REPORT NUMBER
16-244-4197

REPORT DATE
Aug 31, 2016

SEND TO
38612

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Aug 25, 2016

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www.midwestlabs.com

ISSUE DATE
Aug 31, 2016

REPORT OF ANALYSIS

For: (38612) EARTHCREW, INC
Indonesian Bat Guano

Analysis	Level Found As Received	Units	Reporting Limit	Method	Analyst-Date	Verified-Date
Sample ID: **GUANO 1** Lab Number: **2568122**						
Nitrogen (total)	9.36	%	0.01	MWL WC PROC 55 *	tat9-2016/08/29	acm2-2016/08/29
Phosphate (total P205)	4.46	%	0.10	MWL ME PROC 26 *	Auto-2016/08/29	acm2-2016/08/29
Potash (K2O)	2.17	%	0.05	MWL ME PROC 26 *	Auto-2016/08/29	acm2-2016/08/29
Mercury (total)	0.36	mg/kg	0.05	EPA 7471 *	ccm2-2016/08/29	kkh9-2016/08/31
Zinc (total)	552.1	mg/kg	2.0	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Selenium (total)	n.d.	mg/kg	5.0	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Lead (total)	n.d.	mg/kg	5.0	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Nickel (total)	6.4	mg/kg	1.0	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Molybdenum (total)	1.4	mg/kg	1.0	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Cobalt (total)	1.57	mg/kg	1.00	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Cadmium (total)	1.55	mg/kg	0.50	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Arsenic (total)	n.d.	mg/kg	5.0	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31
Chromium (total)	3.85	mg/kg	1.00	EPA 6010 *	ras7-2016/08/30	kkh9-2016/08/31

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.

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Analysis	Level Found As Received	Units	Reporting Limit	Method	Analyst-Date	Verified-Date

Sample(s) was prepared for EPA 6010 analysis by EPA 3050b.
All results are reported on an AS RECEIVED basis., n.d. = not detected , ppm = parts per million, ppm = mg/kg

For questions please contact:

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Detailed Method Description(s)

ME 067

Samples are analyzed for mercury using MWL ME 067 which is based upon EPA 7471, cold vapor atomic absorption (CVAA).

Samples are prepared via MWL ME 037 that uses a series of digestion steps involving hot mineral acids and oxidizers so as to destroy organic matter and solubilize mercury. The mercury is reduced by use of stannous chloride to elemental mercury that is then aerated to the light path of a mercury light of an atomic absorption spectrometer (AAS). The absorption of the mercury light at 253.7 nm is then correlated to the level of mercury present in the original sample.

AOAC 993.13 (mod) manure

Analysis follows MWL WC 055 which is based on AOAC 993.13. Samples are ground to a fine, homogenous consistency and a small amount weighed and introduced into the instrument. The sample is burned in the presence of oxygen to release gases such as carbon dioxide, nitrogen, and hydrogen and the levels of a specific gas determined and reported.

ME 042

Analysis follows MWL ME 042 which is based on EPA 6010b, Inductively Coupled Plasma (ICP).

A light emission technique where prepared samples are injected into a high energy plasma that forces the elements in the injected sample to emit light energies which are proportional to the level of minerals and metals present. The light is then detected and correlated to the levels of minerals and metals in the original sample.

ICP Analysis Fertilizers AOAC 985.01 (mod)

Analysis follows MWL ME 026 which is based on AOAC 985.01. Samples have been prepared using MWL WC 056 which is based on AOAC 957.02 using mineral acids and heat. Sample analysis involves moving the sample extract into the ICP where it is nebulized and introduced into the high temperature plasma which energizes the electrons of the dissolved minerals/metals. As the energized electrons of the minerals/metals return to ground state, energy is released as light. The emitted wavelength(s) and light intensities are used to identify and quantitate the minerals/metals in the sample

AOAC 957.02 (P2O5 preparation)

Samples are treated with hydrochloric acid and nitric acid on a hot plate to destroy organic material and dissolve phosphate.