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TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

- Subject:** Oil-Impregnated Sandstone, Uintah Basin, Utah
- Reference:** Picard, M. Dane and High, Lee R. Jr., "Sedimentology of Oil-Impregnated, Lacustrine and Fluvial Sandstone, P. R. Spring Area, Southeast Uintah Basin, Utah," Utah Geological and Mineralogical Survey Special Studies 33, August 1970.
- Data:** Oil-impregnated intervals, up to 75 feet thick within a stratigraphic interval of about 250 feet in the Garden Gulch and Parachute Creek Members of the Green River Formation (eocene), are exposed in beds that dip gently northward in the P. R. Spring area. Reserve estimates indicate that there may be about 3.7 billion barrels of oil in place. Sedimentologic study of oil-impregnated and related beds in the area was started in 1969.

Paleocurrent measurements from cross-stratification and ripple marks are related to paleoslope, orientations of shorelines and sandstone-body trends in the lacustrine and fluvial setting of the Upper Wasatch Formation (Paleocene?-Eocene) and the Lower Green River Formation. A total of 308 paleocurrent measurements was made at 13 localities in the P. R. Spring area: 123 from sandstone beds of fluvial origin and 185 from lacustrine sandstone bodies.

Seven of nine fluvial paleocurrent patterns indicate that streams flowed northward into Lake Uintah in the P. R. Spring area. The considerable scatter in the paleocurrent measurements suggests that the streams had low gradients and were meandering. Many of the fluvial sandstone bodies are oriented approximately northward-inclined foreset laminae.

Nine of ten lacustrine paleocurrent patterns have significant intervals in the south half of the compass. These directions are interpreted to be dominantly the result of onshore lake currents. The shorelines of Lake Uintah probably trended northeast, in the Cooper Canyon and Threemile Canyon areas, shorelines were oriented northwest-southeast.

The paleocurrent patterns of fluvial and lacustrine sandstone are both unimodal. The two environments can be differentiated, however, on the basis of paleocurrent orientations. The fluvial currents flowed northward; the lacustrine currents were southerly.

(The above material was supplied by Daniel Jones, Utah State Office.)