

1154-VN-1717 **Malcolm Alexander Gehlbach*** (mgehlbach8@gmail.com), Cameron University, 2800 W Gore Blvd, Attn: Math Department (Dr. Joshi), Lawton, OK 73505, and **Janak R Joshi**.
Reaction-Advection-Dispersion Equation.

We study the transportation of a chemical or biological tracer carried by water through a uniform, one-dimensional, saturated porous medium and derive the simple mathematical model based on Mass balance that incorporate advection, dispersion, and diffusion. Mass balance states that the rate of change of the total mass in arbitrary section of the medium must equal the net rate that the mass flows into the section through it's boundaries, plus the rate that the mass is created or destroyed within the section. (Received September 16, 2019)