This was proved by Picard, and Severi showed that a multiple λD $(\lambda \in \mathbb{Z})$ is algebraically equivalent to zero (to be explained momentarily) if and only if there is a closed meromorphic 1-form whose residue is D. Combining these, it follows that the Neron-Severi group

$$NS(M) = \frac{\{\text{divisors on } M\}}{\left\{\begin{matrix}\text{divisors algebraically} \\ \text{equivalent to zero}\end{matrix}\right\}}$$

is finitely generated (theorem of the base).

If D is algebraically equivalent to zero, $\exists$ a closed meromorphic 1-form φ with $R(\varphi) = D$.
$\Rightarrow$ $i(D) = 0$ $\Rightarrow$ $i(NS(M)) \subset H^2(M, \mathbb{C})$.
$\Rightarrow$ Since $H^2(M, \mathbb{C})$ is finite dimensional, $i(NS(M))$ is finitely generated. ($\because$ i is injective on $NS(M)$)
We will see this more clearly

The structure of the group of divisors on M may be pictured by the diagram

$H^{1,1}(M) \cap H^2(M, \mathbb{Z})$ see p.44

$$\underbrace{\underbrace{Div \supset Div_h}_{NS} \supset \underbrace{Div_a \supset Div_l}_{Pic^0}}_{Pic}$$

where Div_h, Div_a, Div_l are the divisors homologous, algebraically equivalent, and linearly equivalent to zero.