



SWEP
PTY. LTD.

ABN 26 005 031 569

**ANALYTICAL
LABORATORIES**

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REPORT ON SAMPLE OF LIME

FILE NO : 2501189146

DATE ISSUED : 30/01/2025

TOWNSVILLE LIME & GYPSUM
PO BOX 132

CLIENT ID : TLG001
PHONE : 0427 008 856

DEERAGON, QLD 4818

REFERENCE :

REFERENCE ID :

SAMPLE ID : STAR RIVER AG- LIME

PHONE :

ANALYSIS REQUIRED : Full

DATE RECEIVED : 13/01/2025

ITEMS	ABBREVIATION	UNIT	RESULTS
TOTAL CALCIUM	Ca	%	37.82
TOTAL MAGNESIUM	Mg	%	0.176
TOTAL SODIUM	Na	%	0.01
TOTAL POTASSIUM	K	%	0.0476
TOTAL NITROGEN	N	ppm	87.9
TOTAL PHOSPHORUS	P	ppm	52.02
TOTAL IRON	Fe	ppm	1960
TOTAL MANGANESE	Mn	ppm	116
TOTAL ZINC	Zn	ppm	4.68
TOTAL COPPER	Cu	ppm	2.85
TOTAL COBALT	Co	ppm	0.78
TOTAL BORON	B	ppm	4.12
TOTAL SULPHUR	S	%	0.0061
TOTAL MOLYBDENUM	Mo	ppm	0.0701
CALCIUM CARBONATE	CaCO ₃	%	94.6
	(Calculated from Total Calcium)		
MAGNESIUM CARBONATE	MgCO ₃	%	0.616
	(Calculated from Total Magnesium)		
MATERIAL > 2mm		%	Nil
MATERIAL 1.00 - 2.00 mm		%	Nil
MATERIAL 0.85 - 1.00 mm		%	0.348
MATERIAL 0.30 - 0.85 mm		%	40.07
MATERIAL 0.075 - 0.30 mm		%	31.01
MATERIAL < 0.075mm		%	28.57
Electrical Conductivity		µS/cm	97.2
pH		(1:5 Water)	8.76

ITEMS	ABBREVIATION	UNIT	RESULTS
NEUTRALISING VALUE	NV	%	95.3
EFFECTIVE NEUTRALISING VALUE	ENV	%	79.72
MOISTURE CONTENT	MC	%	0.138
TOTAL MERCURY	Hg	ppm	Not required
TOTAL LEAD	Pb	ppm	Not required
TOTAL CADMIUM	Cd	ppm	Not required
TOTAL ARSENIC	As	ppm	Not required

Notes on Neutralising Value

Neutralising Value is a measure of the amount of acidity a material can neutralise, or in the case of lime, its total liming value. An approximation of Neutralising Value can be made by $\text{CaCO}_3 + (2.5 \times \text{MgO})$.

Effective Neutralising Value is a calculated adjustment of the Neutralising Value, using the fineness of the lime. Lime retained on an 850 μm sieve (the coarser fraction) is estimated to be only 10% effective (fully utilised in the short term). Lime in the 300-850 μm sieve range (medium sized fraction) is estimated to be only 60% effective, while lime passing the 300 μm sieve (finer fraction) is estimated to be 100% effective.

Where a lime has a low Effective Neutralising Value (due to a high proportion of coarse fraction), further grinding should increase its effectiveness to change the pH.

ITEMS	ANALYTICAL METHODS
TOTAL CALCIUM	HCl Evaporation, ICPAES
TOTAL MAGNESIUM	HCl Evaporation, ICPAES
TOTAL SODIUM	HCl Evaporation, ICPAES
TOTAL POTASSIUM	HCl Evaporation, ICPAES
TOTAL NITROGEN	Dumas method, LECO
TOTAL PHOSPHORUS	HCl Evaporation, ICPAES
TOTAL IRON	HCl Evaporation, ICPAES
TOTAL MANGANESE	HCl Evaporation, ICPAES
TOTAL ZINC	HCl Evaporation, ICPAES
TOTAL COPPER	HCl Evaporation, ICPAES
TOTAL COBALT	HCl Evaporation, ICPAES
TOTAL BORON	HCl Evaporation, ICPAES
TOTAL SULPHUR	HCl Evaporation, ICPAES
TOTAL MOLYBDENUM	HCl Evaporation, ICPAES
CALCIUM CARBONATE	Calculated from Total Calcium
MAGNESIUM CARBONATE	Calculated from Total Magnesium
Electrical Conductivity	Method 3A1, water extract*
pH	Method 4A1, water suspension*
MOISTURE CONTENT	Gravimetric method

* Rayment, G.E. & Lyons, D.J. (2011). Soil Chemical Methods - Australasia. CSIRO Publishing, 150 Oxford Street, Collingwood Vic 3066, Australia.