NO.

DATE . . ( )

$$\begin{array}{ccc} \mathbb{P}^3 & \xrightarrow{\psi} & G(3,6) \\ \Psi & & \Psi \\ p & \longmapsto & \sigma(p) \end{array}$$ is holomorphic

and ψ is one to one $\Rightarrow$ $\psi(\mathbb{P}^3) = \tau$ is a 3-dimensional cycle in $G(3,6)$.

W_F is an analytic subvariety of $G(3,6)$, for given any Λ_2, by changing coordinates, we may assume $\Lambda_2 = \mathbb{P}^2 \subset \mathbb{P}^5$. $\Rightarrow$ If we let $F = (F=0)$, where F is a quadratic in $\mathbb{P}^5$, then, by the coordinate change, $F = \sum_{0 \le i,j \le 2} q_{ij} x_i x_j$, where each q_{ij} is a function (polynomial) in some variables z_j's representing Λ_2. $\Rightarrow$ For F to be a double line, rank $F = 1$ $\Rightarrow$ $\exists$ analytic equations in z_j's. $\Rightarrow$ W_F is analytic in $G(3,6)$.

* Consider the following map ϕ defined by

all conics in a plane

$$\begin{array}{ccc} \phi : G(3,6) & \longrightarrow & W = \mathbb{P}^5 \\ \Psi & & \Psi \\ \Lambda_2 & \longmapsto & \Lambda_2 \cap F \end{array}$$

rank 1 conics (in fact $\Lambda_2 \cdot F$).

$\Rightarrow$ ϕ is holomorphic and ϕ is transverse to W_2 since $\dim \phi(G(3,6)) = 5$.

$\Rightarrow$ $\phi^{-1}(W_2)$ has codimension 3 in $G(3,6)$

$\Rightarrow$ $\dim \phi^{-1}(W_2) = 6$ $\Rightarrow$ $\phi^{-1}(W_2) = W_F$ is of dimension 6.* Note: the 'argument' is not rigorous!!