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TECHNICAL REPORT

To: **David Gittins** Analytical Project No: **A14056**
Date: **27-Mar-14**

From: **Amy Knorpp**
Analytical and Technical Support

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Subject: **CHEMICAL ANALYSIS OF DIATOMACEOUS EARTH FOR**
INSECTICIDE AND SOIL AMENDMENT

Request:

Two samples of diatomaceous earth were submitted to the analytical group. Chemical analysis was requested to support registration with the EPA, USDA, and CDFA, and CDPR. Heavy metal screening was requested to be carried out by MidWest Lab to support registrations in CA and WA states.

Results:

Heavy Metal Screening was conducted at MidWest laboratories Inc. MidWest uses EPA method 6010 for the detection of all the heavy metals except mercury. EPA method 7471 is used for the detection of mercury.

Major chemistry analysis was conducted on a ThermoARL Advant'X Sequential XRF using standards. Samples were dried overnight prior to analysis.

Chemical Analysis of Diatomaceous Earth for Insecticide and Soil Amendment

Project No. A14056

27-Mar-14

		Diafil 610 A14056-1	Celite 610 A14056-2
Analysis	Lab Code: Units	Results	Results
Heavy Metal Screen			
Arsenic (total)	mg/kg	Not Detected	Not Detected
Cadmium (total)	mg/kg	Not Detected	Not Detected
Cobalt (total)	mg/kg	4.3	1.6
Molybdenum (total)	mg/kg	Not Detected	Not Detected
Nickel (total)	mg/kg	6.4	6.5
Lead (total)	mg/kg	Not Detected	Not Detected
Selenium (total)	mg/kg	Not Detected	Not Detected
Zinc (total)	mg/kg	26.5	10.4
Mercury (total)	mg/kg	Not Detected	Not Detected
Copper (total)	mg/kg	13.7	8.7
Chromium (total)	mg/kg	10.7	6.2
XRF Chemical Analysis (dry basis):			
SiO ₂	%	79.5	87.2
Al ₂ O ₃	%	5.3	2.4
Fe ₂ O ₃	%	1.3	0.9
CaO	%	0.7	0.6
MgO	%	0.9	0.3
TiO ₂	%	0.3	0.1
Na ₂ O	%	0.1	0.2
K ₂ O	%	0.2	0.2
Loss on Ignition @ 1050°C	%	5.1	4.6
XRD Crystalline Silica:			
Quartz	%	<0.1	<0.1
Cristobalite	%	0.1	<0.1