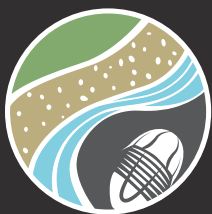


# 2020 REPORT ON OHIO MINERAL INDUSTRIES



compiled by Christopher E. Wright



**OHIO  
GEOLOGICAL  
SURVEY**  
DEPARTMENT OF NATURAL RESOURCES



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# **2020 Report on Ohio Mineral Industries: An annual summary of the state's economic geology**

**compiled by  
Christopher E. Wright**

STATE OF OHIO  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF GEOLOGICAL SURVEY  
Michael P. Angle, Chief

Columbus 2021



## PREFACE

The year 2020 will long be remembered as a year of masks, hand sanitizer, work shutdowns and layoffs, working from home, sickness, and sadly death, all as a result of the effects from the COVID-19 pandemic that ravaged the globe. The aftereffects of the COVID-19 pandemic can be seen in the economic downturn that occurred throughout the world, and the coal and industrial mineral producers of Ohio were not immune to this downturn. Decreases in production, sales, value, and employment were much more common among a number of commodities in 2020 than they have been in recent years.

The 2020 Report on Ohio Mineral Industries continues in the efforts of the ODNR Division of Geological Survey to present a clear and concise representation of mining production, sales, and employment for Ohio's mineral industry commodities. This report provides a brief discussion of each geologic commodity and a bulleted listing of commodity statistics for 2020. Percent change comparisons of 2020 production and sales values for each commodity with those of the previous year are notated, with the 2019 data coming from the 2019 edition of this report (Wright, 2020).

The Map of Active Mineral Industry Operations in Ohio is included at the end of the report and acts as a standalone product. The map includes a table with information about each labeled point, including the company name and total combined tonnage of material(s) mined at each operation location.

The appendices are not included within the report and are instead available as downloadable files on the ODNR Division of Geological Survey website at [ohiodnr.gov/industrialminerals](https://ohiodnr.gov/industrialminerals). These appendices include data for all commodities categorized by company, commodity, and county. Digital versions of these appendices allow users to view and organize data in a way that is convenient to them.

Chris Wright  
Geologist



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# 2020 OHIO ECONOMIC GEOLOGY IN BRIEF

The total tonnage of coal and industrial minerals produced in Ohio during 2020 was 111,559,936 tons or approximately 9.5 tons per capita. In 2020, the total value<sup>1</sup> of coal was \$141,207,916; the value of oil and gas was \$4,663,309,002; and the value<sup>1</sup> of all nonfuel industrial minerals was \$1,262,343,562 (figs. 1, 2, 3; table 1). The combined value of fuel and nonfuel minerals produced in Ohio during 2020 was \$6,066,860,480 or approximately \$514 per capita.

Reported and estimated total direct employment in the extractive industries of Ohio in 2020 was more than 10,000 people. Industrial-mineral production increased for salt, sandstone and conglomerate, clay, shale, and peat, while production decreased for coal, limestone and dolomite, and sand and gravel. The total value of nonfuel industrial minerals exceeded \$1 billion for the seventh straight year. In 2020, the production-leading commodity of limestone and dolomite was down 5.4%, with the second leading commodity of sand and gravel down 2.9% from 2019; the third leading commodity of coal was down 53.9% from 2019 values.

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

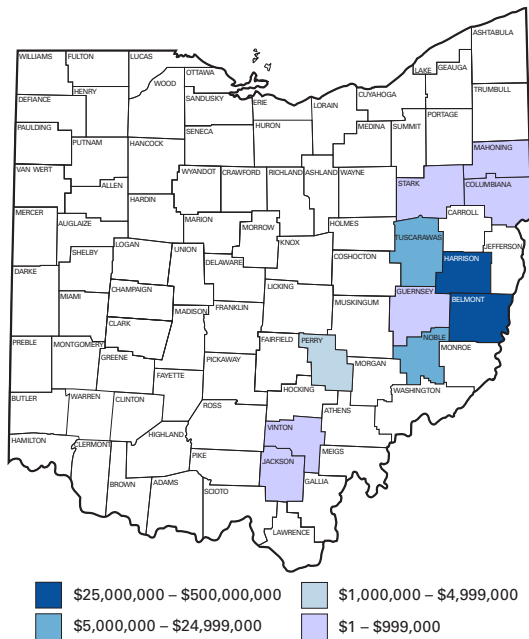


FIGURE 1. Total value of coal sold in Ohio in 2020, by county.

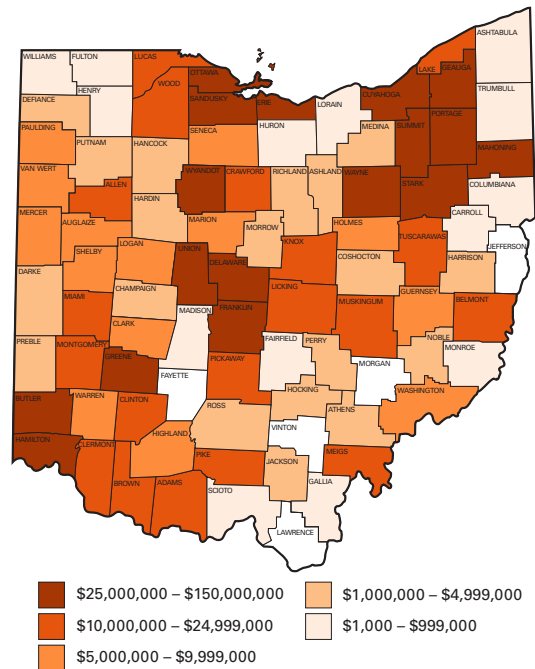


FIGURE 2. Total value of industrial minerals sold in Ohio in 2020, by county.

**TABLE 1. Fuel and nonfuel mineral sales and production in Ohio in 2020**

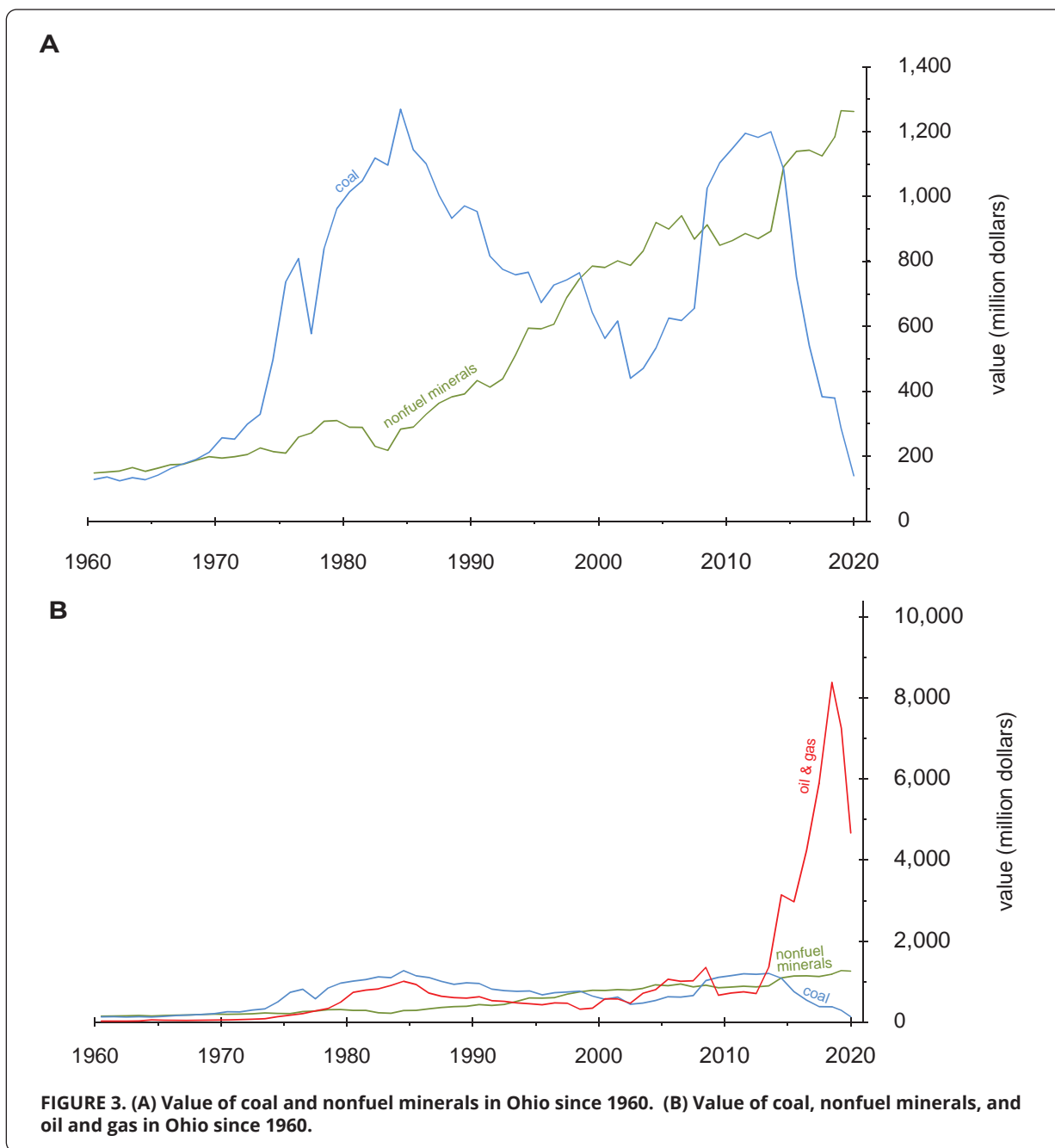
Commodity	Production <sup>1</sup>	Sales <sup>2</sup>	Value <sup>3</sup>	Change in value from 2019 (percent) <sup>4</sup>
Limestone and dolomite	67,199,822 tons	67,792,822 tons	\$737,163,213	+ 0.6
Coal	3,786,974 tons	4,002,170 tons	\$141,207,916	- 50.7
Sand and gravel	33,248,864 tons	32,556,986 tons	\$286,327,202	+ 6.2
Salt	4,488,979 tons	3,200,844 tons	\$183,320,754	- 11.4
Sandstone and conglomerate	1,334,430 tons	1,203,656 tons	\$43,763,625	- 2.8
Shale	404,060 tons	404,060 tons	\$3,899,358	- 6.5
Clay	1,096,104 tons	1,096,104 tons	\$7,857,610	+ 5.3
Peat	728 tons	728 tons	\$11,800	+ 195.0
Gas	2,365,078,017 thousand cubic feet	not available	\$3,807,775,607	- 34.1
Oil	23,957,810 barrels	not available	\$855,533,395	- 41.7

<sup>1</sup> 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.

<sup>2</sup> Includes material for captive use.

<sup>3</sup> 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 statewide-average price per ton calculated using reported FOB values.

<sup>4</sup> Percent change in value for peat is based on production in 2018, when peat was last mined in Ohio.



# COAL

Commodity summaries and directories of operators are available at: [ohiodnr.gov/industrialminerals](http://ohiodnr.gov/industrialminerals)

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). Coal production first occurred in Jefferson County during 1800 and amounted to 100 tons. Columbiana County was the next to report coal production starting in 1803 (Crowell, 1995). Since that time, nearly 4 billion tons of coal have been mined from coal seams in the state (see fig. 4; Crowell, 1995); this represents a value of more than \$200 billion in 2020 dollars.<sup>2</sup>

Throughout 2020, ODNR issued one underground-mine expansion permit and one surface-mine expansion permit. There were two new permits issued, both being surface mines, and no new underground mines. Several coal operations ceased or curtailed production in 2020 because of less-expensive, competing natural gas and decreased demand, in large part as a result of the global COVID-19 pandemic.

<sup>2</sup>The following link will provide more information about the formation and uses of Ohio's coal resources: [ohiodnr.gov/coalgeology](http://ohiodnr.gov/coalgeology).

### Production

- Tons produced = 3,786,974 (-53.9% from 2019)
- U.S. ranking: 15th out of 22 producing states (**USDOE, 2021**)
- Leading counties (percentage of statewide production):
  - Belmont (51.2%)
  - Harrison (26.3%)
  - Noble (12.2%)
  - Tuscarawas (5.5%)
- Top producing seams (table 5):
  - Pittsburgh (No. 8)
  - Upper Freeport (No. 7)
  - Meigs Creek (No. 9)

### Sales

(See figs. 5, 6 and tables 2, 6, 7)

- Tons sold = 4,002,170 (-48.6% from 2019)
- Value = \$141,207,916

### Employment

(See table 8)

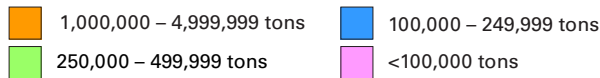
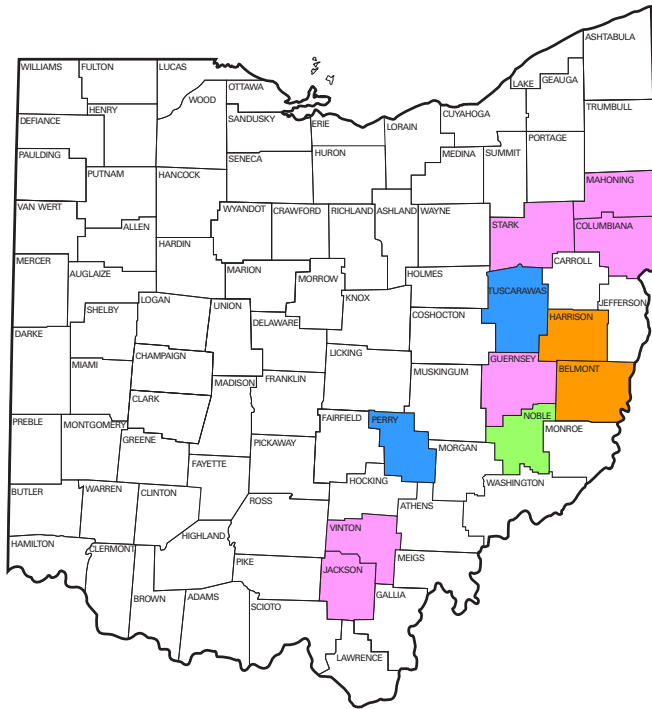
- Production employees reported = 456
- Nonproduction employees reported = 103
- Average employee wages:
  - Surface-mine production = \$46,728
  - Underground-mine production = \$79,616
- Total wages earned = \$60,743,849

SYSTEM	GROUP	LITHOSTRATIGRAPHIC UNITS
Permian	Dunkard	Washington (No. 12) coal
	Monongahela	Waynesburg (No. 11) coal Uniontown (No. 10) coal Meigs Creek (No. 9, Sewickley) coal  Pomeroy (No. 8a, Redstone) coal Pittsburgh (No. 8) coal
Pennsylvanian	Conemaugh	Ames marine zone Harlem coal Anderson 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 Strasburg (No. 5a) coal Lower Kittanning (No. 5) coal Vanport marine zone Clarion (No. 4a) coal Winters coal Newland (No. 4, Brookville) coal
	Pottsville	Tionesta (No. 3b) coal Upper Mercer (No. 3a) coal Lower Mercer (No. 3) coal Quakertown (No. 2) coal Sharon (No. 1) coal

**FIGURE 4. Stratigraphic column of coals mined in Ohio during 2020 (black), other significant coal beds (red), and associated key beds (blue) used for stratigraphic correlation. Modified from Brant and Delong (1960, table 9), Collins (1979, fig. 3), and Larsen (1991, fig. 2).**

**TABLE 2. 2020 Ohio coal production and sales by county, in descending order of production**

County	Production (short tons)	Sales (short tons)
Belmont	1,939,253	2,198,606
Harrison	996,066	1,009,620
Noble	460,912	460,912
Tuscarawas	209,945	209,812
Perry	162,089	104,831
Vinton	15,456	15,456
Mahoning	1,396	1,396
Stark	1,213	1,213
Columbiana	357	241
Jackson	283	79
Guernsey	4	4
<b>TOTAL</b>	<b>3,786,974</b>	<b>4,002,170</b>



**FIGURE 5. Coal sales in Ohio in 2020, by county and quantity.**

**TABLE 3. 2020 Ohio coal production, by production size group and change from 2019**

Production size group	2020		Change from 2019 (short tons)
	Number of mines reporting	Production (short tons)	
1,000,000 tons and over	1	1,689,297	-3,045,749
500,000 to 999,999 tons	0	0	-1,333,309
250,000 to 499,999 tons	2	641,749	-317,680
100,000 to 249,999 tons	6	1,075,721	253,408
50,000 to 99,999 tons	3	225,070	56,801
25,000 to 49,999 tons	2	70,960	-74,863
Less than 25,000 tons	13	84,177	33,919
<b>TOTAL</b>	<b>27</b>	<b>3,786,974</b>	<b>-4,427,473</b>

**TABLE 4. 2020 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	1,939,253	3	1	1,689,297	1,583,808	105,489	2	249,956	144,229	12,167	93,560
Columbiana	357	1					1	357	357		
Guernsey	4	1					1	4	4		
Harrison	996,066	4	2	641,749		641,749	2	354,317	312,816		41,501
Jackson	283	1					1	283	283		
Mahoning	1,396	2					2	1,396	1,396		
Noble	460,912	4					4	460,912	460,912		
Perry	162,089	1	1	162,089		162,089					
Stark	1,213	1					1	1,213	1,213		
Tuscarawas	209,945	8	1	101,086		101,086	7	108,859	108,859		
Vinton	15,456	1					1	15,456	15,456		
<b>TOTAL<sup>1</sup></b>	<b>3,786,974</b>	<b>27</b>	<b>5</b>	<b>2,594,221</b>	<b>1,583,808</b>	<b>1,010,413</b>	<b>22</b>	<b>1,192,753</b>	<b>1,045,525</b>	<b>12,167</b>	<b>135,061</b>

<sup>1</sup>Any tally inconsistencies are because of rounding of production tonnages.

**TABLE 5. 2020 Ohio coal production, by county and seam**

County <sup>1</sup>	Production (short tons)											
	Total	Upper Mercer (No. 3a)	Newland (No. 4, Brookville)	Clarion (No. 4a)	Lower Kittanning (No. 5)	Strasburg (No. 5a)	Middle Kittanning (No. 6)	Upper Freeport (No. 7)	Pittsburgh (No. 8)	Pomeroy (No. 8a, Redstone)	Meigs Creek (No. 9, Sewickley)	Waynesburg (No. 11)
Belmont	1,939,253								1,902,090		26,137	11,026
Columbiana	357				357							
Guernsey	4										4	
Harrison	996,066							641,749	263,925	63,676	26,716	
Jackson	283				283							
Mahoning	1,396				1,396							
Noble	460,912										460,912	
Perry	162,089							162,089				
Stark	1,213		1,213									
Tuscarawas	209,945	2,278	37,811		31,670	6,870	131,316					
Vinton	15,456			6,536	4,096		4,824					
<b>TOTAL<sup>2</sup></b>	<b>3,786,974</b>	<b>2,278</b>	<b>39,024</b>	<b>6,536</b>	<b>37,802</b>	<b>6,870</b>	<b>298,229</b>	<b>641,749</b>	<b>2,166,015</b>	<b>63,676</b>	<b>513,769</b>	<b>11,026</b>

<sup>1</sup>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.

<sup>2</sup>Any tally inconsistencies are because of rounding of production tonnages.

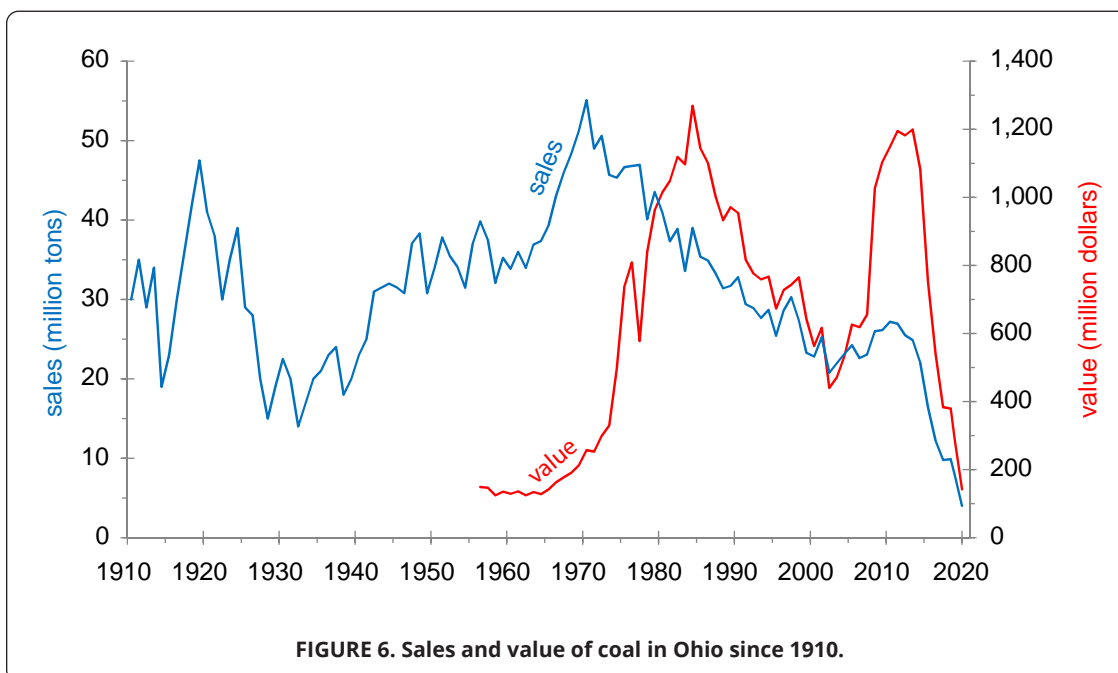
**TABLE 6. 2020 Disposition of Ohio coal, by county**

County <sup>1</sup>	Number of mines	Disposition <sup>1</sup> (short tons)					Stored
		Total <sup>2</sup>	Rail	Water	Truck	Conveyor	
Belmont	3	2,198,606	454,310		1,744,296		50,523
Columbiana	1	241			241		116
Guernsey	1	4			4		
Harrison	4	1,009,620	49,231		960,389		
Jackson	1	79			79		204
Mahoning	2	1,396			1,396		
Noble	4	460,912			460,912		
Perry	1	104,831			104,831		3,792
Stark	1	1,213			1,213		
Tuscarawas	8	209,812	101,086		108,726		
Vinton	1	15,456			15,456		
<b>TOTAL<sup>3</sup></b>	<b>27</b>	<b>4,002,170</b>	<b>604,627</b>	<b>0</b>	<b>3,397,543</b>	<b>0</b>	<b>54,635</b>

<sup>1</sup>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.

<sup>2</sup>Does not reflect tonnage stored. Reflects tonnage sold and shipped from mine.

<sup>3</sup>Any tally inconsistencies are because of rounding.



**FIGURE 6. Sales and value of coal in Ohio since 1910.**

**TABLE 7. 2020 Dollar value of coal at mine, by county and mining method**

County <sup>1</sup>	Total				Underground				Surface			
	No. of mines	Tonnage sold (short tons)	Value at mine <sup>2</sup> (dollars)	Per ton average (dollars)	No. of mines	Tonnage sold (short tons)	Value at mine <sup>2</sup> (dollars)	Per ton average (dollars)	No. of mines	Tonnage sold (short tons)	Value at mine <sup>2</sup> (dollars)	Per ton average (dollars)
Belmont	3	2,198,606	\$74,408,834	\$33.84	1	1,953,535	\$66,864,616	\$34.23	2	245,071	\$7,544,218	\$30.78
Columbiana	1	241	\$22,563	\$93.62					1	241	\$22,563	\$93.62
Guernsey	1	4	\$109	\$27.25					1	4	\$109	\$27.25
Harrison	4	1,009,620	\$42,592,068	\$42.19	2	652,388	\$30,019,169	\$46.01	2	357,232	\$12,572,899	\$35.20
Jackson	1	79	\$79	\$1.00					1	79	\$79	\$1.00
Mahoning	2	1,396	\$54,355	\$38.94					2	1,396	\$54,355	\$38.94
Noble	4	460,912	\$12,633,597	\$27.41					4	460,912	\$12,633,597	\$27.41
Perry	1	104,831	\$4,822,207	\$46.00	1	104,831	\$4,822,207	\$46.00				
Stark	1	1,213	\$23,054	\$19.01					1	1,213	\$23,054	\$19.01
Tuscarawas	8	209,812	\$6,237,677	\$29.73	1	101,086	\$4,346,698	\$43.00	7	108,726	\$1,890,979	\$17.39
Vinton	1	15,456	\$413,373	\$26.75					1	15,456	\$413,373	\$26.75
<b>TOTAL</b>	<b>27</b>	<b>4,002,170</b>	<b>\$141,207,916</b>	<b>\$35.28</b>	<b>5</b>	<b>2,811,840</b>	<b>\$106,052,690</b>	<b>\$37.72</b>	<b>22</b>	<b>1,190,330</b>	<b>\$35,155,226</b>	<b>\$29.53</b>

<sup>1</sup>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.

<sup>2</sup>The FOB value of coal sold was estimated for those mines that failed to report this information. These estimates were calculated using a statewide-average price per ton by mining method, based on reported FOB values deemed to be reliable.

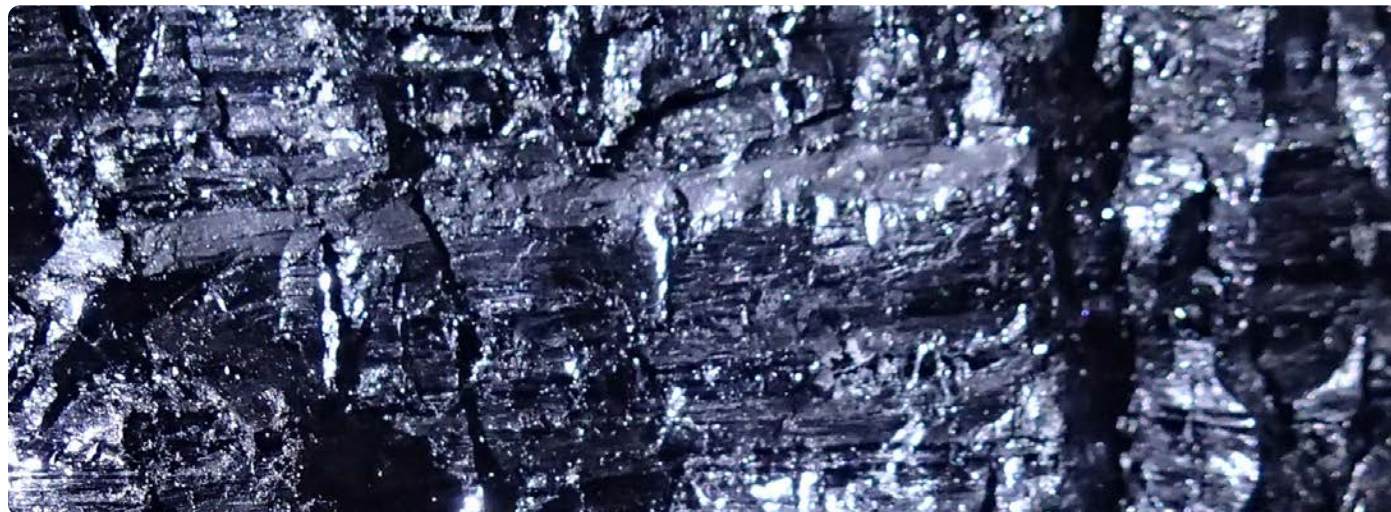
**TABLE 8. 2020 Wage and salary payments to Ohio coal mine employees, by county and occupational group**

County <sup>1</sup>	Wage and salary payments (nearest whole dollar) <sup>2</sup>			
	All occupations	Underground production employees	Surface production employees	Other
Belmont	\$40,177,703	\$12,395,367	\$1,905,552	\$25,876,784
Harrison	\$10,925,696	\$7,616,754	\$1,598,918	\$1,710,024
Jefferson	\$16,668			\$16,668
Mahoning	\$45,653		\$45,653	
Noble	\$3,575,825		\$3,575,825	
Perry	\$1,628,585	\$1,200,000		\$428,585
Stark	\$142,150		\$2,400	\$139,750
Tuscarawas	\$1,969,314	\$1,000,818	\$577,130	\$391,366
Vinton	\$565,432		\$565,432	
<b>TOTAL<sup>3</sup></b>	<b>\$59,047,026</b>	<b>\$22,212,939</b>	<b>\$8,270,910</b>	<b>\$28,563,177</b>

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>Any tally inconsistencies are because of rounding.



# INDUSTRIAL MINERALS

Commodity summaries and directories of operators are available at: [ohiodnr.gov/industrialminerals](http://ohiodnr.gov/industrialminerals)

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 limestone, dolomite, sand, gravel, sandstone, conglomerate, clay, shale, salt, gypsum, and peat. Hundreds of construction projects and industrial products rely on the availability of industrial minerals.

The production of multiple commodities is important to the economic success of mine operations in many areas of Ohio. 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.<sup>3</sup>

Industrial minerals were reported as produced or sold at 347 operations in 83 Ohio counties during 2020. The combined value of all industrial minerals sold in 2020 was \$1,262,343,562 (table 9). This is the seventh consecutive year that the combined value of all nonfuel minerals has exceeded one billion dollars. The statewide combined employment for all nonfuel industrial mineral extraction was 3,930 employees (table 10).

Peat sales were reported in Portage County by one company that also produces sand and gravel and clay. Total sales were 728 tons with a value of \$11,800. This is the highest peat production since 2009. However, total peat sales in 2020 were small enough to have negligible effect on the total value of all industrial minerals mined in Ohio (table 9).

<sup>3</sup>The following links will provide more information on the general bedrock and glacial geology of Ohio: [ohiodnr.gov/bedrockgeology](http://ohiodnr.gov/bedrockgeology) and [ohiodnr.gov/glacialgeology](http://ohiodnr.gov/glacialgeology)

**TABLE 9. 2020 Value of Ohio industrial minerals**

Commodity	Sales (tons)	Change from 2019 (tons/percent) <sup>1</sup>	Value <sup>2</sup>	Percent of total value
Limestone and dolomite	67,792,822	-1,586,025/-2.3	\$737,163,213	58.4
Sand and gravel	32,556,986	-1,078,638/-3.2	\$286,327,202	22.7
Salt	3,200,844	-1,190,080/-27.1	\$183,320,754	14.5
Sandstone and conglomerate	1,203,656	-46,568/-3.7	\$43,763,625	3.5
Shale	404,060	-1,834/-0.5	\$3,899,358	0.3
Clay	1,096,104	+145,867/+15.4	\$7,857,610	0.6
Peat	728	+328/+82.0	\$11,800	0.0
TOTAL	106,255,200	-3,756,550/-3.4	\$1,262,343,562	100.0

<sup>1</sup> Percent change in sales for peat is based on production in 2018, when peat was last mined in Ohio.

<sup>2</sup> 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 statewide-average price per ton based on reported FOB values.



TABLE 10. 2020 Employment at Ohio industrial-mineral operations, by county

County	Total Employees <sup>2</sup>	Production Employees	Nonproduction Employees
Adams	18	10	8
Allen	20	11	9
Ashland	16	12	4
Ashtabula	7	4	3
Athens	13	10	3
Auglaize	10	10	0
Belmont	293	46	247
Brown	31	16	15
Butler	144	49	95
Carroll <sup>1</sup>	0	0	0
Champaign	11	6	5
Clark	14	7	7
Clermont	48	40	8
Clinton <sup>1</sup>	0	0	0
Columbiana	8	4	4
Coshocton	32	21	11
Crawford	15	15	0
Cuyahoga	261	228	33
Darke	7	5	2
Defiance	21	12	9
Delaware	23	23	0
Erie	135	91	44
Fairfield	1	1	0
Franklin	170	112	58
Fulton	1	1	0
Gallia	1	1	0
Geauga	61	56	5
Greene	48	39	9
Guernsey	38	21	17
Hamilton	116	57	59
Hancock	6	6	0
Hardin	10	5	5
Harrison	2	2	0
Henry <sup>1</sup>	0	0	0
Highland	23	19	4
Hocking	63	34	29
Holmes	45	26	19
Huron	2	1	1
Jackson	11	10	1
Knox	65	40	25
Lake	123	75	48
Licking	31	21	10
Logan	51	31	20
Lorain	3	2	1
Lucas	54	42	12
Madison	5	3	2
Mahoning	90	59	31
Marion	13	11	2
Medina	14	12	2
Meigs	22	16	6
Mercer	16	11	5
Miami	33	22	11
Monroe	8	8	0
Montgomery	51	38	13
Morrow	5	5	0
Muskingum	53	42	11
Noble	18	15	3
Ottawa	105	86	19
Paulding	40	34	6
Perry	12	8	4
Pickaway	21	10	11
Pike	25	22	3
Portage	137	96	41
Preble	29	21	8
Putnam	4	4	0
Richland	22	22	0
Ross	19	12	7
Sandusky	194	166	28
Scioto	4	3	1
Seneca	65	51	14
Shelby	17	13	4
Stark	109	76	33
Summit	100	1	99
Trumbull	10	8	2
Tuscarawas	203	60	143
Union	56	38	18
Van Wert	31	26	5
Warren	28	15	13
Washington	71	21	50
Wayne	61	34	27
Williams <sup>1</sup>	0	0	0
Wood	60	48	12
Wyandot	127	107	20
TOTAL 83 counties	3,930	2,446	1,484

<sup>1</sup> Counties where commodities were extracted but no employment information was provided are represented with zeros in the employment fields.

<sup>2</sup> Any tally inconsistencies are because of computer rounding produced by partial-year employment.



## LIMESTONE AND DOLOMITE

Limestone and dolomite are Ohio's most versatile industrial minerals. Each is used as aggregate in the construction industry, 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.

Devonian- and Silurian-age carbonates located in the western half of Ohio are the primary geologic units producing crushed stone. Pennsylvanian- and Mississippian-age limestones are important sources of aggregate in local markets of eastern Ohio (Stout, 1941; Lamborn, 1951).

### Production

- Tons produced = 67,199,822 (-5.4% from 2019)
- U.S. ranking:
  - 5th out of 50 producing states for crushed stone ([USGS, 2021a](#))
  - In the top 5 of the 28 producing states for lime ([USGS, 2021b](#))
- Top Producing Geologic Units (fig. 7):
  - Columbus/Delaware Limestones (Devonian)
  - Lockport Dolomite (Silurian)
  - Greenfield/Peebles/Tymochtee Dolomites (Silurian)
  - Cedarville Dolomite (Silurian)

### Sales

(See figs. 8, 9)

- Tons sold = 67,792,822 (-2.3% from 2019; table 11, 12)
- Value<sup>4</sup> = \$737,163,213 (table 9)
- Leading counties (percentage of statewide sales):
  - Franklin (12.7%)
  - Wyandot (11.3%)
  - Ottawa (8.5%)
  - Erie (6.4%)

### Employment

(See table 10)

- Production employees reported = 1,216
- Nonproduction employees reported = 630
- Average employee annual wage = \$60,678
- Total wages earned = \$81,429,251
- Average days worked per operation = 195

<sup>4</sup>Includes reported and estimated values. See footnote 1, p. 1.



TABLE 11. 2020 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	929,049													929,049			
Allen	1,065,405	1,061,017	24,797	123,967	203,375	94,823	37,167							576,888		4,388	
Athens	29,750	29,750												29,750			
Auglaize	563,008	563,008	6,859	54,619	28,000		270,530							203,000			
Belmont	992,844	992,844	40,061			307,146	206,116							439,521			
Brown	1,873,617	1,873,617												1,873,617			
Butler	132,303	132,303												132,303			
Clermont	2,106,334	2,106,334		106,912	282,435	103,100	1,613,887										
Clinton	2,119,819	2,098,769	40,620	73,023	550,168	626,948	715,157	2,287						90,566		21,050	
Coshocton	8,837	8,837				8,837											
Crawford	1,109,000	1,011,000	14,000	312,000	300,000									385,000		98,000	
Darke	328,897	328,897	1,714	16,683	100,099	112,233	75,000							23,168			
Delaware	3,144,000	3,135,000	20,000	422,000	414,000									2,279,000		9,000	
Erie	4,360,681	4,332,750	22,932			284,034								4,025,784	27,440	491	
Franklin	8,609,187	8,547,629	14,664	439,743	453,366	213,464	2,145,279							5,281,113		61,558	
Greene	1,420,670	604,565												604,565	816,105		
Guernsey	378,198	378,198				378,198											
Hamilton	23,551	23,551												23,551			
Hancock	433,000	433,000		20,000	138,000			1,000						274,000			
Hardin	225,004	225,004												225,004			
Harrison	348,108	348,108				348,108											
Highland	529,846	517,498	8,138		36,182	301,452	171,726									12,348	
Hocking	12,372	12,372		2,053	3,010	921	4,086							2,302			
Holmes	28,077	28,077	1,153			26,924											
Jackson	72,800	72,800												72,800			
Knox	7,964	7,964				426	7,538										
Licking	4,623	4,623					4,623										
Logan	821,759	821,759	39,368	269,955		28,120	224,962							259,354			
Lucas	2,192,976	2,192,976												2,192,976			
Mahoning	2,027,190	2,027,190	27,809			413,620								1,585,761			
Marion	477,000	477,000	4,000	76,000	71,000									326,000			
Mercer	607,018	607,018												607,018			
Miami	1,284,134	1,196,169	10,015	115,743	10,000	289,331	265,634						140,000	353,746		87,965	
Monroe	40,602	40,602				40,602											
Montgomery	797,847	660,153				11,256	12,362							636,535	137,694		
Muskingum	1,090,586	985,869	5,346											980,523		104,717	
Noble	286,658	286,658	9,246			264,699								12,713			
Ottawa	5,757,542	5,513,701	23,041	70,698	557,182	3,284,237	125,000							1,453,543		243,841	
Paulding	1,153,138	607,710												607,710	545,428		
Perry	267,360	267,360												267,360			

TABLE 11. 2020 Ohio limestone and dolomite sales, by county and use (cont.)

County	Tons sold															
	Total all types		Crushed and broken stone							Dimension stone				Stone for portland cement manufacture	Agricultural stone (oglime)	Raw stone for burning
	Total	Flux stone	Stone for portland cement concrete	Stone for asphaltic concrete	Road construction/resurfacing	Commercial building	Railroad ballast	Extenders/fillers	Unspecified/other							
Pickaway	213,416		50,000	80,000	20,000	5,000				31,916						
Pike	1,048,040	6,500	250,000	350,000	200,000	10,000				11,140					13,900	
Portage	100					100										
Putnam	431,000		70,000	48,000						313,000						
Ross	256,541	1,500			150,000					5,041						
Sandusky	2,889,633	3,042	245,131	133,283	254,750	408,469				69,141					23,631	1,752,186
Seneca	1,181,369	2,293								463,599					23,714	689,879
Shelby	666,696									666,696						
Stark	43,491				43,491											
Tuscarawas	242,273	10,810			231,463											
Union	2,644,290	2,644,290								2,644,290						
Van Wert	626,968		24,000							602,968						
Warren	212									212						
Wayne	2,105	1,801				1,801									304	
Wood	2,240,584	2,230,392	144,934	566,343	625,907	289,080				12,701					10,192	
Wyandot	7,645,350	7,609,350	1,409,447	768,357	5,884	377,442				63,000					36,000	
TOTAL	67,792,822	63,071,107	4,296,908	5,092,800	8,669,974	7,200,859				215,701					1,499,227	2,685,906

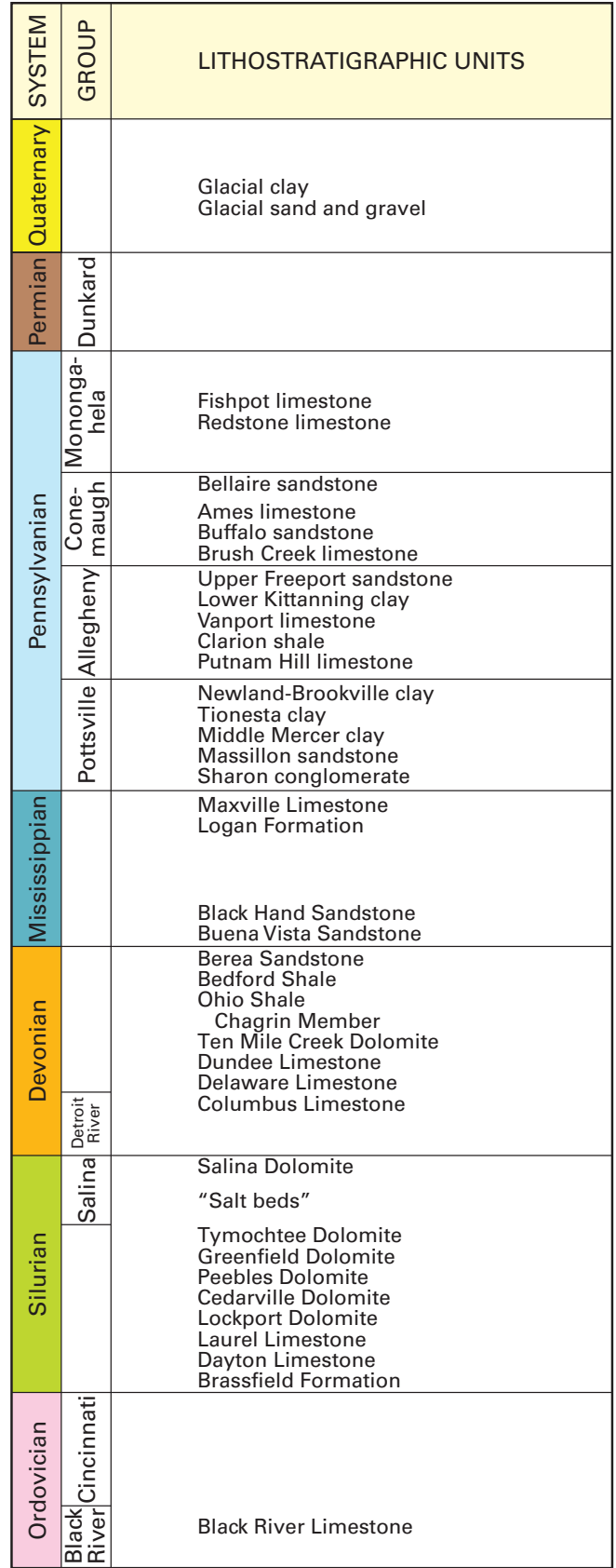
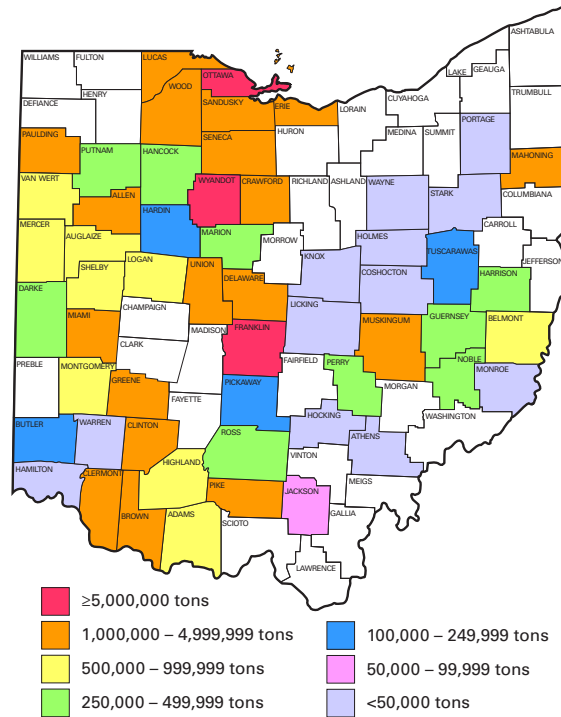


FIGURE 7. Stratigraphic column of nonfuel industrial minerals mined in Ohio during 2020. Modified from Brant and Delong (1960, table 9), ODNR Division of Geological Survey (1990), and Slucher and others (2006).

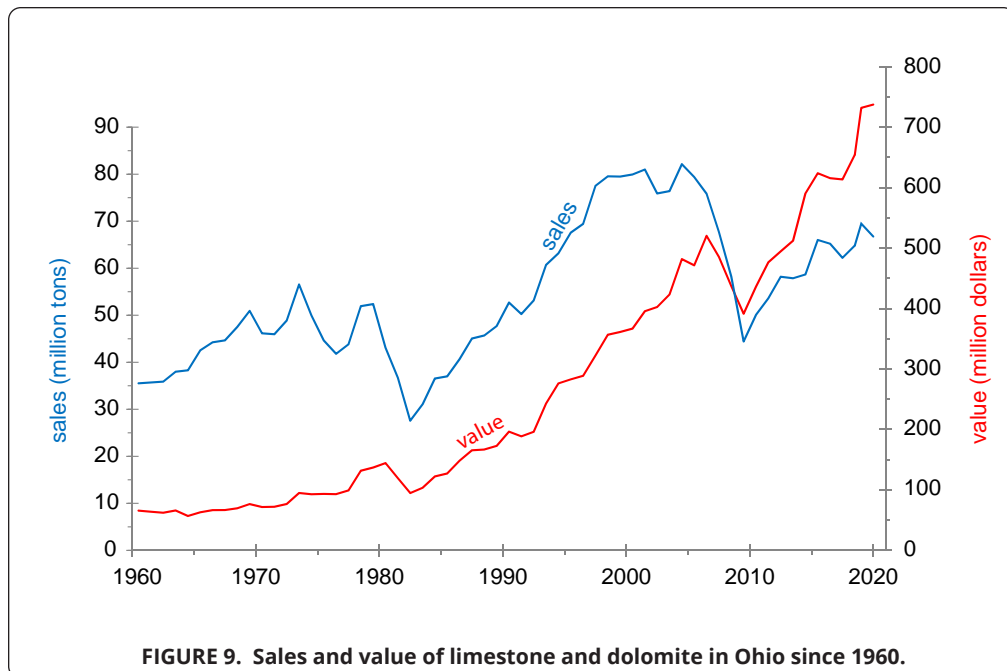
**TABLE 12. 2020 Production of lime from Ohio, by county and use**

County	Total tons <sup>1</sup>	Building (tons)	Chemical and industrial (tons)	Refractory (tons)
Ottawa	110,837	62,186	48,651	
Sandusky	761,820		761,820	
Seneca	317,049		317,049	
<b>TOTAL</b>	<b>1,189,706</b>	<b>62,186</b>	<b>1,127,520</b>	<b>0</b>

<sup>1</sup>Burning produced a 44.3% weight loss.



**FIGURE 8. Sales of limestone and dolomite in Ohio in 2020, by county and quantity.**



**FIGURE 9. Sales and value of limestone and dolomite in Ohio since 1960.**

## SAND AND GRAVEL

Sand and gravel are common raw materials that are 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 (ODNR Division of Geological Survey, 1959). Many depleted sand-and-gravel operations have been redeveloped as parks, residential spaces, or commercial facilities because of their proximity to urban areas.

Sand-and-gravel deposits in Ohio primarily are associated with Quaternary-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, beach ridges associated with ancestral Lake Erie, and alluvium of modern floodplains of the Ohio River and its tributaries.

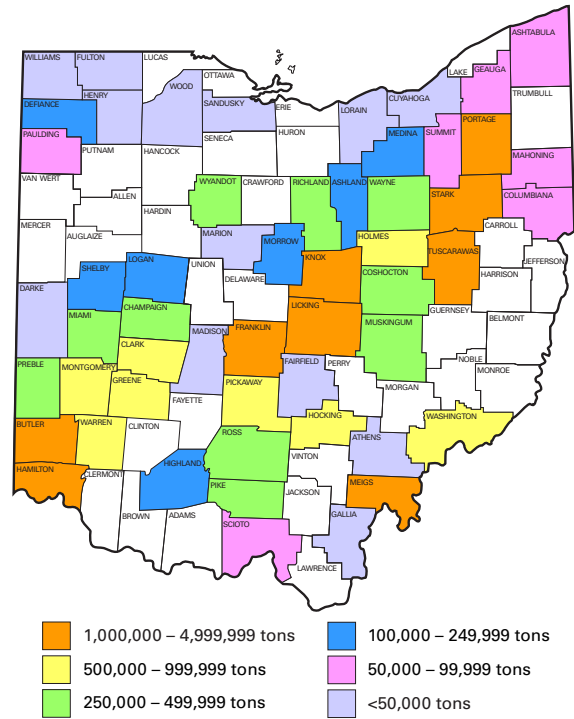


FIGURE 10. Sales of sand and gravel in Ohio in 2020, by county and quantity.

### Production

- Tons produced = 33,248,864 (-2.9% from 2019)
- U.S. ranking:
  - 7th out of 50 producing states (USGS, 2021c)

### Sales

(See figs. 10, 11)

- Tons sold = 32,556,986 (-3.2% from 2019; table 13)
- Value<sup>5</sup> = \$286,327,202 (table 9)
- Leading counties (percentage of statewide sales):
  - Stark (12.5%)
  - Hamilton (10.5%)
  - Portage (10.0%)
  - Butler (8.3%)
  - Franklin (5.9%)

### Employment

(See table 10)

- Production employees reported = 936
- Nonproduction employees reported = 638
- Average employee annual wage = \$51,368
- Total wages earned = \$68,216,338
- Average days worked per operation = 174

<sup>5</sup>Includes reported and estimated values. See footnote 1, p. 1.

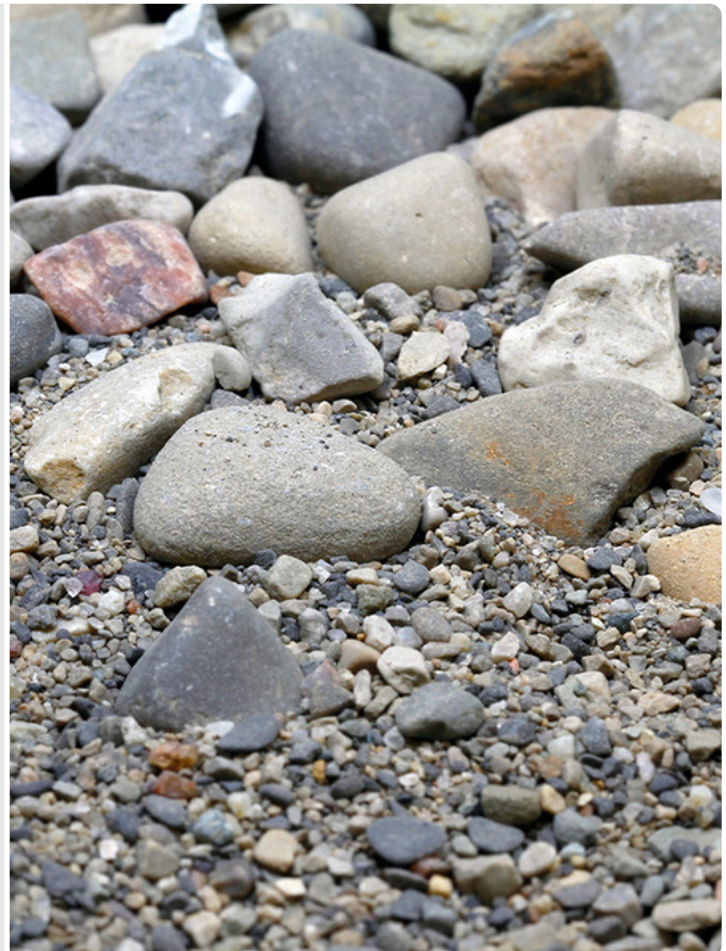




TABLE 13. 2020 Ohio sand and gravel sales, by county and use (cont.)

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
Richland	297,542	227,264	70,278	11,289	11,289			12,093	8,020	1,297	9,203					213,874	41,766
Ross	278,721	178,551	100,170	3,089	23,531	19,701	677	12,050		544	794					143,167	75,168
Sandusky	313	313				313											
Scioto	73,693	48,398	25,295	12,850	16,316	29,164	2,595									6,384	6,384
Shelby	176,979	88,489	88,490													88,489	88,490
Stark	4,071,812	2,229,119	1,842,693	53,238	240,281	569,232	29,205	607,874	826,673	324,515	330,231					674,260	416,303
Summit	68,034	68,034		10,654												57,380	
Tuscarawas	1,364,328	856,404	507,924	102,860	102,860	27,779	42,595	180,173	106,162	245,523	102,188					156,931	154,119
Warren	576,120	264,057	312,063	255,630	300,496			7,250								1,177	4,317
Washington	839,517	495,076	344,441	40,905	7,182	230,313	14,366		43,219		32,065					223,858	247,609
Wayne	430,539	264,764	165,775	126,889	145,589	66,446	3,473	55,580	7,734	13,372	6,907	2,477	2,072				
Williams	700	350	350													350	350
Wood	11,756	11,702	54	54		11,702											
Wyandot	406,430	295,701	110,729	63,384	58,736	61,808		161,000				4,844	47,993			4,665	4,000
TOTAL <sup>1</sup>	32,556,986	18,270,637	14,286,349	2,451,491	4,209,695	5,664,685	1,309,491	1,784,102	1,989,628	1,014,030	1,154,471	55,453	263,631	0	24,886	7,275,990	5,359,433

<sup>1</sup>Any tally inconsistencies are because of rounding.

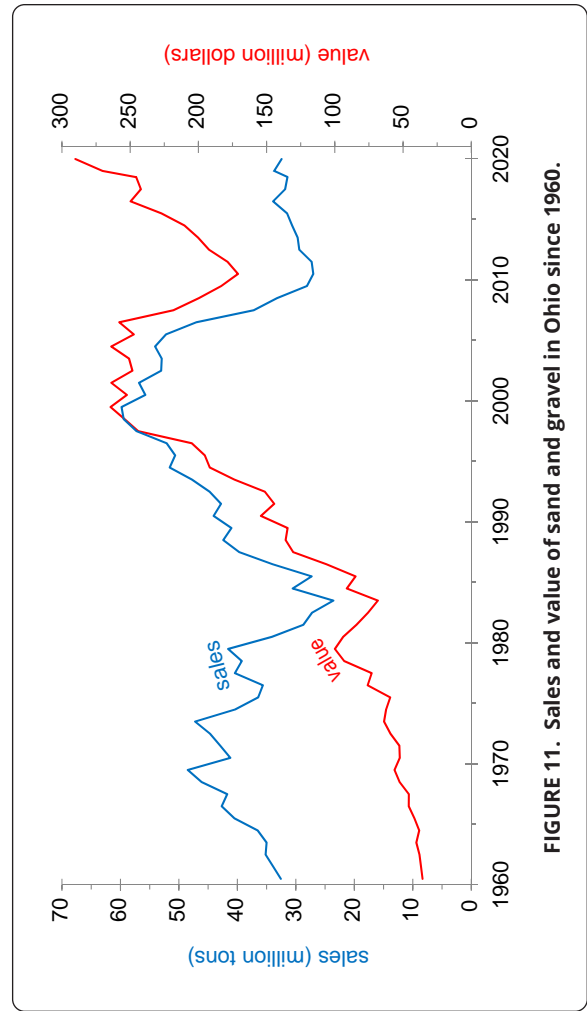


FIGURE 11. Sales and value of sand and gravel in Ohio since 1960.

## SANDSTONE AND CONGLOMERATE

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 large building stone and glass production industries, 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 structures.

Ohio led the nation in sandstone production for many decades; this natural resource continues to support the state’s industries today. Historically, the Pennsylvanian-age Massillon sandstone and the Devonian-age Berea Sandstone of northern Ohio, as well as the Mississippian-age Buena Vista Sandstone in southern Ohio, have been the primary geologic units quarried for building stone (Bownocker, 1915; see also fig. 7).

### Production

- Tons produced = 1,334,430 (+11.1% from 2019)
- U.S. ranking:
  - 5th out of 50 producing states for crushed stone ([USGS, 2021a](#))
  - The 2020 U.S. state rankings for the 34 dimension-stone producing states were unavailable ([USGS, 2021d](#)).
- Top Producing Geologic Units (fig. 7):
  - Sharon conglomerate (Pennsylvanian)
  - Logan Formation (Mississippian)
  - Berea Sandstone (Devonian)
  - Cuyahoga Formation (Mississippian)

### Sales

(See figs. 12, 13)

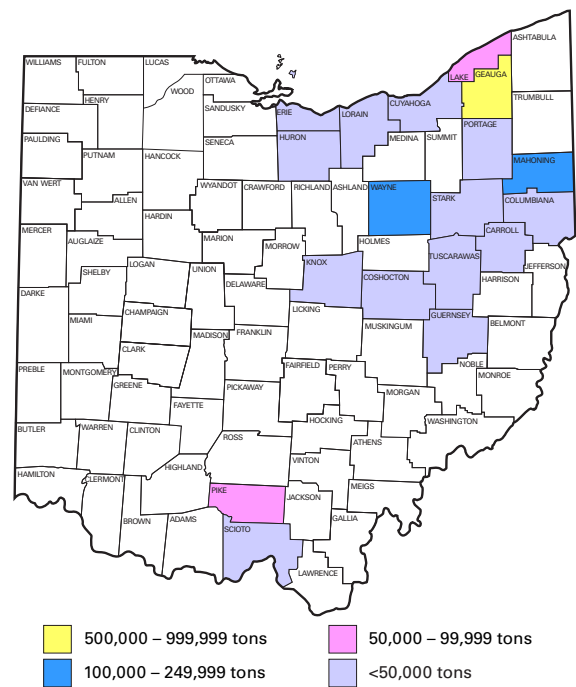
- Tons sold = 1,203,656 (-3.7% from 2019; table 14, 15)
- Value<sup>6</sup> = \$43,763,625 (table 9)
- Leading counties (percentage of statewide sales):
  - Geauga (47.9%)
  - Mahoning (17.5%)
  - Wayne (9.9%)
  - Pike (7.5%)
  - Lake (5.7%)

### Employment

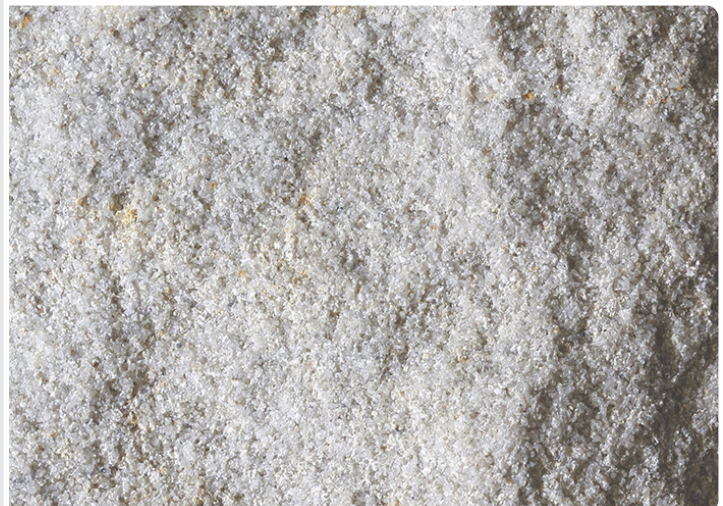
(See table 10)

- Production employees reported = 169
- Nonproduction employees reported = 50
- Average employee annual wage = \$62,722
- Total wages earned = \$13,547,883
- Average days worked per operation = 139

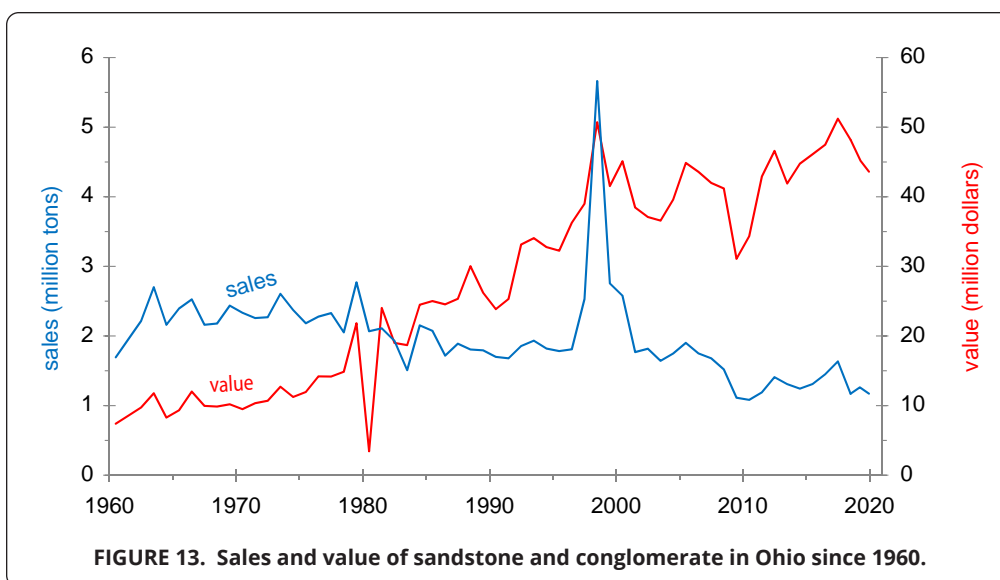
<sup>6</sup>Includes reported and estimated values. See footnote 1, p. 1.



**FIGURE 12. Sales of sandstone and conglomerate in Ohio in 2020, by county and quantity.**







**TABLE 14. 2020 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	2,000														2,000
Columbiana	12,225												8,665	3,560	
Geauga	577,148	62,048	30,371	6,350	4,915		31,916						233,922	25,378	182,248
Guernsey	21,174					1,000	20,174								
Knox	38,712								15,256		4,086		2,724	13,822	2,824
Lake	69,025						57,073						11,952		
Lorain	724						724								
Mahoning	210,407												210,407		
Pike	88,866												8,687		80,179
Portage	25,836														25,836
Seneca	3,833												3,833		
Tuscarawas	19,291					35							19,256		
Wayne	119,734					18,954	86,746						634		13,400
<b>TOTAL</b>	<b>1,188,975</b>	<b>62,048</b>	<b>30,371</b>	<b>6,350</b>	<b>4,915</b>	<b>19,989</b>	<b>196,633</b>	<b>0</b>	<b>15,256</b>	<b>0</b>	<b>4,086</b>	<b>0</b>	<b>500,080</b>	<b>42,760</b>	<b>306,487</b>

**TABLE 15. 2020 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
Columbiana	282									282
Coshocton	1,028									1,028
Cuyahoga	224									224
Erie	7,935		5,225	26			2,684			
Huron	2,332		2,332							
Knox	57						57			
Lorain	2,256		2,256							
Scioto	346									346
Tuscarawas	221									221
<b>TOTAL</b>	<b>14,681</b>	<b>0</b>	<b>9,813</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>2,741</b>	<b>0</b>	<b>0</b>	<b>2,101</b>

## CLAY AND SHALE

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 pipes, 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 clay and shale still are being used to produce important ceramic products, though production tonnages are much less than 100 years ago. Ohio ceramic products are shipped throughout the eastern United States and Canada. Nearly all 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 mined value.

Pennsylvanian-age shales and clays of eastern Ohio are the primary sources of raw materials for the ceramics industry; Mississippian- and Devonian-age shales of northern and central Ohio and Quaternary-age glacial clays of western Ohio are important secondary sources. General discussions of clay and shale geology in Ohio can be found in Lamborn and others (1938) and Stout and others (1923).

### Production

- Tons produced (clay) = 1,096,104 (+15.2% from 2019)
- Tons produced (shale) = 404,060 (+1.5% from 2019)
  - The 2020 U.S. state rankings for the 39 clay and shale producing states were unavailable ([USGS, 2021e](#)).

### Sales

(See figs. 14, 15, 16, 17)

- Clay:
  - Tons sold = 1,096,104 (+15.4% from 2019; table 16)
  - Value<sup>7</sup> = \$7,857,610 (table 9)
- Leading counties for clay (percentage of statewide sales):
  - Athens (24.3%)
  - Tuscarawas (22.2%)
  - Greene (14.3%)
  - Lucas (9.9%)
  - Paulding (5.5%)
- Shale:
  - Tons sold = 404,060 (+2.9% from 2019; table 17)
  - Value<sup>8</sup> = \$3,899,358 (table 9)
- Leading counties for shale (percentage of statewide sales):
  - Tuscarawas (33.9%)
  - Guernsey (22.9%)
  - Athens (7.4%)
  - Coshocton (6.4%)
  - Harrison (6.4%)

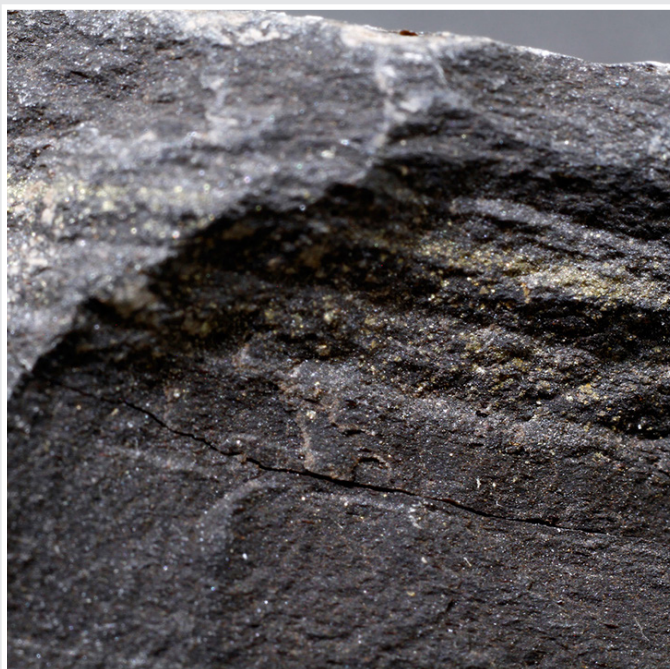
### Employment

(See table 10)

- Production employees reported = 144
- Nonproduction employees reported = 137
- Average employee annual wage = \$49,100
- Total wages earned = \$11,234,879
- Average days worked per operation = 99

<sup>7</sup>Includes reported and estimated values. See footnote 1, p. 1.

<sup>8</sup>Includes reported and estimated values. See footnote 1, p. 1.



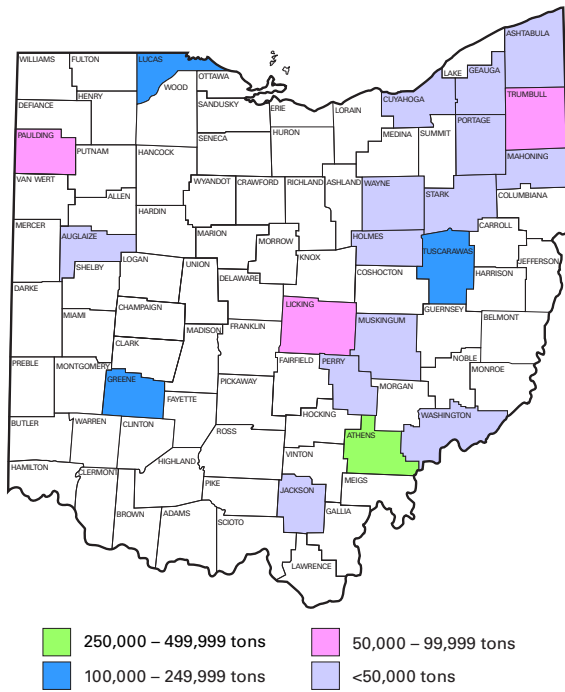


FIGURE 14. Clay sales in Ohio in 2020, by county and quantity.

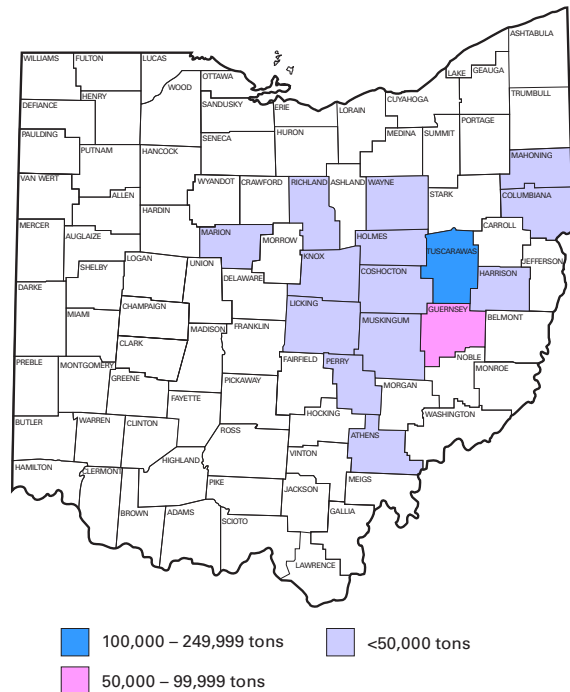


FIGURE 15. Shale sales in Ohio in 2020, by county and quantity.

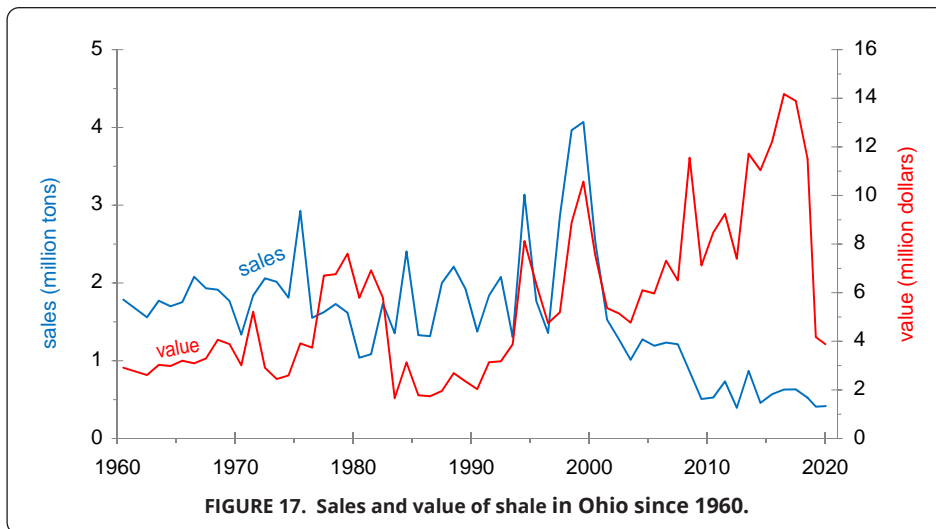
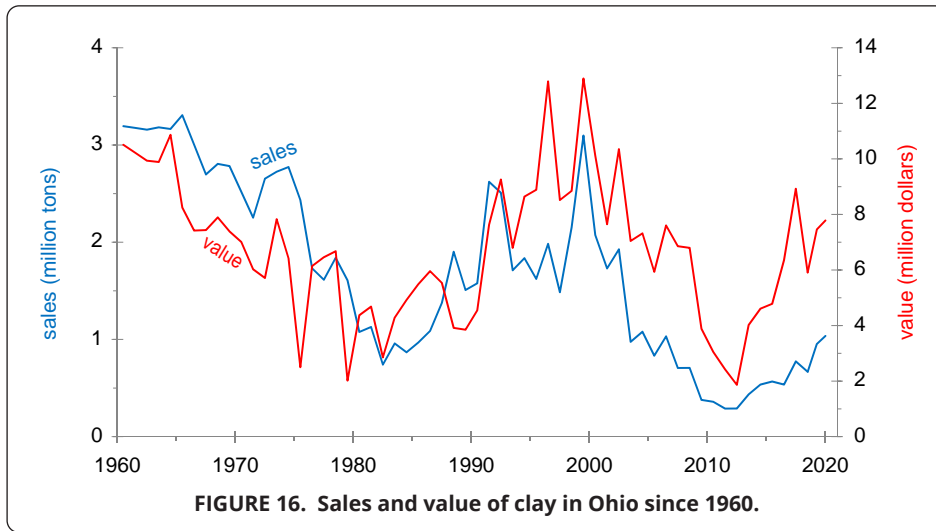


TABLE 16. 2020 Ohio clay sales, by county and use

County	Tons sold								
	Total	Common clay products	Stoneware	Vitrified products	Cement manufacture	Refractories	Construction	Landfill use	Other/ unspecified
Ashtabula	4,835						709		4,126
Athens	266,500							266,500	
Auglaize	1,610	1,610							
Cuyahoga	2,181	12							2,169
Geauga	4,772								4,772
Greene	157,240				157,240				
Holmes	29	29							
Jackson	23,325					2,000			21,325
Licking	54,780								54,780
Lucas	108,900							108,900	
Mahoning	7,856	650							7,206
Muskingum	25,582	15,553			10,029				
Paulding	60,800				60,800				
Perry	12,306	11,294		1,012					
Portage	15,447	372					15,000		75
Stark	1,015	1,015							
Trumbull	51,000							51,000	
Tuscarawas	242,924	232,394					10,530		
Washington	11,772						11,772		
Wayne	43,230	21,342					546		21,342
TOTAL	1,096,104	284,271	0	1,012	228,069	2,000	38,557	426,400	115,795

TABLE 17. 2020 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
Athens	30,000							30,000
Columbiana	11,635	11,635						
Coshocton	25,924						25,924	
Guernsey	92,653					92,653		
Harrison	25,840	25,840						
Holmes	14,861	440						14,421
Knox	1,216							1,216
Licking	11,008	11,008						
Mahoning	975							975
Marion	19,927							19,927
Muskingum	9,600	9,600						
Perry	22,141	6,480	15,661					
Richland	80							80
Tuscarawas	136,994	136,994						
Wayne	1,206					1,200		6
TOTAL	404,060	201,997	15,661	0	0	93,853	25,924	66,625

## SALT

Salt was 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 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 2020 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.

Salt production in 2020 increased when compared to 2019 values, while sales decreased. The recent stretch of unusually warm winters with lower-than-average precipitation have resulted in municipalities not needing to replenish salt supplies every year, resulting in lower sales and value.

### Production

- Tons produced = 4,488,979 (+15.8% from 2019)
- U.S. ranking:
  - In the top 7 of 16 producing states (USGS, 2021f)
- Top producing geologic units (fig. 7):
  - Salina Group (Silurian)

### Sales

(See figs. 18, 19)

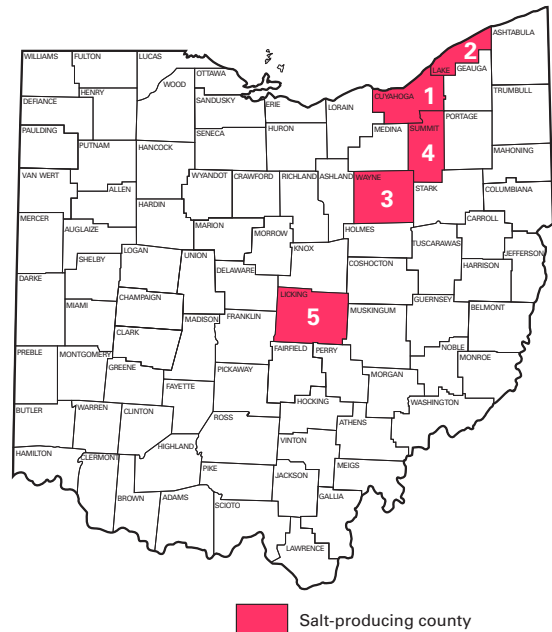
- Tons sold = 3,200,844 (-27.1% from 2019)
- Value<sup>9</sup> = \$183,320,754 (table 9)

### Employment

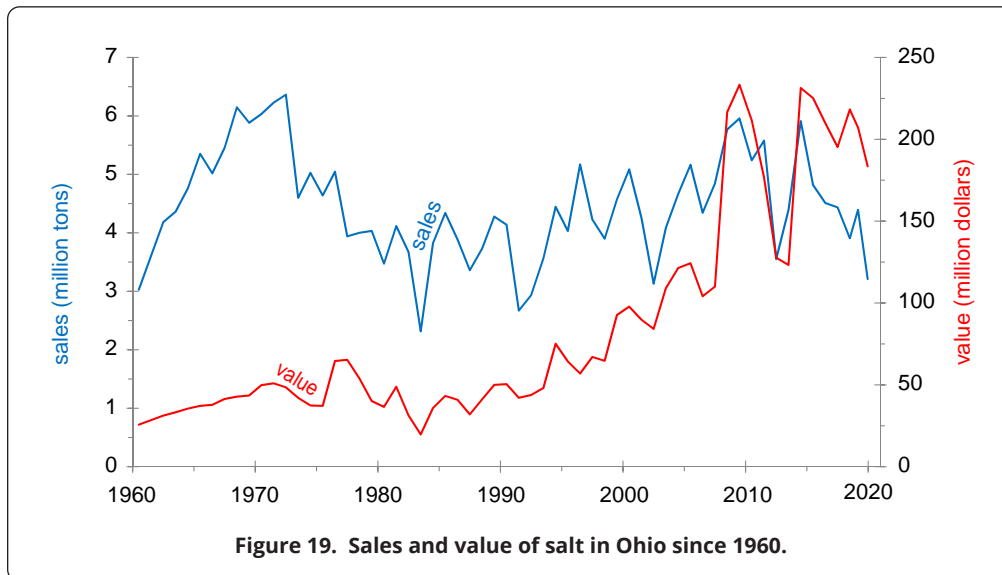
(See table 10)

- Production employees reported = 304
- Nonproduction employees reported = 176
- Average employee annual wage = \$68,320
- Total wages earned = \$32,793,482
- Average days worked per operation = 304

<sup>9</sup>Includes reported and estimated values. See footnote 1, p. 1.



**FIGURE 18. Counties producing salt in Ohio in 2020 and their rankings in sales.**



**Figure 19. Sales and value of salt in Ohio since 1960.**



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# MAP OF ACTIVE MINERAL INDUSTRY OPERATIONS IN OHIO 2020

By  
Christopher E. Wright

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

### ABOUT THE MAP

This map is based on operators included in the supplementary appendices of the 2020 *Report on Ohio Mineral Industries* (Wright, 2021) and is intended for general reference. Locations of mineral extraction operations 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 downloadable directories of the 2020 *Report on Ohio Mineral Industries*. More information about specific operations may be found using the state mine number to refer to the table included on this map or in the directories of operators reporting sales, and values to the report appendices. An interactive map of mineral industries and operator information can be viewed online. More information is available on the ODNR *Division of Geological Survey website* (<http://geology.ohiodnr.gov/>).

### 2020 OHIO ECONOMIC GEOLOGY IN BRIEF

The total tonnage of coal and industrial minerals produced in Ohio during 2020 was 111,559,936 tons or approximately 0.5 tons per capita. In 2020, the total value of coal was \$143,207.216, the value of oil and gas was \$4,663,309,002, and the value of all nonfuel industrial minerals was \$1,262,343,562 (Table 1, Fig. 1). The combined value of fuel and nonfuel minerals produced in Ohio during 2020 was \$6,066,860,180 or approximately \$14 per capita.

Reported and estimated total direct employment in the extractive industries of Ohio in 2020 was more than 10,000 people. Industrial-mineral production increased for salt, sandstone and conglomerate, clay, shale, and peat, while production decreased for coal, limestone and dolomite, and sand and gravel. The total value of nonfuel industrial minerals exceeded \$1 billion for the seventh straight year. In 2020, the production-leading commodity of limestone and dolomite was down 5.4%, with the second leading commodity of sand and gravel down 2.9% from 2019; the third leading commodity of coal was down 53.9% from 2019 values.

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Wright, C.E., compiler, 2021, *Report on Ohio Mineral Industries—An annual summary of the state's economic geology*, Columbus, Ohio Department of Natural Resources, Division of Geological Survey, 22 p.

\*Values reported and estimated values. Some operations reporting sales did not report a value for those sales. A statewide average price per ton was calculated for each commodity to be used to estimate values for those operations. A statewide average price per ton was calculated for each commodity to be used to estimate values for those operations. A statewide average price per ton was calculated for each commodity to be used to estimate values for those operations.

Commodity	Production (1000 tons)	Sales (1000 dollars)	Change in value from 2019 (%)
Total production	111,559,936	6,066,860,180	+1.2
Fuel	48,770,000	1,432,072,216	-53.9
Nonfuel	62,789,936	4,634,787,964	+2.6
Oil and gas	1,100,000	4,663,309,002	+1.2
Industrial minerals	61,689,936	1,262,343,562	+2.6
Coal	47,670,000	1,380,500,000	-53.9
Nonfuel	14,019,936	881,843,562	+2.6
Total sales		6,066,860,180	+1.2

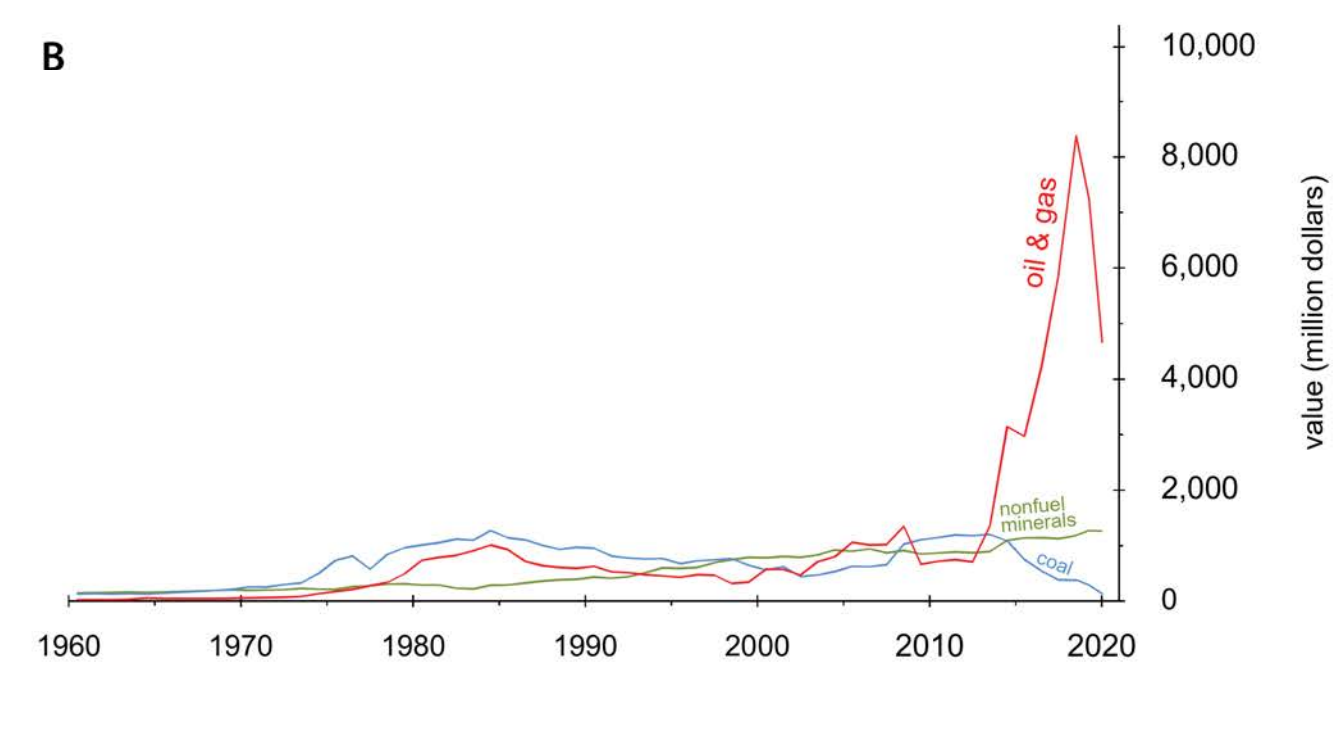
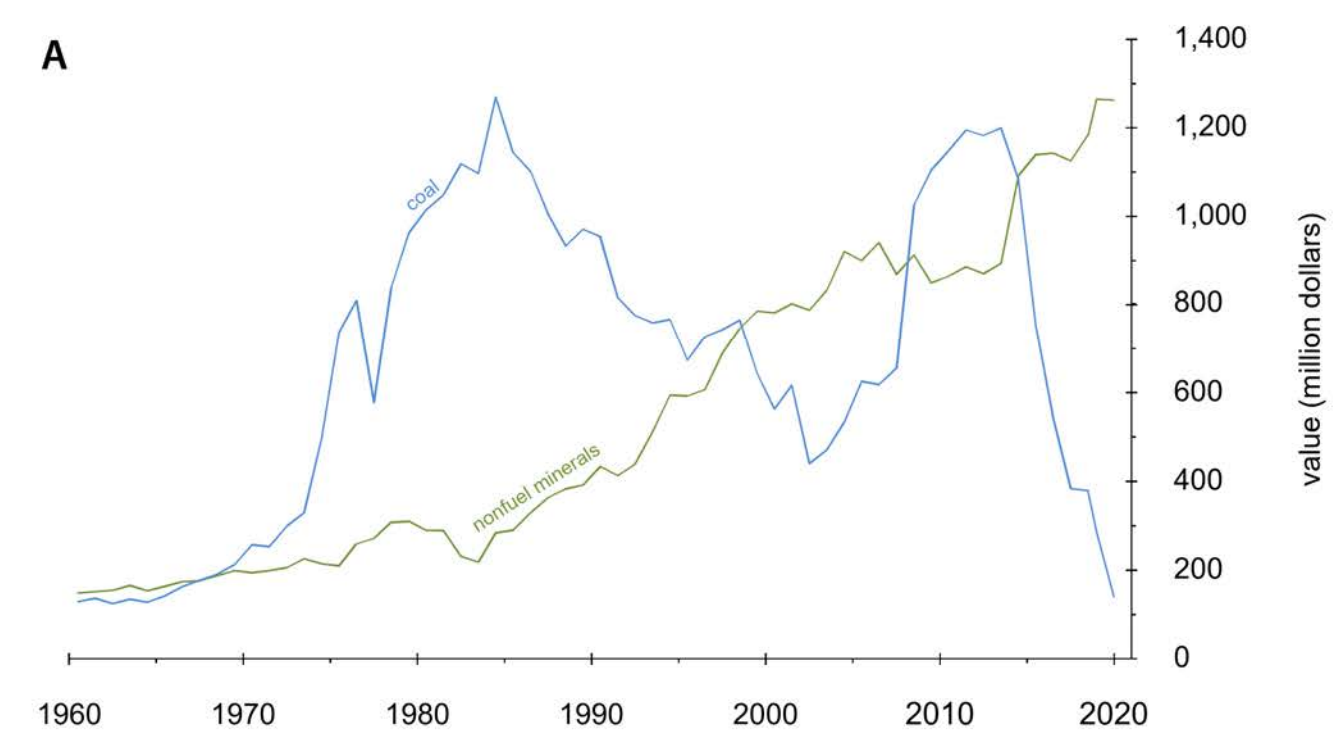
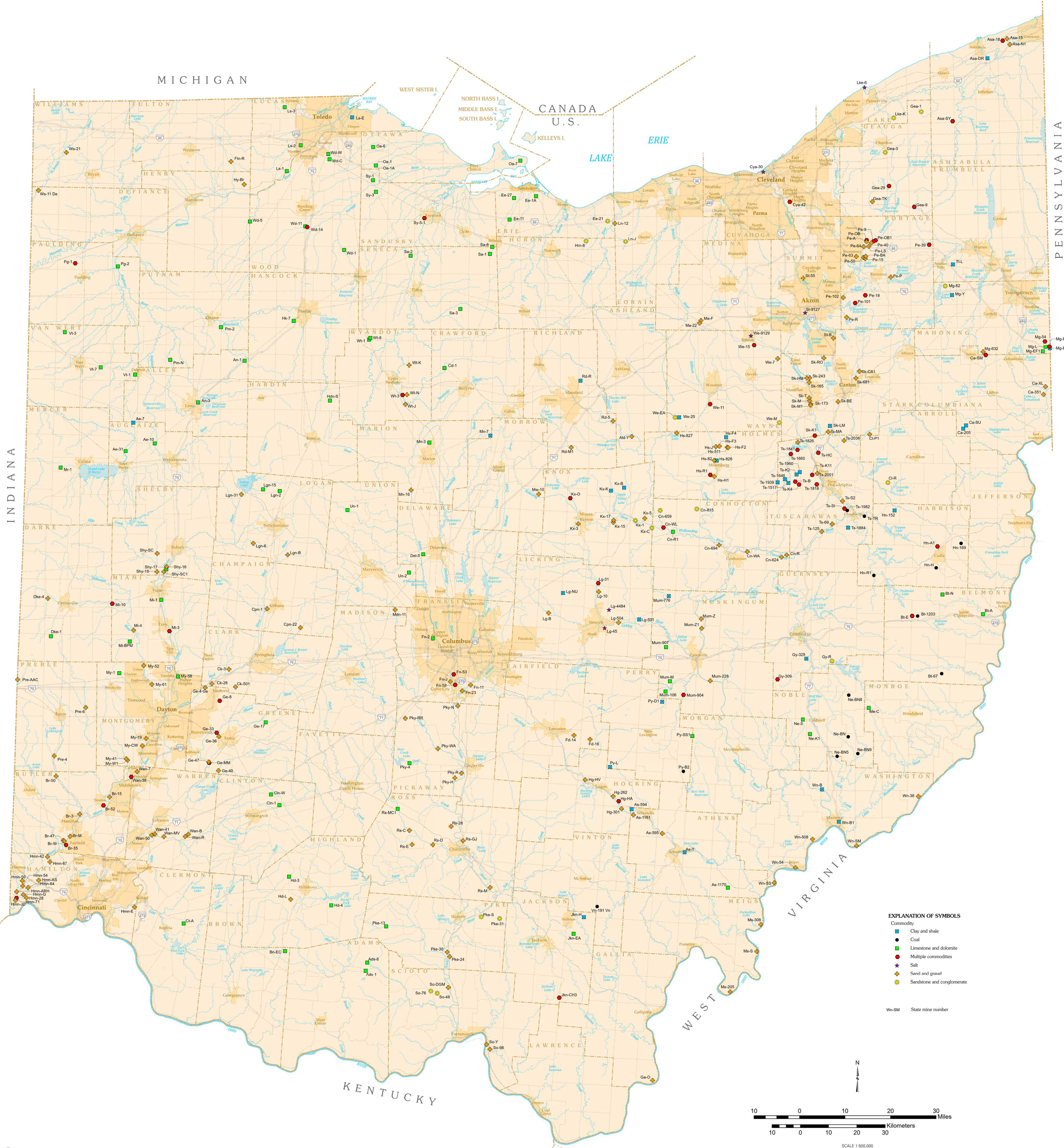


FIGURE 1. A. Value of coal, oil and gas, and nonfuel minerals in Ohio since 1960. B. Value of coal and nonfuel minerals, and oil and gas in Ohio since 1960.



COUNTY	STATE MINE NUMBER	COMPANY NAME	MINE NAME	TOTAL PRODUCTION (1000 TONS)	TOTAL SALES (1000 DOLLARS)
Adams County	Ad-1	Huron Aggregate Materials, LLC	Plum Run Quarry	84,578	164,949
	Ad-2	Eda Inc LLC	Eda Quarry	38,400	9,768
	Ad-3	Wagner Stone Co.	Wagner Quarry	4,000	10,000
	Ad-4	National Line & Stone Co.	Line Stone	42,800	80,200
	Ad-5	Young's Sand & Gravel Co.	Young's Quarry	22,000	22,000
Ashland County	As-1	R.W. Silby, Inc.	Silby Quarry	5,500	11,000
	As-2	The Ashland Stone Company	The Ashland Quarry	1,000	1,000
	As-3	Tripp Development, LLC	Tripp Quarry	400	400
	As-4	National Line & Stone Co.	Line Stone	13,000	13,000
	As-5	J&J Stone Co.	J&J Quarry	318	318
Barren County	Ba-1	Maria Marietta Agencies	Maria Marietta Quarry	24,500	24,500
	Ba-2	Adams Quarry	Adams Quarry	30,000	30,000
	Ba-3	Adams Quarry	Adams Quarry	30,000	30,000
	Ba-4	Adams Quarry	Adams Quarry	30,000	30,000
	Ba-5	Adams Quarry	Adams Quarry	30,000	30,000

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