



# IN TOUCH



SPECIAL ISSUE, SEPTEMBER 2018

## KUMTOR GOLD COMPANY IS THE GENERAL SPONSOR OF THE WORLD NOMAD GAMES!



### In this issue:

- KGC - General sponsor of the World Nomad Games
- Community Development Projects
- Youth Business Project
- One Village – One Product

**Kumtor Gold Company (KGC) makes a significant contribution to the development of Kyrgyzstan and its people, creating jobs, paying taxes, working with local suppliers and investing in local infrastructure.**

KGC does not limit itself to the economic contribution and conducts its activities in cooperation with local communities to further promote socio-economic development of the Issyk-Kul Region through development projects, direct contributions and infrastructure development support. In addition, on an annual basis the

Company transfers 1% of its total annual revenues to the Issyk-Kul Regional Development Fund. These funds are used to develop the entire Issyk-Kul Region.

One of the most important priorities of Kumtor Gold Company is to make a contribution to the comprehensive development of the region where the

company conducts its operations. Over the years, KGC has made every effort to become a reliable partner to local communities as the constructive cooperation with local communities is the key to the successful operation of the Company today.

“ It is very important for us that by the end of operations, all projects and initiatives currently supported by Kumtor could become independent, sustainable and profitable for local budgets and local communities in the region. ”

# YOUTH BUSINESS



Since 2015, the Eurasia Foundation of Central Asia - Kyrgyzstan (EFCA) has been implementing the project with the financial support of Kumtor Gold Company. This project covers two groups of young people living on the southern shore of Lake Issyk-Kul. There is a category of young people who want to open their own business, thereby to actively contribute to the economic prosperity of the Issyk-Kul Province. The other part of the youth is focused on finding employment in existing companies.

## Goals and objectives:

- Encourage young people to take responsibility and actively contribute to the economic prosperity of the Issyk-Kul Province.
- Create and strengthen conditions that will enable young people to succeed in business development and increase their initiative and desire for self-employment.
- Expand the networking on the local labor market to promote youth employment and personal career growth.

## Geographical coverage:

Issyk-Kul Province: Karakol, Jety-Oguz, Balykchy, Bokonbaevo, Kyzyl Suu, Tamga.

## Results:

- 407 young people got knowledge about effective methods of doing and developing business;
- more than 80 jobs were created;
- Based on the project results, 18 business projects were supported, including 4 in agriculture, 6 in business management, 7 in the provision of services, and 1 in tourism.

## PRODUCING FRUIT JUICE IN GLASS CONTAINERS

Ishen Djumgal is engaged in the juice production from apples, pears, raspberries, apricots, sea buckthorn and other types of fruits and berries. He started his activity in November 2015. The young entrepreneur produces juices in Karakol in his own production shop. The enterprise is seasonal. Each season, Djumgal employs 5-6 workers.



The final product is sold in three-liter cans through stores, the goods are also sold to the hotel houses of Karakol and Bishkek. The active operation phase begins at the end of October, i. e. with the beginning of the harvest season.

## “KAYNAR ARALY” GREENHOUSE

Joomart Asangaziev is the owner of a greenhouse business. Since 2013, he has been engaged in the cultivation of tomatoes, cucumbers, and, more recently, currant seedlings. The operation of Joomart is seasonal. Every year in the summer and winter season, he creates 3-4 jobs, in addition, his team has a manager and agronomist. The greenhouses are located in the Kyzyl-Suu village of the Jety-Oguz District. The products are regularly supplied to a number of recreation facilities, restaurants and cafes on both the northern and southern shore of the Issyk-Kul Lake. The active phases of the company operations are summer and winter.

## “ELDIC” RENTAL OF CONSTRUCTION EQUIPMENT

In November 2015, Nuraiym Kubanychbekova opened a business to provide services to construct houses and residential buildings on a local market. The business is seasonal, as construction is suspended in the winter. The business created two jobs. All equipment is stored in a warehouse located in Karakol. Nurayym's assets include the following equipment: formwork, concrete mixer, diesel generator, three-phase welding machine, scaffolding, water pump and





excavator. She provides her services to construction companies in Karakol and Bishkek. The active operation phase is from March to October, i.e. in the season of construction and road works.

## “USTUKAN KG” PRODUCTION OF PRE-PREPARED MEAT PRODUCTS

Ulan Mamatov is making his dream come true by establishing a large shop to produce frozen home-made ravioli, various dumplings (manti, vareniki), cutlets and meatballs. He opened his business in 2008. The production shop with seven full-time employees located in the Tamga village of the Jeti-Oguz District operates all year round. The product is produced in packages weighing from 500 to 1,000 grams. The main distribution channels are cafes, restaurants and stores of the south shore of the Issyk-Kul Lake.

## “FABERGE EGGS” CHICKEN FARM

Raimbek Rakhimjanov offers Dutch chicken eggs to the local community. His business began operating in December 2015. The chicken farm is located in the Bokonbaevo village and it has more than 1,000 layer hens. The enterprise operates all year round. Three jobs were created. The final product is purchased by consumers in the stores of the Bokonbaevo village and Karakol.

## “HAPPY APPLE” FRUIT AND VEGETABLE STORAGES

Kalia Narmatova provides storages specially equipped with refrigerating

units to store apples, pears, apricots, carrots, potatoes and other food products. Kalia has been engaged in this business since November 2015. She conducts her business all year round. Two permanent jobs were created. The storage facility is located in Karakol. It is equipped in such a way that it automatically maintains temperature, humidity and air circulation. Her services are used by local farmers, producers of semi-finished goods and medicinal herbs. The most active operation period is the harvest season.

## “OPORA” MASSAGE CENTER

Being a professional masseur, Altynai Eshimbekova decided to open a massage center to help prevent and treat musculoskeletal diseases. The Center has been working since November 2015. Operation is conducted all year round. One job was created. The Massage Center is located in Karakol in the building of a medical institution. Altynai treats people suffering from the following diseases: osteochondrosis, spinal hernia, scoliosis, kyphosis, post-insult condition, clubfoot, flat feet, back pain, impaired functions of the musculoskeletal system (cerebral palsy, GIE, RE), etc.

## DENTAL OFFICE



Jyrgalbek Ibraev is a dentist by profession, so at the end of 2015 he decided to open a dental office.

Jyrgalbek is engaged in general care, treatment and prosthetics of teeth. His office operates all year round. Three jobs were created - dentist, nurse and medical assistant. Jyrgalbek works in the Bokonbaevo village of the Ton District. His dental office is the only one on the entire south shore - from Balykchy to Karakol.

## “QUADRO-TOUR”



Evgeniy Sayfulin is engaged in tourism business. It organizes tours, excursions, trips, as well as the delivery of tourists on ATVs to the most remote and beautiful places being inaccessible to other modes of transport on the south shore of the Issyk-Kul Lake. Evgeniy's business has been operating since 2014. Tours are conducted all year round and do not have seasonal restrictions. Three jobs were created. Each tour starts in Karakol. Due to their high technical characteristics, quadrocycles are a universal means for off-road travel and a source of adrenaline. Both tourists and local residents use Evgeniy's services.

## THE “ECO DAN” MILL



Nurlan Omurkanov's business idea includes cleaning, color sorting, storage and sale of grain crops. Nurlan opened his company in 2015. Thanks to his business project, three jobs were created. The enterprise operates all year round. The mill is located near Karakol. The color sorting machine combines high efficiency, easy operation, high performance and compact structure. Farmers, agronomists and private individuals use Nurlan's services. The active operation period of the enterprise is the harvest season.



## PRODUCING DRIED FRUITS



Akylai Adenova's business idea is to produce and sell dried fruits made of apples, pears, raspberries, prunes, sea buckthorn berries, as well as vegetables and herbs. The business started in November 2015. The enterprise is seasonal, the active operation phase begins during the harvest period. During this time, 25-30 jobs are created. Finished goods are delivered to Karakol stores, cafes, sanatoriums and educational institutions.

## "TRENDY" BEAUTY SALON



Rafilya Sherbaeva owns a beauty salon, which provides professional services in the area of male and female haircuts, nail services, cosmetologists, as well as training courses. She opened her own business in Karakol in 2011. The salon is open all year round. It created eight jobs. About 50 people were trained.

## "BRUS ALI"

Alibek Satiev is engaged in the production, delivery and installation of flagstones of various types and colors, as well as installation of road curbs. He opened his business in 2015. The business operates all year round. Three permanent jobs were created, two additional jobs are added during the heavy workload periods.



Flagstone and curbs are produced in the Barskoon village. The products are in great demand. Consumers of the company services are large organizations, recreation facilities, as well as private individuals on both the south and the north shore of the Issyk-Kul Lake.

## "DOSTOR BANYASY"



Azim Kazakbaev's business idea is to provide services of a clean, cozy and functional bathhouse built on the basis of a container. The bathhouse opened in 2015. The business operates all year round. It created three permanent jobs - cleaner, administrator and bathhouse attendant. The business project is being implemented in the Chelpek village of the Issyk-Kul Province.

## "MIKHAILOVKA" BAKERY

Urmat Yusupov opened a bakery in his native Mikhailovka village in December 2015. It produces several types of bakery products.

The bakery operates all year round. It created four jobs. The company delivers products to local stores, and kindergartens. The bakery products can also be bought directly in the bakery.

## "GRAN-ORGANIC"

Islam Mohammedov's idea was to manufacture and sell fodder pellets made of grass for domestic animals preserving its grass beneficial properties and adding vitamins. Islam began implementing his project in 2016. The enterprise is seasonal. He employs five people for the summer period. Its product is convenient because in winter it can be used by farmers as a cattle fodder instead of hay.

## "NUREL FACTORY"

Shabdan Kaseev opened a chicken farm that has about 1,000 layer hens of the coral breed. The business has been operating since 2015. It operates all year round. Four permanent jobs were created. The farm is located in the Svetlaya Polyana village. Production and sales are well established. The products are regularly delivered to a number of stores, bakeries and cafes.

Business projects were implemented within the framework of the "Youth Business" Project implemented by the Eurasia Foundation of Central Asia with the financial support of Kumtor Gold Company.



# "ONE VILLAGE ONE PRODUCT"



The “Small Business Promotion” project based on “One Village One Product” approach to mobilize Southern Issyk-Kul communities is underway.

“One Village One Product” (OVOP) is a complex approach for regional development, aimed at increasing earnings and incomes of local residents by adding value to local resources, developing human potential and marketing high value-added products that will be recognized around the world.

Beneficiaries of this project are “One Village One Product” Association members: 35 groups in Jeti-Oguz district and 65 groups in Ton district (more than



1,000 producers in two districts, the total number of producers in this Association is over 2,300).

The main goal of the project is to combine the efforts of local communities, producers and private entrepreneurs to develop the economic potential in

Issyk-Kul region, in particular, in Jeti-Oguz and Ton districts, by producing various products made of local resources.

Below are some information and peculiar features of the “One Village One Product” project:

Number of persons involved in OVOP



2300



Participation of women

90%



Number of product types

2500



Activation of women

Income increase  
Education of women  
Balance:  
Work - Home  
Building good relations



Only local resources used  
No chemicals

Home garden berries  
Wild berries  
Merino wool  
Raw honey



Production export:

Japan  
USA  
Europe  
Korea  
China  
Turkey  
Russia



Annual profit growth

40%



Improvement of work environment

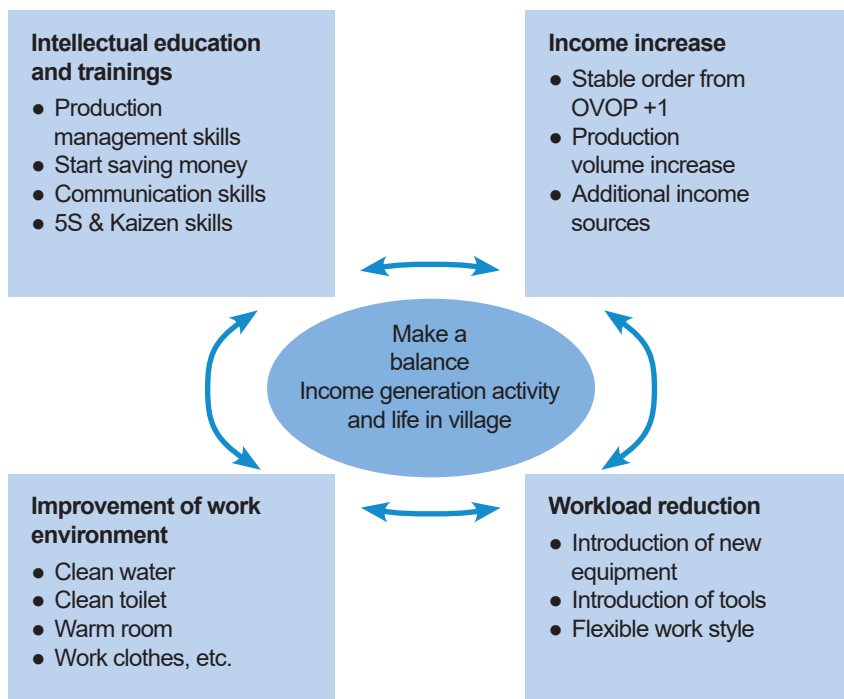
Clean restroom  
Clean water  
Safe working conditions  
Efficient working system



Tradition and history

Shakar soap  
Talkan cookies  
Nomadic salt

**The project implemented jointly with Kumtor Gold Company includes four aspects, which are shown in the diagram and described below:**



1. As part of the project, measures are being taken to increase incomes of local residents and improve the economic situation of rural population. This is achieved by obtaining stable orders, increasing production volume, sustainable work of the OVOP+1 and OVOP association and market demand.
2. The production workload is minimized by introducing the required equipment for local producers, which makes the production process more efficient in terms of financial costs and time.
3. Improvement of work environment: producers should have an opportunity to work in a well-organized production facility or workshop, with clean water, warm rooms, appropriate sewage system and in a pleasant work environment. Proper organization of production facilities in villages have a direct impact on the quality of products, because local producers can help and share the experience with each other. Cooperative work also contributes to personal growth. Thus, conditions of production facility or

workshop are directly related to productivity and quality of the final product.

As a result of joint projects with KGC, four production facilities were launched in Kara-Koo, Shor-Bulak, Ak-Sai villages of Ton district and in Jeti-Oguz village of Jeti-Oguz district. This year, it is planned to launch two more production facilities in the same districts.

The new production facilities were rehabilitated, renovated, and improved as part of the project, using

the funds allocated by Kumtor Gold Company. Local authorities also provided support to local producers, having given them premises on a free-of-charge basis.

4. Education and capacity building of local producers through smart and intellectual trainings is the most important aspect. At present, production skills of producers still need to be improved. As it is known, development of human resources is the most important, but, at the same time, the most labor-intensive and time-consuming aspect. In this connection, intensive trainings of producers will be conducted as part of the current project.

Products of local producers, “One Village One Product” Association members, are available in the ‘Issyk-Kul Brand’ stores in Karakol and Bishkek, at Gazprom gas stations, in guesthouses, hotels and coffee shops throughout Kyrgyzstan. In addition, felt goods manufactured by the Association members have been exported to foreign countries since 2011.

In future, the “Small Business Promotion” project based on “One Village One Product” approach intends to cover other villages in Jeti-Oguz and Ton districts with the purpose to expand the project and improve the life of the local population.



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KARAKOL REGIONAL OFFICE  
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JETI-OGUZ INFO CENTRE  
District administration, KYZYL-SUU

TON INFO CENTRE  
District administration,  
2<sup>nd</sup> floor, BOKONBAEV

# COMMUNITY DEVELOPMENT PROJECTS



In the process of implementing the intended programs in the region, the Company strictly adheres to the Sustainable Development Strategy which includes the following main directions:



Collaboration with the youth and support of educational initiatives



Support for the growth and diversity of small and medium-sized businesses



Environment protection



Development of agricultural sector

In 2018, Kumtor Gold Company will continue participating in the implementation of a number of regional development programs as well as financing new projects to develop the socio-economic potential of the Issyk-Kul Lake south shore.

## DONATIONS AND CHARITABLE SUPPORT



**In addition to our sustainable community development programs, we provide one-off donations, usually in form of in kind equipment or services.**

We receive many requests for support from across the country. Donation requests and proposals are reviewed on a monthly basis by our donations committee consisting of the company management representatives under the chairmanship of the KGC president. All donation applications are reviewed to approve they meet the selection criteria specified by our Donations Policy and Company procedures. KGC conducts

follow up monitoring visits on a regular basis to ensure that the donations are used for the intended purposes.

As a socially responsible company, KGC annually allocates funds to help local communities in need. KGC strictly adheres to the Corporate Donations and Sponsorship Policy aimed at poverty alleviation, increasing living standards of local population, and improvement of social and economic situation in Issyk-Kul region and the country in general. The help rendered by KGC serves to contribute to the development of local communities and provide support to vulnerable groups.





## History<sup>1</sup>

Strategic Agreement on Environmental Protection and Investment Promotion among the Government of the Kyrgyz Republic and Centerra Gold Inc. and Kumtor Gold Company CJSC and Kumtor Operating Company CJSC

2017



Transfer of operations activities from Kumtor Operating Company to Kumtor Gold Company.

2014



2012



Based on exploration results, the Kumtor mine-life extended till 2023 and milling operations to conclude in 2026.

2009



Parliament of the Kyrgyz Republic signed and ratified the Agreement on New Terms for the Kumtor Project.

2005



95 million USD invested in the Kumtor modernization program.

2006



Based on exploration results, the Kumtor mine-life is extended to 2013.

2004



Project restructuring. Centerra Gold Inc. was formed. The Investment Agreement came into effect.

2002



Gold production at Kumtor exceeds 100 tonnes (3.2 million ounces).

1997



Commercial gold production begins.

1998



One million ounces of gold produced.

1996



Inauguration for the gold processing mill.

1994



Construction at Kumtor begins. The feasibility study finalized.

1992



The Kyrgyz Government and Cameco Corporation sign Master Agreement forming the Kumtor Gold Project.

1993



Kumtor Operating Company is formed to run the mining operation.

1989



Detailed exploration results of the Kumtor Deposit are published by the USSR Geology Ministry.

1978



Kumtor deposit is discovered by the Kyrgyz State Geological Committee.

**The Kumtor Gold Mine is the largest western-owned gold mine in Central Asia. Located high in the Tien Shan Mountains, at over 4,000 meters above sea level, Kumtor is the second highest altitude gold mining operation in the world.**

Kumtor Gold Company provides jobs for over 2,693 full-time employees, most of which (97%) are Kyrgyz citizens. An additional 947 people are involved in the mining operation as contract workers.

Since the start of commercial gold production in 1997, Kumtor has played a major part in the Kyrgyz economy with Production from the mine constituting 9.7% of the national GDP and 21.1% of total industrial output in 2017.<sup>2</sup>

**Along with the thin air and extreme temperatures at Kumtor, the mine faces two major challenges common to all mining operations - structural and environmental safety.**

### Structural Challenges:

Meltwater from the glaciers as well as the weight of the ice itself can weaken the walls of the mining pit and need to be carefully monitored. Ice from Davydov glacier needs to be dug away daily so it does not flow into the pit and meltwater streams have been diverted away from the pit whenever possible to avoid unnecessary risks. The dams containing the effluent pond and Petrov Lake are also closely monitored for any weaknesses.

### Environmental Challenges:

The removal of gold from rock ore requires a series of complex chemical reactions which use a lot of water. The subsequent wastewater contains high concentrations of both heavy metals and chemicals which are reduced to levels that are not harmful to the environment.

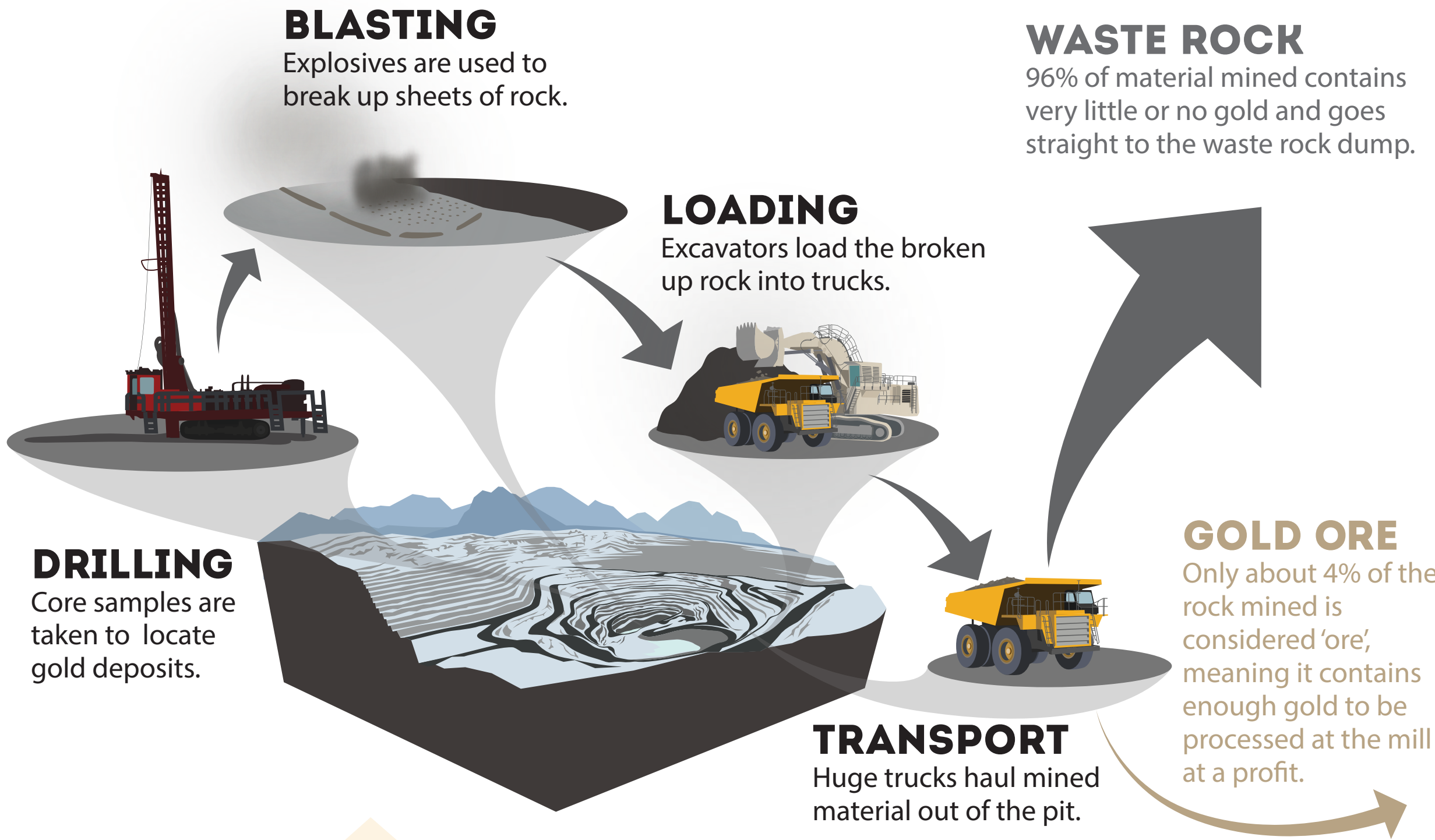
<sup>1</sup> The timeline shows selected highlights only. For the full timeline and history of the project, please visit [www.kumtor.kg](http://www.kumtor.kg)  
<sup>2</sup> KR National Statistics Committee



# GOLD MINING AND PROCESSING AT KUMTOR MINE

## MINING PROCESS

Gold is found in the territory of the deposit in the form of finely disseminated pyrite. The mine development is performed through open-pit mining, that is, with the use of standard methods of drilling, blasting, loading and transportation in the open pit.

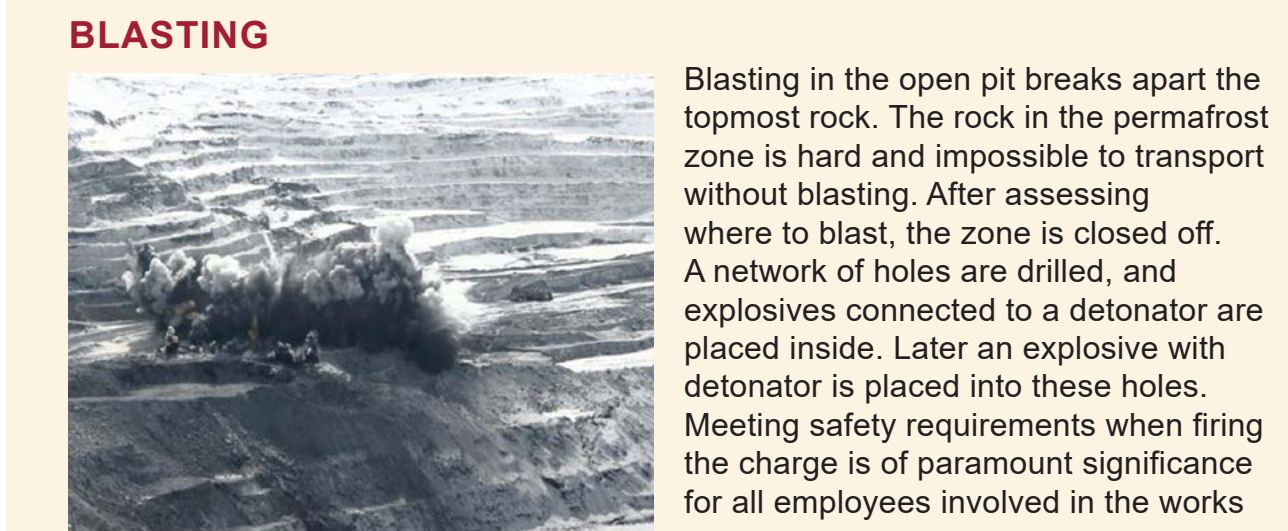


The Kumtor mine is equipped with the most modern mining fleet. The open pit has 99 Caterpillar trucks with a lifting capacity of from 145 tons to 185 tons, 9 drilling rigs and 14 excavators operating regularly.

To maintain the infrastructure in the open pit, there is support equipment: 16 bulldozers and 11 graders. Workers travel to the open pit in KamAz trucks; known colloquially as bus trucks.

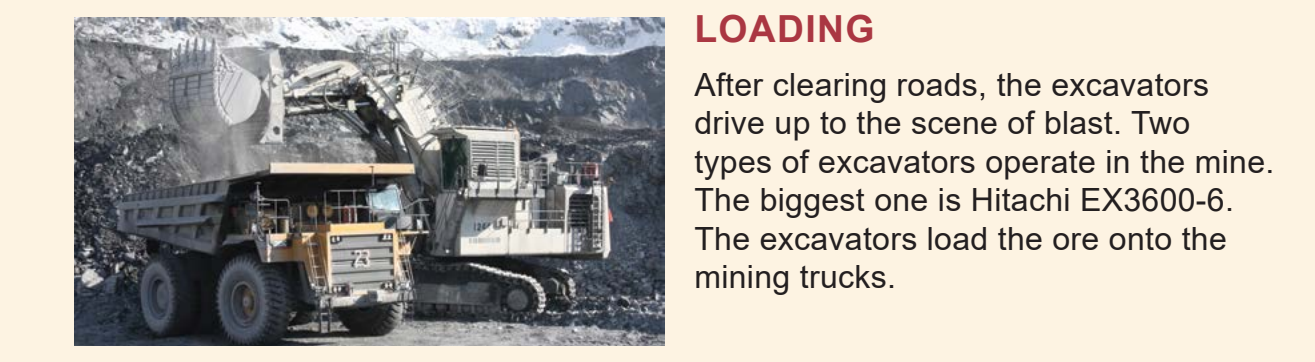


**DRILLING**  
Drilling is a very important stage in metal mining, since geologists should accurately determine the average gold grade in the ore before the commencement of the large-scale works at a site. Depending on this, the further process will determine whether to perform the gold ore production or not. The drilling rigs operating in the open pit are able to drill to a depth of up to 12.5 meters. The average penetration rate is 120 rotations per minute. Nearly 230 holes are drilled in the open pit during one shift. The drilling process in the mine is not only a part of geological exploration works aimed at determining gold grade but the first stage of blasting in the open pit as well.

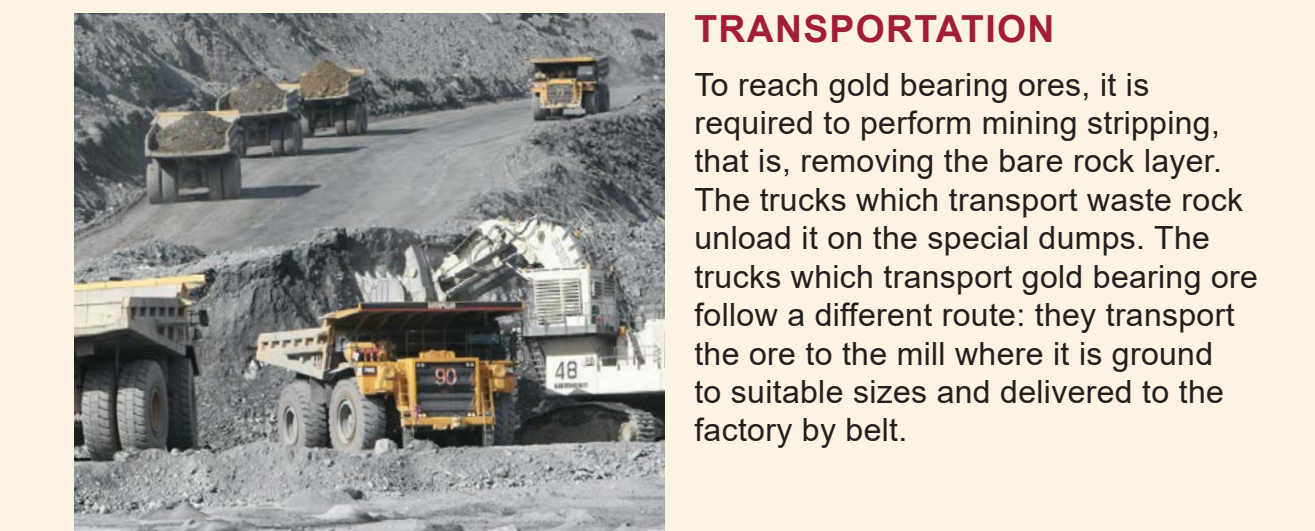


**BLASTING**  
Blasting in the open pit breaks apart the topmost rock. The rock in the permafrost zone is hard and impossible to transport without blasting. After assessing where to blast, the zone is closed off. A network of holes are drilled, and explosives connected to a detonator are placed inside. Later an explosive with detonator is placed into these holes. Meeting safety requirements when firing the charge is of paramount significance for all employees involved in the works

in the open pit. Before the explosion, the mine foreman ensures the withdrawal of employees and heavy vehicles from the open pit to a safe distance.



**LOADING**  
After clearing roads, the excavators drive up to the scene of blast. Two types of excavators operate in the mine. The biggest one is Hitachi EX3600-6. The excavators load the ore onto the mining trucks.



**TRANSPORTATION**  
To reach gold bearing ores, it is required to perform mining stripping, that is, removing the bare rock layer. The trucks which transport waste rock unload it on the special dumps. The trucks which transport gold bearing ore follow a different route: they transport the ore to the mill where it is ground to suitable sizes and delivered to the factory by belt.

## MILL

Ore is delivered to the primary crusher and then to the daily storage ore stockpile. From the stockpile, ore is delivered to the mill for further grinding.

For a more effective ore processing, an ultra-fine grinding mill (ISA Mill) was installed in the mill in 2005. Before leaching, the concentrate is ground from 100 nm to 20 μm (99% of solids are less than 20 μm, for comparison: diameter of gold atom is 28 nm). Gold is extracted from the ground ore using a "carbon-in-leach" technology.

The mill's rated throughput is between 17,000 to 19,000 tons of ore per day. The entire production process is automated involving just 16 people per shift to operate the entire mill.

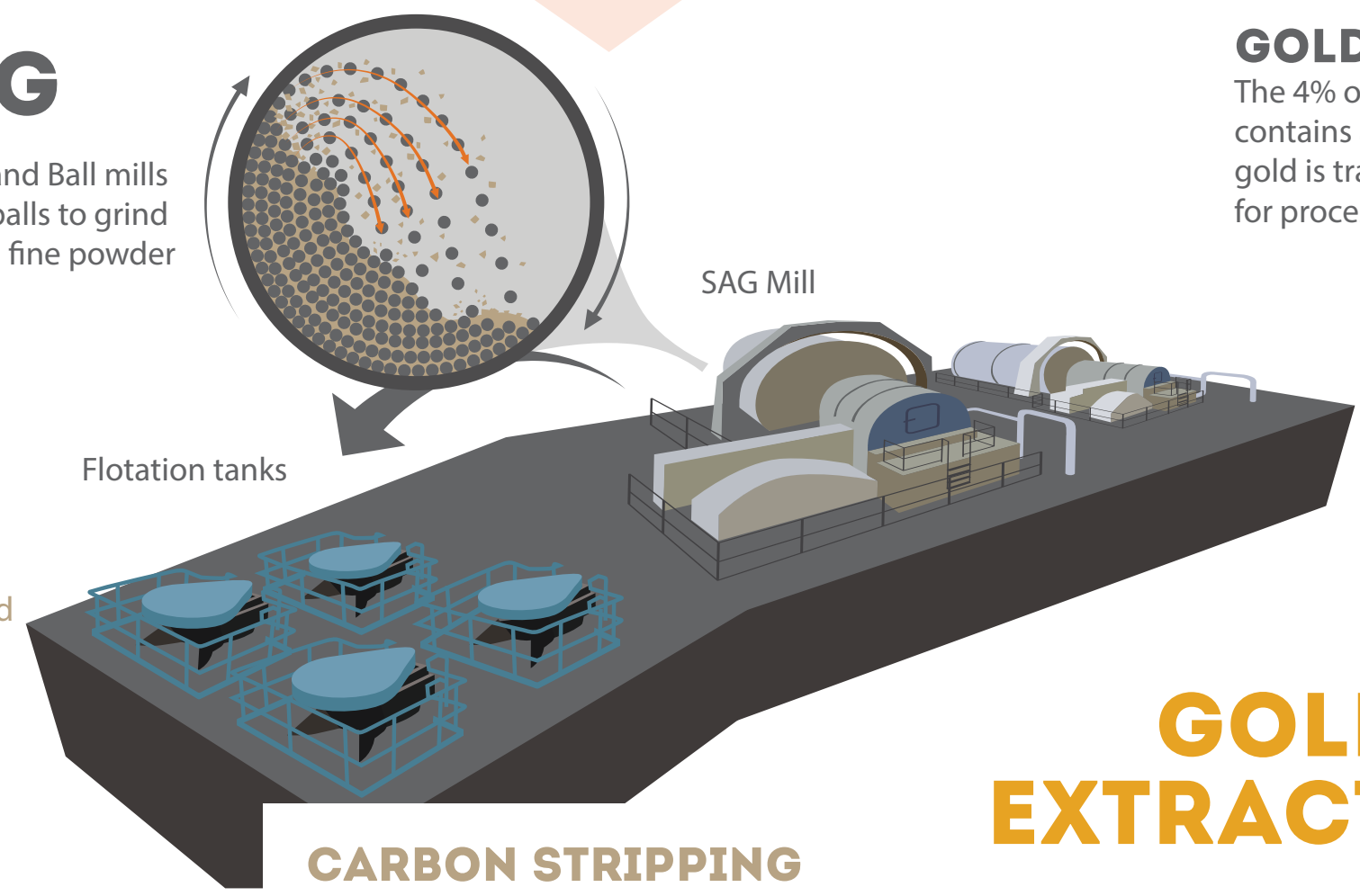


The dore bars produced in the Kumtor mine are purchased by Kyrgyzaltyn OJSC for further processing at Kara-Balta refinery, as stipulated by the Gold and Silver Sales Agreement concluded by Kumtor Gold Company, Kyrgyzaltyn OJSC and the Government of the Kyrgyz Republic. The exclusive right to sell refined gold and silver both in the Kyrgyz Republic and abroad is held by Kyrgyzaltyn alone.

## MILLING

SAG and Ball mills use steel balls to grind ore to a fine powder

**SLURRY**  
To extract gold from ore, activated carbon and cyanide solution are added to the slurry. Cyanide ions dissolve oxidized gold. Activated carbon adsorbs dissolved gold.

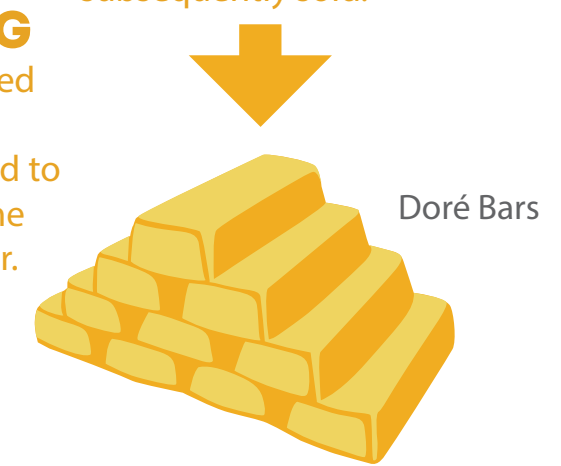


**GOLD ORE**  
The 4% of rock mined that contains a sufficient amount of gold is transported to the mill for processing.

**SMELTING**  
The now solid metal is smelted into 'dore' bars, which are bars of semi-pure gold - containing up to 85% gold, but also containing various amounts of silver, iron, zinc and copper which make up the remaining 15%. These bars are sold to the gold refinery, Kyrgyzaltyn, where the gold is refined further and subsequently sold.

## GOLD EXTRACTION

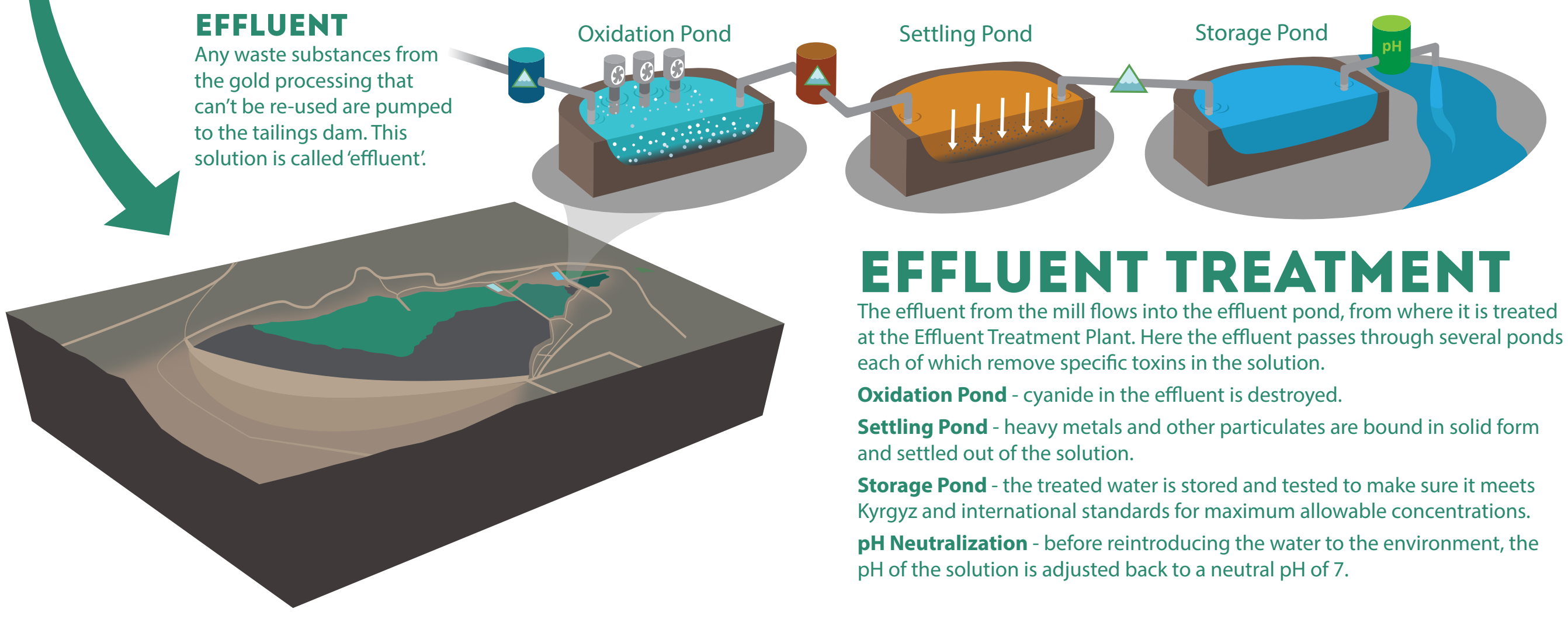
**ELECTROWINNING**  
An electric current is now passed through the gold-containing solution, which causes the gold to bind to steel wool located at the cathode ( ) end of the container.



**CARBON LEACHING**  
As the slurry passes through a series of agitation tanks, the gold in the ore is dissolved by the cyanide and the resulting gold-cyanide compound binds to the activated carbon in the solution.

**CARBON STRIPPING**  
Gold saturated activated carbon is separated from the rest of the solution and goes on to another area where gold is washed out from the activated carbon using a special solution consisting of cyanide and caustic soda. Activated carbon separated from gold can be used again in the process. The gold-containing solution goes through electrolytic baths, where gold deposits on the cathode in a form of powder. The powder is smelted into dore bars containing up to 80% of gold.

**EFFLUENT**  
Any waste substances from the gold processing that can't be re-used are pumped to the tailings dam. This solution is called 'effluent'.



## EFFLUENT TREATMENT

The effluent from the mill flows into the effluent pond, from where it is treated at the Effluent Treatment Plant. Here the effluent passes through several ponds each of which remove specific toxins in the solution.

- Oxidation Pond** - cyanide in the effluent is destroyed.
- Settling Pond** - heavy metals and other particulates are bound in solid form and settled out of the solution.
- Storage Pond** - the treated water is stored and tested to make sure it meets Kyrgyz and international standards for maximum allowable concentrations.
- pH Neutralization** - before reintroducing the water to the environment, the pH of the solution is adjusted back to a neutral pH of 7.