



THE STATE ENVIRONMENTAL AND TECHNICAL SAFETY INSPECTORATE UNDER THE GOVERNMENT OF THE KYRGYZ REPUBLIC

**The TMFs Inventory in Kyrgyzstan:
THE CURRENT SAFETY STATUS OF OPERATIONAL TMFs AT THE
TERRITORY OF THE KYRGYZ REPUBLIC**



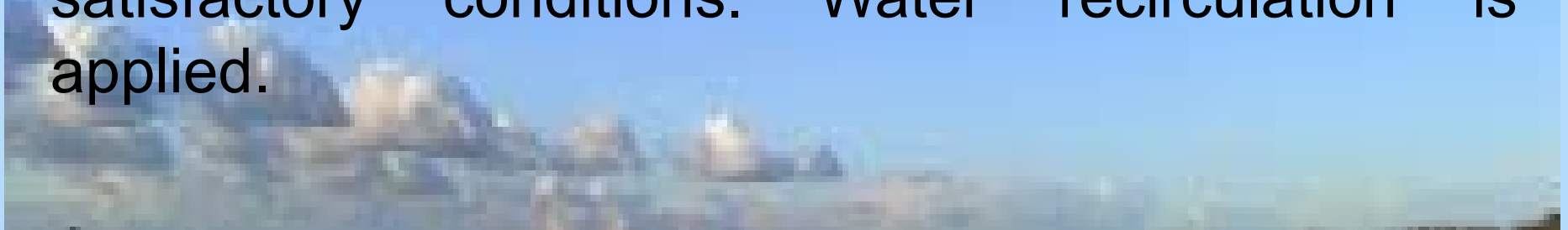
Now, at the territory of the Kyrgyz Republic, the following industrial facilities operate TMFs: Kadamjaiskiy Antimony Plant JSC, Khaidarkanskoye Mercury Plant JSC, "Kyrgyzaltyn" JSC subsidiary "Makmalzoloto" Plant, "Kyrgyzaltyn" JSC subsidiary "Tekeksay" Mine, "Kyrgyzaltyn" JSC subsidiary "Solton-Sary" Mine, "Kara-Baltinskiy" Mining Plant JSC, "Tyan-Shanolovo" JSC "Kurgak" Mine, "Ak-Tyuz" SJSC (a bankrupt) TMF # 4 in Ak-Tyuz township, Kumtor Gold Company JSC, "Altynken" JSC, Full Gold Compabny JSC, Kaidi Mining Investment Company JSC, "KAZ Minerals Bozymchak" JSC.

Locations of operational TMFs in the Kyrgyz Republic



Khaidarkanskoye Mercury JSC

The TMF with area of 22.8 ha is located at the territory of Kadamjalskiy district (Kazartkar sai) of Batkenskaya oblast at the altitude of 1700 m. The TMF was operational since 1968. With design capacity of 8400 thousand tons, it actually contains 3923.9 thousand tons. The site is classified as III hazard class (toxic). Now, the TMF is filled by 50%. Main toxic substances include mercury and antimony. The dam and mudflow channels are in satisfactory conditions. Water recirculation is applied.





Kadamjaiskiy Antimony plant JSC

The TMF of the ore dressing facility of the plant is located at the territory of Kadamjaiskiy district of Batkenskaya oblast at the altitude of 1100 m. The TMF was commissioned in 1971. Its area reaches 115 thousand m². With design capacity of 2600 thousand m³, the TMF actually contains 2592 thousand m³ of tailings. Design parameters of the TMF, in terms of tailings volume and the maximum height of the dam crest (except for the northern part of the Northern log) **have been exhausted**. Mudflow protection dams and a drainage channel with the cross-section of 6 m² and design capacity of 3.72 m³/s were built above the TMF.

In 2004, in connection with reconstruction of the plant, the ore dressing facility terminated its operation. Now, the site rehabilitation project is being developed.



Соленаопитатели и хвостохранилища Кадамжайского сурьмяного комбината

"Kyrgyzaltyn" JSC subsidiary - "Makmalzoloto" Plant

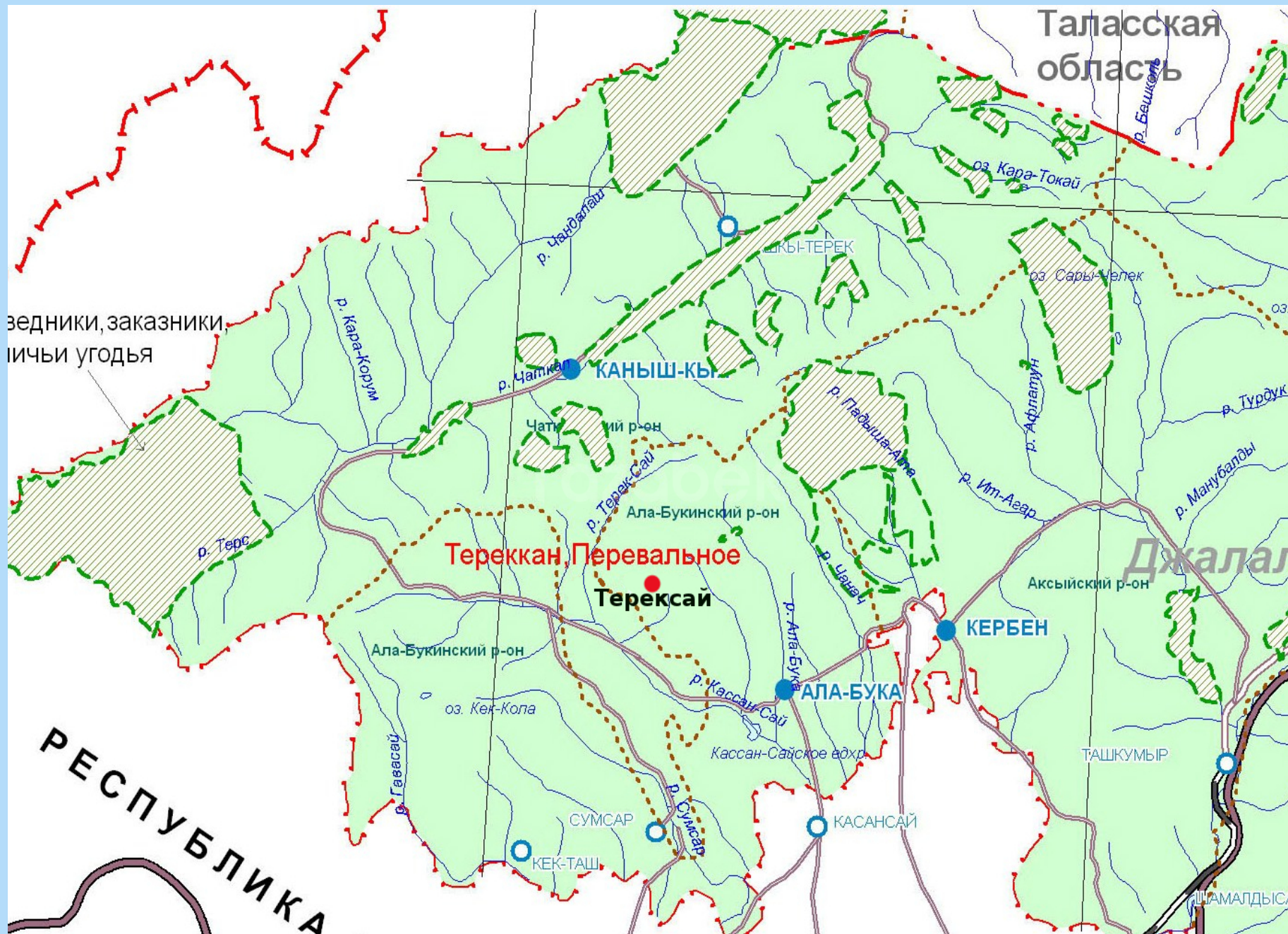
The site is located in Toguz-Torousskiy district of Jalalabatskaya oblast at the distance of 12 km from Kazarman township, at the altitude of 1300 m. The construction design for the TMF of the gold extraction facility of the Plant was developed by "VNIlgortsvetment" and "Kazmelhanobr" institutes. The TMF was commissioned in 1986. With its design capacity of 4.3 million m³, the site actually contains 7740 thousand tons of tailings. The site area reaches 30 thousand m². The first TMF is completely filled. Now, the Plant operates the newly constructed TMF.





"Kyrgyzaltyn" JSC subsidiary - "Tereksay" Mine

The TMF is located at the territory of Chatkalskiy district of Jalalanadskaya oblast, in Anomalniy sai (above Tereksai township), at altitudes of 1680-1725 m. The site area reaches 32520 m², while its capacity reaches 975 тыс. м³. The site construction works were conducted in 1975, according to design of "Sredazniiprotsvetmey" institute. The starter dam was constructed in 1985 by the owner's own means. The last adjustment of design solutions was made in 2003, including building up the dam to the height of 7 m.



"Kyrgyzaltyn" JSC subsidiary - "Solton-Sary" Mine

The TMF is located at the territory of Tyan-Shanskiy district of Narynskaya oblast at the distance of 175 km from Balykchy railway terminal, at the altitude of 3100 m. The site was constructed according to the design developed by "Ken-Too" R&D Centre. The site was commissioned in 1994. With design capacity of 85 thousand m³, the site actually contains 180 thousand tons of tailings. In terms of hazards, the TMF is classified as V hazard class (non hazardous).

КЫРГЫЗАЛТЫН



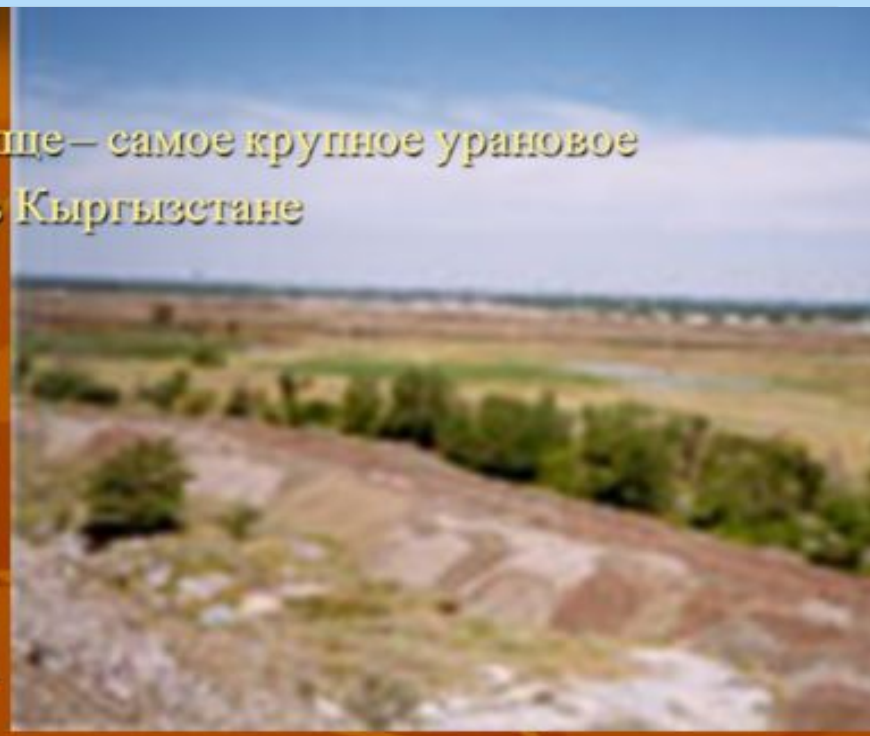
"Kara-Baltinskiy" Mining Plant JSC

The TMF of the hydrometallurgical plant (HMP) of Kara-Baltinskiy Mining Plant JSC is one of the largest radioactive waste dumps in the World. It was designed, built and operated as a class I facility.

The hydraulic type TMF is located at the distance of 600 m to the West from the HMP site (1.5 km from Ka-Balta) and consists of three ponds with conditional numbers 7, 8 and 9 (previously used alternately), and one bulk sludge pond. The TMF area reaches 268 ha. None of the ponds is filled to its design capacity.

Radioactive waste is stored in the "bulk sludge pond" of the TMF with the area of 27.5 hectares and activity of 3752.4 Curies. Elements of the uranium series represent the main polluting components.

Карабалтинское хвостохранилище – самое крупное урановое
хвостохранилище в Кыргызстане





ХВОСТОХРАНИЛИЩЕ ОАО «КГРК»

является одним из крупнейших хвостохранилищ равнинного типа на постсоветском пространстве.

- Хвостохранилище ОАО «КГРК» в г. Карабалта образовано в 1952 году (распоряжение Совета Министров СССР №14874, от 13.06.1952 года) для складирования отходов основного производства Горнорудного комбината по переработке ураномолибденовых руд.
- Количество размещенных на территории хвостохранилища радиоактивных отходов составляет около 37 млн. куб. метров. Занимаемая площадь составляет более 500 Га.
- Радиоактивный материал представлен радионуклидами урана ($U^{238}+U^{235}+U^{234}$), тория (Th^{232}), радия (Ra^{226}).
- Близость расположения населенной зоны и отсутствие превентивных мер (неэкранированное ложе карт хвостохранилища, отсутствие покрытия, предотвращающего унос пыли) оказывают негативное воздействие на все агенты окружающей среды (население, атмосферный, воздух, вода, почва, растительность).

Kumtor Gold Company JSC - Kumtor Mine

The TMF of Kumtor Gold Company covers the area of 2250 thousand m² and belongs to the hydroengineering constructions of a ravine-beam type.

The TMF dam meets the parameters stipulated by the Kumtor Project Feasibility Study. However, already in 1999, after two years of operation of the TMF, a horizontal displacement along the base of the western wing of the dam was found.

In the period from 2004 to 2007, the company, jointly with R&D and design organisations of the country, took certain measures to stabilise the horizontal movement of the dam (construction of a wedge and a prism along the downstream section of the dam). According to systematic monitoring results, a certain decrease in the movement of the dam base was observed.

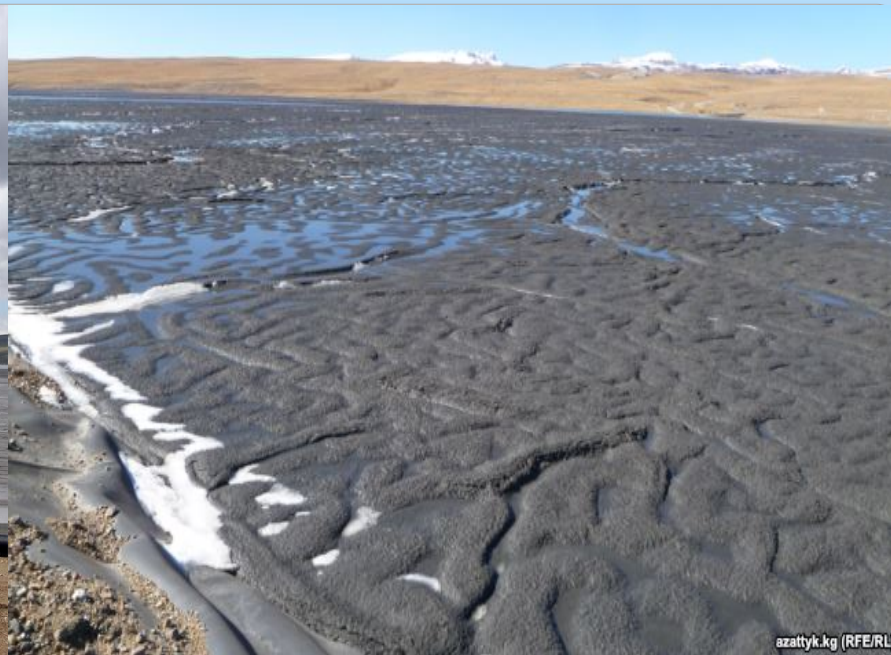


Рисунок 10: Расположение естественной моренной дамбы озера Петрова и хвостохранилища «Кумтор Оперейтинг Компани» м.н.у.м - метры над уровнем моря, источник: BGC, 2012)





Full Gold Company JSC



"KAZ Minerals Bozymchak" JSC



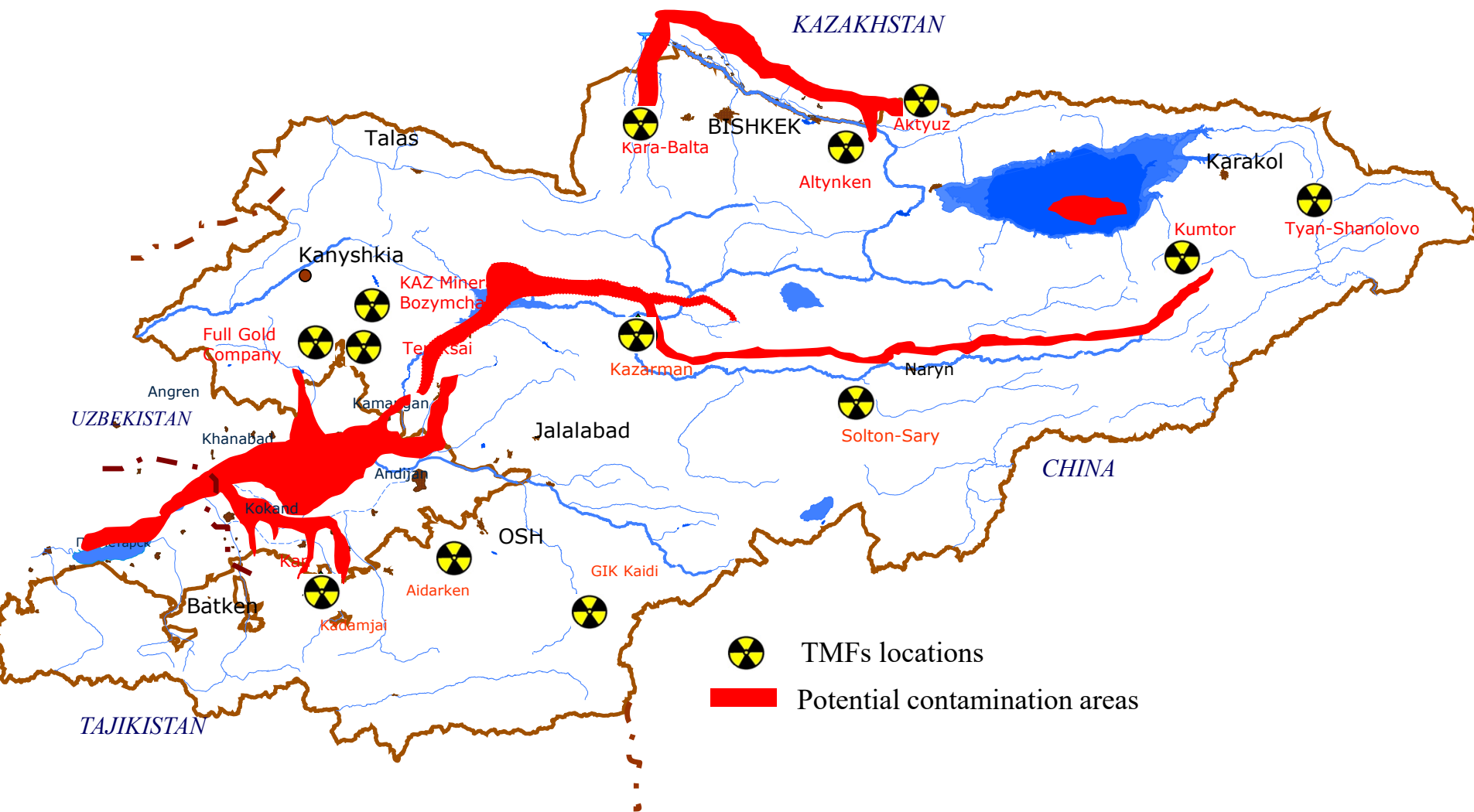
"KAZ Minerals Bozymchak" JSC



"KAZ Minerals Bozymchak" JSC



Locations of operational TMFs in the Kyrgyz Republic



**The State Environmental and Technical
Safety Inspectorate under the
Government of the Kyrgyz Republic
is an authorised executive body in
charge of state supervision and control
on environmental and technical safety
matters, as pertains to:**

THE STATE ENVIRONMENTAL AND TECHNICAL SAFETY INSPECTORATE UNDER THE GOVERNMENT OF THE KYRGYZ REPUBLIC

Environmental block

Env.
safety

Ind.
safety.
mining
superv.

Land use
control and
superv.

Technical block

Ind.
s-v.

Arch.
and
const.
superv.

Occup.
safety

Energy
superv
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CURRENTLY, THE STATE ENVIRONMENTAL AND
TECHNICAL SAFETY INSPECTORATE COVERS 11
INDUSTRIAL SECTORS

Environmental
block

Env. safety

Ind. safety

ЭКО Б

Land use superv.

Radiation safety

Water supervision

Technical block

Arch. and
construction

Mining superv.

Industrial
supervision

Energy superv.

Occupational
safety

Transport safety

Activities of the State Environmental and Technical Safety Inspectorate are intended to reach the main "GROWTH THROUGH SAFETY" aim – i.e. to ensure safe life and health of people, flora and fauna, and the environment, to prevent adverse effects through state supervision and control, as well as to promote economic development and improvement of the investment climate for the benefit of all residents of Kyrgyzstan.

Regulation # 108 of the Government of the Kyrgyz Republic of August 02 , 2016 approved criteria for assessment of risk levels for classification of hazardous production sites with frequencies set for inspections of specific sites: 1st category - every year, 2nd category - every 3 years, 3rd category - every 5 years.

According to the above regulation, all the above mentioned TMFs are classified as 1st category sites and should be inspected every year. According to results of the inspections, orders are issued for mandatory elimination of violations and - one month after - a control check is to be conducted.

In addition, in 10 days before an inspection, a notice on inspection must be sent to the economic actor to be inspected. Within ten days, the inspected entity may eliminate the majority of cases of non-compliance and may try to conceal the remaining ones. Therefore, efficiency of inspections and preventive actions to prevent industrial accidents and incidents is reduced.

A scenic landscape photograph of a mountain valley. In the foreground, a river with white water rapids flows over a rocky bed. The river is flanked by dense green forests and shrubs. In the background, steep, forested mountains rise under a bright blue sky with large, white, fluffy clouds. The overall scene is vibrant and natural.

*Thank you for your
attention!*