No.
year month day ( )

$$= \begin{pmatrix} g_1 \cdot v^1, & g_1 \cdot v^2, & \cdots & g_1 \cdot v^n \\ g_2 \cdot v^1, & g_2 \cdot v^2, & \cdots & g_2 \cdot v^n \\ \vdots & & & \\ g_K \cdot v^1, & & & g_K \cdot v^n \end{pmatrix} = \begin{pmatrix} w_1 \\ \vdots \\ w_K \end{pmatrix}$$

$$\Rightarrow \quad w_1 = (g_1 \cdot v^1, \cdots \; g_1 \cdot v^n)$$
$$w_2 = (g_2 \cdot v^1, \cdots \; g_2 \cdot v^n)$$
$$\vdots$$
$$w_K = (g_K \cdot v^1, \cdots \; g_K \cdot v^n)$$

$$y_1 w_1 + \cdots + y_K w_K = v = x_1 v_1 + \cdots + x_K v_K$$

$$= (y_1 g_1 \cdot v^1, \cdots \; y_1 g_1 \cdot v^n) + (y_2 g_2 \cdot v^1, \cdots \; y_2 g_2 \cdot v^n)$$
$$+ \cdots + (y_K g_K \cdot v^1, \cdots \; y_K g_K \cdot v^n)$$
$$= \{ (y_1 g_1 + y_2 g_2 + \cdots + y_K g_K) \cdot v^1, \; (y_1 g_1 + y_2 g_2 + \cdots + y_K g_K) \cdot v^2$$

$$\Rightarrow \quad (y_1 g_1 + y_2 g_2 + \cdots + y_K g_K) \cdot v^1 = x_1 v_{11} + \cdots + x_n v$$
$$= X \cdot v^1$$
$$(y_1 g_1 + \cdots + y_K g_K) \cdot v^2 = X \cdot v^2$$
$$\vdots$$

$$\Rightarrow \quad y_1 g_1 + \cdots + y_K g_K = X \quad \text{since } v^1, \cdots v^n \text{ generates } \mathbb{C}^K.$$
$$= (g_{11} y_1 + g_{21} y_2 + \cdots + g_{K1} y_K, \cdots g_{1K} y + \cdots + g_{KK} y_K)$$
$$= (x_1, x_2, \cdots, x_K)$$
$$\Rightarrow \quad g_{ij} \, y_i = x_j$$

$$\Rightarrow \quad {}^t g_{ji} \, y_i = x_j$$
$$= ({}^t g \, Y)_j = X_j$$