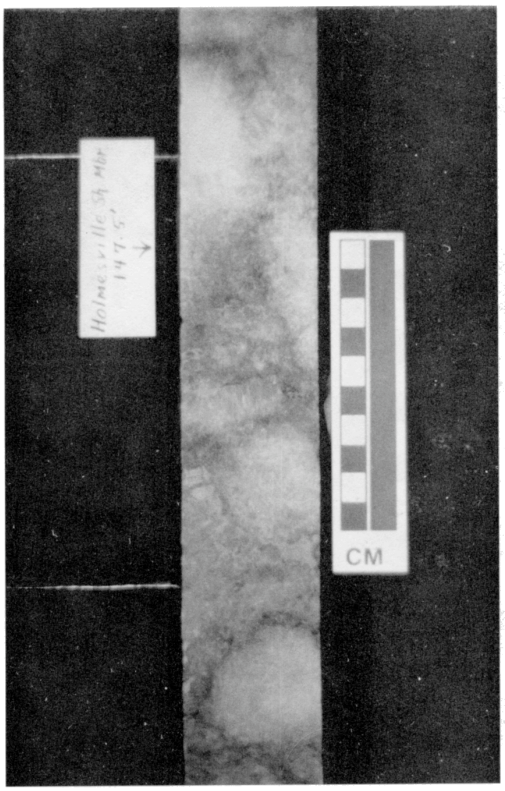
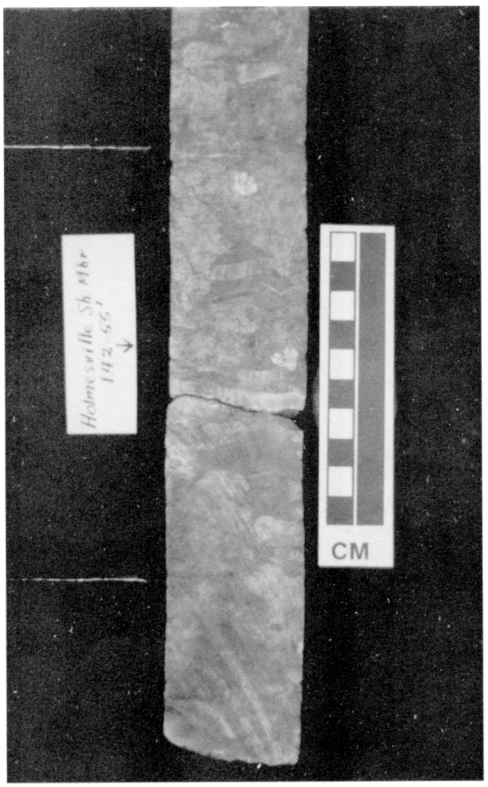
From *Chase Group from the near-surface Amoco No. 1 Hargrave core, Riley County, Kansas*, by Page C. Twiss, part of Kansas Geological Survey Open-file Report 91-52, available online at http://www.kgs.ku.edu/PRS/publication/1991/OFR91_52/index.html

Figure 4—Bedded gypsum and gypsum inclusions in Chase Group, Amoco No. 1 Hargrave Core.

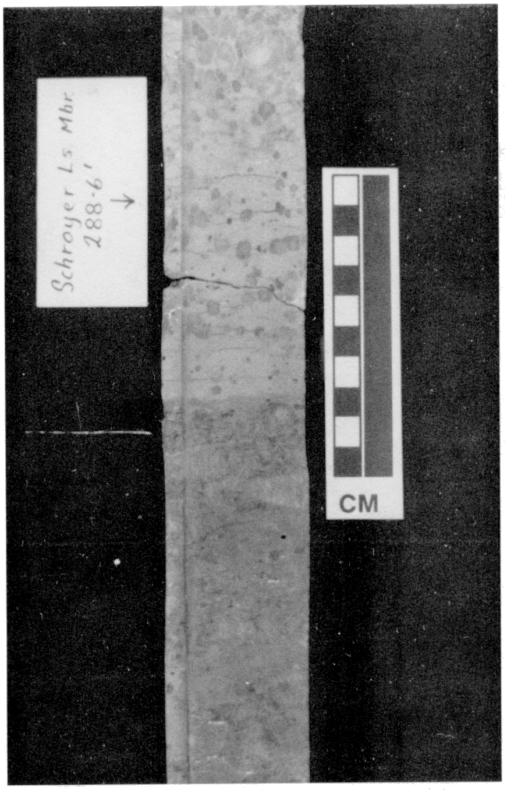
A. Bedded gypsum in Holmesville Shale Member of Doyle Shale at 147.5 ft. White circular bodies may have been anhydrite originally.
B. Subspherical gypsum nodules and associated bands of satin spar in dolomitic mudstone of Holmesville Shale Member at 142.55 fL
C. Small spherical gypsum inclusions in upper, light-gray dololutite. Small inclusions occur in lower, medium-gray dololutite that also contains lensoid inclusions of satin spar adjacent to the base of scale. Note sharp boundary at about 3 cm. The lower dololutite also contains rectangular, micrograined clasts of dolomicrite. This slab is from the Schroyer Limestone Member of Wreford Limestone at 288.6 ft.
D. Medium-gray, irregular gypsum inclusions in light-gray wackestone. White chert nodules are outlined in black. Sample is from the Threemile Limestone Member of Wreford Limestone at 321.0 ft.



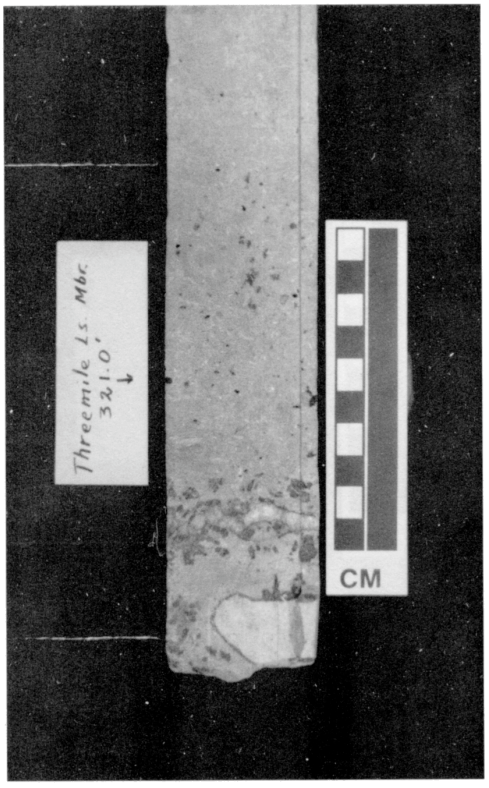
A



B



C

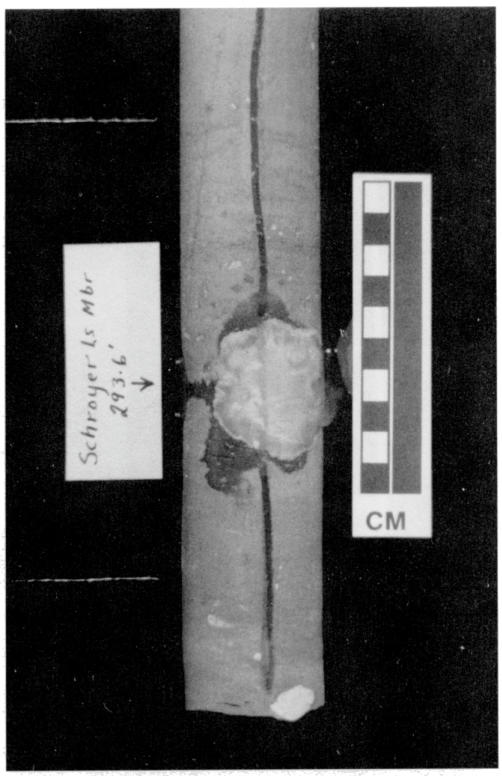


D

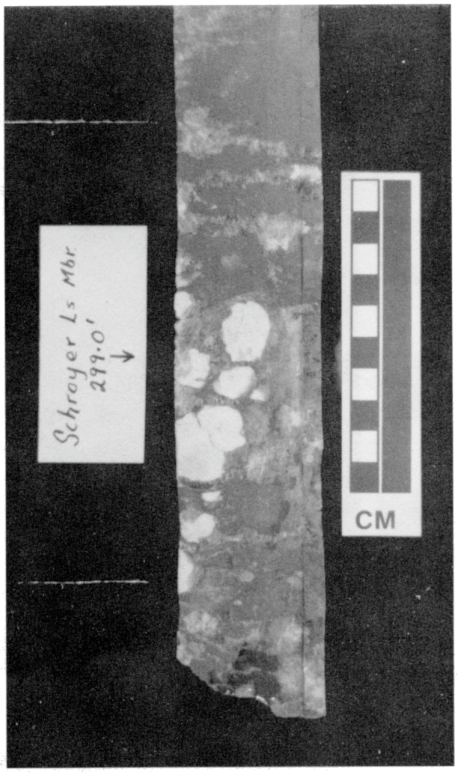
FIGURE 4

Figure 5—Association of chert and gypsum in the Chase Group, Amoco No. 1 Hargrave Core.

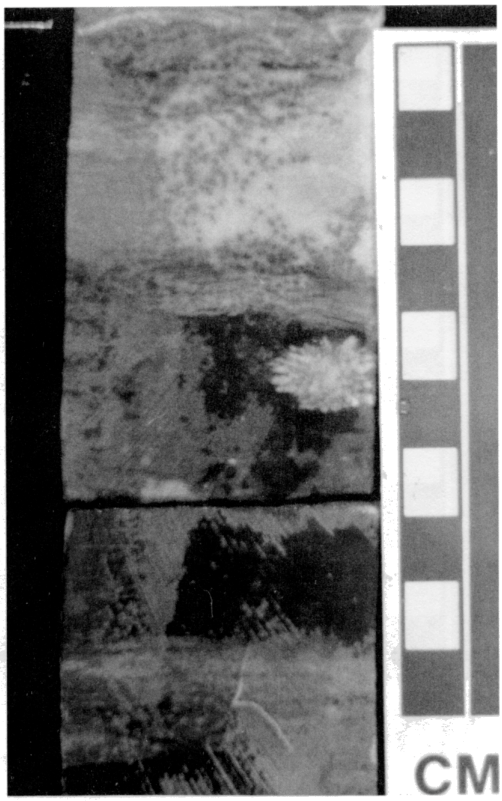
A. Partly silicified gypsum nodule in Schroyer Limestone Member of Wreford Limestone at 293.6 ft. Dark concentric band inside nodule is gypsum, whereas the lighter color is microquartz.
B. White, nodular bodies are microquartz that have replaced original gypsum or anhydrite. Darker bodies are gypsum that are joined and surrounded by satin spar. Sample is dololutite in middle of Schroyer Limestone Member of Wreford Limestone at 299.0 ft.
C. Chert rosette that was originally gypsum or anhydrite. Laminated, clayey wackestone of the Florence Limestone Member of Barneston Limestone at 198.6 ft.
D. Irregular chert nodule (opposite arrow) surrounded by small irregular gypsum inclusions in calcilutite of Florence Limestone Member at 212.0 ft.



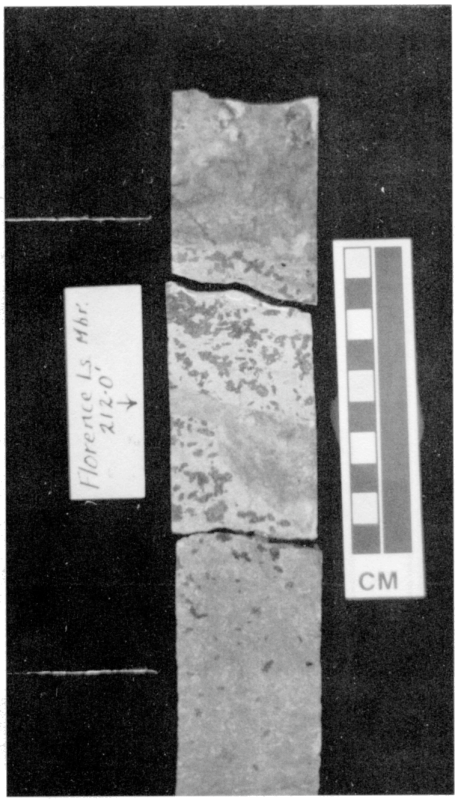
A



B



C

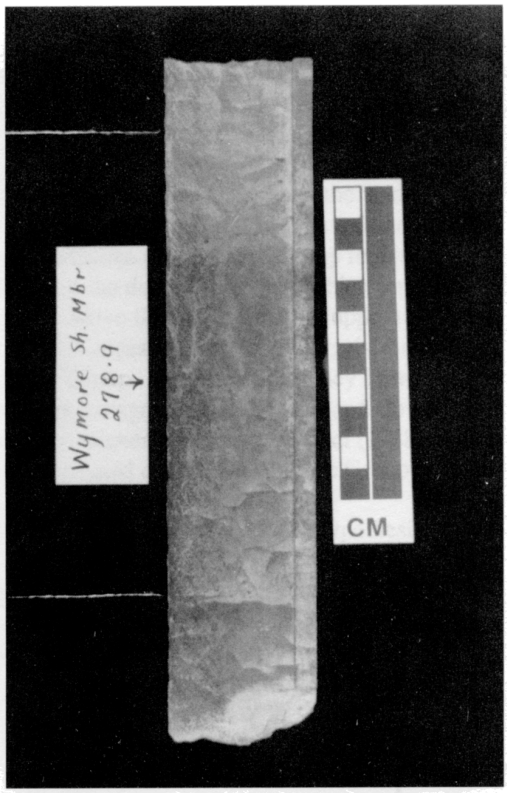


D

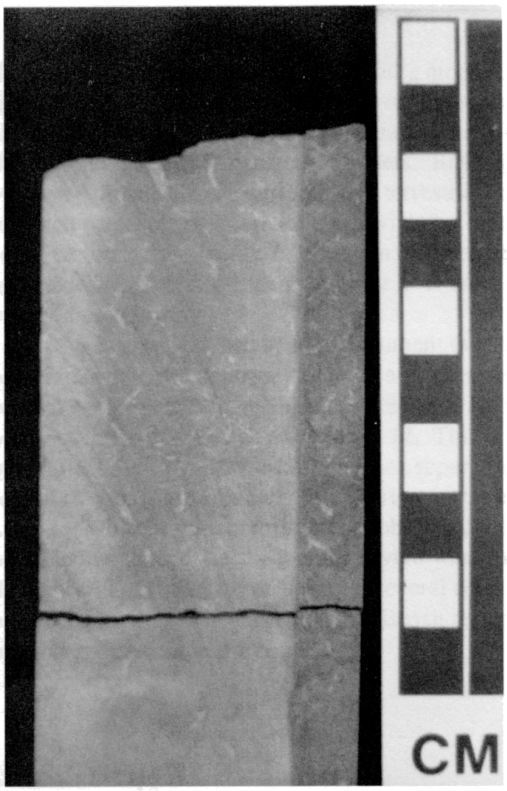
FIGURE 5

Figure 6—Paleosols, burrows, and grainstone in Chase Group, Amoco No. 1 Hargrave Core.

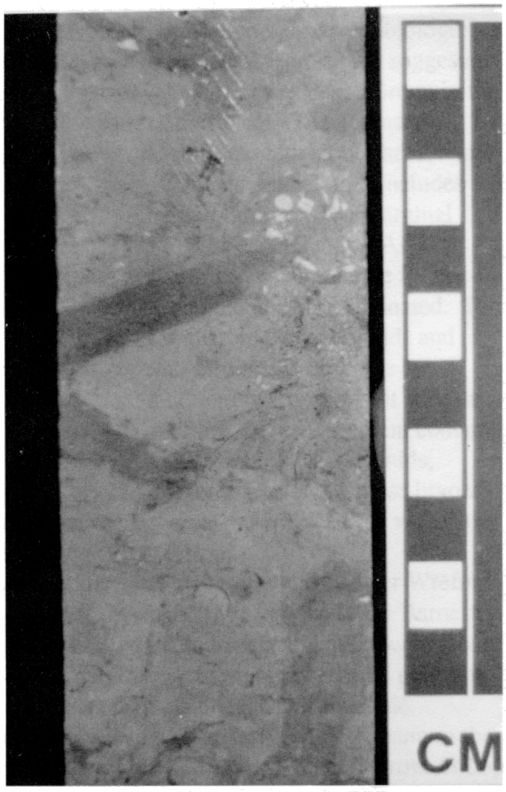
A. Paleosol in Wymore Shale of Matfield Shale at 278.9 ft. Note the sharp boundary at 8 cm on scale in which reddish mudstone is truncated by greenish-gray mudstone. Root traces are greenish gray, vertical threads in the lower reddish mudstone.
B. Paleosol in Blue Springs Shale Member of Matfield Shale at 231.4 ft. Root traces are light-colored, gleyed, irregular, and elongate inclusions in pale-red siltstone.
C. Dark, elongated, and branched planolitid burrow in bioturbated, light-gray wackestone. Upper burrow terminates in a pocket of crinoidal debris at 8 cm on scale. "Rimrock" (prominent ledge in outcrop) at base of Fort Riley Limestone Member of Barneston Limestone at 179.8 ft.
D. Dark, bedded, oolitic and coated-grain grainstone near base of the Towanda Limestone Member of Doyle Shale at 134 ft. Good intergranular and oomoldic porosity.



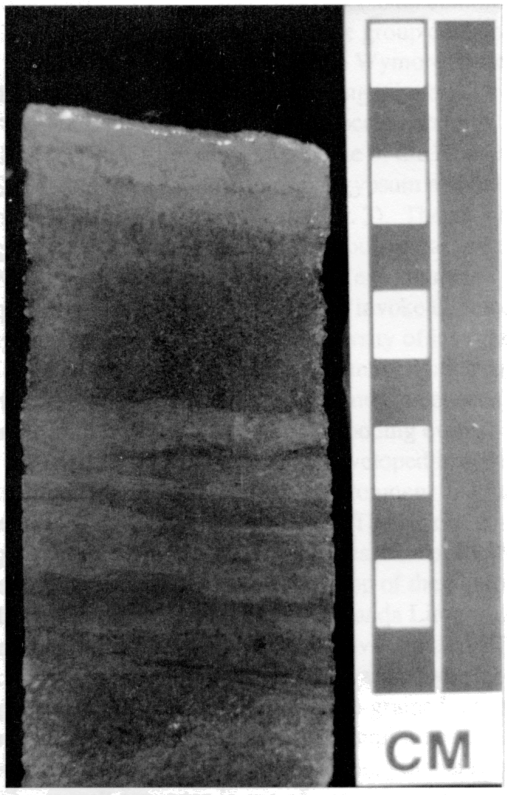
A



B



C



D

FIGURE 6