$$\frac{3x^2-2x-1}{x^3-1} \leq 0 \quad \Leftrightarrow \quad \frac{(3x+1)(x-1)}{(x-1)(x^2+x+1)} \leq 0$$

$x^2+x+1 > 0 \quad \forall x \in \mathbb{R}$

Signe

$$3x^2-2x-1 = (3x+1)(x-1) = 0 \quad \Leftrightarrow \quad x = -1/3 \quad \cancel{x \neq 1}$$

x		$-1/3$		1	
$f(x)$	$-$	0	$+$	$\|$	$+$

$$\Rightarrow \quad \frac{3x^2-2x-1}{x^3-1} \leq 0 \quad \Leftrightarrow \quad x \in]-\infty; -1/3]$$