

TECTONICS AND SEDIMENTATION - PHANEROZOIC ROCKS, GOLDEN - MORRISON AREA, COLORADO (ABSTRACT)

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The purpose of this one-day field trip is to examine outcrops of the Phanerozoic rocks along the Colorado Front Range, Golden - Morrison area, Colorado. Tectonic influences on sedimentation in the three types of basins are observed: synorogenic deposits in the middle and late Paleozoic (ancestral Rocky Mountains, Stops 1 and 2); late Jurassic and Cretaceous sequences in the geographic center of the western interior (foreland or back arc) basin, (Stops 3, 4, and 5); synorogenic sedimentation associated with the Laramide orogeny, late Cretaceous and Paleocene (Stop 6). Each sequence records different aspects of basin development and associated orogeny in the continental plate.

STOP #1 - LOCATION: Red Rocks Park

EXAMINE: Precambrian basement and Pennsylvanian Fountain Formation

REFERENCES:

- Clement, J. H., 1977, Geological-geophysical illustrations of structural interpretations in Rocky Mountain basement tectonic terranes: American Association of Petroleum Geologists Structural Geology School course notes, 50p.
- Tweto, O., 1979, Geologic Map of Colorado: U.S. Geological Survey.
- LeRoy, L. W., and D. A. LeRoy, 1978, Red Rocks Park - Geology and Flowers, Colorado School of Mines Press

STOP #2 - LOCATION: Morrison, Colorado

EXAMINE: Lyons Sandstone

REFERENCES:

- Weimer, R. J., and R. A. Erickson, 1976, Lyons Formation (Permian), Golden, Morrison Area, Colorado: in Epis, R. C., and Weimer, R. J. (eds.), Studies in Colorado field geology: Professional contributions of the Colorado School of Mines, no. 8, pp. 123-138.
- Weimer, R. J., and Land, C. B., Jr., 1972, Lyons Formation (Permian), Jefferson County, Colorado: a fluvial deposit: Mountain Geologist, vol. 9, pp. 289-297.

STOP #3 - LOCATION: Turkey Creek, US 285

EXAMINE: Dakota Group

REFERENCES:

- Weimer, R. J., and Land, C., 1972, Field guide to Dakota Group (Cretaceous) stratigraphy,

Golden - Morrison area, Colorado: Mountain Geologist, vol. 9, nos. 2-3, pp. 241-267.

MacMillan, L. T., and Weimer, R. J., 1976, Stratigraphic model, delta plain sequence, J sandstone (Lower Cretaceous), Turkey Creek area, Jefferson County, Colorado: in Epis, R. C., and Weimer, R. J. (eds.), Studies in Colorado field geology: Professional contributions of Colorado School of Mines, no. 8, pp. 180-227.

STOP #4 - LOCATION: Bear Creek, State Road 8

EXAMINE: Dakota Group

REFERENCES:

- Weimer, R. J., and Land C. B., Jr., 1972, Field guide to Dakota Group (Cretaceous) stratigraphy, Golden-Morrison area, Colorado: Mountain Geologist, vol. 9, nos.2-3, pp. 241-267.

STOP #5 - LOCATION: Roney Road, South of Alameda Road

EXAMINE: Codell, Juana Lopez, and Niobrara Formations

REFERENCES:

- Pinell, M. J., 1983, Stratigraphy of some of the Carlile Shale and Niobrara Formation near Morrison, Colorado: in Merewether, E. A. (ed.), Mid-Cretaceous Codell Sandstone Member of Carlile Shale, eastern Colorado: Rocky Mountain Section SEPM Spring Field Trip Guidebook, pp.14-16.

STOP #6 - LOCATION: Rooney Road, South of I-70

EXAMINE: Pierre Shale, Fox Hills, Laramie, and Arapaho Formations

REFERENCES:

- Weimer, R. J., and Tillman, R. W., 1980, Tectonic influence on deltaic shoreline facies, Fox Hills Sandstone, west-central Denver basin: Professional contributions of the Colorado School of Mines, no. 10.
- Weimer, J. J., 1976, Cretaceous stratigraphy, tectonics and energy resources, western Denver basin: in Epis, R. C., and Weimer, R. J. (eds.), Studies in Colorado field geology: Professional contributions of Colorado School of Mines, no. 8, pp. 180-227.

