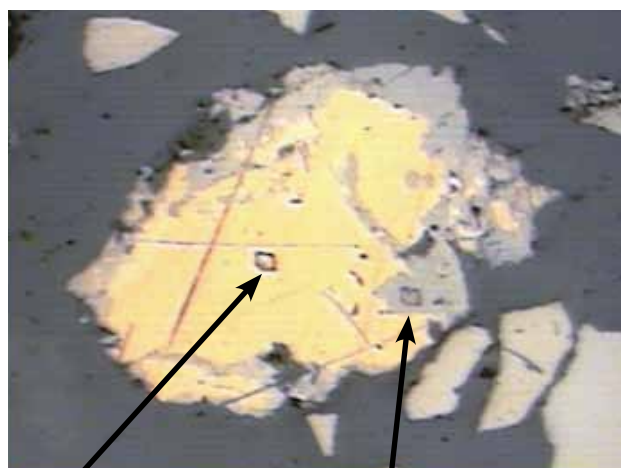




## Electron Probe Microanalysis (EPMA)

Electron microprobe analysis offers a range of microchemical analysis capabilities for mineral characterisation. Accurate and precise chemical quantification of major and minor elements to better than 0.03wt% is routine, using spot analysis mode down to 1µm in size. Trace element analysis to less than 50ppm and element speciation studies are also achievable using specialised analysis protocols. Element distribution mapping within minerals is a routine instrument capability. The JKT EPMA Facility uses a 4-spectrometer CAMECA SX50 microprobe supported by SAMx data acquisition and processing software suite. Mineral characterisation applications of EPMA data include accurate major and minor element numerical modelling, deleterious element location and quantification, minor to trace level element distribution and quantification.



	10038A_10Au1		10038A_10BiTes	
	Wt%	At%	Wt%	At%
S	0.00		8.88	30.4
Cu	0.00		0.04	
Ag	17.88	28.3	28.48	29.0
Te	0.00		23.56	20.3
Au	82.93	71.8	3.04	1.7
Hg	0.02		0.01	
Pb	0.00		10.20	5.4
Bi	0.01		25.14	13.2
Total	100.84	100.0	99.35	100.0

The above EPMA reflected light optical image shows electrum (yellow) mantled by Ag-saddlebackite, a Ag-rich Bi-Te-Sulphide (grey). The table gives the electron microprobe compositions of the two minerals at the locations shown.

### JKTech Services

- Consulting (comminution, flotation, mineralogy, mining & geometallurgy)
- Process Mineralogy and In-House Instrument Analysis
- Specialist Software (JKSimMet, JKSimFloat, JKMultiBal, JKSimBlast)
- Specialist Equipment (ore breakage characterisation, flotation characterisation)
- Metallurgical Laboratory Services
- SMI Knowledge Transfer

### Contact

Dr David Steele  
Mineralogy Specialist

Telephone: +61 7 3346 5912

Facsimile: +61 7 3365 5900

Email: [d.steele@jktech.com.au](mailto:d.steele@jktech.com.au)

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