

Schedule of Accreditation



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|-----------------------------------------------|------------------------------------------------------------|
| Organisation Name | EPA |
| Trading As | Environmental Protection Agency |
| INAB Reg No | 113T |
| Contact Name | Geraldine Moran |
| Address | PO Box 2000, Johnstown Castle Estate, Wexford, H18 YT02 |
| Contact Phone No | |
| Email | G.Moran@epa.ie |
| Website | |
| Accreditation Standard | EN ISO/IEC 17025 T |
| Standard Version | 2017 |
| Date of award of accreditation | 11/11/2002 |
| Scope Classification | Radiometry testing |
| Scope Classification | Chemical testing |
| Services available to the public ¹ | No |

¹ 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 | Dublin - Clonskeagh Square | 3 Clonskeagh Square, Clonskeagh Road, Dublin, Ireland, D14 H424 |
| 2 | Monaghan | The Glen, Monaghan |
| 3 | Mayo | John Moore Road, Castlebar, Mayo |
| 4 | Dublin - McCumiskey House | McCumiskey House, Richview, Clonskeagh, Dublin, D14 |
| 5 | Kilkenny | Seville Lodge, Callan Road, Kilkenny |

Scope of Accreditation

Dublin - Clonskeagh Square

Radiometry

Category: A

| Field - Tests | Product tested | Property measured | Range of measurement | Std. ref & SOP |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 1501 Ionising radiation - .01 Measurement of alpha, beta, gamma, neutron radiations | Gross alpha beta screening of ground and surface water | Activity per unit volume, based on emission of alpha and beta radiation | Alpha: 0.015 Bq/l to 0.5 Bq/l Beta: 0.030 Bq/l to 1.1 Bq/l | Documented In-house methods: RT107, based on the method EN ISO 11704:2018. |
| | Milk and Foods (Diet Samples) | Sr-90 Activity per unit mass, based on emission of beta radiation | Sr-90: 0.01 Bq/kg to 25 Bq/kg | Documented In-House Methods: RT080 - RT083: Determination of Sr-90 in milk and diet samples. |
| | Milk and Milk Powder, Water and Misc. aqueous solutions, Meat, Misc. solid food types (specific gravity ≤ 2), vegetation | Be-7 Activity per unit mass, based on emission of gamma radiation | Be-7: 0.01 Bq/kg to 10^3 kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | | Co-60 Activity per unit mass, based on emission of gamma radiation | Co-60: 0.01 Bq/kg to 10 kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | | Cs-134 Activity per unit mass, based | Cs-134: 0.01 Bq/kg to 10 kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |

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|--|-------|-----------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------|
| | | on emission of gamma radiation | | |
| | | CS-137 Activity per unit mass, based on emission of gamma radiation | Cs-137: 0.01 Bq/kg to 10 kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | | I-131 Activity per unit mass, based on emission of gamma radiation | I-131: 0.01 Bq/kg to 10 ² kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | | K-40 Activity per unit mass, based on emission of gamma radiation | K-40: 0.01 Bq/kg to 10 ² kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | | Ru-103 Activity per unit mass, based on emission of gamma radiation | Ru-103: 0.01 Bq/kg to 10 ² kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | | Ru-106 Activity per unit mass, based on emission of gamma radiation | Ru-106: 0.01 Bq/kg to 10 ² kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | | Sr-85 Activity per unit mass, based on emission of gamma radiation | Sr-85: 0.01 Bq/kg to 10 ² kBq/kg | Documented In-House Methods: RT050 - Determination of gamma emitting radionuclides by gamma spectroscopy |
| | Water | Rn-222 Activity per unit volume, based on emission of alpha and beta radiation | Rn-222: 0.5 Bq/l to 10 KBq/l | Documented In-House Methods: RT100 - RT101 based on ISO 13164 – Part 4:2015 |

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 | W05 ^{1 2 3 4} | Aluminium | 2 to 100,000 µg/l | Bore waters Leachate Potable waters Surface water Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2016/W05 |
| | | Antimony | 1 to 1,000µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| | | Arsenic | 1 to 1,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| | | Barium | 1 to 5,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| | | Beryllium | 1 to 1,000µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| | | Boron | 10 to 50,000 µg/l | Bore waters Leachates | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |

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|----------|--------------------|-----------------------------------------------------------------------------------------------|--------|------------------------------------------|
| | | Potable waters Surface waters Trade wastes WWTP Effluent | | |
| Cadmium | 0.02 to 1,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Calcium | 1 to 5,000 mg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Chromium | 1 to 5,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Cobalt | 1 to 1,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Copper | 1 to 50,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Iron | 10 to 500,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |

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|------------|--------------------|-----------------------------------------------------------------------------------------------|--------|------------------------------------------|
| Lead | 0.2 to 2,000 µg/l | Potable Waters Trade wastes Bore waters WWTP Effluent Surface water Leachate | ICP-MS | ISO17294-1:2006 & ISO17294-2:2016/W05 |
| Magnesium | 0.25 to 1,000 mg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Manganese | 5 to 50,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Molybdenum | 1 to 2,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Nickel | 1 to 50,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Potassium | 0.25 to 2,000 mg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Selenium | 1 to 1,000 µg/l | Bore waters Leachates Potable waters Surface waters | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |

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|----------------|---------------------------------------|-----------------------------------------------------------------------------------------------|--------|------------------------------------------|
| | | Trade wastes WWTP Effluent | | |
| Sodium | 1 to 10,000 mg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Strontium | 10 to 10,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Thallium | 0.2 to 1,000 µg/l | Potable Waters Trade wastes Bore waters WWTP Effluent Surface water Leachate | ICP-MS | ISO17294-1:2006 & ISO17294-2:2016/W05 |
| Total Hardness | 4 to 16,600 mg/l CaCO ₃ | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Uranium | 0.2 to 1,000 µg/l | Potable Waters Trade wastes Bore waters WWTP Effluent Surface water Leachate | ICP-MS | ISO17294-1:2006 & ISO17294-2:2016/W05 |
| Vanadium | 1 to 1,000 µg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |
| Zinc | 1 to 50,000 µg/l | Bore waters Leachates Potable waters | ICP-MS | ISO17294-1:2006 & ISO17294-2:2004/W05 |

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|---------------------------------------------------------------------------------|----------------------|------------------------|--------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------|--------------------------|
| | | | | Surface waters Trade wastes WWTP Effluent | | | |
| | W18 ^{1 3 4} | Mercury | 0.02 to 50µg/l Hg | Trade Wastes Bore waters Leachates Surface waters WWTP Effluent | ICP-MS | ISO 17294-1:2006, 17294-2:2004/W18 | |
| 766 Environmental testing (inc waters) - .02 Biochemical oxygen demand | W04 ^{1 3 4} | BOD | 1 to 100,000 mg/l | Leachates Saline waters Surface waters Trade Wastes | DO Meter | ISO5815-1:2019; ISO5815-2:2003/W04 | |
| | | cBOD | 1 to 100,000 mg/l | WWTP Effluent | DO Meter | ISO5815-1:2019; ISO5815-2:2003/W04 | |
| 766 Environmental testing (inc waters) - .03 Chemical oxygen demand | W01 ^{1 3 4} | COD | 10 to 100,000 mg/l O ₂ | Trade Wastes Surface waters Trade wastes WWTP Effluent | Digestion/Colorimetry | ISO15705:2002/W01 | |
| 766 Environmental testing (inc waters) - .05 Inorganic | W06 ^{1 3 4} | Total Phosphorus | 0.01 to 1,000mg/l P | Bore waters Leachates Surface waters Trade Wastes WWTP Effluent | Digestion/Spectrometry | IS EN ISO 6878:2004/W06 | |
| | | W07 ^{1 2 3 4} | Ammonia | 0.02 to 10,000 mg/l N | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923- 1:2013/W07 |
| | | | Chloride | 2 to 50,000 mg/l | Bore Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923- 1:2013/W07 |
| | | | Nitrate | 0.2 to 5,000 mg/l N | Bore Leachates Surface waters Trade wastes WWTP Effluent | Calculation | ISO 15923- 1:2013/W07 |
| | | | Nitrite | 0.004 to 50 mg/l N | Bore waters Leachates | Spectrometry | ISO 15923- 1:2013/W07 |

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|----------------------------------------|------------------------|--------------------------------|-------------------------------------|-----------------------------------------------------------------------------|------------------------|-----------------------------------|
| | | | | Surface waters Trade wastes WWTP Effluent | | |
| | | o-Phosphate | 0.01 to 1,000 mg/l N | Bore Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | Total Oxidised Nitrogen | 0.2 to 5,000 mg/l N | Bore Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | W11 ^{1 3 4} | Silica | 0.1 to 200mg/l SiO ₂ | Bore waters Saline waters Surface waters | Spectrometry | ISO 15923-1:2013/W11 |
| | W12 ^{1 2 3 4} | Fluoride | 0.2 to 500 mg/l F | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Ion Chromatography | EN ISO 10304-1:2009/W12 |
| | W15 ^{1 3 4} | Colour | 5 to 1,000 mg/l Pt/Co | Bore water Potable waters Saline waters Surface waters | Spectrometry | EN ISO 7887:2011/W15 |
| | W16 ^{1 3 4} | Total Hardness | 10 to 10,000 mg/l CaCO ₃ | Bore waters Surface waters | Spectrometry | USA EPA 130.1/W16 |
| | W17 ^{1 3 4} | Total Alkalinity | 10 to 10,000 mg/l CaCO ₃ | Bore waters Surface waters | Spectrometry | HMSO 0117516015, 1981/W17 |
| | W19 ^{1 2 3 4} | Ammonia | 0.01 to 10 mg/l N | Saline waters Surface water | Spectrometry | Lachat Instrument Application/W19 |
| | | o-Phosphate | 0.005 to 10 mg/l P | Saline waters Surface waters | Spectrometry | Lachat Instrument Application/W19 |
| | | Total Oxidised Nitrogen | 0.01 to 20 mg/l N | Surface waters Saline waters | Spectrometry | Lachat Instrument Application/W19 |
| | W22 | Total Organic Carbon (as NPOC) | 1 to 1000 mg/l C | Saline Waters | Oxidation/IR Detection | ISO 8245:1999/W22 |
| 767 Physical test/measurement - .01 pH | W09 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Leachates | pH Meter | IS EN 10523:2012/W09 |

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|------------------------------------------------------|----------------------|------------------|---------------------|----------------------------------------------------------------------------------------------|--------------------|----------------------|
| | | | | Saline Waters Surface waters Trade wastes WWTP Effluent | | |
| 767 Physical test/measurement - .02 Conductivity | W08 ^{1 3 4} | Conductivity | 15 to 100,000 µS/cm | Bore waters Leachates Saline Waters Surface waters Trade wastes WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W08 |
| 767 Physical test/measurement - .03 Suspended Solids | W03 ^{1 3 4} | Suspended Solids | 4 to 100,000 mg/l | Leachates Saline waters Surface waters Trade wastes WWTP Effluent | Gravimetry | IS EN 872:2005/W03 |

The laboratory has been awarded flexible scope in the scope classifications as noted in the scope document and in accordance with the laboratories approved and documented procedures.

Note 1 - Range may be extended for the test

Note 2 – New parameters / tests may be added

Note 3 – New matrices may be added

Note 4 – Changes to equipment / kits where the underlying methodology does not change

For further details please refer to the laboratories 'Master list of Flexible scope changes', available directly from the laboratory.

Dublin - McCumiskey House

Chemical Testing

Category: B

| Chemistry Field - Tests | Test name | Analyte | Range of measurement | Matrix | Equipment/technique | Standard reference/SOP |
|--------------------------------------------------|----------------------|--------------|----------------------|---------------------------------------------------------------------------------|---------------------|------------------------|
| 767 Physical test/measurement - .01 pH | W27 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Saline waters Surface waters Trade wastes WWTP Effluent | pH Meter | ISO 10523:2008/W27 |
| 767 Physical test/measurement - .02 Conductivity | | Conductivity | 15 to 100,000 µS/cm | Bore waters Surface waters WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W27 |

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Note 3 – New matrices may be added

Note 4 – Changes to equipment / kits where the underlying methodology does not change

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Chemical Testing

Category: A

| Chemistry Field - Tests | Test name | Analyte | Range of measurement | Matrix | Equipment/technique | Standard reference/SOP |
|------------------------------------------------------------------------|------------------------|--------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------|------------------------|---------------------------------------|
| 766 Environmental testing (inc waters) - .02 Biochemical oxygen demand | W04 ^{1 3 4} | BOD | 1 to 100,000 mg/l | Leachates Surface waters Saline waters Trade wastes | DO Meter | ISO5815-1:2019; ISO5815-2:2003/W04 |
| | | cBOD | 1 to 100,000 mg/l | WWTP Effluent | DO Meter | ISO5815-1:2019; ISO5815-2:2003/W04 |
| 766 Environmental testing (inc waters) - .03 Chemical oxygen demand | W01 ^{1 3 4} | COD | 10 to 100,000 mg/l O ₂ | Leachates Surface waters Trade Wastes WWTP Effluent | Digestion/Colorimetry | ISO15705:2002/W01 |
| 766 Environmental testing (inc waters) - .04 Organic | W22 ^{1 3 4} | Total Organic Carbon (as NPOC) | 1 to 1000 mg/l C | Bore waters Surface waters Trade wastes WWTP Effluent | Oxidation/IR Detection | ISO 8245:1999/W22 |
| 766 Environmental testing (inc waters) - .05 Inorganic | W07 ^{1 2 3 4} | Ammonia | 0.02 to 10,000 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | Chloride | 2 to 50,000 mg/l | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | Nitrate | 0.2 to 5,000 mg/l N | Bore waters Leachates Potable waters Surface waters | Calculation | ISO 15923-1:2013/W07 |

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|------------------------|-------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|--------------------|-------------------------|
| | | | Trade wastes WWTP Effluent | | |
| | Nitrite | 0.004 to 50 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | o-Phosphate | 0.01 to 1,000 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | Total Oxidised Nitrogen | 0.2 to 5,000 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| W11 ^{1 3 4} | Silica | 0.1 to 200 mg/l SiO ₂ | Bore waters Saline waters Surface waters | Spectrometry | ISO 15923-1:2013/W11 |
| W12 ^{1 2 3 4} | Fluoride | 0.2 to 500 mg/l F | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Ion Chromatography | EN ISO 10304-1:2009/W12 |
| | Sulphate | 2 to 20,000 mg/l SO ₄ | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Ion Chromatography | EN ISO 10304-1:2009/W12 |
| W15 ^{1 3 4} | Colour | 5 to 1,000 mg/l Pt/Co | Bore waters Potable waters Surface waters | Spectrometry | EN ISO 7887:2011/W15 |

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|-------------------------------------------------------------------|----------------------|------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------|
| | W16 ^{1 3 4} | Total Hardness | 10 to 10,000 mg/l CaCO ₃ | Bore waters Potable waters Surface waters | Spectrometry | USA EPA 130.1/W16 |
| 767 Physical test/measurement - .01 pH | W09 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Leachates Potable waters Saline waters Surface waters Trade wastes WWTP Effluent | pH Meter | IS EN 10523:2012/W09 |
| 767 Physical test/measurement - .02 Conductivity | W08 ^{1 3 4} | Conductivity | 15 to 100,000 µS/cm | Bore waters Leachates Potable waters Saline waters Surface waters Trade wastes WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W08 |
| 767 Physical test/measurement - .03 Suspended Solids | W03 ^{1 3 4} | Suspended Solids | 4 to 100,000 mg/l | Leachates Saline waters Surface waters Trade Wastes WWTP Effluent | Gravimetry | IS EN 872:2005/W03 |
| 782 Workplace environment and hazards - .04 Respirable dust | ATO1/2 | PM10 | 0.1 to 120 µg/m ³ | Ambient Air | Gravimetry | EN 12341:1999 & EN 14907:2005/AT01 & AT02 |
| | | PM2.5 | 0.1 to 120 µg/m ³ | Ambient Air | Gravimetry | EN 12341:1999 & EN 14907:2005/AT01 & AT02 |

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Note 2 – New parameters / tests may be added

Note 3 – New matrices may be added

Note 4 – Changes to equipment / kits where the underlying methodology does not change

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Chemical Testing

Category: B

| Chemistry Field - Tests | Test name | Analyte | Range of measurement | Matrix | Equipment/technique | Standard reference/SOP |
|--------------------------------------------------|----------------------|--------------|----------------------|---------------------------------------------------------------------------------|---------------------|------------------------|
| 767 Physical test/measurement - .01 pH | W27 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Saline waters Surface waters Trade wastes WWTP Effluent | pH Meter | ISO 10523:2008/W27 |
| 767 Physical test/measurement - .02 Conductivity | | Conductivity | 15 to 100,000 µS/cm | Bore waters Surface waters WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W27 |

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Note 3 – New matrices may be added

Note 4 – Changes to equipment / kits where the underlying methodology does not change

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Chemical Testing

Category: A

| Chemistry Field - Tests | Test name | Analyte | Range of measurement | Matrix | Equipment/technique | Standard reference/SOP |
|------------------------------------------------------------------------|------------------------|--------------------------------|-----------------------------------|-----------------------------------------------------------------------------|------------------------|---------------------------------------|
| 766 Environmental testing (inc waters) - .02 Biochemical oxygen demand | W04 ^{1 3 4} | BOD | 1 to 100,000 mg/l | Leachates Saline waters Surface waters Trade wastes | DO Meter | ISO5815-1:2019; ISO5815-2:2003/W04 |
| 766 Environmental testing (inc waters) - .03 Chemical oxygen demand | W01 ^{1 3 4} | COD | 10 to 100,000 mg/l O ₂ | Leachates Surface waters Trade Wastes WWTP Effluent | Digestion/Colorimetry | ISO15705:2002/W01 |
| 766 Environmental testing (inc waters) - .04 Organic | W22 ^{1 3 4} | Total Organic Carbon (as NPOC) | 1 to 1000 mg/l C | Bore waters Surface waters Trade wastes WWTP Effluent | Oxidation/IR Detection | ISO 8245:1999/W22 |
| 766 Environmental testing (inc waters) - .05 Inorganic | W06 ^{1 3 4} | Total Phosphorus | 0.01 to 1,000 mg/l P | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Digestion/Spectrometry | IS EN ISO 6878:2004/W06 |
| | W07 ^{1 2 3 4} | Ammonia | 0.02 to 10,000 mg/l N | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | Chloride | 2 to 50,000 mg/l | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | Nitrate | 0.2 to 5,000 mg/l N | Bore waters Leachates Surface waters | Calculation | ISO 15923-1:2013/W07 |

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|----------------------------------------|----------------------|-------------------------|-------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------|
| | | | | Trade wastes WWTP Effluent | | |
| | | Nitrite | 0.004 to 50 mg/l N | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | o-Phosphate | 0.01 to 1,000 mg/l N | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | Total Oxidised Nitrogen | 0.2 to 5,000 mg/l N | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | W11 ^{1 3 4} | Silica | 0.1 to 200 mg/l SiO ₂ | Bore waters Saline waters Surface waters | Spectrometry | ISO 15923-1:2013/W11 |
| | W15 ^{1 3 4} | Colour | 5 to 1,000 mg/l Pt/Co | Bore waters Potable waters Surface waters | Spectrometry | EN ISO 7887:2011/W15 |
| | W16 ^{1 3 4} | Total Hardness | 10 to 10,000 mg/l CaCO ₃ | Bore waters Surface waters | Spectrometry | USA EPA 130.1/W16 |
| | W17 ^{1 3 4} | Total Alkalinity | 10 to 10,000 mg/l CaCO ₃ | Bore waters Surface waters | Spectrometry | HMSO 0117516015, 1981/W17 |
| | W24 ^{1 3 4} | Alkalinity | 1 to 1000 mg/l CaCO ₃ | Bore waters Surface waters | Titration | ISO 9963-1:1994/W24 |
| | W37 | Total Nitrogen | 0.25 to 2,000mg/L N | Surface Waters Bore Waters WWTP Effluent Trade Effluents | Thermal Catalytic Combustion/ Chemiluminescence Detection | ISO20236:2018/W37 |
| 767 Physical test/measurement - .01 pH | W09 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Leachates Saline waters Surface waters Trade wastes WWTP Effluent | pH Meter | IS EN 10523:2012/W09 |

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|------------------------------------------------------|----------------------|------------------|---------------------|----------------------------------------------------------------------------------------------|--------------------|----------------------|
| 767 Physical test/measurement - .02 Conductivity | W08 ^{1 3 4} | Conductivity | 15 to 100,000 µS/cm | Bore waters Leachates Saline waters Surface waters Trade wastes WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W08 |
| 767 Physical test/measurement - .03 Suspended Solids | W03 ^{1 3 4} | Suspended Solids | 4 to 100,000 mg/l | Leachates Saline waters Surface waters Trade wastes WWTP Effluent | Gravimetry | IS EN 872:2005/W03 |

The laboratory has been awarded flexible scope in the scope classifications as noted in the scope document and in accordance with the laboratories approved and documented procedures.

Note 1 - Range may be extended for the test

Note 2 – New parameters / tests may be added

Note 3 – New matrices may be added

Note 4 – Changes to equipment / kits where the underlying methodology does not change

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Chemical Testing

Category: B

| Chemistry Field - Tests | Test name | Analyte | Range of measurement | Matrix | Equipment/technique | Standard reference/SOP |
|--------------------------------------------------|----------------------|--------------|----------------------|---------------------------------------------------------------------------------|---------------------|------------------------|
| 767 Physical test/measurement - .01 pH | W27 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Saline waters Surface waters Trade wastes WWTP Effluent | pH Meter | ISO 10523:2008/W27 |
| 767 Physical test/measurement - .02 Conductivity | | Conductivity | 15 to 100,000 µS/cm | Bore waters Surface waters WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W27 |

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Chemical Testing

Category: A

| Chemistry Field - Tests | Test name | Analyte | Range of measurement | Matrix | Equipment/technique | Standard reference/SOP |
|------------------------------------------------------------------------|------------------------|--------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------|------------------------|---------------------------------------|
| 766 Environmental testing (inc waters) - .02 Biochemical oxygen demand | W04 ^{1 3 4} | BOD | 1 to 100,000 mg/l | Bore waters Leachates Saline waters Surface waters Trade wastes | DO Meter | ISO5815-1:2019; ISO5815-2:2003/W04 |
| | | cBOD | 1 to 100,000 mg/l | WWTP Effluent | DO Meter | ISO5815-1:2019; ISO5815-2:2003/W04 |
| 766 Environmental testing (inc waters) - .03 Chemical oxygen demand | W01 ^{1 3 4} | COD | 10 to 100,000 mg/l O ₂ | Leachates Surface waters Trade wastes WWTP Effluent | Digestion/Colorimetry | ISO15705:2002/W01 |
| 766 Environmental testing (inc waters) - .04 Organic | W22 ^{1 3 4} | Dissolved Organic Carbon | 1 to 1000 mg/l C | Bore Waters | Oxidation/IR Detection | ISO 8245:1999/W22 |
| | W22 ^{1 3 4} | Total Organic Carbon (as NPOC) | 1 to 1000 mg/l C | Bore waters Surface waters Trade wastes WWTP Effluent Saline Waters | Oxidation/IR Detection | ISO 8245:1999/W22 |
| 766 Environmental testing (inc waters) - .05 Inorganic | W06 ^{1 3 4} | Total Phosphorus | 0.01 to 1,000 mg/l P | Bore waters Leachates Surface waters Trade wastes WWTP Effluent | Digestion/Spectrometry | IS EN ISO 6878:2004/W06 |
| | W07 ^{1 2 3 4} | Ammonia | 0.02 to 10,000 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | | Chloride | 2 to 50,000 mg/l | Bore waters Leachates | Spectrometry | ISO 15923-1:2013/W07 |

| | | | | | |
|----------------------|-------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|--------------|----------------------|
| | | | Potable waters Surface waters Trade wastes WWTP Effluent | | |
| | Nitrate | 0.2 to 5,000 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Calculation | ISO 15923-1:2013/W07 |
| | Nitrite | 0.004 to 50 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | o-Phosphate | 0.01 to 1,000 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| | Total Oxidised Nitrogen | 0.2 to 5,000 mg/l N | Bore waters Leachates Potable waters Surface waters Trade wastes WWTP Effluent | Spectrometry | ISO 15923-1:2013/W07 |
| W11 ^{1 3 4} | Silica | 0.1 to 200 mg/l SiO ₂ | Bore waters Saline waters Surface waters | Spectrometry | ISO 15923-1:2013/W11 |
| W14 ^{1 3 4} | Turbidity | 0.5 to 1,000 NTU | Bore waters Potable waters Saline waters Surface waters | Nephelometry | EN ISO 7027:2000/W14 |
| W15 ^{1 3 4} | Colour | 5 to 1,000 mg/l Pt/Co | Bore waters Potable waters Saline waters Surface waters | Spectrometry | EN ISO 7887:2011/W15 |

| | | | | | | |
|------------------------------------------------------------|------------------------|----------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------|
| | W16 ^{1 3 4} | Total Hardness | 10 to 10,000 mg/l CaCO ₃ | Bore waters Potable waters Surface waters | Spectrometry | USA EPA 130.1/W16 |
| | W17 ^{1 3 4} | Total Alkalinity | 10 to 10,000 mg/l CaCO ₃ | Bore waters Potable waters Surface waters | Spectrometry | HMSO 0117516015, 1981/W17 |
| | W19 ^{1 2 3 4} | Ammonia | 0.01 to 10 mg/l N | Saline waters Surface waters | Spectrometry | Lachat Instrument Application/W19 |
| | | o-Phosphate | 0.005 to 10 mg/l P | Saline waters Surface waters | Spectrometry | Lachat Instrument Application/W19 |
| | W19 ^{1 2 3 4} | Total Oxidised Nitrogen | 0.01 to 20 mg/l N | Saline waters Surface waters | Spectrometry | Lachat Instrument Application/W19 |
| 767 Physical test/measurement - .01 pH | W09 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Leachates Potable waters Saline waters Surface waters Trade wastes WWTP Effluent | pH Meter | IS EN 10523:2012/W09 |
| 767 Physical test/measurement - .02 Conductivity | W08 ^{1 3 4} | Conductivity | 15 to 100,000 µS/cm | Bore waters Leachates Potable waters Saline waters Surface waters Trade wastes WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W08 |
| 767 Physical test/measurement - .03 Suspended Solids | W03 ^{1 3 4} | Suspended Solids | 4 to 100,000 mg/l | Leachates Saline waters Surface waters Trade wastes WWTP Effluent | Gravimetry | IS EN 872:2005/W03 |

The laboratory has been awarded flexible scope in the scope classifications as noted in the scope document and in accordance with the laboratories approved and documented procedures.

Note 1 - Range may be extended for the test

Note 2 – New parameters / tests may be added

Note 3 – New matrices may be added

Note 4 – Changes to equipment / kits where the underlying methodology does not change

For further details please refer to the laboratories 'Master list of Flexible scope changes', available directly from the laboratory.

Chemical Testing

Category: B

| Chemistry Field - Tests | Test name | Analyte | Range of measurement | Matrix | Equipment/technique | Standard reference/SOP |
|--------------------------------------------------|----------------------|--------------|----------------------|---------------------------------------------------------------------------------|---------------------|------------------------|
| 767 Physical test/measurement - .01 pH | W27 ^{1 3 4} | pH | 2 to 12 pH Units | Bore waters Saline waters Surface waters Trade wastes WWTP Effluent | pH Meter | ISO 10523:2008/W27 |
| 767 Physical test/measurement - .02 Conductivity | | Conductivity | 15 to 100,000 µS/cm | Bore waters Surface waters WWTP Effluent | Conductivity Meter | IS EN 27888:1993/W27 |

The laboratory has been awarded flexible scope in the scope classifications as noted in the scope document and in accordance with the laboratories approved and documented procedures.

Note 1 - Range may be extended for the test

Note 2 – New parameters / tests may be added

Note 3 – New matrices may be added

Note 4 – Changes to equipment / kits where the underlying methodology does not change

For further details please refer to the laboratories ‘Master list of Flexible scope changes’, available directly from the laboratory.