Nomenclatural history of Upper Desmoinesian through Lower Virgilian (Pennsylvanian) strata in Kansas

Swallow (1866)	Haworth and Kirk (1894)	Haworth (1896)	Haworth (1898) Adams et al. (1903) Adams et al. (1904)	Schrader and Haw (1906)	Decaci	09; faunal divisions) and Bennett (1909)	Hinds and Greene (1915)	compiled by Moore (KS, MO, IA N	1932) Iebraska	Moore (1932)		Moore (1936, Kansas) Pierce and Courtier (1937; Breezy Hill Ls.) Jewett (1941, 1945; mbrs. of Marmaton) bakes and Jewett (1943, Oklahoma, in RED)	Moore (1948) Moore et al. (1951) Searight et al. (1953, Excello Shale, in <mark>RED</mark>)	Jewett (1959) Jewett et al. (1965, in <mark>RED</mark>)	Current Classification accepted by the Kansas Geological Survey Zeller ([1968] 2018)	Heckel and Watney (2002; Pleas., K.C., Lansing, & Do Oborny et al. (2017, Lane Shale Interval) Watney and Heckel (1994; Marmaton Grp	l)
Eastern Kansas	Southeastern Kansas and Adjacent Areas	Southeastern Kansas	Southeastern Kar	isas Southeastern Kansa and Adjacent Areas	as Southeastern Kansas	Southeastern Ka	nsas _{xo⁰Fa}	unal ision	so ^{uP} fo ^{rn.} Member (Noule Member	Member s ^{erie}	GOUP Formation	Member 9	eile ^S Gro ^{uR} Formation Member 3	وم ⁹⁰ دام ⁹⁰ Formation Member خ	20 ⁸ G ¹ G ¹ G ¹ Formation Member	320 ⁸ GOV Formation Member	Southern KS Northern KS Member Formation	ogrand Clour Stage
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	Burlington Ls. or Sh. Garnett limestone Ls.	Oread Limestone Shale limestone Limestone	Limestor Shale OU U	limestone	undefined	Oread limestor (Painterhood	ne)	Oread limestone	Oread limestone	Oread limestone	ndefined ttsmouth Is. ebner shale venworth Is. rderville sh. ping Water Is.	Oread Iimestone	Kereford Is. Heumader sh. Iattsmouth Is. Heebner shale eavenworth Is. Snyderville sh. Jeeping Water Is.	Oread Oread Limestone Oread Limestone Oread Coread Heumader Sh. Plattsmouth Ls. Heebner Shale Leavenworth Ls. Snyderville Sh. Toronto Ls.	Oread Limestone Coread Limestone Coread Limestone Coread Limestone Coread Limestone Coread Leavenworth Ls. Snyderville Sh. Toronto Ls.	Oread Limestone Oread Limestone Dependence Limestone Dependence Leavenworth Ls. Snyderville Sh. Leavenworth Ls. Snyderville Sh.	Oread Limestone Oread Limestone Coread Leavenworth Ls. Heumader Sh. Plattsmouth Ls. Heebner Shale Leavenworth Ls. Snyderville Sh. Toronto Ls.	Kereford Limestone Heumader Shale Plattsmouth Limestone Heebner Shale Leavenworth Limestone Snyderville Shale Toronto Limestone	Shawnee G lian Stage
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Stanton limestone	Carlyle limestone	Garnett limestone (?) or Iola limestone	e lola ts limeston	e Stanton limestone or Iola limestone	Piqua limestone	Piqu limest		Stanton limestone	Stanton limestone	C Stanton	uth Bend Is. k Lake shale Stoner Is. dora shale leadow Is.	Stanton Stanton	outh Bend Is. ock Lake shale oner limestone Eudora shale Meadow Is. inwood shale	Ono Stanton Little Kaw Ls. Stanton Victory Junct. Sh. Olathe Ls. Eudora Shale Captain Creek Ls.	Ono Stanton South Bend Ls. Stanton Rock Lake Shale Stoner Ls. Eudora Shale Captain Ck. Ls.	On Output Stanton Stanton Stanton Stanton Rock Lake Shale Stoner Ls. Eudora Shale Captain Ck. Ls.	Stanton Limestone D D D D D D D D D D D D D D D D D D D	Little Kaw Limestone Rock Lake Shale 3 beds Stoner Ls. Eudora Shale 2 beds Captain Creek Ls.	ing Group
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	Shale	Thayer shales	Lane shales		Concreto shale	- Concr itic Concr	eto	Lane	Lane shale (with Farley	Lane shale (with Farley	Lane	Bon. Springs sh.	Merriam Is. undefined Farley	Bonner Springs Shale Farley	Bonner Springs Shale 0 Farley	Bonner Springs Shale Farley	Bonner Springs Shale E Farley	Merriam Limestone Limestone Bonner Springs Shale Upper Farley Limestone Middle Farley Shale Lane Shale	
series: Stanton limestone; shales; sandstones; coal	lola limestone	lola limestone	O LO Earlton limesto		lola limestone	(with coa 		shale lola	lola	Misson Iola			limestone land Creek sh. Argentine Is. Quindaro shale	Wyandotte Limestone Q Q Uindaro Sh.	Wyandotte Limestone Umestone Umestone Umestone Umestone Umestone Umestone Argentine Ls. Quindaro Sh.	Wyandotte Limestone Umestone Limestone Argentine Ls. Quindaro Sh.	Wyandotte Limestone Limestone Argentine Ls.	Lower Farley Limestone Island Creek Shale Argentine Limestone Quindaro Shale Wyandotte	222
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	Erie limestone	Limestone (upper mbr.) Shale	Lindepender Cherryva		undefined	Drum formatio		D Drum Is. Cherryvale	Drum Is. Cherryvale shale	Drum Is.	Misso	Cherryvale	Quivira shale Dekalb Is. Wea shale	Westerville Limestone Wea Shale	Cherryvale Westerville Ls. Shale Wea Shale	Quivira Shale Quivira Shale Cherryvale Shale Quivira Shale Westerville Ls. Wea Shale	Cherryvale Westerville Ls. Shale Wea Shale	Nellie Bly Formation Drum Ls. Drum Ls. Westerville Ls. mid. flaggy Ls. Wee Shale	as Cit
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		Shale	등 Cherryva 당 shales		Galesburg Shale	Galesb shal	e	Galesburg shale	Galesburg shale	Galesburg shale			Canville Is.	Galesburg incl. Cedar Bluff Coal Shale incl. Dodds Creek Ss.	Galesburg Shale Dodds Creek Ss.	Galesburg Shale Dodds Creek Ss.	Galesburg Shale Dodds Creek Ss	Canville Limestone Canvelle Limestone Cedar Bluff coal bed Mound Valley Ls. Galesburg Shale	- - - -
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	Shale	8	Upper Pleasanto shales	on Dudley shales	Dudley shales			Pleasanton shales	matior	Dudley shale		Quince Uniontown Is. unnamed shale a w/concretion-bear	nd sandstone	Checkerboard "Checkerboard ?" Seminole Formation Dawson Coal "blk.sh.nearbase"	Pleasanton Group "sandstone black/gray shale and flaggy limestone" Hepler Sandstone (largely absent in subsurface)	Checkerboard Limestone Seminole Formation Sandstone	Checkerboard Limestone Seminole Formation Sandstone	Checkerboard South Mound Limestone Shale Hepler "Hepler" coal bed Formation	פֿנ
	le shales	Pleasanton sha	Pleasanton sha				age	В	undefined	nation		Dudley shale	undefined	Memorial Shale coal near base	Memorial Shale	Holdenville Shale	Holdenville Shale	Glenpool Is. bed Nuyaka Creek black shale Sni Mills Limestone Mbr. Dawson coal Memorial Shale	
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Fort Scott coal series/ls.	Limestone Oswego Shale Limestone Limestone	Limestone Oswego Shale Limestone Limestone	Oswego limestone		Fort Scott limestone	Fort Scott limestone		A Fort Scott limestone	Fort Scott limestone	Fort Scott limestone		Fort Scott limestone	undefined	Fort Scott Limestone Blackjack Creek Limestone	Fort Scott Limestone Blackjack Creek Limestone	Fort Scott Limestone Blackjack Creek Limestone	Fort Scott Limestone Blackjack Creek Limestone	Little Osage Summit coal Shale Morgan School shale Fort Scott Blackjack Creek Limestone	Marma
Fort Scott marble series		Cherokee shales	Cherokee shales	Cherokee shales	Cherokee shales	Cherokee shales	kee Stg.	Cherokee shales	undefined	Cherokee o shales		Ono Shales	undefined	Mulky coal bed Breezy Hill Ls. Cherokee Shale	Cherokee Group	Cherokee Group Breezy Hill Ls.	Cherokee Group Breezy Hill Ls.	Breezy Hill Ls. Cherokee Group	
Lower coal series	bus sandstone; shale	shales		shales	shales	shales	Cherol	shales	Chero	O shales U U		Shales			Atokan Stage Morrowan Stage	Atokan Stage Morrowan Stage	Atokan Stage Morrowan Stage	Atokan Stage Morrowan Stage	
Lower Carboniferous	Galena limestone	Mississippian	Mississippian or sub-Carboniferou	Mississippian series	s Boone formation	Boone limestor	ne							Mississippian System	Mississippian System	Mississippian System	Mississippian System	Mississippian System	

Data prior to 1908:

All data and interpretations prior to 1908 were originally compiled by Schrader (1908); we have retained the correlations of that work.

Formal vs informal:

Prior to the 1930s, lithostratigraphic designations were written in lowercase. We retain the use of lowercase lithostratigraphic designations for those works to maintain authenticity. This use is not representative of informal status. However, lowercased lithostratigraphic units after Moore (1932) do denote informal status (e.g., Glenpool Is. bed).

Definition of the Galesburg Shale:

A discrepancy exists between Moore (1932) and Moore (1936) regarding the definition of the Galesburg Shale within the Bronson Group. Moore (1932) originally placed the upper contact of the Galesburg Shale at the base of the Canville Limestone. Moore (1936) indicates that previous interpretations included the Stark Shale within the Galesburg Shale interval. We therefore illustrate the interpretation of Moore (1936) for the Galesburg interval within the Moore (1932) column. Within this same column, we have included lithostratigraphic terms that were originally established in Oklahoma and later adopted for use in Kansas. Moore (1932; 1936, p. 72–74) reports that the basal sandstone (i.e., Hepler) within the Bourbon Formation (1936)/Group (1932) was locally absent and that a black shale exists near the base of this unit. Moore (1936) defined the base of the Bourbon Formation at a regional disconformity. This disconformity was later correlated into Oklahoma to a disconformity at the top of the Lenapah Limestone Formation by Oakes and Jewett (1943).

(This chart illustrates the correlative intent of each publication. It is not representative of unit thickness.) Zeller ([1968] 2018) is the current nomenclature accepted by the Kansas Geological Survey.

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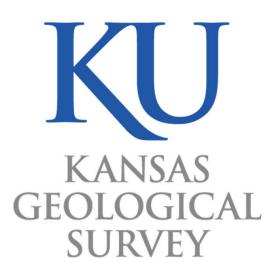
Definition of the Lansing Group:

Published discrepancies exist regarding the historic discussion of the Lansing Group. The current definition for the Kansas City and Lansing Groups boundary was attributed by Newell (1935, p. 17) and Moore (1948, p. 2,033) to Moore (1932). In reviewing the 1932 work it is clear that the Kansas City and Lansing Groups boundary was established at a much lower stratigraphic position in that work than its current definition (see Moore, 1932, pg. 47, 92, 97, etc.). We find that Moore (1936, p. 44) was the first to use the current definition. Oddly enough, the systematic review of the unit by Moore (1936, p. 124) refers to the reference by Newell (1935) in the prior year, which referenced Moore (1932). We therefore conclude that this circular logic was a personal communication between these authors and its perceived inclusion within the 1932 field guide was an error. With these observations, we attribute the current Upper Kansas City Group's boundary definition to Moore (1936).

Peedee vs. Pedee:

Heckel and Watney (2002; Pleas., K.C., Lansing, & Douglas grps.)
Oborny et al. (2017, Lane Shale Interval)
Watney and Heckel (1994: Marmaton Grp)

Moore (1948) modified the spelling of Peedee to read as Pedee.



The University of Kansas

Abbreviations

blk. sh.	black shale
Bon. Springs	Bonner Springs
Cement/Dewey	Cement City Limestone/Dewey Limestone
Ck.	Creek
Cottage Gr.	Cottage Grove
Fm./Form.	Formation
Grp./Grps.	Group/Groups
IA	lowa
incl.	includes
Jackson Pk.	Jackson Park
К.С.	Kansas City
KS	Kansas
ls./Ls.	limestone/Limestone
lwr./Lwr.	lower/Lower
mbr./mbrs./Mbr.	member/members/Member
mid./Mid.	middle/Middle
Miss.	Mississippian
MO	Missouri
Pleas.	Pleasanton
Shw.	Shawnee
sh./Sh.	shale/Shale
ss./Ss.	sandstone/Sandstone
Stg.	Stage
Subgrp.	Subgroup
Upr. Sibley coal	Upper Sibley coal
Victoria Junct.	Victoria Junction
Walter John.	Walter Johnson

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