

**Missouri
Agricultural Liming
Materials Report**

July 1 to December 31, 2017

Agricultural Experiment Station

University of Missouri-Columbia

This bulletin is a detailed report of official samples obtained under the Missouri Agricultural Liming Materials Law collected from July 1 through December 31, 2017. There were 831 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-two deficient samples are reported, 19 were for excessive coarseness, 3 were for low CCE. There were four "stop sale" orders issued against producer stockpiles for excessive coarseness. There were three Stop Sale Orders released. There were no deficient samples reported at any distributor retail stockpile locations.

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

**MISSOURI AGRICULTURAL LIMING MATERIALS TONNAGE
REPORTED SINCE AUGUST 13, 1976**

YEAR	SPRING	FALL	TOTAL
1976	-----	2,514,500	-----
1977	1,590,700	1,166,600	2,757,300
1978	1,116,100	2,546,250	3,662,350
1979	975,300	3,068,900	4,044,200
1980	1,431,000	2,266,900	3,697,900
1981	1,336,750	1,228,350	2,565,100
1982	825,100	1,029,000	1,854,100
1983	872,700	1,154,700	2,027,400
1984	595,725	899,459	1,495,185
1985	611,050	783,575	1,394,625
1986	967,375	646,115	1,613,490
1987	1,104,358	1,558,171	2,662,529
1988	1,036,917	1,605,444	2,642,361
1989	939,831	1,586,398	2,526,229
1990	504,100	1,204,551	1,708,651
1991	646,864	835,603	1,482,467
1992	859,648	771,536	1,631,184
1993	397,607	686,345	1,083,952
1994	681,464	967,450	1,648,914
1995	720,140	1,207,663	1,927,803
1996	704,151	886,627	1,590,778
1997	779,876	1,063,760	1,843,636
1998	626,186	1,048,308	1,674,494
1999	606,847	1,557,259	2,164,106
2000	886,861	996,123	1,882,984
2001	512,964	1,311,614	1,824,578
2002	696,473	1,079,130	1,775,603
2003	596,438	829,574	1,426,012
2004	629,642	748,503	1,378,145
2005	667,212	659,215	1,326,427
2006	839,305	774,665	1,613,969
2007	481,973	1,085,571	1,567,544
2008	373,490	727,861	1,101,351
2009	681,600	583,025	1,264,626
2010	446,530	1,321,861	1,768,392
2011	377,505	1,092,184	1,469,689
2012	748,274	1,962,906	2,711,180
2013	387,007	919,294	1,306,301
2014	572,329	862,113	1,434,442
2015	588,692	901,514	1,490,206
2016	576,550	946,051	1,522,601
2017	712,663	1,170,857	1,883,520

* PRELIMINARY ESTIMATE

TABLE 1
AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JULY 1 THROUGH DECEMBER 31, 2017

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										
AA QUARRY, PLEASANT HILL, MO										
Stockpile #2										
Lab #0945	08-07-17	1.0	46.7	9.3	43.0	91.1	0.4	60.3	439	5
Lab #1139	09-22-17	2.2	58.9	8.0	30.9	91.7	0.5	50.4	370	5
Lab #1340	11-14-17	1.9	51.1	9.5	37.5	89.8	0.5	56.0	402	6
ALLEN QUARRIES INC, LOCKWOOD, MO										
Stockpile #3										
Lab #0962	08-07-17	0.4	49.0	13.5	37.1	86.5	0.1	57.5	398	1
ANCHOR STONE, PINEVILLE, MO										
Stockpile #1										
Lab #0988	08-07-17	0.2	39.1	9.7	51.0	90.8	11.1	66.6	484	148
Lab #1172	09-25-17	0.3	46.4	10.9	42.4	91.0	11.2	60.5	441	136
ANCHOR STONE CO, JOPLIN, MO										
APAC-CENTRAL INC.-N.HARRISON QUARRY, FAYETTEVILLE, AR										
Stockpile #1										
Lab #0985	08-10-17	2.8	51.3	13.3	32.6	93.9	0.6	53.4	401	6
Lab #1368	11-20-17	3.7	50.9	12.7	32.7	92.3	0.2	53.0	392	2
APAC-CENTRAL INC. -VALLEY SPRINGS, FAYETEVILLE, AR										
Stockpile #1										
Lab #0986	08-10-17	1.6	48.0	12.6	37.8	95.1	0.2	57.4	436	2
Lab #1367	11-20-17	0.7	45.8	13.4	40.1	94.9	0.1	59.6	452	1
APAC - BRICKEY'S STONE, BLOOMSDALE, MO										
Stockpile #1										
Lab #0928	08-07-17	6.8	42.3	10.3	40.6	98.4	0.7	57.4	451	8
Lab #1050	09-13-17	6.4	41.7	11.3	40.6	97.7	0.7	57.8	452	8
Lab #1273	10-30-17	5.3	41.3	10.7	42.7	97.9	0.7	59.4	466	8
Lab #1403	11-28-17	5.0	42.8	10.9	41.3	97.8	0.6	58.5	458	7
APAC-CENTRAL, INC. - BUSIEK, FAYETTEVILLE, AR										
Stockpile #1										
Lab #0976	08-08-17	4.2	43.8	8.0	44.0	86.8	10.5	59.8	415	125
Lab #1164	09-28-17	5.2	46.4	7.7	40.7	88.7	10.9	56.9	404	124
APAC-CENTRAL INC. - ROARK CREEK, FAYETTEVILLE, AR										
Stockpile #1										
Lab #0979	08-08-17	2.6	49.9	8.3	39.2	94.7	11.5	56.7	429	130
Lab #1167	09-28-17	3.4	51.3	8.7	36.6	95.8	11.7	54.6	419	128
ARKANSAS LIME COMPANY, INC., BATESVILLE, AR										
ASH GROVE AGGREGATES-DEEPWATER, BUTLER, MO										
Stockpile #1										
Lab #0849	08-03-17	1.0	47.1	11.5	40.4	84.4	1.1	59.1	399	13
Lab #1128	09-20-17	1.2	47.8	11.3	39.7	88.4	0.7	58.4	413	8
Lab #1291	10-31-17	1.4	50.0	9.6	39.0	82.2	3.8	57.3	377	44
Lab #1365	11-22-17	0.4	50.0	11.1	38.5	85.7	0.7	57.7	395	8
ASH GROVES AGGREGATES-ELDORADO SPRI, BUTLER, MO										
Stockpile #1										
Lab #0852	08-01-17	0.6	47.1	13.7	38.6	96.2	0.2	58.6	451	2
Lab #1120	09-19-17	0.7	48.4	14.1	36.8	88.5	2.6	57.4	406	30
Lab #1332	11-07-17	0.9	47.4	13.1	38.6	93.3	0.6	58.3	435	7
ASH GROVE AGGREGATES-FAIR GROVE, BUTLER, MO										
Stockpile #2										
Lab #1162	09-27-17	2.2	53.4	8.1	36.3	89.9	11.0	54.5	392	120
Lab #1323	11-06-17	1.6	48.2	7.6	42.6	91.5	11.4	59.2	433	135
ASH GROVE AGGREGATES-FAIR PLAY, BUTLER, MO										
Stockpile #2										
Lab #0854	08-02-17	0.2	46.5	14.5	38.8	94.8	0.3	59.1	448	4
Lab #1121	09-18-17	0.2	47.8	13.1	38.9	89.3	1.3	58.7	419	15
Lab #1362	11-20-17	0.2	45.8	15.1	38.9	92.0	0.3	59.4	437	4
ASH GROVE AGGREGATES INC-S&K, BUTLER, MO										
Stockpile #2										
Lab #0834	08-01-17	1.9	44.3	13.1	40.7	83.3	0.6	59.6	397	7
Lab #1113	09-18-17	1.2	43.1	12.2	43.5	80.9	0.7	61.6	399	9
Lab #1268	10-26-17	0.5	43.4	13.0	43.1	80.8	0.6	61.8	399	7
ASH GROVE AGGREGATES INC-LACYGNE, BUTLER, MO										
Stockpile #1										
Lab #0835	08-01-17	0.4	41.2	9.5	48.9	82.2	1.4	64.9	427	18
Lab #1114	09-18-17	1.3	39.9	8.6	50.2	79.3	1.3	65.3	414	17
Lab #1269	10-26-17	0.4	41.8	9.7	48.1	78.7	1.4	64.4	405	18
Stockpile #2										
Lab #0836	08-01-17	6.7	50.8	9.1	33.4	86.8	0.5	51.6	358	5
Lab #1115	09-18-17	5.0	41.2	8.5	45.3	80.9	1.4	60.7	393	17

TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2017

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-LACYGNE, BUTLER, MO (Continued)										
Stockpile #2										
Lab #1270	10-26-17	8.0	44.3	7.8	39.9	84.2	1.5	55.7	375	17
ASH GROVE AGGREGATES INC-MARSHFIELD, BUTLER, MO										
ASH GROVE AGGREGATES INC-OSCEOLA, BUTLER, MO										
Stockpile #1										
Lab #0853	08-02-17	5.5	46.7	12.6	35.2	93.8	1.2	54.4	408	13
Lab #1127	09-19-17	3.1	49.3	12.0	35.6	92.3	1.5	55.1	407	17
Lab #1288	10-30-17	2.7	44.0	10.5	42.8	74.8	0.2	60.1	360	2
Lab #1363	11-20-17	2.5	45.4	11.2	40.9	81.6	0.5	59.0	391	6
Lab #0226	04-01-25	0.9	35.9	16.2	47.0	79.8	0.1	65.7	419	1
ASH GROVE AGGREGATES INC-WHEATLAND, BUTLER, MO										
Stockpile #2										
Lab #0845	08-03-17	1.6	42.6	13.4	42.4	95.2	0.4	61.1	465	5
Lab #1132	09-20-17	1.9	43.1	13.5	41.5	95.8	0.3	60.4	463	4
Lab #1330	11-06-17	1.1	42.2	14.0	42.7	95.9	0.3	61.7	473	4
ASH GROVE AGGREGATES INC-BUFFALO, BUTLER, MO										
Stockpile #1										
Lab #0840	08-02-17	2.8	38.5	12.2	46.5	84.4	10.9	63.4	428	138
Lab #1123	09-19-17	2.5	39.9	12.2	45.4	85.1	10.6	62.7	427	133
BAILEY QUARRIES INC-CHESAPEAKE Q., REPUBLIC, MO										
Stockpile #1										
Lab #0969	08-08-17	0.7	51.1	8.8	39.4	96.6	11.9	57.5	444	137
Lab #1157	09-27-17	0.9	51.5	9.8	37.8	99.2	12.3	56.6	449	139
BAILEY QUARRIES, INC -EUDORA QUARRY, REPUBLIC, MO										
Stockpile #1										
Lab #0970	08-08-17	0.1	39.1	19.7	41.1	96.1	0.2	62.7	482	3
Lab #1160	09-27-17	0.9	36.9	20.2	42.0	92.9	0.1	63.3	471	1
Stockpile #2										
Lab #0971	08-08-17	0.5	51.2	12.0	36.3	90.2	0.9	56.3	406	10
Lab #1161	09-27-17	1.2	52.4	13.2	33.2	92.0	0.6	54.2	399	7
BAILEY QUARRIES, INC.-MADRY QUARRY, REPUBLIC, MO										
Stockpile #2										
Lab #0966	08-07-17	3.6	55.6	10.3	30.5	84.9	1.6	50.6	344	16
Lab #1170	09-28-17	3.5	56.6	10.9	29.0	85.6	1.3	49.7	340	13
BAILEY QUARRIES - SARCOXIE, REPUBLIC, MO										
Stockpile #1										
Lab #0968	08-08-17	3.5	49.5	11.4	35.6	87.9	0.3	54.8	385	3
Lab #1179	09-25-17	6.2	49.3	12.3	32.2	84.8	0.1	51.9	352	1
BAILEY QUARRIES INC-STOCKTON, REPUBLIC, MO										
Stockpile #1										
Lab #0850	08-01-17	6.8	50.6	13.7	28.9	95.8	0.1	49.8	381	1
Lab #1118	09-18-17	7.8	50.7	12.9	28.6	96.0	0.1	49.0	376	1
Stockpile #2										
Lab #0851	08-01-17	0.7	54.8	12.9	31.6	96.7	0.1	53.0	410	1
Lab #1119	09-18-17	0.6	52.4	14.4	32.6	95.9	0.1	54.3	417	1
Lab #1266	10-24-17	0.3	52.5	12.7	34.5	96.1	0.1	55.2	425	1
BARRETT MATERIALS, INC. - BELLE, NEW HAVEN, MO										
BARRETT MATERIALS INC, NEW HAVEN, MO										
BASE ROCK MINERALS, BONNE TERRE, MO										
Stockpile #2										
Lab #0941	08-07-17	0.3	28.2	18.0	53.5	102.7	12.1	71.4	586	173
Lab #1062	09-13-17	0.1	29.8	18.4	51.7	100.5	12.0	70.2	564	168
Lab #1253	10-23-17	0.2	30.3	18.2	51.3	101.5	12.0	69.8	567	168
Lab #1388	11-28-17	1.1	34.1	16.3	48.5	101.5	11.4	66.8	542	152
Stockpile #3										
Lab #0940	08-07-17	1.7	39.5	13.9	44.9	101.0	11.5	63.1	510	145
BASE ROCK MINREALS, JACKSON, MO										
Stockpile #1										
Lab #0885	08-03-17	0.1	42.2	14.5	43.2	99.7	1.8	62.5	498	22
Lab #0998	08-09-17	0.2	38.6	16.9	44.3	100.1	2.7	64.1	513	35
Lab #1153	09-26-17	0.1	45.2	14.8	39.9	99.0	1.4	60.1	476	17
BUSSEN QUARRIES, INC.-ANTIRE QUARRY, ST LOUIS, MO										
Stockpile #1										
Lab #0926	08-07-17	0.0	0.3	1.2	98.5	99.2	7.1	99.3	788	141
Lab #1068	09-13-17	0.0	0.3	0.6	99.1	96.7	6.7	99.5	770	133
Lab #1229	10-19-17	0.0	0.3	1.0	98.7	97.6	7.0	99.4	776	139
Lab #1398	11-30-17	0.1	0.5	0.9	98.5	95.0	4.5	99.2	754	89
Stockpile #2										
Lab #0925	08-07-17	6.2	42.2	10.1	41.5	95.7	2.7	58.1	445	31

TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2017

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
BUSSEN QUARRIES, INC.-ANTIRE QUARRY, ST LOUIS, MO (Continued)										
Stockpile #2										
Lab #1069	09-13-17	3.9	38.4	10.8	46.9	96.0	3.1	63.0	484	39
Lab #1228	10-19-17	0.5	33.0	13.8	52.7	96.0	1.4	69.2	532	19
Lab #1399	11-30-17	0.8	34.1	11.9	53.2	96.4	3.0	68.9	531	41
Stockpile #3										
Lab #1400	11-30-17	1.8	2.5	0.9	94.8	90.0	2.7	96.0	691	52
CALCIUM PRODUCTS, INC., AMES, IA										
CANE CREEK STONE, POPLAR BLUFF, MO										
Stockpile #1										
Lab #1156	10-04-17	2.7	52.9	12.6	31.8	96.2	11.7	52.6	405	123
CANTERA AGGREGATES INC, CENTERVILLE, IA										
CAPITAL MATERIALS - ADRIAN, JEFFERSON CITY, MO										
CAPITAL MATERIALS - WARSAW, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0846	08-03-17	1.5	46.6	11.8	40.1	95.3	0.6	58.8	449	7
Lab #1131	09-20-17	2.3	47.7	10.7	39.3	94.5	0.5	57.6	436	6
Lab #1294	11-02-17	3.1	46.1	11.1	39.7	93.8	0.7	57.9	434	8
CAPITAL MATERIALS - TIGHTWAD, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0848	08-03-17	3.6	51.2	10.3	34.9	85.6	0.6	53.9	369	6
Lab #1129	09-20-17	3.0	47.7	10.8	38.5	85.0	0.7	56.9	387	8
Lab #1289	10-31-17	10.4*	42.1	9.1	38.4	80.7	1.1	54.4	0	0
Stockpile #2										
Lab #1272	10-27-17	0.3	7.5	12.8	79.4	92.8	1.0	89.0	660	18
Lab #1290	10-31-17	0.4	8.1	12.9	78.6	92.9	1.3	88.4	657	23
Lab #1292	11-02-17	0.2	8.5	12.9	78.4	92.7	0.9	88.3	655	16
Lab #1366	11-22-17	0.6	9.0	13.5	76.9	92.8	1.1	87.3	648	19
CAPITAL MATERIALS LLC - URICH, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0832	07-10-17	4.4	58.6	10.0	27.0	81.4	1.0	47.7	310	10
Lab #0833	08-01-17	4.3	54.4	9.4	31.9	77.2	0.8	51.1	316	8
Lab #1112	09-18-17	7.5	46.9	8.0	37.6	70.0	0.9	54.1	303	10
Lab #1265	10-23-17	8.4	51.5	7.7	32.4	73.5	1.0	49.9	293	10
CAPITAL MATERIALS - BAGNELL 13, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0843	08-02-17	3.0	38.6	14.8	43.6	93.4	11.5	62.1	464	143
Lab #1126	09-19-17	3.0	38.4	15.4	43.2	93.5	11.4	62.0	464	141
CAPITAL MATERIALS CO.,-SNOW ROAD, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0943	08-07-17	7.1	42.5	9.0	41.4	98.0	1.6	57.4	450	18
Lab #1138	09-22-17	6.7	42.6	9.9	40.8	97.4	1.9	57.4	447	22
Lab #1344	11-15-17	6.5	41.8	9.5	42.2	97.9	1.7	58.4	457	20
Stockpile #5										
Lab #1417	12-07-17	2.6	46.5	10.6	40.3	89.6	3.9	58.3	418	45
Lab #1424	12-15-17	2.1	46.3	11.3	40.3	90.0	3.7	58.7	422	43
CAPITAL QUARRIES CO., INC.-ARCADIA, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0937	08-07-17	0.3	49.7	13.8	36.2	99.9	11.8	56.9	455	134
Lab #1065	09-13-17	1.7	47.1	13.4	37.8	99.1	12.0	57.6	457	138
Lab #1250	10-23-17	0.4	50.3	13.6	35.7	94.9	11.5	56.4	428	130
Lab #1391	11-28-17	1.1	53.8	11.5	33.6	95.2	10.9	54.0	411	118
CAPITAL QUARRIES, INC.- CEDAR CITY, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0914	08-08-17	0.1	41.6	13.3	45.0	91.7	1.6	63.4	465	20
Lab #1087	09-11-17	0.1	46.5	12.7	40.7	88.8	1.4	59.9	426	17
Lab #1224	10-18-17	0.5	47.2	12.7	39.6	90.8	1.7	59.0	429	20
CAPITAL QUARRIES, INC.- DANVILLE, JEFFERSON CITY, MO										
CAPITAL QUARRIES CO., INC- EUGENE, JEFFERSON CITY, MO										
Stockpile #2										
Lab #0912	08-08-17	2.3	42.9	8.8	46.0	81.8	10.0	62.0	406	124
Lab #1097	09-12-17	1.8	42.4	8.6	47.2	81.3	10.1	63.0	409	127
Lab #1212	10-16-17	1.3	42.7	8.9	47.1	78.8	9.8	63.1	398	124
CAPITAL QUARRIES CO., INC.-OWENSVIL, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0917	08-08-17	1.8	43.6	9.3	45.3	90.2	11.1	61.8	446	137
Lab #1091	09-12-17	2.5	43.7	11.6	42.2	88.5	11.6	60.1	425	139
Lab #1255	10-25-17	2.9	40.1	9.9	47.1	89.4	11.0	63.1	451	139
CAPITAL QUARRIES, INC-STADIUM WEST, JEFFERSON CITY, MO										

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JULY 1 THROUGH DECEMBER 31, 2017

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
CAPITAL QUARRIES INC-ROLLA Q #4, JEFFERSON CITY, MO										
Stockpile #2										
Lab #0909	08-08-17	0.8	12.9	8.6	77.7	90.3	11.3	86.1	622	195
Lab #1096	09-12-17	1.0	22.4	8.7	67.9	88.0	10.9	78.7	554	172
Lab #1215	10-16-17	0.7	17.4	8.1	73.8	90.4	11.3	83.0	600	188
Lab #1337	11-14-17	1.1	15.0	8.3	75.6	88.8	10.7	84.3	599	180
CAPITAL QUARRIES INC-CALIFORNIA Q#5, JEFFERSON CITY, MO										
Stockpile #1										
Lab #1146	09-26-17	1.6	44.3	12.2	41.9	92.8	2.2	60.3	448	27
Lab #1299	11-02-17	2.2	49.1	9.4	39.3	88.5	3.6	57.2	405	41
Lab #1422	12-13-17	1.1	48.9	13.5	36.5	88.6	3.6	56.8	403	41
CAPITAL QUARRIES INC.-HERMANN #14, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0922	08-07-17	0.6	42.1	8.0	49.3	89.8	11.1	64.6	464	143
Lab #1090	09-12-17	1.2	41.0	7.9	49.9	88.7	11.5	64.9	460	149
Lab #1196	10-11-17	0.2	41.6	8.9	49.3	87.9	11.5	65.0	457	150
Lab #1315	11-10-17	0.1	43.8	9.8	46.3	91.3	11.5	63.1	461	145
CAPITAL QUARRIES INC. -HOLTS SUMMIT, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0920	08-09-17	9.3	45.0	8.3	37.4	72.8	0.5	53.6	312	5
Lab #1086	09-11-17	7.0	41.1	9.4	42.5	70.7	0.7	58.4	330	8
Lab #1225	10-18-17	6.4	40.6	10.8	42.2	73.4	0.9	58.8	345	11
CAPITAL QUARRIES CO., - LINN, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0916	08-08-17	1.3	44.7	8.4	45.6	93.3	11.7	61.8	461	145
Lab #1071	09-12-17	1.9	42.8	9.1	46.2	94.1	11.6	62.4	469	145
Lab #1195	10-10-17	1.7	43.6	9.5	45.2	91.5	11.9	61.8	452	147
Lab #1339	11-15-17	1.4	44.2	8.9	45.5	93.0	11.3	61.9	460	140
CAPITAL QUARRIES, INC - SALEM, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0908	08-08-17	1.7	30.7	13.7	53.9	95.6	11.8	69.8	534	165
Lab #1095	09-12-17	1.3	30.0	12.7	56.0	94.5	11.6	71.1	538	165
Lab #1216	10-16-17	2.4	41.6	14.4	41.6	97.8	12.1	60.6	474	147
Lab #1338	11-14-17	3.4	39.5	10.7	46.4	97.0	11.6	62.7	487	145
CAPITAL QUARRIES INC-SULLIVAN, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0906	08-08-17	9.3	45.5	10.7	34.5	96.0	11.9	52.3	402	124
Lab #1094	09-12-17	7.9	45.3	12.1	34.7	95.4	11.5	53.3	407	123
Lab #1217	10-16-17	8.5	44.3	13.0	34.2	96.3	11.9	53.1	409	126
Lab #1312	11-02-17	5.6	43.7	14.0	36.7	102.3	12.1	56.0	459	136
CARTHAGE CRUSHED LIMESTONE, CARTHAGE, MO										
Stockpile #1										
Lab #0990	08-07-17	0.6	14.3	5.1	80.0	95.8	0.2	86.6	664	3
Lab #1174	09-25-17	0.5	12.8	3.7	83.0	96.0	0.2	88.4	679	4
Stockpile #3										
Lab #0991	08-07-17	0.0	0.3	1.6	98.1	96.2	0.2	99.1	763	4
Lab #1175	09-25-17	0.0	0.5	1.7	97.8	96.1	0.2	98.9	761	4
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Stockpile #2										
Lab #0896	08-03-17	1.1	34.5	14.0	50.4	78.0	0.1	67.4	421	1
Lab #1111	09-13-17	0.8	34.2	15.4	49.6	68.3	0.1	67.4	368	1
Lab #1353	11-15-17	1.2	33.6	13.2	52.0	80.7	0.1	68.3	441	1
Stockpile #3										
Lab #0895	08-03-17	1.5	33.4	10.6	54.5	95.0	0.3	69.2	526	4
Lab #1110	09-13-17	1.3	36.9	14.7	47.1	95.2	0.5	65.1	496	7
Lab #1352	11-15-17	1.0	34.2	13.3	51.5	90.9	0.1	68.0	495	1
Stockpile #4										
Lab #0894	08-03-17	0.0	1.3	10.0	88.7	95.4	0.4	95.0	725	8
Lab #1109	09-13-17	0.1	1.7	13.8	84.4	92.9	0.5	93.1	692	9
Lab #1351	11-15-17	0.1	1.3	8.8	89.8	95.4	0.8	95.4	728	15
CENTRAL STONE COMPANY-ANTONIA, HANNIBAL, MO										
CENTRAL STONE COMPANY - BETHEL, SHELBYVILLE, MO										
Stockpile #1										
Lab #0888	08-02-17	4.6	44.8	8.9	41.7	90.0	2.0	58.2	419	23
Lab #1027	09-06-17	3.7	46.1	10.4	39.8	90.9	1.0	57.6	419	12
Lab #1233	10-09-17	2.2	40.6	11.3	45.9	89.6	1.1	62.8	450	14
Lab #1306	11-06-17	1.3	39.6	11.7	47.4	86.1	0.8	64.3	443	10

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Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
CENTRAL STONE COMPANY - FARMINGTON, FARMINGTON, MO										
Stockpile #1										
Lab #0938	08-07-17	1.5	47.3	9.7	41.5	95.3	11.4	59.1	451	135
Lab #1064	09-13-17	2.0	46.2	11.4	40.4	95.1	11.7	58.8	447	138
Lab #1251	10-23-17	1.6	46.7	9.6	42.1	96.2	11.6	59.5	458	138
Lab #1389	11-28-17	1.3	44.8	10.8	43.1	96.3	11.1	60.8	468	135
Stockpile #3										
Lab #0939	08-07-17	1.2	0.9	1.4	96.5	89.9	3.4	97.6	702	66
Lab #1063	09-13-17	0.1	0.2	1.8	97.9	91.0	3.8	99.0	721	75
Lab #1252	10-23-17	0.6	0.2	0.2	99.0	85.2	3.0	99.2	676	60
Lab #1390	11-28-17	0.3	0.4	1.5	97.8	78.0	1.5	98.8	617	30
CENTRAL STONE CO - FORT BELLE - #31, FLORISSANT, MO										
Stockpile #2										
Lab #1005	08-15-17	1.8	0.9	1.7	95.6	85.1	2.6	96.8	659	50
Lab #1106	09-12-17	0.2	0.3	0.8	98.7	73.8	1.4	99.3	586	28
Lab #1304	11-01-17	0.3	0.3	0.5	98.9	82.1	1.9	99.3	652	38
Lab #1412	11-29-17	0.1	0.2	0.7	99.0	75.6	1.2	99.5	602	24
CENTRAL STONE COMPANY - NEWARK, HANNIBAL, MO										
Stockpile #3										
Lab #0891	08-03-17	3.0	40.6	6.8	49.6	91.0	2.0	63.8	465	26
Lab #1028	09-06-17	2.6	42.6	9.0	45.8	91.3	1.9	61.9	452	24
Lab #1237	10-11-17	2.5	39.4	8.0	50.1	90.4	1.9	64.8	468	25
Lab #1310	11-08-17	2.1	40.5	8.2	49.2	92.1	2.0	64.2	473	26
CENTRAL STONE COMPANY - PARIS, PARIS, MO										
Stockpile #2										
Lab #0897	08-03-17	7.2	46.1	9.9	36.8	88.0	1.5	54.3	382	16
Lab #1045	09-07-17	7.3	46.5	12.7	33.5	88.4	0.2	52.7	373	2
Lab #1230	10-06-17	7.9	46.7	12.3	33.1	90.4	0.2	52.2	377	2
Lab #1355	11-16-17	15.3*	45.9	8.3	30.5	86.7	0.7	47.0	0	0
CENTRAL STONE COMPANY - CURRYVILLE, CURRYVILLE, MO										
Stockpile #2										
Lab #0899	08-04-17	5.2	43.3	9.5	42.0	87.2	1.4	58.5	408	16
Lab #1108	09-13-17	5.5	43.2	11.0	40.3	86.6	1.2	57.7	400	14
Lab #1259	10-24-17	5.2	43.9	8.7	42.2	86.3	1.4	58.4	403	16
CENTRAL STONE COMPANY - EWING, HANNIBAL, MO										
Stockpile #1										
Lab #0893	08-03-17	2.3	38.8	11.3	47.6	83.0	0.2	64.1	425	3
Lab #1023	09-06-17	3.1	36.4	10.8	49.7	80.9	0.1	65.3	422	1
Lab #1236	10-11-17	2.5	37.4	10.3	49.8	83.6	0.2	65.3	437	3
Lab #1311	11-08-17	1.6	36.7	10.9	50.8	81.8	0.1	66.5	435	1
CENTRAL STONE COMPANY - TAYLOR, TAYLOR, MO										
CLEVER STONE CO, CLEVER, MO										
Stockpile #1										
Lab #0974	08-08-17	0.2	49.3	15.1	35.4	94.0	0.1	56.8	427	1
Lab #1187	09-26-17	0.3	51.0	15.0	33.7	92.6	0.2	55.5	411	2
CON-AGG OF MO, LLC - BOONE QUARRIES, BOONVILLE, MO										
Stockpile #1										
Lab #0950	08-08-17	7.5	49.0	10.9	32.6	94.2	0.2	51.4	387	2
Lab #1145	09-26-17	5.5	51.2	12.5	30.8	95.1	0.2	51.1	389	2
Lab #1329	11-10-17	5.1	48.3	12.7	33.9	94.6	0.1	53.6	406	1
CON-AGG OF MO, LLC-BOONE QUARRIES, COLUMBIA, MO										
Stockpile #3										
Lab #1002	08-15-17	12.9*	28.3	8.4	50.4	91.0	2.9	62.5	0	0
Lab #1040	09-07-17	11.5*	30.6	9.3	48.6	91.0	2.8	61.8	0	0
Lab #1241	10-16-17	2.6	33.0	10.1	54.3	93.8	2.9	68.6	515	40
CON-AGG OF MO, LLC-BOONE QUARRIES, COLUMBIA, MO										
CON-AGG OF MO, LLC-BOONE QUARRIES, COLUMBIA, MO										
Stockpile #1										
Lab #1003	08-15-17	13.8*	28.1	12.0	46.1	86.1	2.8	60.3	0	0
Lab #1041	09-07-17	11.7*	26.6	9.9	51.8	86.8	6.9	64.4	0	0
Lab #1232	10-06-17	10.8*	26.4	10.4	52.4	85.3	6.6	65.2	0	0
Lab #1309	11-09-17	1.7	22.4	11.5	64.4	88.5	6.8	76.9	544	105
Lab #1415	12-04-17	10.5*	31.5	7.8	50.2	88.8	6.6	62.8	0	0
CON-AGG OF MO LLC-BOONE QUARRIES, MARSHALL, MO										
Stockpile #5										
Lab #0946	08-08-17	6.6	47.6	8.4	37.4	86.4	4.5	54.3	376	49
Lab #1133	09-22-17	3.8	51.3	10.8	34.1	87.6	2.2	53.4	374	23
Lab #1295	11-02-17	5.6	49.5	8.9	36.0	87.4	2.2	53.7	376	24
Lab #1418	12-12-17	1.5	54.6	11.0	32.9	85.9	0.4	53.2	365	4

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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
CON-AGG OF MO, LLC-BOONE QUARRIES, COLUMBIA, MO										
Stockpile #2										
Lab #0942	08-07-17	4.7	45.6	10.0	39.7	94.2	2.7	57.1	430	31
Lab #1137	09-22-17	4.1	53.6	8.7	33.6	87.6	6.7	52.2	366	70
Lab #1343	11-15-17	3.2	51.1	8.7	37.0	89.9	5.5	55.0	396	60
Stockpile #4										
Lab #0959	08-07-17	5.6	46.8	10.5	37.1	95.8	1.1	55.1	422	12
Lab #1136	09-22-17	5.1	49.3	10.4	35.2	97.7	1.0	53.8	420	11
Lab #1342	11-15-17	6.3	48.4	11.5	33.8	97.4	1.0	52.8	411	11
CON-AGG OF MO, LLC - MID-MO LIMSTN, COLUMBIA, MO										
CON-AGG OF MO, LLC-NORRIS QUARRIES, AMAZONIA, MO										
CON-AGG OF MO, LLC-NORRIS QUARRIES, BARNARD, MO										
Stockpile #2										
Lab #0872	08-02-17	2.2	50.6	9.7	37.5	79.3	1.3	56.0	355	15
Lab #1017	09-06-17	2.4	47.8	11.2	38.6	79.8	1.3	57.3	366	15
Lab #1203	10-09-17	2.2	50.2	10.6	37.0	79.5	1.4	55.9	356	16
Lab #1379	11-28-17	2.5	48.4	9.5	39.6	80.0	1.4	57.4	367	16
CON-AGG OF MO, LLC-NORRIS QUARRIES, BETHANY, MO										
Stockpile #1										
Lab #0857	08-01-17	6.1	49.8	8.6	35.5	81.8	1.5	53.1	348	16
Lab #1074	09-13-17	7.9	51.2	8.0	32.9	80.1	1.6	50.5	324	16
Lab #1244	10-17-17	10.9*	49.2	7.8	32.1	86.2	1.6	49.1	0	0
Lab #1347	11-13-17	6.0	51.5	8.1	34.4	75.5	1.2	52.1	315	13
CON-AGG OF MO, LLC-NORRIS QUARRIES, SAVANNAH, MO										
Stockpile #1										
Lab #0875	08-02-17	4.9	50.0	9.1	36.0	80.9	1.6	54.0	349	17
Lab #1020	09-06-17	6.0	50.4	10.1	33.5	79.2	1.8	52.2	330	19
Lab #1201	10-09-17	5.3	49.7	8.0	37.0	81.4	1.5	54.2	353	16
Lab #1360	11-16-17	4.8	50.2	8.3	36.7	81.1	1.4	54.2	352	15
CON-AGG OF MO, LLC-NORRIS QUARRIES, DAWN, MO										
Stockpile #2										
Lab #0862	08-01-17	3.0	55.3	9.6	32.1	88.9	0.6	51.7	368	6
Lab #1079	09-13-17	8.5	55.9	9.5	26.1	87.0	1.1	45.8	319	10
Lab #1193	10-13-17	4.4	48.1	8.5	39.0	78.8	1.2	56.1	354	13
Lab #1287	11-03-17	3.3	52.2	9.0	35.5	85.3	0.7	54.0	368	8
CON-AGG OF MO, LLC-NORRIS QUARRIES, CAMERON, MO										
Stockpile #1										
Lab #0881	08-03-17	2.7	48.5	10.4	38.4	80.6	1.2	56.8	366	14
Lab #1034	09-07-17	5.2	47.7	9.8	37.3	73.2	1.8	55.1	323	20
Lab #1208	10-16-17	5.0	47.5	11.0	36.5	73.8	1.7	55.0	325	19
Lab #1373	11-22-17	2.8	49.0	9.5	38.7	78.7	1.5	56.7	357	17
CON-AGG OF MO, LLC-NORRIS QUARRIES, GALLATIN, MO										
Stockpile #1										
Lab #0858	08-01-17	10.0	53.1	8.4	28.5	87.8	0.5	46.8	329	5
Lab #1075	09-13-17	1.8	50.4	9.9	37.9	70.1	2.0	56.4	317	23
Lab #1283	10-30-17	1.5	49.6	9.3	39.6	68.0	1.5	57.6	313	17
CON-AGG OF MO, LLC-NORRIS QUARRIES, RAVENWOOD, MO										
Stockpile #2										
Lab #0870	08-01-17	0.3	45.3	12.1	42.3	77.2	2.3	60.9	376	28
Lab #1015	09-05-17	2.2	45.9	9.8	42.1	79.7	2.1	59.5	379	25
Lab #1199	10-04-17	0.8	43.5	10.2	45.5	76.6	2.3	62.5	383	29
Lab #1380	11-28-17	1.1	39.7	9.6	49.6	77.6	2.1	65.3	405	27
CON-AGG OF MO, LLC-NORRIS QUARRIES, GOWER, MO										
Stockpile #1										
Lab #0877	08-03-17	4.8	50.0	9.1	36.1	82.1	0.8	54.1	355	9
Lab #1022	09-07-17	7.5	50.6	8.8	33.1	72.2	1.1	51.0	295	11
Lab #1205	10-16-17	4.8	45.6	9.2	40.4	79.9	1.3	57.3	366	15
Lab #1375	11-27-17	5.0	48.1	9.4	37.5	81.2	1.0	55.2	358	11
CON-AGG OF MO, LLC-NORRIS QUARRIES, HUNTSVILLE, MO										
Stockpile #2										
Lab #0865	08-02-17	4.1	49.1	12.1	34.7	93.9	1.5	54.2	407	16
Lab #1084	09-15-17	5.0	50.4	11.6	33.0	94.2	1.3	52.6	396	14
Lab #1284	10-31-17	4.4	48.7	11.5	35.4	93.2	1.5	54.5	406	16
CON-AGG OF MO, LLC-NORRIS QUARRIES, SAVANNAH, MO										
CON-AGG OF MO, LLC-NORRIS QUARRIES, KINGSTON, MO										
Stockpile #1										
Lab #0860	08-01-17	1.8	32.3	13.3	52.6	79.5	2.1	68.7	437	29
Lab #1077	09-13-17	3.0	31.2	11.3	54.5	80.0	2.1	69.1	442	29
Lab #1192	10-12-17	2.6	30.9	11.6	54.9	80.2	2.2	69.6	446	31
Lab #1285	11-03-17	1.9	49.3	9.9	38.9	77.4	1.0	57.2	354	11

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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
CON-AGG of MO, LLC-NORRIS QUARRIES, KINGSTON, MO (Continued)										
Stockpile #2										
Lab #1286	11-03-17	3.2	30.7	12.6	53.5	81.5	1.9	68.7	449	26
Lab #1318	11-07-17	2.4	43.7	9.4	44.5	77.6	1.8	61.1	379	22
Lab #1321	11-09-17	2.3	45.3	9.6	42.8	80.4	1.3	59.9	385	16
CON-AGG of MO, LLC-NORRIS QUARRY, LATHROP, MO										
Stockpile #1										
Lab #0878	08-03-17	5.9	49.4	10.0	34.7	80.0	1.3	53.1	340	14
Lab #1031	09-07-17	8.0	52.4	9.5	30.1	85.8	0.9	48.9	336	9
Stockpile #2										
Lab #0879	08-03-17	1.4	47.7	12.8	38.1	84.2	1.1	57.7	389	13
Lab #1032	09-07-17	1.1	48.5	12.0	38.4	85.0	1.1	57.7	393	13
Lab #1207	10-16-17	0.3	47.8	11.5	40.4	86.3	0.9	59.3	409	11
Lab #1381	11-29-17	1.9	46.0	11.3	40.8	83.3	1.2	59.1	394	14
CON-AGG OF MO, LLC-NORRIS QUARRIES, MATTLAND, MO										
Stockpile #1										
Lab #0874	08-02-17	4.7	64.2	7.1	24.0	88.1	0.9	44.3	312	8
Lab #1019	09-06-17	0.4	44.0	9.8	45.8	73.7	0.7	62.7	370	9
Lab #1202	10-09-17	3.3	46.9	9.8	40.0	87.2	0.6	57.6	402	7
Lab #1372	11-20-17	0.9	46.8	11.9	40.4	83.0	0.7	59.2	393	8
CON-AGG OF MO, LLC-NORRIS QUARRIES, PRINCETON, MO										
Stockpile #6										
Lab #0856	08-01-17	5.0	48.7	9.1	37.2	85.7	1.0	54.8	376	11
Lab #1073	09-13-17	7.6	49.8	7.8	34.8	80.5	1.8	51.9	334	19
Lab #1191	10-10-17	2.5	46.2	10.0	41.3	77.9	1.7	58.9	367	20
Lab #1370	11-27-17	0.8	34.6	7.7	56.9	64.4*	1.8	70.2	0	0
CON-AGG of MO, LLC-NORRIS QUARRIES, RICHMOND, MO										
Stockpile #4										
Lab #0954	08-09-17	5.8	50.6	8.4	35.2	78.4	1.2	52.9	332	13
CON-AGG OF MO, LLC-NORRIS QUARRIES, STANBERRY, MO										
Stockpile #1										
Lab #0871	08-01-17	2.2	46.8	10.0	41.0	76.6	1.9	58.7	360	22
Lab #1016	09-05-17	2.9	48.5	9.8	38.8	76.6	1.9	56.8	348	22
Lab #1204	10-09-17	3.9	52.0	9.6	34.5	75.8	2.2	53.3	323	23
Lab #1378	11-28-17	1.1	46.6	9.9	42.4	74.4	2.0	60.0	357	24
CON-AGG OF MO, LLC-NORRIS QUARRIES, TRENTON, MO										
Stockpile #2										
Lab #0855	08-01-17	2.9	45.4	9.2	42.5	64.6*	1.2	59.4	0	0
Lab #1072	09-13-17	3.6	44.5	8.4	43.5	67.1	1.4	59.7	320	17
Lab #1258	10-27-17	2.4	44.1	8.1	45.4	63.5*	1.2	61.3	0	0
Lab #1322	11-10-17	3.7	44.6	8.6	43.1	71.7	1.1	59.4	341	13
Lab #1371	11-28-17	2.7	44.7	9.0	43.6	76.3	1.1	60.2	367	13
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Stockpile #1										
Lab #0972	08-08-17	0.0	11.0	15.6	73.4	97.6	0.2	85.5	668	3
Lab #1159	09-27-17	0.0	9.9	15.6	74.5	98.2	0.7	86.3	678	12
COUNTY LINE QUARRY, WELLSVILLE, MO										
Stockpile #1										
Lab #1007	08-16-17	7.6	52.7	7.7	32.0	92.5	3.1	49.8	368	31
Lab #1043	09-07-17	6.7	45.9	9.8	37.6	90.8	5.2	55.0	399	57
Lab #1356	11-21-17	4.8	44.2	9.5	41.5	94.2	3.7	58.3	439	43
COUNTY LINE STONE, CASSVILLE, MO										
CRAWFORD LIME & MATERIAL CO, CUBA, MO										
Stockpile #2										
Lab #0907	08-08-17	0.9	37.0	9.0	53.1	83.9	10.4	67.8	455	141
Lab #1092	09-12-17	0.0	31.7	10.1	58.2	89.5	11.0	72.2	517	159
Lab #1219	10-16-17	0.3	38.2	9.9	51.6	88.5	11.2	67.1	475	150
CRIDER BROTHERS LIME CO., INC., EMINENCE, MO										
Stockpile #1										
Lab #0995	08-08-17	2.2	41.1	15.1	41.6	103.5	12.1	60.9	505	147
Lab #1149	09-28-17	4.5	45.0	15.2	35.3	102.9	12.0	55.7	458	134
D & D SUPPLY LLC, LONE JACK, MO										
DOSS & HARPER STONE CO., HOUSTON, MO										
Stockpile #2										
Lab #0982	08-09-17	0.8	47.7	11.1	40.4	85.2	10.6	59.0	402	125
Lab #1183	09-26-17	0.8	48.2	11.7	39.3	85.1	10.5	58.4	397	123
Lab #1406	11-30-17	0.4	47.9	13.3	38.4	90.1	10.6	58.4	421	124

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2017

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
DOSS & HARPER STONE CO, WEST PLAINS, MO										
Stockpile #1										
Lab #0984	08-09-17	1.3	51.5	11.1	36.1	86.4	10.7	55.6	385	119
Lab #1185	09-26-17	2.0	56.8	10.2	31.0	76.4	9.7	51.3	314	100
DOUBLE EAGLE AGGREGATES, MILLER, MO										
DOUBLE EAGLE AGGREGATES CO., INC, MILLER, MO										
E & S ROCK, LLC, HOLDEN, MO										
Stockpile #1										
Lab #1341	11-14-17	2.4	57.1	10.6	29.9	82.6	1.9	50.5	334	19
Stockpile #2										
Lab #0944	08-07-17	3.5	49.1	9.3	38.1	78.0	1.7	56.0	349	19
FISCHER QUARRY & HAULING, LLC, ST. MARY, MO										
Stockpile #1										
Lab #0935	08-07-17	6.0	52.2	11.9	29.9	98.8	0.1	50.1	396	1
Lab #1053	09-13-17	4.1	51.4	13.9	30.6	98.0	0.1	51.8	406	1
Lab #1281	10-30-17	3.4	53.2	12.0	31.4	98.3	0.2	51.9	408	2
Lab #1387	11-28-17	3.3	51.9	12.7	32.1	98.3	0.2	52.7	414	2
GABEL STONE COMPANY, INC, WILLOW SPRINGS, MO										
Stockpile #1										
Lab #0983	08-09-17	2.7	52.9	13.7	30.7	87.5	10.7	52.1	365	112
Lab #1184	09-26-17	4.3	47.1	12.5	36.1	89.0	11.1	55.4	394	123
Lab #1407	11-30-17	4.4	52.8	9.9	32.9	92.4	10.8	52.0	385	112
HEARTLAND MATERIALS, JACKSON, MO										
Stockpile #1										
Lab #0886	08-03-17	0.2	38.2	15.7	45.9	98.4	2.2	64.9	511	29
Lab #0997	08-09-17	0.3	37.9	15.8	46.0	97.0	2.1	65.0	504	27
Lab #1000	08-11-17	0.3	36.4	15.3	48.0	97.7	2.1	66.3	518	28
Lab #1152	09-26-17	0.1	36.1	17.5	46.3	97.2	1.5	65.8	512	20
HIGGINS QUARRY, LLC, LOOSE CREEK, MO										
Stockpile #2										
Lab #0915	08-08-17	2.7	46.6	7.7	43.0	89.0	11.1	59.3	422	132
Lab #1098	09-12-17	3.1	49.2	8.8	38.9	85.9	10.8	56.5	388	122
Lab #1194	10-10-17	3.1	48.9	7.7	40.3	87.3	11.3	57.1	399	129
Lab #1316	11-10-17	4.0	47.2	7.7	41.1	88.7	11.0	57.5	408	127
HIGGINS MATERIALS, LLC, OTTERVILLE, MO										
Stockpile #2										
Lab #0953	08-08-17	1.1	47.2	8.1	43.6	79.8	3.7	60.3	385	45
Lab #1148	09-26-17	0.8	51.1	10.8	37.3	88.7	2.2	56.6	401	25
Lab #1325	11-06-17	0.4	47.4	9.3	42.9	80.7	4.9	60.3	389	59
HOSTETLER QUARRY, LLC, BUFFALO, MO										
Stockpile #1										
Lab #0839	08-02-17	0.8	42.9	9.2	47.1	86.1	10.6	63.3	436	134
Lab #1122	09-19-17	0.5	36.4	11.7	51.4	86.8	10.7	67.5	469	144
Lab #1267	10-25-17	0.4	33.8	9.2	56.6	88.9	11.1	70.6	502	157
HOUSE SPRINGS QUARRY, HOUSE SPRINGS, MO										
HUNTER STONE CO, ELLSINORE, MO										
Stockpile #1										
Lab #0996	08-08-17	0.1	38.9	14.9	46.1	95.3	11.3	64.8	494	146
HUTCHENS CONSTRUCTION-PURDY, CASSVILLE, MO										
Stockpile #1										
Lab #0964	08-07-17	2.9	50.2	13.7	33.2	96.6	0.3	54.0	417	3
Lab #1180	09-25-17	2.5	51.1	12.8	33.6	96.2	0.3	54.1	416	3
HUTCHENS CONSTRUCTION-EAGLE ROCK, CASSVILLE, MO										
HUTCHENS CONSTRUCTION CO-SHELL KNOB, CASSVILLE, MO										
Stockpile #1										
Lab #0967	08-07-17	2.3	47.8	10.6	39.3	94.8	11.8	57.6	437	136
Lab #1169	09-28-17	3.4	50.3	8.9	37.4	92.5	11.6	55.3	409	128
HUTCHENS CONSTRUCTION-WASHBURN, CASSVILLE, MO										
IDEKER INC, EXCELSIOR SPRINGS, MO										
Stockpile #1										
Lab #0880	08-03-17	0.6	52.8	11.1	35.5	91.6	0.4	55.4	406	4
Lab #1033	09-07-17	0.4	59.6	10.8	29.2	91.8	0.5	50.6	371	5
Lab #1374	11-22-17	0.4	48.4	10.7	40.5	91.1	0.5	59.0	430	6
ILC RESOURCES, URBAN DALE, IA										
JASPER STONE LLC, JASPER, MO										
Stockpile #1										
Lab #0993	08-07-17	0.1	42.3	15.9	41.7	98.0	0.2	61.8	485	2
Lab #1177	09-25-17	2.0	40.5	14.6	42.9	97.4	0.2	61.8	481	2

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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
JASPER STONE LLC, JASPER, MO										
Stockpile #2										
Lab #0992	08-07-17	0.0	2.2	15.5	82.3	98.3	0.2	92.2	725	4
Lab #1176	09-25-17	0.0	0.5	2.4	97.1	96.5	0.2	98.7	762	4
JEFFERSON COUNTY PUBLIC WATER SUP, HIGH RIDGE, MO										
Stockpile #1										
Lab #1051	09-13-17	0.1	0.5	0.4	99.0	81.4	3.1	99.4	647	62
Lab #1226	10-19-17	0.1	0.5	0.5	98.9	81.2	2.9	99.3	645	58
Lab #1396	11-30-17	7.2	2.7	0.5	89.6	85.7	2.8	90.6	621	51
Stockpile #2										
Lab #1052	09-13-17	0.0	0.0	0.0	100.0	4.8*	0.2	100.0	38	4
Lab #1227	10-19-17	0.0	0.0	0.0	100.0	11.2*	0.2	100.0	90	4
Lab #1397	11-30-17	0.0	0.0	0.0	100.0	2.8*	0.1	100.0	22	2
JENKINS QUARRY, CASSVILLE, MO										
Stockpile #1										
Lab #0965	08-07-17	0.3	40.9	9.9	48.9	89.9	10.6	65.1	468	138
Lab #1171	09-28-17	0.4	38.6	9.4	51.6	88.7	10.2	66.9	475	136
Lab #1247	10-27-17	0.4	39.0	8.9	51.7	82.7	10.0	66.8	442	134
JOPLIN STONE CO Q DUENWEG, JOPLIN, MO										
Stockpile #2										
Lab #0989	08-07-17	0.1	26.7	16.0	57.2	80.8	0.4	73.5	475	6
Lab #1173	09-25-17	2.5	28.4	16.5	52.6	83.4	0.2	69.6	464	3
LEO JOURNAGAN CONSTRUCTION CO, INC, SPRINGFIELD, MO										
Stockpile #1										
Lab #0975	08-08-17	2.4	49.4	13.6	34.6	96.5	0.2	55.1	425	2
Lab #1186	09-26-17	1.5	45.0	15.5	38.0	95.1	0.3	58.6	445	4
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Stockpile #2										
Lab #0892	08-03-17	0.0	0.8	0.6	98.6	81.9	1.1	99.2	650	22
Lab #1029	09-06-17	0.1	0.4	0.7	98.8	83.8	1.0	99.3	666	20
Lab #1238	10-11-17	0.0	1.7	1.1	97.2	83.6	1.1	98.3	657	22
KERFORD LIMESTONE CO, WEEPING WATER, NE										
Stockpile #1										
Lab #0882	08-04-17	0.0	0.0	0.1	99.9	92.6	0.5	100.0	741	10
Lab #1416	12-01-17	0.0	0.3	0.1	99.6	95.0	0.5	99.7	758	10
KING QUARRY, THAYER, MO										
Stockpile #1										
Lab #0994	08-07-17	0.0	55.1	8.2	36.7	86.0	10.3	55.4	381	114
Lab #1155	10-03-17	0.0	53.5	9.3	37.2	84.4	10.3	56.2	379	116
KNOX COUNTY STONE CO, INC, EDINA, MO										
Stockpile #2										
Lab #0889	08-02-17	6.4	43.9	9.3	40.4	91.2	3.3	57.0	416	38
Lab #1026	09-06-17	7.1	43.2	9.5	40.2	91.7	3.2	56.7	416	36
Lab #1239	10-12-17	5.1	42.9	10.4	41.6	90.5	3.0	58.6	424	35
Lab #1307	11-07-17	3.9	40.5	10.8	44.8	88.1	3.4	61.4	433	42
L & W QUARRIES, INC - CLARKDALE #8, WEST BURLINGTON, IA										
L & W QUARRIES, INC - WALNUT CITY, WEST BURLINGTON, IA										
Stockpile #3										
Lab #1080	09-14-17	11.9*	43.3	8.1	36.7	77.4	0.4	52.4	0	0
Lab #1245	10-19-17	16.3*	55.7	7.7	20.3	91.8	0.4	38.8	0	0
Lab #1317	11-06-17	19.8*	51.6	6.2	22.4	90.3	0.3	39.0	0	0
L & W QUARRIES INC., WEST BURLINGTON, IA										
Stockpile #1										
Lab #0890	08-02-17	13.8*	46.1	6.8	33.3	86.2	3.3	48.9	0	0
Lab #1024	09-06-17	13.8*	43.8	8.5	33.9	84.2	3.5	50.0	0	0
Stockpile #2										
Lab #1025	09-06-17	6.8	47.1	8.6	37.5	87.9	4.9	54.4	383	53
Lab #1235	10-10-17	8.6	47.5	8.3	35.6	87.4	4.1	52.5	367	43
Lab #1350	11-13-17	10.5*	43.9	7.7	37.9	88.1	3.8	53.5	0	0
LAFARGE WEST INC.-PERRYVILLE, PERRYVILLE, MO										
Stockpile #2										
Lab #0936	08-07-17	0.6	62.2	10.0	27.2	94.6	2.2	48.8	369	21
Lab #1054	09-13-17	1.4	60.8	11.6	26.2	94.1	2.1	48.4	364	20
Lab #1280	10-30-17	1.1	60.2	10.3	28.4	94.0	2.1	49.6	373	21
Lab #1386	11-28-17	1.4	60.4	10.1	28.1	93.9	2.1	49.3	370	21
LCL FARMS INC, KEOKUK, IA										
LEAD BELT MATERIALS CO., INC., PARK HILLS, MO										
Stockpile #1										
Lab #0902	08-07-17	2.2	49.6	12.5	35.7	98.3	12.2	55.6	437	136
Lab #1099	09-13-17	3.2	50.3	9.3	37.2	103.1	12.3	55.4	457	136

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		+8	-8+40	-40+60	-60				ENM	EMg
LILE QUARRY INC., STRAFFORD, MO										
Stockpile #2										
Lab #0980	08-09-17	0.7	49.6	10.7	39.0	91.2	11.4	57.8	422	132
Lab #1163	09-27-17	0.7	50.1	9.7	39.5	88.1	10.9	57.8	408	126
MAGRUDER LIMESTONE CO-ASHLEY, TROY, MO										
Stockpile #1										
Lab #1012	08-16-17	2.3	49.5	8.4	39.8	81.2	2.2	57.2	372	25
Lab #1100	09-07-17	2.5	47.4	9.8	40.3	81.1	2.5	58.0	376	29
Lab #1302	10-30-17	2.0	47.2	8.7	42.1	81.2	2.4	59.1	384	28
Stockpile #2										
Lab #1011	08-16-17	5.2	47.1	8.3	39.4	87.9	5.3	56.2	395	60
Lab #1044	09-07-17	3.1	48.1	10.6	38.2	82.5	3.7	56.6	373	42
Lab #1301	10-30-17	1.3	45.8	11.6	41.3	76.5	0.9	59.7	365	11
MAGRUDER LIMESTONE - FOLEY QUARRY, TROY, MO										
Stockpile #1										
Lab #1009	08-16-17	5.2	56.0	9.1	29.7	95.4	2.6	49.2	375	26
Lab #1105	09-12-17	6.5	57.2	8.8	27.5	95.7	2.8	47.1	360	26
Lab #1261	10-25-17	7.0	57.6	7.2	28.2	95.8	2.6	46.9	360	24
MAGRUDER LIMESTONE CO-FRANKFORD, TROY, MO										
Stockpile #1										
Lab #0900	08-04-17	1.3	36.4	12.9	49.4	96.6	2.2	66.2	512	29
Lab #1101	09-12-17	1.4	36.2	13.8	48.6	96.0	2.1	65.9	506	28
Lab #1260	10-25-17	0.6	42.7	10.7	46.0	97.0	1.3	63.1	490	16
MAGRUDER LIMESTONE CO. - SHELBYNA, TROY, MO										
Stockpile #1										
Lab #0887	08-02-17	2.4	43.0	15.2	39.4	82.8	0.8	59.3	393	9
Lab #1030	09-06-17	2.0	43.1	14.3	40.6	80.9	0.8	60.0	388	10
Lab #1234	10-09-17	0.7	49.8	12.9	36.6	83.9	1.5	56.8	381	17
Lab #1305	11-06-17	0.4	54.9	10.6	34.1	89.6	1.4	54.2	388	15
MAGRUDER LIMESTONE - SILEX QUARRY, TROY, MO										
Stockpile #2										
Lab #1008	08-16-17	3.0	48.5	9.3	39.2	82.7	2.2	56.9	376	25
Lab #1103	09-12-17	2.8	47.2	9.0	41.0	89.7	2.5	58.2	418	29
Lab #1263	10-26-17	3.3	56.2	8.3	32.2	93.0	2.2	51.2	381	23
MAGRUDER LIMESTONE CO Q TROY, TROY, MO										
Stockpile #1										
Lab #0901	08-04-17	6.5	46.8	9.1	37.6	96.1	3.8	54.8	421	42
Lab #1104	09-12-17	2.6	43.2	11.1	43.1	96.3	2.3	60.6	467	28
Lab #1264	10-26-17	4.5	43.9	9.4	42.2	93.2	2.8	58.8	439	33
MANSFIELD LIME & STONE, MANSFIELD, MO										
Stockpile #2										
Lab #1282	10-31-17	0.1	44.2	9.9	45.8	81.0	9.7	62.8	407	122
Lab #1369	11-21-17	0.1	46.1	9.4	44.4	81.9	9.8	61.6	403	121
Lab #1408	11-30-17	0.2	43.2	10.5	46.1	85.6	10.0	63.2	433	126
MARTIN MARIETTA MATERIALS OF K.C., PARKVILLE, MO										
MARTIN MARIETTA MATERIALS OF K.C., KANSAS CITY, MO										
Stockpile #2										
Lab #1206	10-16-17	0.3	31.7	14.6	53.4	91.9	0.8	70.1	515	11
Lab #1376	11-27-17	0.1	29.8	14.4	55.7	91.8	0.8	71.8	527	11
MARTIN MARIETTA MATERIALS OF K.C., RANDOLPH, MO										
Stockpile #3										
Lab #0955	08-09-17	0.7	59.3	10.0	30.0	91.7	0.6	50.8	373	6
Lab #1140	09-25-17	0.5	51.3	12.0	36.2	92.1	0.5	56.2	414	6
Lab #1345	11-16-17	2.2	55.4	8.2	34.2	92.3	0.5	53.0	391	5
MATERIAL DEPOT AT BUTTERFIELD, CASSVILLE, MO										
Stockpile #1										
Lab #0963	08-07-17	2.5	52.1	14.3	31.1	96.2	0.3	52.7	406	3
Lab #1181	09-25-17	2.1	49.6	14.6	33.7	96.3	0.2	54.9	423	2
MERTENS CONST CO-AUXVASSE, KINGDOM CITY, MO										
Stockpile #2										
Lab #1004	08-15-17	8.5	51.8	8.4	31.3	93.5	6.8	49.3	369	67
Lab #1042	09-07-17	9.6	51.4	7.9	31.1	95.0	5.0	48.7	370	49
Lab #1243	10-16-17	3.7	47.6	8.6	40.1	95.8	7.2	57.2	438	82
Lab #1411	11-22-17	3.5	50.5	8.4	37.6	91.9	5.6	55.3	406	62
Stockpile #6										
Lab #1242	10-16-17	13.6*	54.0	7.8	24.6	94.8	1.1	42.8	0	0
Lab #1414	12-04-17	10.6*	51.4	8.0	30.0	92.8	2.3	47.7	0	0

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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
MERTENS CONST. CO-TIPTON QUARRY, KINGDOM CITY, MO										
Stockpile #1										
Lab #0951	08-08-17	6.1	49.3	6.9	37.7	78.9	5.8	54.2	342	63
Lab #1147	09-26-17	6.1	48.1	7.5	38.3	77.2	6.2	54.8	339	68
Lab #1300	11-02-17	4.8	50.3	6.6	38.3	78.4	5.8	54.8	344	64
Lab #1423	12-13-17	5.8	49.5	6.8	37.9	78.5	5.7	54.4	341	62
MERTENS CONST CO-Q-REFORM, KINGDOM CITY, MO										
Stockpile #1										
Lab #0919	08-09-17	5.3	46.6	9.6	38.5	91.5	4.1	55.9	409	46
Lab #1089	09-11-17	6.2	46.8	10.7	36.3	85.6	4.5	54.4	373	49
Lab #1222	10-18-17	5.7	46.6	9.9	37.8	85.6	4.3	55.4	379	48
Lab #1336	11-13-17	4.1	43.2	11.1	41.6	82.6	4.2	59.1	390	50
MFA INC, COLUMBIA, MO										
MID-MISSOURI LIMESTONE, INC-BIG SPR, KINGDOM CITY, MO										
Stockpile #1										
Lab #0918	08-08-17	8.5	57.2	8.5	25.8	93.9	0.4	45.2	340	4
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO										
Stockpile #1										
Lab #0921	08-09-17	4.3	49.8	12.2	33.7	91.4	0.4	53.5	391	4
Lab #1085	09-11-17	5.8	51.5	11.9	30.8	93.9	0.3	50.8	382	3
Lab #1223	10-18-17	4.4	50.8	12.8	32.0	92.6	0.4	52.4	388	4
Lab #1402	11-27-17	4.9	50.4	12.2	32.5	90.9	0.2	52.4	381	2
MID-MISSOURI LIMESTONE, INC.-HOUSTO, HOUSTONIA, MO										
Stockpile #1										
Lab #0957	08-07-17	5.4	50.9	7.8	35.9	83.6	4.7	53.3	357	50
Lab #1134	09-22-17	6.9	50.4	7.6	35.1	83.4	5.2	52.3	349	54
Lab #1326	11-09-17	6.9	49.9	7.4	35.8	85.7	4.2	52.7	361	44
Stockpile #2										
Lab #0958	08-07-17	6.8	47.5	11.1	34.6	92.9	0.6	53.1	395	6
Lab #1135	09-22-17	6.4	49.0	11.7	32.9	92.4	0.2	52.2	386	2
MID-MISSOURI LIMESTONE-RIGGS, KINGDOM CITY, MO										
Stockpile #2										
Lab #1001	08-15-17	5.5	51.2	10.3	33.0	87.5	2.6	52.0	364	27
Lab #1039	09-07-17	7.6	56.3	8.8	27.3	86.8	4.0	46.7	324	37
Lab #1240	10-16-17	7.8	54.8	6.2	31.2	86.3	4.2	48.6	336	41
Lab #1308	11-09-17	5.8	57.0	7.3	29.9	82.2	4.0	48.5	319	39
MIDWEST MINERALS, INC - FORT SCOTT, PITTSBURG, KS										
Stockpile #1										
Lab #0838	08-01-17	1.3	47.8	11.6	39.3	87.0	0.3	58.2	405	3
Lab #1117	09-18-17	1.3	46.8	10.9	41.0	86.5	0.3	59.2	410	4
MIDWEST MINERALS INC - JASPER, PITTSBURG, KS										
Stockpile #1										
Lab #0961	08-07-17	3.1	34.1	14.4	48.4	97.1	0.2	65.6	509	3
Lab #1178	09-25-17	2.2	30.6	16.7	50.5	97.3	0.1	68.2	531	1
MISSISSIPPI LIME COMPANY, STE GENEVIEVE, MO										
Stockpile #1										
Lab #0933	08-07-17	0.0	1.9	1.5	96.6	98.8	0.3	98.0	774	6
Lab #1066	09-13-17	0.0	0.2	0.7	99.1	98.6	0.3	99.6	785	6
Lab #1278	10-30-17	0.0	0.1	0.2	99.7	99.1	0.2	99.8	792	4
Lab #1384	11-28-17	0.0	0.2	0.5	99.3	98.4	0.2	99.7	784	4
Stockpile #3										
Lab #0934	08-07-17	0.0	41.6	28.3	30.1	98.8	0.2	57.5	454	2
Lab #1067	09-13-17	0.0	44.1	24.6	31.3	98.7	0.2	57.1	451	2
Lab #1279	10-30-17	0.0	40.8	26.3	32.9	98.3	0.2	58.9	463	2
Lab #1385	11-28-17	0.0	40.0	28.2	31.8	98.5	0.2	58.7	463	2
MK MINERALS INC., WATHENA, KS										
Stockpile #1										
Lab #0876	08-02-17	0.1	0.1	0.3	99.5	82.2	0.6	99.7	656	12
Lab #1021	09-06-17	0.6	0.2	0.7	98.5	84.6	0.6	99.0	670	12
Lab #1200	10-09-17	0.0	0.4	1.4	98.2	81.4	0.9	99.1	646	18
Lab #1377	11-27-17	0.0	0.1	0.6	99.3	84.2	0.7	99.7	671	14
MO VALLEY GRAIN & PELLETIZING, MISSOURI VALLEY, IA										
MOUNTAIN GROVE QUARRY, MANSFIELD, MO										
Stockpile #1										
Lab #0981	08-09-17	0.0	42.8	9.5	47.7	87.1	10.9	64.1	447	140
Lab #1182	09-26-17	0.3	48.1	10.3	41.3	89.6	10.9	59.5	427	130
MULBERRY LIMESTONE QUARRY CO-JASPER, MULBERRY, KS										
Stockpile #1										
Lab #0960	08-07-17	0.5	47.9	12.9	38.7	95.5	0.5	58.4	446	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
NEMO SAND & GRAVEL, QUARRY, PITTSBURG, MO										
Stockpile #1										
Lab #0844	08-02-17	30.8*	31.0	5.3	32.9	85.5	10.7	43.8	0	0
Lab #1331	11-06-17	0.6	41.2	8.0	50.2	86.3	10.2	65.3	451	133
Lab #1335	11-09-17	0.5	42.4	7.9	49.2	84.7	10.1	64.5	437	130
Lab #1364	11-21-17	0.6	40.8	9.2	49.4	87.4	10.5	65.1	455	137
OAKLEY FERTILIZER, INC, NORTH LITTLE ROCK, AR										
OROS & BUSCH APPLICATION TECHNOLOGY, CARLINVILLE, IL										
OSAGE QUARRIES, INC, KINGDOM CITY, MO										
PELLETIZING COMPANY INC, GORDONVILLE, TN										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Stockpile #3										
Lab #0884	08-02-17	0.5	37.3	15.7	46.5	102.3	12.6	65.2	534	164
Lab #1013	08-28-17	5.4	18.1	17.8	58.7	99.4	12.6	73.9	588	186
Lab #1014	08-30-17	5.4	18.2	18.4	58.0	99.7	12.7	73.6	587	187
Lab #1150	09-25-17	9.4	19.6	17.5	53.5	101.4	12.5	68.9	559	172
SCHILDBERG CONST. CO.-DECATUR, GREENFIELD, IA										
Stockpile #2										
Lab #0867	08-01-17	2.9	46.3	9.6	41.2	69.6	1.2	58.5	326	14
Lab #1035	09-05-17	3.4	43.0	10.2	43.4	68.8	1.1	60.3	332	13
Lab #1209	10-04-17	2.8	45.2	9.9	42.1	69.7	1.1	59.3	331	13
Lab #1357	11-14-17	3.5	41.2	8.0	47.3	69.7	1.0	62.4	348	12
SCHILDBERG CONST. CO.-GRAHAM MO Q, GREENFIELD, IA										
Stockpile #1										
Lab #0873	08-02-17	2.5	53.1	11.0	33.4	86.2	0.6	53.3	367	6
Lab #1018	09-06-17	2.9	55.1	9.9	32.1	85.2	0.6	51.8	353	6
Lab #1210	10-09-17	3.0	51.6	10.0	35.4	85.5	0.6	54.3	371	7
Lab #1361	11-20-17	8.5	52.0	8.3	31.2	86.1	0.4	49.2	339	4
SCHILDBERG CONST. CO.-SHAMBAUGH Q, GREENFIELD, IA										
Stockpile #1										
Lab #0869	08-01-17	7.0	47.7	9.3	36.0	86.6	1.2	53.5	371	13
Lab #1037	09-05-17	4.4	49.9	11.1	34.6	86.1	1.1	53.7	370	12
Lab #1198	10-04-17	8.6	51.7	8.9	30.8	85.9	1.1	49.1	337	11
Lab #1359	11-15-17	7.7	45.7	9.1	37.5	86.6	1.1	54.4	377	12
SCHILDBERG CONST. CO.-WATTERSON, GREENFIELD, IA										
Stockpile #2										
Lab #0868	08-01-17	2.5	42.2	8.8	46.5	69.7	1.7	62.3	348	21
Lab #1036	09-05-17	2.4	40.6	10.3	46.7	70.0	1.6	63.0	353	20
Lab #1197	10-04-17	7.7	47.0	8.1	37.2	71.4	1.9	53.8	307	20
Lab #1358	11-14-17	2.1	39.2	8.9	49.8	72.1	1.6	64.9	375	21
SHAWNEE STONE - CYPRESS PLANT, CYPRESS, IL										
SHAWNEE STONE - JONESBORO PLANT, ANNA, IL										
Stockpile #2										
Lab #0999	08-09-17	1.5	26.9	14.2	57.4	98.2	0.4	72.6	571	6
Lab #1154	09-27-17	0.9	24.0	12.8	62.3	96.7	0.4	76.0	588	6
SIEGEL GRAVEL & EXCAVATING, VERSAILLES, MO										
Stockpile #1										
Lab #1327	11-09-17	2.3	43.2	7.9	46.6	73.3	9.1	62.1	364	113
Stockpile #4										
Lab #0952	08-08-17	2.4	49.3	8.9	39.4	85.4	10.7	57.1	390	122
Lab #1328	11-09-17	2.2	51.6	7.7	38.5	87.4	10.4	56.0	392	117
SIMPSON MATERIALS COMPANY, VALLEY PARK, MO										
SKYLINE MATERIALS, LLC - GILLIAM, GILLIAM, MO										
Stockpile #1										
Lab #0947	08-08-17	9.2	50.0	6.5	34.3	92.2	7.1	50.7	374	72
Lab #1142	09-26-17	6.9	48.9	7.3	36.9	89.8	6.9	53.5	384	74
Lab #1296	11-02-17	8.2	51.5	6.7	33.6	89.5	6.3	50.5	362	64
Lab #1419	12-12-17	7.4	50.1	6.9	35.6	90.9	6.4	52.3	380	67
SKYLINE MATERIALS-GLASGOW, GLASGOW, MO										
Stockpile #2										
Lab #0948	08-08-17	2.2	51.6	9.4	36.8	86.0	5.0	55.3	381	55
Lab #1143	09-26-17	2.0	50.9	9.4	37.7	85.3	4.9	56.1	383	55
Lab #1297	11-02-17	1.4	49.2	8.7	40.7	86.3	5.0	58.2	402	58
Lab #1420	12-12-17	1.2	48.3	8.7	41.8	88.3	6.0	59.1	417	71
Stockpile #3										
Lab #0949	08-08-17	2.6	49.8	7.7	39.9	88.9	7.0	57.0	405	80
Lab #1144	09-26-17	5.6	51.5	6.6	36.3	87.4	6.4	53.1	372	68
Lab #1298	11-02-17	4.8	52.9	5.0	37.3	88.9	6.3	53.5	381	67
Lab #1421	12-12-17	3.0	49.1	7.4	40.5	89.1	5.6	57.2	408	64

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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
SKYLINE MATERIALS LLC - MIAMI, SLATER, MO										
SOUTH CENTRAL COOP, CAINSVILLE, MO										
SMASAL AGGREGATE, LINCOLN, MO										
Stockpile #1										
Lab #0847	08-03-17	0.5	42.7	13.3	43.5	84.2	0.3	62.2	419	4
Lab #1130	09-20-17	0.7	45.3	15.0	39.0	91.6	0.2	59.3	435	2
Lab #1293	11-02-17	0.4	39.6	12.3	47.7	81.7	1.0	65.0	425	13
SPRINGFIELD AGGREGATE SUPPLY, JEFFERSON CITY, MO										
S-S-S INC, LOUISIANA, MO										
Stockpile #1										
Lab #1010	08-16-17	6.7	46.0	11.1	36.2	96.3	0.4	54.4	419	4
Lab #1102	09-12-17	7.2	43.3	11.0	38.5	95.2	0.8	55.9	426	9
Lab #1262	10-25-17	5.9	43.9	9.7	40.5	95.1	0.7	57.3	436	8
CON-AGG OF MO, LLC-BOONE QUARRIES, COLUMBIA, MO										
Stockpile #1										
Lab #0913	08-08-17	3.8	36.6	9.7	49.9	87.0	10.8	64.9	451	140
Lab #1088	09-11-17	6.0	36.7	10.1	47.2	84.6	10.9	62.4	423	136
Lab #1211	10-16-17	2.3	38.8	10.2	48.7	86.9	10.7	64.5	449	138
Lab #1409	12-07-17	6.3	37.9	8.5	47.3	85.8	10.1	61.9	425	125
Stockpile #2										
Lab #1410	12-07-17	13.8*	44.6	6.9	34.7	87.4	10.4	50.0	0	0
STRACK STONE CO. - LODI, LLC, SILVA, MO										
T&M STONE QUARRY LLC, FAIR PLAY, MO										
TABLE ROCK ASPHALT CONST CO INC, BRANSON, MO										
Stockpile #2										
Lab #0977	08-08-17	7.2	44.6	6.7	41.5	89.0	10.9	56.7	403	124
Lab #1166	09-28-17	7.5	44.9	7.2	40.4	88.1	10.9	55.9	394	122
TABLE ROCK ASPHALT CONST CO INC-KIM, BRANSON, MO										
Stockpile #1										
Lab #0987	08-10-17	2.8	50.9	10.8	35.5	91.9	1.4	54.7	402	15
Lab #1168	09-28-17	4.4	35.9	8.8	50.9	90.9	10.7	65.2	474	139
TABLE ROCK ASPHALT CONST. CO.-NICKE, BRANSON, MO										
Stockpile #1										
Lab #0978	08-08-17	4.7	53.5	10.1	31.7	87.7	0.6	51.1	359	6
Lab #1165	09-28-17	1.1	46.0	12.6	40.3	88.2	0.5	59.4	419	6
Lab #1324	11-08-17	2.9	44.8	11.7	40.6	87.8	0.4	58.8	413	5
THE ANDERSONS, INC.-SEYMOUR, IN, MAUMEE, OH										
THE HITCHING POST, BOURBON, MO										
Stockpile #2										
Lab #0905	08-07-17	0.7	1.5	10.3	87.5	95.8	11.7	94.1	721	220
Lab #1093	09-12-17	0.7	1.5	14.7	83.1	94.7	11.3	92.3	699	209
Lab #1218	10-16-17	1.1	1.8	11.6	85.5	94.8	11.5	92.9	705	214
TOWER ROCK STONE CO, STE GENEVIEVE, MO										
Stockpile #1										
Lab #0929	08-07-17	0.2	37.0	13.7	49.1	95.9	1.8	66.6	511	24
Lab #1046	09-13-17	1.2	41.8	13.2	43.8	94.9	2.2	62.2	472	27
Lab #1274	10-30-17	2.6	42.6	11.5	43.3	96.4	0.8	60.9	469	10
Lab #1404	11-28-17	0.4	33.7	16.8	49.1	96.0	1.6	67.6	519	22
Stockpile #2										
Lab #0930	08-07-17	1.5	38.3	11.8	48.4	96.7	5.6	65.1	503	73
Lab #1047	09-13-17	0.4	46.9	12.3	40.4	96.7	7.5	59.5	460	89
Lab #1275	10-30-17	0.3	37.7	13.5	48.5	96.0	2.8	66.0	507	37
Lab #1405	11-28-17	3.2	42.0	10.9	43.9	96.4	6.1	60.9	470	74
Stockpile #3										
Lab #0931	08-07-17	1.1	43.8	13.6	41.5	97.8	0.2	60.6	474	2
Lab #1048	09-13-17	1.0	43.0	15.6	40.4	97.0	0.4	60.5	470	5
Lab #1276	10-30-17	0.8	36.0	16.5	46.7	98.0	0.2	65.6	514	3
Lab #1382	11-28-17	1.1	43.6	14.0	41.3	97.4	0.2	60.6	472	2
Stockpile #5										
Lab #0932	08-07-15	3.5	54.2	10.6	31.7	94.0	1.3	51.6	388	13
Lab #1049	09-13-17	4.6	47.4	11.9	36.1	94.1	0.4	55.1	415	4
Lab #1277	10-30-17	4.0	51.4	12.0	32.6	91.7	0.5	52.7	386	5
Lab #1383	11-28-17	5.0	47.6	10.3	37.1	94.2	2.4	55.2	416	26
TRAGER LIMESTONE-NETTLETON, CHILLICOTHE, MO										
Stockpile #1										
Lab #0861	08-01-17	0.6	48.7	11.4	39.3	80.0	1.2	58.3	373	14
Lab #1078	09-13-17	0.5	48.4	11.6	39.5	78.8	0.9	58.6	369	11
Lab #1257	10-26-17	0.9	52.9	8.8	37.4	75.8	1.6	55.9	339	18
Lab #1349	11-17-17	0.5	53.4	10.0	36.1	79.7	1.0	55.5	354	11

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		+8	-8+40	-40+60	-60				ENM	EMg
TRAGER LIMESTONE LLC-GALLATIN, CHILLICOTHE, MO										
Stockpile #1										
Lab #0049	07-09-17	0.1	48.3	12.8	38.8	73.1	1.5	58.6	342	18
Lab #0859	08-01-17	0.5	49.7	11.5	38.3	80.2	0.8	57.6	370	9
Lab #1076	09-13-17	0.2	52.5	11.4	35.9	74.5	1.3	55.9	333	15
Lab #1256	10-26-17	0.3	50.6	9.9	39.2	77.6	0.9	57.8	359	10
Lab #1348	11-17-17	0.7	49.2	10.5	39.6	75.0	1.0	58.2	349	12
TRI COUNTY WATER AUTHORITY, INDEPENDENCE, MO										
Stockpile #1										
Lab #0956	08-09-17	0.1	0.4	0.2	99.3	82.1	1.6	99.5	654	32
Lab #1141	09-25-17	0.0	0.8	0.4	98.8	78.4	1.5	99.2	622	30
Lab #1346	11-16-17	1.2	2.3	0.6	95.9	79.6	1.2	96.8	617	23
TWIN STATES SAND & GRAVEL - REGER, MILAN, MO										
WINFIELD UNITED, ELDORA, IA										
WASHINGTON COUNTY AGGREGATES, INC., POTOSI, MO										
Stockpile #1										
Lab #1060	09-13-17	0.9	41.9	13.5	43.7	98.6	12.2	62.3	491	152
Lab #1394	11-28-17	0.6	39.8	13.2	46.4	95.0	11.3	64.3	488	145
Stockpile #2										
Lab #0903	08-07-17	1.1	39.9	10.9	48.1	98.3	12.4	64.6	508	160
Lab #1061	09-13-17	1.4	40.7	13.4	44.5	98.3	11.9	62.7	493	149
Lab #1248	10-23-17	1.0	38.9	13.4	46.7	93.5	11.8	64.5	482	152
Lab #1393	11-28-17	0.7	41.4	12.5	45.4	98.3	11.5	63.3	497	145
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Stockpile #1										
Lab #1006	08-15-17	0.5	14.7	7.5	77.3	87.2	2.5	85.5	596	43
Lab #1107	09-12-17	1.1	11.2	8.1	79.6	87.7	2.3	87.3	612	40
Lab #1303	11-01-17	0.2	16.4	8.8	74.6	89.6	1.0	84.0	602	17
Lab #1413	11-29-17	0.3	21.0	12.1	66.6	89.3	1.1	79.1	565	17
FRED WEBER, INC.-NEW MELLE STONE, NEW MELLE, MO										
Stockpile #2										
Lab #0923	08-07-17	5.7	9.5	11.5	73.3	94.9	2.5	82.6	627	41
Lab #1070	09-14-17	1.0	7.3	11.1	80.6	94.8	2.7	89.1	676	48
Lab #1220	10-17-17	1.3	7.3	11.9	79.5	94.7	2.8	88.5	670	50
FRED WEBER INC-NORTH QUARRY, MARYLAND HEIGHTS, MO										
Stockpile #1										
Lab #0924	08-07-17	0.7	16.5	17.6	65.2	93.9	1.7	79.9	600	27
Lab #1055	09-13-17	7.4	19.3	10.9	62.4	93.9	2.5	73.8	554	37
Lab #1221	10-17-17	0.5	17.8	16.5	65.2	93.0	1.8	79.6	592	29
Lab #1401	11-30-17	1.2	20.6	18.8	59.4	93.8	1.5	75.8	569	23
WESTSIDE STONE CO, SPRINGFIELD, MO										
Stockpile #2										
Lab #0973	08-08-17	2.3	32.7	17.5	47.5	97.6	0.1	66.2	517	1
Lab #1158	09-27-17	2.7	32.0	17.3	48.0	97.0	0.2	66.4	515	3
WILKERSON BROS QUARRY, PARIS, MO										
Stockpile #3										
Lab #0898	08-03-17	1.3	47.8	12.8	38.1	85.4	0.4	57.7	394	5
Lab #1038	09-07-17	0.8	46.5	14.2	38.5	88.6	0.7	58.6	416	8
Lab #1231	10-06-17	1.3	46.9	13.7	38.1	94.0	2.3	58.0	436	27
Lab #1354	11-16-17	1.1	51.1	13.2	34.6	88.4	0.3	55.3	391	3
WILLARD ASPHALT - #18 SLEEPER, LEBANON, MO										
Stockpile #1										
Lab #0842	08-02-17	0.0	0.4	3.7	95.9	77.8	9.8	98.2	611	193
Lab #1125	09-19-17	0.0	0.7	3.4	95.9	79.4	10.0	98.1	623	196
Lab #1334	11-08-17	0.0	0.3	1.7	98.0	86.0	10.4	99.1	682	206
WILLARD ASPHALT PAVING, - #19, LEBANON, MO										
Stockpile #1										
Lab #0910	08-08-17	0.2	0.4	1.0	98.4	91.7	11.3	99.1	727	224
Lab #1056	09-12-17	0.0	0.6	1.1	98.3	91.1	11.4	99.1	722	226
Lab #1214	10-16-17	0.0	0.2	0.7	99.1	94.8	11.9	99.6	755	237
Lab #1313	11-09-17	0.5	1.0	0.8	97.7	94.0	11.4	98.4	740	224
WILLARD QUARRY-SLEEPER, LEBANON, MO										
Stockpile #1										
Lab #0841	08-02-17	0.4	39.2	14.9	45.5	89.9	10.5	64.2	462	135
Lab #1124	09-19-17	0.3	33.6	16.4	49.7	88.7	11.0	67.9	482	149
Lab #1333	11-08-17	0.6	36.1	16.5	46.8	90.2	10.7	65.7	474	141

TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2017

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
WILLARD QUARRIES- ST ROBERT, LEBANON, MO										
Stockpile #1										
Lab #0911	08-08-17	0.5	38.8	16.7	44.0	88.3	10.9	63.7	450	139
Lab #1057	09-12-17	0.8	45.5	16.5	37.2	84.0	10.5	58.5	393	123
Lab #1213	10-16-17	1.0	44.9	16.6	37.5	84.7	10.5	58.7	398	123
Lab #1314	11-09-17	0.8	45.5	14.7	39.0	82.9	10.1	59.2	393	120
WILLIAMSVILLE STONE CO, POPLAR BLUFF, MO										
Stockpile #1										
Lab #0883	08-02-17	0.4	34.5	16.2	48.9	97.7	11.7	67.2	526	157
Lab #1151	09-25-17	1.2	39.3	14.6	44.9	92.7	11.6	63.5	471	147

TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2017

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
DELTA GROWERS ASSN, CHARLESTON, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #1188	10-11-17	0.8	18.1	9.3	71.8	88.8	2.0	81.9	582	33
LEO O'LAUGHLIN, MACON, MO										
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0864	08-02-17	1.0	35.0	14.4	49.6	77.4	0.1	67.0	415	1
Lab #1082	09-14-17	1.9	35.6	13.7	48.8	94.7	0.4	65.9	499	5
Lab #1190	10-09-17	1.5	36.7	13.8	48.0	94.3	0.5	65.5	494	7
Lab #1320	11-08-17	1.2	33.4	13.3	52.1	91.3	0.3	68.4	500	4
LEO O'LAUGHLIN INC, MARCELINE, MO										
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0866	08-02-17	2.2	37.3	12.7	47.8	93.7	0.9	64.7	485	12
Lab #1083	09-14-17	1.4	34.2	13.1	51.3	88.8	0.5	67.7	481	7
Lab #1246	10-20-17	1.2	34.3	13.6	50.9	93.2	0.5	67.6	504	7
CENTRAL STONE, LA PLATA, MO										
CENTRAL STONE COMPANY - NEWARK, HANNIBAL, MO										
Lab #1081	09-14-15	6.6	42.4	9.8	41.2	89.8	3.3	57.7	414	38
Lab #0863	08-02-17	3.8	41.5	12.0	42.7	89.1	3.4	60.3	430	41
Lab #1189	10-09-17	7.1	40.3	9.0	43.6	87.9	3.4	59.1	415	40
Lab #1319	11-08-17	4.8	41.1	10.3	43.8	88.6	3.5	60.3	427	42

EXAMPLES OF FINENESS FACTOR CALCULATION, ENM AND EMg

DERIVATION OF FINENESS FACTOR

EXAMPLE

US Standard Sieve Fractions	Efficiency Index		% Found in sample		Fineness Components
Retained on 8	0	X	4.0	=	0
Pass. 8-Ret. On 40	.25	X	34	=	8.5
Pass. 40-Ret. On 60	.60	X	10	=	6.0
Passing 60	1.00	X	52.0	=	52.0

Sum of fineness components = FINENESS FACTOR = 66.5

EFFECTIVE NEUTRALIZING MATERIALS (ENM) (pounds per ton)

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

DRY AG LIME

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

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

FLUID AG LIME

80	640	576	512
70	560	504	448
60	480	432	384
50	400	360	320
40	320	288	256
30	240	216	192
20	160	144	128
10	80	72	64

EFFECTIVE MAGNESIUM (EMg) (pounds per ton)

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

FINENESS FACTOR

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

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

Address Service Requested

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