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2015 Report on Ohio Mineral Industries: An Annual Summary of the State's Economic Geology

with
Directories of Reporting Coal and Industrial Mineral Operators

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DIVISION OF GEOLOGICAL SURVEY
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PREFACE

The 2015 Report on Ohio Mineral Industries is presented concurrently with an article titled "Ohio Coal Beyond 2016: Present-day Research toward an Alternative Use." Ohio is in the midst of a substantial shift in fuel sources for electric power generation, from a historically heavily coal-dominated fuel supply to one that includes a larger percentage of natural gas every year. These developments present an interesting time to be a geologist in Ohio and reinforce the importance of coal-based research, considering the abundance of this natural resource in the state. This article can be found on the Ohio Department of Natural Resources (ODNR), Division of Geological Survey website at **http://geosurvey.ohiodnr.gov/extra-news-archives/2016-articles/ohio-coal-alternative-uses**.

Several changes and omissions have occurred in the 2015 report with the primary goal of releasing it earlier in the calendar year and making it more efficient to generate. The detailed oil-and-gas portion of the report was excluded to eliminate the duplicate reporting of these data between the Division of Geological Survey and the ODNR Division of Oil and Gas Resources. However, the total volumes and values for oil and gas are still present in the "Ohio Economic Geology in Brief" section of the report, as well as figure 1 and table 1. Detailed oil-and-gas drilling and production information can be found on the Division of Oil and Gas Resources website at **http://oilandgas.ohiodnr.gov**. Additionally, the "Ohio Directory of Coal Preparation Plants and Associated Facilities, by County," in Appendix A, has been removed. This change was made because the directory was not widely used and was difficult to accurately maintain. Any disposition tonnages or employment figures reported from preparation plants or associated facilities were assigned to the appropriate mining facilities when applicable. The other minor change to this year's report affects how employment wages are reported for industrial-mineral-mining operations. Median salary values were used to represent the typical pay of a worker producing a given commodity instead of the previously used average values. By using the median salary, abnormally high salaries that are not indicative of the ordinary worker's pay have less of a skewing effect on the final figure. These "outlier salaries" normally represent those working in management or other corporate positions and do not accurately represent the common pay range of the majority of workers in the industry.

This year also marks the first time that the report's commodity summaries, figures, and raw data are available for direct viewing and download on the Division of Geological Survey website at **http://geosurvey.ohiodnr.gov/economic-geology/mineral-industry-summaries**. By providing information in this format, others will be able to view and organize data in a way that is convenient for them. This will also increase the efficiency of fulfilling mineral commodity data requests and provide general statistics to users without having to download the full annual report.

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C1460-003

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CONTENTS

Preface iii
2015 Ohio ecomomic geology in brief 1
Coal 3
Production 5
Economic impact 5
Industrial minerals 9
Limestone and dolomite 11
Production 11
Economic impact 11
Sand and gravel 15
Production 15
Economic impact 15
Sandstone and conglomerate 18
Production 18
Economic impact 18
Clay and shale 20
Production 20
Economic impact 21
Salt 23
Production 23
Economic impact 23
Gypsum 24
Peat 24
References cited 24
Appendices A-1
Appendix A
2015 Coal companies with sales and/or production A-2
2015 Ohio directory of producing coal mine operators A-3
2015 Ohio directory of producing coal mine operators, by county A-6
Appendix B
2015 Ohio directory of industrial-mineral mine operators B-1
Appendix C
2015 Limestone/dolomite companies with sales and/or production C-1
2015 Ohio directory of limestone/dolomite mine operators reporting sales and/or production, by county C-2
Appendix D
2015 Sand and gravel companies with sales and/or production D-1
2015 Ohio directory of sand and gravel mining operators reporting sales and/or production, by county D-3
Appendix E
2015 Sandstone & conglomerate companies with sales and/or production E-1
2015 Ohio directory of sandstone/conglomerate mine operators reporting sales and/or production, by county.. E-2
Appendix F
2015 Clay companies with sales and/or production F-1
2015 Ohio directory of clay mine operators reporting sales and/or production, by county F-2
Appendix G
2015 Shale companies with sales and/or production G-1
2015 Ohio directory of shale mine operators reporting sales and/or production, by county G-2
Appendix H
2015 Ohio directory of salt mine and salt-brining plant operators reporting sales and/or production, by county H-1
Appendix I
2015 Ohio directory of peat mine operators reporting sales or production, by county I-1

C1460-005

CONFIDENTIAL

FIGURES

1. Graph showing value of coal, nonfuel minerals, and oil and gas in Ohio 2
2. Map showing coal production in Ohio in 2015, by county and quantity 3
3. Stratigraphic column of coals mined in Ohio during 2015 4
4. Graph showing sales and value of coal in Ohio since 1910 4
5. Map showing sales of limestone and dolomite in Ohio in 2015, by county and quantity 11
6. Stratigraphic column of industrial minerals mined in Ohio during 2015 14
7. Graph showing sales and value of limestone and dolomite in Ohio since 1960 14
8. Map showing sales of sand and gravel in Ohio in 2015, by county and quantity 15
9. Graph showing sales and value of sand and gravel in Ohio since 1960 15
10. Map showing sales of sandstone and conglomerate in Ohio in 2015, by county and quantity 18
11. Graph showing sales and value of sandstone and conglomerate in Ohio since 1920 18
12. Map showing clay sales in Ohio in 2015, by county and quantity 20
13. Map showing shale sales in Ohio in 2015, by county and quantity 20
14. Graph showing sales and value of clay in Ohio since 1960 22
15. Graph showing sales and value of shale in Ohio since 1960 22
16. Map showing counties producing salt in Ohio in 2015 and their rankings in sales 23
17. Graph showing sales and value of salt in Ohio since 1920 23
18. Graph showing sales and value of gypsum in Ohio since 1920 24
19. Graph showing sales and value of peat in Ohio since 1970 24

TABLES

1. 2015 Fuel and nonfuel mineral sales and production in Ohio 1
2. 2015 Ohio coal production, by county and mining method 3
3. 2015 Ohio coal production and sales, by county, in descending order of production 4
4. 2015 Ohio coal production, by production size group and change from 2014 4
5. 2015 Ohio coal production, by county and month 5
6. 2015 Ohio coal production, by county and seam 6
7. 2015 Disposition of Ohio coal, by county 7
8. 2015 Dollar value of Ohio coal at mine, by county and mining method 7
9. 2015 Wage and salary payments to Ohio coal mine employees, by county and occupational group 8
10. 2015 Value of Ohio industrial minerals 9
11. 2015 Employment at Ohio industrial-mineral operations, by county 10
12. 2015 Production of lime from Ohio stone, by county and use 11
13. 2015 Ohio limestone and dolomite sales, by county and use 12
14. 2015 Ohio sand and gravel sales, by county and use 16
15. 2015 Ohio sales of crushed sandstone and conglomerate, by county and use 19
16. 2015 Ohio sales of dimension sandstone, by county and use 19
17. 2015 Ohio clay sales, by county and use 21
18. 2015 Ohio shale sales, by county and use 22

A-1. Ohio counties and their state mine number abbreviations A-1

C1460-006

2015 Ohio Economic Geology in Brief

Reports were filed in 2015 for 90 coal-mining operations, including 3 mines with their own coal-washing facilities. Coal production was reported from 43 individual operations. Reports also were filed for 5 separate coal-washing plants and associated facilities. Of the 569 industrial-mineral-mining operations known to be operating in 2015, 331 operations were reported active. A total of 40 mines reported production of multiple mineral commodities, including coal and/or one or more industrial minerals.

The total tonnage of coal and industrial minerals produced in Ohio during 2015 was 122,244,014 tons or approximately 10.5 tons per capita. The total value[1] of coal was $752,894,580 in 2015; the value of oil and gas was $2,968,428,667; and the total value[1] of all industrial minerals was $1,139,237,282 in 2015 (table 1; fig. 1). The combined total value of fuel and nonfuel minerals produced in Ohio during 2015 was $4,860,560,529 or approximately $423 per capita. Reported and estimated total direct employment in the extractive industries of Ohio in 2015 was more than 11,000 people.

[1]Includes reported and estimated values. Some operations reporting sales did not report a value for those sales. A countywide- or statewide-average price per ton was calculated for each industrial-mineral commodity based on sales for which the value was reported. A countywide, average price per ton was calculated for coal based on sales for which the value was reported and method of production. These calculated averages were used to estimate the value of the sales for which the actual values were not reported.

TABLE 1. ***2015 Fuel and nonfuel mineral sales and production in Ohio***

Commodity	Production[1]	Sales[2]	Value[3]	Change in value from 2014 (percent)
Coal	16,922,616 tons	16,437,398 tons	$752,894,580	−30.5
Limestone and dolomite	65,654,995 tons	66,019,352 tons	$623,810,033	+5.7
Sand and gravel	31,515,972 tons	31,488,652 tons	$227,099,840	+8.0
Salt	5,620,128 tons	4,819,038 tons	$225,201,833	−2.6
Sandstone and conglomerate	1,392,060 tons	1,309,716 tons	$46,108,123	+3.0
Shale	570,030 tons	569,859 tons	$12,226,865	+10.7
Clay	567,253 tons	567,253 tons	$4,784,502	+3.8
Peat	960 tons	960 tons	$6,086	N/A[4]
Gas	1,009,739,549 thousand cubic feet	not available	$1,979,089,516	+2.1
Oil	26,898,835 barrels	not available	$989,339,151	−17.8

[1]The production figures for industrial minerals are estimates, as many operators do not know actual production. For those operators that do not report production, production is assumed equal to sales or estimated from ODNR Division of Mineral Resources Management records.
[2]Includes material for captive use.
[3]The FOB value of industrial minerals sold was estimated for mines that failed to report this information and for those producting material for captive use. These estimates were caluclated using a countywide- or statewide-average price per ton calculated on reported FOB values.
[4]No peat was sold or produced in 2014.

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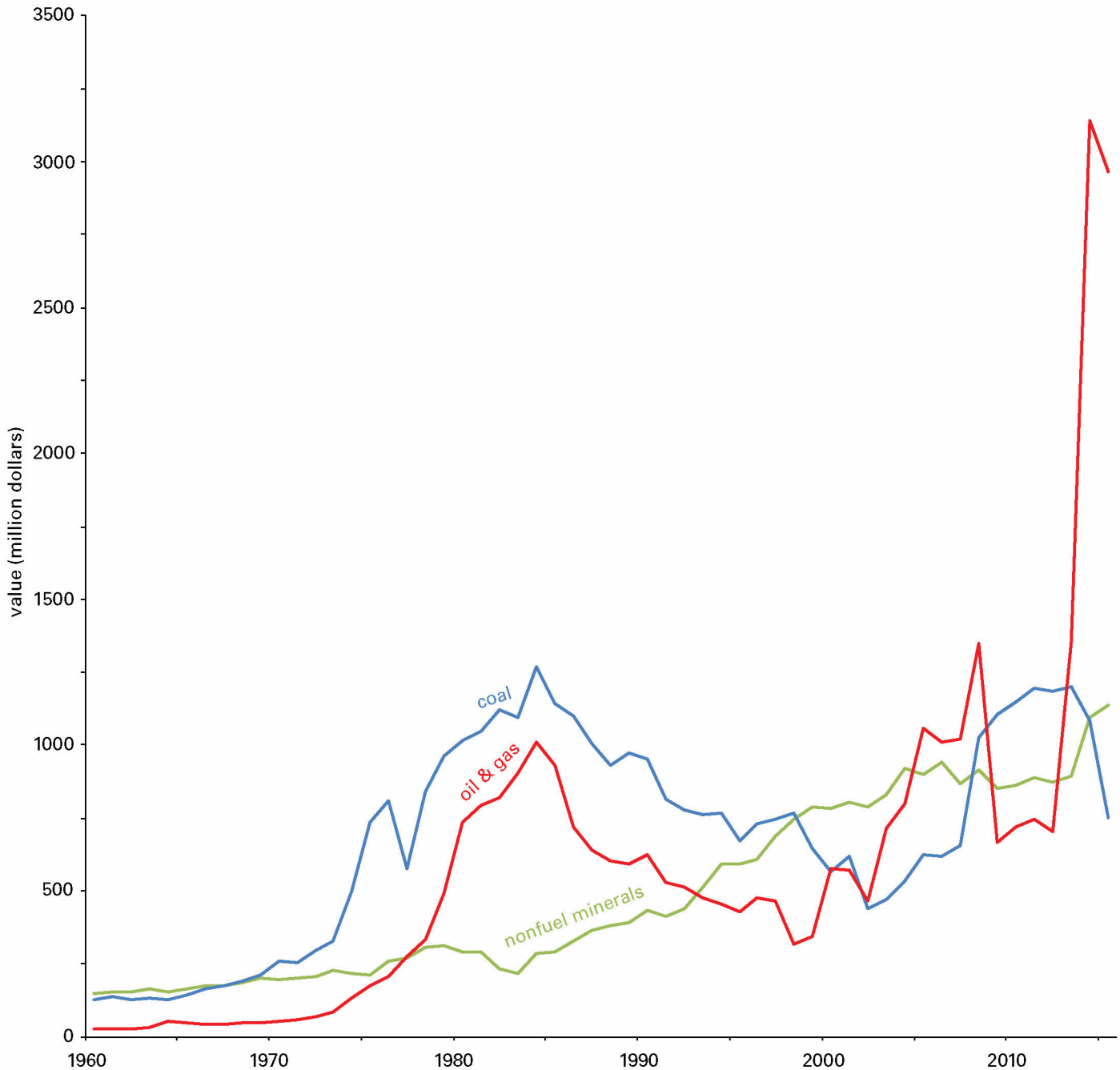

FIGURE 1. Value of coal, nonfuel minerals, and oil and gas in Ohio since 1960.

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COAL

(See also Appendix A)

Coal was first recognized in Ohio by pioneers during the 1740s and the first map of Ohio coal deposits was made in 1752 (Crowell, 1995). The first recorded coal production occurred in Jefferson County during 1800 and in the 216 years since, nearly 3.9 billion tons of coal have been produced from coal seams in the state (Crowell, 1995); this represents a value of over $200 billion in 2015 dollars. One new surface mine in Tuscarawas County began production during 2015. Throughout 2015, permits for mine expansions were issued for one underground mine and four surface mines, covering a total area of 449 acres. Permits also were issued for four new surface mines with a total area of 1,339 acres and two new underground mines with a total area of 15,340 acres. Two major coal company acquisitions at the beginning of 2015 were responsible for several changes in production norms and the active status of particular operations.

Ohio coal is used primarily to generate electricity; 59 percent of the state's electricity is produced by burning coal (EIA, 2016). An updated overview of coal and electricity in Ohio by Stucker (2015a) was released by the ODNR Division of Geological Survey in April 2015. Ohio coal also is used in commercial and industrial applications, while minor amounts are exported. Two new open-file reports quantifying the remaining resources of the Pittsburgh (No. 8) and Lower Freeport (No. 6a) coals were released by Sorrell and Spahr (2016a,b) in February 2016.

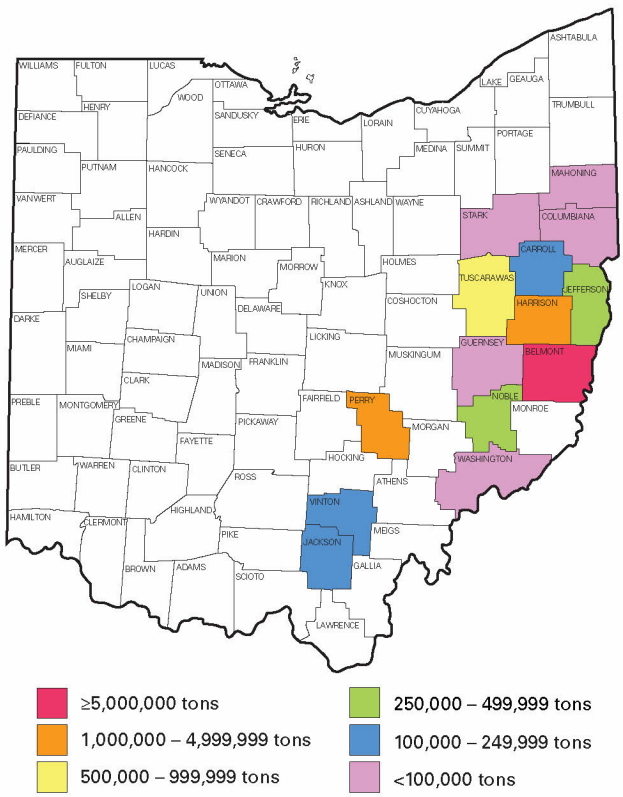

FIGURE 2. Coal production in Ohio in 2015, by county and quantity.

TABLE 2. *2015 Ohio coal production, by county and mining method*

County	All methods (short tons)	Total number of mines	Underground				Surface				
			Number of mines reporting	Production (short tons)			Number of mines reporting	Production (short tons)			
				Total	Longwall	Continuous miner		Total	Strip	Auger	Highwall
Belmont	10,640,895	7	2	10,004,731	8,996,917	1,007,814	5	636,164	363,301	19,952	252,911
Carroll	181,098	1	1	181,098		181,098					
Columbiana	175	1					1	175	175		
Guernsey	16,345	2					2	16,345	16,345		
Harrison	2,716,757	7	2	841,857		841,857	5	1,874,900	1,825,217	15,598	34,085
Jackson	131,968	2					2	131,968	131,968		
Jefferson	465,342	3	2	393,451		393,451	1	71,891	55,168		16,723
Mahoning	7,107	1					1	7,107	7,107		
Noble	326,334	3					3	326,334	326,334		
Perry	1,278,666	5	2	751,791		751,791	3	526,875	512,448	14,427	
Stark	57,591	1					1	57,591	23,170		34,421
Tuscarawas	867,259	7	1	133,359		133,359	6	733,900	410,470	26,702	296,728
Vinton	134,263	2					2	134,263	134,263		
Washington	98,816	1					1	98,816	98,816		
TOTAL[1]	16,922,616	43	10	12,306,287	8,996,917	3,309,370	33	4,616,329	3,904,782	76,679	634,868

[1] Production from mines operating in more than one county was evenly split between the counties involved unless a county specific breakdown was provided by the operator.

C1460-009

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SYSTEM	GROUP	LITHOSTRATIGRAPHIC UNITS
Permian	Dunkard	Washington (No. 12) coal
Pennsylvanian	Monongahela	Waynesburg (No. 11) coal Uniontown (No. 10) coal Meigs Creek (No. 9) coal Pomeroy (No. 8a, Redstone) coal Pittsburgh (No. 8) coal
	Conemaugh	Ames marine zone Harlem coal Wilgus coal Brush Creek marine zone Mahoning (No. 7a) coal
	Allegheny	Upper Freeport (No. 7) coal Lower Freeport (No. 6a) coal Middle Kittanning (No. 6) coal Lower Kittanning (No. 5) coal Vanport marine zone Clarion (No. 4a) coal Winters coal Newland (No. 4, Brookville) coal
	Pottsville	Upper Mercer (No. 3a) coal Quakertown (No. 2) coal Sharon (No. 1) coal

FIGURE 3. Stratigraphic column of coals mined in Ohio during 2015 (black), other significant coal beds (red), and associated key beds (blue) used for stratigraphic correlation. Modified from Larsen (1991, fig. 2), Collins (1979, fig. 3), and Brant and Delong (1960, table 9).

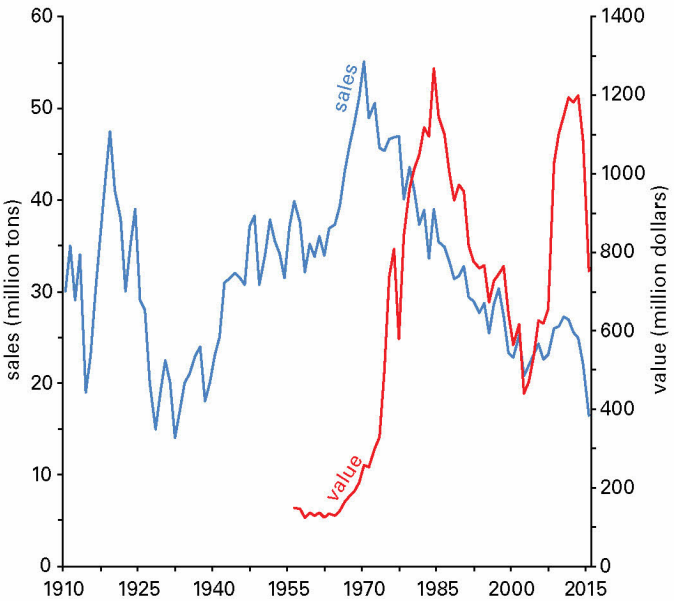

FIGURE 4. Sales and value of coal in Ohio.

TABLE 3. *2015 Ohio coal production and sales, by county, in descending order of production*

County	Production (short tons)	Sales (short tons)
Belmont	10,640,895	10,159,227
Harrison	2,716,757	2,700,897
Perry	1,278,666	1,278,666
Tuscarawas	867,259	867,259
Jefferson	465,342	476,611
Noble	326,334	326,334
Carroll	181,098	179,140
Vinton	134,263	135,765
Jackson	131,968	133,465
Washington	98,816	98,816
Stark	57,591	57,591
Guernsey	16,345	16,345
Mahoning	7,107	7,107
Columbiana	175	175
TOTAL	16,922,616	16,437,398

TABLE 4. *2015 Ohio coal production, by production size group and change from 2014*

Production size group	2015		Change from 2014 (short tons)
	Number of mines reporting	Production (short tons)	
1,000,000 tons and over	2	10,004,731	–2,616,769
500,000 to 999,999 tons	4	2,715,374	–301,163
250,000 to 499,999 tons	4	1,330,961	–2,447,031
100,000 to 249,999 tons	15	2,259,738	643,329
50,000 to 99,999 tons	6	444,677	–262,772
25,000 to 49,999 tons	3	119,860	36,917
Less than 25,000 tons	9	47,275	–105,731
TOTAL	43	16,922,616	–5,053,220

C1460-010

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TABLE 5. ***2015 Ohio coal production, by county and month***

County[1]	Production (short tons)												
	Total annual	January	February	March	April	May	June	July	August	September	October	November	December
Belmont	10,640,895	817,693	892,474	1,318,410	1,205,919	335,169	843,107	946,095	925,283	979,461	940,190	388,433	1,048,661
Carroll	181,098	15,079	22,075	20,829	18,079	10,710	10,710	11,220	17,595	21,398	12,493	9,180	11,730
Columbiana	175	39	29	11		1			12	8	15	55	5
Guernsey	16,345	7,683	7,326	1,309	27								
Harrison	2,716,757	239,331	223,187	264,154	232,205	238,905	268,908	209,939	228,533	211,408	200,055	176,190	223,942
Jackson	131,968	12,766	13,025	13,215	10,024	11,631	10,606	11,204	6,463	7,636	11,698	11,613	12,087
Jefferson	465,342	76,893	65,653	64,930	50,118	42,596	24,853	22,646	20,739	14,601	32,410	28,269	21,634
Mahoning	7,107		7,107										
Noble	326,334	26,374	26,235	25,765	25,880	29,363	30,572	29,480	28,128	30,996	29,501	18,920	25,120
Perry	1,278,666	101,613	116,715	105,957	97,146	90,103	113,818	108,845	120,153	114,202	106,228	84,669	119,217
Stark	57,591	34,652	18,087	4,852									
Tuscarawas	867,259	78,740	81,151	84,443	75,580	66,781	72,796	82,771	77,883	68,244	69,151	49,715	60,004
Vinton	134,263	14,058	11,107	14,818	13,829	11,392	10,691	7,734	6,770	11,669	10,131	10,614	11,450
Washington	98,816	6,576	4,417	5,197	5,523	7,629	9,884	10,204	8,182	10,768	11,908	8,302	10,226
TOTAL[2]	16,922,616	1,431,497	1,488,588	1,923,890	1,734,330	844,280	1,395,945	1,440,138	1,439,741	1,470,391	1,423,780	785,960	1,544,076

[1]Production from mines operating in more than one county was evenly split between the counties involved unless a county-specific breakdown was provided by the operator.
[2] Any tally inconsistencies are because of rounding of production tonnages.

Production

Coal was produced by 20 companies at 43 mines in 14 Ohio counties (fig. 2) during 2015. Production decreased 23.0 percent from 2014 (Stucker, 2015b), totaling 16,922,616 tons in 2015 (table 2). In 2015, tonnage from underground production exceeded tonnage from surface production, continuing a trend that began in 1995; 4,616,329 tons (27.3 percent of total production) were produced at 33 surface mines, and 12,306,287 tons (72.7 percent of total production) were produced at 10 underground mines (table 2).

Of 25 coal-producing states, Ohio ranked twelfth in 2015. The top five states, in descending order of production, were Wyoming (375.8 million tons), West Virginia (95.5 million tons), Kentucky (61.4 million tons), Illinois (56.1 million tons), and Pennsylvania (51.3 million tons; USDOE, 2016). Ohio had the largest percentage drop in coal production of any state from 2014 to 2015.

The five leading counties for 2015 production were Belmont, Harrison, Perry, Tuscarawas, and Jefferson Counties (table 3 and fig. 2); these counties produced 94.4 percent of the 2015 total production. March had the highest production of any month in 2015 (table 5).

The Pennsylvanian-age Monongahela Group Pittsburgh (No. 8) coal was the most heavily mined seam, followed by the Allegheny Group Middle Kittanning (No. 6), the Monongahela Group Meigs Creek (No. 9), the Allegheny Group Lower Freeport (No. 6a), and the Allegheny Group Lower Kittanning (No. 5) seams (see fig. 3 and table 6).

Coal produced from these five seams constituted 93.7 percent of the total 2015 production. Since 1816, mining of the Pittsburgh (No. 8) in eastern Ohio has produced more than 1 billion tons of coal (Crowell, 1995). This is the fourteenth consecutive year that production from the Pittsburgh has totaled greater than ten million tons.

In underground mining, 73.1 percent of the coal was produced by longwall mining and 26.9 percent was mined by continuous miner; no coal was produced by conventional mining in 2015. In surface operations, 84.6 percent of the coal was mined by conventional surface methods, 13.7 percent was mined by highwall miner, and 1.7 percent was mined by augering.

Rail was the primary means of coal disposition, carrying 60.2 percent of the total sales. Trucking transported 37.8 percent, and water carried 2.0 percent of the coal sold in 2015. A total of 258,152 tons (1.6 percent) of the coal produced was reported as stored (table 7).

Economic Impact

A total of 16,437,398 tons of coal were sold in 2015; total value[2] was $752,894,580 (fig. 4). This was the first year since 2007 that coal values were less than $1 billion.

The average price per ton of all coal sold was $45.80; surface-mined coal averaged $43.37 per ton and underground-mined coal averaged $46.75 (table 8).

The total average annual employment reported in 2015 was 2,352 employees; 1,764 of these were production employees. Production employees worked an average of 220 days producing coal in 2015. The median annual wage earned by all production employees was $70,230 based on those employees for whom wages were reported. The median annual wage for surface-mine production employees was $57,202, and the median annual wage for underground-mine production employees was $78,348. Wages earned by all employees totaled $153,432,766 in 2015 (table 9).

[2]Includes reported and estimated values. See footnote 1, p. 1.

C1460-011

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TABLE 6. ***2015 Ohio coal production, by county and seam***

County[1]	Production (short tons)													
	Total	Tionesta (No. 3b)	Newland (No. 4, Brookville)	Clarion (No. 4a)	Lower Kittanning (No. 5)	Middle Kittanning (No. 6)	Lower Freeport (No. 6a)	Upper Freeport (No. 7)	Mahoning (No. 7a)	Pittsburgh (No. 8)	Pomeroy (No. 8a, Redstone)	Meigs Creek (No. 9)	Waynesburg (No. 11)	Wilgus
Belmont	10,640,895									10,031,523		584,533	24,839	
Carroll	181,098					181,098								
Columbiana	175							175						
Guernsey	16,345									16,345				
Harrison	2,716,757						638,691	17,691		1,591,902	295,349	173,124		
Jackson	131,968			61,327	32,112	13,034	23,403							2,092
Jefferson	465,342							106,735	286,716	65,241	6,650			
Mahoning	7,107				7,107									
Noble	326,334											326,334		
Perry	1,278,666				88,751	1,142,336	4,220	43,359						
Stark	57,591				17,608	39,983								
Tuscarawas	867,259		5,426		181,338	553,949		126,546						
Vinton	134,263	71,231		18,010	42,780	2,242								
Washington	98,816											98,816		
TOTAL[2]	16,922,616	71,231	5,426	79,337	369,696	1,932,642	666,314	294,506	286,716	11,705,011	301,999	1,182,807	24,839	2,092

[1]Production from mines operating in more than one county was evenly split between the counties involved unless a county specific breakdown was provided by the operator.

[2]Any tally inconsistencies are because of rounding of production tonnages.

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TABLE 7. ***2015 Disposition of Ohio coal, by county***

County[1]	Number of mines	Disposition[1] (short tons)					
		Total[2]	Rail	Water	Truck	Conveyor	Stored
Belmont	7	10,159,227	8,511,906		1,647,321		197,259
Carroll	1	179,140			179,140		7,339
Columbiana	1	175			175		
Guernsey	2	16,345			16,345		
Harrison	7	2,700,897	626,455		2,074,442		35,043
Jackson	2	133,465			133,465		7,303
Jefferson	3	476,611			476,611		
Mahoning	1	7,107			4,593	2,514	4,269
Noble	3	326,334		326,334			
Perry	5	1,278,666	751,791		526,875		
Stark	1	57,591			57,591		
Tuscarawas	7	867,259			867,259		
Vinton	2	135,765			135,765		6,939
Washington	1	98,816			98,816		
TOTAL[3]	43	16,437,398	9,890,152	326,334	6,218,398	2,514	258,152

[1]Tonnage of coal shipped from mines operating in more than one county was evenly split between the counties involved and type(s) of disposition reported unless county-specific information was provided by the operator.
[2]Does not reflect tonnage stored. Reflects tonnage sold and shipped from mine.
[3]Any tally inconsistencies are because of rounding.

TABLE 8. ***2015 Dollar value of coal at mine, by county and mining method***

County[1]	Total				Underground				Surface			
	No. of mines	Tonnage sold (short tons)	Value at mine[2] (dollars)	Per ton average (dollars)	No. of mines	Tonnage sold (short tons)	Value at mine[1] (dollars)	Per ton average (dollars)	No. of mines	Tonnage sold (short tons)	Value at mine[1] (dollars)	Per ton average (dollars)
Belmont	7	10,159,227	435,343,632	$42.85	2	9,523,063	407,528,400	$42.79	5	636,164	27,815,232	$43.72
Carroll	1	179,140	13,765,185	$76.84	1	179,140	13,765,185	$76.84				
Columbiana	1	175	7,000	$40.00					1	175	7,000	$40.00
Guernsey	2	16,345	727,529	$44.51					2	16,345	727,529	$44.51
Harrison	7	2,700,897	131,760,780	$48.78	2	825,997	48,292,066	$58.47	5	1,874,900	83,468,714	$44.52
Jackson	2	133,465	6,441,904	$48.27					2	133,465	6,441,904	$48.27
Jefferson	3	476,611	24,165,261	$50.70	2	404,719	20,962,983	$51.80	1	71,892	3,202,278	$44.54
Mahoning	1	7,107	494,099	$69.52					1	7,107	494,099	$69.52
Noble	3	326,334	9,953,189	$30.50					3	326,334	9,953,189	$30.50
Perry	5	1,278,666	79,468,540	$62.15	2	751,791	56,000,000	$74.49	3	526,875	23,468,540	$44.54
Stark	1	57,591	2,565,270	$44.54					1	57,591	2,565,270	$44.54
Tuscarawas	7	867,259	38,641,701	$44.56	1	133,359	6,000,000	$44.99	6	733,900	32,641,701	$44.48
Vinton	2	135,765	6,546,602	$48.22					2	135,765	6,546,602	$48.22
Washington	1	98,816	3,013,888	$30.50					1	98,816	3,013,888	$30.50
TOTAL	43	16,437,398	752,894,580	$45.80	10	11,818,069	552,548,634	$46.75	33	4,619,329	200,345,946	$43.37

[1]Sales reported from mines operating in more than one county were evenly split between the counties involved unless county-specific information was provided by the operator.
[2]The FOB value of coal sold was estimated for those mines that failed to report this information. These estimates were calculated using a countywide-average price per ton by mining method, based on reported FOB values deemed to be reliable.

C1460-013

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TABLE 9. ***2015 Wage and salary payments to Ohio coal mine employees, by county and occupational group***

County[1]	Wage and salary payments (nearest whole dollar)[2,3]			
	All occupations	Underground production employees	Surface production employees	Other
Belmont	$105,309,263	$60,120,900	$4,624,579	$40,563,784
Carroll	$4,645,031	$4,132,267		$512,764
Guernsey	$1,386,892		$788,275	$598,617
Harrison	$21,763,276	$10,123,425	$8,977,542	$2,662,309
Jefferson	$3,952,400	$3,047,569	$614,665	$290,166
Mahoning	$70,575			$70,575
Noble	$1,803,070		$1,803,070	
Perry	$4,030,970		$3,627,873	$403,097
Stark	$503,839		$453,455	$50,384
Tuscarawas	$5,595,269	$1,388,772	$3,678,748	$527,749
Vinton	$3,687,567		$1,612,606	$2,074,961
Washington	$684,614		$684,614	
TOTAL	$153,432,766	$78,812,933	$26,865,427	$47,754,406

[1]For those operations reporting activity in more than one county, wage and salary payments were evenly split between the counties involved unless county-specific information was provided by the operator.

[2]For those operations reporting only a total wage and salary payment for all workers, an equal pay rate was assumed for all employees. In cases where quarterly employment was reported but wage and salary payments were not, wage and salary payments for that quarter were estimated from reported payments in the other quarters to arrive at the annual figure. For mines reporting employment and no wage and salary payments, wage and salary payments were estimated using a countywide or statewide average.

[3]Any tally inconsistencies are because of rounding.

C1460-014

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INDUSTRIAL MINERALS

(See also Appendix B)

Industrial minerals are nonmetallic, nonfuel rocks or minerals that have economic value and are essential to modern society. Industrial minerals have been mined or quarried in Ohio since the establishment of early settlements and include salt, sandstone, conglomerate, clay, shale, limestone, dolomite, gypsum, sand, and gravel. Hundreds of construction, chemical, and industrial products rely on the availability of industrial minerals.

The production of multiple commodities, including coal and/or one or more industrial minerals, is important to successful mine operations in many areas of Ohio. The most common multiple operations are sand and gravel with clay; coal along with clay, shale, or limestone; and limestone with associated clay or shale. The production of sand and gravel along with clay is often located in glaciated portions of northern and western Ohio, where deposits of sand and gravel can occur with clay-rich glacial tills. The Pennsylvanian-age cyclic sedimentation in eastern Ohio includes coals, clays, shales, and limestones in close proximity, allowing for economic recovery of multiple commodities.[3]

Industrial minerals were produced in a total of 82 Ohio counties in 2015 and 325 companies held valid permits for 569 industrial-mineral mining operations. Industrial minerals were reported as produced or sold by 217 companies from 331 active operations. The combined value of all industrial minerals sold in 2015 was $1,139,237,282 (table 10). This is the second consecutive year that the combined value of all nonfuel minerals has exceeded one billion dollars.

The total average annual employment reported in 2015 for industrial-mineral operations was 4,021 people (2,475 production employees and 1,546 nonproduction employees; table 11). Total wages for all employees at industrial-mineral operations in 2015 were $223,137,353. The median annual wage, based on those employees for whom wages were reported, was $55,092.

[3]The following links will provide more information on the general bedrock and glacial geology of Ohio:
http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/BedrockGeology/BG-1_8.5x11.pdf
http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Glacial/glacial.pdf

TABLE 10. ***2015 Value of Ohio industrial minerals***

Commodity	Sales (tons)	Change from 2014 (tons/percent)	Value[1]	Percent of total value
Limestone and dolomite	66,019,352	+7,348,713/+12.5	$623,810,033	54.8
Sand and gravel	31,488,652	+852,092/+2.8	$227,099,840	19.9
Salt	4,819,038	−1,092,219/−18.5	$225,201,833	19.8
Sandstone and conglomerate	1,309,716	+66,515/+5.4	$46,108,123	4.0
Shale	569,859	+112,598/+24.6	$12,226,865	1.1
Clay	567,253	+31,723/+5.9	$4,784,502	0.4
Peat	960	+960/—[2]	$6,086	< 0.1
Total	104,774,830	+7,320,382/+7.5	$1,139,237,282	100.0

[1]The FOB value of industrial minerals sold was estimated for those mines that failed to report this information and for those producing material for captive use. These estimates were calculated using a countywide- or statewide-average price per ton based on reported FOB values.
[2]No peat was sold in 2014.

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TABLE 11. *2015 Employment at Ohio industrial-mineral operations, by county*

County	Total Employees[1]	Production Employees	Nonproduction Employees
Adams	18	14	4
Allen	21	13	8
Ashland	16	12	4
Ashtabula	24	6	18
Athens	12	5	7
Auglaize	21	18	3
Belmont	196	47	149
Brown	31	18	13
Butler	126	44	82
Carroll	4	4	1
Champaign	14	8	6
Clermont	40	35	5
Columbiana	33	25	8
Coshocton	43	33	10
Crawford	15	15	0
Cuyahoga	214	114	100
Darke	7	5	2
Defiance	7	6	1
Delaware	26	26	0
Erie	85	69	16
Franklin	180	97	83
Geauga	80	58	22
Greene	161	48	113
Guernsey	64	50	14
Hamilton	76	51	29
Hancock	7	7	0
Hardin	20	11	9
Harrison	2	2	0
Highland	22	20	5
Hocking	45	17	28
Holmes	37	24	13
Huron	1	1	0
Jackson	3	3	0
Knox	77	52	25
Lake	17	13	4
Licking	35	25	10
Logan	52	29	23
Lorain	4	3	1
Lucas	59	41	18
Madison	4	3	1

TABLE 11. *2015 Employment at Ohio industrial-mineral operations, by county (cont.)*

County	Total Employees[1]	Production Employees	Nonproduction Employees
Mahoning	84	44	40
Marion	13	11	2
Meigs	23	18	5
Mercer	34	19	15
Miami	57	40	17
Monroe	9	9	0
Montgomery	48	37	11
Morrow	6	6	0
Muskingum	71	55	16
Noble	20	17	3
Ottawa	111	79	32
Paulding	45	34	11
Perry	4	3	1
Pickaway	7	8	1
Pike	10	8	2
Portage	92	78	14
Preble	30	20	10
Putnam	2	2	0
Richland	18	13	5
Ross	12	10	2
Sandusky	242	213	29
Scioto	20	18	2
Seneca	124	58	66
Shelby	16	13	3
Stark	89	70	19
Summit	93	1	92
Tuscarawas	243	150	99
Union	47	30	17
Van Wert	31	22	9
Warren	32	24	8
Washington	24	17	7
Wayne	40	31	9
Wood	89	66	23
Wyandot	143	111	32
TOTAL 74 counties	3,828	2,407	1,437

[1]Any tally inconsistencies are because of computer rounding produced by partial-year employment.

C1460-016

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LIMESTONE AND DOLOMITE

(See also Appendix C)

Limestone and dolomite are Ohio's most versatile industrial minerals. Both are used by the construction industry as aggregate, as an essential ingredient in the cement industry, to produce lime, as a flux in the steel and glass industries, as filler in a multitude of products, as an agricultural supplement, in water purification, and as a building stone. Ohio has long been a national leader in the production of lime and construction aggregates.

In 2015, the primary use for crushed and broken limestone and dolomite was road construction/resurfacing. Other major uses for various forms of limestone and dolomite included stone for asphaltic concrete and Portland cement concrete, commercial building construction, and the production of lime. Since 2010, the value of limestone and dolomite sales has increased each year.

Production

Limestone and dolomite were reported sold or produced by 51 companies at 100 operations in 51 Ohio counties during 2015 (fig. 5). Reported production totaled 65,654,995 tons. Lime produced from Ohio limestone and dolomite totaled 1,273,071 tons in 2015 and came from four operations in Ottawa, Sandusky, and Seneca Counties (table 12).

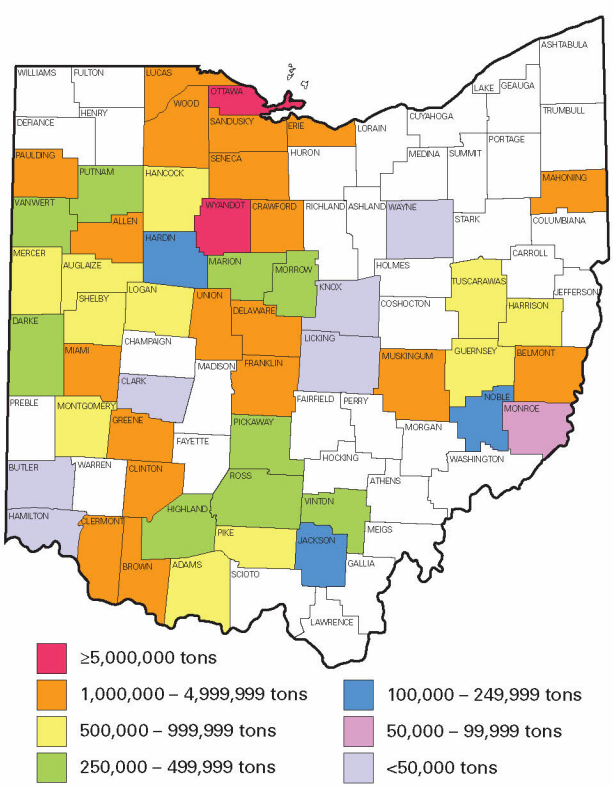

FIGURE 5. Sales of limestone and dolomite in Ohio in 2015, by county and quantity.

Ohio ranks fifth in the production of crushed stone (which includes crushed sandstone) out of 50 producing states. The states leading Ohio in the production of crushed stone, in descending order, are Texas, Pennsylvania, Missouri, and Florida (USGS, 2016a).

Devonian-age and Silurian-age carbonates located in the western half of Ohio are the primary geologic units producing crushed stone. Pennsylvanian-age and Mississippian-age limestones are important sources of aggregate in local markets of eastern Ohio (Stout, 1941; Lamborn, 1951), particularly the Youngstown (Mahoning County) and Zanesville (Muskingum County) areas. The top five geologic units in Ohio producing limestone or dolomite during 2015, in order of largest tonnage (see fig. 6), were:

- Columbus Limestone (Devonian)
- Lockport Dolomite (Silurian)
- Detroit River Group (Devonian)
- Greenfield/Tymochtee Dolomites (Silurian)
- Cedarville Dolomite (Silurian)

Ohio ranks fourth nationally in the production of lime out of 29 producing states and Puerto Rico. The top five states, in descending order of lime production, are Missouri, Alabama, Kentucky, Ohio, and Texas (USGS 2016b).

Economic Impact

Estimated sales of limestone and dolomite totaled 66,019,352 tons, (+12.5 percent from 2014; fig. 7 and table 13; Stucker, 2015b). Wyandot, Ottawa, Franklin, Sandusky, and Erie Counties accounted for 40.7 percent of those sales.

The total value[4] of limestone and dolomite sold in 2015 was $623,810,033 (fig. 7). Average price per ton was $9.45.

An annual average of 1,494 employees worked an average of 197 days to produce limestone and dolomite. Total wages of $120,890,004 were paid to a total of 2,309 employees (1,494 production employees and 815 nonproduction employees. The median annual wage, based on those employees for whom wages were reported, was $49,360.

[4]Includes reported and estimated values. See footnote 1, p. 1.

TABLE 12. *2015 Production of lime from Ohio, by county and use*

County	Total tons[1]	Building (tons)	Chemical and industrial (tons)	Refractory (tons)
Ottawa	126,774	78,950	47,824	
Sandusky	879,846		879,846	
Seneca	266,451		266,451	
TOTAL	1,273,071	78,950	1,194,121	

[1]Burning produced a 45.4% weight loss.

C1460-017

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TABLE 13. *2015 Ohio limestone and dolomite sales, by county and use*

County	Tons sold														
	Total all types	Crushed and broken stone										Dimension stone	Stone for portland cement manufacture	Agricultural stone (aglime)	Raw stone for burning
		Total	Riprap	Flux stone	Stone for portland cement concrete	Stone for asphaltic concrete	Road construction/ resurfacing	Commercial building	Railroad ballast	Extenders/ fillers	Unspecified/ other				
Adams	796,739	796,739						796,739							
Allen	1,147,312	1,134,648	5,656		118,500	195,151	55,465	16,324	9,000		734,552			12,664	
Auglaize	542,231	542,106	2,105		239,001	45,000		256,000						125	
Belmont	1,523,437	1,523,437	3,023				1,065,150				455,264				
Brown	1,522,673	1,522,673					1,522,673								
Butler	31,088	31,088									31,088				
Clark	640	640									640				
Clermont	1,480,500	1,468,500	3,500		22,000	184,000	65,000	1,194,000						12,000	
Clinton	1,611,222	1,581,318	43,605		192,935	385,871	567,729	243,313	30,464		117,401			29,904	
Crawford	1,169,000	1,009,000	7,000		319,000	254,000					429,000			160,000	
Darke	341,157	341,157	157				341,000								
Delaware	2,970,000	2,933,000	33,000		774,000	379,000					1,747,000			37,000	
Erie	4,366,539	4,155,209	63,678		442,809	340,134	271,607				3,036,981			211,330	
Franklin	4,695,357	4,680,328	3,810		295,183	120,554		743,478			3,517,303			15,029	
Greene	1,517,515	576,515	335		2,971	2,433	44,785	28,300			497,691		941,000		
Guernsey	762,195	762,195					762,195								
Hamilton	14,506	14,506									14,506				
Hancock	692,000	692,000	1,000		18,000	154,000			28,000		491,000				
Hardin	158,428	158,428									158,428				
Harrison	746,008	746,008	4,981				711,679	16,865			12,483				
Highland	412,872	402,010	4,286			156,759	240,965							10,862	
Jackson	226,411	226,411									226,411				
Knox	5,619	5,619					140	5,479							
Licking	2,233	2,233					885	1,348							
Logan	609,746	609,746	28,649		196,451		20,464	163,708			200,474				
Lucas	2,031,878	2,031,878									2,031,878				
Mahoning	2,456,392	2,456,392	6,837				492,869				1,956,686				
Marion	481,000	478,000	5,000		57,000	94,000					322,000			3,000	
Mercer	617,959	617,959					617,959								
Miami	1,311,002	1,197,705	6,851	8,534	86,175		398,681	218,000		127,283	352,181			113,297	
Monroe	68,409	68,409					68,409								
Montgomery	620,531	620,531					620,531								
Morrow	288,000	288,000					288,000								
Muskingum	1,378,291	1,378,291	9,244								1,369,047				
Noble	208,836	208,836	894				68,843				139,099				

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Ottawa	5,848,736	5,569,833	91,463		87,600	20,800	4,041,236	216,800			1,111,934					278,903
Paulding	1,274,158	777,847									777,847		496,311			
Pickaway	300,967	300,967	7,900		50,000	100,000	100,000	25,000	5,000		13,067					
Pike	904,650	904,650	48,200		200,000	200,000	250,000	150,000	10,000		46,450					
Putnam	313,000	313,000			62,000						251,000					
Ross	298,447	298,447					100,000	150,000			48,447					
Sandusky	4,448,618	2,415,027	11,653		184,589	226,242	5,332	624,822			1,362,389				12,790	2,020,801
Seneca	2,063,883	1,447,009	6,093		72,600	113,484	354,147	2,951		1,238	896,496	4,148			24,548	588,178
Shelby	639,521	639,521	8,287				631,234									
Tuscarawas	510,143	510,143	15,697				494,446									
Union	2,110,211	2,110,211					2,110,211									
Van Wert	465,559	465,559			31,000						434,559					
Vinton	276,301	276,301					276,301									
Wayne	6,156	6,156			537	1,969	31	3,619								
Wood	2,231,286	2,218,991	21,906		395,937	419,029	608,787	225,000		1,633	546,699				12,295	
Wyandot	7,519,990	7,401,990	52,000	110,000	1,413,951	655,861	23,762	197,809	6,000	52,000	4,890,607				118,000	
TOTAL	66,019,352	60,917,167	496,810	118,534	5,262,239	4,048,287	17,220,516	5,279,555	88,464	182,154	28,220,608	4,148	1,437,311		772,844	2,887,882

C1460-019

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SYSTEM	GROUP	LITHOSTRATIGRAPHIC UNITS
Pleistocene		Glacial clay
Permian	Dunkard	
Pennsylvanian	Monongahela	Fishpot limestone Redstone limestone
	Conemaugh	Bellaire sandstone Ames limestone Buffalo sandstone Brush Creek limestone
	Allegheny	Lower Kittanning clay Vanport limestone Putnam Hill limestone Clarion shale Newland-Brookville clay/limestone
	Pottsville	Tionesta clay Middle Mercer clay Flint Ridge clay Massillon sandstone Sharon conglomerate
Mississippian		Maxville Limestone Logan Formation Black Hand Sandstone Buena Vista Sandstone
Devonian	Detroit River	Berea Sandstone Bedford Shale Ohio Shale Chagrin Member Ten Mile Creek Dolomite Dundee Limestone Delaware Limestone Columbus Limestone
Silurian	Salina	Salina Dolomite "Salt beds" Tymochtee Dolomite Greenfield Dolomite Peebles Dolomite Cedarville Dolomite Lockport Dolomite Laurel Limestone Dayton Limestone Brassfield Limestone
Ordovician	Cincinnati	
	Black River	Black River Limestone

FIGURE 6. Stratigraphic column of industrial minerals mined in Ohio during 2015. Modified from Slucher and others (2006), Ohio Division of Geological Survey (1990), and Brant and Delong (1960, table 9).

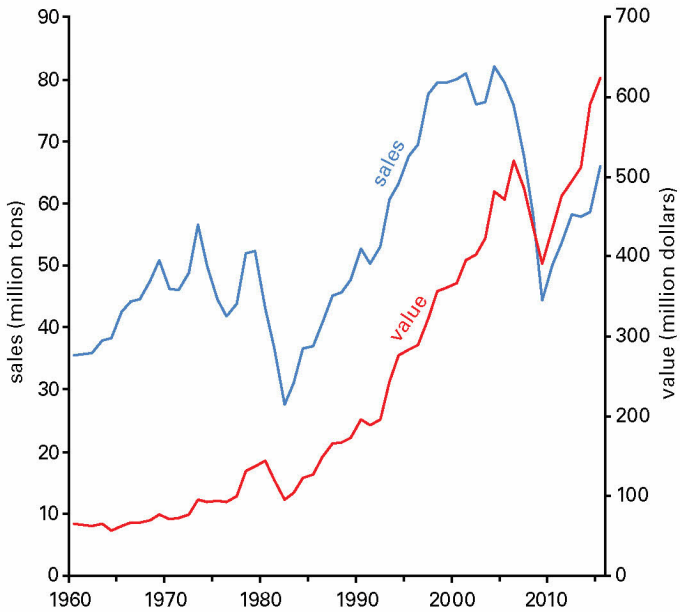

FIGURE 7. Sales and value of limestone and dolomite in Ohio.

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SAND AND GRAVEL

(See also Appendix D)

Sand and gravel are common raw materials but can be found as major constituents of asphalt, concrete, mortar, landscaping, roofing shingles, soil additives, and many other products. Sand-and-gravel production increased rapidly in Ohio beginning in the 1950s with the development of improved mining and processing machinery and increased demand from road building (Ohio Division of Geological Survey, 1959). Many depleted sand-and-gravel operations have been redeveloped as parks, residential, or commercial facilities because of their proximity to urban areas.

Commercial and residential building, Portland cement concrete, asphaltic concrete, and road construction/resurfacing were the major uses for Ohio sand and gravel in 2015 (table 14).

Production

Sand and gravel were reported sold or produced by 133 companies at 193 operations in 53 Ohio counties during 2015 (fig. 8). Estimated production of sand and gravel totaled 31,515,972 tons in 2015.

Ohio ranks tenth nationally, out of 50 producing states, in the production of construction sand and gravel. The states leading Ohio, in descending order of production, are Texas, California, Minnesota, Washington, Michigan, Colorado, Arizona, North Dakota, and Wisconsin (USGS, 2016c).

Sand-and-gravel deposits in Ohio primarily are associated with Wisconsinan-age glacial outwash and kame terraces in the valleys and tributaries of the Great Miami, Scioto, and Muskingum Rivers located in the southwestern, central, and eastern portions of the state, respectively. Important sand-and-gravel deposits also are found in glacial kames in northeastern Ohio, particularly south of Cleveland in Portage, Summit, and Stark Counties. Additional sand-and-gravel resources are found in beach ridges associated with ancestral Lake Erie and alluvium of modern floodplains of the Ohio River and its tributaries.

Economic Impact

Estimated sales of sand and gravel totaled 31,488,652 tons, (+2.8 percent from 2014; fig.9 and table 14; Stucker, 2015b). Sand accounted for 17,853,235 tons of the total sand and gravel sold, and gravel accounted for 13,635,417 tons (table 14). Portage, Stark, Hamilton, Butler, and Tuscarawas Counties led in sales, accounting for 46.3 percent of the total.

The total value[5] of sand and gravel sold in 2015 was $227,099,840 (fig. 9). Average price per ton was $7.21.

An annual average of 893 employees worked an average of 162 days in 2015 to produce sand and gravel. Total wages of $71,756,905 were paid to a total of 1,397 employees (893 production employees and 504 nonproduction employees). The median annual wage, based on those employees for whom wages were reported, was $49,622.

[5]Includes reported and estimated values. See footnote 1, p. 1.

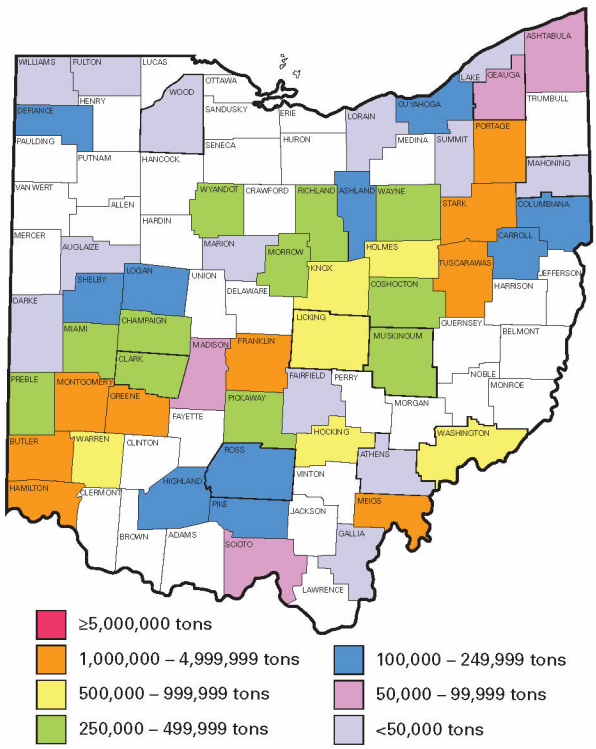

FIGURE 8. Sales of sand and gravel in Ohio in 2015, by county and quantity.

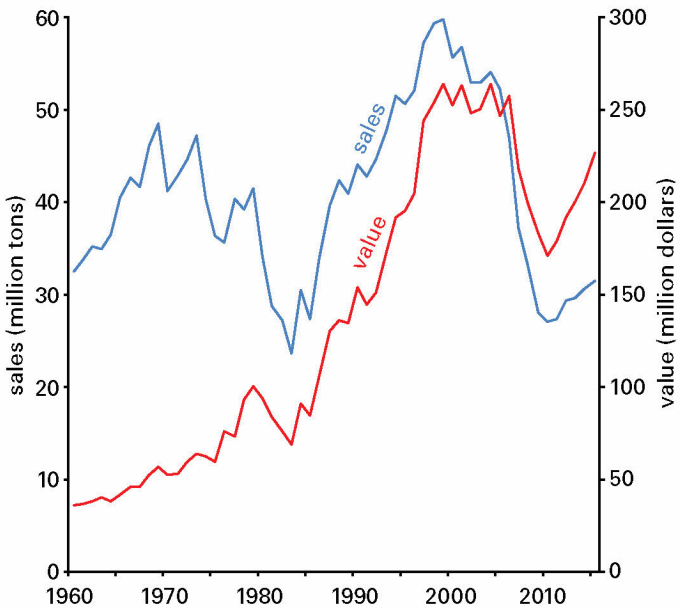

FIGURE 9. Sales and value of sand and gravel in Ohio.

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TABLE 14. *2015 Ohio sand and gravel sales, by county and use*

County	Tons sold															
	Total sand and gravel	Total sand	Total gravel	Building		Portland cement concrete		Asphaltic concrete		Road construction/ resurfacing		Filtration		Foundry sand	Industrial sand	Other/unspecified	
				Sand	Gravel	Sand	Gravel	Sand	Gravel	Sand	Gravel	Sand	Gravel			Sand	Gravel
Ashland	238,257	81,240	157,017	24,372	47,140					48,744	94,261					8,124	15,616
Ashtabula	87,665	56,158	31,507	28,013	23,987	15,420	7,081					4,475				8,250	439
Athens	30,494	16,576	13,918													16,576	13,918
Auglaize	2,136	1,395	741	1,395	741												
Butler	2,599,055	1,247,795	1,351,260	290,230	350,931	305,813	201,614				142,888					651,752	655,827
Carroll	142,516	71,258	71,258					71,258			60,569		10,689				
Champaign	288,488	117,118	171,370		46,222	46,707	13,013	46,706	18,196		21,465					23,705	72,474
Clark	409,676	192,429	217,247	22,000	22,500	76,938	87,543	70,000	84,429	10,000	22,057					13,491	718
Columbiana	197,620	116,487	81,133	7,100	5,905					51,493	4,100	9,563	20,688		3,099	45,232	50,440
Coshocton	255,765	130,945	124,820	18,884	1,518					31,652	39,679					80,409	83,623
Cuyahoga	102,630	102,630				102,630											
Darke	42,000	20,000	22,000	20,000	22,000												
Defiance	195,186	174,238	20,948	167,434	16,753	6,804											4,195
Fairfield	2,648	2,183	465													2,183	465
Franklin	1,985,384	1,161,038	824,346	115,958	346,620	810,324	184,755	75,675	118,470							159,081	174,501
Fulton	888	888		888													
Gallia	2,920	2,920														2,920	
Geauga	61,167	54,998	6,169	750		13,928		32,498			1,148		5,021			7,822	
Greene	1,406,088	505,623	900,465	6,250	41,000	213,657	182,935	43,181	132,008		93,363				20,350	222,185	451,159
Hamilton	2,724,116	1,607,958	1,116,158	476,493	548,297	328,135	160,675		37,513		30,634					803,330	339,039
Highland	114,267	71,201	43,066		14,744	65,345			18,429			5,856	1,042				8,851
Hocking	595,952	429,936	166,016	57,332	36,079	57,283	29,561	86,716	59,696	24,394	9,259		103	3,500		200,711	31,318
Holmes	836,162	368,304	467,858	80,503	167,551	183,078	69,959	58,188	75,116	32,992	135,869	13,543	19,363				
Knox	793,437	409,330	384,107	13,743	76,969	178,760	17,383	99,541	45,879		57,049		27,954			117,286	158,873
Lake	9,511	9,511														9,511	
Licking	982,876	546,328	436,548	49,262	236,787	124,895	14,078	52,016	46,913	10,000	32,074					310,155	106,696
Logan	125,727	47,762	77,965	906		3,410										43,446	77,965
Lorain	3,578	3,578		3,578													
Madison	57,637	24,610	33,027	6,176	33,027					18,434							
Mahoning	2,341		2,341		607						597		1,137				
Marion	18,903	13,719	5,184	3,057	914	10,617	943				143		1,888			45	1,296
Meigs	1,465,792	912,043	553,749	403,130	345,582	508,913	208,167										
Miami	449,844	245,508	204,336	26,292	44,464	533				218,463	159,872	220					
Montgomery	1,171,995	539,508	632,487	219,825	259,618	55,750	59,500			60	22,040				11,000	252,873	291,329
Morrow	288,000	126,000	162,000	1,000		58,000		29,000								38,000	162,000

Muskingum	337,380	243,061	94,319	5,657	7,273			26,327	8,937	208	619					210,869	77,490
Pickaway	305,921	156,558	149,363		20,000	60,000		60,000	50,000	233	11,349					36,325	68,014
Pike	168,374	119,524	48,850	119,524	48,850												
Portage	3,689,661	2,578,092	1,111,569	230,678	168,716	1,109,564	178,329	357,053	407,478	47,157	68,821		60,351	700		832,940	227,874
Preble	348,617	167,812	180,805	105,721	153,694					62,091	27,111						
Richland	414,218	197,340	216,878	24,651	100,174			47,656	50,814		12,436					125,033	53,454
Ross	119,630	59,688	59,942	5,530	20,197	10,932	3,292	16,379	19,260		268					26,847	16,925
Scioto	52,328	38,592	13,736	14,285	11,198	21,226	2,538									3,081	
Shelby	239,186	88,668	150,518			80,182	63,806		44,279							8,486	42,433
Stark	3,502,934	2,040,205	1,462,729	274,088	267,150	365,000	26,140	445,066	507,117	235,439	325,906					720,612	336,416
Summit	10,572	10,556	16	10,556	16												
Tuscarawas	2,074,621	1,280,529	794,092	378,515	320,798	228,916	52,261	186,138	115,596	412,155	299,160			2,074	54,944	17,787	6,277
Warren	794,679	335,641	459,038	249,109	426,572	4,097		9,013	7,374							73,422	25,092
Washington	957,089	640,408	316,681	27,466	8,035	277,089	16,070		48,941		12,739					335,853	230,896
Wayne	482,170	269,871	212,299	43,198	157,529	151,029	6,245	53,468	28,503	18,711	16,495	3,465	3,527				
Williams	1,008		1,008														1,008
Wood	12	12				12											
Wyandot	299,531	215,463	84,068	32,199	53,894	76,572		97,231				1,175	30,174			8,286	
TOTAL[1]	31,488,652	17,853,235	13,635,417	3,565,748	4,454,052	5,551,559	1,585,888	1,963,110	1,924,948	1,222,226	1,701,971	38,297	181,937	6,274	89,393	5,416,628	3,786,621

[1]Any tally inconsistencies are because of rounding.

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SANDSTONE AND CONGLOMERATE

(See also Appendix E)

Extensive high-quality sandstone and conglomerate deposits are located in central and eastern Ohio, from near Lake Erie to the Ohio River. During the mid-1800s, these geologic resources were developed into a large building-stone industry, glass production, and to support the steel and associated industries. Many prominent buildings in the state use local building stones, including the Ohio Statehouse, Cleveland's Old Stone Church, The Ohio State University's Orton Hall, Cincinnati's City Hall, and numerous other churches, monuments, and historic buildings. Ohio led the nation in sandstone production for many decades; this natural resource continues to support the state's industries today.

Crushed sandstone was used primarily for construction, glass sand, industrial sand, hydraulic fracturing proppant, and aggregate (table 15). Dimension stone was used primarily as finished building stone (table 16).

Production

Sandstone and conglomerate were reported sold and/or produced by 20 companies at 27 operations in 17 Ohio counties during 2015 (fig. 10). Reported production of sandstone and conglomerate was 1,392,060 tons in 2015.

Based on the latest data available from the USGS in 2012, Ohio ranks nineteenth out of 33 producing states nationally in production of all dimension stone. Ohio ranks fourth in the production of sandstone dimension stone. Presently in Ohio, nearly all the dimension stone produced is sandstone. Nationwide, limestone and granite dominate dimension-stone production, consisting of over two-thirds of total production. The top five states, in descending order of total dimension-stone production, are Texas, Indiana, Wisconsin, Massachusetts, and Georgia (USGS, 2016d). National standings for crushed stone are included in the "Limestone and Dolomite" section (p. 11).

The Pennsylvanian-age Sharon conglomerate in northeastern Ohio was the most productive sandstone mined for industrial purposes during 2015. The Pennsylvanian-age Massillon sandstone and the Mississippian-age Black Hand Sandstone also were important sources of high-silica sandstone. The Massillon sandstone and the Devonian-age Berea Sandstone of northern Ohio, as well as the Mississippian-age Buena Vista Sandstone in southern Ohio, were the primary geologic units quarried for building stone (Bownocker, 1915; see also fig. 6).

Economic Impact

Sales of sandstone and conglomerate totaled 1,309,716 tons (+5.4 percent from 2014; fig. 11; Stucker, 2015). Geauga, Wayne, Lake, Mahoning, and Knox Counties accounted for 88.2 percent of the total sales. Crushed sandstone and conglomerate accounted for 1,280,760 tons of the total sales (table 15) and dimension stone accounted for 28,956 tons (table 16).

The total value[6] of sandstone and conglomerate sold in 2015 was $46,108,123 (fig. 11). Average price per ton was $32.26 for crushed stone and $165.26 for dimension stone.

An annual average of 229 employees worked an average of 154 days in 2015 to produce sandstone and conglomerate. Total wages of $14,277,027 were paid to a total of 313 employees (229 production employees and 84 nonproduction employees). The median annual wage, based on those employees for whom wages were reported, was $44,994.

[6]Includes reported and estimated values. See footnote 1, p. 1.

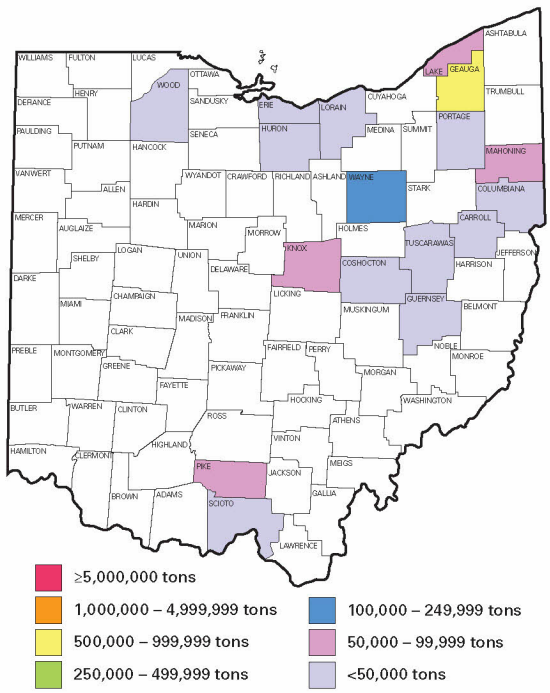

FIGURE 10. Sales of sandstone and conglomerate in Ohio in 2015, by county and quantity.

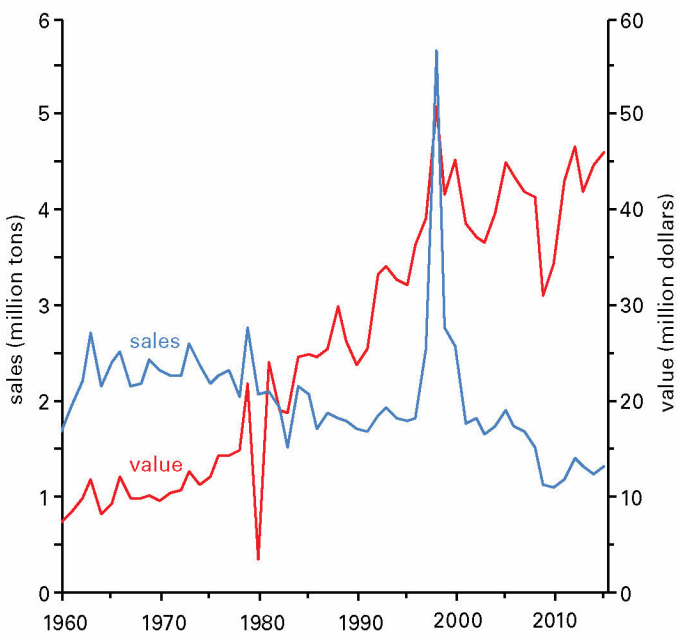

FIGURE 11. Sales and value of sandstone and conglomerate. Value line dashed where data not available.

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TABLE 15. *2015 Ohio sales of crushed sandstone and conglomerate, by county and use*

County	Tons sold														
	Total	Foundry sand	Glass sand	Metallurgical pebble	Refractory	Riprap	Aggregate	Silica flour	Polishing/ grinding sand	Fire and furnace sand	Engine sand	Frac sand	Construction	Industrial sand	Other/ unspecified
Carroll	6,404					6,404									
Columbiana	9,061					238							3,323		5,500
Geauga	771,345	105,293	145,215				23,176		32			21,442	226,910	47,355	201,922
Guernsey	40,596														40,596
Knox	69,865		24,000	500								5,000	15,000	13,000	12,365
Lake	77,646						40,265						37,381		
Mahoning	71,541												71,541		
Pike	57,998	7,092										775	651	4,645	44,835
Portage	19,226														19,226
Tuscarawas	350														350
Wayne	139,335					3,733	131,059						4,543		
Wood	17,393												17,393		
TOTAL	1,280,760	112,385	169,215	500		10,375	194,500		32			27,217	376,742	65,000	324,794

TABLE 16. *2015 Ohio sales of dimension sandstone, by county and use*

County	Tons sold									
	Total	Refractory	Rough construction	Rubble	Grindstones	Rough architectural	Finished	Curbing	Flagging	Other/ unspecified
Coshocton	10,016						10,016			
Erie	7,887		1,397	7			6,483			
Huron	5,620		5,620							
Knox	755					460	295			
Lorain	3,564			2,190			1,374			
Scioto	1,114						1,114			
TOTAL	28,956		7,017	2,197		460	19,282			

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CLAY AND SHALE

(See also Appendices F and G)

The ceramics industry in Ohio has a long and dynamic history. Potteries were established by the early 1800s to supply dinnerware and by the early 1900s Ohio was producing tremendous amounts of building bricks, sewer pipe, roof and floor tiles, paving bricks, art pottery, and refractory products. Edward Orton, Jr., established the first ceramics engineering program in the nation at Ohio State University in 1894. Ohio is home to the leading producer of unglazed quarry tile in the United States; one of the nation's oldest continually operating tile manufacturers; and a 110-year-old roofing tile manufacturer whose products can be seen in 34 states and on nine federal buildings in Washington, D.C. Both the American Ceramic Society and the Edward Orton, Jr. Ceramic Foundation are headquartered in Westerville, Ohio. Ohio clay and shale still is being used to produce important ceramic products, though production tonnages are much less than 100 years ago. General discussions of clay and shale geology in Ohio can be found in Lamborn and others (1938) and Stout and others (1923).

Clay and shale mined in Ohio in 2015 was used largely for cement manufacturing, captive use in the production of common clay products, such as building bricks; in the construction industry; and to produce lightweight aggregate (tables 17, 18). Ohio ceramic products are shipped throughout the eastern United States and Canada.

Production

Clay was reported sold and/or produced by 24 companies at 28 operations in 17 Ohio counties during 2015 (fig. 12). Reported production of clay in 2015 was 567,253 tons.

Shale was reported sold and/or produced by 16 companies at 22 operations in 13 Ohio counties during 2015 (fig. 13). Reported production of shale in 2015 was 570,030 tons.

Based on 2012 data, the latest available from USGS, Ohio ranks sixth out of 37 producing states nationally in the production of common clay and shale. The states leading Ohio are Texas, Alabama, North Carolina, Georgia, and Virginia (USGS, 2016e).

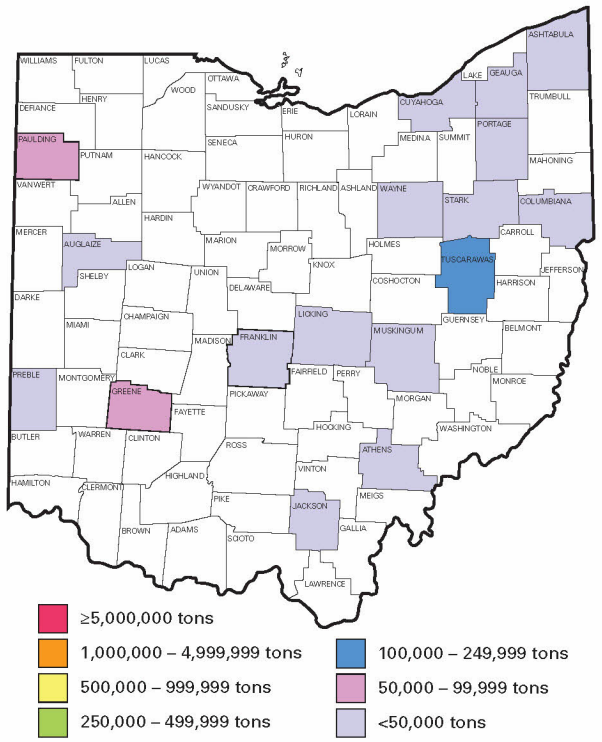

FIGURE 12.—Clay sales in Ohio in 2015, by county and quantity.

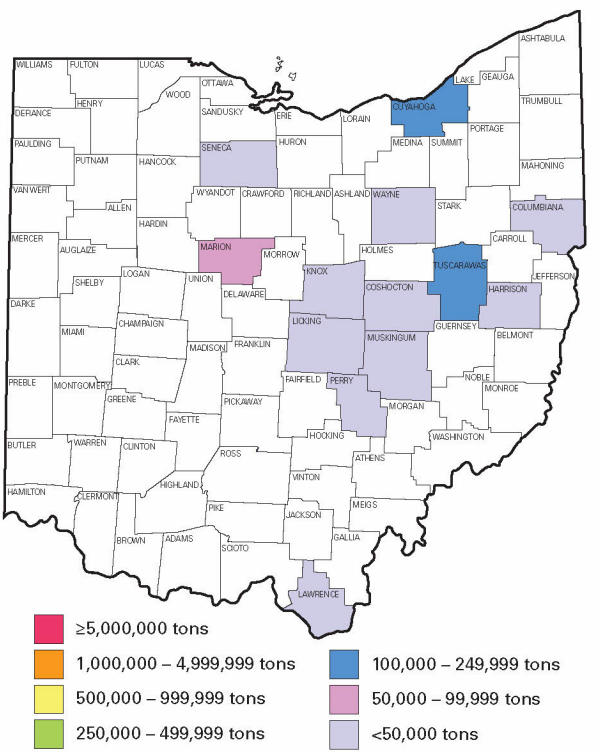

FIGURE 13.—Shale sales in Ohio in 2015, by county and quantity.

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Economic Impact

Clay sales (including material for captive use) totaled 567,253 tons (+5.9 percent from 2014; fig 14; Stucker, 2015); Tuscarawas, Paulding, Greene, Licking, and Jackson Counties accounted for 83.9 percent of the total sales (table 17).

The total value[7] of clay sold (including material for captive use) in 2015 was $4,784,502 (fig. 14). Average price was $8.43 per ton.

An annual average of 46 employees worked mining clay (including multiple commodities) for an average of 122 days in 2015. Total wages of $2,379,864 were paid to a total of 68 employees (48 production employees and 20 nonproduction employees). The median annual wage, based on those employees for whom wages were reported, was $34,634.

Shale sales (including material for captive use) totaled 569,859 tons (+24.6 percent from 2014; fig. 15; Stucker, 2015); Cuyahoga, Tuscarawas, Marion, Harrison, and Perry Counties accounted for 82.5 percent of the total sales (table 18).

The total value[8] of shale sold (including material for captive use) in 2015 was $12,226,865 (fig. 15). Average price was $21.46 per ton.

An annual average of 24 employees worked mining shale (including multiple commodities) for an average of 130 days in 2015. Total wages of $1,208,904 were paid to a total of 34 employees (24 production employees and 10 nonproduction employees). The median annual wage, based on those employees for whom wages were reported, was $35,358.

Nearly all the clay and shale produced in Ohio is used to produce value-added products (e.g., building bricks, industrial ceramics, pottery, expanded aggregate, quarry tile), thus the economic impact is much greater than the combined $17.0 million mined value.

[7]Includes reported and estimated values. See footnote 1, p. 1.

[8]Includes reported and estimated values. See footnote 1, p. 1.

TABLE 17. ***2015 Ohio clay sales, by county and use***

County	Tons sold[1]								
	Total	Common clay products	Stoneware	Vitrified products	Cement manufacture	Refractories	Construction	Landfill use	Other/ unspecified
Ashtabula	3,843						3,285		558
Athens	15,200								15,200
Auglaize	1,247	1,247							
Columbiana	13,147	13,147							
Cuyahoga	3,830	3,830							
Franklin	16,800							16,800	
Geauga	5,889	5,889							
Greene	70,000				70,000				
Jackson	32,159	32,159							
Licking	45,000							40,000	5,000
Muskingum	11,807	11,807							
Paulding	91,689				91,689				
Portage	4,307	1,122					3,185		
Preble	510						510		
Stark	14,272	14,272							
Tuscarawas	237,263	6,543						80,524	150,196
Wayne	290						290		
TOTAL	567,253	90,016			161,689		7,270	137,324	170,954

[1]Any tally inconsistencies are because of rounding of total tons sold.

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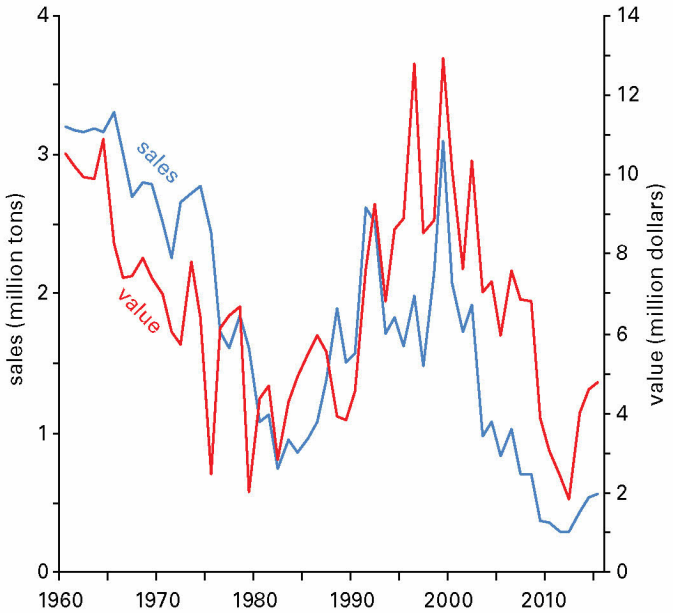

FIGURE 14.—Sales and value of clay in Ohio.

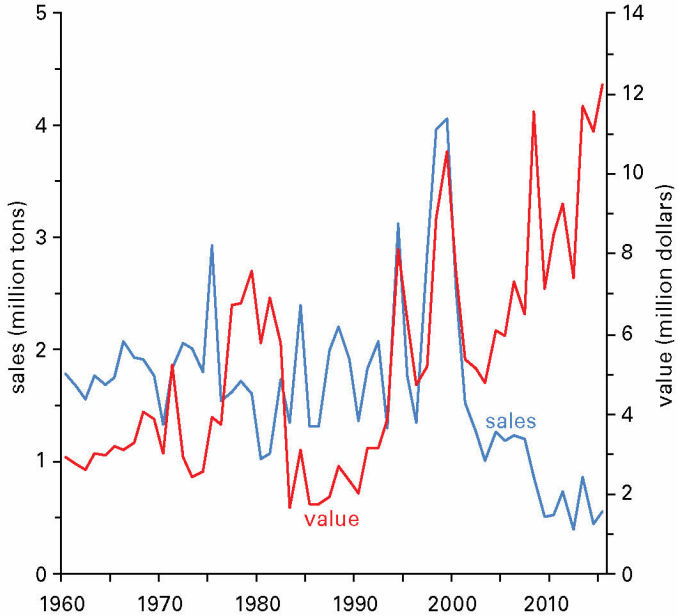

FIGURE 15.—Sales and value of shale in Ohio.

TABLE 18. *2015 Ohio shale sales, by county and use*

County	Tons sold							
	Total	Common clay products	Vitrified products	Cement manufacture	Lightweight aggregate	Construction	Landfill use	Other/ unspecified
Columbiana	13,782	13,782						
Coshocton	10,252	10,252						
Cuyahoga	185,000				185,000			
Harrison	28,608	28,608						
Knox	1,505							1,505
Lawrence	13,623	13,623						
Licking	20,800	20,800						
Marion	95,218	95,218						
Muskingum	17,498	17,498						
Perry	21,622	21,622						
Seneca	6,177							6,177
Tuscarawas	139,663	29,757						109,906
Wayne	16,111				16,100	11		
TOTAL	569,859	251,160			201,100	11		117,588

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SALT

(See also Appendix H)

Salt is one of the first industrial minerals produced in Ohio and was a valuable commodity to early pioneers who obtained it from natural springs. The first State Legislature enacted laws concerning salt springs in 1803–1804 and wells were drilled in Jackson and Muskingum Counties, leading to the first commercial salt production in the state. The most important area for early salt production was in Meigs County, beginning in 1850. By 1903, Ohio was producing 14.7 percent of all the salt in the United States (Bownocker, 1906).

The modern salt industry in Ohio began in 1956 with the construction of the underground salt mine at Fairport Harbor in Lake County. A second large underground operation was constructed in Cleveland, beginning in 1957. The primary use for Ohio salt in 2015 was ice control. Salt also was used as an additive in animal feed, for cattle blocks, and as a commercial and residential water-softening agent. While production remained similar to 2014 levels, salt sales declined in 2015. This was partly owing to near-record salt tonnage sold in 2015 and stockpiles not being depleted by the previous winter's ice control needs.

Production

Salt was reported produced by 4 companies at 6 operations in 5 Ohio counties during 2015 (fig. 16). Estimated production of salt was 5,620,128 tons in 2015.

The top five salt-producing states nationally, based on 2015 USGS data, are Kansas, Louisiana, Michigan, New York, and Ohio (USGS 2016f).

Both solution-mined and rock salt in Ohio is produced from bedded deposits in the Silurian-age Salina Group. The Salina salt beds are restricted to the subsurface in eastern Ohio. The Salina Group in eastern Ohio is subdivided into seven units, A through G, from lowest to highest. The salt produced in Ohio comes from the F unit, which is further subdivided into four beds. Individual salt beds are less than 100 feet thick and may contain thin interbeds of anhydrite and dolomite. Depth to the F unit varies from 1,900 feet in the Cleveland mine to over 2,000 feet at the Fairport Harbor mine (Clifford, 1973; Tomastik, 2002; see also fig. 6).

Economic Impact

Estimated total tonnage of salt sold in 2015 was 4,819,038 tons (–18.5 percent from 2014; fig. 17; Stucker, 2015). Rock salt sales totaled 4,131,662 tons from two underground mines, one each in Cuyahoga and Lake Counties. Four brining operations, two in Licking County and one each in Summit and Wayne Counties, sold an estimated total of 8,846 tons of salt in brine and 678,530 tons of evaporated salt.

The total value[9] of the salt sold in 2015 was $225,201,833 (fig. 17). Average price per ton of rock salt was $37.86 and of salt in brine and evaporated salt was $100.08. The average price per ton of all salt sold was $46.73.

An annual average of 233 employees worked to produce salt an average of 285 days in 2015. Total wages of $24,159,193 were paid to a total of 419 employees (233 production employees and 186 nonproduction employees). The median annual wage, based on those employees for whom wages were reported, was $64,549.

[9]Includes reported and estimated values. See footnote 1, p. 1.

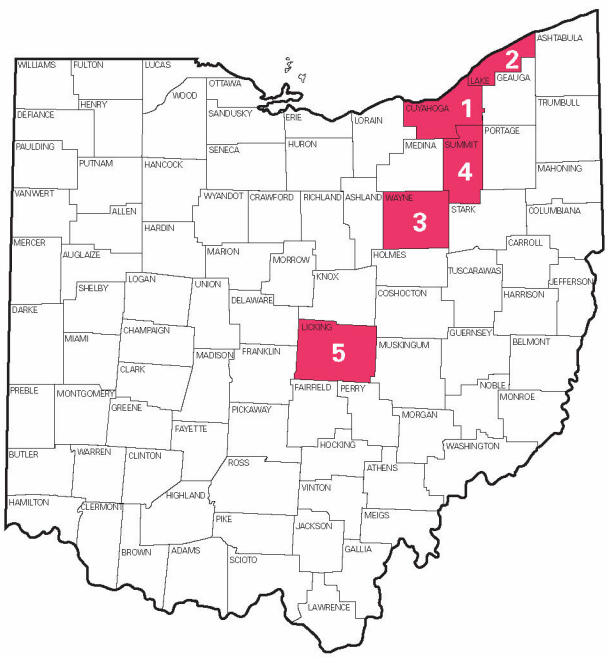

FIGURE 16.—Counties producing salt (in red) in Ohio in 2015 and their rankings in sales.

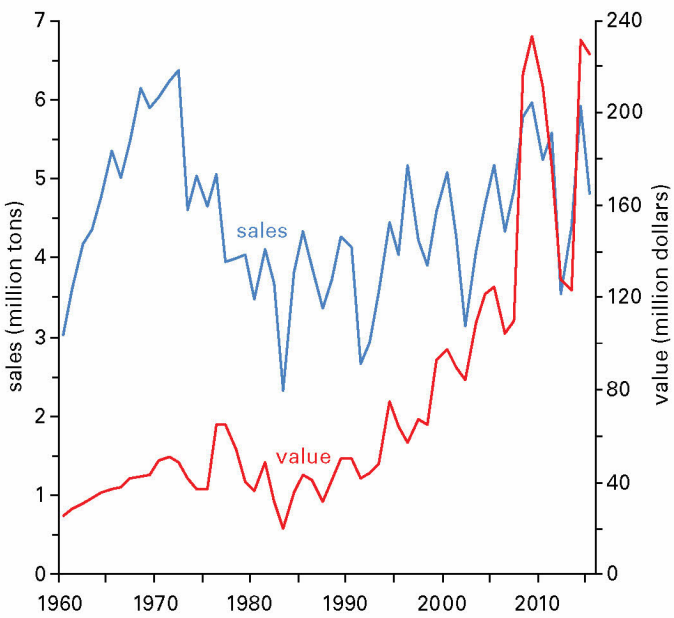

FIGURE 17.—Sales and value of salt in Ohio.

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GYPSUM

There was no gypsum production or sales reported in 2015. Gypsum has not been produced in Ohio since 2004 (fig. 18). A history of gypsum production in Ohio can be found in Wolfe (2001).

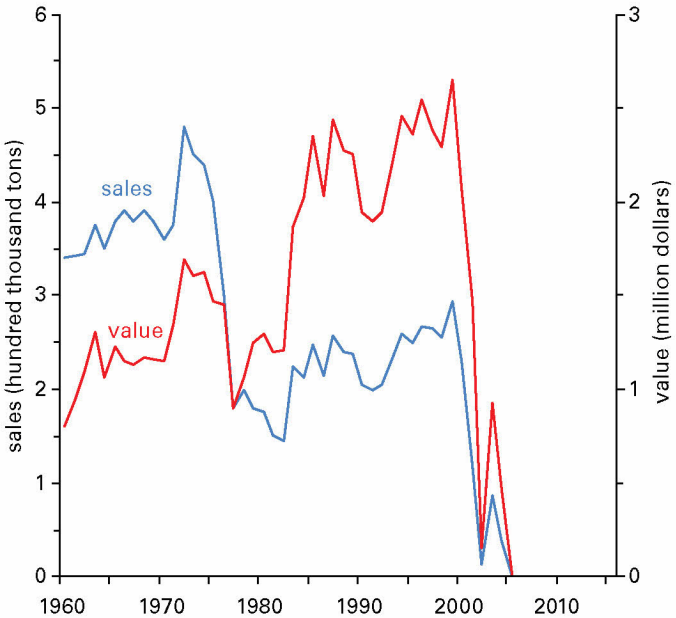

FIGURE 18.—Sales and value of gypsum in Ohio.

PEAT

Peat sales were reported by two companies in 2015—the first since 2012— and totaled 960 tons with a value of $6,086 (fig. 19). Dachnowski (1912) contains information on the origin, formation, and uses of peat in Ohio.

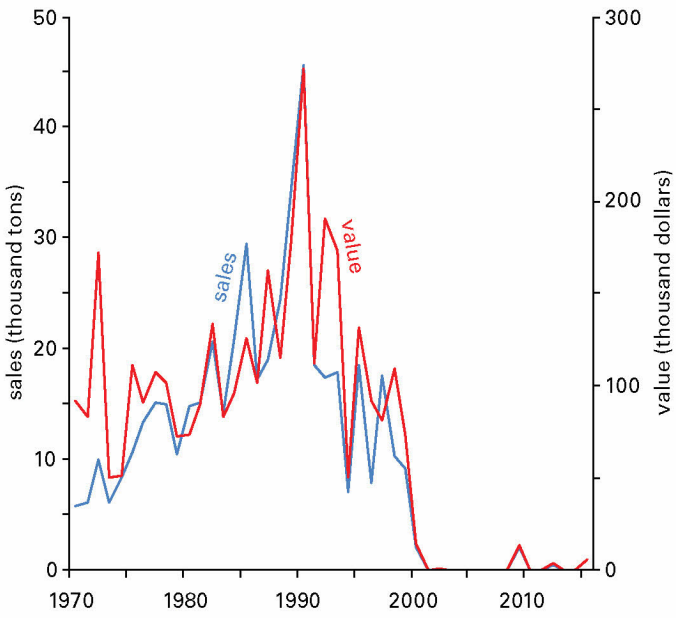

FIGURE 19.—Sales and value of peat in Ohio.

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APPENDICES

The following pages include directories containing information, such as production and sales totals, producing geologic units, and company contact details, for coal and industrial mineral operators reporting sales and/or production in 2015. The directories are arranged alphabetically, and specific operator information can be accessed by using the state mine number and commodity produced/sold. The table below provides a listing of Ohio counties and their state mine number abbreviations.

TABLE A-1. *Ohio counties and their state mine number abbreviations*[1]

County	Abbreviation	County	Abbreviation	County	Abbreviation
Adams	Ads	Hamilton	Hmn	Noble	Ne
Allen	An	Hancock	Hk	Ottawa	Oa
Ashland	Ald	Hardin	Hdn	Paulding	Pg
Ashtabula	Asa	Harrison	Hn	Perry	Py
Athens	As	Henry	Hy	Pickaway	Pky
Auglaize	Ae	Highland	Hd	Pike	Pke
Belmont	Bt	Hocking	Hg	Portage	Pe
Brown	Bn	Holmes	Hs	Preble	Pre
Butler	Br	Huron	Hrn	Putnam	Pm
Carroll	Cl	Jackson	Jkn	Richland	Rd
Champaign	Cpn	Jefferson	Jfn	Ross	Rs
Clark	Ck	Knox	Kx	Sandusky	Sy
Clermont	Ct	Lake	Lke	Scioto	So
Clinton	Cln	Lawrence	Le	Seneca	Sa
Columbiana	Ca	Licking	Lg	Shelby	Shy
Coshocton	Cn	Logan	Lgn	Stark	Sk
Crawford	Cd	Lorain	Ln	Summit	St
Cuyahoga	Cya	Lucas	Ls	Trumbull	Tl
Darke	Dke	Madison	Mdn	Tuscarawas	Ts
Defiance	De	Mahoning	Mg	Union	Un
Delaware	Del	Marion	Mn	Van Wert	Vt
Erie	Ee	Medina	Ma	Vinton	Vn
Fairfield	Fd	Meigs	Ms	Warren	Wan
Fayette	Fe	Mercer	Mr	Washington	Wn
Franklin	Fn	Miami	Mi	Wayne	We
Fulton	Ftn	Monroe	Me	Williams	Ws
Gallia	Ga	Montgomery	My	Wood	Wd
Geauga	Gea	Morgan	Mon	Wyandot	Wt
Greene	Ge	Morrow	Mw		
Guernsey	Gy	Muskingum	Mum		

[1]As used for State of Ohio mine numbers.

C1460-033

2015 COAL COMPANIES WITH SALES AND/OR PRODUCTION

Company	Number of mines	Production (tons)	Sales (tons)
American Energy Corp.	1	5,248,703	4,910,056
Anthony Mining Co., Inc.	1	60,956	60,956
B & N Coal, Inc.	4	425,150	425,150
Belden Brick Co.	1	5,426	5,426
Buckingham Coal Company, LLC	2	751,791	751,791
Cedar Heights Clay Co.	1	371	371
Cumberland Limestone, LLC	1	27	27
D. & D. Mining Co.	1	7,107	7,107
Egypt Valley Stone, LLC	1	26,792	26,792
Harrison Resources, LLC	1	711,490	711,489
Hopedale Mining, LLC	1	656,382	640,522
Kimble Clay & Limestone Co.	1	132,517	132,517
Ohio Valley Coal Co.	1	4,756,028	4,613,007
Oxford Mining Co., LLC	15	2,964,849	2,964,851
Rosebud Mining Company	3	605,550	605,550
Sands Hill Mining, LLC	2	263,618	266,617
Sidwell Materials, Inc.	2	15,609	15,609
Solomon's Mines, Inc.	1	175	175
Sterling Mining Co.	2	287,833	297,143
Waterloo Coal Co., Inc.	1	2,242	2,242
TOTAL: 20 companies	43	16,922,616	16,437,398

CONFIDENTIAL

2015 OHIO DIRECTORY OF PRODUCING COAL MINE OPERATORS

For those mines that have not been assigned a state mine number, a letter designation is used (example: Bt-C).
The designation **(u)** indicates an underground mine.
To convert short tons to metric tons, multiply the given tonnage by 0.907185.

Name, address, telephone number, and president/owner/manager of company	Name of mine	County(ies)	2015 production (tons)	State mine number	Mineral Resources Management permit number
American Energy Corp. 43521 Mayhugh Hill Rd. Twp Rd. 88 Beallsville, OH 43716 (740) 338-3100 Robert E. Murray, pres.	Century Mine (u)	Belmont	5,248,703	Bt-67	D-0425
Anthony Mining Co., Inc. P.O. Box 1298 Steubenville, OH 43952 (740) 266-8100 Albert Carapelotti, pres.	Harrah	Harrison	60,956	Hn-766	D-1041
B & N Coal, Inc. P.O. Box 100 Dexter City, OH 45727 (740) 783-3575 Carl Baker, Jr., pres.	Estadt Mine Westfork Mine Whigville III Mantel Mine	Noble Noble Noble Washington	49,709 106,749 169,876 98,816	Ne-BN Ne-BN5 Ne-BN8 Ne-BN7	D-1038 D-2218 D-2332 D-2285
Belden Brick Co. P.O. Box 20910 Canton, OH 44701 (330) 265-2030 Robert F. Belden, pres.	Shanesville Pit	Tuscarawas	5,426	Ts-1939	IM-47
Buckingham Coal Co., Inc. P.O. Box 400 Corning, OH 43730-0400 (740) 347-4565 Gerald N. Little, pres.	Buckingham Mine No. 7 (u) Buckingham Mine No. 6 (u)	Perry Perry	43,359 708,432	Py-B1 Py-B2	D-2223 D-2269
Cedar Heights Clay Co. 50 Portsmouth Rd. P.O. Box 295 Oak Hill, OH 45656-0295 (740) 682-7794 Doug Albert, pres.	Phillips	Jackson	371	Jkn-CH3	IM-2035
Cumberland Limestone, LLC 53681 Spencer Rd. Cumberland, OH 43732 (740) 638-3942 Chris D. Sidwell, pres.	Cumberland Limestone, LLC .	Guernsey	27	Gy-309	IM-1030
D. & D. Mining Co. 3379 E. Garfield Rd. New Springfield, OH 44443 (330) 549-3127 Donald Thompson, pres.	D. & D. Strip	Mahoning	7,107	Mg-D	D-2164
Egypt Valley Stone, LLC P.O. Box 188 Morristown, OH 43759 (740) 782-0042 Richard Petrozzi, pres.	Shugert	Belmont	26,792	Bt-E	IM-2299

CONFIDENTIAL

2015 OHIO DIRECTORY OF PRODUCING COAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County(ies)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Harrison Resources, LLC P.O. Box 205 Cadiz, OH 43907 (740) 622-6302 Greg Honish, pres.	Sexton 2	Harrison	711,490	Hn-H	D-2289
Hopedale Mining, LLC 86900 Sinfield Rd. P.O. Box 415 Hopedale, OH 43976 (740) 937-2225 Joe Funk, pres.	Hopedale Mining, LLC (u)	Harrison	656,382	Hn-169	D-0424
Kimble Clay & Limestone Co. 3596 State Route 39 W Dover, OH 44622-9801 (330) 343-1226 Keith B. Kimble, pres.	Kimble Clay & Limestone Co.	Tuscarawas	132,517	Ts-K10	D-2264
Ohio Valley Coal Co. 46226 National Rd. St. Clairsville, OH 43950 (740) 338-3149 Robert E. Murray, owner	Powhatan No. 6 (u)	Belmont	4,756,028	Bt-68	D-0360
Oxford Mining Co., LLC P.O. Box 427 Coshocton, OH 43812 (740) 622-6302 Greg Honish, pres.	Speidel Wheeling Valley Shugert King Crum Sandy Ridge Standingstone Mine Ellis New Lex-Rambo Pole Cat Road Avondale East Canton Hunt Stillwater Page Garrett Schupp	Belmont Belmont Belmont Guernsey Harrison Harrison Jefferson Perry Perry Perry Stark Tuscarawas Tuscarawas Tuscarawas Tuscarawas	223,537 270,740 115,084 16,318 447,786 639,070 71,891 194,218 113,344 219,313 57,591 325,719 76,285 114,815 79,138	Bt-0X11 Bt-0X5 Bt-0X7 Gy-01 Hn-A1 Hn-02 Jfn-0X Py-01 Py-03 Py-04 Sk-0 Ts-K8 Ts-06 Ts-0X3 Ts-0X4	D-2416 D-2315 D-2387 D-2403 D-2292 D-2277 D-2369 D-2254 D-2376 D-2423 D-2364 D-2226 D-2325 D-2421 D-2415
Rosebud Mining Company 301 Market St. Kittanning, PA 16201 (724) 545-6222 J. Clifford Forest, pres.	Vail Mine (u) Bergholz Mine (u) Tusky Mine (u)	Harrison Jefferson Tuscarawas	185,475 286,716 133,359	Hn-R1 Jfn-B1R Ts-TR	D-2355 D-1180 D-2177
Sands Hill Mining, LLC P.O. Box 650 Hamden, OH 45634-0650 (740) 384-4211 Joe Funk, pres.	Sands Hill Rockcamp II Big Rock	Jackson Vinton	131,597 132,021	Jkn-S2 Jkn Vn-S7	D-1087 D-2344
Sidwell Materials, Inc. 4620 Limestone Valley Rd. Zanesville, OH 43701 (740) 849-2034 Jeffrey R. Sidwell, pres.	Uniontown Stone Apex Quarry	Belmont Harrison	11 15,598	Bt-S Hn-CC	D-2261 D-1195

2015 OHIO DIRECTORY OF PRODUCING COAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County(ies)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Solomon's Mines, Inc. 7732 Salem-Unity Rd. Salem, OH 44460 (330) 337-0123 Jack Solomon, pres.	Solomon's Mines, Inc.	Columbiana	175	Ca-SM	IM-1258
Sterling Mining Co. 10900 South Ave. P.O. Box 217 North Lima, OH 44452 (330) 549-2165 W. Thomas Mackall, pres.	Sterling-Carroll Hollow Deep (u) SMC-Shean Hill (u)	Carroll Jefferson	181,098 106,735	Cl-S1 Jfn-ST2	D-2091 D-2187
Waterloo Coal Co., Inc. P.O. Box 626 Jackson, OH 45640 (740) 286-0004 Denton Bowman, pres.	Dundas-Oreton	Vinton	2,242	Vn-191 Vn	D-0867, D-0957, D-1004

2015 OHIO DIRECTORY OF PRODUCING COAL MINE OPERATORS, BY COUNTY

NOTE: This directory lists only the coal-producing operations. It does not list tipples, loading docks, preparation plants, or other active, nonproducing operations that would contribute to wage statistics presented in table 9. For those mines that have not been assigned a state mine number, a letter designation is used (example: Bt-C). There is no correlation between the "Seam Number" column and the "Production Tonnage" column. The Seam Number column represents the seam(s) mined at the operation. No production tonnage is listed by seam. Days in production were estimated for those companies not providing this information. To convert short tons to metric tons, multiply the given tonnage by 0.907185.

Seam identification of principal Ohio coals

1	Sharon	4	Newland (Brookville)	6a	Lower Freeport	9	Meigs Creek
2	Quakertown	4a	Clarion	7	Upper Freeport	11	Waynesburg
3	Lower Mercer	5	Lower Kittanning	7a	Mahoning	12	Washington
3a	Upper Mercer	5a	Strasburg	8	Pittsburgh	H	Harlem
3b	Tionesta	6	Middle Kittanning	8a	Pomeroy (Redstone)	W	Wilgus

Type of mine/production

S Surface
UG Underground

Name of company	Name of mine	Township	Seam		Type of mine	Production		Days in production in 2015	Disposition		State mine number
			Number	Thickness (inches)		Method	Tonnage		Method	Tonnage	
BELMONT COUNTY—Total production = 10,640,895											
American Energy Corp.	Century Mine	Wayne, Washington	8	48	UG	longwall cont. miner *Total*	4,699,443 549,260 *5,248,703*	276	rail truck *Total*	4,832,370 *4,910,056*	Bt-67
Egypt Valley Stone, LLC	Shugert	Kirkwood, Union	8	42	S	strip	26,792	264	truck	26,792	Bt-E
Ohio Valley Coal Co.	Powhatan No. 6	Smith	8	60	UG	longwall cont. miner *Total*	4,297,474 458,554 *4,756,028*	288	rail truck *Total*	3,679,536 933,471 *4,613,007*	Bt-68
Oxford Mining Co., LLC	Shugert	Union	9 11	60 24	S	strip highwall *Total*	58,242 56,842 *115,084*	252	truck	115,084	Bt-OX7
	Speidel	Warren, Goshen	9	52	S	strip auger highwall *Total*	70,156 11,452 141,929 *223,537*	252	truck	223,537	Bt-OX11
	Wheeling Valley	Wheeling	9	45	S	strip auger highwall *Total*	208,100 8,500 54,140 *270,740*	250	truck	270,740	Bt-OX5
Sidwell Materials, Inc.	Uniontown Stone	Wheeling	9	48	S	strip	11	180	truck	11	Bt-S
CARROLL COUNTY—Total production = 181,098											
Sterling Mining Co.	Sterling-Carroll Hollow Deep	Fox	6	36	UG	cont. miner	181,098	204	truck	179,140	CI-S1
COLUMBIANA COUNTY—Total production = 175											
Solomon's Mines, Inc.	Solomon's Mines, Inc.	Salem	7	36	S	strip	175	11	truck	175	Ca-SM

CONFIDENTIAL

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GUERNSEY COUNTY—Total production = 16,345											
Cumberland Limestone, LLC	Cumberland Limestone, LLC	Spencer	8	40	S	strip	27	12	truck	27	Gy-309
Oxford Mining Co., LLC	King Crum	Millwood	8	33	S	strip	16,318	250	truck	16,318	Gy-O1
HARRISON COUNTY—Total production = 2,716,757											
Anthony Mining Co., Inc.	Harrah	Green	8, 8a, 9	48, 20, 24	S	strip	60,956	300	truck	60,956	Hn-766
Harrison Resources, LLC	Sexton 2	Athens	8, 8a, 9	60, 24, 36	S	strip highwall *Total*	683,838 27,652 *711,490*	252	truck	711,489	Hn-H
Hopedale Mining, LLC	Hopedale Mining, LLC	Green, German, Archer	6a, 7	60, 48	UG	cont. miner	656,382	301	rail truck *Total*	626,455 14,067 *640,522*	Hn-169
Oxford Mining Co., LLC	Sandy Ridge	Archer, Cadiz	8, 8a, 9	54, 16, 30	S	strip highwall *Total*	441,353 6,433 *447,786*	252	truck	447,787	Hn-A1
	Standingstone Mine	Cadiz	8, 8a, 9	50, 18, 36	S	strip	639,070	252	truck	639,070	Hn-O2
Rosebud Mining Company	Vail Mine	Freeport	8	48	UG	cont. miner	185,475	250	truck	185,475	Hn-R1
Sidwell Materials, Inc.	Apex Quarry	German, Rumley	8	44	S	auger	15,598	90	truck	15,598	Hn-CC
JACKSON COUNTY—Total production = 131,968											
Cedar Heights Clay Co.	Phillips	Madison	5	30	S	strip	371	20	truck	371	Jkn-CH3
Sands Hill Mining, LLC	Sands Hill Rockcamp II	Milton	4a, 5, 6, 6a, 7, W	40, 19, 8, 15, 15, 4	S	strip	131,597	248	truck	133,094	Jkn-S2 Jkn
JEFFERSON COUNTY—Total production = 465,342											
Oxford Mining Co., LLC	Ellis	Wells	8, 8a	50, 18	S	strip highwall *Total*	55,168 16,723 *71,891*	252	truck	71,892	Jfn-OX
Rosebud Mining Company	Bergholz Mine	Ross	7a	48	UG	cont. miner	286,716	250	truck	286,716	Jfn-B1R
Sterling Mining Co.	SMC-Shean Hill	Brush Creek	7	36	UG	cont. miner	106,735	228	truck	118,003	Jfn-ST2

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2015 OHIO DIRECTORY OF PRODUCING COAL MINE OPERATORS, BY COUNTY (cont.)

Name of company	Name of mine	Township	Seam		Type of mine	Production		Days in production in 2015	Disposition		State mine number
			Number	Thickness (inches)		Method	Tonnage		Method	Tonnage	
MAHONING COUNTY—Total production = 7,107											
D. & D. Mining Co.	D. & D. Strip	Springfield	5	30	S	strip	7,107	0	truck conveyor *Total*	4,593 2,514 *7,107*	Mg-D
NOBLE COUNTY—Total production = 326,334											
B & N Coal, Inc.	Estadt Mine	Stock, Enoch	9	30	S	strip	49,709	250	truck	49,709	Ne-BN
	Westfork Mine	Jefferson, Aurelius	9	36	S	strip	106,749	251	truck	106,749	Ne-BN5
	Whigville III	Marion	9	40	S	strip	169,876	251	truck	169,876	Ne-BN8
PERRY COUNTY—Total production = 1,278,666											
Buckingham Coal Co., Inc.	Buckingham Mine No. 6	Monroe	6		UG	cont. miner	708,432	252	rail	708,432	Py-B2
	Buckingham Mine No. 7	Monroe	7	60	UG	cont. miner	43,359	252	rail	43,359	Py-B1
Oxford Mining Co., LLC	Avondale	Harrison, Clayton	6	53	S	strip	219,313	252	truck	219,313	Py-O4
	New Lex-Rambo	Clayton, Harrison	5, 6	42, 52	S	strip	194,218	252	truck	194,218	Py-O1
	Pole Cat Road	Clayton	5, 6, 6a	42, 52, 18	S	strip auger *Total*	98,917 14,427 *113,344*	252	truck	113,344	Py-O3
STARK COUNTY—Total production = 57,591											
Oxford Mining Co., LLC	East Canton	Osnaburg	5 , 6	28, 36	S	strip highwall *Total*	23,170 34,421 *57,591*	252	truck	57,591	Sk-O
TUSCARAWAS COUNTY—Total production = 867,259											
Belden Brick Co.	Shanesville Pit	Sugar Creek	4	6	S	strip	5,426	0	truck	5,426	Ts-1939
Kimble Clay & Limestone Co.	Kimble Clay & Limestone Co.	Salem, Clay	5	30	S	strip	132,517	248	truck	132,517	Ts-K10
Oxford Mining Co., LLC	Garrett	Clay	7	29	S	strip highwall *Total*	94,686 20,129 *114,815*	252	truck	114,815	Ts-OX3
	Hunt	Washington	6	38	S	strip highwall *Total*	49,120 276,599 *325,719*	252	truck	325,719	Ts-K8

CONFIDENTIAL

	Schupp		5, 6	28, 50	S	strip auger *Total*	70,829 8,309 *79,138*	252	truck	79,138	Ts-OX4
	Stillwater Page	Rush	5, 6, 7	30, 36, 28	S	strip auger *Total*	57,892 18,393 *76,285*	252	truck	76,285	Ts-O6
Rosebud Mining Company	Tusky Mine	Mill	6	36	UG	cont. miner	133,359	250	truck	133,359	Ts-TR
VINTON COUNTY—Total production = 134,263											
Sands Hill Mining, LLC	Big Rock	Clinton	W, 4a, 5	47, 42, 29	S	strip	132,021	252	truck	133,523	Vn-S7
Waterloo Coal Co., Inc.	Dundas-Oreton	Clinton, Vinton	6	36	S	strip	2,242	10	truck	2,242	Vn-191 Vn
WASHINGTON COUNTY—Total production = 98,816											
B & N Coal, Inc.	Mantel Mine	Salem	9	36	S	strip	98,816	250	water	98,816	Ne-BN7

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2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS

For those mines that have not been assigned a state mine number, a letter designation is used (example: Ts-A).
If there are no sales or production figures given for an operation, that operation reported no sales or production in 2015.[1]
To convert short tons to metric tons, multiply the given tonnage by 0.907185.

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
A. P. Green Refractories, Inc. 1305 Cherrington Pkwy., Suite 100 Moon Township, PA 15108 (412) 375-6600 Stephen M. Delo, pres.	Poetker	Jackson	clay	1,598	1,598	Jkn-G	IM-2353
Agg Rok Materials 711 Frank Rd. Columbus, OH 43223 (614) 875-5500 William G. Heffner, pres.	Agg Rok	Franklin	clay sand & gravel	16,800 3,200	16,800 3,200	Fn-36	IM-302
Allgeier & Son, Inc. 6386 Bridgetown Rd. Cincinnati, OH 45248 (513) 574-3735 Michael E. Allgeier, pres.	Allgeier & Son, Inc., Pit 2	Hamilton	sand & gravel	45,000	45,000	Hmn-AS	IM-1106
American Sand & Gravel, Inc. 9500 Forty Corners Rd. NW Massillon, OH 44647 (330) 762-9373 Christopher A. Scala, pres.	Plant #4 Plant #6	Stark Stark	sand & gravel sand & gravel	523,006 3,784	523,006 3,784	Sk-243 Sk-RO	IM-908 IM-2084
Anthony Mining Co., Inc. P.O. Box 1298 Steubenville, OH 43952 (740) 268-8100 Albert Carapellotti, pres.	Carson-Harrah	Harrison	limestone	53,194	53,194	Hn-766	D-1041
Arch Materials, LLC P.O. Box 861 Owensville, OH 45160 (513) 724-7625 Ben L. Rechter, pres.	Batavia Mine	Clermont	limestone	1,480,500	1,389,000	Ct-A	
Area Aggregates, LLC 4755 S. High St. Columbus, OH 43207 (614) 491-1515 Kenneth Holland, pres.	Area Aggregates, LLC	Sandusky	limestone	1,065,428	1,481,260	Sy-A	IM-2227
Arms Trucking Company Arms Sand & Gravel P.O. Box 369 East Claridon, OH 44033 (440) 286-9482 Howard W. Bates, pres.	Arms Sand & Gravel	Geauga	sand & gravel	61,167	61,167	Gea-29	IM-215
Ashcraft Sand & Gravel, Inc. 5850 Dry Fork Rd. Cleves, OH 45002 (513) 367-5700 Rick Ashcraft, owner	Ashcraft Sand & Gravel, Inc.	Hamilton	sand & gravel	44,770	44,770	Hmn-54	IM-710

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Athens Hocking Reclamation Center Athens Hocking Reclamation Clay Mine 450 Gallagher Ave. P.O. Box 946 Logan, OH 43138 (740) 385-6019 Edward F. Kilbarger, mgr.	Athens-Hocking Clay Mine	Athens	clay	15,200	15,200	As-594	
Atlas Towing Co. P.O. Box 1632 Parkersburg, WV 26101 (304) 428-0341 Christopher V. Criss, pres.	Belpre Bank Run	Washington	sand & gravel	4,060	4,060	Wn-54	IM-383
Ballentine Sand & Gravel, LLC 7854 Cooley Rd. Ravenna, OH 44266 (330) 297-6712 Daniel H. Ballentine, owner	Ballentine Lake	Portage	sand & gravel	159,653	159,653	Pe-BA	IM-1327
Barrett Paving Materials, Inc. 10400 Haddix Rd. P.O. Box 13671 Fairborn, OH 45324 (937) 424-9104 Marc Zehnder, plant mgr.	Haddix Road Aggregates Plant #341 Hardin Sand & Gravel	Clark Shelby	sand & gravel sand & gravel	587,910 239,186	576,444 291,865	Ck-28 Shy-SC	IM-1100, IM-2120 IM-1018
Barrett Paving Materials, Inc. 4710 Soldiers Home-WC Rd. Miamisburg, OH 45342 (937) 424-9100 Mike Oliver, plant super.	West Carrollton Aggregate Plant	Montgomery	sand & gravel	457,072	451,724	My-19	IM-401, IM-916
Barrett Paving Materials, Inc. Mid-Ohio 1556 Miami River Rd. Sidney, OH 45365 (937) 492-5412 Jim Meckstroth, reg. mgr.	Barrett Paving Materials, Inc., #231 Miami River Quarry Vandemark Quarry #221	Miami Shelby Shelby	limestone limestone limestone	352,181 629,155 10,366	321,661 636,840 0	Mi-BPM Shy-17 Shy-15	IM-1169 IM-389 IM-387
Beaver Excavating, Inc. 2000 Beaver Place Ave. SW P.O. Box 6059 Canton, OH 44706 (330) 478-2151 W. Mark Sterling, pres.	Stone Products	Stark	sand & gravel	5,000	5,000	Sk-BE	IM-1202
Beck Sand & Gravel, Inc. 2820 Webb Rd. Ravenna, OH 44266 (330) 626-3863 Rodney Wenrich, owner	Beck Sand & Gravel, Inc.	Portage	sand & gravel	259,847	259,847	Pe-50	IM-96
The Belden Brick Co., LLC P.O. Box 20910 Canton, OH 44701 (330) 852-2424 Robert F. Belden, pres.	Belden Pit Moomaw Pit Plotner Pit Shanesville Pit Wallick Pit	Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas	shale clay shale clay limestone shale clay	25,320 18,465 6,017 68,616 15,697 52,196 75,503	25,320 18,465 6,017 68,616 15,697 52,196 75,503	Ts-1646 Ts-1517 Ts-B Ts-1939 Ts-1841	IM-44 IM-46 IM-49 IM-47 IM-45

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Best Sand Corp. 11830 Ravenna Rd. Chardon, OH 44024 (440) 285-3132 Jennifer Deckard, pres.	Best Sand Corp. Best - Southern Division	Geauga Pike	sandstone sandstone	643,062 31,202	643,062 44,925	Gea-3 Pke-31	IM-89 IM-835
Bluffton Stone Co. P.O. Box 26 Bluffton, OH 45817-0026 (419) 358-6941 Michael J. Gerken, pres.	Bluffton Stone Co.	Allen	limestone	320,312	368,470	An-1	IM-485
Bontrager Excavating Co. 11087 Clevland Ave. NW Uniontown, OH 44685 (330) 499-8775 Harry Gilbert, pres.	Gilbert	Summit	sand & gravel	10,572	10,572	St-B	IM-2303
Bowerston Shale Co. 1329 Seven Hills Rd. NE Newark, OH 43055 (740) 763-3921 Edward Milliken, pres.	Bowerston Hanover Pit Frazeysburg	Harrison Licking Muskingum	shale shale clay	28,608 20,800 6,760	28,608 20,800 6,760	Hn-152 Lg-501 Mum-776	IM-42 IM-257 IM-256
Boyas Excavating, Inc. 11311 Rockside Rd. Cleveland, OH 44125-4247 (216) 524-3620 Michael Boyas, pres.	Boyas Excavating, Inc.	Cuyahoga	clay sand & gravel	3,830 102,630	3,830 102,630	Cya-42	IM-686
Boyd Excavating 9553 County Rd. 28 Zanesfield, OH 43360 (937) 465-3290 Jeff Boyd, owner	Boyd Excavating	Logan	sand & gravel	9,865	9,865	Lgn-B	IM-1309
Briar Hill Stone Co. 12470 St. Rt. 520 Glenmont, OH 44628 Frank L. Waller, pres.	Quarry #3 Quarry #32 Quarry #54 Quarry #55 Quarry #6	Coshocton Coshocton Coshocton Coshocton Knox	sandstone sandstone sandstone sandstone sandstone	744 864 1,458 6,950 295	744 864 1,458 6,950 295	Cn-659 Cn-686 Cn-809 Cn-815 Kx-12	IM-232 IM-504 IM-909 IM-939 IM-445
Briggs Sand & Gravel, Inc. 1905 Blue Knob Rd. Marietta, OH 45750 (740) 373-3363 James A. Briggs, pres.	Briggs Sand & Gravel, Inc.	Washington	sand & gravel	25,779	25,779	Wn-508	IM-57
Brookside Materials, LLC 2850 Rohr Rd. Groveport, OH 43215 (614) 915-5724 Gerald E. Bennett, pres.	Brookside Materials, LLC	Licking	clay sand & gravel	5,000 155,000	5,000 155,000	Lg-B	IM-2273
Buck Run Aggregates, LLC 11640 S. State Line Rd. Petersburg, OH 44454 (330) 426-2151 Shawn Sugar, plant mgr.	Krcich	Columbiana	sand & gravel	23,576	23,576	Ca-351	IM-634
Buckland, Edsel L. 25410 Breckler Rd. Danville, OH 43014 Edsel Buckland, pres.	Buckland	Knox	shale	350	350	Kx-B	IM-2446

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
C. F. Poeppelman, Inc. 4755 N. State Route 721 Bradford, OH 45308 (937) 448-2191 James C. Poeppelman, pres.	C. F. Poeppelman, Inc.	Miami	limestone sand & gravel	326,473 2,805	326,473 2,805	Mi-10	IM-335
Calvin's Hauling, Inc. 1205 S. Johnson Ave. Bartow, FL 33830 (740) 998-4647 Calvin Cochenour, pres.	Calvin's Hauling, Inc.	Ross	sand & gravel	5,000	5,000	Rs-C	IM-2349
Capstone Rock Products, LLC 17943 State Rt. 7 Marietta, OH 45750 (740) 373-2252 William Elliott, pres.	Fletcher	Knox	sandstone	460	460	Kx-C	IM-2128
Cardinal Aggregates, Inc. 8026 Fremont Pike Perrysburg, OH 43551 (419) 872-4380 Mark Murray, pres.	Cardinal Aggregates, LLC	Wood	limestone	619,000	619,000	Wd-C	IM-2231
Cargill, Incorporated Cargill Deicing Technology 2400 Ships Channel P.O. Box 6920 Cleveland, OH 44101 (216) 651-7200 Richard Maxfield, pres.	Cargill Deicing Technology	Cuyahoga	salt	3,095,336	3,766,302	Cya-30	
Cargill Salt 2065 Manchester Rd. Akron, OH 44314 (330) 848-6912 Dan Pulis, plant mgr.	Cargill Salt	Summit	salt	330,765	331,212	St-9127	
Carl E. Oeder and Sons Sand & Gravel 1000 W. Mason Morrow Millgrove Lebanon, OH 45036 (513) 494-1555 Carl E. Oeder, pres.	Carl E. Oeder and Sons Sand & Gravel	Warren	sand & gravel	443,532	443,532	Wan-41	IM-629
Carmeuse Lime, Inc. 1967 County Rd. 42 Bettsville, OH 44815 (419) 986-2016 Yves Williams, pres.	Maple Grove Millersville Plant Woodville Plant	Seneca Sandusky Sandusky	limestone limestone limestone	1,382,115 97,000 1,133,962	1,382,115 97,000 1,133,962	Sa-2 Sy-4 Sy-3	IM-352 IM-381 IM-282
Carter & Carter, Inc. P.O. Box 266 Miamisburg, OH 45343-0266 (937) 859-5414 Charles V. Carter, pres.	Carter & Carter, Inc.	Montgomery	sand & gravel	300	300	My-CW	IM-878
Carter, Joe E. 21399 State Line Rd. Lawrenceburg, IN 47025 (812) 537-3970 Joe E. Carter, owner	Lost Bridge	Hamilton	sand & gravel	1,000	1,000	Hmn-JC	IM-1267

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Cedar Heights Clay Co. P.O. Box 295 Oak Hill, OH 45656-0295 (740) 682-7794 Doug Albert, pres.	Phillips	Jackson	clay	30,561	30,561	Jkn-CH3	IM-2035
CEMEX, Inc. 3250 Linebaugh Rd. Xenia, OH 45385 (937) 878-8393 Bernard P. McCormick, plant mgr.	Miller, Schieder, Batdorf, Stewart G-Tract	Greene Montgomery	clay limestone limestone	70,000 941,000 173,381	70,000 941,000 173,381	Ge-8 My-58	IM-364 IM-330
Central-Allied Enterprises, Inc. P.O. Box 80449 Canton, OH 44708-0449 (330) 477-6751 Gerald S. Orn, pres.	Canton Aggregate Div. Central Sand & Gravel Div.	Stark Stark	sand & gravel sand & gravel	581,603 16,766	581,603 16,766	Sk-681 Sk-CA1	IM-164 IM-2140
Central Ready Mix, LLC P.O. Box 70 Monroe, OH 45050 (513) 402-5001 Todd Dragna, pres.	Germantown Plant #21 Carlisle Plant #27	Montgomery Warren	sand & gravel sand & gravel	168,541 150,000	168,541 150,000	My-41 Wan-7	IM-360 IM-151
Christman Quarries 47278 Swazey Rd. Lewisville, OH 43754 (740) 838-2475 Kathy L. Dimmerling, owner	Christman Quarry	Monroe	limestone	68,409	68,409	Me-C	IM-1088
City Stone, LLC 8063 Southern Blvd. Boardman, OH 44512 (800) 262-9365 Ronald R. Carrocce, pres.	City Stone, LLC	Mahoning	sandstone	71,541	71,541	Mg-62	IM-599
Cochran Transportation Services, Inc. P.O. Box 578 Athens, OH 45701 (740) 797-7108 Charles W. Cochran, pres.	Circle Hill	Athens	sand & gravel	30,494	30,494	As-595	IM-1083
Colwell, Bill D. 2530 Regina Pl. Hamilton, OH 45013 (513) 895-1475 Bill D. Colwell, owner	Bill D. Colwell Gravel	Butler	sand & gravel	410	410	Br-36	IM-649
Con-Ag, Inc. 16672 County Rd. 66A N St. Marys, OH 45885 (419) 394-8870 John R. Hirschfeld, pres.	Con-Ag, Inc.	Auglaize	limestone	187,231	187,231	Ae-31	IM-744
Crushers Stone Products, LLC 7000 Columbus Rd. Shreve, OH 44676 (330) 465-6266 Dan Stauffer, Sr., pres.	Crushers Stone Products, LLC	Wayne	shale	16,100	22,000	We-25	IM-1209

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Cumberland Limestone, LLC 53681 Spencer Rd. Cumberland, OH 43732 (740) 638-3942 Chris D. Sidwell, pres.	Cumberland Limestone, LLC	Guernsey	limestone	762,195	605,845	Gy-309	IM-1030
Custar Stone Co., Inc. 9072 County Road 424 Napoleon, OH 43545 (419) 533-8831 Brent Gerken, pres.	Custar Stone Co., Inc.	Wood	limestone	501,812	478,302	Wd-5	IM-473
D & K Materials, Inc. 3072 Congress Lake Rd. Mogadore, OH 44260 (330) 678-2411 Kimberly S. Ebie, pres.	D & K Materials, Inc.	Portage	clay sand & gravel	1,122 137,951	1,122 137,951	Pe-101	IM-1154
D. M. Mining, Inc. P.O. Box 4288 Ironton, OH 45638 (740) 534-4111 Cheryl Bolender, pres.	Ice Creek Land Co.	Lawrence	shale	13,623	13,623	Le-D	IM-2390
D.G.M., Inc. 1881 Adams Rd. P.O. Box 207 Beaver, OH 45613 (740) 226-1950 Mark A. Salisbury, pres.	Towpath-Warwick Tow Path Lucasville	Ross Scioto	sand & gravel sand & gravel	35,677 49,247	35,677 49,247	Rs-D So-DGM	IM-2176 IM-1280
DiGeronimo Aggregates, LLC 8900 Hemlock Rd. Independence, OH 44131 (216) 524-2950 Victor DiGeronimo, Jr., pres.	DiGeronimo Aggregates, LLC	Cuyahoga	shale	185,000	185,000	Cya-19	IM-95
Dingledine Basic Materials, Inc. 2304 Somerville Rd. P.O. Box 262 Somerville, OH 45064 (513) 726-5258 Gerald Dingledine, pres.	Dingledine Basic Materials, Inc.	Butler	sand & gravel	43,844	58,502	Br-50	IM-739
Doherty, John R. 2229 Walnut Blvd. Ashtabula, OH 44004 (440) 964-8431 John R. Doherty, pres.	Doherty	Ashtabula	peat sand & gravel	400 400	400 400	Asa-JD	IM-2250
Duff Quarry, Inc. 9042 State Route 117 P.O. Box 305 Huntsville, OH 43324-0305 (937) 686-2488 Ross Duff, pres.	Duff Quarry, Inc. Duff Sand Co.	Logan Logan	limestone sand & gravel	409,272 4,316	409,272 4,316	Lgn-15 Lgn-31	IM-453 IM-454
East Fairfield Coal Co. 10900 South Ave. P.O. Box 217 North Lima, OH 44452 (330) 549-2165 W. Thomas Mackall, pres.	Withers-Petersburg	Mahoning	limestone	466,410	478,633	Mg-631	IM-1103

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Edgington, David E. 1600 Little Creek Rd. Frankfort, OH 45628 (740) 998-5328 David E. Edgington, owner	Edgington Pit	Ross	sand & gravel	5,070	5,070	Rs-E	IM-1168
Egypt Valley Stone, LLC P.O. Box 188 Morristown, OH 43759 (740) 782-0042 Richard Petrozzi, pres.	Shugert	Belmont	limestone	458,287	458,287	Bt-E	IM-2299
Enon Sand & Gravel, LLC 11641 Mosteller Rd. Cincinnati, OH 45241 (513) 771-0820 James P. Jurgensen, pres.	Enon Sand & Gravel, LLC	Clark	sand & gravel	395,467	395,467	Ck-3	IM-463, IM-1359, IM-2026
Erie Blacktop, Inc. 4507 Tiffin Ave. P.O. Box 2308 Sandusky, OH 44870 (419) 625-7374 Dean Wikel, pres.	Erie Blacktop Quarry	Erie	limestone	293,761	293,761	Ee-27	IM-608
Ervin Hill Enterprises, Inc. 6690 Ervin Rd. P.O. Box 559 Hillsboro, OH 45133 (937) 393-4120 Mark Edenfield, pres.	Ervin Hill Enterprises, Inc.	Highland	sand & gravel	114,267	114,267	Hd-L	IM-1297
Evans Gravel, Inc. 4229 Round Bottom Rd. Cincinnati, OH 45244 (513) 271-1119 Douglas L. Evans, pres.	Evans Gravel, Inc.	Hamilton	sand & gravel	171,677	277,705	Hmn-E	IM-2181
Feikert Sand & Gravel, Inc. 6871 Twp. Rd. 605 Millersburg, OH 44654 (330) 674-7245 Lynn O. Feikert, pres.	Feikert Sand & Gravel Feikert Sand & Gravel, Inc.	Holmes Holmes	sand & gravel sand & gravel	62,800 261,262	62,800 261,262	Hs-F2 Hs-511	IM-2427 IM-1048, IM-1240
Fleming Construction Co., Inc. dba Scioto S & G P.O. Box 31 Marion, OH 43301-0031 (740) 494-2177 Sonja E. Fleming, pres.	Pit #1 Pit #2	Marion Marion	sand & gravel sand & gravel	14,433 4,470	14,433 4,470	Mn-16 Mn-19	IM-171 IM-990
Foureman's Sand & Gravel, Inc. 2791 Wildcat Rd. Greenville, OH 45331 (937) 548-1718 Gary B. Foureman, pres.	Foureman's Sand & Gravel, Inc.	Darke	limestone sand & gravel	157 42,000	157 42,000	Dke-4	IM-433
Fry, Lloyd B. 10328 Hardin Rd. Piqua, OH 45356 (937) 773-3613 Lloyd B. Fry, owner	Ticon	Miami	sand & gravel	0	5,000	Mi-T	IM-696

C1460-048

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Genoa Limestone, LLC 3793 Silica Rd., Suite B Sylvania, OH 43560 Jeff Stansley, pres.	Genoa Limestone	Ottawa	limestone	487,850	550,000	Oa-1A	IM-292
George J. Igel & Co., Inc. 2040 Alum Creek Dr. Columbus, OH 43207 (614) 445-8421 John B. Igel, pres.	George J. Igel & Co., Inc.	Pickaway	sand & gravel	252	252	Pky-C	IM-1223
Gerken Materials, Inc. 9072 County Rd. 424 Napoleon, OH 43545 (419) 533-7701 Brent Gerken, pres.	Gerken Materials, Inc.	Wood	limestone	285,965	318,589	Wd-1	IM-548
Glen-Gery Corp. P.O. Box 207 Iberia, OH 43325 (610) 374-4011 Steve Matsick, pres.	Iberia Quarry	Marion	shale	95,218	95,218	Mn-7	IM-309
Graymont Dolime (OH), Inc. P.O. Box 158 Genoa, OH 43430 (419) 855-8336 Stephanie Godin, pres.	Graymont Dolime (OH), Inc.	Ottawa	limestone	727,839	339,976	Oa-1	IM-292
Hanson Aggregates, LLC 1136 Morgantown Rd. Russellville, KY 42276 (270) 726-4936 Jonathan Morrish, pres.	Plum Run Quarry Eagle Crushed Stone Dry Fork Sand & Gravel Piketon Sand & Gravel	Adams Brown Hamilton Pike	limestone limestone sand & gravel sand & gravel	796,739 1,522,673 562,913 159,590	0 1,635,605 451,146 151,756	Ads-1 Bn-EC Hmn-50 Pke-24	IM-237 IM-1195 IM-205, IM-1139 IM-222
Hanson Aggregates Midwest, Inc. Heidelberg Cement Group 9220 Portland Rd. Castalia, OH 44824 (419) 483-4390 Jonathan Morrish, pres.	Sandusky Crushed Stone Sylvania Waterville Paulding Bloomville Flat Rock	Erie Lucas Lucas Paulding Seneca Seneca	limestone limestone limestone limestone limestone limestone	2,560,016 934,716 417,765 152,224 210,811 3,901	2,540,133 915,777 377,065 150,914 261,794 0	Ee-11 Ls-3 Ls-1 Pg-7 Sa-3 Sa-1	IM-263 IM-580 IM-575 IM-349 IM-347
Hanson Aggregates Midwest, Inc. dba Wagner Quarries Co. 4203 Milan Rd. Sandusky, OH 44870 (419) 625-8141 Jonathan Morrish, pres.	Wagner Quarry	Erie	limestone	1,512,762	1,411,789	Ee-1A	IM-310
Harvest Sand & Gravel, Inc. 522 Perkins Jones Rd. Warren, OH 44483 (330) 372-4408 David A. Grayson, pres.	Eberly	Columbiana	sand & gravel	22,325	22,325	Ca-H2	IM-2174
Heiser Sand & Gravel Corp. 4833 Applegrove St. NW North Canton, OH 44720 (330) 499-8201 Richard L. Heiser, pres.	Heiser Sand & Gravel Corp.	Stark	sand & gravel	3,079	3,079	Sk-HS1	IM-1203

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Heitsche North Shore Stone Quarries, LLC 2342 Collins Rd. Collins, OH 44826 (614) 878-0620 Stacy Heitsche, owner	North Shore Stone	Seneca	limestone shale	6,177 6,177	6,177 6,177	Sa-8	IM-313
Hocking Valley Concrete, Inc. 35255 Hocking Dr. Logan, OH 43138 (740) 385-2165 Mark Vaughn, v. pres.	Hocking Valley Concrete, Inc.	Hocking	sand & gravel	145,304	161,000	Hg-262	IM-41
Hoffman, William A., Jr. 25043 State Route 104 Circleville, OH 43113 (740) 207-1029 William A. Hoffman, Jr., owner	Hoffman Pit	Pickaway	sand & gravel	159	159	Pky-H	IM-1039
Holmes Redimix, Inc. 5420 County Rd. 349 Millersburg, OH 44654 (330) 674-0370 Steve Schlabach, pres.	Holmes Redimix, Inc.	Holmes	sand & gravel	84,893	84,893	Hs-82	IM-707
Holmes Supply Corp. 7571 State Route 83 Holmesville, OH 44633 (330) 279-9000 Steve Schlabach, pres.	Holmes Supply Corp. Schlabach	Holmes Holmes	sand & gravel sand & gravel	194,687 142,052	194,687 142,052	Hs-J Hs-H1	IM-1043 IM-2310
IRG Operating, LLC dba Cleveland Quarries 5270 Devon Dr. Vermilion, OH 44089 (440) 963-4008 Zachary Carpenter, pres.	IRG Operating, LLC	Erie	sandstone	7,887	14,174	Ee-21	IM-416
JALIP, Ltd. 16303 Twp. Rd. 124 Harpster, OH 43323 (740) 496-2008 Philip Herring, owner	JALIP, Ltd.	Wyandot	sand & gravel	7,286	7,286	Wt-J	IM-2119
Jaymar, Inc. P.O. Box 378 Cheshire, OH 45620 (740) 992-6637 Jay Hall, Jr., pres.	Plant #4	Meigs	sand & gravel	717,080	508,913	Ms-308	IM-1174
JBM, Ltd. dba State Route 416 Sand & Gravel 764 State Route 416 SE New Philadelphia, OH 44663 (330) 339-4313 Joseph B. Marsh, pres.	State Route 416 Sand & Gravel	Tuscarawas	sand & gravel	55,847	55,847	Ts-2018	IM-1076
J.J.J. Properties, LLC 5585 Canal Rd. Valley View, OH 44125 (216) 447-0814 John Allega, member	J.J.J. Properties, LLC	Lake	sand & gravel	9,511	9,511	Lke-P	IM-2258

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Joe Simak & Sons Trucking, Inc. 3052 E. Center St. P.O. Box 599 North Kingsville, OH 44068 (440) 224-1992 Joseph E. Simak, pres.	Amboy Pit North Ridge Pit	Ashtabula Ashtabula	sand & gravel clay sand & gravel	9,793 3,285 15,432	9,793 3,285 15,432	Asa-ST Asa-18	IM-1349 IM-949
John L. Garber Materials, Inc. 2745 Gass Rd. - Route 8 Lexington, OH 44904 (419) 884-1567 John L. Garber, pres.	John L. Garber Materials, Inc. John L. Garber Materials, Inc.	Richland Richland	sand & gravel sand & gravel	0 112,885	115,000 0	Rd-G Rd-14	IM-2152 IM-436
Johnson Stone Products, Inc. 4018 Cleveland Rd. E Huron, OH 44839 (440) 315-3699 Terry A. Johnson, pres.	Johnson Stone Products	Lorain	sandstone	3,564	3,564	Ln-J	IM-1300
KCI Sand & Gravel P.O. Box 946 Logan, OH 43138 (740) 385-6019 Edward Kilbarger, pres.	KCI Sand & Gravel	Hocking	sand & gravel	59,945	137,156	Hg-HA	IM-1320
Keeney Sand & Stone, Inc. 13320 Girdled Rd. Painesville, OH 44077 (440) 254-4582 Kevin H. Keeney, pres.	Keeney Sand & Stone, Inc.	Lake	sandstone	77,646	77,646	Lke-K	IM-859
Kimble Clay & Limestone Co. 3596 State Route 39 NW Dover, OH 44622-9801 (330) 343-1226 Keith B. Kimble, pres.	Kimble Clay & Limestone Kimble Clay & Limestone	Tuscarawas Tuscarawas	clay limestone sand & gravel shale shale	63,115 494,446 7,764 9,574 16,799	63,115 494,446 7,764 9,574 16,799	Ts-1818 Ts-K1	IM-9 IM-2170
King Quarries, Inc. 41820 Parrish Ridge Caldwell, OH 43724 (740) 732-2923 David King, Jr., pres.	King Quarries, Inc.	Noble	limestone	128,444	128,444	Ne-K1	IM-1292
Kirby's Sand & Gravel, Inc. 4876 County Hwy. 43 Upper Sandusky, OH 43351-9155 (419) 927-2260 Minor E. Kirby, owner	Kirby's Sand & Gravel, Inc.	Wyandot	sand & gravel	106,442	106,442	Wt-K	IM-943
Knox County Board of Commissioners 117 E. High St. Mt. Vernon, OH 43050 (740) 397-1590 James L. Henry, county engineer	Apple Valley	Knox	shale	1,155	1,155	Kx-K	IM-870
L & I Natural Resources, Inc. 10369 Cones Rd. Loveland, OH 45140 (513) 459-7716 Jerry Walker, pres.	L & I Pit & Mill	Warren	sand & gravel	76,028	76,028	Wan-50	IM-1006

C1460-051

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
L & M Mineral Co. 2010 County Rd. 144 Sugarcreek, OH 44681 (330) 852-3696 John E. Ling, Jr., pres.	Barr Farm Heil Spring Spring Industries	Stark Tuscarawas Tuscarawas Tuscarawas	clay shale clay shale clay	14,272 20,887 6,543 8,870 5,021	14,272 20,887 6,543 8,870 5,021	Sk-LM Ts-1884 Ts-1982 Ts-SI	IM-2270 IM-6 IM-621 IM-569
Lafarge Corp. Great Lakes Region 11435 Road 176 Paulding, OH 45879 (419) 463-1227 Bruno Lafont, pres.	Paulding Quarry	Paulding	clay limestone	91,689 676,548	91,689 0	Pg-1	IM-513
Lafarge Marblehead 831 S. Quarry Rd. Marblehead, OH 43440 (419) 798-4486 Jeff Grashel, plant mgr.	Lafarge Marblehead	Ottawa	limestone	3,521,113	3,503,000	Oa-7	IM-440
Lakeside Sand & Gravel Co. 3498 Frost Rd. Mantua, OH 44255 (330) 274-2569 Larry Kotkowski, pres.	Lakeside Sand & Gravel Co. Lakeside Sand & Gravel Co. Plant #1 Solak	Portage Portage Portage	sand & gravel sand & gravel sand & gravel	377 660,857 7,610	377 660,857 7,610	Pe-40 Pe-LS Pe-A	IM-190 IM-1293 IM-1362
Latham Limestone, LLC 11641 Mosteller Rd. Cincinnati, OH 45241 (740) 493-2677 Dennis Garrison, pres.	Latham Limestone	Pike	limestone	904,650	904,650	Pke-13	IM-213
Little Miami Sand & Gravel P.O. Box 36 Lebanon, OH 45036 (513) 932-3221 Jillora Summers, pres.	Little Miami Sand & Gravel Plant #1 Little Miami Sand & Gravel Plant #2	Warren Warren	sand & gravel sand & gravel	500 350	500 350	Wan-B Wan-46	IM-679 IM-842
Logan Clay Products Co., The P.O. Box 698 Logan, OH 43138 (740) 385-2184 Richard H. Brandt, pres.	Webb Summit	Perry	shale	21,622	15,893	Py-L	IM-2367
Loxley Aggregates, Inc. 4277 Falls Rd. Lewisburg, OH 45338 (937) 839-5488 Matthew L. Loxley, pres.	Loxley Aggregates, Inc.	Preble	clay sand & gravel	510 960	510 960	Pre-9	IM-1095
M. J. Coates Construction Co., Inc. P.O. Box 41231 Dayton, OH 45441 (937) 886-9546 Martin J. Coates, owner	M. J. Coates Construction Co., Inc.	Greene	sand & gravel	54,363	54,363	Ge-47	IM-751
Marshall Quarry, Inc. 10460 State Route 124 Hillsboro, OH 45133 (937) 466-2855 Troy A. Main, v. pres.	Marshall Quarry, Inc.	Highland	limestone	52,300	52,300	Hd-4	IM-406

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Martin Marietta Aggregates 9277 Centre Point Dr., Suite 250 West Chester, OH 45069 (304) 485-7341 Steve Raffensperger, gen. mgr.	Apple Grove Plant	Meigs	sand & gravel	498,346	483,107	Ms-205	IM-30
Martin Marietta Aggregates 9277 Centre Pointe Dr., Suite 250 West Chester, OH 45069 (513) 492-5638 Steve Raffensperger, v. pres.	Fairfield Sand & Gravel	Butler	limestone	12,464	0	Br-35	IM-200
			sand & gravel	969,328	809,474		
	Trenton	Butler	limestone	18,624	0	Br-52	IM-814
			sand & gravel	267,909	272,494		
	Fairborn Gravel	Clark	limestone	640	640	Ck-13	IM-366
			sand & gravel	14,209	0		
	Cedarville	Greene	limestone	478,011	507,434	Ge-17	IM-435
			sand & gravel	3,285	3,520		
	Cook Rd.	Greene	limestone	12,343	0	Ge-MM	IM-2123
			sand & gravel	375,246	340,090		
	Xenia S & G	Greene	sand & gravel	136,048	225,170	Ge-33	IM-379
	E-town Sand & Gravel	Hamilton	limestone	14,506	0	Hmn-71	IM-771
			sand & gravel	360,729	375,235		
	Troy Sand & Gravel	Miami	sand & gravel	378,335	405,102	Mi-3	IM-462, IM-658
	Phillipsburg	Montgomery	limestone	447,150	594,518	My-1	IM-374
			sand & gravel	70,044	62,025		
	Franklin Gravel	Warren	sand & gravel	80,914	79,428	Wan-38	IM-615
Martin Marietta Magnesia Specialties, Inc. 755 Lime Rd. Woodville, OH 43469 (419) 849-4200 Tim Tawney, oper. mgr.	Woodville Quarry	Sandusky	limestone	2,152,228	2,092,394	Sy-1	IM-537
MAR-ZANE Materials, Inc. P.O. Box 1585 Zanesville, OH 43702-1585 (740) 453-0721 Nick Little, pres.	Enterprise Pit	Hocking	sand & gravel	361,481	380,158	Hg-HV	IM-1284
Mason's Sand & Gravel Co. 2385 Rathmell Rd. Obetz, OH 43207 (614) 491-3611 Joe Henson, pres.	Mason's Sand & Gravel Co.	Franklin	sand & gravel	34,067	34,067	Fn-11	IM-234
Massillon Materials, Inc. P.O. Box 499 Dalton, OH 44618 (330) 837-4767 Howard J. Wenger, pres.	Massillon Materials, Inc.	Stark	sand & gravel	513,020	513,020	Sk-M	IM-1031
	MMI Warmington Plant	Stark	sand & gravel	155,902	155,902	Sk-M1	IM-1332
Maysville Materials, LLC 3499 Foxfire Dr. Zanesville, OH 45701 (740) 638-3942 Chris D. Sidwell, pres.	Maysville Materials, LLC	Muskingum	limestone	0	156,350	Mum-M	IM-2371
Mechanicsburg Sand & Gravel, Inc. 5734 State Route 4 Mechanicsburg, OH 43044 (937) 834-2606 James G. Cushman, pres.	Mechanicsburg Sand & Gravel, Inc.	Champaign	sand & gravel	96,179	96,179	Cpn-22	IM-889

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
The Melvin Stone Co., LLC P.O. Box 158 Sabina, OH 45169 (740) 998-5016 Dennis J. Garrison, pres.	The Melvin Stone Co., LLC Bowersville Circleville Williamsport Plano Road	Clinton Greene Pickaway Pickaway Ross	limestone limestone sand & gravel limestone limestone	1,611,222 86,161 220,254 300,967 298,447	1,611,222 86,161 220,254 300,967 298,447	Cln-1 Ge-M Pky-R Pky-4 Rs-MC1	IM-241 IM-2052 IM-993 IM-209 IM-1298
Mesenburg Bros., Inc. 2366 Wells Rd. Collins, OH 44826 (419) 668-5691 William Mesenburg, pres.	Mesenburg Bros., Inc.	Huron	sandstone	5,620	5,620	Hrn-8	IM-268
MGQ, Inc. P.O. Box 130 Old Fort, OH 44861 (419) 992-4235 Lyn O. Radabaugh, pres.	Liberty Quarry	Seneca	limestone	460,879	460,879	Sa-M	IM-2239
Miami Valley Topsoil, LLC P.O. Box 364 Ross, OH 45061 Rodney Watson, owner	Miami Valley Topsoil, LLC	Butler	sand & gravel	40,000	40,000	Br-M	IM-2440
Miami View Mining Co., Ltd. 998-B E. Ridge Dr. Lebanon, OH 45036 (513) 932-6481 James P. Jurgensen, managing mbr.	Miami View	Warren	sand & gravel	16,750	16,750	Wan-MV	IM-1329
Mid Ohio Resources 459 State Route 97 W Bellville, OH 44813 (352) 369-8600 Darryl C. Lanker, pres.	Bellville West	Richland	sand & gravel	11,940	0	Rd-M1	IM-2191
Miller's Sand & Gravel, Inc. 10228 State Route 82 Windham, OH 44288 (330) 326-3157 Brian K. Miller, pres.	Miller Sand & Gravel, Inc.	Portage	sand & gravel	700	700	Pe-39	IM-1078
Milton Materials, LLC 7131 W. Fenner Rd. Ludlow Falls, OH 45339 (937) 698-7048 Tom Wagner, pres.	Milton Materials Fenner Pit	Miami	sand & gravel	68,704	86,704	Mi-4	IM-472
Morrow Gravel Co. 11641 Mosteller Rd. Cincinnati, OH 45241 (740) 998-5016 Dennis Garrison, pres.	Urbana Morrow Gravel Co.	Champaign Warren	sand & gravel sand & gravel	192,309 26,605	192,309 26,605	Cpn-1 Wan-M	IM-371 IM-728
Morton International, Inc. Morton Salt Division P.O. Box 428 Grand River, OH 44045-0428 (440) 354-9901 Mark Mitchell, facility mgr.	Fairport Mine	Lake	salt	1,036,326	1,039,536	Lke-6	

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Morton International, Inc. Morton Salt Division 151 Industrial St. P.O. Box 337 Rittman, OH 44270-0337 (330) 925-3015 Christian Herrmann, CEO	Morton Salt Well Field 9129	Wayne	salt	355,960	482,427	We-9129	
Muskingum River Gravel Co. P.O. Box 1585 Zanesville, OH 43702-1585 (740) 453-0721 Nick Little, pres.	S & S Aggregate #8 S & S Aggregate #1 S & S Aggregate Plant #7	Hocking Muskingum Ross	sand & gravel sand & gravel sand & gravel	29,222 324,450 68,976	29,222 326,408 58,840	Hg-301 Mum-228 Rs-M	IM-458 IM-421 IM-114
National Lime & Stone Co. P.O. Box 120 Findlay, OH 45839-0120 (419) 422-4341 C. Paul Palmer, pres.	Lima Plant Buckland Plant Bucyrus Plant Delaware Plant South Columbus Findlay Plant Marion Plant Chesterville Plant Rimer Plant Delphos Quarry Carey Plant Upper Sandusky Plant	Allen Auglaize Crawford Delaware Franklin Hancock Marion Morrow Putnam Van Wert Wyandot Wyandot	limestone limestone limestone limestone sand & gravel limestone limestone limestone sand & gravel limestone limestone limestone sand & gravel	827,000 355,000 1,169,000 2,970,000 286,000 692,000 481,000 288,000 288,000 313,000 90,000 5,046,000 174,000	827,000 355,000 1,169,000 2,970,000 286,000 692,000 481,000 288,000 288,000 313,000 90,000 5,046,000 174,000	An-3 Ae-10 Cd-1 Del-5 Fn-52 Hk-7 Mn-3 Mw-10 Pm-N Vt-1 Wt-1 Wt-N	IM-484 IM-486 IM-404 IM-207 IM-191, IM-2193 IM-1002 IM-168 IM-258 IM-0479 IM-500 IM-405 IM-2132
Neer's Sand & Gravel 4859 Twp. Rd. 45 Bellefontaine, OH 43311 (937) 585-6733 Arden J. Neer, Sr., owner	Neer's Sand & Gravel	Logan	sand & gravel	111,546	111,546	Lgn-6	IM-459
Nelson Sand & Gravel, Inc. P.O. Box 466 Kingsville, OH 44048 (440) 224-0198 Thomas H. Nelson, pres.	Nelson Sand & Gravel, Inc.	Ashtabula	sand & gravel	41,770	41,770	Asa-N1	IM-2102
Newark Materials, LLC 2232 Sleepy Hollow Rd. Newark, OH 43055 (740) 652-4565 Carl W. Hains, owner	Newark Materials	Licking	clay sand & gravel	40,000 76,800	40,000 102,000	Lg-504	IM-991
Newton Asphalt Paving, Inc. P.O. Box 86 Strasburg, OH 44680 (330) 878-5648 George A. Gessner, pres.	516	Tuscarawas	sand & gravel	98,169	98,169	Ts-2001	IM-1004
Northwest Ohio Property Developments, Ltd. P.O. Box 23242 Toledo, OH 43623 (419) 260-4406 Gene W. Borton, pres.	NOPD, Ltd.	Fulton	sand & gravel	888	888	Ftn-NW	IM-2138

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CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Ohio Asphaltic Limestone Corp. 8591 Mad River Rd. Hillsboro, OH 45133 (937) 364-2191 Diana M. Jones, pres.	Ohio Asphaltic Limestone Corp.	Highland	limestone	360,572	360,572	Hd-3	IM-253
Ohio Basic Minerals, LLC 15317 Beaver Pike Jackson, OH 45640 (740) 286-0258 Patrick McDonald, pres.	Scioto Mine	Pike	sandstone	26,796	25,733	Pke-0	IM-2370
Olen Corp. 4755 S. High St. Columbus, OH 43207-4028 (614) 491-1515 Kenneth W. Holland, pres.	Columbus Plant #3	Franklin	limestone sand & gravel	1,178,054 1,394,735	1,183,973 1,487,598	Fn-58	IM-1023
	Fredericktown Plant #2	Knox	limestone sand & gravel	5,619 345,504	0 330,411	Kx-0	IM-2159
	St. Louisville Plant #5	Licking	limestone sand & gravel	2,233 383,494	0 401,161	Lg-31	IM-246
	The Olen Corp. - Wooster	Wayne	limestone sand & gravel shale	6,156 354,071 11	0 354,567 11	We-11	IM-547
	Upper Sandusky	Wyandot	limestone sand & gravel	462,383 11,803	505,911 0	Wt-3	IM-298
Oscar Brugmann Sand & Gravel, Inc. 3828 Dudley Rd. Mantua, OH 44255 (330) 274-8224 Alan R. Brugmann, pres.	Oscar Brugmann Sand & Gravel, Inc.	Portage	sandstone sand & gravel	16,342 481,120	16,342 481,120	Pe-9	IM-119
	Oscar Brugmann Sand & Gravel, Inc.	Portage	sandstone sand & gravel	2,884 84,903	2,884 84,903	Pe-OB	IM-1241
Oster Sand & Gravel, Inc. 5947 Whipple Ave. NW North Canton, OH 44720-7692 (330) 494-5472 Marlene K. Oster, pres.	Massillon Plant	Stark	sand & gravel	588,583	588,583	Sk-165	IM-192
	Oster Sand & Gravel, Inc. - Bolivar	Tuscarawas	sand & gravel	147,110	147,110	Ts-2036	IM-1155
Ours Sand & Gravel 20444 State Route 7 S Crown City, OH 45623 (740) 256-1378 Donald A. Ours, owner	Ours Sand & Gravel	Gallia	sand & gravel	2,920	2,920	Ga-0	IM-1028
Oxford Mining Co., LLC P.O. Box 427 Coshocton, OH 43812 (740) 622-6302 Greg Honish, pres.	Standingstone Mine	Harrison	limestone	692,814	692,814	Hn-02	D-2277
Patrick Excavating, Inc. 5839 State Route 5 P.O. Box 387 Ravenna, OH 44266 (330) 296-7706 Tim Patrick, pres.	Patrick	Portage	clay sand & gravel	185 265	185 265	Pe-P	IM-1322
Paul D. Beery Trucking Co. 4770 Cincinnati-Zanesville Rd. NE Lancaster, OH 43130 (740) 653-5061 Paul D. Beery, pres.	Paul D. Beery Trucking Co.	Fairfield	sand & gravel	2,648	2,798	Fd-14	IM-933

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Phillips Companies, LLC 620 Phillips Dr. Beavercreek, OH 45435 (937) 426-5461 Dennis K. Phillips, pres.	Phillips Companies, LLC Phillips Sand and Gravel	Greene Montgomery	sand & gravel sand & gravel	246,100 192,150	680,000 170,900	Ge-36 My-52	IM-305 IM-348
Phoenix Ashphalt Company, Inc. 3497 University Dr. NE New Philadelphia, OH 44663 (330) 339-4935 James R. Demuth, pres.	Smith Sand & Gravel #1	Carroll	sand & gravel	142,516	71,258	Cl-P1	IM-2354
Piqua Materials, Inc. Piqua Minerals Division 1750 W. Statler Rd. Piqua, OH 45356 (800) 338-2962 Dennis Garrison, pres.	Piqua Minerals Division	Miami	limestone	632,348	632,348	Mi-1	IM-382
Portage Aggregate & Supply, LLC 10155 Royalton Rd. North Royalton, OH 44133 (330) 297-6800 Anthony J. Farinacci, pres.	Portage Aggregate & Supply, LLC	Portage	sand & gravel	69,883	69,883	Pe-M	IM-1312
Precision Aggregates II, LLC 12205 E. Gypsy Ln. Bowling Green, OH 43402 (419) 352-4681 Randolph G. Schmeltz, pres.	Precision Aggregates II, LLC	Wood	limestone sandstone sand & gravel	277,810 17,393 12	277,810 17,393 12	Wd-14	IM-1157
Premier Silica, LLC 26900 Coshocton Rd. Howard, OH 43028 (740) 599-7773 Denny Bullard, pres.	Millwood Plant	Knox	sandstone	69,865	88,045	Kx-1	IM-269
Quality Ready Mix, Inc. 16672 County Rd. 66A N St. Marys, OH 45885 (419) 738-2817 John Hirschfield, pres.	Quality Pit	Auglaize	sand & gravel	2,136	2,136	Ae-16	IM-595
R. H. Penick Co., Ltd. 1504 Blue Jay Rd. Heath, OH 43056-1767 (740) 323-3040 Robert Neumeyer, owner	R. H. Penick Co.	Licking	salt	334	334	Lg-45	
R. J. Martin Service & Excavating 1875 Roxanna-New Burlington Rd. Waynesville, OH 45068 (937) 862-4182 Roger J. Martin, pres.	Horseshoe Bend Sand & Gravel, Inc.	Greene	sand & gravel	20	20	Ge-40	IM-923
R. L., Ltd. 5850 Dryfork Rd. Cleves, OH 45002 (513) 367-5700 Rick Ashcraft, pres.	R. L., Ltd.	Hamilton	sand & gravel	1,000	1,000	Hmn-67	IM-529

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
R. W. Sidley, Inc. 436 Casement Ave. Painesville, OH 44077 (440) 298-3232 Robert Buescher, pres.	Sidley-Kingsville Plant	Ashtabula	sand & gravel	20,231	46,500	Asa-15	IM-783
R. W. Sidley, Inc. 7123 Madison Rd. Thompson, OH 44086 (440) 298-3232 Robert Buescher, pres.	Thompson Pit	Geauga	sandstone	128,283	173,500	Gea-1	IM-163
Razor Lake S. & G., LLC 59894 County Rd. 9 Newcomerstown, OH 43832 (740) 294-1370 Terry L. Jurin, owner	Razor Lake S. & G., LLC	Coshocton	sand & gravel	59,300	59,300	Cn-R	IM-2175
Regeneration Materials P.O. Box 146 Dundee, OH 44624 (330) 852-2012 Matthew Maendel, pres.	Dundee Mine	Tuscarawas	sandstone sand & gravel	350 2,074	350 1,225	Ts-1660	IM-68
Ridge Township Quarry 16905 Middlepoint Rd. Van Wert, OH 45891 (419) 238-2533 Nancy Agler, office mgr.	Ridge Township Quarry	Van Wert	limestone	175,504	175,504	Vt-7	IM-642
Rockwell Sand & Gravel, Inc. 1022 State Route 43 Mogadore, OH 44260 (330) 628-3231 Todd Steinel, pres.	Suffield Aggregate, LLC	Portage	peat sand & gravel	560 91,081	560 91,082	Pe-R	IM-2037
Rocky Enterprise 53557 Mud Run Rd. Senecaville, OH 43780 (740) 391-2035 Tim Hall, owner	Rocky Enterprise - Robins Ridge	Guernsey	sandstone	40,596	40,596	Gy-R	IM-2375
Romig Excavating P.O. Box 260 Sherrodsville, OH 44675 (740) 269-1225 James D. Romig, owner	Romig Excavating	Carroll	sandstone	6,404	6,404	Cl-R	IM-2296
Roush, Roy M. 11278 Darby Creek Rd. Orient, OH 43146 (614) 877-4792 Roy M. Roush, owner	R Farm S & G	Pickaway	sand & gravel	1,582	1,582	Pky-RR	IM-2040
Royalty Enterprises, Inc. P.O. Box 8680 Newark, OH 43058 (740) 323-3333 Clayton King, pres.	King #1	Licking	salt	317	317	Lg-4484	
Rupp Construction, Inc. 18228 Fulton Rd. Marshallville, OH 44645 (330) 855-2781 Lindsey Schmitt, pres.	Rupp Construction, Inc.	Wayne	sand & gravel	128,099	128,099	We-7	IM-471

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
S & S Aggregate, Inc. P.O. Box 1585 Zanesville, OH 43702-1585 (740) 453-0721 Nick Little, v. pres.	S & S Aggregate #16 S & S Aggregate #14	Portage Richland	sand & gravel sand & gravel	573,751 289,393	572,151 254,282	Pe-15 Rd-5	IM-104 IM-470
Sandkuhl Clay Works, Inc. 05536 Kossuth-Amanda Rd. Spencerville, OH 45887 (419) 657-2905 Ann L. Engh, pres.	Sandkuhl Clay Works, Inc.	Auglaize	clay	1,247	1,247	Ae-7	
Sands Hill Mining, LLC P.O. Box 650 Hamden, OH 45634 (740) 384-4211 Joe Funk, pres.	Clinton Stone, LLC Big Rock	Jackson Vinton	limestone limestone	226,411 276,301	226,411 276,301	Jkn-S2 Vn-S7	D-1087 D-2344
Scassa Asphalt, Inc. 4167 Beaumont Ave. NW Massillon, OH 44647 (330) 830-2039 Ettore Scassa, owner	Roio Sand & Gravel	Stark	sand & gravel	15,000	17,000	Sk-S	IM-2326
Schieve, Guy 52943 State Route 113 Wakeman, OH 44889 (440) 965-8792 Guy Schieve, owner	Schieve Pit	Lorain	sand & gravel	3,578	3,578	Ln-12	IM-731
Shamrock Materials, Inc. 11641 Mosteller Rd. Cincinnati, OH 45241 (800) 338-2962 Dennis Garrison, pres.	Walls Material	Darke	limestone	341,000	341,000	Dke-1	IM-362
Sharon Stone Co. P.O. Box 100 Dexter City, OH 45727 (740) 783-3575 David Skinner, pres.	Sharon Stone Co. Belpre Sand & Gravel	Noble Washington	limestone sand & gravel	80,392 364,561	80,392 361,561	Ne-S Wn-SS	IM-913 IM-2006
Shelly Materials, Inc. 80 Park Dr. Thornville, OH 43076 (740) 246-6315 Ty Nofziger, pres.	Shelly Materials, Inc., Plant #1305 Columbus Limestone #331 St. Louisville Portland Plant East Fultonham Shelly Materials, Inc. - Chillicothe Ostrander Quarry Reno	Coshocton Franklin Licking Meigs Muskingum Ross Union Washington	sand & gravel limestone sand & gravel sand & gravel sand & gravel limestone sand & gravel limestone sand & gravel	104,048 3,517,303 250,644 367,582 250,366 1,159,974 4,907 1,763,049 562,689	104,048 3,517,303 250,644 367,582 250,366 1,159,974 4,907 1,763,049 562,689	Cn-694 Fn-53 Lg-10 Ms-S Mum-106 Rs-27 Un-2 Wn-SM	IM-293 IM-185 IM-217 IM-1326 IM-297 IM-1098 IM-236 IM-2339
Shelly Materials, Inc. P.O. Box 3100 Findlay, OH 45840 (419) 422-8854 Ty Nofziger, pres.	Forest Quarry Belle Center York Center Quarry	Hardin Logan Union	limestone limestone limestone	158,428 200,474 347,162	178,922 271,443 415,290	Hdn-S Lgn-2 Un-1	IM-1034 IM-494 IM-208
Shelly Materials, Inc. 8920 Canyon Falls Blvd., Suite 120 Twinsburg, OH 44087 (330) 405-4163 Ty Nofziger, pres.	Lockbourne #1344 Petersburg Jefferson Materials Shalersville North Massillon Aggregates	Franklin Mahoning Portage Portage Stark	sand & gravel limestone sand & gravel sand & gravel sand & gravel	16,738 499,706 391,262 572,836 657,898	16,738 620,567 314,337 575,852 588,263	Fn-23 Mg-L Pe-63 Pe-La Sk-173	IM-1353 IM-1353 IM-82 IM-1047 IM-879

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CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Sidco Development, Inc. 4620 Limestone Valley Rd. Zanesville, OH 43701 (740) 849-2422 Jeffrey R. Sidwell, pres.	Midvale Sand & Gravel	Tuscarawas	sand & gravel	252,430	252,430	Ts-S2	IM-1356
Sidwell Materials, Inc. 4620 Limestone Valley Rd. Zanesville, OH 43701 (740) 849-2422 Jeffrey R. Sidwell, pres.	Blaine Aggregates Uniontown Stone	Belmont Belmont	limestone limestone	503,799 561,351	589,431 577,600	Bt-A Bt-N	IM-2148 IM-1283
Small's Sand & Gravel, Inc. P.O. Box 617 Gambier, OH 43022 (740) 427-3677 Michael W. Small, pres.	Small's Sand & Gravel, Inc. Small's Sand & Gravel, Inc.	Knox Knox	sand & gravel sand & gravel	271,951 351	271,951 351	Kx-15 Kx-17	IM-967 IM-968
Sober Sand & Gravel Co. 2898 Tallmadge Rd. Ravenna, OH 44266 (330) 867-0666 Waldo Sober, pres	Sober Sand & Gravel Co.	Portage	clay sand & gravel	3,000 197,565	3,000 197,565	Pe-18	IM-193
Soehnlen Bros. Sand & Gravel, Inc. 10449 Soehnlen Rd. NW Beach City, OH 44608 (330) 756-2244 Francis L. Soehnlen, pres.	Soehnlen Bros. Sand & Gravel, Inc.	Tuscarawas	sand & gravel	393,719	393,719	Ts-1826	IM-88
Solomon's Mines, Inc. 7732 Salem-Unity Rd. Salem, OH 44460 (330) 337-0123 Jack Solomon, owner	Solomon's Mines, Inc. Solomon's Mines, Inc.	Columbiana Mahoning	sandstone sand & gravel sand & gravel	9,061 82,610 2,341	9,061 82,610 2,341	Ca-S Mg-632	IM-1258 IM-808
Soltis Sand & Gravel 19102 Nelson Ledges Rd. P.O. Box 452 Garrettsville, OH 44231 (440) 548-5813 James Soltis, owner	Soltis Sand & Gravel	Geauga	clay	5,889	5,889	Gea-9	IM-132
South Central Sand & Gravel 340 Bailey Chapel Rd. Piketon, OH 45661 (740) 289-2629 James A. Nier, owner	South Central Sand & Gravel	Pike	sand & gravel	8,784	8,784	Pke-30	IM-786
State Line Resources, Inc. P.O. Box 419 Negley, OH 44441 (330) 426-9611 James Muse, pres.	State Line Resources, Inc.	Columbiana	clay	13,147	13,147	Ca-505	IM-13, IM-936
Stocker Sand & Gravel Co. P.O. Box 176 Gnadenhutten, OH 44629 (740) 254-4635 William E. Stocker, pres.	Stocker Sand & Gravel Co. - Gnaden Stocker Sand & Gravel Co. - Island	Tuscarawas Tuscarawas	sand & gravel sand & gravel	483,644 633,864	483,644 633,864	Ts-69 Ts-125	IM-51 IM-50

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Stoneco, Inc. P.O. Box 3100 Findlay, OH 45840 (419) 422-8854 Ty Nofziger, pres.	Maumee Quarry Celina Quarry White Rock Quarry Auglaize Quarry Scott Quarry Portage Quarry Lime City Quarry Carey Quarry	Lucas Mercer Ottawa Paulding Van Wert Wood Wood Wyandot	limestone limestone limestone limestone limestone limestone limestone limestone	679,397 617,959 1,111,934 445,386 200,055 526,474 20,225 2,011,607	602,522 737,666 1,027,140 508,940 256,086 557,265 13,005 2,590,041	Ls-2 Mr-1 Oa-6 Pg-2 Vt-3 Wd-11 Wd-6 Wt-8	IM-503 IM-592 IM-296 IM-481 IM-495 IM-475 IM-480 IM-273
Subtropolis Mining 10900 South Ave. P.O. Box 217 North Lima, OH 44452 (330) 549-2165 W. Thomas Mackall, pres.	Kemp Mine	Mahoning	limestone	1,490,276	1,447,777	Mg-EF1	IM-2093
Summitville Tiles, Inc. P.O. Box 173 Summitville, OH 43962 (330) 223-1511 David Johnson, pres.	Summitcrest, Inc. Summitville Tiles, Inc.	Columbiana Columbiana	shale shale	13,487 295	13,487 295	Ca-SU Ca-205	IM-2186 IM-74
Sypniewski, Joseph N. 3780 Mechanicsville Rd. Rock Creek, OH 44084 (440) 563-5644 Joseph N. Sypniewski, owner	Sypniewski	Ashtabula	clay sand & gravel	558 39	558 39	Asa-SY	IM-2222
Thiel Construction Co. P.O. Box 225 Blakeslee, OH 43505 (419) 272-2712 Robert L. Thiel, pres.	Thiel Construction Co.	Williams	sand & gravel	1,008	1,008	Ws-21	IM-1225
Thompson Mining Co. 12321 Ideal Rd. Byesville, OH 43723 (740) 260-2252 George V. Thompson, pres.	Pleasant Valley Limestone	Muskingum	limestone	218,317	218,317	Mum-907	IM-1200
Tiger Sand & Gravel, LLC 411 Oberlin Ave. SW Massillon, OH 44647 (330) 477-9653 Pete Bitzel, Jr., partner	Tiger Sand & Gravel, LLC	Stark	sand & gravel	439,293	300,000	Sk-T	IM-2279
Tipp Stone Co., Inc. P.O. Box 367 Troy, OH 45373 (937) 890-4051 Michael Eidemiller, pres.	Tipp Stone Co., Inc.	Montgomery	sand & gravel	17,086	17,086	My-61	IM-468
Top Dog Service Company 660 Lunken Park Dr. Cincinnati, OH 45226 (513) 353-2555 Michael P. O'Rourke, pres.	Whitewater Reclamation Company	Hamilton	sand & gravel	1,050	1,050	Hmn-G	IM-1270
Triple B of Lakeville, Ltd. 14500 Shreve Rd. Big Prairie, OH 44611 (419) 496-2646 Mitchell W. Bolin, pres.	Lakeville Sand & Gravel, Ltd.	Holmes	sand & gravel	90,468	90,468	Hs-C	IM-1303

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Tuffco Sand & Gravel, Inc. P.O. Box 399 Marysville, OH 43040 (614) 873-3977 Charles Lewis, pres.	Tuffco Sand & Gravel, Inc.	Madison	sand & gravel	57,637	57,637	Mdn-11	IM-1063
U.S. Aggregates, Inc. 5400 W. 86th St. P.O. Box 68123 Indianapolis, IN 46268 (765) 966-8155 John Schmidt, pres.	U.S. Aggregates - Richmond Plant	Preble	sand & gravel	213,918	245,204	Pre-AAC	IM-779
United Aggregates, Inc. P.O. Box 750 Mt. Vernon, OH 43050 (740) 397-0000 Jeff C. Ellis, pres.	United Aggregates, Inc. United Aggregates, Inc.	Knox Knox	sand & gravel sand & gravel	156,281 19,350	140,077 22,127	Kx-3 Kx-5	IM-300 IM-884, IM-1307
Valley Clay Mining Co. 451 Gordon St. Roseville, OH 43777 (740) 697-2005 Peter Petratsas, pres.	Spring Pit	Muskingum	clay shale	5,047 17,498	5,047 17,498	Mum-904	IM-1127
Walhonding Sand & Gravel 27679 State Route 206 Walhonding, OH 43843 (740) 824-5251 Ezra Helmick, v. pres.	Walhonding Valley Sand & Gravel	Coshocton	sand & gravel shale	53,043 10,252	53,045 10,252	Cn-WL	IM-2127
Waller Bros. Stone Co. P.O. Box 157 McDermott, OH 45652 (740) 259-2356 Frank L. Waller, pres.	Inskeep Quarry 1 & 2 Crabtree Quarry	Scioto Scioto	sandstone sandstone	568 546	568 546	So-48 So-76	IM-140 IM-141
Watson Gravel, Inc. 2728 Hamilton-Cleves Rd. P.O. Box 277 Ross, OH 45061 (513) 863-0070 Ronald E. Watson, pres.	Mecco, Inc. Ongais Plant #1 Watson Pit Harrison #2 Minges-Getz	Butler Butler Butler Hamilton Hamilton	sand & gravel sand & gravel sand & gravel sand & gravel sand & gravel	391,980 0 837,621 704,570 245,150	336,739 55,241 837,621 704,570 245,150	Br-15 Br-O Br-47 Hmn-ARH Hmn-64	IM-316 IM-2143 IM-111 IM-1273 IM-137
Weber Sand & Gravel, Inc. 14586 U.S. Route 127 EW Bryan, OH 43506 (419) 636-4238 Thomas G. Weber, pres.	Weber Sand & Gravel, Inc.	Defiance	sand & gravel	195,186	195,186	Ws-11 De	IM-0661
Weidle Sand & Gravel, Inc. 9330 Eckhart Rd. Germantown, OH 45327 (937) 855-2227 Ronal L. Weidle, pres.	Weidle Sand & Gravel	Montgomery	sand & gravel	266,802	266,802	My-W1	IM-2203
Welch Sand & Gravel, Inc. 10217 Columbia St. Harrison, OH 45030-9751 (513) 353-3220 Charles H. Welch, pres.	Schlichter Pit East Miami Pit Fernald Pit	Butler Hamilton Hamilton	sand & gravel sand & gravel sand & gravel	47,963 17,682 568,575	47,963 17,682 568,575	Br-38 Hmn-48 Hmn-42	IM-218 IM-220 IM-823

CONFIDENTIAL

2015 OHIO DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS (cont.)

Name, address, telephone number, and president/owner/manager of company	Name of mine	County	Commodity	2015 sales (tons)	2015 production (tons)	State mine number	Mineral Resources Management permit number
Westfall Aggregate & Materials, Inc. 6790 Brooks-Miller Rd. Circleville, OH 43113 (740) 477-8600 Kevin R. Steward, pres.	Hill Road Pit	Pickaway	sand & gravel	83,674	83,674	Pky-WA	IM-2217
William Albert, Inc. 1300 Cassingham Hollow Rd. Coshocton, OH 43812 (740) 622-3045 William Albert, pres.	William Albert, Inc., Pit 2	Coshocton	sand & gravel	39,374	43,374	Cn-WA	IM-2036
Willowbrook Sand & Gravel, LLC 39130 Brookfield St. P.O. Box 304 Lisbon, OH 44432 (330) 424-0742 Ray Perrino, owner	Willowbrook Sand & Gravel	Columbiana	sand & gravel	24,809	24,809	Ca-993	IM-1180
Wood Land & Cattle Co., Ltd. 5510 S. Elyria Rd. Shreve, OH 44676 Chris Wood, pres.	#1	Wayne	sandstone	134,792	134,792	We-EA	IM-1259
Wysong Gravel Co. P.O. Box 5 West Alexandria, OH 45381 (937) 456-4539 John D. Wysong, pres.	Wysong Gravel Co. - West Alexandria Plant Wysong Gravel Co.	Preble Preble	sand & gravel sand & gravel	49,932 83,807	49,525 83,613	Pre-6 Pre-4	IM-478 IM-477
X. L. Sand & Gravel Co., Inc. P.O. Box 255 Negley, OH 44441 (330) 426-9876 Kristen Kalis, owner	X. L. Sand & Gravel Co., Inc.	Columbiana	sand & gravel	44,300	44,300	Ca-881	IM-611
Xenia Sand & Gravel, Inc. 610 Dayton-Xenia Rd. Xenia, OH 45385 (937) 372-2978 Scott A. Filson, pres.	Xenia Sand & Gravel, Inc.	Greene	sand & gravel	3,116	3,116	Ge-10	IM-518
Young's Sand & Gravel Co. P.O. Box 117 Loudonville, OH 44842 (419) 994-3040 Myron Oswalt, owner	Sprang & Youngs Spreng	Ashland Ashland	sand & gravel sand & gravel	1,745 236,512	1,763 237,772	Ald-7 Ald-Y	IM-392 IM-1216
Youngs Sand and Gravel 987 Hiles Rd. Lucasville, OH 45648 (740) 259-3029 Douglas N. Young, pres.	Young	Scioto	sand & gravel	3,081	0	So-Y	IM-2380
Zanesville Materials, LLC P.O. Box 202 Baltimore, OH 43105 Jerry Mock, pres.	Zanesville Materials	Muskingum	sand & gravel	12,930	18,432	Mum-Z1	IM-2434
Zollinger Sand & Gravel Co. 11899 Easton Rd. Rittman, OH 44270 (330) 855-2464 Michael Zollinger, pres.	Zollinger Sand & Gravel Co.	Wayne	clay sandstone	290 4,543	290 4,543	We-15	IM-398

[1]Commodity sales and production were estimated using quarterly data submitted to the Mine Safety and Health Administration for active operations that failed to report.

2015 LIMESTONE/DOLOMITE COMPANIES WITH SALES OR PRODUCTION

Company	Number of operations	Sales (tons)	Production (tons)
Anthony Mining Co., Inc.	1	53,194	53,194
Arch Materials, LLC	1	1,480,500	1,389,000
Area Aggregates, LLC	1	1,065,428	1,481,260
Barrett Paving Materials, Inc. Mid-Ohio	3	991,702	958,501
The Belden Brick Company, LLC	1	15,697	15,697
Bluffton Stone Co.	1	320,312	368,470
C. F. Poeppelman, Inc.	1	326,473	326,473
Cardinal Aggregates, Inc.	1	619,000	619,000
Carmeuse Lime, Inc.	3	2,613,077	2,613,077
CEMEX, Inc.	2	1,114,381	1,114,381
Christman Quarries	1	68,409	68,409
Con-Ag, Inc.	1	187,231	187,231
Cumberland Limestone, LLC	1	762,195	605,845
Custar Stone Co., Inc.	1	501,812	478,302
Duff Quarry, Inc.	1	409,272	409,272
East Fairfield Coal Co.	1	466,410	478,633
Egypt Valley Stone, LLC	1	458,287	458,287
Erie Blacktop, Inc.	1	293,761	293,761
Foureman's Sand & Gravel, Inc.	1	157	157
Genoa Limestone, LLC	1	487,850	550,000
Gerken Materials, Inc.	1	285,965	318,589
Graymont Dolime (OH), Inc.	1	727,839	339,976
Hanson Aggregates, LLC	2	2,319,412	1,635,605
Hanson Aggregates Midwest, Inc.	7	5,792,195	5,657,472
Heitsche North Shore Stone Quarries LLC	1	6,177	6,177
Kimble Clay & Limestone Co.	1	494,446	494,446
King Quarries, Inc.	1	128,444	128,444
Lafarge Corp.	1	676,548	0
Lafarge Marblehead	1	3,521,113	3,503,000
Latham Limestone, LLC	1	904,650	904,650
Marshall Quarry, Inc.	1	52,300	52,300
Martin Marietta Aggregates	7	983,738	1,102,592
Martin Marietta Magnesia Specialties, LLC	1	2,152,228	2,092,394
Maysville Materials, LLC	1	0	156,350
The Melvin Stone Co., LLC	4	2,296,797	2,296,797
MGQ, Inc.	1	460,879	460,879
National Lime & Stone Co.	10	12,231,000	12,231,000
Ohio Asphaltic Limestone Corp.	1	360,572	360,572
Olen Corp.	5	1,654,445	1,689,884
Oxford Mining Co., LLC	1	692,814	692,814
Piqua Materials, Inc.	1	632,348	632,348
Precision Aggregates II, LLC	1	277,810	277,810
Ridge Township Quarry	1	175,504	175,504
Sands Hill Mining, LLC	2	502,712	502,712
Shamrock Materials, Inc.	1	341,000	341,000
Sharon Stone Co.	1	80,392	80,392
Shelly Materials, Inc.	7	7,646,096	7,926,548
Sidwell Materials, Inc.	2	1,065,150	1,167,031
Stoneco, Inc.	8	5,613,037	6,292,665
Subtropolis Mining	1	1,490,276	1,447,777
Thompson Mining Co.	1	218,317	218,317
TOTAL: 51 companies	100	66,019,352	65,654,995

2015 OHIO DIRECTORY OF LIMESTONE/DOLOMITE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

For those mines for which a state mine number has not been assigned, a letter designation is used (example: Cn-A).

County	Name of operator	Name of mine or quarry	Township	Geological unit (age)[1]	Type and principal use	State mine number
Adams	Hanson Aggregates, LLC	Plum Run Quarry	Meigs	Peebles, Greenfield, & Tymochtee Dolomites (Silurian)	Crushed stone—unspecified	Ads-1
Allen	Bluffton Stone Co.	Bluffton Stone Co.	Richland	Tymochtee Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, commercial building, aglime	An-1
	National Lime & Stone Co.	Lima Plant	Bath	Greenfield Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, railroad ballast, asphalt, aglime	An-3
Auglaize	Con-Ag, Inc.	Con-Ag, Inc.	Noble	Cedarville Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, aglime	Ae-31
	National Lime & Stone Co.	Buckland Plant	Moulton	Unidentified limestone (Silurian)	Crushed stone—riprap, Portland cement concrete, asphalt	Ae-10
Belmont	Egypt Valley Stone, LLC	Shugert	Kirkwood, Union	Fishpot limestone (Pennsylvanian)	Crushed stone—riprap	Bt-E
	Sidwell Materials, Inc.	Blaine Aggregates	Colerain	Fishpot limestone (Pennsylvanian)	Crushed stone—road construction/resurfacing	Bt-A
		Uniontown Stone	Wheeling	Fishpot limestone (Pennsylvanian)	Crushed stone—road construction/resurfacing	Bt-N
Brown	Hanson Aggregates, LLC	Eagle Crushed Stone	Eagle	Brassfield Limestone (Silurian)	Crushed stone—unspecified	Bn-EC
Butler	Martin Marietta Aggregates	Fairfield Sand & Gravel	Fairfield, Ross	Unidentified limestone (Ordovician)	Crushed stone—unspecified	Br-35
		Trenton	Madison	Unidentified limestone (Ordovician)	Crushed stone—unspecified	Br-52
Clark	Martin Marietta Aggregates	Fairborn Gravel	Bethel	Unidentified limestone (Silurian)	Crushed stone—unspecified	Ck-13
Clermont	Arch Materials, LLC	Batavia Mine	Jackson	Black River Group (Ordovician)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, commercial building, aglime	Ct-A
Clinton	The Melvin Stone Co., LLC	The Melvin Stone Co., LLC	Richland	Cedarville Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, railroad ballast, asphalt, commercial building, unspecified, aglime	Cln-1
Crawford	National Lime & Stone Co.	Bucyrus Plant	Holmes	Columbus & Delaware Limestones (Devonian)	Crushed stone—riprap, Portland cement concrete, asphalt, aglime	Cd-1
Darke	Foureman's Sand & Gravel, Inc.	Foureman's Sand & Gravel, Inc.	Greenville	Unidentified (Silurian)	Crushed stone—riprap	Dke-4
	Shamrock Materials, Inc.	Walls Material	Butler	Cedarville Dolomite (Silurian)	Crushed stone—unspecified	Dke-1
Delaware	National Lime & Stone Co.	Delaware Plant	Scioto	Columbus & Delaware Limestones (Devonian)	Crushed stone—riprap, Portland cement concrete, asphalt, aglime	Del-5
Erie	Erie Blacktop, Inc.	Erie Blacktop Quarry	Margaretta	Unidentified limestone	Crushed stone—Portland cement concrete, road construction/resurfacing, asphalt	Ee-27
	Hanson Aggregates Midwest, Inc.	Sandusky Crushed Stone	Groton	Columbus & Delaware Limestones, Detroit River Group (Devonian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, unspecified, aglime	Ee-11
		Wagner Quarry	Perkins	Columbus & Delaware Limestones (Devonian)	Crushed stone—unspecified	Ee-1A
Franklin	Olen Corp.	Columbus Plant #3	Hamilton	Columbus & Delaware Limestones (Devonian)	Crushed stone—riprap, Portland cement concrete, asphalt, commercial building, aglime	Fn-58
	Shelly Materials, Inc.	Columbus Limestone #331	Franklin, Jackson, Marion	Columbus Limestone (Devonian)	Crushed stone—unspecified	Fn-53

CONFIDENTIAL

Greene	CEMEX, Inc. Martin Marietta Aggregates The Melvin Stone Co., LLC	Miller, Schieder, Batdorf, Stewart Cedarville Cook Rd. Bowersville	Bath Cedarville Spring Valley Jefferson	Brassfield Formation (Silurian) Cedarville Dolomite (Silurian) Unidentified limestone Cedarville Dolomite (Silurian)	Crushed stone—Portland cement concrete Crushed stone—unspecified Crushed stone—unspecified Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, commercial building, unspecified	Ge-8 Ge-17 Ge-MM Ge-M
Guernsey	Cumberland Limestone, LLC	Cumberland Limestone, LLC	Spencer	Fishpot limestone (Pennsylvanian)	Crushed stone—road construction/resurfacing	Gy-309
Hamilton	Martin Marietta Aggregates	E-town Sand & Gravel	Whitewater	Unidentified limestone	Crushed stone—unspecified	Hmn-71
Hancock	National Lime & Stone Co.	Findlay Plant	Liberty	Greenfield and Salina Dolomites (Silurian)	Crushed stone—riprap, Portland cement concrete, railroad ballast, asphalt	Hk-7
Hardin	Shelly Materials, Inc.	Forest Quarry	Jackson	Tymochtee Dolomite (Silurian)	Crushed stone—unspecified	Hdn-S
Harrison	Anthony Mining Co., Inc. Oxford Mining Co., LLC	Carson-Harrah Standingstone Mine	Green Cadiz	Redstone limestone (Pennsylvanian) Redstone limestone (Pennsylvanian)	Crushed stone—riprap, road construction/resurfacing, commercial building Crushed stone—road construction/resurfacing	Hn-766 Hn-02
Highland	Marshall Quarry, Inc. Ohio Asphaltic Limestone Corp.	Marshall Quarry, Inc. Ohio Asphaltic Limestone Corp.	Marshall Union	Peebles Dolomite (Silurian) Peebles Dolomite (Silurian)	Crushed stone—road construction/resurfacing Crushed stone—riprap, construction/resurfacing, asphalt, aglime	Hd-4 Hd-3
Jackson	Sands Hill Mining, LLC	Clinton Stone, LLC	Milton	Vanport limestone (Pennsylvanian)	Crushed stone—unspecified	Jkn-S2
Knox	Olen Corp.	Fredericktown Plant #2	Morris	Unidentified limestone	Crushed stone—road construction/resurfacing, commercial building	Kx-0
Licking	Olen Corp.	St. Louisville Plant #5	Washington	Unidentified limestone	Crushed stone—road construction/resurfacing, commercial building	Lg-31
Logan	Duff Quarry, Inc. Shelly Materials, Inc.	Duff Quarry, Inc. Belle Center	Richland McArthur, Richland	Tymochtee Dolomite (Silurian) Lockport and Tymochtee Dolomites (Silurian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, commercial building Crushed stone—unspecified	Lgn-15 Lgn-2
Lucas	Hanson Aggregates Midwest, Inc. Stoneco, Inc.	Sylvania Waterville Maumee Quarry	Sylvania Waterville Waynesfield	Detroit River Group (Devonian) Greenfield Dolomite (Silurian) Tymochtee Dolomite (Silurian)	Crushed stone—unspecified Crushed stone—unspecified Crushed stone—unspecified	Ls-3 Ls-1 Ls-2
Mahoning	East Fairfield Coal Co. Shelly Materials, Inc. Subtropolis Mining	Withers-Petersburg Petersburg Kemp Mine	Springfield Springfield Springfield	Vanport limestone (Pennsylvanian) Vanport limestone (Pennsylvanian) Vanport limestone (Pennsylvanian)	Crushed stone—unspecified Crushed stone—unspecified Crushed stone—unspecified	Mg-631 Mg-L Mg-EF1
Marion	National Lime & Stone Co.	Marion Plant	Grand Prairie, Marion	Columbus and Delaware Limestones (Devonian)	Crushed stone—riprap, Portland cement concrete, asphalt, aglime	Mn-3
Mercer	Stoneco, Inc.	Celina Quarry	Jefferson	Lockport Dolomite (Silurian)	Crushed stone—unspecified	Mr-1
Miami	Barrett Paving Materials, Inc. C. F. Poeppelman, Inc. Piqua Materials, Inc.	Barrett Paving Materials, Inc., #231 C. F. Poeppelman, Inc. Piqua Minerals Division	Union Newberry Springcreek, Staunton	Brassfield Formation (Silurian) Lockport Dolomite (Silurian) Brassfield Formation, Laurel Dolomite (Silurian)	Crushed stone—unspecified Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, commercial building, aglime Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, flux, commercial building, extenders/fillers, aglime	Mi-BPM Mi-10 Mi-1

CONFIDENTIAL

2015 OHIO DIRECTORY OF LIMESTONE/DOLOMITE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY (cont.)

County	Name of operator	Name of mine or quarry	Township	Geological unit (age)[1]	Type and principal use	State mine number
Monroe	Christman Quarries	Christman Quarry	Franklin, Seneca	Fishpot limestone (Pennsylvanian)	Crushed stone—road construction/resurfacing	Me-C
Montgomery	CEMEX, Inc.	G-Tract	Wayne	Brassfield Formation (Silurian)	Crushed stone—unspecified	My-58
	Martin Marietta Aggregates	Phillipsburg	Clay	Cedarville Dolomite (Silurian)	Crushed stone—unspecified	My-1
Morrow	National Lime & Stone Co.	Chesterville Plant	Chester	Unidentified limestone	Crushed stone—unspecified	Mw-10
Muskingum	Maysville Materials, LLC	Maysville Matrerials, LLC	Newton	Maxville Limestone (Mississippian)	Crushed stone—road construction/resurfacing	Mum-M
	Shelly Materials, Inc.	East Fultonham	Newton	Maxville Limestone (Mississippian)	Crushed stone—unspecified	Mum-106
	Thompson Mining Co.	Pleasant Valley Limestone	Hopewell	Maxville Limestone (Mississippian)	Crushed stone—riprap , unspecified	Mum-907
Noble	King Quarries, Inc.	King Quarries, Inc.	Olive	Fishpot limestone (Pennsylvanian)	Crushed stone—unspecified	Ne-K1
	Sharon Stone Co.	Sharon Stone Co.	Noble	Fishpot limestone (Pennsylvanian)	Crushed stone—riprap, road construction/resurfacing	Ne-S
Ottawa	Genoa Limestone, LLC	Genoa Limestone	Clay	Lockport Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, commercial building	Oa-1A
	Graymont Dolime (OH), Inc.	Graymont Dolime (OH), Inc.	Clay	Lockport Dolomite (Silurian)	Crushed stone—road construction/resurfacing	Oa-1
	Lafarge Marblehead	Lafarge Marblehead	Danbury	Columbus Limestone (Devonian)	Crushed stone—riprap, road construction/resurfacing	Oa-7
	Stoneco, Inc.	White Rock Quarry	Allen	Lockport Dolomite (Silurian)	Crushed stone—unspecified	Oa-6
Paulding	Hanson Aggregates Midwest, Inc.	Paulding	Crane	Ten Mile Creek Dolomite (Devonian)	Crushed stone—unspecified	Pg-7
	Lafarge Corp.	Paulding Quarry	Crane	Dundee Limestone, Silica Shale, Ten Mile Creek Dolomite (Devonian)	Crushed stone—unspecified, Portland cement concrete	Pg-1
	Stoneco, Inc.	Auglaize Quarry	Auglaize	Detroit River Group and Dundee Limestone (Devonian)	Crushed stone—unspecified	Pg-2
Pickaway	The Melvin Stone Co., LLC	Williamsport	Perry	Columbus Limestone (Devonian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, railroad ballast, asphalt, commercial building, unspecified	Pky-4
Pike	Latham Limestone, LLC	Latham Limestone	Mifflin	Greenfield Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, railroad ballast, asphalt, commercial building, unspecified	Pke-13
Putnam	National Lime & Stone Co.	Rimer Plant	Sugar Creek	Greenfield Dolomite (Silurian)	Crushed stone—Portland cement concrete	Pm-N
Ross	The Melvin Stone Co., LLC	Plano Road	Concord	Salina Dolomite (Silurian)	Crushed stone—road construction/resurfacing, commercial building, unspecified	Rs-MC1
Sandusky	Area Aggregates, LLC	Area Aggregates, LLC	Woodville	Lockport Dolomite (Silurian)	crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, commercial building, aglime	Sy-A
	Carmeuse Lime, Inc.	Millersville Plant	Jackson	Lockport Dolomite (Silurian)	Crushed stone—unspecified	Sy-4
		Woodville Plant	Woodville	Lockport & Salina Dolomites (Silurian)	Crushed stone—unspecified	Sy-3
	Martin Marietta Magnesia Specialties, Inc.	Woodville Quarry	Woodville	Lockport Dolomite (Silurian)	Crushed stone—unspecified	Sy-1

CONFIDENTIAL

Seneca	Carmeuse Lime, Inc.	Maple Grove	Liberty	Lockport Dolomite (Silurian)	Crushed stone—unspecified	Sa-2
	Hanson Aggregates Midwest, Inc.	Bloomville	Bloom	Columbus and Delaware Limestones (Devonian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, extenders/fillers, unspecified, aglime	Sa-3
		Flat Rock	Thompson	Columbus and Delaware Limestones (Devonian)	Crushed stone—riprap, dimension stone	Sa-1
	Heitsche North Shore Stone Quarries, LLC	North Shore Stone	Thompson	Greenfield Dolomite (Silurian)	Crushed stone—road construction/resurfacing, commercial building, dimension stone	Sa-8
	MGQ, Inc.	Liberty Quarry	Liberty	Unidentified limestone	Crushed stone—road construction/resurfacing, asphalt	Sa-M
Shelby	Barrett Paving Materials, Inc. Mid-Ohio	Miami River Quarry	Orange	Lockport Dolomite (Silurian)	Crushed stone—riprap, road construction/resurfacing	Shy-17
		Vandemark Quarry #221	Clinton	Lockport Dolomite (Silurian)	Crushed stone—road construction/resurfacing	Shy-15
Tuscarawas	The Belden Brick Company, LLC	Shanesville Pit	Sugarcreek	Brookville limestone (Pennsylvanian)	Crushed stone—riprap	Ts-1939
	Kimble Clay & Limestone Co.	Kimble Clay & Limestone Co.	Dover	Unidentified (Pennsylvanian)	Crushed stone—unspecified	Ts-1818
Union	Shelly Materials, Inc.	Ostrander Quarry	Mill Creek	Columbus Limestone (Devonian)	Crushed stone—unspecified	Un-2
		York Center Quarry	York	Salina Dolomite (Silurian)	Crushed stone—unspecified	Un-1
Van Wert	National Lime & Stone Co.	Delphos Quarry	Washington	Tymochtee Dolomite (Silurian)	Crushed stone—Portland cement concrete	Vt-1
	Ridge Township Quarry	Ridge Township Quarry	Ridge	Tymochtee Dolomite (Silurian)	Crushed stone—unspecified	Vt-7
	Stoneco, Inc.	Scott Quarry	Union	Salina Dolomite (Silurian)	Crushed stone—unspecified	Vt-3
Vinton	Sands Hill Mining, LLC	Big Rock	Clinton	Unidentified limestone	Crushed stone—unspecified	Vn-S7
Wayne	Olen Corp.	The Olen Corp. - Wooster	Franklin, Wooster	Unidentified limestone	Crushed stone—Portland cement concrete, road construction/ resurfacing, asphalt, commercial building	We-11
Wood	Cardinal Aggregates, Inc.	Cardinal Aggregates, LLC	Perrysburg	Lockport Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, road construction/ resurfacing, asphalt, commercial building	Wd-C
	Custar Stone Co., Inc.	Custar Stone Co., Inc.	Milton	Detroit River Group (Devonian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, extenders/fillers	Wd-5
	Gerken Materials, Inc.	Gerken Materials, Inc.	Perry	Lockport and Salina Dolomites (Silurian)	Crushed stone—riprap, Portland cement concrete, road construction/resurfacing, asphalt, aglime	Wd-1
	Precision Aggregates II, LLC	Precision Aggregates II, LLC	Portage	Lockport Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete	Wd-14
	Stoneco, Inc.	Portage Quarry	Portage	Greenfield and Lockport Dolomites (Silurian)	Crushed stone—unspecified	Wd-11
		Lime City Quarry	Perrysburg	Lockport Dolomite (Silurian)	Crushed stone—unspecified	Wd-6
Wyandot	National Lime & Stone Co.	Carey Plant	Crawford	Lockport Dolomite (Silurian)	Crushed stone—riprap, Portland cement concrete, railroad ballast, flux, asphalt, extenders/fillers, unspecified, aglime	Wt-1
	Olen Corp.	Upper Sandusky	Pitt	Salina Group, Tymochtee Dolomite (Silurian)	Crushed stone—Portland cement concrete, road construction/ resurfacing, asphalt, commercial building	Wt-3
	Stoneco, Inc.	Carey Quarry	Crawford	Greenfield and Lockport Dolomites (Silurian)	Crushed stone—unspecified	Wt-8

[1] Refer to figure 6 (p. 14).

CONFIDENTIAL

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2015 SAND AND GRAVEL COMPANIES WITH SALES OR PRODUCTION

Company	Number of operations	Sales (tons)	Production (tons)	Company	Number of operations	Sales (tons)	Production (tons)
Agg Rok Materials	1	3,200	3,200	Joe Simak & Sons Trucking, Inc.	2	25,225	25,225
Allgeier & Son, Inc.	1	45,000	45,000	John L. Garber Materials, Inc.	2	112,885	115,000
American Sand & Gravel, Inc.	2	526,790	526,790	KCI Sand & Gravel	1	59,945	137,156
The Arms Trucking Company	1	61,167	61,167	Kimble Clay & Limestone Co.	1	7,764	7,764
Ashcraft Sand & Gravel, Inc.	1	44,770	44,770	Kirby's Sand & Gravel, Inc.	1	106,442	106,442
Atlas Towing Co.	1	4,060	4,060	L & I Natural Resources, Inc.	1	76,028	76,028
Ballentine Sand & Gravel, LLC	1	159,653	159,653	Lakeside Sand & Gravel Co.	3	668,844	668,844
Barrett Paving Materials, Inc.	3	1,284,168	1,320,033	Little Miami Sand & Gravel	2	850	850
Beaver Excavating, Inc.	1	5,000	5,000	Loxley Aggregates, Inc.	1	960	960
Beck Sand & Gravel, Inc.	1	259,847	259,847	M. J. Coates Construction Co., Inc.	1	54,363	54,363
Bontrager Excavating Co.	1	10,572	10,572	Martin Marietta Aggregates	11	3,154,393	3,055,645
Boyas Excavating, Inc.	1	102,630	102,630	MAR-ZANE Materials, Inc.	1	361,481	380,158
Boyd Excavating	1	9,865	9,865	Mason's Sand & Gravel Co.	1	34,067	34,067
Briggs Sand & Gravel, Inc.	1	25,779	25,779	Massillon Materials, Inc.	2	668,922	668,922
Brookside Materials, LLC	1	155,000	155,000	Mechanicsburg Sand & Gravel, Inc.	1	96,179	96,179
Buck Run Aggregates, LLC	1	23,576	23,576	The Melvin Stone Co., LLC	1	220,254	220,254
C. F. Poeppelman, Inc.	1	2,805	2,805	Miami Valley Topsoil, LLC	1	40,000	40,000
Calvin's Hauling, Inc.	1	5,000	5,000	Miami View Mining Co., Ltd.	1	16,750	16,750
Carl E. Oeder and Sons Sand & Gravel	1	443,532	443,532	Mid Ohio Resources	1	11,940	0
Carter & Carter, Inc.	1	300	300	Miller's Sand & Gravel, Inc.	1	700	700
Carter, Joe E.	1	1,000	1,000	Milton Materials, LLC	1	68,704	86,704
Central-Allied Enterprises, Inc.	2	598,369	598,369	Morrow Gravel Co.	2	218,914	218,914
Central Ready Mix, LLC	2	318,541	318,541	Muskingum River Gravel Co.	3	422,648	414,470
Cochran Transportation Services, Inc.	1	30,494	30,494	National Lime & Stone Co.	3	748,000	748,000
Colwell, Bill D.	1	410	410	Neer's Sand & Gravel	1	111,546	111,546
D & K Materials, Inc.	1	137,951	137,951	Nelson Sand & Gravel, Inc.	1	41,770	41,770
D.G.M., Inc.	2	84,924	84,924	Newark Materials, LLC	1	76,800	102,000
Dingledine Basic Materials, Inc.	1	43,844	58,502	Newton Asphalt Paving, Inc.	1	98,169	98,169
Doherty, John R.	1	400	400	Northwest Ohio Property Developments, Ltd.	1	888	888
Duff Quarry, Inc.	1	4,316	4,316	Olen Corp.	5	2,489,607	2,573,737
Edgington, David E.	1	5,070	5,070	Oscar Brugmann Sand & Gravel, Inc.	2	566,023	566,023
Enon Sand & Gravel, LLC	1	395,467	395,467	Oster Sand & Gravel, Inc.	2	735,693	735,693
Ervin Hill Enterprises, Inc.	1	114,267	114,267	Ours Sand & Gravel	1	2,920	2,920
Evans Gravel, Inc.	1	171,677	277,705	Patrick Excavating, Inc.	1	265	265
Feikert Sand & Gravel, Inc.	2	324,062	324,062	Paul D. Beery Trucking Co.	1	2,648	2,798
Fleming Construction Co., Inc.	2	18,903	18,903	Phillips Companies, LLC	2	438,250	850,900
Foureman's Sand & Gravel, Inc.	1	42,000	42,000	Phoenix Ashphalt Company, Inc.	1	142,516	71,258
Fry, Lloyd B.	1	0	5,000	Portage Aggregate & Supply, LLC	1	69,883	69,883
George J. Igel & Co., Inc.	1	252	252	Precision Aggregates II, LLC	1	12	12
Hanson Aggregates, LLC	2	722,503	602,902	Quality Ready Mix, Inc.	1	2,136	2,136
Harvest Sand & Gravel, Inc.	1	22,325	22,325	R. J. Martin Service & Excavating	1	20	20
Heiser Sand & Gravel Corp.	1	3,079	3,079	R. L., Ltd.	1	1,000	1,000
Hocking Valley Concrete, Inc.	1	145,304	161,000	R. W. Sidley, Inc.	1	20,231	46,500
Hoffman, William A., Jr.	1	159	159	Razor Lake S. & G., LLC	1	59,300	59,300
Holmes Redimix, Inc.	1	84,893	84,893	Regeneration Materials	1	2,074	1,225
Holmes Supply Corp.	2	336,739	336,739	Rockwell Sand & Gravel, Inc.	1	91,081	91,082
JALIP, Ltd.	1	7,286	7,286	Roush, Roy M.	1	1,582	1,582
Jaymar, Inc.	1	717,080	508,913	Rupp Construction, Inc.	1	128,099	128,099
JBM, Ltd.	1	55,847	55,847	S & S Aggregate, Inc.	2	863,144	826,433
J.J.J. Properties, LLC	1	9,511	9,511	Scassa Asphalt, Inc.	1	15,000	17,000

2015 SAND AND GRAVEL COMPANIES WITH SALES OR PRODUCTION (cont.)

Company	Number of operations	Sales (tons)	Production (tons)
Schieve, Guy	1	3,578	3,578
Sharon Stone Co.	1	364,561	361,561
Shelly Materials, Inc.	10	3,178,970	3,035,426
Sidco Development, Inc.	1	252,430	252,430
Small's Sand & Gravel, Inc.	2	272,302	272,302
Sober Sand & Gravel Co.	1	197,565	197,565
Soehnlen Bros. Sand & Gravel, Inc.	1	393,719	393,719
Solomon's Mines, Inc.	2	84,951	84,951
South Central Sand & Gravel	1	8,784	8,784
Stocker Sand & Gravel Co.	2	1,117,508	1,117,508
Sypniewski, Joseph N.	1	39	39
Thiel Construction Co., Inc.	1	1,008	1,008
Tiger Sand & Gravel, LLC	1	439,293	300,000
Tipp Stone Co., Inc.	1	17,086	17,086
Top Dog Service Company	1	1,050	1,050
Triple B of Lakeville, Ltd.	1	90,468	90,468
Tuffco Sand & Gravel, Inc.	1	57,637	57,637
U.S. Aggregates, Inc.	1	213,918	245,204
United Aggregates, Inc.	2	175,631	162,204
Walhonding Sand & Gravel	1	53,043	53,045
Watson Gravel, Inc.	5	2,179,321	2,179,321
Weber Sand & Gravel, Inc.	1	195,186	195,186
Weidle Sand & Gravel, Inc.	1	266,802	266,802
Welch Sand & Gravel, Inc.	3	634,220	634,220
Westfall Aggregate & Materials, Inc.	1	83,674	83,674
William Albert, Inc.	1	39,374	43,374
Willowbrook Sand & Gravel, LLC	1	24,809	24,809
Wysong Gravel Co.	2	133,739	133,138
X. L. Sand & Gravel Co., Inc.	1	44,300	44,300
Xenia Sand & Gravel, Inc.	1	3,116	3,116
Young's Sand & Gravel Co.	2	238,257	239,535
Youngs Sand and Gravel	1	3,081	0
Zanesville Materials, LLC	1	12,930	18,432
TOTAL: 133 companies	193	31,488,652	31,515,972

2015 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

For those mines for which a state mine number has not been assigned, a letter designation is used (example: Ald-G).

County	Name of operator	Name of pit	Township	Type and principal use	State mine number
Ashland	Young's Sand & Gravel Co.	Sprang & Youngs	Green	Sand—building, road construction/resurfacing Gravel—building, road construction/resurfacing	Ald-7
		Spreng	Green	Sand—building, road construction/resurfacing Gravel—building, road construction/resurfacing	Ald-Y
Ashtabula	Doherty, John R.	Doherty	Richmond	Gravel—unspecified	Asa-JD
	Joe Simak & Sons Trucking, Inc.	Amboy Pit	Kingsville	Sand—building, fill, pipe bedding	Asa-ST
		North Ridge Pit	Kingsville	Sand—Portland cement concrete, fill Gravel—building	Asa-18
	Nelson Sand & Gravel, Inc.	Nelson Sand & Gravel, Inc.	Kingsville	Sand—building Gravel—building	Asa-N1
	R. W. Sidley, Inc.	Sidley-Kingsville Plant	Kingsville	Sand—Portland cement concrete Gravel—Portland cement concrete	Asa-15
	Sypniewski, Joseph N.	Sypniewski	Trumbull	Gravel—unspecified	Asa-SY
Athens	Cochran Transportation Services, Inc.	Circle Hill	Dover	Sand—unspecified Gravel—unspecified	As-595
Auglaize	Quality Ready Mix, Inc.	Quality Pit	Pusheta	Sand—building Gravel—building	Ae-16
Butler	Colwell, Bill D.	Bill D. Colwell Gravel	St. Clair	Gravel—building	Br-36
	Dingledine Basic Materials, Inc.	Dingledine Basic Materials, Inc.	Milford	Sand—building Gravel—unspecified	Br-50
	Martin Marietta Aggregates	Fairfield Sand & Gravel	Fairfield, Ross	Sand—unspecified Gravel—unspecified	Br-35
		Trenton	Madison	Sand—unspecified Gravel—unspecified	Br-52
	Miami Valley Topsoil, LLC	Miami Valley Topsoil, LLC		Gravel—unspecified	Br-M
	Watson Gravel, Inc.	Mecco, Inc.	Lemon	Sand—building, road construction/resurfacing Gravel—building, Portland cement concrete, road construction/resurfacing	Br-15
		Ongais Plant #1	Madison	Sand—unspecified Gravel—unspecified	Br-O
		Watson Pit	Fairfield, Ross	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete, road construction/resurfacing	Br-47
	Welch Sand & Gravel, Inc.	Schlichter Pit	Fairfield	Sand—building Gravel—building	Br-38
Carroll	Phoenix Ashphalt Company, Inc.	Smith Sand & Gravel #1	Rose, Sandy	Sand—asphaltic concrete, road construction/resurfacing, filtration	Cl-P1
Champaign	Mechanicsburg Sand & Gravel, Inc.	Mechanicsburg Sand & Gravel, Inc.	Union	Sand—unspecified Gravel—unspecified	Cpn-22
	Morrow Gravel Co.	Urbana	Urbana	Sand—Portland cement concrete, asphaltic concrete Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing	Cpn-1

CONFIDENTIAL

2015 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY (cont.)

County	Name of operator	Name of pit	Township	Type and principal use	State mine number
Clark	Barrett Paving Materials, Inc.	Haddix Road Aggregates Plant #341	Mad River	Sand—Portland cement concrete, asphaltic concrete Gravel—Portland cement concrete, asphaltic concrete	Ck-28
	Enon Sand & Gravel, LLC	Enon Sand & Gravel, LLC	Bethel, Mad River	Sand—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing	Ck-3
	Martin Marietta Aggregates	Fairborn Gravel	Bethel	Sand—unspecified Gravel—unspecified	Ck-13
Columbiana	Buck Run Aggregates, LLC	Krcich	Middleton	Sand—unspecified Gravel—unspecified	Ca-351
	Harvest Sand & Gravel, Inc.	Eberly	Salem	Sand—fill Gravel—filtration	Ca-H2
	Solomon's Mines, Inc.	Solomon's Mines, Inc.	Salem	Sand—building, road construction/resurfacing, fill, industrial sand Gravel—building, road construction/resurfacing, filtration, landscaping	Ca-S
	Willowbrook Sand & Gravel, LLC	Willowbrook Sand & Gravel	Elk Run	Sand—unspecified Gravel—unspecified	Ca-993
	X. L. Sand & Gravel Co., Inc.	X. L. Sand & Gravel Co., Inc.	Middleton	Sand—unspecified Gravel—unspecified	Ca-881
Coshocton	Razor Lake S. & G., LLC	Razor Lake S. & G., LLC	Oxford	Sand—road construction/resurfacing Gravel—road construction/resurfacing	Cn-R
	Shelly Materials, Inc.	Shelly Materials, Inc., Plant #1305	Bethlehem	Sand—unspecified Gravel—unspecified	Cn-694
	Walhonding Sand & Gravel	Walhonding Valley Sand & Gravel	New Castle	Sand—fill Gravel—unspecified	Cn-WL
	William Albert, Inc.	William Albert, Inc., Pit 2	Lafayette	Sand—building, road construction/resurfacing Gravel—building, road construction/resurfacing	Cn-WA
Cuyahoga	Boyas Excavating, Inc.	Boyas Excavating, Inc.	Independence	Sand—unspecified	Cya-42
Darke	Foureman's Sand & Gravel, Inc.	Foureman's Sand & Gravel, Inc.	Greenville	Sand—building Gravel—building	Dke-4
Defiance	Weber Sand & Gravel, Inc.	Weber Sand & Gravel, Inc.	Milford	Sand—building, Portland cement concrete Gravel—building, decorative	Ws-11 De
Fairfield	Paul D. Beery Trucking Co.	Paul D. Beery Trucking Co.	Berne	Sand—unspecified Gravel—unspecified	Fd-14
Franklin	Agg Rok Materials	Agg Rok	Franklin	Sand—unspecified Gravel—unspecified	Fn-36
	Mason's Sand & Gravel Co.	Mason's Sand & Gravel Co.	Hamilton	Sand—building Gravel—building	Fn-11
	National Lime & Stone Co.	South Columbus	Hamilton	Sand—Portland cement concrete Gravel—Portland cement concrete	Fn-52
	Olen Corp.	Columbus Plant #3	Hamilton	Sand—building, Portland cement concrete, asphaltic concrete Gravel—building, Portland cement concrete, asphaltic concrete	Fn-58

CONFIDENTIAL

Franklin *(cont.)*	Shelly Materials, Inc.	Lockbourne #1344	Hamilton	Sand—unspecified Gravel—unspecified	Fn-23
		Columbus Limestone #331	Franklin, Jackson, Marion	Sand—unspecified Gravel—unspecified	Fn-53
Fulton	Northwest Ohio Property Developments, Ltd.	NOPD, Ltd.	Dover	Sand—unspecified	Ftn-NW
Gallia	Ours Sand & Gravel	Ours Sand & Gravel	Ohio	Sand—unspecified	Ga-O
Geauga	The Arms Trucking Company	Arms Sand & Gravel	Burton, Newbury	Sand—building, Portland cement concrete, asphaltic concrete Gravel—road construction/resurfacing, filtration	Gea-29
Greene	M. J. Coates Construction Co., Inc.	M. J. Coates Construction Co., Inc.	Spring Valley	Gravel—road construction/resurfacing	Ge-47
	Martin Marietta Aggregates	Cedarville	Cedarville	Sand—unspecified	Ge-17
		Cook Rd.	Spring Valley	Sand—unspecified Gravel—unspecified	Ge-MM
		Xenia S & G	Beavercreek, Xenia	Sand—unspecified Gravel—unspecified	Ge-33
	Phillips Companies, LLC	Phillips Companies, LLC	Beavercreek	Sand—building, Portland cement concrete, industrial sand Gravel—building, Portland cement concrete, road construction/resurfacing	Ge-36
	R. J. Martin Service & Excavating	Horseshoe Bend Sand & Gravel, Inc.	Spring Valley	Gravel—unspecified	Ge-40
	Xenia Sand & Gravel, Inc.	Xenia Sand & Gravel, Inc.	Xenia	Sand—fill Gravel—fill	Ge-10
Hamilton	Allgeier & Son, Inc.	Allgeier & Son, Inc., Pit 2	Whitewater	Sand—fill Gravel—unspecified	Hmn-AS
	Ashcraft Sand & Gravel, Inc.	Ashcraft Sand & Gravel, Inc.	Whitewater	Sand—building Gravel—building	Hmn-54
	Carter, Joe E.	Lost Bridge	Whitewater	Sand—building Gravel—building	Hmn-JC
	Evans Gravel, Inc.	Evans Gravel, Inc.	Anderson	Sand—unspecified Gravel—unspecified	Hmn-E
	Hanson Aggregates, LLC	Dry Fork Sand & Gravel	Harrison, Whitewater	Sand—unspecified Gravel—unspecified	Hmn-50
	Martin Marietta Aggregates	E-town Sand & Gravel	Whitewater	Sand—unspecified Gravel—unspecified	Hmn-71
	R. L., Ltd.	R. L., Ltd.	Crosby	Sand—unspecified	Hmn-67
	Top Dog Service Company	Whitewater Reclamation Company	Whitewater	Gravel—unspecified	Hmn-G
	Watson Gravel, Inc.	Harrison #2	Whitewater	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete, asphaltic concrete	Hmn-ARH
		Minges-Getz	Miami	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete, road construction/resurfacing	Hmn-64
	Welch Sand & Gravel, Inc.	East Miami Pit	Colerain	Sand—building Gravel—building	Hmn-48
		Fernald Pit	Crosby	Sand—building Gravel—building	Hmn-42
Highland	Ervin Hill Enterprises, Inc.	Ervin Hill Enterprises, Inc.	New Market	Sand—Portland cement concrete, fill Gravel—building, asphaltic concrete, filtration	Hd-L

CONFIDENTIAL

2015 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY (cont.)

County	Name of operator	Name of pit	Township	Type and principal use	State mine number
Hocking	Hocking Valley Concrete, Inc.	Hocking Valley Concrete, Inc.	Green	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete	Hg-262
	KCI Sand & Gravel	KCI Sand & Gravel	Green	Sand—building, Portland cement concrete, foundry, landfill Gravel—building, Portland cement concrete, road construction/resurfacing, filtration	Hg-HA
	MAR-ZANE Materials, Inc.	Enterprise Pit	Falls	Sand—asphaltic concrete, road construction/resurfacing Gravel—asphaltic concrete, road construction/resurfacing	Hg-HV
	Muskingum River Gravel Co.	S & S Aggregate #8	Green, Starr	Sand—asphaltic concrete, road construction/resurfacing	Hg-301
Holmes	Feikert Sand & Gravel, Inc.	Feikert Sand & Gravel	Prairie	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete	Hs-F2
		Feikert Sand & Gravel, Inc.	Salt Creek	Sand—building, Portland cement concrete, road construction/resurfacing Gravel—building, Portland cement concrete, road construction/resurfacing	Hs-511
	Holmes Redimix, Inc.	Holmes Redimix, Inc.	Hardy	Sand—Portland cement concrete Gravel—Portland cement concrete	Hs-82
	Holmes Supply Corp.	Holmes Supply Corp.	Prairie	Sand—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing, fill Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration	Hs-J
		Schlabach	Killbuck	Sand—building, Portland cement concrete, asphaltic concrete, fill Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration	Hs-H1
	Triple B of Lakeville, Ltd.	Lakeville Sand & Gravel, Ltd.	Washington	Sand—building Gravel—building	Hs-C
Knox	Olen Corp.	Fredericktown Plant #2	Morris	Sand—building, Portland cement concrete, asphaltic concrete Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing	Kx-O
	Small's Sand & Gravel, Inc.	Small's Sand & Gravel, Inc.	Harrison	Sand—unspecified Gravel—unspecified	Kx-15
		Small's Sand & Gravel, Inc.	Harrison	Gravel—unspecified	Kx-17
	United Aggregates, Inc.	United Aggregates, Inc.	Clinton	Sand—Portland cement concrete Gravel—building, road construction/resurfacing, filtration	Kx-3
		United Aggregates, Inc.	Union	Sand—Portland cement concrete Gravel—building, road construction/resurfacing, filtration	Kx-5
Lake	J.J.J. Properties, LLC	J.J.J. Properties, LLC	Painesville	Sand—backfill	Lke-P
Licking	Brookside Materials, LLC	Brookside Materials, LLC	St. Albans	Sand—unspecified Gravel—building	Lg-B
	Newark Materials, LLC	Newark Materials	Madison	Sand—building, Portland cement concrete, road construction/resurfacing Gravel—road construction/resurfacing	Lg-504
	Olen Corp.	St. Louisville Plant #5	Washington	Sand—building, Portland cement concrete, asphaltic concrete, golf course sand Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing	Lg-31
	Shelly Materials, Inc.	St. Louisville	Newton	Sand—unspecified Gravel—unspecified	Lg-10
Logan	Boyd Excavating	Boyd Excavating	Monroe	Sand—fill Gravel—fill	Lgn-B
	Duff Quarry, Inc.	Duff Sand Co.	Washington	Sand—building, Portland cement concrete	Lgn-31
	Neer's Sand & Gravel	Neer's Sand & Gravel	Union	Sand—unspecified Gravel—unspecified	Lgn-6

CONFIDENTIAL

Lorain	Schieve, Guy	Schieve Pit	Henrietta	Sand—building	Ln-12
Madison	Tuffco Sand & Gravel, Inc.	Tuffco Sand & Gravel, Inc.	Darby	Sand—building, road construction/resurfacing Gravel—building	Mdn-11
Mahoning	Solomon's Mines, Inc.	Solomon's Mines, Inc.	Green	Gravel—building, road construction/resurfacing, filtration	Mg-632
Marion	Fleming Construction Co., Inc.	Pit #1	Prospect	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete, road construction/resurfacing, filtration, landscaping	Mn-16
		Pit #2	Prospect	Sand—Portland cement concrete, recreational Gravel—fill	Mn-19
Meigs	Jaymar, Inc.	Plant #4	Olive	Sand—Portland cement concrete	Ms-308
	Martin Marietta Aggregates	Apple Grove Plant	Letart	Sand—unspecified Gravel—unspecified	Ms-205
	Shelly Materials, Inc.	Portland Plant	Lebanon	Sand—unspecified Gravel—unspecified	Ms-S
Miami	C. F. Poeppelman, Inc.	C. F. Poeppelman, Inc.	Newberry	Sand—Portland cement concrete, fill Gravel—building	Mi-10
	Fry, Lloyd B.	Ticon	Washington	Gravel—unspecified	Mi-T
	Martin Marietta Aggregates	Troy Sand & Gravel	Concord	Sand—unspecified Gravel—unspecified	Mi-3
	Milton Materials, LLC	Milton Materials Fenner Pit	Newton	Sand—building Gravel—building	Mi-4
Montgomery	Barrett Paving Materials, Inc.	West Carrollton Aggregate Plant	Jefferson, Miami	Sand—unspecified Gravel—unspecified	My-19
	Carter & Carter, Inc.	Carter & Carter, Inc.	Miami	Sand—road construction/resurfacing Gravel—road construction/resurfacing	My-CW
	Central Ready Mix, LLC	Germantown Plant #21	German	Sand—building Gravel—building	My-41
	Martin Marietta Aggregates	Phillipsburg	Clay	Sand—unspecified	My-1
	Phillips Companies, LLC	Phillips Sand and Gravel	Butler, Union	Sand—building, Portland cement concrete, industrial sand Gravel—building, Portland cement concrete, road construction/resurfacing	My-52
	Tipp Stone Co., Inc.	Tipp Stone Co., Inc.	Butler	Gravel—fill	My-61
	Weidle Sand & Gravel, Inc.	Weidle Sand & Gravel	German	Sand—building Gravel—building	My-W1
Morrow	National Lime & Stone Co.	Chesterville Plant	Chester	Sand—building, Portland cement concrete, asphaltic concrete Gravel—unspecified	Mw-10
Muskingum	Muskingum River Gravel Co.	S & S Aggregate #1	Wayne	Sand—asphaltic concrete, road construction/resurfacing Gravel—asphaltic concrete, road construction/resurfacing	Mum-228
	Zanesville Materials, LLC	Zanesville Materials		Sand—building Gravel—building	Mum-Z1
Pickaway	George J. Igel & Co., Inc.	George J. Igel & Co., Inc.	Darby	Gravel—unspecified	Pky-C
	Hoffman, William A., Jr.	Hoffman Pit	Wayne	Sand—unspecified Gravel—unspecified	Pky-H
	The Melvin Stone Co., LLC	Circleville	Wayne	Sand—Portland cement concrete, asphaltic concrete Gravel—building, asphaltic concrete, road construction/resurfacing	Pky-R

CONFIDENTIAL

2015 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY (cont.)

County	Name of operator	Name of pit	Township	Type and principal use	State mine number
Pickaway *(cont.)*	Roush, Roy M.	R Farm S & G	Darby	Sand—road construction/resurfacing Gravel—road construction/resurfacing	Pky-RR
	Westfall Aggregate & Materials, Inc.	Hill Road Pit	Jackson	Sand—unspecified Gravel—unspecified	Pky-WA
Pike	Hanson Aggregates, LLC	Piketon Sand & Gravel	Scioto	Sand—unspecified Gravel—unspecified	Pke-24
	South Central Sand & Gravel	South Central Sand & Gravel	Scioto	Sand— unspecified Gravel—unspecified	Pke-30
Portage	Ballentine Sand & Gravel, LLC	Ballentine Lake	Shalersville	Sand—building Gravel—building	Pe-BA
	Beck Sand & Gravel, Inc.	Beck Sand & Gravel, Inc.	Portage, Shalersville	Sand—building, Portland cement concrete, fill Gravel—building, Portland cement concrete, road construction/resurfacing, filtration, landscaping, ice control	Pe-50
	D & K Materials, Inc.	D & K Materials, Inc.	Brimfield	Sand—building, Portland cement concrete, asphaltic concrete Gravel—building, filtration	Pe-101
	Lakeside Sand & Gravel Co.	Lakeside Sand & Gravel Co.	Shalersville	Sand—building	Pe-40
		Lakeside Sand & Gravel Co. Plant 1	Shalersville	Sand—building, Portland cement concrete, asphaltic concrete Gravel—building, asphaltic concrete	Pe-LS
		Solak	Shalersville	Sand—building	Pe-A
	Miller's Sand & Gravel, Inc.	Miller Sand & Gravel, Inc.	Windham	Sand—foundry	Pe-39
	Oscar Brugmann Sand & Gravel, Inc.	Oscar Brugmann Sand & Gravel, Inc.	Shalersville	Sand—unspecified Gravel—unspecified	Pe-9
		Oscar Brugmann Sand & Gravel, Inc.	Shalersville	Sand—unspecified Gravel—unspecified	Pe-OB
	Patrick Excavating, Inc.	Patrick	Charlestown	Sand—building	Pe-P
	Portage Aggregate & Supply, LLC	Portage Aggregate & Supply, LLC	Shalersville	Sand—building, Portland cement concrete Gravel—building	Pe-M
	Rockwell Sand & Gravel, Inc.	Suffield Aggregate, LLC	Suffield	Sand—building, Portland cement concrete, road construction/resurfacing Gravel—building, road construction/resurfacing	Pe-R
	S & S Aggregate, Inc.	S & S Aggregate #16	Ravenna	Sand—asphaltic concrete, road construction/resurfacing Gravel—asphaltic concrete, road construction/resurfacing	Pe-15
	Shelly Materials, Inc.	Jefferson Materials	Streetsboro	Sand—Portland cement concrete, asphaltic concrete Gravel—asphaltic concrete	Pe-63
		Shalersville North	Shalersville	Sand—Portland cement concrete, asphaltic concrete, road construction/resurfacing Gravel—Portland cement concrete, asphaltic concrete, landscaping	Pe-La
	Sober Sand & Gravel Co.	Sober Sand & Gravel Co.	Rootstown	Sand—Portland cement concrete, road construction/resurfacing Gravel—road construction/resurfacing	Pe-18
Preble	Loxley Aggregates, Inc.	Loxley Aggregates, Inc.	Twin	Sand—building	Pre-9
	U.S. Aggregates, Inc.	U.S. Aggregates - Richmond Plant	Jefferson	Sand—building, road construction/resurfacing Gravel—building, road construction/resurfacing	Pre-AAC
	Wysong Gravel Co.	Wysong Gravel Co.	Somers	Sand—building Gravel—building	Pre-4

CONFIDENTIAL

Preble *(cont.)*		Wysong Gravel Co. - West Alexandria Plant	Twin	Sand—building Gravel—building	Pre-6
Richland	John L. Garber Materials, Inc.	John L. Garber Materials, Inc.	Troy	Sand—building Gravel—building	Rd-14
		John L. Garber Materials, Inc.	Washington	Sand—unspecified Gravel—unspecified	Rd-G
	Mid Ohio Resources	Bellville West	Jefferson	Sand—building	Rd-M1
	S & S Aggregate, Inc.	S & S Aggregate #14	Monroe	Sand—asphaltic concrete, unspecified Gravel—asphaltic concrete, road construction/resurfacing	Rd-5
Ross	Calvin's Hauling, Inc.	Calvin's Hauling, Inc.	Concord	Sand—unspecified Gravel—unspecified	Rs-C
	D.G.M., Inc.	Towpath-Warwick	Twin	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete, asphaltic concrete	Rs-D
	Edgington, David E.	Edgington Pit	Concord	Sand—building Gravel—building	Rs-E
	Muskingum River Gravel Co.	S & S Aggregate Plant #7	Jefferson	Sand—asphaltic concrete Gravel—asphaltic concrete, road construction/resurfacing	Rs-M
	Shelly Materials, Inc.	Shelly Materials, Inc. - Chillicothe	Springfield	Sand—unspecified Gravel— unspecified	Rs-27
Scioto	D.G.M., Inc.	Tow Path Lucasville	Morgan	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete	So-DGM
	Youngs Sand and Gravel	Young	Porter	Gravel—bank run	So-Y
Shelby	Barrett Paving Materials, Inc.	Hardin Sand & Gravel	Washington	Sand—Portland cement concrete Gravel—Portland cement concrete, asphaltic concrete	Shy-SC
Stark	American Sand & Gravel, Inc.	Plant #4	Jackson	Sand—road construction/resurfacing Gravel—road construction/resurfacing	Sk-243
		Plant #6	Jackson	Gravel—road construction/resurfacing	Sk-RO
	Beaver Excavating, Inc.	Stone Products	Canton	Sand—road construction/resurfacing Gravel—road construction/resurfacing	Sk-BE
	Central-Allied Enterprises, Inc.	Canton Aggregate Div.	Plain	Sand—asphaltic concrete Gravel—asphaltic concrete	Sk-681
		Central Sand & Gravel Div.	Plain	Sand—unspecified Gravel—unspecified	Sk-CA1
	Heiser Sand & Gravel Corp.	Heiser Sand & Gravel Corp.	Jackson	Gravel—building	Sk-HS1
	Massillon Materials, Inc.	Massillon Materials, Inc.	Perry	Sand—unspecified Gravel—unspecified	Sk-M
		MMI Warmington Plant	Perry	Sand—unspecified Gravel—unspecified	Sk-M1
	Oster Sand & Gravel, Inc.	Massillon Plant	Jackson, Perry	Sand—building, Portland cement concrete, asphaltic concrete, fill Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing	Sk-165
	Scassa Asphalt, Inc.	Roio Sand & Gravel	Lawrence	Sand—building Gravel—building	Sk-S
	Shelly Materials, Inc.	Massillon Aggregates	Perry	Sand—Portland cement concrete, asphaltic concrete, road construction/resurfacing Gravel—asphaltic concrete	Sk-173
	Tiger Sand & Gravel, LLC	Tiger Sand & Gravel, LLC	Perry	Sand—building Gravel—building	Sk-T

CONFIDENTIAL

2015 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY (cont.)

County	Name of operator	Name of pit	Township	Type and principal use	State mine number
Summit	Bontrager Excavating Co.	Gilbert	Green	Sand—building Gravel—building	St-B
Tuscarawas	JBM, Ltd.	State Route 416 Sand & Gravel	Goshen	Sand—building, bedding Gravel—building, Portland cement concrete	Ts-2018
	Kimble Clay & Limestone Co.	Kimble Clay & Limestone Co.	Dover	Sand—unspecified Gravel—unspecified	Ts-1818
	Newton Asphalt Paving, Inc.	516	Dover	Sand—asphaltic concrete Gravel—asphaltic concrete	Ts-2001
	Oster Sand & Gravel, Inc.	Oster Sand & Gravel, Inc. - Bolivar	Sandy	Sand—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing	Ts-2036
	Regeneration Materials	Dundee Mine	Wayne	Sand—foundry	Ts-1660
	Sidco Development, Inc.	Midvale Sand & Gravel	Goshen	Sand—Portland cement concrete, asphaltic concrete Gravel—Portland cement concrete, asphaltic concrete	Ts-S2
	Soehnlen Bros. Sand & Gravel, Inc.	Soehnlen Bros. Sand & Gravel, Inc.	Wayne	Sand—Portland cement concrete, industrial sand Gravel—building, road construction/resurfacing	Ts-1826
	Stocker Sand & Gravel Co.	Stocker Sand & Gravel Co. - Gnaden	Clay	Sand—building, road construction/resurfacing Gravel—building, road construction/resurfacing	Ts-69
		Stocker Sand & Gravel Co. - Island	Clay	Sand—building, road construction/resurfacing Gravel—building, road construction/resurfacing	Ts-125
Warren	Carl E. Oeder and Sons Sand & Gravel	Carl E. Oeder and Sons Sand & Gravel	Turtle Creek	Sand—building Gravel—building	Wan-41
	Central Ready Mix, LLC	Carlisle Plant #27	Franklin	Sand—building Gravel—building	Wan-7
	L & I Natural Resources, Inc.	L & I Pit & Mill	Union	Sand—building Gravel—building	Wan-50
	Little Miami Sand & Gravel	Little Miami Sand & Gravel Plant #1	Salem	Gravel—unspecified	Wan-B
		Little Miami Sand & Gravel Plant #2	Salem	Gravel—unspecified	Wan-46
	Martin Marietta Aggregates	Franklin Gravel	Franklin	Sand—unspecified Gravel—unspecified	Wan-38
	Miami View Mining Co., Ltd.	Miami View	Union	Sand—unspecified Gravel—unspecified	Wan-MV
	Morrow Gravel Co.	Morrow Gravel Co.	Hamilton, Salem	Sand—building, Portland cement concrete, asphaltic concrete Gravel—building, asphaltic concrete	Wan-M
Washington	Atlas Towing Co.	Belpre Bank Run	Belpre	Sand—unspecified	Wn-54
	Briggs Sand & Gravel, Inc.	Briggs Sand & Gravel, Inc.	Warren	Sand—building Gravel—road construction/resurfacing	Wn-508
	Sharon Stone Co.	Belpre Sand & Gravel	Belpre	Sand—building, Portland cement concrete Gravel—building, Portland cement concrete, asphaltic concrete	Wn-SS
	Shelly Materials, Inc.	Reno	Newport	Sand—unspecified Gravel—unspecified	Wn-SM

CONFIDENTIAL

Wayne	Olen Corp.	The Olen Corp. - Wooster	Franklin, Wooster	Sand—building, Portland cement concrete, asphaltic concrete Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing	We-11
	Rupp Construction, Inc.	Rupp Construction, Inc.	Baughman	Sand—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing, fill Gravel—building, Portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration	We-7
Williams	Thiel Construction Co.	Thiel Construction Co.	Superior	Gravel—unspecified	Ws-21
Wood	Precision Aggregates II, LLC	Precision Aggregates II, LLC	Portage	Sand—Portland cement concrete	Wd-14
Wyandot	JALIP, Ltd.	JALIP, Ltd.	Pitt	Sand—unspecified	Wt-J
	Kirby's Sand & Gravel, Inc.	Kirby's Sand & Gravel, Inc.	Eden	Sand—building, fill Gravel—building, filtration	Wt-K
	National Lime & Stone Co.	Upper Sandusky Plant	Antrim	Sand—building, Portland cement concrete, asphaltic concrete	Wt-N
	Olen Corp.	Upper Sandusky	Pitt	Sand—Portland cement concrete, asphaltic concrete	Wt-3

CONFIDENTIAL

2015 SANDSTONE & CONGLOMERATE COMPANIES WITH SALES OR PRODUCTION

Company	Number of operations	Sales (tons)	Production (tons)
Best Sand Corp.	2	674,264	687,987
Briar Hill Stone Co.	5	10,311	10,311
Capstone Rock Products, LLC	1	460	460
City Stone, LLC	1	71,541	71,541
IRG Operating, LLC, dba Cleveland Quarries	1	7,887	14,174
Johnson Stone Products, Inc.	1	3,564	3,564
Keeney Sand & Stone, Inc.	1	77,646	77,646
Mesenburg Bros., Inc.	1	5,620	5,620
Ohio Basic Minerals, LLC	1	26,796	25,733
Oscar Brugmann Sand & Gravel, Inc.	2	19,226	19,226
Precision Aggregates II, LLC	1	17,393	17,393
Premier Silica, LLC	1	69,865	88,045
R. W. Sidley, Inc.	1	128,283	173,500
Regeneration Materials	1	350	350
Rocky Enterprise	1	40,596	40,596
Romig Excavating	1	6,404	6,404
Solomon's Mines, Inc.	1	9,061	9,061
Waller Bros. Stone Co.	2	1,114	1,114
Wood Land & Cattle Co., Ltd.	1	134,792	134,792
Zollinger Sand & Gravel Co.	1	4,543	4,543
TOTAL: 20 companies	27	1,309,716	1,392,060

2015 OHIO DIRECTORY OF SANDSTONE & CONGLOMERATE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

For those mines for which a state mine number has not been assigned, a letter designation is used (example: Gea-N).

County	Name of operator	Name of mine or quarry	Township	Geological unit (age)[1]	Type and principal use	State mine number
Carroll	Romig Excavating	Romig Excavating	Monroe	Unidentified sandstone (Pennsylvanian)	Crushed or broken stone—riprap	Cl-R
Columbiana	Solomon's Mines, Inc.	Solomon's Mines, Inc.	Salem	Buffalo sandstone (Pennsylvanian)	Crushed or broken stone—riprap, construction	Ca-S
Coshocton	Briar Hill Stone Co.	Quarry #3	New Castle	Massillon sandstone (Pennsylvanian)	Dimension stone—finished stone	Cn-659
		Quarry #32	Jefferson	Massillon sandstone (Pennsylvanian)	Dimension stone—finished stone	Cn-686
		Quarry #54	Clark	Massillon sandstone (Pennsylvanian)	Dimension stone—finished stone	Cn-809
		Quarry #55	Clark	Massillon sandstone (Pennsylvanian)	Dimension stone—finished stone	Cn-815
Erie	IRG Operating, LLC, dba Cleveland Quarries	IRG Operating, LLC	Florence	Berea Sandstone (Devonian)	Dimension stone—rough construction, rubble, finished stone	Ee-21
Geauga	Best Sand Corp.	Best Sand Corp.	Munson	Sharon conglomerate (Pennsylvanian)	Crushed or broken stone—foundry sand, glass sand, polish grind, construction, industrial	Gea-3
	R. W. Sidley, Inc.	Thompson Pit	Thompson	Sharon conglomerate (Pennsylvanian)	Crushed or broken stone—aggregate, construction, industrial	Gea-1
Guernsey	Rocky Enterprise	Rocky Enterprise - Robins Ridge	Richland	Conemaugh Group (Pennsylvanian)	Crushed or broken stone—other Dimension stone—rough construction	Gy-R
Huron	Mesenburg Bros., Inc.	Mesenburg Bros., Inc.	Townsend	Berea Sandstone (Devonian)	Dimension stone—rough construction	Hrn-8
Knox	Briar Hill Stone Co.	Quarry #6	Union	Massillon sandstone (Pennsylvanian)	Dimension stone—finished stone	Kx-12
	Capstone Rock Products, LLC	Fletcher	Butler	Massillon sandstone (Pennsylvanian)	Dimension stone—architecture	Kx-C
	Premier Silica, LLC	Millwood Plant	Butler, Union	Cuyahoga Formation (Mississippian)	Crushed or broken stone—glass sand, metallurgical pebble, construction, industrial	Kx-1
Lake	Keeney Sand & Stone, Inc.	Keeney Sand & Stone, Inc.	Leroy	Berea Sandstone (Devonian)	Crushed or broken stone—aggregate, construction	Lke-K
Lorain	Johnson Stone Products, Inc.	Johnson Stone Products	Camden	Berea Sandstone (Devonian)	Dimension stone—finished stone	Ln-J
Mahoning	City Stone, LLC	City Stone, LLC	Milton	Sharon sandstone (Pennsylvanian)	Crushed or broken stone—construction	Mg-62
Pike	Best Sand Corp.	Best - Southern Division	Jackson	Sharon conglomerate (Pennsylvanian)	Crushed or broken stone—foundry sand, construction	Pke-31
	Ohio Basic Minerals, LLC	Scioto Mine	Jackson	Unidentified sandstone	Crushed or broken stone—industrial	Pke-O
Portage	Oscar Brugmann Sand & Gravel, Inc.	Oscar Brugmann Sand & Gravel, Inc.	Shalersville	Sharon conglomerate (Pennsylvanian)	Crushed or broken stone—other	Pe-9
		Oscar Brugmann Sand & Gravel, Inc.	Shalersville	Sharon conglomerate (Pennsylvanian)	Crushed or broken stone—other	Pe-OB
Scioto	Waller Bros. Stone Co.	Inskeep Quarry 1 & 2	Rush	Buena Vista sandstone (Mississippian)	Dimension stone—finished stone	So-48
		Crabtree Quarry	Morgan	Buena Vista sandstone (Mississippian)	dimension stone—finished stone	So-76
Tuscarawas	Regeneration Materials	Dundee Mine	Wayne	Massillon sandstone (Pennsylvanian)	crushed or broken stone—other	Ts-1660
Wayne	Wood Land & Cattle Co., Ltd.	#1	Clinton	Unidentified sandstone	Crushed or broken stone—riprap	We-EA
	Zollinger Sand & Gravel Co.	Zollinger Sand & Gravel Co.	Chippewa	Cuyahoga Formation (Mississippian)	Crushed or broken stone—construction	We-15
Wood	Precision Aggregates II, LLC	Precision Aggregates II, LLC	Portage	Unidentified sandstone	Crushed or broken stone—construction	Wd-14

[1] Refer to figure 6 (p. 14).

CONFIDENTIAL

2015 CLAY COMPANIES WITH SALES OR PRODUCTION

Company	Number of operations	Sales (tons)	Production (tons)
A. P. Green Refractories, Inc.	1	1,598	1,598
Agg Rok Materials	1	16,800	16,800
Athens Hocking Reclamation Center	1	15,200	15,200
The Belden Brick Company, LLC	3	162,584	162,584
Bowerston Shale Co.	1	6,760	6,760
Boyas Excavating, Inc.	1	3,830	3,830
Brookside Materials, LLC	1	5,000	5,000
Cedar Heights Clay Co.	1	30,561	30,561
CEMEX, Inc.	1	70,000	70,000
D & K Materials, Inc.	1	1,122	1,122
Joe Simak & Sons Trucking, Inc.	1	3,285	3,285
Kimble Clay & Limestone Co.	1	63,115	63,115
L & M Mineral Co.	3	25,836	25,836
Lafarge Corp.	1	91,689	91,689
Loxley Aggregates, Inc.	1	510	510
Newark Materials, LLC	1	40,000	40,000
Patrick Excavating, Inc.	1	185	185
Sandkuhl Clay Works, Inc.	1	1,247	1,247
Sober Sand & Gravel Co.	1	3,000	3,000
Soltis Sand & Gravel	1	5,889	5,889
State Line Resources, Inc.	1	13,147	13,147
Sypniewski, Joseph N.	1	558	558
Valley Clay Mining Co.	1	5,047	5,047
Zollinger Sand & Gravel Co.	1	290	290
TOTAL: 24 companies	28	567,253	567,253

2015 OHIO DIRECTORY OF CLAY MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

For those mines for which a state mine number has not been assigned, a letter designation is used (example: Cn-B).

County	Name of operator	Name of mine or quarry	Township	Geological unit (age)[1]	Type and principal use	State mine number
Ashtabula	Joe Simak & Sons Trucking, Inc. Sypniewski, Joseph N.	North Ridge Pit Sypniewski	Kingsville Trumbull	Glacial clay (Pleistocene) Glacial clay (Pleistocene)	Construction Unspecified	Asa-18 Asa-SY
Athens	Athens Hocking Reclamation Center	Athens-Hocking Clay Mine	York	Conemaugh Group (Pennsylvanian)	Unspecified	As-594
Auglaize	Sandkuhl Clay Works, Inc.	Sandkuhl Clay Works, Inc.	Salem	Glacial clay (Pleistocene)	Common clay products	Ae-7
Columbiana	State Line Resources, Inc.	State Line Resources, Inc.	Middleton	Lower Kittanning (Pennsylvanian)	Common clay products	Ca-505
Cuyahoga	Boyas Excavating, Inc.	Boyas Excavating, Inc.	Independence	Bedford Shale (Mississippian)	Baseball diamonds	Cya-42
Franklin	Agg Rok Materials	Agg Rok	Franklin	Glacial clay (Pleistocene)	Landfill	Fn-36
Geauga	Soltis Sand & Gravel	Soltis Sand & Gravel	Parkman	Glacial clay (Pleistocene)	Common clay products	Gea-9
Greene	CEMEX, Inc.	Miller, Schieder, Batdorf, Stewart	Bath	Unidentified clay	Cement manufacture	Ge-8
Jackson	A. P. Green Refractories, Inc. Cedar Heights Clay Co.	Poetker Phillips	Jefferson Madison	Lower Kittanning clay (Pennsylvanian) Allegheny Group (Pennsylvanian)	Unspecified Unspecified	Jkn-G Jkn-CH3
Licking	Brookside Materials, LLC Newark Materials, LLC	Brookside Materials, LLC Newark Materials	St. Albans Madison	Unidentified clay Unidentified clay	Baseball diamonds Landfill	Lg-B Lg-504
Muskingum	Bowerston Shale Co. Valley Clay Mining Co.	Frazeysburg Spring Pit	Jackson Newton	Flint Ridge and Middle Mercer clays (Pennsylvanian) #3 Ohio clay, Tionesta (Pennsylvanian)	Unspecified Unspecified	Mum-776 Mum-904
Paulding	Lafarge Corp.	Paulding Quarry	Crane	Silica Shale (Devonian)	Cement manufacture	Pg-1
Portage	D & K Materials, Inc. Patrick Excavating, Inc. Sober Sand & Gravel Co.	D & K Materials, Inc. Patrick Sober Sand & Gravel Co.	Brimfield Charlestown Rootstown	Glacial clay (Pleistocene) Glacial clay (Pleistocene) Glacial clay (Pleistocene)	Common clay products Construction Construction	Pe-101 Pe-P Pe-18
Preble	Loxley Aggregates, Inc.	Loxley Aggregates, Inc.	Twin	Glacial clay (Pleistocene)	Construction	Pre-9
Stark	L & M Mineral Co.	Barr Farm	Bethlehem	Newland-Brookville clay (Pennsylvanian)	Common clay products	Sk-LM
Tuscarawas	Belden Brick Co. Kimble Clay & Limestone Co. L & M Mineral Co.	Moomaw Pit Shanesville Pit Wallick Pit Kimble Clay & Limestone Spring Spring Industries	Sugar Creek Sugarcreek Franklin, Wayne Dover Mill, Warwick Goshen, Warwick	Unidentified clay (Pennsylvanian) Newland-Brookville clay (Pennsylvanian) Newland-Brookville clay (Pennsylvanian) Unidentified clay Lower Kittanning clay (Pennsylvanian) Lower Kittanning clay (Pennsylvanian)	Unspecified Unspecified Landfill Unspecified Common clay products Landfill	Ts-1517 Ts-1939 Ts-1841 Ts-1818 Ts-1982 Ts-SI
Wayne	Zollinger Sand & Gravel Co.	Zollinger Sand & Gravel Co.	Chippewa	Glacial clay (Pleistocene)	Construction	We-15

[1] Refer to figure 6 (p. 14).

CONFIDENTIAL

2015 SHALE COMPANIES WITH SALES OR PRODUCTION

Company	Number of operations	Sales (tons)	Production (tons)
The Belden Brick Company, LLC	3	83,533	83,533
Bowerston Shale Co.	2	49,408	49,408
Buckland, Edsel L.	1	350	350
Crushers Stone Products, LLC	1	16,100	22,000
D. M. Mining, Inc.	1	13,623	13,623
DiGeronimo Aggregates, LLC	1	185,000	185,000
Glen-Gery Corp.	1	95,218	95,218
Heitsche North Shore Stone Quarries, LLC	1	6,177	6,177
Kimble Clay & Limestone Co.	2	26,373	26,373
Knox County Board of Commissioners	1	1,155	1,155
L & M Mineral Co.	2	29,757	29,757
The Logan Clay Products Co.	1	21,622	15,893
Olen Corp.	1	11	11
Summitville Tiles, Inc.	2	13,782	13,782
Valley Clay Mining Co.	1	17,498	17,498
Walhonding Sand & Gravel	1	10,252	10,252
TOTAL: 16 companies	22	569,859	570,030

2015 OHIO DIRECTORY OF SHALE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

For those mines for which a state mine number has not been assigned, a letter designation is used (example: Cn-B).

County	Name of operator	Name of mine or quarry	Township	Geological unit (age)[1]	Type and principal use	State mine number
Columbiana	Summitville Tiles, Inc.	Summitcrest, Inc. Summitville Tiles, Inc.	Franklin Franklin	Conemaugh Group (Pennsylvanian) Conemaugh Group (Pennsylvanian)	Common clay products Common clay products	Ca-SU Ca-205
Coshocton	Walhonding Sand & Gravel	Walhonding Valley Sand & Gravel	New Castle	Logan Formation (Mississippian)	Landfill	Cn-WL
Cuyahoga	DiGeronimo Aggregates, LLC	DiGeronimo Aggregates, LLC	Independence	Chagrin Shale (Devonian)	Lightweight aggregate	Cya-19
Harrison	Bowerston Shale Co.	Bowerston (Calwell)	Monroe	Conemaugh Group (Pennsylvanian)	Common clay products	Hn-152
Knox	Buckland, Edsel L. Knox County Board of Commissioners	Buckland Apple Valley	Brown Brown	Logan Formation (Mississippian) Logan Formation (Mississippian)	Common clay products Common clay products	Kx-B Kx-K
Lawrence	D. M. Mining, Inc.	Ice Creek Land Co.	Upper	Conemaugh Group (Pennsylvanian)	Fill	Le-D
Licking	Bowerston Shale Co.	Hanover Pit	Hanover	Logan Formation (Mississippian)	Common clay products	Lg-501
Marion	Glen-Gery Corp.	Iberia Quarry	Tully	Bedford Shale (Mississippian)	Common clay products	Mn-7
Muskingum	Valley Clay Mining Co.	Spring Pit	Newton	Clarion shale (Pennsylvanian)	Common clay products	Mum-904
Perry	The Logan Clay Products Co.	Webb Summit	Monday Creek	Pottsville Group (Pennsylvanian)	Common clay products	Py-L
Seneca	Heitsche North Shore Stone Quarries, LLC	North Shore Stone	Thompson	Unidentified shale	Unspecified	Sa-8
Tuscarawas	Belden Brick Co. Kimble Clay & Limestone Co. L & M Mineral Co.	Belden Pit Plotner Pit Shanesville Pit Kimble Clay & Limestone Co. Kimble Clay & Limestone Co. Heil Spring	Sugar Creek Sugar Creek Sugar Creek Dover Dover Warwick Mill, Warwick	Tionesta and Lower Kittanning clays (Pennsylvanian) Brookville clay (Pennsylvanian) Brookville clay (Pennsylvanian) Unidentified (Pennsylvanian) Unidentified (Pennsylvanian) Brookville clay (Pennsylvanian) Lower Kittanning clay (Pennsylvanian)	Common clay products Common clay products Common clay products Unspecified Unspecified Common clay products Common clay products	Ts-1646 Ts-B Ts-1939 Ts-1818 Ts-K1 Ts-1884 Ts-1982
Wayne	Crushers Stone Products, LLC Olen Corp.	Crushers Stone Products, LLC The Olen Corp. - Wooster	Clinton Franklin, Wooster	Cuyahoga Formation (Mississippian) Cuyahoga Formation (Mississippian)	Lightweight aggregate Construction	We-25 We-11

[1]Refer to figure 6 (p. 14).

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2015 OHIO DIRECTORY OF SALT MINE AND SALT-BRINING PLANT OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

County	Name of operator	Name of mine or quarry	Township	Geological unit (age) and product[1]	State mine number
Cuyahoga	Cargill, Incorporated	Cargill Deicing Technology	City of Cleveland	Salina Group (Silurian)—rock salt	Cya-30
Lake	Morton International, Inc.	Fairport Mine	Painesville	Salina Group (Silurian)—rock salt	Lke-6
Licking	R. H. Penick Co., Ltd. Royalty Enterprises, Inc.	R. H. Penick Co. King #1	Newark Madison	"Newburg" (Silurian)—natural brine "Newburg" (Silurian)—natural brine	Lg-45 Lg-4484
Summit	Cargill Salt	Cargill Salt	Coventry	Salina Group (Silurian)—artificial brine	St-9127
Wayne	Morton International, Inc.	Morton Salt Well Field 9129	Milton	Salina Group (Silurian)—artificial brine	We-9129

[1] Refer to figure 6 (p. 14).

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2015 OHIO DIRECTORY OF PEAT MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

County	Name of operator	Name of mine or quarry	Township	Geological unit (age) and product[1]	State mine number
Ashtabula	Doherty, John R.	Doherty	Richmond	Unspecified	Asa-JD
Portage	Rockwell Sand & Gravel, Inc.	Suffield Aggregate, LLC	Suffield	Mulch	Pe-R

[1] Refer to figure 6 (p. 14).

C1460-088

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL SURVEY
Thomas J. Serenko, Chief

Map IM-1 2015 Edition
11/2016

MAP OF ACTIVE MINERAL INDUSTRY OPERATIONS IN OHIO 2015

By
J. D. Stucker

GIS Database Administration by Joseph G. Wells
GIS Cartography by Dean R. Martin

ABOUT THE MAP

This map is based on operators listed in the *2015 Report on Ohio Mineral Industries* (Stucker, 2016) and is intended for general reference. Locations of mineral extraction operations are approximate and are based on permitting information on file at the Ohio Department of Natural Resources (ODNR), Division of Mineral Resources Management. The letters and numbers adjacent to the symbols are the state mine numbers assigned to operations listed in the directories of the *2015 Report on Ohio Mineral Industries*. Operator and other information can be accessed by using the state mine number and commodity to refer to the directories of operators reporting sales or production, by county, in the report[1]. An interactive mineral industries map also is available on the ODNR Division of Geological Survey website. The *2015 Report on Ohio Mineral Industries* and the interactive map are accessible at **OhioGeology.com**.

2015 OHIO ECONOMIC GEOLOGY IN BRIEF

Reports were filed in 2015 for 90 coal-mining operations, including 3 mines with their own coal-washing facilities. Coal production was reported from 43 individual operations. Reports also were filed for 5 separate coal-washing plants and associated facilities. Of the 569 industrial-mineral-mining operations known to be operating in 2015, 331 operations were reported active. A total of 40 mines reported production of multiple mineral commodities, including coal and/or one or more industrial minerals.

The total tonnage of coal and industrial minerals produced in Ohio during 2015 was 122,244,014 tons or approximately 10.5 tons per capita. The total value[1] of coal was $752,894,580 in 2015; the value[1] of oil and gas was $2,968,428,667; and the total value[1] of all industrial minerals was $1,139,237,282 in 2015 (table 1). The combined total value of fuel and nonfuel minerals produced in Ohio during 2015 was $4,860,560,529 or approximately $423 per capita. Reported and estimated total direct employment in the extractive industries of Ohio in 2015 was more than 11,000 people.

[1]Refer to Appendices A and B of the *2015 Report on Ohio Mineral Industries*.
[2]Includes reported and estimated values. Some operations reporting sales did not report a value for those sales. A countywide- or statewide-average price per ton was calculated for each industrial-mineral commodity based on sales for which the value was reported. A countywide, average price per ton was calculated for coal based on sales for which the value was reported and method of production. These calculated averages were used to estimate the value of the sales for which the actual values were not reported.

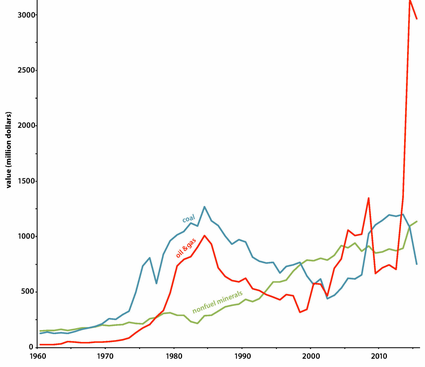
REFERENCES CITED

Stucker, J.D., compiler, 2016, 2015 Report on Ohio mineral industries—An annual summary of the state's economic geology: Columbus, Ohio Department of Natural Resources, Division of Geological Survey, 25p., 9 appendices.

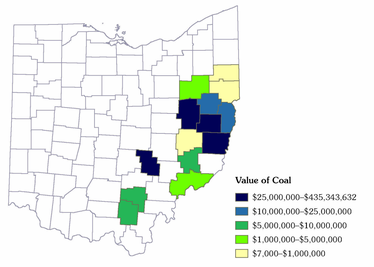
TABLE 1. *2015 Fuel and nonfuel mineral sales and production in Ohio*

Commodity	Production[1]	Sales[2]	Value[2]	Change in value from 2014 (percent)
Coal	16,922,616 tons	16,437,398 tons	$752,894,580	– 30.5
Limestone and dolomite	65,654,995 tons	66,019,352 tons	$623,810,033	+5.7
Sand and gravel	31,515,972 tons	31,488,652 tons	$227,099,840	+8.0
Salt	5,620,128 tons	4,819,038 tons	$225,201,833	– 2.6
Sandstone and conglomerate	1,392,060 tons	1,309,716 tons	$46,108,123	+3.0
Shale	570,030 tons	569,859 tons	$12,226,865	+10.7
Clay	567,253 tons	567,253 tons	$4,784,502	+3.8
Peat	960 tons	960 tons	$6,086	N/R [3]
Gas	1,009,739,549 thousand cubic feet	not available	$1,979,089,536	+2.1
Oil	26,898,835 barrels	not available	$989,339,151	– 17.8

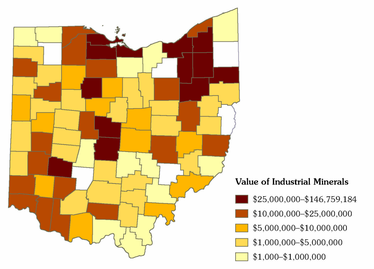
[1]The production figures for industrial minerals are estimates, as many operators do not know actual production. For those operators that do not report production, production is assumed equal to sales or estimated from ODNR Division of Mineral Resources Management records.
[2]Includes material for captive use.
[3]The FOB value of industrial minerals sold was estimated for mines that failed to report this information and for those producing material for captive use. These estimates were calculated using a countywide- or statewide-average price per ton calculated on reported FOB values.
[4]No peat was sold or produced in 2014.



Value of coal, nonfuel minerals, and oil and gas in Ohio since 1960.



Total value of coal sold in Ohio in 2015, by county.



Total value of industrial minerals sold in Ohio in 2015, by county.

EXPLANATION OF SYMBOLS

- Clay and shale
- Coal, surface
- Coal, underground
- Limestone and dolomite
- Multiple commodities
- Salt
- Sand and gravel
- Sandstone and conglomerate
- Wn-SM State mine number

N

10 5 0 10 20 30 40 MILES
10 5 0 10 20 30 40 50 KILOMETERS

SCALE 1:500 000

Projection of data is Ohio coordinate system, south zone, North American Datum 1983.

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