



The Reconstruction of the Uranium Industry in Kazakhstan

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One of the five Central Asian republics (or “stans”) that were part of the former Soviet Union, Kazakhstan has emerged following its independence in December 1991 as one of the more stable nations in the region, both economically and politically. The country has a land area of 2.7 million km², making it the tenth largest country in the world. It possesses a wealth of mineral resources. In terms of its size, topography, latitude, climate and geology, it is the equivalent of all the western Canadian provinces — about the size of Western Europe — with a population of 16.5 million people, which has been declining. Kazakhstan is self-sufficient in food and many raw materials.

The country still has many hurdles to overcome: an immense internal debt problem between business enterprises and among its people; a reliance on the barter system, which is hampering the evolution to a market system; a huge backlog of unpaid wages and pension benefits, clearing of which is one of the highest priorities of the government; difficulties with tax collection, partly because of failures by business enterprises to fund payrolls; psychological problems in moving from a command economy and an entrenched bureaucracy to a Western-style market-oriented management style; a continuing reliance on the Russian Federation as an export destination for oil and gas; and below-expectation harvests.

Kazakhstan’s president, Nursultan Nazarbayev, was elected democratically and has won praise from the West for his continued support of the process of privatising state-owned enterprises. This programme has recently been challenged in the case of the uranium industry, as I will outline

later. The president has continued to stress the urgency of his reform policies, and the importance of attracting foreign investment.

The investment climate has been improved, in part, by streamlining the taxation system for foreign investors, especially with respect to exemptions from import duties and VAT. There is a liberal foreign exchange policy which imposes no restrictions on the free convertibility of the local currency (the “tenge”) on both current and capital accounts — perhaps a legacy of the trading traditions inherent in the country’s location on the old Silk Road. Radical changes have been made recently in an attempt to streamline the government bureaucracy by a reduction in the number of ministries and a 50% cut in staff levels.

The gross domestic product appears to have stabilised. From a decline of 25% in 1994, GDP increased modestly in 1996. The IMF predicts a 2% GDP growth in 1997. The average inflation rate has fallen from a staggering 1258% in 1994 to 60% in 1995, 28.7% in 1996 and a predicted 17% in 1997. The government admonishes industry to keep wage and price inflation within this range. During the 18 months that World Wide Minerals has been active in Kazakhstan, the tenge has fallen 9% against the US dollar. This is one of the most stable currencies in the CIS and compares to a 15% depreciation in 1996. Industrial production, spurred to some extent by foreign investment, is on the increase. Exports rose 8% in 1996, and imports by 11%, with the balance of payments remaining more or less constant. Kazakhstan successfully issued its first external bond issue in December 1996 and was given a rating of BB- by Standard and Poor’s

and a Ba3 by Moody's.

Some of the largest hurdles facing Kazakhstan are financial. After separating from the Soviet Union in 1991 it was forced to fend for itself. Previously it had been a satellite of Russia, basically a supplier of raw materials and food. The country is landlocked and must rely on traditional rail and road routes through Russia to export markets, although new rail and road routes to the Persian Gulf and the Black Sea, as well as to the East through China, are being developed.

If successful in controlling the state budget, dealing with its internal financial problems and insolvent state-owned companies, and managing its vast underground mineral resources to boost the economy, Kazakhstan has the potential of becoming the richest nation in Central Asia early in the next decade. It has been World Wide Minerals' plan to be there to share in the resurgence.

The Uranium Industry in Kazakhstan

Prior to Kazakhstan's independence in December 1991, all nuclear-related production activity was under the direction of the Soviet Ministry of Atomic Energy (Minatom), based in Moscow. Uranium exploration was carried out by Geologorazvedka, the uranium group within the Soviet Ministry of Geology (Mingeo). Development of uranium deposits was turned over to Minatom, to its locally-based Kazakhstan regional division.

After independence, the Kazakhstan uranium industry went through a series of organisational processes, ultimately creating the Kazakhstan State Atomic Power Engineering and Industry Corp. (KATEP), 51% owned by the Republic of Kazakhstan. Ownership of the balance of KATEP has always been somewhat less than transparent, but reportedly included management participation and some unidentified foreign investors. At that time, in theory at least, all uranium exploration, production, processing and marketing activities were managed by KATEP, although ownership of all mineral resources to this day remains with the state and all producers require licences. Some exploration data still resides with Minatom or Mingeo, or with regional offices in Uzbekistan or Russia, making new exploration activities and due diligence on existing projects cumbersome.

The organisation of the uranium industry in Kazakhstan is still in a state of flux. In 1995-96, the management of KATEP proposed to issue additional shares to outside investors. This would have diluted the 51% controlling interest of the state. Then in November 1996, the government announced the

creation of the joint stock company Kazatomprom, "in order to stabilise a situation in the uranium industry in Kazakhstan to further ensure uranium production growth".

Kazatomprom became a legal entity only in February 1997. Creation of Kazatomprom as a joint stock company (the equivalent of a Western corporation with share capital), suggested a longer term intention to privatise it and perhaps list it on the newly-created local stock exchange. However, for now, and unlike KATEP previously, Kazatomprom is owned 100% by the state. The 51% state share interest in KATEP was transferred to it, as were all the assets of KATEP, including management of uranium mines and deposits, the shares of the Volkovgeologica exploration unit, the 51% state share interest in the Ulbinski Kombinat at Ust-Kamenogorsk, and KATEP's interests in joint ventures with Cameco/Uranerz (Inkai) and Cogema (Katco).

Later in 1997 the government did another about-face when it announced that it was going to convert Kazatomprom from a joint stock company into a wholly state-owned entity, thus effectively re-nationalising a large portion of the uranium industry — a step which is considerably at odds with the extensive privatisation steps hitherto being championed by President Nursultan Nazarbayev. This process is just beginning and the exact dimensions are as yet not clear.

I will make some comments later in this paper on how these developments have affected the operations of World Wide Minerals in Kazakhstan — and as we see them potentially affecting the hitherto progressive development of the Kazak uranium industry. However, first I would like to put this in perspective with some history on the development of uranium resources in Kazakhstan.

Uranium Exploration and Development

Uranium has been discovered and exploited in various regions of Kazakhstan since as early as 1948. This paper will not attempt to exhaustively review the history of this aspect of the industry. Suffice it to say that currently the principal uranium mining areas and undeveloped uranium deposits are either in the north-central region of the country, in the Akmola and Kokshetau oblasts, or in the Southern region, in the Shimkent and Kzyl Orda oblasts. Figure 1 illustrates the relative locations of these mines and deposits.

The TKG Project

A major uranium production centre was developed

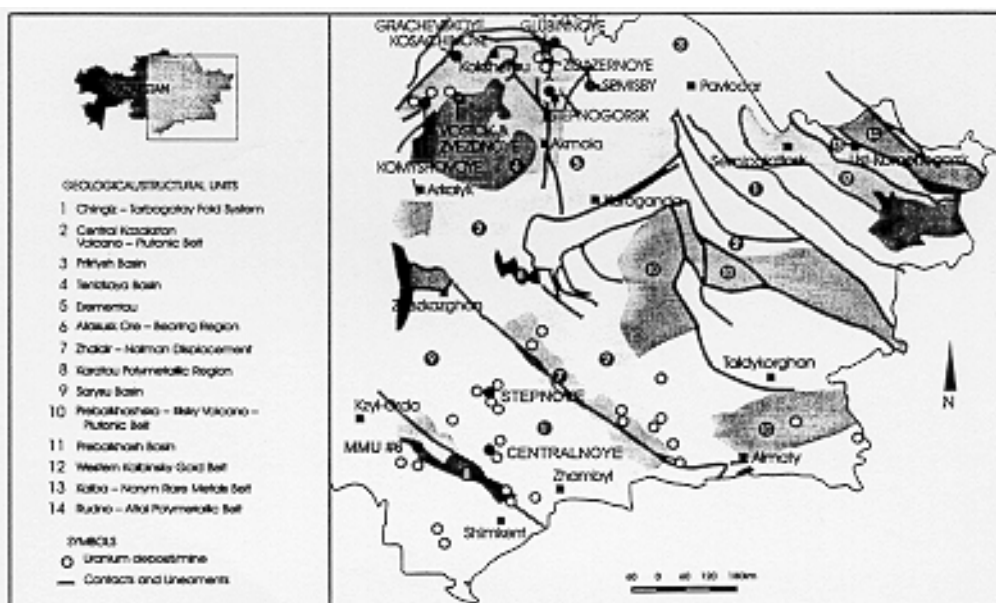


Figure 1. General geology of eastern Kazakhstan.

at Stepnogorsk in the Akmola and Kokshetau oblasts in the form of the state-owned complex operated by Tselinny Gorno-Khimicheskii Kombinat (TGK). Until recently Stepnogorsk was a secret city because of its strategic importance to the Soviet nuclear weapons programme. The operation was the second largest uranium processing centre in the Soviet Union — the largest being Priargunskiy at Krasnokamensk in Siberia. TGK was originally developed to exploit the Manybayskoye open pit mine. Production commenced in 1957 and the pit was mined out by the late 1980s. As the original mine was depleted additional underground deposits were developed, but at increasing distances from the processing plant.

The TGK uranium processing plant at Stepnogorsk has a design throughput of 2 million tonnes of ore per year, and at its maximum produced 4.8 million pounds of U_3O_8 (1850 tU) per year. Output from the plant gradually declined during the 1990s because of the mining of lower than economic grade ore from the underground mines, the cost of transporting ore to the plant and the lack of reinvestment of the necessary sustaining capital.

Since 1990 uranium production from the underground mines has fallen 83% (see Table 1). Under World Wide Minerals' management, revised mining plans have been developed to operate the Vostok and Zvezdnoye underground mines at Mine Management Unit No. 1 (MMU#1) and the

Grachevskoye underground mine at MMU#5, and to process the stockpile of previously mined ore. The TGK project also includes the as yet undeveloped Semisby in situ leach (ISL) deposit.

The Southern ISL Mines

Around 1970 initial exploration and development of ISL deposits began in southern Kazakhstan, utilising technology originally developed by Minatom in Uzbekistan. By 1990, ISL technology had displaced conventional mining as the predominant uranium production method in southern Kazakhstan.

Today, this development is centred on the operations at Centralnoye and Stepnoye (in Shymkent oblast) and MMU#6 in Kzyl Orda oblast. Uranium is extracted using a sulphuric acid leachate. The pregnant liquors are processed in plants on-site and the yellowcake is shipped to TGK for final toll processing, packaging and shipping. Some yellowcake continues to be toll processed at a plant at Karabalta in Kyrgyzstan under a bilateral agreement between the two countries which runs to 1999. Toll processing at Karabalta is quite expensive by world industry standards.

The ISL mines and deposits represent a substantial portion of the present Kazakhstan uranium resources and, frankly, are the future of the industry in that country. It was this fact that attracted World Wide Minerals, and others, to uranium production in Kazakhstan.

The ISL mines commenced production in 1978

Table 1. Annual uranium production in Kazakhstan (thousand pounds U_3O_8).

Production centre	Nominal capacity	1990	1991	1992	1993	1994	1995
Aktau	2 600	2 600	2 080	915	832	0	0
TGK	5 200	2 080	1 560	2 140	2 805	2 650	1 175
Stepnoye	5 200	2 366	2 228	1 975	1 473	1 337	1 139
Centralnoye	1 300	1 392	1 401	1 380	1 050	1 248	1 222
MMU#6	5 200	1 196	949	872	860	589	702
Total	19 500	9 634	8 218	7 282	7 020	5 824	4 238

Source: International Nuclear Inc, June 1997.

Table 2. Estimated geological uranium resources of Kazakhstan.

Production centre or deposit	Uranium resources (tU)	Uranium resources (million lbs U_3O_8)
TGK	29 600	77
Stepnoye	37 700	98
Centralnoye	28 800	75
MMU#6	39 600	103
Other southern deposits ¹	149 600	389
Inkai/Mynkuduk	38 500	100
Moynkum ²	28 800	75
Total	352 600	917

1. Some of these additional deposits, which are within the areas of Stepnoye and MMU#6, are not fully explored. The geological resources of these deposits could be as much as 450 000 tU. However, the depth of some of the deposits may mitigate against their development.
2. World Wide Minerals' estimate.

at Stepnoye, and production now is from the Mynkaduk and Uvanas deposits. Future development also is planned for the Akdala and Zhalspak deposits. MMU#6 has operated since 1981, producing from the North Kharamurun deposit, with plans for future production from the South Kharamurun, Irkol and Kharassan deposits. Centralnoye entered production in 1982 from the Kanzhugan deposit, with future development of the Kainor deposit planned.

Kazakhstan has seen a precipitous production decline from the southern ISL mines, about 58% from 1990, even though these mines have economic fundamentals that are far superior to those of the conventional mines in the north. Production statistics for the ISL mines are given in Table 1.

Estimated Geological Resources

Reliable estimates of the economically mineable uranium resources of the CIS countries have been difficult to develop, largely because of the shroud of secrecy that previously existed in the Soviet Union and the different approach to "economic"

resources utilised under the command economy, where availability not profitability was the key consideration. With the benefit of our 18 months of experience in Kazakhstan, 11 months of which has been as manager of the TGK project, and with the assistance of other published sources, we have set out in Table 2 our estimate of the geological uranium resources of Kazakhstan.

Current Status of Mining

At the present time, mining at the TGK project has recommenced. Part of the ore stockpile has been processed and uranium marketing began in late 1996 with the first sales contract signed in March 1997. However, substantial additional capital investment is required to revise the mining and processing practices and to bring efficiencies of scale and improve operating methodology.

At the southern ISL mines, production continues to decline because of lack of investment, principally for well-field development and maintenance. To date, implementation of World Wide Minerals' plans for development of these mines in a joint

venture with Kazatomprom has been hampered by the realignment of that company into a nationalised entity.

The Need for Capital Investment

As previously described, the chronic under-investment of capital in Kazakhstan's uranium production facilities is hampering economic development of the industry. This is as true at the southern ISL mines as it is at the northern conventional underground mines. Several Western companies have purchased uranium from KATEP since 1991, but no foreign company so far, other than World Wide Minerals, has attempted to redevelop the existing production facilities.

I will outline the efforts of World Wide Minerals in more detail later in this paper. As for other Western mining companies, Cameco Corp. and Uranerz Exploration and Mining were given the opportunity in 1993 to assist in the redevelopment of uranium facilities if and when KATEP chose to bring in foreign investment. In 1995 those companies entered into agreements with KATEP (now transferred to Kazatomprom) under which they could select a greenfield development project. They chose the Inkai and Mynkuduk ISL deposits near Stepnoye in southern Kazakhstan. Each partner holds a one-third interest, with Uranerz designated as the operator and marketing to be alternated between Cameco and Uranerz. Little activity has taken place until 1997 and reportedly production may commence by 2000.

Likewise, in 1996 Cogema entered into the Katco joint venture with KATEP to develop the Moynkum ISL deposit located near Centralnoye. Cogema holds a 45% interest, KATEP 29% and others 26%, with marketing to be undertaken by Cogema. Tentative plans are for commercial production from this project by 2000 or later.

World Wide Minerals in Kazakhstan

Historical Background

World Wide Minerals is a relatively young mining company, but it comes with an experienced mining genealogy. Our largest shareholder is Dundee Bancorp Inc, a Toronto-based investment management company. Assets under management by Dundee exceed C\$8 billion. Dundee has been instrumental in the creation or development of the following mineral resource companies:

- **Gold** — Corona Corp (725 000 ounces of annual gold production, ultimately sold to Homestake Mining Company); Kinross Gold Corp (over 550 000 ounces of annual production); Campbell

Resources Inc (gold, copper); Black Hawk Mining Inc (gold, nickel).

- **Base Metals** — Breakwater Resources Ltd (annual production of 265 million pounds of zinc, 33 million pounds of lead and 1.7 million ounces of silver, from mines in Canada, Honduras, Chile and Tunisia).
- **Industrial Minerals** — Zemex Corp (annual sales of US\$90 million).
- **Oil and Gas** — Eurogas Corp (oil and gas production and development in Russia, Tunisia and Canada).

The stated corporate objective of World Wide Minerals is to evolve from a mineral exploration company into a major internationally oriented mining company with a focus on uranium and precious metals.

After several months of investigations by our own personnel and outside consultants, the company tendered for the option (until 31 December 1998) to acquire a 90% equity (100% voting) interest in the TGK project, including the right to market the uranium concentrates and to have access to production from the southern ISL mines. After five months of preparatory work, including extensive technical, financial and legal due diligence, World Wide Minerals entered into a management agreement dated 7 October 1996 with the Republic of Kazakhstan. The management agreement subsequently was assigned to our 95% Kazakhstan subsidiary, KazUran Corporation. Pending exercise of the purchase option, KazUran manages all of the assets and operations of TGK.

As noted above, the TGK uranium processing plant has a design capacity of 2 million tonnes of ore per year of ore. Historically, the mill has produced up to 4.8 million pounds of U_3O_8 (1850 tU) per year.

World Wide Minerals' plan is to reduce the ore input and to increase the mill head grade. Optimum operations would be at an average of at least 1000 tonnes of ore per day. In addition, existing mine-site heap leach facilities at MMU#1 will be expanded and similar facilities will be developed at MMU#5, with the objective of producing additional uranium from lower grade ore. Other processing methods, including vat leaching, have been considered. A preference for total heap leaching is developing, as the transportation costs of hauling ore up to 300 km from the mines to the processing plant materially adversely affects the economics. This would ultimately see the shut down of the grinding section of the plant.

In the meantime, the decision was made to

restart the plant in March 1997 using essentially the same process as prior to shutdown, but relying on supplying ore with a higher head grade to the plant. Initial production is being drawn from the ore stockpile with an average grade of 0.28% U_3O_8 . Newly-mined ore will be fed to the heap leach pads and to the plant after mine start-up. Initial plans were to produce approximately 1.8 million pounds U_3O_8 (690 tU) in 1997, divided about evenly between the stockpile and newly-mined ore. Recent developments have severely curtailed these plans.

KazUran commenced management of the TKG project in November 1996. It established a secured demand interest-bearing loan facility for TKG to provide funding, including the payment of current and arrears of payroll obligations and accrued pension benefits, to procure process supplies and to provide investment and working capital. To the end of July 1997, contracted payments by KazUran were approximately US\$12 million. In fact, to that date, the total amount advanced under this facility, including coal supplier credits arranged by KazUran, was in excess of US\$17 million. Additional indirect investment by World Wide Minerals increases this amount to over US\$23 million.

KazUran is to receive a management fee for managing TKG pending exercise of the purchase option. When KazUran exercises its option to acquire 90% of TKG, the purchase price will be based on the adjusted book value at 30 September 1996, or US\$36.4 million. All investment, working capital and assumptions of TKG liabilities will be offset against the purchase price. In addition to its direct advances and other expenditures, KazUran has already rescheduled some of the existing TKG debt and has negotiated some accommodations with trade creditors during the re-start period.

On 2 July 1996, World Wide Minerals entered into a preliminary agreement with KATEP which contemplated, among other things, the establishment of a joint venture between the two companies for the development of additional uranium deposits in Kazakhstan and for joint marketing of uranium concentrates internationally. Under this agreement, World Wide Minerals would have been the funding partner and would have held between 51% and 85% of the marketing joint venture, depending on the scope of the marketing operations. The provisions of this agreement have not been implemented, in part because of the subsequent interposition of Kazatomprom.

Strategic Alliance with Kazatomprom

On 28 February 1997, KazUran entered into a strategic alliance agreement to form a 50-50 joint venture with Kazatomprom to redevelop the existing Stepnoye, Centralnoye and MMU#6 ISL mines, and four additional uranium deposits in southern Kazakhstan. The estimated geological resources of these mines and deposits are set out in Table 2.

The intention was to increase the output of uranium from these mines from the 1996 level of 2.1 million pounds U_3O_8 (800 tU) to 5 million pounds (1900 tU) by 1999. The joint venture would also carry out exploration, development and construction of additional uranium deposits using low-cost ISL technology, including the Irkol and Kharassan deposits (Kzyl Orda oblast) and the Akdala and Zhalpak deposits (Shimkent oblast), all in southern Kazakhstan. These deposits would be brought into commercial production prudently over the next few years based upon prevailing market demand and supply factors, and comprehensive feasibility studies. KazUran has carried out extensive due diligence on the joint venture properties over the past four months. Yellowcake from the existing and new mines in the south would be processed at the TKG mill in Stepnogorsk.

Under the agreement, the increased production from the renovation and expansion of the existing mines as well as the production from development of the new deposits would be shared by KazUran and Kazatomprom and each party would separately market its respective share of the uranium production.

Funding over the next few years for the joint venture to carry out the renovation and expansion of the existing mines, as well as for the development of the new deposits, would be arranged by KazUran and advanced to the projects on a secured loan basis. All funding arranged by KazUran would be repaid on a priority basis before any cash flow of the joint venture is paid to the joint venture partners. World Wide Minerals would have operating control of the joint venture until all of the funding is fully repaid.

Marketing Kazakhstan Uranium

Kazakhstan-origin uranium is subject to import restrictions in certain markets. Kazakhstan, together with other CIS countries, was charged in the USA with dumping uranium concentrates in 1991. The anti-dumping action was suspended (but not dropped) in 1992 when a Suspension Agreement

was signed with the US Department of Commerce (DOC).

This agreement sets forth a schedule of quantities of concentrates permitted to be imported into the USA during the period to October 2000, based on a formula tied to the DOC's interpretation of prevailing uranium "observed market prices". The current Kazakhstan-origin annual uranium quota is 1.4 million pounds U_3O_8 (540 tU). A number of long-term sales contracts were grandfathered, including certain imports to the USA by Energy Resources of Australia (ERA); these fall outside the quota. Reportedly, these grandfathered imports may have amounted to as much as an additional 2.2 million pounds U_3O_8 (850 tU) per year.

Despite the fact that the management agreement and strategic alliance agreement to which World Wide Minerals and KazUran are parties provide for the right to freely market uranium concentrates worldwide, and to receive all requisite export permits, in June 1997 the Kazakhstan government failed to issue in a timely manner the export licence required to complete a sale to a US utility. It was asserted that a third party had previously been granted exclusive access to the US quota, a fact (if true) not previously disclosed to World Wide Minerals. Resolution of this matter is under continuing discussion with the Kazakhstan government and Kazatomprom.

Imports of Kazakhstan-origin uranium into the European Union are also controlled through an informal quota system administered by the Euratom Supply Agency (ESA). Generally each utility is restricted to receiving 25% of its annual requirements from CIS suppliers. However, in practice the allowed limit has been higher — as much as 43% in 1996. Discussions have been held with the objective of separating the various CIS countries for purposes of calculating the quota.

Prior to the arrival of World Wide Minerals on the scene in Kazakhstan, KATEP was the only company marketing uranium concentrates from TKG, Centralnoye, Stepnoye and MMU#6. It would appear that KATEP has never directly marketed any uranium to nuclear utilities — all sales have been through intermediaries: Nukem, ERA or Synatom. With its now-aborted sale to a US utility, we believe that World Wide Minerals was the first Western company to market uranium it produced itself in any country of the CIS. Our marketing efforts continue, and several sales contracts for Kazakhstan-origin uranium are pending at the present time.

Public-Private Partnerships

It is quite clear that Kazakhstan has very significant undeveloped — and underdeveloped — uranium resources, perhaps as much as 25% of the undeveloped uranium resources of the world. The bulk of the resources can be exploited by low-cost ISL methods. However, production has fallen dramatically since 1990 because of lack of capital and more economic resource management. The situation cries out for partnerships between the public sector, in the form of the state which owns the resources, and the private sector, in the form of Western mining companies.

What looks ideal on paper often experiences contra-productive forces in practice. Some observations on our experiences (so far) in Kazakhstan would include the following:

- There is a considerable lack of credibility as to the extent to which the mineral resources are economically recoverable. From our 18 month experience, we have found that the Soviet-style methods of exploration and recording of resources were generally quite good. However, the approach to mining these resources employed under the Soviet command economy means that stated reserves must be significantly discounted to adjust to Western views of recoverability. On the other hand we have found that there is still considerable scope for discovery of additional economic resources in the country.
- What is clearly needed is a realisation and acceptance of the need for help in the proper, efficient and economic exploitation of the country's substantial uranium resources.
- Even if the resources are heavily discounted they still rank ahead of any other country other than Australia. Furthermore, Kazakhstan has neither the aboriginal rights issues nor the environmental infrastructure of that country. The principal desire is for jobs. Because the future industry growth is essentially in ISL mining, the environmental impact will be minimised.
- World Wide Minerals went to Kazakhstan at the invitation of the government. We tendered for the right to redevelop the TKG project and to gain access to the southern ISL mines and deposits. We have been good corporate citizens, we are ahead of our contracted financial commitments and we are making very timely progress on the redevelopment of the mines and related infrastructure. Notwithstanding this, there is a constant attempt made by the government and others to renegotiate contracts

- and to extract concessions that were not originally made — or even sought.
- Often there is a lack of commercial reality demonstrated by much of the leadership and apparatus of the government — to some extent due to the severe hardships caused by economic, political, sociological and geographical forces that are not of our making and that are largely beyond our control or influence.
 - The government struggles daily with the juxtaposition between the economic reality that it needs Western expertise and capital and the nationalistic pride that suggests that the country can solve its own problems. This is the ideal situation in which the creation of a true public-private partnership should be possible for the mutual benefit of both sectors.
 - Contracts are often signed hurriedly, presumably to get the Western company to start making its investment. Once a significant investment level is reached — at which time presumably it is assumed that there is no turning back — the leverage begins. It is clear that one should not assume the same legal or business etiquette that usually attends upon an agreement made in the West.
 - A word to the wise — get everything that you want down on paper, up front, and get it signed by all of the right people. Even then you are not assured of success, but at least you know what the deal was supposed to be. And then always remember: it is not a sin to make a mistake. The trick is to not make the same mistake twice!
 - In the case of World Wide Minerals, we were originally invited to take over TGK, to restructure and redevelop it, and to participate in development of the southern ISL mines. Previously, KATEP had been responsible for these functions. Now, Kazatomprom has been created as the successor to KATEP, and is attempting to consolidate a level of control over the industry.
 - It is proposed to make Kazatomprom not only a producer and marketer in its own right, but also that it be the regulator of exports of uranium by its competitors. This is an open invitation to interfere with commerce. While there is some precedent for this in the West, there at least such a situation comes with an overlay of the “rule of law” which applies a stringent code of

ethics to govern how this inherent commercial conflict of interest will be resolved.

- Our inability to obtain an export licence for a straightforward sales contract should be a warning to all other foreign investors looking at Kazakhstan and wanting to export their production. No trading business can survive if there is no certainty of deliverability. In the past, even KATEP has been an unreliable supplier, with persistent delivery problems. Operating in Kazakhstan requires patience, flexibility and a temperament that can withstand the shifting sands of life in that country. Unfortunately, this is inherently foreign to the uranium industry which relies on long term relationships that work, and on predictability and reliability of supply. The Kazakhstan government must ultimately come to understand this, but so far it has shown little aptitude to absorb some of the basic tenets upon which the uranium industry operates internationally.

Conclusion

Without risk there is no reward. World Wide Minerals went to Kazakhstan knowing that it was embarking to some extent on uncharted waters. Little did we know! However, we believe that with perseverance we will ultimately be successful. On the other hand, we do not consider ourselves captive to that country or to our investment, which we believe will ultimately be recouped profitably one way or another. In the meantime, we have begun to diversify our sources of uranium with the acquisition of operating and ownership control of Central Asian Uranium Company, the owner of the Dornod heap leachable open pit and underground uranium mines at Mardai in Mongolia. We are also considering developing some US uranium projects, preferably using ISL technology.

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