

Keokuk Limestone

Keokuk Limestone (in Osage Group)¹

Lower Mississippian (Osage Series) : Iowa, Illinois, western Kentucky, and eastern Missouri. *Kansas, Oklahoma*

Original reference: D. D. Owen, 1852, Rept. Geol. Survey Wisconsin, Iowa, and Minnesota, p. 91, 92., Philadelphia.

J. M. Weller, 1939, Kansas Geol. Soc. Guidebook 13th Ann. Field Conf., p. 131, 132-133. Keokuk limestone listed in Osage group, Valmeyer series. Burlington and Keokuk limestones not readily separable in southwestern Illinois and southeastern Missouri.

J. M. Weller and A. H. Sutton, 1940, Am. Assoc. Petroleum Geologists Bull., v. 24, no. 5, p. 766 (fig. 1), 771, 795. Limestone in Osage group, Iowa series. Classification follows Illinois Geological Survey. Consists of 60 to 80 feet of interbedded limestone and chert with minor amounts of shaly material. Lower 30 feet is very cherty limestone known as Montrose member. In Ste. Genevieve County, Mo., is separated into two parts by unconformity, below which beds are lithologically indistinguishable from Burlington limestone.

J. M. Weller and others, 1948, Geol. Soc. America Bull., v. 59, no. 2, p.

150-156, chart 5. In standard Mississippian section, Keokuk limestone is uppermost formation of Osagean series. Occurs above Burlington limestone and below Warsaw limestone of Meramecian series.

G. G. Huffman and others, 1958, Oklahoma Geol. Survey Bull. 77, p. 14 (fig. 2), 44-46, pls. Described on southwestern flank of Ozark uplift where it consists of massive white to buff and gray-mottled fossiliferous chert; locally interbedded with irregular stringers of blue-gray dense fine-grained limestone. Crinoidal reefs or bioherms present locally. Thickness 0 to 250 feet; average thickness between 60 and 80 feet. Overlies Reeds Spring formation with unconformity. This hiatus represents most or all of Burlington time. Succeeded unconformably by various facies of Moorefield formation, the Hindsville, or locally by Fayetteville shale. Osagean.

Charles Collinson and D. H. Swann, 1958, Geol. Soc. America Guidebook St. Louis Mtg., Field Trip 3, p. 1, 4 (fig. 3). Generalized geologic column for field trip area [western Illinois] shows the Keokuk in Valmeyer series above the Burlington and below the Warsaw.

Named for exposures at Keokuk, Iowa. Well exposed along Soap Creek in quarry in Mississippi River bluff near mouth of creek.

Keokuk limestone. (Of Osage group.)

Mississippian: Iowa, Illinois, eastern Missouri, and western Kentucky.

D. D. Owen, 1852 (Rept. Geol. Surv. Wis., Iowa and Minn., pp. 91, 92). *Keokuck cherty lss.*—Gray cherty lss., forming wall of rock washed by the Mississippi below Keokuck Landing, Iowa. Overlain by Shell beds and underlain by Hannibal beds (brown Encrinital lss. alternating with bands of chert), which rest on Burlington beds (the Encrinital group of Burlington). [According to later Iowa rept. the Keokuck cherty lss. of Owen are the "cherty beds of passage" separating the Keokuk and Burlington lss. of Hall.]

J. Hall, 1857 (Am. Ass. Adv. Sci. Proc., vol. 10, pt. 2, pp. 53-56). *Keokuk or lower Archimedes ls.*—Highly fossiliferous ls., separated from overlying Warsaw or Second Archimedes ls. by "Geode bed" (a mass of shales or marls with impure lss. containing geodes), overlain, locally, near Warsaw, Ills., Appanoose, Iowa, and other places, by 10 ft. of mag. ls. Separated from underlying Burlington ls. by 60 to 100 ft. of beds of passage, consisting of cherty layers with intercalated beds of light-gray ls.

The "cherty beds of passage" were treated as a distinct unit and excluded from both Keokuk and Burlington by Hall in 1858, 1859, 1864; by Worthen in 1858; by C. R. Keyes in 1894; by J. A. Udden in 1901; by H. Hinds in 1909; and by C. R. Keyes in 1914. They were included in the Burlington by C. A. White; by Wachsmith; by C. H. Gordon (1892 and 1895); by

C. R. Keyes in 1895 (under the name "Montrose chert"); by W. H. Norton and H. E. Simpson in 1912; and by F. M. Van Tuyl in 1912. They were included in Keokuk by A. W. Vodges in 1888 and by F. M. Van Tuyl in 1925 (Iowa Geol. Surv. vol. 30, pp. 47, 146), who stated that in them appear for first time several Keokuk types of brachiopods. The "geode bed" referred to by Hall has in subsequent repts been both included in and excluded from Keokuk ls.

The present accepted definition of Keokuk ls. excludes the "geode bed" (which is now included in the overlying Warsaw, because its fauna and lithology are said to be more closely allied to that of the Warsaw ls.) and includes the cherty beds at base. The U. S. Geol. Survey treats the Keokuk as top fm. of Osage group.

Named for exposures at Keokuk, Iowa, especially good exposures occurring along Soap Creek and in a quarry in Miss. River bluff near mouth of the creek.

Keokuk ls.

1858

Hall, James, Geology of Iowa: Iowa Geol. Survey Rept.,
v. 1, pt. 1.

(262)

p. 94

Io2r

Archimedes ls of Owen.

Keokuk limestone

1861

White, Charles A., 1861, Observations upon the geology
and paleontology of Burlington, Iowa, and vicinity:
Boston Soc. Nat. History Proc., v. 7, p. 319-321.

S(214)

B74

Keokuk limestone

(1864)

Hall, James, (1864), Description of new species of fossils from the Carboniferous limestones of Indiana and Illinois: Albany Inst. Trans., v. 4, art. 1, p. 1-36

S(221)

Al 13

White, Charles A., Carboniferous System: Report on the
Geological Survey of the State of Iowa, v. 1.

p. 210-215

(262)

103r

Lower Archimedes limestone of Owen and others.

Keokuk group

1892

Beachler, C. S., 1892, Keokuk group of the Mississippi
Valley: Am. Geologist, v. 10, no. 2, p. 88-96

G(200)

Am42

Keokuk Fm

1941

Clark, E.L., The Geol. Map of the Cassville
Quadrangle, Missouri: MO G.S. and W.R.[at scale
1:62,500]

under: Warsaw Fm (Miss)

over: Grand Falls Fm (Miss)

incl Short Creek oolite mbr

(Osage)

Low Miss

MO

Keokuk Fm.

1961

Spreng. A. C., Mississippian System, in The Strati-
graphic succession in Missouri: Missouri Geol.
Survey and Water Resources, 2d ser., v. 40 (263)
M6r

p. 61, 64, 68

Often combined with underlying Burlington
Incl. Short Creek Mbr.

Osagean Ser.
Miss.

Missouri

Keokuk fm.

1961

Howe, W. B. (Coord.) and Koenig, J. W. (Ed.), The stratigraphic succession in Missouri: Missouri Geol. Survey and Water Resources [Report], v. 40, 2nd Ser.

(263)

M6r

p. 50, 55, 58, 61, 64, 68

Overlies Burlington, contact vague & units often combined.

Usually overlain by Warsaw fm.

Incl. Short Creek mbr.

Osagean Ser.

Mississippian

Missouri

Keokuk fm.

1961

McCracken, M. H., (compiler) and others, Geologic map of Missouri (1:500,000): Missouri Div. of Geol. Survey and Water Res.

Osage

Miss.

Missouri

Keokuk Fm.

1961

Starke, J. M., Geology of northeastern Cherokee
County, Oklahoma: Okla. Geol. Survey Circular 57.
Map.

p. 32

(244)
Ok5c

Osagean
Miss.

Cherokee Co.
NE Okla.

Keokuk fm.

1961

Spreng, A. C., The Middle Mississippian series (Osagean and Meramecian) of northeastern Missouri: Kansas Geol. Soc. Guidebook 26th Ann. Field Conf.

G(267)

p. 150

qK13

Summary

Mid. Miss.

NE. Missouri

Keokuk - Burlington fm.

1963

Carlson, M. P., Lithostratigraphy and correlation of
the Mississippian System in Nebraska: Nebr. Geol.
Survey Bull. 21.

p. 18, 27

Miss.

(Subs.)
Nebr.

1963

Keokuk

(Burlington - Keokuk Ls.

Merriam, D. F., The geologic history of Kansas:

Kansas Geol. Survey Bull. 162

(267)

K4b

Appendix B (p. 277-Mesozoic names)

p. 138

Osagian

Miss.

Kansas

Keokuk

1963

Wheeler, H. E., Catskill and the Acadian dis-
continuity: Penna. Top. and Geol. Survey Gen.
Geol. Rept. G39 (p. 103-114)

Fig. 1, p. 107

Tamaroa Sequence
Miss.

E. United States

Keokuk Fm.

1964

Snyder, F. G., Cryptovolcanic Structures of South
Central Missouri: Missouri. Assoc. Missouri Geol.
Guidebook, Ann. Field Trip No. 11, Sept.

p. 3

G(263)

qAs75g

Iowa

Miss.

SC. Missouri

Keokuk
Burlington-Keokuk Ls.

1964

Odom, Ed., and others, Geological Science Field
Trip, Jonesboro area: Illinois Geol. Survey Guide
Leaflet 1964-D (253)
qI15gsf

p. 5, 7, Fig. 3

Valmeyeran

Miss.

So. Illinois

Keokuk Limestone

1964

Harris, S. E., Jr., and Parker, M. C., Stratigraphy of the
Osage Series in southeastern Iowa: Iowa Geol. Survey Rept.
Inv. 1.

p. 7, 24, 38-39

(262)

Re

Overlies Cedar Fork Member of Burlington Limestone.

Mississippian

Southeast Iowa

Keokuk ls.

1964

Jewett, J. M., and others, Geologic map of Kansas
(Scale 1:500,000): Kansas Geol. Survey

Miss.

Kansas

Keokuk fm.

1965

Rexroad, C. B., and Collinson, Charles, Conodonts
from the Keokuk, Warsaw, and Salem Formations
(Mississippian) of Illinois: Illinois Geol. Survey
Circ. 388

p. 147

Miss.

Illinois

Keokuk fm..

1965

Branson, C. C., and others, Geology, oil, and gas,
Craig County, Oklahoma: Okla. Geol. Survey Bull. 99.

pls., p. 16

Miss.

NE Okla.

Keokuk ls.

1966

Waugh, T. C., Analysis of High-Calcium Chert-Free
Beds in the Keokuk Limestone, Cherokee County,
Kansas: Kansas. Geol. Survey, Bull. 180, Pt. 2,
Nov.

p. 3-7

(267)
K4b

Miss.

SE. Kansas

Keokuk fm.

1966

Jillson, W. R., A Rare Iron Conglomerate Occurring
in Northeastern Hardin County, Kentucky: Kentucky.
Acad. Sci., Trans., v. 27, nos. 3-4.

p. 69-73

S(238)
Ac27

Low. Miss.

NC. Ky.

Keokuk Ls.

1967

Johnson, W. D. Jr. and Adkison, W. L., Geology
of Eastern Shawnee County, Kansas and Vicinity,
Chapter A: in Geology of Shawnee County, Kansas,
USGS Bull. 1215.

p. 1-123

(200)

E

9

Miss.

E. Kans.

Keokuk Fm.

1967

Goebel, E. D., Age of Mississippian Rocks in a Core
from Northwestern Kansas: in Short Papers on
Research in 1966, Kansas. Geol Survey, Bull. 187,
Pt. 1, Feb. p. 15-16

(267)

K4b

Miss.

NW Kansas

Keokuk ls.

1967

Thompson, T. L., Conodont Zonation of Lower Osagean
Rocks (Lower Mississippian) of Southwestern Missouri:
Missouri. Div. Geol. Survey and Water Resources,
Rept. Inv. No. 39.

p. 9 (Fig. 1)

(263)

M6ri

Osagean Ser.

L. Miss.

SW. Mo.

Keokuk-Burlington [fm.]

1967

Lamar, J. E., Handbook on Limestone and Dolomite
for Illinois Quarry Operators: Illinois. Geol.
Survey, Bull. No. 91.

p. 42 (Table 6)

(253)
I15b

Miss.

Illinois

Keokuk ls.

1967

Willman, H. B. and others, Geologic Map of Illinois:
Illinois. State Geol. Survey, Dept. Registration &
Education, scale at 1:500,000. (1" - 8 mi.)

Miss.

N. Illinois

Keokuk fm.

1967

Webster, David (ed.), Missouri Speleology: Missouri.
Speleol. Survey, Jour., v. 9, no. 2, Apr.

p. 14-27

S(263)
qM693

Osagean Ser.
Miss.

S. Mo.

Keokuk ls. fm.

1967

Case, G. R., Fossil Shark and Fish Remains of
North America, Grafco Press, N.Y.C., Monograph.

p. 5

671(200)
QC267f

Miss.

Iowa

Keokuk Ls.

1968

Goebel, E. D., Mississippian Rocks of Western Kansas:
AAPG Bull., v. 52, no. 9, Sept.

p. 1732-78

1734 (fig. 2)

G(200)

Am3

1758

Low.

Miss.

W. Kans.

Keokuk ls.

1968

Stinchcomb, Bruce and Fellows, L. D., Geologic
Map of the Maxville Quadrangle, Jefferson and
St. Louis Counties, Missouri: Missouri. Geol.
Quad. Map Ser. #2, May.

mapped with Burlington Fm.

Miss.

EC: Mo.

1968

Keokuk Ls.

Thompson, T. L. and Goebel, E. D., Conodonts and
Stratigraphy of the Meramecian Stage (Upper
Mississippian) in Kansas: Kansas. Geol. Survey,
Bull. 192.

p. 1-56

(267)

6

K4b

Osagian Stage
Low. Miss.

SE. Kansas

Keokuk Ls.

1968

Lineback, J. A., Middle Mississippian Submarine
Topography in the Illinois Basin: in Abs. for
1967, GSA Spec. Paper 115.

p. 393

G(200)
G29sp

M. Miss.

Ill.

Keokuk Fm.

1968

Parker, M.C., Dorheim, F.H., Koch, D.L. & Harris, S.E.
Jr., Mississippian (Osage and Kinderhook) Stratigraphy
and Mississippian-Devonian Boundary Problems in
Southeastern Iowa: GSA NC Sec., 2nd Ann. Mtg.,
Field Trip Guidebook, May.

p. 1-28

2 (Fig. 3)

G(200)

qG3nf

Osage
Miss.

SE. Iowa

Keokuk Ls.

1969

Lineback, J. A., Illinois Basin -- Sediment-
Starved during Mississippian: AAPG Bull.,
v. 53, no. 1, Jan.

p. 112-126

G(200)

Am3

Miss.

Ill. Basin

Keokuk Ls.

1969

Thompson, T. L. and Fellows, L. D., Stratigraphy
and Conodont Biostratigraphy of Kinderhookian and
Osagean (Lower Mississippian) Rocks of Southwestern
Missouri and Adjacent Areas: Missouri. Geol. Survey
& Water Resources, Rept. Inv. 45, Nov. (263)
p. 1-263 M6ri

with 6 30, 32 incl.
Burlington (undiv.) Short Creek Oolite Mbr.

Osagean
Low. Miss.

SW. Mo. &
adj. areas

Keokuk Fm.

1969

Bingham, R. H., Springs in the Ozark Region,
Northeastern Oklahoma: Oklahoma Geology Notes,
v. 29, no. 6, Dec. p. 135-145 G(244)
H76

Miss.

NE. Okla.

1969

Keokuk Fm.

Marcher, M.V., Reconnaissance of the Water Resources
of the Fort Smith Quadrangle, East-Central
Oklahoma: Oklahoma. Geol. Survey, Map HA-1
(in 4 sheets).

Miss.

EC. Okla.

1969

Keokuk Fm.

Bingham, R. H., Springs in the Ozark Region,
Northeastern Oklahoma: Oklahoma. Geology Notes,
v. 29, no. 6, Dec. p. 135-145

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Miss.

NE. Okla.

Keokuk ls.

1970

Baxter, J. W., Limestone and Dolomite Resources
of Jersey County, Illinois: Illinois. Geol.
Survey, Circ. 448. p. 1-26 (253)
4 (Fig. 2) q116i

13

Miss.

SW. Ill.

Keokuk Ls.

1970

Parker, M. C., Some Notes on the Osage:

in: The Mississippian & Devonian of Iowa--

GSA [Guidebook] Trip #3, November.

G(200)

p. 20 - 36

qG29gf

20,23,

Osage Ser.

Miss.

SE. Iowa

Keokuk Fm.

1970

Beveridge, T.R., Geology of the Bassville Quadrangle,
Greene County, Missouri: Missouri. Geol. Survey and
Water Resources, Geol. Quad. Map Ser. #4.

(map & text separate)

p. 1-35

detailed accn't.

(263)

qM6gq

20

mapped with Burlington Fm.

Osagean
Miss.

W. SC. Mo.

Keokuk Ls.

1970

Wanless, H.R. and others, Late Paleozoic Deltas in
the Central and Eastern United States: in Deltaic
Sedimentation, Modern and Ancient, Morgan, J.P.(ed.):
SEPM, Spec. Pub. 15, Nov. p. 215-245 G(200)
Sol5sc

Valmeyran
Miss.

Ill.

Keokuk Fm (geog ext to OK)

1971

*Marcher, M. V. & Bingham, R. H., Reconnaissance of
the Water Resources of the Tulsa Quadrangle, North-
eastern Oklahoma: OK G S Map HA-2 (4 sheets at
1:250,000) [1 map of 10]

chert & ls

Miss

ne. OK

Keokuk Ls.

1972

Thompson, T. L., Conodont Biostratigraphy
of Chesterian Strata in Southwestern
Missouri: Missouri. Rept. Inv. #50. (263)
(G.S. † W.R.) p. 1 - 48 M6ri
4 - 5(Fig.1)

to show use

Low. Miss.

SW. Mo.

Keokuk Fm. (lith.)

1973

Parker, M. C., Mississippian Stratigraphy in
Southeastern Iowa: Iowa Acad. Sci., Proc., v. 80,
no. 1, Mar.

S(262)

p. 4-7

Ac12

4 (T. 1)

Osage
Miss.

SE. Iowa

Keokuk Fm. (lith.)

1973

Koch, D. L., Mississippian Stratigraphy of North-Central Iowa: Iowa Acad. Sci., Proc., v. 80, no. 1, Mar.

p. 1-3

1 (F. 1)

S(262)

Ac12

Ls. in B. 1200

Osage
Miss.

NC. Iowa

Keokuk Fm.

1973

Horick, P. J. & *Steinhilber, W. L., Mississippian
Aquifer of Iowa: Iowa Geol. Survey, Misc. Map
Ser. #3. (3 sheets) at 1:1,000,000.

dol. & ls. w/chert

(Osage)
Miss.

NC. & SE. IA

Keokuk Ls. (100-120')

1973

Willman, H. B., Geology along the Illinois Waterway--
A Basis for Environmental Planning: Illinois Geol.
Survey, Circ. 478 (253)
p. 1-48 (many good refs. listed) q1161

19

v. cherty ls w/ sh

Miss. (Vq/m.)

IL

Keokuk Ls./Gp. (geog. ext. to TN)

1973

Windle, P.N.; Augustynek, R.M.; Nitecki, M.H.,
Catalogue of Type and Referred Specimens of Fossil
Corals in Field Museum of Natural History: Fieldiana
Geol., Chicago Field Mus. Nat. Hist., v. 32, Oct.

p. 1-95

G(253)

F46

43, 84, 86

Miss.

IN, IL, TN

Keokuk Is.

1974

*Gann, E. E.; *Harvey, E. J.; *Barks, J. H.; Fuller,
D. L.; Miller, D. E., Water Resources of W-C MO:
U.S.G.S. Hydro. Inv. Atlas, Map HA - 491 (sht. 2 of 4).

(Osage)
Miss.

WC. MO

Keokuk Ls (40 m) [geog. ext to KS fr IA] . 1975

Seevers, W.J., Description of the Surficial Rocks
in Cherokee County, southeastern Kansas: KS G.S.

Geol. Ser. no. 1 (267)

p. 1-7, 3 (T.1), pl. 1 K4g

3

blue-gray

ls & chert

incl Short Creek Oolite unit/[bed] (widely used marker
bed)

(Osage)

se. KS

Low Miss

Keokuk Ls

1975

Thompson, T.L., Redescription and Correlation of
the Fern Glen Formation of Missouri: MO Dept. Nat.
Resources, Div. Research & Tech. Info. G.S. Rept.
Inv. no. 57 "Stud. in Strat." (263)
p. 141-172, 154 (F.5) M6ri

over: Burlington Ls (Osage)

Osage

Low. Miss.

ec. MO

Keokuk Ls

1979

Anderson, K. H. and others, Geologic Map of Missouri:
MO G.S., scale 1:500,000. Note on map says: "This map
contains strat names in current use as established by
Stratigraphy Committee of the MO Geol Survey."

incl. Short Creek Oolite Mbr (sw.MO)

(Osagean Ser)
Miss

sw, c, e &
ne.MO

Keokuk Fm

1975

Harris, S.A., Hydrocarbon Accumulation in "Meramec-Osage" (Mississippian) Rocks, Sooner Trend, north-west-central Oklahoma: AAPG B., v. 59, no. 4, Apr. p. 633-664 635 and 641 .. age

G(200)
Am3

641

(Osage)
Low. Miss

nwc. OK

Keokuk Ls. (0-33 m)

1981

Cloos, M. and Baxter, J., Subsurface variation in the high-calcium Dolbee Creek Limestone in western Illinois: IL G.S. IL Mineral Notes #78, Jan. p. 1-23, 5(F.3)...strat. relationships

(253)

qI15imn

7

incl. Montrose Chert Mbr.

under: Warsaw Sh.

over: Burlington Ls.(Cedar Fork Mbr.)

Low. + U. Miss.(Valmeyeran)

w. IL

Keokuk Fm
("Boone" Gp)

1981

Sutherland, Patrick K., Mississippian and Lower Pennsylvanian Stratigraphy in Oklahoma: Oklahoma Geology Notes, OK Geol Survey, Univ of OK, vol. 41, no. 1, Feb G(244)
see: correlation chart H76

under: unknown
over: unknown

(Osagean-Meramecian)
Low. Miss - Late Miss
Early

sw. Ozark Region
OK

Keokuk Ls [State usage] [overview]

1986

Thompson, T.L., Paleozoic succession in Missouri, Part 4:
Mississippian System: MO Dept Nat Res, Div Geol & Land
Survey, Rept Inv 70 (263)

p. 1-182..[excellent reference: incl history of M6ri
nomen and figs for each unit]

93-96; 93..ref sec: Brown quarry, s. bank of Wilson
Creek, 0.5 mi NW of intersection of Sunshine St. & Scenic
Dr., western Springfield, Greene Co, sw MO; 94..present
in all major Miss. outcrop areas except se and occurs
throughout subsurf

in sw incl Short Creek Oolite Mbr

under: Warsaw Fm or disconf under: Hindsville Ls; trans
over: Burlington Ls
(Osagean)

Miss

all of MO