



**SWEP**  
PTY. LTD.

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**ANALYTICAL  
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**REPORT ON SAMPLE OF LIME**

**FILE NO :** 2311180964

**DATE ISSUED :** 14/11/2023

TOWNSVILLE LIME & GYPSUM  
PO BOX 1590

**CLIENT ID :** TLG001  
**PHONE :** 0427 008 856

INNISFAIL, QLD 4860

**REFERENCE :**

**REFERENCE ID :**

**SAMPLE ID :** LIME + DOLOMITE ANALYSIS

**PHONE :**

**ANALYSIS REQUIRED :** Full

**DATE RECEIVED :** 8/11/2023

ITEMS	ABBREVIATION	UNIT	RESULTS
TOTAL CALCIUM	Ca	%	37.48
TOTAL MAGNESIUM	Mg	%	1.38
TOTAL SODIUM	Na	%	0.147
TOTAL POTASSIUM	K	%	0.253
TOTAL NITROGEN	N	ppm	250.2
TOTAL PHOSPHORUS	P	ppm	0.065
TOTAL IRON	Fe	ppm	14500
TOTAL MANGANESE	Mn	ppm	429
TOTAL ZINC	Zn	ppm	25
TOTAL COPPER	Cu	ppm	7.61
TOTAL COBALT	Co	ppm	13
TOTAL BORON	B	ppm	46.8
TOTAL SULPHUR	S	%	1.46
TOTAL MOLYBDENUM	Mo	ppm	0.204
CALCIUM CARBONATE	CaCO <sub>3</sub>	%	93.7
	(Calculated from Total Calcium)		
MAGNESIUM CARBONATE	MgCO <sub>3</sub>	%	4.83
	(Calculated from Total Magnesium)		
MATERIAL > 2mm		%	Nil
MATERIAL 1.00 - 2.00 mm		%	Nil
MATERIAL 0.85 - 1.00 mm		%	Nil
MATERIAL 0.30 - 0.85 mm		%	40.45
MATERIAL 0.075 - 0.30 mm		%	29.21
MATERIAL < 0.075mm		%	30.34
Electrical Conductivity		µS/cm	108.6
pH		(1:5 Water)	8.48

ITEMS	ABBREVIATION	UNIT	RESULTS
NEUTRALISING VALUE	NV	%	99.4
EFFECTIVE NEUTRALISING VALUE	ENV	%	83.32
MOISTURE CONTENT	MC	%	0.13
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  $\mu\text{m}$  sieve (the coarser fraction) is estimated to be only 10% effective (fully utilised in the short term). Lime in the 300-850  $\mu\text{m}$  sieve range (medium sized fraction) is estimated to be only 60% effective, while lime passing the 300  $\mu\text{m}$  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.