

**Missouri
Agricultural Liming
Materials Report**

January 1 to June 30, 2000

Agricultural Experiment Station

University of Missouri-Columbia

AGRICULTURAL LIMING MATERIALS REPORT

JANUARY 1 THROUGH JUNE 30, 2000 □□

This bulletin is a detailed report of official samples obtained under the Missouri Agricultural Liming Materials Law collected from January 1 through June 30, 2000. There were 862 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. Twenty-nine deficient samples are reported, which resulted in five "stop sale" order's issued against a producer stockpiles for excessive coarseness. Corrective actions taken by producers have resulted in the release of one issued "stop sale" order from the previous period.

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	1,013,139*	1,900,000*

* PRELIMINARY ESTIMATE

TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

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 #0158	02-23-00	0.9	42.8	9.2	47.1	86.3	10.6	63.3	437	134
Lab #0429	04-12-00	0.1	40.2	9.4	50.3	88.4	10.1	66.0	467	133
Lab #0624	05-09-00	1.2	46.2	8.9	43.7	86.5	9.7	60.6	419	118
ALBY QUARRY, CARLINVILLE, IL										
ALLEN QUARRIES INC, LOCKWOOD, MO										
Stockpile #1										
Lab #0324	03-21-00	1.1	44.6	14.3	40.0	99.4	0.4	59.7	475	5
AMPEL, INC.-HARVEY IOWA PLANT, DES MOINES, IA										
AMPEL, INC.-WEEPING WATER NE PLANT, DES MOINES, IA										
Stockpile #1										
Lab #0130	02-15-00	0.0	0.7	1.8	97.5	92.5	0.3	98.8	731	6
Lab #0745	05-25-00	0.0	1.1	3.4	95.5	90.1	0.2	97.8	705	4
Stockpile #2										
Lab #0780	05-25-00	0.0	1.7	3.1	95.2	91.5	0.3	97.5	714	6
APAC-MISSOURI, INC., COLUMBIA, MO										
Stockpile #2										
Lab #0010	02-03-00	0.1	25.6	17.5	56.8	94.8	0.2	73.7	559	3
Lab #0217	03-06-00	0.1	25.6	18.0	56.3	96.7	0.2	73.5	569	3
Lab #0393	04-07-00	2.5	25.3	16.9	55.3	96.4	0.2	71.8	553	3
Lab #0579	05-05-00	0.4	31.0	16.8	51.8	95.2	0.2	69.6	530	3
APAC-MISSOURI, INC., LINN CREEK, MO										
Stockpile #2										
Lab #0371	03-29-00	0.6	40.6	16.0	42.8	100.5	12.1	62.6	503	151
Lab #0469	04-20-00	0.8	43.3	14.3	41.6	99.7	11.3	61.0	487	138
Lab #0680	05-15-00	0.5	39.5	15.3	44.7	98.1	11.9	63.8	500	152
APAC-MISSOURI, INC., COLUMBIA, MO										
Stockpile #2										
Lab #0156	02-23-00	1.0	43.7	8.4	46.9	89.9	11.7	62.9	452	147
Lab #0427	04-12-00	1.2	44.5	8.4	45.9	90.3	10.5	62.1	448	130
Lab #0622	05-09-00	1.1	43.6	8.8	46.5	90.3	10.1	62.7	453	127
APAC MO INC CENTRAL COMPANIES DYL, OSAGE BEACH, MO										
Stockpile #1										
Lab #0681	05-15-00	1.7	46.4	13.5	38.4	88.1	10.8	58.1	409	125
Stockpile #2										
Lab #0682	05-15-00	1.2	42.4	16.4	40.0	93.6	11.5	60.4	453	139
APAC MISSOURI CENTRAL COMPANIES, OSAGE BEACH, MO										
Stockpile #1										
Lab #0372	03-29-00	2.0	44.0	13.1	40.9	90.2	10.8	59.8	431	129
Stockpile #2										
Lab #0373	03-29-00	1.2	42.0	15.4	41.4	92.3	10.8	61.1	451	132
ARKANSAS LIME COMPANY, INC., BATESVILLE, AR										
ASC MINERALS PROCESSING, ALLERTON, IL										
ASH GROVE AGGREGATES INC-APPLETON, BUTLER, MO										
Stockpile #2										
Lab #0328	03-20-00	4.9	52.3	8.0	34.8	85.9	1.0	52.7	362	11
Lab #0550	04-28-00	4.6	50.3	9.7	35.4	84.0	0.9	53.8	362	10
Lab #0758	05-30-00	6.0	49.6	9.6	34.8	82.4	1.1	53.0	349	12
ASH GROVE AGGREGATES INC-BUTLER, BUTLER, MO										
Stockpile #1										
Lab #0168	02-22-00	4.5	54.2	8.5	32.8	85.9	0.9	51.5	354	9
Lab #0370	03-27-00	3.6	54.8	9.7	31.9	84.9	0.8	51.4	349	8
Lab #0530	04-24-00	3.9	52.7	9.1	34.3	84.9	0.9	52.9	360	10
Lab #0688	05-16-00	6.5	51.3	9.4	32.8	80.1	1.0	51.3	329	10
Lab #0795	06-05-00	7.3	54.4	8.7	29.6	88.9	1.2	48.4	344	12
ASH GROVE AGGREGATES INC-RICHHILL, BUTLER, MO										
Stockpile #1										
Lab #0528	04-24-00	10.6*	48.1	8.0	33.3	72.6	0.4	50.1	0	0
Stockpile #2										
Lab #0210	02-28-00	3.8	50.3	8.8	37.1	86.6	0.8	55.0	381	9

* Does not meet minimum specification for Agricultural Liming Material.

TABLE 1
 AGRICULTURAL LIMING MATERIALS SAMPLED FROM
 JANUARY 1 THROUGH JUNE 30, 2000

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-RICHHILL, BUTLER, MO (Continued)										
Stockpile #2										
Lab #0299	03-16-00	4.0	52.2	8.7	35.1	85.7	0.8	53.4	366	9
Stockpile #3										
Lab #0692	05-18-00	7.6	54.6	9.4	28.4	80.9	0.8	47.7	309	8
Lab #0793	06-05-00	6.2	54.7	9.6	29.5	87.9	0.8	48.9	344	8
Lab #0838	06-12-00	7.5	55.2	8.0	29.3	87.4	0.6	47.9	335	6
ASH GROVE AGGREGATES INC-LACYGNE, BUTLER, MO										
Stockpile #1										
Lab #0464	04-17-00	0.8	31.1	6.5	61.6	86.1	1.4	73.3	505	21
Lab #0686	05-16-00	2.7	48.1	9.5	39.7	79.0	1.3	57.4	363	15
Stockpile #2										
Lab #0687	05-16-00	6.0	46.8	9.6	37.6	85.5	1.2	55.1	377	13
ASH GROVE AGGREGATES INC-MARSHFIELD, BUTLER, MO										
Stockpile #3										
Lab #0196	03-02-00	6.6	49.1	10.0	34.3	100.0	12.5	52.6	421	131
Lab #0483	04-18-00	6.9	48.9	9.2	35.0	98.8	12.0	52.7	417	127
Lab #0731	05-25-00	8.0	48.6	9.6	33.8	97.8	12.3	51.7	405	127
ASH GROVE AGGREGATES INC-MONTEVALLO, BUTLER, MO										
Stockpile #1										
Lab #0169	02-25-00	7.7	48.2	10.2	33.9	91.4	2.2	52.1	381	23
Lab #0333	03-21-00	7.4	47.2	9.9	35.5	91.9	1.0	53.2	391	11
Lab #0531	04-25-00	9.8	44.6	9.3	36.3	92.0	2.3	53.0	390	24
Lab #0712	05-25-00	7.4	45.5	9.9	37.2	93.1	1.4	54.5	406	15
ASH GROVE AGGREGATES INC-OSCEOLA, BUTLER, MO										
Stockpile #1										
Lab #0090	02-11-00	2.8	48.4	10.3	38.5	89.7	0.3	56.8	407	3
Lab #0302	03-17-00	2.7	47.0	10.5	39.8	89.6	0.4	57.9	415	5
Lab #0545	04-27-00	3.5	48.2	10.9	37.4	91.6	0.5	56.0	410	6
Lab #0714	05-25-00	3.3	46.3	10.3	40.1	90.3	0.4	57.9	418	5
ASH GROVE AGGREGATES INC-FT SCOTT, BUTLER, MO										
Stockpile #1										
Lab #0021	02-02-00	4.3	53.1	9.1	33.5	90.9	0.6	52.2	380	6
Lab #0296	03-16-00	2.3	51.7	10.9	35.1	93.2	0.5	54.6	407	5
Lab #0465	04-18-00	5.4	55.1	10.0	29.5	93.8	0.5	49.3	370	5
Lab #0703	05-22-00	6.1	51.4	9.3	33.2	90.2	0.3	51.6	373	3
ASH GROVE AGGREGATES INC.-STOCKTON, BUTLER, MO										
ASH GROVE AGGREGATES INC-WHEATLAND, BUTLER, MO										
Stockpile #2										
Lab #0089	02-09-00	4.5	46.6	10.3	38.6	95.7	0.1	56.4	432	1
Lab #0300	03-17-00	4.7	47.2	10.1	38.0	95.9	0.2	55.9	429	2
Lab #0544	04-27-00	5.5	46.2	10.8	37.5	97.2	0.2	55.5	432	2
Lab #0684	05-15-00	5.0	47.5	11.1	36.4	95.9	0.2	54.9	421	2
Lab #0796	06-07-00	5.3	47.0	10.4	37.3	97.1	0.2	55.3	429	2
ASH GROVE AGGREGATES INC-FT SCOTT E, BUTLER, MO										
Stockpile #1										
Lab #0295	03-16-00	3.5	47.9	8.8	39.8	90.7	0.4	57.1	414	5
Lab #0466	04-18-00	7.3	49.1	9.1	34.5	89.3	0.4	52.2	373	4
ASH GROVE AGGREGATES INC-BOLIVAR, BUTLER, MO										
Stockpile #1										
Lab #0293	03-14-00	0.0	34.5	15.1	50.4	98.2	1.2	68.1	535	16
Lab #0537	04-27-00	0.0	31.9	13.6	54.5	89.4	0.5	70.6	505	7
Lab #0709	05-24-00	0.0	33.0	14.4	52.6	92.0	0.6	69.5	511	8
Stockpile #2										
Lab #0083	02-07-00	7.1	49.1	9.9	33.9	93.5	0.2	52.1	390	2
Lab #0292	03-14-00	5.2	47.6	10.6	36.6	98.9	0.7	54.9	434	8
Lab #0294	03-14-00	2.4	51.6	9.8	36.2	96.5	0.2	55.0	424	2
Lab #0538	04-27-00	6.6	51.5	10.3	31.6	96.3	0.2	50.7	390	2
Lab #0710	05-24-00	6.6	50.6	10.7	32.1	95.6	0.4	51.2	391	4
Stockpile #3										
Lab #0084	02-07-00	5.7	49.7	9.5	35.1	95.4	0.2	53.2	406	2

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

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-BOLIVAR, BUTLER, MO (Continued)										
Stockpile #3										
Lab #0539	04-27-00	5.3	47.4	9.9	37.4	98.2	0.9	55.2	434	10
Lab #0711	05-24-00	6.0	51.3	8.9	33.8	94.4	1.1	52.0	392	11
ASH GROVE AGGREGATES - EL DORADO SP, BUTLER, MO										
ASH GROVE AGGREGATES INC-BUFFALO, BUTLER, MO										
Stockpile #1										
Lab #0136	02-15-00	2.3	40.9	9.6	47.2	93.2	10.5	63.2	471	133
Lab #0250	03-09-00	1.6	39.2	12.1	47.1	92.6	11.4	64.2	475	146
Lab #0542	04-27-00	3.5	42.5	8.9	45.1	91.5	11.0	61.1	447	134
Lab #0705	05-24-00	2.8	40.8	11.8	44.6	92.2	11.3	61.9	456	140
Lab #0839	06-13-00	2.2	39.0	12.5	46.3	91.4	11.1	63.6	465	141
ASHGROVE CEMENT COMPANY, SPRINGFIELD, MO										
Stockpile #1										
Lab #0013	02-01-00	15.0*	19.1	6.9	59.0	96.7	0.2	67.9	0	0
Lab #0434	04-13-00	0.2	10.2	5.2	84.4	119.8	0.2	90.1	863	4
Lab #0631	05-11-00	0.4	29.0	9.9	60.7	96.6	0.1	73.9	571	1
Stockpile #2										
Lab #0014	02-01-00	0.4	0.1	0.4	99.1	96.5	0.2	99.4	767	4
Lab #0435	04-13-00	0.1	0.1	0.3	99.5	92.2	0.2	99.7	735	4
Lab #0632	05-11-00	0.2	0.2	0.6	99.0	93.7	0.1	99.4	745	2
AUXVASSE STONE & GRAVEL CO, AUXVASSE, MO										
Stockpile #1										
Lab #0011	02-03-00	6.7	44.1	13.2	36.0	85.8	1.8	54.9	377	20
Lab #0215	03-06-00	8.3	56.7	7.4	27.6	90.0	2.7	46.2	333	25
Lab #0216	03-06-00	1.4	44.8	10.3	43.5	96.9	5.4	60.9	472	66
Lab #0388	04-07-00	4.2	45.7	9.1	41.0	96.8	1.9	57.9	448	22
Lab #0578	05-05-00	5.1	45.1	11.1	38.7	91.0	1.5	56.6	412	17
Stockpile #2										
Lab #0389	04-07-00	0.8	42.8	11.1	45.3	95.7	5.0	62.7	480	63
BAILEY QUARRIES INC-CHEESAPEAKE Q., MT VERNON, MO										
Stockpile #3										
Lab #0192	03-10-00	2.7	43.5	6.9	46.9	91.7	10.8	61.9	454	134
Stockpile #4										
Lab #0193	03-01-00	5.1	49.5	6.2	39.2	93.4	11.7	55.3	413	129
Lab #0425	04-11-00	5.2	43.0	7.1	44.7	94.3	11.1	59.7	450	133
BAILEY QUARRIES INC-JANE, JANE, MO										
Stockpile #2										
Lab #0726	05-23-00	0.3	33.8	11.1	54.8	94.7	11.6	69.9	530	162
BAILEY QUARRIES, INC.-MADRY QUARRY, VERONA, MO										
Stockpile #3										
Lab #0195	03-01-00	7.3	54.6	7.7	30.4	87.6	1.6	48.7	341	16
Lab #0426	04-11-00	7.0	54.0	8.0	31.0	86.9	1.5	49.3	343	15
BAILEY QUARRIES INC.-SPENCER, MILLER, MO										
BAILEY QUARRIES INC-STOCKTON, STOCKTON, MO										
Stockpile #2										
Lab #0170	02-25-00	4.2	53.3	10.8	31.7	98.8	0.2	51.5	407	2
Lab #0336	03-23-00	3.8	50.9	12.7	32.6	99.0	0.2	52.9	419	2
Lab #0532	04-25-00	4.5	49.5	13.1	32.9	99.4	0.1	53.1	423	1
Lab #0713	05-25-00	4.1	51.5	13.5	30.9	98.8	0.1	51.9	410	1
BARBER & SONS AGGREGATES, LEE'S SUMMIT, MO										
Stockpile #1										
Lab #0048	02-08-00	9.8	51.4	7.8	31.0	87.0	0.4	48.5	338	4
Lab #0235	03-09-00	9.9	52.9	7.6	29.6	85.9	1.5	47.4	326	14
BENTLEY TRUCKING, INC., CLARENCE, MO										
Stockpile #4										
Lab #0674	05-16-00	3.1	46.7	11.2	39.0	77.8	1.3	57.4	357	15
BEYER CRUSHED ROCK COMPANY, CLEVELAND, MO										
BLEVINS ASPHALT CO, MT VERNON, MO										
Stockpile #1										
Lab #0326	03-23-00	0.0	0.0	0.1	99.9	82.1	0.3	100.0	657	6

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
BLEVINS ASPHALT CO, MT VERNON, MO (Continued)										
Stockpile #1										
Lab #0626	05-10-00	0.1	0.2	0.2	99.5	83.2	0.3	99.7	663	6
BLUFF CITY MINERALS CO., ALTON, IL										
Stockpile #1										
Lab #0106	02-14-00	0.1	3.9	7.6	88.4	91.4	1.4	93.9	687	26
Lab #0283	03-16-00	0.0	1.6	2.5	95.9	93.6	4.2	97.8	732	82
BOONE QUARRIES INC, COLUMBIA, MO										
Stockpile #1										
Lab #0012	02-03-00	7.7	39.6	7.2	45.5	100.6	3.1	59.7	481	37
Lab #0219	03-06-00	1.3	33.7	8.6	56.4	97.5	2.6	70.0	546	36
Lab #0390	04-07-00	3.5	30.0	8.8	57.7	99.2	2.7	70.5	559	38
Lab #0582	05-05-00	0.3	28.2	10.2	61.3	98.2	2.1	74.5	585	31
Stockpile #2										
Lab #0008	02-03-00	2.8	44.4	10.5	42.3	99.7	3.9	59.7	476	47
Lab #0220	03-06-00	3.3	44.4	11.1	41.2	99.2	4.2	59.0	468	50
Lab #0391	04-07-00	9.2	38.8	8.4	43.6	100.6	3.3	58.3	470	39
Lab #0581	05-05-00	11.4*	38.9	7.2	42.5	100.1	2.9	56.5	0	0
BUSSEN QUARRIES INC-EUREKA/ANTIRE, EUREKA, MO										
Stockpile #1										
Lab #0279	03-16-00	0.7	46.2	12.1	41.0	87.9	2.9	59.8	421	35
Lab #0519	04-27-00	0.7	35.7	12.4	51.2	97.3	3.3	67.6	526	45
Lab #0642	05-17-00	0.6	37.5	13.1	48.8	97.0	2.9	66.0	512	38
CALCIUM PRODUCTS, INC., GILMORE CITY, IA										
CAPITAL QUARRIES INC-HOLTS SUMMIT 1, JEFFERSON CITY, MO										
CAPITAL QUARRIES, INC-STADIUM WEST, JEFFERSON CITY, MO										
Stockpile #2										
Lab #0115	02-14-00	1.5	50.3	9.2	39.0	81.5	9.3	57.1	372	106
Lab #0234	03-10-00	1.3	41.6	12.0	45.1	75.0	9.1	62.7	376	114
Lab #0422	04-12-00	0.9	40.0	12.0	47.1	83.6	9.4	64.3	430	121
Lab #0754	05-30-00	2.6	41.6	9.2	46.6	84.7	10.6	62.5	424	133
CAPITAL QUARRIES INC-ROLLA Q #4, JEFFERSON CITY, MO										
CAPITAL QUARRIES CO. INC-HWY Y, JEFFERSON CITY, MO										
CAPITAL QUARRIES INC-CALIFORNIA Q#5, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0007	02-01-00	4.0	53.7	6.8	35.5	87.0	5.9	53.0	369	63
Lab #0229	03-06-00	4.7	48.0	8.4	38.9	84.2	5.8	55.9	377	65
Lab #0418	04-03-00	3.7	51.7	8.3	36.3	86.1	4.3	54.2	373	47
Lab #0572	05-01-00	1.4	45.8	12.2	40.6	96.8	0.8	59.4	460	9
Lab #0786	05-31-00	1.4	46.9	11.7	40.0	96.7	2.2	58.7	454	26
CAPITAL QUARRIES CO., INC-LINN, JEFFERSON CITY, MO										
CAPITAL QUARRIES INC-HWY 63 N Q #10, JEFFERSON CITY, MO										
CAPITAL QUARRIES INC-SULLIVAN, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0076	02-11-00	0.6	31.1	19.9	48.4	101.2	11.8	68.1	551	161
Lab #0274	03-15-00	3.2	34.5	18.2	44.1	99.2	11.8	63.6	505	150
Lab #0511	04-25-00	1.9	31.6	20.0	46.5	99.1	12.0	66.4	526	159
Stockpile #2										
Lab #0585	05-05-00	16.5*	34.8	13.6	35.1	102.8	11.4	52.0	0	0
Stockpile #3										
Lab #0782	06-05-00	2.4	36.7	18.5	42.4	102.4	12.2	62.7	513	153
CARROLL COUNTY STONE, INC., BERRYVILLE, AR										
Stockpile #1										
Lab #0093	02-07-00	0.3	40.1	10.4	49.2	86.2	10.2	65.5	451	134
Lab #0323	03-20-00	1.3	31.6	11.8	55.3	92.0	11.0	70.3	517	155
Lab #0589	05-05-00	0.6	34.9	11.1	53.4	90.3	10.2	68.8	497	140
CARTHAGE CRUSHED LIMESTONE, CARTHAGE, MO										
Stockpile #1										
Lab #0327	03-23-00	0.1	0.7	1.9	97.3	97.8	0.2	98.6	772	4
Lab #0627	05-10-00	0.1	0.7	0.8	98.4	97.8	0.1	99.1	775	2

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Stockpile #1										
Lab #0062	02-08-00	6.7	35.1	10.2	48.0	94.3	0.2	62.9	474	3
Lab #0227	03-02-00	0.5	27.4	13.3	58.8	95.9	0.5	73.6	565	7
Lab #0441	04-12-00	2.5	27.2	2.5	67.8	94.9	0.4	76.1	578	6
Lab #0662	05-17-00	8.4	36.3	8.6	46.7	92.6	0.3	60.9	451	4
Stockpile #2										
Lab #0060	02-08-00	0.4	24.3	13.7	61.6	94.3	1.0	75.9	573	15
Lab #0440	04-12-00	0.6	30.3	12.9	56.2	96.0	0.2	71.5	549	3
Lab #0661	05-17-00	0.1	24.3	15.8	59.8	93.4	0.7	75.4	563	11
Stockpile #3										
Lab #0061	02-08-00	0.3	21.2	16.8	61.7	95.4	1.8	77.1	588	28
Lab #0226	03-02-00	0.5	20.7	15.0	63.8	97.7	2.2	78.0	609	34
CENTRAL STONE COMPANY - BETHEL, BETHEL, MO										
Stockpile #1										
Lab #0148	02-21-00	6.0	41.9	8.9	43.2	95.4	1.4	59.0	450	17
Lab #0282	03-10-00	7.8	41.5	8.4	42.3	95.4	1.9	57.7	440	22
Lab #0477	04-18-00	6.7	39.4	8.9	45.0	95.8	1.8	60.2	461	22
Lab #0659	05-16-00	6.9	45.4	10.0	37.7	94.8	1.5	55.1	417	17
CENTRAL STONE COMPANY - GREENSBURG, HANNIBAL, MO										
CENTRAL STONE COMPANY - PARIS, PARIS, MO										
Stockpile #1										
Lab #0065	02-09-00	7.8	45.8	11.3	35.1	91.0	0.2	53.3	388	2
Lab #0255	03-09-00	6.2	46.9	10.3	36.6	91.6	0.2	54.5	399	2
Lab #0385	04-04-00	7.1	46.2	12.1	34.6	90.9	0.3	53.4	388	3
Lab #0574	05-01-00	3.7	45.9	12.0	38.4	92.3	0.9	57.1	421	10
CENTRAL STONE COMPANY - NEW LONDON, NEW LONDON, MO										
CENTRAL STONE COMPANY - CURRYVILLE, CURRYVILLE, MO										
Stockpile #1										
Lab #0049	02-04-00	4.9	44.9	9.0	41.2	87.5	2.0	57.8	405	23
Lab #0221	03-01-00	3.7	45.6	12.2	38.5	94.7	0.9	57.2	433	10
Lab #0479	04-20-00	2.8	42.3	12.8	42.1	94.9	0.9	60.4	458	11
Lab #0601	05-10-00	3.2	41.5	12.7	42.6	93.9	0.8	60.6	455	10
Stockpile #2										
Lab #0050	02-04-00	5.6	45.3	6.9	42.2	88.3	1.3	57.7	407	15
Lab #0222	03-01-00	2.9	42.4	9.3	45.4	89.4	1.3	61.6	440	16
Lab #0480	04-20-00	4.0	44.4	9.8	41.8	92.6	1.4	58.8	435	16
Lab #0600	05-10-00	5.9	45.0	9.2	39.9	91.5	1.4	56.7	415	16
CENTRAL STONE COMPANY - PERRY, HANNIBAL, MO										
Stockpile #1										
Lab #0225	03-02-00	3.8	46.0	8.8	41.4	92.6	1.7	58.2	431	20
Lab #0660	05-17-00	9.2	41.4	7.8	41.6	86.6	1.9	56.6	392	22
CENTRAL STONE COMPANY - EWING, HANNIBAL, MO										
Stockpile #1										
Lab #0064	02-08-00	5.5	33.2	8.3	53.0	88.7	1.0	66.3	470	13
Lab #0769	05-31-00	4.7	31.5	10.1	53.7	84.0	0.8	67.6	455	11
CENTRAL STONE COMPANY - TAYLOR, TAYLOR, MO										
Stockpile #1										
Lab #0063	02-08-00	8.7	46.7	10.0	34.6	93.4	0.5	52.3	391	5
Lab #0228	03-02-00	5.0	46.5	11.6	36.9	93.2	0.8	55.5	414	9
Lab #0439	04-12-00	7.4	46.6	11.0	35.0	92.6	0.7	53.3	394	7
Lab #0663	05-17-00	6.2	46.6	11.0	36.2	91.5	0.8	54.5	399	9
CLEVER STONE CO, CLEVER, MO										
Stockpile #1										
Lab #0190	02-28-00	0.3	48.3	13.8	37.6	96.0	0.2	58.0	445	2
Lab #0402	04-03-00	0.5	48.6	14.7	36.2	98.4	0.2	57.2	450	2
Lab #0724	05-22-00	0.1	45.9	15.6	38.4	98.3	0.2	59.2	466	2
COLONIAL LIMESTONE INC-PRINCETON, MILAN, MO										
Stockpile #1										
Lab #0556	04-17-00	2.9	60.1	7.3	29.7	84.2	0.4	49.1	331	4
Lab #0811	06-08-00	4.3	55.6	9.6	30.5	87.8	0.5	50.2	352	5

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JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
COLONIAL LIMESTONE INC-PRINCETON, MILAN, MO										
Stockpile #2										
Lab #0557	04-17-00	1.8	34.6	8.6	55.0	55.6*	0.4	68.8	0	0
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Stockpile #1										
Lab #0152	02-21-00	0.1	10.8	12.8	76.3	99.7	0.2	86.7	691	3
Lab #0431	04-13-00	0.1	11.4	15.1	73.4	99.5	0.2	85.3	679	3
Lab #0628	05-11-00	0.0	11.3	13.0	75.7	99.2	0.2	86.3	685	3
Lab #0847	06-12-00	0.0	10.5	15.7	73.8	99.6	0.1	85.8	684	2
Stockpile #4										
Lab #0153	02-21-00	0.0	6.3	10.7	83.0	98.7	0.4	91.0	718	7
Lab #0432	04-13-00	0.0	11.4	14.0	74.6	98.6	0.2	85.9	677	3
Lab #0629	05-11-00	0.0	8.6	12.5	78.9	98.7	0.3	88.6	699	5
Lab #0848	06-12-00	0.3	11.8	14.0	73.9	98.6	0.1	85.3	672	2
COUNTY LINE QUARRY, WELLSVILLE, MO										
Stockpile #1										
Lab #0363	03-30-00	5.9	51.4	8.4	34.3	95.8	2.8	52.2	400	29
Lab #0576	05-02-00	4.2	44.1	8.9	42.8	95.8	3.7	59.2	453	44
Lab #0789	06-09-00	3.4	44.7	8.4	43.5	94.0	4.7	59.7	449	56
CRAWFORD LIME & MATERIAL CO, CUBA, MO										
Stockpile #1										
Lab #0459	04-19-00	2.1	44.6	8.3	45.0	88.4	10.8	61.1	432	132
Lab #0586	05-05-00	4.2	42.2	7.6	46.0	90.6	10.1	61.1	443	123
Lab #0717	05-23-00	5.8	43.2	7.2	43.8	91.6	11.4	58.9	432	134
Lab #0781	06-05-00	0.0	23.8	10.8	65.4	88.9	10.9	77.8	554	170
CRIDER BROTHERS LIME CO, EMINENCE, MO										
Stockpile #2										
Lab #0214	02-28-00	6.1	42.5	13.8	37.6	98.9	11.3	56.5	447	128
Lab #0353	03-22-00	3.9	44.1	13.4	38.6	99.9	11.2	57.7	461	129
DOSS & HARPER STONE CO., HOUSTON, MO										
Stockpile #1										
Lab #0110	02-14-00	1.8	44.5	11.7	42.0	90.1	10.0	60.1	434	120
Lab #0404	04-06-00	0.4	41.8	15.8	42.0	94.7	11.4	61.9	469	141
Stockpile #2										
Lab #0111	02-14-00	4.0	52.6	9.7	33.7	87.4	10.2	52.7	368	107
Lab #0405	04-06-00	6.2	45.8	11.3	36.7	88.4	10.5	54.9	388	115
DOSS & HARPER STONE CO, WEST PLAINS, MO										
Stockpile #1										
Lab #0112	02-14-00	0.2	47.4	8.9	43.5	87.0	9.7	60.7	422	118
Lab #0240	03-09-00	1.5	48.0	7.3	43.2	87.0	10.8	59.6	415	129
Lab #0403	04-05-00	0.4	46.6	8.1	44.9	88.6	10.7	61.4	435	131
EVERETT QUARRIES #1-LATHROP, PLATTSBURG, MO										
Stockpile #2										
Lab #0123	02-11-00	2.0	51.0	10.2	36.8	88.8	1.0	55.7	395	11
Lab #0354	03-20-00	5.0	55.9	10.1	29.0	90.7	0.7	49.0	356	7
Lab #0492	04-19-00	4.8	38.2	7.7	49.3	84.8	1.4	63.5	431	18
Lab #0741	05-22-00	6.1	52.7	9.1	32.1	87.1	1.1	50.7	354	11
EVERETT QUARRIES #6-KING, PLATTSBURG, MO										
Stockpile #1										
Lab #0243	03-06-00	3.3	49.6	9.8	37.3	90.2	1.3	55.6	401	14
Lab #0412	03-31-00	2.6	48.9	9.9	38.6	89.1	0.9	56.8	405	10
Lab #0590	05-02-00	3.3	47.1	9.6	40.0	90.1	0.9	57.5	415	10
Lab #0739	05-24-00	3.1	49.2	9.5	38.2	90.7	0.8	56.2	408	9
EVERETT QUARRIES #53-CAMERON, PLATTSBURG, MO										
Stockpile #2										
Lab #0038	02-01-00	3.8	42.9	9.5	43.8	76.5	2.1	60.2	369	25
Lab #0266	03-09-00	3.9	44.1	9.1	42.9	77.8	2.1	59.4	370	25
Lab #0521	04-27-00	3.6	44.7	9.6	42.1	75.8	2.0	59.0	358	24
Lab #0815	06-07-00	4.3	45.5	9.0	41.2	77.6	2.2	58.0	360	26

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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 #54-GOWER, PLATTSBURG, MO										
Stockpile #3										
Lab #0124	02-14-00	7.0	49.3	9.6	34.1	82.0	0.9	52.2	342	9
Lab #0355	03-20-00	4.2	51.6	8.6	35.6	83.0	1.1	53.7	356	12
Lab #0493	04-18-00	5.0	47.8	10.0	37.2	82.9	0.7	55.2	366	8
Lab #0819	06-06-00	7.2	47.1	9.1	36.6	80.0	1.4	53.8	345	15
EVERETT QUARRIES #57, PLATTSBURG, MO										
Stockpile #1										
Lab #0039	02-01-00	4.0	49.4	7.1	39.5	77.6	2.2	56.1	348	25
Lab #0265	03-09-00	4.6	47.2	9.5	38.7	80.8	2.0	56.2	363	22
Lab #0522	04-27-00	5.5	48.2	8.3	38.0	80.0	2.0	55.0	352	22
Lab #0816	06-07-00	4.6	51.4	8.4	35.6	87.5	1.7	53.5	374	18
EVERETT QUARRIES #59-STANBERRY, PLATTSBURG, MO										
Stockpile #1										
Lab #0200	03-01-00	7.3	48.5	9.4	34.8	82.5	1.6	52.6	347	17
Lab #0490	04-21-00	6.1	48.2	8.4	37.3	83.6	1.5	54.4	364	16
Lab #0742	05-22-00	6.5	47.6	9.4	36.5	82.4	1.7	54.0	356	18
FALL VALLEY STONE, INC., MT VERNON, MO										
Stockpile #1										
Lab #0194	03-01-00	0.7	40.6	9.3	49.4	97.6	12.1	65.1	509	158
Lab #0424	04-11-00	0.3	42.0	10.9	46.8	99.4	11.3	63.8	508	144
FISHER QUARRY, HUGHESVILLE, MO										
Stockpile #2										
Lab #0034	02-04-00	5.1	49.1	10.4	35.4	98.8	1.1	53.9	426	12
Lab #0205	03-03-00	4.7	49.0	10.4	35.9	99.6	1.2	54.4	433	13
Lab #0457	04-18-00	5.2	46.9	10.5	37.4	98.5	1.4	55.4	437	16
Lab #0598	05-10-00	5.4	47.5	10.2	36.9	98.3	1.3	54.9	432	14
Lab #0827	06-08-00	7.3	46.5	10.4	35.8	98.3	1.6	53.7	422	17
FULLERTON STONE COMPANY INC, GRANBY, MO										
Stockpile #1										
Lab #0016	02-03-00	1.0	46.1	15.4	37.5	97.1	0.1	58.3	453	1
Lab #0486	04-17-00	0.8	42.6	14.9	41.7	97.3	0.1	61.3	477	1
Lab #0727	05-23-00	1.3	46.5	13.7	38.5	93.6	0.2	58.3	437	2
GABEL STONE COMPANY INC., WILLOW SPRINGS, MO										
Stockpile #1										
Lab #0113	02-15-00	2.3	41.2	15.3	41.2	82.4	9.1	60.7	400	110
Lab #0239	03-08-00	2.8	43.0	14.3	39.9	81.5	9.9	59.2	386	117
GLASGOW QUARRIES INC, GLASGOW, MO										
Stockpile #1										
Lab #0361	03-29-00	3.1	47.9	7.8	41.2	91.6	5.7	57.9	424	66
Stockpile #4										
Lab #0362	03-29-00	5.0	35.4	7.0	52.6	90.9	5.8	65.7	477	76
Lab #0698	05-22-00	6.1	35.5	7.6	50.8	89.9	6.0	64.2	462	77
Stockpile #5										
Lab #0005	01-31-00	10.1*	48.3	7.0	34.6	92.3	7.2	50.9	0	0
Lab #0187	02-29-00	11.2*	47.5	7.0	34.3	92.4	8.1	50.4	0	0
GLASGOW QUARRIES-GILLIAM, GILLIAM, MO										
Stockpile #1										
Lab #0004	01-31-00	3.7	48.8	8.0	39.5	88.3	5.6	56.5	399	63
Lab #0186	02-29-00	3.3	46.9	8.1	41.7	90.6	6.1	58.3	422	71
Lab #0502	04-26-00	3.2	47.0	7.6	42.2	90.9	6.6	58.5	425	77
Lab #0697	05-22-00	2.3	50.4	7.0	40.3	91.4	6.4	57.1	418	73
GLASGOW QUARRIES - MARCELINE, MARCELINE, MO										
Stockpile #1										
Lab #0562	04-24-00	6.3	33.9	7.0	52.8	89.5	5.9	65.5	469	77
Lab #0804	06-06-00	4.6	36.3	8.0	51.1	90.5	7.0	65.0	470	91
Stockpile #2										
Lab #0379	03-27-00	12.8*	45.6	6.5	35.1	91.1	5.7	50.4	0	0
GREEN QUARRIES, INC. - BLUE MOUND, DAWN, MO										
Stockpile #2										
Lab #0340	03-17-00	2.3	44.0	9.8	43.9	87.7	1.0	60.8	426	12

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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
GREEN QUARRIES, INC. - BLUE MOUND, DAWN, MO (Continued)										
Stockpile #2										
Lab #0672	05-16-00	2.4	45.6	10.8	41.2	87.8	1.0	59.1	415	12
Lab #0853	06-12-00	4.0	50.9	9.4	35.7	85.2	2.3	54.1	369	25
Stockpile #3										
Lab #0673	05-16-00	16.5*	45.8	8.2	29.5	89.7	1.3	45.9	0	0
GREEN QUARRIES, INC. - EE QUARRY, RICHMOND, MO										
Stockpile #1										
Lab #0788	06-06-00	7.8	57.7	7.6	26.9	90.4	0.4	45.9	332	4
GREEN QUARRIES, INC. - RICHMOND, RAYVILLE, MO										
Stockpile #2										
Lab #0030	02-03-00	5.6	52.2	10.1	32.1	85.8	1.4	51.2	352	14
Lab #0232	03-07-00	2.0	43.0	9.7	45.3	82.0	3.8	61.9	406	47
Lab #0452	04-17-00	5.4	56.7	9.2	28.7	86.2	1.3	48.4	334	13
Lab #0637	05-17-00	5.4	56.2	8.2	30.2	81.8	1.7	49.2	322	17
Lab #0787	06-06-00	4.6	54.6	9.3	31.5	86.2	1.2	50.7	350	12
GREEN QUARRIES, INC - MT. AIRY, CARROLLTON, MO										
GREEN QUARRIES, INC - STET QUARRY, RICHMOND, MO										
Stockpile #1										
Lab #0241	03-06-00	3.5	54.0	9.4	33.1	89.4	0.6	52.2	374	6
Lab #0733	05-24-00	7.7	53.7	9.1	29.5	87.8	0.5	48.4	340	5
Lab #0854	06-13-00	8.0	56.8	7.2	28.0	91.1	0.5	46.5	339	5
Stockpile #2										
Lab #0242	03-06-00	3.8	52.6	9.4	34.2	92.4	1.2	53.0	392	13
Lab #0734	05-24-00	6.7	51.4	8.9	33.0	91.7	1.5	51.2	376	15
Lab #0855	06-13-00	7.0	53.9	8.4	30.7	93.4	1.3	49.2	368	13
HALL & RILEY QUARRIES & CONST CO, BOONVILLE, MO										
Stockpile #1										
Lab #0046	02-07-00	2.7	50.1	11.0	36.2	92.3	0.2	55.3	409	2
Lab #0358	03-24-00	2.5	48.1	13.0	36.4	94.4	0.1	56.2	425	1
Lab #0504	04-26-00	2.0	50.6	12.5	34.9	96.7	0.1	55.1	426	1
Lab #0696	05-18-00	1.4	48.5	14.6	35.5	93.1	0.3	56.4	420	3
Lab #0829	06-12-00	1.4	47.1	13.1	38.4	93.5	0.8	58.0	434	9
HALL & RILEY QUARRIES & CONST CO, MARSHALL, MO										
Stockpile #1										
Lab #0032	02-04-00	6.3	49.0	7.4	37.3	87.4	4.4	54.0	377	48
Lab #0203	03-03-00	2.2	43.7	10.5	43.6	84.0	2.7	60.8	409	33
Lab #0455	04-18-00	6.4	52.8	6.3	34.5	88.5	4.6	51.5	364	47
Lab #0597	05-10-00	5.9	52.8	7.0	34.3	89.6	4.2	51.7	371	43
Lab #0826	06-08-00	5.0	49.3	6.5	39.2	85.7	5.4	55.4	380	60
HART LIME STONE, FARMINGTON, MO										
Stockpile #2										
Lab #0648	05-18-00	0.1	41.9	19.9	38.1	90.0	9.9	60.5	436	120
HILTY QUARRIES, INC. - QUARLES, CLINTON, MO										
Stockpile #1										
Lab #0142	02-18-00	0.8	43.7	9.2	46.3	74.7	0.8	62.7	375	10
Lab #0212	03-01-00	1.9	45.8	9.6	42.7	77.1	0.9	59.9	370	11
Lab #0414	04-05-00	4.4	47.5	9.6	38.5	77.6	0.8	56.1	348	9
Lab #0617	05-08-00	4.5	48.3	10.1	37.1	78.0	0.8	55.2	345	9
HILTY QUARRIES, INC. - MONTROSE, CLINTON, MO										
Stockpile #2										
Lab #0329	03-20-00	0.8	42.6	11.5	45.1	95.7	0.7	62.7	480	9
Lab #0549	04-28-00	1.5	40.8	11.6	46.1	97.1	0.5	63.3	491	6
Lab #0757	05-30-00	2.4	43.4	11.3	42.9	96.1	0.5	60.5	465	6
HILTY QUARRIES, INC- SOUTH-DELL JCT, CLINTON, MO										
Stockpile #1										
Lab #0020	02-01-00	0.2	48.9	12.6	38.3	97.8	0.3	58.1	454	3
Lab #0303	03-13-00	0.0	46.0	13.0	41.0	93.6	1.0	60.3	452	12
Lab #0534	04-26-00	0.3	41.6	13.0	45.1	95.6	0.2	63.3	484	3
Lab #0620	05-11-00	0.6	41.4	11.4	46.6	87.8	0.1	63.8	448	1

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
HILTY QUARRIES, INC- SOUTH-DELL JCT, CLINTON, MO										
Stockpile #3										
Lab #0288	03-13-00	0.5	45.4	11.7	42.4	87.5	2.6	60.8	425	32
HILTY QUARRIES, INC - TIGHTWAD, CLINTON, MO										
Stockpile #1										
Lab #0140	02-18-00	4.4	45.4	11.2	39.0	97.6	0.4	57.1	446	5
Lab #0289	03-23-00	2.8	45.3	10.6	41.3	95.7	0.3	59.0	452	4
Lab #0535	04-26-00	0.3	41.8	22.1	35.8	91.4	0.1	59.5	435	1
Lab #0621	05-11-00	2.0	44.8	11.3	41.9	95.8	0.4	59.9	459	5
Stockpile #2										
Lab #0290	03-13-00	0.4	42.5	14.5	42.6	92.5	0.6	61.9	458	7
Stockpile #3										
Lab #0141	02-18-00	0.6	45.6	9.1	44.7	72.9	4.4	61.6	359	54
Lab #0291	03-13-00	4.1	41.8	8.6	45.5	71.4	4.6	61.1	349	56
Lab #0536	04-26-00	5.0	45.7	7.2	42.1	82.0	4.8	57.8	379	56
HILTY QUARRIES, INC. - URICH, CLINTON, MO										
Stockpile #1										
Lab #0085	02-08-00	4.7	48.9	9.3	37.1	84.6	0.6	54.9	372	7
Lab #0330	03-20-00	3.7	47.9	10.1	38.3	85.6	0.7	56.3	386	8
Lab #0546	04-28-00	4.6	49.2	8.8	37.4	87.6	0.5	55.0	385	5
Lab #0755	05-30-00	4.0	48.1	8.4	39.5	82.6	1.0	56.6	374	11
Stockpile #2										
Lab #0086	02-08-00	10.0	50.3	8.2	31.5	84.0	0.6	49.0	329	6
Lab #0331	03-20-00	6.2	51.6	8.7	33.5	84.9	0.7	51.6	351	7
Lab #0547	04-28-00	4.4	48.7	10.1	36.8	84.1	0.7	55.0	370	8
Stockpile #3										
Lab #0087	02-08-00	4.6	49.4	9.7	36.3	81.7	0.5	54.5	356	5
Lab #0332	03-20-00	3.8	44.4	8.6	43.2	79.6	0.7	59.5	379	8
Lab #0548	04-28-00	4.2	48.8	8.7	38.3	81.4	0.6	55.7	363	7
Lab #0756	05-30-00	3.6	48.9	10.1	37.4	80.3	0.7	55.7	358	8
HILTY QUARRIES INC.-WARRENSBURG EAS, CLINTON, MO										
Stockpile #4										
Lab #0100	02-14-00	1.1	55.3	9.4	34.2	77.0	1.5	53.7	331	16
Lab #0321	03-20-00	0.2	63.5	8.8	27.5	82.9	1.6	48.7	323	16
Lab #0498	04-20-00	0.0	61.5	9.2	29.3	83.3	1.5	50.2	334	15
Lab #0702	05-23-00	0.2	59.8	8.8	31.2	81.4	1.5	51.4	335	15
Lab #0843	06-13-00	0.3	59.4	9.6	30.7	82.0	1.4	51.3	337	14
HUNT MIDWEST MINING, INC.-COWGILL, KANSAS CITY, MO										
HUNT MIDWEST MINING, INC.-MVILLE, KANSAS CITY, MO										
HUTCHENS CONSTRUCTION-PURDY, CASSVILLE, MO										
Stockpile #2										
Lab #0236	03-06-00	2.5	46.1	12.1	39.3	86.3	0.2	58.1	401	2
Lab #0484	04-20-00	5.3	51.8	10.5	32.4	85.4	0.1	51.7	353	1
Lab #0732	05-26-00	4.6	49.5	9.4	36.5	87.3	0.2	54.5	381	2
HUTCHENS CONSTRUCTION-EAGLE ROCK, CASSVILLE, MO										
Stockpile #2										
Lab #0017	02-04-00	1.6	42.1	8.7	47.6	92.8	10.9	63.3	470	138
Lab #0286	03-14-00	1.4	40.7	8.8	49.1	92.1	11.4	64.6	476	147
Lab #0552	04-28-00	3.3	43.8	8.6	44.3	92.2	10.6	60.4	446	128
Lab #0652	05-19-00	2.3	42.8	8.1	46.8	90.3	11.0	62.4	450	137
HUTCHENS CONSTRUCTION-WASHBURN, CASSVILLE, MO										
Stockpile #1										
Lab #0114	02-16-00	2.1	51.2	12.2	34.5	89.4	0.2	54.6	391	2
Lab #0284	03-13-00	1.7	48.8	12.1	37.4	89.3	0.2	56.9	406	2
Lab #0485	04-17-00	2.4	50.4	11.9	35.3	89.4	0.2	55.0	394	2
Lab #0725	05-23-00	0.1	41.4	16.6	41.9	91.6	0.1	62.2	456	1
IDEKER INC. - NEW POINT QUARRY, ST JOSEPH, MO										
Stockpile #1										
Lab #0259	03-07-00	0.0	46.4	11.8	41.8	89.5	0.4	60.5	433	5
Lab #0411	04-04-00	0.1	49.1	9.8	41.0	89.7	0.4	59.2	424	5
Lab #0635	05-12-00	1.1	48.5	11.2	39.2	90.0	0.5	58.0	418	6

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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
IDEKER INC. - NEW POINT QUARRY, ST JOSEPH, MO (Continued)										
Stockpile #1										
Lab #0822	06-09-00	1.4	48.6	9.7	40.3	90.0	0.6	58.3	420	7
IDEKER INC., ST JOSEPH, MO										
Stockpile #1										
Lab #0043	02-04-00	0.1	43.5	10.7	45.7	82.5	1.6	63.0	416	20
INLAND RIVERS AGGREGATE CO, DEEPWATER, MO										
INLAND RIVERS AGGREGATE CO, NEOSHO, MO										
IOWA LIMESTONE CO-WEeping WATER NE, WEeping WATER, NE										
Stockpile #1										
Lab #0128	02-15-00	0.0	0.6	2.1	97.3	99.2	0.3	98.7	783	6
Lab #0743	05-25-00	0.1	1.0	3.0	95.9	98.3	0.3	98.0	770	6
IOWA MINERAL PROCESSING, INC., ALDEN, IA										
JENKINS QUARRY, CASSVILLE, MO										
LEO JOURNAGAN CONST CO-HOLLISTER SO, SPRINGFIELD, MO										
Stockpile #1										
Lab #0159	02-23-00	1.0	48.1	11.5	39.4	95.7	0.7	58.3	447	8
Lab #0430	04-12-00	0.8	49.6	11.3	38.3	96.0	0.5	57.5	441	6
Lab #0625	05-09-00	1.3	49.8	11.5	37.4	95.1	0.6	56.8	432	7
LEO JOURNAGAN CONST CO INC-OZARK, SPRINGFIELD, MO										
Stockpile #1										
Lab #0189	02-28-00	0.6	46.3	13.1	40.0	95.7	0.2	59.4	455	2
Lab #0401	04-03-00	0.6	47.4	13.2	38.8	96.4	0.2	58.6	452	2
Lab #0723	05-22-00	0.4	46.5	13.7	39.4	96.5	0.2	59.2	457	2
LEO JOURNAGAN CONST CO INC-AVA, SPRINGFIELD, MO										
LEO JOURNAGAN CONST. - SHELL KNOB, SHELL KNOB, MO										
Stockpile #1										
Lab #0018	02-04-00	3.0	44.0	6.2	46.8	93.4	11.1	61.5	460	137
Lab #0285	03-14-00	2.9	42.3	8.1	46.7	93.1	11.5	62.1	463	143
Lab #0553	04-28-00	2.9	41.3	7.7	48.1	92.0	10.9	63.0	464	137
Lab #0653	05-19-00	2.2	39.8	8.8	49.2	90.9	11.1	64.4	469	143
JOPLIN STONE CO Q DUENWEG, JOPLIN, MO										
Stockpile #2										
Lab #0015	02-03-00	0.2	20.5	16.6	62.7	98.7	0.1	77.8	614	2
Lab #0287	03-16-00	0.2	20.7	18.5	60.6	96.3	0.2	76.9	592	3
Lab #0588	05-02-00	0.3	19.4	18.1	62.2	96.5	0.2	77.9	601	3
Lab #0783	05-30-00	0.5	21.9	19.5	58.1	96.7	0.2	75.3	582	3
Stockpile #3										
Lab #0633	05-12-00	8.6	41.8	10.7	38.9	98.5	0.1	55.8	439	1
Lab #0846	06-14-00	2.0	25.4	13.1	59.5	97.7	0.1	73.7	576	1
KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO										
Stockpile #1										
Lab #0145	02-21-00	6.3	45.0	7.6	41.1	94.0	1.1	56.9	428	13
Lab #0345	03-20-00	7.3	45.1	9.6	38.0	94.8	0.8	55.0	417	9
Lab #0474	04-18-00	6.2	42.0	4.1	47.7	92.8	2.3	60.7	450	28
Lab #0656	05-16-00	7.2	43.4	8.8	40.6	90.2	1.1	56.7	409	12
Stockpile #3										
Lab #0147	02-21-00	2.0	8.7	3.1	86.2	95.5	1.1	90.2	689	20
Lab #0347	03-20-00	0.9	3.9	1.5	93.7	99.2	0.9	95.6	758	17
Lab #0476	04-18-00	1.9	8.3	2.8	87.0	96.9	0.9	90.8	704	16
Lab #0657	05-16-00	0.1	0.2	0.1	99.6	98.4	0.8	99.7	785	16
Stockpile #4										
Lab #0146	02-21-00	1.8	10.3	2.9	85.0	90.5	1.6	89.3	647	29
Lab #0346	03-20-00	2.4	10.4	2.7	84.5	90.9	1.5	88.7	645	27
Lab #0475	04-18-00	3.0	12.2	3.0	81.8	88.3	1.7	86.7	612	29
Lab #0658	05-16-00	3.0	12.4	3.5	81.1	90.3	1.3	86.3	623	22
KELLEY QUARRY, CROCKER, MO										
Stockpile #2										
Lab #0029	02-02-00	1.3	48.4	11.2	39.1	91.3	11.1	57.9	423	129
Lab #0233	03-09-00	0.6	40.5	10.6	48.3	92.3	11.6	64.8	478	150
Lab #0395	04-04-00	3.5	41.8	12.9	41.8	94.3	11.2	60.0	453	134

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JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	+8	U.S. Sieve Fraction, %			%CCE	%Mg	Fineness Factor	Pounds/Ton ENM	Emg
			-8+40	-40+60	-60					
KERFORD LIMESTONE CO, WEEPING WATER, NE										
Stockpile #1										
Lab #0129	02-15-00	0.1	0.0	0.1	99.8	96.0	0.5	99.9	767	10
Lab #0744	05-25-00	0.0	0.1	0.2	99.7	94.2	0.4	99.8	752	8
KEYSTONE QUARRY, WARRENSBURG, MO										
Stockpile #1										
Lab #0101	02-14-00	0.0	58.2	7.9	33.9	76.9	0.9	53.2	327	10
Lab #0322	03-20-00	0.1	52.3	11.9	35.7	77.2	0.9	55.9	345	10
Lab #0499	04-20-00	0.0	50.6	11.5	37.9	69.3	1.1	57.5	319	13
Lab #0701	05-23-00	0.0	51.7	11.0	37.3	72.5	1.1	56.8	330	13
Lab #0844	06-13-00	0.3	46.6	13.4	39.7	74.7	1.1	59.4	355	13
KNOX COUNTY STONE CO, EDINA, MO										
Stockpile #1										
Lab #0107	02-15-00	3.0	48.6	9.9	38.5	90.4	1.7	56.6	409	19
Lab #0348	03-20-00	2.7	45.0	12.4	39.9	88.7	2.2	58.6	416	26
Lab #0436	04-10-00	2.7	47.8	9.7	39.8	92.2	2.7	57.6	425	31
Lab #0721	05-23-00	3.0	47.4	10.3	39.3	91.9	2.2	57.3	421	25
L & W QUARRIES INC., KAHOKA, MO										
Stockpile #1										
Lab #0108	02-16-00	6.5	46.7	9.5	37.3	93.1	0.6	54.7	407	7
Lab #0350	03-21-00	6.1	46.4	9.8	37.7	93.8	0.7	55.2	414	8
Lab #0437	04-11-00	8.5	48.3	8.8	34.4	92.8	0.9	51.8	384	9
Lab #0722	05-24-00	7.0	46.9	8.9	37.2	93.3	0.7	54.3	405	8
Stockpile #2										
Lab #0349	03-21-00	8.2	44.1	9.9	37.8	94.8	0.6	54.8	415	7
Lab #0438	04-11-00	9.3	42.9	6.0	41.8	94.0	0.3	56.1	422	3
LAFARGE QUARRY, SEDALIA, MO										
Stockpile #1										
Lab #0031	02-04-00	8.1	50.2	7.2	34.5	86.5	3.2	51.4	355	33
Lab #0202	03-03-00	6.1	49.0	9.2	35.7	92.5	2.4	53.5	396	26
Lab #0453	04-18-00	7.1	49.8	8.0	35.1	90.4	2.8	52.4	379	29
Lab #0595	05-10-00	9.8	48.9	7.3	34.0	86.5	2.1	50.6	350	21
Lab #0825	06-08-00	6.6	36.0	11.6	45.8	71.6	0.5	61.8	354	6
Stockpile #3										
Lab #0454	04-18-00	1.9	39.6	11.1	47.4	66.2	0.2	64.0	339	3
Lab #0596	05-10-00	4.7	39.0	11.4	44.9	68.8	0.3	61.5	338	4
Lab #0824	06-08-00	6.7	43.8	10.1	39.4	78.5	1.5	56.4	354	17
LAFARGE CORPORATION, SEDALIA, MO										
Stockpile #2										
Lab #0599	05-10-00	17.1*	43.7	9.2	30.0	97.4	2.6	46.4	0	0
LAFARGE CORPORATION, SEDALIA, MO										
LAFARGE CONSTRUCTION MATERIALS, ST CHARLES, MO										
Stockpile #1										
Lab #0720	05-24-00	9.3	40.5	11.4	38.8	86.7	0.4	55.8	387	4
Lab #0832	06-13-00	11.8*	42.9	9.5	35.8	86.6	0.4	52.2	0	0
LAFARGE CONSTRUCTION MATERIALS, ST CHARLES, MO										
Stockpile #1										
Lab #0638	05-16-00	6.5	48.9	8.5	36.1	98.5	5.5	53.4	421	59
Lab #0831	06-13-00	6.6	50.8	7.6	35.0	96.7	4.4	52.3	404	46
LEAD BELT MATERIALS CO INC, FLAT RIVER, MO										
Stockpile #1										
Lab #0277	03-16-00	0.1	7.0	17.1	75.8	94.3	11.0	87.8	662	193
Lab #0514	04-26-00	0.1	0.7	6.5	92.7	90.1	10.9	96.8	698	211
LILE QUARRY INC., STRAFFORD, MO										
Stockpile #1										
Lab #0325	03-22-00	0.2	52.4	8.4	39.0	93.1	11.0	57.1	426	126
Lab #0730	05-25-00	0.2	48.5	7.6	43.7	89.6	11.1	60.4	433	134
LIMPUS QUARRIES, INC. (BATES CITY), BATES CITY, MO										
Stockpile #2										
Lab #0047	02-08-00	3.1	52.4	9.8	34.7	91.0	0.6	53.7	391	6

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		+8	-8+40	-40+60	-60				ENM	Emg
LIMPUS QUARRIES, INC. (BATES CITY), BATES CITY, MO										
Stockpile #3										
Lab #0419	04-10-00	6.3	53.3	7.3	33.1	80.7	0.8	50.8	328	8
Lab #0594	05-08-00	3.9	48.1	10.5	37.5	82.3	0.3	55.8	368	3
Lab #0828	06-09-00	6.7	41.6	8.1	43.6	79.0	0.6	58.9	372	7
LIMPUS QUARRIES, INC. (GARDEN CITY), HARRISONVILLE, MO										
LIMPUS QUARRIES, INC. (GALLATIN), HARRISONVILLE, MO										
Stockpile #2										
Lab #0184	02-22-00	8.4	50.4	7.9	33.3	78.9	0.5	50.6	320	5
Lab #0442	04-12-00	7.6	53.3	9.2	29.9	83.9	0.4	48.7	327	4
Lab #0604	05-05-00	8.1	53.5	9.0	29.4	84.8	0.4	48.2	327	4
Lab #0858	06-14-00	7.6	50.8	7.7	33.9	71.7	1.0	51.2	294	10
LIMPUS QUARRIES, INC. (HARRISONVILLE), HARRISONVILLE, MO										
Stockpile #2										
Lab #0134	02-14-00	8.5	53.8	8.0	29.7	87.7	0.7	48.0	336	7
Lab #0334	03-22-00	7.0	51.3	8.6	33.1	90.5	0.5	51.1	370	5
Lab #0467	04-19-00	6.8	54.2	8.6	30.4	90.5	0.5	49.1	356	5
Lab #0619	05-10-00	7.3	52.6	8.3	31.8	91.1	0.4	49.9	364	4
Lab #0799	06-08-00	8.2	53.1	8.2	30.5	91.3	0.5	48.7	356	5
LIMPUS QUARRIES, INC. (HOLDEN), HOLDEN, MO										
Stockpile #2										
Lab #0099	02-14-00	8.2	46.1	8.4	37.3	75.6	2.0	53.9	326	22
Lab #0320	03-20-00	3.2	42.7	14.2	39.9	79.1	2.0	59.1	374	24
Lab #0497	04-20-00	6.3	47.6	7.6	38.5	78.1	2.1	55.0	343	23
Lab #0700	05-23-00	6.5	47.7	8.4	37.4	78.5	2.3	54.4	341	25
MAGRUDER LIMESTONE CO-ASHLEY, BOWLING GREEN, MO										
Stockpile #1										
Lab #0052	02-04-00	0.2	45.5	9.3	45.0	85.2	1.9	62.0	422	24
Lab #0224	03-01-00	0.6	47.1	10.3	42.0	92.6	1.4	60.0	444	17
Lab #0482	04-20-00	0.2	41.2	14.5	44.1	99.6	0.5	63.1	503	6
Lab #0603	05-10-00	2.9	45.6	7.6	43.9	83.2	2.3	59.9	398	28
MAGRUDER LIMESTONE CO, INC.-BOWLING, BOWLING GREEN, MO										
Stockpile #1										
Lab #0473	04-14-00	0.1	43.3	13.7	42.9	84.3	0.8	61.9	418	10
Lab #0768	05-30-00	0.2	37.2	12.4	50.2	92.9	1.3	66.9	497	17
MAGRUDER LIMESTONE CO-FRANKFORD, BOWLING GREEN, MO										
MAGRUDER LIMESTONE - SILEX QUARRY, TROY, MO										
Stockpile #1										
Lab #0472	04-14-00	5.1	41.5	7.1	46.3	92.8	3.8	60.9	452	46
MAGRUDER LIMESTONE CO Q TROY, TROY, MO										
Stockpile #1										
Lab #0058	02-07-00	2.8	52.3	8.3	36.6	88.8	3.4	54.7	388	37
Lab #0254	03-07-00	3.6	51.6	8.0	36.8	87.4	3.1	54.5	381	34
Lab #0525	04-27-00	4.3	52.0	7.8	35.9	86.4	2.8	53.6	370	30
Lab #0767	05-30-00	2.7	52.2	8.1	37.0	84.4	2.7	54.9	371	30
Stockpile #2										
Lab #0057	02-07-00	8.3	50.4	7.4	33.9	86.4	3.1	50.9	352	32
Lab #0253	03-07-00	9.0	48.4	7.4	35.2	88.2	3.1	51.7	365	32
Lab #0524	04-27-00	3.1	51.6	8.3	37.0	85.8	2.9	54.9	377	32
Lab #0766	05-30-00	1.9	52.4	7.7	38.0	84.1	2.9	55.7	375	32
MANSFIELD LIME & STONE, MANSFIELD, MO										
Stockpile #2										
Lab #0092	02-08-00	0.6	40.1	9.4	49.9	85.3	9.0	65.6	447	118
Lab #0237	03-08-00	1.2	44.1	7.7	47.0	86.1	10.5	62.6	431	132
Lab #0845	06-13-00	0.2	49.4	8.1	42.3	86.9	10.2	59.5	414	121
MARTIN MARIETTA AGGREGATES-BARNHART, BARNHART, MO										
MARTIN MARIETTA AGGREGATES-JEFFRIES, DAVIS CITY, IA										
Stockpile #3										
Lab #0566	04-26-00	4.1	50.1	8.6	37.2	81.5	1.2	54.9	358	13
Lab #0608	05-10-00	6.3	48.1	7.9	37.7	82.5	1.2	54.5	359	13
Lab #0764	05-31-00	5.3	46.8	7.9	40.0	83.4	1.3	56.4	377	15

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
MARTIN MARIETTA	AGGREGATES-MERCER, MERCER, MO									
	Stockpile #1									
Lab #0208	03-01-00	4.7	43.1	8.6	43.6	88.1	1.1	59.5	420	13
Lab #0564	04-26-00	5.3	43.0	8.7	43.0	86.8	1.0	59.0	409	12
Lab #0606	05-09-00	4.7	42.9	9.1	43.3	86.9	1.0	59.5	414	12
Lab #0809	06-08-00	4.2	41.4	8.9	45.5	86.3	1.3	61.2	422	16
	Stockpile #2									
Lab #0209	03-01-00	16.9*	38.9	7.1	37.1	79.9	1.1	51.1	0	0
	Stockpile #3									
Lab #0343	03-22-00	8.0	40.2	7.8	44.0	75.8	1.2	58.7	356	14
Lab #0565	04-26-00	4.1	40.2	8.9	46.8	76.1	1.1	62.2	379	14
Lab #0607	05-09-00	4.4	41.3	9.2	45.1	77.1	1.2	60.9	376	15
Lab #0810	06-08-00	7.5	42.2	7.3	43.0	77.5	1.3	57.9	359	15
MARTIN MARIETTA	MATERIALS-WATTERSON, MT AYR, IA									
	Stockpile #1									
Lab #0817	06-05-00	2.5	38.5	9.3	49.7	74.7	1.1	64.9	388	14
MARTIN MARIETTA	AGGREGATES-GOODEN, RAVENWOOD, MO									
	Stockpile #2									
Lab #0035	01-31-00	4.9	43.7	7.9	43.5	81.9	1.9	59.2	388	22
MARTIN MARIETTA	AGG - APPLETON, PERRYVILLE, MO									
	Stockpile #1									
Lab #0267	02-29-00	0.7	44.7	14.1	40.5	97.6	3.6	60.1	470	43
Lab #0489	04-18-00	1.4	44.3	14.1	40.2	100.5	3.1	59.7	480	37
MARTIN MARIETTA	AGGREGATES-BARNARD, BARNARD, MO									
	Stockpile #1									
Lab #0067	02-08-00	4.9	46.7	8.7	39.7	80.1	1.4	56.6	363	16
Lab #0260	03-08-00	7.7	49.3	7.3	35.7	84.7	1.1	52.4	355	12
Lab #0406	04-05-00	3.0	49.3	4.6	43.1	81.8	1.2	58.2	381	14
Lab #0634	05-12-00	3.7	47.0	8.1	41.2	81.4	1.2	57.8	376	14
MARTIN MARIETTA	AGGREGATES-BETHANY, BETHANY, MO									
	Stockpile #3									
Lab #0558	04-19-00	4.7	50.2	7.9	37.2	81.8	1.5	54.5	357	16
Lab #0763	05-31-00	1.3	44.2	11.6	42.9	85.3	1.6	60.9	416	19
Lab #0856	06-14-00	1.1	50.5	10.8	37.6	88.7	1.1	56.7	402	12
MARTIN MARIETTA	AGGREGATES - BREIT, SAVANNAH, MO									
	Stockpile #2									
Lab #0044	02-04-00	4.7	38.4	8.3	48.6	79.5	2.3	63.2	402	29
Lab #0261	03-08-00	4.5	46.0	11.2	38.3	90.8	0.8	56.5	411	9
Lab #0408	04-05-00	3.9	43.6	10.6	41.9	83.7	1.2	59.2	396	14
Lab #0694	05-19-00	2.8	49.0	12.8	35.4	90.5	0.6	55.3	401	7
MARTIN MARIETTA	AGGREGATES-GALLATIN, GALLATIN, MO									
	Stockpile #1									
Lab #0183	02-22-00	2.1	54.1	10.0	33.8	90.1	0.6	53.3	384	6
Lab #0444	04-12-00	4.0	51.3	9.5	35.2	82.8	1.4	53.7	356	15
Lab #0857	06-14-00	3.8	52.1	9.5	34.6	88.4	0.8	53.3	377	9
MARTIN MARIETTA-GREENWOOD, GREENWOOD, MO										
MARTIN MARIETTA	AGGREGATES-MAITLAND, SAVANNAH, MO									
	Stockpile #1									
Lab #0258	03-07-00	9.9	45.8	7.9	36.4	87.0	0.7	52.6	366	7
MARTIN MARIETTA	MATERIALS-PECULIAR, PECULIAR, MO									
	Stockpile #1									
Lab #0135	02-14-00	4.9	54.6	8.7	31.8	91.3	0.6	50.7	370	6
Lab #0335	03-22-00	3.6	50.4	9.8	36.2	88.8	0.5	54.7	388	5
Lab #0468	04-19-00	3.7	51.3	8.9	36.1	89.2	0.5	54.3	387	5
Lab #0618	05-10-00	3.4	54.6	8.9	33.1	92.7	0.5	52.1	386	5
Lab #0798	06-08-00	4.6	56.1	8.7	30.6	93.6	0.4	49.8	373	4
MARTIN MARIETTA	AGG-PERRYVILLE, PERRYVILLE, MO									
MARTIN MARIETTA	AGGREGATE-PRINCETON, PRINCETON, MO									
MARTIN MARIETTA	AGGREGATES- TRENTON, TRENTON, MO									
	Stockpile #1									
Lab #0079	02-09-00	3.1	44.6	10.9	41.4	92.9	1.0	59.1	439	12

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JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
MARTIN MARIETTA AGGREGATES- TRENTON, TRENTON, MO (Continued)										
Stockpile #1										
Lab #0180	02-22-00	6.1	46.5	8.9	38.5	91.5	1.2	55.5	406	13
Lab #0308	03-10-00	5.2	45.6	9.7	39.5	94.1	1.1	56.7	427	12
Lab #0568	04-28-00	2.9	43.9	10.1	43.1	92.1	1.2	60.1	443	14
Lab #0675	05-17-00	4.0	44.8	10.2	41.0	92.4	1.1	58.3	431	13
Stockpile #6										
Lab #0080	02-09-00	4.5	46.4	8.9	40.2	81.0	1.1	57.1	370	13
Lab #0181	02-22-00	3.6	45.7	10.2	40.5	88.3	1.3	58.0	410	15
Lab #0309	03-10-00	5.2	45.7	9.2	39.9	85.8	1.4	56.8	390	16
Lab #0569	04-28-00	5.0	47.3	9.2	38.5	87.5	1.1	55.8	391	12
Lab #0676	05-17-00	6.0	46.8	8.7	38.5	86.4	1.3	55.4	383	14
MARTIN MARIETTA AGGREGATES INC, WEEPING WATER, NE										
Stockpile #1										
Lab #0133	02-15-00	8.9	46.1	8.1	36.9	91.4	0.4	53.3	390	4
MERTENS CONST CO-AUXVASSE, KINGDOM CITY, MO										
Stockpile #1										
Lab #0387	04-07-00	10.0	49.3	9.6	31.1	95.4	2.2	49.2	375	22
Lab #0577	05-05-00	10.2*	49.3	9.2	31.3	95.2	2.2	49.1	0	0
Lab #0790	06-09-00	7.6	52.4	8.7	31.3	95.3	0.8	49.6	378	8
MFA INC, COLUMBIA, MO										
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO										
Stockpile #1										
Lab #0028	01-31-00	6.2	49.1	10.7	34.0	97.8	2.5	52.7	412	26
Lab #0270	03-13-00	7.2	49.9	12.0	30.9	94.6	0.2	50.6	383	2
Lab #0420	04-11-00	4.6	51.8	12.6	31.0	91.7	0.1	51.5	378	1
Lab #0614	05-08-00	6.9	48.6	12.0	32.5	91.0	0.2	51.9	377	2
Lab #0792	06-06-00	7.8	49.4	11.0	31.8	92.3	0.3	50.8	375	3
MID-MISSOURI LIMESTONE, INC.-HOUSTO, KINGDOM CITY, MO										
Stockpile #1										
Lab #0033	02-04-00	11.8*	51.1	6.3	30.8	83.4	5.6	47.4	0	0
Lab #0204	03-03-00	12.8*	47.3	6.3	33.6	83.8	5.8	49.2	0	0
Lab #0456	04-18-00	10.4*	47.8	6.9	34.9	82.5	5.2	51.0	0	0
MIDWEST MINERALS INC, JASPER, MO										
MISSISSIPPI LIME COMPANY, STE GENEVIEVE, MO										
Stockpile #1										
Lab #0120	02-18-00	0.1	0.1	0.4	99.4	100.6	0.2	99.7	802	4
Lab #0366	03-29-00	0.0	0.0	0.1	99.9	100.5	0.2	100.0	804	4
Lab #0517	04-27-00	0.0	0.0	0.1	99.9	100.1	0.3	100.0	800	6
Lab #0646	05-17-00	0.0	0.0	0.5	99.5	98.9	0.2	99.8	790	4
Stockpile #3										
Lab #0121	02-18-00	0.1	44.9	29.0	26.0	100.7	0.2	54.6	440	2
Lab #0367	03-29-00	0.0	44.1	28.6	27.3	101.0	0.2	55.5	448	2
Lab #0518	04-27-00	0.1	43.7	28.8	27.4	100.3	0.2	55.6	446	2
Lab #0647	05-17-00	0.0	45.5	27.9	26.6	99.1	0.2	54.7	434	2
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
MISSOURI VALLEY MATERIALS, WASHINGTON, MO										
Stockpile #1										
Lab #0364	03-27-00	3.9	46.3	8.1	41.7	85.8	10.0	58.1	399	116
Lab #0460	04-20-00	5.6	40.0	9.1	45.3	78.1	8.9	60.8	380	108
Lab #0639	05-16-00	5.8	44.0	8.1	42.1	77.6	9.8	58.0	360	114
Lab #0837	06-14-00	4.2	38.9	8.9	48.0	75.8	9.2	63.1	382	116
MK MINERALS INC., ST. GEORGE, KS										
Stockpile #1										
Lab #0125	02-14-00	0.1	0.7	0.8	98.4	82.9	1.2	99.1	657	24
Lab #0495	04-21-00	0.0	0.1	0.9	99.0	82.9	1.2	99.6	660	24
Lab #0818	06-06-00	0.0	0.1	0.6	99.3	83.9	1.2	99.7	669	24
MOBERLY STONE CO, HUNTSVILLE, MO										
MORRIS ROCK, DEERFIELD, MO										
Stockpile #1										
Lab #0022	02-02-00	2.2	57.6	9.0	31.2	95.0	1.0	51.0	388	10

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JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
MORRIS ROCK, DEERFIELD, MO										
Stockpile #1										
Lab #0704	05-22-00	3.6	57.5	8.6	30.3	94.5	1.0	49.8	377	10
MOUNTAIN GROVE QUARRY, MOUNTAIN GROVE, MO										
Stockpile #1										
Lab #0091	02-08-00	0.1	43.1	8.3	48.5	92.0	9.8	64.3	473	126
Lab #0238	03-08-00	0.0	46.6	7.3	46.1	90.5	11.3	62.1	450	140
Lab #0728	05-24-00	0.1	42.8	9.0	48.1	89.7	11.0	64.2	461	141
Lab #0851	06-13-00	0.0	45.1	8.2	46.7	88.7	10.2	62.9	446	128
MUEKNS BROS. QUARRY, LOOSE CREEK, MO										
Stockpile #1										
Lab #0505	04-25-00	2.1	40.6	8.8	48.5	92.6	11.1	63.9	474	142
Lab #0715	05-23-00	7.3	50.6	6.4	35.7	97.1	11.8	52.2	405	123
Lab #0834	06-14-00	1.6	37.5	10.4	50.5	87.0	10.9	66.1	460	144
Stockpile #2										
Lab #0074	02-11-00	4.7	46.3	6.9	42.1	99.7	11.8	57.8	461	136
NEMO SAND & GRAVEL, QUARRY, HERMITAGE, MO										
Stockpile #1										
Lab #0088	02-09-00	4.2	38.5	9.4	47.9	66.1	6.7	63.2	334	85
Lab #0301	03-17-00	6.0	49.1	5.7	39.2	89.2	10.6	54.9	392	116
Lab #0543	04-27-00	3.9	47.8	6.5	41.8	88.4	10.5	57.7	408	121
Lab #0683	05-15-00	4.9	48.8	6.8	39.5	87.1	10.6	55.8	389	118
Lab #0797	06-07-00	5.9	47.3	6.9	39.9	85.5	10.6	55.9	382	118
NORRIS AGGREGATE PRODUCTS CO, MOBERLY, MO										
Stockpile #1										
Lab #0305	03-08-00	6.2	49.0	11.8	33.0	95.1	1.5	52.3	398	16
Lab #0341	03-21-00	7.4	49.5	8.5	34.6	93.5	1.1	52.1	390	11
Lab #0737	05-23-00	9.7	45.4	10.4	34.5	93.6	1.6	52.1	390	17
Lab #0805	06-07-00	9.6	47.3	10.6	32.5	93.7	1.7	50.7	380	17
NORRIS AGGREGATE PRODUCTS CO - WEST, MOBERLY, MO										
Stockpile #1										
Lab #0342	03-21-00	6.7	47.2	11.4	34.7	90.6	0.3	53.3	387	3
Lab #0738	05-23-00	4.6	48.7	12.6	34.1	94.0	0.3	53.8	405	3
Lab #0806	06-07-00	4.5	49.3	12.5	33.7	93.3	0.4	53.5	400	4
Stockpile #2										
Lab #0306	03-08-00	7.4	46.1	11.7	34.8	91.0	0.3	53.3	388	3
NUTRI-JECT SYSTEMS INC., HUDSON, IA										
LEO O'LAUGHLIN INC, SHELBYNA, MO										
Stockpile #1										
Lab #0144	02-21-00	6.4	47.3	9.5	36.8	90.2	1.6	54.3	392	17
Lab #0344	03-20-00	3.6	43.6	12.0	40.8	82.0	1.5	58.9	386	18
Lab #0478	04-18-00	4.3	40.3	11.2	44.2	70.8	1.3	61.0	345	16
Lab #0655	05-16-00	4.4	44.5	9.8	41.3	88.4	1.8	58.3	412	21
PACE CONSTRUCTION CO.-DANVILLE QUAR, MONTGOMERY CITY, MO										
Stockpile #1										
Lab #0149	02-23-00	1.5	43.0	8.4	47.1	84.5	0.3	62.9	425	4
Stockpile #2										
Lab #0394	04-03-00	6.5	45.0	9.4	39.1	91.4	0.6	56.0	409	7
Lab #0583	05-03-00	6.0	44.3	10.6	39.1	92.7	3.9	56.5	419	44
Lab #0718	05-24-00	7.5	43.9	7.9	40.7	92.1	1.2	56.4	416	14
Lab #0830	06-13-00	8.9	51.3	8.6	31.2	88.9	1.4	49.2	350	14
PHENIX ROCK, ASH GROVE, MO										
Stockpile #1										
Lab #0191	03-01-00	3.5	35.3	19.4	41.8	96.0	0.2	62.3	478	2
Lab #0423	04-11-00	5.8	48.8	14.8	30.6	94.6	0.1	51.7	391	1
PRESTAGE QUARRIES INC, TIPTON, MO										
Stockpile #1										
Lab #0006	02-01-00	0.4	43.8	7.6	48.2	78.2	5.8	63.7	399	74
Lab #0230	03-06-00	5.0	55.2	8.5	31.3	82.8	1.8	50.2	333	18
Lab #0417	04-03-00	1.3	26.4	12.7	59.6	74.2	6.7	73.8	438	99
Lab #0636	05-15-00	0.2	44.5	10.1	45.2	74.1	6.3	62.4	370	79

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Distributor	Date Sampled	+8	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton ENM	Emg
R-B QUARRY, ELSBERRY, MO											
R-B QUARRY #2 - FOLEY, ELSBERRY, MO											
Stockpile #1											
Lab #0056	02-07-00	10.7*	56.5	7.9	24.9	98.7	2.0	43.8	0	0	
Stockpile #2											
Lab #0105	02-11-00	10.1*	56.2	7.5	26.2	98.0	2.6	44.8	0	0	
Lab #0252	03-07-00	11.4*	55.3	7.9	25.4	99.0	2.5	44.0	0	0	
Lab #0526	04-27-00	10.5*	55.9	7.9	25.7	96.2	2.7	44.4	0	0	
Stockpile #3											
Lab #0770	06-01-00	5.3	45.5	11.1	38.1	95.6	0.6	56.1	429	7	
ROCK QUARRIES, LLC, MOUNTAIN GROVE, MO											
Stockpile #1											
Lab #0003	01-12-00	15.9*	36.8	7.3	40.0	79.1	9.2	53.6	0	0	
Lab #0729	05-24-00	12.7*	42.5	6.5	38.3	87.6	10.7	52.8	0	0	
Lab #0852	06-13-00	15.3*	39.9	5.8	39.0	91.0	10.1	52.5	0	0	
ROYSTER-CLARK AGRIBUSINESS, INC, COLLINSVILLE, IL											
RUBLE ROCK & LIME INC, PIEDMONT, MO											
Stockpile #1											
Lab #0096	02-10-00	5.1	7.9	27.0	60.0	100.8	12.2	78.2	630	191	
Lab #0487	04-17-00	2.7	7.0	23.4	66.9	100.7	12.5	82.7	666	207	
JOE RUHL AGLIME CO., SIKESTON, MO											
S & A CONSTRUCTION LTD, ALLENDALE, MO											
SCHIERMEIER QUARRY, AUGUSTA, MO											
SCHILDBERG CONST. CO.-BEDFORD Q., GREENFIELD, IA											
Stockpile #1											
Lab #0762	06-02-00	0.0	37.5	13.9	48.6	89.2	0.7	66.3	473	9	
SCHILDBERG CONST. CO.-GRAHAM MO Q, GREENFIELD, IA											
Stockpile #2											
Lab #0821	06-09-00	11.2*	47.4	8.5	32.9	89.3	0.7	49.9	0	0	
SCHILDBERG CONST. CO.-SHAMBAUGH Q, GREENFIELD, IA											
Stockpile #1											
Lab #0040	02-02-00	1.1	46.2	9.9	42.8	90.8	1.0	60.3	438	12	
Lab #0356	03-21-00	5.1	47.6	9.7	37.6	88.9	1.5	55.3	393	17	
Lab #0494	04-20-00	1.0	44.3	10.9	43.8	85.5	0.9	61.4	420	11	
Lab #0761	06-02-00	9.2	49.7	8.3	32.8	88.1	1.0	50.2	354	10	
SCHILDBERG CONST. CO.-THURMAN, GREENFIELD, IA											
ROBERT SERVAES QUARRY & CONST, RUSHVILLE, MO											
Stockpile #1											
Lab #0491	04-18-00	5.6	45.2	8.4	40.8	84.1	0.7	57.1	384	8	
Lab #0823	06-06-00	6.7	49.5	8.0	35.8	88.9	0.6	53.0	377	6	
VIRGIL SMITH QUARRIES, ROLLA, MO											
Stockpile #1											
Lab #0073	02-10-00	4.0	46.0	8.4	41.6	89.8	10.5	58.1	418	122	
Lab #0271	03-14-00	2.8	40.8	8.1	48.3	91.3	10.9	63.4	463	138	
SOUTHWEST QUARRY & MATERIAL INC, ROLLA, MO											
Stockpile #2											
Lab #0072	02-10-00	0.3	38.9	14.5	46.3	74.2	8.5	64.7	384	110	
Lab #0272	03-14-00	1.6	35.0	11.6	51.8	86.3	10.2	67.5	466	138	
Lab #0400	04-07-00	0.2	28.0	12.2	59.6	84.0	10.1	73.9	497	149	
Lab #0615	05-08-00	0.6	33.1	10.5	55.8	85.2	10.0	70.4	480	141	
Lab #0750	06-01-00	0.7	34.9	13.4	51.0	88.4	11.1	67.8	479	150	
SOUTHDOWN, INC., COLUMBIA, MO											
Stockpile #1											
Lab #0009	02-03-00	4.3	50.6	8.7	36.4	93.9	2.8	54.3	408	30	
Lab #0218	03-06-00	2.9	49.4	11.7	36.0	96.5	2.5	55.4	427	28	
Lab #0392	04-07-00	6.4	50.0	8.8	34.8	92.6	4.2	52.6	390	44	
Lab #0580	05-05-00	6.2	47.3	8.5	38.0	89.4	5.0	54.9	393	55	
SPRINGFIELD UNDERGROUND, INC., SPRINGFIELD, MO											
Stockpile #1											
Lab #0154	02-21-00	0.0	4.4	8.8	86.8	99.8	0.2	93.2	744	4	
Lab #0433	04-13-00	0.0	4.5	8.8	86.7	100.0	0.1	93.1	745	2	

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 AGRICULTURAL LIMING MATERIALS SAMPLED FROM
 JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	Emg
SPRINGFIELD UNDERGROUND, INC., SPRINGFIELD, MO										
Stockpile #1										
Lab #0630	05-11-00	0.0	4.2	8.4	87.4	99.7	0.1	93.5	746	2
Lab #0849	06-12-00	0.1	4.3	8.7	86.9	99.5	0.1	93.2	742	2
S-S-S INC, LOUISIANA, MO										
Stockpile #1										
Lab #0051	02-04-00	5.3	47.1	11.3	36.3	99.1	0.3	54.9	435	3
Lab #0223	03-01-00	9.2	46.5	9.7	34.6	98.5	0.2	52.0	410	2
Lab #0481	04-20-00	5.1	45.8	10.8	38.3	98.1	0.2	56.2	441	2
Lab #0602	05-10-00	9.6	49.6	9.4	31.4	98.1	0.2	49.4	388	2
STANPHILL STONE, PIERCE CITY, MO										
T & M STONE LLC, FAIR PLAY, MO										
Stockpile #1										
Lab #0082	02-07-00	0.0	31.7	16.4	51.9	90.1	0.7	69.7	502	10
Lab #0138	02-15-00	0.0	30.2	21.0	48.8	91.6	0.4	69.0	505	6
Lab #0211	02-29-00	0.1	50.3	16.9	32.7	97.4	0.2	55.4	432	2
Lab #0337	03-23-00	0.0	40.0	17.7	42.3	98.1	0.2	62.9	494	3
Lab #0533	04-25-00	0.1	42.8	18.5	38.6	97.2	0.1	60.4	470	1
Lab #0708	05-24-00	0.0	42.1	17.5	40.4	97.5	0.2	61.4	479	2
TAYLOR QUARRIES, LOCKWOOD, MO										
Stockpile #1										
Lab #0160	02-24-00	3.3	46.8	13.1	36.8	96.5	1.3	56.4	435	15
Lab #0784	06-01-00	2.3	54.1	12.4	31.2	96.4	0.6	52.2	402	6
TENNESSEE VALLEY RESOURCES, INC, JEFFERSON CITY, TN										
TOWER ROCK STONE CO, SCOTT CITY, MO										
Stockpile #2										
Lab #0027	02-04-00	2.9	45.3	13.8	38.0	99.5	0.7	57.6	459	8
Lab #0319	03-17-00	9.9	44.7	13.3	32.1	99.7	0.7	51.3	409	7
Lab #0488	04-18-00	4.9	44.5	12.8	37.8	98.3	0.7	56.6	445	8
Lab #0771	05-30-00	3.8	45.9	14.8	35.5	98.2	0.8	55.9	439	9
TOWER ROCK STONE CO, STE GENEVIEVE, MO										
Stockpile #1										
Lab #0118	02-18-00	5.4	52.3	11.9	30.4	100.0	0.3	50.6	405	3
Lab #0368	03-29-00	6.3	43.7	14.4	35.6	100.9	0.3	55.2	445	3
Lab #0515	04-27-00	6.7	42.3	11.9	39.1	97.4	1.7	56.8	443	19
Lab #0645	05-17-00	9.8	44.1	12.7	33.4	96.3	0.4	52.0	401	4
Stockpile #2										
Lab #0119	02-18-00	6.5	39.9	9.2	44.4	98.7	6.2	59.9	473	74
Lab #0369	03-29-00	0.1	40.2	10.7	49.0	100.3	9.8	65.5	525	128
Lab #0516	04-27-00	0.9	41.7	11.6	45.8	99.1	9.2	63.2	501	116
Lab #0644	05-17-00	4.6	43.7	8.6	43.1	98.8	9.7	59.2	468	115
TRAGER LIMESTONE, CHILLICOTHE, MO										
Stockpile #1										
Lab #0185	02-22-00	0.1	53.9	10.5	35.5	79.3	1.6	55.3	351	18
Lab #0443	04-12-00	0.1	55.5	9.1	35.3	86.7	0.6	54.6	379	7
Lab #0605	05-05-00	0.3	52.8	10.2	36.7	80.1	1.5	56.0	359	17
Lab #0859	06-14-00	0.2	52.7	10.2	36.9	78.4	1.0	56.2	352	11
TWIN LAKES QUARRIES INC, MOUNTAIN HOME, AR										
UNITED SUPPLIERS, ELDORA, IA										
VULCAN MATERIALS, JONESBORO, IL										
Stockpile #1										
Lab #0173	02-23-00	2.9	35.6	12.3	49.2	99.4	0.4	65.5	521	5
Lab #0667	05-18-00	2.2	35.5	11.9	50.4	99.0	0.4	66.4	526	5
WADE AG PRODUCTS-MAIN OFC, LACYGNE, KS										
Stockpile #1										
Lab #0001	01-11-00	9.6	45.2	8.5	36.7	87.7	1.0	53.1	373	11
Lab #0162	02-21-00	5.4	44.3	8.3	42.0	88.1	1.2	58.1	409	14
Lab #0375	03-30-00	10.3*	44.9	3.8	41.0	89.2	1.0	54.5	0	0
Lab #0462	04-17-00	9.2	44.5	8.8	37.5	89.3	0.9	53.9	385	10

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

Distributor	Date Sampled	+8	U.S. Sieve Fraction, %			%CCE	%Mg	Fineness Factor	Pounds/Ton	
			-8+40	-40+60	-60				ENM	Emg
WADE AG PRODUCTS-MAIN OFC, LACYGNE, KS										
Stockpile #2										
Lab #0002	01-11-00	2.4	52.3	7.9	37.4	88.0	1.3	55.2	389	14
Lab #0163	02-21-00	5.0	46.2	8.1	40.7	85.2	1.0	57.1	389	11
Lab #0376	03-30-00	9.4	45.5	8.3	36.8	89.8	1.0	53.2	382	11
Lab #0463	04-17-00	2.6	46.4	9.1	41.9	79.1	1.1	59.0	373	13
WADE AG PRODUCTS Q BUTLER MO, LACYGNE, KS										
WADE AG PRODUCTS Q DREXEL, LACYGNE, KS										
Stockpile #1										
Lab #0161	02-21-00	5.5	49.9	8.6	36.0	81.8	1.5	53.6	351	16
Lab #0374	03-30-00	4.8	49.7	9.5	36.0	82.1	1.4	54.1	355	15
Lab #0461	04-17-00	4.8	49.6	9.1	36.5	81.1	1.2	54.4	353	13
Lab #0685	05-16-00	5.3	51.3	10.0	33.4	78.2	1.4	52.2	327	15
WADE AG PRODUCTS Q PLEASANTON, LACYGNE, KS										
Stockpile #1										
Lab #0297	03-16-00	3.4	46.3	8.8	41.5	87.6	0.6	58.4	409	7
Lab #0529	04-24-00	2.3	47.3	8.7	41.7	84.6	0.8	58.7	398	9
Lab #0651	05-18-00	2.4	45.9	9.4	42.3	84.8	0.7	59.4	403	8
Lab #0794	06-05-00	1.8	46.3	10.1	41.8	86.1	0.7	59.4	409	8
FRED WEBER INC.-AUBURN QUARRY, ELSBERRY, MO										
Stockpile #1										
Lab #0054	02-07-00	13.2*	53.8	7.2	25.8	96.9	2.1	43.6	0	0
Stockpile #2										
Lab #0053	02-07-00	8.9	55.6	7.7	27.8	96.4	2.2	46.3	357	20
FRED WEBER, INC - FOLEY QUARRY, FOLEY, MO										
Stockpile #1										
Lab #0055	02-07-00	7.8	52.3	7.6	32.3	92.2	2.7	49.9	368	27
Stockpile #2										
Lab #0251	03-07-00	6.8	52.2	7.8	33.2	91.9	2.9	50.9	374	30
Lab #0527	04-27-00	5.7	53.4	8.3	32.6	91.9	2.8	50.9	374	29
Lab #0765	05-30-00	4.8	53.3	7.7	34.2	91.2	3.0	52.1	380	31
FRED WEBER, INC.-HIGH HILL QUARRY, HIGH HILL, MO										
FRED WEBER INC-NORTH QUARRY, MARYLAND HEIGHTS, MO										
Stockpile #1										
Lab #0070	02-08-00	4.7	10.5	3.1	81.7	94.6	1.8	86.2	652	31
Lab #0584	05-03-00	3.3	11.4	4.0	81.3	91.8	0.4	86.6	636	7
Lab #0719	05-24-00	5.0	13.2	4.1	77.7	93.4	2.5	83.5	624	42
Lab #0833	06-13-00	2.0	6.1	2.5	89.4	84.1	0.7	92.4	622	13
FRED WEBER, INC. - TROY QUARRY, TROY, MO										
Stockpile #1										
Lab #0059	02-07-00	14.5*	45.5	9.6	30.4	85.0	0.6	47.5	0	0
WEST LIMESTONE QUARRY, ARCADIA, MO										
Stockpile #2										
Lab #0117	02-17-00	4.0	49.4	12.6	34.0	100.9	11.3	53.9	435	122
Lab #0276	03-16-00	3.1	48.7	12.7	35.5	101.7	12.1	55.3	450	134
Lab #0513	04-26-00	2.2	49.0	14.2	34.6	98.3	11.8	55.4	435	131
Lab #0649	05-18-00	4.1	52.1	12.3	31.5	101.2	11.8	51.9	420	122
WILKERSON BROS QUARRY, PARIS, MO										
Stockpile #1										
Lab #0066	02-09-00	7.9	45.4	14.8	31.9	85.5	0.5	52.1	357	5
Lab #0256	03-09-00	4.9	50.0	12.0	33.1	90.5	0.1	52.8	382	1
Lab #0386	04-04-00	6.1	53.0	9.6	31.3	86.3	0.1	50.3	347	1
Lab #0575	05-01-00	5.5	47.0	10.8	36.7	86.8	0.8	54.9	381	9

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TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
A & L AG CENTER, SEDALIA, MO										
MK MINERALS INC., ST. GEORGE, KS										
Lab #0746	05-24-00	0.2	0.1	1.7	98.0	82.6	1.2	99.0	654	24
AG DISTRIBUTORS, CATRON, MO										
VULCAN MATERIALS, JONESBORO, IL										
Lab #0384	03-31-00	3.0	35.3	12.4	49.3	100.5	0.5	65.6	527	7
AGRI SERVICES OF LEBANON, LEBANON, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0165	02-22-00	0.1	9.7	13.6	76.6	99.5	0.2	87.2	694	3
BACKES & TOLKE, NEW HAVEN, MO										
FRED WEBER INC-NORTH QUARRY, MARYLAND HEIGHTS, MO										
Lab #0071	02-09-00	4.9	11.7	2.3	81.1	95.6	1.9	85.4	653	32
BARTLETT & CO, HIGGINSVILLE, MO										
FISHER QUARRY, HUGHESVILLE, MO										
Lab #0357	03-27-00	5.3	49.5	10.3	34.9	99.1	1.0	53.5	424	11
BEAUFORT FEED STORE, BEAUFORT, MO										
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
Lab #0273	03-15-00	0.4	43.6	13.0	43.0	89.0	3.0	61.7	439	37
BOLIVAR FARMERS EXCHANGE, BOLIVAR, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0137	02-15-00	0.1	8.5	13.1	78.3	97.7	0.1	88.3	690	2
BOOTHEEL LIMESTONE, KENNETT, MO										
RUBLE ROCK & LIME INC, PIEDMONT, MO										
Lab #0097	02-11-00	7.2	11.3	20.8	60.7	101.4	12.3	76.0	617	187
BOOTHEEL LIMESTONE - SENATH, KENNETT, MO										
RUBLE ROCK & LIME INC, PIEDMONT, MO										
Lab #0098	02-11-00	9.3	12.8	21.9	56.0	103.5	12.3	72.3	599	178
C.T.L. FARM SERVICE INC., BETHANY, MO										
MK MINERALS INC., ST. GEORGE, KS										
Lab #0312	03-13-00	0.1	0.1	0.6	99.2	89.5	0.8	99.6	713	16
CARL BUCK, CONWAY, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0164	02-22-00	0.2	10.3	13.7	75.8	99.2	0.3	86.6	687	5
CARNEAL'S FERTILIZER, BLAIRSTOWN, MO										
UNITED SUPPLIERS, ELDORA, IA										
Lab #0246	03-07-00	0.0	0.1	1.0	98.9	85.7	1.0	99.5	682	20
MID-MISSOURI COOP, CONCORDIA, MO										
LAFARGE QUARRY, SEDALIA, MO										
Lab #0359	03-27-00	8.3	49.2	7.4	35.1	88.5	2.7	51.8	367	28
DELTA GROWERS ASSN-EAST PRAIRIE, CHARLESTON, MO										
VULCAN MATERIALS, JONESBORO, IL										
Lab #0382	03-27-00	5.2	36.8	12.8	45.2	101.0	0.3	62.1	502	4
EAKIN LIME SERVICE, BELL CITY, MO										
VULCAN MATERIALS, JONESBORO, IL										
Lab #0177	02-25-00	2.1	40.4	11.8	45.7	100.6	0.4	62.9	506	5
FARMERS CASH STORE, ADVANCE, MO										
RUBLE ROCK & LIME INC, PIEDMONT, MO										
Lab #0094	02-07-00	2.7	10.1	23.4	63.8	99.4	10.8	80.4	639	174
FARMERS ELEVATOR AND SUPPLY CO, CLINTON, MO										
MFA INC, COLUMBIA, MO										
Lab #0139	02-17-00	0.0	0.1	0.9	99.0	81.6	1.3	99.6	650	26
FOWLER ELEVATOR INC, NEWTOWN, MO										
KELLY LIME & ROCK, LA PLATA, MO										
Lab #0313	03-14-00	3.5	15.2	3.5	77.8	92.6	1.3	83.7	620	22
GIBSON LIME CO-DEXTER, DEXTER, MO										
VULCAN MATERIALS, JONESBORO, IL										
Lab #0352	03-21-00	1.9	33.8	13.1	51.2	100.7	0.4	67.5	544	5
HEIMSOOTH AG SERVICE, CORDER, MO										
HALL & RILEY QUARRIES & CONST CO, MARSHALL, MO										
Lab #0231	03-07-00	0.5	43.1	6.9	49.5	78.0	6.4	64.4	402	82

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JANUARY 1 THROUGH JUNE 30, 2000

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
LOUIS HERZTING JR, FREEBURG, MO LEAD BELT MATERIALS CO INC, FLAT RIVER, MO	Lab #0150 02-24-00	1.2	10.3	12.6	75.9	90.7	10.9	86.0	624	188
HOFFMAN & REED INC, TRENTON, MO MK MINERALS INC., ST. GEORGE, KS	Lab #0307 03-10-00	0.1	0.1	0.5	99.3	84.0	1.1	99.6	669	22
INGLIS FARM SUPPLY, BOLIVAR, MO CONCO QUARRIES INC Q US 160, WILLARD, MO	Lab #0081 02-07-00	0.0	8.7	12.9	78.4	99.5	0.2	88.3	703	4
JAMES AGRI-CENTER INC, NEELYVILLE, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0446 04-10-00	6.7	15.5	25.9	51.9	102.0	12.2	71.3	582	174
KELLY LIME & ROCK, LA PLATA, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0304 03-07-00	4.4	39.7	8.9	47.0	94.0	1.2	62.3	468	15
KINDER PLANT FOOD, LICKING, MO LEAD BELT MATERIALS CO INC, FLAT RIVER, MO	Lab #0109 02-14-00	0.1	0.9	7.8	91.2	93.5	9.9	96.1	719	190
JERRY LINHART, FAYETTE, MO SOUTHDOWN, INC., COLUMBIA, MO	Lab #0188 02-29-00	3.8	48.2	11.2	36.8	88.7	0.2	55.6	394	2
LINNEMAN LIME & FERT, SALISBURY, MO MOBERLY STONE CO, HUNTSVILLE, MO	Lab #0103 02-15-00	4.7	48.9	10.3	36.1	98.6	3.4	54.5	430	37
LOGANBILL FERTILIZER COMPANY, VERSAILLES, MO PRESTAGE QUARRIES INC, TIPTON, MO	Lab #0245 03-06-00	0.0	4.6	9.0	86.4	99.7	0.2	93.0	741	4
MAITLAND GRAIN & FEED, MAITLAND, MO MK MINERALS INC., ST. GEORGE, KS	Lab #0068 02-08-00	0.0	0.1	0.6	99.3	85.7	1.0	99.7	683	20
MATERIALS MANAGEMENT INC., SPRINGFIELD, MO CONCO QUARRIES INC Q US 160, WILLARD, MO	Lab #0155 02-21-00	0.1	13.9	14.3	71.7	99.1	0.3	83.8	664	5
MFA EXCHANGE, CHAMMOIS, MO MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO	Lab #0151 02-25-00	5.8	50.3	11.6	32.3	93.8	0.8	51.8	389	8
MFA EXCHANGE, META, MO MUEKNS BROS. QUARRY, LOOSE CREEK, MO	Lab #0398 04-06-00	6.1	49.9	6.3	37.7	92.9	11.2	54.0	401	121
MFA EXCHANGE, MORRISON, MO MUEKNS BROS. QUARRY, LOOSE CREEK, MO	Lab #0748 05-31-00	5.1	49.2	7.1	38.6	91.3	11.4	55.2	403	126
MFA AGRI SERVICE, ALBANY, MO AMPEL, INC.-HARVEY IOWA PLANT, DES MOINES, IA	Lab #0132 02-17-00	1.7	11.6	6.4	80.3	90.6	4.1	87.0	631	71
MFA AGRI SERVICE, BETHANY, MO AMPEL, INC.-HARVEY IOWA PLANT, DES MOINES, IA	Lab #0559 04-19-00	0.0	0.1	1.4	98.5	82.4	1.0	99.4	655	20
MFA AGRI SERVICE, BROOKFIELD, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0045 02-04-00	2.4	14.6	3.7	79.3	91.7	1.3	85.2	625	22
MFA AGRI SERVICE, BROWNING, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0078 02-09-00	2.4	13.4	2.6	81.6	91.6	1.6	86.5	634	28
AGRISERVICE OF BRUNSWICK, L.L.C., BRUNSWICK, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0024 02-02-00	2.5	12.5	3.3	81.7	92.4	1.3	86.8	642	23
MFA AGRI SERVICE, BURLINGTON JUNCTION, MO MK MINERALS INC., ST. GEORGE, KS	Lab #0041 02-03-00	0.0	0.4	0.9	98.7	81.3	1.4	99.3	646	28

* Does not meet minimum specification for Agricultural Liming Material.

TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

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 SERVICE, CALIFORNIA, MO BLUFF CITY MINERALS CO., ALTON, IL	Lab #0501 04-25-00	0.0	2.2	4.3	93.5	90.7	1.9	96.6	701	37
MFA AGRI SERVICE, COLE CAMP, MO BLUFF CITY MINERALS CO., ALTON, IL	Lab #0019 02-01-00	0.0	1.8	3.9	94.3	89.6	2.9	97.1	696	56
MFA AGRI SERVICE, CONCEPTION JUNCTION, MO MARTIN MARIETTA AGGREGATES-BARNARD, BARNARD, MO	Lab #0127 02-16-00	4.4	46.9	9.3	39.4	82.4	1.3	56.7	374	15
MFA AGRI SERVICE, HIGGINSVILLE, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0201 03-01-00	0.0	0.2	1.1	98.7	80.4	1.6	99.4	639	32
MFA AGRI SERVICE, LANCASTER, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0445 04-13-00	3.6	15.8	3.2	77.4	91.9	1.4	83.3	612	23
MFA AGRI SERVICE, MACON, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0812 06-09-00	3.0	11.5	3.0	82.5	90.6	1.8	87.2	632	31
MFA AGRI SERVICE, MILAN, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0591 05-03-00	3.1	11.3	3.6	82.0	91.4	1.2	87.0	636	21
MFA AGRI SERVICE, MOBERLY, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0807 06-07-00	4.5	11.5	4.5	79.5	90.9	1.0	85.1	619	17
MFA AGRI SERVICE, NEW CAMBRIA, MO AMPEL, INC.-HARVEY IOWA PLANT, DES MOINES, IA	Lab #0563 04-25-00	2.5	9.2	2.6	85.7	90.7	1.7	89.6	650	30
MFA AGRI SERVICE, OWENSVILLE, MO MFA AGRI SERVICE, OWENSVILLE, MO	Lab #0640 05-17-00	17.1*	35.0	13.5	34.4	99.8	12.2	51.3	0	0
MFA AGRI SERVICE, ST CLAIR, MO MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO	Lab #0275 03-15-00	0.7	41.0	11.5	46.8	98.0	3.1	64.0	501	40
MFA EXCHANGE, SALEM, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0458 04-18-00	10.9*	18.6	22.7	47.8	103.0	12.4	66.1	0	0
MFA AGRI SERVICE, SALISBURY, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0104 02-15-00	4.2	15.4	2.8	77.6	92.5	1.3	83.1	615	22
MFA AGRI SERVICE, TRENTON, MO MK MINERALS INC., ST. GEORGE, KS	Lab #0567 04-28-00	0.0	0.0	0.6	99.4	82.8	1.1	99.8	661	22
MFA AGRI SERVICE, UNIONVILLE, MO AMPEL, INC.-HARVEY IOWA PLANT, DES MOINES, IA	Lab #0206 02-28-00	6.9	15.5	7.5	70.1	88.8	4.4	78.5	557	69
MFA AGRI SERVICE, VERSAILLES, MO KELLY LIME & ROCK CO., INC., KIRKSVILLE, MO	Lab #0244 03-06-00	1.9	9.5	3.6	85.0	93.3	1.3	89.5	668	23
MADISON FARM SUPPLY, FREDERICKTOWN, MO ASC MINERALS PROCESSING, ALLERTON, IL	Lab #0095 02-09-00	0.1	2.3	6.3	91.3	92.2	0.2	95.7	706	4
MALDEN LIME CO, MALDEN, MO RUBLE ROCK & LIME INC, PIEDMONT, MO	Lab #0593 05-05-00	7.0	10.6	22.6	59.8	98.0	11.5	76.0	596	175
MISSOURI LIME & MATERIALS CO, PEVELY, MO BUSSEN QUARRIES INC-EUREKA/ANTIRE, EUREKA, MO	Lab #0278 03-16-00	0.7	38.5	11.7	49.1	96.5	3.0	65.7	508	39
MYRTLE FERTILIZER INC., MYRTLE, MO MISSISSIPPI LIME COMPANY, STE GENEVIEVE, MO	Lab #0143 02-15-00	0.0	1.8	3.8	94.4	91.8	2.6	97.1	713	51

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TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2000

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
NAPOLEON ELEVATOR, NAPOLEON, MO										
GREEN QUARRIES, INC. - EE QUARRY, RICHMOND, MO										
Lab #0360	03-27-00	19.8*	45.7	3.5	31.0	90.1	0.6	44.5	0	0
NODAWAY HOLT FERTILIZER, SKIDMORE, MO										
MK MINERALS INC., ST. GEORGE, KS										
Lab #0171	02-22-00	0.0	0.2	1.0	98.8	80.7	1.6	99.5	642	32
LEO O'LAUGHLIN, MACON, MO										
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0314	03-16-00	0.5	25.5	12.0	62.0	94.0	0.6	75.6	568	9
LEO O'LAUGHLIN INC, MARCELINE, MO										
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0377	03-27-00	2.0	29.1	9.3	59.6	94.9	0.7	72.5	550	10
PRAIRIE VU INC, BETHANY, MO										
MK MINERALS INC., ST. GEORGE, KS										
Lab #0311	03-13-00	0.1	0.4	0.8	98.7	84.7	1.1	99.3	673	22
RAY CARROLL CO-CARROLLTON, RICHMOND, MO										
MK MINERALS INC., ST. GEORGE, KS										
Lab #0023	02-02-00	0.0	0.2	1.0	98.8	82.0	1.3	99.5	652	26
REIDLINGER LIME & GRAVEL, CONCEPTION JUNCTION, MO										
MARTIN MARIETTA AGGREGATES-BARNARD, BARNARD, MO										
Lab #0042	02-03-00	3.9	45.8	9.3	41.0	76.9	1.3	58.0	357	15
SCHAEPERKOETTER STORE, MT STERLING, MO										
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO										
Lab #0075	02-11-00	6.7	48.7	12.1	32.5	93.2	0.2	51.9	387	2
S & N SCHMIDT, LESLIE, MO										
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
Lab #0510	04-25-00	1.0	40.4	12.8	45.8	96.5	2.7	63.6	491	34
S & S BEGGS LIME SERVICE-JACKSON, JACKSON, MO										
VULCAN MATERIALS, JONESBORO, IL										
Lab #0176	02-24-00	2.0	36.1	13.1	48.8	100.7	0.4	65.7	529	5
SEHLKE TRUCK SERVICE, KEYTESVILLE, MO										
MOBERLY STONE CO, HUNTSVILLE, MO										
Lab #0102	02-15-00	5.7	52.0	9.4	32.9	94.1	0.3	51.5	388	3
SOUTHEAST COOP SERVICE, PUXICO, MO										
RUBLE ROCK & LIME INC, PIEDMONT, MO										
Lab #0448	04-13-00	7.8	14.3	25.3	52.6	101.4	11.7	71.4	579	167
JOE SPALDING, BENTON, MO										
RUBLE ROCK & LIME INC, PIEDMONT, MO										
Lab #0026	02-04-00	7.8	11.0	18.4	62.8	103.3	12.6	76.6	633	193
SPRINGFIELD AGGREGATES SUPPLY, NIXA, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0551	04-26-00	0.1	12.7	14.8	72.4	98.0	0.3	84.5	662	5
SUR-GRO PLANT FOOD, KING CITY, MO										
AMPEL, INC.-WEEPING WATER NE PLANT, DES MOINES, IA										
Lab #0069	02-10-00	0.0	0.0	0.9	99.1	81.9	0.9	99.6	653	18
VEULEMANS ELEVATOR, OTTERVILLE, MO										
FISHER QUARRY, HUGHESVILLE, MO										
Lab #0425	04-25-00	0.0	0.0	0.0	.0	0.0*	0.0	0.0	0	0
WEST CENTRAL AGRISERVICE LLC, BUTLER, MO										
MK MINERALS INC., ST. GEORGE, KS										
Lab #0167	02-22-00	0.0	0.2	1.0	98.8	80.8	1.4	99.5	643	28
WEST CENTRAL AGRISERVICE, LLC, HARRISONVILLE, MO										
MK MINERALS INC., ST. GEORGE, KS										
Lab #0247	03-07-00	0.2	0.1	0.4	99.3	84.7	1.0	99.6	675	20
WEST LIME & FERTILIZER, STEELVILLE, MO										
LEAD BELT MATERIALS CO INC, FLAT RIVER, MO										
Lab #0752	06-02-00	0.0	3.0	8.2	88.8	92.2	11.1	94.5	697	210
WETHINGTON LIME SERVICE, BLOOMFIELD, MO										
RUBLE ROCK & LIME INC, PIEDMONT, MO										
Lab #0179	02-25-00	2.4	13.4	23.8	60.4	99.6	12.1	78.0	622	189

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Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
WHIPPLE, H.L. LIME HAULING, LEBANON, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0166	02-22-00	0.1	9.8	13.7	76.4	99.1	0.2	87.1	690	3
WOODY BOGLER LIME-ROSEBUD, ROSEBUD, MO										
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO										
Lab #0077	02-11-00	7.0	49.7	11.2	32.1	91.8	1.0	51.2	376	10

* Does not meet minimum specification for Agricultural Liming Material.

Why is Fineness of Grind Important in Liming Materials?

J. R. Brown
Emeritus Professor of Soil Fertility
University of Missouri

Agricultural limestone or liming material is used by Missouri farmers and homeowners to eliminate the bad effects of excess soil acidity. The value of liming material in reducing soil acidity depends upon the properties of the liming material as well as field factors such as rate of application, means of incorporation into the soil, and soil characteristics such as kind and amount of clay. Two important measures of the acid neutralizing value of liming material are calcium carbonate equivalent (CCE) and the distribution of particle sizes or fineness of grind. All vendors of liming material sold in Missouri are required by law to provide the buyer quality information based upon CCE and fineness of grind.

Calcium carbonate equivalent expresses the purity of the liming material relative to that of pure CaCO_3 and is determined by measurement of the amount of strong acid neutralized by a known quantity of finely ground liming material. The purity (CCE) does not indicate effectiveness in the field but only that amount of neutralizing ability present in the material. The rules adopted for implementing the Missouri Agricultural Liming Materials Law specify a minimum CCE of 65% (6 CSR 250.10.020(2)).

Liming materials vary in solubility with quick lime (CaO) being very soluble relative to CaCO_3 . Magnesium carbonate (MgCO_3) or materials containing MgCO_3 , such as dolomitic limestone, are even more insoluble (slower to dissolve) than CaCO_3 .

Particle size considerations are included in the lime law to indicate the potential reactivity of the limestone. A minimum of 90% passing the 8-mesh sieve is required by the Missouri lime law [MoRS 266.505 (1)] for the material to be sold as agricultural limestone. Much of the field research done in calibrating limestone applications to plant growth indicated that limestone particles larger than 8-mesh have relatively little effect in changing soil acidity in a 3 to 4 year period (Barber, 1984).

Particle size and solubility determines the rate of reaction of liming materials when placed in acid soil. **Small particle sizes are most effective in neutralizing soil acidity; because, the finer the particles, the more surface area exposed per weight of material.** For example, if one has a 1' x 1' x 1' solid cube of liming material it would have 864 sq. in. of surface area (6 sides times 144 sq. in. per side). Cut that cube into 8 solid cubes each 0.5' x 0.5' x 0.5' doubles the exposed surface area of the material. Finer particles expose more surface area per given weight of limestone.

The particle size distribution of liming material is determined by screening a sample through one or more sieves of varying mesh size. In Missouri, the sieve sizes used are 8-, 40-, and 60-mesh meaning that there are 8, 40, and 60 openings per linear inch. The sieves are nested with the coarsest sieve at the top where the sample is placed. The nest of sieves is covered and a collection pan is placed below the 60-mesh sieve. After shaking the nest of sieves the material held on each screen is weighed and expressed as a percentage of the weight of the entire sample. These percentages are expressed as a value of the effectiveness of each as shown in the table below. The cumulative total of these values makes up the term Fineness Factor.

Screen size	Example Effectiveness	Quantity Weighting	Fineness Factor
Held on the 8-mesh sieve	0%	2%	0
Passed the 8-mesh, held on the 40-mesh	25%	14%	3.5%
Passed the 40-mesh, held on the 60-mesh	60%	34%	20.4%
Passed the 60-mesh	100%	50%	50.0%
Total		100%	73.9%

The weightings placed on the different particle size groups were selected based upon research reports published in literature and extension publications principally from the north central states in the United States. The material included Missouri results. In general, particle size weightings were selected that provided an estimate of the effect of particle size on the neutralizing ability of limestone over a 3 to 4 year period after application [when incorporated](#) into the upper 6 or so inches of soil in crop production fields. A review by Barber (1984) provided much of the availability information and would be a good reference to use to understand the complexity of providing an broad based estimate of the neutralizing ability of agricultural limestones.

Surface area is important in liming material because dissolution of sparingly soluble materials occurs from the particle surface inward. Furthermore, the solution products of liming materials will move away from the liming material particle only a small distance regardless of size of particle (Stevens, 1990). Thus, to counteract reserve soil acidity many small particles in a volume of soil will be more effective than a few larger particles of the same weight per unit of soil. In actual practice there are some negatives to very finely ground materials. First, the added grinding to get very fine particles adds to the cost of the limestone. Also, care must be taken in transporting and spreading dry fine material because wind easily transports finely ground solids and may cause accidents on highways to the field and will result in unequal spreading over the field.

The purity factor (CCE) and the fineness factor are combined to provide an index of the quality of a given sample of agricultural liming material and are reported in Missouri as Effective Neutralizing Material per ton (ENM/ton). In the fineness sample given above the total fineness factor was 73.9% which is the estimate of the fraction of neutralizing ability of the example limestone that will be effective over a 3 to 4 year period. If we assume that the CCE of the example is 92% the calculation of the ENM/ton is

$$\text{ENM/ton} = 0.92 \times 0.739 \times 800 = 544.$$

Note: the 800 in the equation is the pounds of calcium in 1 ton (2,000 pounds) of pure CaCO_3 .

One of the earliest guides to proper liming of acid soils was to mix the liming materials with the soil months ahead of planting an acid intolerant crop to allow acid neutralization to occur. The finer portion of the liming material (<60-mesh) would be expected to fully dissolve in a few weeks when mixed with acid soil. The larger particle sizes would provide staying power; that is, they would continue to dissolve over time to maintain the target level of acidity for 3 to 4 years. Now that minimum tillage is widely used the rates of limestone likely need to be reduced and the frequency of application increased. This would be especially true if fertilizers are surface applied and not incorporated to plow depth (6 to 8 inches).

At this writing the lime requirements based upon Missouri soil tests are reported in terms of ENM per acre and assume application and incorporation of agricultural lime into a plow layer of 6 to 7 inches. Adjustments to this base value are needed for reduced tillage in crop production and pasture and meadow forage programs. Use of liming materials completely passing a 60-mesh sieve requires more frequent testing for soil acidity buildup because there are no larger particles of liming material to counteract slow acidity build up from acidic precipitation, crop removal and fertilization. Also, increasing the soil pH above 7.0 is undesirable as nutrient availability and herbicide effectiveness may be adversely affected.

In conclusion, agronomists recognize that for most quarry operators aggregate is the product of interest and agricultural limestone is, at best, a sideline and, at worst, a waste product. However, particle size of liming materials is important in Missouri agriculture. Crop production is an acidifying activity which accelerates the natural tendency of soils to become more acid in humid regions. Good liming practices are based upon proper weighting of both fine (<60-mesh) and coarser (8 to 60-mesh) agricultural limestone particles to prevent both under- and over-liming soils.

References Cited

Barber, S. A. 1984. Liming materials and practices. Chapter 4 in F. Adams. Soil Acidity and Liming, Second Edition. Agronomy Monograph 12. American Society of Agronomy. Madison, WI.

Stevens, J. J. 1990. Limestone dissolution and pH gradients in soil. Unpublished MS Thesis, Library, University of Missouri, Columbia, MO.



Agricultural Experiment Station
University of Missouri-Columbia

Office of the Director
Agricultural Liming Materials
Control Service

3600 E. New Haven Rd.
Columbia, MO 65211

PHONE (573) 882-4891
(573) 882-3891

TO: AG LIMING MATERIALS PRODUCERS AND DISTRIBUTORS

SUBJECT: PRODUCER PERMITS TO SELL AG LIMING MATERIALS
IN MISSOURI FOR FISCAL YEAR 2000-01.

The following producers have been issued permits to sell ag liming materials in Missouri for the fiscal year ending June 30, 2001. You will be notified when additional permits are issued.

Sales to other registered producers are exempt from inspection fee, but must be reported as a sales transaction semi-annually.

The last producer selling agricultural liming materials to a non-producer is responsible for paying the tonnage inspection fee to the Director of the Missouri Agricultural Experiment Station, Columbia, Missouri (Missouri Agricultural Liming Materials Law 266.500 to 266.550).

0010	76 QUARRY	1726 QUARRY ROAD	MANSFIELD, MO 65704
0020	ALBY QUARRY	P.O. BOX 206	CARLINVILLE, IL 62626
0040	ALLEN QUARRIES INC	PO BOX A	LOCKWOOD, MO 65682
0050	AMPEL, INC.-HARVEY IOWA PLANT	P.O. BOX 3628	DES MOINES, IA 50322
0060	AMPEL, INC.-WEEPING WATER NE PLANT	P.O. BOX 3628	DES MOINES, IA 50322
0070	APAC-MISSOURI, INC.	P.O. BOX 1117	COLUMBIA, MO 65205-1117
0080	APAC-MISSOURI, INC. - LINN CREEK	ROUTE 1 BOX 104	LINN CREEK, MO 65052
0090	APAC-MISSOURI, INC. - COLUMBIA	P.O. BOX 1117, 6791 HWY VV	COLUMBIA, MO 65205-1117
0100	APAC MO INC CENTRAL COMPANIES DYL	PO BOX 909	OSAGE BEACH, MO 65065
0110	APAC MISSOURI CENTRAL COMPANIES	PO BOX 909	OSAGE BEACH, MO 65065
0120	APAC-MISSOURI INC. - ROARK CREEK	PO BOX 1117	COLUMBIA, MO 65205-1117
0130	ARKANSAS LIME COMPANY, INC.	P O BOX 2356	BATESVILLE, AR 72503
0140	ASC MINERALS PROCESSING	1 YATES STREET - BOX 157	ALLERTON, IL 61810
0160	ASH GROVE AGGREGATES INC-APPLETON	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0170	ASH GROVE AGGREGATES INC-BUTLER	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0180	ASH GROVE AGGREGATES INC-RICHHILL	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0190	ASH GROVE AGGREGATES INC-LACYGNE	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0200	ASH GROVE AGGREGATES INC-MARSHFIELD	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0210	ASH GROVE AGGREGATES INC-MONTEVALLO	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0220	ASH GROVE AGGREGATES INC-OSCEOLA	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0230	ASH GROVE AGGREGATES INC-FT SCOTT	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0240	ASH GROVE AGGREGATES INC.-STOCKTON	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0250	ASH GROVE AGGREGATES INC-WHEATLAND	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0260	ASH GROVE AGGREGATES INC-FT SCOTT E	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0270	ASH GROVE AGGREGATES INC-BOLIVAR	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0290	ASH GROVE AGGREGATES INC-BUFFALO	HWY 52 WEST-BOX 70	BUTLER, MO 64730
0300	ASHGROVE CEMENT COMPANY	3825 S. LONE PINE	SPRINGFIELD, MO 65804
0310	AUXVASSE STONE & GRAVEL CO	P O BOX 128	AUXVASSE, MO 65231
0330	BAILEY QUARRIES INC-CHESAPEAKE Q.	22699 HWY 174	MT VERNON, MO 65712
0350	BAILEY QUARRIES INC-JANE	ROUTE #1-BOX 1043	JANE, MO 64856

0360	BAILEY QUARRIES, INC.-MADRY QUARRY	RT. #1 BOX 96AA	VERONA, MO 65769
0370	BAILEY QUARRIES INC.-SPENCER	18689 LAWRENCE 2059	MILLER, MO 65705
0380	BAILEY QUARRIES INC-STOCKTON	ROUTE 4-BOX 29-B	STOCKTON, MO 65785
0390	BARBER & SONS AGGREGATES	11400 S 7 HWY	LEE'S SUMMIT, MO 64063
0395	BASE ROCK MINERALS	21471 HWY 32	STE GENEVIEVE, MO 63670
0400	BENTLEY TRUCKING, INC.	504 SHAMROCK	CLARENCE, MO 63437
0410	BEYER CRUSHED ROCK COMPANY	4600 EAST STATE ROUTE Y	CLEVELAND, MO 64734
0420	BLEVINS ASPHALT CO	P O BOX 230	MT VERNON, MO 65712
0430	BLUFF CITY MINERALS CO.	P.O. BOX 2247	ALTON, IL 62002
0440	BOONE QUARRIES INC	2604 N. STADIUM BLVD.	COLUMBIA, MO 65202
0450	BUSSEN QUARRIES INC-EUREKA/ANTIRE	6800 BUSSEN RD	EUREKA, MO 63025
0460	CALCIUM PRODUCTS, INC.	P.O. BOX 281	GILMORE CITY, IA 50541
0470	CAPITAL QUARRIES INC-HOLTS SUMMIT 1	PO BOX 534	JEFFERSON CITY, MO 65109
0480	CAPITAL QUARRIES, INC-STADIUM WEST	822 W STADIUM BLVD. PO BOX 534	JEFFERSON CITY, MO 65109
0490	CAPITAL QUARRIES INC-ROLLA Q #4	822 W STADIUM BLVD, PO BOX 534	JEFFERSON CITY, MO 65109
0500	CAPITAL QUARRIES CO. INC-HWY Y	822 W STADIUM BLVD, PO BOX 534	JEFFERSON CITY, MO 65109
0510	CAPITAL QUARRIES INC-CALIFORNIA Q#5	822 W STADIUM BLVD, PO BOX 534	JEFFERSON CITY, MO 65109
0520	CAPITAL QUARRIES CO., INC-LINN	822 W STADIUM BLVD, PO BOX 534	JEFFERSON CITY, MO 65109
0530	CAPITAL QUARRIES INC-HWY 63 N Q #10	PO BOX 534	JEFFERSON CITY, MO 65109
0540	CAPITAL QUARRIES INC-SULLIVAN	P.O. BOX 534	JEFFERSON CITY, MO 65109
0550	CARROLL COUNTY STONE, INC.	PO BOX 169	BERRYVILLE, AR 72616
0560	CARTHAGE CRUSHED LIMESTONE	1331 CIVIL WAR ROAD, P.O. BOX 718	CARTHAGE, MO 64836
0570	CENTRAL STONE COMPANY - HUNTINGTON	46445 SWEETBAY LANE	HANNIBAL, MO 63401
0580	CENTRAL STONE COMPANY - BETHEL	BOX 77	BETHEL, MO 63434-0077
0585	CENTRAL STONE CO - FORT BELLE	14200 LEWIS & CLARK	FLORISSANT, MO 63034
0590	CENTRAL STONE COMPANY - GREENSBURG	46445 SWEETBAY LANE	HANNIBAL, MO 63401-7211
0600	CENTRAL STONE COMPANY - PARIS	16527 HWY 15	PARIS, MO 65275
0610	CENTRAL STONE COMPANY - NEW LONDON	56741 QUARRY LANE	NEW LONDON, MO 63459
0620	CENTRAL STONE COMPANY - CURRYVILLE	15435 PIKE 27	CURRYVILLE, MO 63339
0630	CENTRAL STONE COMPANY - PERRY	46445 SWEETBAY LANE	HANNIBAL, MO 63401-7211
0640	CENTRAL STONE COMPANY - EWING	RR2 BOX 29 A	EWING, MO 63440
0650	CENTRAL STONE COMPANY - TAYLOR	7040 COUNTY RD 344	TAYLOR, MO 63471-0095
0660	CLEVER STONE CO	1075 WISE HILL RD	CLEVER, MO 65631
0680	COLONIAL LIMESTONE INC-PRINCETON	370 N STATE ST.	MILAN, MO 63556
0700	CONCO QUARRIES INC Q US 160	P.O. BOX 172	WILLARD, MO 65781
0710	COUNTY LINE QUARRY	58 BETHEL CHURCH RD	WELLSVILLE, MO 63384
0720	CRAWFORD LIME & MATERIAL CO	63 WEBER RD	CUBA, MO 65453
0730	CRIDER BROTHERS LIME CO	PO BOX 35	EMINENCE, MO 65466
0740	CRIDER BROS LIME CO. INC.-VAN BUREN	P.O. BOX 35	EMINENCE, MO 65466
0750	DOSS & HARPER STONE CO.	PO BOX 126	HOUSTON, MO 65483
0760	DOSS & HARPER STONE CO	P O BOX 888	WEST PLAINS, MO 65775
0770	EVERETT QUARRIES #1-LATHROP	PO BOX 276	PLATTSBURG, MO 64477
0780	EVERETT QUARRIES #6-KING	PO BOX 276	PLATTSBURG, MO 64477
0790	EVERETT QUARRIES #53-CAMERON	PO BOX 276	PLATTSBURG, MO 64477
0800	EVERETT QUARRIES #54-GOWER	PO BOX 276	PLATTSBURG, MO 64477
0810	EVERETT QUARRIES #57	PO BOX 276	PLATTSBURG, MO 64477
0820	EVERETT QUARRIES #59-STANBERRY	P.O. BOX 276	PLATTSBURG, MO 64477
0830	FALL VALLEY STONE, INC.	P.O. BOX 287	MT VERNON, MO 65712
0840	FISHER QUARRY	21427 MITTELHAUSER RD	HUGHESVILLE, MO 65334
0850	FULLERTON STONE COMPANY INC	P O BOX 20	GRANBY, MO 64844-0020
0860	GABEL STONE COMPANY INC.	2092 COUNTY RD 5900	WILLOW SPRINGS, MO 65793
0870	GLASGOW QUARRIES INC	821 CO RD 317	GLASGOW, MO 65254
0880	GLASGOW QUARRIES-GILLIAM	ROUTE 1-BOX 107	GILLIAM, MO 65330
0890	GLASGOW QUARRIES - MARCELINE	ROUTE 2	MARCELINE, MO 64658
0950	HALL & RILEY QUARRIES & CONST CO	1941 BOONE VILLA PLAZA DR	BOONVILLE, MO 65233
0960	HALL & RILEY QUARRIES & CONST CO	ROUTE 1	MARSHALL, MO 65340
0970	HART LIME STONE	P O BOX 942	FARMINGTON, MO 63640
0980	HILTY QUARRIES, INC. - QUARLES	PO BOX 407	CLINTON, MO 64735
0990	HILTY QUARRIES, INC. - MONTROSE	PO BOX 407	CLINTON, MO 64735
0995	HILTY QUARRIES, INC. - MT. ZION	PO BOX 407	CLINTON, MO 64735
1000	HILTY QUARRIES, INC- SOUTH-DELL JCT	PO BOX 407	CLINTON, MO 64735
1010	HILTY QUARRIES, INC - TIGHTWAD	PO BOX 407	CLINTON, MO 64735
1020	HILTY QUARRIES, INC. - URICH	PO BOX 407	CLINTON, MO 64735
1030	HILTY QUARRIES INC.-WARRENSBURG	P.O. BOX 407	CLINTON, MO 64735
1035	HUNT MIDWEST MINING-BLUE MOUND	24072 HWY Z	DAWN, MO 64638
1054	HUNT MIDWEST MINING - EE QUARRY	9596 EE HWY	RICHMOND, MO 64085
1055	HUNT MIDWEST MINING - HWY 10 QUARRY	35932 HWY 10	RAYVILLE, MO 64084
1065	HUNT MIDWEST QUARRY - STET QUARRY	46134 HWY K	RICHMOND, MO 64085
1070	HUNT MIDWEST MINING, INC.-MVILLE	8300 NE UNDERGROUND DR	KANSAS CITY, MO 64161
1090	HUTCHENS CONSTRUCTION-PURDY	600 MILL STREET-BOX 485	CASSVILLE, MO 65625
1100	HUTCHENS CONSTRUCTION-EAGLE ROCK	600 MILL STREET-BOX 485	CASSVILLE, MO 65625

1110	HUTCHENS CONSTRUCTION-WASHBURN	600 MILL STREET	CASSVILLE, MO 65625
1120	IDEKER INC. - NEW POINT QUARRY	4614 SOUTH 4TH-BOX 7140	ST JOSEPH, MO 64507
1130	IDEKER INC. - AMAZONIA	PO BOX 7140	ST JOSEPH, MO 64503
1160	INLAND RIVERS AGGREGATE CO	19114 INGERSOLL LN	NEOSHO, MO 64850
1190	IOWA LIMESTONE CO-WEEPING WATER NE	36320 FLETCHER AVE	WEEPING WATER, NE 68463
1200	IOWA MINERAL PROCESSING, INC.	780 RIVER ROAD-P.O. BOX 33	ALDEN, IA 50006
1210	JENKINS QUARRY	601 WEST 14TH ST	CASSVILLE, MO 65625
1225	LEO JOURNAGAN CONST CO-GAINESVILLE	3003 E CHESTNUT EXPWY, STE 1200	SPRINGFIELD, MO 65802
1230	LEO JOURNAGAN CONST CO-HOLLISTER SO	3003 E. CHESTNUT SUITE 1200	SPRINGFIELD, MO 64802
1250	LEO JOURNAGAN CONST CO INC-OZARK	3003 E CHESTNUT EXPRESSWAY	SPRINGFIELD, MO 65802
1260	LEO JOURNAGAN CONST CO INC-AVA	3003 EAST CHESTNUT EXPY	SPRINGFIELD, MO 65802
1270	LEO JOURNAGAN CONST. - SHELL KNOB	PO BOX 468	SHELL KNOB, MO 65747
1280	JOPLIN STONE CO Q DUENWEG	4378 COUNTY RD 190	JOPLIN, MO 64801
1290	KELLY LIME & ROCK CO., INC.	PO BOX 725	KIRKSVILLE, MO 63501
1300	KELLEY QUARRY	19695 N HWY 133	CROCKER, MO 65452
1310	KERFORD LIMESTONE CO	PO BOX 449	WEEPING WATER, NE 68463
1320	KEYSTONE QUARRY	435 SE 13 HWY	WARRENSBURG, MO 64093
1340	KNOX COUNTY STONE CO	PO BOX 39	EDINA, MO 63537-0039
1370	L & W QUARRIES INC.	P.O. BOX 48	KAHOKA, MO 63445
1390	LAFARGE CORPORATION	22600 SNOW ROAD, P.O. BOX 1232	SEDALIA, MO 65302-1232
1400	LAFARGE CORPORATION	P.O. BOX 1232	SEDALIA, MO 65302-1232
1410	LAFARGE CONSTRUCTION MATERIALS	2115 S. RIVER RD	ST CHARLES, MO 63303
1420	LAFARGE CONSTRUCTION MATERIALS	613 QUARRY ROAD	WARRENTON, MO 63383
1430	LEAD BELT MATERIALS CO INC	PO BOX 607	FLAT RIVER, MO 63601
1440	LILE QUARRY INC.	2868 N. FR 231	STRAFFORD, MO 65757
1450	LIMPUS QUARRIES, INC. (BATES CITY)	1317 HWY Z	BATES CITY, MO 64011
1460	LIMPUS QUARRIES, INC. (GARDEN CITY)	PO BOX 40	HARRISONVILLE, MO 64701
1470	LIMPUS QUARRIES, INC. (GALLATIN)	P.O. BOX 40	HARRISONVILLE, MO 64701
1480	LIMPUS QUARRIES, INC. (HARRISONVILLE)	P.O. BOX 40	HARRISONVILLE, MO 64701
1490	LIMPUS QUARRIES, INC. (HOLDEN)	1314 SE 125	HOLDEN, MO 64040
1500	MAGRUDER LIMESTONE CO-ASHLEY	13614 PIKE 496	BOWLING GREEN, MO 63334
1510	MAGRUDER LIMESTONE CO, INC.-BOWLING	13614 PIKE 496	BOWLING GREEN, MO 63334
1520	MAGRUDER LIMESTONE CO-FRANKFORD	13614 PIKE 496	BOWLING GREEN, MO 63334
1530	MAGRUDER LIMESTONE - SILEX QUARRY	255 WATSON RD	TROY, MO 63379
1540	MAGRUDER LIMESTONE CO Q TROY	255 WATSON ROAD	TROY, MO 63379
1550	MANSFIELD LIME & STONE	1726 QUARRY ROAD	MANSFIELD, MO 65704
1570	MARTIN MARIETTA AGGREGATES-BARNHART	521 QUARRY LN	PERRYVILLE, MO 63775
1600	MARTIN MARIETTA AGGREGATES-JEFFRIES	RR 1	DAVIS CITY, IA 50065
1610	MARTIN MARIETTA AGGREGATES-MERCER	ROUTE 1 BOX 222	MERCER, MO 64461
1620	MARTIN MARIETTA MATERIALS-WATTERSON	RR 3, BOX 100A	MT AYR, IA 50854
1630	MARTIN MARIETTA AGGREGATES-GOODEN	38139 230TH STREET, P O BOX 188	RAVENWOOD, MO 64479
1640	MARTIN MARIETTA AGG - APPLETON	521 QUARRY LN	PERRYVILLE, MO 63775
1650	MARTIN MARIETTA AGGREGATES-BARNARD	36714 JET ROAD	BARNARD, MO 64423
1660	MARTIN MARIETTA AGGREGATES-BETHANY	29365 OUTER ROAD, P O BOX 116A	BETHANY, MO 64424
1670	MARTIN MARIETTA AGGREGATES - BREIT	16298 HWY 71, P.O. BOX 269	SAVANNAH, MO 64485
1680	MARTIN MARIETTA AGGREGATES-GALLATIN	21901 STATE HWY 13, P O BOX 93	GALLATIN, MO 64640
1690	MARTIN MARIETTA-GREENWOOD	15719 S AIRPORT ROAD, P O BOX 292	GREENWOOD, MO 64034
1700	MARTIN MARIETTA AGGREGATES-MAITLAND	34635 HOLT 190, P O BOX 269	SAVANNAH, MO 64485
1710	MARTIN MARIETTA	P.O. BOX 225	PATTONSBURG, MO 64670
1720	MARTIN MARIETTA MATERIALS-PECULIAR	7410 E STATE ROUTE YY	PECULIAR, MO 64078
1730	MARTIN MARIETTA AGG-PERRYVILLE	521 QUARRY LANE	PERRYVILLE, MO 63775
1740	MARTIN MARIETTA AGGREGATE-PRINCETON	RR 1 BOX 122	MERCER, MO 64661-9720
1760	MARTIN MARIETTA AGGREGATES- TRENTON	RR4 HWY 6 W	TRENTON, MO 64683
1770	MARTIN MARIETTA AGGREGATES INC	15601 WEEPING WATER ROAD, POB 448	WEEPING WATER, NE 68463
1780	MERTENS CONST CO-AUXVASSE	P O BOX 52	KINGDOM CITY, MO 65262
1790	MERTENS CONST CO-Q-REFORM	PO BOX 52	KINGDOM CITY, MO 65262
1800	MFA INC	201 RAY YOUNG DR	COLUMBIA, MO 65201-3599
1810	MID-MISSOURI LIMESTONE INC-MBQ	P O BOX 52	KINGDOM CITY, MO 65262
1830	MID-MISSOURI LIMESTONE-RIGGS	PO BOX 52	KINGDOM CITY, MO 65262
1840	MIDWEST MINERALS INC	ROUTE 1-BOX 39B	JASPER, MO 64755
1860	MISSISSIPPI LIME COMPANY	PO DRAWER 31	STE GENEVIEVE, MO 63670
1880	MISSOURI LIME AND MATERIAL CO., INC	6800 BUSSEN RD-BOX 507	EUREKA, MO 63025
1890	MISSOURI VALLEY MATERIALS	200 W. 12TH ST	WASHINGTON, MO 63090
1900	MK MINERALS INC.	6105 FLUSH RD	ST. GEORGE, KS 66535
1920	MORRIS ROCK	RR#1-BOX 47A	DERFIELD, MO 64741
1930	MOUNTAIN GROVE QUARRY	2504 LIMESTONE DR	MOUNTAIN GROVE, MO 65711
1940	MUENKS BROS. QUARRY	ROUTE 1-BOX 163	LOOSE CREEK, MO 65054
1950	NEMO SAND & GRAVEL, QUARRY	RT 2-BOX 2471	HERMITAGE, MO 65668
1960	NORRIS AGGREGATE PRODUCTS CO - EAST	PO BOX 582	MOBERLY, MO 65270
1970	NORRIS AGGREGATE PRODUCTS CO - WEST	PO BOX 582	MOBERLY, MO 65270
1990	NUTRI-JECT SYSTEMS INC.	P.O. BOX 398	HUBSON, IA 50643

2000	LEO O'LAUGHLIN INC	RR #3	SHELBINA, MO 63468
2030	PACE CONSTRUCTION CO.-DANVILLE QUAR	12 TREE FARM ROAD	MONTGOMERY CITY, MO 63361
2040	PHENIX ROCK	12940 W FARM ROAD 34	ASH GROVE, MO 65604
2060	PRESTAGE QUARRIES INC	P O BOX 787	TIPTON, MO 65081
2090	R-B QUARRY #2 - FOLEY	115 WELCH-BOX 74	ELSBERRY, MO 63343
2100	ROCK QUARRIES, LLC	10876 STRAIN DRIVE, PO BOX 620	MOUNTAIN GROVE, MO 65711
2120	RUBLE ROCK & LIME INC	422 SOUTH MAIN	PIEDMONT, MO 63957
2130	S & A CONSTRUCTION LTD	P.O. BOX 20	ALLENDALE, MO 64420
2160	SCHILDBERG CONST. CO.-BEDFORD Q.	P O BOX 358	GREENFIELD, IA 50849
2170	SCHILDBERG CONST. CO.-GRAHAM MO Q	P O BOX 358	GREENFIELD, IA 50849
2180	SCHILDBERG CONST. CO.-SHAMBAUGH Q	P.O. BOX 358	GREENFIELD, IA 50849
2190	SCHILDBERG CONST. CO.-THURMAN	P.O. BOX 358	GREENFIELD, IA 50849
2210	ROBERT SERVAES QUARRY & CONST	8551 S.W. STATE RT 116	RUSHVILLE, MO 64484
2230	SOUTHWEST QUARRY & MATERIAL INC	13073 STATE RT CC	ROLLA, MO 65401
2240	SOUTHDOWN, INC.	1506 PARKSIDE DRIVE	COLUMBIA, MO 65202
2260	SPRINGFIELD UNDERGROUND, INC.	P.O. BOX 2240	SPRINGFIELD, MO 65801
2270	S-S-S INC	HWY 79 S-BOX 474	LOUISIANA, MO 63353
2280	STANPHILL STONE	PO BOX 123	PIERCE CITY, MO 65723
2300	T & M STONE LLC	RT 2 530 E 460TH RD	FAIR PLAY, MO 65649
2310	TAYLOR QUARRIES	RT 3 BOX 200	LOCKWOOD, MO 65682-9538
2320	TENNESSEE VALLEY RESOURCES, INC	P.O. BOX 617	JEFFERSON CITY, TN 37760
2330	TOWER ROCK STONE CO	ROUTE 2	SCOTT CITY, MO 63780
2340	TOWER ROCK STONE CO	ROUTE 2-LOWER FRENCHMAN RD-BOX 111	STE GENEVIEVE, MO 63670
2360	TRAGER LIMESTONE	6468 HWY Y	CHILLICOTHE, MO 64601
2370	TWIN LAKES QUARRIES INC	PO BOX 705	MOUNTAIN HOME, AR 72653
2390	UNITED SUPPLIERS	PO BOX 538	ELDORA, IA 50627
2400	VULCAN MATERIALS	BOX AA, 1725 JONESBORO QUARRY RD	JONESBORO, IL 62952
2410	WADE AG PRODUCTS-MAIN OFC	PO BOX 38	LACYGNE, KS 66040
2420	WADE AG PRODUCTS Q BUTLER MO	PO BOX 38	LACYGNE, KS 66040
2430	WADE AG PRODUCTS Q DREXEL	P O BOX 38	LACYGNE, KS 66040
2440	WADE AG PRODUCTS Q PLEASANTON	P.O. BOX 38	LACYGNE, KS 66040
2450	FRED WEBER INC.-AUBURN QUARRY	3903 HWY B	ELSBERRY, MO 63343
2460	FRED WEBER, INC - FOLEY QUARRY	765 N HWY 79	FOLEY, MO 63347
2480	FRED WEBER INC-NORTH QUARRY	2320 CREVE COEUR MILL RD-BOX 2501	MARYLAND HEIGHTS, MO 63043
2490	FRED WEBER, INC. - TROY QUARRY	2060 MYERS ROAD	TROY, MO 63379
2500	WEST LIMESTONE QUARRY	HWY 21 SOUTH- PO BOX 25	ARCADIA, MO 63621

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Agricultural Liming Materials
Control Services
University of Missouri-Columbia
Columbia, MO 65211-8080

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