



## **Kyrgyzstan: Mining Industry Overview**

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*Note: 1 metric ton  $\approx$  35 274 oz.*

### **SUMMARY**

This report gives a background of Kyrgyz mining industry and reflects its current major developments. It also provides some challenges and opportunities for US businesses planning to invest into Kyrgyzstan mining sector.

### **MINING INDUSTRY OVERVIEW**

#### **Background and current state of the mining industry**

The development of the mining industry in the Kyrgyz Republic has started back in the beginning of the 20<sup>th</sup> century. Primary production at that time was coal, oil, copper, lead and mercury. During World War II, most operations in mining were concentrated around lead, mercury, antimony, gold, tungsten, coal and arsenic. Consequently, Kyrgyzstan became an important contributor to USSR production of certain minerals. Its shares in total production of minerals in USSR amounted to 100% in antimony, 40-100% in mercury, 30% in rare-earth materials, and 15% in uranium.

Some of the formerly state-owned Soviet companies are still operational. Among them are Kara-Balta Mining Enterprise, which is refining up to 25 tons of gold and silver per year. It used to process uranium but stopped doing it after the collapse of the Soviet Union.

Makmal Gold-Mining Enterprise is run by Kyrgyz Altyn Company that is wholly owned by the Kyrgyz Government. Kyrgyz Gold production started in 1986 with this enterprise and still operates but at a very poor level, primarily due to ore depletion. Nevertheless, it manages to produce around 1.1 tons of Gold per year.

Kadamjay Antimony Enterprise used to produce 15% of world's antimony. In 1990, Kyrgyzstan produced 17,608 tons of antimony becoming the third largest producer of

antimony in the world after China and Bolivia. Currently Kadamjay Antimony Enterprise has exhausted its own deposits and is now operating with imported raw material.

Kyrgyz Mining-Metallurgical Enterprise or what it is called today Kyrgyz Chemical-Metallurgical Plant, was founded in 1940s and produced rare earth metals. Its capacity is 600-800 tons per year. Rare earth materials are not processed anymore.

Khaydarkan Mercury Enterprise has been operating for more than 70 years. It had reached 793 tons of processed mercury in 1989 comprising a quarter of the world production, and now producing at moderate level of around 450 tons per year.

Although Kyrgyzstan cannot boast extensive oil and gas reserves as do some of its neighbors, it does produce some oil. In 2004 Kyrgyzstan produced 73.3 thousand tons that comprised around 3.7% of the total demand. Oil exploration in Kyrgyzstan started back in 1900 and extraction reached 3000 tons by 1913.

Coal industry was rapidly developing in the early 1900s, and by 1913 Kyrgyzstan provided coal for the whole Central Asian region. By 1979 the coal production reached 4.9 million tons per year but decreased dramatically in 2004 amounting to only 0.5 million tons with a demand of 1.9 million tons per year.

Production of raw construction materials in 1980s successfully met the demand of both the country itself and the neighboring states. Cement, bricks, stone casting and facing materials are all examples of construction materials.

Right before the collapse of the Soviet Union, Kyrgyzstan was a sole producer of antimony in the whole USSR, produced 64% of rare earth products and 15% of uranium. Soviet Government was spending up 50 million rubles a year on exploration of new mines. Around 61 thousand people were involved in the exploration and operation of the mining industry of Kyrgyzstan.

After gaining independence in 1991, foreign investments started to flow into Kyrgyz gold-mining industry. In 1996 the biggest gold mine in Kyrgyzstan, Kumtor, with gold deposits of more than 300 tons started operating with an annual production of 500 to 750 thousand ounces (15 – 23 tons) of gold per year.

Many companies involved in extraction and bottling of the mineral water emerged during the 1990s. Some of them became quite successful in this business.

As of 2007, Kyrgyzstan has considerable natural reserves as well as human resources to further develop the mining industry.

## **Production, Exploration & Potential**

### ***Gold***

Though Kyrgyzstan has lots of mineral resources like coal, iron, mercury, copper and others, the primary attraction for foreign investors remains gold. Since there are only 2 gold mines operating in the Kyrgyz Republic (Kumtor & Makmal), there is a huge potential for further exploration and development of existing and unexplored deposits. Many of them are being further explored by foreign investors. Several new gold deposits

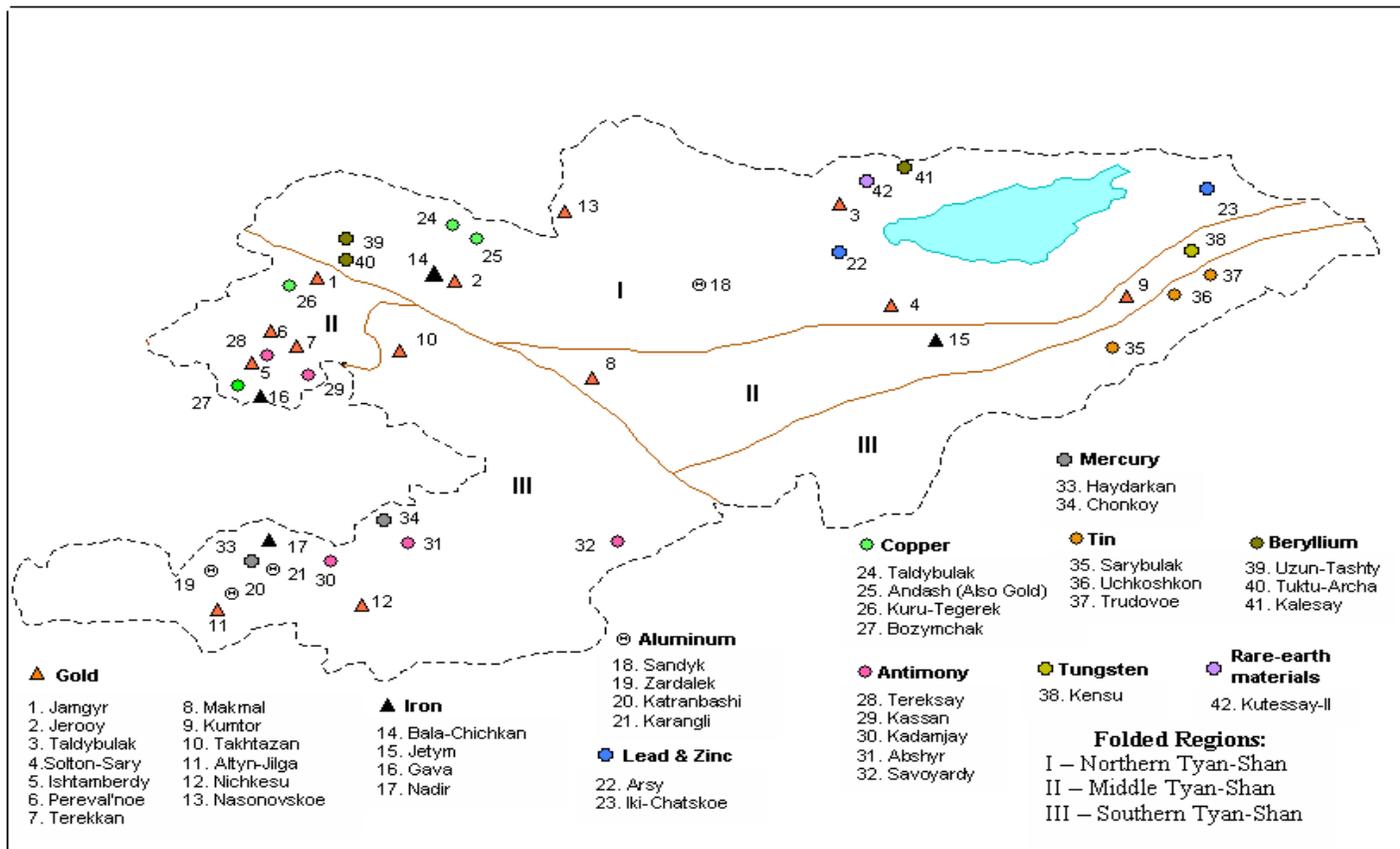
have been discovered for the past 10 years. Currently operating gold mines constitute 90% of production volume in the mining industry.

Minerals	Measurement unit	Number of deposits in balance	Confirmed reserves
<b>Fuel and energy resources</b>			
Oil	tons	11	12,925
Gas	000 m3	11	7,312
Coal	tons	49	1,316,918
<b>Precious metals</b>			
Hard rock gold	tons	24	348
Placer gold	tons	24	6
Silver	tons	12	326
<b>Base and rare metals</b>			
Mercury	tons	4	40,335
Antimony	tons	7	265,444
Tin	tons	2	209,221
Tungsten	tons	2	124,943
Copper	tons	7	140,500
Lead	tons	3	27,400
Zink	tons	2	17,600
Rare earth metals	tons	1	51,500

Source: Mining Industry as a source of economic growth in Kyrgyzstan, Bishkek 2005

**Table 1. State balance of major minerals**

Canadian Kumtor Operating Company, being the largest gold producer in the Kyrgyz Republic, produces 15 – 23 tons of gold per year. It has been operating since 1996, and so far produced over 180 tons of gold with estimated proven reserves of 363 tons of gold. Kyrgyzstan owns some 16% of shares in CenterraGold that owns Kumtor Operating Company. In the end of December, 2006 Kumtor has announced that it has discovered a high-grade deposit of additional 43.5 tons with an average gold grade of 20.3 g/t. Further construction for this new high-grade deposit should have started in the second quarter of 2007. Current average gold grade is 4.1 g/t. The macroeconomic impact of Kumtor Operating Company is quite substantial. Kumtor contributes 6% of Kyrgyz GDP, 37% of Kyrgyz export, and Kyrgyzstan takes the 3<sup>rd</sup> place in production volume of gold in the whole NIS. Kumtor project comprises 38% of the Kyrgyz Industrial Sector. Makmal, operated by KyrgyzAltyn - wholly owned by Kyrgyz Government produces on average 1.15 tons of gold per year. It has almost depleted its gold reserves. KyrgyzAltyn has a stake in each foreign investment project aimed at development of gold deposits.



Source: State Agency for Geology and Mineral Resources

**Figure 1. Mineral Resources of the Kyrgyz Republic**

There are many other companies exploring the deposits, but none of the gold mines has actually started to operate so far. Andash Mining Company, a joint venture between Kyrgyzstan and the British Aurum Mining company is extensively exploring and has discovered gold and copper deposits at Andash (# 25 in Figure 1.)

Talas Gold Mining Company exploring the third largest gold deposit in Kyrgyzstan, Jerooy, was one another company involved in gold exploration. It used to be a British-Kyrgyz JV, where around 60% of shares belonged to Oxus Gold plc. Their license was annulled by the new government in November 2005. The license for Jerooy deposit was sold out to Global G.O.L.D. Holding GmbH, an Austrian company with 60% shares. Jerooy deposit is estimated to have 74.7 tons of gold with an average gold grade of 6.3 g/t. Oxus Gold plc did not admit their fault, but sold out their shares to KazakhAltyn – one of the biggest Kazakh gold mining companies.

The second largest gold deposit Taldybulak Levoberezhniy (#3 in Figure 1.) with proven reserves of 129 tons of gold, has already had two licenses annulled by May 2007, one from an Australian Central Asia Gold Limited and one from Kazakh Altynken. The last one did not fulfill the obligations on the contract on time.

### *Other Minerals*

<b>Minerals</b>	<b>Measurement unit</b>	<b>Production Volume</b>	<b>Price per unit of product in USD</b>	<b>Estimated income</b>	<b>Actual employment (people)</b>	<b>Number of working companies</b>
Oil	tons	73293	145	\$ 10,627,485.00	1439	2
Gas	000 m3	28169	60	\$ 1,690,140.00	600	2
Coal	tons	495000	10	\$ 4,950,000.00	2600	37
Mineral water for medical treatment	m3	1715007	0.001	\$ 1,715.01		16
Mineral water for dinking	m3	11675	0.15	\$ 1,751.31		26
Bed rock gold	kg	21999	13000	\$ 285,987,000.00	3011	7
Placer gold	kg	13	13000	\$ 163,800.00	15	1
Artisanal gold	kg	250	13000	\$ 3,250,000.00	1250	
Silver	kg	11700	230	\$ 2,691,000.00		4
Mercury	tons	459	9321	\$ 4,280,203.20	803	1
Antimony	tons	1112	750	\$ 834,000.00	1227	3
Fluorspar	tons	3038	90	\$ 273,429.00	150	1
Gypsum	tons	14000	100	\$ 1,400,000.00	242	3
Cement Materials	tons	87000	5	\$ 435,000.00	307	2
Facing stone	m3	10000	10	\$ 100,000.00	547	8
Silica raw materials	tons	15000	20	\$ 300,000.00	50	1
<i>Construction materials</i>						
Clay	m3	966600	4	\$ 3,866,400.00	952	16
Sand-gravel aggregate	m3	491300	4	\$ 1,965,200.00	1474	6
Limestone	tons	445050	5	\$ 2,225,250.00	15	2
Building stone	tons	40000	3	\$ 120,000.00	150	6
Sands	m3	485600	5	\$ 2,428,000.00	142	2
Expanded clay and agglomerite	m3	2000	5	\$ 10,000.00	19	1
<b>Total</b>				<b>\$ 327,600,373.52</b>	<b>14993</b>	<b>147</b>

Source: Mining Industry as a source of economic growth in Kyrgyzstan, Bishkek 2005

**Table 2. Production of Minerals in Kyrgyzstan, 2004**

Table 2 shows that though gold comprises almost 90% of the total minerals produced, there are still some other natural resources that have a significant value. Development of oil & gas sector, which comprises 3.7% of the total mining production, is getting more

interest from foreign investors. Russian Gazprom Neft Asia has recently signed an agreement with Kyrgyz Government for further exploration in the South of Kyrgyzstan. Kyrgyzstan still remains heavily dependant on imported oil and gas, since the locally produced products cover only 3% of demand.

Coal mining is an important industry, which needs foreign investments. Lots of coalmines that once operated under the Soviet Union are standing without any operation. Between 1992 and 2003 coal output dropped from about 2.4 million tons to 411,000 tons per year. Kyrgyzstan's remaining considerable reserves are estimated at 2.5 billion tons. The biggest coal deposit Kara-Keche in the Northern Kyrgyzstan is very promising with a capability of producing 500,000 to 1 million tons per year.

### **Government Initiatives**

In 2005 the newly established government started to pay more attention on who the licenses for exploration are given to and whether those that have acquired these licenses are fulfilling their obligations on the contract.

On one side, it may seem that government is becoming more corrupted and has more intervention, but on the other side, the system becomes more transparent. Before the revolution in 2005, people didn't know how the licenses are issued to different companies. Right now mass media fully covers such sensitive topics. Government is working on allocating the mineral deposits through open tender system.

According to World Bank study, with significant legislative reform, Government can attract over USD 1 billion in foreign investment.

### **Challenges for Business**

Gold mining industry is very attractive in Kyrgyzstan, but it bears some risks. Since March 2005 Government has been having political unrest, and that created an unstable situation for potential investors.

Government is trying to negotiate better now and have more favorable conditions for Kyrgyzstan when issuing licenses, which creates some uncertainty among the present investors.

Several gold mining licenses have been annulled on the two major gold deposits – Jerooy and Taldybulak Levoberezhny and given to different investors.

The laws on licensing, subsoil use, and other laws related to mining industry are complicated and often have contradicting points between each other.

The existing exploration data that Government inherited from the Soviet times is very difficult to access and is all in paper archives. Very small amount of exploration data is available electronically.

Road blockings have been another problem for existing and developing gold mines. Though the Government issued a law prohibiting road blockings to major industrial sites, this law is not enforced accordingly.

## OPPORTUNITIES FOR US COMPANIES

### 1. Feasibility and exploration studies

Many foreign investors attract international firms to conduct the feasibility study for their project, as well as to further explore the reserves.

### 2. Mining & Ore processing equipment

Currently working Kumtor gold mine has extensively been using the Caterpillar equipment for their operation. Such opportunities will come once the construction of the new mines begins

### 3. Development of existing and new mineral deposits

Gold, Silver, Tin, Copper, Tungsten, Coal, Oil & Gas, Antimony, mercury and others have great potential for further development.

## USEFUL CONTACTS

### USG Resources

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