The Thermodynamics of Linear Fluids and Fluid Mixtures by Pekař & Samohýl

Page 214, equation (4.335)

It follows from (4.172):

$$\operatorname{grad}\mu_{\alpha} = M_{\alpha}\operatorname{grad}g_{\alpha} \tag{1}$$

and from (4.176)

$$\operatorname{grad} A^{p} = -\sum_{\alpha=1}^{n} P^{p\alpha} \operatorname{grad} \mu_{\alpha}; \ p = 1, ..., n - h.$$
 (2)

Substituting from (1) into (2) in equilibrium:

$$\mathbf{o} = \operatorname{grad} A^{po} = -\sum_{\alpha=1}^{n} P^{p\alpha} M_{\alpha} \operatorname{grad} g_{\alpha}^{o}; \ p = 1, ..., n - h.$$
 (3)

Substituting from (4.333) into (3), eq. (4.335) follows immediately.