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**ANALYTICAL
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REPORT ON SAMPLE OF LIME

FILE NO : 2410188205

DATE ISSUED : 30/10/2024

KAVANAGH EXCAVATION & PLUMBING P/L
ATT: EMMA KAVANAGH
P O BOX 552
WARRNAMBOOL, VIC 3280

CLIENT ID : KAV003
PHONE :

SAMPLE ID : BELFAST LIME & SAND
ANALYSIS REQUIRED : Lime quality

DATE RECEIVED : 24/10/2024

| ITEMS | ABBREVIATION | UNIT | RESULTS |
|--|-----------------------------------|-------|---------|
| Results of analysis on sample on dry weight basis: | | | |
| pH (1:5 Water) | | | 9.1 |
| Electrical Conductivity | EC | µS/cm | 99.1 |
| TOTAL CALCIUM | Ca | % | 33.8 |
| TOTAL MAGNESIUM | Mg | % | 1.51 |
| TOTAL SODIUM | Na | % | 0.237 |
| CALCIUM CARBONATE | CaCO ₃ | % | 84.5 |
| | (Calculated from Total Calcium) | | |
| MAGNESIUM CARBONATE | MgCO ₃ | % | 5.28 |
| | (Calculated from Total Magnesium) | | |
| MOISTURE CONTENT | MC | % | 3.59 |
| MATERIAL > 2mm | | % | Nil |
| MATERIAL 1.00 - 2.00 mm | | % | 0.345 |
| MATERIAL 0.85 - 1.00 mm | | % | 0.852 |
| MATERIAL 0.30 - 0.85 mm | | % | 75.3 |
| MATERIAL 0.075 - 0.30 mm | | % | 14.65 |
| MATERIAL < 0.075mm | | % | 8.86 |
| NEUTRALISING VALUE | NV | % | 90.8 |
| EFFECTIVE NEUTRALISING VALUE | ENV | % | 62.48 |

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 $CaCO_3 + (2.5 \times MgO)$.

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.