

FIGURE 2.14. Distribution of the PGM in the Noril'sk-Talnakh deposit of Russia (based on in-situ tonnages)

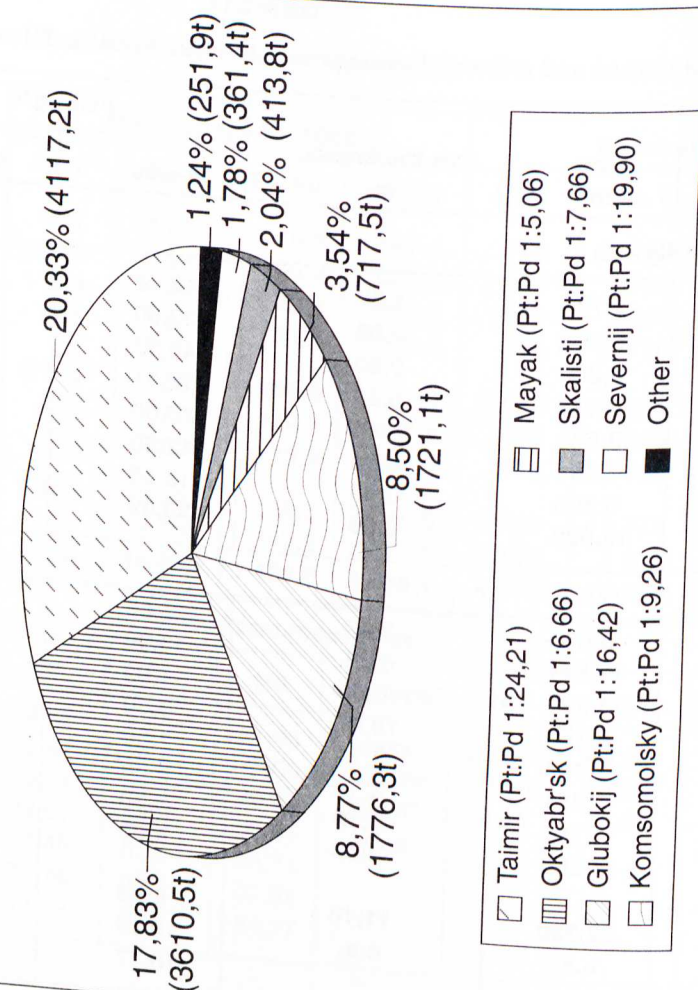


FIGURE 2.15. In-situ distribution of the PGM resources amongst the various mines of the Noril'sk-Talnakh deposit

2.14 and 2.15 have been calculated using various safety factors i.e. 85 per cent of the strike length of the mineralization and 80 per cent of its grade (except in the case of the Penikat intrusion, where 50 per cent of the grade was used because of limited samples collected from each deposit, and the fact that those samples may not be representative of the deposit as a whole). There is also much uncertainty as to whether the mineralization extends to 1200 m depth, although this has been assumed. Head grades have been assumed to be 80 per cent of the *in-situ* grades. As is shown in the tables, the PGE distribution is highly enriched in palladium (average Pt:Pd ratio 1:3,66) with the exception of the PV mineralization in the Penikat intrusion, which has a Pt:Pd ratio of 1,7:1.

The distribution of the PGM and PGM resources of the Finnish deposits are shown in Figures 2.16 and 2.17.

2.4. Zimbabwe

The so-called 'Great Dyke' of Zimbabwe is a sinuously linear, graben-like mass of ultramafic rocks, with a length of 550 km, a width of 5 to 12 km, and an age of 2416 My, which transgresses the Archaean granites and greenstone belts of the Zimbabwe craton. The rocks in the 'Dyke' normally have a thickness of 2650 m (81 per cent ultramafics, 19 per cent incompletely preserved mafics) but the maximum thickness is 4030 m (ultramafics 71 per cent, mafics 29 per cent). Any similarities with a classic dyke are purely superficial, as the inherent layering of the rocks in the graben was initially

Table 2.13

Estimated PGE reserves at mines in the Noril'sk-Talnakh area to a depth of 1200 m, t

Mine	Pt	Pd	Ru	Rh	Ir	Os
In-situ reserves						
Mayak	137,5	495,0	26,8	26,4	18,4	13,4
Komsomolsky	283,6	1 239,5	66,4	55,7	45,0	30,9
Oktyabr'sk	629,3	2 546,1	132,1	142,4	91,3	69,3
Taimyr	784,4	2 869,6	162,5	119,9	109,2	71,6
Glubokij	328,7	1 246,0	69,5	53,9	46,9	31,3
Skalisti	73,8	292,0	15,8	14,0	10,7	7,5
Severnij	67,0	253,4	14,2	10,9	9,5	6,4
Remainder	48,3	175,8	10,1	6,7	6,7	4,3
Talnakh total	2 352,6	9 117,4	497,4	429,9	337,7	234,7
Noril'sk	1 632,7	4 892,2	279,0	184,3	180,7	116,6
Grand total	3 985,3	14 009,6	776,4	614,2	518,4	351,3
Mined ore						
Reserves	449,9	1 743,4	95,0	82,3	64,5	44,9
Massive ore*	374,8	1 796,8	78,0	149,7	57,6	57,0
Dissem. ore#	1 977,8	7 320,6	419,4	280,2	280,1	177,7
Noril'sk	1 632,7	4 892,2	279,0	184,3	180,7	116,6
Grand total	3 985,3	14 009,6	776,4	714,2	518,4	351,3
Millhead reserves						
Mayak	110,6	397,8	21,5	21,2	14,8	10,8
Komsomolsky	226,8	991,4	53,1	44,6	36,0	24,7
Oktyabr'sk	503,4	2 036,7	105,7	114,0	73,1	55,5
Taimyr	627,5	2 295,6	130,0	95,9	87,4	57,3
Glubokij	263,0	996,8	55,6	43,1	37,5	25,0
Skalisti	55,6	221,1	11,9	10,7	8,1	5,7
Severnij	53,6	202,7	11,3	8,7	7,6	5,1
Remainder	38,7	140,6	8,1	5,4	5,4	3,4
Talnakh total	1 879,2	7 282,7	397,2	343,6	269,9	187,5
Noril'sk	1 305,9	3 913,2	223,2	147,4	144,5	93,2
Grand total	3 185,1	11 195,9	620,4	491,0	414,4	280,7
Mined ore						
Reserves	390,1	1 370,9	75,9	60,1	50,7	34,5
	2 795,0	9 825,0	544,5	430,9	363,7	246,2

#Noril'sk disseminated ore
*Talnakh ores