


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p>UKAS TESTING</p> <p>4028</p> <p>Accredited to ISO/IEC 17025:2017</p>	<p>ALS Inspection UK Limited</p> <p>Issue No: 015 Issue date: 19 February 2025</p>	
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<p>Testing performed at the above address only</p>		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ORES & MINERALS	<u>Chemical Testing</u>	
Cobalt bearing materials	Cobalt (Co)	Method PN046 using Multipotentiometric titration
Copper concentrates	Copper (Cu)	Documented in house method PN049 using Electrogravimetry Documented in house method PN343 using Titration
	Gold (Au), and Silver (Ag)	Documented in house method PN296 using Fire Assay and Gravimetry/ICP-OES
	Silver (Ag)	Documented in house method PN065 using ICP-OES
Copper cathode	Impurities (Ag, As, Bi, Cd, Co, Cr, Fe, Mn, Ni, P, Pb, Sb, Se, Si, Sn, Te Zn, Al and Mg) up to 0.1% each element. Copper (Cu) by difference	Documented in house method PN241 using ICP-OES
Zinc concentrates	Zinc (Zn) and Iron (Fe)	Documented in house method PN249 using XRF Spectrometry
	Silver (Ag)	Documented in house method PN067 using Fire Assay and Gravimetry
	Silver (Ag)	Documented in house method PN143 using ICP-OES
High grade zinc metal	Impurities (Ag Al As Bi Cd Co Cr Cu Fe Mg Mn Ni P Sb Si Sn Te Tl, In and Pb) up to 0.1% each element. Zinc (Zn) by difference	Documented in house method PN356 using ICP-OES



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ORES & MINERALS (cont'd)	<u>Chemical Testing (cont'd)</u>	
Lead concentrates	Lead (Pb)	Documented in house method PN088 using Titrimetry
High grade lead alloy	Impurities (Ag Al As Bi Ca Cd Co Cr Cu Fe Mg Mn Ni P Sb Se Sn Te Ti Zn, In, Mo, V and Ti) up to 0.1% each element. <u>Lead (Pb) by difference</u>	Documented in house method PN344 using ICP-OES
Molybdenum bearing materials	Molybdenum (Mo)	Method PN151 using X-Ray Fluorescence
Nickel bearing materials	Nickel (Ni)	Method PN103 using DMG Precipitation
Nickel concentrates	Nickel (Ni) Cobalt (Co) Iron (Fe)	Documented in house method PN024 using XRF Spectrometry
Nickel concentrates	Gold (Au) Platinum (Pt) Palladium (Pd)	Documented in house method PN322 using Fire Assay and ICP-OES
Nickel concentrates	Impurities, specifically: Aluminium (Al) Arsenic (As) Cobalt (Co) Calcium (Ca) Chromium (Cr) Zinc (Zn) Copper (Cu) Magnesium (Mg) Nickel (Ni) Iron (Fe)	Documented in house method PN312 using ICP-OES
Tin Concentrates	Tin (Sn) Impurities: Iron (Fe) Tungsten Oxide (WO ₃)	Method PN191 using X-Ray Secondary Meissner Fluorescence
Tin bearing materials	Tin (Sn)	Method PN214 using Iodometric Titration



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ORES & MINERALS (cont'd)	<u>Chemical Testing (cont'd)</u>	
High grade nickel metal	Impurities (Ag Al As Bi Ca Cd Co Cr Cu Fe Mg Mn P Sb Se Si Sn Ti Zn Pb, K, Na and V) up to 0.1% each element. Nickel (Ni) by difference	Documented in house method PN354 using ICP-OES
High grade cobalt metal	Impurities (Ag Al As Bi Ca Cd Cr Cu Fe Mg Mn Ni P Sb Se Sn Te Ti Zn Pb, In, K, Mo, Na,Ti and V) up to 0.1% each element. Cobalt (Co) by difference	Documented in house method PN353 using ICP-OES
High grade aluminium alloys	Impurities (Ag, As, Bi, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, , Ni, , Pb, Sb, Se, Si, Sn, Ti Zn, Ga, Li, K, V and Ti) up to 0.1% each element. Aluminium (Al) by difference	Documented in house method PN352 using ICP-OES
High grade tin metal	Impurities (Ag Al As Bi Cd Co Cr Cu Fe Mn Ni P Sb Te Ti Zn Pb, In, Ti and V) up to 0.1% each element. Tin (Sn) by difference	Documented in house method PN355 using ICP-OES
METAL ORES & MINERALS	Carbon & Sulphur	Documented in house method PN123_04 using Combustion/Infrared Analyser
	Oxygen & Nitrogen	Documented in house method PN258_02 using Combustion/Infrared Analyser
PRECIOUS METALS		
Silver Metal and Bullion	Silver (Ag)	Documented in house method PN230 using titrimetry
ALUMINA BASED COMMODITIES		
Autocatalysts Fresh and spent autocatalysts Refining/Reforming Catalysts	Platinum (Pt) Palladium (Pd) Rhodium (Rh)	Documented in house method PN342 using digestion and ICP-OES
END		