

SOILWATER ANALYSIS

2018 PRICE LIST



GENERAL INFORMATION

- This Price List is valid for the 2018 / 2019 Financial Year.
- All prices are exclusive of GST.
- The quoted prices include one month storage of samples, and handling and disposal costs.
- Samples required to be retained longer than one month will attract a storage and disposal fee (Section 11.0).
- Combine and save with the soil testing packages provided in Section 10.0.
- Minimum soil requirements listed below refer to the prepared soil / material fraction.
- Quarantine import permit number 0002043195
- Please note that sample receipt closes at 3 pm. Please ensure samples are submitted before then.
- Full terms and conditions are available from www.soilwatergroup.com.

1.0 SOIL CLASSIFICATION (Morphological Description)

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
1.10	Field Texture	100 g	ASLSH	\$5.00
1.20	Colour (Munsell Soil Colour Chart)	50 g		\$5.00
1.30	Structure (if samples undisturbed)	500 g		\$5.00
1.40	Fabric	100 g		\$5.00
1.50	Morphological Package (Field Texture, Colour, Structure, Fabric)	750 g		\$15.00

2.0 PHYSICAL PROPERTIES TEST SUITE

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
2.10	Non-Dispersed Particle Size Distribution			
2.11	Sieve Analysis (Wet Sieve; Available screens: 2.36 mm, 2.00 mm, 600 µm, 425 µm, 300 µm, 212 µm, 150 µm, and 75 µm)	500 g	AS 1289 3.6.1 AS 3638-1993	\$70.00
2.12	Hydrometer (particles < 75 µm)	100 g	AS 1289 3.6.3	\$70.00
2.13	Sedimentation / Pipette Method (% Sand, % Silt, % Clay)	100 g	AS 4816.1-2002	\$65.00
2.20	Dispersed Particle Size Distribution			
2.21	Sieve Analysis (Wet Sieve; Available screens: 2.36 mm, 2.00 mm, 600 µm, 425 µm, 300 µm, 212 µm, 150 µm, and 75 µm)	500 g	AS 1289 3.6.1 AS 3638-1993	\$70.00
2.22	Hydrometer (particles < 75 µm)	100 g	AS 1289 3.6.3	\$70.00
2.23	Sedimentation / Pipette Method (particles < 75 µm)	100 g	AS 4816.1-2002	\$65.00

SOILWATER ANALYSIS

2018 PRICE LIST



Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
2.30	Aggregate Size Distribution (Dry Sieve)			
2.31	Sieve Analysis (Available screens: 2.36 mm, 2.00 mm, 600 µm, 425 µm, 300 µm, 212 µm, 150 µm, and 75 µm)	500 g	AS 1289 3.6.1 AS 3638-1993	\$70.00
2.32	Gravel Content (> 2.36 mm fraction)	500 g	AS 1289 3.6.1 AS 3638-1993	\$10.00
2.33	Gravel Size Distribution (Available screens: 125 mm, 100 mm, 90 mm, 75 mm, 53 mm, 37.5 mm, 26.5 mm, 19 mm, 16 mm, 13.2 mm, 9.5 mm, 6.7 mm, 4.75 mm and 2.36 mm)	1 kg	AS 1289 3.6.1	\$60.00
2.40	Particle Density / Specific Gravity			
2.41	Soil Particle Density	100 g	AS 1289.3.5.1	\$40.00
2.50	Bulk Density			
2.51	Intact Core	NA	SPMILE 503.01	\$10.00
2.52	Intact Clod / Aggregate	200 g	SPMILE 503.03	\$30.00
2.60	Total Porosity			
2.61	Calculation (derived from 2.40 & 2.50)	NA	SWA IM 2.61	-
2.70	Particle / Aggregate Stability			
2.71	Emerson Dispersion Class	200 g	AS 1289.3.8.1	\$30.00
2.72	Percent Dispersion	200 g	AS 1289.3.8.2	\$60.00
2.73	Pinhole Dispersion Class	200 g	AS 1289.3.8.3	\$80.00
2.74	Clay Dispersion	200 g	SPMILE 514.01	\$50.00
2.75	Dispersive Potential	200 g	SPMILE 514.03	\$50.00
2.80	Hardsetting Potential			
2.81	Hand-held Penetrometer	500 g	SWA IM 2.81	\$16.00
2.82	Modulus of Rupture	500 g	SWA IM 2.82	\$20.00
2.90	Water Repellence			
2.91	MED Test	500 g	SPMILE 505.01	\$16.00

3.0 SOIL WATER TEST SUITE

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
3.10	Moisture Content			
3.11	Gravimetric Moisture Content	100 g	AS 1289.2.1	\$6.50

SOILWATER ANALYSIS

2018 PRICE LIST



Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
3.13	Volumetric Moisture Content (from 3.11 & 2.50)	100 g	SWA IM 3.13	-
3.20	Water Retention Characteristics (requires Bulk Density to be provided or determined)			
3.21	Matric Suction Table (Available suctions: 2.5 kPa, 5.0 kPa, 7.5 kPa)	500 g	SPMILE 504.01	\$40.00
3.22	Pressure Plate Method (10 kPa, 33 kPa, 100 kPa, 1,500 kPa)	500 g	SPMILE 504.02	\$150.00
3.23	Constant Humidity Cells (39 MPa, 98 MPa, 316 MPa)	500 g	SWA IM 3.23	\$40.00
3.24	Filter Paper Method (0.1 – 100 kPa matric suctions)	200 g	SPMILE 504.03	\$40.00
3.25	WP4 Dew Point Meter (0.1 – 300 MPa matric suctions)	200 g	SWA IM 3.2	\$40.00
3.30	Pore Size Distribution			
3.31	Calculation from 3.20	NA	SWA IM 3.31	-
3.40	Saturated Permeability			
3.41	Constant-Head Method	500 g	AS 1289.6.7.1	\$65.00
3.42	Falling-Head Method	500 g	AS 1289.6.7.2	\$65.00
3.50	Unsaturated Permeability			
3.51	Tension Infiltrometer (0.25 kPa, 0.5 kPa, 0.75 kPa and 1 kPa matric suctions)	500 g	SPMILE 510.04	\$80.00
3.60	Infiltration			
3.61	Falling Head Method	500 g	SWA IM 3.61	\$65.00

4.0 EROSION TEST SUITE

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
4.10	Inter-Rill Erodibility			
4.11	Rainfall Simulator	300 kg	SWA IM 4.11	\$250/angle
4.20	Rill Erodibility			
4.21	Flume Channel	300 kg	SWA IM 4.21	\$250/angle
4.30	Erosion Modelling (conducted by Soilwater Consultants)			
4.31	Watershed Erosion Prediction Project (WEPP)	NA	WEPP	\$180/hr

SOILWATER ANALYSIS

2018 PRICE LIST



5.0 CHEMICAL PROPERTIES TEST SUITE

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
5.10	Soil pH			
5.11	pH _{1:5} (1:5 soil/water extract)	50 g	AS 1289.4.3.1	\$6.50
5.12	pH _{SE} (Saturation extract)	200 g	AS 1289.4.3.1	\$15.00
5.13	pH _{CaCl₂} (1:5 CaCl ₂ extract)	50 g	AS 1289.4.3.1	\$7.50
5.20	Electrical Conductivity (EC; Salinity)			
5.21	EC _{1:5} (1:5 soil/water extract)	50 g	RL 3A1	\$6.50
5.22	EC _{SE} (Saturation extract)	200 g	RL 14B1	\$15.00
5.23	Soluble Salt Concentration (calculation from 5.21)	NA	SWA IM 5.23	-
5.30	pH Buffering Capacity (pHBC)			
5.31	pH Buffering Capacity (pHBC)	500 g	SWA IM 5.31	\$20.00
5.40	Gypsum / Lime Requirement			
5.41	Direct Measurement (Dunn Titration Curves)	200 g	RL 16D1	\$35.00
5.42	Indirect Measurement from 5.51	NA	SWA IM 5.42	-
5.50	Total Acidity / Alkalinity			
5.51	Total Acidity	100 g	SWA IM 5.51	\$35.00
5.52	Total Alkalinity	100 g	SWA IM 5.52	\$35.00
5.60	Organic Carbon Content			
5.61	Walkley & Black Method	100 g	RL 6A1	\$20.00
5.70	Organic Matter Content			
5.71	Indirect Determination from 5.61	NA	Calculation	-
5.80	Carbonate Content			
5.81	Qualitative Assessment (Dilute HCl)	50 g	SWA IM 5.81	\$5.00
5.82	Quantitative Assessment (Rapid Titration)	50 g	SWA IM 5.82	\$25.00
5.90	Gypsum / Sulphate Content			
5.91	Total Gypsum (BaSO ₄ precipitation)	50 g	RL 11A1	\$35.00
5.92	Total Sulphate	50 g	AS 1289.4.2.1	\$35.00

SOILWATER ANALYSIS

2018 PRICE LIST



6.0 ACID SULPHATE SOILS (ASS) & ARID ROCK DRAINAGE (ARD) TEST SUITE

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
6.10	Sample Preparation and Storage			
6.11	Oven Drying @ 85°C	NA	ASSMAC 2.3b	\$3.00
6.12	Freezing	NA	ASSMAC 2.3d	\$2.00/mth
6.13	Short & Long Term Storage	NA	ASSMAC 2.3d	\$1.00/mth
6.20	Actual Acidity			
6.21	pH _{KCl}	50 g	ASSMAC 21A	\$6.50
6.22	Total Actual Acidity (TAA)	50 g	ASSMAC 21F	\$25.00
6.30	Potential Acidity			
6.31	Oxidisable pH (pH _{ox})	50 g	ASSMAC 21Bf	\$7.50
6.32	Total Potential Acidity (TPA)	50 g	ASSMAC 21G	\$25.00
6.33	Net Acid Generation (NAG)	50 g	AMIRA	\$22.00
6.34	Sequential NAG	50 g	AMIRA	\$20/stage
6.40	Acid Neutralising Capacity (ANC)			
6.41	ANC (Back Titration)	50 g	ASSMAC 19A1	\$25.00
6.42	Acid Base Characteristic Curve (ABCC)	50 g	AMIRA	\$110.00
6.50	Sulphur Trail			
6.51	Total Sulphur (Total S)	50 g	LECO	\$15.00
6.52	Chromium Reducible Sulphur (S _{CR})	50 g	ASSMAC 22B	\$35.00
6.60	Acid Base Accounting (ABA)			
6.61	Maximum Potential Acidity (MPA; derived from 6.51)	NA	Calculation	-
6.62	Net Acid Producing Potential (NAPP; derived from 6.61 and 6.41)	NA	Calculation	-
METALLIFEROUS DRAINAGE				
6.50	Leach Procedures			
6.51	Australian Standard Leach Procedure (ASLP)	100 g	AS 4439.3	\$200
6.52	Toxicity Characteristic Leach Procedure (TCLP)	100 g	USEPA 1311	\$200
KINETIC STUDIES				
6.60	Column Leaching			
6.61	Free Draining Columns	1 kg	AMIRA (2002)	P.O.A
6.70	Humidity Cells			
6.71	Humidity Cells	500 g	ASTM D5744-96	P.O.A

SOILWATER ANALYSIS

2018 PRICE LIST



7.0 GEOTECHNICAL TEST SUITE

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
7.10	Atterberg Limits			
7.11	Liquid Limit (LL; Casagrande)	500 g	AS 1289.3.1.1 AS 1289.3.1.2	\$55.00
7.12	Plastic Limit (PL)	500 g	AS 1289.3.2.1	\$45.00
7.13	Plasticity Index (PI) – derived from 7.11 and 7.12	NA	Calculation	-
7.14	Consistency Index – derived from 7.11, 7.12 & 3.11	NA	Calculation	-
7.20	Shrink / Swell			
7.21	Linear Shrinkage	500 g	AS 1289.3.4.1	\$30.00
7.22	Shrink / Swell Index	500 g	AS 1289.7.1.1	\$45.00
7.23	Activity – derived from 7.12 and 2.23	NA	Calculation	-
7.30	Maximum Bulk Dry Density (MBDD)			
7.31	Standard Compaction Test	30 kg	AS 1289.5.1.1	\$150.00
7.32	Modified Compaction Test	15 kg	AS 1289 5.1.2	\$130.00
ADDITIONAL GEOTECHNICAL PARAMETERS				
	Particle Density – as per Method 2.41	-	-	-
	Particle / Aggregate Size Distribution – as per Method 2.10 or 2.20	-	-	-
	Particle / Aggregate Stability – as per Method 2.70	-	-	-
	Soil Moisture Content – as per Method 3.11	-	-	-

8.0 SOIL RESISTIVITY

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
8.10	Thermal Resistivity			
8.11	Thermal Resistivity Curve (5 pt curve; incl. moisture)	3 kg	ASTM 5334	\$152.00
8.12	Thermal Resistivity – field-based measurement	NA	ASTM 5334	P.O.A
8.20	Ground Resistivity			
8.21	Soil Resistivity Testing – field-based measurement	NA	ASTM G57-06	P.O.A

SOILWATER ANALYSIS

2018 PRICE LIST



9.0 PLANT ROOTS

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
9.10	Root Biomass			
8.11	Root Biomass Determination	NA	-	\$152.00
9.20	Root Length			
8.21	Root Length Distribution and Density	NA	-	\$152.00

10.0 SOIL TESTING PACKAGES

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
10.10	ASS & ARD Screen Testing Package – Ideal for establishing ASS and ARD risks			
10.11	pH (5.11), EC (5.21) & pHox (6.31)	80 g	-	\$18.50
10.20	Rehabilitation Risk Testing Package			
10.21	pH (5.11), EC (5.21), pHox (6.31) & Emerson Class (2.71)	80 g	-	\$30.00
10.30	Material Suitability and Sustainability Testing Package			
10.31	pH (5.11), EC (5.21), pHox (6.31), Emerson Class (2.71) & Water Retention (3.22)	700 g	-	\$130.00

11.0 SAMPLE ADMINISTRATION, STORAGE AND DISPOSAL

Test Code	Test Description	Minimum Soil Requirements	Test Method	Cost / Sample (excl. GST)
10.10	Sample Administration			
10.11	Sample Receipt	NA	-	\$40/batch
10.20	Sample Storage			
10.21	Up to 1 Month	NA	-	\$0.00
10.22	2 Months	NA	-	\$25/batch
10.23	4 Months	NA	-	\$50/batch
10.24	6 Months	NA	-	\$75/batch
10.25	12 Months			\$150/batch
10.30	Sample Disposal			
10.31	Class I to II Materials	NA	-	\$60/tonne
10.32	Class III Materials	NA	-	\$160/tonne
10.33	Class IV Materials	NA	-	\$250/tonne

SOILWATER ANALYSIS

2018 PRICE LIST

TEST METHODS

AS = Australian Standard

ASLSH = Australian Soil and Land Survey Handbook v5.0

SPMILE = Soil Physical Measurement and Interpretation for Land Evaluation

ASSMAC = Acid Sulphate Soil Management Advisory Council

AMIRA = AMIRA Acid Rock Drainage Test Handbook

SWA IM = SWA Internal Method