

# Schedule of Accreditation



Organisation Name	T.E. Laboratories Ltd.
Trading As	Tellab
INAB Reg No	106T
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Accreditation Standard	EN ISO/IEC 17025 T
Standard Version	2017
Date of award of accreditation	26/05/1999
Scope Classification	Chemical testing
Services available to the public <sup>1</sup>	Yes

<sup>1</sup> Refer to document on interpreting INAB Scopes of Accreditation

Sites from which accredited services are delivered		
(the detail of the accredited services delivered at each site are on the Scope of Accreditation)		
	Name	Address
1	Head Office	Loughmartin Business Park, Tullow, Carlow, R93 N529

# Scope of Accreditation

## Head Office

### Chemical Testing

Category: A

Chemistry Field - Tests	Test name	Analyte	Range of measurement	Matrix	Equipment/technique	Standard reference/SOP
766 Environmental testing (inc waters) - .01 Metal analysis	Determination of metals by ICP-MS	Acid Soluble Alkali by Calculation using Sodium and Potassium	0.0002-0.174 Na2Oeq %	Water for potable and domestic purposes, and surface and ground water	ICP-MS	Documented in house procedure TP018, based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition: 2022
		Aluminium	5 - 25000 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Antimony	0.1 - 100 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water

		Wastes, WWTP effluent and sewage		and Wastewater, 24th Edition 2022: Method 3125
Arsenic	0.2 - 200 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Barium	1-1000 ug/l	Surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022 : Method 3125
Boron	0.02-20 mg/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Cadmium	0.1 - 500 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Calcium	3 - 3000 mg/l	Surface and ground water,	ICP-MS	Documented in house procedure, TP018

				Waters for potable and domestic purpose. Trade Wastes, WWTP effluent and sewage		based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Chromium	1 - 5000 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Cobalt	1-5000 ug/l	Surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Copper	3 - 25000 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Hardness by Calculation using Calcium and Magnesium	10-10000 mg/l Ca CO <sub>3</sub>	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method

				3125
Iron	5 - 25000 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Lead	0.5-2500 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Magnesium	0.5-500 mg/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Manganese	1 - 5000 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Mercury	0.02-20 ug/l	Water for potable and domestic purposes, and surface and ground	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the

		water, Trade Wastes, WWTP effluent and sewage		Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Molybdenum	1-1000 ug/l	Surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Nickel	0.5-2500 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Potassium	0.5-500 mg/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
Selenium	0.2 -200 ug/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125

		Sodium	1-1000 mg/l	Water for potable and domestic purposes, and surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Tin	1-1000 ug/l	Surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Vanadium	1-1000 ug/l	Surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
		Zinc	1-5000 ug/l	Surface and ground water, Trade Wastes, WWTP effluent and sewage	ICP-MS	Documented in house procedure, TP018 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 3125
	Trace elements (dissolved)	Cadmium	0.03-20 mg/l	Other waters: ground waters, surface waters, Effluents, Leachates	Direct Aspiration. Flame AAS Perkin Elmer1100	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th

					Edition 2022: Method 3111B
	Chromium	0.05-50 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Direct Aspiration Flame AAS Perkin Elmer1100	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 3111B
	Cobalt	0.12-30 mg/l	Other waters: Effluents; waters for potable and domestic purpose	Direct Aspiration. Flame AAS Perkin Elmer1100	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 3111B
	Copper	0.05-50 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Direct Aspiration. Flame AAS Perkin Elmer1100	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 3111B
	Iron	0.05-50 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Direct Aspiration. Flame AAS Perkin Elmer1100	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 3111B
	Lead	0.2-90 mg/l	Other waters: ground waters, surface waters, Effluents, Leachates	Direct Aspiration. Flame AAS Perkin Elmer1100)	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 3111B
	Manganese	0.03-20 mg/l	Water for potable and domestic purpose. Other waters: ground	Direct Aspiration. Flame AAS Perkin Elmer1100	TP001 based on APHA Standard Methods for the Examination of Water



				waters, surface waters, Effluents, Leachates		and Wastewater, 24th Edition 2022: Method 3111B
		Nickel	0.10-20 mg/l	Other waters: ground waters, surface waters, Effluents, Leachates	Direct Aspiration. Flame AAS Perkin Elmer1100)	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 3111B
		Zinc	0.01-10 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Direct Aspiration. Flame AAS Perkin Elmer1100	TP001 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 3111B
766 Environmental testing (inc waters) - .02 Biochemical oxygen demand	Determination of Biochemical Oxygen Demand	BOD and cBOD	1-30,000 mg/l O <sub>2</sub>	Surface and ground water and trade waste, WWTP influent/effluent, Other waters: surface and ground waters and industrial effluent	WTW inoLab® Oxi 7310 Dissolved Oxygen Benchtop Meter and StirrOx G D.O. sensor	Documented in house procedure TP 019
766 Environmental testing (inc waters) - .03 Chemical oxygen demand	Determination of COD	COD	4-25,000 mg/l	Sewage, trade waste, bore waters, other waters: surface waters,	HACH Digestion + Spectrophotometric determination	Documented in house procedure TP006 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 5200 closed reflux colorimetric
766 Environmental testing (inc waters) - .05 Inorganic	Alkalinity	Alkalinity	20 to 1500 mg/l as CaCO <sub>3</sub>	Waters for potable and domestic purpose. Ground waters, bore waters. Other waters: surface waters	Titration	Documented in house procedure, TP010 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method

						2320
	Anions (Dissolved)	Chloride	0.25-5000 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters & effluents	Ion Chromatography - Metrohm Eco IC	TP020 - based on USEPA300 (1993)
			0.5-5000 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Ion Chromatography - Dionex IC DX-120	TP002 based on USEPA 300.0 (1993)
		Fluoride	0.1-50 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Ion Chromatography - Dionex IC DX-120	TP002 based on USEPA 300.0 (1993)
		Fluoride	0.1-50 mg/l	Water for potable and domestic purpose. Other waters: ground waters and surface waters. Trade Wastes, WWTP effluent and sewage	Ion Chromatography- Metrohm Eco IC	TP020 based on USEPA300 (1993)
		Nitrate	0.06-1129 mg/l as N 0.26-5000 mg/l as NO3	Water for potable and domestic purpose. Other waters: ground waters, surface waters & effluents	Ion Chromatography - Metrohm Eco IC	TP020 - based on USEPA300 (1993)
			0.11-1129 mg/l as N 0.5-5000 mg/l as NO3	Water for potable and domestic purpose. Other waters: ground	Ion Chromatography - Dionex IC DX-120	TP002 based on USEPA 300.0 (1993)

				waters, surface waters, Effluents, Leachates		
		Nitrite	0.06-76 mg/ l as N 0.2-250 mg/l as NO2	Water for potable and domestic purpose. Other waters: ground waters, surface waters & effluents	Ion Chromatography- Metrohm Eco IC	TP020 - based on USEPA300 (1993)
			0.06-76 mg/l as N 0.2-250 mg/l as NO2	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Ion Chromatography - Dionex IC DX-120	TP002 based on USEPA 300.0 (1993)
		Phosphate	0.16-81.6 mg/l as P 0.5-250 mg/l as PO4	Water for potable and domestic purpose. Other waters: ground waters, surface waters and effluents.	Ion Chromatography - Metrohm Eco IC	TP020 -based on USEPA300 (1993)
			0.33-81.6 mg/l as P 1-250 mg/l as PO4	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Ion Chromatography - Dionex IC DX-120	TP002 based on USEPA 300.0 (1993)
		Sulphate	0.25-10,000 mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Ion Chromatography - Dionex IC DX-120	TP002 based on USEPA 300.0 (1993)
			0.25-10000 mg/l	Water for potable and domestic purpose. Other waters: ground	Ion Chromatography - Metrohm Eco IC	TP020 -based on USEPA300 (1993)

				waters, surface waters and effluents.		
		Total Oxidized Nitrogen (calculated from the sum of Nitrate and Nitrite)	0.12-1205 mg/l as N	Water for potable and domestic purpose. Other waters: ground waters, surface waters & effluents	Ion Chromatography - Metrohm Eco IC	TP020 - based on USEPA300 (1993)
			0.17-1205 mg/l as N	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Ion Chromatography - Dionex IC DX-120	TP002 based on USEPA 300.0 (1993)
	Cations	Alkali equivalent as Na <sub>2</sub> Oeq (%) by calculation of potassium and sodium values	0.0001 – 1.5474 as Na <sub>2</sub> O eq (%)	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Industrial Effluents	Ion Chromatography - Metrohm Eco IC	TP021- based on ISO 14911:2008
		Calcium	1-10000mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Industrial Effluents	Ion Chromatography - Metrohm Eco IC	TP021- based on ISO 14911:2008
		Hardness by calculation of magnesium and calcium values	6.62 – 75000 mg/L CaCO <sub>3</sub>	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Industrial Effluents	Ion Chromatography - Metrohm Eco IC	TP021- based on ISO 14911:2008
		Magnesium	1-625mg/l	Water for potable and domestic purpose. Other waters: ground	Ion Chromatography - Metrohm Eco IC	TP021- based on ISO 14911:2008

				waters, surface waters, Industrial Effluents		
		Potassium	1-2500mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Industrial Effluents	Ion Chromatography - Metrohm Eco IC	TP021- based on ISO 14911:2008
		Sodium	0.5-10000mg/l	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Industrial Effluents	Ion Chromatography - Metrohm Eco IC	TP021- based on ISO 14911:2008
	Colour	Colour	5-500 mg/l Pt Co	Waters for potable and domestic purpose. Ground waters, bore waters. Other waters: surface waters	HACH Spectrophotometer	Documented in house procedure, TP008 based on Hach Method 9002 and Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 2120
	Conductivity	Conductivity	5-12,500 uS/cm	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Orion 150 Conductivity meter +conductivity probe with platinum electrodes.	TP005 based on APHA Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022: Method 2510B
	Determination by Spectrophotometry. (Phenate Method)	Ammonia	0.08-100 mg /L NH4 0.076 - 94.44 mg/L NH3 0.062 - 77.78 mg/L N	Sewage, trade waste, bore waters, other waters: surface waters, water for potable and domestic purpose	Spectrophotometric (Phenate) Method	Documented in house procedure TP012 based on Standard Method for the Examination of Water and Wastewater, 24th

					Edition 2022: Method 4500-NH3
Determination of Dustfall	Dust	N/A	Constituents of the environment - Atmospheric dust fall	Bergerhoff Dust Gauge	VDI 4320 Part 2 Measurement of Atmospheric Dust Depositions
Kjeldahl Nitrogen	Kjeldahl Nitrogen by calculation	1-50 mg/L N	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP effluent. Other waters: surface waters	Nitrogen by calculation	Documented in house procedure TP 024
Molybdate Reactive Phosphorous (MRP)	Molybdate Reactive Phosphorous (MRP)	0.02 - 50 mg /L as P 0.06 - 153.5 mg/L as PO4	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP effluent. Other waters: surface waters	PhosVer 3 and Hach spectrophotometer	Documented in house procedure TP 023 based on Hach Phosphorus Reactive Method 8048 and Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 4500-PE
Total Nitrogen	Total Nitrogen	1-100 mg/L N	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP effluent. Other waters: surface waters	Nitrogen by calculation	Documented in house procedure TP 024
Total Phosphorus	Total Phosphorus	0.05-50 mg/l as P	Sewage, trade wastes, bore waters, other waters: surface water	HACH Digestion + Spectrophotometric determination.	TP011 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: 4500P-E

						and HACH method 8190 Edition 8, 04/2013
	Turbidity	Turbidity	2 - 500 NTU	Waters for potable and domestic purpose. Ground waters, bore waters. Other waters: surface waters	HACH Spectrophotometer	Documented in house procedure, TP009 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 2130
767 Physical test/measurement - .01 pH	pH	pH	2.0 - 12.0	Water for potable and domestic purpose, Other waters: ground waters, surface waters, Effluents, Leachates.	WTW inoLab® pH 7110 Benchtop Meter and a Sentix 81 probe	TP 003 (Electrometry) based on Standards Method in Water Wastewater 24th Edition 4500H +B
			2.0-12.0	Water for potable and domestic purpose. Other waters: ground waters, surface waters, Effluents, Leachates	Orion 420A pH meter +pH electrode. Electrometry	TP003 (Electrometry) based on APHA 23rd Edition 4500H+B(2017)
767 Physical test/measurement - .03 Suspended Solids	Suspended Solids	Suspended solids	2-5000 mg/l	Sewage, trade waste, bore waters, other waters: surface waters,	Gravimetric Determination	Documented in house procedure TP015 based on Standard Method for the Examination of Water and Wastewater, 24th Edition 2022: Method 2540D

Chemical Testing

Category: B

Chemistry Field - Tests	Test name	Analyte	Range of measurement	Matrix	Equipment/technique	Standard reference/SOP
766 Environmental testing (inc waters) - .05 Inorganic	Dissolved Oxygen (on site)	Dissolved Oxygen	> 1%	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP influent/effluent. Other waters: surface waters	Dissolved Oxygen Meter and DO Probe.	Documented and validated in house procedure PR-00109.
			1 - 10 mg/L	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP influent/effluent. Other waters: surface waters	Dissolved Oxygen Meter and DO Probe.	Documented and validated in house procedure PR-00109.
	Temperature (on site)	Temperature	0 - 50 °C	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP influent/effluent. Other waters: surface waters	Thermometer	Documented and validated in house procedure PR-00109.
767 Physical test/measurement - .01 pH	pH (on site)	pH	2 - 12	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP	pH meter	Documented and validated in house procedure PR-00109.



				influent/effluent. Other waters: surface waters		
767 Physical test/measurement - .02 Conductivity	Conductivity (on site)	Conductivity	5 - 12,0000 uS/cm	Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP influent/effluent. Other waters: surface waters	Conductivity meter	Documented and validated in house procedure PR-00109.
798 Sampling	Sampling	Sampling		Waters for potable and domestic purpose. Ground waters, bore waters. Trade wastes and WWTP influent/effluent. Other waters: surface waters	Sampling apparatus	Documented in house procedure SE003 based on ISO 5667 Water Quality - Sampling