KUMTOR КУМТОР centerra GOLD

IN TOUCH

ISSUE № 8, **SEPTEMBER 2014**

LIFEGIVING WATER

Villagers at the opening of the DRP in Svetlaya Polyana

LENDING A HELPING HAND

The importance of water in our life doesn't need much explanation. Without water, life on earth would not be possible, making it perhaps the most precious resource we have. We take this responsibility very seriously and have made it a key priority to resolve any issues concerning water safety, as well as contributing to water projects in local communities.

Farmers know best that if they lack water when they need it - even for one day, they might lose their entire crop for that season. To help prevent such situations, one of the projects Kumtor has invested in is cleaning the Daily Run-off Ponds (DRPs) used by farmers for crop irrigation. These ponds collect excess water from irrigation, so that it can be reused later on. In the hot summer months these ponds are often the only source of irrigation water, so it is vital that they can hold enough water to make it through the season.

The spring of 2014 started with good news for the Village of Svetlaya Polyana, Jeti-Oguz region. Farmers, who had been suffering from a shortage of irrigation water, heard that their problems may be at an end, and readily supported what their head village, Jilkichi Mamytkanov, Kumtor and KAED were planning to do. Their daily run-off pond, which could originally hold 30,000 m^3 of water, was dug in the late seventies, and had not cleaned since that time. Due to this lack of maintenance the pond's capacity had shrunk to between 5,000 and 6,000 m^3. The work to clean the pond started on May 7th and was finished 40 days later. Knowing that the need for water would be high in the hot season work, workers labored day and night to finish the project. One of the village members, Almaz Asanov, told us

> **"Had the work been finished any later we could have lost half of our crop."**
>
> *- Asanov Almaz Omurbekovich*

> **"We are pleased and thankful for Kumtor, for what they did for our village."**
>
> *- Village Head, Jilkichi Mamitkanov*

Correction of May 2014 Issue

In the May 2014 newsletter we incorrectly stated the caps on the tailings dam would be capped with 0.5m of safe material and 0.3m or topsoil. The actual figures are 0.3m of safe material and 0.2m or topsoil. We apologize for any confusion.

"Cleaning this pond was a very urgent matter - had the work been finished any later we could have lost half of our crop, especially with the dry weather this year. So, it was finished just in time." Now the pond can once again hold its original thirty thousand cubic meters of water.

Almaz Asanov

In this issue:

Getting their hands dirty

The story of Svetlaya Polyana was not a unique one, however - many other villages around the valley were struggling with the same problems. Most of the daily run-off ponds in the area were dug in the early to late nineties and had not been maintained since that time. Both irrigation channels and run-off ponds had eroded and filled with soil swept in from the streams, greatly reducing the amount of water they could hold.

Kumtor, in cooperation with Kyrgyz Agro-Input Enterprise Development (KAED), helped to restore, and in some cases expand, many of these ponds and channels as well as building new pumps.

DRP in Svetlaya Polyana before and aftger cleaning

Region	Village	Facilities	Beneficiaries & Benefits
Drinking water			
	Ton	*Solar water pump*	*70 households*
	Kok-sai	*Solar water pump*	*200 households*
	Ottuk	*Solar water pump*	*520 households*
	Toguz Bulak	*Water pump*	*50 households*
Ton	*Ak-Sai*	*Installation of pipes*	*100 households*
Jety -Oguz	*Jety-Oguz Kurort*	*Water pump*	*85 households*
Total		*6 facilities*	*955 households*
Irrigation water			
	Lipenka	*Water pump + dam*	*838 hectares 2485 households*
	Jety-Oguz	*Water pump*	*400 hectares 120 households*
	Ak-Dobo	*DRP cleaning*	*482 hectares 300 households*
	Konkino	*DRP cleaning + Channel clearing (3.5 km)*	*300 hectares 163 households*
	Bos-Beshik	*DRP cleaning*	*700 hectares 225 households*
Jety-Oguz	*Svetlaya Polyana*	*DRP cleaning*	*600 hectares 500 households*
	Don-Talaa	*DRP Kalkagar cleaning*	*700 hectares 350 households*
	Kol-Tor	*DRP cleaning*	*350 hectares 250 households*
Ton	*Ulahol – Ak-Bulun*	*Channel clearing (7 km)*	*1000 hectares 550 households*
Total		*11 facilities*	*5370 hectares 4943 households*
Grand Total		*17 facilities*	*5370 hectares 5998 households*

Daily run-off pond in Kalkagar

Kalkagar, Ton

The Kalkagar DRP was dug in 1990 and could originally hold up to 30,000 m^3 of water, however it had not been cleaned since then and over time half of it filled up with sand. The village head, Ulan Esengul Uulu, reported, "We tried to clean with our own excavator last year, but we could not do much. This year Kumtor brought their excavator and together with the three trucks we provided restored the pond to its original capacity. They also helped us to make a dam in Kizil-Suu village last year, when we had some flooding in that area."

Koltor Village, Ton

In Koltor, Kuban Azizov, the village head told us "Since it was first dug out twenty years ago, our DRP's capacity had shrunk to just 8,000 m^3. With the help of Kumtor we enlarged it, so it can now hold up to 23,000 m^3 - almost three times more. The pond was already serving more than 200 hectars of land, but we still have more than 500 hectars of unused land, which we are hoping to rehabilitate with the help of the enlarged reservoir."

Lipenka (Kabak) pump station

Pump in Jeti-Oguz

Conserving water with drip irrigation

Water shortages are currently the biggest struggle facing Issyk Kul farmers, and while restoring water channels and reservoirs increases the supply of irrigation water, technologies like drip irrigation will further help farmers by making avoiding unnecessary water loss.

The idea of drip irrigation has been around since ancient times, whether it was using porous clay pots, pipes with small holes in them, or modern drip tape and plastic dispensers. However, the concept has always been the same - to deliver a slow, but constant supply of water to the plants you want to grow and nowhere else. This takes some planning and effort in the beginning, but requires less water, energy, and labor in the long run.

This type of irrigation isn't ideal for all crops, but for fruit trees, berry bushes and crops that grow in bushes - like tomatoes or peppers - this method can save a lot of water, energy and labor compared to traditional flood irrigation.

In January 2013 Kumtor began the KARAGAT+ project, primarily to develop nurseries, storage containers and greenhouses in the Issyk-Kul region, but also to support the use of Drip Irrigation Systems (DIS) around the valley. It also supports vocational schools in providing short-term courses to farmers in the use of these technologies.

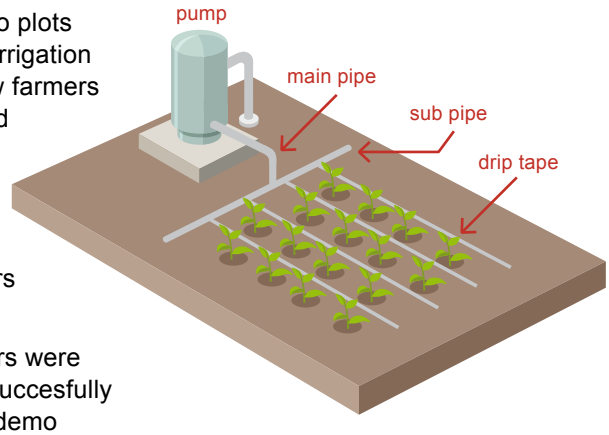
The Micro Irrigation Technology project (MIT) was started by Helvetas Swiss Cooperation who are working together with the Association of Nurseries, Karagat+ and local farmers.

Together they have build demo plots with fresh seedlings and drip irrigation systems in 25 villages to show farmers first hand how to construct and use the systems. They have also selected a retailer responsible for distributing supplies for the irrigation systems and educating farmers on their use.

In Bulan-Sogotu village farmers were educated about the DIS and succesfully installed it in their newly built demo plots. They remarked that this had been the most important training and innovation for them.

It is now the responsibility of the demo plot owners to pass on their knowledge to others in the village, teaching them how to use the DIS in their own gardens and orchards.

There is currently a request for a DIS covering over 30 hectars of land, and more request are expected in the future considering the increasing importance of water conservation in the area.



Key Benefits:

- Less water is used
- Fewer weeds grow
- No soil or nutrients are washed away
- Less energy used because pumps work at lower pressure than other irrigation methods
- Less work than other methods after the initial installation is finished
- Works well on porous soils due to the slow and steady application

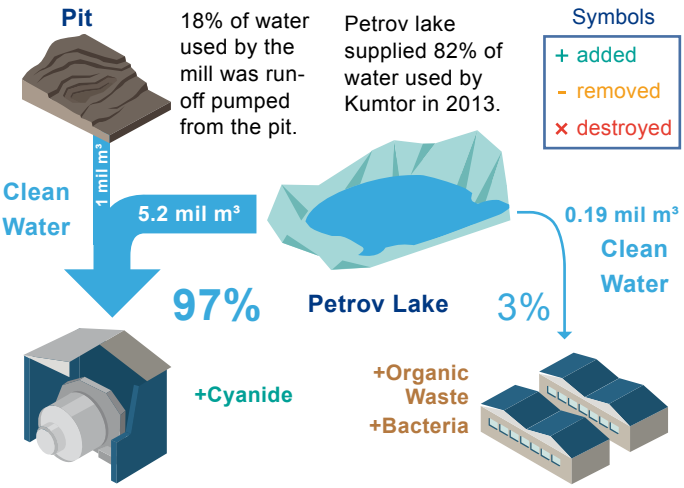
Karagat Fest

This August the second annual Karagat Fest was held in Kyzyl-Suu village. The Festival is a celebration of Issyk Kul's fruits and berries and brings together farmers, farming equipment suppliers and retailers, and of course just regular people who love fresh produce. It's a great opportunity for business partnerships as well as education on technologies such as green houses and drip irrigation. We are happy with the success we are already seeing and hope that these projects will continue helping farmers and businesses in the area to grow and be successful.

Karagat Fest 2012

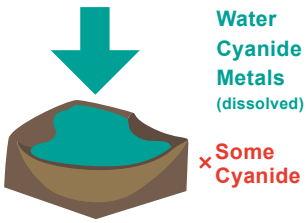
Water Use and Treatment

All water used by Kumtor is treated according to international standards. To ensure the water released back into the Kumtor river is safe, Kumtor regularly tests water samples taken from more than 18 different locations. These include the locations where water is discharged into the river, as well as up- and downstream from the discharge. Water monitoring is carried out daily by the Company's ecologists. Independent tests are also conducted by government representatives of the Kyrgyz Republic, particularly before the Company gets permission to discharge the treated waste waters into the river.



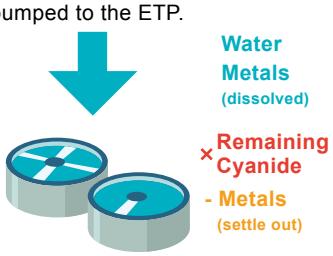
Mill - 6.3 mil m³ used

The vast majority of water is used at the mill to create a weak cyanide solution which is used to dissolve the gold in the ore. However, other metals are also dissolved in the process. This wastewater is pumped to the tailings dam.



Tailings Dam

Here the waste water is stored and exposed to sunlight (UV rays) which breaks down the cyanide in the water. From there the water is pumped to the ETP.

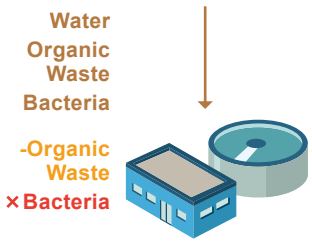


Effluent Treatment Plant (ETP)

Here chemical compounds are added to destroy any remaining cyanide and bring the dissolved metals back to a solid state. These and other harmful particles are then settled out and the clean water is released back into the Kumtor River in accordance with our discharge licence.

Camp - 0.19 mil m³ used

A small percentage of the water is used at the mining camp as drinking water and for utilities. The resulting sewage is pumped to the Sewage Treatment Plant.



Sewage Treatment Plant (STP)

The Sewage Treatment plant uses standard processes of biological treatment and chlorination to kill bacteria and make sure the water is safe.

The processed water is released back into the river in accordance with our discharge licence.

Testing the waters

The water samples taken are tested independently by several professional Labs. Most are analysed by Steward Assay and Environmental Laboratories LLC (SAEL) in Kara-Balta, but samples are also regularly sent to Saskatchewan Research Council (Canada) and Lakefield Research Laboratories (Canada) to ensure results are accurate. Kumtor has an onsite testing lab to monitor water quality on a day-to-day basis.

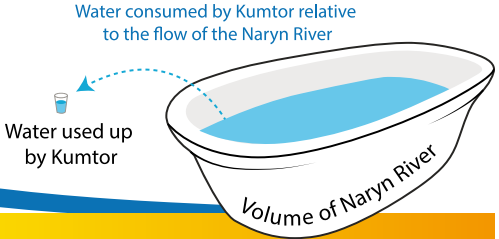
Reducing Impact on Petrov Lake

To reduce the demand on Petrov lake most of the water used for ore processing at the mill is re-used internally.

Furthermore, starting in 2012, Kumtor began using the water collecting in the mining pits to help meet their water demand at the mill. In 2013 about one sixth of the water used for ore processing was pumped from the northern pit, significantly reducing the amount of water taken from Petrov.

Impact on flow of the Naryn River

The Kumtor River feeds into the Naryn river along with many other tributaries. By the time the river reaches the nearest town (Naryn) 230km downstream, the water that is used up by Kumtor and not returned to the river (a total of ~1M m³) represents only 0.04% of the Naryn River volume - an amount that makes no noticeable difference to the flow of the river.



Kumtor River

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