**AAPG Annual Convention
Salt Lake City, Utah
May 11-14, 2003**

R.L. Kaufman, ChevronTexaco, San Ramon, CA

Evaluating Reservoir Continuity Using Reservoir Pressure and Fluid Composition Data—A Geochemical Perspective

Evaluating reservoir continuity is an important aspect of prospect evaluation, development planning and reservoir management. Many different types of data are used to address this. Two important types of data are reservoir pressures and the composition of the reservoir fluids. Prior to production, these measurements will represent static data and barriers to fluid flow detected will tend to reflect processes which operate on a geologic time scale. Once production commences, dynamic data will become available and barriers which are effective on a production time scale will become apparent. The use of reservoir pressure data to detect both types of compartmentalization is used extensively through out field development and production. The reservoir fluid data are an important compliment to the pressure data and have the advantage of providing a direct measure of reservoir fluid continuity. Many different measurements of the reservoir fluid are available, both at reservoir and atmospheric conditions, but it has become increasingly common to apply some type of detailed oil fingerprinting for this purpose. Typically the analysis of reservoir pressures and the oil fingerprinting data will give similar results. In some situations, however, this is not the case and can be a source of confusion in determining the true nature of the reservoir architecture. When these situations occur, it is often because the processes that control the reservoir pressures and the timing of their development are different from those controlling the reservoir fluid filling history. In this paper we will show several case studies illustrating the complimentary nature of reservoir pressure and fluid composition data. We will also discuss geologic settings where these two types of data give divergent views of reservoir continuity and offer an explanation for this behavior.