



# CLOSED JOINT STOCK COMPANY TOUR STOCK COMPANY RESEARCH AND PRODUCTION ENTERPRISE

# ABOUT COMPANY





**CJSC «ITOMAK»** carries out research and development, manufactures and supplies to the gold mining industry centrifugal concentrators and other related equipment from 1993. Today this is a modern fast growing enterprise well known in Russia and internationally. Concentrators «ITOMAK» are installed at gold mines ranging from Chukotka to South Africa and Latin America. Our equipment is installed in more than 25 countries worldwide. Currently «ITOMAK» manufactures not only stand-alone concentrating units, but also complete mini-plants for extraction of gold, diamonds and other minerals. These include plants for final gold recovery, fine gold extraction from tailings, prospecting mobile recovery plants, etc.

CJSC «ITOMAK» was founded by researchers from Novosibirsk Scientific Centre and is based in Akademgorodok (Academy City). Personnel includes highly qualified specialists: scientists, metallurgists, engineers, designers-engineers, and administrators.

On the basis of in-house research and original technical solutions «ITOMAK» produces modern beneficiation and recovery equipment of world class.

The manufactured equipment is constantly improving due to close collaboration with scientific circles and feedback from the mining industry. Only during last three years design division of «ITOMAK» developed and installed at mining companies 12 units of radically new equipment.

Today «ITOMAK» has won a leading position amongst developers and manufacturers of centrifugal concentrators both in Russia and worldwide.

Concentrators «ITOMAK» are patented certified and comply with sanitary norms as stipulated in TU 3617-001-50766523-00.

Russian patent for invention № 2196004, priority from 21.03.2001, Bull. 2002, authors: S.I. Afanasenko, A.N. Lazaridi, et al.



Gold vein tailings





ITOMAK carries out research and development studies (RDS) related to gravity and magnetic separation and concentration of minerals, prototypedesign works (PDW) manufacturing new machines and plants for ore-dressing and beneficiation of sands.

Today ITOMAK manufactures 17 models of centrifugal concentrators with capacity ranging from 0.1 up to 300 t/hour. By client's order centrifugal concentrators can be equipped with an automated control module. Over last three years more than 20 concentrators with automation module were supplied and installed.

ITOMAK develops and manufactures dry and wet magnetic separators and magnetic liquid separators. 11 types of magnetic separators are manufactured.

ITOMAK has basic principle: "Our goal is not just to sell equipment or provide once off technical service. We become your long time partner, who you can rely on during operation of the equipment in terms of consulting, maintenance and upgrade of installations and technology."





Automated ITOMAK unit for the fine gold recovery, Kyrgyzstan



Our experts with colleagues in RSA and Mongolia

ITOMAK invites you to join our clients and partners nework and guarantees access to the world class equipment and services.

CJSC "ITOMAK" is an engineering company. Its primary activity is in the development and manufacturing of centrifugal concentrators. In summary, its purpose is to:

- Supply recovery equipment for extraction of fine and flake gold applying gravity separators, including centrifugal with a capacity from 0.1 up to 300 t/hour.
- Supply complete installations/plants using environment friendly (gravitational and magnetic) concentration methods, which facilitates the recovery of finely dispersed particles of gold and other heavy minerals from various ores, including technological waste.
- Supply modern mobile modular plants for gold and diamond prospecting. Plant is equipped with feed, fine milling and concentration modules.



Dispatching equipment







Prospecting recovery plants installed by Concern ALROSA (Yakutia) and Company "Geologorazvedka Ltd" (Irkutsk District)

4 Conducting studies for prospecting/ore samples in order to recommend optimal of gravitaty and magnetic separation technology of raw material containing finely dispersed particles of commercial minerals.

Research and experiments in the field of





5 Supply and install process equipment for final cleanup of gold containing concentrates.



Installation for fine gold recovery from tailings, Zabaykalye



Installation for final retreating of gold concentrates

- 6 Supply of laboratory-scale concentrators.
- Develop new recovery equipment.
  Carry out prototype-design work and non-standard equipment design.
  Manufacturing and testing of prototype pilot units.











Vibrating screen with watering



Vibrating screen with watering

## We have established partner relationships with many well-known organisations both in Russia and internationally. These include:

Uralelktromed, Polyus, Zavod Trud, Kazchrome, Kazzink, Susumanzoloto, Krasnoyarsk Mining-Chemical Kombinat, Novosibirsk Plant of Chemical Concentrates, Concern ALROSA, Concern Nizhne-Lenskoe, Concern Tardan-Gold, Concern Gazimur, Yuzhyakutgeologia, Altynalmas, Altyn Dala, Mireko, Mongolrostsvetmet, IVC, Tetis-M, Nirungan, Uksibir;

#### Research institutes of Russian Academy of Sciences:

Institute of Geology and Mineralogy SD RAS, ICSB SD RAS, IPKON SD RAS, Mining Institute SD RAS, Institute of Geochemistry UrD RAS,, Mining Institute of the North (Yakutsk), Institute of Volcanology (Petropavlovsk-Kamchatsky), Institute of Geology (Ulan-Ude, Buryatia);

#### Other organisations include:

"Mekhanobrengineering" (Sankt-Peterburg), "IRGEREDMET", "TOMS", "Spirit", "ZOLOTOPROEKT", "GEOTEKHPROEKT", SNIIGGiMS, KNIIGGiMS, ZabNII, "VostokGeo", TsNIGRI, VNII-1, Institute of Geology of Vitnam Republic, with research and mining companies Manhattan, Channel Mining and GNRS (RSA) to name just a few.

ITOMAK has close connections with the leading higher education institutions, which train specialists for the mining industry:

Novosibirsk State University, SPU (Krasnoyarsk), Tomsk Polytechnical University, Saint-Peterburg Mining Institute, Magnitogorsk State Technical University.

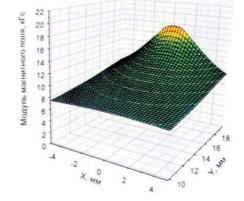


Saint-Petersburg Mining Institute

### COMPANY STRENGTHES

- Highly qualified personnel.
- Flexible production line, modern machine tools and research facilities.
- Application of modern materials (bi-metals obtained by blast welding, wearing resistant composite materials based on polymers and metal-ceramics).
- Computer-based modelling and design.
- Client-oriented manufacturing and supply, depending on special conditions, requirements or demands.
- On-going contact with clients exploiting our equipment.
- In-house research; experimental studies of hydrodynamic suspensions' behaviour in centrifugal force fields; dynamics of particles separation in magnetic liquid; separation of minerals and model mixtures in high-gradient magnetic fields.
- The company has research laboratory and testing facilities.





Digital modelling and calculation of magnetic fields within separator

# **PRODUCTS**











#### CENTRIFUGAL CONCENTRATORS

Our core products are horizontal centrifugal concentrators with a rated capacity up to 300 t/hour of solids.



Centrifugal concentrator "ITOMAK-KG-20" at work, 1999.

#### **FUNCTIONAL PROCESS**

The principle behind the concentrator is a forced separation of treated material in a centrifugal gravity field into two fractions: "heavy" and "light". Separation of the material into the two fractions takes place as result of the combined influence of water flow, centrifugal force and the gravity field applied to a particle in horizontal or inclined rotor. Efficient of separation of particles by density increases as a result of the oscillation of the mineral bed within the horizontal or inclined rotor.

The treated material is fed into the rotating rotor, where it accelerates up to an angular revolution rate similar to the one of the rotor itself. At the same time, water is applied into the rotor by jets at predetermined rates.

By virtue of the horizontal or inclined orientation of the rotor's axis, the mineral layer is subject to radial and axial oscillations generated by complex interaction of gravity, water pressure, and dynamic centrifugal force.

Consequently, mineral particles with an SG above a certain level ("heavy fraction") move towards the walls of the rotor against the water flow and settle out. Particles with lower SG ("light fraction") remain near the surface of the mineral layer and are eventually washed over the edge of the rotor with the water flow.

Gradually the layer structure changes with accumulation of the heavy minerals near the wall. Efficiency of the process depends on the angular rate, washing water pressure size fraction and solid/liquid ratio in the feed.



#### Advantages of the ITOMAK concentrators are:

- High capacity and efficiency at low energy rates, low weight, compact design and small area required for installation.
- Environmentally friendly as it requires only water and electricity for operation.
- High rate of concentration of the heavy minerals producing rich concentrates.
- Efficient extraction of fine, flake and "floating" gold.
- Horizontal or inclined design increases reliability by preventing water and/or sand penetrating into the bearings unit.
- Unloading is mechanised and may take less than 30 seconds.
- High quality of design and manufacturing at affordable prices and short supply period make it very competitive.
- Reliability, warranty support, installation and commissioning services.
- Simple operation and maintenance.
- Concentrators are equipped with automation module/controls on client's request.



Concentrator with autonomous power drive



Centrifugal concentrator ITOMAK-KG-40LC



Final concentration on a shaking table

#### ITOMAK manufactures wet and dry high gradient magnetic separators.

#### WET MAGNETIC SEPARATORS

Rotor, drum and belt magnetic separators with static magnets with capacity up to 20 t/hour.

#### Advantages:

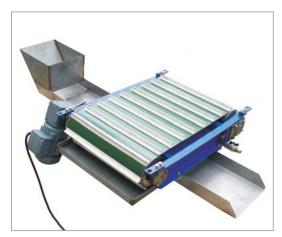
- Environmentally friendly.
- Compact design.
- High efficiency based on digital modelling of the optimum magnetic fields at design stage.
- Reliability, wear-resistant materials used in the key units.
- Usage of neodim-iron-boron magnets (Nd-Fe-B).

#### **DRY MAGNETIC SEPARATORS**

ITOMAK manufactures dry electromagnetic separators of three types with capacity up to 30 kg/hour: SMS-20M, SEMS-IKL and SEMS1-20.

#### Advantages:

- unique advantage of the dry magnetic separators ITOMAK is that the strength of magnetic field on the roll's teeth or on the wedge achieves 2.3 tesla;
- High gradient of magnetic field is ensured.
- Digital modelling and optimisation are used at design stage.
- High rate of extraction of paramagnetic minerals is achieved.
- Modern compact power source.
- Convenient through vibrating feeders with adjustable amplitude and frequency.
- Two-stage extraction: magnetic fraction is extracted at first stage and electromagnetic one at the second stage.
- Application fields:
  - research;
  - essential at final stages of treatment of gold and diamond concentrates.



Belt magnetic separator



Line of magnetic separators at ALROSA recovery plant



#### ITOMAK manufactures two types of magnetic liquid separators:

Separator with static magnets with capacity of up to 3 kg/hour (MLS-SM-3); Separator with electric magnets with capacity of up to 25 kg/hour (MLSE-20M).

#### **Employment of these separators has the following advantages:**

- Ability to separate non-magnetic minerals with difference in SG not more than 0, 2 g/cm3.
- Concentrates can be enriched up to pure gold without interim operations.
- Copper, led and other heavy minerals can be separated from gold.

Presently inefficient, laborious and often environmentally hazardous methods are used for the final refining of gold concentrates. This has a negative impact both on the economic parameters of a mine and ecology of the area.

One of the principally new technologies is separation in magnetic liquids (MLS), which allows extracting from the concentrates of gold ready for smelting.

Recently magnetic liquid separators (MLS) have been used for free gold extraction instead of amalgamation and stripping. By analogy with gravitational separation, MLS is often described as separation in pseudo heavy media. The effect of pseudo-weight charging of ferromagnetic liquids (FML) is induced by heterogeneous magnetic fields, which add controllable buoyancy force to the Archimedes force. This force depends on the field intensity and ferromagnetic liquid concentration. It is possible to achieve the required level of the buoyancy force by varying these parameters for making minerals of any SG floating. Therefore, by regulating the intensity of the magnetic buoyancy force, concentration of FML and/or gradient of magnetic field one can manipulate movement of particles with different SGs and separate them by this property.

The majority of FML-separators designed in recent years use static magnets for inducing magnetic field. This

makes such separators economical in terms of energy consumption, compact, light and relatively cheap.

Dry magnetic separator SMS-20M is recommended for pre-treatment of concentrates before FML-separation.

This separator serves to remove magnetic and paramagnetic fractions, which are not allowed to be fed into FML-separator. The removal is two-staged sequentially. Firstly, using static magnets, magnetic fraction is removed (iron, magnetite). Secondly, electric magnets with controlled magnetic field extract low magnetic/paramagnetic fraction. Both stages units are fitted on the same frame and separation of both magnetic and paramagnetic fractions takes place continuously in the same operation.





Ferromagnetic liquid separators





Magnetic separators

ITOMAK manufactures plants for refining of the fine gold containing concentrates.

#### **Advantages:**

- Compact design, efficiency in extraction of fine size fractions, ecologically clean.
- Simple and handy exploitation.
- By order from prospecting companies ITOMAK manufactures prospecting recovery plants with capacity up to 5 m3/hour:
- mobile;
- modular:
- autonomous.

The plants are equipped with modern concentrating and recovery equipment, power generator, cabling, lights and heaters.

ITOMAK manufactures plants for extracting gold from tailings formed during mining of ore and alluvial god, cassiterite, wolframite, and other minerals with capacity from 30 up to 500 t/hour of solids.

ITOMAK manufactures laboratory concentrators equipped with vibrating feeders, mixer, centrifugal concentrator and automated sample collector.

## MISCELLANEOUS PRODUCTS.

#### ITOMAK manufactures a range of other small capacity useful equipment of various types and sizes:

- 1 Vibrating screens (2 and 3-deck) suspended and on frame with capacity up to 3 t/hour.
- 2 Scrubbing trommels with capacity up to 3-5 m3/Hour.
- 3 Inducive furnaces.
- 4 Polyurethane hydrocyclones of all sizes and types.
- 5 Field and laboratory sedimentation tables with capacity up to 900 kg/hour.
- 6 Manual magnets with regulated field intensity.
- 7 Classifiers.
- 8 Laboratory crushers and mills.

By purchasing our equipment benefits include simple operation, robust and reliable, competitively priced compared to the leading international brands.

By purchasing our equipment you can be assured that our specialists will participate in optimising the units for the parameters specific for the mine or operation, as well as providing you with on-going technical support and advise.



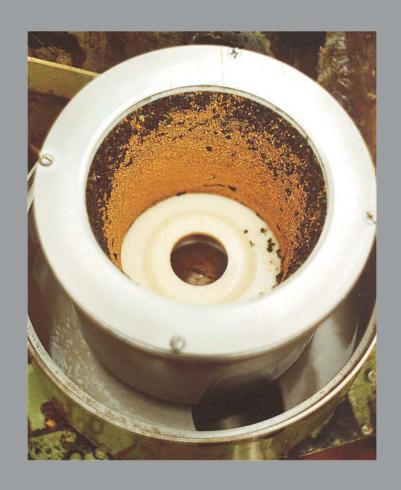
Automatic sample collector



Wet magnetic separator

## APPLICATION SCOPE

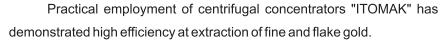


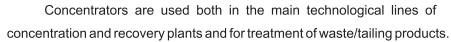


Concentrators ITOMAK are designed for separation of high-SG particles from mixture of various density minerals.

Scope of applications of the centrifugal concentrators includes:

- extraction of fine and flake gold (platinum) by gravitational concentration of alluvials and ores containing free gold;
- extraction of free gold from pulp circulating during ore milling and floatation treatment:
- re-working of slime dams/dumps and treatment of discharge reporting to tailings at currently operating plants treating alluvials and ores containing free gold;
- extraction of free gold during prospecting and exploration of mineral deposits.





During testing concentrator development we treated samples and installed pilot plants in Altay Mountains, Kemerovsky District, Bashkiria, 2 mines in Yakutia, 2 mines in Khakassia, Buryatiya, Amursky District, 3 mines in Krasnoyarsk District, Chukotka, 7 mines and recovery plants in Kazakhstan, South Africa and many more.

All test work proved that the application of ITOMAK centrifugal concentrators increased efficiency of gold recovery.

#### **Examples:**

**"Kommunarovsky Mine" (Khakassia)**. Between 1997-2010, 10 concentrators with a capacity of 5 t/hour were installed at the gold recovery plant, they were used for refining concentrate arriving from sedimentation tables. The first three concentrators were of vertical design and the rest horizontal. One cycle of refining increased the grade from 10-15 g/T to 1,000-5,000 g/T. The equipment was exploited in industrial environment for 14 years (oldest unit). According to the plant metallurgists and operators horizontal design is advantageous compared to the vertical design

in practical operation and maintenance. Therefore, currently only the horizontal designed concentrators are used in the main production line.

**MEGAMORE Mine (Welkom, RSA)**. Two concentrators "ITOMAK-KGM2-20" (20 t/hour) were installed at gold recovery plant in December 2001.

**Mogale Gold Mine (Krugersdorp, RSA)**. Two concentrators "ITOMAK-KG-30M" (30 t/hour) were installed at gold recovery plant in November 2002.

Concentrators with automated controls were installed and operated from 2007 at recovery plants of Company Pole and Public Company Uralelektromed'.



Concentrator for Genghis Khan Gold, Mongolia

The results indicate that use of our equipment allows extracting **additional gold** from waste/tailing products and pulps circulating at the plants. No special pre-treatment of feeding material is required for such operation.

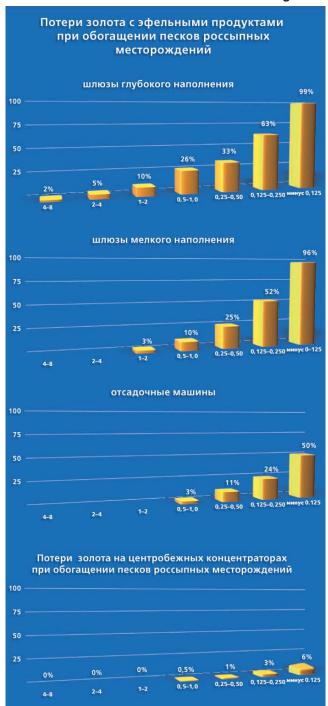
CAPEX is required only for the equipment purchase and installation.



Dust gold

## **E** NTOMAK

#### Diagram 1





results.

Tightening of environment regulations, e.g. ban on usage of mercury, also imposes constraints on the options to reduce losses.

The most realistic approach to the solution of the losses reduction task is further development of technologies based on centrifugal concentrators.

Ability to extract fine gold also allows reevaluating sampling results and provides powerful tool for the geological assessments.

Another attractive, aspect of the fine gold problem is the fact that significant volumes of gold containing slimes and tailings accumulated over decades. Their re-treatment becomes viable in a view of the technology development and recent increase in the gold price.

Progress in gold extraction techniques and methods upgrades tailings to the rank of technogenic deposits - attractive resource.

The tailings often can compete in terms of grades and resources with newly discovered deposits.

Substantial data accumulated worldwide indicate that re-working of such technogenic deposits is viable. The major advantage of these "deposits" is that the material is ready for treatment (excavated from the ground, disintegrated and/or classified).

Essential advantages of the centrifugal technology are in ecological "cleanness" and high specific capacity.

Development of the gold mining industry in the leading countries with access to advanced mining technologies will be defined by the level of involvement of the technogenic gold deposits in re-treatment.

Experience indicates that extraction of fine gold is a complex problem.

According to numerous reports, small mining companies using conventional concentrators can lose up to 20-30% of the gold. Employment of shallow filling sluice boxes or jigs reduces the losses, but does not resolve the problem.

Recovery of finer gold remains low: -0.25 + 0.1 - 76%, -0.1+0.05 -48% и -0.05-18%.

Improvements of conventional technologies based on sluice boxes do not always achieve positive

A wide range of methods is currently available for fine gold recovery, which operate at different stages of the process. There are first stage concentrators for the treatment of sands with fine gold and for refining concentrates.

ITOMAK developed and currently manufactures a complete solution process plant, which resolves the problem for all stages up to final extraction of pure gold.

Today a range of companies already uses concentrating, refining and recovery installations developed by ITOMAK.

**Concentrating section** incorporates following units: disintegration, screening, centrifugal concentration, second stage concentration.

**Refining/recovery section** "ITOMAK" comprises the following technological operations: jigging, concentrate refining on shaking table, centrifugal separation, magnetic and ferromagnetic liquid separations. Specific features of the recovery installation "ITOMAK" are employment of centrifugal concentrator for catchment of fine gold from the tailings of the table, as well as usage of the high gradient dry magnetic separator SMS-20M with the field strength up to 2.3 T. The latter allows reducing final concentrate by 10-20 times by removing paramagnetic particles.

Concentrating plants "ITOMAK" have capacity up to 300 m3/hour. Today they are used not only at active mines, but also for bulk sampling and re-evaluating of the technogenic deposits (tailings).



Practical industrial tests on extraction of fine gold from old ore and alluvial slime tailings using ITOMAK centrifugal concentrators indicate tremendous potential.

"Extractable" grades in alluvial slimes vary between 300 to 500 mg/m3 on average. For example, 4.5 Kg of gold was extracted from 12,000 m3 of slimes in Amursky District.

During summer 2002 the tests were carried out at the mine of company Nirungan (Neryungri, Yakutia). The feedback report «...on results of pilot-industrial tests of the concentrators «ITOMAK-KG-30» states the following: **«Installation** operated on re-washing of slime tailings of the Yurskiy Mine. Average grade of gold in the slimes is 0.52 g/m3, gold granulometry is presented in Diagram 2

"Gold is mainly of flake type. Installation operated 350 hours (concentrating time). 16,000 m3 of slime tailings is washed, 7.04 Kg of chemically pure gold is extracted. One hour concentrating cycle demonstrated 85-90% recovery. During exercise concentrators "ITOMAK" demonstrated stable work, no downtime for technical reasons took place. To decrease unloading time automation of this operation is required."

In July 2009 ITOMAK commissioned a recovery plant with a capacity of 30 m3/Hour at one of the mines in Zabaykalsky District. The plant was fed with old slime tailings. Average grades were between 0.2 and 0.4 g/m3, with a dominate size fraction -0.5+0.25 mm. These tailings were characterised by narrow size: 68% of gold particles were smaller than 0.25 mm and 85% less than 0.5 mm.





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The plant consisted of complete cycle for treatment of the gold-bearing sands. This ranged from conveyor feed to the scrubbing trommel to the final refining with ferromagnetic liquid separation. Use of centrifugal separators in the plant allowed re-evaluating (increase) of the gold reserve in the tailings due to the better extraction of fine gold. During 80 days of operation, up to the closure for winter season, more than 43 kg of pure gold was recovered.

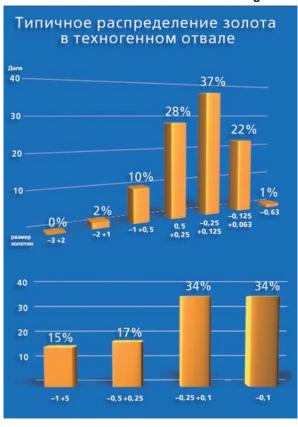
Operations on extraction of fine gold have been run at more than 30 mines from 1998.

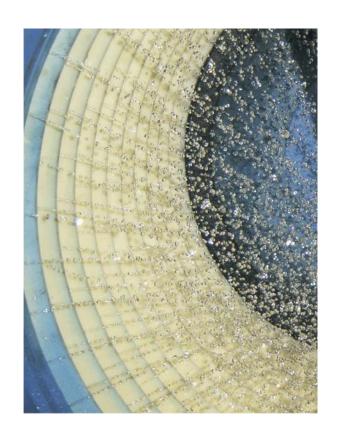
Under industrial conditions recovery yields were in the range 80-98%. It must be stressed that 80-90% of particles do not exceed 100 microns.

The major difficulties are related to the preparation of the feed material for centrifugal concentration, screening and drying.

We do not elaborate here on the complete list of required equipment and the nuances of the technology.

This will be provided by our specialists on request taking into account specific chara-cteristics of your ore material.





## SERVICES

#### **ITOMAK** offers the following services:

- 1 Design and optimisation of gold recovery technology applying centrifugal technologies, which allows reduce losses of fine gold. Increase of recovery at existing plants.
- 2 Complex study of samples and working out recommendations on gravitational and magnetic concentration of fine size classes.
- 3 Experimental studies in the fields of magnetic and gravitational concentrating methods.
- 4 Testing recovery equipment.
- 5 Expert evaluation of ores.
- 6 Commissioning of equipment and training the Client's operators.
- 7 Bulk sampling of technogenic deposits (tailings) with centrifugal concentrators on the Client's site.
- 8 Development of new concentrating and recovery equipment, engineering-design works, non-standard equipment design, manufacturing and testing of pilot models.
- 9 Research and development works, compilation of technological manuals.









# GEOGRAPHY OF SUPPLY





#### **RUSSIA:**

Western Siberia: Novosibirsk, Kemerovo, Novokuznetsk, Salair, Barnaul, Tomsk, Biysk, Zmeinogorsk, Tisul', Mezhdurechenck, Gorno-Altaysk, Maslyanino.

**Khanty-Mansiysky Autonomous District:** Berezovo.

#### **Eastern Siberia:**

**Irkutsk District:** Irkutsk, Bodaybo, Nizhne-Udinsk, Severo-Angarsk; **Chukotka:** Bilibino, Pevek.

Khakassia: Abakan, Kommunar, Sarala,

Kopyovo, Balyksu.

Krasnoyarsk District: Krasnoyarsk, Norilsk,

Severo-Eniseysk, Eruda, Motygino,

Krasnokamensk.

Zabaykalsky District: Chita, Nerchinsk, Baley,

Ust-Karsk, Novoorlovsky.

**Buryatia:** Ulan-Ude, Zakamensk, Severobaykalsk, Zun-Kholba, Irokinda.

Yakutia-Sakha: Aldan, Neryungrii, Yugorenok, Zvezdochka, Kuranakh, Ust-Nera, Lensk, Mirny, Polyarny, Tiksi.

#### Far East:

Khabarovsk District: Khabarovsk, Nikolaevskna-Amure, Komsomolsk-na-Amure. Primorsk District: Dalnegorsk, Artem. Magadan District: Magadan, Berelekh, Susuman, Yagodnoe, Seymchan, Ust-Srednekan.

Amursky District: Kharga, Svobodny,

Solovyovsk, Zeya, Bureya.

**Urals:** Ekaterininburg, Chelyabinsk, Verknyaya Pyshma, Kirovgrad, Nevyansk, Miass, Plast, Magnitogorsk, Perm, Krasnovishersk, Beloretzk, Uchaly.

Karachaev-Cherkesskaya Autonomous Republic:

Village Urupsk.

**As well as:** Moscow, Saint-Petersburg, Izhevsk, Saratov, Voronezh, Rostov-na-Donu, Tula.



Twinned ITOMAK installation treating tailings, Zabaykalye



"ITOMAK-KG-5" processing tailings



Ciprus, Larnaka



#### **EXPORT DESTINATIONS:**

North Africa: Sudan, Egypt.

South Africa: Johannesburg, Krugersdorp, Kimberley,

Welkom, Barberton, Klerksdorp.

Africa: Angola, DRC, Sierra Leone, Namibia, Ethiopia,

Guinea, Mozambique, Tanzania, Chad.

China: Fujian Province.

Switzerland: Lugarno.

Columbia: Bogota.

Mongolia: Ulan-Bator, Tavt, Zaamar, Hovt, Erdenet.

Vietnam: Hanoi.

Romania.

**Kazakhstan:** Ust-Kamenogorsk, Almaty, Kokchetav, Stepnogorsk, Ridder, Akbakay, Balkhash, Aktyubinsk,

Khromtau, Zyryanovsk.

Tadjikistan.

Armenia: Yerevan.

Georgia: Tbilisi, Madneuli.

Belorussia: Minsk.

Ukraine: Kiev.

Kyrgysia: Bishkek, Kara-Balta, Kadamjay, Osh



"ITOMAK-KN-1,0" in operation



Sudan, installation processing complex



Megamore Mine, South Africa



Installation at coop company Gazimur, Zabaykalye

## PARTICIPATION IN INTERNATIONAL CONFERENCES



Deposit visit with Governer of Magadan District



Saint-Petersburg, 2005



China, Fujian, 2007



Moscow, 2008



South Africa, 2002



Kongo site visit with Japanese experts, Magadan District



Irkutsk, 2001 >>>



Mongolia, 2005







International Conference participants visiting ITOMAK Company and laboratories, Novosibirsk, September, 2010

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