



Certificate of Analysis

Client:	Remediation (NZ) Limited	Lab No:	1963107	CPV1
Contact:	Remediation (NZ) Limited C/- Brixton Organic Centre PO Box 8045 New Plymouth 4342	Date Received:	14-Apr-2018	
		Date Reported:	23-Apr-2018	
		Quote No:		
		Order No:		
		Client Reference:		
		Submitted By:	D Gibson	

Sample Type: COMPOST, General

Sample Name:	Compost Sample 1	Compost Sample 2	Guideline NZS 4454:2005*	BioGro Std 2009 Appendix A**	
Lab Number:	1963107.1	1963107.2			
Total Analysis Results - Dry Weight Basis					
Organic Matter	%	19.3	24.4	Greater than 25	-
Total Carbon	%	11.2	14.2	-	-
Total Nitrogen	%	0.59	0.59	Greater than 0.6 (if a contribution to plant nutrition is claimed)	-
C/N Ratio		19.0	24	-	-
Dry Matter	%	59.0	59.1	-	-
'Total' Phosphorus	mg/kg	1,483	1,896	-	-
'Total' Phosphorus	%	0.15	0.19	Greater than 0.1 (if a contribution to plant nutrition is claimed)	-
'Total' Sulphur	mg/kg	3,020	3,030	-	-
'Total' Sulphur	%	0.30	0.30	-	-
'Total' Potassium	mg/kg	1,955	2,380	-	-
'Total' Potassium	%	0.20	0.24	-	-
'Total' Calcium	mg/kg	34,800	49,900	-	-
'Total' Calcium	%	3.48	4.99	-	-
'Total' Magnesium	mg/kg	3,820	3,790	-	-
'Total' Magnesium	%	0.38	0.38	-	-
'Total' Sodium	mg/kg	537	1,019	-	-
'Total' Sodium	%	0.05	0.10	-	-
'Total' Iron	mg/kg	19,000	18,600	-	-
'Total' Manganese	mg/kg	340	290	-	-
'Total' Zinc	mg/kg	146	174	Less than 600	Less than 300
'Total' Copper	mg/kg	54	125	Less than 300	Less than 60
'Total' Boron	mg/kg	15	10	Less than 200	-

* New Zealand Standard Composts, Soil Conditioners and Mulches: NZS 4454:2005, Table 3.1. Test results apply to the sample(s) submitted for analysis and do not necessarily imply that the product meets all the requirements of the standard. Note that the laboratory methods used for these test results may differ slightly to those referred to in the standard.

** Bio-Gro NZ Organic Standards 2009, Appendix A, Table A3: Limits for Heavy Metals in Soils and Composts: BioGro Standard for compost - ingredients other than household waste. Other limits apply for compost with ingredients including household waste.

Analyst's Comments

Samples 1-2 Comment:

Note 1: Reporting Units.

% = g/100g = g analyte/100g compost (dry weight basis)

mg/kg = ppm = mg analyte/kg compost (dry weight basis)

Electrical Conductivity units mS/cm = dS/m

Note 2: % x 10 = kg/T

Note 3: To calculate results to a fresh weight basis:

Result (dry matter basis) x (Dry Matter % / 100) = Result (fresh weight basis)

Samples 1-2 Comment:

Organic Matter Note: The relationship between carbon and organic matter varies according to organic matter type and soil type if soil is present in the product. Commonly used conversion factors range from 1.65 to 2.2 (Ref: NZS 445:2005). A Loss on Ignition (LOI) test may be requested if a more accurate organic matter value is required.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: COMPOST, General

Test	Method Description	Default Detection Limit	Sample No
Sample Registration	Samples were registered according to instructions received.	-	1-2
Media & Compost Prep (Dry & Grind)	Oven dried at 105°C for 24 hours and ground to pass through a 2.0mm screen.	-	1-2
'Total' Sulphur	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	45 mg/kg	1-2
'Total' Sulphur	Calculated from 'Total' Sulphur result for mg/kg (reported on a dry weight basis).	0.01 %	1-2
Total Carbon	Sample dried and ground and analysed by Dumas combustion. Results expressed on a dry weight basis.	0.2 %	1-2
Total Nitrogen	Sample dried and ground and analysed by Dumas combustion. Results expressed on a dry weight basis.	0.04 %	1-2
Organic Matter	Dumas combustion. Organic Matter is 1.72 x Total Carbon.	0.2 %	1-2
Dry Matter	Weight loss on drying at 105°C for 24 hours.	0.5 %	1-2
'Total' Phosphorus	Calculated from 'Total' Phosphorus result for mg/kg (reported on a dry weight basis).	0.01 %	1-2
'Total' Phosphorus	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	65 mg/kg	1-2
'Total' Potassium	Calculated from 'Total' Potassium result for mg/kg (reported on a dry weight basis).	0.01 %	1-2
'Total' Potassium	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	70 mg/kg	1-2
'Total' Calcium	Calculated from 'Total' Calcium result for mg/kg (reported on a dry weight basis).	0.01 %	1-2
'Total' Calcium	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	100 mg/kg	1-2
'Total' Magnesium	Calculated from 'Total' Magnesium result for mg/kg (reported on a dry weight basis).	0.01 %	1-2
'Total' Magnesium	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	40 mg/kg	1-2

Sample Type: COMPOST, General			
Test	Method Description	Default Detection Limit	Sample No
'Total' Sodium	Calculated from 'Total' Sodium result for mg/kg (reported on a dry weight basis).	0.01 %	1-2
'Total' Sodium	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	20 mg/kg	1-2
'Total' Iron	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	40 mg/kg	1-2
'Total' Manganese	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	3 mg/kg	1-2
'Total' Zinc	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	4 mg/kg	1-2
'Total' Copper	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	4 mg/kg	1-2
'Total' Boron	Nitric/hydrochloric digestion (based on US EPA 200.2) followed by ICP-OES. (Total recoverable nutrients reported on a dry weight basis) The levels from this method are referred to as 'Totals' in quotation marks, as they will be a slight under-estimation of the true Totals for some elements.	6 mg/kg	1-2

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

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