12: Riffled sluices – 1960s-70s research in China and Soviet Union

Figure 28. RUSSIAN EXPANDED METAL RIFFLES
Sluice-boxes with expanded metal mesh riffles freshly installed in a Soviet bucket-line dredge in Mongolia. (photo: Robin Grayson)

Some early scientific tests on gravitational recovery of gold by simple sluices were in China and the Soviet Union.

In China, placer scientists of the Minerals Processing Laboratory of the Kunming Institute of Metallurgy in Yunnan Province in the 1970s determined the percentage gold recovery of conventional riffles [27]. It is unclear what type of riffles were tested or the size of the feed, but the results showed gold recovery starts to falter at 2mm, is only 90% by 0.6mm, and collapsed to 60% at 0.2mm.

In the Soviet Union, placer scientists in the 1970s achieved similar results with expanded metal riffles [2]. Again it is unclear what type of expanded metal riffles were tested or the size of the feed. The results were encouraging compared to the dismal performance of flat bar riffles traditional in the Soviet Union in the 1970s and that are still favoured in the Russian Federation and Mongolia. But the results were poor compared to the Yukon tests on expanded metal riffles a decade later.

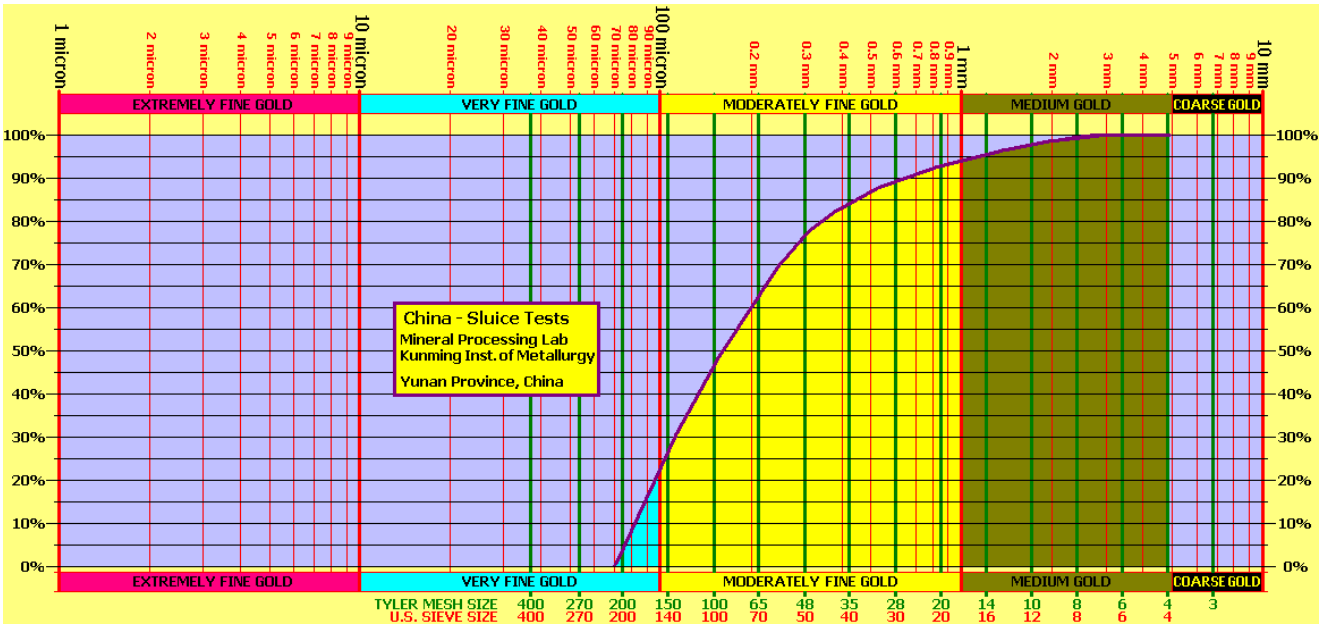

Figure 29. GOLD RECOVERY BY SIMPLE RIFFLED SLUICES – China tests
Poor performance of simple riffled sluices [27]. *(compiler: Robin Grayson)*

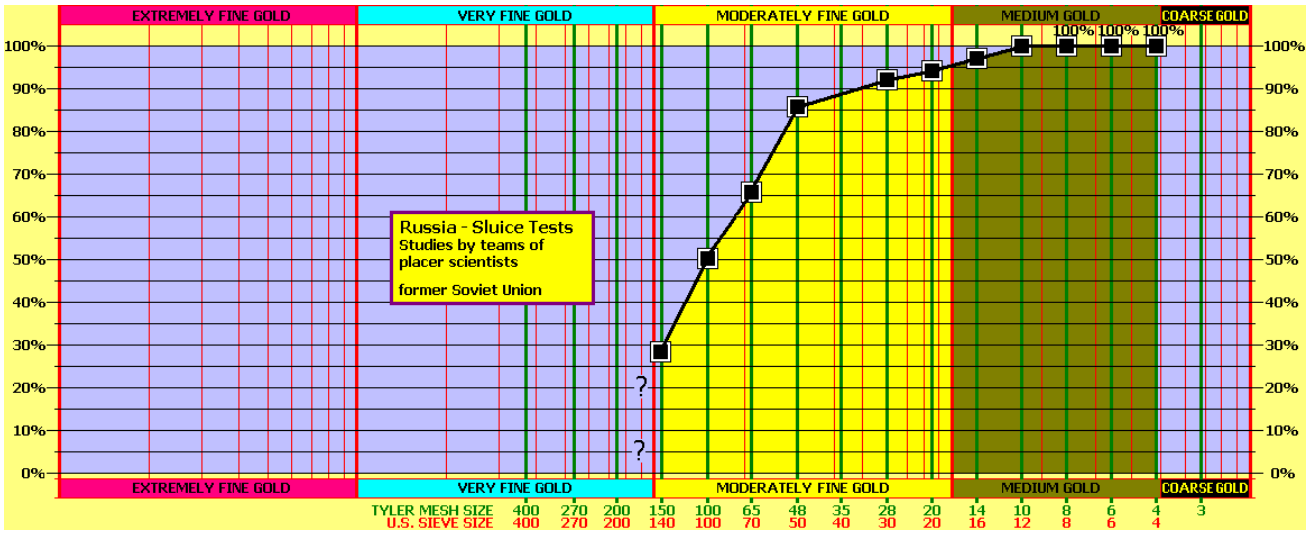

Figure 30. GOLD RECOVERY BY SIMPLE RIFFLED SLUICES – Soviet Union tests
Poor performance of simple riffled sluices [2]. *(compiler: Robin Grayson)*