

**Missouri  
Agricultural Liming  
Materials Report**

**January 1 to June 30, 2003**

**Agricultural Experiment Station**

**University of Missouri-Columbia**

TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM  
JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg

This bulletin is a detailed report of official samples obtained under the Missouri Agricultural Liming Materials Law collected from January 1 through June 30, 2002. There were 866 official samples collected in this period. All samples are analyzed to determine fineness of grind, calcium carbonate equivalent (CCE), and magnesium content (Mg). Effective neutralizing material (ENM) and effective magnesium (EMg) are calculated from this information, as prescribed by Rule, for each dry sample which meets the minimum specifications of at least 90% passing a U.S. No. 8 sieve and minimum 65% CCE. Products not meeting minimum specifications cannot be sold as agricultural liming materials. Thirty-two deficient samples are reported, thirty for excessive coarseness and two for low CCE. There were seven "stop sale" order's issued against producer stockpiles for excessive coarseness. Corrective actions taken by the producers have resulted in the release of two of the issued "stop sale" orders.

Table 1 lists registered producers and samples obtained at production sites. Table 2 lists samples obtained from retail distributor stockpiles, by producer.

MISSOURI AGRICULTURAL LIMING MATERIALS TONNAGE  
REPORTED SINCE AUGUST 13, 1976

YEAR	SPRING	FALL	TOTAL
1976	-----	2,514,500	-----
1977	1,590,700	1,166,600	2,757,300
1978	1,116,100	2,546,250	3,662,350
1979	975,300	3,068,900	4,044,200
1980	1,431,000	2,266,900	3,697,900
1981	1,336,750	1,228,350	2,565,100
1982	825,100	1,029,000	1,854,100
1983	872,700	1,154,700	2,027,400
1984	595,725	899,459	1,495,185
1985	611,050	783,575	1,394,625
1986	967,375	646,115	1,613,490
1987	1,104,358	1,558,171	2,662,529
1988	1,036,917	1,605,444	2,642,361
1989	939,831	1,586,398	2,526,229
1990	504,100	1,204,551	1,708,651
1991	646,864	835,603	1,482,467
1992	859,648	771,536	1,631,184
1993	397,607	686,345	1,083,952
1994	681,464	967,450	1,648,914
1995	720,140	1,207,663	1,927,803
1996	704,151	886,627	1,590,778
1997	779,876	1,063,760	1,843,636
1998	626,186	1,048,308	1,674,494
1999	606,847	1,557,259	2,164,106
2000	886,861	996,123	1,882,984
2001	512,964	1,311,614	1,824,578
2002	696,473	1,079,130	1,775,603
2003	574,560*	1,225,440*	1,800,000*

\* PRELIMINARY ESTIMATE

\* Does not meet minimum specification for Agricultural Liming Material.

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
76 QUARRY, MANSFIELD, MO											
Stockpile #1											
Lab #0034	02-03-03	0.1	41.5	9.0	49.4	87.3	10.1	65.2	455	132	
Lab #0387	04-16-03	0.1	49.1	7.7	43.1	87.3	10.2	60.0	419	122	
Lab #0648	05-29-03	0.0	53.7	6.6	39.7	87.2	10.2	57.1	398	116	
ADRIAN ROCK, INC, BUTLER, MO											
Stockpile #1											
Lab #0003	01-14-03	0.1	56.9	11.4	31.6	85.7	1.3	52.7	361	14	
Lab #0005	02-03-03	0.1	53.2	11.3	35.4	87.2	0.9	55.5	387	10	
Lab #0212	03-13-03	0.0	45.9	13.1	41.0	92.6	0.5	60.3	447	6	
Lab #0380	04-17-03	0.2	51.9	11.5	36.4	91.8	0.6	56.3	413	7	
AIRGAS - MID AMERICA, MOUNTAIN GROVE, MO											
Stockpile #2											
Lab #0636	05-21-03	0.1	0.3	1.0	98.6	105.7	0.1	99.3	839	2	
ALBY QUARRY, CARLINVILLE, IL											
ALLEN QUARRIES INC, LOCKWOOD, MO											
Stockpile #1											
Lab #0302	03-31-03	4.2	45.7	11.3	38.8	93.6	0.2	57.0	427	2	
Lab #0643	05-27-03	2.7	46.5	13.0	37.8	91.6	0.3	57.2	419	3	
Lab #0816	06-16-03	1.2	49.1	14.6	35.1	92.4	0.7	56.1	415	8	
APAC-MISSOURI, INC. - BOONVILLE, COLUMBIA, MO											
Stockpile #1											
Lab #0039	02-06-03	1.8	46.0	12.6	39.6	93.8	0.4	58.7	440	5	
Lab #0197	03-12-03	1.4	48.9	12.1	37.6	90.7	1.0	57.1	414	11	
Lab #0363	04-14-03	1.7	49.3	12.8	36.2	93.9	0.2	56.2	422	2	
Lab #0606	05-19-03	0.7	45.2	14.2	39.9	93.9	0.3	59.7	449	4	
Lab #0846	06-20-03	0.9	45.0	14.4	39.7	93.1	0.3	59.6	444	4	
APAC-MISSOURI, INC., COLUMBIA, MO											
Stockpile #1											
Lab #0027	02-03-03	1.0	34.4	16.8	47.8	94.3	0.2	66.5	502	3	
Lab #0152	03-05-03	6.3	39.2	14.5	40.0	93.1	0.3	58.5	436	4	
APAC-MISSOURI, INC - ELDON, COLUMBIA, MO											
Stockpile #1											
Lab #0059	02-12-03	0.4	40.1	14.6	44.9	97.1	11.4	63.7	495	145	
Lab #0177	03-03-03	1.4	38.6	14.8	45.2	89.6	10.7	63.7	457	136	
Lab #0230	03-20-03	0.4	41.4	15.5	42.7	98.0	11.6	62.4	489	145	
Lab #0492	04-29-03	0.6	38.4	16.2	44.8	95.5	11.3	64.1	490	145	
Lab #0751	06-04-03	0.8	39.6	15.0	44.6	94.2	11.1	63.5	479	141	
Stockpile #2											
Lab #0060	02-12-03	10.5*	37.7	12.1	39.7	82.6	9.8	56.4	0	0	
Lab #0178	03-03-03	10.2*	38.6	11.0	40.2	81.2	9.4	56.5	0	0	
Lab #0231	03-20-03	10.4*	37.5	12.1	40.0	88.4	10.4	56.6	0	0	
Stockpile #3											
Lab #0061	02-12-03	1.0	39.7	14.4	44.9	92.1	10.8	63.5	468	137	
Lab #0179	03-03-03	1.0	41.9	13.7	43.4	92.2	10.8	62.1	458	134	
Lab #0232	03-20-03	1.0	39.3	14.6	45.1	96.4	11.3	63.7	491	144	
Lab #0493	04-29-03	13.0*	43.5	11.1	32.4	97.4	11.3	49.9	0	0	
Lab #0752	06-04-03	1.5	52.9	11.1	34.5	95.3	11.0	54.4	415	120	
APAC-MISSOURI, INC. - LANAGAN, SPRINGFIELD, MO											
Stockpile #1											
Lab #0241	03-17-03	0.5	43.8	13.8	41.9	87.4	1.0	61.1	427	12	
Lab #0543	05-05-03	6.8	39.2	13.3	40.7	90.9	0.7	58.5	425	8	
Lab #0774	06-09-03	0.8	44.4	13.2	41.6	88.8	1.0	60.6	431	12	
APAC-MISSOURI, INC. - LAURIE, COLUMBIA, MO											
APAC-MISSOURI, INC. - LINN CREEK, LINN CREEK, MO											
Stockpile #2											
Lab #0010	02-04-03	1.6	41.3	14.1	43.0	97.6	11.6	61.8	482	143	
Lab #0729	06-03-03	0.3	42.2	15.1	42.4	83.3	9.5	62.0	413	118	
APAC-MISSOURI, INC. - COLUMBIA, SPRINGFIELD, MO											
Stockpile #2											
Lab #0574	05-12-03	5.2	41.0	9.4	44.4	80.9	9.3	60.3	390	112	
APAC-MISSOURI, INC. - MARSHALL, MARSHALL, MO											
Stockpile #1											
Lab #0016	02-05-03	4.1	53.8	10.0	32.1	91.2	0.2	51.6	376	2	
Lab #0161	03-06-03	4.0	57.0	10.0	29.0	88.9	0.9	49.3	350	9	

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Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
APAC-MISSOURI, INC. - MARSHALL, MARSHALL, MO (Continued)											
Stockpile #1											
Lab #0269	03-28-03	4.4	57.6	11.0	27.0	96.5	0.3	48.0	371	3	
Lab #0365	04-17-03	6.1	51.7	10.0	32.2	89.5	2.1	51.1	366	21	
Lab #0528	05-06-03	6.1	47.6	9.6	36.7	83.9	1.7	54.4	365	18	
Lab #0664	05-30-03	5.5	46.5	10.9	37.1	85.7	1.6	55.3	379	18	
Lab #0840	06-16-03	5.0	48.2	9.4	37.4	85.8	1.7	55.1	378	19	
APAC-MISSOURI, INC. - NETTLETON, COLUMBIA, MO											
Stockpile #1											
Lab #0454	04-22-03	4.9	48.2	10.4	36.5	79.3	1.0	54.8	348	11	
APAC MO INC CENTRAL COMPANIES DYL, OSAGE BEACH, MO											
APAC MISSOURI CENTRAL COMPANIES, OSAGE BEACH, MO											
Stockpile #1											
Lab #1466	10-30-01	2.5	46.2	13.6	37.7	83.9	9.9	57.4	385	114	
Lab #0011	02-04-03	3.7	49.2	11.6	35.5	82.4	9.7	54.8	361	106	
Lab #0730	06-03-03	1.9	47.1	13.1	37.9	90.0	10.4	57.5	414	120	
APAC-MISSOURI INC. - ROARK CREEK, SPRINGFIELD, MO											
Stockpile #1											
Lab #0033	02-03-03	0.2	42.5	10.0	47.3	93.0	10.8	63.9	476	138	
Lab #0386	04-16-03	1.2	48.3	8.6	41.9	92.6	10.8	59.1	438	128	
Lab #0647	05-29-03	1.1	45.6	9.0	44.3	92.4	10.7	61.1	452	131	
ARKANSAS LIME COMPANY, INC., BATESVILLE, AR											
ASC MINERALS PROCESSING, ALLERTON, IL											
ASH GROVE AGGREGATES INC-APPLETON, BUTLER, MO											
Stockpile #1											
Lab #0298	04-03-03	1.7	58.3	11.3	28.7	84.1	1.0	50.1	337	10	
Lab #0450	04-22-03	0.0	51.6	11.9	36.5	79.9	0.9	56.5	361	10	
Lab #0476	04-29-03	0.0	51.6	12.4	36.0	85.1	0.7	56.3	384	8	
Lab #0579	05-12-03	0.0	53.3	9.6	37.1	80.1	0.8	56.2	360	9	
ASH GROVE AGGREGATES-ELDORADO SPRIN, BUTLER, MO											
Stockpile #1											
Lab #0158	03-04-03	0.2	44.8	12.5	42.5	93.0	0.2	61.2	455	2	
Lab #0328	04-07-03	0.2	42.4	13.5	43.9	90.5	2.0	62.6	453	25	
Lab #0585	05-15-03	0.0	38.3	15.1	46.6	88.7	2.4	65.2	463	31	
Lab #0732	06-05-03	0.2	41.6	13.9	44.3	92.4	0.3	63.0	466	4	
ASH GROVE AGGREGATES-FAIR GROVE, BUTLER, MO											
Stockpile #1											
Lab #0347	04-07-03	0.9	54.5	6.8	37.8	91.9	11.0	55.5	408	122	
Lab #0822	06-19-03	1.1	52.5	7.3	39.1	92.0	10.5	56.6	417	119	
ASH GROVE AGGREGATES INC-BUTLER, BUTLER, MO											
Stockpile #1											
Lab #0106	02-19-03	2.4	52.5	10.8	34.3	82.5	1.0	53.9	356	11	
Lab #0295	04-03-03	2.7	53.8	12.0	31.5	86.5	0.6	52.2	361	6	
Lab #0611	05-21-03	2.1	56.7	11.7	29.5	80.6	0.6	50.7	327	6	
Stockpile #2											
Lab #0107	02-19-03	2.7	57.2	9.8	30.3	83.7	0.7	50.5	338	7	
Lab #0296	04-03-03	4.1	55.7	10.2	30.0	85.8	1.3	50.0	344	13	
Lab #0612	05-21-03	3.0	54.5	10.9	31.6	82.9	1.3	51.8	343	13	
Stockpile #3											
Lab #0297	04-03-03	3.1	56.2	11.0	29.7	87.4	0.7	50.4	352	7	
Lab #0613	05-21-03	2.2	57.8	11.8	28.2	85.2	0.8	49.7	339	8	
ASH GROVE AGGREGATES INC-RICHHILL, BUTLER, MO											
Stockpile #1											
Lab #0047	02-11-03	5.4	52.3	8.3	34.0	82.3	0.9	52.1	343	9	
ASH GROVE AGGREGATES INC-LACYGNE, BUTLER, MO											
Stockpile #3											
Lab #0108	02-19-03	3.7	43.4	8.8	44.1	92.2	1.4	60.2	444	17	
Lab #0215	03-13-03	3.8	42.2	8.3	45.7	92.5	1.6	61.2	453	20	
Lab #0384	04-17-03	3.3	44.3	9.7	42.7	92.6	1.6	59.6	441	19	
Lab #0672	05-29-03	4.3	43.8	9.2	42.7	89.4	1.3	59.2	423	15	
ASH GROVE AGGREGATES INC-MARSHFIELD, BUTLER, MO											
Stockpile #3											
Lab #0037	02-05-03	0.8	46.3	12.3	40.6	90.9	10.7	59.6	433	127	
Lab #0194	03-03-03	0.5	48.3	11.5	39.7	89.1	10.6	58.7	418	124	
Lab #0630	05-19-03	0.1	51.4	11.5	37.0	78.8	9.5	56.8	358	108	

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
ASH GROVE AGGREGATES INC-MONTEVALLO, BUTLER, MO											
Stockpile #1											
Lab #0218	03-13-03		5.7	46.4	9.9	38.0	90.1	2.3	55.5	400	26
Lab #0327	04-07-03		3.7	44.6	10.9	40.8	88.4	2.8	58.5	414	33
Lab #0731	06-05-03		7.3	47.8	9.9	35.0	90.9	2.5	52.9	385	26
ASH GROVE AGGREGATES INC-OSCEOLA, BUTLER, MO											
Stockpile #1											
Lab #0112	02-21-03		3.5	48.3	10.4	37.8	90.2	0.9	56.1	405	10
Lab #0266	03-27-03		5.4	48.2	10.6	35.8	95.8	0.5	54.2	415	5
Lab #0614	05-22-03		1.9	38.6	14.7	44.8	88.6	0.6	63.3	448	8
ASH GROVE AGGREGATES INC-PITTSBURG, BUTLER, MO											
Stockpile #1											
Lab #0145	02-28-03		2.4	44.4	12.4	40.8	92.5	0.2	59.3	439	2
Lab #0301	04-04-03		1.8	43.7	12.7	41.8	91.8	0.2	60.3	443	2
Lab #0519	05-07-03		2.4	45.0	12.0	40.6	92.2	0.2	59.1	436	2
ASH GROVE AGGREGATES INC-FT SCOTT, BUTLER, MO											
Stockpile #1											
Lab #0216	03-13-03		6.9	51.7	9.1	32.3	91.9	0.4	50.7	373	4
ASH GROVE AGGREGATES INC.-STOCKTON, BUTLER, MO											
Stockpile #1											
Lab #0168	03-06-03		2.1	50.1	14.3	33.5	93.8	0.3	54.6	410	3
Lab #0324	04-07-03		4.3	50.1	10.9	34.7	97.6	0.1	53.8	420	1
Lab #0523	05-09-03		3.2	45.8	13.3	37.7	94.5	0.2	57.1	432	2
Stockpile #2											
Lab #0169	03-06-03		3.4	49.4	12.8	34.4	95.8	0.2	54.4	417	2
Lab #0325	04-07-03		3.7	50.1	12.8	33.4	95.1	0.2	53.6	408	2
Lab #0524	05-09-03		4.5	51.1	12.0	32.4	95.7	0.1	52.4	401	1
Stockpile #3											
Lab #0170	03-06-03		3.0	49.9	13.3	33.8	93.6	0.2	54.3	406	2
Lab #0326	04-07-03		3.2	50.4	12.7	33.7	92.6	0.2	53.9	399	2
Lab #0525	05-09-03		2.8	48.0	13.1	36.1	95.0	0.3	56.0	425	3
ASH GROVE AGGREGATES INC-WHEATLAND, BUTLER, MO											
Stockpile #2											
Lab #0147	02-28-03		5.6	45.4	10.2	38.8	96.2	0.3	56.3	433	3
Lab #0299	04-04-03		5.7	48.5	10.4	35.4	97.2	0.4	53.8	418	4
Lab #0517	05-07-03		6.5	48.0	10.1	35.4	96.2	0.4	53.5	411	4
ASH GROVE AGGREGATES INC-FT SCOTT E, BUTLER, MO											
ASH GROVE AGGREGATES INC-BOLIVAR, BUTLER, MO											
Stockpile #1											
Lab #0081	02-18-03		0.0	53.9	9.9	36.2	97.5	2.6	55.6	434	29
Lab #0479	04-30-03		0.1	49.9	11.4	38.6	97.3	2.8	57.9	451	32
Lab #0609	05-20-03		0.0	51.5	10.8	37.7	97.6	2.6	57.1	445	30
Stockpile #4											
Lab #0082	02-18-03		8.6	51.5	8.2	31.7	93.9	1.9	49.5	372	19
Lab #0480	04-30-03		13.1*	46.9	8.4	31.6	92.9	0.9	48.4	0	0
ASH GROVE AGGREGATES INC-BUFFALO, BUTLER, MO											
Stockpile #1											
Lab #0050	02-12-03		0.5	45.2	11.2	43.1	93.7	11.3	61.1	458	138
Lab #0210	03-12-03		0.5	42.8	11.1	45.6	93.7	11.2	63.0	472	141
Lab #0452	04-23-03		0.3	43.2	11.8	44.7	92.9	11.1	62.6	465	139
Lab #0837	06-19-03		0.5	39.8	12.5	47.2	95.3	11.2	64.7	493	145
Stockpile #2											
Lab #0211	03-12-03		0.5	43.0	12.4	44.1	96.3	11.5	62.3	480	143
Lab #0453	04-23-03		0.6	44.1	12.0	43.3	92.4	11.1	61.5	455	137
Lab #0838	06-19-03		0.6	44.0	11.6	43.8	94.2	11.1	61.8	465	137
BAILEY QUARRIES INC-CHESAPEAKE Q., MT VERNON, MO											
Stockpile #4											
Lab #0104	02-18-03		5.1	49.2	7.1	38.6	91.7	10.8	55.2	405	119
Lab #0484	04-30-03		2.8	44.9	8.7	43.6	87.8	10.4	60.0	422	125
BAILEY QUARRIES INC-JANE, JANE, MO											
Stockpile #2											
Lab #0240	03-17-03		2.7	41.0	7.8	48.5	92.3	10.9	63.4	468	138
Lab #0542	05-05-03		1.7	37.4	8.4	52.5	92.0	11.1	66.9	492	148
Lab #0773	06-09-03		2.1	39.3	8.3	50.3	92.4	10.7	65.1	481	139

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		+8	-8+40	-40+60	-60				ENM	EMg	
BAILEY QUARRIES, INC.-MADRY QUARRY, VERONA, MO											
Stockpile #2											
Lab #0352	04-09-03		0.2	42.8	13.1	43.9	87.6	1.0	62.5	438	12
Lab #0818	06-17-03		0.2	40.6	13.7	45.5	82.9	1.2	63.9	424	15
BAILEY QUARRIES INC-STOCKTON, STOCKTON, MO											
Stockpile #2											
Lab #0171	03-06-03		0.3	42.0	15.4	42.3	89.7	0.1	62.0	445	1
Lab #0323	04-07-03		3.2	48.2	13.1	35.5	94.9	0.2	55.4	421	2
Lab #0522	05-09-03		1.2	42.3	14.4	42.1	90.9	0.1	61.3	446	1
Stockpile #3											
Lab #0172	03-06-03		16.5*	40.1	9.7	33.7	87.0	0.1	49.5	0	0
BARBER & SONS AGGREGATES, LEE'S SUMMIT, MO											
Stockpile #1											
Lab #0057	02-13-03		10.2*	48.2	7.2	34.4	83.7	0.6	50.8	0	0
Lab #0200	03-13-03		6.9	50.3	8.1	34.7	88.2	0.5	52.1	368	5
Lab #0332	04-08-03		5.4	50.9	8.8	34.9	83.0	0.4	52.9	351	4
Lab #0422	04-22-03		3.5	50.0	9.5	37.0	78.7	1.9	55.2	348	21
Lab #0572	05-14-03		4.5	53.8	8.7	33.0	81.6	2.0	51.7	337	21
Lab #0772	06-10-03		4.9	49.5	9.0	36.6	80.4	1.9	54.4	350	21
BARRETT MATERIALS INC, NEW HAVEN, MO											
Stockpile #1											
Lab #0318	03-25-03		1.7	38.8	6.4	53.1	88.9	10.3	66.6	474	137
Lab #0346	04-09-03		2.6	45.0	6.0	46.4	85.2	10.2	61.3	417	125
Lab #0706	05-29-03		3.9	45.0	6.9	44.2	82.0	9.6	59.6	391	114
JAMES ELROD TRUCK SERVICE, BELLE, MO											
Stockpile #1											
Lab #0064	02-13-03		0.4	21.4	9.6	68.6	93.4	3.2	79.7	596	51
Lab #0204	03-13-03		0.3	30.8	8.6	60.3	85.6	4.4	73.2	501	64
Lab #0291	04-03-03		0.5	32.4	9.4	57.7	81.2	4.9	71.4	464	70
Lab #0701	05-27-03		1.9	28.6	9.9	59.6	91.2	3.9	72.7	530	57
BLUFF CITY MINERALS CO., ALTON, IL											
Stockpile #1											
Lab #0116	02-20-03		0.0	5.1	7.3	87.6	90.6	1.1	93.3	676	21
Lab #0595	05-15-03		0.1	5.7	7.8	86.4	90.7	3.0	92.5	671	56
BOONE QUARRIES INC - WEST, COLUMBIA, MO											
Stockpile #1											
Lab #0029	02-03-03		0.1	17.4	13.3	69.2	99.2	1.9	81.5	647	31
Lab #0154	03-05-03		0.8	21.1	7.3	70.8	76.5	5.6	80.5	492	90
Lab #0316	04-07-03		0.6	34.1	8.7	56.6	72.3	6.1	70.3	407	86
Lab #0475	05-02-03		0.2	31.5	9.0	59.3	68.3	5.5	72.6	397	80
BOONE QUARRIES - EAST, COLUMBIA, MO											
Stockpile #1											
Lab #0028	02-03-03		10.3*	49.1	7.9	32.7	90.4	4.8	49.7	0	0
Lab #0153	03-05-03		7.1	50.2	8.3	34.4	91.1	4.8	51.9	378	50
Lab #0315	04-07-03		10.7*	49.3	8.1	31.9	90.8	4.6	49.1	0	0
Lab #0471	05-02-03		2.9	40.5	11.7	44.9	97.7	1.2	62.0	485	15
Lab #0474	05-02-03		10.7*	48.3	8.9	32.1	91.3	3.8	49.5	0	0
BURFORDVILLE STONE, LLC, WHITEWATER, MO											
Stockpile #1											
Lab #0395	04-15-03		12.6*	49.0	6.6	31.8	71.4	8.7	48.0	0	0
Lab #0687	05-28-03		5.2	50.9	7.3	36.6	79.9	9.3	53.7	343	100
Lab #0869	06-30-03		4.8	49.9	7.2	38.1	80.6	9.5	54.9	354	104
CALCIUM PRODUCTS, INC., GILMORE CITY, IA											
CAPITAL QUARRIES, INC-STADIUM WEST, JEFFERSON CITY, MO											
Stockpile #2											
Lab #0041	02-03-03		1.0	38.7	10.0	50.3	79.4	9.5	66.0	419	125
Lab #0182	03-04-03		1.0	38.9	9.5	50.6	82.3	9.8	66.0	435	129
Lab #0500	05-02-03		0.9	35.6	9.7	53.8	80.4	9.6	68.5	441	132
Lab #0783	06-11-03		1.1	32.2	10.2	56.5	76.1	8.9	70.7	430	126
CAPITAL QUARRIES INC-ROLLA Q #4, JEFFERSON CITY, MO											
Stockpile #1											
Lab #0320	03-27-03		3.4	43.8	8.0	44.8	78.4	9.5	60.6	380	115
Lab #0287	04-02-03		2.8	46.1	8.2	42.9	81.8	10.0	59.3	388	119
Lab #0552	05-05-03		3.0	46.0	7.6	43.4	79.7	9.4	59.5	379	112
Lab #0702	05-28-03		4.0	43.9	7.8	44.3	80.0	9.5	60.0	384	114

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
CAPITAL QUARRIES INC-CALIFORNIA Q#5, JEFFERSON CITY, MO											
Stockpile #1											
Lab #0198	03-12-03		2.1	45.0	8.7	44.2	79.9	4.6	60.7	388	56
Lab #0294	04-03-03		2.0	50.3	9.6	38.1	81.2	3.6	56.4	367	41
Lab #0421	04-21-03		1.4	46.0	11.6	41.0	86.0	3.2	59.5	409	38
Lab #0660	05-28-03		1.4	48.5	11.3	38.8	82.3	3.5	57.7	380	40
Lab #0844	06-17-03		1.2	48.0	11.4	39.4	82.8	3.3	58.2	386	38
CAPITAL QUARRIES INC-SULLIVAN, BOURBON, MO											
CARROLL COUNTY STONE, INC., REPUBLIC, MO											
Stockpile #1											
Lab #0105	02-19-03		1.6	47.1	10.0	41.3	85.2	10.0	59.1	403	118
Lab #0442	04-22-03		0.3	36.0	11.8	51.9	85.0	9.7	68.0	462	132
Lab #0650	05-30-03		0.6	36.2	11.8	51.4	85.1	10.0	67.5	460	135
CARTHAGE CRUSHED LIMESTONE, CARTHAGE, MO											
Stockpile #1											
Lab #0546	05-08-03		0.3	4.3	3.2	92.2	96.8	0.1	95.2	737	2
CASPER'S QUARRY, HIGH HILL, MO											
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO											
Stockpile #1											
Lab #0113	02-19-03		4.8	34.0	10.4	50.8	96.6	0.3	65.5	506	4
Lab #0254	03-24-03		7.8	34.4	9.6	48.2	91.6	0.3	62.6	458	4
Lab #0427	04-21-03		3.0	29.3	11.9	55.8	93.7	0.4	70.3	527	6
Lab #0681	05-28-03		0.7	25.4	12.0	61.9	93.7	0.4	75.5	566	6
Stockpile #2											
Lab #0429	04-21-03		1.1	35.8	12.3	50.8	93.5	0.3	67.1	502	4
Lab #0683	05-28-03		1.2	32.3	12.6	53.9	90.9	0.3	69.5	506	4
Stockpile #3											
Lab #0114	02-19-03		0.3	30.4	11.7	57.6	88.9	0.5	72.2	514	7
Lab #0255	03-24-03		1.6	29.9	11.9	56.6	91.7	1.0	71.2	522	14
Lab #0428	04-21-03		0.4	27.8	14.5	57.3	98.6	2.4	73.0	575	35
Lab #0682	05-28-03		1.4	33.0	13.3	52.3	90.8	0.7	68.5	498	10
CENTRAL STONE COMPANY-ANTONIA, HANNIBAL, MO											
CENTRAL STONE COMPANY - BETHEL, BETHEL, MO											
Stockpile #1											
Lab #0257	03-25-03		8.3	41.1	8.5	42.1	93.4	1.4	57.5	429	16
Lab #0432	04-22-03		7.6	39.8	8.5	44.1	92.1	2.3	59.2	436	27
Lab #0719	06-03-03		8.0	39.7	8.5	43.8	93.4	2.2	58.8	440	26
CENTRAL STONE CO - FORT BELLE - #31, FLORISSANT, MO											
Stockpile #1											
Lab #0117	02-20-03		0.0	0.5	7.1	92.4	88.9	2.7	96.8	688	52
Lab #0237	03-20-03		0.0	0.5	1.8	97.7	88.9	3.2	98.9	703	63
Lab #0362	04-14-03		0.0	0.3	0.8	98.9	89.4	1.7	99.5	711	34
Lab #0596	05-15-03		0.0	0.1	2.1	97.8	85.2	1.4	99.1	675	28
CENTRAL STONE CO - FORT BELLE -WEST, FLORISSANT, MO											
CENTRAL STONE COMPANY - GREENSBURG, HANNIBAL, MO											
CENTRAL STONE COMPANY - PARIS, PARIS, MO											
Stockpile #1											
Lab #0425	04-17-03		3.6	44.0	11.4	41.0	95.3	4.6	58.8	449	54
Lab #0716	06-02-03		3.9	53.6	11.3	31.2	88.8	0.4	51.4	365	4
CENTRAL STONE COMPANY - NEW LONDON, NEW LONDON, MO											
CENTRAL STONE COMPANY - CURRYVILLE, CURRYVILLE, MO											
CENTRAL STONE COMPANY - PERRY, HANNIBAL, MO											
Stockpile #1											
Lab #0426	04-21-03		4.9	41.3	9.3	44.5	83.3	1.7	60.4	403	21
Lab #0680	05-28-03		5.7	40.4	9.9	44.0	83.3	1.5	60.0	400	18
CENTRAL STONE COMPANY - EWING, HANNIBAL, MO											
Stockpile #1											
Lab #0359	04-09-03		7.3	36.1	9.2	47.4	82.3	1.0	61.9	408	12
Lab #0597	05-08-03		7.5	35.8	9.5	47.2	82.3	0.7	61.9	407	9
CENTRAL STONE COMPANY-ST. FRANCOIS, HANNIBAL, MO											
CENTRAL STONE COMPANY - TAYLOR, TAYLOR, MO											
Stockpile #1											
Lab #0115	02-19-03		7.7	46.4	11.2	34.7	88.7	0.2	53.0	376	2
Lab #0256	03-24-03		4.0	47.4	11.9	36.7	89.6	0.2	55.7	399	2
Lab #0430	04-21-03		5.3	46.3	12.0	36.4	89.2	0.3	55.2	394	3

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	Fineness %Mg	Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
CENTRAL STONE COMPANY - TAYLOR, TAYLOR, MO (Continued)											
Stockpile #1											
Lab #0684	05-28-03		7.8	45.3	11.9	35.0	88.5	0.3	53.5	379	3
CLEVER STONE CO, CLEVER, MO											
Stockpile #1											
Lab #0195	03-04-03		3.3	49.9	13.2	33.6	97.1	0.2	54.0	419	2
Lab #0444	04-24-03		10.5*	47.3	12.1	30.1	93.8	0.2	49.2	0	0
COLONIAL LIMESTONE INC-PRINCETON, MILAN, MO											
Stockpile #1											
Lab #0416	04-17-03		1.5	35.2	9.5	53.8	66.0	0.7	68.3	361	10
Lab #0599	05-12-03		0.0	48.1	12.1	39.8	91.7	0.3	59.1	433	4
CONCO QUARRIES, SPRINGFIELD, MO											
CONCO QUARRIES INC Q US 160, WILLARD, MO											
Stockpile #1											
Lab #0481	04-30-03		0.0	12.2	17.1	70.7	97.6	0.2	84.0	656	3
Lab #0820	06-19-03		0.1	11.0	14.7	74.2	97.4	0.2	85.8	668	3
Stockpile #4											
Lab #0482	04-30-03		0.0	9.3	15.3	75.4	98.5	0.2	86.9	685	3
Lab #0821	06-19-03		0.1	10.9	14.4	74.6	98.6	0.1	86.0	678	2
COUNTY LINE QUARRY, WELLSVILLE, MO											
Stockpile #1											
Lab #0068	02-12-03		3.4	40.4	9.0	47.2	92.2	3.5	62.7	462	44
Lab #0235	03-14-03		3.5	46.9	8.7	40.9	90.0	3.9	57.8	416	45
Lab #0467	04-24-03		2.5	48.6	9.9	39.0	92.3	3.0	57.1	422	34
Lab #0679	05-27-03		2.9	47.4	10.0	39.7	94.2	2.2	57.6	434	25
CRAWFORD LIME & MATERIAL CO, CUBA, MO											
Stockpile #1											
Lab #0229	03-19-03		3.9	41.9	6.8	47.4	90.3	10.8	62.0	448	134
Lab #0555	05-07-03		1.4	42.7	9.5	46.4	88.9	10.5	62.8	446	132
CRIDER BROTHERS LIME CO, EMINENCE, MO											
Stockpile #2											
Lab #0461	04-28-03		8.3	50.2	11.1	30.4	97.6	10.4	49.6	387	103
Lab #0688	05-29-03		1.8	45.3	15.4	37.5	102.1	11.6	58.1	474	135
Lab #0859	06-25-03		10.8*	47.7	11.3	30.2	100.6	11.7	48.9	0	0
DOSS & HARPER STONE CO., HOUSTON, MO											
Stockpile #1											
Lab #0242	03-19-03		0.4	34.9	16.9	47.8	90.8	10.8	66.7	484	144
Lab #0631	05-20-03		1.6	44.4	12.9	41.1	86.0	10.3	59.9	412	123
Lab #0776	06-11-03		1.0	46.7	13.3	39.0	90.5	10.6	58.7	425	124
Stockpile #2											
Lab #0777	06-11-03		1.3	39.1	14.5	45.1	84.7	9.9	63.6	431	126
DOSS & HARPER STONE CO, WEST PLAINS, MO											
Stockpile #1											
Lab #0303	04-02-03		0.0	44.8	11.0	44.2	84.7	10.2	62.0	420	126
Lab #0632	05-20-03		0.2	49.7	8.9	41.2	82.2	9.8	59.0	388	116
EVERETT QUARRIES #1-LATHROP, PLATTSBURG, MO											
Stockpile #2											
Lab #0072	02-10-03		6.1	51.7	9.5	32.7	86.4	1.1	51.3	355	11
Lab #0275	03-25-03		6.3	53.4	9.5	30.8	87.0	1.0	49.9	347	10
Lab #0503	05-02-03		2.1	48.5	10.1	39.3	80.7	1.5	57.5	371	17
Lab #0768	06-10-03		0.0	0.7	4.4	94.9	83.3	0.7	97.7	651	14
EVERETT QUARRIES #6-KING, PLATTSBURG, MO											
Stockpile #1											
Lab #0455	04-22-03		4.6	48.7	8.1	38.6	87.5	2.0	55.6	389	22
Lab #0829	06-18-03		4.4	48.3	9.1	38.2	88.0	1.9	55.7	392	21
Stockpile #2											
Lab #0456	04-22-03		6.5	48.1	9.1	36.3	87.6	2.0	53.8	377	22
Lab #0830	06-18-03		7.1	48.8	9.9	34.2	88.5	2.1	52.3	371	22
EVERETT QUARRIES #53-CAMERON, PLATTSBURG, MO											
EVERETT QUARRIES #54-GOWER, PLATTSBURG, MO											
Stockpile #3											
Lab #0167	03-03-03		6.9	46.0	9.1	38.0	81.9	0.9	55.0	360	10
Lab #0358	04-09-03		3.3	50.2	10.8	35.7	82.7	0.8	54.7	362	9
Lab #0516	05-07-03		4.7	52.6	8.9	33.8	80.0	0.8	52.3	335	8
Lab #0770	06-11-03		3.5	48.2	10.3	38.0	82.9	0.9	56.2	373	10

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Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
EVERETT QUARRIES #59-STANBERRY, PLATTSBURG, MO											
Stockpile #1											
Lab #0095	02-20-03		5.5	48.5	8.6	37.4	80.7	1.5	54.7	353	16
Lab #0238	03-19-03		4.7	46.7	8.2	40.4	79.8	1.6	57.0	364	18
Lab #0505	05-02-03		5.7	49.4	8.9	36.0	80.1	1.5	53.7	344	16
Lab #0738	06-05-03		4.7	46.8	9.6	38.9	79.8	1.5	56.4	360	17
FALL VALLEY STONE, INC., MT VERNON, MO											
Stockpile #1											
Lab #0103	02-18-03		0.3	39.1	15.5	45.1	104.9	12.1	64.2	539	155
Lab #0483	04-30-03		0.3	37.4	12.3	50.0	100.6	11.8	66.7	537	157
FISCHER QUARRIES LLC, HUGHESVILLE, MO											
Stockpile #1											
Lab #0018	02-05-03		6.0	48.0	10.1	35.9	97.7	1.1	54.0	422	12
Lab #0164	03-06-03		6.8	46.7	10.9	35.6	97.6	1.1	53.8	420	12
Lab #0271	03-28-03		7.8	46.3	11.2	34.7	98.2	1.0	53.0	416	11
Stockpile #2											
Lab #0019	02-05-03		7.3	44.0	10.3	38.4	97.7	1.5	55.6	434	17
Lab #0163	03-06-03		5.6	46.3	10.9	37.2	97.8	1.0	55.3	433	11
Lab #0272	03-28-03		7.8	43.9	11.7	36.6	98.0	1.1	54.6	428	12
Lab #0367	04-17-03		7.6	46.8	10.1	35.5	97.7	1.3	53.3	416	14
Lab #0530	05-06-03		8.4	44.8	10.9	35.9	97.7	1.2	53.6	419	13
Lab #0666	05-30-03		8.4	47.0	9.8	34.8	97.4	1.2	52.4	409	13
Lab #0842	06-16-03		7.6	46.2	10.7	35.5	98.1	0.9	53.5	420	10
FULLERTON STONE COMPANY INC, GRANBY, MO											
Stockpile #1											
Lab #0350	04-08-03		2.1	50.1	13.1	34.7	91.6	0.1	55.1	404	1
Lab #0775	06-09-03		2.1	45.6	15.5	36.8	95.9	0.2	57.5	441	2
GABEL STONE COMPANY INC., WILLOW SPRINGS, MO											
Stockpile #1											
Lab #0633	05-21-03		2.7	42.5	13.8	41.0	85.3	9.9	59.9	409	119
GLASGOW QUARRIES INC, GLASGOW, MO											
GLASGOW QUARRIES-GILLIAM, GILLIAM, MO											
Stockpile #1											
Lab #0048	02-11-03		4.2	48.2	7.6	40.0	88.8	6.2	56.6	402	70
Lab #0201	03-10-03		3.5	48.4	8.8	39.3	88.1	5.4	56.7	399	61
Lab #0488	04-29-03		1.8	47.7	10.2	40.3	89.3	6.1	58.3	417	71
Lab #0608	05-20-03		3.9	48.8	8.0	39.3	88.5	6.2	56.3	399	70
GLASGOW QUARRIES - MARCELINE, MARCELINE, MO											
Stockpile #4											
Lab #0760	06-03-03		3.3	48.5	7.6	40.6	88.4	5.9	57.3	405	68
HART LIME STONE, FARMINGTON, MO											
HARVEY PRODUCTS INC, BLUE MOUNDS, WI											
HERZOG CONTRACTING CORP, ST JOSEPH, MO											
HIGGINS - MEEKER QUARRIES LLC, DEEPWATER, MO											
Stockpile #2											
Lab #0174	03-07-03		3.3	52.2	9.6	34.9	81.0	4.2	53.7	348	45
Lab #0252	03-25-03		2.4	47.8	10.7	39.1	80.0	2.7	57.5	368	31
Lab #0375	04-15-03		4.4	51.0	9.0	35.6	78.2	3.6	53.8	336	39
Lab #0678	05-30-03		3.6	46.4	9.8	40.2	71.9	3.2	57.7	332	37
HILTY QUARRIES, INC. - QUARLES, CLINTON, MO											
Stockpile #2											
Lab #0209	03-11-03		0.6	45.5	14.0	39.9	71.9	0.4	59.7	343	5
HILTY QUARRIES, INC. - MONTROSE, CLINTON, MO											
Stockpile #3											
Lab #0249	03-24-03		1.5	42.8	11.6	44.1	93.5	0.4	61.8	462	5
Lab #0477	04-29-03		0.5	43.8	12.4	43.3	92.9	0.2	61.7	458	2
Lab #0578	05-12-03		2.1	48.3	10.5	39.1	94.6	0.3	57.5	435	3
HILTY QUARRIES, INC. - MT. ZION, CLINTON, MO											
Stockpile #1											
Lab #0173	03-07-03		0.5	39.2	15.0	45.3	91.3	0.1	64.1	468	1
Lab #0354	04-09-03		0.2	39.0	14.3	46.5	86.1	0.1	64.8	447	1
Lab #0377	04-15-03		0.3	39.0	15.2	45.5	84.2	0.1	64.4	434	1
Lab #0675	05-30-03		0.8	39.4	14.9	44.9	85.9	0.1	63.7	438	1

\* Does not meet minimum specification for Agricultural Liming Material.

TABLE 1

## AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
HILTY QUARRIES, INC. - MT. ZION, CLINTON, MO (Continued)											
Stockpile #2											
Lab #0355	04-09-03	0.8	48.6	13.8	36.8	86.7	0.1	57.2	397	1	
Lab #0378	04-15-03	1.2	55.0	11.6	32.2	86.5	0.1	52.9	366	1	
Lab #0676	05-30-03	0.5	48.2	13.5	37.8	85.9	0.1	58.0	398	1	
Stockpile #3											
Lab #0356	04-09-03	0.5	46.5	14.3	38.7	89.8	0.1	58.9	423	1	
Lab #0379	04-15-03	0.5	44.8	15.3	39.4	86.9	0.1	59.8	416	1	
Lab #0677	05-30-03	0.5	44.5	15.7	39.3	91.1	0.1	59.8	436	1	
HILTY QUARRIES, INC- SOUTH-DELL JCT, CLINTON, MO											
Stockpile #1											
Lab #0078	02-17-03	1.3	37.6	12.4	48.7	89.6	1.7	65.5	470	22	
Lab #0250	03-25-03	0.7	41.9	14.3	43.1	92.8	0.9	62.2	461	11	
Lab #0448	04-18-03	3.1	42.6	11.9	42.4	86.1	2.6	60.2	415	31	
Lab #0673	05-30-03	4.3	43.8	9.2	42.7	89.4	1.3	59.2	423	15	
HILTY QUARRIES, INC - TIGHTWAD, CLINTON, MO											
Stockpile #1											
Lab #0077	02-17-03	2.4	42.2	10.8	44.6	88.1	0.2	61.6	434	2	
Lab #0251	03-25-03	0.1	45.1	12.5	42.3	92.2	0.5	61.1	450	6	
Lab #0376	04-15-03	0.3	45.2	12.8	41.7	95.6	0.4	60.7	464	5	
Lab #0674	05-30-03	0.0	41.0	13.0	46.0	95.6	0.3	64.1	490	4	
HILTY QUARRIES, INC. - URICH, CLINTON, MO											
Stockpile #1											
Lab #0140	02-25-03	0.0	45.5	11.9	42.6	72.2	1.1	61.1	353	13	
Lab #0246	03-24-03	0.1	43.2	12.9	43.8	78.2	1.0	62.3	390	12	
Stockpile #2											
Lab #0141	02-25-03	0.1	42.3	12.9	44.7	76.0	1.1	63.0	383	14	
Lab #0247	03-24-03	0.1	48.2	10.4	41.3	68.7	1.1	59.6	328	13	
Lab #0576	05-12-03	0.3	47.1	13.4	39.2	79.7	1.0	59.0	376	12	
Stockpile #4											
Lab #0248	03-24-03	2.2	44.4	11.1	42.3	94.7	0.3	60.1	455	4	
Lab #0577	05-12-03	1.1	44.6	11.2	43.1	93.7	0.3	61.0	457	4	
HILTY QUARRIES INC.-WARRENSBURG, CLINTON, MO											
Stockpile #4											
Lab #0012	02-03-03	6.1	51.6	9.3	33.0	73.3	1.3	51.5	302	13	
Lab #0159	03-05-03	5.3	55.8	9.0	29.9	75.4	1.5	49.3	297	15	
Lab #0281	04-02-03	3.5	53.2	11.1	32.2	73.8	1.6	52.2	308	17	
Lab #0489	04-30-03	2.3	51.3	12.7	33.7	72.6	1.5	54.1	314	16	
Lab #0661	05-29-03	2.4	49.7	11.5	36.4	85.0	0.9	55.7	379	10	
HUNT MIDWEST MINING-BLUE MOUND, DAWN, MO											
Stockpile #2											
Lab #0602	05-15-03	1.4	55.0	10.6	33.0	91.3	1.0	53.1	388	11	
Lab #0825	06-17-03	0.4	48.7	12.4	38.5	89.3	1.4	58.1	415	16	
HUNT MIDWEST MINING, INC.-TRENTON, EDINBURG, MO											
HUNT MIDWEST MINING - HWY 10 QUARRY, RAYVILLE, MO											
Stockpile #1											
Lab #0083	02-17-03	1.6	56.2	9.7	32.5	88.6	0.6	52.4	371	6	
Lab #0253	03-24-03	1.2	54.9	10.6	33.3	88.3	0.7	53.4	377	7	
Lab #0486	05-02-03	1.6	56.0	10.5	31.9	87.9	0.6	52.2	367	6	
Lab #0733	06-04-03	2.4	55.2	11.3	31.1	87.6	0.5	51.7	362	5	
HUNT MIDWEST QUARRY - STET QUARRY, RICHMOND, MO											
Stockpile #1											
Lab #0002	01-13-03	10.3*	50.9	7.3	31.5	85.5	0.6	48.6	0	0	
Lab #0004	01-15-03	9.8	48.6	7.4	34.2	88.6	0.7	50.8	360	7	
Lab #0098	02-12-03	6.4	55.1	7.7	30.8	87.2	0.6	49.2	343	6	
Lab #0600	05-14-03	8.8	52.1	7.0	32.1	87.0	0.7	49.3	343	7	
Lab #0826	06-17-03	1.1	50.9	11.1	36.9	91.1	1.0	56.3	410	11	
Stockpile #2											
Lab #0099	02-12-03	1.7	56.8	9.4	32.1	84.9	0.3	51.9	353	3	
Lab #0601	05-14-03	1.6	55.4	9.7	33.3	84.9	0.4	53.0	360	4	
Lab #0827	06-17-03	1.8	56.9	9.9	31.4	84.8	0.4	51.6	350	4	
HUTCHENS CONSTRUCTION-PURDY, CASSVILLE, MO											
Stockpile #2											
Lab #0067	02-13-03	0.3	37.5	15.6	46.6	84.6	0.1	65.3	442	1	
Lab #0351	04-09-03	0.8	44.1	13.8	41.3	85.5	0.1	60.6	415	1	

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM  
JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
HUTCHENS CONSTRUCTION-EAGLE ROCK, CASSVILLE, MO											
Stockpile #2											
Lab #0148	02-28-03	3.1	45.9	8.1	42.9	90.0	10.7	59.2	426	127	
Lab #0446	04-25-03	0.8	43.4	9.2	46.6	88.0	10.1	63.0	443	127	
Lab #0646	05-28-03	1.0	42.0	9.1	47.9	87.5	10.3	63.9	447	132	
HUTCHENS CONSTRUCTION-WASHBURN, CASSVILLE, MO											
IDEKER INC. - NEW POINT QUARRY, ST JOSEPH, MO											
Stockpile #1											
Lab #0653	05-30-03	3.4	48.9	12.0	35.7	89.6	0.4	55.1	395	4	
IDEKER INC. - AMAZONIA, ST JOSEPH, MO											
Stockpile #1											
Lab #0076	02-13-03	5.6	48.1	10.7	35.6	92.2	0.5	54.0	399	5	
Lab #0220	03-14-03	2.3	45.7	13.6	38.4	91.4	0.7	58.0	424	8	
Lab #0418	04-18-03	2.5	47.0	13.1	37.4	91.8	0.5	57.0	419	6	
Lab #0654	05-30-03	3.4	51.3	12.9	32.4	91.6	0.7	53.0	388	7	
IOWA LIMESTONE CO-WEEPING WATER NE, WEEPING WATER, NE											
Stockpile #1											
Lab #0088	02-19-03	0.0	0.8	3.0	96.2	97.3	0.2	98.2	764	4	
Lab #0739	06-04-03	0.0	2.3	2.7	95.0	96.0	0.3	97.2	746	6	
Stockpile #2											
Lab #0089	02-19-03	0.0	39.0	30.3	30.7	97.4	0.2	58.6	457	2	
Lab #0740	06-04-03	0.0	29.2	35.9	34.9	97.1	0.3	63.7	495	4	
Stockpile #3											
Lab #0090	02-19-03	0.0	69.6	15.3	15.1	97.3	0.2	41.7	324	2	
Lab #0741	06-04-03	0.0	84.9	7.0	8.1	97.3	0.2	33.5	261	1	
Stockpile #4											
Lab #0091	02-19-03	0.0	97.7	1.3	1.0	97.5	0.2	26.2	204	1	
Lab #0742	06-04-03	0.0	94.9	3.2	1.9	97.4	0.2	27.5	215	1	
Stockpile #5											
Lab #0092	02-19-03	3.4	95.9	0.1	0.6	98.9	0.2	24.6	195	1	
Lab #0743	06-04-03	9.2	89.4	0.5	0.9	97.6	0.2	23.6	184	1	
IOWA MINERAL PROCESSING, INC., ALDEN, IA											
JENKINS QUARRY, CASSVILLE, MO											
Stockpile #1											
Lab #0644	05-28-03	4.7	49.0	7.0	39.3	89.4	10.3	55.8	399	115	
JIMMY SANDERS, INC, LEACHVILLE, AR											
LEO JOURNAGAN CONST CO-GAINESVILLE, SPRINGFIELD, MO											
Stockpile #1											
Lab #0443	04-23-03	2.8	40.1	9.2	47.9	86.3	9.9	63.4	438	126	
Lab #0715	06-04-03	4.9	44.7	7.8	42.6	87.8	10.2	58.5	411	119	
LEO JOURNAGAN CONST CO-HOLLISTER SO, SPRINGFIELD, MO											
Stockpile #1											
Lab #0035	02-03-03	1.5	49.1	12.4	37.0	81.9	0.5	56.7	372	6	
Lab #0388	04-16-03	2.2	50.3	11.7	35.8	81.5	0.5	55.4	361	6	
Lab #0649	05-29-03	4.0	50.3	10.5	35.2	86.5	0.7	54.1	374	8	
LEO JOURNAGAN CONST CO INC-OZARK, SPRINGFIELD, MO											
LEO JOURNAGAN CONST CO INC-AVA, SPRINGFIELD, MO											
LEO JOURNAGAN CONST. - SHELL KNOB, SHELL KNOB, MO											
Stockpile #1											
Lab #0149	02-28-03	3.7	38.6	7.5	50.2	92.3	10.9	64.4	475	140	
Lab #0445	04-25-03	3.6	39.6	7.9	48.9	92.5	10.7	63.5	470	136	
Lab #0645	05-28-03	3.5	42.5	6.9	47.1	93.0	10.9	61.9	460	135	
JOPLIN STONE CO Q DUENWEG, JOPLIN, MO											
Stockpile #2											
Lab #0102	02-17-03	0.1	18.7	20.8	60.4	94.6	0.1	77.6	587	2	
Lab #0389	04-17-03	0.1	20.8	21.6	57.5	95.3	0.2	75.7	577	3	
Lab #0819	06-18-03	0.3	18.9	20.2	60.6	95.9	0.1	77.4	594	2	
K & D CRUSHING, INC., MINERAL POINT, MO											
Stockpile #1											
Lab #0554	05-07-03	0.2	14.3	21.0	64.5	93.1	10.6	80.7	601	171	
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Stockpile #1											
Lab #0129	02-24-03	3.0	41.7	8.3	47.0	91.1	2.7	62.4	455	34	
Lab #0258	03-25-03	5.7	40.0	8.8	45.5	92.1	1.5	60.8	448	18	
Lab #0433	04-22-03	2.5	36.5	6.6	54.4	91.1	3.6	67.5	492	49	

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
KELLY LIMESTONE LLC, KIRKSVILLE, MO (Continued)											
Stockpile #1											
Lab #0720	06-03-03	3.7	42.9	8.6	44.8	91.3	1.4	60.7	443	17	
Stockpile #3											
Lab #0130	02-24-03	0.1	0.3	1.2	98.4	98.3	0.8	99.2	780	16	
Lab #0259	03-25-03	0.1	0.7	0.9	98.3	97.6	0.7	99.0	773	14	
Lab #0434	04-22-03	0.1	1.0	0.6	98.3	97.7	0.8	98.9	773	16	
Lab #0721	06-03-03	1.1	0.8	0.7	97.4	98.1	0.8	98.0	769	16	
Stockpile #4											
Lab #0131	02-24-03	2.1	16.2	5.4	76.3	92.4	1.4	83.6	618	23	
Lab #0260	03-25-03	3.1	16.1	4.3	76.5	90.8	1.4	83.1	604	23	
Lab #0435	04-22-03	2.0	13.6	5.2	79.2	91.0	1.4	85.7	624	24	
Lab #0722	06-03-03	1.3	17.9	3.5	77.3	91.3	1.1	83.9	613	18	
KELLEY QUARRY, CROCKER, MO											
Stockpile #2											
Lab #0121	02-17-03	6.7	42.9	9.7	40.7	89.8	10.7	57.2	411	123	
Lab #0319	03-27-03	2.6	41.0	14.0	42.4	87.3	10.4	61.1	426	127	
Lab #0497	04-29-03	13.0*	45.1	8.0	33.9	90.9	10.8	50.0	0	0	
Lab #0754	06-04-03	4.7	37.8	11.3	46.2	87.9	10.6	62.4	439	132	
KERFORD LIMESTONE CO, WEEPING WATER, NE											
Stockpile #1											
Lab #0093	02-19-03	0.0	0.8	0.4	98.8	96.9	0.5	99.2	769	10	
Lab #0734	06-04-03	0.2	0.3	0.3	99.2	92.1	0.4	99.5	733	8	
KEYSTONE QUARRY, WARRENSBURG, MO											
Stockpile #1											
Lab #0013	02-03-03	0.0	57.1	10.8	32.1	68.4	0.4	52.9	289	4	
Lab #0280	04-02-03	0.1	56.3	11.4	32.2	67.8	0.5	53.1	288	5	
Lab #0490	04-30-03	0.0	50.7	15.8	33.5	76.8	0.4	55.7	342	4	
Lab #0662	05-29-03	0.1	56.9	11.3	31.7	79.6	0.5	52.7	336	5	
KNOX COUNTY STONE CO, EDINA, MO											
Stockpile #1											
Lab #0468	04-28-03	4.4	45.5	12.0	38.1	87.5	2.3	56.7	397	26	
Lab #0615	05-19-03	6.3	46.7	10.9	36.1	88.2	2.0	54.3	383	22	
Lab #0836	06-19-03	2.8	45.7	14.0	37.5	88.9	2.1	57.3	408	24	
L & W QUARRIES INC., KAHOKA, MO											
Stockpile #1											
Lab #0069	02-13-03	5.7	49.4	8.5	36.4	88.3	1.8	53.9	380	19	
Lab #0236	03-18-03	6.4	43.7	11.3	38.6	91.4	0.3	56.3	412	3	
Lab #0469	04-29-03	4.3	45.5	10.6	39.6	86.2	0.3	57.3	395	3	
Lab #0726	06-05-03	5.6	47.2	10.4	36.8	91.7	0.2	54.8	402	2	
Stockpile #2											
Lab #0470	04-29-03	9.0	45.6	9.9	35.5	92.6	0.3	52.8	391	3	
Lab #0727	06-05-03	9.2	45.1	10.2	35.5	92.5	0.2	52.9	391	2	
Stockpile #3											
Lab #0070	02-13-03	8.2	45.2	8.5	38.1	91.2	1.1	54.5	398	12	
LAFARGE QUARRY, SEDALIA, MO											
Stockpile #1											
Lab #0015	02-05-03	6.5	45.0	9.0	39.5	77.5	1.8	56.2	348	20	
Lab #0160	03-06-03	6.7	47.6	9.0	36.7	82.2	2.4	54.0	355	26	
Lab #0267	03-28-03	6.1	45.2	9.6	39.1	81.5	2.9	56.2	366	33	
Lab #0527	05-06-03	0.4	42.5	8.7	48.4	81.5	4.8	64.2	419	62	
Lab #0839	06-16-03	0.5	47.6	7.4	44.5	83.5	5.2	60.8	406	63	
Stockpile #2											
Lab #0268	03-28-03	0.8	49.4	9.0	40.8	86.9	5.0	58.6	407	59	
Lab #0364	04-14-03	0.9	57.6	8.9	32.6	89.0	4.0	52.3	373	42	
Lab #0526	05-06-03	0.5	45.6	10.6	43.3	79.5	3.8	61.1	388	46	
Lab #0663	05-30-03	0.4	45.1	9.3	45.2	78.7	4.1	62.1	391	51	
LAFARGE CORPORATION, SEDALIA, MO											
LAFARGE CONSTRUCTION MATERIALS, ST CHARLES, MO											
LAFARGE CONSTRUCTION MATERIALS, WARRENTON, MO											
Stockpile #1											
Lab #0124	02-19-03	11.7*	54.8	6.8	26.7	94.4	3.1	44.5	0	0	
Lab #0345	04-09-03	12.7*	52.6	7.0	27.7	95.4	3.2	45.1	0	0	
Lab #0747	06-02-03	12.0*	50.2	7.5	30.3	95.6	3.4	47.4	0	0	

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
LAKE OZARK SAND & GRAVEL - BRUMLEY, ELDON, MO											
Stockpile #1											
Lab #0122	02-17-03		3.8	45.4	7.2	43.6	92.5	11.2	59.3	439	133
Lab #0495	04-29-03		1.3	36.8	9.6	52.3	92.5	11.1	67.3	498	149
Lab #0748	06-04-03		2.8	42.3	8.6	46.3	93.1	10.8	62.0	462	134
Stockpile #2											
Lab #0123	02-17-03		9.8	37.1	6.9	46.2	83.2	10.1	59.6	397	120
Lab #0749	06-04-03		13.6*	39.3	7.1	40.0	86.1	10.2	54.1	0	0
Stockpile #3											
Lab #0494	04-29-03		15.4*	37.8	6.3	40.5	83.8	10.0	53.7	0	0
Lab #0750	06-04-03		9.6	37.3	7.6	45.5	83.1	9.8	59.4	395	116
LEAD BELT MATERIALS CO INC, FLAT RIVER, MO											
Stockpile #1											
Lab #0189	03-07-03		0.1	25.7	24.4	49.8	87.8	10.3	70.9	498	146
Lab #0374	04-15-03		1.6	18.5	18.8	61.1	89.5	10.3	77.0	551	159
Lab #0624	05-22-03		0.6	3.5	11.1	84.8	87.7	10.3	92.3	648	190
LILE QUARRY INC., STRAFFORD, MO											
Stockpile #1											
Lab #0036	02-05-03		0.7	47.8	6.4	45.1	91.3	10.8	60.9	445	132
Lab #0193	03-03-03		0.7	51.9	5.7	41.7	91.5	10.9	58.1	425	127
Lab #0629	05-19-03		0.7	49.9	6.3	43.1	89.5	10.7	59.4	425	127
LIMPUS QUARRIES, INC. (BATES CITY), BATES CITY, MO											
Stockpile #1											
Lab #0771	06-10-03		6.2	54.9	9.1	29.8	91.4	0.7	49.0	358	7
Stockpile #4											
Lab #0056	02-13-03		5.6	45.6	9.5	39.3	90.1	0.2	56.4	407	2
Lab #0331	04-08-03		5.8	51.1	8.7	34.4	90.1	0.2	52.4	378	2
Lab #0571	05-14-03		5.5	48.8	8.6	37.1	90.4	0.2	54.5	394	2
LIMPUS QUARRIES, INC. (GARDEN CITY), HARRISONVILLE, MO											
LIMPUS QUARRIES, INC. (GALLATIN), HARRISONVILLE, MO											
Stockpile #2											
Lab #0459	04-21-03		7.9	49.7	8.3	34.1	80.4	0.6	51.5	331	6
Lab #0761	06-04-03		8.7	46.6	7.3	37.4	77.5	0.7	53.4	331	7
LIMPUS QUARRIES, INC. (HARRISONVILLE), HARRISONVILLE, MO											
Stockpile #1											
Lab #0142	02-27-03		5.8	48.6	8.6	37.0	87.9	0.5	54.3	382	5
Lab #0263	03-26-03		7.3	48.4	8.2	36.1	88.3	1.2	53.1	375	13
Lab #0582	05-14-03		6.1	50.4	8.4	35.1	85.0	0.6	52.7	359	6
Stockpile #2											
Lab #0143	02-27-03		6.8	51.7	8.0	33.5	89.2	0.9	51.2	366	9
Lab #0264	03-26-03		7.2	49.5	8.5	34.8	87.7	1.1	52.3	367	12
Lab #0583	05-14-03		28.6*	40.4	5.8	25.2	91.8	0.8	38.8	0	0
LIMPUS QUARRIES, INC. (HOLDEN), HARRISONVILLE, MO											
Stockpile #2											
Lab #0014	02-03-03		8.8	45.4	7.4	38.4	75.2	2.6	54.2	326	28
Lab #0279	04-02-03		5.3	46.8	10.8	37.1	76.1	2.8	55.3	337	31
Lab #0573	05-14-03		3.6	48.8	9.1	38.5	75.8	2.6	56.2	341	29
LIMPUS QUARRIES, INC.-SUGAR CREEK, HARRISONVILLE, MO											
Stockpile #1											
Lab #0053	02-12-03		3.2	45.6	8.8	42.4	76.9	1.5	59.1	363	18
Lab #0139	02-27-03		5.9	56.7	7.7	29.7	88.1	0.3	48.5	342	3
Lab #0278	03-31-03		2.8	54.7	9.4	33.1	88.7	0.6	52.4	372	6
Lab #0447	04-25-03		2.9	53.6	9.2	34.3	88.5	0.6	53.2	377	6
Lab #0658	05-27-03		4.2	51.4	9.3	35.1	88.9	0.6	53.5	381	6
Stockpile #2											
Lab #0054	02-12-03		7.3	55.6	7.7	29.4	89.5	0.3	47.9	343	3
MAGRUDER LIMESTONE CO-ASHLEY, BOWLING GREEN, MO											
Stockpile #1											
Lab #0132	02-25-03		0.3	46.1	8.4	45.2	83.4	2.5	61.8	412	31
Lab #0308	04-01-03		0.6	50.1	10.7	38.6	97.7	1.3	57.5	450	15
Lab #0510	05-06-03		0.5	48.0	10.7	40.8	92.8	1.4	59.2	440	17
Lab #0728	06-06-03		0.2	50.7	8.5	40.6	90.8	2.0	58.4	424	23

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM  
JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
MAGRUDER LIMESTONE CO, INC.-BOWLING, BOWLING GREEN, MO											
Stockpile #1											
Lab #0192	03-10-03		0.2	45.6	11.9	42.3	94.8	1.3	60.8	461	16
Lab #0360	04-10-03		0.3	50.0	11.3	38.4	86.4	0.3	57.7	399	3
Lab #0508	05-06-03		0.2	40.2	13.2	46.4	97.3	1.3	64.4	501	17
Lab #0725	06-04-03		0.4	43.3	12.0	44.3	96.2	1.4	62.3	480	17
MAGRUDER LIMESTONE CO-FRANKFORD, BOWLING GREEN, MO											
Stockpile #1											
Lab #0471	05-01-03		2.9	40.5	11.7	44.9	97.7	1.2	62.0	485	15
Lab #0723	06-04-03		3.8	40.3	11.5	44.4	97.6	1.4	61.4	479	17
MAGRUDER LIMESTONE - SILEX QUARRY, TROY, MO											
Stockpile #1											
Lab #0030	02-05-03		6.7	47.5	7.4	38.4	96.2	3.4	54.7	421	37
Lab #0191	03-06-03		6.9	46.5	7.2	39.4	96.3	3.4	55.3	426	38
Lab #0361	04-10-03		6.6	48.2	7.5	37.7	94.1	3.0	54.3	408	33
Lab #0511	05-06-03		5.5	48.6	7.8	38.1	96.1	2.8	54.9	422	31
Lab #0778	06-10-03		5.1	48.6	7.7	38.6	95.0	2.9	55.4	421	32
MAGRUDER LIMESTONE CO Q TROY, TROY, MO											
Stockpile #1											
Lab #0155	02-27-03		1.9	51.9	10.0	36.2	84.9	3.0	55.2	375	33
Lab #0311	04-04-03		1.2	52.7	9.5	36.6	86.0	3.2	55.5	382	36
Lab #0512	05-06-03		1.9	51.1	11.4	35.6	86.4	3.1	55.2	382	34
Lab #0779	06-10-03		1.0	53.2	11.8	34.0	85.7	3.1	54.4	373	34
Stockpile #2											
Lab #0156	02-27-03		7.4	49.0	8.1	35.5	87.9	2.5	52.6	370	26
Lab #0312	04-04-03		5.5	45.7	9.4	39.4	94.8	2.4	56.5	428	27
Lab #0513	05-06-03		7.6	53.5	7.6	31.3	85.7	3.1	49.2	338	31
Lab #0780	06-10-03		7.1	50.3	8.4	34.2	86.4	2.5	51.8	358	26
MANSFIELD LIME & STONE, MANSFIELD, MO											
Stockpile #2											
Lab #0243	03-21-03		0.1	47.2	8.3	44.4	81.2	9.6	61.2	397	117
Lab #0635	05-22-03		0.2	44.2	9.4	46.2	83.4	10.0	62.9	420	126
MARTIN MARIETTA AGGREGATES-JEFFRIES, DAVIS CITY, IA											
Stockpile #3											
Lab #0138	02-26-03		10.5*	48.0	7.7	33.8	88.5	0.9	50.4	0	0
Lab #0763	06-05-03		4.9	47.7	9.6	37.8	88.8	0.9	55.5	394	10
Lab #0789	06-09-03		5.3	48.5	9.2	37.0	88.4	0.9	54.6	386	10
Lab #0796	06-16-03		4.4	48.1	10.0	37.5	88.2	1.0	55.5	392	11
Stockpile #4											
Lab #0134	02-26-03		6.8	46.8	8.4	38.0	88.6	0.9	54.7	388	10
Lab #0764	06-05-03		7.7	48.3	9.0	35.0	89.0	0.9	52.5	374	9
Lab #0790	06-09-03		8.7	51.7	7.9	31.7	89.1	0.8	49.4	352	8
Lab #0797	06-16-03		6.0	49.4	9.1	35.5	87.5	0.9	53.3	373	10
MARTIN MARIETTA AGGREGATES-MERCER, MERCER, MO											
Stockpile #5											
Lab #0137	02-25-03		3.7	45.0	10.1	41.2	89.4	1.1	58.5	418	13
Lab #0415	04-17-03		4.2	45.6	10.0	40.2	86.8	1.4	57.6	400	16
Lab #0598	05-12-03		3.7	41.8	12.8	41.7	85.8	1.2	59.8	411	14
Lab #0618	05-20-03		3.9	43.0	10.2	42.9	88.0	0.9	59.8	421	11
Lab #0793	06-12-03		3.9	45.4	9.9	40.8	86.7	1.1	58.1	403	13
MARTIN MARIETTA MATERIALS-WATERSON, MT AYR, IA											
Stockpile #1											
Lab #0277	03-24-03		1.1	35.2	11.9	51.8	79.0	1.9	67.7	428	26
Lab #0417	04-15-03		3.0	39.8	9.3	47.9	73.9	1.4	63.4	375	18
Lab #0651	05-29-03		0.3	33.8	12.3	53.6	78.3	2.1	69.4	435	29
MARTIN MARIETTA AGGREGATES-GOODEN, RAVENWOOD, MO											
Stockpile #1											
Lab #0022	02-03-03		1.5	48.0	8.6	41.9	85.3	1.7	59.1	403	20
Lab #0166	03-06-03		5.7	47.7	7.0	39.6	80.0	1.8	55.7	357	20
Lab #0330	04-04-03		3.5	48.3	8.7	39.5	83.0	1.7	56.8	377	19
Lab #0616	05-22-03		1.3	47.4	11.2	40.1	82.8	1.8	58.7	389	21
MARTIN MARIETTA AGG - APPLETON, PERRYVILLE, MO											
Stockpile #1											
Lab #0401	04-17-03		1.1	59.2	12.6	27.1	99.1	3.9	49.5	392	39
Lab #0506	05-02-03		1.5	69.5	9.3	19.7	97.9	3.4	42.7	334	29

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
MARTIN MARIETTA AGG - APPLETON, PERRYVILLE, MO (Continued)											
	Stockpile #1										
Lab #0798	06-09-03		0.7	63.8	11.1	24.4	98.9	3.9	47.0	372	37
MARTIN MARIETTA AGGREGATES-BARNARD, BARNARD, MO											
MARTIN MARIETTA AGGREGATES-BETHANY, BETHANY, MO											
	Stockpile #3										
Lab #0135	02-26-03		5.7	46.9	9.7	37.7	83.4	1.2	55.2	369	13
Lab #0765	06-05-03		5.9	47.8	9.1	37.2	71.5	1.4	54.6	312	15
Lab #0788	06-09-03		5.0	47.3	9.3	38.4	74.0	1.3	55.8	330	15
Lab #0795	06-16-03		4.6	48.7	9.9	36.8	87.5	0.9	54.9	384	10
MARTIN MARIETTA AGGREGATES - BREIT, SAVANNAH, MO											
	Stockpile #1										
Lab #0075	02-13-03		2.9	45.9	10.2	41.0	75.7	2.6	58.6	355	30
Lab #0222	03-14-03		2.7	48.4	10.0	38.9	85.3	1.4	57.0	389	16
Lab #0423	04-21-03		1.8	50.5	11.4	36.3	77.6	1.6	55.8	346	18
Lab #0655	05-30-03		1.2	47.0	11.2	40.6	77.5	1.8	59.1	366	21
	Stockpile #2										
Lab #0074	02-13-03		0.4	49.4	11.5	38.7	87.6	0.9	58.0	406	10
Lab #0221	03-14-03		0.5	47.8	11.4	40.3	88.0	0.7	59.1	416	8
Lab #0424	04-21-03		1.1	47.6	12.0	39.3	86.1	0.9	58.4	402	11
Lab #0656	05-30-03		3.6	45.4	15.1	35.9	84.3	1.1	56.3	380	12
MARTIN MARIETTA AGGREGATES-GALLATIN, GALLATIN, MO											
	Stockpile #1										
Lab #0458	04-21-03		5.8	53.7	9.5	31.0	84.3	0.9	50.1	338	9
MARTIN MARIETTA-GREENWOOD, GREENWOOD, MO											
MARTIN MARIETTA AGGREGATES-MAITLAND, SAVANNAH, MO											
	Stockpile #4										
Lab #0073	02-12-03		6.7	45.3	7.5	40.5	83.7	1.3	56.3	377	15
MARTIN MARIETTA, PATTONSBURG, MO											
	Stockpile #2										
Lab #0515	05-06-03		5.8	51.8	9.1	33.3	82.5	0.6	51.7	341	6
Lab #0736	06-05-03		6.2	50.8	8.3	34.7	80.4	0.7	52.4	337	7
MARTIN MARIETTA MATERIALS-PECULIAR, PECULIAR, MO											
	Stockpile #1										
Lab #0144	02-27-03		5.6	52.9	8.6	32.9	91.9	0.5	51.3	377	5
Lab #0265	03-26-03		5.7	48.5	10.1	35.7	91.2	0.8	53.9	393	9
Lab #0581	05-14-03		8.6	51.4	8.5	31.5	92.3	0.5	49.5	365	5
MARTIN MARIETTA AGG-PERRYVILLE, PERRYVILLE, MO											
	Stockpile #1										
Lab #0188	03-06-03		0.0	5.7	6.2	88.1	95.2	1.7	93.2	710	32
Lab #0623	05-21-03		0.6	18.8	11.5	69.1	95.4	1.5	80.7	616	24
MARTIN MARIETTA AGGREGATE-PRINCETON, MERCER, MO											
	Stockpile #1										
Lab #0794	06-12-03		0.2	46.4	11.9	41.5	89.8	0.3	60.2	433	4
MARTIN MARIETTA AGGREGATES- TRENTON, TRENTON, MO											
	Stockpile #3										
Lab #0100	02-19-03		7.1	46.1	8.9	37.9	80.7	1.3	54.8	354	14
Lab #0413	04-15-03		7.7	46.9	8.1	37.3	74.0	1.3	53.9	319	14
Lab #0537	05-02-03		7.5	48.4	9.0	35.1	80.3	1.3	52.6	338	14
Lab #0708	05-28-03		1.8	48.6	10.5	39.1	76.9	1.2	57.6	354	14
	Stockpile #4										
Lab #0101	02-19-03		10.8*	47.1	7.7	34.4	78.3	1.2	50.8	0	0
Lab #0414	04-15-03		9.9	46.3	8.4	35.4	78.6	1.1	52.0	327	11
Lab #0538	05-02-03		10.4*	47.4	7.9	34.3	79.8	1.0	50.9	0	0
MARTIN MARIETTA AGGREGATES INC, WEEPING WATER, NE											
	Stockpile #1										
Lab #0094	02-19-03		2.1	47.7	9.0	41.2	87.9	0.6	58.5	412	7
Lab #0735	06-04-03		2.7	54.5	8.6	34.2	87.4	0.7	53.0	370	7
MERTENS CONST CO-AUXVASSE, KINGDOM CITY, MO											
	Stockpile #1										
Lab #0025	02-03-03		8.8	51.2	8.2	31.8	93.7	2.3	49.5	371	23
Lab #0150	03-05-03		5.0	48.6	11.3	35.1	97.8	1.9	54.0	423	21
Lab #0313	04-07-03		12.5*	47.0	8.9	31.6	99.2	2.9	48.7	0	0
Lab #0472	05-02-03		2.2	53.8	8.4	35.6	99.2	7.7	54.1	429	83

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		+8	-8+40	-40+60	-60				ENM	EMg	
MERTENS CONST CO-AUXVASSE, KINGDOM CITY, MO (Continued)											
Stockpile #3											
Lab #0026	02-03-03	5.8	47.4	8.9	37.9	90.1	2.2	55.1	397	24	
Lab #0151	03-05-03	7.0	48.0	8.1	36.9	89.3	2.0	53.8	384	22	
Lab #0314	04-07-03	6.4	45.8	9.6	38.2	89.8	2.2	55.4	398	24	
Lab #0473	05-02-03	5.3	47.5	9.2	38.0	89.8	2.1	55.4	398	23	
MERTENS CONST CO-Q-REFORM, KINGDOM CITY, MO											
Stockpile #1											
Lab #0045	02-06-03	8.1	51.2	9.2	31.5	89.4	2.2	49.8	356	22	
Lab #0226	03-18-03	8.1	52.9	9.1	29.9	90.6	1.9	48.6	352	18	
Lab #0592	05-16-03	8.5	55.6	8.5	27.4	90.6	1.9	46.4	336	18	
Lab #0782	06-10-03	3.3	52.0	17.8	26.9	91.1	1.0	50.6	369	10	
MFA INC, COLUMBIA, MO											
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO											
Stockpile #1											
Lab #0044	02-06-03	5.8	48.6	9.9	35.7	98.6	3.0	53.8	424	32	
Lab #0225	03-18-03	4.5	51.9	9.3	34.3	99.2	3.1	52.9	419	33	
Lab #0556	05-09-03	7.4	49.1	9.5	34.0	98.6	2.6	52.0	410	27	
MID-MISSOURI LIMESTONE, INC.-HOUSTO, KINGDOM CITY, MO											
Stockpile #1											
Lab #0017	02-05-03	4.6	45.9	10.4	39.1	78.8	0.1	56.8	358	1	
Lab #0162	03-06-03	8.5	48.7	11.0	31.8	94.1	0.3	50.6	381	3	
Lab #0270	03-28-03	4.5	45.4	11.6	38.5	83.4	0.1	56.8	379	1	
Lab #0366	04-17-03	6.6	45.6	11.4	36.4	88.1	0.2	54.6	385	2	
Lab #0529	05-06-03	6.0	44.9	11.3	37.8	85.7	0.2	55.8	383	2	
Lab #0665	05-30-03	2.1	33.2	14.4	50.3	80.4	0.1	67.2	432	1	
Lab #0841	06-16-03	6.9	46.4	10.0	36.7	84.4	0.2	54.3	367	2	
MID-MISSOURI LIMESTONE-RIGGS, KINGDOM CITY, MO											
Stockpile #2											
Lab #0071	02-17-03	7.0	45.6	9.7	37.7	95.9	2.5	54.9	421	27	
Lab #0310	04-02-03	5.1	45.4	10.1	39.4	97.1	2.1	56.8	441	24	
Lab #0594	05-12-03	4.7	45.8	10.2	39.3	96.0	2.3	56.9	437	26	
Lab #0717	06-02-03	5.1	47.9	9.9	37.1	97.2	2.4	55.0	428	26	
MIDWEST MINERALS INC - JASPER, PITTSBURG, KS											
Stockpile #1											
Lab #0065	02-12-03	3.5	35.9	14.2	46.4	98.7	0.2	63.9	505	3	
Lab #0544	05-08-03	3.3	33.2	15.3	48.2	98.3	0.1	65.7	517	1	
MISSISSIPPI LIME COMPANY, STE GENEVIEVE, MO											
Stockpile #1											
Lab #0186	03-06-03	0.0	0.2	0.6	99.2	99.2	0.3	99.6	791	6	
Lab #0621	05-21-03	0.1	0.3	0.8	98.8	98.7	0.3	99.4	785	6	
Stockpile #3											
Lab #0187	03-06-03	0.0	45.4	26.9	27.7	99.1	0.2	55.2	438	2	
Lab #0622	05-21-03	0.0	45.0	30.3	24.7	98.8	0.2	54.1	428	2	
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO											
MISSOURI VALLEY MATERIALS, WASHINGTON, MO											
MK MINERALS INC., MANHATTAN, KS											
Stockpile #1											
Lab #0087	02-18-03	0.0	0.8	3.1	96.1	86.5	0.4	98.2	679	8	
Lab #0276	03-21-03	0.0	0.9	3.5	95.6	84.6	0.5	97.9	663	10	
Lab #0501	04-30-03	0.1	1.7	3.9	94.3	80.7	0.8	97.1	627	16	
Lab #0769	06-11-03	0.1	0.9	3.2	95.8	89.0	0.4	97.9	697	8	
MO VALLEY GRAIN & PELLETIZING, MISSOURI VALLEY, MO											
MORRIS ROCK, DEERFIELD, MO											
Stockpile #1											
Lab #0217	03-13-03	3.8	57.7	10.6	27.9	92.8	1.4	48.7	361	14	
Lab #0329	04-08-03	3.2	47.0	10.8	39.0	92.8	1.2	57.2	425	14	
Lab #0584	05-15-03	6.5	61.7	7.9	23.9	93.5	1.0	44.1	330	9	
MOUNTAIN GROVE QUARRY, MOUNTAIN GROVE, MO											
Stockpile #1											
Lab #0634	05-21-03	0.1	47.1	8.3	44.5	89.3	10.5	61.3	438	129	
MUEKNS BROTHERS QUARRIES, INC-WEST, LOOSE CREEK, MO											
Stockpile #1											
Lab #0040	02-03-03	4.2	45.1	8.2	42.5	92.4	10.9	58.7	434	128	
Lab #0063	02-12-03	7.0	43.7	9.0	40.3	92.4	11.1	56.6	419	126	

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		+8	-8+40	-40+60	-60				ENM	EMg	
MUEKNS BROTHERS QUARRIES, INC-WEST, LOOSE CREEK, MO (Continued)											
Stockpile #1											
Lab #0181	03-03-03	4.7	44.2	8.7	42.4	93.4	11.0	58.7	438	129	
Lab #0370	04-14-03	3.7	43.8	8.2	44.3	91.4	10.9	60.2	440	131	
Lab #0491	04-29-03	1.5	42.2	12.0	44.3	85.9	10.2	62.1	426	127	
Lab #0785	06-11-03	3.2	41.0	9.5	46.3	89.5	10.5	62.3	446	131	
MUEKNS BROS. QUARRY, LOOSE CREEK, MO											
Stockpile #2											
Lab #0125	02-21-03	0.7	52.2	8.0	39.1	87.0	10.4	57.0	396	118	
Lab #0208	03-14-03	1.4	44.9	10.6	43.1	77.7	9.3	60.7	377	113	
Lab #0371	04-14-03	1.0	41.1	11.3	46.6	84.3	10.2	63.7	429	130	
Lab #0626	05-20-03	1.0	48.7	9.0	41.3	86.9	10.3	58.9	409	121	
Lab #0815	06-19-03	1.1	48.3	9.9	40.7	86.9	10.1	58.7	408	119	
NELSON BROS. QUARRIES, JASPER, MO											
Stockpile #1											
Lab #0066	02-12-03	4.1	49.7	13.6	32.6	97.7	0.5	53.2	416	5	
Lab #0545	05-08-03	4.1	52.1	12.6	31.2	97.6	0.3	51.8	404	3	
NEMO SAND & GRAVEL QUARRY - BUFFALO, HERMITAGE, MO											
NEMO SAND & GRAVEL, QUARRY, HERMITAGE, MO											
Stockpile #1											
Lab #0146	02-28-03	4.4	50.4	6.8	38.4	80.2	9.2	55.1	353	101	
Lab #0300	04-04-03	3.7	47.2	7.8	41.3	83.5	10.1	57.8	386	117	
Lab #0518	05-07-03	3.2	44.1	6.9	45.8	84.5	9.7	61.0	412	118	
NORRIS AGGREGATE PRODUCTS CO - EAST, HUNTSVILLE, MO											
Stockpile #3											
Lab #0619	05-22-03	13.5*	43.6	8.9	34.0	97.8	2.5	50.2	0	0	
Lab #0712	05-29-03	13.5*	43.7	8.9	33.9	97.7	2.5	50.2	0	0	
Lab #0791	06-10-03	12.4*	45.5	9.1	33.0	96.2	2.3	49.8	0	0	
Lab #0834	06-19-03	11.7*	45.8	9.8	32.7	96.2	2.1	50.0	0	0	
Lab #0851	06-25-03	0.4	49.3	14.5	35.8	91.5	0.5	56.8	416	6	
NORRIS AGGREGATE PRODUCTS CO - WEST, HUNTSVILLE, MO											
Stockpile #1											
Lab #0620	05-22-03	4.3	51.7	13.7	30.3	86.4	0.2	51.4	356	2	
Lab #0792	06-10-03	5.1	52.4	12.1	30.4	86.5	0.2	50.8	351	2	
Lab #0835	06-19-03	4.8	54.1	13.4	27.7	86.6	0.2	49.3	341	2	
Lab #0713	05-29-06	3.9	52.7	14.1	29.3	86.7	0.2	50.9	353	2	
NUTRI-JECT SYSTEMS INC., HUDSON, IA											
Stockpile #1											
Lab #0685	05-28-03	0.1	0.3	0.5	99.1	12.7	0.3	99.5	101	6	
LEO O'LAUGHLIN INC, SHELBYNA, MO											
Stockpile #1											
Lab #0128	02-24-03	10.3*	52.4	8.4	28.9	93.2	1.3	47.0	0	0	
Lab #0261	03-25-03	7.9	43.9	8.9	39.3	90.6	1.5	55.6	403	17	
Lab #0431	04-22-03	7.6	45.9	9.5	37.0	89.6	1.4	54.2	388	15	
Lab #0718	05-03-03	8.0	47.1	8.7	36.2	90.3	1.6	53.2	384	17	
PHENIX ROCK, ASH GROVE, MO											
PRESTAGE QUARRIES INC, TIPTON, MO											
Stockpile #1											
Lab #0199	03-12-03	0.0	15.0	12.5	72.5	76.0	6.9	83.8	509	116	
Lab #0293	04-03-03	0.1	41.9	12.6	45.4	79.4	6.2	63.4	403	79	
Lab #0420	04-21-03	0.0	36.6	10.7	52.7	73.9	6.5	68.3	404	89	
Lab #0659	05-28-03	0.1	20.7	10.2	69.0	70.7	5.9	80.3	454	95	
Lab #0845	06-17-03	0.0	36.7	10.2	53.1	77.5	6.8	68.4	424	93	
BARRY REID - MENDOTA QUARRY, GREEN CITY, MO											
ROCK QUARRIES, LLC, MOUNTAIN GROVE, MO											
ROCK QUARRIES, LLC, MOUNTAIN GROVE, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Stockpile #1											
Lab #0282	04-02-03	0.9	9.6	22.9	66.6	100.2	12.2	82.7	663	202	
Lab #0507	05-05-03	5.3	12.6	19.5	62.6	100.1	11.7	77.5	620	181	
Lab #0744	06-03-03	7.2	12.2	23.4	57.2	100.5	11.7	74.3	597	174	
S & A CONSTRUCTION LTD, ALLENDALE, MO											
Stockpile #1											
Lab #1351	10-02-01	0.2	40.5	8.1	51.2	59.7*	1.4	66.2	0	0	
Lab #1677	11-28-01	0.7	40.9	8.2	50.2	65.5	1.6	65.3	342	21	

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM  
JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
SCHILDBERG CONST. CO.-BEDFORD Q., GREENFIELD, IA											
SCHILDBERG CONST. CO.-GRAHAM MO Q, GREENFIELD, IA											
Stockpile #1											
Lab #0502	05-01-03	7.8	52.4	8.6	31.2	87.5	0.5	49.5	346	5	
Lab #0652	05-30-03	0.5	47.1	10.5	41.9	83.8	0.6	60.0	402	7	
SCHILDBERG CONST. CO.-SHAMBAUGH Q, GREENFIELD, IA											
Stockpile #1											
Lab #0024	02-05-03	0.7	43.7	11.5	44.1	76.0	4.7	61.9	377	58	
Lab #0219	03-10-03	0.6	43.0	9.7	46.7	69.8	5.4	63.3	353	68	
Lab #0419	04-17-03	2.7	48.0	10.4	38.9	82.1	1.0	57.1	375	11	
Lab #0617	05-23-03	4.4	48.6	10.7	36.3	82.4	0.9	54.9	362	10	
SCHILDBERG CONST. CO.-THURMAN, GREENFIELD, IA											
Stockpile #1											
Lab #0767	06-12-03	0.2	39.2	11.3	49.3	82.3	0.8	65.9	434	11	
SOUTHWEST QUARRY & MATERIAL INC, ROLLA, MO											
SPRINGFIELD UNDERGROUND, INC., SPRINGFIELD, MO											
Stockpile #1											
Lab #0348	04-07-03	0.5	10.4	14.3	74.8	98.8	0.2	86.0	680	3	
Lab #0823	06-19-03	0.1	9.6	13.8	76.5	98.3	0.2	87.2	686	3	
Stockpile #2											
Lab #0349	04-07-03	0.3	7.9	8.8	83.0	98.2	0.2	90.3	709	4	
Lab #0824	06-19-03	0.1	4.9	7.3	87.7	97.9	0.2	93.3	731	4	
S-S-S INC, LOUISIANA, MO											
Stockpile #1											
Lab #0133	02-25-03	5.4	47.5	9.8	37.3	97.1	0.2	55.1	428	2	
Lab #0307	04-01-03	5.0	45.4	10.9	38.7	97.3	0.2	56.6	440	2	
Lab #0509	05-06-03	5.4	46.3	9.9	38.4	97.0	0.2	55.9	434	2	
Lab #0724	06-04-03	5.7	45.8	12.4	36.1	98.3	0.2	55.0	432	2	
STANPHILL STONE, PIERCE CITY, MO											
T & M STONE LLC, FAIR PLAY, MO											
Stockpile #1											
Lab #0079	02-18-03	0.0	41.8	16.5	41.7	97.1	0.1	62.1	482	1	
Lab #0321	04-07-03	0.0	43.0	17.0	40.0	95.5	0.1	61.0	466	1	
Lab #0520	05-09-03	0.1	42.2	16.9	40.8	97.0	0.1	61.5	477	1	
Stockpile #2											
Lab #0080	02-18-03	0.0	30.0	18.9	51.1	97.7	0.1	69.9	547	1	
Lab #0322	04-07-03	0.6	29.2	18.3	51.9	96.3	0.1	70.2	541	1	
Lab #0521	05-09-03	0.1	34.7	18.2	47.0	97.6	0.1	66.6	520	1	
TABLE ROCK ASPHALT CONST CO INC, BRANSON, MO											
TABLE ROCK ASPHALT CONST CO INC-KIM, BRANSON, MO											
TAYLOR QUARRIES, LOCKWOOD, MO											
Stockpile #1											
Lab #0196	03-12-03	5.0	50.5	12.0	32.5	94.6	1.2	52.3	396	13	
Lab #0575	05-13-03	3.6	48.1	13.3	35.0	95.2	0.7	55.0	419	8	
Lab #0817	06-16-03	2.6	44.4	13.3	39.7	90.1	0.6	58.8	424	7	
TOWER ROCK STONE CO, SCOTT CITY, MO											
Stockpile #2											
Lab #0463	04-29-03	2.5	43.5	13.6	40.4	97.3	1.5	59.4	463	18	
Lab #0694	05-30-03	2.8	40.8	13.7	42.7	97.5	1.5	61.1	477	18	
Lab #0870	06-30-03	2.6	42.6	13.0	41.8	98.2	1.7	60.3	473	20	
Stockpile #3											
Lab #0464	04-29-03	1.7	41.2	10.9	46.2	98.1	8.5	63.0	495	107	
Lab #0695	05-30-03	1.5	39.9	11.8	46.8	98.1	8.4	63.9	501	107	
Lab #0871	06-30-03	1.1	39.5	10.9	48.5	99.2	8.8	64.9	515	114	
TOWER ROCK STONE CO, STE GENEVIEVE, MO											
Stockpile #1											
Lab #0184	03-06-03	3.4	45.3	11.4	39.9	96.4	1.6	58.1	448	19	
Lab #0627	05-21-03	3.2	45.2	14.1	37.5	99.1	1.1	57.3	454	13	
Stockpile #2											
Lab #0185	03-06-03	0.2	42.5	10.8	46.5	97.4	8.1	63.6	496	103	
Lab #0628	05-21-03	2.5	37.4	11.7	48.4	100.5	10.1	64.8	521	131	
TRAGER LIMESTONE, CHILLICOTHE, MO											
Stockpile #1											
Lab #0460	04-21-03	0.1	50.6	9.2	40.1	66.4	1.2	58.3	310	14	
Lab #0762	06-04-03	0.2	51.5	10.9	37.4	76.4	1.4	56.8	347	16	

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JANUARY 1 THROUGH JUNE 30, 2003

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
TWIN LAKES QUARRIES INC, MOUNTAIN HOME, AR											
UEHLIN QUARRY, AMAZONIA, MO											
UNITED SUPPLIERS, ELDORA, IA											
VULCAN MATERIALS, JONESBORO, IL											
Stockpile #1											
Lab #0337	04-08-03	3.2	34.9	11.7	50.2	99.2	0.5	65.9	523	7	
Lab #0548	05-08-03	4.4	37.2	12.0	46.4	98.9	0.3	62.9	498	4	
Lab #0746	06-04-03	2.3	40.3	13.0	44.4	98.7	0.3	62.3	492	4	
WADE AG PRODUCTS-MAIN OFC, LACYGNE, KS											
Stockpile #2											
Lab #0109	02-19-03	3.2	47.9	9.4	39.5	80.6	1.2	57.1	368	14	
Lab #0214	03-13-03	2.8	46.6	9.4	41.2	79.3	1.0	58.5	371	12	
Lab #0382	04-17-03	2.8	46.5	10.3	40.4	81.1	1.1	58.2	378	13	
Lab #0671	05-29-03	2.8	47.1	9.1	41.0	80.9	1.2	58.2	377	14	
WADE AG PRODUCTS Q DREXEL, LACYGNE, KS											
Stockpile #1											
Lab #0006	02-03-03	3.4	48.1	8.5	40.0	74.4	1.5	57.1	340	17	
Lab #0213	03-13-03	2.5	48.5	9.8	39.2	74.8	1.5	57.2	342	17	
Lab #0381	04-17-03	2.7	47.3	9.8	40.2	76.4	1.4	57.9	354	16	
Lab #0670	05-29-03	3.1	46.2	9.9	40.8	77.3	0.8	58.3	360	9	
WADE AG PRODUCTS Q PLEASANTON, LACYGNE, KS											
FRED WEBER INC.-AUBURN QUARRY, ELSEBERRY, MO											
FRED WEBER, INC - FOLEY QUARRY, FOLEY, MO											
Stockpile #2											
Lab #0031	02-05-03	7.4	52.0	7.5	33.1	91.2	2.6	50.6	369	26	
FRED WEBER INC-NORTH QUARRY, MARYLAND HEIGHTS, MO											
Stockpile #1											
Lab #0042	02-05-03	1.0	1.6	2.2	95.2	87.2	1.6	96.9	676	31	
Lab #0499	05-01-03	0.7	1.8	2.2	95.3	93.6	1.1	97.1	727	21	
Lab #0814	06-18-03	0.3	1.5	2.4	95.8	94.7	2.1	97.6	740	41	
FRED WEBER, INC. - TROY QUARRY, TROY, MO											
WIELAND HAULING INC - PRINCETON, BETHANY, MO											
WILKERSON BROS QUARRY, PARIS, MO											
Stockpile #1											
Lab #0001	01-03-03	5.7	48.5	11.6	34.2	83.6	0.2	53.3	356	2	
Lab #0046	02-06-03	2.5	48.4	12.0	37.1	91.9	3.2	56.4	415	36	
Lab #0157	03-03-03	2.4	44.3	11.2	42.1	92.0	4.5	59.9	441	54	
Lab #0309	04-02-03	2.7	45.5	11.2	40.6	90.8	2.7	58.7	426	32	
Lab #0593	05-12-03	5.6	51.3	11.2	31.9	84.4	0.1	51.4	347	1	
WILLIAMSVILLE STONE CO, POPLAR BLUFF, MO											
Stockpile #3											
Lab #0343	04-10-03	0.0	14.0	18.2	67.8	97.8	11.5	82.2	643	189	
Stockpile #4											
Lab #0344	04-10-03	0.1	29.3	16.8	53.8	97.7	11.5	71.2	557	164	
Lab #0391	04-11-03	0.0	27.5	17.2	55.3	97.4	11.5	72.5	565	167	
Lab #0393	04-14-03	0.1	29.6	18.1	52.2	97.5	11.6	70.5	550	163	
Stockpile #5											
Lab #0549	05-09-03	0.3	0.9	10.6	88.2	2.2*	0.1	94.8	0	0	

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TABLE 2

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JANUARY 1 THROUGH JUNE 30, 2003

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
AG COOP SERVICES INC, OTTERVILLE, MO LAFARGE QUARRY, SEDALIA, MO	Lab #0292	04-03-03	8.8	41.7	9.7	39.8	96.9	1.3	56.0	434	15
AG DISTRIBUTORS, CATRON, MO VULCAN MATERIALS, JONESBORO, IL	Lab #0397	04-16-03	3.9	37.7	12.1	46.3	99.1	0.5	63.0	499	6
AG DISTRIBUTORS, DEXTER, MO PELLETIZING COMPANY INC, GORDONSVILLE, TN	Lab #0394	04-15-03	0.0	16.5	20.1	63.4	76.9	8.6	79.6	490	137
AGRI SERVICES OF LEBANON, LEBANON, MO CONCO QUARRIES INC Q US 160, WILLARD, MO	Lab #0008	02-04-03	0.1	14.2	13.9	71.8	97.5	0.1	83.7	653	2
BLAIR FEED & GRAIN INC, NEW MELLE, MO MAGRUDER LIMESTONE CO Q TROY, TROY, MO	Lab #0625	05-19-03	9.1	50.4	7.8	32.7	83.8	3.0	50.0	335	30
BOYLES FARM SUPPLY, FISK, MO MIDWEST AGRI-CHEMICO, CAPE GIRARDEAU, MO	Lab #0699	05-28-03	0.1	3.0	6.0	90.9	91.4	3.5	95.3	696	67
BOOTHEEL LIMESTONE, KENNETT, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0285	04-03-03	5.0	10.9	20.7	63.4	101.2	12.4	78.5	636	195
BOOTHEEL LIMESTONE - SENATH, KENNETT, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0286	04-03-03	6.1	11.4	20.2	62.3	101.0	12.4	77.3	624	192
BRENDA KAY CONSTRUCTION, BENTON, MO VULCAN MATERIALS, JONESBORO, IL	Lab #0799	06-13-03	2.9	38.8	14.1	44.2	96.0	0.4	62.4	479	5
CENTRAL MISSOURI AGRISERVICE LLC, SLATER, MO BLUFF CITY MINERALS CO., ALTON, IL	Lab #0487	04-29-03	0.3	3.3	5.6	90.8	91.6	2.9	95.0	696	55
DELTA GROWERS ASSN-EAST PRAIRIE, CHARLESTON, MO VULCAN MATERIALS, JONESBORO, IL	Lab #0404	04-18-03	3.7	36.8	11.9	47.6	99.0	0.4	63.9	506	5
DELTA GROWERS ASSOCIATION, MATTHEWS, MO BLUFF CITY MINERALS CO., ALTON, IL	Lab #0441	04-23-03	0.3	4.5	6.3	88.9	91.0	2.5	93.8	683	47
EAKIN LIME SERVICE, BELL CITY, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0339	04-08-03	5.4	10.8	21.2	62.6	100.7	12.0	78.0	629	187
FARMERS COOPERATIVE ASSN #301, SULLIVAN, MO BUSSEN QUARRIES INC-EUREKA/ANTIRE, EUREKA, MO	Lab #0228	03-18-03	2.4	40.4	12.0	45.2	90.9	2.5	62.5	455	31
FARMERS PRODUCERS EXCHANGE-CONWAY, LEBANON, MO CONCO QUARRIES INC Q US 160, WILLARD, MO	Lab #0007	02-04-03	0.1	12.5	15.2	72.2	97.2	0.2	84.4	657	3
FOWLER ELEVATOR INC, NEWTOWN, MO KELLY LIME & ROCK, LA PLATA, MO	Lab #0457	04-23-03	2.4	13.9	4.0	79.7	90.6	1.4	85.6	620	24
FOWLER ELEVATOR, UNIONVILLE, MO KELLY LIMESTONE LLC, KIRKSVILLE, MO	Lab #0245	03-13-03	1.8	14.2	6.9	77.1	89.9	1.1	84.8	610	19
GAGE'S FERTILIZER & GRAIN INC, BETHANY, MO MK MINERALS INC., MANHATTAN, KS	Lab #0787	06-16-03	0.0	0.6	2.7	96.7	84.9	0.5	98.5	669	10
GIBSON LIME CO-DEXTER, DEXTER, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0342	04-10-03	6.3	11.7	22.1	59.9	101.6	11.9	76.1	618	181
GLENNONVILLE LIQUID FERTILIZER, QULIN, MO VULCAN MATERIALS, JONESBORO, IL	Lab #0466	04-30-03	4.1	38.9	12.2	44.8	98.7	0.3	61.8	488	4
TOM GRAY FARM SERVICE, FARIDEALING, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0390	04-11-03	5.6	11.4	22.1	60.9	100.3	11.9	77.0	618	183

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JANUARY 1 THROUGH JUNE 30, 2003

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
GRAY'S FARM SERVICE, NAYLOR, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0440	04-22-03	3.0	8.6	20.4	68.0	98.2	11.4	82.4	647	188	
HAWK FERTILIZER, BOLIVAR, MO											
CONCO QUARRIES INC Q US 160, WILLARD, MO											
Lab #0478	04-30-03	0.0	11.8	16.0	72.2	98.0	0.2	84.8	664	3	
HEIMANS INC., ROCKVILLE, MO											
MFA INC, COLUMBIA, MO											
Lab #0449	04-22-03	0.1	0.8	3.5	95.6	83.6	0.6	97.9	655	12	
HEIMSOOTH AG SERVICE, CORDER, MO											
APAC-MISSOURI, INC. - MARSHALL, MARSHALL, MO											
Lab #0052	02-12-03	5.1	47.6	9.2	38.1	87.0	2.3	55.5	386	26	
LOUIS HERZTING JR, FREEBURG, MO											
LEAD BELT MATERIALS CO INC, FLAT RIVER, MO											
Lab #0234	03-21-03	0.2	12.2	18.0	69.6	86.8	10.5	83.5	579	175	
JAMES AGRI-CENTER INC, NEELYVILLE, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0439	04-22-03	4.8	10.2	22.6	62.4	100.0	11.6	78.5	628	182	
JANES FARM SALES & SERVICE, QULIN, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0804	06-16-03	4.8	10.6	21.6	63.0	101.0	11.7	78.6	635	184	
KELLY LIME & ROCK, LA PLATA, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0118	02-17-03	4.4	40.0	8.4	47.2	92.1	2.0	62.2	459	25	
KELSO MILLING CO, SCOTT CITY, MO											
UNITED SUPPLIERS, ELDORA, IA											
Lab #0558	05-14-03	0.0	1.1	3.5	95.4	88.7	0.4	97.8	694	8	
KEN MO AG CENTER, KENNETT, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0437	04-21-03	3.6	9.0	22.9	64.5	99.1	11.5	80.5	638	185	
KEN MO AG CENTER, KENNETT, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0283	04-03-03	5.9	10.6	21.4	62.1	100.8	12.0	77.6	626	186	
LEGRAND FERTILIZER, POPLAR BLUFF, MO											
BLUFF CITY MINERALS CO., ALTON, IL											
Lab #0340	04-09-03	0.1	3.1	5.2	91.6	90.6	2.1	95.5	692	40	
JERRY LINHART, FAYETTE, MO											
BOONE QUARRIES - EAST, COLUMBIA, MO											
Lab #0190	03-10-03	4.6	51.6	9.6	34.2	92.0	3.7	52.9	389	39	
LINNEMAN LIME & FERT, SALISBURY, MO											
NORRIS AGGREGATE PRODUCTS CO - WEST, HUNTSVILLE, MO											
Lab #0224	03-18-03	1.3	36.9	16.8	45.0	89.5	0.6	64.3	460	8	
LOHMAN PRODUCERS EXCHANGE, LOHMAN, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0784	06-11-03	0.1	3.6	6.2	90.1	90.8	3.2	94.7	688	61	
LYNN SHARPE LIME, WAYNESVILLE, MO											
CONCO QUARRIES INC Q US 160, WILLARD, MO											
Lab #0496	04-29-03	0.2	13.5	16.1	70.2	95.9	0.2	83.2	639	3	
MFA EXCHANGE, CHAMOIS, MO											
MERTENS CONST CO-AUXVASSE, KINGDOM CITY, MO											
Lab #0126	02-21-03	2.8	42.7	10.0	44.5	93.6	3.4	61.2	458	42	
MFA EXCHANGE, META, MO											
MUENKS BROS. QUARRY, LOOSE CREEK, MO											
Lab #0703	05-28-03	0.8	40.3	13.4	45.5	71.6	8.5	63.6	364	108	
MFA AGRI SERVICES, ADVANCE, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0336	04-08-03	6.3	10.3	21.0	62.4	101.1	12.0	77.6	627	186	
MFA AGRI SERVICE, BERNIE, MO											
VULCAN MATERIALS, JONESBORO, IL											
Lab #0604	05-20-03	3.7	34.7	13.6	48.0	98.6	0.4	64.8	511	5	
MFA AGRI SERVICE, BETHANY, MO											
MFA AGRI SERVICE, BETHANY, MO											
Lab #0766	06-05-03	0.0	0.7	4.4	94.9	83.3	0.7	97.7	651	14	

\* Does not meet minimum specification for Agricultural Liming Material.

TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM  
JANUARY 1 THROUGH JUNE 30, 2003

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
MFA AGRI SERVICES, BIRCH TREE, MO											
ASC MINERALS PROCESSING, ALLERTON, IL											
Lab #0462	04-28-03	0.0	1.5	4.8	93.7	90.0	0.4	97.0	698	8	
MFA AGRI SERVICE, BROOKFIELD, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0038	02-04-03	2.8	18.0	3.8	75.4	90.1	1.3	82.2	592	21	
MFA AGRI SERVICE, BROWNING, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0202	03-11-03	2.6	15.0	4.1	78.3	89.7	1.2	84.5	606	20	
MFA AGRI SERVICE, CALIFORNIA, MO											
AMPEL, INC.-HARVEY IOWA PLANT, DES MOINES, IA											
Lab #0533	05-09-03	0.1	1.9	5.1	92.9	89.3	0.3	96.4	689	6	
MFA AGRI SERVICE, ELSBERRY, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0514	05-07-03	2.0	9.4	4.2	84.4	90.2	1.1	89.3	644	20	
MFA AGRI SERVICE, HIGGINSVILLE, MO											
BLUFF CITY MINERALS CO., ALTON, IL											
Lab #0657	05-27-03	0.0	4.2	5.4	90.4	91.4	2.9	94.7	692	55	
MFA AGRI SERVICE, LANCASTER, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0714	05-30-03	3.2	15.6	4.0	77.2	89.9	1.2	83.5	601	20	
FARMERS PRODUCE EXCHANGE, LEBANON, MO											
CONCO QUARRIES INC Q US 160, WILLARD, MO											
Lab #0009	02-04-03	0.2	13.5	15.7	70.6	98.0	0.2	83.4	654	3	
MFA AGRI SERVICE, MACON, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0304	04-03-03	4.2	14.8	4.0	77.0	92.1	1.2	83.1	612	20	
MFA AGRI SERVICE, MILAN, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0136	02-21-03	1.4	11.9	5.9	80.8	90.1	1.2	87.3	629	21	
MFA AGRI SERVICE, MOBERLY, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0306	04-03-03	0.1	5.6	6.3	88.0	90.4	1.8	93.2	674	34	
MFA AGRI SERVICE, NEW CAMBRIA, MO											
MISSISSIPPI LIME MANAGEMENT COMPANY, ALTON, IL											
Lab #0709	05-27-03	0.5	2.8	4.8	91.9	90.1	2.7	95.5	688	52	
MFA AGRI SERVICES, MAYSVILLE, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0165	03-03-03	0.0	0.3	1.1	98.6	79.9	0.9	99.3	635	18	
MFA AGRI SERVICE, ODESSA, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0055	02-13-03	0.1	0.9	2.3	96.7	84.4	0.5	98.3	664	10	
MFA AGRI SERVICE, OWENSVILLE, MO											
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO											
Lab #0205	03-13-03	0.3	34.2	12.0	53.5	89.5	0.3	69.3	496	4	
MFA AGRI SERVICE, ST CLAIR, MO											
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO											
Lab #0227	03-19-03	1.8	36.4	11.0	50.8	93.8	2.9	66.5	499	39	
MFA EXCHANGE, SALEM, MO											
LEAD BELT MATERIALS CO INC, FLAT RIVER, MO											
Lab #0058	02-10-03	0.4	12.1	22.5	65.0	88.3	10.3	81.5	576	168	
MFA AGRI SERVICE, TRENTON, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0203	03-12-03	0.0	0.1	1.2	98.7	85.4	0.6	99.4	679	12	
MFA AGRI SERVICE, UNIONVILLE, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0244	03-13-03	2.6	15.1	6.7	75.6	91.0	1.0	83.4	607	17	
MFA AGRI SERVICE, VERSAILLES, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0110	02-20-03	0.0	1.0	4.0	95.0	88.5	0.3	97.7	691	6	
MADISON FARM SUPPLY, FREDERICKTOWN, MO											
ASC MINERALS PROCESSING, ALLERTON, IL											
Lab #0547	05-05-03	0.1	0.9	3.6	95.4	89.9	0.3	97.8	703	6	

\* Does not meet minimum specification for Agricultural Liming Material.

TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM  
JANUARY 1 THROUGH JUNE 30, 2003

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
MRM AG SERVICE INC, EAST PRAIRIE, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0405	04-18-03	5.5	11.0	21.4	62.1	100.1	11.6	77.7	622	180	
MYRTLE FERTILIZER, MYRTLE, MO											
BLUFF CITY MINERALS CO., ALTON, IL											
Lab #0692	05-29-03	0.4	4.0	5.8	89.8	89.8	1.9	94.3	677	36	
LEO O'LAUGHLIN, MACON, MO											
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO											
Lab #0119	02-18-03	0.7	32.5	11.7	55.1	90.1	0.4	70.2	506	6	
LEO O'LAUGHLIN INC, MARCELINE, MO											
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO											
Lab #0096	02-07-03	0.4	30.9	12.0	56.7	90.3	0.6	71.6	517	9	
RICHLAND PLANT FOODS, RICHLAND, MO											
CONCO QUARRIES INC Q US 160, WILLARD, MO											
Lab #0757	06-04-03	0.1	15.2	15.4	69.3	97.2	0.4	82.3	640	7	
JP ROSS COTTON CO-FRISCO, ESSEX, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0396	04-16-03	1.9	8.8	22.6	66.7	97.1	11.6	82.5	641	191	
SCHAEPERKOETTER STORE, MT STERLING, MO											
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO											
Lab #0207	03-14-03	5.7	49.3	10.7	34.3	94.9	2.0	53.0	403	21	
S & S BEGGS LIME SERVICE-JACKSON, JACKSON, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0399	04-17-03	4.4	10.8	21.1	63.7	98.7	11.6	79.1	624	183	
SEHLKE TRUCK SERVICE, KEYTESVILLE, MO											
NORRIS AGGREGATE PRODUCTS CO - EAST, HUNTSVILLE, MO											
Lab #0223	03-18-03	3.3	36.4	14.2	46.1	91.8	1.7	63.7	468	22	
SOUTHEAST COOPERATIVE SERVICE, ADVANCE, MO											
MIDWEST AGRI-CHEMICO, CAPE GIRARDEAU, MO											
Lab #0848	06-19-03	0.3	2.6	5.9	91.2	90.9	5.9	95.4	694	113	
SOUTHEAST COOPERATIVE SERVICE, BERTRAND, MO											
BLUFF CITY MINERALS CO., ALTON, IL											
Lab #0745	06-04-03	0.1	6.6	7.1	86.2	91.4	2.9	92.1	674	53	
SOUTHEAST COOPERATIVE SERVICE CO, MOREHOUSE, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0333	04-07-03	4.2	12.4	23.1	60.3	101.0	11.8	77.3	624	182	
SOUTHEAST COOP SERVICE, PUXICO, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0698	05-28-03	6.2	12.0	22.3	59.5	100.7	11.9	75.9	611	181	
JOE SPALDING, BENTON, MO											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Lab #0465	04-29-03	4.3	15.5	23.8	56.4	99.5	11.9	74.6	593	177	
MANTLE, ROGERSVILLE, MO											
CONCO QUARRIES INC Q US 160, WILLARD, MO											
Lab #0485	05-01-03	0.1	13.9	16.6	69.4	98.7	0.2	82.8	654	3	
STOVER MILLING, STOVER, MO											
BLUFF CITY MINERALS CO., ALTON, IL											
Lab #0111	02-20-03	1.9	18.5	4.2	75.4	91.3	1.1	82.5	603	18	
SUR-GRO PLANT FOOD, OSBORN, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0085	02-17-03	0.0	1.1	2.4	96.5	84.8	0.6	98.2	666	12	
SUR-GRO PLANT FOOD, PLATTSBURG, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0084	02-17-03	0.0	1.1	2.1	96.8	75.0	1.6	98.3	590	31	
T & N INC, FORISTELL, MO											
KELLY LIMESTONE LLC, KIRKSVILLE, MO											
Lab #0704	05-29-03	0.2	6.0	9.0	84.8	91.2	2.6	91.7	669	48	
UNITED COOPERATIVES INC, OSBORN, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0086	02-17-03	0.0	0.2	1.1	98.7	80.2	1.1	99.4	638	22	
THAYER PLANT FOOD, THAYER, MO											
HELM FERTILIZER, MEMPHIS, TN											
Lab #0690	05-29-03	0.3	5.4	8.4	85.9	91.8	4.5	92.3	678	83	

\* Does not meet minimum specification for Agricultural Liming Material.

TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM  
JANUARY 1 THROUGH JUNE 30, 2003

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton		
		+8	-8+40	-40+60	-60				ENM	EMg	
WADE AG PRODUCTS - CADMUS, LACYGNE, KS											
WADE AG PRODUCTS-MAIN OFC, LACYGNE, KS											
Lab #0383	04-17-03	6.1	47.5	9.4	37.0	87.1	1.0	54.5	380	11	
WEST CENTRAL AGRISERVICE, LLC, HARRISONVILLE, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0262	03-26-03	0.2	8.8	9.6	81.4	90.6	1.8	89.4	648	32	
WEST CETRAL AGRISERVICES, RICH HILL, MO											
MK MINERALS INC., MANHATTAN, KS											
Lab #0049	02-11-03	0.2	0.9	2.1	96.8	87.6	0.5	98.3	689	10	
WOODY BOGLER LIME-ROSEBUD, ROSEBUD, MO											
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO											
Lab #0206	03-14-03	5.8	48.7	10.6	34.9	95.1	2.1	53.4	407	22	
YOUNGS PRODUCE, ALTON, MO											
BLUFF CITY MINERALS CO., ALTON, IL											
Lab #0689	05-29-03	0.4	4.3	7.2	88.1	91.4	2.8	93.5	684	52	

\* Does not meet minimum specification for Agricultural Liming Material.



EXAMPLES OF FINENESS FACTOR CALCULATION, ENM, AND EMgDERIVATION OF FINENESS FACTOREXAMPLE

<u>US Standard Sieve Fractions</u>	<u>Efficiency Index</u>		<u>% Found in sample</u>	<u>Fineness Components</u>
Retained on 8	0	x	<u>4.0</u>	= <u>0</u>
Pass. 8-Ret. on 40	.25	x	<u>34.0</u>	= <u>8.5</u>
Pass. 40-Ret. on 60	.60	x	<u>10.0</u>	= <u>6.0</u>
Passing 60	1.00	x	<u>52.0</u>	= <u>52.0</u>

Sum of fineness components = FINENESS FACTOR = 66.5

EFFECTIVE NEUTRALIZING MATERIALS (pounds per ton)

$$\text{Formula: ENM} = \frac{\% \text{ CCE}}{100} \times \frac{\text{FINENESS FACTOR}}{100} \times 800$$

## DRY AG LIME

	<u>FINENESS FACTOR</u>						
<u>% CCE</u>	<u>100</u>	<u>90</u>	<u>80</u>	<u>70</u>	<u>60</u>	<u>50</u>	<u>40</u>
100	800	720	640	560	480	400	320
90	720	648	576	504	432	360	288
80	640	576	512	448	384	320	256
70	560	504	448	392	336	280	224
65*	520	468	416	364	312	260	208

\* 65% is minimum % CCE allowed for dry lime

## FLUID AG LIME

60	480	432	384
50	400	360	320
40	320	288	256
30	240	216	192
20	160	144	128
10	80	72	64

EFFECTIVE MAGNESIUM (pounds per ton)

$$\text{Formula: EMg} = \frac{\% \text{ Mg}}{100} \times \frac{\text{FINENESS FACTOR}}{100} \times 2000$$

	<u>FINENESS FACTOR</u>						
<u>% Mg</u>	<u>100</u>	<u>90</u>	<u>80</u>	<u>70</u>	<u>60</u>	<u>50</u>	<u>40</u>
13	260	234	208	182	156	130	104
11	220	198	176	154	132	110	88
9	180	162	144	126	108	90	72
7	140	126	112	98	84	70	56
5	100	90	80	80	70	60	40
3	60	54	48	42	36	30	24
1	20	18	16	14	12	10	8

## Fertilizer & Ag Lime Funded Research Topics

<http://aes.missouri.edu/pfcs/research>

### FY00 Fertilizer/Ag Lime funded proposals, progress reports

Estimating the need for agricultural liming material  
Refining soil test recommendations for corn  
Refining soil test recommendations for soybean  
Refining soil test recommendations for wheat  
P and K fixation by Missouri Soils'  
No-till lime management and soil pH effects on herbicide carryover  
Soil-specific phosphorus rates

### FY01 Fertilizer/Ag Lime funded proposals, progress reports

Increasing the magnesium concentration of tall fescue leaves with phosphorus  
and boron fertilization  
Improved nitrogen fertilization recommendations for soils incorporating a simple  
measurement of soil physical properties  
Effect of potassium fertilization on leafhopper tolerance and persistence of alfalfa  
Cotton response to midseason potassium applications and bronze wilt  
Spectral radiometer to control variable-rate N applications for corn  
Evaluating grain sorghum nitrogen fertilization recommendations

### FY02 Fertilizer/Ag Lime funded proposals, progress reports

Refining the Soil test procedure for potassium to improve the K recommendations for  
Missouri soils  
Nitrogen fertilization strategies and annual ryegrass pasture  
The influence of nitrogen rate and pasture composition on the toxicity, quality and  
yield of stockpiled tall fescue  
Conservation tillage systems and liming materials  
Evaluating fall N applications for corn

### FY03 Fertilizer/Ag Lime funded proposals

Soil pH effects on atrazine carryover damage to no-till soybean  
Soft red winter wheat replant decision aid based on spring nitrogen recommendations  
and % winterkill  
Soil specific phosphorus and potassium recommendations - critical values  
Development of grain sorghum ratoon cropping system for SE Missouri  
Rescue N applications for corn: yield response, leaf burn and yield loss  
Increasing phosphorus and magnesium concentrations in stockpiled tall fescue  
Plant mapping potassium in rice tissue. What part to sample, when?  
Determining the correct nitrogen rate for cotton following soybeans

**Fertilizer/Ag Lime  
Funded Research Topics**

<http://aes.missouri.edu/pfcs/research>

**FY00 Fertilizer/Ag Lime funded proposals, progress reports**

Estimating the need for agricultural liming material by Dr. James R. Brown & Dr. John Stecker. This is an excellent collection of the research conducted by Dr. Browns students on agricultural liming materials throughout the mid-80's and early 90's. However, it is rather lengthy (approximately 90 pages); therefore, to long for inclusion in this samples analyzed update. It is posted in a .PDF format at the above website and will remain an electronic resource reference for year to come. I strongly advise more than just a casual glance at this document.

## REPORT CONTENTS

	Page
1. Report information and tonnage summary	2
2. Table 1-Registered Producers and samples	3
3. Table 2-Distributors and samples	20
4. ENM & EMg Calculations	25
5. Fertilizer/Ag Lime Funded Research Topics	26
6. Estimating the need for agricultural liming materials by Dr. James R. Brown & Dr. John Stecker (web address for .PDF)	27

This report also available on the web at:

[HTTP://aes.missouri.edu/pfcs](http://aes.missouri.edu/pfcs)

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 Control Services  
 University of Missouri-Columbia  
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