semi-infinite wires carrying equal and opposite currents. Assuming $\bar{a}_z$ points out of paper:

$$\bar{B}_1 = \bar{a}_z \frac{\mu_0 I}{2\pi b}.$$

2. $\bar{B}_2$ is the magnetic flux density at P due to a half-circle. Taking one-half of the result in Eq. (6-38) for $z = 0$:

$$\bar{B}_2 = \bar{a}_z \frac{\mu_0 I}{4b}.$$

$$\therefore \quad \bar{B} = \bar{a}_z \frac{\mu_0 I}{2b}\left(\frac{1}{\pi} + \frac{1}{2}\right).$$