

DESCRIPTION OF GEOLOGIC MAP UNITS

This map shows the distribution of geologic units south of San Antonio, south of Interstate 35, and west of State Highway 16, in the Somerset Quadrangle. Geologic units were mapped, and structural elements were measured in the field; where bedrock units are covered by surficial units and vegetation, or access is limited, units were interpreted using soil data, well-drilling records, previous mapping, and surveys.

BEDROCK UNITS

SEDIMENTARY UNITS

QUATERNARY		Qal	Alluvium—River and stream floodplain deposits, silty sand, mud, channel gravel, rounded pebbles, and cobbles.
	Pleistocene or Holocene	Qt	Fluviatile terrace deposits—Gravel, silt, sand, and clay; increasing amounts of sand, silt, and clay in the Carrizo Sand unit. These deposits are mostly above flood level along entrenched streams. Fluviatile characteristics, such as point bars, oxbows, and abandoned-channel segments are well preserved. Local minor residual gravel, possibly Pliocene, may occur.
TERTIARY	Eocene	Ec	Carrizo Sand—Sandstone, medium to coarse grained, typically fining toward the top, poorly sorted, friable to locally indurated, noncalcareous, thick bedded, light-yellow to orange and brown, weathers yellowish-brown, locally iron-oxide banded, surface thickly forested with oak, thickens to the south, ranging from 65–110 ft in the north part of the map area to 330–370 ft off the map area to the south.
		Ew1 Ew2 Ew3	Wilcox Group—Mostly mudstone with varying amounts of sandstone. Uppermost and lowermost parts are commonly glauconitic; mudstone, massive to thin bedded, some silt and very fine sand laminae pale- to yellowish-brown in upper part, medium- to dark-gray weathering yellowish-gray in lower part; sandstone in upper part medium- to fine-grained, light-gray to pale yellowish-brown; in lower part very fine grained, yellowish- to moderate-brown; thickness varies between 420 and 1,560 ft. Exposed outcrop, Ew1f, parallelitic residual cover 40–80 inches thick, Ew2; residual cover deeper than 80 inches, Ew3.
		Est	Sabinetown Formation (Upper Wilcox Group)—Clay and sand; clay, silty, sandy, silt and sand more abundant upward grading to Wilcox Group mudstone and sandstone, and locally into Carrizo Sand, light- to dark-gray; sand, glauconitic to very glauconitic in lower part, argillaceous, poorly sorted, phosphatic nodules and pebbles common in lowermost part, weathers to yellow and yellowish-brown soil; thickness between 10 and 40 ft.

MAP SYMBOLS

(All map symbols may not appear on this sheet.)

	BODY OF WATER		QUARRY/SAND-PIT AREA
	COUNTY BOUNDARY		FAULT CONTACT—Showing local normal offset—U, upthrown block; D, downthrown block, with amount of displacement
	INTERMITTENT STREAM / CREEK		SAMPLE LOCALITY—Location of sample taken for analytical work
	HIGHWAY		BEDDING—Sedimentary bedding plane showing strike and dip
	ROAD/STREET		HORIZONTAL BEDDING

REFERENCES

Brown, T. E., Waechter, N. B., and Barnes, V. E., 1974, San Antonio Sheet: The University of Texas at Austin, Bureau of Economic Geology, Geologic Atlas of Texas, scale 1:250,000.

Clark, L. W., and Day, J. R., 1929–1931, Internal Map Sheet, San Antonio Sheet "B"—Areal Geology: Amerada Petroleum Corporation, Tulsa, Oklahoma, scale 1:250,000.

Elliott, B. A., 2013a, Geologic Map of the Poteet Quadrangle, Texas: The University of Texas at Austin, Bureau of Economic Geology, Open-File Map No. 207, scale 1:24,000.

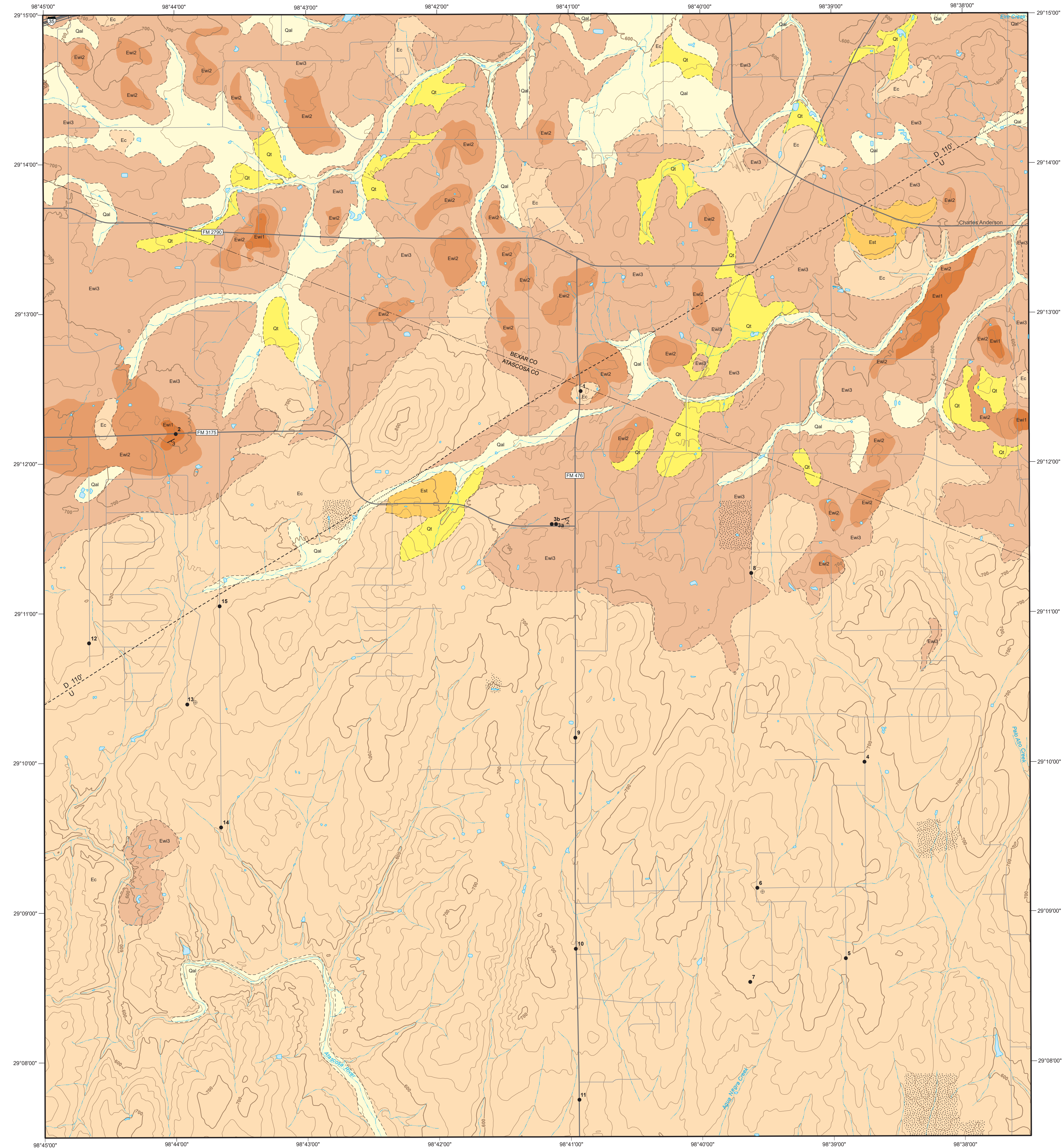
Elliott, B. A., 2013b, Geologic Map of the Thelma Quadrangle, Texas: The University of Texas at Austin, Bureau of Economic Geology, Open-File Map No. 208, map scale 1:24,000.

U.S. Geological Survey, 1958, (Photo-revised 1982), Somerset Quadrangle, Texas [map]: USGS, scale 1:24,000, 7.5-Minute Series.

Wright, A. C., 1963, Internal Map Sheet, San Antonio: Shell Oil Co., Houston, Texas, scale 1:250,000.



Bedding and contact between lower coarse- to medium-grained hematitic, orange to red sandstone and overlying white to tan, silty, indurated fine-grained sandstone in the Wilcox Group (photo taken 03/07/18 by B.A. Elliott).



41½°
MAGNETIC
DECLINATION
APPROXIMATE MEAN
DECLINATION, 2018

1 ½ 0 1 MILE 1 .5 0 1 KILOMETER

SCALE 1:24,000

UNIVERSAL TRANSVERSE MERCATOR PROJECTION, ZONE 14N, NAD 83
CONTOUR INTERVAL 20 FT
DATUM IS MEAN SEA LEVEL

GEOLOGIC MAP OF THE SOMERSET QUADRANGLE, TEXAS

Brent A. Elliott

2018

Topographic base map from:

U.S. Geological Survey
(1958—photo-revised 1982)

Projection:

Universal Transverse Mercator Zone 14N

Datum:

North American Datum of 1983

Bedrock geologic field investigations by:

Brown et al. (1974)
Elliott, B. A. (2013a, 2013b)

Faults mapped by:

Amerada Petroleum (Clark, L. W., and Day, J. R., 1929–1931)
Shell Oil Company (Wright, A. C., 1963)



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