REPORT NUMBER
19-291-4110

REPORT DATE
Oct 18, 2019

SEND TO
7294

RECEIVED DATE
Oct 14, 2019

Midwest Laboratories®
13611 B Street • Omaha, Nebraska 68144-3693 • (402) 334-7770
www.midwestlabs.com

ISSUE DATE
Oct 18, 2019

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

REPORT OF ANALYSIS

For: (7294) CALCIUM PRODUCTS INC
AG LIME ANALYSIS

Analysis	Level Found As Received	Units	Reporting Limit	Method	Analyst-Date	Verified-Date
Sample ID: **DANVILLE WAREHOUSE #1**	Lab Number: **8684444**					
Moisture	1.0	%	0.1	SM 2540 G-(1997)	bjs0-2019/10/15	asl4-2019/10/16
Calcium (total)	31.0	%	0.01	MWL ME PROC 26	trh1-2019/10/15	asl4-2019/10/16
Magnesium (total)	4.33	%	0.01	MWL ME PROC 26	trh1-2019/10/15	asl4-2019/10/16
Total neutralizing value (CaCO3 eq)	93.5	%	0.1	AOAC 955.01	eas2-2019/10/16	asl4-2019/10/17
ECCE	77.5	%	0.1	Calculation	Auto-2019/10/18	Auto-2019/10/18
% passing 4 sieve	100	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 8 sieve	94.1	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 20 sieve	86.9	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 30 sieve	85.2	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 60 sieve	74.4	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 80 sieve	68.5	%	0.0	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 100 sieve	65.5	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 200 sieve	54.6	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% retained pan	54.6	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
Sample ID: **DANVILLE WAREHOUSE #2**	Lab Number: **8684445**					
Moisture	0.7	%	0.1	SM 2540 G-(1997)	bjs0-2019/10/15	asl4-2019/10/16
Calcium (total)	28.9	%	0.01	MWL ME PROC 26	trh1-2019/10/15	asl4-2019/10/16
Magnesium (total)	3.87	%	0.01	MWL ME PROC 26	trh1-2019/10/15	asl4-2019/10/16
Total neutralizing value (CaCO3 eq)	92.4	%	0.1	AOAC 955.01	eas2-2019/10/16	asl4-2019/10/17

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

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AMES IA 50010-8279

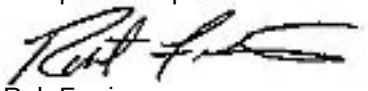
REPORT OF ANALYSIS

For: (7294) CALCIUM PRODUCTS INC
AG LIME ANALYSIS

Analysis	Level Found As Received	Units	Reporting Limit	Method	Analyst-Date	Verified-Date
Sample ID: DANVILLE WAREHOUSE #2	Lab Number: **8684445** (con't)					
ECCE	76.4	%	0.1	Calculation	Auto-2019/10/18	Auto-2019/10/18
% passing 4 sieve	100	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 8 sieve	93.0	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 20 sieve	86.8	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 30 sieve	85.1	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 60 sieve	74.7	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 80 sieve	68.9	%	0.0	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 100 sieve	66.2	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% passing 200 sieve	55.2	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18
% retained pan	55.2	%	0.1	ASTM E 276-13 (mod)	may8-2019/10/18	asl4-2019/10/18

All results are reported on an AS RECEIVED basis.

For questions please contact:



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For: (7294) CALCIUM PRODUCTS INC
AG LIME ANALYSIS

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.

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. Total minerals in fertilizers have been prepared by AOAC 957.02 using mineral acids and heat. Water soluble manganese is prepared by AOAC 972.03 and the other water soluble by AOAC 977.01. 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 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

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 digestor

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8684444-445
Samples: 2 Page: 1/1
Ashlyn Himan
2019 10 11 13:02

Midwest Laboratories

Sample Submission for Laboratory Analysis

Type: Ag Lime

Sample ID: Danville Warehouse #1 & #2

Date Collected: 10-7-2019

Please charge to:
Account #7294

email copy to:
andrew.hoiberg@calciumproducts.com

Collected By: John L Krueger

Phone: 217-474-3291

Email: john.krueger@calciumproducts.com

Additional Information:

Pell Lime

Two samples enclosed.

~~#~~1) **8684444**

#2) **8684445**

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.

19.2 ~~AL~~ UR13