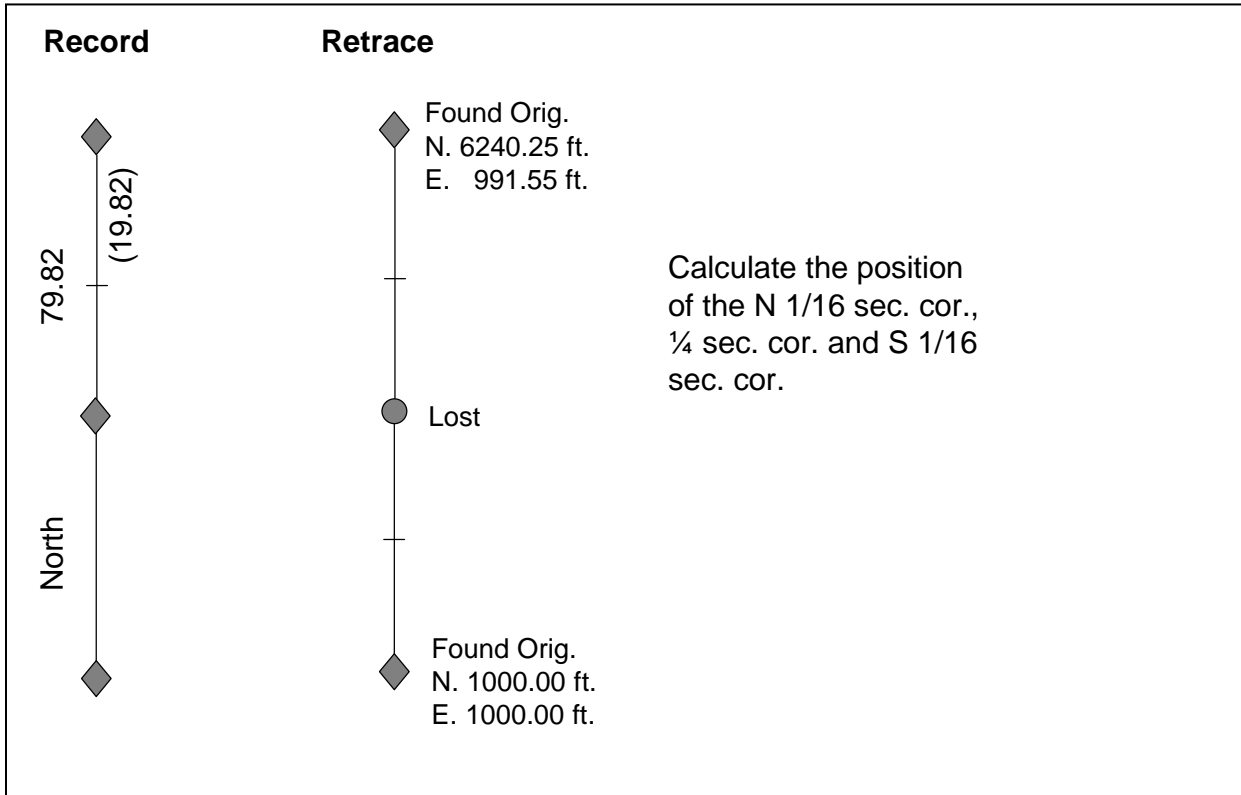


SINGLE PROPORTION EXERCISE



Record: North, 79.82

Retrace: N. 5240.25 ft.
W. 8.45 ft.

Calculate True Bearing and Distance

Dep. ÷ Lat. = Tan of the bearing

$$8.45 \div 5240.25 = 0.001613$$

ArcTan of 0.001613 = 0° 05' 33" = Retrace bearing: N. 0° 05' 33" W.

Dep. ÷ sin of the bearing = Dist.

$$8.45 \div 0.001613 = 5240.26$$

Calculate Proportion

Retrace distance ÷ Record distance = K

$$5240.26 \div 5268.12 = 0.994712$$

K x record dist. = Proportionate dist.

$$0.994712 \times 1320.00 = 1313.02$$

$$\text{"} \times 1320.00 = 1313.02$$

$$\text{"} \times 1320.00 = 1313.02$$

$$\text{"} \times 1308.12 = \underline{1301.20}$$

$$5240.26$$

Proportionate Position of the Corners

$$\text{Sin } 0^\circ 05' 33'' \times 1313.02 = 2.12$$

$$\text{"} \times 1313.02 = 2.12$$

$$\text{"} \times 1313.02 = 2.12$$

$$\text{"} \times 1301.20 = 2.10$$

$$\text{Cos } 0^\circ 05' 33'' \times 1313.02 = 1313.02$$

$$\text{"} \times 1313.02 = 1313.02$$

$$\text{"} \times 1313.02 = 1313.02$$

$$\text{"} \times 1301.20 = 1301.20$$

$$\text{S } 1/16: \text{ N. } 1000.00 + 1313.02 = \text{N. } \mathbf{2313.02}$$
$$\text{E. } 1000.00 - 2.12 = \text{E. } \mathbf{997.88}$$

$$\frac{1}{4} \text{ Sec. Cor.: N. } 2313.02 + 1313.02 = \text{N. } \mathbf{3626.04}$$
$$\text{E. } 997.88 - 2.12 = \text{E. } \mathbf{995.76}$$

$$\text{N. } 1/16: \text{ N. } 3626.04 + 1313.02 = \text{N. } \mathbf{4939.06}$$
$$\text{E. } 995.76 - 2.12 = \text{E. } \mathbf{993.64}$$

$$\text{Sec. Cor.: N. } 4939.06 + 1301.20 = \text{N. } \mathbf{6240.26}$$
$$\text{E. } 993.64 - 2.10 = \text{E. } \mathbf{991.54}$$