From $dg = -sdT + vdP$ results:

The total differential of g(T,P) as a function of T and P is: $dg(T,P) = \left(\frac{\partial g}{\partial T}\right)_P dT + \left(\frac{\partial g}{\partial P}\right)_T dP$ this equal $dg = -sdT + vdP$.

Comparing gives: $-s = \left(\frac{\partial g}{\partial T}\right)_P$ and $v = \left(\frac{\partial g}{\partial P}\right)_T$.

Take care of the - sign for s.