

**CALCIUM PRODUCTS INC  
2520 N LOOP DR STE 7100  
AMES IA 50010-8279**
**REPORT OF ANALYSIS**
**For: (7294) CALCIUM PRODUCTS INC  
BY PRODUCT LIME**

Analysis	Level Found	Reporting			Analyst- Date	Verified- Date
	As Received	Units	Limit	Method		
Sample ID: <b>ROCK COUNTY AGRONOMY 2</b>	Lab Number: <b>2509784</b>	Date Sampled: <b>2016-03-23</b>				
Mercury (total)	4.67	mg/kg	0.05	EPA 7471 *	ccm2-2016/03/30	kkh9-2016/03/30
Zinc (total)	14.9	mg/kg	2.0	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Selenium (total)	29.5	mg/kg	5.0	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Lead (total)	n.d.	mg/kg	5.0	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Nickel (total)	n.d.	mg/kg	1.0	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Molybdenum (total)	n.d.	mg/kg	1.0	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Cobalt (total)	n.d.	mg/kg	1.00	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Cadmium (total)	n.d.	mg/kg	0.50	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Arsenic (total)	n.d.	mg/kg	5.0	EPA 6010 *	ras7-2016/03/28	kkh9-2016/03/30
Moisture	21.8	%	0.1	SM 2540 G-(1997) *	bjs0-2016/03/30	mjs5-2016/04/01
Calcium (total)	26.9	%	0.01	MWL ME PROC 26 *	trh1-2016/03/28	mjs5-2016/04/01
Magnesium (total)	0.24	%	0.01	MWL ME PROC 26 *	trh1-2016/03/28	mjs5-2016/04/01
Total neutralizing value (CaCO <sub>3</sub> eq)	61.1	%	0.1	AOAC 955.01 *	acm2-2016/03/29	mjs5-2016/04/01
ECCE	56.5	%	0.1	Calculation *	Auto-2016/03/30	Auto-2016/04/01
% passing 4 sieve	100	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/03/30	mjs5-2016/04/01
% passing 8 sieve	99.9	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/03/30	mjs5-2016/04/01
% passing 30 sieve	98.8	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/03/30	mjs5-2016/04/01
% passing 60 sieve	87.6	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/03/30	mjs5-2016/04/01
% passing 100 sieve	84.0	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/03/30	mjs5-2016/04/01

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

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**REPORT OF ANALYSIS**

For: (7294) CALCIUM PRODUCTS INC  
BY PRODUCT LIME

**CALCIUM PRODUCTS INC  
2520 N LOOP DR STE 7100  
AMES IA 50010-8279**

Analysis	Level Found		Reporting		Analyst-Date	Verified-Date
	As Received	Units	Limit	Method		
<b>Sample ID: ROCK COUNTY AGRONOMY 2</b>	Lab Number: <b>2509784</b> (con't)					
% passing 200 sieve	83.0	%	0.1	ASTM E 276-13 (mod) *	eas2-2016/03/30	mjs5-2016/04/01
Aluminum (total)	0.19	%	0.01	MWL ME PROC 26 *	trh1-2016/03/28	mjs5-2016/04/01

Sample(s) was prepared for EPA 6010 analysis by EPA 3050b.

This report was reissued on 2016-04-04 10:25:07 by lnh7 for the following reason:

Added PO Number.

All results are reported on an AS RECEIVED basis., n.d. = not detected , ppm = parts per million, ppm = mg/kg

For questions please contact:

Rob Ferris  
Account Manager  
raf4@midwestlabs.com (402)829-9871

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www.midwestlabs.com**CALCIUM PRODUCTS INC  
2520 N LOOP DR STE 7100  
AMES IA 50010-8279****REPORT OF ANALYSIS**For: (7294) CALCIUM PRODUCTS INC  
BY PRODUCT LIME**Detailed Method Description(s)****SM 2540 G**

Analysis follows MWL WC 060 which is based on SM 2540 G. A sample is weighed placed in a vacuum drying oven to drive off the moisture and re-weighed. The sample is then placed in a muffle furnace at 550°C, cooled, and re-weighed. The residue remaining is the ash and the mass lost is the volatile matter.

**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.

**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

**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.

**AOAC 955.01**

Analysis follows MWL WC 039 which is based on AOAC 955.01. A sample is treated with an excess of acid and then back-titrated with a known base to a phenolphthalein end point

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REPORT NUMBER

**16-092-4095 v2**

REPORT DATE  
**Apr 04, 2016**

SEND TO  
**7294**

RECEIVED DATE  
**Mar 25, 2016**



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ISSUE DATE  
**Apr 04, 2016**

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## **REPORT OF ANALYSIS**

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BY PRODUCT LIME

### **Calculation**

Analytical results are entered into applicable formulas to provide a calculated result which is reported.

### **Wet Sieve**

Sample analysis follows MWL WC 070 which is based on ASTM E 276. A known mass of a solid is obtained and a pre-determined set of sieves obtained. The sample is placed on the upper most (largest screen size) and the sample washed with water to wash the materials through the sieves. The material retained on the individual sieves is removed and weighed and the percent of the total passing through the sieve is calculated and reported.

### **Fertilizer Prep AOAC 957.02**

Samples are prepared using a combination of nitric acid and heat. The heating takes place in a block digester

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2509784-784  
Samples: Page:  
1 1/1  
Lara L. Mikels  
2016 03 25 13:56

16.85



### Sample Submission for Laboratory Analysis

Type: By Product LIME

Please charge to:  
Account #7294

Collected By: BRUCE HUNGERFORD - R.C. Ag.

Sample ID: Rock County Agromy #2

Phone: 402 684-2311

Date Collected: 3-23-16

email copy to:  
[andrew.hoiberg@calciumproducts.com](mailto:andrew.hoiberg@calciumproducts.com)

Email: hungerfordb@rockcoag.com

#### Additional Information:

2509784

#### Notes to Midwest Labs:

If sample is:

- **Aglime:** Please run standard 'Lime' analysis with sieves 30, 100, 200, and pan added.
- **Gypsum:** Please run standard 'Gypsum' analysis with 'WA Heavy Metals' analysis added.
- **By-Product Lime:** Please run standard 'Lime' analysis with sieves 30, 100, 200, and pan added, along with WA heavy metals and aluminum.
- **By-Product Gypsum:** Please run standard 'Gypsum' analysis with 'WA Heavy Metals' analysis added.

