

**Grayson Marl, or Formation** (in Washita Group)

Grayson Marl Member (of Denison Formation)<sup>1</sup>

A

Upper Cretaceous (Comanche Series): Northeastern Texas, central southern Oklahoma, and northern Mexico.

Original reference: F. W. Cragin, 1894, Colorado Coll. Studies, v. 5, p. 43-48.

R. W. Imlay, 1944, U.S. Geol. Survey Oil and Gas Inv. Prelim. Chart 3. Correlation chart shows Grayson shale in Washita group. Upper Cretaceous (lower Cenomanian). Underlies Buda limestone; overlies Georgetown limestone and in some area, Main Street limestone. [Grayson replaces Del Rio which is abandoned.] Present in Chihuahua, Mex.

L. W. Stephenson, 1944, Am. Assoc. Petroleum Geologists Bull., v. 28, no. 10, p. 1538-1541. Discussion of fossils from limestone of Buda age in Denton

County. If it is admitted that this limestone is a facies of Buda age in upper part of Grayson marl, then the Grayson is not exact equivalent of Del Rio but includes equivalents of both Del Rio and Buda.

S. S. Goldich and M. A. Elms, 1949, Geol. Soc. America Bull., v. 60, no. 7, p. 1138 (table 1), 1139-1140, pl. 1. Grayson clay described in Buck Hill quadrangle, Texas, where it is 60 to 76 feet thick; overlies Georgetown

limestone and disconformably underlies Buda limestone. Lower Cretaceous.

Elliot Gillerman, 1953, U.S. Geol. Survey Bull. 987, p. 11 (table 1), 27-31, pl. 1. In Eagle Mountains, Tex., formation is divided into (ascending) Carpenter limestone (new), reef-limestone, and Eagle Mountains sandstone (new) members. Thickness 200 feet. Overlies Georgetown limestone; underlies Buda limestone. Upper Cretaceous.

L. W. Stephenson, 1953, U.S. Geol. Survey Prof. Paper 243-E, p. 58. Grayson marl (formerly Del Rio clay) unconformably underlies Pepper shale member of Woodbine formation.

Robert Greenwood, 1956, Gulf Coast Assoc. Geol. Soc. Trans., v. 6, p. 167-177. Shale described in Uvalde County, Tex., where it includes West Prong lentil (new) in basal part. West Prong shows penecontemporaneous relationship with overlying volcanic materials of Grayson. Overlies Georgetown limestone; underlies Buda limestone. Thickness 100 to 150 feet. In west and south Texas, formation has been called Del Rio clay.

R. G. Yates and G. A. Thompson, 1959, U.S. Geol. Survey Prof. Paper 312, p. 9-10, pl. 1. Formation described in Terlingua district, Texas, where it is 80 to 200 feet thick; overlies Devils River limestone and underlies Buda limestone. Undifferentiated in this area.

B. F. Perkins, 1960, Geol. Soc. America Mem. 83, p. 9 (fig. 3), 12 (fig. 4), 35-38. In Fort Worth area, Grayson marl member of Denison is about 80 feet thick and divisible into four subdivisions (ascending): yellowish-gray marl 18 feet thick with abundant *Exogyra arientina* Roemer, containing in lower 3 to 5 feet a small number of lenticular bodies of hard highly fossiliferous clastic limestone about 5 to 8 feet long and 1 foot in maximum thickness; unfossiliferous yellow to greenish-gray marly clay 24 feet thick; highly fossiliferous gray marl 21 feet thick with buff marly limestone and clay; greenish-gray marly clay less fossiliferous than underlying unit. Overlies Main Street limestone member; underlies Buda limestone.

Named for numerous outcrops in Grayson County, Tex.

**Grayson marl member** (of Denison formation).

Lower Cretaceous (Comanche series): Northeastern Texas and central southern Oklahoma.

X F. W. Cragin, 1894 (Colo. Coll. Studies, vol. 5, pp. 43-48). *Grayson marls*.— Yellow, highly calc., sparingly aren., fossiliferous marls, 15 to 40 ft. thick. Top memb. of *Exogyra arietina* marl and of Main Street ls. in Cooke and Grayson Counties. Overlies Choctaw ls. memb. of Main Street ls.

✓ R. T. Hill, 1901 (U. S. G. S. 21st. Ann. Rept., pt. 7, pp. 114-115, 121-124, 245, 246-249, 266-271, pls. 7, 18), restricted *Main Street ls.* to beds underlying Grayson marl, or to those called "Choctaw ls." by Cragin. He defined *Grayson marl* as grayish marls, lighter colored than Main Street ls., 15 to 60 ft. thick, and as forming top memb. of Denison fm. This is definition followed by U. S. Geol. Survey.

Named for numerous outcrops in Grayson Co., Tex.

5(271)  
C73

Grayson Formation

1961

Murray, Grover E., Geology of the Atlantic and Gulf Coastal Province of North America: New York, Harper and Bros.

p. 324-330

Okla. and Texas

Woodbinian

~~Atlantic and~~  
Gulf Coasts

Grayson marl

1926

62?

Bullard, F.M., Geology of Marshall County, Oklahoma:  
OK G.S. Bull. no. 39, Apr. (244)

p. 1-101 46(F.5) OK5b

[1st ref: R.T. Hill..see USGS Ann. Rept. 21, 1901,  
p. 276...Quarry ls has not, to date, been picked up]

45

over: Bennington ls

Low. Cret.

sc. OK

Grayson Sh.

1952

Welder, F. A., and Reeves, R. D., Geology and  
Ground-water resources of Uvalde County, Texas:  
Texas Water Commission Bull. 6212.  
Strat. Column

490(245)  
T29b

p. 11, 18

Washita Gp.  
Comanche ser.  
Cret.

S.-cent. Texas

Grayson Fm.

1963

\*Sharps, J. A., Geologic map of the Malvado  
Quadrangle, Terrell and Val Verde Counties, Texas:  
USGS Misc. Geol. Inv. Map I-382

Upper Cretaceous

SW Texas



Grayson fm.  
(Washita gp.)

1963

Granata, W. H., Jr., Cretaceous stratigraphy and structural development of the Sabine uplift area, Texas and Louisiana: Shreveport Geol. Soc. Ref. Rept., v. 5.

Fig. 3 (p. 54)

G(237)  
qSh&mp

p. 63

Cret.

(Subsurface)  
Ark-La-Texas

Grayson Fm.

1964

\*Sharps, J. A., Geologic Map of the Dryden Crossing  
quadrangle, Terrell County, Texas: USGS Misc.  
Geol. Inv. Map I-386 (Scale 1:62,500)

(Del Rio Clay of former usage).

Up. Cret.

SW Texas

Grayson shale  
(Washita gp.)

1964

Welder, F. A., and Reeves, R. D., Geology and ground-water resources of Uvalde County, Texas: USGS Water Supply Paper 1584

Table 1, p. 17

Cret.

Cent. Texas

Grayson Fm.

1964

Freeman, V. L., Geologic map of the Shumla quadrangle,  
Val Verde County, Texas: USGS Misc. Geol. Inv. Map  
I-424 (Scale 1:62,500)

(Del Rio Clay of former usage.)

Up. Cret.

South Texas

Grayson Fm.

1964

\*Freeman, Val L., Geologic map of the Indian Wells Quadrangle, Terrell and Brewster counties, Texas: USGS Misc. Geol. Inv. Map I-395 (Scale 1:62,500)

Del Rio clay of former usage

Up. Cret.

SW Texas

Grayson fm.

1965

Freeman, V. L., Geologic map of the Bakers Crossing  
quadrangle, Val Verde County, Texas (1:62,500) - USGS  
Misc. Geol. Inv. Map I-434.

Up. Cret.

SW Texas

Grayson Shale  
(Washita Gp.)

1966

\*Alexander, W. H., Jr., and White, D. E., Ground-  
water resources of Atascosa and Frio Counties, Texas:

Texas Water Devel. Bd., Rept. 32, Dec.

P. 19, 20

490(245)  
qT29r

Cretaceous

Texas

7-3-67

Grayson Marl-Main Street ls.

1967

Barnes, V. E. (proj. dir.), Geologic Atlas of Texas,  
Sherman Sheet: Texas. Univ., Bur. Econ. Geology,  
map scale at 1:250,000.

(4th sheet in series)

text: (245)  
qG29a

Low. Cret.

NE. Texas

Grayson Fm.

1967

Pessagno, E. A., **Upper Cretaceous Planktonic  
Foraminifera from the Western Gulf Coastal Plain:**  
in *Palaeontographica Americana*, V. 5, No. 37, July.

Fig. 2 opp. p. 252

602(200)  
qP13

U. Cret.

Texas - Ark.  
(Tex.)

Grayson Fm. (reestab.)

1968

Freeman, V. L., Geology of the Comstock-Indian  
Wells Area, Val Verde, Terrell, and Brewster  
Counties, Texas; PP 594-K.

p. 1-26

(200)

qB

V69 ("Grayson Marl restricted to use E. and N. of  
Colo. River; Del Rio Clay reinstated for use  
...for use locally S. and W. of Colo. R.")

U. Cret. ✓

SW. Texas

Grayson Marl  
(Washita Gp.)

1969

Pessagno, E. A. Jr., Upper Cretaceous Stratigraphy  
of the Western Gulf Coast Area of Mexico, Texas, and  
Arkansas -- Definition of North American Stages:

GSA Mem. 111. p. 1-3 abs.

G(200)

28-31

G29m

28

Washitian Stage

Low-U. Cret.

Gulf Coast  
Mexico & Tex.

Grayson Fm.  
(Washita Gp.)

1969

Pessagno, E. A. Jr., Upper Cretaceous Stratigraphy  
of the Western Gulf Coast Area of Mexico, Texas,  
and Arkansas -- Upper Cretaceous Biostratigraphy in  
Texas: GSA Mem. 111. p. 1-3 abs.

53-99

53-58

U. Cret.

Texas

Grayson Sh.  
(Washita Gp.)

1969

\*Reeves, R. D., Ground-Water Resources of Kerr  
County, Texas: Texas. Water Devel. Bd., Rept. 102,  
Nov. p. 5-11 490(245)  
qT29r

Cret.

S. Tex.

Grayson Marl Mbr./Fm.  
(Denison Fm.)

1969

Shaw, N.G., McCunni, J., Masten, D. (eds.),  
Comanchean Stratigraphy of the Fort Worth-  
Waco-Belton Area, Texas: La. Shreveport Geol.  
Soc., Guidebook #23, May.

p. 2-137

4 (Fig.1)

10

meas. sec.

G(237)  
qSh8f

Low.  
Cret.

Tex.

Grayson Marl (age?)

1970

Flawn, P. T., dir., Geologic Atlas of Texas,  
Waco Sheet: Texas Univ., Bur. Econ. Geol.,  
scale at 1:250,000. (text separate)

U. Cret. in Bull. 1200, p. 1586  
"Del Rio Clay"

Tex.

Low. Cret.

[no date]

Grayson Sh.

Weaver, O. D. and others, Geological Map  
of Central Tarrant County: Fort Worth  
Geol. Soc., no number, scale at [1:24,000].

to show local use

Cret.

NE. Tex.

Grayson Fm. (70 ft.)  
(Washita Gp.)

1972

Michael, F. Y., Planktonic Foraminifera from the  
Comanchean Series (Cretaceous) of Texas: Jour. Foram.  
Research, v. 2, no. 4, Oct.  
p. 200-220  
202, 204

617  
qJ826

U. Albian-Low. Cenomanian

NC. Tex.

Grayson Marl

1972

Fisher, W. L. (dir.), Geologic Atlas of Texas (Dallas Sheet): Texas Univ. at Austin, Bur. Econ. Geol.,  
Map at scale 1:250,000 text: (245)  
p. 1-9 qG29a

mapped with Main Street Ls.

thickness: 60-100 ft.

Low. Cret.

EC. Tex.

Grayson Marl

1974

\*Hart, D. L. Jr., Reconnaissance of the Water Resources of the Ardmore and Sherman Quadrangles, Southern Oklahoma: OK G S Map HA-3 at scale 1:250,000. [1 map of 10]

Low Cret.

s. OK

Grayson Fm

1976

(Washita Gp) of Cragin, 1894

p 3-4 sh, marl, w/ ls

Hendricks, L. and Sampson, H.H. Jr., Geology of  
Midcities Area, Tarrant, Dallas, and Denton Cos.

Texas: TX Bur. Econ. Geol. U. TX at Austin, Geol.

Quad Map (text is separate) #42.

(245)

p. 1-19

qG29

under: Woodbine Fm, Rush Creek Mbr (U. Cret)

over: Main Street, Pawpaw, Weno Fms, W. Gp (Low Cret.)

(Comanche Ser)

Low Cret.

ne TX

Grayson Fm. (24-30 m.)  
(Washita Gp.)

1977

Mancini, E.A., Depositional environment of the Grayson  
Formation (Upper Cretaceous) of Texas: Gulf Coast  
Assoc. Geol. Soc. Trans., Oct. v. 27  
p. 334-351, 335(F.2)...corr. ch. G(200)  
347-351...meas. secs. (24) G95am

335...brown or gray calc. claystone;  
white nodular wackestone;  
brown sts.;

brown or red mudstone

under: Buda Fm.

over : Georgetown, Salmon Peak, Segovia Fms.

U. Cret.

TX

Grayson Fm. (0-27')  
(Washita Gp)

1977

Huffman, G. G. Stratigraphy of the Bokchito Formation  
(Cretaceous) in southern Oklahoma: Ok G.S. Notes, v.  
37, no 1.

"Geol."

p. 11-18

G(244)

12 (F,1)..chart

H76

unit is top of sec.

over: Bennington Ls, Washita Gp

olive-gray to lt. green-gray marlst w/white ls

(Comanchean)  
Low Cret.

S. OK

Grayson Fm

1980

Huffman, G. G., Stratigraphy of the Woodbine Formation  
(Upper Cretaceous), southern Oklahoma: OK G.S. "Geol  
Notes", v. 40, no. 1, Feb G(244)  
p. 3-16, 8-9(F.3)..shows strat sequence H76  
lith, & thick, color

under: Dexter Mbr, Woodbine Fm (U.Cret)  
over: Bennington Ls (Low.Cret)

(Comanchean)  
Low.Cret

Bryan Co.  
s.OK

Grayson Marlstone (0'-27')  
(Washita Gp.)

1978

p. 1, 33-34

Huffman, G.G., Hart, T.A., Olson, L.J., Currier,  
J.D., Ganser, R.W., Part I.. A real Geology of Bryan  
County: OK G.S. B. 126 pt. I, p. 1-52, 87-104.. meas.  
secs., pl. 1 in pocket 1, 16 (F.10).. strat. col.

(244)

OK 5b

under: Woodbine Fm. (Gulfian) (*U. Cret.*)

over: Bennington Ls., W. Gp. (*Low. Cret.*)

olive-gray, grn-gray w/ white ls., fossils

(Comanchean) Low. Cret.

s.OK

Grayson Fm [age confirmed]

1979

Pampe, W. R., A dwarfed fauna from the Grayson Formation  
near Lake Waco, Texas: WY Geol Assoc Ear Sci B v.12,  
no.3, Sept G(282)  
p. 18-32 qEa76

under: Buda Ls (Low.Cenomanian)

over: Main Street Fm (Low.Cenomanian)

equiv to: Del Rio Clay

Low.Cenomanian

Low.Cret

c.TX

Grayson [Fm]/substage [geog ext to LA]  
(Washita [Gp]/stage)

1979

Anderson, E. G., Basic Mesozoic study in Louisiana, the  
Northern Coastal Region and the Gulf Basin Province: LA  
G.S. Folio Series #3 [author/CBD oral commun 8/82]  
p. 1-58..[time/rock strat distinctions are (237)  
unclear, MLH] fL8f  
9(pl.4)..[Fm], 19(F.19B)..substage

under: Buda [Fm]  
over: Main Street [Fm]

Low.Cret (Comanchean)

Sabine Uplift area  
LA

Grayson Fm (0-27')

1980

Huffman, G. G., Stratigraphy of the Woodbine Formation  
(Upper Cretaceous), southern Oklahoma: OK G.S. "Geol  
Notes" v.40, no.1 Feb G(244)  
p. 3-16, 8-9(F.3)..strat col H76  
4

under: basal sh of Dexter Mbr, Woodbine Fm (Gulfian)  
over: Bennington Ls (Comanchean)

olive-gray to lt green-gray marlst w/ white nodular ls,  
fossils

(Comanchean)

U.Cret

s.OK

Grayson Fm  
(Washita Gp)

1980

Louisiana G.S., Dept Nat Resources, Parish Atlas of  
Louisiana, Oil and Gas Fields: LA G.S. Folio Series #4  
I-XII, 1-64..parish maps (237)  
X..generalized geol map..from various sources fL8f  
XI..composite col sec of LA by David E. Pope  
[shows accepted state use as of 1980]

under: Buda Fm (Low-U.Cret)  
over: Main Street Fm (Low-U.Cret)

(Comanche)  
Low-U.Cret

LA

Grayson Marlstone (20')  
(Washita Gp)

1987

Huffman, G.G., Bridges, K.F., Ganser, R.W., Holtzman,  
A.M. Jr., & Merritt, M.L., Geology & Mineral Resources of  
Marshall County, Oklahoma: OK G.S. Bull 142 (244)  
p. 1-126 (geol & subsurf struct maps in pocket) Ok5b  
16-17 (Fig 4)..strat col..rx exposed in Marshall Co  
38-39  
108-122..meas secs (Appendix)  
incl Bennington Ls bed (2.5')

(Comanchean)

E.-L. Cret

[g.p. 350]

se. OK

Grayson Fm [continued use]

1990

Aeppli, D.B., Biostratigraphy and paleoecology of the Grayson Formation, McLennan County, central Texas: Baylor Geol. Studies, Bull. 50, Fall, Thesis Abstracts.

p. 6-7.. clay-dominated unit, records a period of marine sedimentation on c. TX Platform; contains 6 fossil assemblages; over: Georgetown Fm  
(E. Cret)

Early Cret

G(245)  
GB 35 b

c. TX