$\ulcorner$ By the result on P.741, $\Sigma_{1,2} \sim 2^2 \cdot \sigma_{2,1}$, since $k=1$, $n=2$. ⌟

The base locus of the pencil L, being a smooth intersection of two quadrics, is an elliptic curve C of degree 4, and in fact it is not hard to see that $V_0(L)$ is just the set of chords to C: on the one hand, if $l \subset F_\lambda$ for some λ, then $C \cap l = F_\lambda \cap F_{\lambda'} \cap l = F_{\lambda'} \cap l$ consists of two points; on the other hand, if l meets C in two points p and q, then for any third point $r \in l$ some quadric $F_\lambda \in L$ contains r, and so contains l.

$\ulcorner$ Observation:

① If we let F, G be smooth quadrics, then since $V(F)$ & $V(G)$ are homologous to $4\,\sigma_{2,1}$ and $4\,\sigma_{2,1} \cdot 4\,\sigma_{2,1} = 0$ in $G(2,4)$ ($\because$ $a_1 = 2 \neq 2 - b_2 = 1$; see P198), $F \cap G$ does not contain $\mathbb{P}^1$ if F & G are generic quadrics.

② If we let $F \cap G = C$, C smooth curve, by the adjunction formula on P147, refer to P550,

$$K_F = K_{\mathbb{P}^3} + F|_F = -4H + 2H|_F = -2H|_F$$
$$K_C = K_F + G|_C = K_F + C|_C, \text{ since } C = F \cap G$$

and if $(\sigma = 0) = G$, $\sigma \in H^0(F, \mathcal{O}(2H))$ and $\sigma|_C \in H^0($