

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>UKAS TESTING 1543</p> <p>Accredited to ISO/IEC 17025:2017</p>	<h3>Alfred H Knight International Ltd</h3> <p>Issue No: 026 Issue date: 04 February 2021</p>	
	<p>The John Knight Laboratory Kings Business Park Kings Drive Prescot L34 1PJ United Kingdom</p>	<p>Contact: Mr N Birch Tel: +44 (0)151 481 5850 Fax: +44 (0)151 481 0970 E-Mail: nick.birch@ahkgroup.com Website: www.ahkgroup.com</p>
<p>Testing performed by the Organisation at the locations specified below</p>		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
<p>Address The John Knight Laboratory Kings Business Park Kings Drive Prescot L34 1PJ</p> <p>Local contact Mr N Birch Tel: +44 (0) 151 481 5850 Fax: +44 (0)151 481 0970 E-Mail: nick.birch@ahkgroup.com Website: www.ahkgroup.com</p>	Minerals, Metals and Catalysts - Chemical and Physical Tests	A
<p>Address Units C & D Lea Green Business Park Eurolink Lea Green St Helens WA9 4TR</p> <p>Local contact Mr N Birch Tel: +44 (0)1744 733757 Fax: +44 (0)1744 27062 E-Mail: nick.birch@ahkgroup.com Website: www.ahkgroup.com</p>	Minerals, Metals and Catalysts - Chemical and Physical Tests	B
<p>Address Unit 9 Lea Green Business Park Eurolink Lea Green St Helens WA9 4TR</p> <p>Local contact Mr N Birch Tel: +44 (0)1744 733757 Fax: +44 (0)1744 27062 E-Mail: nick.birch@ahkgroup.com Website: www.ahkgroup.com</p>	Minerals, Metals and Catalysts - Chemical and Physical Tests	C
<p>Address Unit 8, Villiers Road, Knowsley Business Park, Knowsley, L34 9ET</p> <p>Local contact Mr N Birch Tel: +44 (0)1744 733757 Fax: +44 (0)1744 27062 E-Mail: nick.birch@ahkgroup.com Website: www.ahkgroup.com</p>	Minerals, Metals and Catalysts - Chemical and Physical Tests	D



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DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location
CATALYST MATERIALS	<u>Chemical Tests</u>	Documented In-house Methods	
Auto catalysts	Rhodium	PA126, fire assay, ICP-OES	A
Refining / reforming catalysts	Loss on ignition	PA130, thermogravimetric	A
	Platinum	PS401, Alkali Fusion, ICP-OES	A
	Rhenium	PA119, ICP-OES	A
PGM Commodities	Ruthenium, Rhodium, Iridium	PC913, fire assay, ICP-OES	A
METALS AND ALLOYS			
Copper anodes and blister copper	Copper	GC906, electrogravimetric	D
Cobalt alloys, residues and related materials	Cobalt (>3%)	SC829 using titrimetry	A
Dore bullion	Gold, Silver	PG406, fire assay, gravimetric	A
PM bearing copper scrap, electronic scrap and bullion	Copper	GC924, electrogravimetric	D
Copper (high purity)	Ag, Al, As, Be, Bi, Cd, Co, Cr, Fe, Mg, Mn, Ni, P, Pb, S, Sb, Se, Si, Sn, Te, Ti, Zn and Zr	OC900, spark emission spectroscopy	A
Silver metal and bullion	Gold	PS510, gravimetric	A
Silver metal and bullion	Silver	PS508, potentiometric titration	A
Base Metal Commodities and Scrap	Ag, Au, Pt, Pd	PC924 using fire assay followed by ICP-OES	A



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CONCENTRATES, ORES AND MINERALS	<u>Chemical Tests</u>	Documented In-house Methods	
Cassiterite and tin concentrates	Tin	TT701, titrimetric	A
Tin slags	Tin, Niobium, Tantalum, Titanium	YT713, XRF	A
Columbite	Niobium, Tantalum, Tin, Titanium	YN412, XRF	A
Copper concentrates	Copper	GC936, titrimetric	D
	Copper	GC920, electrogravimetric	D
	Copper	YC923, XRF	A
Copper concentrates, ores and minerals	Copper	GM003, potentiometric	D
Lead and bulk concentrates	Lead	GL203, titrimetric	A
Copper, lead and zinc concentrates	Silver	SC905, FAAS	A, B
	Gold, Silver	PC904, fire assay, gravimetric, FAAS	B
Molybdenum concentrates	Oil	YM406, gravimetric	A
PGM bearing concentrates	Gold, Platinum, Palladium, Rhodium	PC905, ICP-OES	A
Tantalite	Tantalum, Niobium, Tin, Titanium	YT111, XRF	A
Wolframite	Tungsten, Calcium, Iron, Silica, Tin	YT901, XRF	A
Wolfram powders, ferberite and hubnerite	Arsenic, Bismuth, Copper, Lead, Molybdenum, Zinc	YT908, XRF	A
Molybdenum sulphide concentrates and oxides	Mo, Cu	YM407, XRF	A
Zinc Concentrates and Bulk Concentrates	Zn	YZ108, XRF	A



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CONCENTRATES, ORES AND MINERALS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-house Methods	
Nickel concentrates	Ni, Cu, Co, MgO	YN429, XRF	A
Zinc concentrates	Zinc	GZ130, titrimetric	A
BASE METAL MATERIALS			
Anode slimes	Copper	GC909, electrogravimetric	D
	Selenium (concentrates ≤ 10% Se w/w)	GC941, FAAS	A
PM BEARING MATERIALS			
Alumina sweeps and residues, catalysts, residues and refractory slags	Gold, Palladium, Platinum	PA122, fire assay, ICP-OES, FAAS	A
Anode slimes, selenium slimes and residues	Gold, Palladium, Platinum, Silver	PS301, gravimetric, ICP-OES	A
Bulk Cargoes such as Minerals, ores and concentrates	<u>Physical Tests</u>	Documented In-house Methods	C
	Flow Moisture Point (FMP) and Transportable Moisture Limit (TML)	FMP based on ISO 12742:2007 and IMO Guide	
ALL MATERIALS (LISTED IN THIS SCHEDULE)	Chemical and Physical Tests		
	Carbon, Sulphur	SC4142, combustion and infra red detection	A
	Moisture	GJ038, gravimetric	A

END