

NATIONAL REPORT

GOLD REFINERS AND BARS IN THE RUSSIAN FEDERATION

RUSSIA

FOCUS

Gold Refiners and Bars

The 8 LBMA-accredited refiners in
Central, Urals, Siberian and Far Eastern Russia

Official Statistics

Provided by The Gokhran of Russia

Addendum

Silver, platinum and palladium
bars and official exports



The report is supported by
The Gokhran of Russia

The report is written by
Nigel Desebrock

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Manager, www.goldbarsworldwide.com
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GRENDON
INTERNATIONAL
RESEARCH
GOLD
MARKET
CONSULTANT

A GRENDON INTERNATIONAL RESEARCH PUBLICATION





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RUSSIAN FEDERATION**

By

NIGEL DESEBROCK

This report is supported by
THE GOKHRAN OF RUSSIA

A GRENDON INTERNATIONAL RESEARCH PUBLICATION



Gold Refiners and Bars in the Russian Federation

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Designed by Graphic Elements, Perth, Australia
Cover photograph: Prioksky Non-Ferrous Metals Plant



PREFACE

The **National Report** is indebted to the support of **The Gokhran of Russia**, which kindly made available official statistics, liaised with the eight LBMA-accredited gold refiners in the supply of information and arranged GIR's meetings with the industry, apart from providing extensive translation and interpreting services.

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The support and tolerance of the eight LBMA-accredited refiners in responding to requests for information and photographs were greatly appreciated, as was the background information on the Russian gold market and industry provided by Sberbank, Standard Bank, VTB, NBLgold and Polyus Gold. GFMS (London) also kindly allowed GIR to refer to some of its international data base.

For circulation within Russia, Gokhran has produced an edition of the National Report in Russian.

Nigel Desebrock
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**THE GOKHRAN OF RUSSIA**

The Gokhran of Russia (The State Repository of Precious Metals and Gemstones of the Russian Federation) is a subordinate organization of the Ministry of Finance of the Russian Federation.

Although it was established in its current structure in 1996, it traces its origins back to 1920, and further back to 1719, when Peter the Great, Emperor of Russia, established Russia's first State Treasury.

The organization, which is based in Moscow and employs a staff of 1,600, is engaged in an extensive range of activities that support the mining, refining, handling of gold, silver, platinum group metals, grading, pretreatment and assessment of diamonds and other precious stones, development of norms and specifications, including standards for handling of precious metals and precious stones in the Russia Federation. This includes the storage and management of part of the gold reserves of the Russian Federation.

Email: gokhran@ttc-net.ru (enquiries in English)
Website: www.gokhran.ru



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Krastsvetmet
Siberia

Russian gold refiners have been accredited to the London Bullion Market Association (LBMA) under their own names since 1999.



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Prioksky
Central

Small gold bars have been widely manufactured in the Russian Federation since 1996.



Novosibirsk
Siberia



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Notable other sources of information on the Russian gold industry

The Central Bank of The Russian Federation: www.cbr.ru

Polyus Gold Mining Company. *The Russian Bullion Market: Bursting through the Asphalt*. By Andrey Pikanovskij. Article published in the LBMA's *Alchemist*, April 2009.

NBLgold. *Mining Investment Climate in the CIS*. By Mikhail Leskov, Roman Schetinskij and Anna Kryuchkova. Article published in the LBMA's *Alchemist*, April 2009.



The Gokhran of Russia has its headquarters in Moscow.

INTRODUCTION AND HIGHLIGHTS

This **National Report** consolidates information on the 8 LBMA-accredited gold refiners in the Russian Federation, alongside official statistics provided by The Gokhran of Russia.

Some information can be highlighted that is relevant to the Russian and international gold bar market:

- Russian 400 oz bars have been accepted as London Good Delivery (LGD) since 1937. During the USSR period, **Novosibirsk (Siberia)** produced almost all of the USSR's LGD bars from the 1940s until 1990.
- The 8 refiners have been accredited by name to the LBMA progressively since 1999. The largest is **Krastsvetmet (Siberia)**, which has refined around 50% of Russian gold mine production in recent years.
- Although **official gold production** fell from 170 tonnes (2003) to 159 tonnes (2007), it increased to 176 tonnes (2008), due to more output from major mines and the opening of new mines.
- **Exports**, in the form of gold bars, powders, granules and semi-finished products, have fallen from 128 tonnes (2003) to 17 tonnes (2008), as much gold production has been retained within the Federation.
- The **official gold reserves** of the Russian Federation have increased from 402 tonnes (2006) to 520 tonnes (2008). Official comments have underlined an intention to further increase the Federation's gold reserves over time.
- The **manufacture of small bars**, 1000 g and less, has grown from 6 tonnes (2002) to 22 tonnes (2008), due mainly to an increase in their use by small gold jewellery fabricators and investors that took physical delivery.
- Many banks now offer a range of gold investment products. **Gold investment**, mainly in the form of metal accounts, has grown significantly in recent years. Sberbank has reported that its Metal Account programme for gold, silver, platinum and palladium, which it launched in 2005, had attracted 300,000 investors by the end of 2008, an increase of 170,000 during 2008. As the precious metal is not deliverable, metal account transactions do not incur 18% VAT.
- The Guild of Russian Jewellers estimates that there are now 1,130 **jewellery fabrication units** and 12,000 retail jewellery outlets in the Russian Federation. In 1990, at the end of the USSR period, there were only 9 large jewellery factories in Russia and 600 retail jewellery outlets.
- An addendum includes official **silver, platinum and palladium** exports (2003-2008).



Polyus Gold Mining Company
Russia

The Russian Federation is the 5th largest gold producing country.

Its official gold production was 176 tonnes in 2008.

According to GFMS (London), world gold mine production was 2,416 tonnes in 2008.



Moscow
Central



Uralelectromed
Urals



BACKGROUND INFORMATION

RELEVANT TO AN UNDERSTANDING OF GOLD
REFINERS AND BARS IN THE RUSSIAN FEDERATION



FOCUS

Russian Federation

Government
Federal Districts
Borders
Commonwealth of Independent States (CIS)
Economic Background
Official Gold Reserves

Gold Mining

Structure of Industry
Gold Production
Indicative Value of Gold Production
Exports and Indicative Retention

Gold Jewellery
Rouble Gold Prices



The Russian Federation was founded in 1991.



The Russian Federation is the world's largest country. Its land mass (17.1 million sq. km.) is almost twice the size of the USA (9.4 million sq. km.).

Main sources of illustrations in this section:

Maps: ©maps.com and ©worldatlas.com

Exchange: RTS Exchange

Gold Mining: Polyus Gold Mining Company

Official Gold Reserves: The Gokhran of Russia



RUSSIAN FEDERATION

GOVERNMENT

The Russian Federation, founded in 1991, is governed by the President, the Prime Minister, the *State Duma* (lower house) with 450 elected deputies and the *Council of the Federation* (upper house) with two representatives from each geographical unit.

The President and State Duma are elected for four years. The next elections will take place in 2012. Mr Dmitry Medvedev has been the President, and Mr Vladimir Putin the Prime Minister, since March 2008. Mr Putin had previously acted as the President since 1999.

FEDERAL DISTRICTS

The Federation comprises 83 geographical units, including 46 regions and 21 semi-autonomous republics, which are grouped under 7 Federal Districts.



The Russian Federation has a population of 141 million.

| Federal District | Capital City | Population | |
|---------------------------|-----------------|--------------|------------|
| | | Millions | % Split |
| Central | Moscow | 37.2 | 26 |
| Volga | Nizhny Novgorod | 30.2 | 21 |
| Southern | Rostov-na-Donu | 22.8 | 16 |
| Siberia | Novosibirsk | 19.6 | 14 |
| North West | St Petersburg | 13.5 | 10 |
| Urals | Ekaterinburg | 12.2 | 9 |
| Far Eastern | Khabarovsk | 6.5 | 4 |
| Russian Federation | Moscow | 141.8 | 100 |

Source: Britannica Book of the Year 2009.

Federation population (IMF number for mid-2008): 141 million.

Moscow (10.4 million), St Petersburg (4.6 million), Novosibirsk (1.4 million) and Ekaterinburg (1.3 million) are the largest cities.

Ethnic Russians constitute 79.8% of the population. Many minority ethnic groups account for the remaining 20%, the largest being the Tatar (3.8%).

BORDERS

Stretching 9,500 km (5,900 miles – driving distance) from St Petersburg in the west to Vladivostok in the east, the Federation borders 14 countries:

| Country | Length of Border Km | Country | Length of Border Km |
|--------------------|---------------------|---------------|---------------------|
| Kazakhstan | 6,846 | Azerbaijan | 284 |
| China (south east) | 3,605 | Lithuania | 280 |
| Mongolia | 3,485 | Poland | 232 |
| Ukraine | 1,576 | Latvia | 217 |
| Finland | 1,340 | Norway | 196 |
| Belarus | 959 | China (south) | 40 |
| Georgia | 723 | North Korea | 19 |
| Estonia | 294 | Total | 20,097 |

Source: Russia: The World Factbook 2008.



COMMONWEALTH OF INDEPENDENT STATES (CIS)

The CIS, which has 12 member countries, was founded in 1991.

The Russian Federation accounts for 51% of the CIS population of 279 million.



The CIS has a population of 279 million.

| Member of CIS | Population | | Capital City |
|--------------------|--------------|------------|--------------|
| | Millions | % Split | |
| Russian Federation | 142.5 | 51 | Moscow |
| Ukraine | 46.2 | 17 | Kiev |
| Uzbekistan | 27.8* | 10 | Tashkent |
| Kazakhstan | 15.4 | 6 | Astana |
| Belarus | 9.7 | 3 | Minsk |
| Azerbaijan | 8.5 | 3 | Baku |
| Tajikistan | 6.7 | 2 | Dushanbe |
| Kyrgyzstan | 5.3 | 2 | Bishkek |
| Turkmenistan | 5.2* | 2 | Ashgabat |
| Georgia | 4.4 | 2 | Tbilisi |
| Moldova | 3.8 | 1 | Kishinev |
| Armenia | 3.0 | 1 | Yerevan |
| Total | 278.5 | 100 | - |

Source: IMF International Financial Statistics Yearbook 2008: mid-year estimates in 2007. * Russia: The World Factbook 2008.

In 2000, 5 countries of the CIS established the “Eurasian Economic Council”: Russia, Kazakhstan, Belarus, Tajikistan and Kyrgyzstan. Uzbekistan became a member in 2005.



The CIS has 12 member countries.



ECONOMIC BACKGROUND

During 2003-2008, the Russian Federation economy expanded rapidly, the cumulative real rate of GDP growth exceeding 40% over the period.

The share market boomed, the annual average index (2000=100) increasing to 829 in 2007.

The rouble strengthened against the US dollar, the exchange rate falling from an annual average of 31 roubles (2003) to 25 roubles (2008).

The deposit interest rate ranged between 3.8% and 5.8%, while annual inflation remained high, ranging between 9% and 14%.

The population declined from 145 million to 141 million.



The Russian economy expanded rapidly during 2003-2008, GDP increasing in real terms by more than 40%.

| Year | GDP Volume | | GDP Volume 2000 Prices | GDP Per Capita | | Rouble Exchange Rate |
|------|-----------------|--------|------------------------|----------------|------------|----------------------|
| | Billion Roubles | % +/- | % +/- | Roubles | US Dollars | Per US Dollar |
| 2003 | 13,243 | + 22.3 | + 7.2 | 91,055 | 2,967 | 30.69 |
| 2004 | 17,048 | + 28.7 | + 7.2 | 117,816 | 4,089 | 28.81 |
| 2005 | 21,625 | + 26.8 | + 6.4 | 150,226 | 5,312 | 28.28 |
| 2006 | 26,880 | + 24.3 | + 7.4 | 187,683 | 6,903 | 27.19 |
| 2007 | 32,987 | + 22.7 | + 8.1 | 231,488 | 9,050 | 25.58 |
| 2008 | 41,668 | + 26.3 | + 5.6 | 294,703 | 11,859 | 24.85 |

| Year | Share Index | | Deposit Interest Rate | Inflation | | Population |
|------|-------------|-------|-----------------------|-----------|-------|------------|
| | 2000=100 | % +/- | % | 2000=100 | % +/- | Millions |
| 2003 | 204.08 | +40.8 | 4.48 | 159.9 | +13.7 | 145.44 |
| 2004 | 275.44 | +35.0 | 3.79 | 177.2 | +10.8 | 144.70 |
| 2005 | 343.76 | +24.8 | 3.99 | 199.7 | +12.7 | 143.95 |
| 2006 | 660.38 | +92.1 | 4.08 | 219.1 | +9.7 | 143.22 |
| 2007 | 828.80 | +25.5 | 5.14 | 238.8 | +9.0 | 142.50 |
| 2008 | n.a. | n.a. | 5.76 | 272.5 | +14.1 | 141.39 |

Source: 2003-2008 (IMF International Financial Statistics Yearbook 2008). GDP volume: production based. GDP Volume 2000 prices: derived percentages. GDP per capita in roubles and US dollars are derived figures. Exchange rate: official rate, period average. Share prices: period average, 2000=100. Deposit interest rate: percent per annum. Inflation: consumer prices, period average, 2000=100. Population: mid-year estimates. Figures for 2008 derived from IMF's Internet service: some may be provisional.



The RTS (Russian Trading System) Exchange in Moscow was founded in 1995 as the first regulated stock market in the Russian Federation.



OFFICIAL GOLD RESERVES

The Federation’s official gold reserves are held partly by The Central Bank of the Russian Federation (The Bank of Russia) and partly by The Gokhran of Russia.

In recent years, several official comments have underlined an intention to increase the Federation’s gold reserves substantially over time.

In November 2008, in an interview with Reuters, Mr Alexey Ulyukaev, First Deputy Chairman of the Central Bank, referred to a policy of doubling the gold reserves.

In 2007 and 2008, gold reserves grew by 29% (118 tonnes), from 402 tonnes (2006) to 520 tonnes (2008).



Official gold reserves have increased in recent years. The total was 520 tonnes at the end of 2008.

The Gokhran of Russia holds part of the reserves.

| Year | Million Troy Ounces | Tonnes |
|------|---------------------|--------|
| 1995 | 9.414 | 292.8 |
| 1996 | 13.490 | 419.6 |
| 1997 | 16.297 | 506.9 |
| 1998 | 14.738 | 458.4 |
| 1999 | 13.326 | 414.5 |
| | | |
| 2000 | 12.359 | 384.4 |
| 2001 | 13.599 | 423.0 |
| 2002 | 12.464 | 387.7 |
| 2003 | 12.545 | 390.2 |
| 2004 | 12.441 | 387.0 |
| | | |
| 2005 | 12.438 | 386.9 |
| 2006 | 12.908 | 401.5 |
| 2007 | 14.479 | 450.3 |
| 2008 | 16.705 | 519.6 |

Source: 1993-2007 – IMF International Financial Statistics Yearbook 2008: End of period. Figures in tonnes derived from the IMF figures in million ounces on basis of 1 tonne = 32,150.74 oz. 2008 – IMF Internet service.



The Central Bank of the Russian Federation has its headquarters near the Revolutionary Square in Moscow.



GOLD MINING

STRUCTURE OF INDUSTRY

According to NBLgold, there are 453 gold producing companies in Russia, 274 (60%) mining less than 100 kg annually.

| Annual Gold Production | COMPANIES | | HOLDINGS* | |
|------------------------|------------|------------|------------|------------|
| | Number | % Split | Number | % Split |
| Less than 100 kg | 274 | 60 | 258 | 65 |
| 100 – 300 kg | 95 | 21 | 82 | 18 |
| 300 – 1,000 kg | 49 | 11 | 31 | 7 |
| More than 1,000 kg | 35 | 8 | 25 | 6 |
| Total | 453 | 100 | 396 | 100 |

Source: NBLgold. * Takes into account that some companies operate more than one mine.

Major Mining Companies

However, although the industry is fragmented, 5 companies accounted for 49% (81 tonnes) of gold mine production in 2008.

| Company Name | Headquarters | Gold Production 2008 | Main Regions where Gold Produced# |
|---------------------------|---------------|----------------------|--|
| | City | Tonnes* | |
| OJSC "Polyus Gold" | Moscow | 38.3 | Siberia (Krasnoyarsk, Irkutsk), Far Eastern (Magadan, Amur, Sakha) |
| JSC "Chukotskaya GKK" | Magadan | 15.4 | Far Eastern (Chukotka) |
| JSC "Petropavlovsk Group" | Moscow | 12.2 | Far Eastern (Amur, Magadan) |
| OJSC "Polymetal" | St Petersburg | 8.9 | Far Eastern (Khabarovsk, Magadan), Urals (Sverdlovsk) |
| JSC "Sever-Stal Resurs" | Moscow | 6.0 | Far Eastern (Sakha), Siberia (Chita) |

Source: * The Gokhran of Russia. # NBLgold.

GOLD PRODUCTION

According to official statistics, the Russian Federation produced a total of 176 tonnes, from gold mines and other mines as a by-product, in 2008.

Although gold mine production had fallen between 2004 and 2007, the increase of 19 tonnes in 2008 was due mainly to a growth in output by some major mines and the opening of new mines.

| Year | Gold Mines | Gold as a Mining By-Product* | Total Gold Production | |
|------|------------|------------------------------|-----------------------|--------|
| | Tonnes | Tonnes | Tonnes | % +/- |
| 2003 | 158.1 | 12.0 | 170.1 | - 1.1 |
| 2004 | 158.9 | 10.4 | 169.3 | - 0.5 |
| 2005 | 152.1 | 11.1 | 163.2 | - 3.6 |
| 2006 | 147.6 | 11.7 | 159.3 | - 2.4 |
| 2007 | 144.8 | 12.1 | 156.9 | - 1.5 |
| 2008 | 163.8 | 12.5 | 176.3 | + 12.4 |

Source: The Gokhran of Russia. *Mainly from copper, nickel and silver mining.

According to NBLgold, gold output in 2008 was derived from hard rock mining (62%), alluvial mining (31%) and gold as a by-product of other mining (7%).



Polyus Gold is the largest gold mining company. It produced 38 tonnes of gold in Siberia and Far Eastern Russia in 2008.



Official Russian gold production was 176 tonnes in 2008.



Gold Mine Production – Split by Federal District

Far Eastern Russia and Siberia account for more than 90% of annual gold mine production.

| Federal District | 2001 | | 2008 | |
|------------------|--------------|------------|--------------|------------|
| | Tonnes | % Split | Tonnes | % |
| Far Eastern | 77.1 | 55 | 82.8 | 51 |
| Siberia | 55.3 | 39 | 70.3 | 43 |
| Urals | 8.9 | 6 | 10.8 | 6 |
| Total | 141.3 | 100 | 163.9 | 100 |

Source: NBLgold

Gold Mine Production – Main Regions, Territories and Republics

Mine production in some areas has grown significantly, notably in Chukotka (Far Eastern) from 5 tonnes (2003) to 20 tonnes (2008).

While production has fallen in other areas, notably in Magadan (Far Eastern) from 26 tonnes (2003) to 13 tonnes (2008).

| Federal District | Region, Territory or Republic | 2003 | 2008 | |
|------------------|-------------------------------|--------|--------|-------|
| | | Tonnes | Tonnes | % +/- |
| Far Eastern | Chukotka | 4.8 | 20.1 | + 319 |
| Far Eastern | Sakha Yakutia | 20.3 | 18.9 | - 7 |
| Far Eastern | Amur | 13.1 | 18.7 | + 43 |
| Far Eastern | Khabarovsk | 17.7 | 16.2 | - 8 |
| Far Eastern | Magadan | 26.3 | 13.9 | - 47 |
| Far Eastern | Kamchatka | 0.4 | 1.5 | + 275 |
| Siberia | Krasnoyarsk | 30.0 | 33.5 | + 12 |
| Siberia | Irkutsk | 16.6 | 14.6 | + 12 |
| Siberia | Buryatia | 8.1 | 6.2 | - 23 |
| Siberia | Chita | 6.2 | 5.7 | - 8 |
| Siberia | Tuva | 1.2 | 1.4 | + 17 |
| Siberia | Khakassia | 1.9 | 0.7 | - 63 |
| Urals | Sverdlovsk | 5.5 | 6.7 | + 22 |
| Urals | Chelyabinsk | 3.7 | 3.7 | - |

Source: The Gokhran of Russia

INDICATIVE VALUE OF GOLD PRODUCTION

Using annual average gold prices, the annual value of gold production in the Federation has doubled from 61 billion roubles (2003) to 123 billion (2008).

| Year | US Dollars | | Roubles | |
|------|------------|-------|----------|-------|
| | Billions | % +/- | Billions | % +/- |
| 2003 | 2.0 | + 18 | 60.9 | + 16 |
| 2004 | 2.2 | + 10 | 64.1 | + 5 |
| 2005 | 2.3 | + 5 | 65.9 | + 3 |
| 2006 | 3.1 | + 35 | 83.9 | + 27 |
| 2007 | 3.5 | + 19 | 89.8 | + 7 |
| 2008 | 4.9 | + 32 | 122.6 | + 37 |

Source: Calculated using LBMA annual average London Fixing p.m. gold prices and IMF annual average rouble/US dollar exchange rates.



Gold-bearing ore.

Far Eastern Russia accounted for 51% (83 tonnes) of gold mine production in 2008.



New-mined gold doré bar.

The value of Russian gold production was approximately 123 billion roubles (US\$ 4.9 billion) in 2008.



EXPORTS AND INDICATIVE RETENTION

In recent years, the bulk of annual gold production has been retained within the Federation, approximately 159 tonnes (90%) in 2008, used mainly to supply the jewellery fabrication and electronics industries and increase official gold reserves

This has resulted in annual gold exports in the form of bars, powders, granules, semi-finished products and other forms (excludes finished products, such as jewellery) falling from 128 tonnes (2003) to 17 tonnes (2008).

| Year | Gold Production* | Exports | Indicative Retention | |
|------|------------------|---------|----------------------|----------------------|
| | Tonnes | Tonnes | Tonnes | % of Gold Production |
| 2003 | 170 | 128 | 42 | 25 |
| 2004 | 169 | 134 | 35 | 21 |
| 2005 | 163 | 116 | 47 | 29 |
| 2006 | 159 | 94 | 65 | 41 |
| 2007 | 157 | 42 | 115 | 73 |
| 2008 | 176 | 17 | 159 | 90 |

Source: The Gokhran of Russia. *Includes gold as a by-product of other mining.



Around 90% of official gold production in 2008 was retained for use within the Russian Federation.

GOLD JEWELLERY

The Guild of Russian Jewellers, based in Moscow, estimates there are 1,130 jewellery fabrication units and 12,000 jewellery retail outlets in the Russian Federation.

Gold jewellery is sold at a fixed price. An indicative caratage split, provided by the Guild: 14 carat (75%), 18 carat (25%).

Fabrication

According to GFMS Ltd (London), Russian carat jewellery fabrication (including scrap) more than doubled from an estimated 19.2 tonnes (2000) to 53.2 tonnes (2008).

Important fabrication centres include Moscow and Kostroma (Central), St Petersburg (North West) and Krasnoyarsk (Siberia).

Consumption

According to GFMS, Russian gold jewellery consumption (including imports) more than trebled from an estimated 30.6 tonnes (2000) to 94.1 tonnes (2008).

Historical Perspective

In 1990, at the end of the USSR period, Glavalmazoloto reported that jewellery manufacture was undertaken by only 9 large factories in Russia and 9 factories in other USSR republics.

The Guild estimates there were only 600 jewellery retail outlets in Russia in 1990.



There are 1,130 jewellery fabrication units and 12,000 retail outlets in the Russian Federation.



ROUBLE GOLD PRICES

The rouble gold price is normally closely related to the international US dollar gold price at the prevailing rouble/US dollar exchange rate.

In 1998 and 1999, the annual average rouble gold price increased dramatically by more than 250% due to a devaluation of the rouble against the US dollar by 75% over this period.

Between 2003 and 2008, the annual average rouble price increased by a further 200%.



The annual average rouble gold price has increased by more than 1000% since 1997.

| Year | US Dollar | | Rouble | | Exchange Rate Rouble per US Dollar |
|------|---------------|--------|---------------|---------|--|
| | Average* | % +/- | Average# | % +/- | |
| 1996 | 387.87 | + 1.0 | 1,986 | n.a. | 5.12 |
| 1997 | 331.29 | - 14.6 | 1,915 | - 3.6 | 5.78 |
| 1998 | 294.09 | - 11.2 | 2,856 | + 49.1 | 9.71 |
| 1999 | 278.57 | - 5.3 | 6,858 | + 140.1 | 24.62 |
| 2000 | 279.10 | + 0.2 | 7,851 | +14.5 | 28.13 |
| 2001 | 271.04 | - 2.9 | 7,906 | + 0.7 | 29.17 |
| 2002 | 309.68 | + 14.3 | 9,708 | + 22.8 | 31.35 |
| 2003 | 363.32 | + 17.3 | 11,150 | + 14.9 | 30.69 |
| 2004 | 409.17 | + 12.6 | 11,788 | + 5.7 | 28.81 |
| 2005 | 444.45 | + 8.6 | 12,569 | + 6.6 | 28.28 |
| 2006 | 603.77 | + 35.8 | 16,417 | + 30.6 | 27.19 |
| 2007 | 695.39 | + 15.2 | 17,788 | + 8.4 | 25.58 |
| 2008 | 871.96 | + 25.4 | 21,668 | + 21.8 | 24.85 |

Sources: * Based on London P.M. Gold Fixing Prices: courtesy of The London Gold Market Fixing Limited; data source: www.lbma.org.uk "PM" relates to the afternoon fixing meeting that starts at 3.00 p.m. # Rouble gold prices are derived using the annual average rouble/US dollar exchange rate: IMF International Financial Statistics Yearbook 2008 (1996-2007). IMF Internet service (2008).



Mr Dmitry Medvedev, President of the Russian Federation, examining London Good Delivery 400 oz bars during a visit to Kolyma Refinery in Far Eastern Russia in 2008.



RUSSIAN GOLD REFINERS

MANUFACTURERS OF LONDON GOOD DELIVERY
GOLD BARS FOR THE INTERNATIONAL MARKET



FOCUS

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Kolyma
Far Eastern

Russian gold refiners are located in
Central, Urals, Siberian and Far Eastern
Russia.



Krasnvetmet (Siberia), established in 1943, is the largest gold refiner. In recent years, it has refined around 50% of Russian gold mine production.



ACCREDITED GOLD REFINERS

There are 8 gold refiners in the Russian Federation that meet the stringent criteria for accreditation to the London Bullion Market Association (LBMA).

They are located in Central, Urals, Siberian and Far Eastern Russia.

LBMA-accreditation in their own names, which has occurred progressively since 1999, ensures that the 400 oz bars they manufacture are accepted as **London Good Delivery** (LGD) bars on the international market.

Accreditation also generates confidence around the world that the refiner's range of other gold bars and products would also be manufactured to the same high standard.



Russian gold refiners have been accredited to the LBMA under their own names since 1999.

| Federal District | Gold Refiner | Refinery Location | Region | LBMA Accreditation | |
|------------------|---|-------------------|-------------|--------------------|------|
| Siberia | Novosibirsk Refinery Plant | Novosibirsk | Novosibirsk | 11 January | 1999 |
| Urals | Ekaterinburg Non-Ferrous Metal Processing Plant | Verkhnyaya Pyshma | Sverdlovsk | 11 January | 1999 |
| Central | Shelkovsky Plant of Secondary Precious Metals | Shelkovo | Moscow | 27 October | 1999 |
| Siberia | The Gulidov Krasnoyarsk Non-Ferrous Metals Plant (Krastsvetmet) | Krasnoyarsk | Krasnoyarsk | 29 November | 1999 |
| Central | Prioksky Non-Ferrous Metals Plant | Kasimov | Ryazan | 29 November | 1999 |
| Far Eastern | Kolyma Refinery | Khasyn settlement | Magadan | 17 September | 2004 |
| Urals | Uralelectromed | Verkhnyaya Pyshma | Sverdlovsk | 12 May | 2006 |
| Central | Moscow Special Alloys Processing Plant (MZSS) | Moscow | Moscow city | 11 May | 2007 |

Source: The Gokhran of Russia, London Bullion Market Association

It can be noted that Russia has been a renowned manufacturer of LGD 400 oz bars since 1937, most bars issued with a generic USSR ("СССР") stamp from 1947 until 1996, when a new generic Russian stamp was introduced and refiners also started applying their own official stamps to 400 oz bars.



Novosibirsk (Siberia), established in 1941, is legendary. It was the largest gold refiner during the USSR period.



THE ROLE OF THE GOKHRAN OF RUSSIA

The Gokhran of Russia (The State Repository for Precious Metals and Gemstones of the Russian Federation) actively cooperates with the **London Bullion Market Association** (LBMA) and the **London Platinum and Palladium Market** (LPPM) and supports their policy aimed at ensuring circulation of only high quality bars on the precious metals market.

Good Delivery status, which is assigned by these organizations, ensures high liquidity of precious metal bars on the international market, and thus it is a basis for forming the gold reserve in The Gokhran of Russia and The Central Bank of the Russian Federation.

The Gokhran of Russia, which is a subordinate organization of the **Ministry of Finance of the Russian Federation**, for many years has been actively working to ensure that precious metal bars, which are produced by Russian refiners, satisfy the requirements of national and international standards, that the refiners perform with stability, that their staff is regular and highly qualified and that all production processes are carried out on modern equipment. All this work being done secures the high quality of Russian precious metals in bars.

After the breakup of the USSR, there were difficulties on the international precious metals market, associated with the following issue: Russian, Uzbek and Tadjik gold was all referred to as "soviet". In this connection, **N.M. Rothschild & Sons Limited**, whose representative had chaired the daily London Gold Fixing meetings since 1919, addressed the Russian Government and advised that Russian refiners, which were subordinate to the Ministry of Finance of the Russian Federation, should confirm their London Good Delivery status.

Since 1995

On the instructions of the Russian Government, The Gokhran of Russia has been promoting the improvement of work undertaken by Russian refiners since 1995. Gokhran has organized the retraining of experts-analysts, prepared proposals for changing the marking of bars to refer to "РОССИЯ" (Russia), instead of to "СССР" (USSR) and the hammer and sickle symbol, and for changing the National Standards, as well as preparing Presidential decrees and Government resolutions in order to send sample precious metal bars to the LBMA for analysis and then for re-import.

As a result of working jointly with the Russian refiners that sought international accreditation, the following received Good Delivery status for gold and silver bars in 1999: **Ekaterinburg, Shelkovsky, Novosibirsk, Krastsvetmet** and **Prioksky** plants. Subsequently, Good Delivery status was also received by the **Kolyma, Uralelectromed** and **Moscow** (MZSS) plants.

During the period of 1996 - 2001, platinum and palladium bars, manufactured by the **Krastsvetmet** and **Ekaterinburg** plants, also received Good Delivery status.

At present, The Gokhran of Russia, just as three years ago, is assisting Russian gold and silver refiners in the procedure of Proactive Monitoring according to LBMA Good Delivery Rules.

Source: The Gokhran of Russia



Ekaterinburg (Urals) was founded in 1916.



Uralelectromed (Urals) was founded in 1934.



Shelkovsky (Central) was founded in 1941.



OWNERSHIP

CURRENT STATUS

Although 7 of the 8 refiners are designated as an “Open Joint Stock Company” (OJSC), most are owned entirely by Federal or Regional State institutions.

An OJSC status means that the company has a Board of Directors and much flexibility to act on its own initiative.

Ekaterinburg (Urals) was the first to achieve an OJSC status, in 1993.



| Federal District | Gold Refiner | Corporate Status | Major Shareholders | Year became OJSC, JSC or FSUE | Number of Employees |
|------------------|----------------|------------------|---|-------------------------------|---------------------|
| Urals | Ekaterinburg | OJSC | Indesticoplaz Trading Limited (86.29%), Limasol, Cyprus | 1993 | 560 |
| Siberia | Krastsvetmet | OJSC | Krasnoyarsk Region Administration of Russian Federation (100%) | 1994 | 2,800 |
| Far Eastern | Kolyma | OJSC | KUGI (Committee of Federal Property Control) of Magadan Region: 64%. OJSC “Bank Rossisysky Credit”: 35% | 1997 | 190 |
| Urals | Uralelectromed | OJSC | Core company of Ural Mining and Metallurgical Company (UMMC). | 2002 | 350* |
| Siberia | Novosibirsk | OJSC | Government of Russian Federation (100%) | 2003 | 180 |
| Central | Shelkovsky | OJSC | Government of Russian Federation (100%) | 2003 | 400 |
| Central | Prioksky | OJSC | Government of Russian Federation: Federal Agency of Property Control (100%) | 2003 | 480 |
| Central | Moscow | FSUE | Government of Russian Federation (100%) | 1999 | 690 |

Source: Russian refiners. *Uralelectromed: refers only to employees in the chemical-metallurgical unit.

The Ministry of Finance normally represents the Government of the Russian Federation on the Boards of OJSC and JSC companies.

Representatives of the Ministry of Finance are also based on-site at each refinery to monitor the amount of gold refined (and other aspects).

HISTORICAL SUPERVISION

During the USSR period, the refining of gold was controlled by People’s Commissariat of Heavy Industry (1920s-1939), People’s Commissariat of Non-Ferrous Metallurgy (1939-1946), Ministry of Non-Ferrous Metallurgy (1946-1988) and Glavalmazolotto (1988-1992).

In the 1990s, following the establishment of the Russian Federation in 1991, Russian refiners remained subject to some supervision by Roskomdragmet, The Committee of the Russian Federation for Precious Metals and Gemstones (1992-1996), and The Gokhran of Russia (1996-1998).

Since 1998, and in some cases earlier, the refiners have operated independently, competing against each other to provide refining services and products for the Russian and international gold industry.



Moscow (Central) was founded in 1946.



BACKGROUND

ESTABLISHMENT

The refiners in the Urals, Ekaterinburg (1916) and Uralelectromed (1934), are the longest-established. The refiners in Siberia, Novosibirsk (1941) and Krastsvetmet (1943), were founded during the Great Patriotic War. More recently, Prioksky (Central) was established in 1989, and Kolyma (Far Eastern) in 1997.



| Federal District | Gold Refiner | Origin of Company | Establishment of Gold Refinery | Year First Made 400 oz Gold Bars |
|------------------|----------------|-------------------|--------------------------------|----------------------------------|
| Urals | Ekaterinburg | 1916 | 1916 | 1980s |
| Urals | Uralelectromed | 1934 | 1934 | 1997 |
| Siberia | Novosibirsk | 1941 | 1941 | 1941 |
| Central | Shelkovsky | 1941 | 1941 | 1992 |
| Siberia | Krastsvetmet | 1943 | 1959* | 1990s |
| Central | Moscow | 1946 | 2001** | 2002 |
| Central | Prioksky | 1989 | 1989 | 1991 |
| Far Eastern | Kolyma | 1997 | 1997 | 1998 |

Source: The Gokhran of Russia, Russian refiners. * Krastsvetmet: a refinery to produce refined bars was opened in 1959; 400 oz bars only manufactured in significant quantities since the 1990s. ** Moscow: had operated a small "experimental" refinery prior to 2001.

Although most of the refiners have been active for more than 60 years, Novosibirsk (Siberia) refined most of the USSR's gold from the 1940s until 1990.

It has only been since the 1990s that refiners, such as Prioksky (Central), Krastsvetmet (Siberia) and Kolyma (Far Eastern), have emerged as major refiners and manufacturers of 400 oz bars.

HISTORICAL INFORMATION

At the time of the Russian Revolution in 1917 and until 1922, the refining of gold was concentrated at the national mint in St Petersburg (known as the **Leningrad Mint** during the USSR period).

In 1923, gold refining and the production of bars was transferred to Moscow to a small refining "laboratory", administered by the PCF USSR to cast and assay gold that was mined, purchased or confiscated. As the number of "gold trains" brought substantial quantities of gold from throughout the country, there was a need to establish a major refinery.

Known as the "Refinery Plant of PCF Russia", it was established in the Ismaylovo area of Moscow in 1925, producing gold bars marked with its own official stamp in 1926.

By the 1930s, the refinery had received international recognition, when the "**State Refinery, Moscow**" was listed as an acceptable manufacturer of London Good Delivery 400 oz bars (subject to assay by a London assayer) in a document, dated 7 January 1937, issued by the London Gold Market.

In July 1941, during the Great Patriotic War (1941-1945), the State Refinery, Moscow was dismantled and transferred to **Novosibirsk** (3,000 km east of Moscow) in Siberia. By October of that year, it was operational and over the next 49 years until 1990 the Novosibirsk refinery



Prioksky (Central) was established in 1989.



Kolyma (Far Eastern) was established in 1997.



dominated the refining of gold mined throughout the USSR. Not only from mines in Russia but also from mines in Kazakhstan, Kyrgyzstan, Uzbekistan and other USSR republics.

In 1989, an official decision was taken in Moscow to close down the Novosibirsk refinery in 1990 and transfer its refining and other equipment to the newly-established **Prioksky Plant of Non-Ferrous Metals** (300 km east of Moscow). However, although much of the Novosibirsk equipment was transferred, the Novosibirsk refinery was re-established within six months and remains a major refiner.



Refining gold at Uralelectromed (Urals).

GOLD PRODUCTION - BY EACH REFINER

REFINING OF GOLD MINE PRODUCTION

Since the 1990s, **Krastsvetmet** (Siberia) has grown to become the largest refiner, accounting for approximately 50% of gold mine production in recent years.

| Federal District | Refiner | Gold Mine Production – Kilograms | | | | | | | % Split 2008 |
|------------------|----------------|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|
| | | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | |
| Siberia | Krastsvetmet | 53,087 | 59,334 | 67,531 | 68,271 | 72,163 | 74,445 | 77,384 | 47 |
| Far Eastern | Kolyma | 34,917 | 27,838 | 24,700 | 25,648 | 19,978 | 17,037 | 33,456 | 20 |
| Central | Prioksky | 33,214 | 32,506 | 37,912 | 32,030 | 28,246 | 22,186 | 25,721 | 16 |
| Siberia | Novosibirsk | 32,049 | 32,610 | 23,662 | 20,713 | 18,658 | 20,964 | 18,400 | 11 |
| Urals | Uralelectromed | 3,174 | 2,442 | 2,598 | 3,552 | 6,078 | 5,963 | 6,428 | 4 |
| Urals | Ekaterinburg | 879 | 1,068 | 1,138 | 791 | 1,747 | 3,070 | 2,068 | 1 |
| Central | Moscow | 298 | 412 | 205 | 18 | 365 | 761 | 228 | < 1 |
| Central | Shelkovsky | 999 | 985 | 827 | 767 | 160 | 155 | 66 | < 1 |
| - | Other | 748 | 870 | 307 | 274 | 224 | 210 | - | - |
| Total | | 158,645 | 158,065 | 158,880 | 152,064 | 147,619 | 144,791 | 163,751 | 100 |

Source: The Gokhran of Russia

REFINING OF OLD FABRICATED GOLD SCRAP

Over the period 2002–2008, the annual amount of identified old fabricated gold scrap has grown from 2.5 tonnes (2002) to 8.1 tonnes (2008).

| Federal District | Refiner | Identified Old Fabricated Gold Scrap – Kilograms* | | | | | | | % Split 2008 |
|------------------|----------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | |
| Urals | Ekaterinburg | n.a. | n.a. | 263 | 102 | 139 | 168 | 2,065 | 25 |
| Central | Shelkovsky | 653 | 2,408 | 520 | 704 | 627 | 997 | 1,232 | 15 |
| Siberia | Krastsvetmet | n.a. | n.a. | 945 | 1,063 | 1,441 | 1,214 | 1,082 | 13 |
| Central | Prioksky | 798 | 2,501 | 532 | 380 | 299 | 901 | 993 | 12 |
| Central | Moscow | n.a. | 999 | 1,147 | 1,088 | 1,160 | 876 | 949 | 12 |
| Urals | Uralelectromed | 290 | 483 | 684 | 594 | 580 | 718 | 716 | 9 |
| Siberia | Novosibirsk | 112 | 177 | 162 | 149 | 187 | 139 | 251 | 3 |
| Far Eastern | Kolyma | - | - | - | - | - | - | - | - |
| - | Other | 912 | 1,282 | 613 | 811 | 547 | 854 | 852 | 11 |
| Total | | 2,549 | 6,835 | 4,866 | 4,882 | 4,980 | 5,867 | 8,140 | 100 |

Source: The Gokhran of Russia. * Gold belonging to banks, processed on a give-and-take basis (production of small bars not included).



TOTAL GOLD REFINING

Refiners also refine gold produced as a by-product of other mining, which has increased from 9.7 tonnes (2002) to 12.5 tonnes (2008).

In total, the identified amount of gold refined from all sources has grown by 8% from 171 tonnes (2002) to 184 tonnes (2008).

| Category | Gold Refining – Tonnes | | | | | | | % Split |
|-----------------------------|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|
| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2008 |
| Gold Mines | 158.6 | 158.1 | 158.9 | 152.1 | 147.6 | 144.8 | 163.8 | 89 |
| By-Product of Other Mining* | 9.7 | 12.0 | 10.4 | 11.1 | 11.7 | 12.1 | 12.5 | 7 |
| Sub-Total | 168.3 | 170.1 | 169.3 | 163.2 | 159.3 | 156.9 | 176.3 | 96 |
| Old Fabricated Scrap | 2.5 | 6.8 | 4.9 | 4.9 | 5.0 | 5.9 | 8.1 | 4 |
| Total | 170.8 | 176.9 | 174.2 | 168.1 | 164.3 | 172.8 | 184.4 | 100 |

Source: The Gokhran of Russia. * Mainly from copper, nickel and silver mining.



Shelkovsky (Central) opened a new gold refinery in 1996.



Moscow (Central) opened a new gold refinery in 2001.



RANGE OF GOLD PRODUCTS AND SERVICES

Apart from gold refining and the manufacture of bars, the extent to which the refiners manufacture other gold products varies.

| Category | Krastsvetmet | Novosibirsk | Kolyma | Moscow |
|--|--------------|-------------|-------------|---------|
| | Siberia | Siberia | Far Eastern | Central |
| Refining | X | X | X | X |
| Bars | X | X | X | X |
| Jewellery industry | X | X | X | X |
| Electronics industry | - | - | - | X |
| Decorative industry | - | - | - | X |
| Dental industry | - | - | - | X |
| Gold blanks and minting services | - | - | - | X |
| Other industrial products and services | - | X | - | X |

| Category | Prioksky | Shelkovsky | Ekaterinburg | Urals |
|--|----------|------------|--------------|-------|
| | Central | Central | Urals | Urals |
| Refining | X | X | X | X |
| Bars | X | X | X | X |
| Jewellery industry | X | - | X | - |
| Electronics industry | X | - | X | - |
| Decorative industry | - | - | - | - |
| Dental industry | - | - | X | - |
| Gold blanks and minting services | - | - | X | - |
| Other industrial products and services | - | - | X | - |

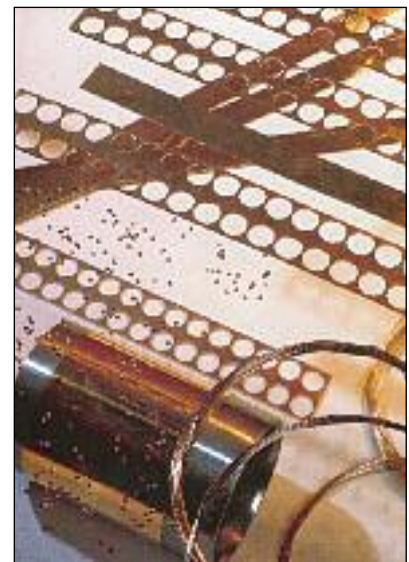
Source: The Gokhran of Russia, Russian refiners

Moscow (Central) and **Ekaterinburg (Urals)**, which were important manufacturers of gold alloys and products to serve the jewellery, electronics, dental and other gold consuming industries during the USSR period, continue to produce these products.

Krastsvetmet (Siberia), which established a “Jewellery Manufacture” unit in 1994, has become Russia’s second largest jewellery manufacturer. It produced 7.5 tonnes of precious metal jewellery, mainly in 14 carat gold, in 2008.



Krastsvetmet (Siberia) is the second largest gold jewellery manufacturer in the Russian Federation.



Moscow (Central) manufactures approximately 4,500 different precious metal products for the jewellery, electronics, decorative and other industries.



APPENDIX

GOLD REFINING METHODS

Wet chemical parting, electrolysis and solvent extraction are widely used in the refining of gold.

| Refining Method | Krastsvetmet | Novosibirsk | Moscow | Prioksky |
|---|--------------|-------------|---------|----------|
| | Siberia | Siberia | Central | Central |
| Pyrometallurgical chlorination | - | - | - | X |
| Wet chemical chlorination: aqua regia | - | - | - | - |
| Wet chemical chlorination: chlorine gas | X | - | - | X |
| Electrolysis | X | X | - | X |
| Wet chemical parting | - | X | X | - |
| Solvent extraction | - | X | X | X |
| Blast furnace smelting | - | - | - | - |
| Electric furnace smelting | - | X | - | - |

| Refining Method | Shelkovsky | Ekaterinburg | Uralelectromed | Kolyma |
|---|------------|--------------|----------------|-------------|
| | Central | Urals | Urals | Far Eastern |
| Pyrometallurgical chlorination | - | X | - | X |
| Wet chemical chlorination: aqua regia | X | - | - | - |
| Wet chemical chlorination: chlorine gas | - | - | - | - |
| Electrolysis | X | X | - | - |
| Wet chemical parting | X | X | X | X |
| Solvent extraction | X | X | - | X |
| Blast furnace smelting | - | - | - | - |
| Electric furnace smelting | X | X | - | - |

Source: Russian refiners

GOLD REFINING CAPACITY

The 8 refiners, in total, have a capacity to produce more than 900 tonnes of refined gold each year.

| Refiner | Federal District | Approximate Refining Capacity |
|----------------|------------------|-------------------------------|
| | | Tonnes |
| Novosibirsk | Siberia | 300 |
| Krastsvetmet | Siberia | 250 |
| Prioksky | Central | 230 |
| Kolyma | Far Eastern | 70 |
| Shelkovsky | Central | 30 - 50 |
| Moscow | Central | >10 |
| Ekaterinburg | Urals | >10 |
| Uralelectromed | Urals | >10 |
| Total | | >900 |

Source: Russian Refiners



Refining gold at Novosibirsk (Siberia).



APPENDIX

GOLD-BEARING MATERIALS TREATED

Includes the following:

| Material | Krastsvetmet | Novosibirsk | Moscow | Prioksky |
|--|--------------|--------------|----------------|-------------|
| | Siberia | Siberia | Central | Central |
| Semi-refined bullion | X | X | X | X |
| Mine doré: predominantly gold | X | X | X | X |
| Mine doré: predominantly silver | X | X | - | X |
| Electrolytic slimes: derived from copper | X | X | - | - |
| Electrolytic slimes: derived from silver | X | X | - | X |
| Precipitated gold slimes | X | X | X | X |
| Loaded carbon | - | X | - | - |
| <i>Scrap</i> | | | | |
| Old jewellery | X | X | X | X |
| Jewellery manufacturers scrap | X | X | X | X |
| Electronic scrap | X | X | - | X |
| Dental scrap | X | X | - | X |
| Old coins and medals | X | X | X | X |
| Slag and other refining scrap | X | X | X | X |
| Material | Shelkovsky | Ekaterinburg | Uralelectromed | Kolyma |
| | Central | Urals | Urals | Far Eastern |
| Semi-refined bullion | X | X | - | X |
| Mine doré: predominantly gold | X | X | - | X |
| Mine doré: predominantly silver | X | X | - | X |
| Electrolytic slimes: derived from copper | X | X | X | - |
| Electrolytic slimes: derived from silver | X | X | - | X |
| Precipitated gold slimes | X | X | - | X |
| Loaded carbon | X | - | - | - |
| <i>Scrap</i> | | | | |
| Old jewellery | X | X | - | - |
| Jewellery manufacturers scrap | X | X | - | - |
| Electronic scrap | X | X | X | - |
| Dental scrap | X | - | - | - |
| Old coins and medals | X | X | - | - |
| Slag and other refining scrap | X | X | - | - |

Source: Russian refiners



Newly-mined gold doré bars for refining at Krastsvetmet (Siberia).





Ekaterinburg (Urals) in 1922, when it was known as the "National Refinery Plant".



Kraatsvetmet (Siberia) in 1946, when it focused on the refining of platinum group metals.



Novosibirsk (Siberia) in the 1970s, when it refined almost all gold mined in the USSR.



