



Appendix to results

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Methods of analysis INAB Accredited tests

DETERMINAND	TECHNIQUE	DETECTION LIMIT	METHOD REFERENCE
Ammonia as NH ₄ Ammonia as N	Spectrophotometric	0.10ppm as NH ₄ 0.08ppm as N	TP012
Cadmium	Direct aspiration/flame AAS	0.03 ppm	TP001
Calcium	Ion Chromatography	2.5 ppm	TP004
Chloride	Ion chromatography	0.5 ppm	TP002
Chromium	Direct aspiration/flame AAS	0.05 ppm	TP001
Cobalt	Direct aspiration/flame AAS	0.12 ppm	TP001
COD	Digestion/colorimetric	4ppm	TP006
Conductivity	Electrometry	5µS/cm @ 20°C	TP005
Copper	Direct aspiration/flame AAS	0.05 ppm	TP001
Fluoride	Ion chromatography	0.1 ppm	TP002
Iron	Direct aspiration/flame AAS	0.05 ppm	TP001
Lead	Direct aspiration/flame AAS	0.20 ppm	TP001
Magnesium	Ion Chromatography	1 ppm	TP004
Manganese	Direct aspiration/flame AAS	0.03 ppm	TP001
Nickel	Direct aspiration/flame AAS	0.10 ppm	TP001
Nitrate Nitrate as N	Ion chromatography	0.5 ppm 0.11 ppm	TP002
Nitrite Nitrite as N	Ion chromatography	0.2 ppm 0.06 ppm	TP002
Orthophosphates Orthophosphate as P	Ion chromatography	1.0 ppm 0.33 ppm	TP002
pH	Hydrogen ion selective electrode	2-12 pH Units	TP003
Potassium	Ion Chromatography	1 ppm	TP004
Sodium	Ion chromatograohy	1 ppm	TP004
Sulphate	Ion chromatography	0.25 ppm	TP002
Suspended Solids	Gravimetric	1ppm	TP015
TON	Sum of Nitrate & Nitrite	0.17ppm	TP002
Total Hardness	Calculation based on Calcium & Magnesium results	10ppm	TP004
Total Phosphorous	Digestion/ Spectrophotometric	0.05ppm as P	TP011
Zinc	Direct aspiration/flame AAS	0.01 ppm	TP001

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Methods of analysis NON-INAB Accredited tests

DETERMINAND	TECHNIQUE	DETECTION LIMIT	METHOD REFERENCE
Acid Soluble Alkali	Calculation	0.001%	In house
Alkalinity	Titration	5 ppm	SMEWW 2320B
Aluminium	ICP-MS (Unless specified otherwise)	10ppb	SMEWW 3125 ICP-MS
Ammonia (low Level)	Colourimetric	0.01 ppm	SMEWW 4500-NH ₃ F Method 10023
BOD	D O Probe	2 ppm O ₂	SMEWW 5210B
Chlorine (total)	Colorimetry	0.05 ppm	DPD Method
Chlorine (free)	Colorimetry	0.05 ppm	DPD Method
Chlorine (residual)	Difference of Total Cl ₂ and Free Cl ₂		
Colour	Photometry	2 Pt-Co Units	APHA Platinum-Cobalt Standard Method
Conductivity	Electrometry	1 μS/cm @ 20°C	TP005
Detergents as MBAS	Colourimetry	0.2 ppm	SMEWW 5540C
Density	Gravimetric	g/cm ³	In-house
Dissolved oxygen	D O Probe	1 ppm O ₂	MEWAM Book 16
Dissolved Organic Carbon	Heated-Persulfate Oxidation	0.25 ppm	SMEWW 5310C
Dry residue (at 180 C)	Gravimetric	1 ppm	SMEWW 2540 C
Fats Oils and Grease	Partition Gravimetric	2 ppm	SMEWW 5520B
Fats Oils and Grease	Soxhlet / gravimetric	0.01%	
Hexavalent Chromium	Colorimetry	0.01 ppm	SMEWW 3500-Cr D
Kjeldahl Nitrogen	Digestion/ Distillation/ Titration	1 ppm	SMEWW 4500-N _{org} B
Moisture content	Loss on drying at 105C	1 ppm	BS 1377 : Part 1 : 1990



Methods of analysis
NON-INAB Accredited tests (contd)

DETERMINAND	TECHNIQUE	DETECTION LIMIT	METHOD REFERENCE
Nitrite (low level)	Colourimetry	0.03 ppm	Method 8507
pH (soils)	Hydrogen ion selective electrode	2-12 pH Units	TP003
Phenols	Distillation / Colourimetry	0.05ppm	SMEWW 5530 D
Phosphate (low level)	Colourimetry	0.01 ppm	SMEWW 4500-P E
Phosphate (MRP)	Colourimetric	0.05ppm	Method 8190
Sulphide	Colorimetry	0.01 ppm	In house
Solids, Volatile (% Organic Matter)	Ignition	1ppm	SMEWW 2540E SMEWW 2540G
Settleable Solids	Gravimetric	1 ppm	SMEWW 2540F
% Dry Solids	Gravimetric	0 %	SMEWW 2540B
Temperature °C	Onsite thermocouple	0-50 °C	Direct measurement
Total Cyanide	Distillation / Colourimetry	0.01ppm	SMEWW 4500CN C&E
Total Organic Carbon	Heated-Persulfate Oxidation	0.25 ppm	SMEWW 5310C
Turbidity	Attenuated Radiation Method	2 FTU	Adapted form ISO method 7027
Total Viable Count	Pour Plate Method	1 cfu/ml	SMEWW 9215B
Enterococci	Membrane Filtration	1 cfu / 100ml	SMEWW 9230 C
Total Coliforms	Membrane Filtration	1 cfu / 100ml	SMEWW 9222B
Faecal Coliforms	Membrane Filtration	1 cfu / 100ml	SMEWW 9222D