We use the following property (We assume $\lambda_1 \neq \rho_w$)

$$\frac{1}{(1-\lambda_1 B)(1-\rho_w B)} = \frac{A_1}{1-\lambda_1 B} + \frac{A_2}{1-\rho_w B}$$

where A_1 and A_2 must satisfy

$$A_1 = \frac{\lambda_1}{\lambda_1 - \rho_w} \quad \text{and} \quad A_2 = \frac{\rho_w}{\rho_w - \lambda_1}$$

So, we deduce

$$L_t = \mu \frac{\lambda_1}{\lambda_1 - \rho_w} \sum_{i=0}^{\infty} \lambda_1^i \varepsilon_{w,t-i} + \mu \frac{\rho_w}{\rho_w - \lambda_1} \sum_{i=0}^{\infty} \rho_w^i \varepsilon_{w,t-i}$$