

$\mathbf{r}(u, v) = 2 \sin u \mathbf{i} + 5 \cos u \mathbf{j} + v \mathbf{k}$, so the corresponding parametric equations for the surface are $x = 2 \sin u$, $y = 5 \cos u$, $z = v$. For any point (x, y, z) on the surface, we have $(x/2)^2 + (y/5)^2 = \sin^2 u + \cos^2 u = 1$, so cross-sections parallel to the xy -plane are all ellipses. Since $z = v$ with $0 \leq v \leq 3$, the surface is the portion of the elliptical cylinder $x^2/4 + y^2/25 = 1$ for $0 \leq z \leq 3$.