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*On Rational Sections of Yoshida Elliptic Surfaces.*

A Yoshida surface is a double cover of the complex projective plane, branched over the union of six lines. It is given by the equation

$$y^2 = x(x-1)t(t-1)(at+bx-1)(ct+dx-1)$$

with parameters  $a, b, c, d \in \mathbf{C}$ . With certain exceptions, a Yoshida surface is a  $K3$  surface, with Picard number  $\rho$  satisfying  $16 \leq \rho \leq 20$ , and can be considered as an elliptic surface with Mordell-Weil rank  $r$  satisfying  $0 \leq r \leq 4$ . In this note, we give an algebraic proof that, for generic  $(a, b, c, d)$ , the Mordell-Weil rank of the elliptic surface is 0. (Received September 28, 2000)