

DIRECTORY OF PRODUCERS AND CONSUMERS
OF CLAY AND SHALE IN INDIANA

by
JACK L. HARRISON

Indiana Department of Conservation
GEOLOGICAL SURVEY
Directory No. 7

1960

STATE OF INDIANA
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DEPARTMENT OF CONSERVATION
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GEOLOGICAL SURVEY
John B. Patton, State Geologist
Bloomington

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CONTENTS

3

	Page
Introduction - - - - -	5
Characteristics of Indiana clays - - - - -	5
Stratigraphic and geographic distribution - - - - -	6
Production and uses - - - - -	6
Producers and consumers of clay and shale - - - - -	11
Producers and consumers of clay and shale listed by counties - - - - -	33
Adams County - - - - -	33
Allen County - - - - -	33
Blackford County - - - - -	33
Clark County - - - - -	33
Clay County - - - - -	33
Daviess County - - - - -	34
Delaware County - - - - -	34
Dubois County - - - - -	34
Fountain County - - - - -	34
Greene County - - - - -	34
Howard County - - - - -	35
Huntington County - - - - -	35
Jackson County - - - - -	35
Lake County - - - - -	35
Lawrence County - - - - -	35
Madison County - - - - -	35
Marion County - - - - -	35
Martin County - - - - -	35
Montgomery County - - - - -	36
Morgan County - - - - -	36
Owen County - - - - -	36
Parke County - - - - -	36
Perry County - - - - -	36
Porter County - - - - -	36
Pulaski County - - - - -	36
Putnam County - - - - -	37
Ripley County - - - - -	37
Spencer County - - - - -	37
Vanderburgh County - - - - -	37
Vermillion County - - - - -	37
Vigo County - - - - -	37
Literature cited - - - - -	38

	Page
Figure 1. Generalized geologic map of Indiana - - - - -	7
2. Graph showing annual production of underclay in Indiana, 1943-58 - - - - -	8
3. Graph showing annual production of shale and glacial clay in Indiana, 1943-58 - - - - -	8
4. Map of Indiana showing the location of counties mentioned in the text - - - - -	10

DIRECTORY OF PRODUCERS AND CONSUMERS OF CLAY AND SHALE IN INDIANA

By Jack L. Harrison

INTRODUCTION

This directory is a revision of Directory No. 3, Directory of Producers and Consumers of Clay and Shale in Indiana (Murray, 1955). Since 1955, 16 operations have gone out of business, 5 new operations have begun business, and 3 operations have been sold to new owners. The clay industry has been described in detail in two publications of predecessor organizations of the Indiana Geological Survey; these publications were by Blatchley (1905) and Whitlatch (1933).

Information used in preparing this directory was obtained from questionnaires sent to operators. The operators indicated changes made in their operations since 1955. The author wishes to thank the operators for checking the data sheets and returning the information.

CHARACTERISTICS OF INDIANA CLAYS

Clays used commercially in Indiana may be classified on the basis of origin into three general categories: (1) underclays, (2) shales, and (3) glacial materials. Major differences in composition and physical properties exist among the three categories. Composition and physical properties of clays govern the use to which they can be put.

Underclays are clays which lie immediately beneath coal beds. The term fireclay is used in the ceramic industry for underclays that are refractory. Most underclays are gray, fine grained, nonbedded, and plastic and are composed essentially of hydrous aluminum silicate clay minerals and quartz. Underclays generally are the most refractory of Indiana ceramic raw materials because of their high Al_2O_3 and low Fe_2O_3 , CaO , and MgO content. The range of temperatures over which most underclays vitrify is 100°F . or more, because of their low flux content. A high ratio of kaolinite to illite and chlorite is characteristic of many underclays.

Shales are fine grained and layered and exhibit a variety of colors. Shales are the most abundant rock type on the earth's land surface and are found in association with all other sedimentary rock types. The ratio of kaolinite to illite and chlorite in shales is generally low. The percentage of Al_2O_3 is generally lower and the percentages of K_2O and Fe_2O_3 are higher in shales than in under-

clays. Owing primarily to their higher Fe_2O_3 content, most shales fire to a red color. Shales fire at temperatures 100° to 200° F. lower than underclays. The vitrification range of shales is 50° to 100° F.

Glacial clays have the most variable composition of all commercially used clays in Indiana. Glacial materials useful to the ceramic industry can be subdivided on the basis of origin into three types: (1) till, (2) lake deposits, and (3) river deposits. Tills were deposited directly by ice, lake sediments were deposited in lakes associated with a glacier, and river muds were deposited by melt waters flowing down major drainage channels away from the ice.

In Indiana glacial clays are the least refractory clays because of their low Al_2O_3 and high CaO , MgO , and Na_2O content. The clay content of glacial clays is generally low, and clay is replaced by quartz, feldspar, calcite, and dolomite. Glacial clays fire approximately 100° F. lower than shales, and the vitrification range is short; for most glacial clays this range is less than 50° F.

STRATIGRAPHIC AND GEOGRAPHIC DISTRIBUTION

All commercial underclays of Indiana are Pennsylvanian in age and are restricted to the southwestern part of the State (fig. 1). Ashley (1899, p. 85-91) divided the "Coal Measures" into nine divisions. Each division except I and IX contained a coal of economic importance. In general, the lower coals are found in localized basins. Coals III, IV, V, VI, and VII underlie extensive areas in continuous thick beds. Most underclays have the same distribution as the coals.

Some commercial shales are Silurian and Devonian in age (fig. 1), but most of the shales now used commercially in Indiana are Pennsylvanian and Mississippian in age. Central and southern Indiana contain many shales suitable for ceramic products. North of the Wisconsin glacial boundary (fig. 1), glacial materials are too thick in most places for profitable removal of shale from beneath the glacial overburden.

In northern Indiana and in the Wabash and Ohio Valleys, glacial materials which are suitable for ceramic products that do not require rigid specifications can be found.

PRODUCTION AND USES

In the latest report of the U. S. Bureau of Mines (Klyce and Patton, 1959), 315,000 short tons of underclay and 1,056,000 short

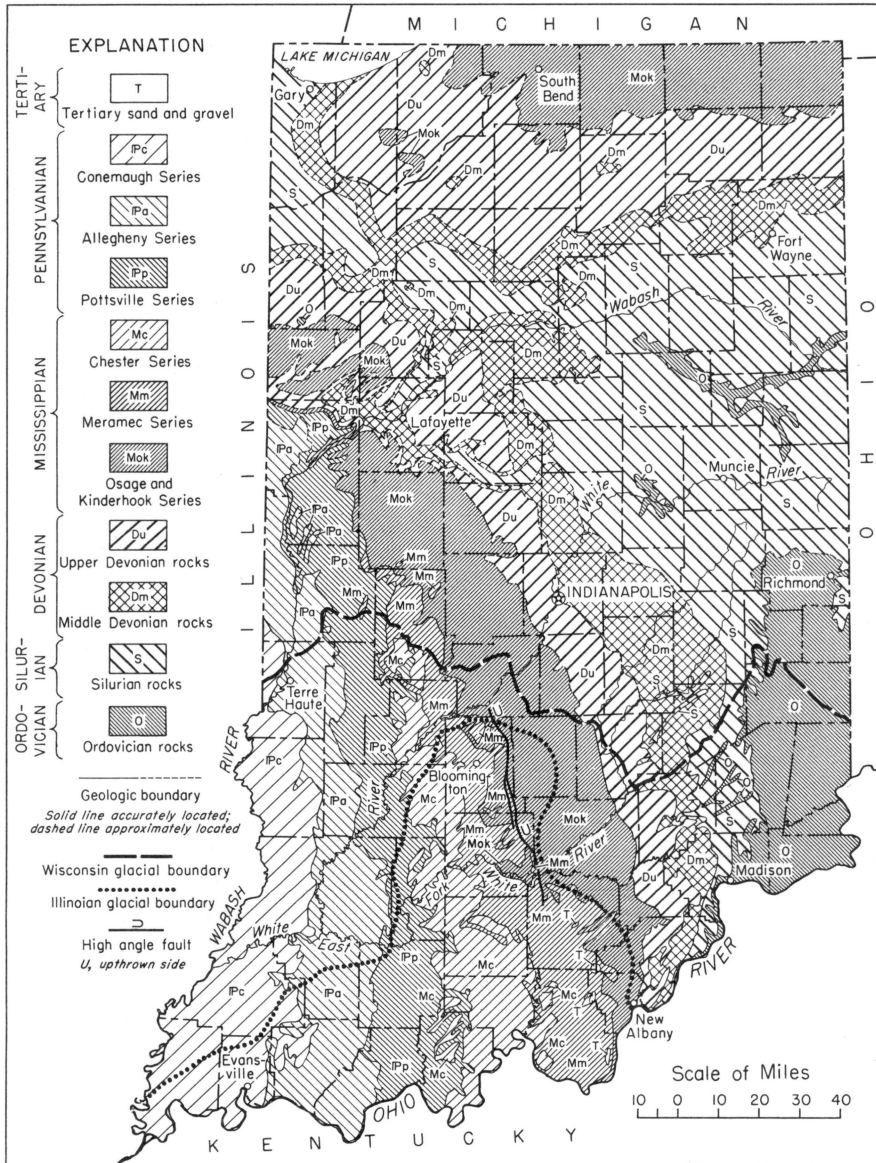


Figure 1.--Generalized geologic map of Indiana. From Indiana Geol. Survey Rept. Progress 7, fig. 6.

8 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

tons of shales and glacial clays were produced in Indiana in 1958. The total tonnage of clay was 1,370,000.

Since the great expansion in production of clay and shale immediately after World War II, production has stabilized at about a million and a half tons per year (figs. 2 and 3).

Many products are manufactured from Indiana's clays and shales. The specifications for most products are strict, and no single clay material is satisfactory for all purposes. Many clays, however, can be used for ceramic products which do not require rigid specifications. (See table on page 9.)

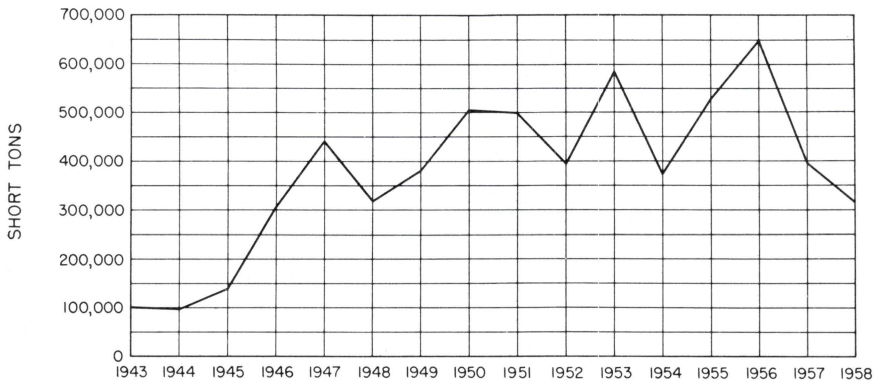


Figure 2.--Graph showing annual production of underclay in Indiana, 1943-58.



Figure 3.--Graph showing annual production of shale and glacial clay in Indiana, 1943-58. Data from U. S. Bureau of Mines Minerals Yearbooks, 1943-57, and Klyce and Patton, 1959.

PRODUCTION AND USES

9

Raw materials used in making ceramic products in Indiana

Product	Underclay	Shale	Glacial clay
Refractory brick - - - - -	X		
Pottery - - - - -	X		
Cement - - - - -		X	
Structural tile - - - - -	X	X	
Farm draintile - - - - -	X	X	X
Face brick - - - - -	X	X	
Back-up brick - - - - -		X	X
Sewer pipe - - - - -	X	X	
Flue linings - - - - -	X		X
Conduit pipe - - - - -	X		
Paving brick - - - - -		X	
Insulators - - - - -	X	X	
Lightweight aggregate - -		X	



Figure 4. --Map of Indiana showing the location of counties mentioned in the text.

PRODUCERS AND CONSUMERS OF CLAY AND SHALE

1. Adams Clay Products Co.

Box 32, Martinsville

Pit location: No. 1. Half a mile southwest of Brooklyn on State Highway 67, Morgan County,¹ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 13 N., R. 1 E.

No. 2. Located behind office of plant.

Plant location: Martinsville

Owner: corporation

General Manager: James A. Cunningham

Products: face brick and common brick

Fired colors: buff, red, pink, and beige

Fired temperature: 2,050° F. (buff) and 1,950° F. (red)

Type of kiln: 12 periodic and 1 continuous

Capacity: 110,000 units per day

Employees: 70

Raw material: shale in Borden Group from captive pit and under-clay purchased from Brazil area

2. American Art Clay Co., Inc.

Speedway City

Plant location: Marion County

Owner: corporation

General Manager: T. O. Philpott

Products: modeling clay, crayons, chalks, and other special art products

Fired color: buff

Fired temperature: 1,900° F.

Type of kiln: periodic

Employees: 200

Raw material: underclay beneath Minshall Coal purchased from Huntingburg and clays imported from other states

3. American-Standard Sanitary Corp.

Kokomo

Plant location: Howard County

Owner: corporation

Plant Manager: R. B. Johnston

¹ Figure 4 shows the location of all Indiana counties mentioned in the text.

12 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

3. American-Standard Sanitary Corp. --Continued

Products: vitreous plumbing fixtures

Fired colors: white and seven colors

Fired temperature: 2,200° F.

Type of kiln: continuous

Capacity: 1,200 pieces per day

Employees: 289

Raw material: clays imported from other states and from foreign countries

4. American Vitrified Products Co.
Crawfordsville

Pit and plant location: north edge of Crawfordsville, Montgomery County, NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 19 N., R. 4 W.

Owner: corporation

Superintendent: Fred Overpeck

Products: flue lining and liner plates

Type of kiln: periodic

Capacity: 60 tons per day

Employees: 40

Raw material: shale in Borden Group from captive pit and underclays of Coals III and IIIa purchased near Brazil

5. Arketex Ceramic Corp.
Brazil

Pit location: 2 miles south of Newport, Vermillion County, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 16 N., R. 9 W.

Owner: corporation

Pit Manager: J. Britton

Director of Mining and Exploration: Daniel A. Swartz

Products: underclay of Coal IIIa

Capacity: 200 tons per day

Employees: 6

6. Arketex Ceramic Corp. (Plant No. 2)
Brazil

Plant location: Brazil, Clay County

Owner: corporation

John Stelle, Chairman of the Board

John A. Stelle, President

6. Arketex Ceramic Corp. (Plant No. 2)--Continued

Vice President of Production: Ralph Weston

Plant Superintendent: William F. Chapman

Products: ceramic glazed structural tile

Fired color: buff

Fired temperature: 2,040° F.

Type of kiln: continuous

Capacity: 260 tons per day

Employees: 175

Raw material: underclay of Coal IIIa from captive pit and underclay
of Upper Block Coal purchased from Brazil area

7. Arketex Ceramic Corp. (Plant No. 3)

Brazil

Plant location: Brazil, Clay County

Owner: corporation

John Stelle, Chairman of the Board

John A. Stelle, President

Vice President of Production: Ralph Weston

Plant Superintendent: Fred O. Barding

Products: ceramic glazed structural tile

Fired color: buff

Fired temperature: 2,040° F.

Type of kiln: continuous

Capacity: 350 tons per day

Employees: 425

Raw material: underclay of Coal IIIa from captive pit and underclay
of Upper Block Coal purchased from Brazil area

8. Arketex Ceramic Corp. (Plant No. 4)

Brazil

Plant location: Brazil, Clay County

Owner: corporation

John Stelle, Chairman of the Board

John A. Stelle, President

Vice President of Production: Ralph Weston

Plant Superintendent: Clarence Baysinger, Jr.

Products: ceramic glazed structural tile

Fired color: buff

Fired temperature: 2,040° F.

Type of kiln: continuous

Capacity: 100 tons per day

14 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

8. Arketex Ceramic Corp. (Plant No. 4)--Continued

Employees: 150

Raw material: underclay of Coal IIIa from captive pit and underclay
of Upper Block Coal purchased from Brazil area

9. Art Chemical Products, Inc.

Huntington

Plant location: Huntington County

Owners: G. J. Bippus, W. H. Ball, and W. V. Clipp

General Manager: G. J. Bippus

Products: modeling clay

Employees: 23

Raw material: clays imported from other states

10. Ayer-McCarel-Reagen Clay Co.

P. O. Box 306, Brazil

Pit location: Clay County

Plant location: Carbon

Owner: corporation

General Manager: John T. Hutchinson, Secretary-Treasurer and
General Manager

Products: building tile and special tile for sewage disposal plants

Fired color: buff

Fired temperature: 2,050° F.

Type of kiln: periodic

Capacity: 100 tons per day

Employees: 38

Raw material: underclay of Upper Block Coal purchased from Brazil
area and clay from captive pit

11. Bloomfield Brick Co., Inc.

Bloomfield

Pit and plant location: on east edge of Bloomfield, Greene County,
SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T. 7 N., R. 5 W.

Owner: corporation

General Manager: Frank A. Lenning

Products: face brick and common brick

Fired color: red

Fired temperature: 1,850° F.

Type of kiln: periodic

Capacity: 60,000 units per day

Employees: 50

Raw material: shale from Mansfield Formation

12. Brazil Clay Co. (Plant No. 1)

Box 331, Brazil

Pit location: Clay County and Parke County

Plant location: 1 mile west of Brazil on State Highway 340

Owner: corporation

Leo Girton, President

General Manager: George Barnhardt

Products: face brick and common brick

Fired colors: buff, gray, tan, and brown

Fired temperature: 1,900° F. (average); varies from 1,860°
to 1,960° F.

Type of kiln: periodic

Capacity: 55,000 to 65,000 units per day

Employees: 80

Raw material: underclay of Upper Block Coal purchased from Brazil
area and clay from captive pits

13. Brazil Clay Co. (Plant No. 2)

Box 331, Brazil

Pit location: Clay County and Parke County

Plant location: 2 miles west and 1 mile north of Brazil in Dick
Johnson Township

Owner: corporation

Leo Girton, President

General Manager: George Barnhardt

Products: face brick and common brick

Fired colors: buff, gray, tan, and brown

Fired temperature: 1,900° F. (average); varies from 1,860°
to 1,960° F.

Type of kiln: periodic

Capacity: 40,000 to 50,000 units per day

Employees: 40

Raw material: underclay of Upper Block Coal purchased from
Brazil area

14. Brazil Hollow Brick and Tile Co., Inc.

Box 339, Brazil

Plant location: Brazil, Clay County

Owner: corporation

General Manager: John Price

Products: telephone conduit tile

Fired color: buff

Fired temperature: 2,000° F.

16 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

14. Brazil Hollow Brick and Tile Co., Inc. --Continued

Type of kiln: periodic

Capacity: 100 tons per day

Employees: 100

Raw material: underclay of Upper Block Coal purchased from
Brazil area

15. Brooklyn Brick Co., Inc.

Brooklyn

Pit location: south edge of Brooklyn, Morgan County, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.
35, T. 13 N., R. 1 E.

Plant location: Brooklyn, Morgan County

Owner: corporation

President-Treasurer: Oliver D. Webb

Plant Manager: Elmer Davis

Products: face and common brick, modular and standard size ro-
man brick, and Norman and SCR brick

Fired color: buff and tangerine

Fired temperature: 1,960° to 2,040° F.

Type of kiln: periodic and tunnels

Capacity: 125,000 to 150,000 units per day

Employees: 55

Raw material: shale in Borden Group

16. Brown Coal Co.

R. R. 2, Centerpoint

Pit location: 2 $\frac{1}{2}$ miles south of junction of State Highways 46 and
59, Clay County, NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 11 N.,
R. 6 W.

Owner: William Brown and Son

General Managers: William Brown and Kenneth W. Brown

Products: coal and clay

Capacity: 700 tons of clay per month

Employees: 5

Raw material: underclay of Upper Block Coal

17. Cannelton Sewer Pipe Co.

Cannelton

Plant location: Cannelton, Perry County

Owner: corporation

E. F. Clemens, President

E. C. Clemens, Vice President

17. Cannelton Sewer Pipe Co. --Continued

Products: sewer pipe
 Fired color: red
 Fired temperature: 2,100° F.
 Type of kiln: periodic
 Capacity: 150 tons per day
 Employees: 210
 Raw material: clay and shale from Chapman pit (Kentucky)

18. Cayuga Brick and Tile Corp.

Box 201, Bloomingdale
 Pit location: Parke County, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 16 N., R. 8 W.
 Owner: corporation
 Manager: Herbert Miller
 Employees: 4
 Raw material: underclays of Coals III and IIIa

19. Cayuga Brick Corp.

Cayuga
 Pit and plant location: south of Cayuga, Vermillion County,
 NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7, T. 17 N., R. 9 W.
 Owner: corporation
 General Manager: Hubert A. Nichols
 Products: brick and face brick
 Fired colors: red and buff
 Fired temperature: 2,000° F.
 Type of kiln: periodic
 Capacity: 85 to 100 tons per day
 Employees: 30
 Raw material: underclays of Coals III and IIIa purchased near Catlin
 and shale from Staunton Formation from captive
 pit

20. Clay City Pipe Co.

Box 272, Uhrichsville, Ohio
 Pit and plant location: Mecca, Parke County, NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20,
 T. 15 N., R. 8 W.
 Owner: corporation
 General Manager: H. D. Cummings
 Superintendent: Paul Insley

18 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

20. Clay City Pipe Co. --Continued

Products: sewer pipe, flue lining, and wall coping

Fired temperature: 2,100° F.

Type of kiln: periodic

Capacity: 90 tons per day

Employees: 85

Raw material: underclays of Coals III and IIIa purchased near
Bloomington and shale above Coal IIIa from
captive pit

21. Clay City Pipe Co.

Box 272, Uhrichsville, Ohio

Pit and plant location: half a mile west of Montezuma, Vermillion
County, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 16 N.,
R. 9 W.

Owner: corporation

Plant Manager: William Conaway

Superintendent: Paul Insley

Products: firebrick, face brick, and flue lining

Fired color: buff

Fired temperature: 2,000° F.

Type of kiln: periodic

Capacity: 90 tons per day

Employees: 25

Raw material: underclay of Coal IIIa

22. Clay City Pottery

Clay City

Plant location: 6 miles north of Clay City, Clay County

Owner and General Manager: Lloyd Griffith

Products: flower pots, stoneware, jugs, crocks, birdbaths,
garden ware, etc.

Fired color: buff

Fired temperature: 2,150° to 2,180° F.

Capacity: 40,000 units per year

Employees: 5

Raw material: underclay of Upper Block Coal purchased from Brazil
area

23. Dee Clay Products Co., Inc.

Bloomington

Plant location: Parke County

Owner: corporation

General Manager: Herbert Miller

Products: draintile and flue linings

Fired colors: red and buff

Fired temperature: 1,900° F.

Type of kiln: periodic

Capacity: 50 tons per day

Employees: 32

Raw material: underclays of Coals III and IIIa purchased near
Bloomington

24. Francesville Drain Tile Corp.

Francesville

Pit and plant location: half a mile north of Francesville, Pulaski
County, SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 30 N.,
R. 4 W.

Owner: E. C. Overmyer and Sons

General Manager: R. C. Overmyer

Products: draintile

Fired color: tan

Fired temperature: 1,700° F.

Type of kiln: periodic

Capacity: 6,000 tons per year

Employees: 10

Raw material: glacial till

25. G. and F. Coal Co.

Hawkins Building, Brazil

Pit location: three pits in Clay and Parke Counties

Owner and General Manager: Leo Girton

Products: coal, underclay, and shale

Capacity: 500 tons per day

Employees: 30

Raw material: underclay of Upper Block Coal and shale above
Upper Block Coal

26. Gill Clay Pot Co.

Muncie

Plant location: Delaware County

20 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

26. Gill Clay Pot Co. --Continued

Owner: corporation

General Manager: John H. Gill

Products: refractory glass pots, lids, and furnace linings

Fired color: buff (glass pots unfired)

Fired temperature: 2,400° F.

Type of kiln: periodic

Capacity: 50 pots per month

Employees: 30 to 50

Raw material: clays imported from other states

27. Hannell Pottery Co.

R. R. 2, Chesterton

Plant location: Porter County

Owners: Mr. and Mrs. Vinol Hannell

General Managers: Mr. and Mrs. Vinol Hannell

Products: pottery

Fired colors: buff, white, and red

Fired temperature: 1,800° to 2,000° F.

Type of kiln: periodic

Capacity: 25 to 50 units per week

Employees: 2

Raw material: clays imported from other states

28. Huntersville Brick and Tile Corp.

R. R. 3, Batesville

Pit and plant location: R. R. 3, Batesville, Ripley County

Owners: Alois P. Doll, Victor J. Erhart, and Clifford A. Meer

General Manager: Victor J. Erhart

Products: draintile

Capacity: 15,000

Employees: 3

Raw material: clay

29. Huntingburg Brick Co.

Huntingburg

Pit and plant location: half a mile southwest of Huntingburg, Dubois
County, NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 2 S., R. 5 W.

Owner and General Manager: Mrs. G. C. Landgrebe

29. Huntingburg Brick Co. --Continued

Products: firebrick, face brick, and common brick

Fired colors: buff and red

Fired temperature: 1,960° F. for buff-colored brick and
1,900° F. for red-colored brick

Type of kiln: periodic

Capacity: 30,000 units per day

Employees: 30

Raw material: underclay of Minshall Coal and shale above Minshall
Coal

30. Hydraulic Press Brick Co.

St. Louis, Mo.

Pit location: half a mile north of Crawfordsville, Montgomery
County, NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29, T. 19 N., R. 4 W.

Plant location: Concord Road, Crawfordsville

Owner: corporation

General Manager: R. Z. Strouse

Products: brick

Fired colors: buff and red

Fired temperature: 1,850° F.

Type of kiln: periodic

Capacity: 60,000 units per day

Employees: 50

Raw material: shale in Borden Group from captive pit and under-
clays of Coals III and IIIa purchased in Catlin area

31. Hydraulic Press Brick Co.

Brooklyn

Pit and plant location: half a mile southwest of Brooklyn, Morgan
County, SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 13 N.
R. 1 E.

Owner: corporation

General Manager: Chris Kottkamp

Products: expanded shale lightweight aggregate

Type of kiln: rotary

Capacity: 350 cu yd per day

Employees: 25

Raw material: New Providence Shale

22 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

32. Hydraulic Press Brick Co.

St. Louis, Mo.

Pit location: 1 mile north of Veedersburg, Fountain County,
NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 31, T. 20 N., R. 7 W.

Plant location: Perry Street, Veedersburg

Owner: corporation

General Manager: R. Z. Strouse

Products: face and common brick, paving brick, and backup tile

Fired color: red

Fired temperature: 1,750° to 1,850° F.

Type of kiln: periodic

Capacity: 35,000 units per day

Employees: 45 to 47

Raw material: shale from Brazil Formation

33. Indiana Drain Tile Co.

Brooklyn

Pit and plant location: half a mile south of Brooklyn, Morgan
County, NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 13 N.,
R. 1 E.

Owners: J. M. Powell Heirs

General Manager: O. E. Powell

Products: draintile and structural tile

Fired color: red

Fired temperature: 1,800° F.

Type of kiln: periodic

Capacity: 80 tons per day

Employees: 43

Raw material: shale in Borden Group

34. Indiana State Farm

Box 76, Greencastle

Pit and plant location: 1 mile south of State Police Station on U. S.
Highway 40, Putnam County, NW $\frac{1}{4}$ SE $\frac{1}{4}$
sec. 19, T. 13 N., R. 4 W.

Owner: State of Indiana

General Manager: J. Cramer

Products: common brick, face brick, and draintile

Fired color: red

Fired temperature: 1,860° F.

Type of kiln: periodic

Capacity: 35,000 units per day

Employees: 60 to 100

Raw material: shale from Mansfield Formation

35. Inman Tile Co.

R. R. 4, Hartford City

Pit and plant location: 1 3/4 miles west of Mill Grove, Blackford
County, NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 23 N.,
R. 11 E.

Owner and General Manager: Neil Inman

Products: farm draitile and backup tile

Fired color: light red

Fired temperature: 1,800° F.

Type of kiln: periodic

Capacity: 2 kilns per month

Employees: 5

Raw material: glacial till

36. Jackson Brick and Hollow Ware Co.

Brownstown

Pit location: northeast edge of Brownstown, Jackson County,
SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 5 N., R. 4 E.

Plant location: Ewing

Owner: corporation

General Manager: James Heller

Products: draitile, brick, backup tile, and building tile

Fired color: red

Fired temperature: 1,800° F.

Type of kiln: periodic

Capacity: 75 tons per day

Employees: 30

Raw material: shale in Borden Group

37. Kalamazoo Clay Co.

Carbon

Plant location: Clay County

Owner: corporation

General Manager: Wayne L. Ellison

Products: building tile, silo tile, and acid tank tile

Fired colors: brown, buff, and gray

Fired temperature: 2,050° to 2,100° F.

Type of kiln: periodic

Capacity: 50 tons per day

Employees: 33

Raw material: underclay of Upper Block Coal purchased from
Brazil area

24 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

38. Klopfenstein Tile Co.

Grabill

Pit and plant location: south edge of Grabill, Allen County,
SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 32 N., R. 13 E.

General Manager: Aaron Klopfenstein

Products: farm draitile

Fired color: light red

Fired temperature: 1,750° F.

Type of kiln: periodic

Capacity: 8 kilns per year

Employees: 5

Raw material: glacial till

39. Kretz Brick Co.

Washington

Pit and plant location: half a mile south of Montgomery, Daviess
County, NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 3 N.,
R. 6 W.

Owners: E. A. and J. H. Kretz

General Manager: E. A. Kretz

Products: draitile, building tile, and brick

Fired colors: buff and red

Fired temperature: 1,800° F. (red) and 1,900° F. (buff)

Type of kiln: periodic

Capacity: 6,000 units per day

Employees: 13

Raw material: underclay of Coal IVa, shale above Coal IVa, and
glacial till

40. Krick-Tyndall Co.

Box 450, Findlay, Ohio

Pit and plant location: 1 mile southwest of Decatur, Adams
County, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 27 N.,
R. 14 E.

Owner: corporation

General Manager: V. M. Krick

Products: farm draitile

Fired color: red

Fired temperature: 1,900° F.

Type of kiln: periodic

Capacity: 750 tons per week

Employees: 90

Raw material: glacial till

41. Lehigh Cement Co.

Young Building, 718 Hamilton Street, Allentown, Pa.

Pit location: $2\frac{1}{2}$ miles east of Brownstown, Jackson County,
SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 5 N., R. 5 E.

Plant location: Mitchell, Lawrence County

Owner: corporation

General Manager: John Pillman

Products: portland cement

Type of kiln: rotary cement kilns

Capacity: 400 tons of shale per day

Employees: 283

Raw material: shale in Borden Group

42. Log Cabin Coal Co.

316 East Vermont Street, Brazil

Pit locations: Clay County (one north of Brazil and one east of
Ashboro)

Owners: James Eder and Herbert Knust

General Manager: James Eder

Products: underclay and shale

Capacity: Clay - 11,000 tons per month; shale - 2,000 tons per
month

Employees: 21

Raw material: underclays of Upper and Lower Block Coals and
shale above Lower Block Coal

43. Loogootee Clay Products Corp.

Loogootee

Pit and plant location: east edge of Loogootee, Martin County,
NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 3 N., R. 4 W.

Owner: corporation

General Manager: Walter X. Brown

Products: roman brick and draintile

Fired color: red

Fired temperature: 1,900° F.

Type of kiln: periodic

Capacity: 175,000 units per week

Employees: 74

Raw material: shale from Brazil Formation

44. Louisville Cement Co.

501 South 2nd Street, Louisville, Ky.

Pit location: $3\frac{1}{2}$ miles northwest of Speed, Clark County, NE $\frac{1}{4}$ do-
nation 148 (Clark Military Grant)

Plant location: Speed

Owner: corporation

General Manager: William P. Leake

Products: cement and mortars

Type of kiln: rotary

Capacity: 250 tons per day

Raw material: shale in Borden Group

45. Louisville Pottery Co.

228 East Bloom Street, Louisville, Ky.

Pit location: southwest edge of Huntingburg, Dubois County,
NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 3 S., R. 5 W.

Plant location: Louisville, Ky.

Owner: corporation

General Manager: Charles Rafferty

Products: stoneware

Fired color: buff

Fired temperature: 2,250° F.

Type of kiln: periodic and continuous

Capacity: 100 tons per month

Employees: 65

Raw material: underclay of Minshall Coal

46. Majenica Tile Co., Inc.

R. R. 5, Huntington

Pit and plant location: southeast edge of Majenica, Huntington
County, SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30, T. 27 N.,
R. 10 E.

Owner: corporation

General Manager: Louie Mills

Products: farm drain tile

Fired color: red

Fired temperature: 1,850° F.

Type of kiln: Ohio tunnel kiln

Capacity: 18 tons per day

Employees: 35

Raw material: glacial till

47. Martinsville Brick Co.

Martinsville

Plant location: Morgan County

Owner: Poston Brick and Concrete Products, Springfield, Ill.

General Manager: T. D. Fleming

Products: face brick

Fired color: buff

Fired temperature: 1,900° F.

Type of kiln: periodic

Capacity: 63,700 units per day

Employees: 60

Raw material: underclay of Upper Block Coal purchased from
Switz City area

48. The Maumee Collieries Co.

444 South 6th Street, Terre Haute

Pit location: southwest edge of Coal City, Owen County, $SE\frac{1}{4}SE\frac{1}{4}$
sec. 23, T. 9 N., R. 6 W.

Owner: corporation

Products: underclay

Capacity: 1,500 tons of clay per day

Employees: 40

Raw material: underclay of Upper Block Coal

49. Medora Brick and Tile Co.

Medora

Pit and plant location: 1 mile north of Medora, Jackson County,
 $NE\frac{1}{4}NE\frac{1}{4}$ sec. 27, T. 5 N., R. 3 E.

Owner: corporation

General Manager: James Heller

Products: face brick and backup brick

Fired color: red

Fired temperature: 1,800° F.

Type of kiln: periodic

Capacity: 54,000 units per day

Employees: 50

Raw material: shale in Borden Group

50. Natco Corp.

327 Fifth Avenue, N. W., Pittsburgh 22, Pa.

Pit location: Lake County, $NW\frac{1}{4}SW\frac{1}{4}$ sec. 20, T. 36 N., R. 7 W.

Plant location: Hobart, Lake County

28 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

50. Natco Corp. --Continued

Owner: corporation
General Manager: D. E. Payne
Products: building tile, draintile, and brick
 Fired color: light red
 Fired temperature: 1,850° F.
Type of kiln: periodic
Capacity: 200 tons per day
Employees: 65
Raw material: glacial lake clay

51. Natco Corp.

 327 Fifth Avenue, N. W., Pittsburgh 22, Pa.
Plant location: Brazil, Clay County
Owner: corporation
General Manager: Roy Hunter
Products: sewer tile and flue tile
 Fired color: brown
 Fired temperature: 2,100° F.
Type of kiln: periodic
Capacity: 100 tons per day
Employees: 100
Raw material: underclay of Upper Block Coal purchased in Brazil
 area

52. National Brick Co.

 3150 West Touhy Avenue, Chicago, Ill.
Pit and plant location: Maynard, Lake County, NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31,
 T. 36 N., R. 9 W.
Owner: corporation
General Manager: Jack Oehmke
Products: common brick
 Fired color: salmon
 Fired temperature: 1,800° F.
Type of kiln: periodic
Capacity: 300,000 units per day
Employees: 90
Raw material: glacial lake clay

53. National Tile and Manufacturing Co.

Anderson

Plant location: Madison County

Owner: corporation

General Manager: Richard B. Alexander

Products: floor and wall tile

Fired colors: a variety of colors both glazed and unglazed

Fired temperature: 2,100° F.

Type of kiln: continuous

Capacity: 40,000 to 45,000 sq ft per day

Employees: 450

Raw material: clays imported from other states

54. Peerless Pottery Inc.

917 North St. Joseph Street, Evansville

Plant location: Evansville, Vanderburgh County

Owner: corporation

General Manager: Charles S. Weaver

Products: sanitary ware

Fired color: white

Fired temperature: 2,200° F.

Type of kiln: continuous

Capacity: 512 units per day

Employees: 230

Raw material: clays imported from other states and foreign countries

55. Poston-Herron Brick Co.

Attica

Pit location: half a mile east of Attica, Fountain County, SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 22 N., R. 7 W.

Plant location: Attica

Owners: Floyd Poston, W. I. Poston, and F. P. Herron

General Manager: Floyd Poston

Products: common and face brick

Fired color: red

Fired temperature: 1,800° to 1,850° F.

Type of kiln: periodic

Capacity: 35,000 units per day

Employees: 38

Raw material: shale in Borden Group

30 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

56. Quality Coal Corp.

R. R. 2, Centerpoint

Pit location: Center Point, Clay County

Owner: corporation

Products: underclay

Capacity: 100,000 tons of clay per year

Employees: 60

Raw material: underclay of Upper Block Coal

57. Ren Coal Co.

103 East Park Street, Brazil

Pit location: half a mile south of Carbon, Clay County, SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.
6, T. 13 N., R. 6 W.

Owners and General Managers: Richard R. and Doris E. Girton

Products: clay and coal

Capacity: 100 tons of clay and 25 tons of coal per day

Employees: 3

58. J. S. Robbins

McCool

Pit location: McCool, Porter County

Owner and General Manager: J. S. Robbins

Products: glacial lake clay and molding sand

Capacity: 5 cars per day

Employees: 2

59. Rockport Sanitary Pottery, Inc.

Rockport

Plant location: Spencer County

Owner: corporation

General Manager: G. M. Pounds

Products: tanks, bowls, and lavatories

Fired color: white

Fired temperature: 2,250° F.

Type of kiln: continuous

Capacity: 2,500 units per week

Employees: 72

Raw material: clays imported from other states

60. Rostone Corp.

Lafayette

Plant location: Spencer, Owen County

Owner: corporation

General Manager: Willis Sampson

Products: inorganic molded plastics

Capacity: 1 ton per day

Employees: 50

Raw material: shale in Borden Group

61. Rostone Corp.

Lafayette

Pit location: 2 miles east of Riverside, Fountain County,

SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 22 N., R. 6 W.

Owner: corporation

General Manager: P. W. Jones

Products: inorganic molded plastics and molded building stone

Capacity: 850 tons per year

Employees: 180

Raw material: shale in Borden Group

62. Charles S. Schrock

Chesterton

Pit location: Porter County

Owner: Charles S. Schrock

Products: pottery clay

Capacity: 20 tons per day

Employees: 3

63. Simpson Clay Works

R. R. 3, Huntington

Pit and plant location: east edge of Simpson, Huntington County,

SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 28 N., R. 10 E.

Owner: Majenica Tile Co.

General Manager: Louie Mills

Products: farm draintile

Fired color: light red

Fired temperature: 1,700° F.

Type of kiln: periodic

Capacity: 1,400 tons per year

Employees: 6

Raw material: glacial till

32 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

64. Standard Brick and Tile Corp. (Plant No. 1)

Fourth and Vine Streets, Evansville 8

Pit and plant location: northwest edge of Evansville, Vanderburgh
County, SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 6 S.,
R. 11 W.

Owner: corporation

General Manager: Ralph Kleymeyer, President

Products: common and face brick

Fired color: red

Fired temperature: 1,950° F.

Type of kiln: continuous and periodic

Capacity: 60,000 units per day

Employees: 65

Raw material: shale from Shelburn Formation

65. Terre Haute Vitrified Brick Works

Box 455, Terre Haute

Pit and plant location: north of West Terre Haute on U. S. Highway
150, Vigo County, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18,
T. 12 N., R. 9 W.

Owner: corporation

General Manager: C. Price, Jr.

Products: brick

Fired colors: red and buff

Fired temperature: 1,900° F.

Type of kiln: periodic

Capacity: 50,000 units per day

Employees: 40

Raw material: underclay of Upper Block Coal purchased from
Brazil area and shale above Coal VII from
captive pit

66. S. L. Turner Coal & Clay Co.

Box 124, Carbon

Pit location: half a mile north of Carbon, Clay County

Owners: S. L. and Mayo Turner

General Manager: S. L. Turner

Products: coal and clay

Employees: 14

67. U. S. Brick Co.

Tell City

Pit location: half a mile north of Tell City, Perry County, $SE\frac{1}{4}SE\frac{1}{4}$
sec. 19, T. 6 S., R. 3 W.

Plant location: Tell City

Owner: corporation

General Manager: W. Eckley

Products: face brick and common brick

Fired color: red

Fired temperature: 2,000° F.

Type of kiln: periodic

Capacity: 67 tons per day

Employees: 25

Raw material: glacial river clay

PRODUCERS AND CONSUMERS OF CLAY AND SHALE LISTED BY COUNTIES

ADAMS COUNTY

40. Krick-Tyndall Co.

ALLEN COUNTY

38. Klopfenstein Tile Co.

BLACKFORD COUNTY

35. Inman Tile Co.

CLARK COUNTY

44. Louisville Cement Co.

CLAY COUNTY

6. Arketex Ceramic Corp. (Plant No. 2)
7. Arketex Ceramic Corp. (Plant No. 3)
8. Arketex Ceramic Corp. (Plant No. 4)
10. Ayer-McCarel-Reagen Clay Co.

34 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

CLAY COUNTY—Continued

- 12. Brazil Clay Co. (Plant No. 1)
- 13. Brazil Clay Co. (Plant No. 2)
- 14. Brazil Hollow Brick and Tile Co., Inc.
- 16. Brown Coal Co.
- 22. Clay City Pottery
- 25. G. and F. Coal Co.
- 37. Kalamazoo Clay Co.
- 42. Log Cabin Coal Co.
- 51. Natco Corp.
- 56. Quality Coal Corp.
- 57. Ren Coal Co.
- 66. S. L. Turner Coal & Clay Co.

DAVISS COUNTY

- 39. Kretz Brick Co.

DELAWARE COUNTY

- 26. Gill Clay Pot Co.

DUBOIS COUNTY

- 29. Huntingburg Brick Co.
- 45. Louisville Pottery Co.

FOUNTAIN COUNTY

- 32. Hydraulic Press Brick Co.
- 55. Poston-Herron Brick Co.
- 60. Rostone Corp.

GREENE COUNTY

- 11. Bloomfield Brick Co., Inc.

HOWARD COUNTY

3. American-Standard Sanitary Corp.

HUNTINGTON COUNTY

9. Art Chemical Products, Inc.
46. Majenica Tile Co., Inc.
63. Simpson Clay Works

JACKSON COUNTY

36. Jackson Brick and Hollow Ware Co.
41. Lehigh Cement Co.
49. Medora Brick and Tile Co.

LAKE COUNTY

50. Natco Corp.
52. National Brick Co.

LAWRENCE COUNTY

41. Lehigh Cement Co.

MADISON COUNTY

53. National Tile and Manufacturing Co.

MARION COUNTY

2. American Art Clay Co., Inc.

MARTIN COUNTY

43. Loogootee Clay Products Corp.

36 PRODUCERS AND CONSUMERS OF CLAY AND SHALE

MONTGOMERY COUNTY

- 4. American Vitrified Products Co.
- 30. Hydraulic Press Brick Co.

MORGAN COUNTY

- 1. Adams Clay Products Co.
- 15. Brooklyn Brick Co., Inc.
- 31. Hydraulic Press Brick Co.
- 33. Indiana Drain Tile Co.
- 47. Martinsville Brick Co.

OWEN COUNTY

- 48. The Maumee Collieries Co.
- 60. Rostone Corp.

PARKE COUNTY

- 18. Cayuga Brick and Tile Corp.
- 20. Clay City Pipe Co.
- 23. Dee Clay Products Co., Inc.
- 25. G. and F. Coal Co.

PERRY COUNTY

- 17. Cannelton Sewer Pipe Co.
- 67. U. S. Brick Co.

PORTER COUNTY

- 27. Hannell Pottery Co.
- 58. J. S. Robbins
- 62. Charles S. Schrock

PULASKI COUNTY

- 24. Francesville Drain Tile Corp.

PUTNAM COUNTY

34. Indiana State Farm

RIPLEY COUNTY

28. Huntersville Brick and Tile Corp.

SPENCER COUNTY

59. Rockport Sanitary Pottery, Inc.

VANDEBURGH COUNTY

54. Peerless Pottery Inc.
64. Standard Brick and Tile Corp. (Plant No. 1)

VERMILION COUNTY

5. Arketex Ceramic Corp.
19. Cayuga Brick Corp.
21. Clay City Pipe Co.

VIGO COUNTY

65. Terre Haute Vitrified Brick Works

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