Observables from vector meson photoproduction by linearly-polarized photons can be expressed in terms of bilinear combinations of helicity amplitudes parameterized by the Spin Density Matrix Elements (SDMEs). These SDMEs, which are reconstructed from the measured polarization observables, give straightforward relations for understanding the nature of the parity exchange at threshold energies, as well as for extracting signatures of the Okubo-Zweig-Iizuka violation. This paper will show our measurements of the SDMEs for reaction $\gamma p \rightarrow \varphi p$ from the g8b experimental data set taken in Hall B of Jefferson Lab. In particular, we shall show the observables from two separate coherent peak settings covering the respective photon energy ranges: 1.7 to 1.9 GeV (momentum transfer squared t range of -1.2 to -0.25 GeV^2) and 1.9 to 2.1 GeV (t range of -1.4 to -0.25 GeV^2).