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Let the vector fields X_1, \dots, X_6 form an orthonormal basis of \mathcal{H} , the orthogonal complement of a Cartan subalgebra (of dimension 2) in $SU(3)$. We prove that weak solutions u to the degenerate subelliptic p -Laplacian

$$\Delta_{\mathcal{H},p}u(x) = \sum_{i=1}^6 X_i^* (|\nabla_{\mathcal{H}}u|^{p-2} X_i u) = 0,$$

have Holder continuous horizontal derivatives $\nabla_{\mathcal{H}}u = (X_1u, \dots, X_6u)$ for $p \geq 2$. (Received January 23, 2019)