

Figure 48. Reagan facies, composed of fine-grained sandstone largely cemented by quartz that has grown syntaxially on original grains. Q, quartz; G, glauconite; P, phosphate (collophanite). Polarized light; view  $2 \times 1$  mm.



Figure 49. Reagan facies, composed of coarse-grained sandstone dominated by rounded quartz grains (highlighted) and showing fine, syntaxial overgrowths. Q, quartz grains; G, glauconite; S, syntaxial overgrowths. Ordinary light; view  $2 \times 1$  mm.

(following Nelms, 1958; Brookby, 1969): (a) Lower Limestone unit, (b) Middle Silty Limestone unit, and (c) Upper Massive-bedded Limestone unit. The total thickness of the formation is about 600 ft.

The units of the Fort Sill Formation are dominantly micritic and generally unfossiliferous. Small-scale (ripple) cross-bedding is present in the Middle unit, and stromatolites are in the Upper unit. Although the Royer Dolomite is absent, the Middle unit is partly dolomitic. The formation seems to record a period of low-energy sedimentation in shallow water of restricted circulation.

The contact between the Upper unit of the Fort Sill Formation and the overlying Signal Mountain Formation is sharp and locally has controlled the trend of the Blue Creek Canyon Fault. The massive Upper unit is succeeded by medium-gray, thinly bedded, fossiliferous limestones, and calcareous shales and mudstones that do not form prominent relief. Thin intraformational conglomerates occur. Brookby (1969), working on sequences exposed to the northeast, was able to place the Cambrian–Ordovician boundary (on fossil evidence) about 400 ft above the base of the formation. Although at least this thickness is exposed, the boundary has not yet been located in the Blue Creek Canyon outcrop. Further-

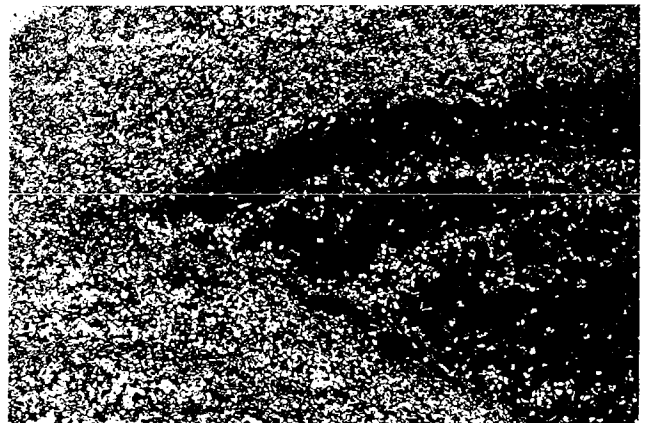


Figure 50. Timbered Hills Group. Transitional rock at Reagan–Timbered Hills contact shows lenticular sparite body resulting from diagenetic loss of calcite. Sediment originally was interlayered carbonate and quartz–glauconite sand; carbonate has been lost from most of rock, leaving a fine-grained quartz–glauconite sandstone. Carbonate is stained. View  $3 \times 2$  cm.

more, measured thicknesses in this section are highly suspect, because much tectonic movement has occurred along bedding horizons in the fissile shales.