Boundary	Condition		
$z = 0$	Known concentration	(1)	$\mathrm{O_2}(0) = O_{20}$
$z = z_{\mathrm{bio}}$	Continuity	(2)	$\mathrm{O_2}(z_{\mathrm{bio}}^-) = \mathrm{O_2}(z_{\mathrm{bio}}^+)$
		(3)	$-\left(D_{\mathrm{O_2},0} + D_{\mathrm{bio}}\right) \cdot \frac{\partial \mathrm{O_2}}{\partial z}\vert_{z_{\mathrm{bio}}^-} = -D_{\mathrm{O_2},0} \cdot \frac{\partial \mathrm{O_2}}{\partial z}\vert_{z_{\mathrm{bio}}^+}$
$z = z_{\mathrm{ox}}$	$\mathrm{O_2}$ consumption	(4)	**IF**$(\mathrm{O_2}(z_{\mathrm{max}}) > 0)$
	$(z_{\mathrm{ox}} = z_{\mathrm{max}})$	(4.1)	$\frac{\partial \mathrm{O_2}}{\partial z}\vert_{z_{\mathrm{ox}}} = 0$
			ELSE
	$(z_{\mathrm{ox}} < z_{\mathrm{max}})$	(4.2)	$\mathrm{O_2}(z_{\mathrm{ox}}) = 0 \quad \text{and} \quad -D_{\mathrm{O_2}} \cdot \frac{\partial \mathrm{O_2}}{\partial z}\vert_{z_{\mathrm{ox}}} = F_{\mathrm{red}}(z_{\mathrm{ox}})$
	with		$F_{\mathrm{red}}(z_{\mathrm{ox}}) = \frac{1-\phi}{\phi} \cdot \int_{z_{\mathrm{NO_3}}}^{z_{\mathrm{max}}} \sum_i \left(2\gamma_{\mathrm{NH_4}}\mathrm{NC}_i + 2\gamma_{\mathrm{H_2S}}(1-\gamma_{\mathrm{FeS}})\mathrm{SO_4C}\right) k_i \mathrm{POC}_i \ \mathrm{d}z$