

Massive ice and waste rock falls into the Kumtor pit and permafrost melting at Lake Petrov above the Kumtor tailings disposal present permanent risks that require solutions urgently to prevent additional gold production cutback and releases of tailings into downstream water supplies.

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Centerra Gold's March 27, 2012 announcement that "increased ice movement in the southeast section of the pit will delay scheduled access to the high grade SB [ore] zone" resulting in a 200,000 oz. reduction in projected 2012 production at the mine (see <http://www.centerragold.com/sites/default/files/news-releases-en/cg-03272012-en.pdf>) provides the company's acknowledgement of a third gold production cutback due to excessive flow of ice from the Davidov Glacier into the Kumtor open pit mine on the located 4,000 meters high in Tien Shan Mountains of Kyrgyzstan dating back almost a decade. See Figures 1, 2 and 3.

Excessive volumes of Davidov Glacier ice and waste falling the Kumtor pit in 2002 and 2007 are described as "pit wall failures" in Centerra Gold's 2001 Annual Information Form (2011 AIF) (1). In that filing, Centerra acknowledges the severity of the risk of continued pit wall failures and its long-term potential for "negative impact on the life-of-mine plan" and "loss of mineable resources by open pit" among the "Geotechnical Issues Affecting the Kumtor Open Pit" (2011 AIF, beginning at p. 35).

Centerra reports that,

"... [G]iven the current lack of knowledge regarding the degree of deterioration of the original permafrost regime, the hydraulic conductivity of the rock, and the extent of water infiltration and pore water pressures, the viability of these measures to control water pressures behind the pit walls is therefore uncertain. If the high wall cannot be depressurized and proves to be unstable at the slope angles assumed by the mineral reserve estimate as at December 31, 2011, the result could have a negative impact on the life-of-mine plan. An increase strip ratio, a loss of mineral reserves mineable by open pit, or a combination of the two could occur."

Centerra Gold's announcement that the February 2012 ice and waste fall into the Kumtor pit will result in a cutback in gold production indicates that the measures the company has put in place to address the causes of past pit wall failures have been ineffective since those

measures were not effective at preventing Davidov ice and waste from falling into the open pit and causing the current production cutback.

The inability to control massive flows of glacial ice and mine waste into the open pit is not the only major risk associated with glacial conditions in the high Tien Shan Mountains of Kyrgyzstan where the Kumtor mine is located. The Kumtor gold ore processing mill waste – tailings – disposal facility lies on permafrost ground and downstream of the glacial outfall lake at the toe of the Petrov Glacier, Lake Petrov. Increased melting of the Petrov Glacier, increased melting in the glacial moraine that contains Lake Petrov and increased melting in the permafrost ground beneath the tailings containment dam result a growing risk of the potential failure of the tailings dam due to the outflow of Lake Petrov waters into the tailings disposal facility and instability of the dam containing the tailings due to melting of its foundation. See Figures 4 and 5)

Melting of the Petrov Glacier and risk of rupture of the dyke that contains its glacial outfall lake - Lake Petrov specifically and Kyrgyzstan's "hazardous" glacial lakes in general, is well documented. (2)

The Kumtor mine complex is sited in such a vulnerable location, downgradient of the Davidov glacier's that the glacier's inexorable movement toward the mine will present a continuing, essential perpetual risk, presenting risks throughout the mine's operating life and long the mine's eventual closure. Centerra's inability to prevent the Davidov glacial flow into the pit during operation leaves little hope that ice and waste flows can be controlled after mine closure. Though Centerra has been making an extensive effort to address the "pit wall failures", the problems are likely to continue forever unless and until a mechanism is designed and installed to address them in revised operating plans and reclamation plans that remove the waste from the Davidov glacier's path and the tailings are removed from the Lake Petrov outflow path or other design sufficient to prevent or eliminate the glacial flow risks that current affect operations.

The reoccurring pit wall failure events at Kumtor provide a compelling reason for insuring that a fully engineered reclamation plan supported by a full financial guarantees to insure that the plan is implemented at the cost of the operating company, instead of the current short-sighted approach that defers reclamation planning and full financial guarantee of reclamation until "two years before operations cease".

The risk of Petrov Lake flows into the tailings and instability of the tailings containment dam associated with permafrost melting also are source of permanent risk to the tailings facility due to potential for release of tailings. This risks due to either failure mechanism will continue during operations and after closure and reclamation of the tailings if those wastes are left in place behind an unstable dam and downgradient of a unstable glacial lake dyke. Operating and reclamation plans sufficient to address both a Petrov Lake breach and potential increasing instability of the tailings dam are needed urgently to insure that technical design and sufficient funds to implement them are in place to eliminate or address the potential for tailings releases.

The severity of the risk of future massive glacial ice inflow and pit wall failures into the Kumtor pit and glacial lake overflow and permafrost melting to cause major releases from the tailings facility present fundamental challenge to waste management put the future of the Kumtor operation at risk. These complex technical issues require resolution before additional mine pits and tailings facilities are considered for

approval in the Kumtor Concession as they are affect both present operations and Centerra's plans for future operations. Future open pits proposed by Centerra also will have glacier ice flow towards their proposed pit outline during and after operations as is the case with the current pit. The tailings facility as currently constructed is too small to contain all the processing waste planned in the current Kumtor life-of-mine plan in addition to facing a continuing risk of glacial outflow eroding portions of the tailings disposal facility in perpetuity. A site selection process for the a new tailings facility should be a priority for Centerra and its Kyrgyz partners to keep Kumtor operating with a waste disposal facility that is large enough for its needs and out of the path of a potential glacial lake outflow. See Figures 1, 4 and 6.

The location of the mine below the glacier and the tailings impoundment down gradient of Lake Petrov result in long-term risk of physical instability that Centerra has told its investors presents a long-term risk to the rate of gold production at Kumtor. Recently projected production rates may have been over optimistic in any case, of course, as the ice flow into the mine seems to be a regular problem that may not be preventable without a major revision of the mine plan or reduction in resource estimates, as Centerra discusses in it AIF p. 35 et seq.

Previous ice-flow-into-the-mine events were not blamed on a worker's strike, as implied in Centerra's March 27 press release about the incident. As the ice inflow problem is well recognized, it may be the association of the February 2012 pit wall failure with a worker's strike is likely to be supportable by an independent assessment because the pit wall instability problem has been a reoccurring failure mechanism that is a direct result of the decision to construct a large scale open pit in the path of a glacier combined with the unpreventable, movement of the glacial ice field towards the mine pit. The decision to locate and operate the mine downgradient of the glacier and locate the tailings impoundment down-gradient of the lake that result in a inherent long-term instability in the waste disposal activities at Kumtor.

Of course if Lake Petrov fails and resulting flow damages the tailings disposal facility, a full shutdown may result as there would be no place to put the process wastes - the tailings - so the processing plant would need to stop operating as the gold can't be produced without making waste. (See Figure 3)

One condition associated with both glacial ice flows into the pit and the potential tailings dam release - whether partial or complete – is glacial and permafrost melting. Waiting until Spring (whether Spring 2012, or next Spring, or the Spring after that...) to develop an effective response will allow increased melting of the Davidov glacial ice that's leading to increases in the flow of glacial melt water, and the glacial ice and the waste rock on top of it, towards the pit.

At Lake Petrov, a decades-long trend of increased ice and permafrost melting in the glacial moraine that keeps Lake Petrov from overflowing and washing out a portion of the tailings area downgradient of the Lake continues unabated, further weakening the stability of the lake.

The press coverage of the most recent pit wall failure mentions "unattributed statements" but not whether any of those source provide a perspective independent of Centerra (3). The association of the instability of gold production at the mine with potential for economic instability in the country and region seems to be an effort to blame those economic problems on the glacier, rather than the decision to construct the mine in an inherently vulnerable location.

Press coverage of the most recently cutback in gold production at Centerra Gold's Kumtor due to a massive flow of ice and waste rock into the mine pit located in the high Tien Shan Mountains of Kyrgyzstan fails to acknowledge the long series of similar pit wall failures resulting in gold production cutbacks at the mine.

- (1) Annual Information Forms are documents required by the Canadian Securities law. Centerra's 2011 Annual Information is at http://www.centerragold.com/sites/default/files/cg-aif_for_year_ended_december_31_2011_final_version_color.pdf.

The pit wall failure problem at Kumtor is illustrated and discussed in Centerra Gold most recent NI43-101 Technical Report – also prepared to meet Canadian Securities law standards and available at http://www.centerragold.com/sites/default/files/kumtor_43-101_march-22-2011_final.pdf and the source of the technical information on Kumtor in the 2011 AIF (2011 AIF, p. 1).

- (2) Readily available studies that characterize the problem include:

- “Monitoring of Hazardous Lake of Kyrgyzstan” at http://www.untj.org/docs/Disaster_Management/Resources%20Page15.%20Cerny%20M.pdf;
- Mountain lakes of Kyrgyzstan with regard to the risk of their rupture at <http://meetingorganizer.copernicus.org/EGU2009/EGU2009-14084-1.pdf>;
- Recent glacier changes and glacier hazards of Kyrgyzstan at <http://gradconference.files.wordpress.com/2010/11/changing-regional-hazards-murataly-duishonakunov.pdf>;
- Geophysical Study Experience and Tien-Shan Glacial Lakes Dyke Breach Danger Assessment at http://www.mountainhazards2011.com/conference/menu/Aleshin_paper1_eng.pdf; and
- Petrov lake: dynamics of glacier and lake development, hazards and measures at http://www.baunat.boku.ac.at/fileadmin/_/H87/H872/4Veranstaltungen/8.2_Cerny_petrov_lake.pdf, among others.

- (3) See, for example, “Gold mine production cut will hit Kyrgyzstan's economy”, by James Milnar – at <http://www.telegraph.co.uk/news/worldnews/asia/kyrgyzstan/9169939/Gold-mine-production-cut-will-hit-Kyrgyzstans-economy.html> - subtitled “A gold mine in Kyrgyzstan which accounts for a large chunk of the fragile former Soviet state's income has cut its production forecast by a third because of excessive ice in the pit” also includes the unattributed statement “Centerra Gold said it would have to clear the extra waste and ice which had filled part of the mine, partly due to a 10-day strike in February, before pushing ahead with the planned gold mining.”

Figure 1 – Location of the Kumtor Mining Concession in the high Tien Shan Mountains of Kyrgyzstan from Centerra Gold 2011 Technical Report (Ref. 2). Not location of current and proposed pits under or downgradient of glaciers and tailings disposal facility downgradient of Lake Petrov and Petrov Glacier.

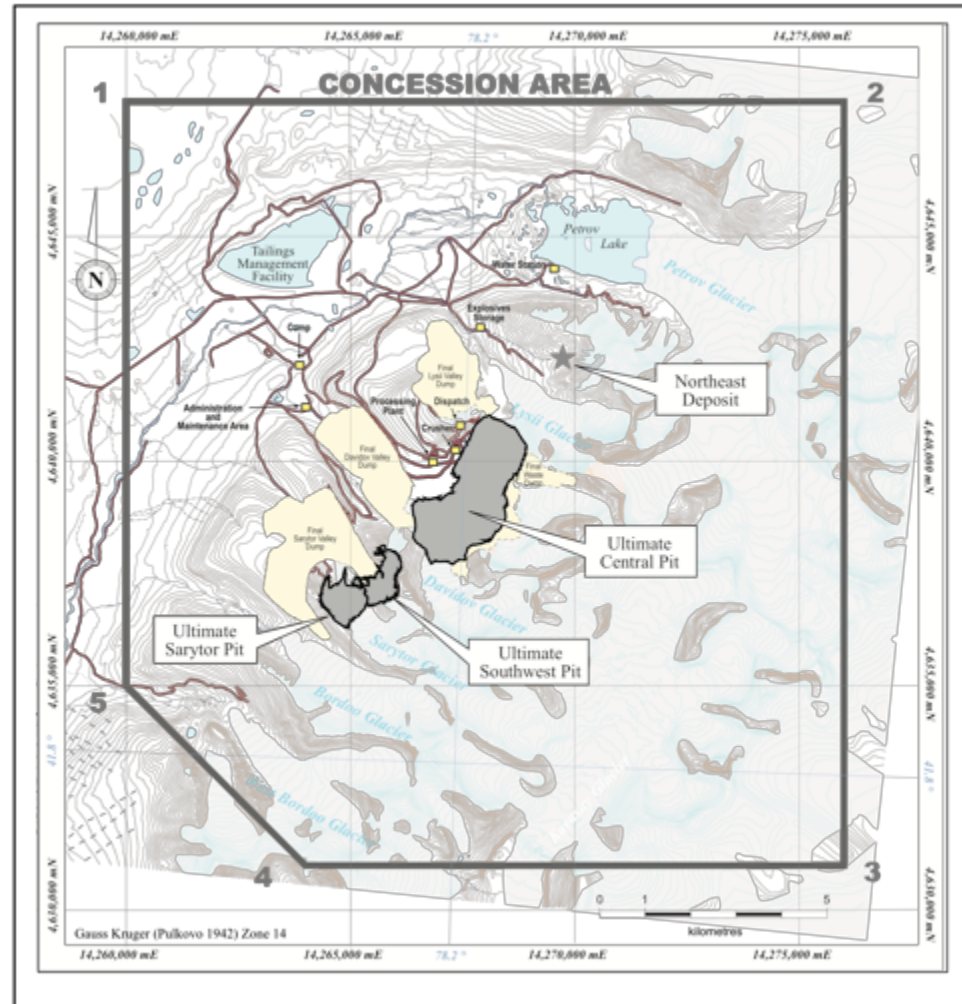


Figure 2 – “Location of Areas of Geotechnical Significance”, Centerra 2011 Technical Report (Ref. 2)

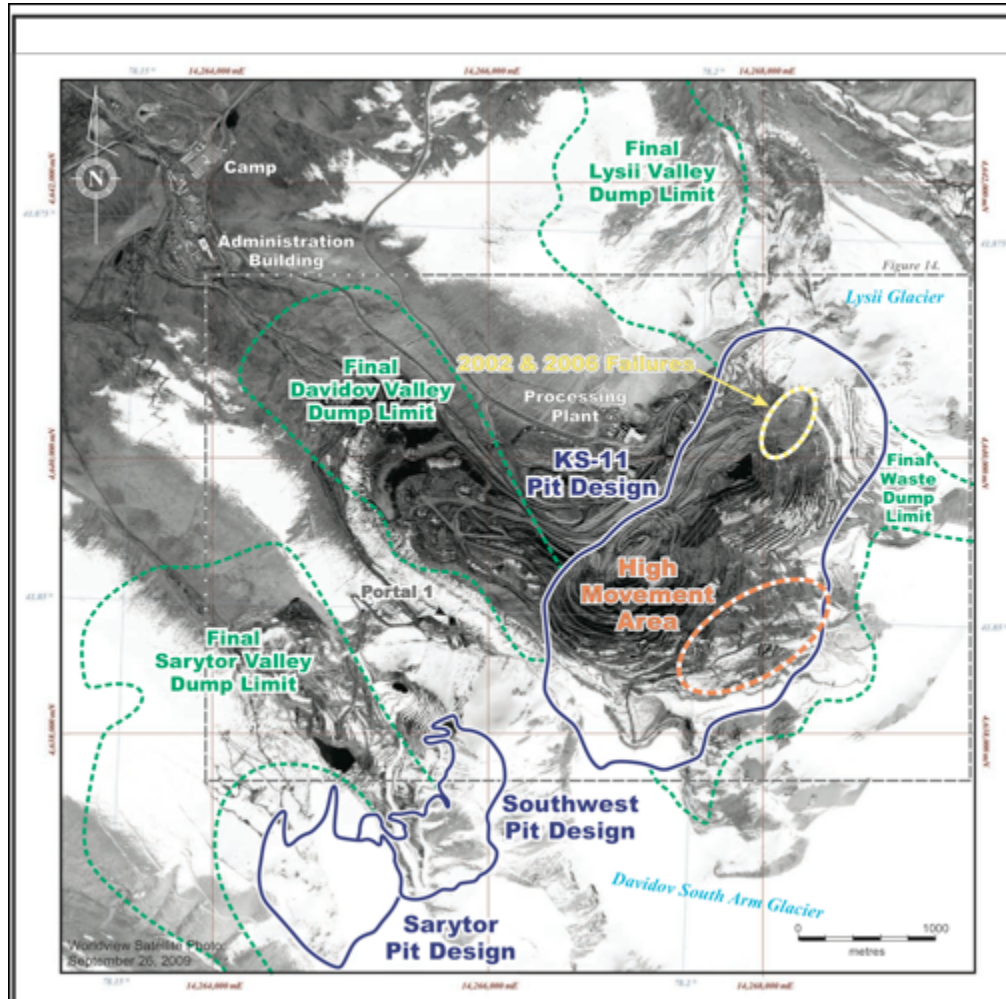


Figure 3 – “Interaction of Davidov Glacier and Central Pit”, Centerra 2011 Technical Report (Ref. 2)

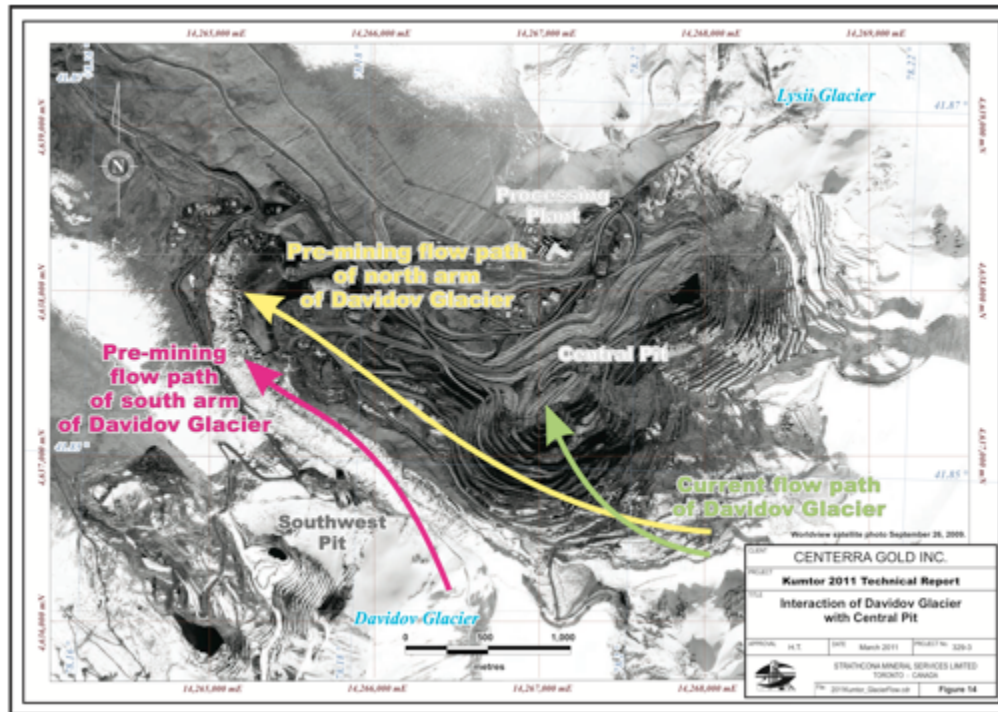


Figure 4 – Location of Petrov Glacier, Petrov Lake, Kumtor Tailings and Kumtor Mine.

(See “Monitoring of Hazardous Lake of Kyrgyzstan” at http://www.untj.org/docs/Disaster_Management/Resources%20Page/15.%20Cerny%20M.pdf and “Recent glacier changes and glacier hazards of Kyrgyzstan” at <http://gradconference.files.wordpress.com/2010/11/changing-regional-hazards-murataly-duishonakunov.pdf>)

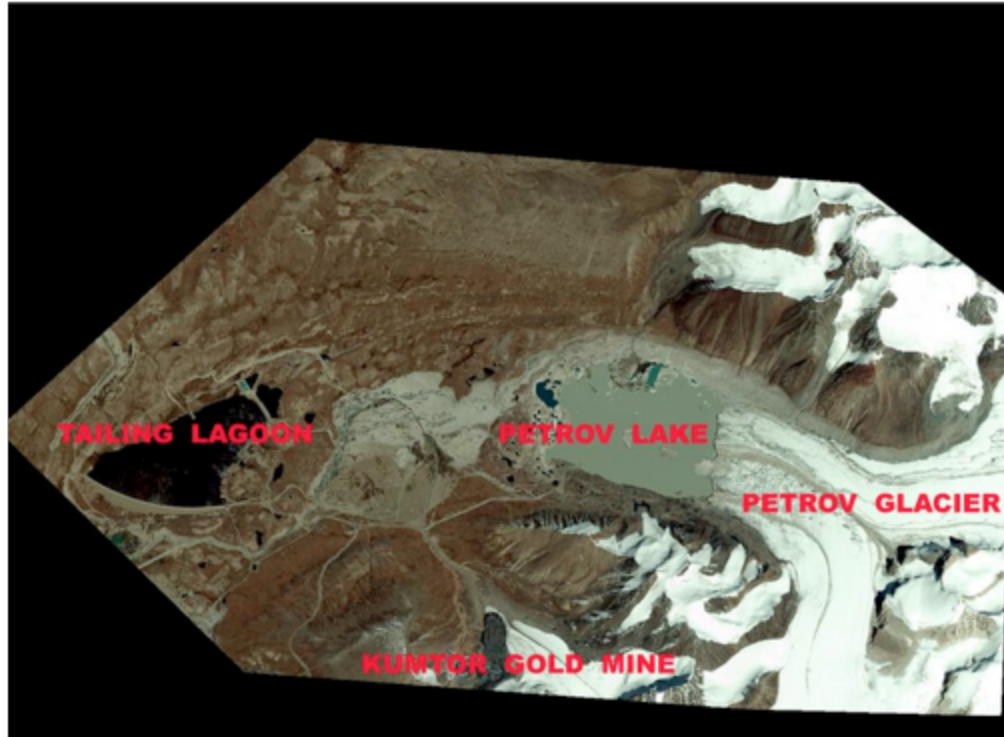


Figure 5 – Long-term Trend of Petrov Glacier Retreat

(See “Monitoring of Hazardous Lake of Kyrgyzstan” at http://www.untj.org/docs/Disaster_Management/Resources%20Page/15.%20Cerny%20M.pdf and “Recent glacier changes and glacier hazards of Kyrgyzstan” at <http://gradconference.files.wordpress.com/2010/11/changing-regional-hazards-murataly-duishonakunov.pdf>)

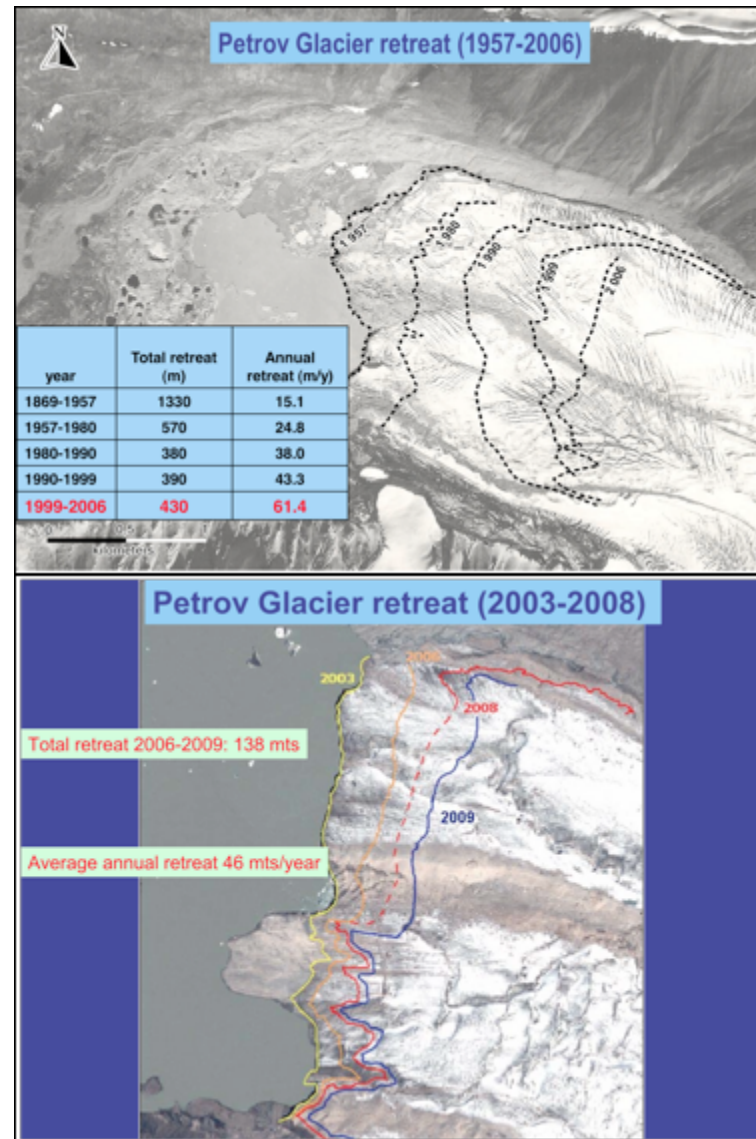


Figure 6 – View over Kumtor Tailings Pond to the Petrov Glacier and Petrov Lake

(See “Monitoring of Hazardous Lake of Kyrgyzstan” at http://www.untj.org/docs/Disaster_Management/Resources%20Page/15.%20Cerny%20M.pdf)

