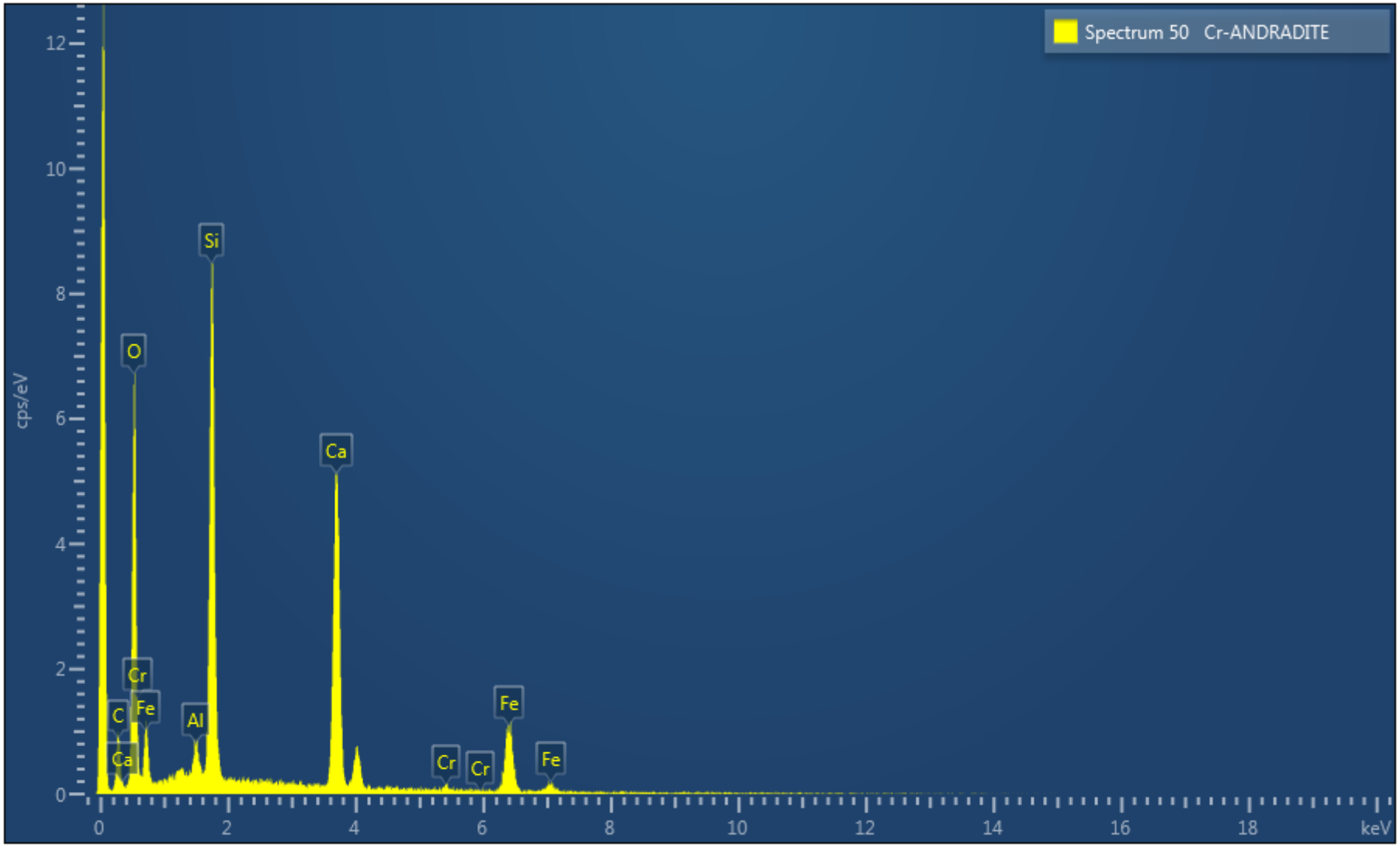


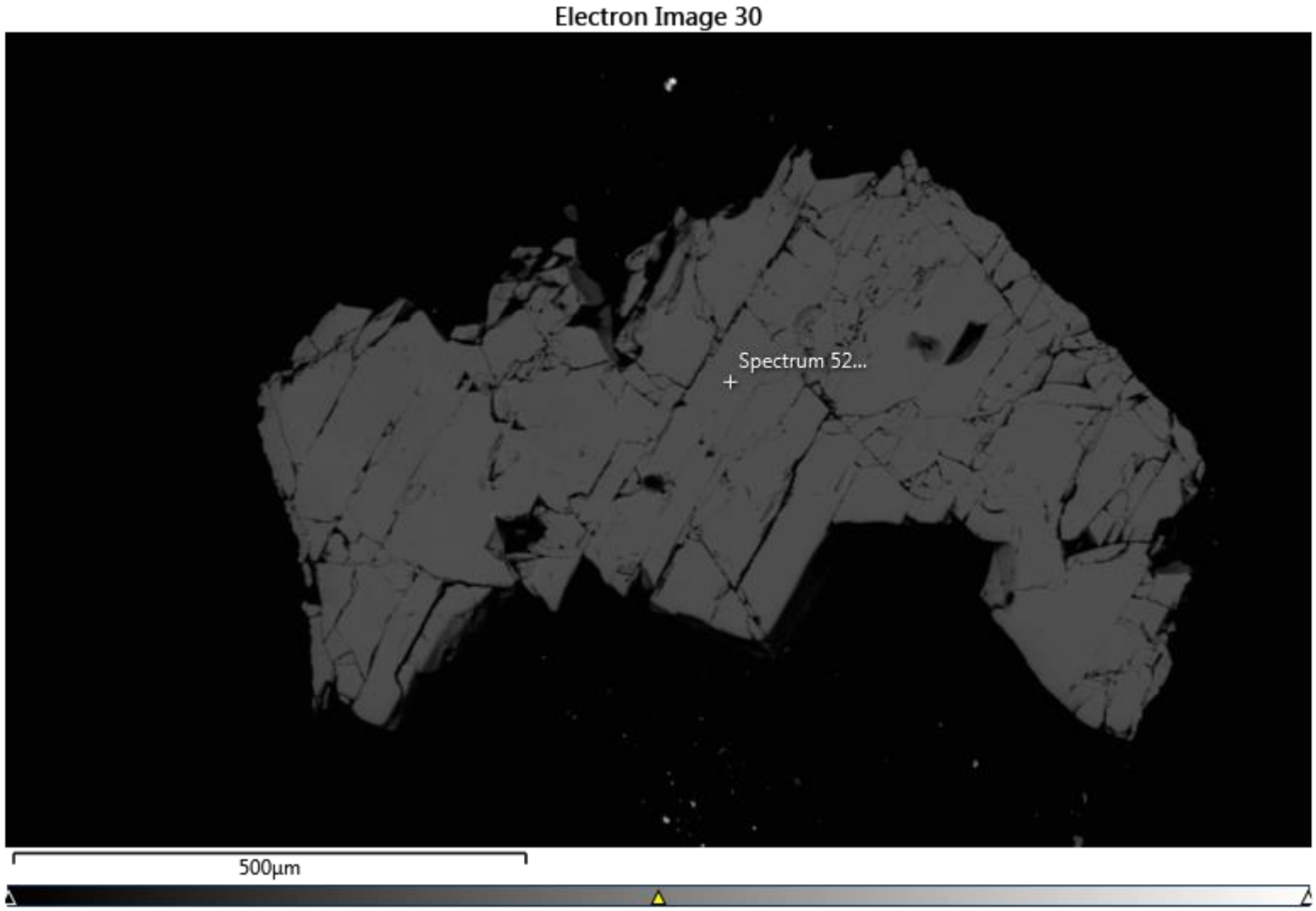

M2S Grain 6: Chalcopyrite (see EDS spectrum below).


Spectrum 49 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12
14

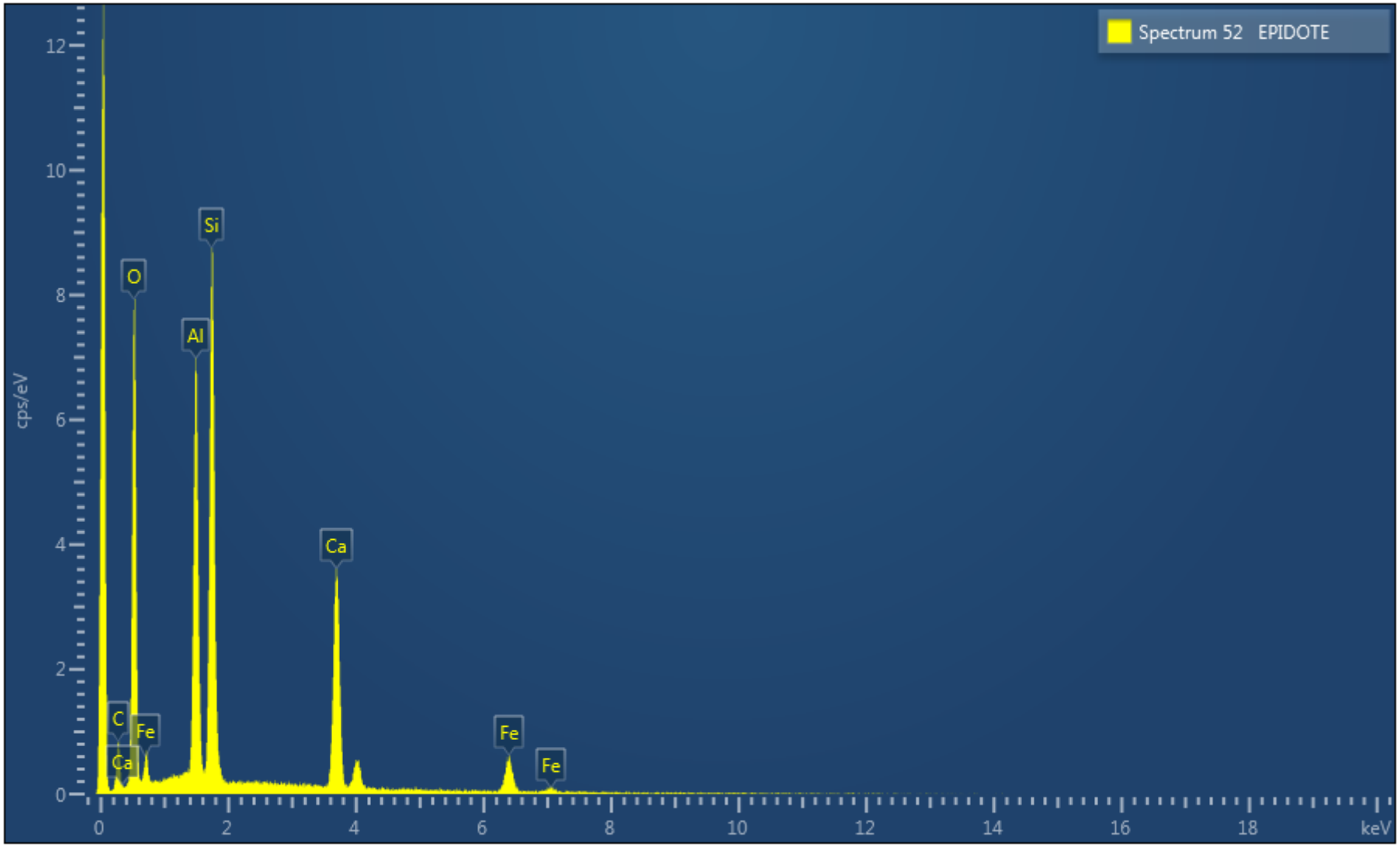


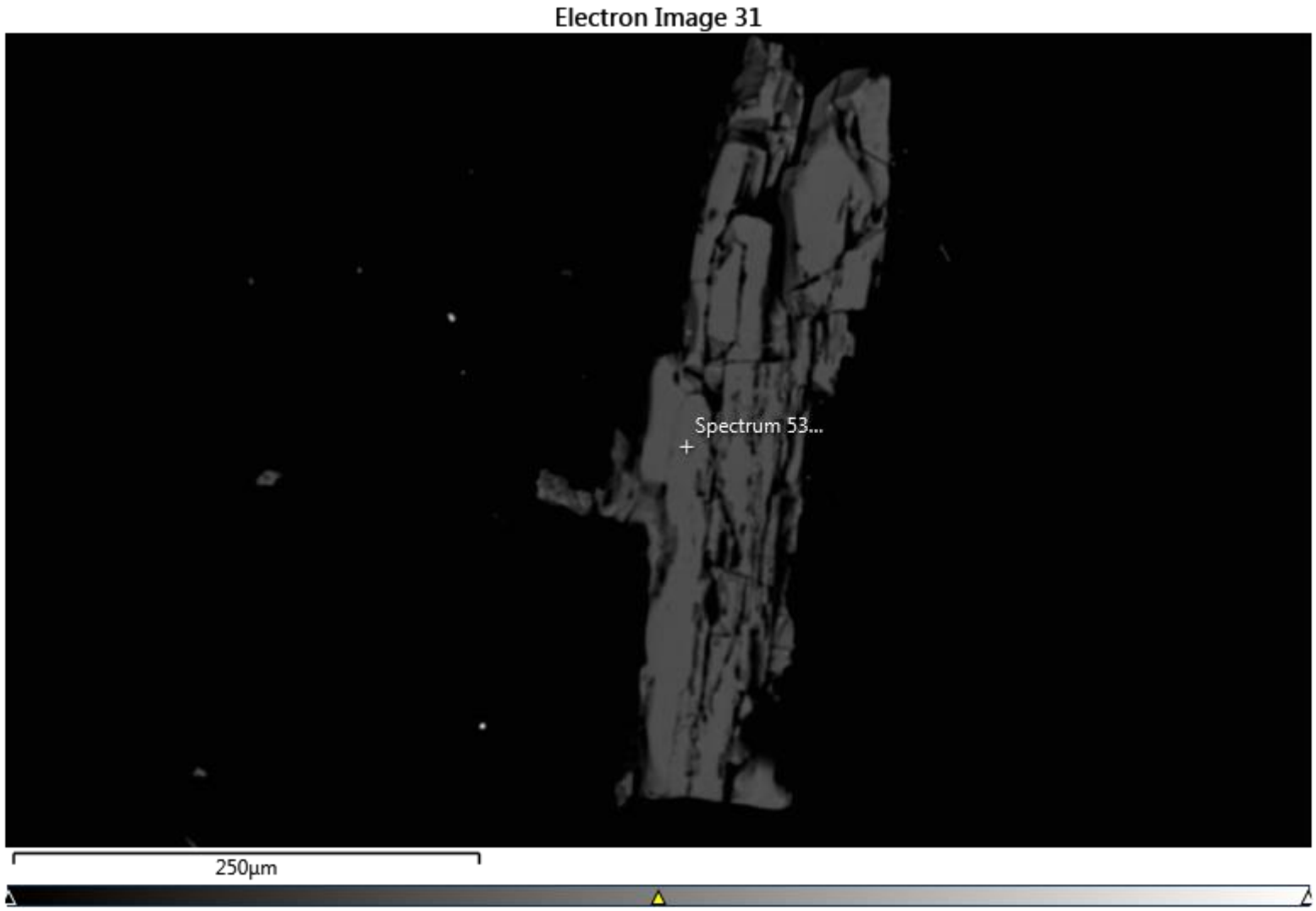

M3K Grain 1: Cr-Andradite (see EDS spectrum below).


Spectrum 50 Cr-ANDRADITE
cps/eV
keV
O
Si
Ca
C
Cr
Fe
Al
Ca
Cr
Cr
Fe
Fe

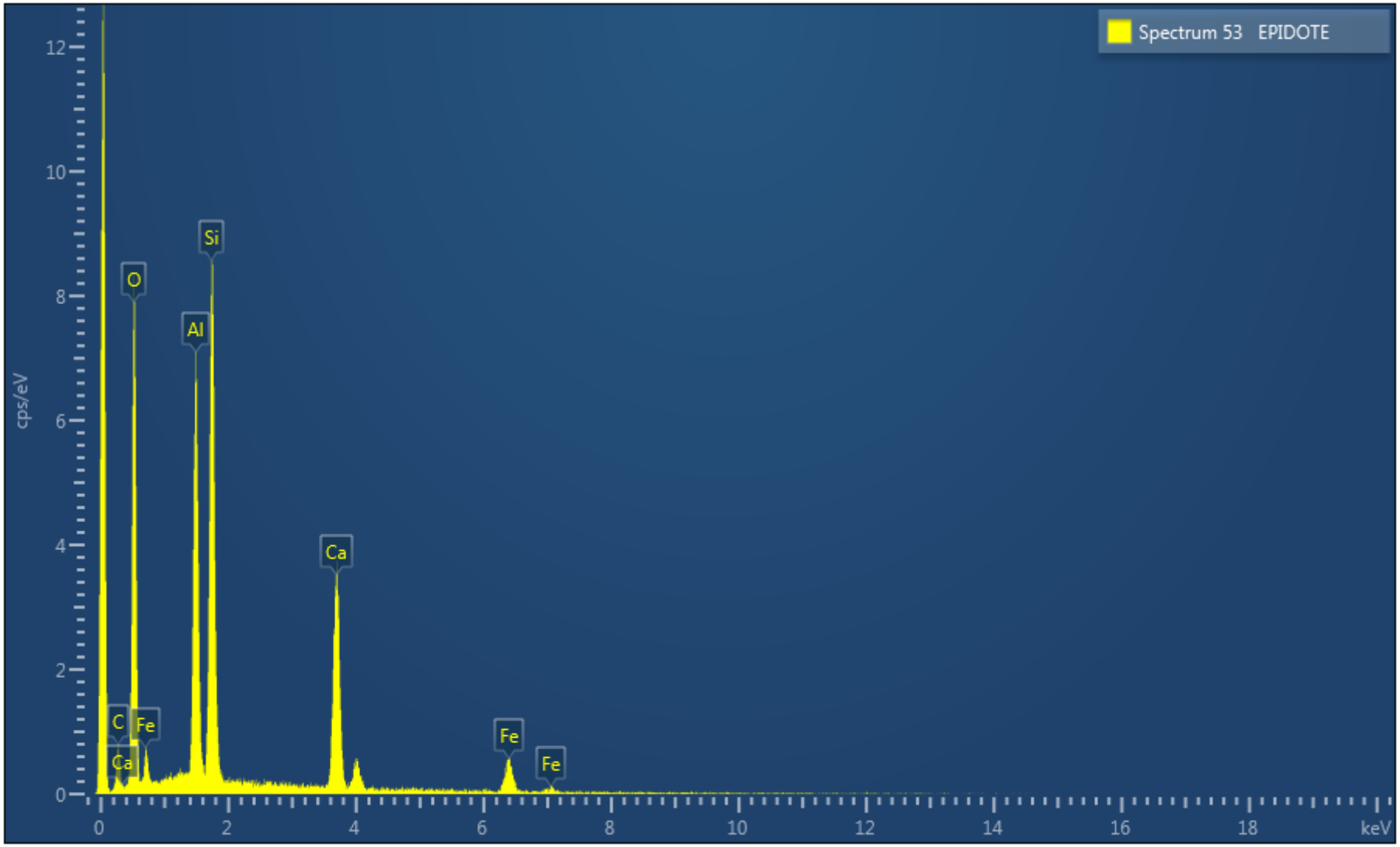



M3K Grain 2: Epidote (see EDS spectrum below).

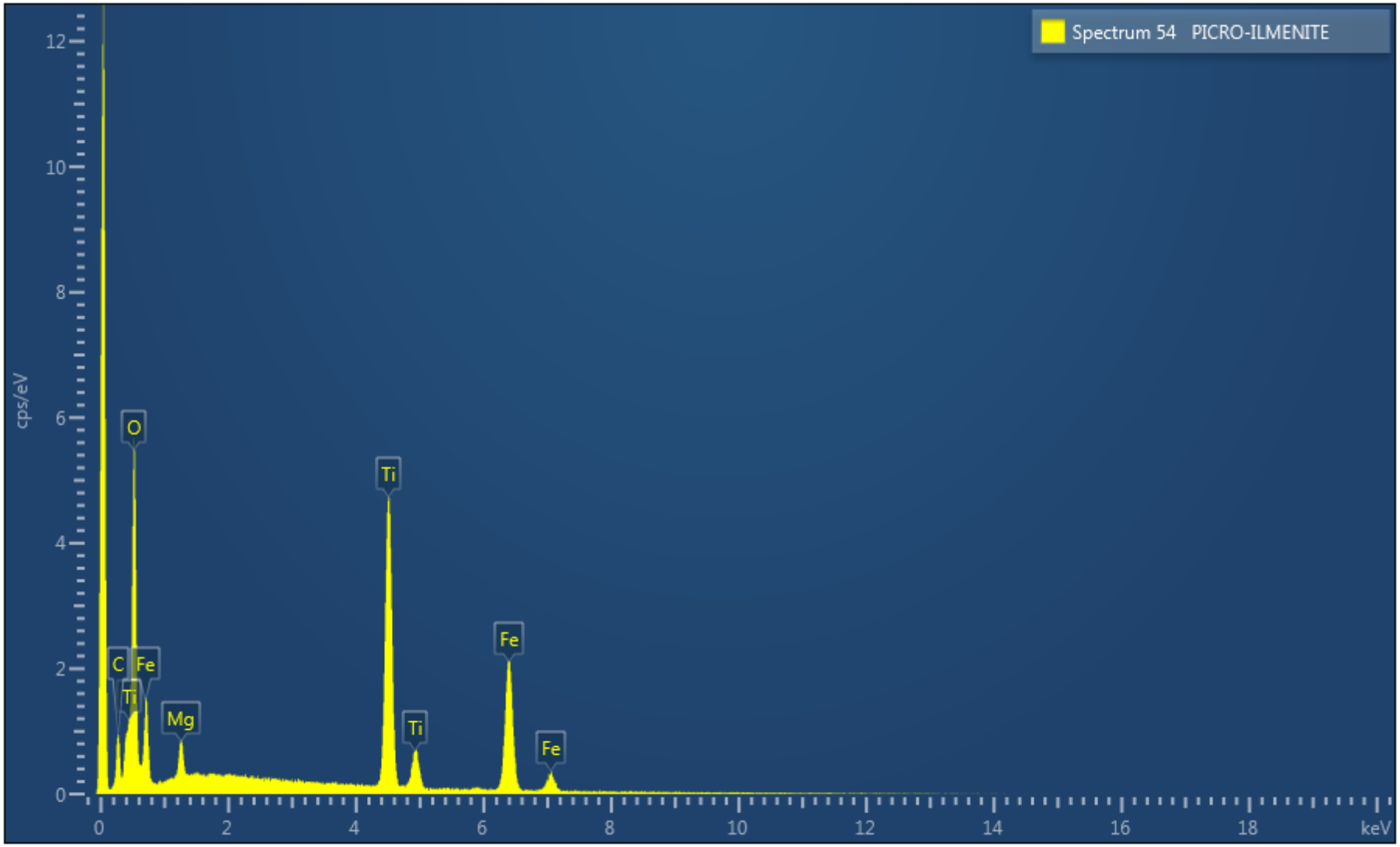

Spectrum 52 EPIDOTE
cps/eV
keV
O
Si
Al
Ca
C
Fe
Ca
Fe
Fe



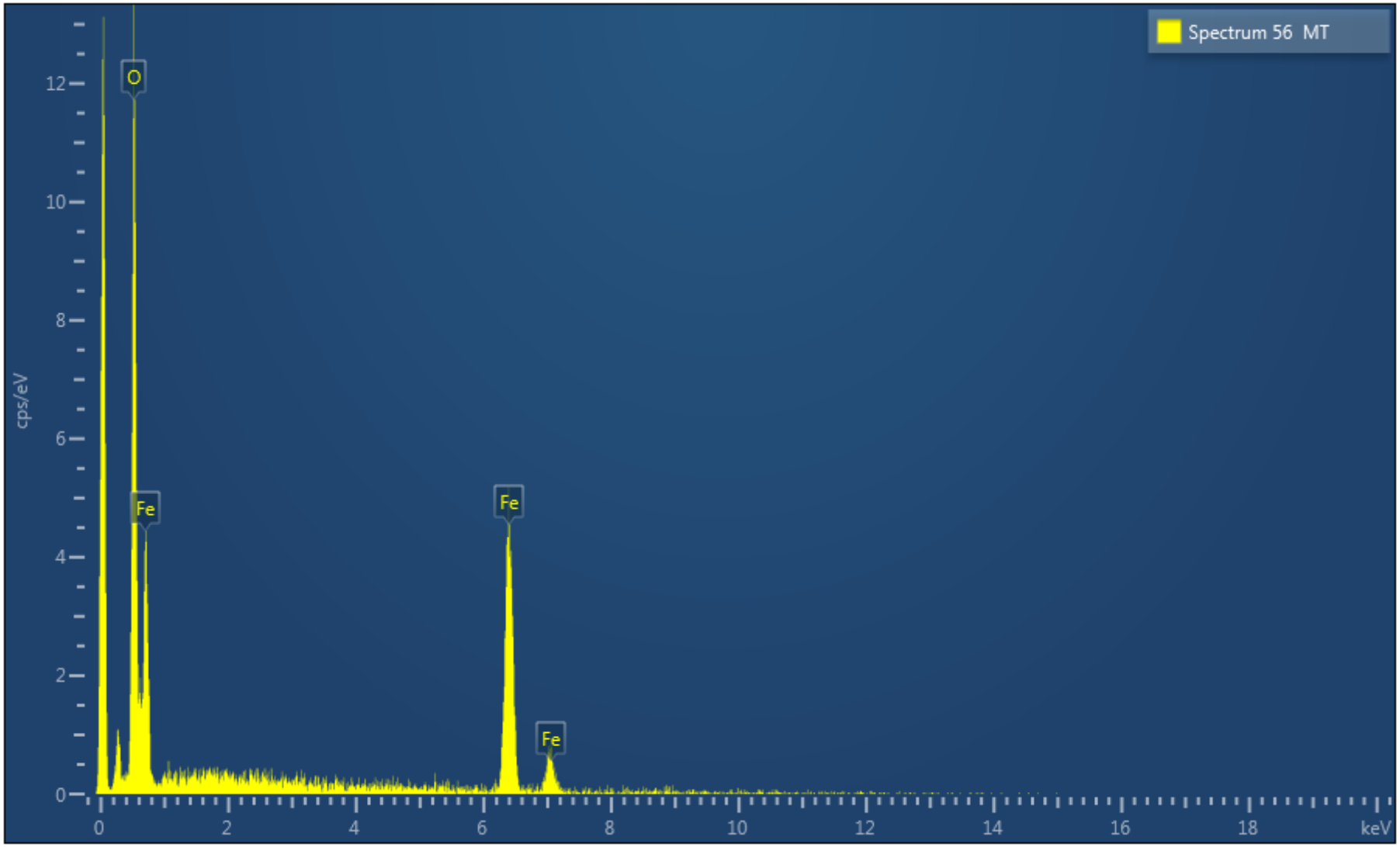

M3K Grain 3: Epidote (see EDS spectrum below).

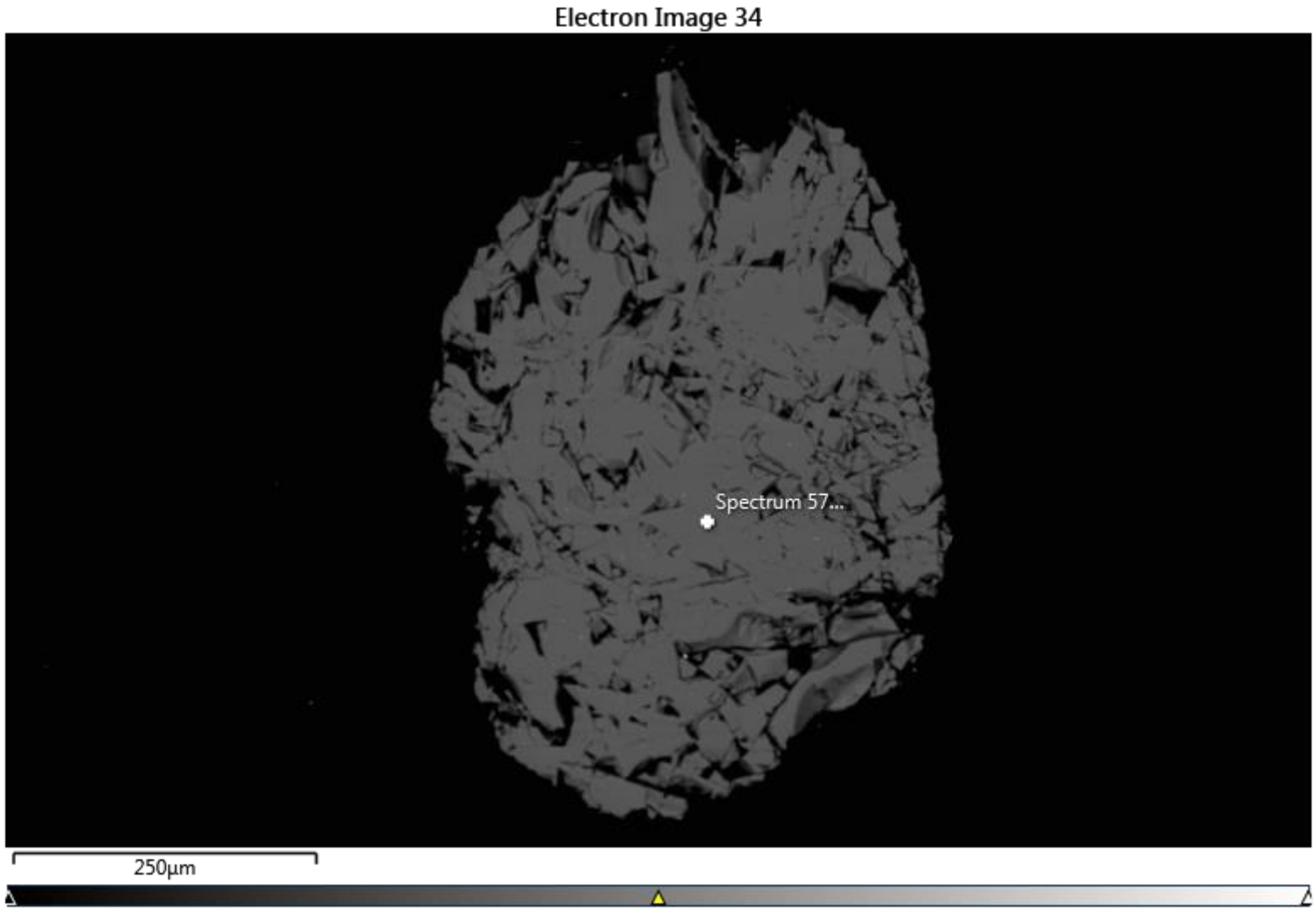

Spectrum 53 EPIDOTE
cps/eV
keV
O
Si
Al
Ca
C
Fe
Ca
Fe
Fe


M3K Grain 4: Picro-Ilmenite (see EDS spectrum below).

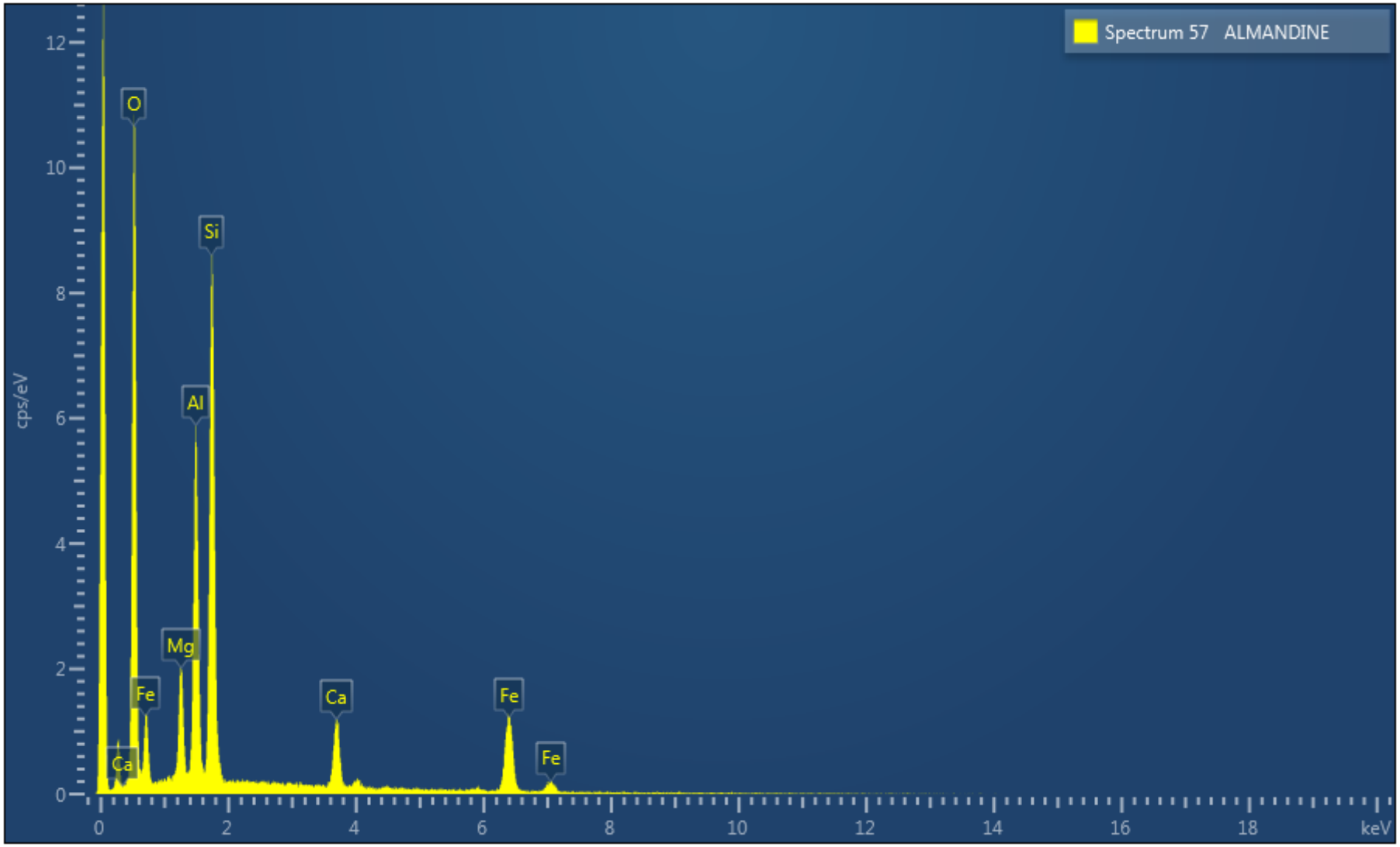

Spectrum 54 PICRO-ILMENITE
cps/eV
keV
O
C
Fe
Ti
Mg
Ti
Ti
Fe
Fe

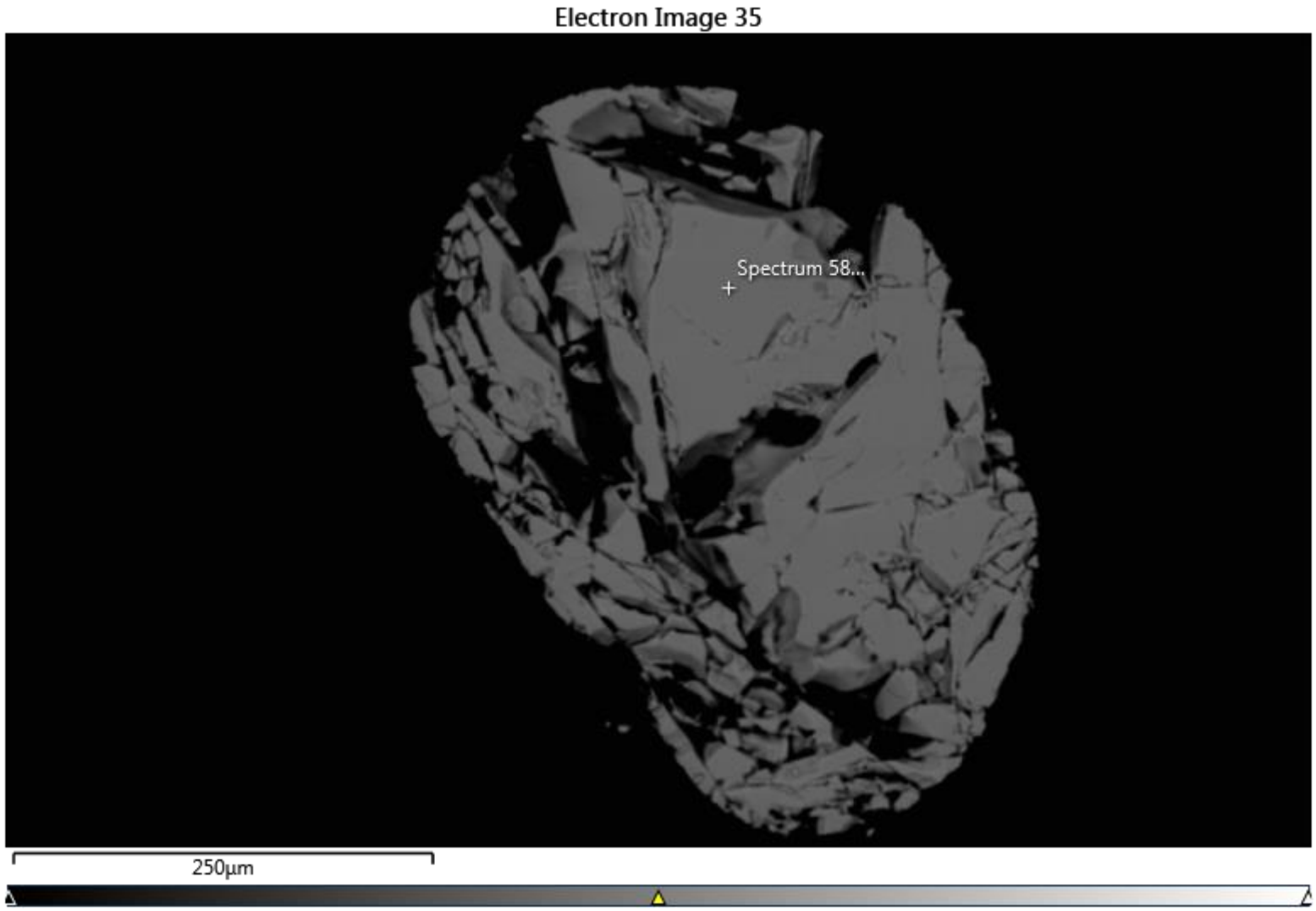

M3K Grain 5: Magnetite (see EDS spectrum below).


Spectrum 56 MT
O
Fe
Fe
Fe
cps/eV
0
2
4
6
8
10
12
14
16
18
keV

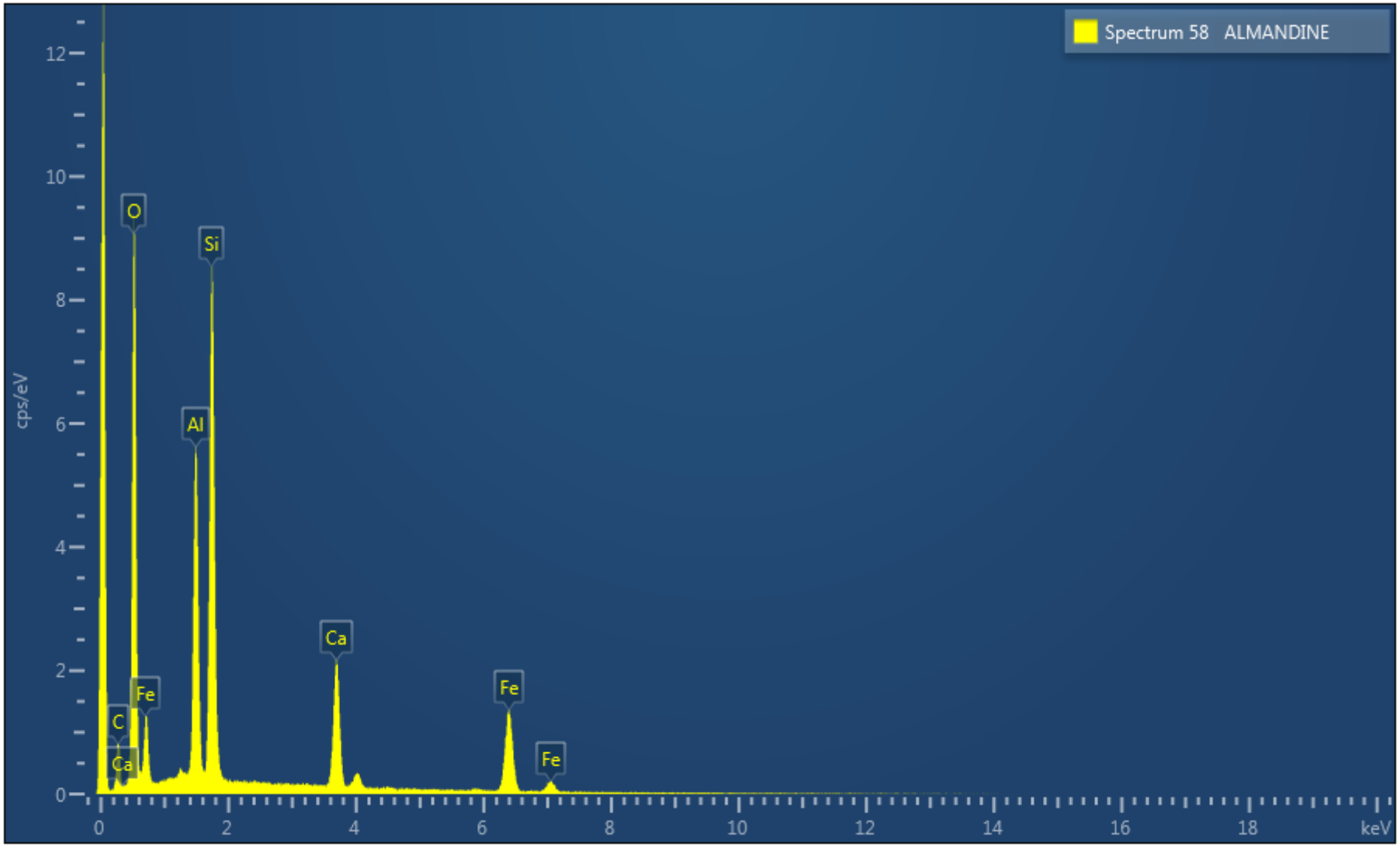


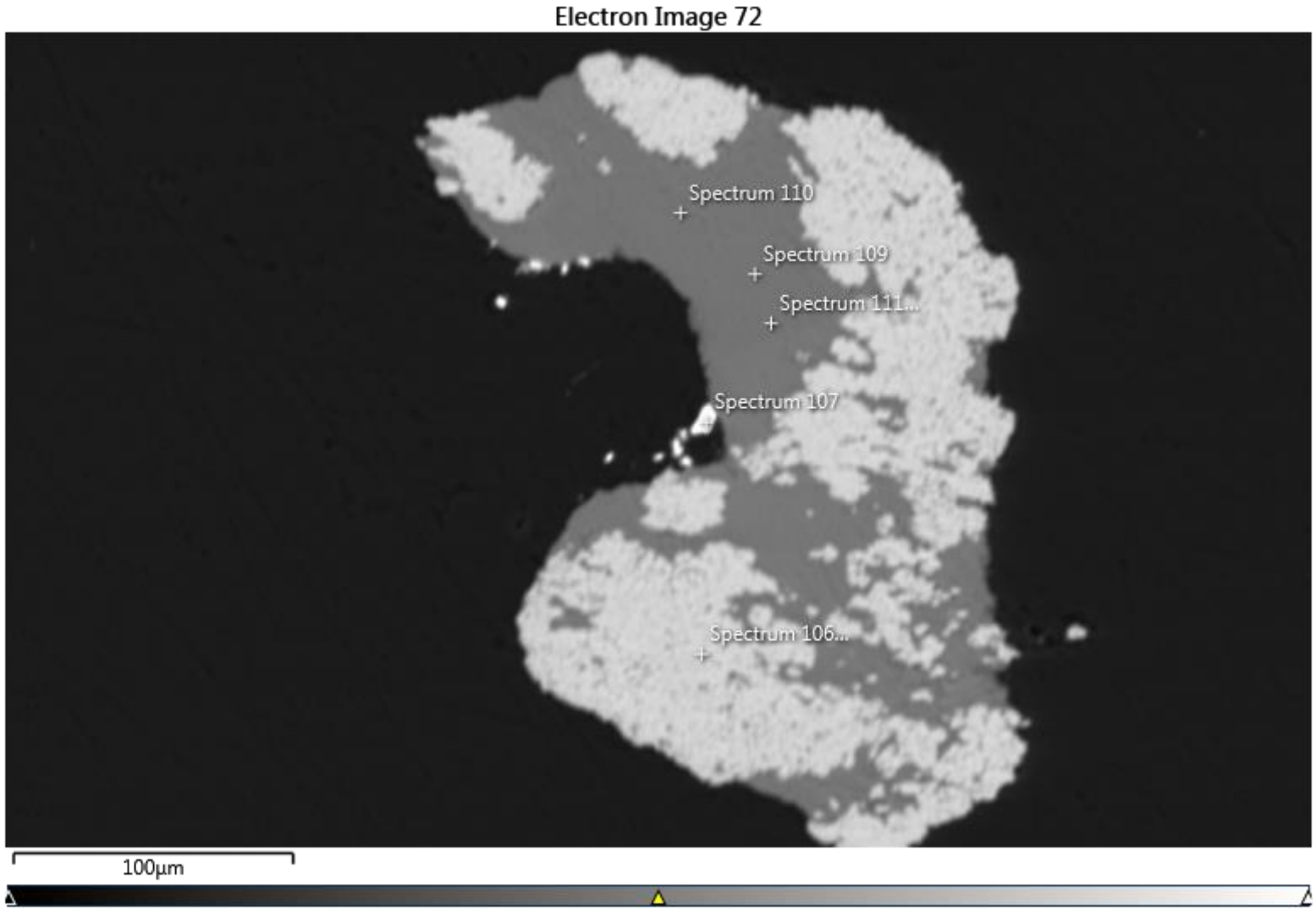

M3K Grain 6: Almandine (see EDS spectrum below).


Spectrum 57 ALMANDINE
cps/eV
keV
O
Si
Al
Mg
Fe
Ca
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12

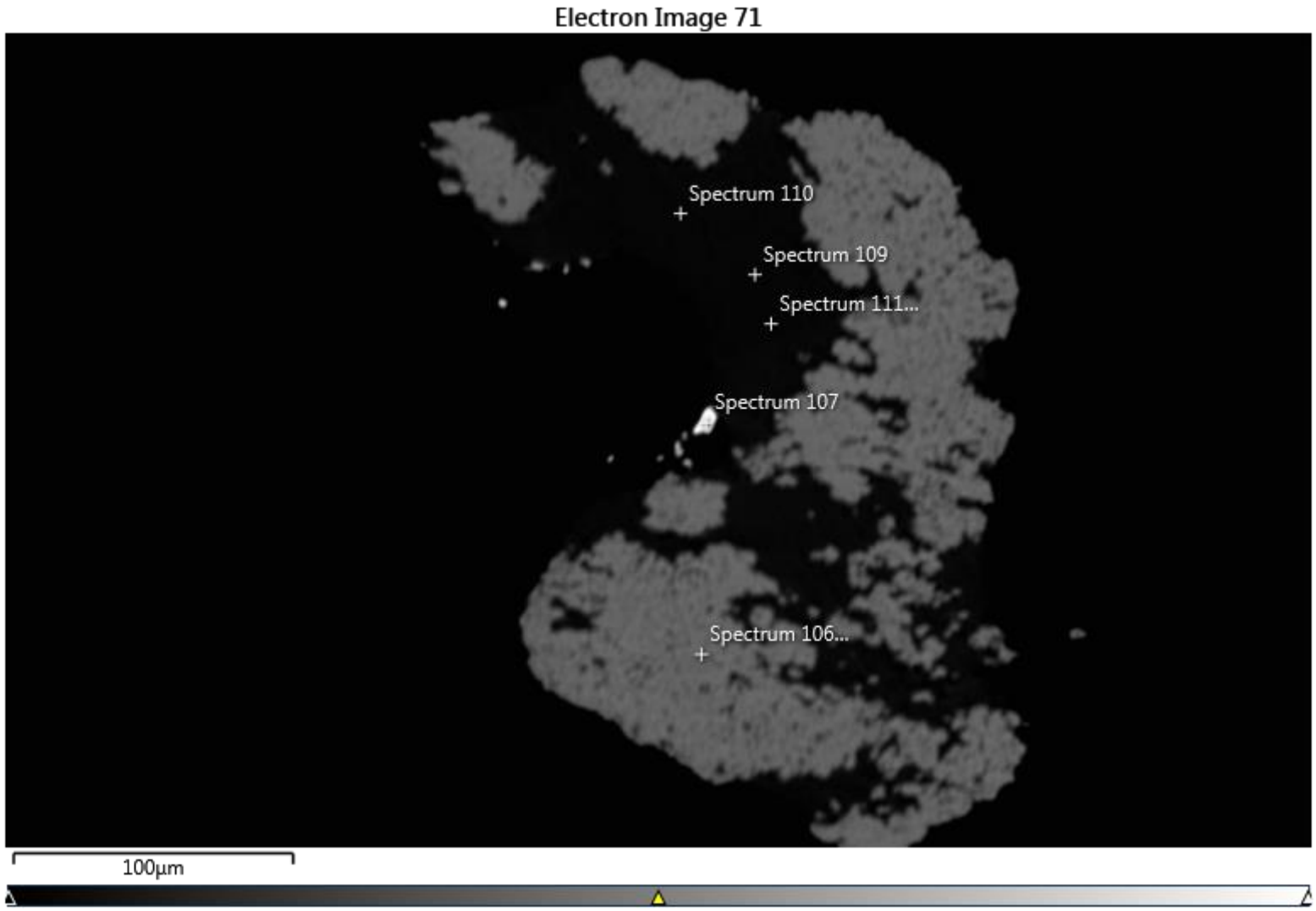



M3K Grain 7: Almandine (see EDS spectrum below).

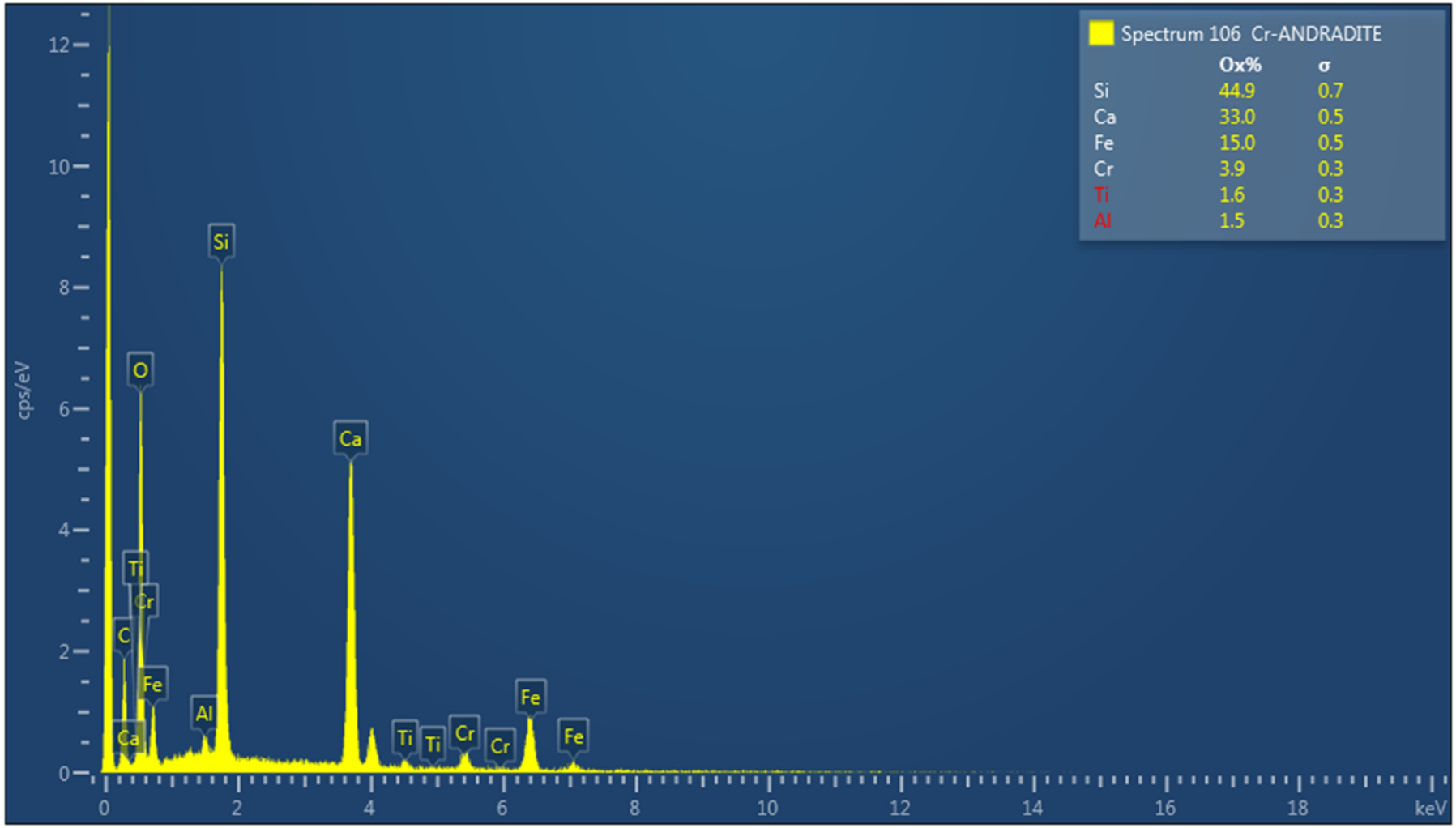

Spectrum 58 ALMANDINE
cps/eV
keV
O
Si
Al
Ca
Fe
C
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12

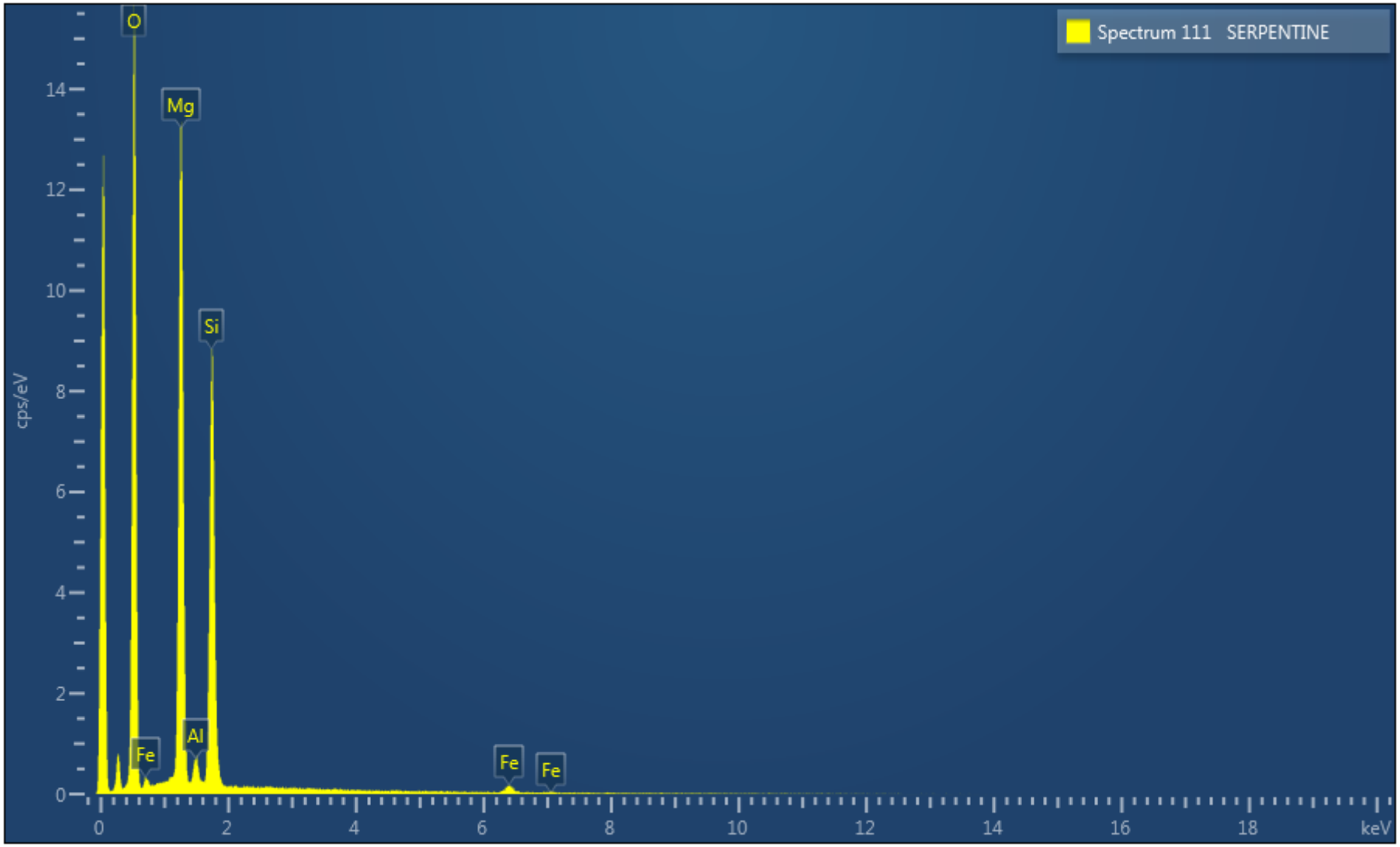


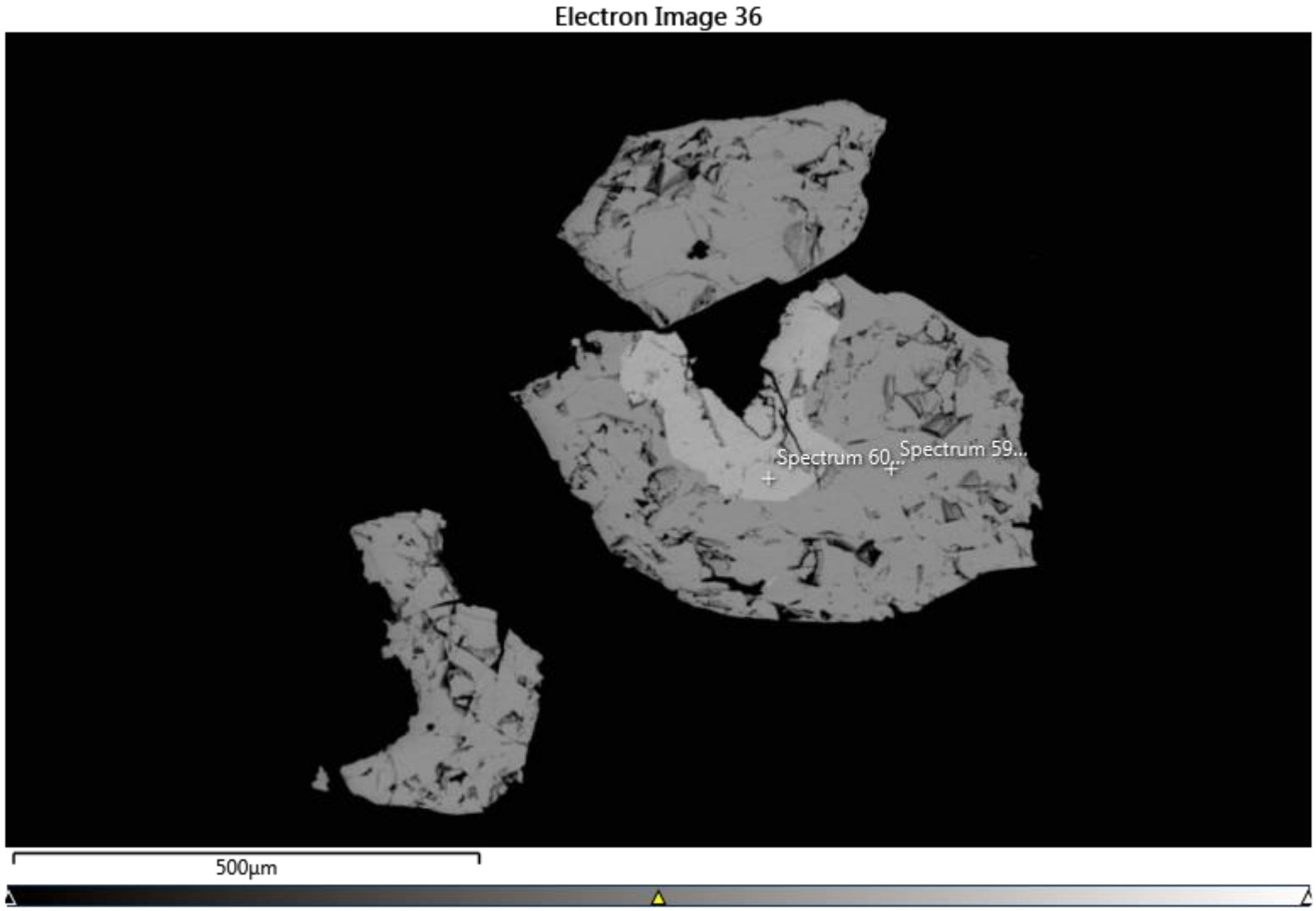

M3K Grain 8: Cr-Andradite (spectrum 106) and serpentine (spectra 109-111) (see EDS spectra below).



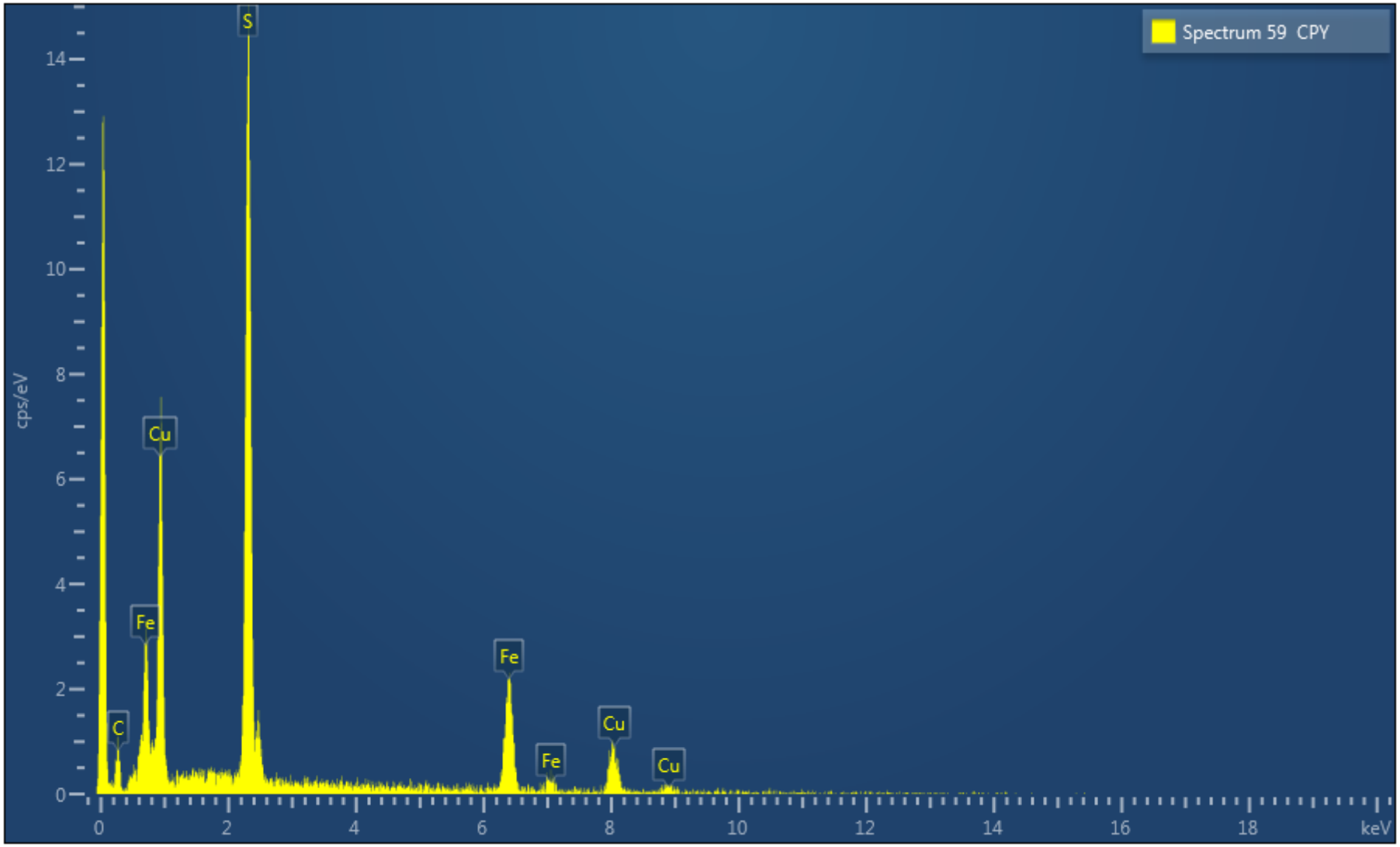

M3K Grain 8: Same image as above with brightness reduced (see EDS spectrum below).

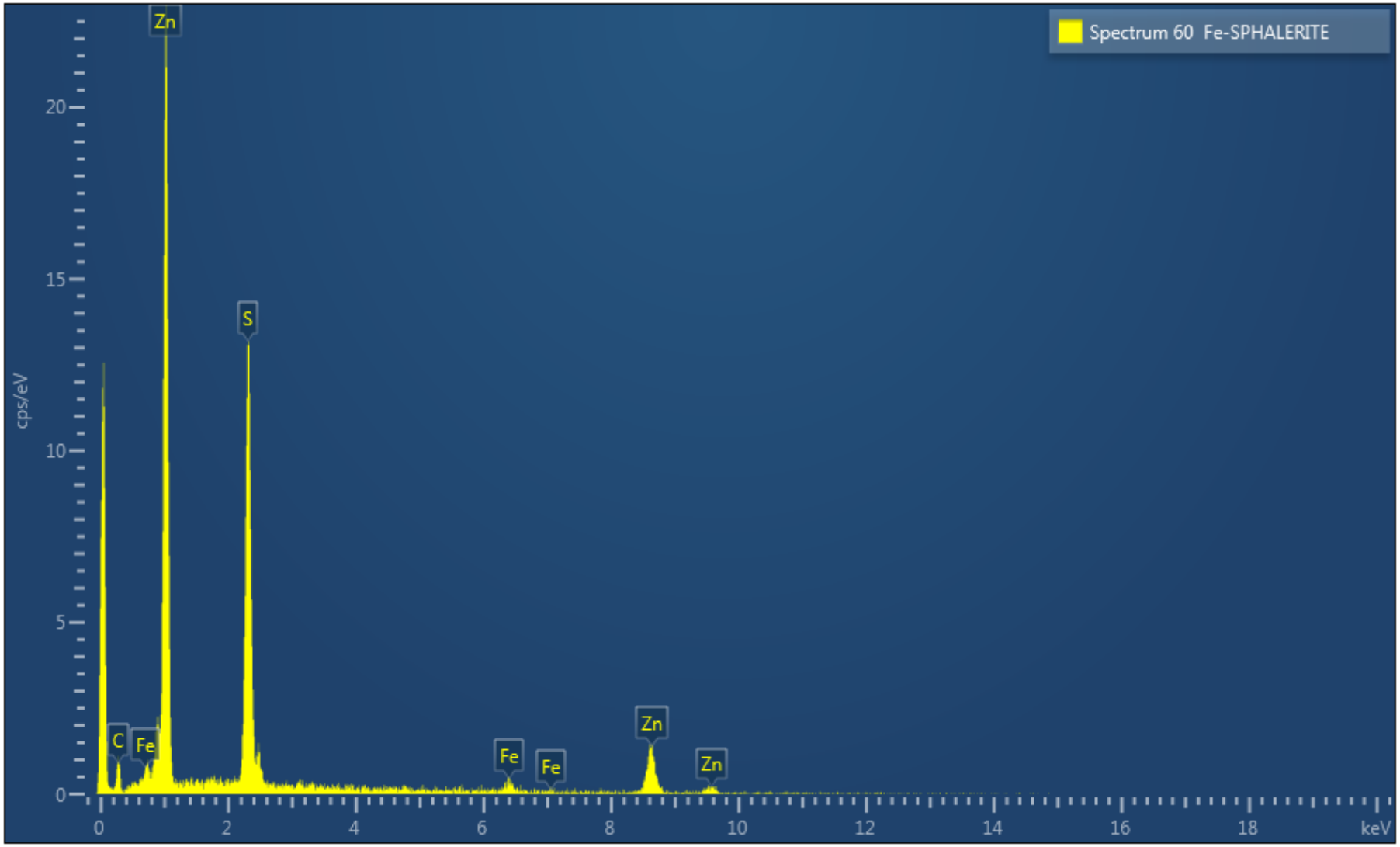

Spectrum 106 Cr-ANDRADITE
Ox% σ
Si 44.9 0.7
Ca 33.0 0.5
Fe 15.0 0.5
Cr 3.9 0.3
Ti 1.6 0.3
Al 1.5 0.3
cps/eV
keV
O
Si
Ca
Ti
Cr
C
Fe
Al
Ca
Ti
Ti
Cr
Cr
Fe
Fe

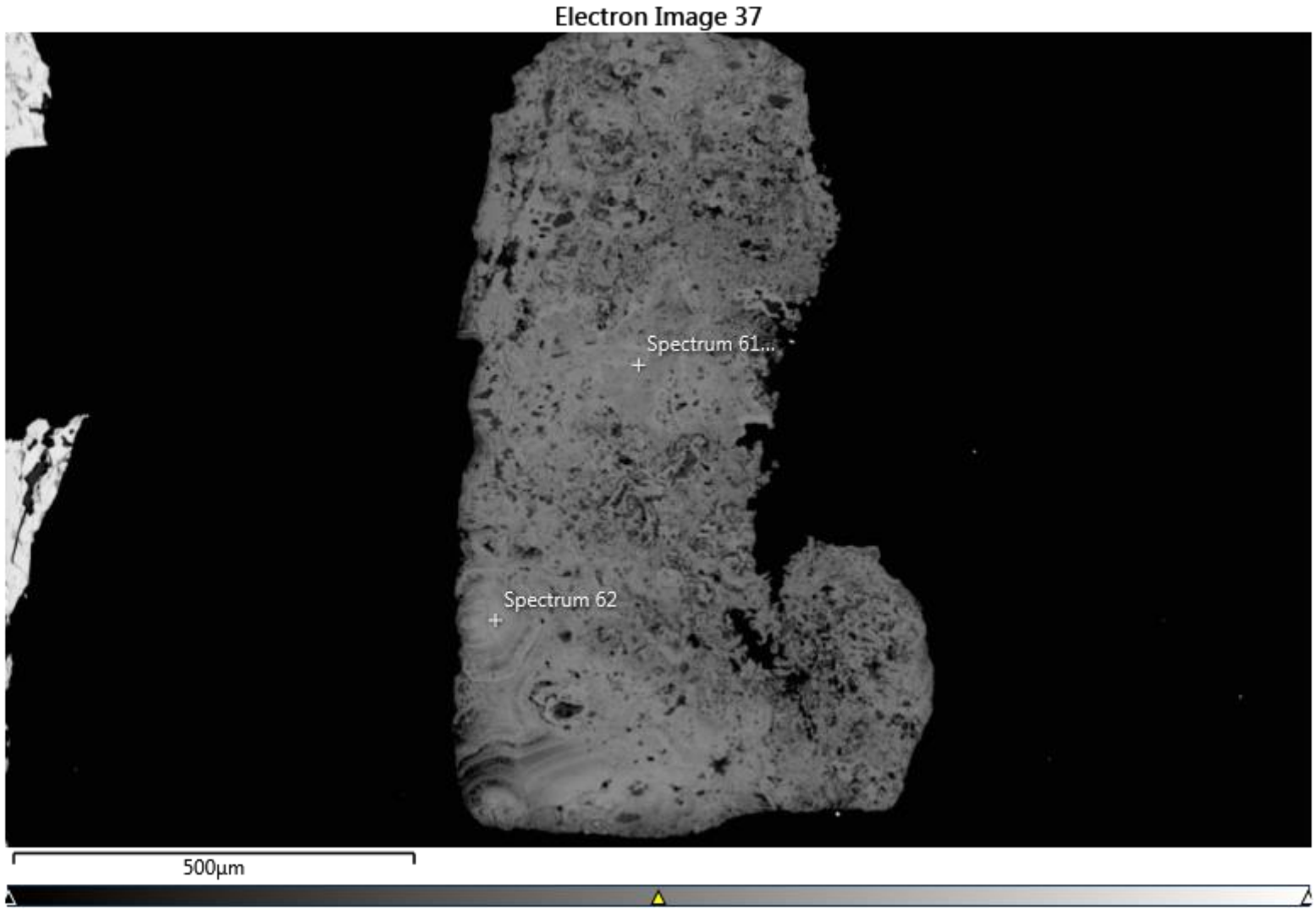

Spectrum 111 SERPENTINE
O
Mg
Si
Al
Fe
Fe
Fe
cps/eV
0
2
4
6
8
10
12
14
16
18
keV



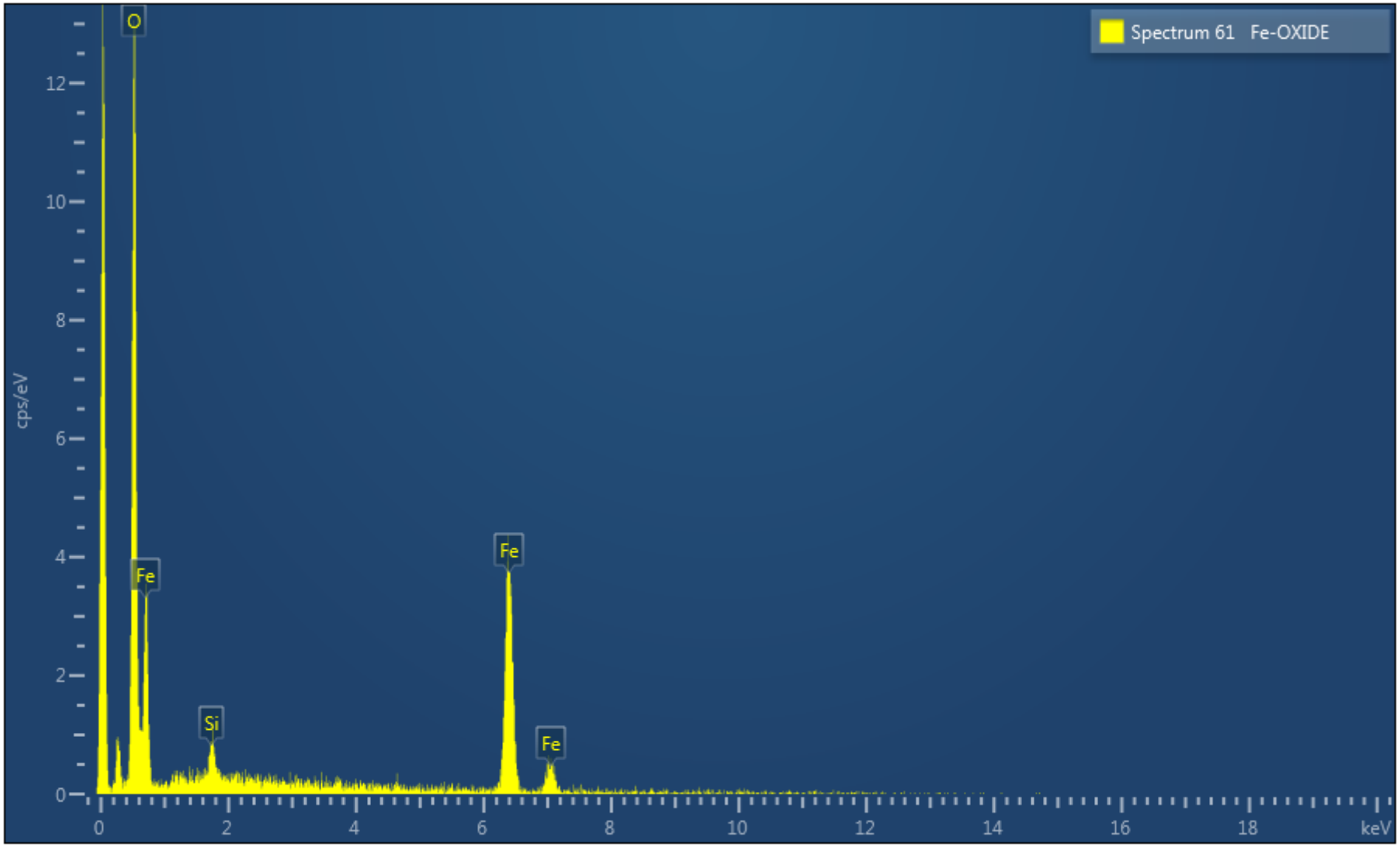

M3S Grain 1: Chalcopyrite (spectrum 59) and Fe-Sphalerite (spectrum 60) (see EDS spectra below).

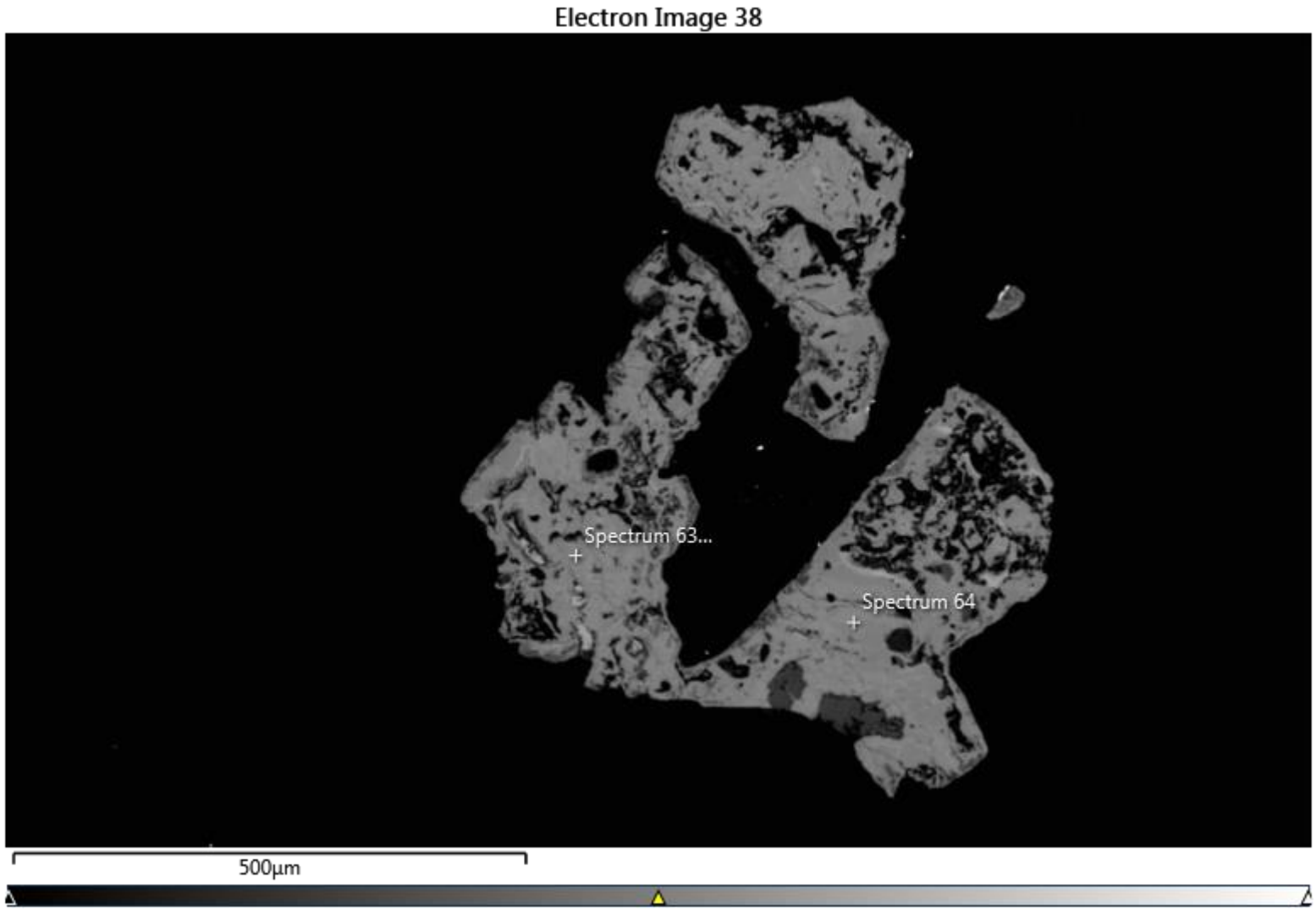

Spectrum 59 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18
0
2
4
6
8
10
12
14


Spectrum 60 Fe-SPHALERITE
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV
Zn
S
C
Fe
Fe
Fe
Zn
Zn

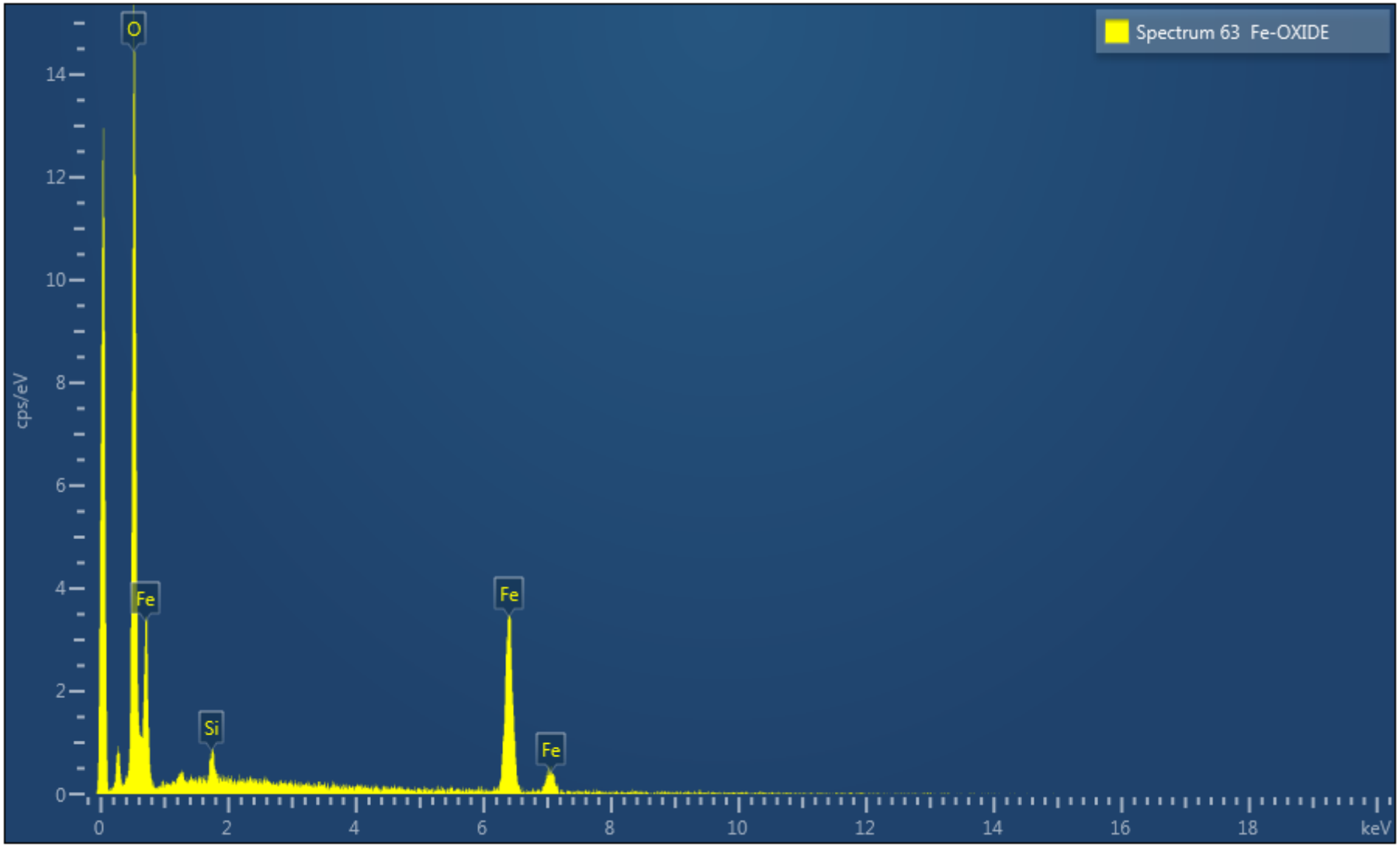


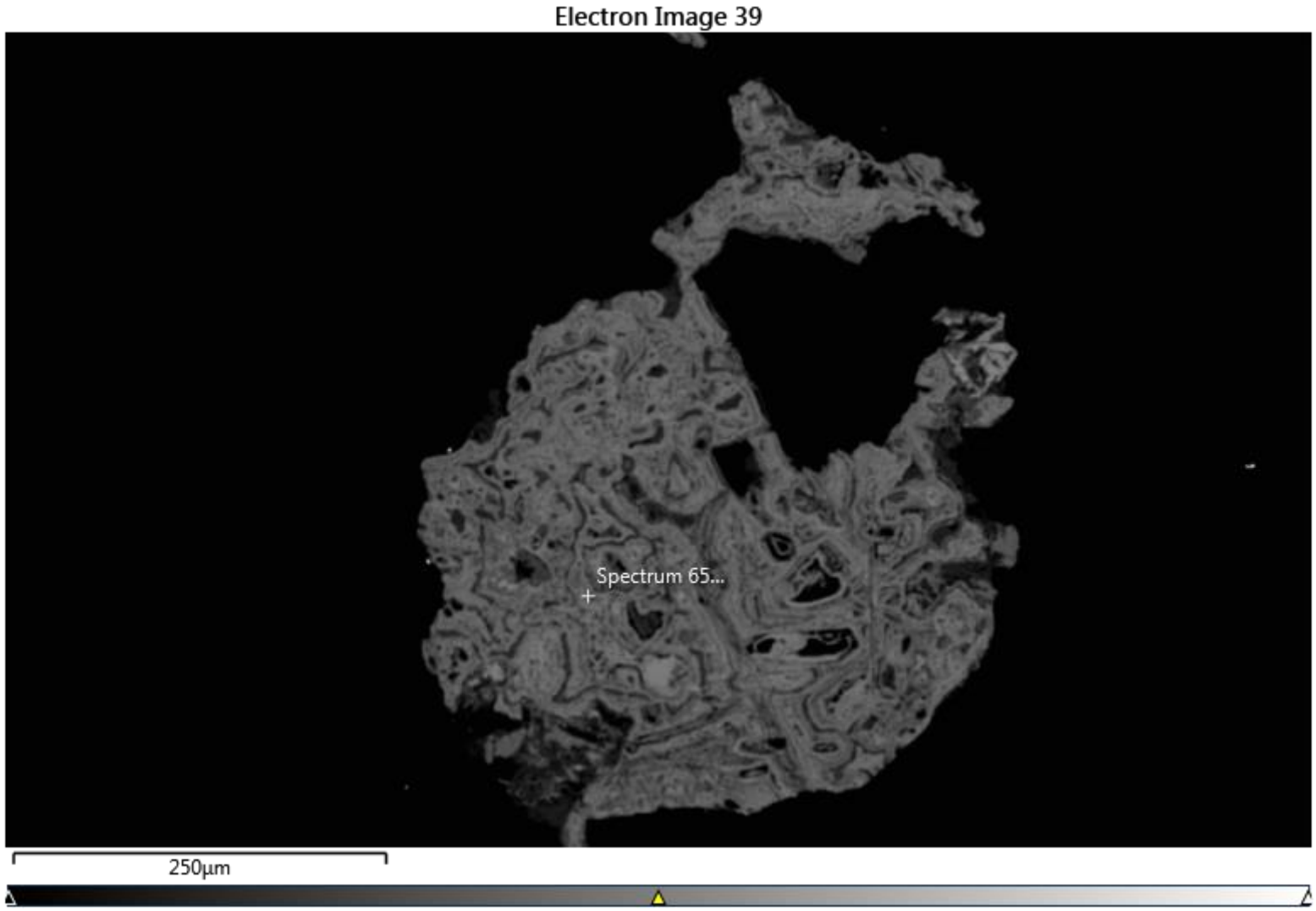

M3S Grain 2: Fe-Oxide (see EDS spectra below).


Spectrum 61 Fe-OXIDE
cps/eV
0
2
4
6
8
10
12
O
Fe
Si
Fe
Fe
0
2
4
6
8
10
12
14
16
18
keV

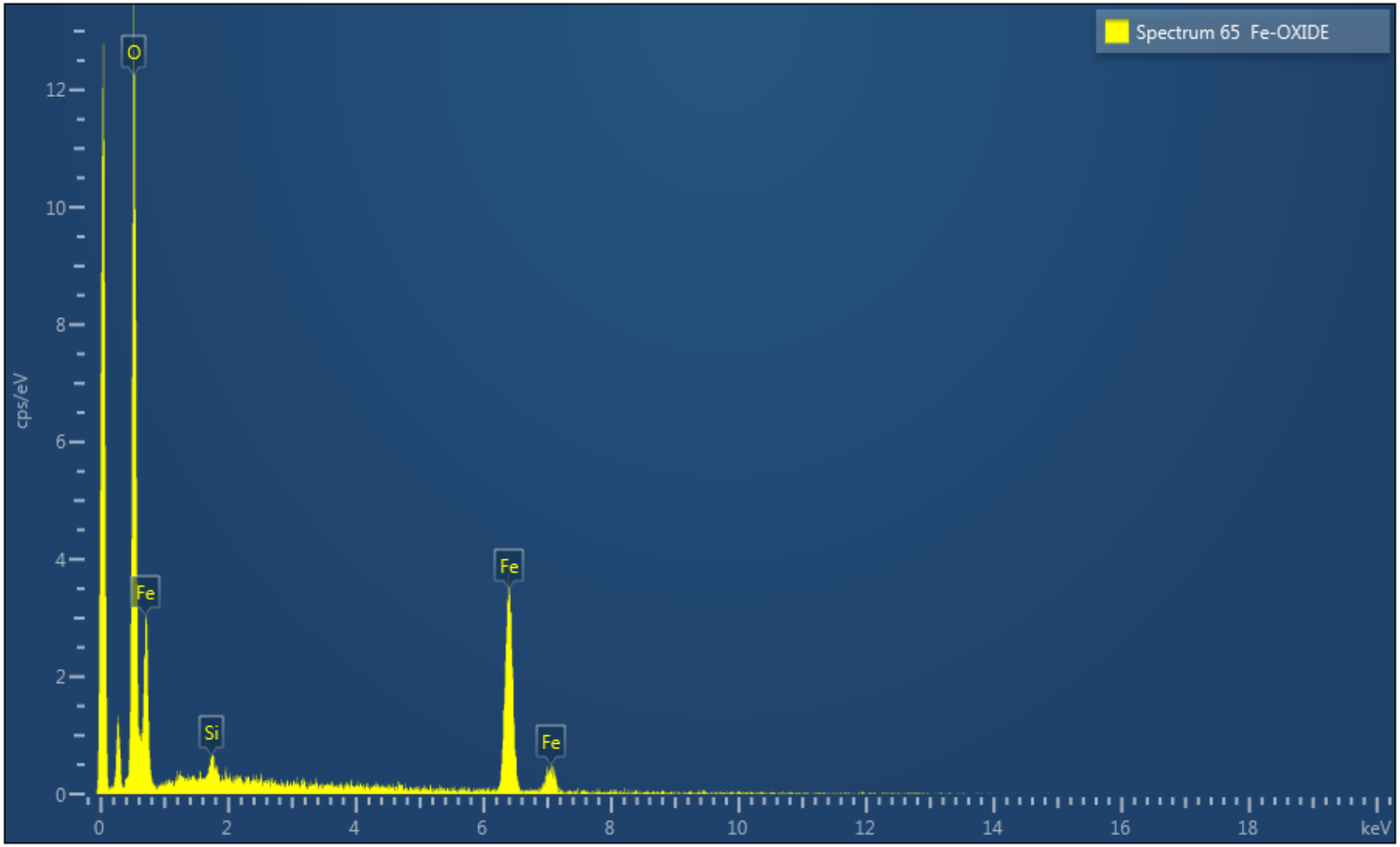


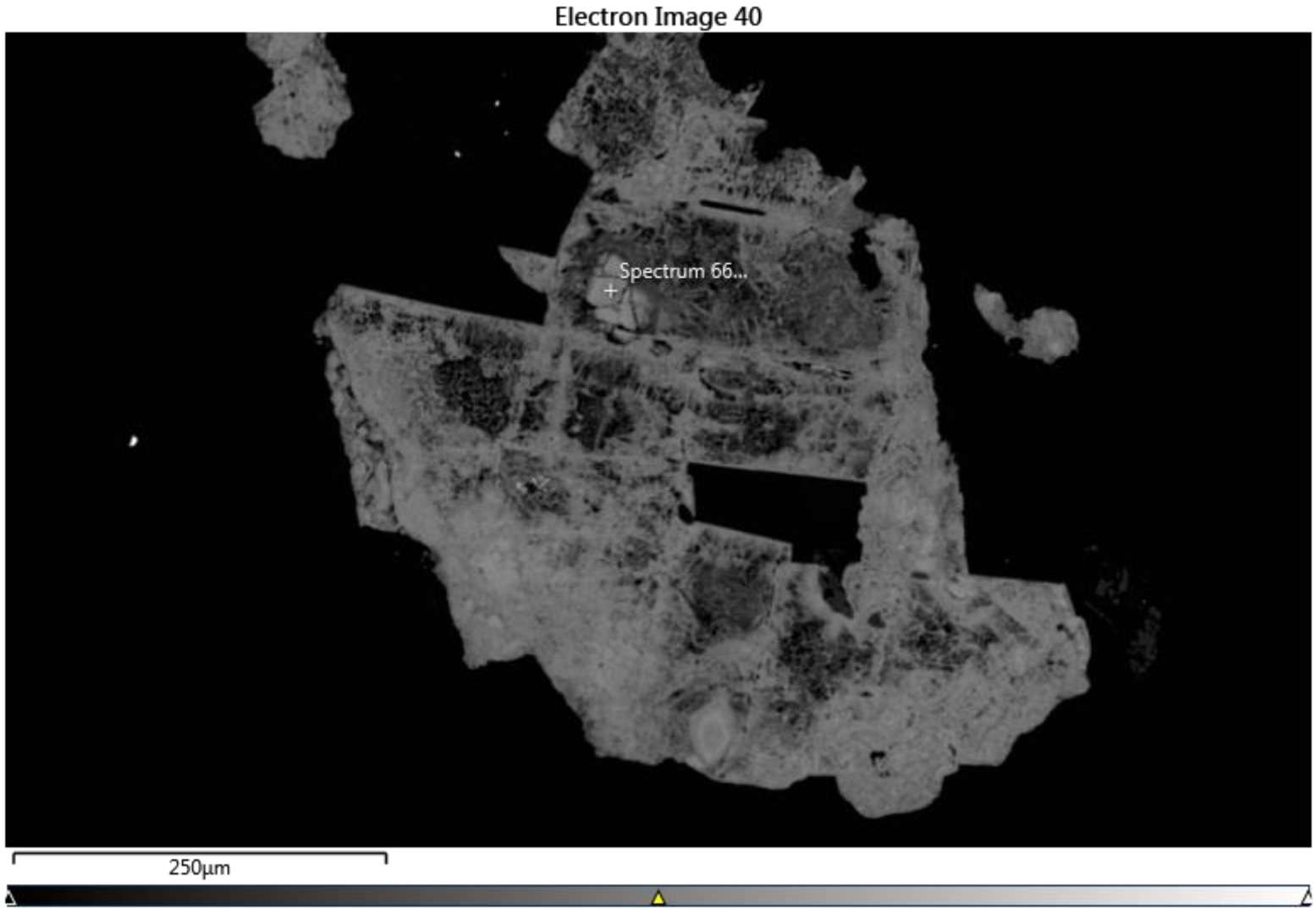

M3S Grain 3: Fe-Oxide (see EDS spectra below).


Spectrum 63 Fe-OXIDE
O
Fe
Si
Fe
Fe
cps/eV
0
2
4
6
8
10
12
14
16
18
keV

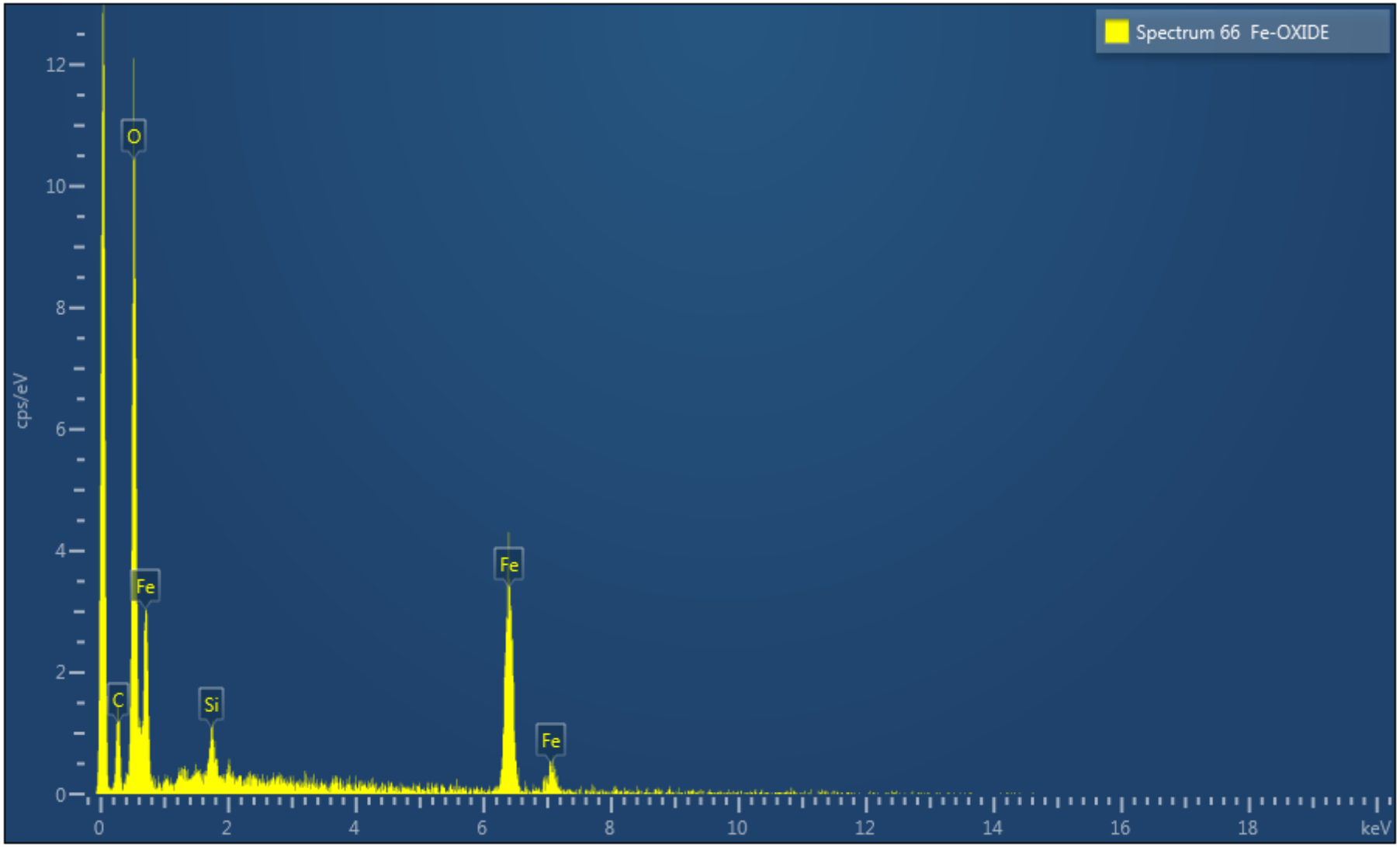


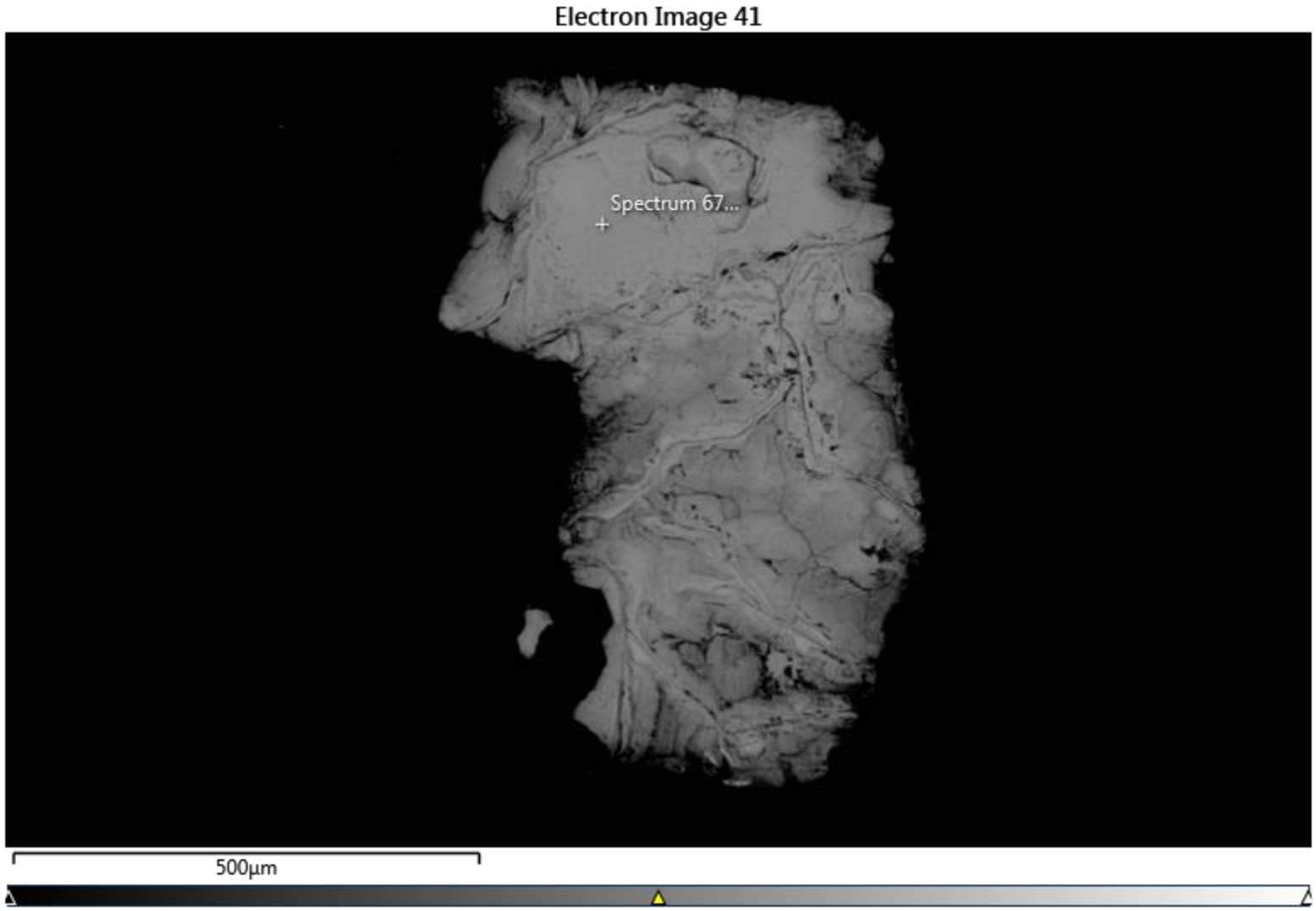

M3S Grain 4: Fe-Oxide (see EDS spectra below).


Spectrum 65 Fe-OXIDE
O
Fe
Si
Fe
Fe
cps/eV
0
2
4
6
8
10
12
14
16
18
keV

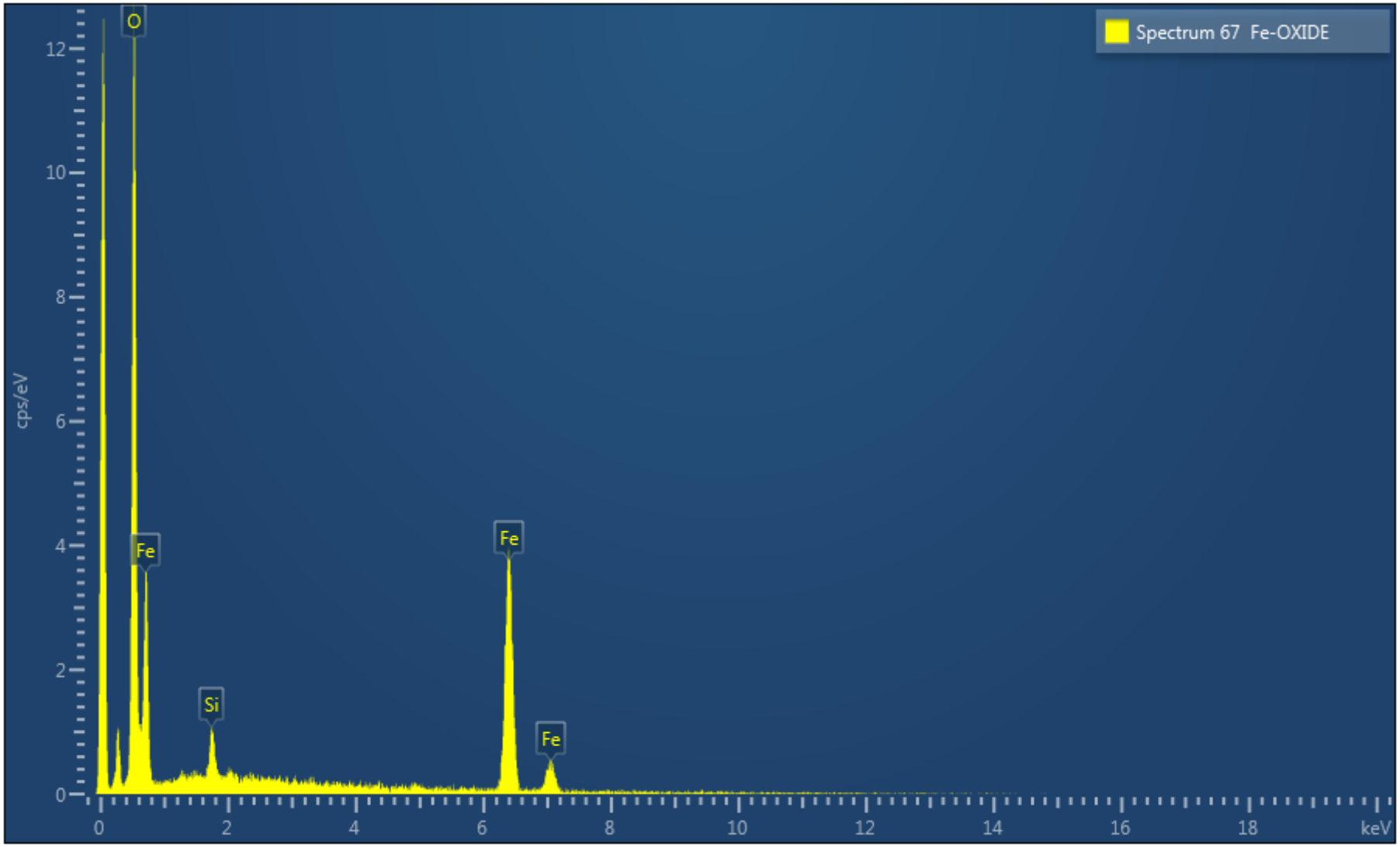


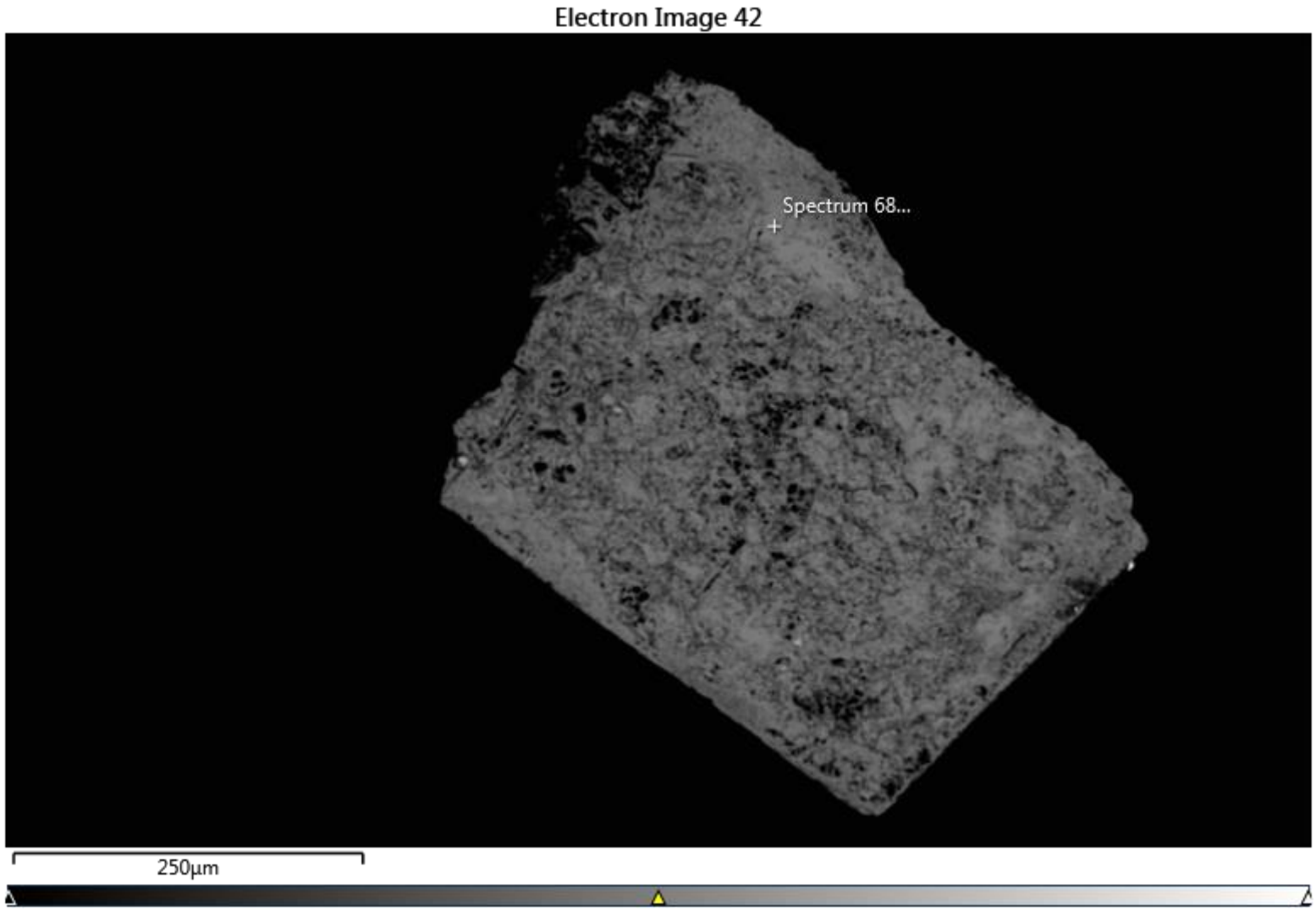

M3S Grain 5: Fe-Oxide (see EDS spectra below).


Spectrum 66 Fe-OXIDE
cps/eV
0
2
4
6
8
10
12
O
Fe
C
Si
Fe
Fe
0
2
4
6
8
10
12
14
16
18
keV

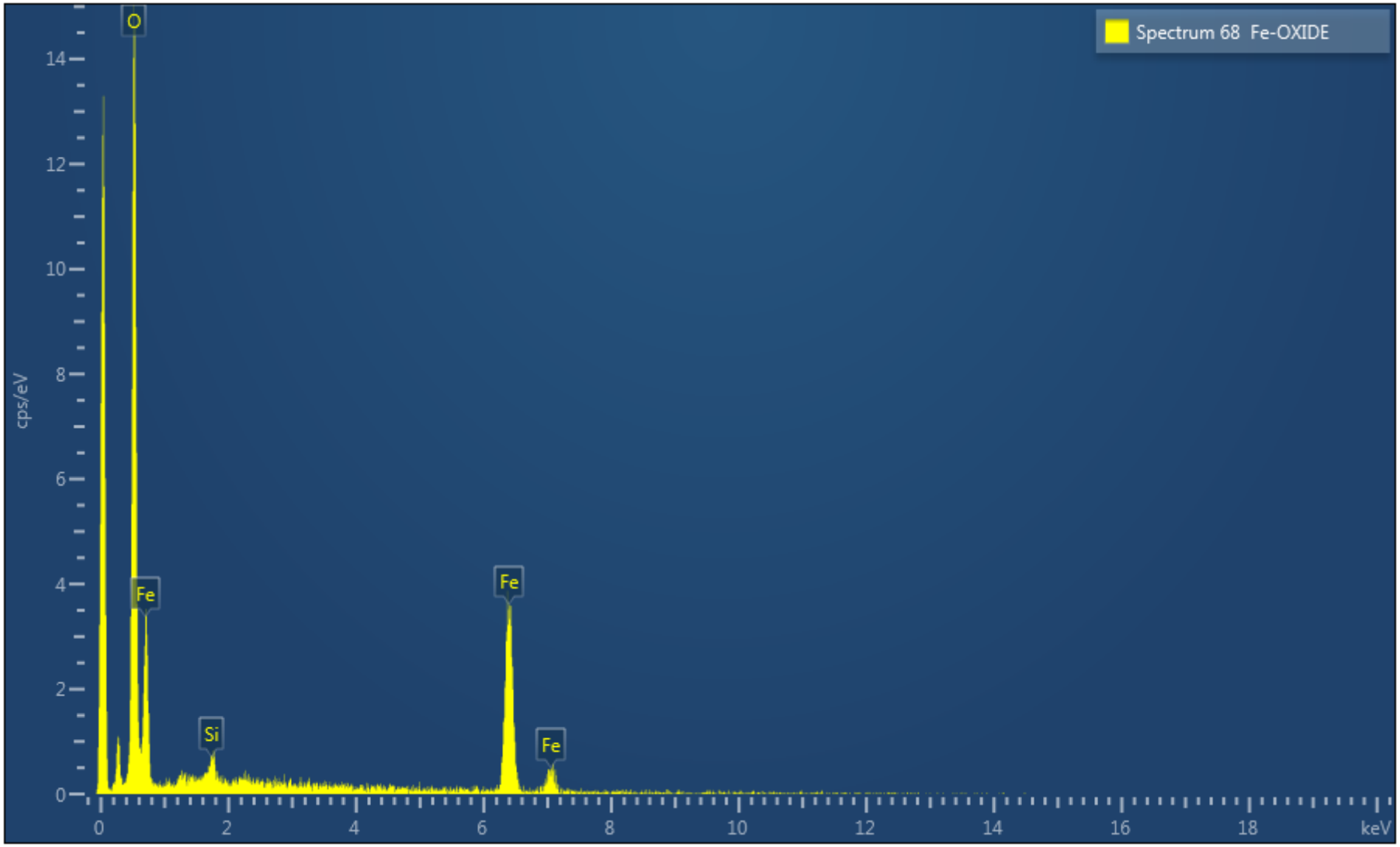


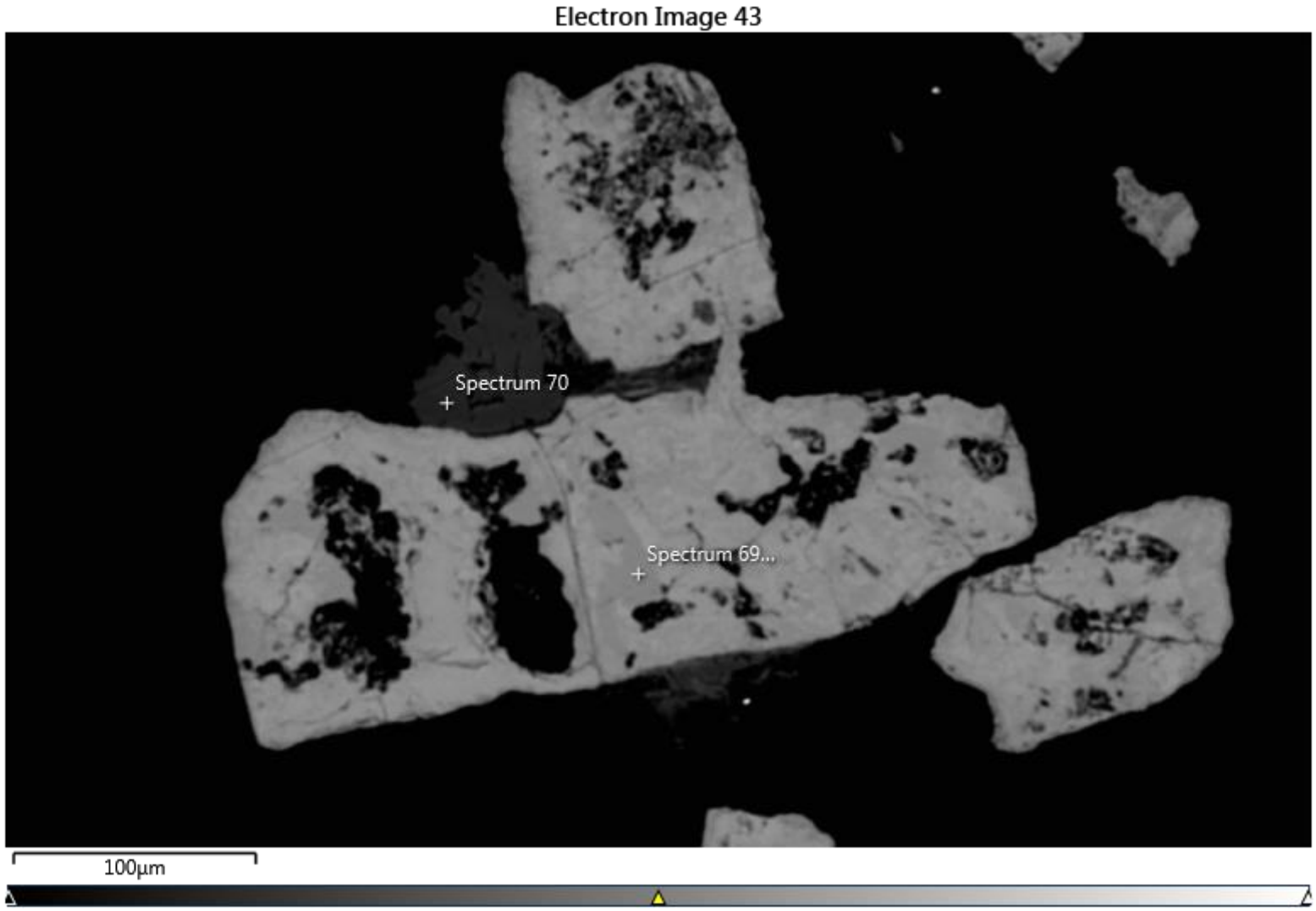

M3S Grain 6: Fe-Oxide (see EDS spectra below).


Spectrum 67 Fe-OXIDE
cps/eV
keV
O
Fe
Si
Fe
Fe
0
2
4
6
8
10
12
14
16
18

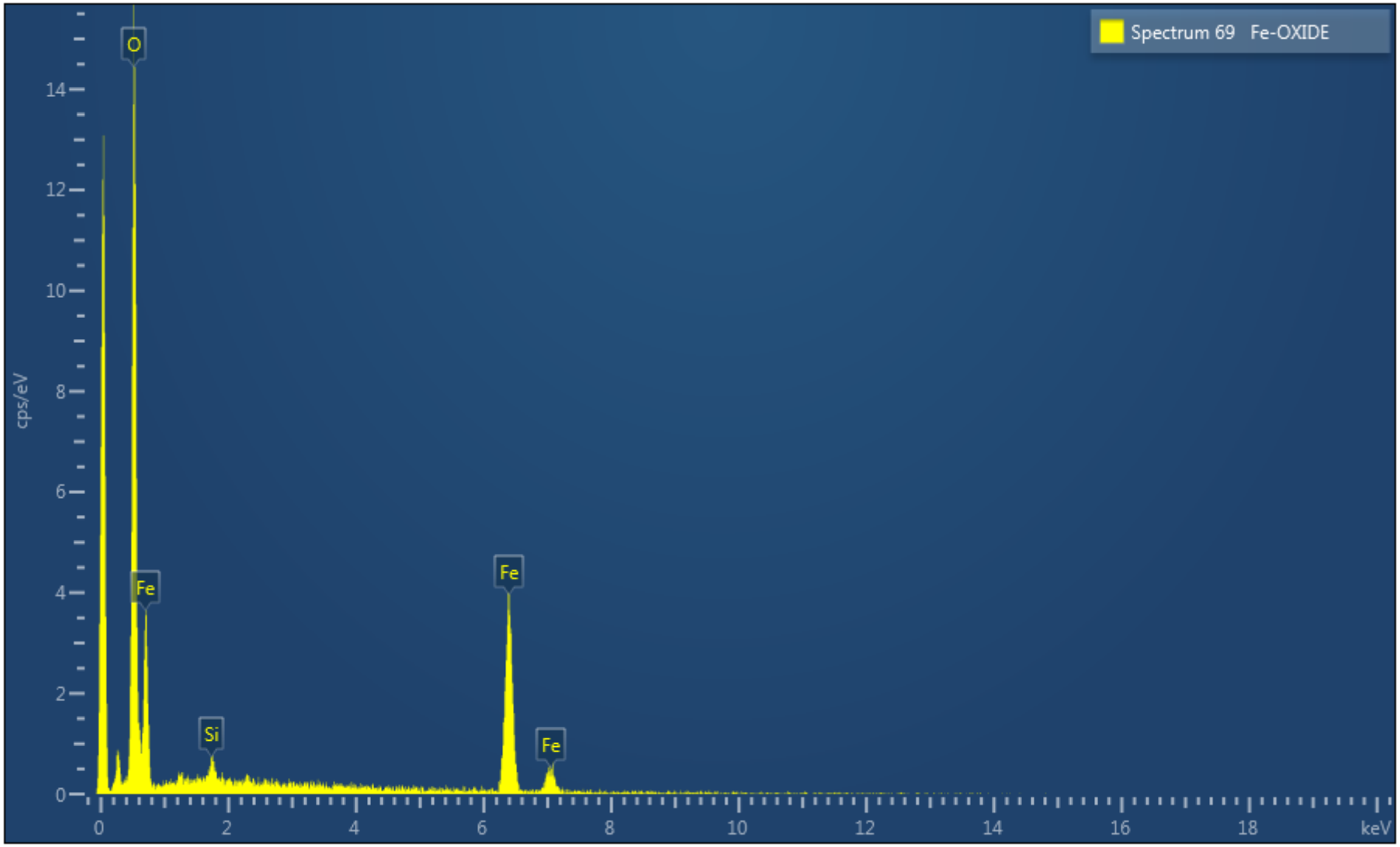


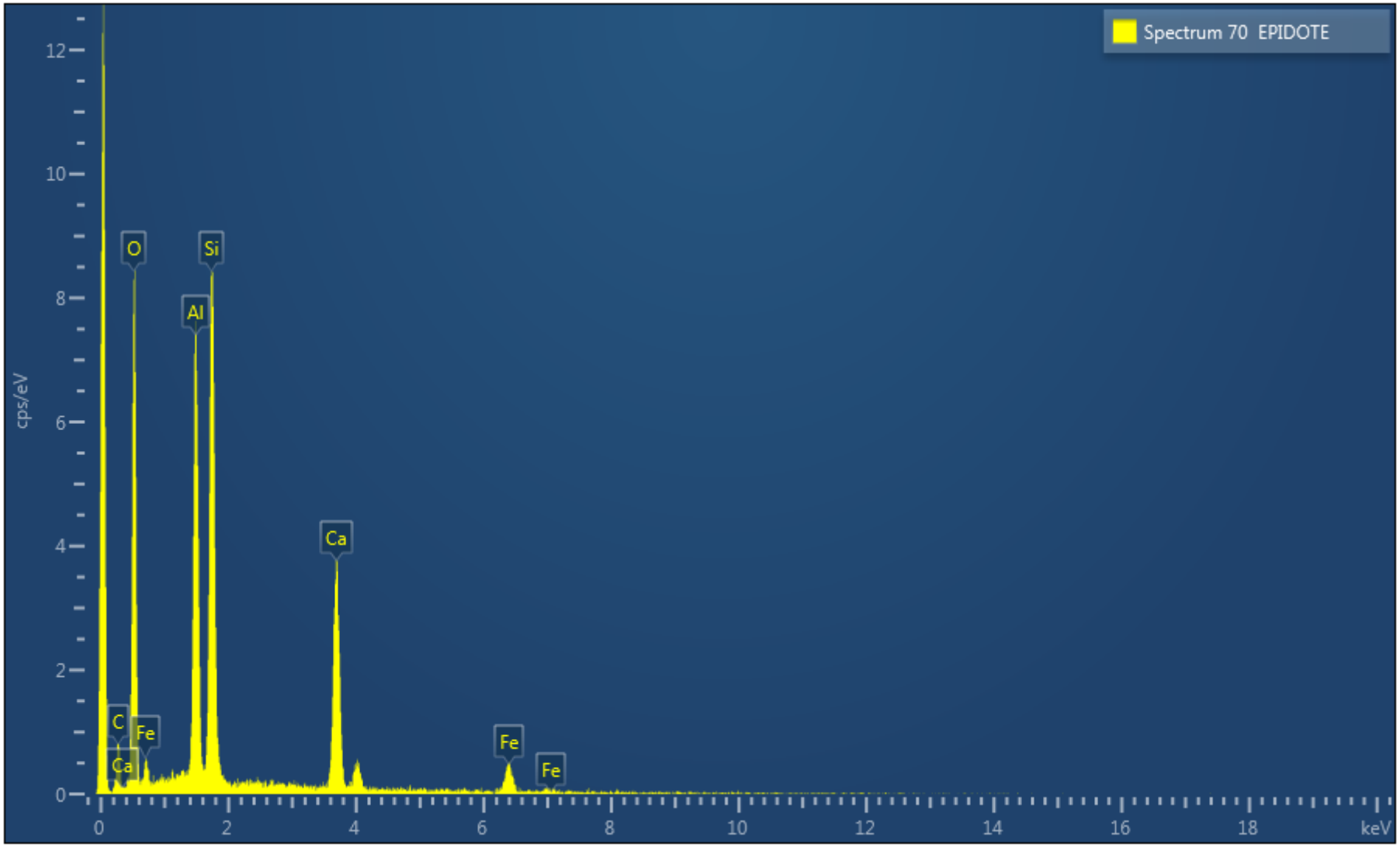

M3S Grain 7: Fe-Oxide (see EDS spectra below).

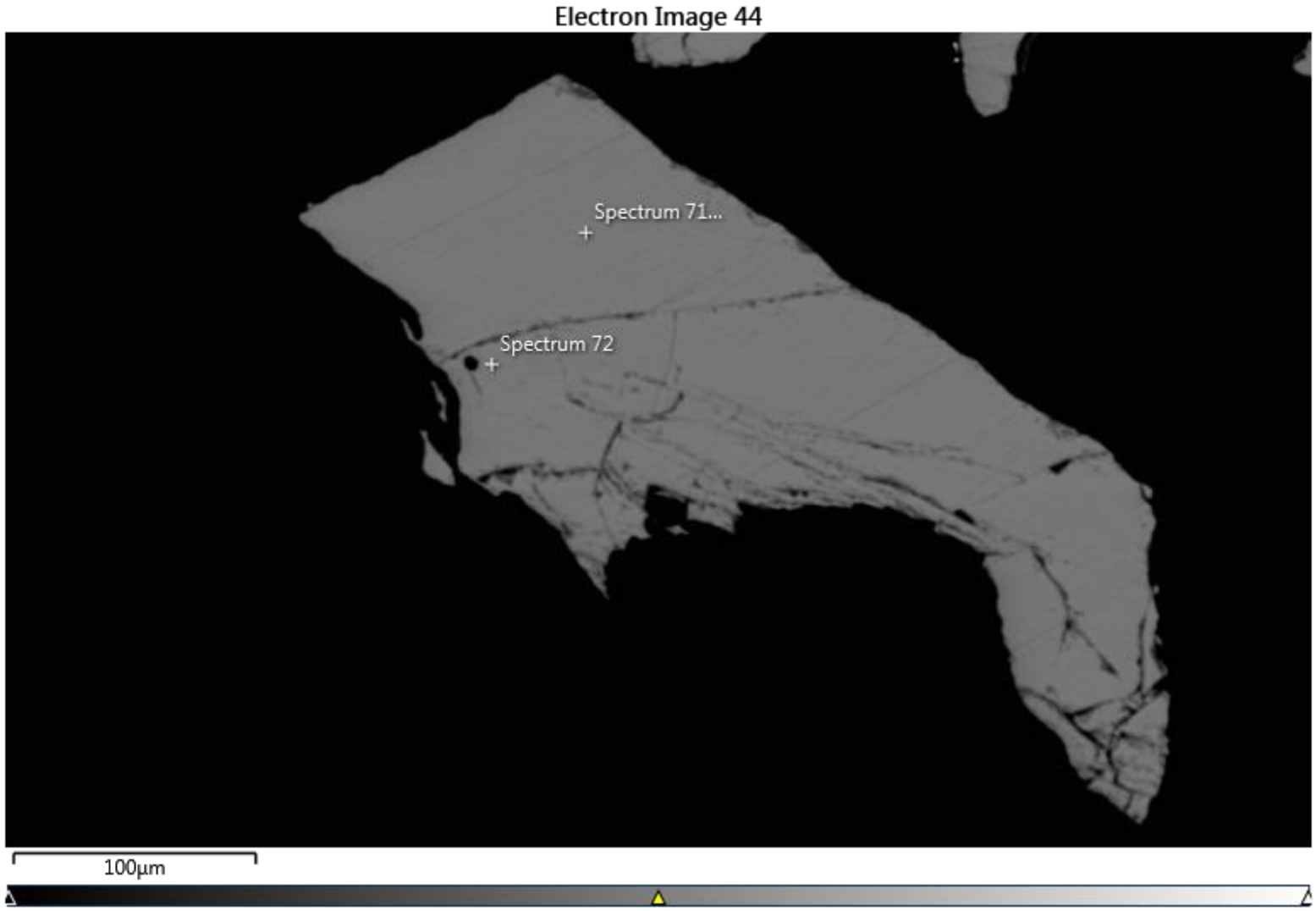

Spectrum 68 Fe-OXIDE
cps/eV
0
2
4
6
8
10
12
14
O
Fe
Si
Fe
Fe
0
2
4
6
8
10
12
14
16
18
keV



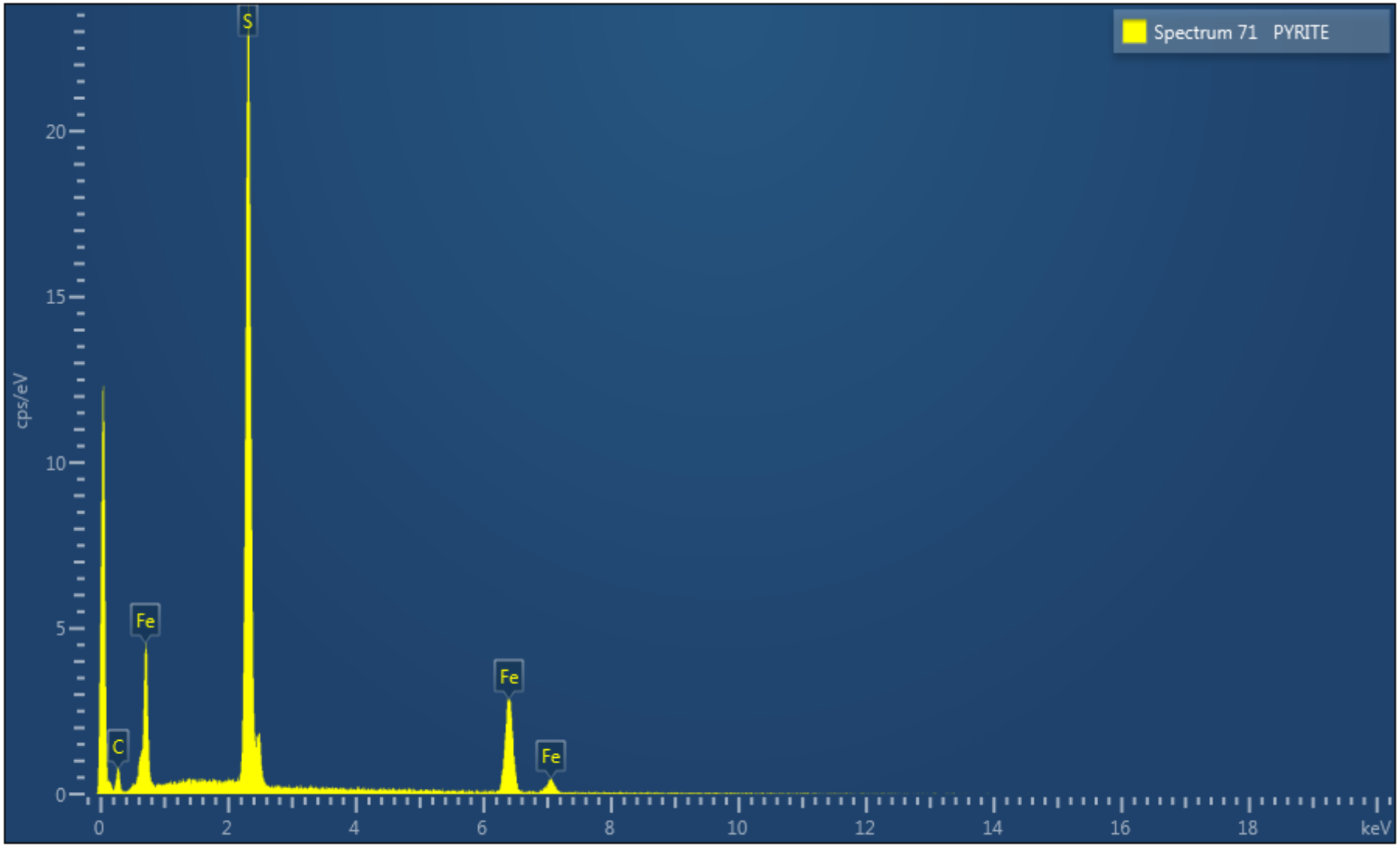

M3S Grain 8: Fe-Oxide (spectrum 69) and epidote (spectrum 70) (see EDS spectra below).


Spectrum 69 Fe-OXIDE
O
Fe
Si
Fe
Fe
cps/eV
0
2
4
6
8
10
12
14
16
18
keV

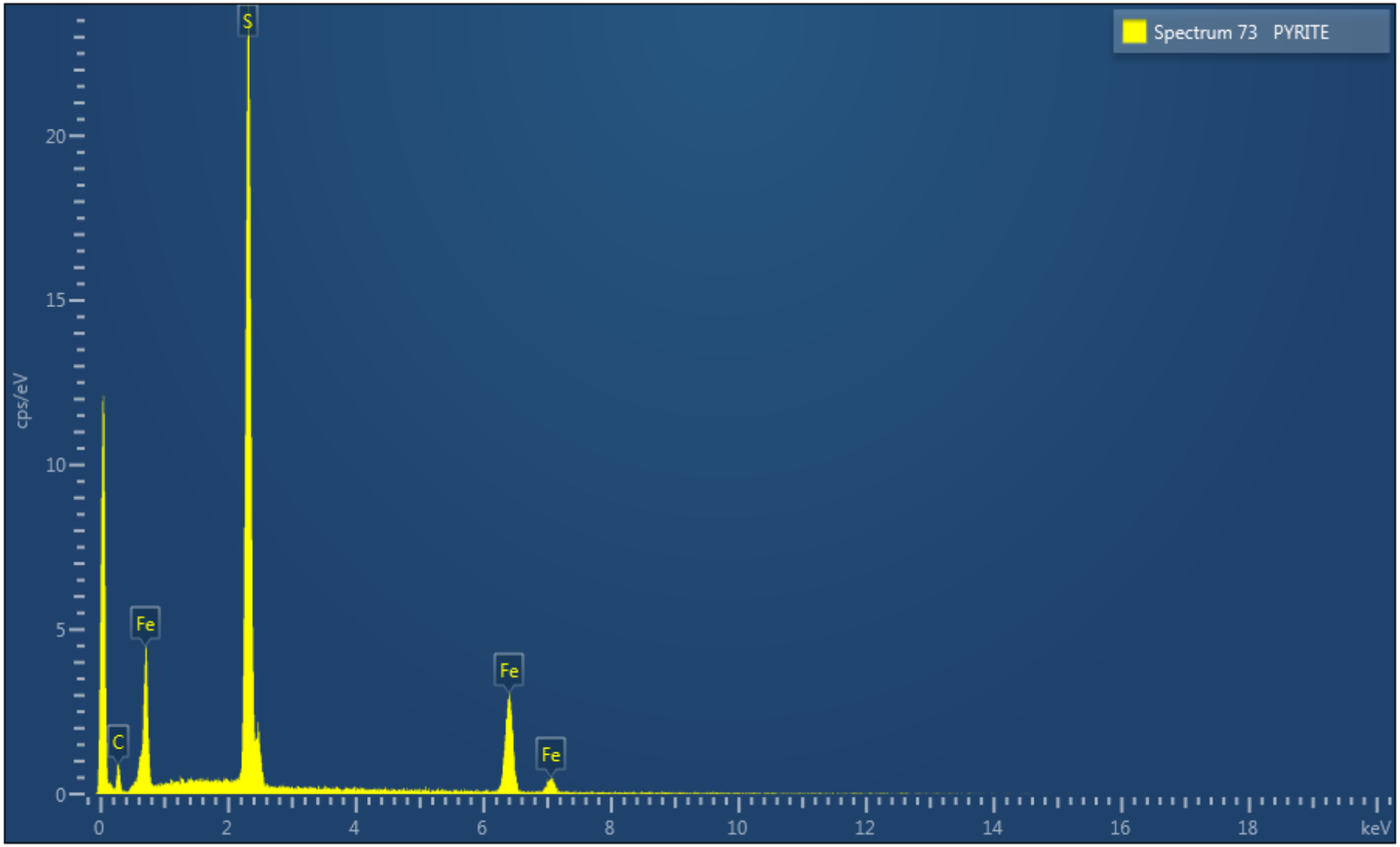

Spectrum 70 EPIDOTE
cps/eV
0
2
4
6
8
10
12
O
Si
Al
Ca
C
Fe
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18
keV



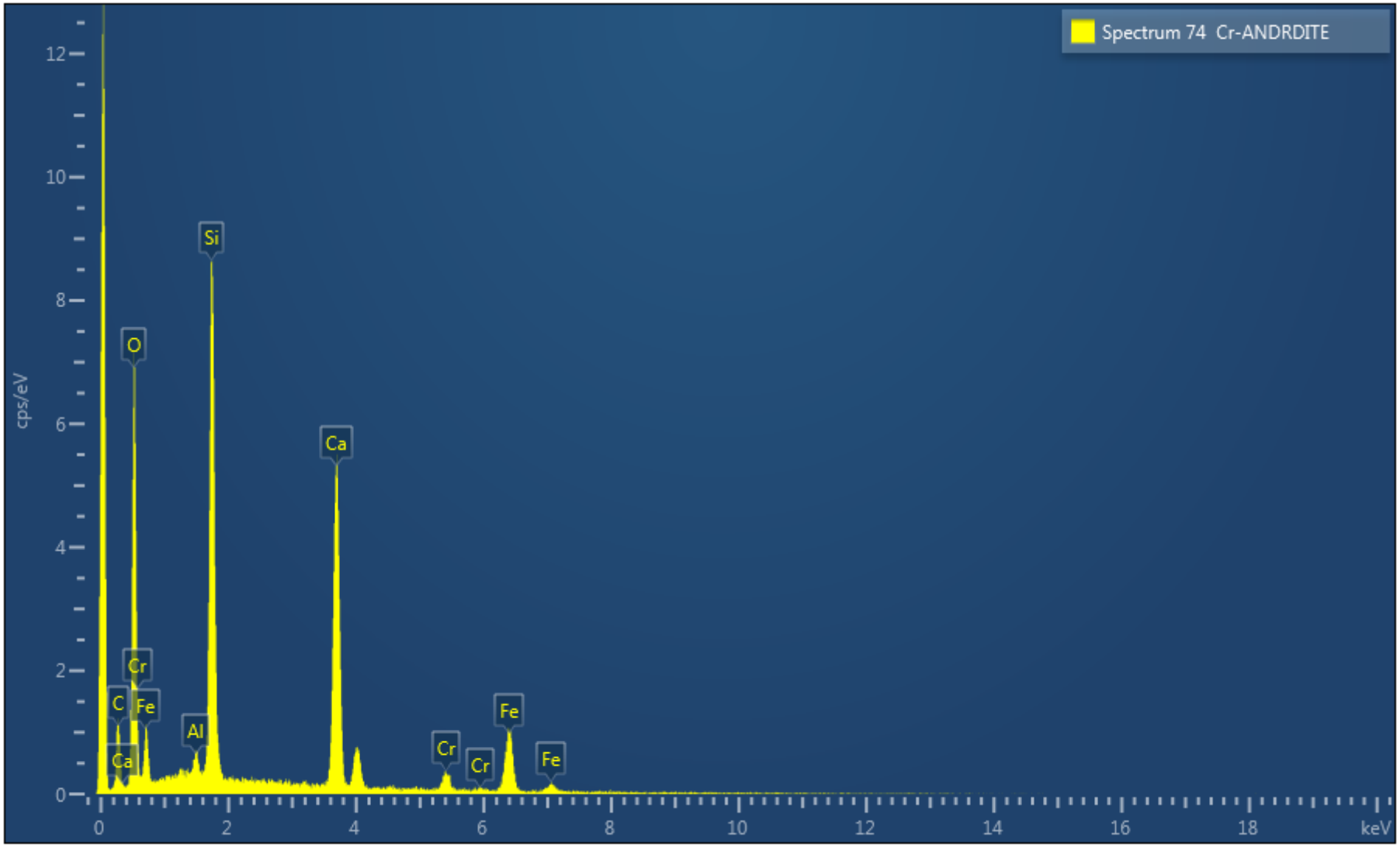

M3S Grain 9: Pyrite (see EDS spectrum below).

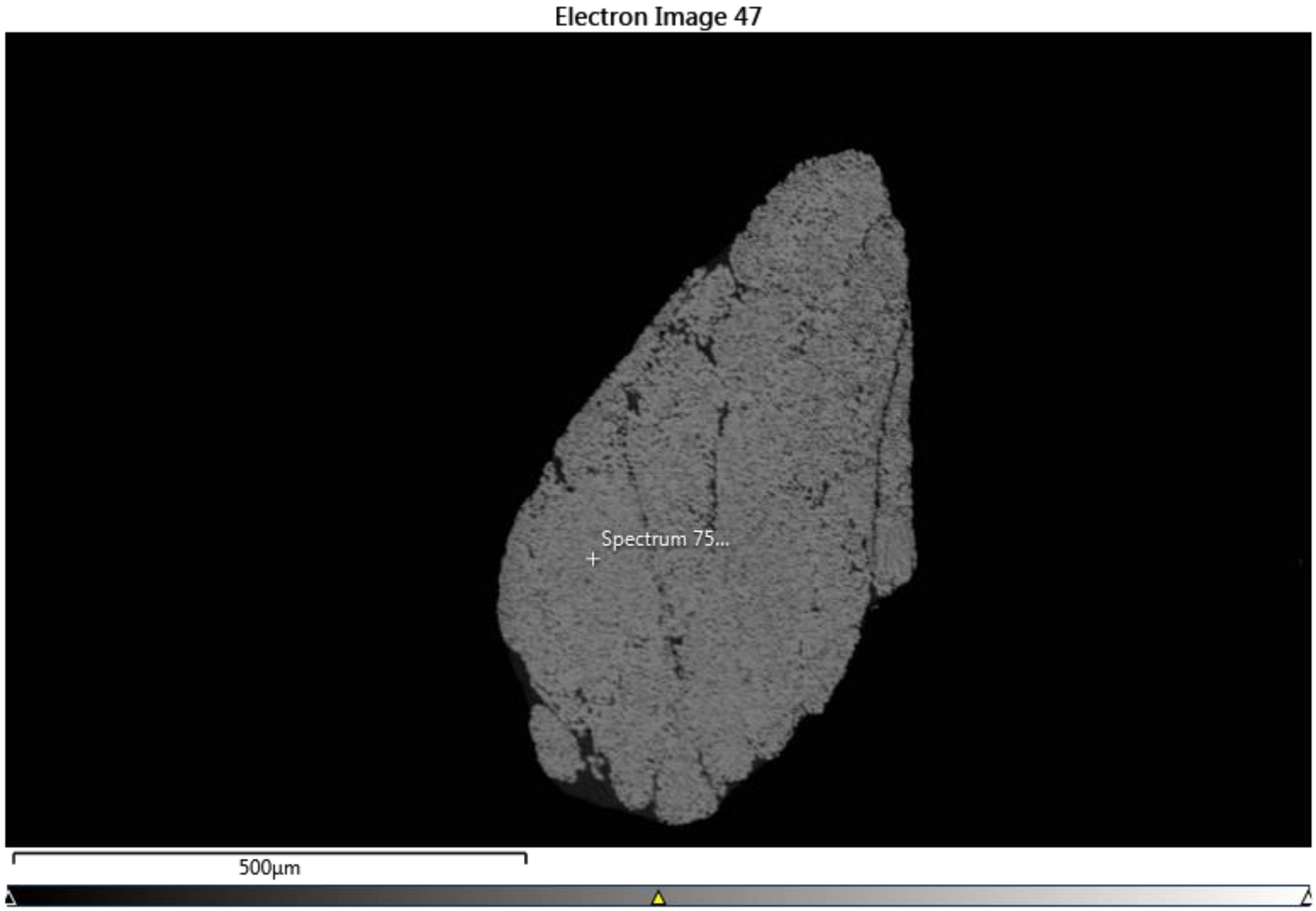

Spectrum 71 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV


M3S Grain 10: Pyrite (see EDS spectra below).

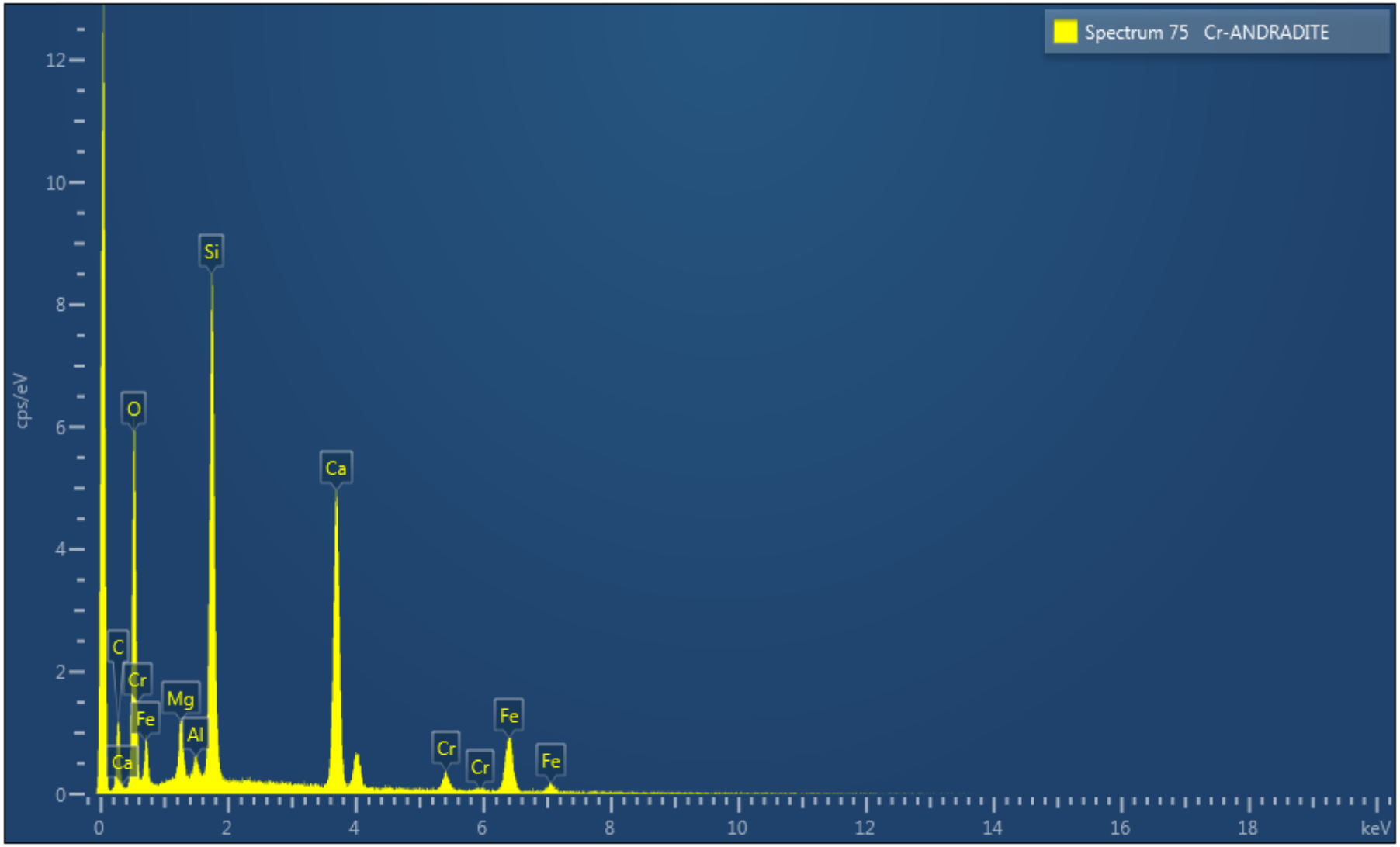

Spectrum 73 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV

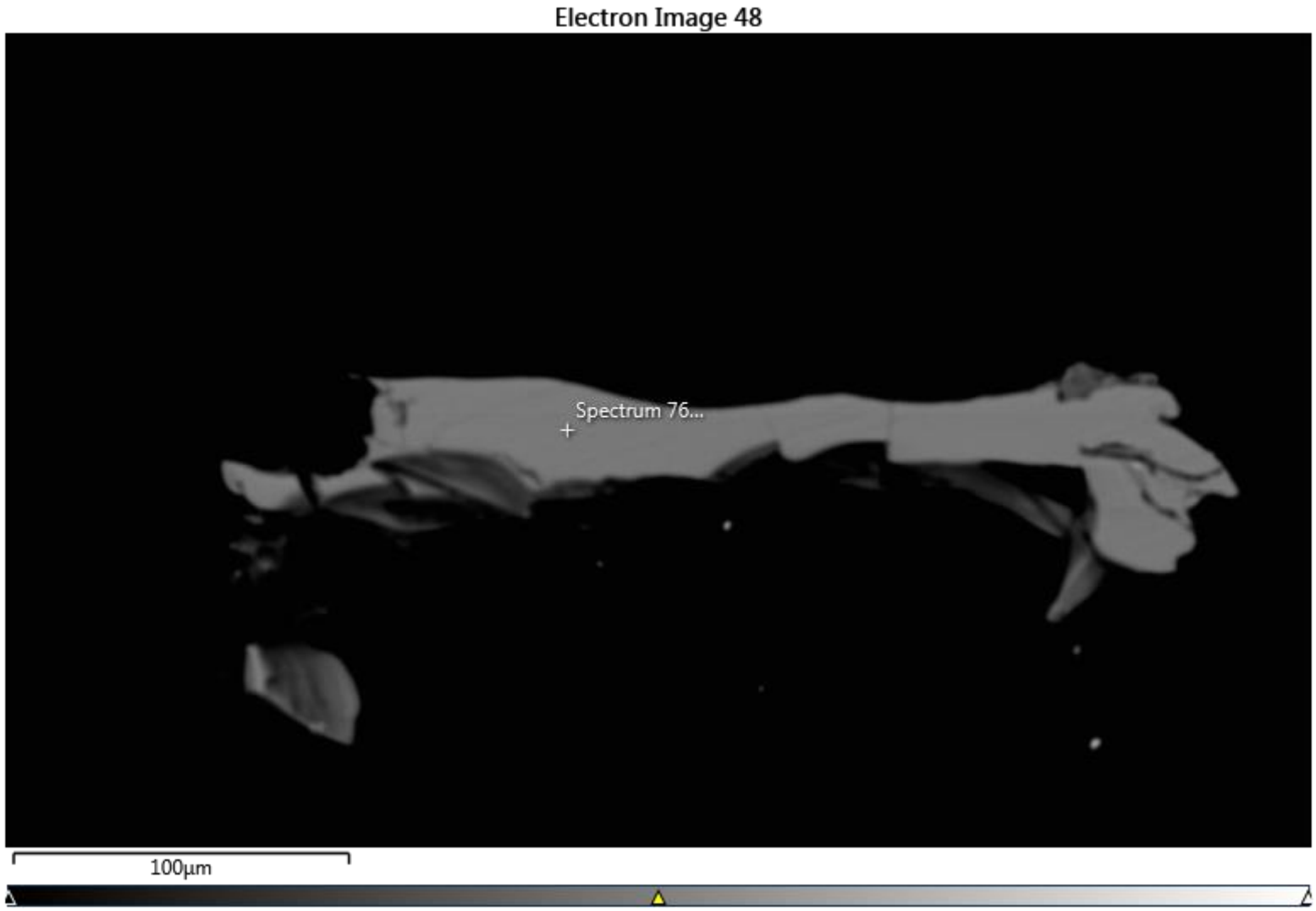

M4K Grain 1: Cr-Andradite (see EDS spectra below).


Spectrum 74 Cr-ANDRDITE
cps/eV
keV
O
Si
Ca
C
Cr
Fe
Al
Ca
Cr
Cr
Fe
Fe

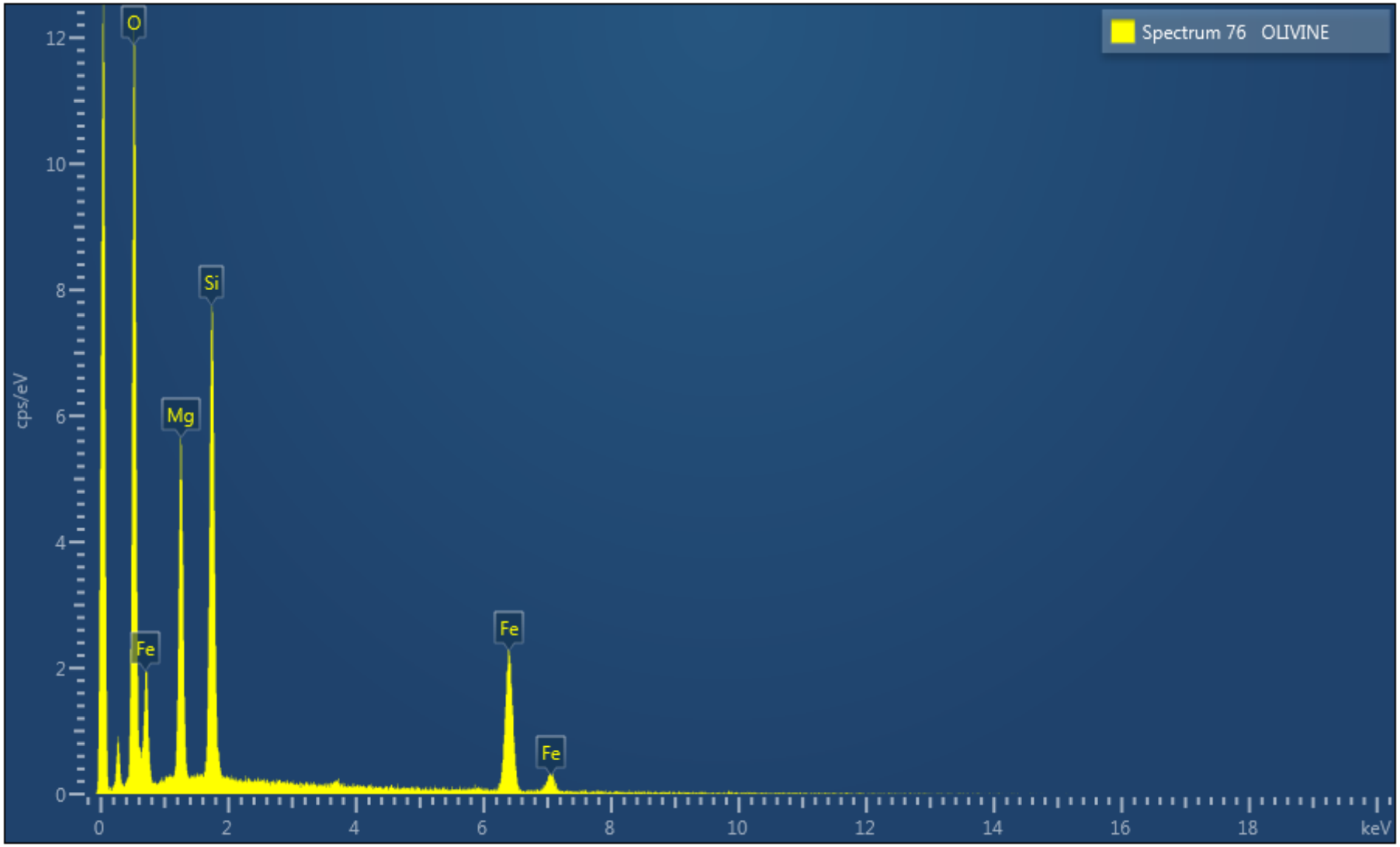


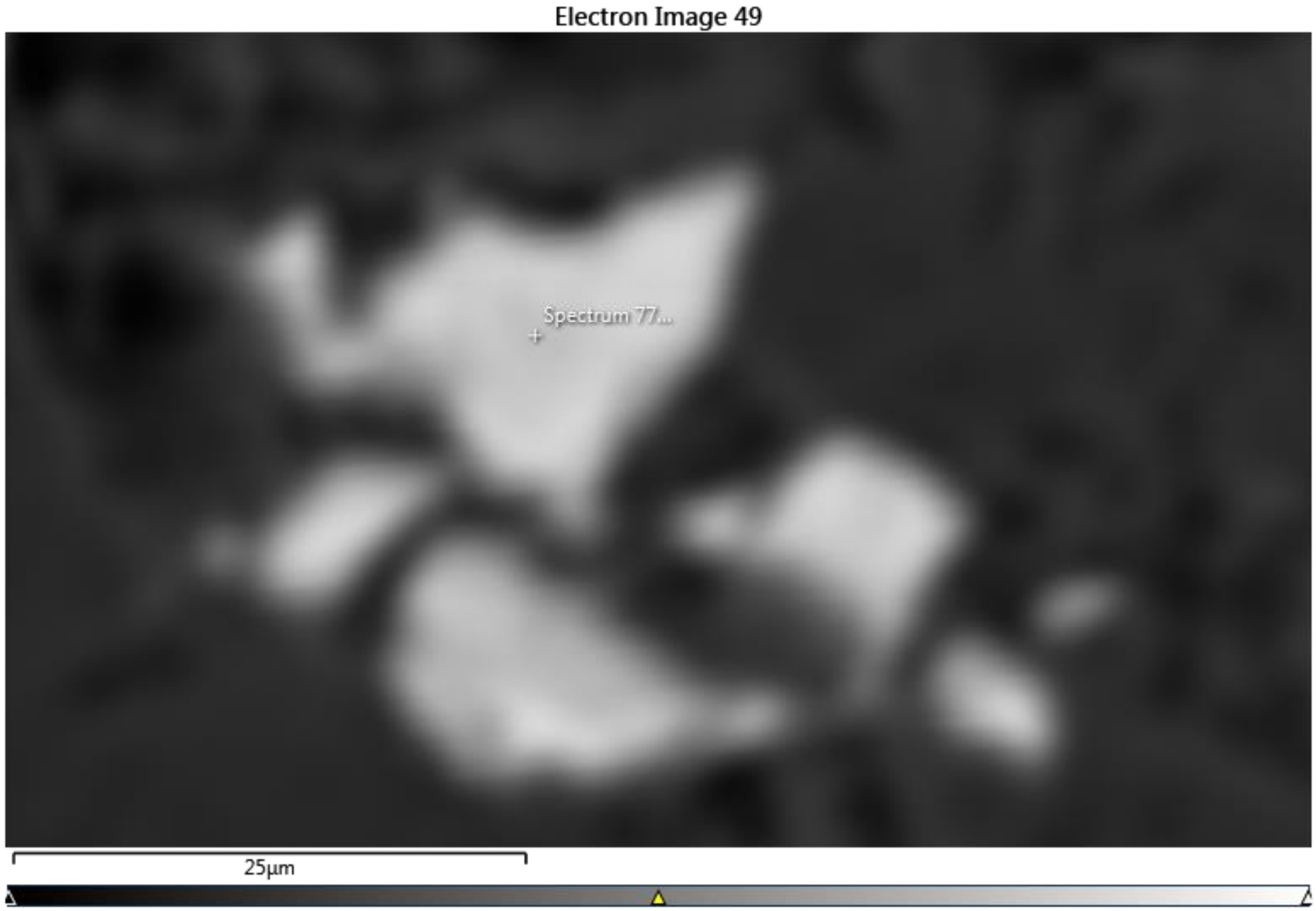

M4K Grain 2: Cr-Andradite (see EDS spectra below).


Spectrum 75 Cr-ANDRADITE
cps/eV
keV
O
Si
Ca
C
Cr
Mg
Fe
Al
Ca
Cr
Cr
Fe
Fe

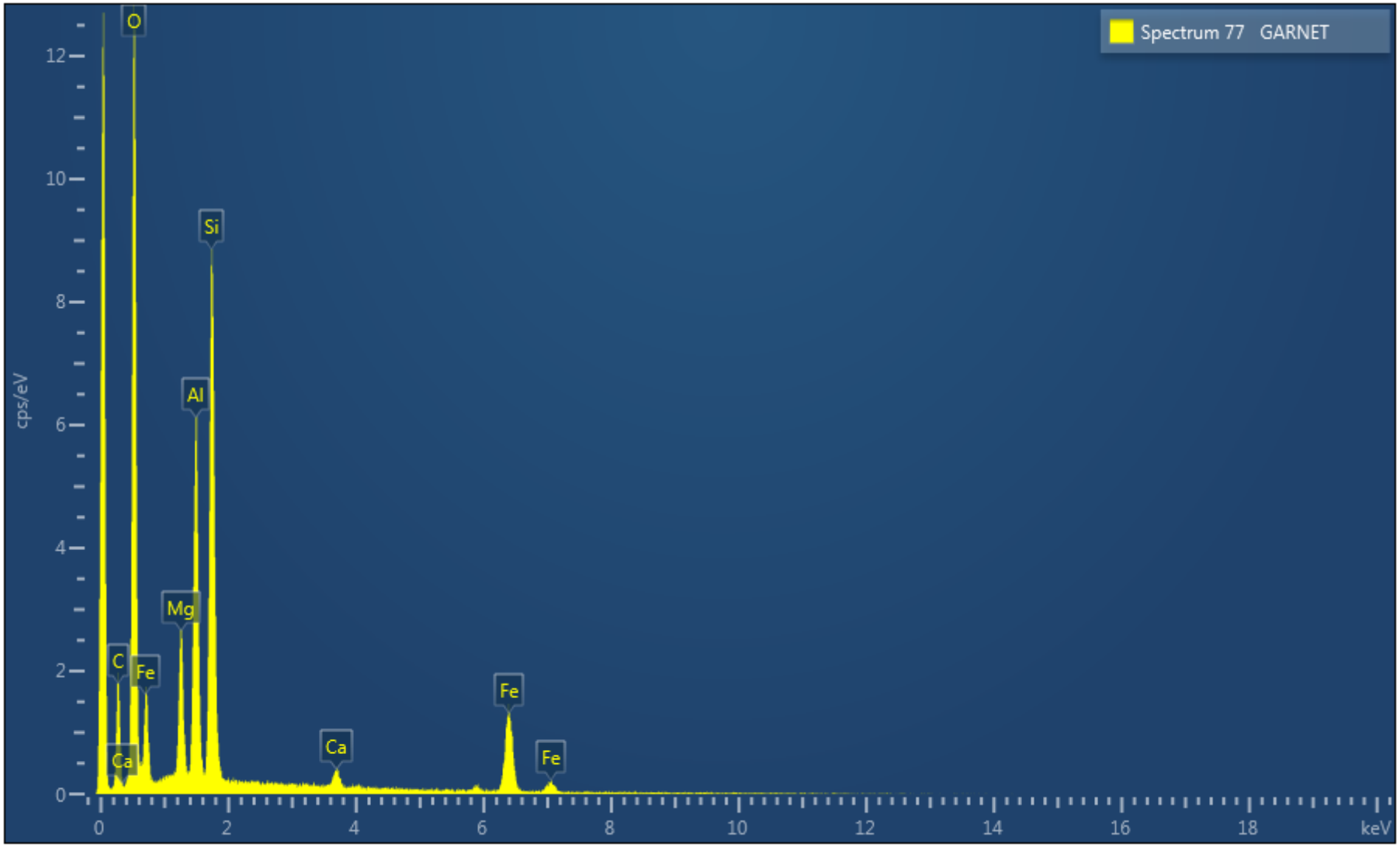


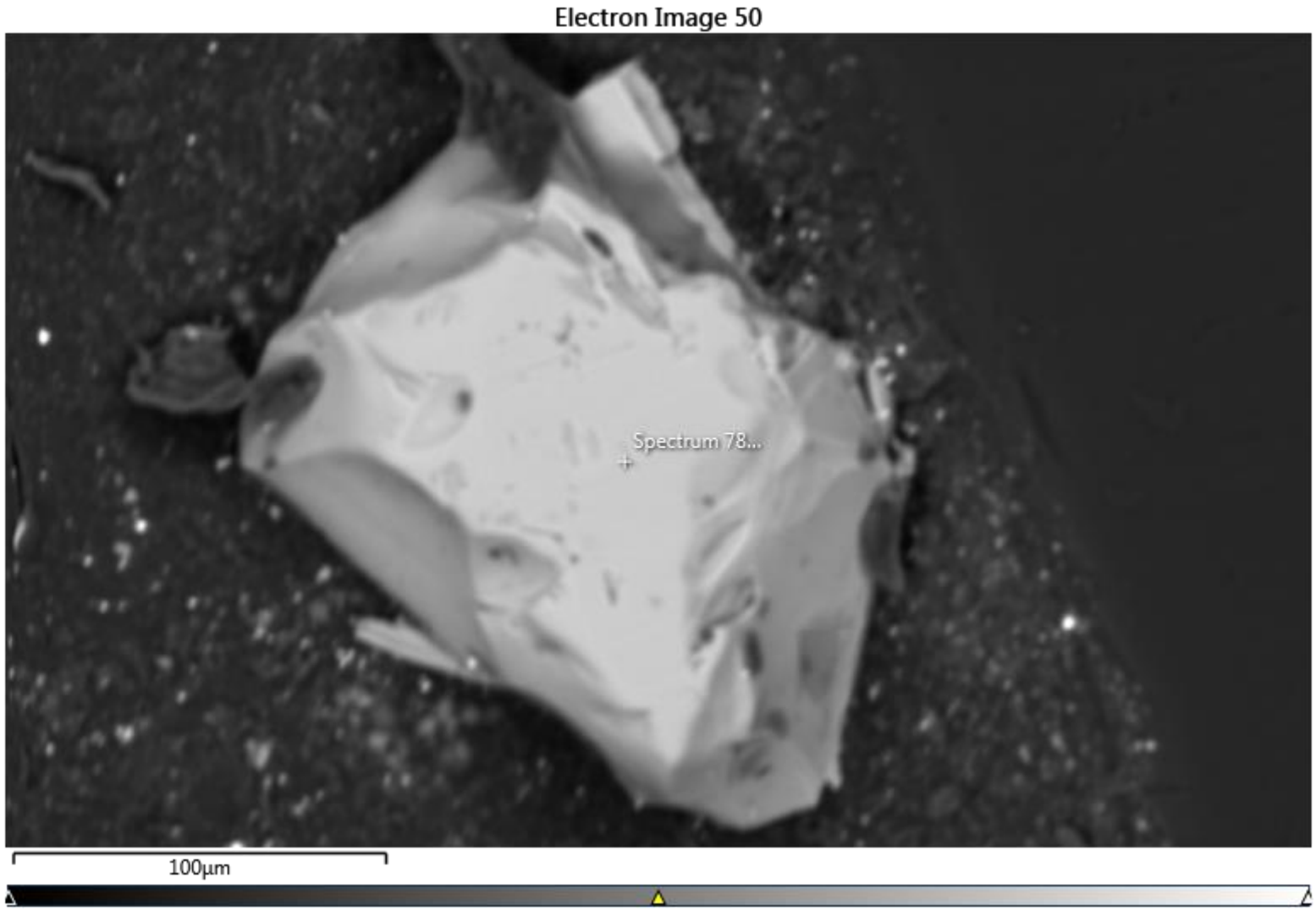

M4K Grain 3: Fe-Olivine (see EDS spectra below).


Spectrum 76 OLIVINE
O
Si
Mg
Fe
Fe
Fe
cps/eV
0
2
4
6
8
10
12
keV
0
2
4
6
8
10
12
14
16
18

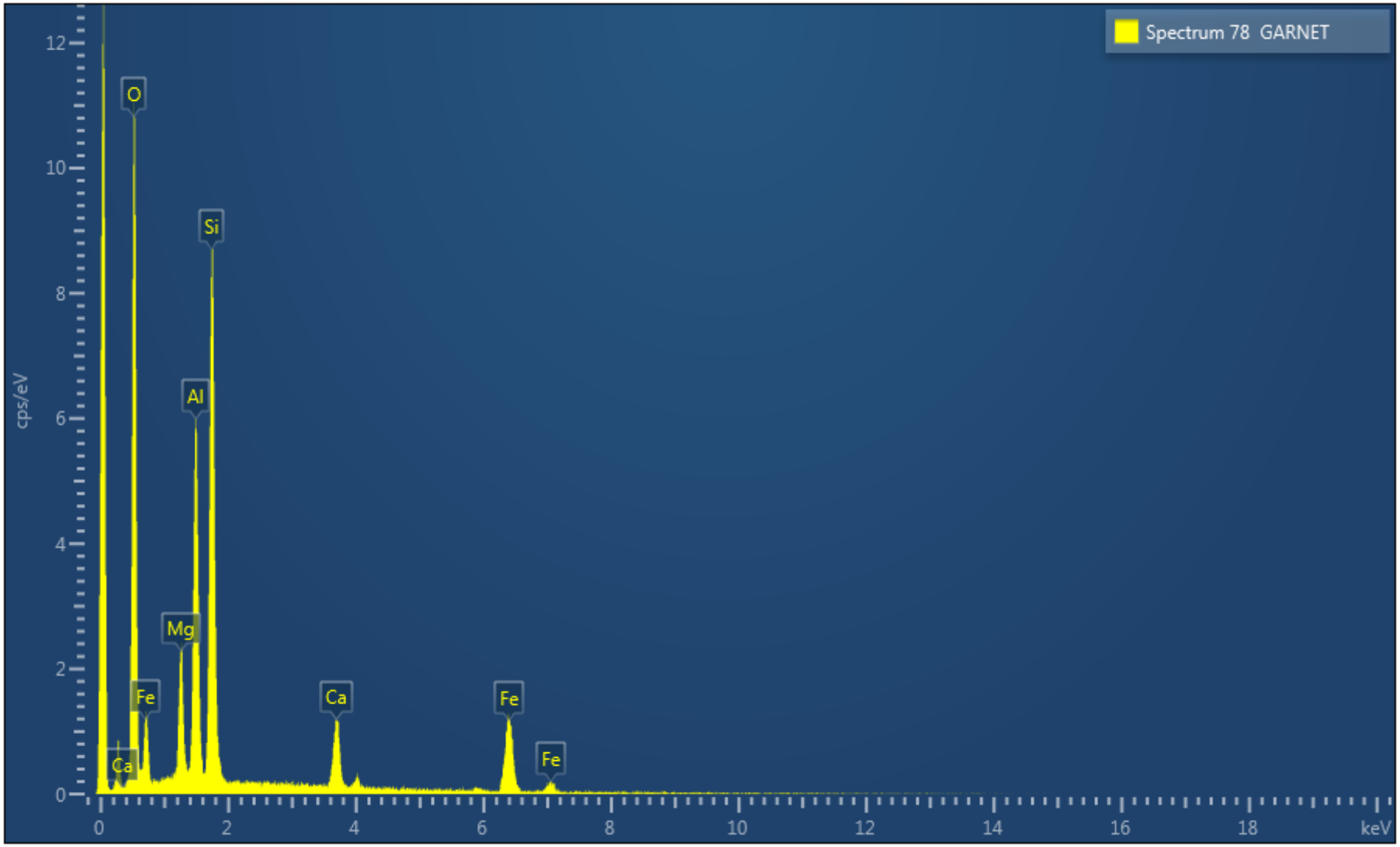


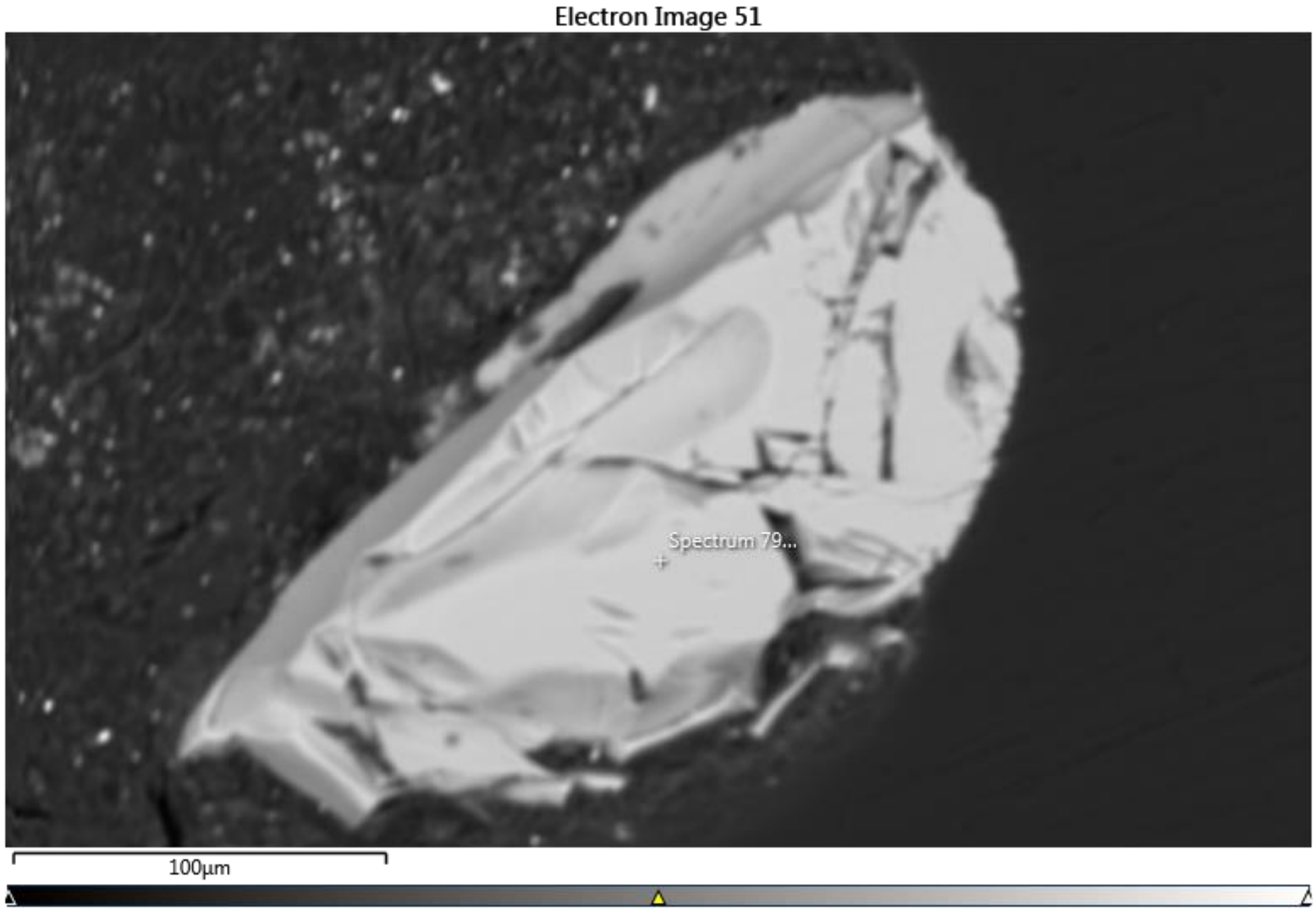

M4K Grain 4: Almandine (see EDS spectra below).


Spectrum 77 GARNET
cps/eV
keV
O
Si
Al
Mg
C
Fe
Ca
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18

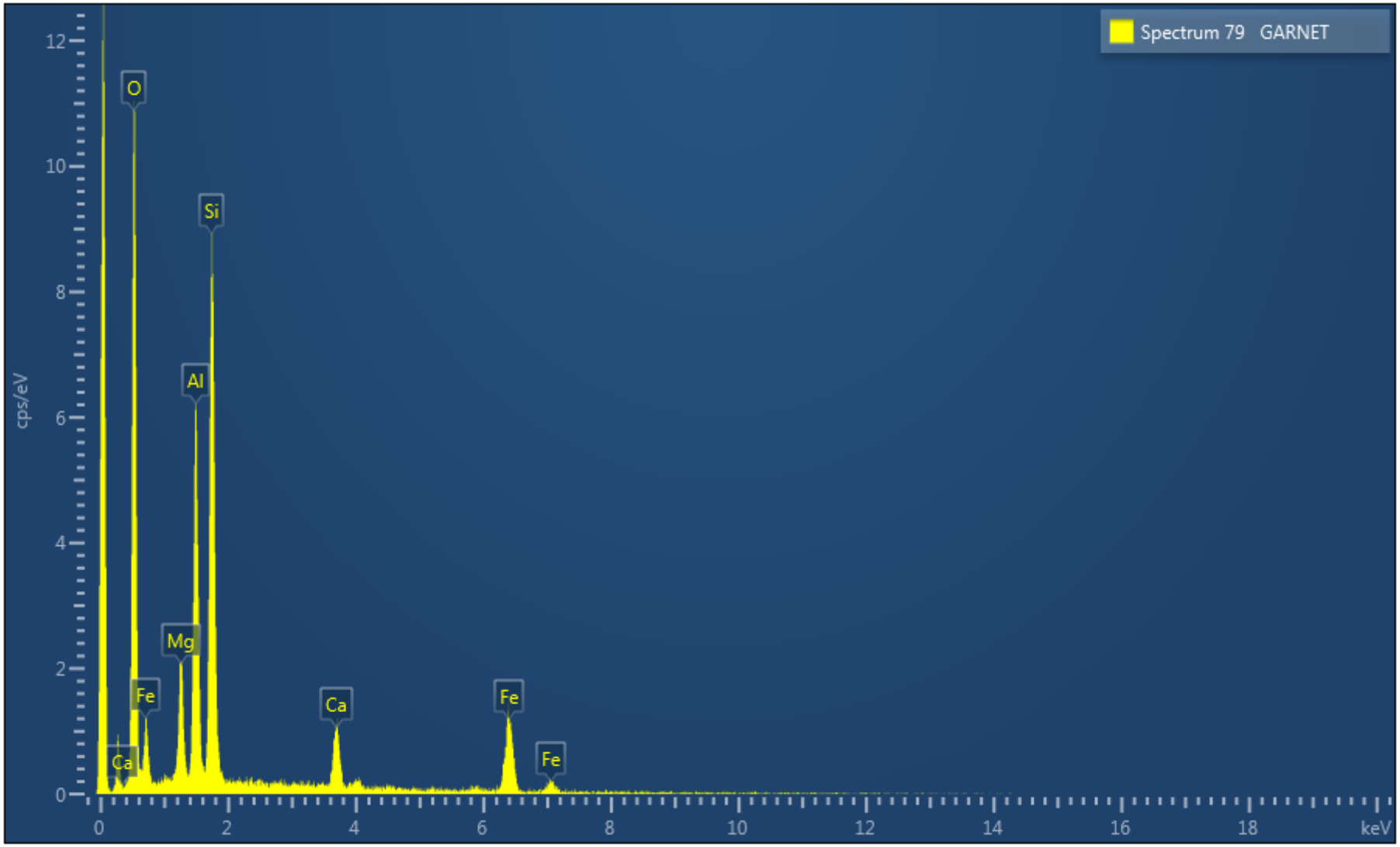



M4K Grain 5: Almandine (see EDS spectra below).

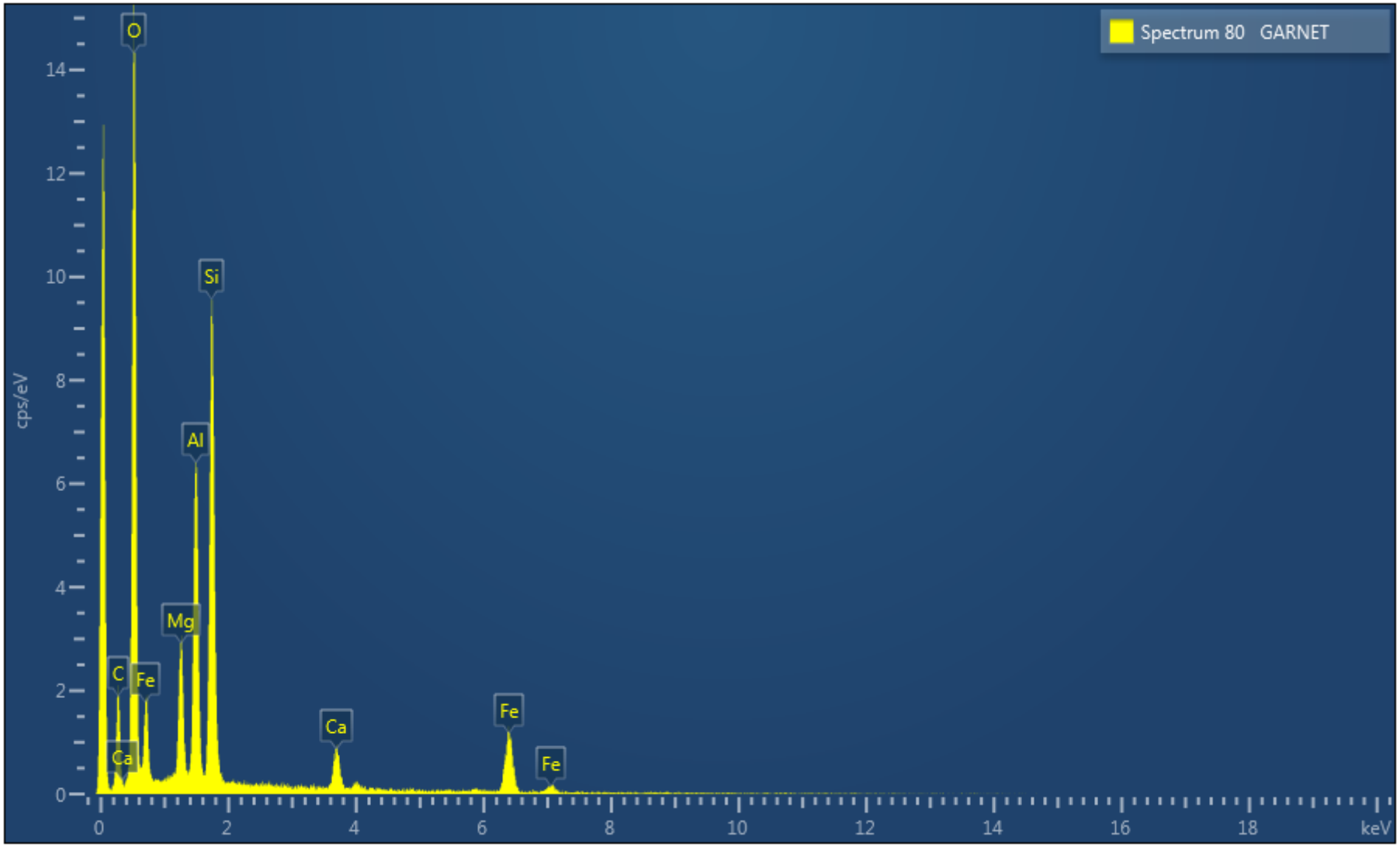

Spectrum 78 GARNET
cps/eV
keV
O
Si
Al
Mg
Fe
Ca
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18

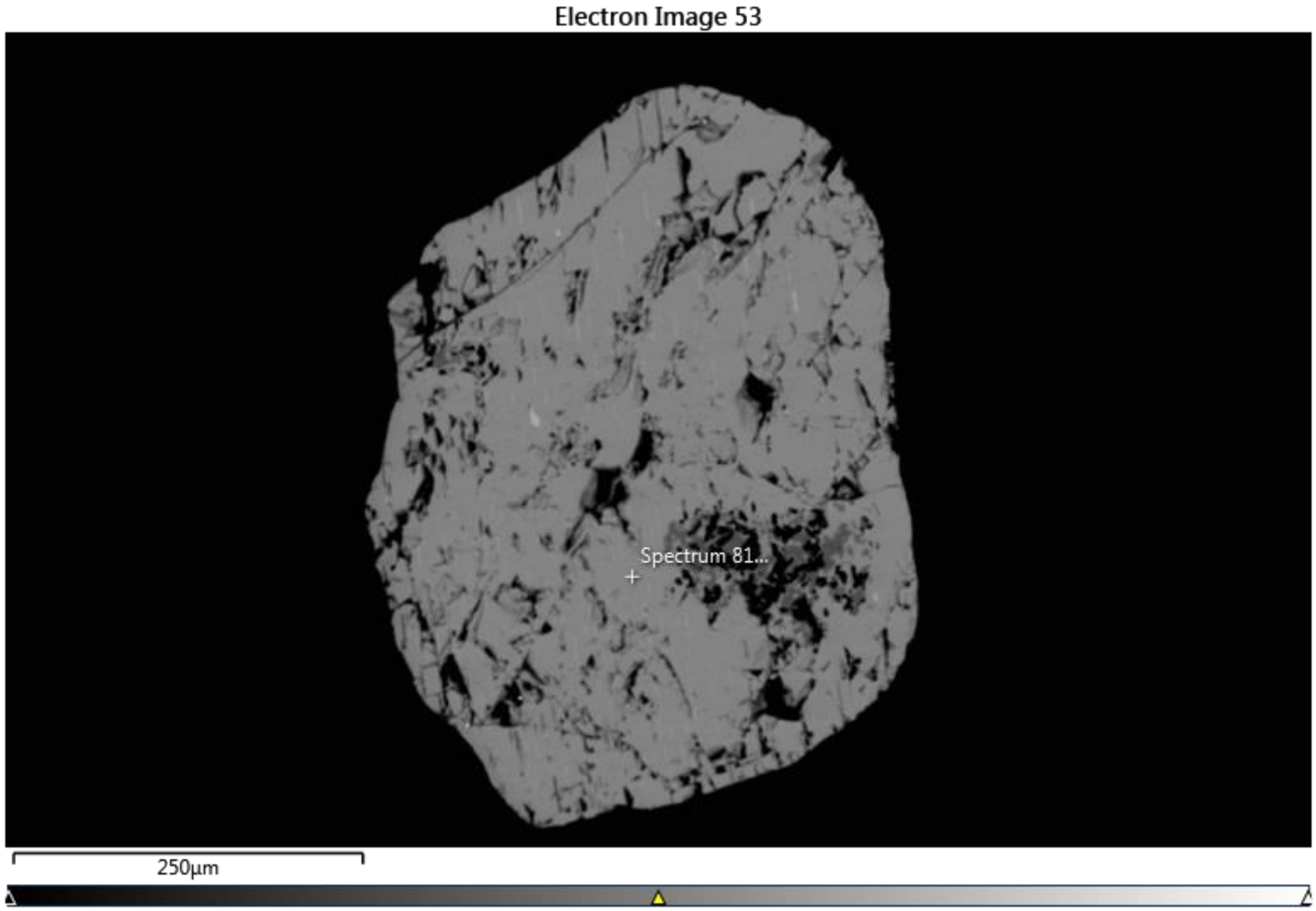



M4K Grain 6: Almandine (see EDS spectra below).

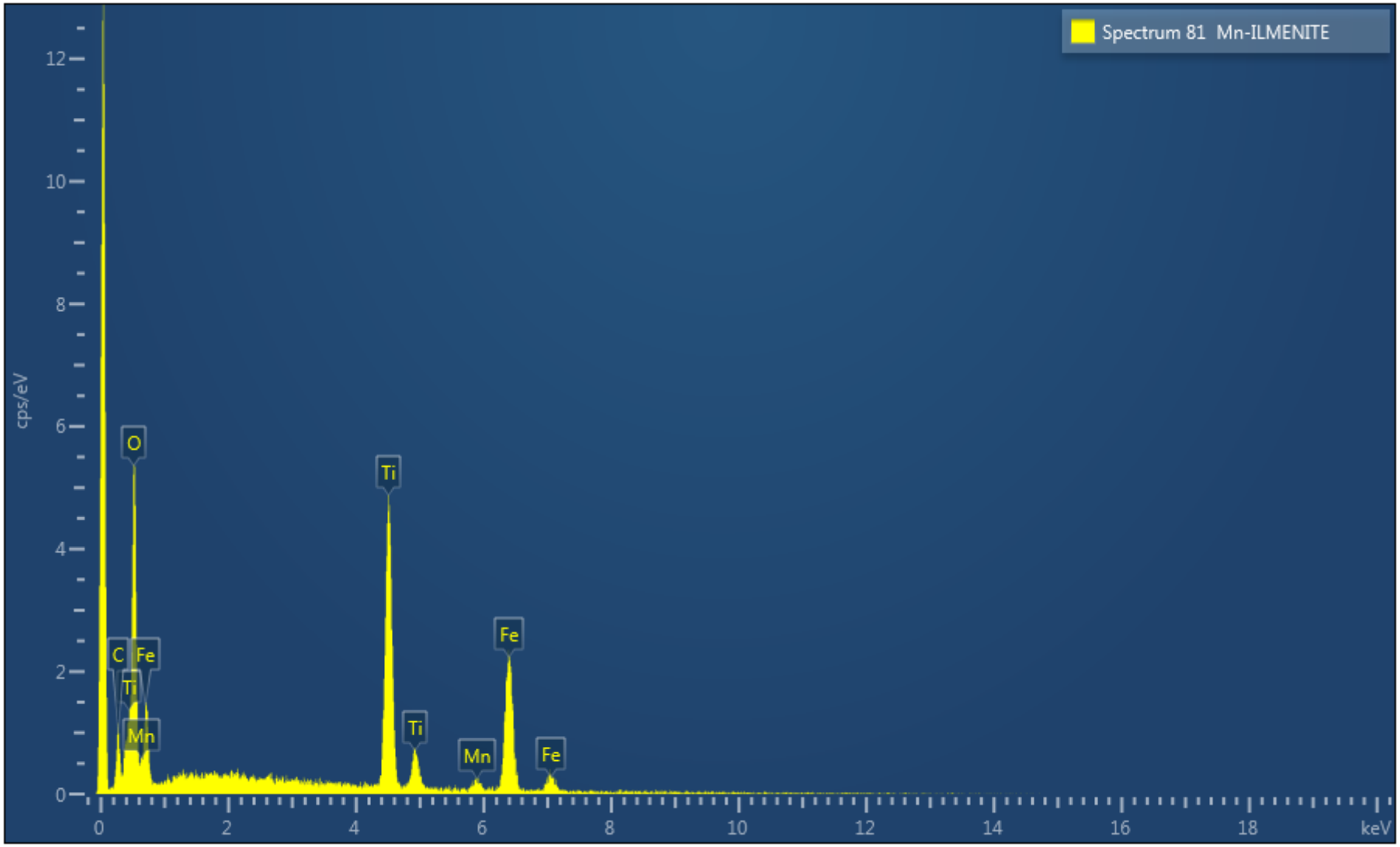

Spectrum 79 GARNET
cps/eV
keV
O
Si
Al
Mg
Fe
Ca
Ca
Fe
Fe
0
2
4
6
8
10
12
14
16
18

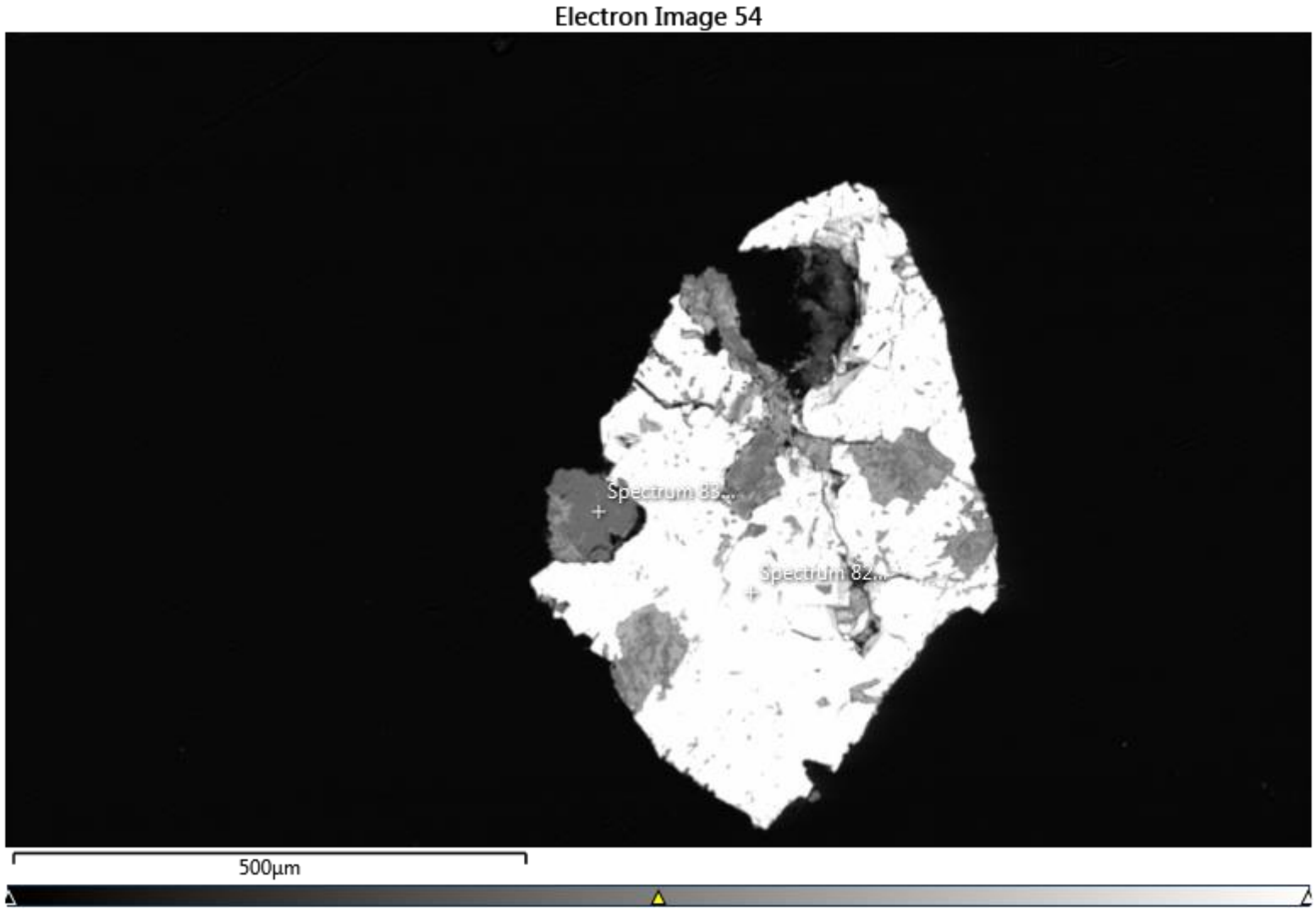

M4K Grain 7: Almandine (see EDS spectra below).


Spectrum 80 GARNET
O
Si
Al
Mg
C
Fe
Ca
Ca
Fe
Fe
cps/eV
0
2
4
6
8
10
12
14
0
2
4
6
8
10
12
14
16
18
keV

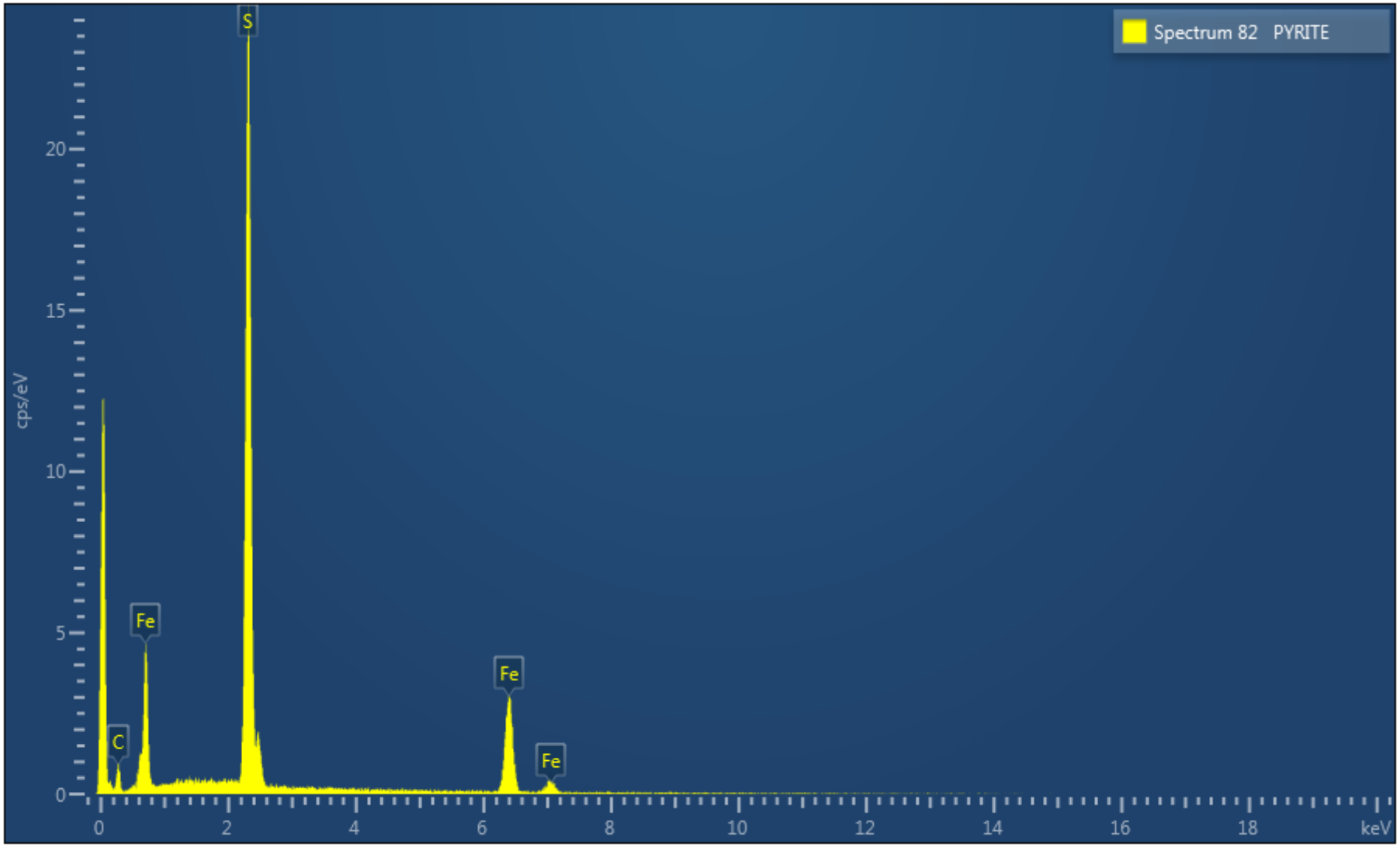


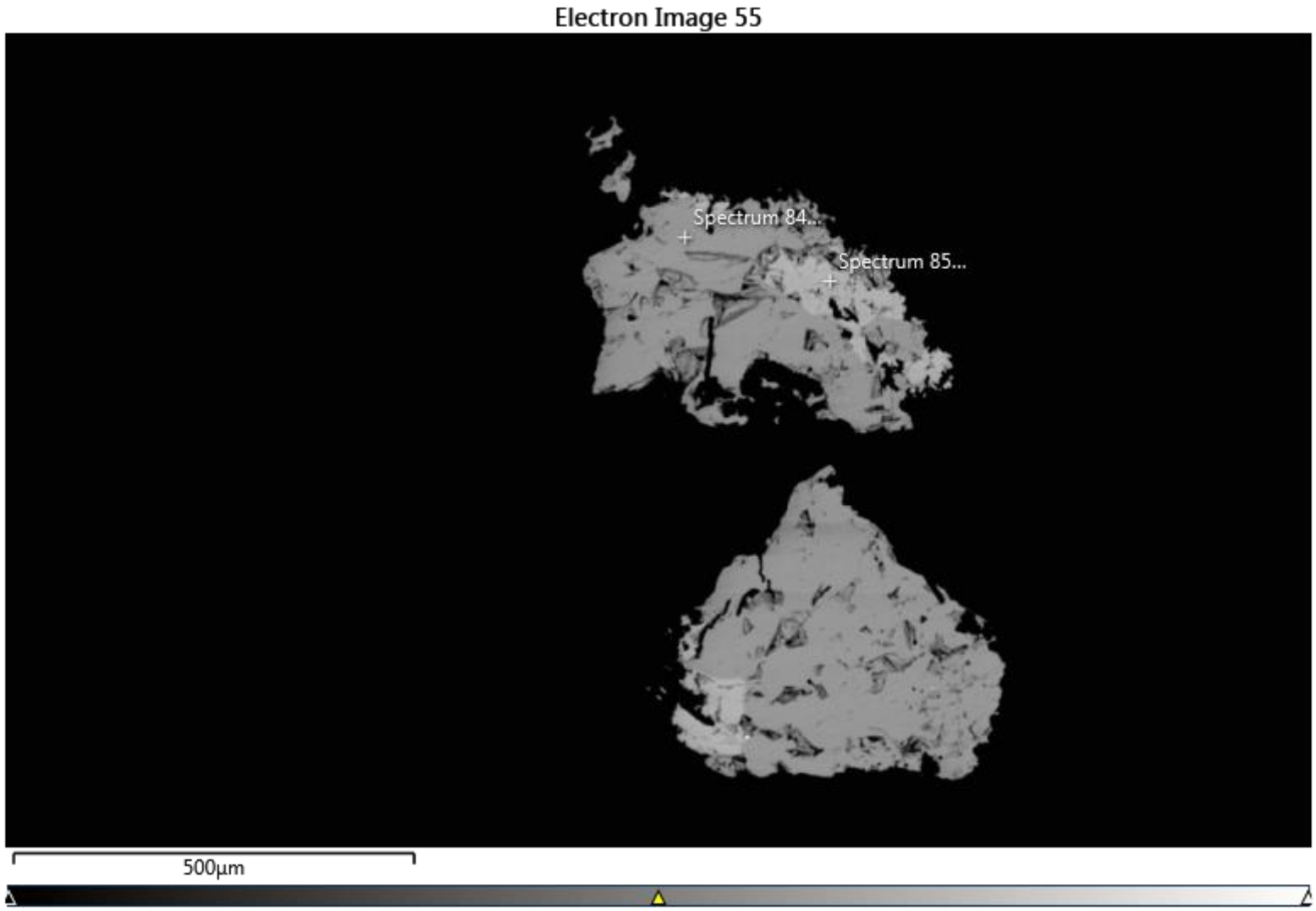

M4K Grain 8: Mn-Ilmenite (see EDS spectrum below).


Spectrum 81 Mn-ILMENITE
cps/eV
0
2
4
6
8
10
12
O
C
Fe
Ti
Mn
Ti
Ti
Mn
Fe
Fe
0
2
4
6
8
10
12
14
16
18
keV

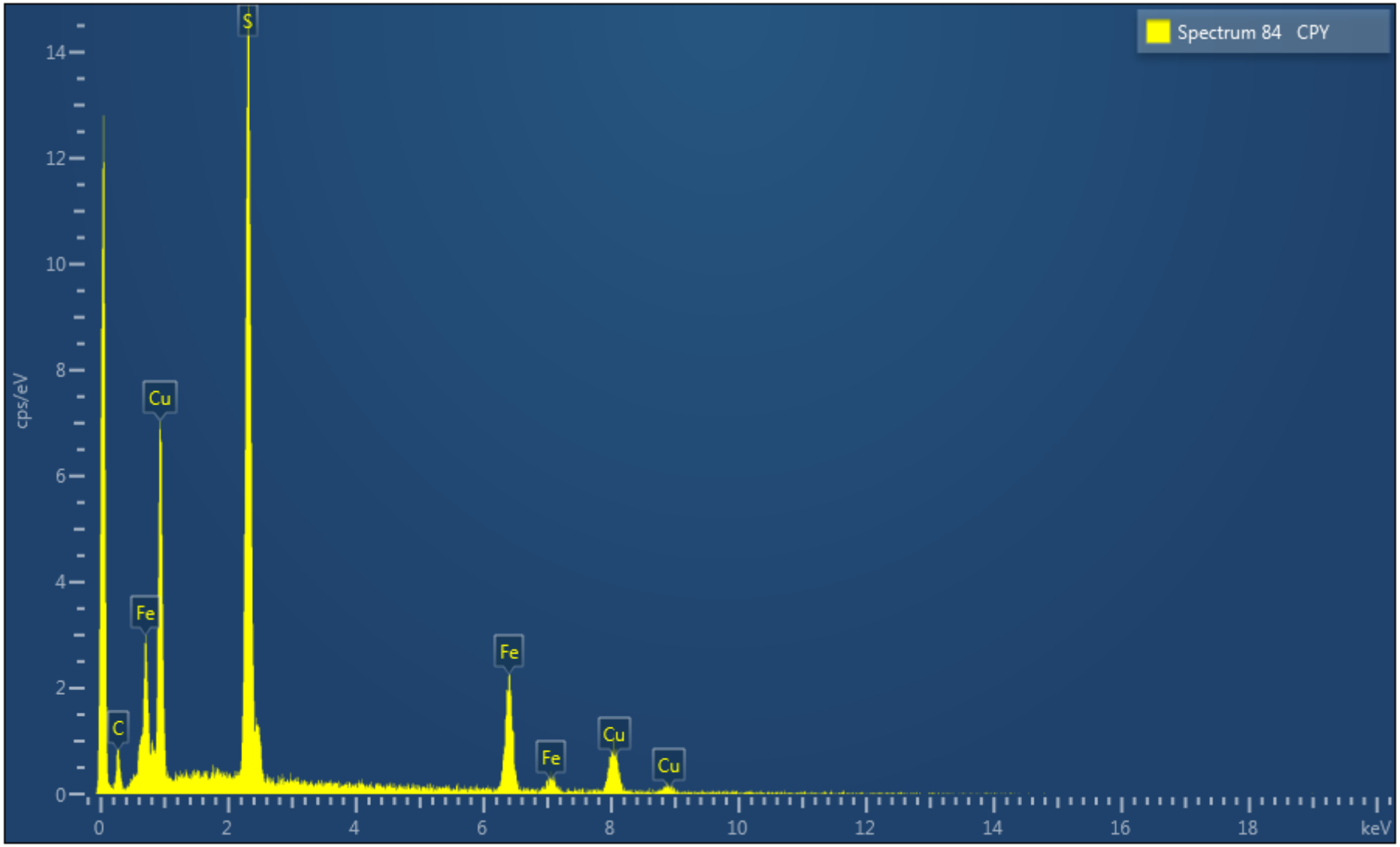


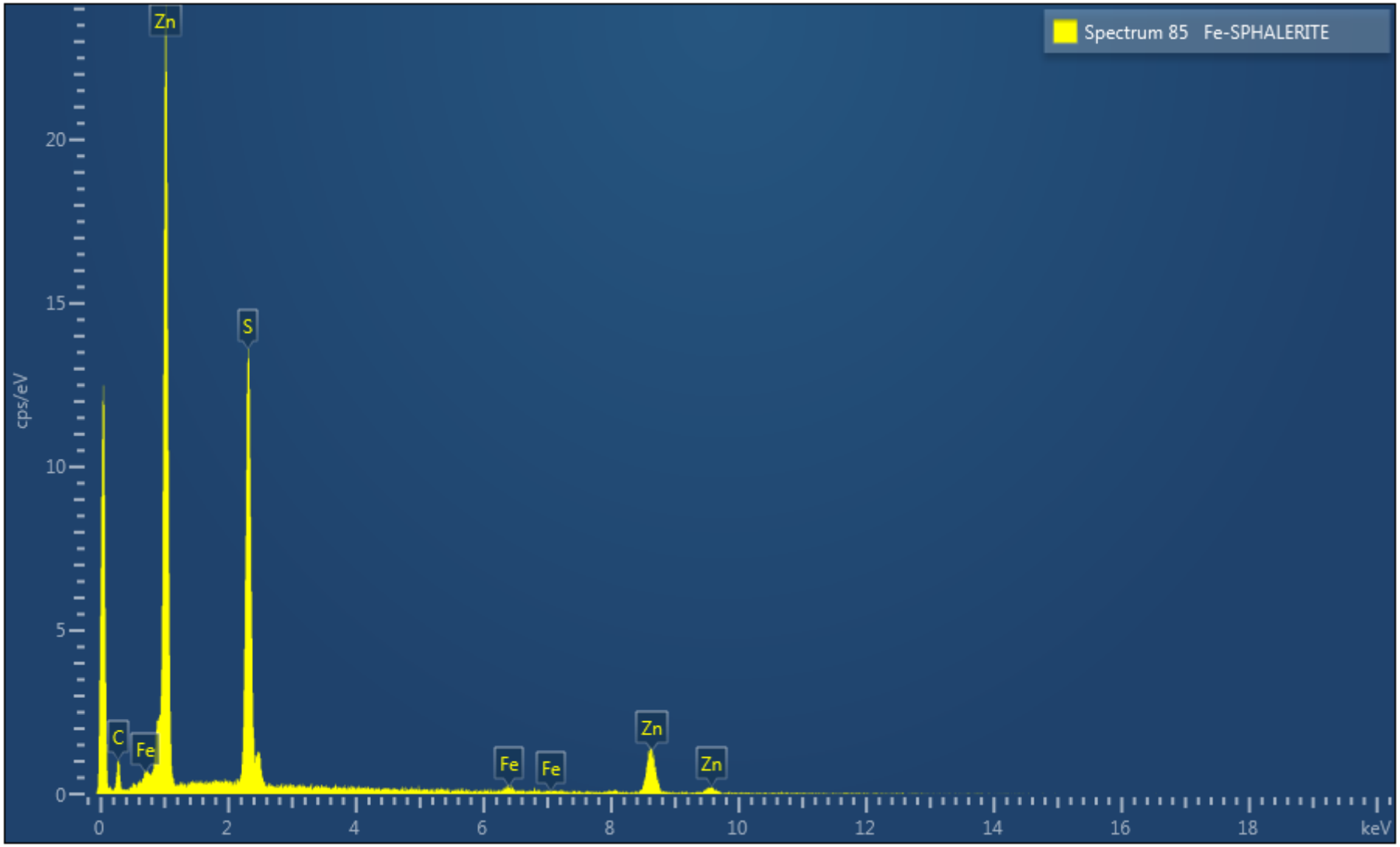

M4S Grain 1: Pyrite (see EDS spectrum below).

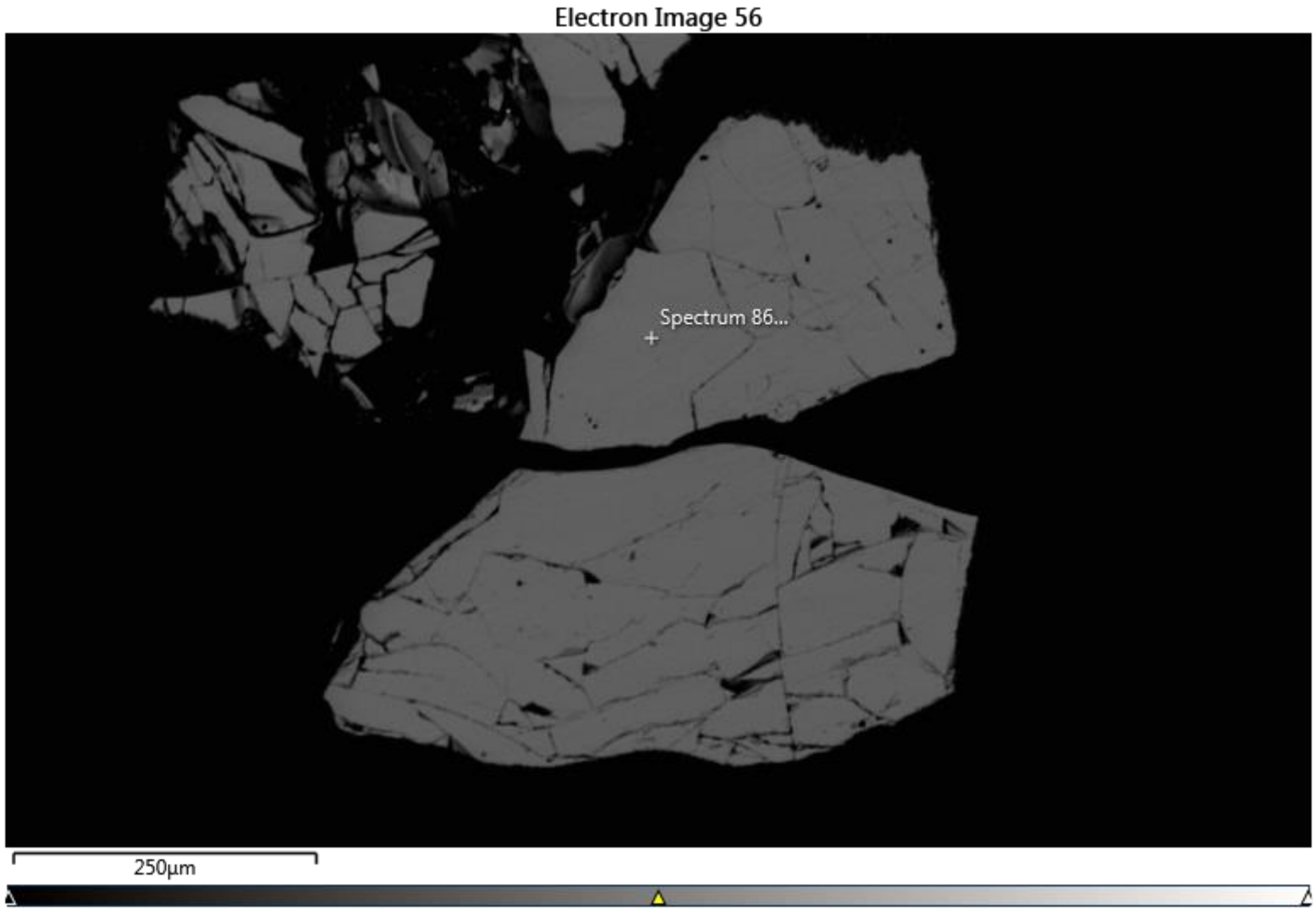

Spectrum 82 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV



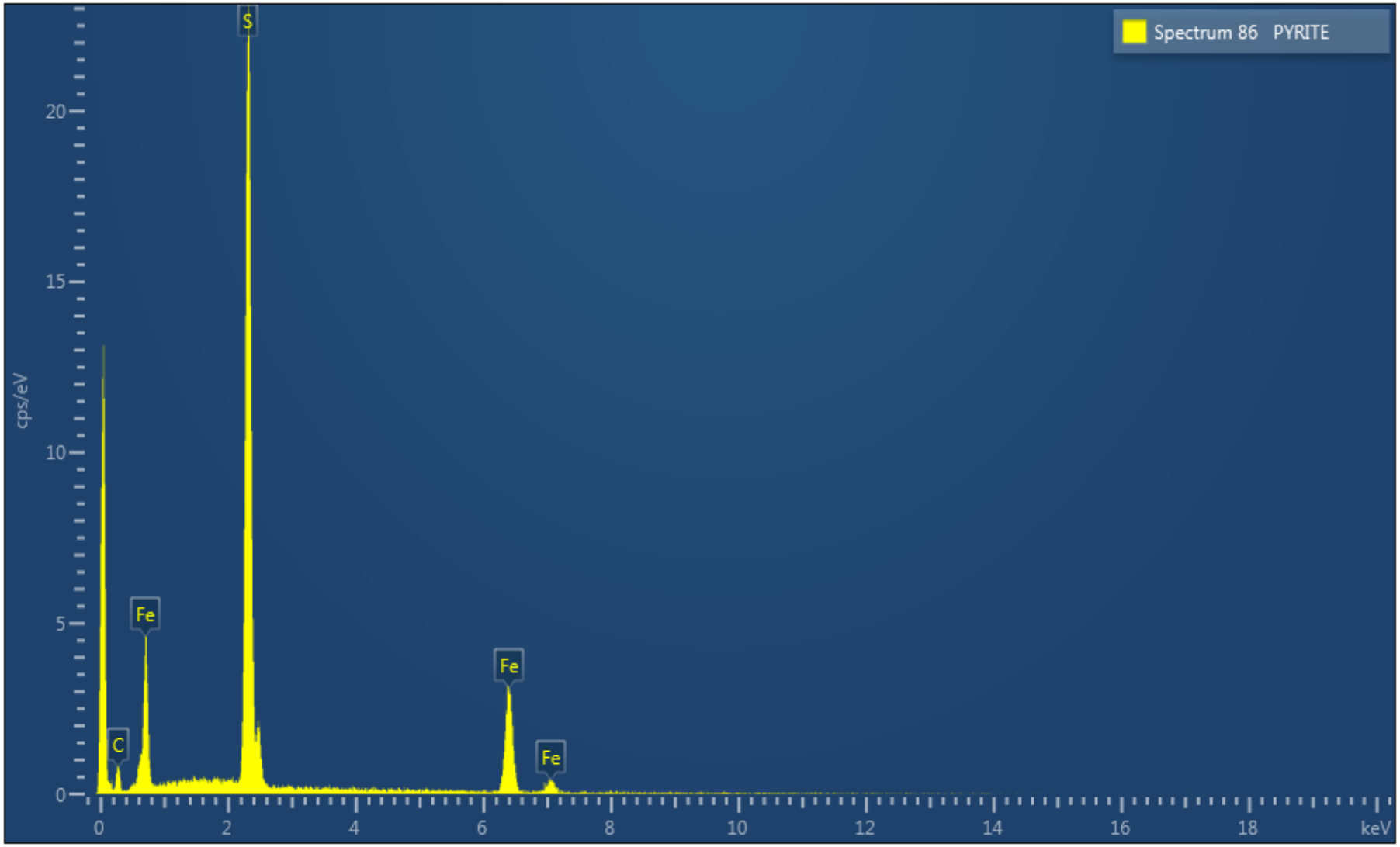

M4S Grain 2: Chalcopyrite (spectrum 84) and Fe-Sphalerite (spectrum 85) (see EDS spectra below).

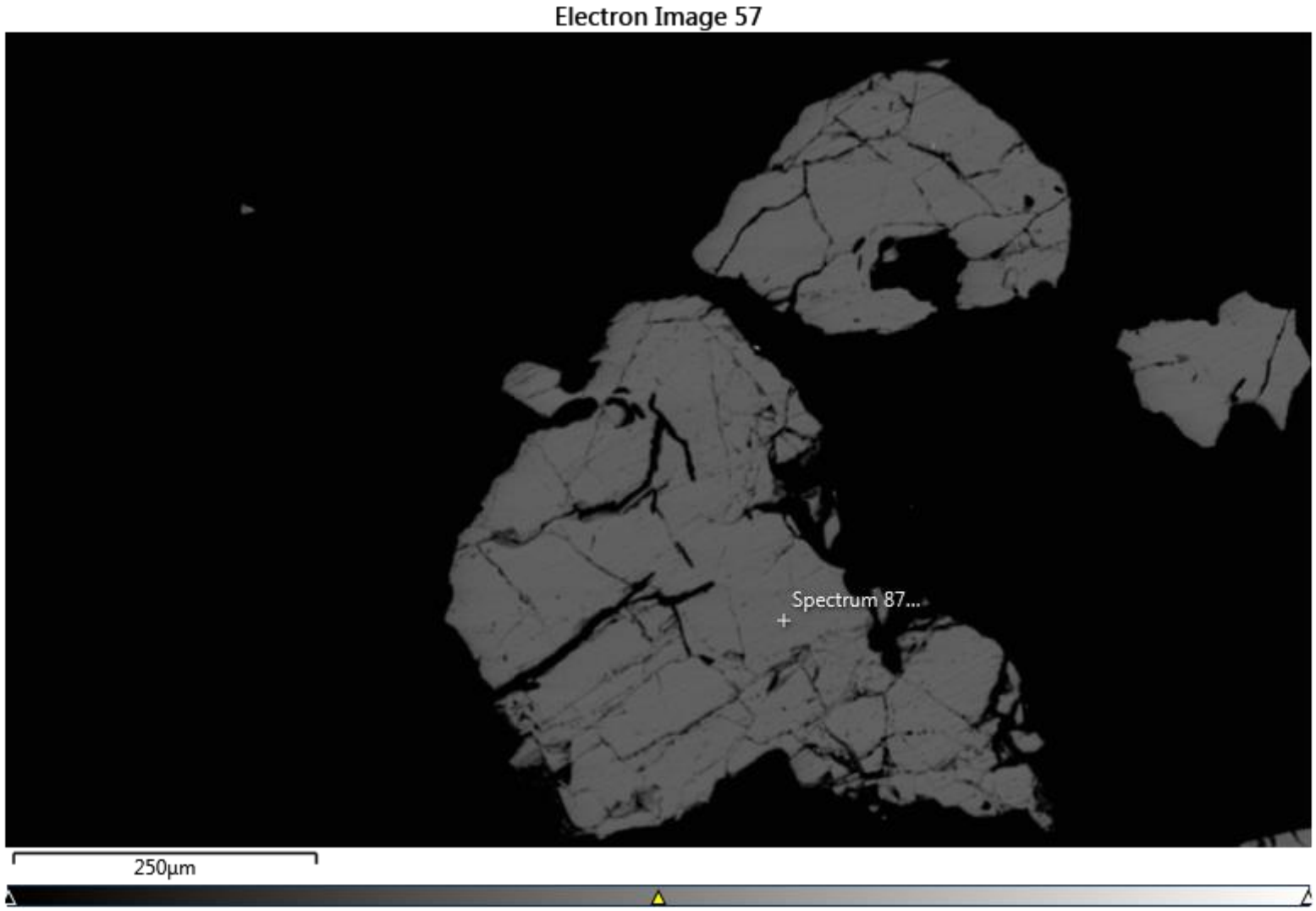

Spectrum 84 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18


Spectrum 85 Fe-SPHALERITE
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV
Zn
S
C
Fe
Fe
Fe
Zn
Zn

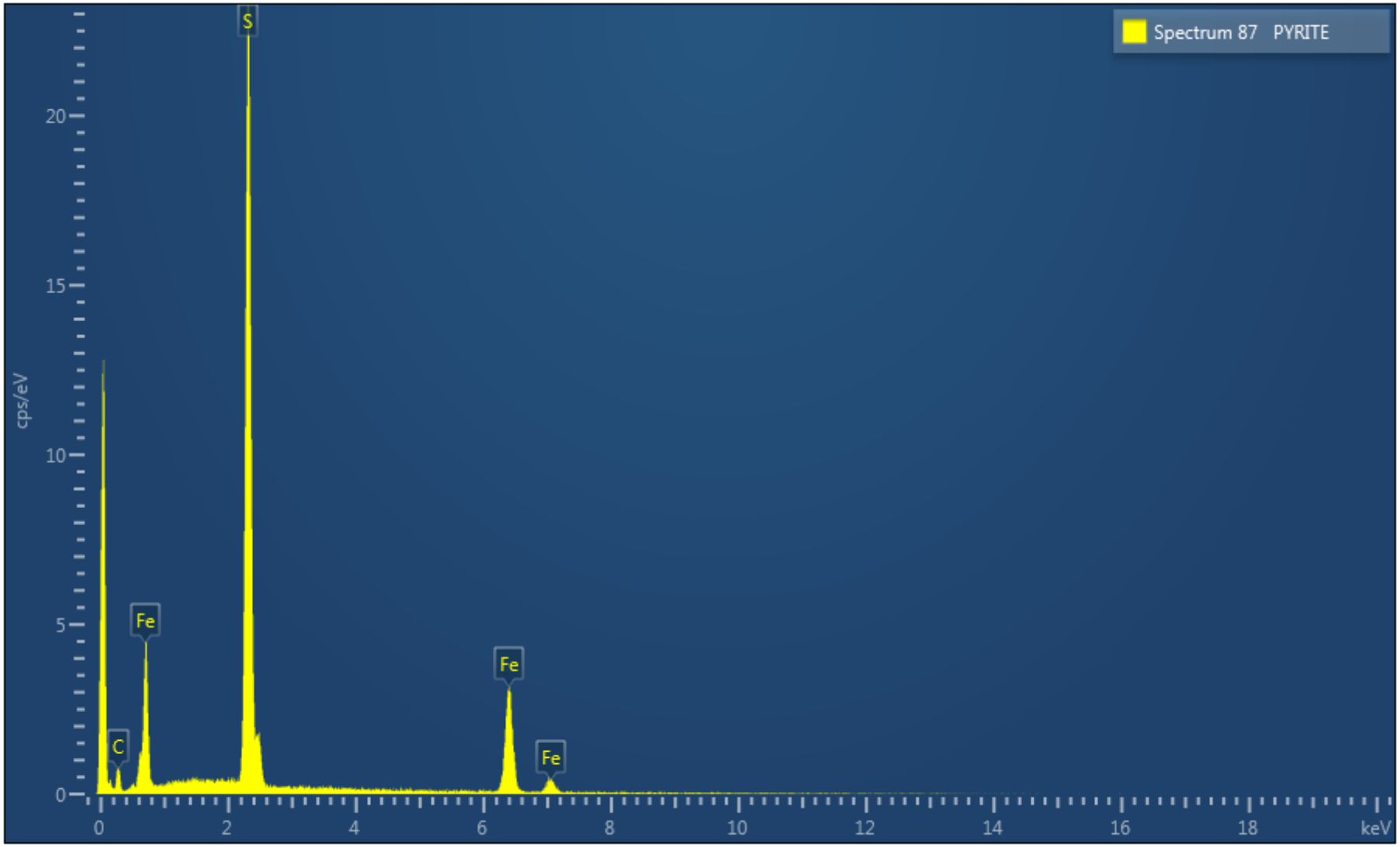


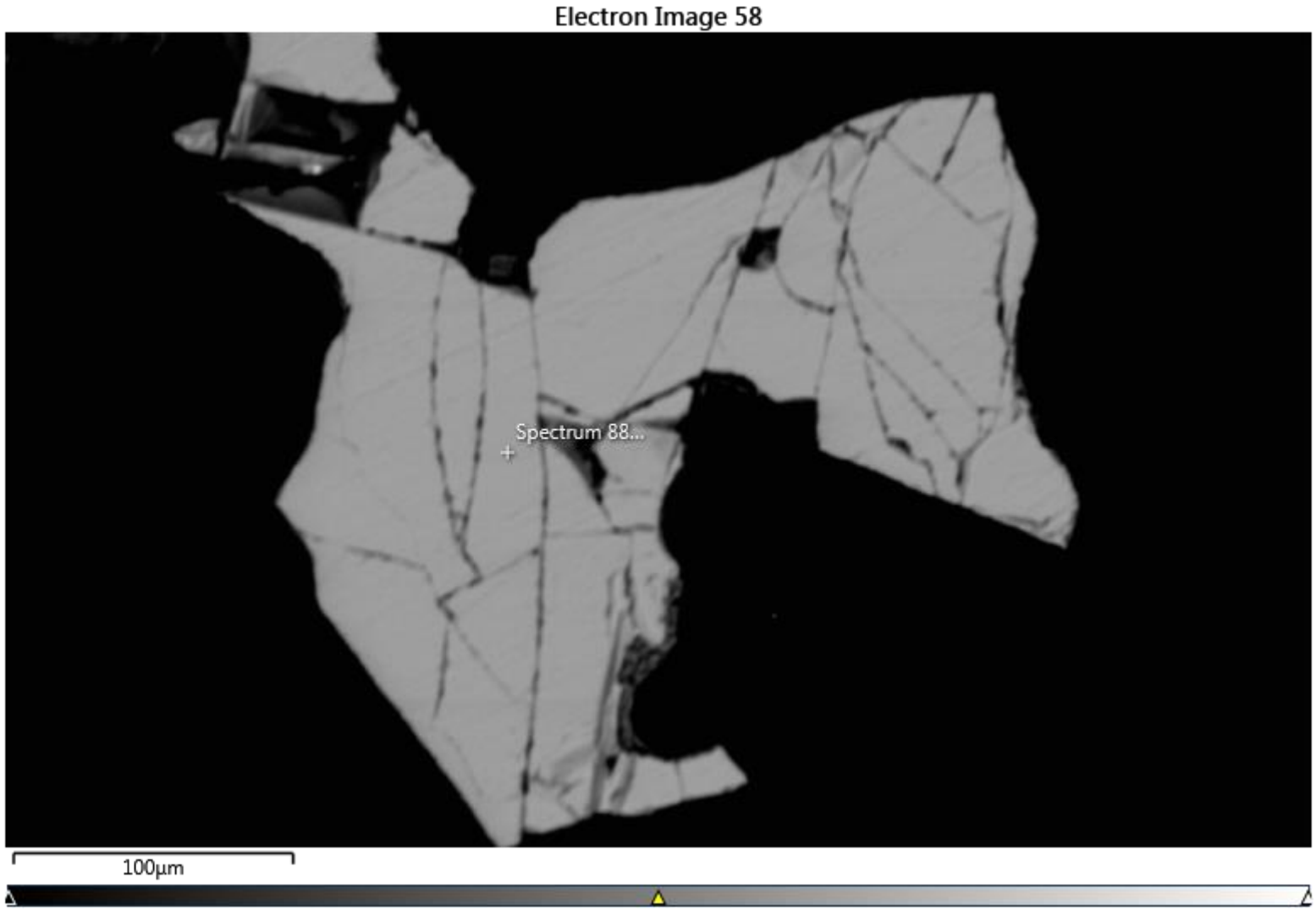

M4S Grain 3: Pyrite (see EDS spectrum below).


Spectrum 86 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV

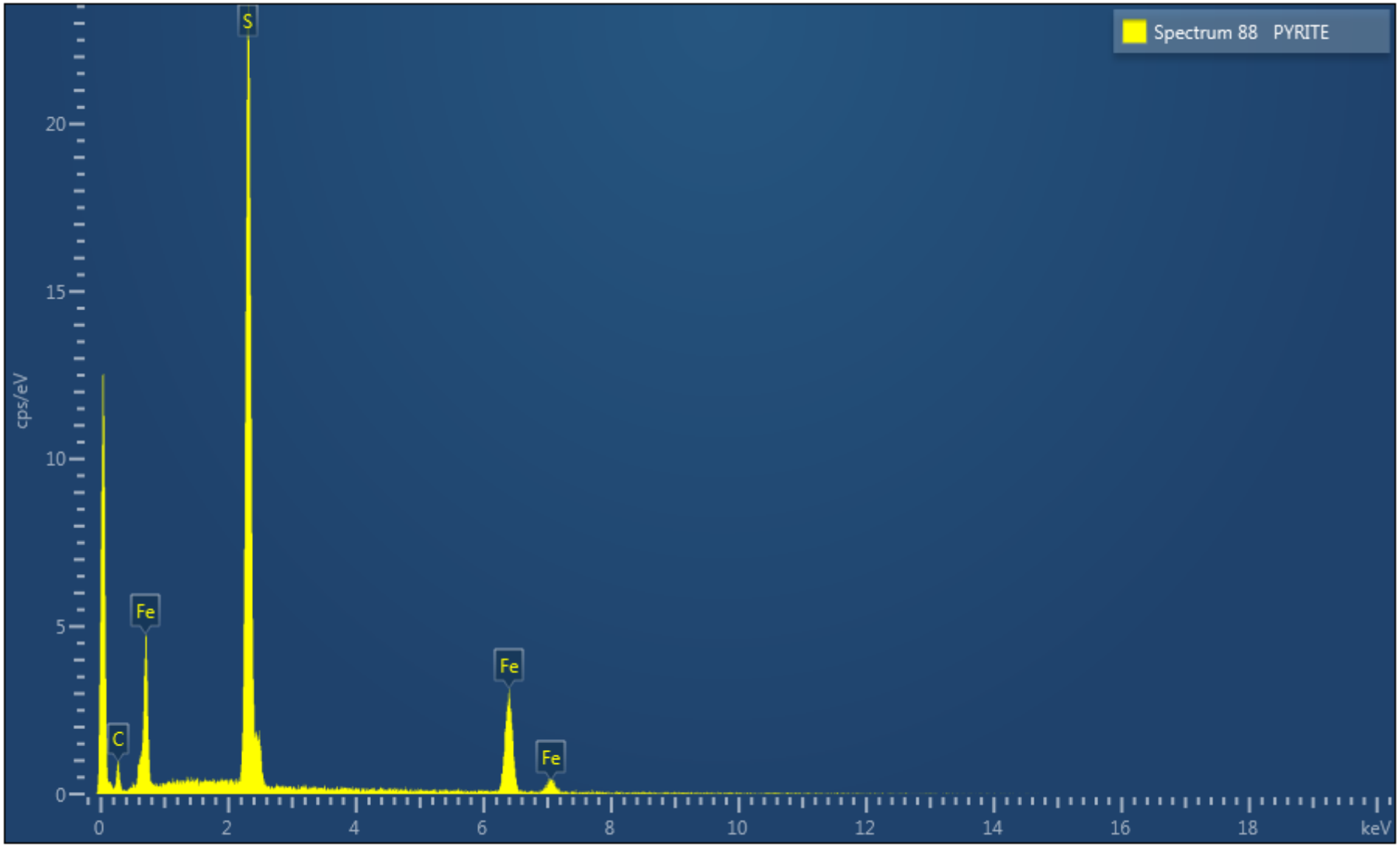


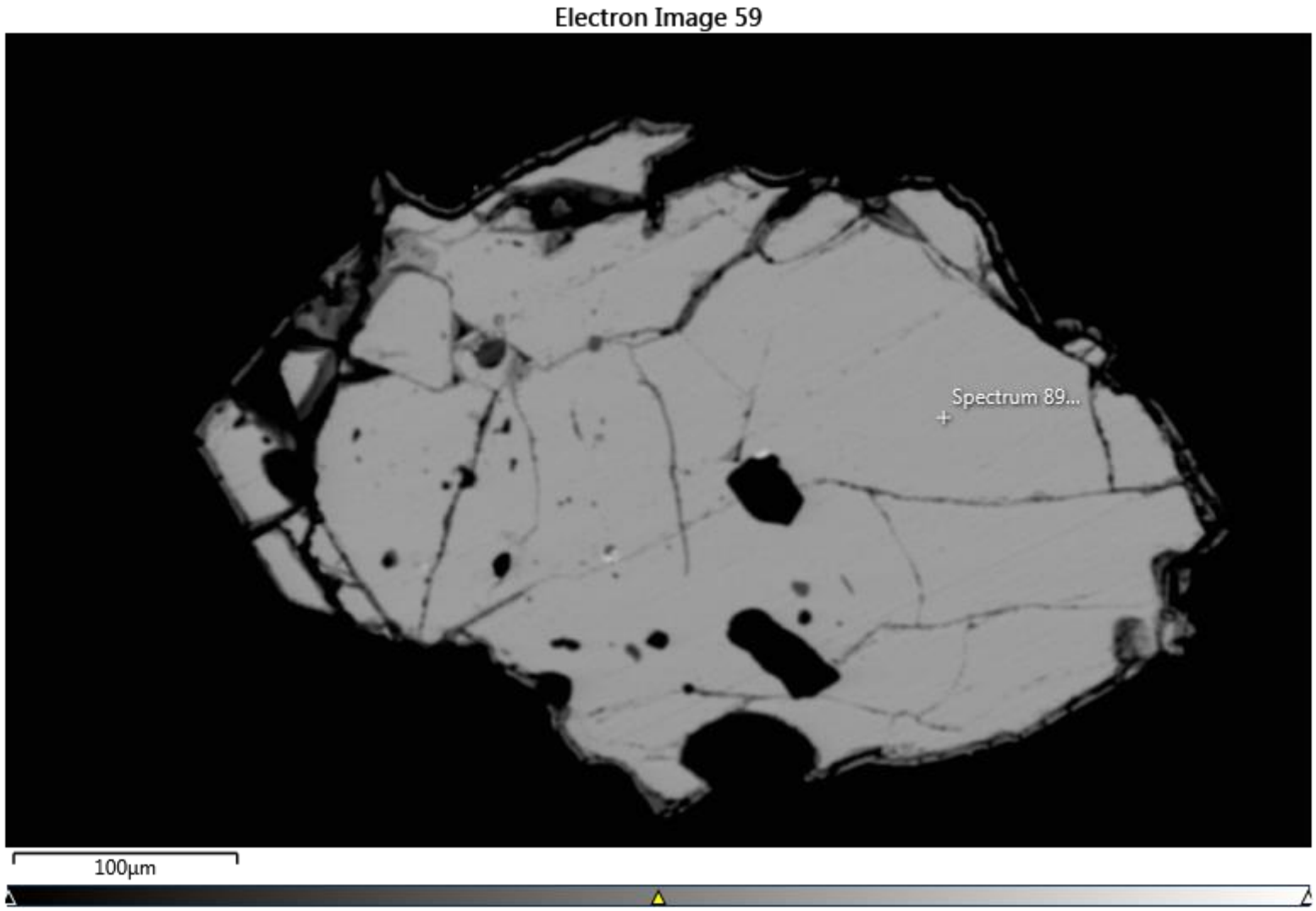

M4S Grain 4: Pyrite (see EDS spectrum below).


Spectrum 87 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV

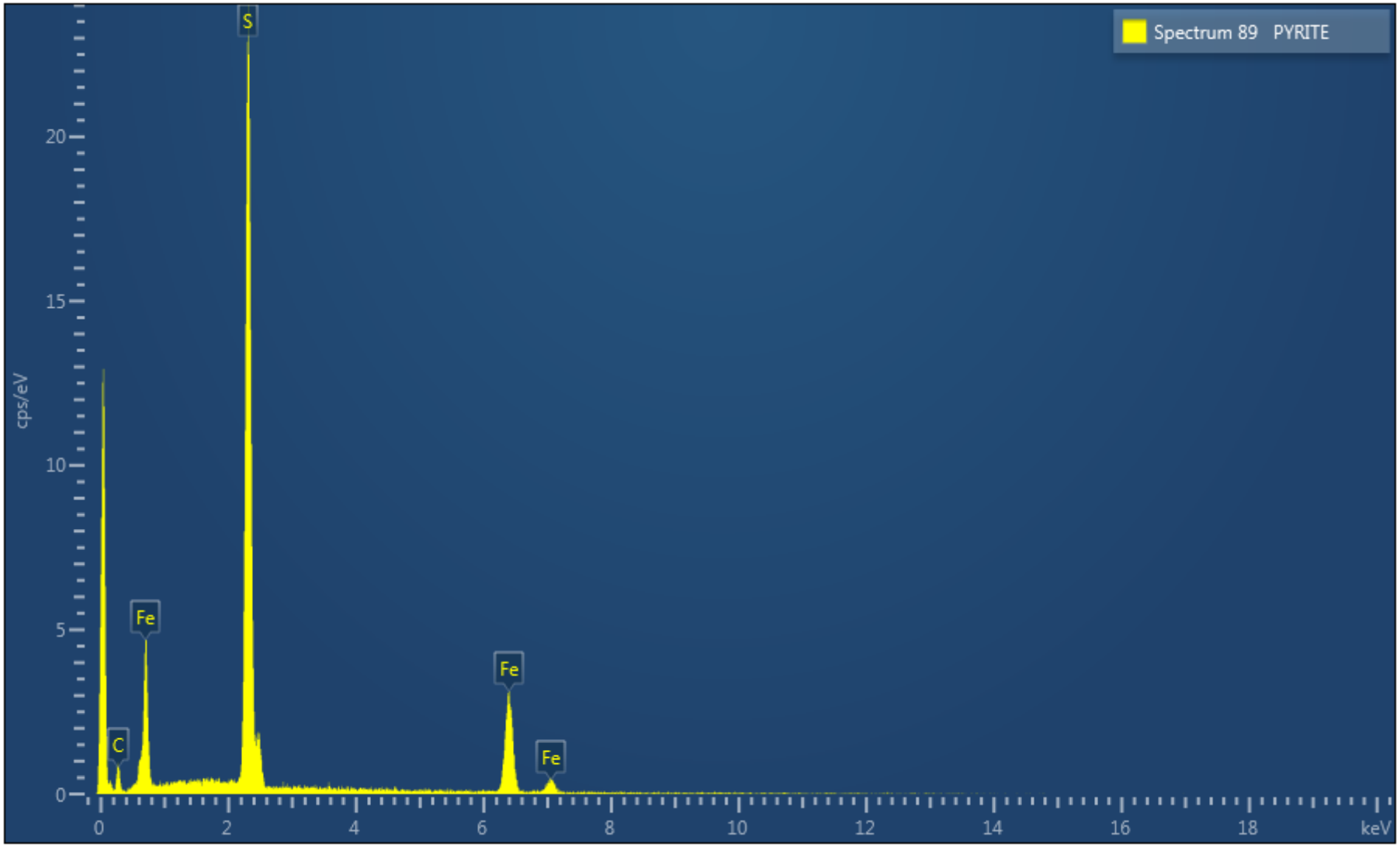


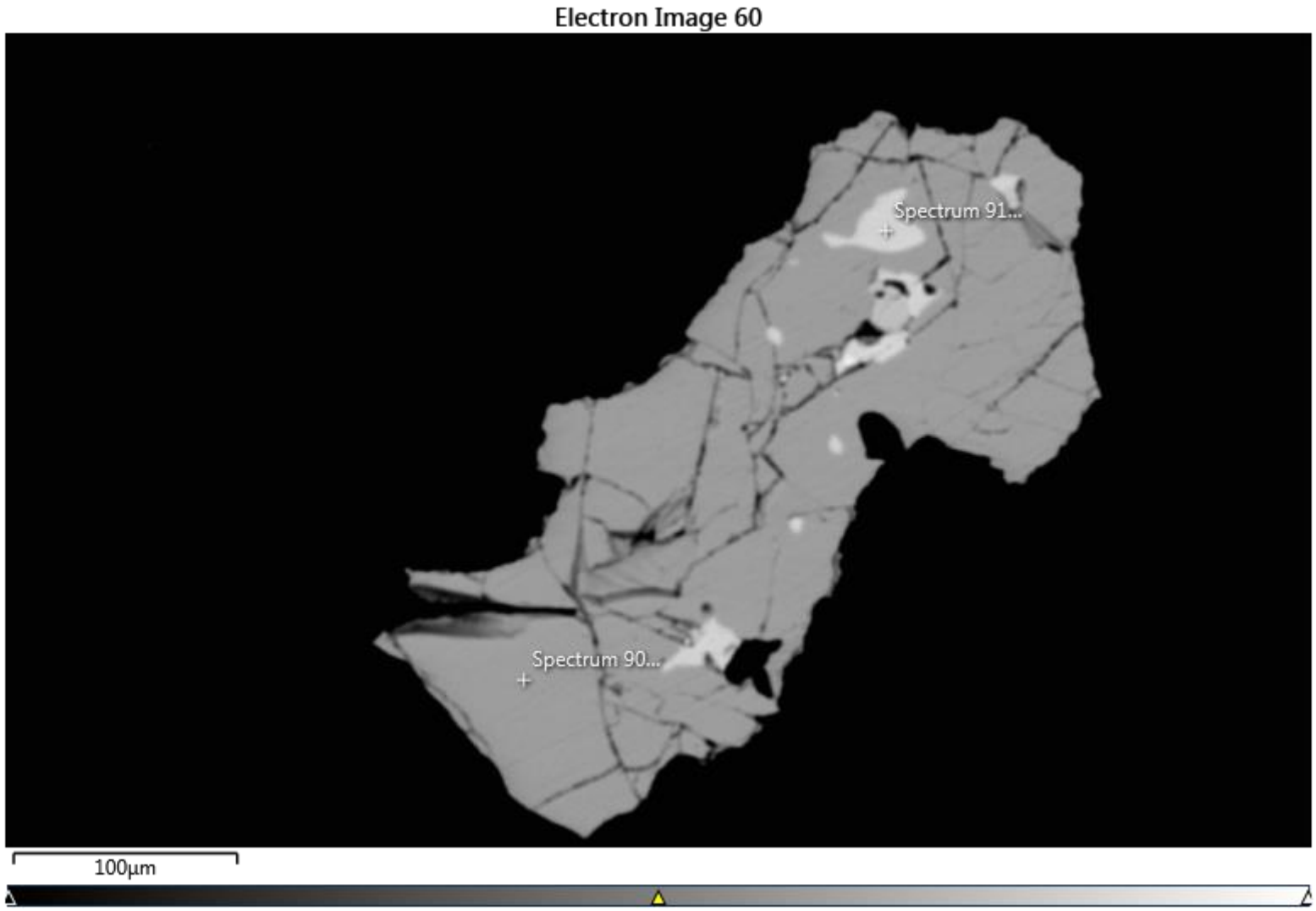

M4S Grain 5: Pyrite (see EDS spectrum below).


Spectrum 88 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV

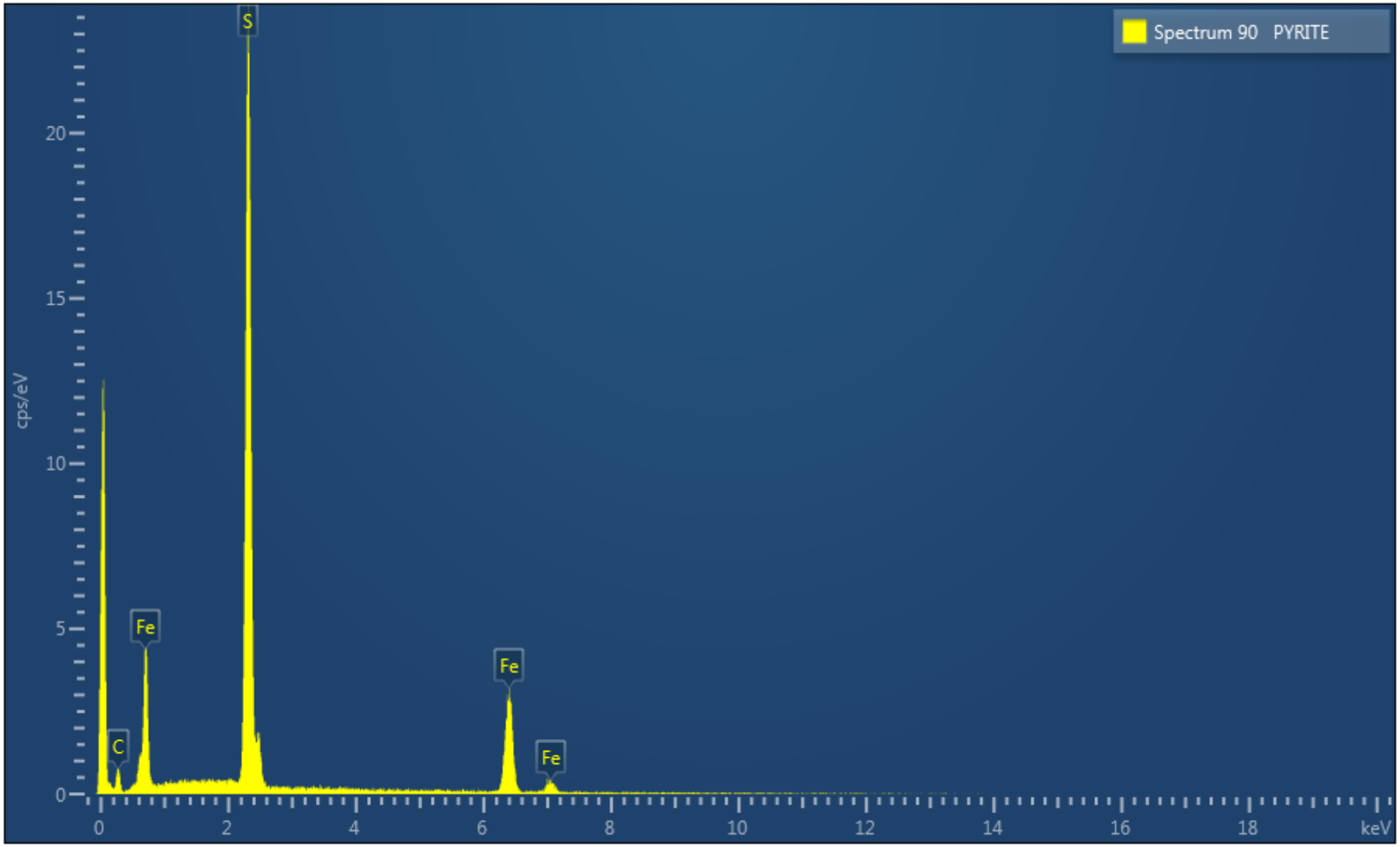


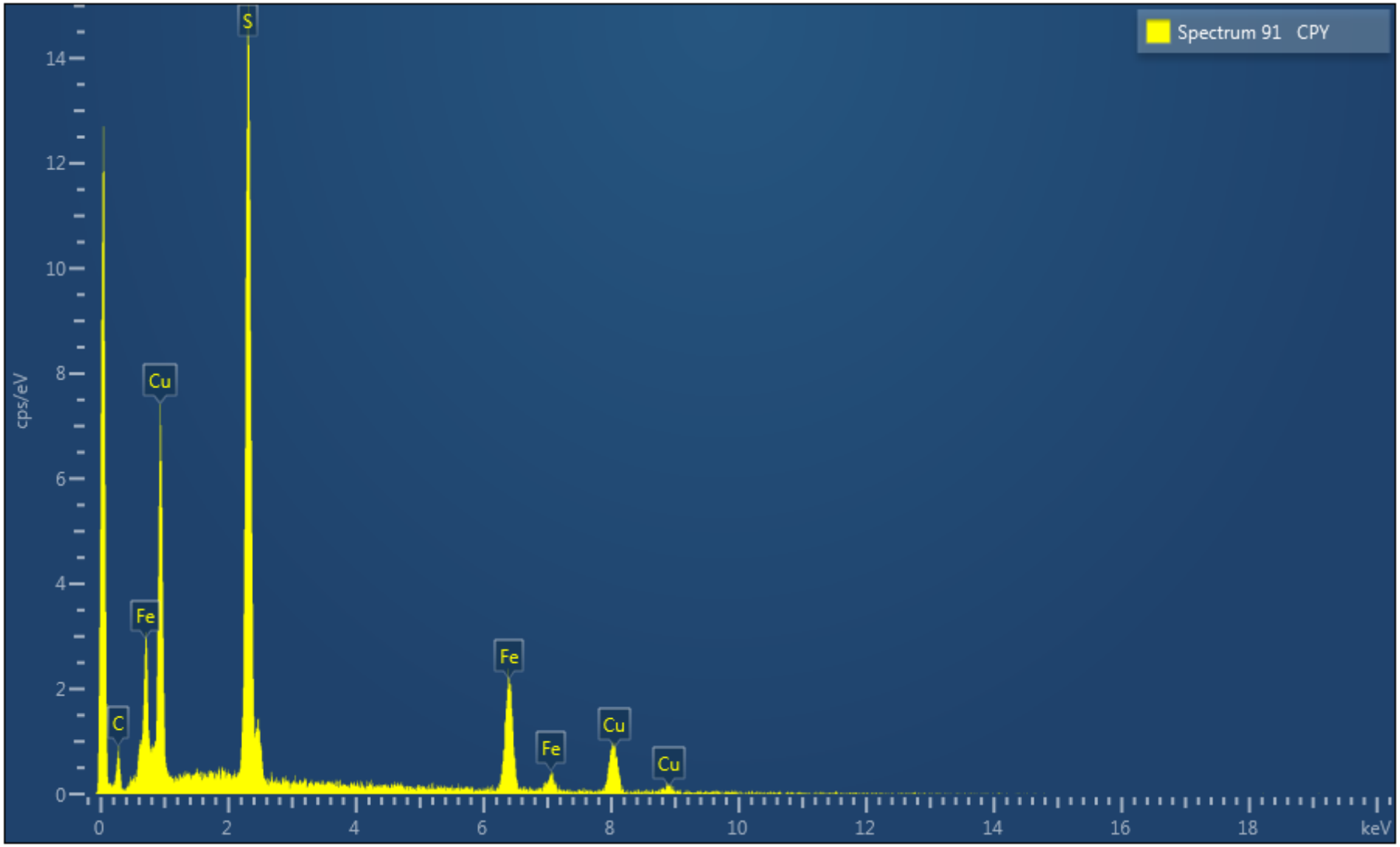

M4S Grain 6: Pyrite (see EDS spectrum below).

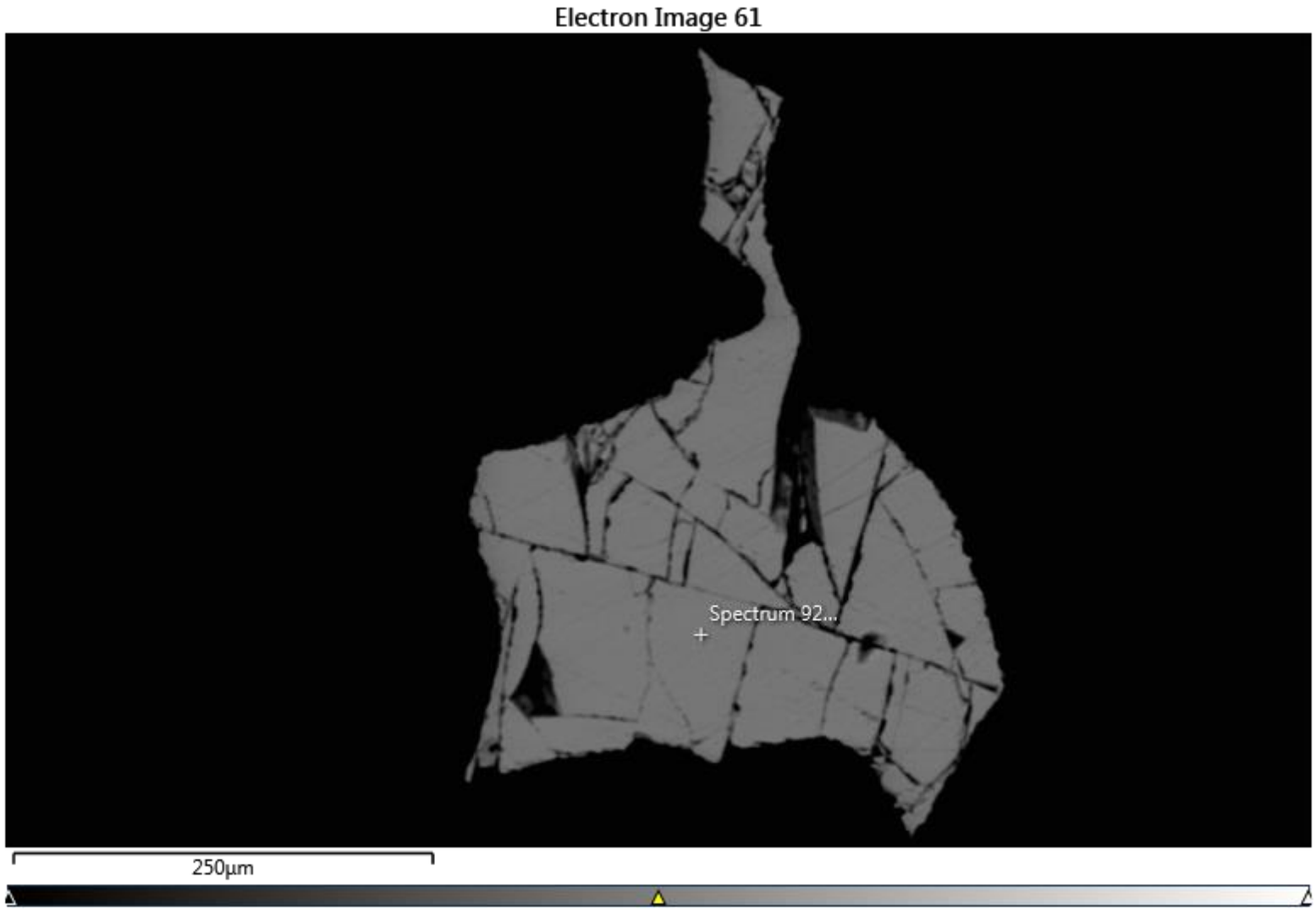

Spectrum 89 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV



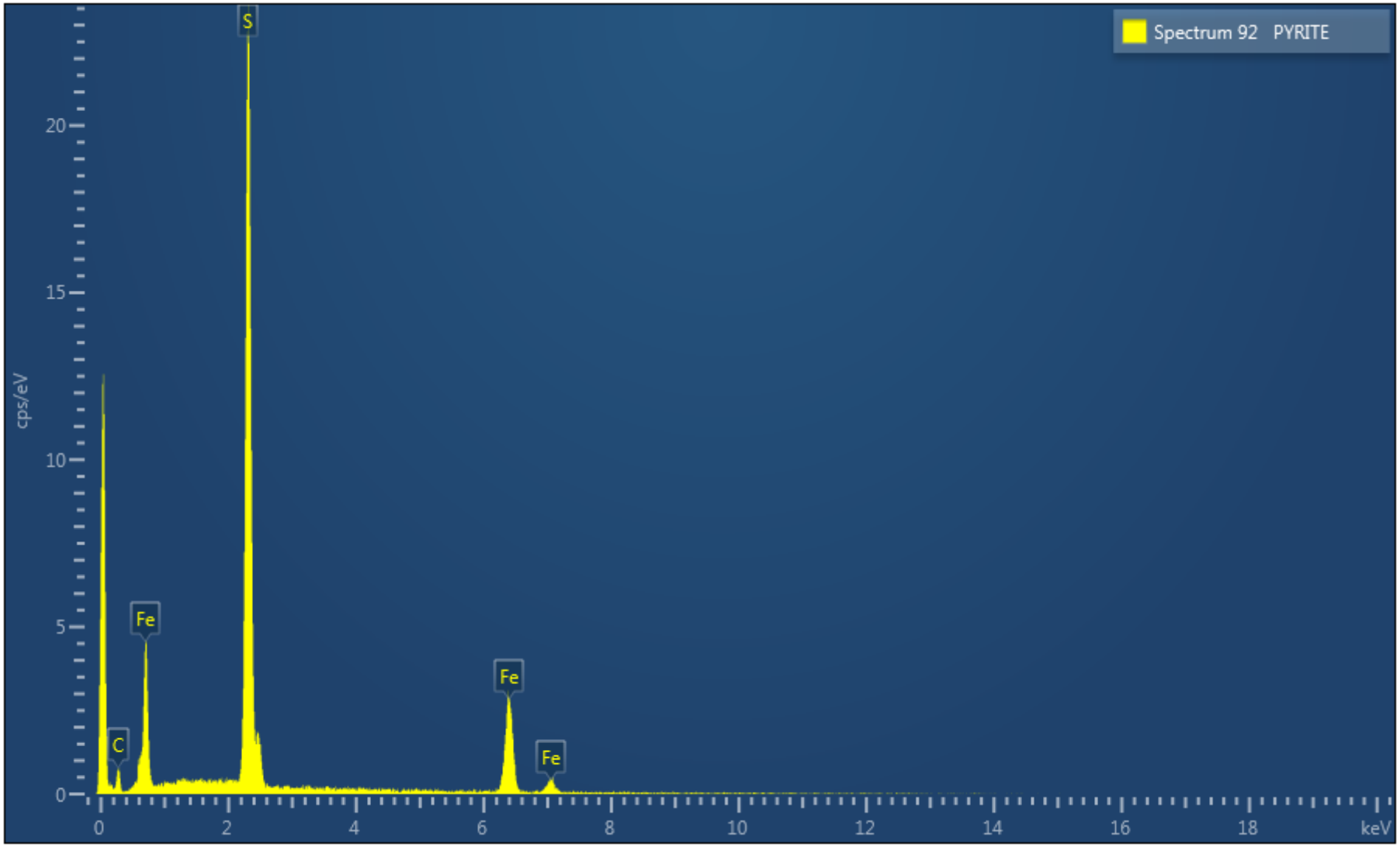

M4S Grain 7: Pyrite (spectrum 90) and chalcopyrite (spectrum 91) (see EDS spectra below).

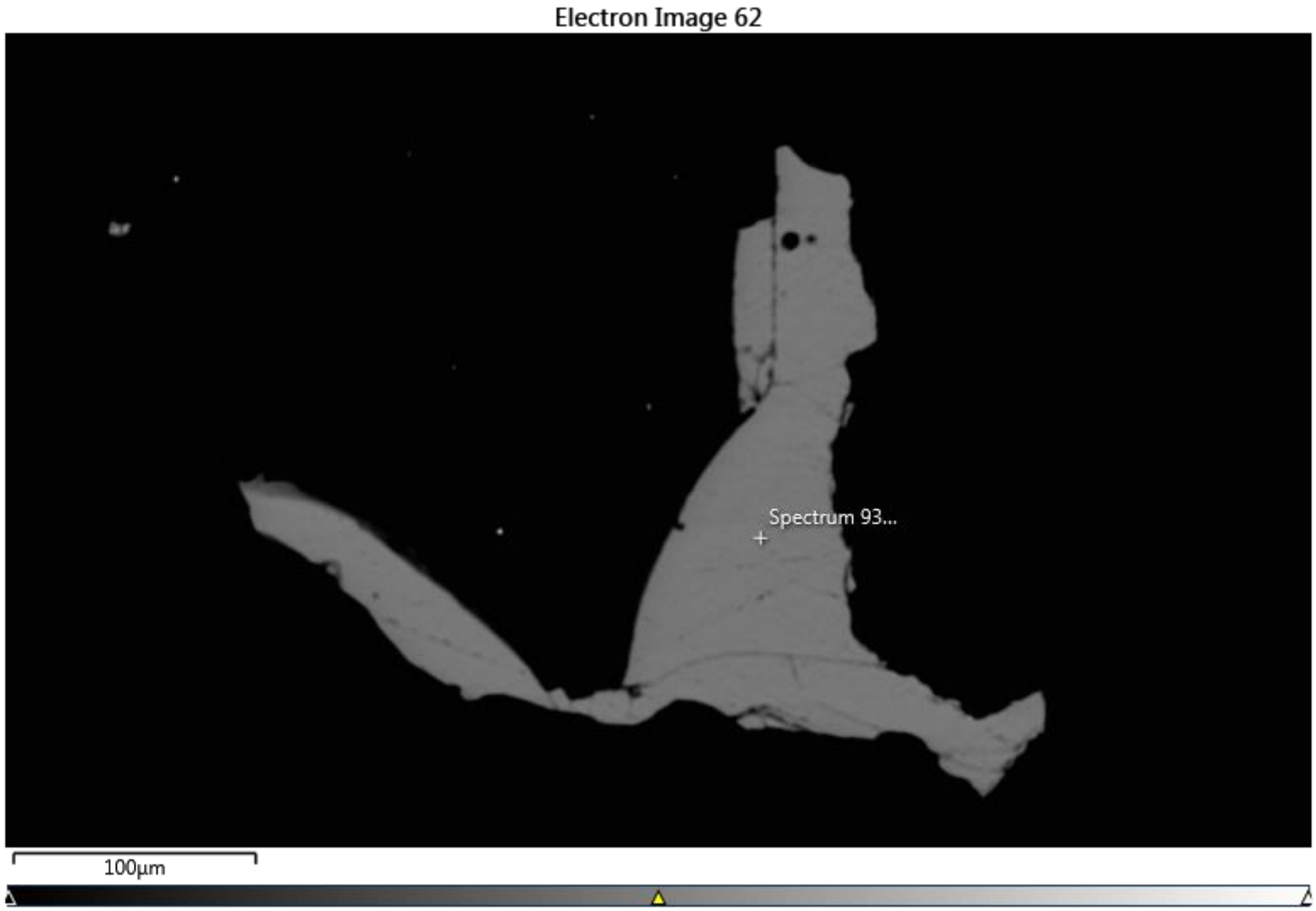

Spectrum 90 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV


Spectrum 91 CPY
cps/eV
keV
S
Cu
Fe
C
Fe
Fe
Cu
Cu
0
2
4
6
8
10
12
14
16
18

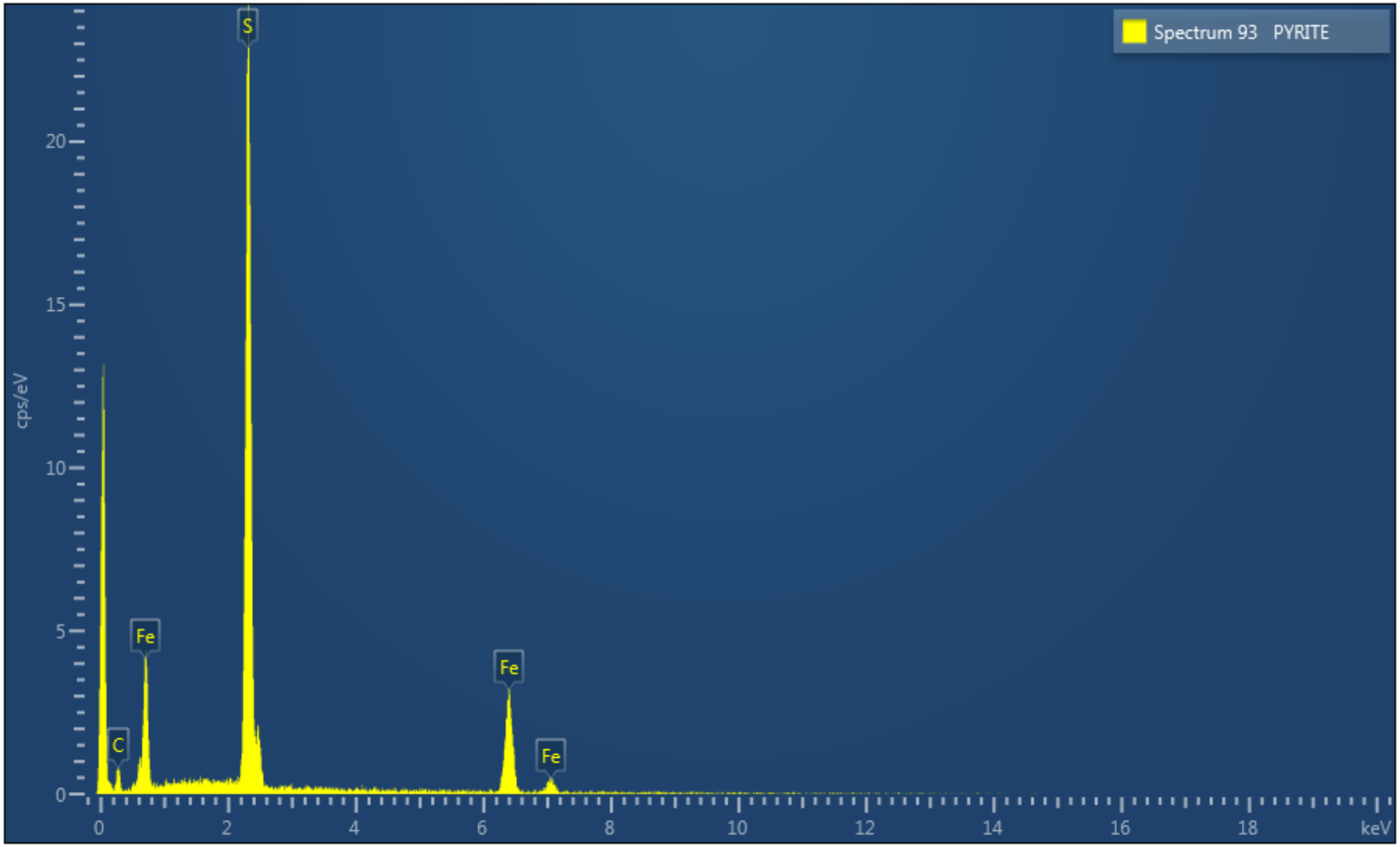



M4S Grain 8: Pyrite (see EDS spectrum below).


Spectrum 92 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV




M4S Grain 9: Pyrite (see EDS spectrum below).


Spectrum 93 PYRITE
S
Fe
C
Fe
Fe
cps/eV
0
5
10
15
20
0
2
4
6
8
10
12
14
16
18
keV

AGAT Laboratories

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MISSISSAUGA, ONTARIO
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FAX (905)501-0589
http://www.agatlabs.com

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

ATTENTION TO: ROBERT DILLMAN

PROJECT:

AGAT WORK ORDER: 21T829779

SOLID ANALYSIS REVIEWED BY: Kevin Motomura, Data Review Supervisor

DATE REPORTED: Dec 15, 2021

PAGES (INCLUDING COVER): 11

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

*Notes

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# Certificate of Analysis

AGAT WORK ORDER: 21T829779

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (200-) Sample Login Weight

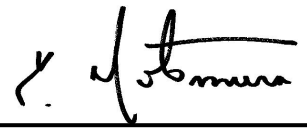
DATE SAMPLED: Nov 11, 2021 | DATE RECEIVED: Nov 12, 2021 | DATE REPORTED: Dec 15, 2021 | SAMPLE TYPE: Other

| Analyte: | Sample Login Weight |
|---|---|
| Unit: | g |
| Sample ID (AGAT ID) RDL: | 0.01 |
| MIR-1 (3204422) | 34 |
| MIR-2 (3204423) | 54 |
| MIR-3 (3204424) | 68 |
| MIR-4 (3204425) | 16 |

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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http://www.agatlabs.com

# Certificate of Analysis

AGAT WORK ORDER: 21T829779

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 11, 2021 | DATE RECEIVED: Nov 12, 2021 | DATE REPORTED: Dec 15, 2021 | SAMPLE TYPE: Other

| Analyte: | Ag | Al | As | Au | B | Ba | Be | Bi | Ca | Cd | Ce | Co | Cr | Cs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit: | ppm | % | ppm | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm |
| Sample ID (AGAT ID) RDL: | 0.01 | 0.01 | 0.1 | 0.005 | 5 | 1 | 0.05 | 0.01 | 0.01 | 0.01 | 0.01 | 0.1 | 0.5 | 0.05 |
| MIR-1 (3204422) | <0.01 | 0.33 | 2.1 | <0.005 | <5 | 11 | 0.09 | 0.05 | 0.22 | 0.05 | 28.1 | 6.5 | 25.1 | 0.12 |
| MIR-4 (3204425) | <0.01 | 0.19 | 1.4 | <0.005 | <5 | 6 | 0.06 | 0.04 | 0.16 | 0.03 | 20.7 | 3.8 | 13.8 | 0.09 |

| Analyte: | Cu | Fe | Ga | Ge | Hf | Hg | In | K | La | Li | Mg | Mn | Mo | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit: | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | % | ppm | ppm | % |
| Sample ID (AGAT ID) RDL: | 0.5 | 0.01 | 0.05 | 0.05 | 0.02 | 0.01 | 0.005 | 0.01 | 0.1 | 0.1 | 0.01 | 1 | 0.05 | 0.01 |
| MIR-1 (3204422) | 3.0 | 1.37 | 4.27 | 0.25 | 0.09 | <0.01 | <0.005 | 0.01 | 12.7 | 3.4 | 0.23 | 175 | 0.09 | <0.01 |
| MIR-4 (3204425) | 3.0 | 0.74 | 2.81 | 0.19 | 0.08 | <0.01 | <0.005 | 0.01 | 9.8 | 2.1 | 0.13 | 74 | <0.05 | <0.01 |

| Analyte: | Nb | Ni | P | Pb | Rb | Re | S | Sb | Sc | Se | Sn | Sr | Ta | Te |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit: | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Sample ID (AGAT ID) RDL: | 0.05 | 0.5 | 0.001 | 0.1 | 0.1 | 0.001 | 0.01 | 0.05 | 0.1 | 0.2 | 0.2 | 0.2 | 0.01 | 0.01 |
| MIR-1 (3204422) | 0.62 | 13.2 | 0.050 | 5.7 | 1.8 | <0.001 | 0.02 | <0.05 | 1.1 | 0.7 | 3.5 | 6.9 | <0.01 | <0.01 |
| MIR-4 (3204425) | 0.42 | 6.3 | 0.042 | 2.4 | 1.4 | 0.002 | 0.01 | <0.05 | 0.6 | 0.5 | 0.5 | 4.9 | <0.01 | <0.01 |

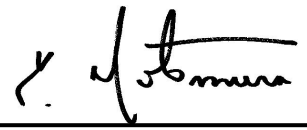
| Analyte: | Th | Ti | Tl | U | V | W | Y | Zn | Zr |
|---|---|---|---|---|---|---|---|---|---|
| Unit: | ppm | % | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Sample ID (AGAT ID) RDL: | 0.1 | 0.005 | 0.01 | 0.05 | 0.5 | 0.05 | 0.05 | 0.5 | 0.5 |
| MIR-1 (3204422) | 7.1 | 0.065 | <0.01 | 0.39 | 37.1 | 0.23 | 3.94 | 19.6 | 3.4 |
| MIR-4 (3204425) | 5.0 | 0.034 | <0.01 | 0.35 | 19.8 | 0.23 | 2.85 | 9.0 | 2.2 |

Comments: RDL - Reported Detection Limit

3204422-3204425 Au determination by this method is semi-quantitative due to small sample size.

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: 21T829779

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (201-079) Sodium Peroxide Fusion - ICP-OES finish

DATE SAMPLED: Nov 11, 2021 | DATE RECEIVED: Nov 12, 2021 | DATE REPORTED: Dec 15, 2021 | SAMPLE TYPE: Other

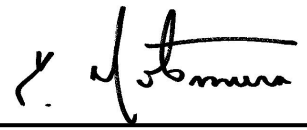
| Analyte: | Al | As | B | Ba | Ca | Co | Cr | Cu | Fe | K | Li | Mg | Mn | Mo |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit: | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| Sample ID (AGAT ID) RDL: | 0.01 | 0.005 | 0.01 | 0.001 | 0.05 | 0.001 | 0.005 | 0.001 | 0.01 | 0.05 | 0.01 | 0.005 | 0.005 | 0.005 |
| MIR-2 (3204423) | 5.67 | <0.005 | <0.01 | 0.026 | 3.12 | 0.002 | 0.027 | <0.001 | 3.67 | 0.92 | <0.01 | 1.01 | 0.142 | <0.005 |
| MIR-3 (3204424) | 5.58 | <0.005 | <0.01 | 0.032 | 2.49 | 0.001 | 0.019 | <0.001 | 3.10 | 1.10 | <0.01 | 0.689 | 0.059 | <0.005 |

| Analyte: | Ni | Pb | S | Si | Sn | Ti | V | W | Zn |
|---|---|---|---|---|---|---|---|---|---|
| Unit: | % | % | % | % | % | % | % | % | % |
| Sample ID (AGAT ID) RDL: | 0.001 | 0.005 | 0.01 | 0.005 | 0.005 | 0.005 | 0.005 | 0.01 | 0.005 |
| MIR-2 (3204423) | 0.003 | <0.005 | 0.06 | 30.9 | <0.005 | 0.895 | 0.009 | <0.01 | <0.005 |
| MIR-3 (3204424) | 0.002 | <0.005 | 0.05 | 33.7 | <0.005 | 0.435 | 0.008 | <0.01 | <0.005 |

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: 21T829779

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 11, 2021 | DATE RECEIVED: Nov 12, 2021 | DATE REPORTED: Dec 15, 2021 | SAMPLE TYPE: Other

| | Analyte: | Au |
|---|---|---|
| | Unit: | ppm |
| Sample ID (AGAT ID) | RDL: | 0.001 |
| MIR-2 (3204423) | | 0.001 |
| MIR-3 (3204424) | | 0.835 |

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: 21T829779

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

| | REPLICATE #1 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | | | | | | | | | | | | |
| Al | | 0.150 | 0.178 | 17.1% | | | | | | | | | | | | |
| B | | < 5 | < 5 | 0.0% | | | | | | | | | | | | |
| Ba | | 400 | 431 | 7.5% | | | | | | | | | | | | |
| Be | | 0.101 | 0.109 | 7.6% | | | | | | | | | | | | |
| Ca | | 0.784 | 0.802 | 2.3% | | | | | | | | | | | | |
| Cr | | 191 | 245 | 24.8% | | | | | | | | | | | | |
| Cu | | 667 | 703 | 5.3% | | | | | | | | | | | | |
| Fe | | 2.32 | 2.54 | 9.1% | | | | | | | | | | | | |
| K | | 0.179 | 0.208 | 15.0% | | | | | | | | | | | | |
| Li | | 14.1 | 14.6 | 3.5% | | | | | | | | | | | | |
| Mg | | 0.57 | 0.60 | 5.1% | | | | | | | | | | | | |
| Mn | | 228 | 248 | 8.4% | | | | | | | | | | | | |
| Na | | 0.02 | 0.02 | 0.0% | | | | | | | | | | | | |
| Ni | | 12.7 | 13.7 | 7.6% | | | | | | | | | | | | |
| P | | 0.050 | 0.048 | 4.3% | | | | | | | | | | | | |
| S | | 1.18 | 1.22 | 3.3% | | | | | | | | | | | | |
| Sc | | 2.23 | 2.31 | 3.5% | | | | | | | | | | | | |
| Sr | | 179 | 188 | 4.9% | | | | | | | | | | | | |
| Ti | | < 0.005 | < 0.005 | 0.0% | | | | | | | | | | | | |
| V | | 18.0 | 19.5 | 8.0% | | | | | | | | | | | | |
| Zn | | 20.7 | 20.6 | 0.5% | | | | | | | | | | | | |

## (201-079) Sodium Peroxide Fusion - ICP-OES finish

| | REPLICATE #1 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample ID | Original | Replicate | RPD | | | | | | | | | | | | |
| Al | | 8.07 | 8.17 | 1.1% | | | | | | | | | | | | |
| As | | <0.005 | <0.005 | 0.0% | | | | | | | | | | | | |
| B | | <0.01 | <0.01 | 0.0% | | | | | | | | | | | | |
| Ba | | 0.008 | 0.008 | 1.9% | | | | | | | | | | | | |
| Ca | | 4.27 | 4.32 | 1.2% | | | | | | | | | | | | |
| Co | | 0.003 | 0.003 | 0.7% | | | | | | | | | | | | |
| Cr | | 0.019 | 0.019 | 0.8% | | | | | | | | | | | | |

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# Quality Assurance - Replicate

AGAT WORK ORDER: 21T829779

PROJECT:

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http://www.agatlabs.com

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cu | | 0.010 | 0.009 | 5.4% | | | | | | | | | | | | |
| Fe | | 4.60 | 4.71 | 2.4% | | | | | | | | | | | | |
| K | | 0.37 | 0.40 | 7.3% | | | | | | | | | | | | |
| Li | | <0.01 | <0.01 | 0.0% | | | | | | | | | | | | |
| Mg | | 2.59 | 2.65 | 2.1% | | | | | | | | | | | | |
| Mn | | 0.071 | 0.073 | 2.9% | | | | | | | | | | | | |
| Mo | | <0.005 | <0.005 | 0.0% | | | | | | | | | | | | |
| Ni | | 0.007 | 0.007 | 1.1% | | | | | | | | | | | | |
| Pb | | <0.005 | <0.005 | 0.0% | | | | | | | | | | | | |
| S | | 0.40 | 0.40 | 1.5% | | | | | | | | | | | | |
| Si | | 26.0 | 25.8 | 0.5% | | | | | | | | | | | | |
| Sn | | <0.005 | <0.005 | 0.0% | | | | | | | | | | | | |
| Ti | | 0.267 | 0.271 | 1.5% | | | | | | | | | | | | |
| V | | 0.012 | 0.012 | 0.9% | | | | | | | | | | | | |
| W | | <0.01 | <0.01 | 0.0% | | | | | | | | | | | | |
| Zn | | <0.005 | 0.005 | 0.0% | | | | | | | | | | | | |

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# Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 21T829779

PROJECT:

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN

## (201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

| | CRM #1 (ref.ME-1308) | | | |
|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits |
| Cu | 3980 | 4524 | 114% | 80% - 120% |
| Zn | 4290 | 4548 | 106% | 80% - 120% |

## (201-079) Sodium Peroxide Fusion - ICP-OES finish

| | CRM #1 (ref.Till-2) | | | |
|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits |
| Al | 8.47 | 7.88 | 93% | 80% - 120% |
| As | 26.0 | 26.4 | 102% | 80% - 120% |
| Ba | 540.0 | 495 | 92% | 80% - 120% |
| Ca | 0.907 | 0.862 | 95% | 80% - 120% |
| Co | 15.0 | 18.0 | 120% | 80% - 120% |
| Cr | 74.0 | 66.4 | 90% | 80% - 120% |
| Cu | 150.0 | 146 | 98% | 80% - 120% |
| Fe | 3.77 | 3.69 | 98% | 80% - 120% |
| K | 2.55 | 2.36 | 93% | 80% - 120% |
| Li | 47.0 | 46.0 | 98% | 80% - 120% |
| Mg | 1.1 | 1.04 | 94% | 80% - 120% |
| Mn | 780.0 | 775 | 99% | 80% - 120% |
| Mo | 14.0 | 13.3 | 95% | 80% - 120% |
| Ni | 32.0 | 33.8 | 105% | 80% - 120% |
| Ti | 0.527 | 0.481 | 91% | 80% - 120% |
| V | 77.0 | 75.3 | 98% | 80% - 120% |
| W | 5.0 | 4.75 | 95% | 80% - 120% |
| Zn | 130.0 | 117 | 90% | 80% - 120% |

## (202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

| | CRM #1 (ref.GS5X) | | | |
|---|---|---|---|---|
| Parameter | Expect | Actual | Recovery | Limits |
| Au | 5.04 | 4.77 | 95% | 90% - 110% |

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# Method Summary

CLIENT NAME: ROBERT DILLMAN

AGAT WORK ORDER: 21T829779

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-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Al | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| As | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Au | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| B | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Ba | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Be | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Bi | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Ca | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Cd | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Ce | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Co | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Cr | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Cs | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Cu | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Fe | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Ga | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Ge | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Hf | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Hg | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| In | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| K | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| La | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Li | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Mg | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Mn | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Mo | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |

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# Method Summary

CLIENT NAME: ROBERT DILLMAN
AGAT WORK ORDER: 21T829779
PROJECT:
ATTENTION TO: ROBERT DILLMAN
SAMPLING SITE:
SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|---|---|---|
| Na | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Nb | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Ni | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| P | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Pb | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Rb | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Re | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| S | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Sb | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Sc | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Se | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Sn | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Sr | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Ta | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Te | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Th | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Ti | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Tl | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| U | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| V | MIN-200-12020 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| W | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Y | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Zn | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-OES |
| Zr | MIN-200-12018 | Fletcher, WK: Handbook of Exploration Geochem | ICP-MS |
| Al | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| As | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| B | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Ba | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |

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# Method Summary

CLIENT NAME: ROBERT DILLMAN

AGAT WORK ORDER: 21T829779

PROJECT:

ATTENTION TO: ROBERT DILLMAN

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|---|---|---|
| Ca | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Co | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Cr | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Cu | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Fe | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| K | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Li | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Mg | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Mn | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Mo | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Ni | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Pb | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| S | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Si | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Sn | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Ti | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| V | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| W | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Zn | MIN-200-12001/MIN-200-12049 | Bozic, J et. al. Analyst. 114: 1401-1403; 1989 | ICP/OES |
| Au | MIN-12006, MIN-12004 | | ICP/OES |