



CERTIFICATE OF ACCREDITATION

This is to attest that

LABS & TECHNOLOGICAL SERVICES AGQ S L

CTRA A-8002 KM 20.8
BURGUILLOS (SEVILLA) 41220
SPAIN

Testing Laboratory TL-475

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2005, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date December 19, 2018



A handwritten signature in black ink, reading "Raj Nathan".

President

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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LABS & TECHNOLOGICAL SERVICES AGQ S L

www.agqlabs.es

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Accredited to ISO/IEC 17025:2005

Effective Date December 19, 2018

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE	
Elemental Analysis	Metallic Ores and High Grade Material	Multi-Element Analysis (Ag, Al, As, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sn, Sr, Ti, Tl, V, Zn)	PE-4017, Sample Preparation	
			PE-4041, Aqua Regia digestion PE-4042, ICP-AES Analysis	
	Metallic Ores	Multi-Element Analysis (Ag, Al, As, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sn, Sr, Ti, Tl, V, Zn)	PE-4017, Sample Preparation	
			PE-4041, 4 Acids digestion PE-4043, ICP-AES Analysis	
		Gold and Silver	PE-4017, Sample Preparation	
			PE-4008, AA Analysis and Fire Assay PE-4014, ICP-OES Analysis and Fire Assay	
		Total S	Total S	PE-4017, Sample Preparation
				PE-4408, Elemental Analyzer
	Wolframium	Wolframium	PE-4017, Sample Preparation	
			PE-4019, ICP-MS Analysis and Acid Digestion	
	Geochemical Samples	Multi-Element Analysis (Ag, Al, As, Ba, Be, Bi, Cd, Co, Cr, Cu, Fe, Ga, Hg, Li, Mn, Mo, Ni, P, Pb, Se, Sb, Sc, Sn, Sr, Te, Ti, Tl, V, Zn)	PE-4017, Sample Preparation PE-4034 ICP-MS Analysis and Acid Digestion	
	Geochemical samples and metallic ores	Neutralization Potential Sobek (NP)	PE-4402, Sobek et Al. Method (1987)	
			PE-4403, Lawrence & Wang Method (1996)	
		Sulphate Sulphur by carbonate, weak hydrochloric acid or concentrate nitric acid leaching	PE-4404, Elemental Analyzer	

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Elemental Analysis (continued)	Geochemical samples and metallic ores (continued)	Acid and neutralization Potential	PE-4407, prEN15875:2008
		Total Sulphur	PE-4408, Elemental Analyzer
		Fizz Rating	PE-4409, Fizz Rating
		Net generation Acid	PE-4413, NAG Method (1997)
		Paste pH	PE-4416, EPA 600/2-78-054
		Sulphide Sulphur by Combustion and Elemental IR analysis	PE-4417, Elemental Analyzer
Gravimetric and Volumetric Analysis	Metallic Ores	Total Sulphate	PE-4017, Sample Preparation PE-4005, Gravimetric Methods
	High Grade Material	Copper	PE-4009, Volumetric Methods
		Zinc	PE-4010, Volumetric Methods
		Lead	PE-4011, Volumetric Methods
		Iron	PE-4012, Volumetric Methods
Calculation	Metallic Ores	Total Sulphide	PE-4016, Calculation Methods
Elemental Analysis	Metallic Ores	Multi-Element Analysis (Al, Ca, Cr, Fe, K, Mg, Mn, P, Si)	PE-4017, Sample Preparation PE-4006, ICP-OES and Alkaline Fusion/ Acid Digestion
		Acid Soluble Cooper	PE-4020, ICP-OES Analysis and Acid Extraction
		Cyanide Soluble Cooper	PE-4021, ICP-OES Analysis and Cyanide Extraction
		W	PE-4022, ICP-OES Analysis and Acid Digestion
		Uranium and Thorium	PE-4023, ICP-MS Analysis and 4 Acids Digestion
Elemental Analysis	Waters (all type)	Element Analysis (Al, Ag, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn)	PE-2107 Determination of Elements by plasma emission spectrophotometry
Ion chromatography	Water	Bromates, Bromides, Chlorite, Chlorate,	PE-2090
Volumetric Titration	Water	Carbonates, Bicarbonates	PEC-011
Discrete Analyzer UV-Vis	Water (all types)	Ammonium	PE-2104
		Chromium VI	
		Free Chlorine	

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Discrete Analyzer UV-Vis (continued)	Water (all types) (continued)	Total Chlorine	
		Fluoride	
		Phosphate	
		Nitrite	
		Sulfate	
Pesticide Residue Analysis by GC-MS/MS & LC-MS/MS	Fruits, Vegetables, Nuts, Cereal & Dried Fruit, Oils/ Fatty Matrices, Wine	Pesticides Residues	PE-674 Determination of pesticide using Chromatography (GC-MS/MS & LC-MS-MS)
Chromatography LC-MS/MS	Fish, Canned Fish and Wine	Hystamine	PE-516
	Nuts	Aflatoxins (B1, B2, G1, G2)	PE-519
	Coffee, Wine, Beer and Dried Fruits Nuts	Ocratoxin A	PE-520
	Cereal and processed cereal-based foods (low fat content)	Micotoxins	PE-505
PFPD Chromatography	Fruits, Vegetables	Dithiocarbamates (as CS2)	PE-641
Chromatography LC-MS/MS	Fruits and Vegetables	Quaternary ammonium salts	PE-655
	Fruits and Vegetables	Etephon, chlorate, perchlorate, fosestil and phosphonic acid	PE-690
Detection and Confirmation	Drinking Water	Plate Count of Aerobic Microorganisms at 22°C	PE-401
Count (Filtration)	Water (all types)	Total Coliform Count	PE-402
		Fecal Coliform Count	PE-403
		Escherichiacoli Count	PE-425
		Intestinal Enterococci Counts	PE-423
		Clostridium Perfringens Count	PE-433
Count	Food	Plate Count of Aerobic Microorganisms at 30° C	PE-407
		Plate Count of Staphylococcus Aureus	PE-417
		Plate Count of Escherichia Coli	PE-410

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Count (continued)	Food (Continued)	Plate Count of Enterobacterias	PE-408
		Plate Count of Total Coliform	PE-409
		Plate Count Listeria Monocytogenes	PE-456
	Water	Pseudomonas aureginosa	PE-424
		Bacteria at 36°C	PE-401
		Legionella	PE-451
Investigation	Food	Salmonella Spp.	PE-413
		Listeria Monocytogenes	PE-428
	Water	Salmonella	PE-421
CG-MS/MS Chromatography	Clean water	Pesticides Residues, PAH, PCBs	PE-666
LC-MS/MS Chromatography	Drinking Water	Microcystins	PE-661
		Acrylamide	PE-663
Chromatography LC-MS/MS	Clean Water	Glyphosate, Glufosinate, AMPA	PE-679
CG-MS/MS Chromatography	Water (all type)	Pesticides Residues, PAH, PCBs	PE-687
LC-MS/MS Chromatography	Clean Waters	Pesticides Residues	PE-678
GC-MS/MS Chromatography	Clean Waters	Chloralkanes	PE-675
Immunoassay by ELISA (Enzyme-Linked ImmunoSorbent Assay)	Food	Allergens	PE-2115
Immunoassay by ELISA (Enzyme-Linked ImmunoSorbent Assay)	Food	Gluten	PE-2114
Calcination/ Gravimetry	Food	Ash	PE-355
Enzymatic Digest	Food	Total Dietary Fiber	PE-279
NMR (Nuclear Magnetic Resonance)	Food	Total Fats and humidity	PE-2117
ICP-MS	Food	Toxic Metals (As, Ba, Cd, Cr, Cu, Fe, Hg, Li, Ni, Pb, Sb, Se, Sn, Zn)	PE-324
ICP-OES	Food	Nutritionals Metals (Ca, Na, Fe, K, Mg, P, Zn)	PE-2116
Elementary Analyzer	Food	Protein	PE-987

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Liquid scintillation counting	Drinking water	Radon	PE-2113
Leaching	Residues	Leaching	UNE-EN 12457-4
Gravimetry	Residues	Humidity. Determination of dry residue and water content	UNE-EN 12880
Potentiometry by selective ion	Leachates Residues/ Leachates according to UNE-EN 12457-2:2003 and UNE-EN 12457-4:2003 and its erratum (UNE-EN 12457-4:2006) Standard	Flouride	UNE-ISO 10359-2
Potentiometry		pH	PEC-001
ion chromatography		Sulphates and Chlorides	EN-ISO 10304-1
Atomic absorption spectroscopy (cold vapor)		Hg by cold vapor method	UNE-EN ISO 17852
Gravimetry		Total Dissolved Solids	UNE-EN 15216
Spectrophotometric method by UV absorption		Phenols	UNE-ISO 6439
HP1 Explosiveness		Residues	Explosive properties
HP2 Comburence	Oxidizing properties in Solid Residues		REACH A.17
	Oxidizing properties in Liquid Residues		REACH A.21
HP3 Inflammability	Flash-Point in Liquid Residues		REACH A.9
	Flammability in Solid Residues		REACH A.10
	Flammability (Contact with water)		REACH A.12
Induction Coupled Plasma	Multi-Element Analysis (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Se, Sb, Si, Sn, Sr, Ti, U, V, Zn)		PE-951 PE-325
Spectrophotometric method UV absorption	Cr VI		PE-2183
Potentiometry	pH in aq. Extract		PEC-001
Gravimetry	Sampling media for atmospheric emissions from stationary sources		Particles in filters and washing solutions
Ion chromatography		Sulfur dioxide (SO ₂)	UNE 14791:2006 Ap 5 (except 5.6), 8.1, 9.2 y 10.2.3
Potentiometry by selective ion		Gas fluorides (HF and F)	UNE-ISO 15713:2007 Ap. 5 y 8

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ICP-MS by 4 acid digestion		As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V in filters, Capture solution and cleaning solution	PE-303 UNE-EN 14385:2004 Apdos 5.1.3, 8.6, 8.7 (excepto 8.7.3.2) y 8.8
Atomic absorption spectroscopy (cold vapor)		Mercury	UNE-EN 13211:2001 Apdo 6.3.2, 6.3.3, 6.4 (excepto 6.4.3), 7.7, 7.8 y 7.9
Gravimetry	Sampling media for ambient air	Total particles in filter	Orden 10/08/1976 (BOE nº 266 05/11/1976) Anexo 4, Apartado 1 y 2
		Setteable particles	Orden de 10 de agosto de 1976 (Anexo 5)
		Soluble particles	
		Non-soluble particles	Decreto 151/2006 del 25 de julio BOJA nº147. Anexo 2- Apartado B
		PM 10 particles	PE-2185
		PM 2.5 particles	UNE-EN 12341:2015 Apartado 5.2, 6.1, 6.2, 6.4, 6.5, 6.6 Anexo E UNE-EN 12341:1999 Anexo C
Spectrophotometric method by UV absorption		Ammonia	UNE-EN 12341:2015 Apartado 5.2, 6.1, 6.2, 6.4, 6.5, 6.6 Anexo E UNE-EN 14907:2006 Apdo 5.2, 6 (excepto 6.4) 7.3.4 y 7.4
		Sulphur	PE-2181
Potentiometry	Soil	pH	PE-2182
Electrometry	Soil	Electrical Conductivity	PEC-001
Thermal conductivity	Soil	Total Nitrogen (Dumas Method)	PEC-002
			PEC-034