$YbRe_3O_{12}$	*hP*32	(176) $P6_3/m$ – ih^3d

$Yb(ReO_4)_3$ ht [1]; $Am(ReO_4)_3$ (see remark)
Structural features: YbO_6O_3 tricapped trigonal prisms share atoms with ReO_4 tetrahedra to form a 3D-framework. See Fig. IV.61.

Khrustalev V.I. et al. (1993) [1]
$O_{12}Re_3Yb$
$a = 0.9999$, $c = 0.607$ nm, $c/a = 0.607$, $V = 0.5256$ nm^3, $Z = 2$

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
O1	12*i*	1	0.15	0.512	0.012		single atom Re
Re2	6*h*	*m*..	0.0928	0.3957	$^1/_4$		tetrahedron O_4
O3	6*h*	*m*..	0.154	0.254	$^1/_4$		single atom Re
O4	6*h*	*m*..	0.393	0.094	$^1/_4$		single atom Re
Yb5	2*d*	-6..	$^2/_3$	$^1/_3$	$^1/_4$		tricapped trigonal prism O_9

Transformation from published data: origin shift 0 0 $^1/_2$
Experimental: single crystal, diffractometer, X-rays, R = 0.083, T = 298 K

Remarks: Phase stable at high temperature. Sometimes referred to as $Am(ReO_4)_3$ type, however, the coordinates of this compound have not been determined (cell parameters in [2]).

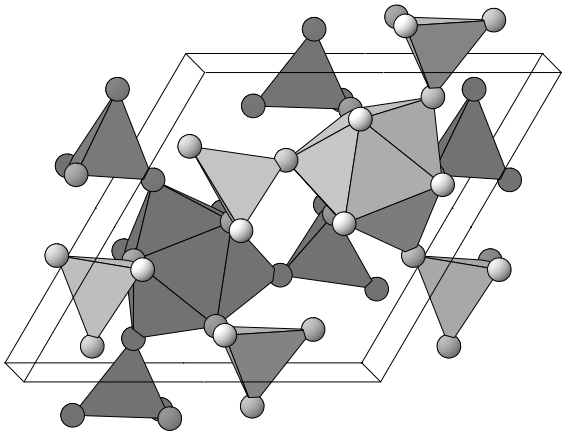

Fig. IV.61. **$Yb(ReO_4)_3$ ht**

Arrangement of YbO_6O_9 tricapped trigonal prisms and ReO_4 tetrahedra.

References: [1] Khrustalev V.I., Varfolomeev M.B., Shamray N.B., Struchkov Y.T., Pisarevskii A.P. (1993), Koord. Khim. 11/12, 871-872. [2] Silvestre J., Freundlich W., Pages M. (1977), Rev. Chim. Miner. 14, 225-229.