



Geothermal Energy

- » Indications of very high geothermal gradients
- » High levels of radioactivity in granites
- » Close to market for power in China
- » Expert advice from Bertus de Graaf

Geothermal Energy

Kentor Gold Limited has been granted prospecting licences for five areas in the Kyrgyz Republic. The licence areas are considered to be prospective for geothermal energy of the Hot Fractured Rock type analogous to the Cooper Basin.

The exploration target in each area is hot fractured granite with temperatures in excess of 250°C.

Kentor has also formed an alliance with Panax Geothermal Pty Ltd (Panax) headed by Dr Bertus de Graaf, one of the pioneers of hot fractured rock (HFR) development in Australia, to advance its geothermal interests.

Dr de Graaf is widely recognised as an authority in the field of HFR geothermal energy and has had a pivotal role in helping Australia to become a leading player in this rapidly emerging global industry.

Kentor and Panax have signed an Memorandum of Understanding to form a joint venture to explore and develop the geothermal energy licences held by Kentor in the Kyrgyz Republic.

Following successful exploration, the Company plans to generate emission-free electricity for export to China. The rapidly developing Xinjiang-Uyghur Autonomous Region of China lies

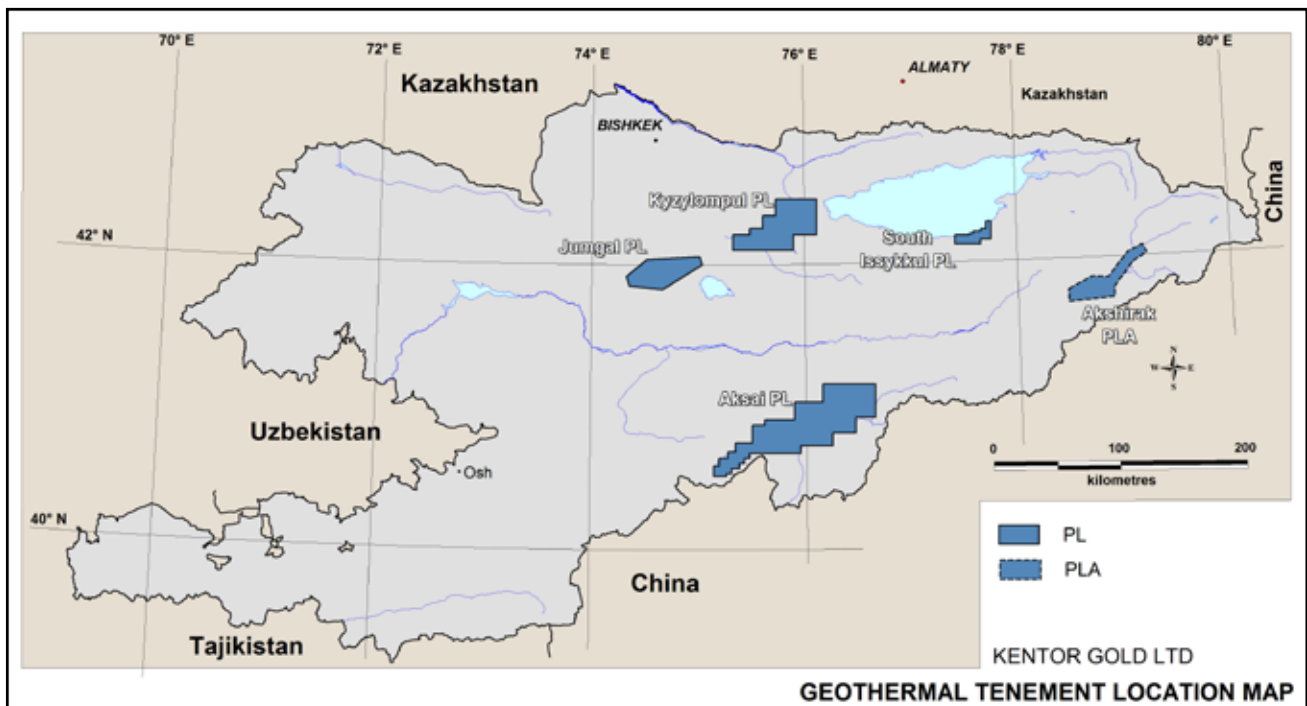
adjacent to the Kyrgyz Republic.

Kentor's licences are the first for geothermal energy exploration in the Kyrgyz Republic.

North and South Issykkul PLA

Lake Issykkul is a large (22,080 km²) body of water at an altitude of 1,600 metres in the Tien Shan Mountains which remains unfrozen throughout the severest winter. The depth of the lake is 668 metres.

Soviet and Russian research indicates that the energy to warm the lake enters through a broad system of transorogenic faults striking north-west



Geothermal Exploration Strategy

- » Collection of existing data
- » 3D modelling of licence areas
- » Temperature measurements of existing bore holes and adits
- » Geochemical analysis of granites
- » Drilling of shallow holes (200m-300m) into cover rocks to confirm temperature gradients

across the middle of the lake, and that the energy enters from the sides rather than the bottom.

On the northern shore, basement granites lie under one or two kilometres of sedimentary material. Data collected in petroleum exploration wells and groundwater wells showed geothermal gradients ranging from zero near surface to a maximum of 88°C/km at deeper levels. The area of the lake shore where the highest temperatures are coincident with significant sedimentary cover has been incorporated into the application for North Issykkul, 159 square kilometres around the resort town of Cholpon Ata.

On the southern shore, the sedimentary cover is thicker. Seismic surveys indicate a depth of cover of up to 5 kilometres. This section of the southern shore, centred on Barskaun, has been incorporated into the 248 square kilometre licence for South Issykkul.

There has been no deep drilling in this area of the southern shore, but drilling for groundwater has produced some

remarkable results. A 1974 Soviet report recorded geothermal gradients well in excess of 100 degrees per kilometre over significant areas.

Kyzylompul

The Kyzylompul area is characterised by syenite and granosyenite intrusions forming the Kyzylompul and Sandyk massifs. These massifs contain anomalous concentrations of radioactive material including uranium, thorium, and potassium.

Natural radioactivity levels recorded by Soviet investigators are up to 120 μ R/hour (micro-Roentgen per hour). Normal natural background levels of radiation range from 0.17 to 11 μ R/hour. The radioactive granites outcrop in some areas, where heat is dissipated. However, large areas are under significant depths of sedimentary cover.

The exploration target is radioactive granite where it lies under an insulating cover of about three kilometres and the temperature has thus built up to around 250°C.

The Kyzylompul licence covers 1,657 square kilometres.

Aksai

The Aksai Basin is underlain by young granites of the same age as the Kyzylompul massif, and there is sedimentary cover from 0 to 5km. Anomalously high heat flows have been recorded by Soviet researchers, and Soviet reports record geothermal waters rising on a number of faults in the basin.

A substantial amount of geophysical work has been completed over the Aksai Basin, including gravity, IP and aeromagnetic surveys.

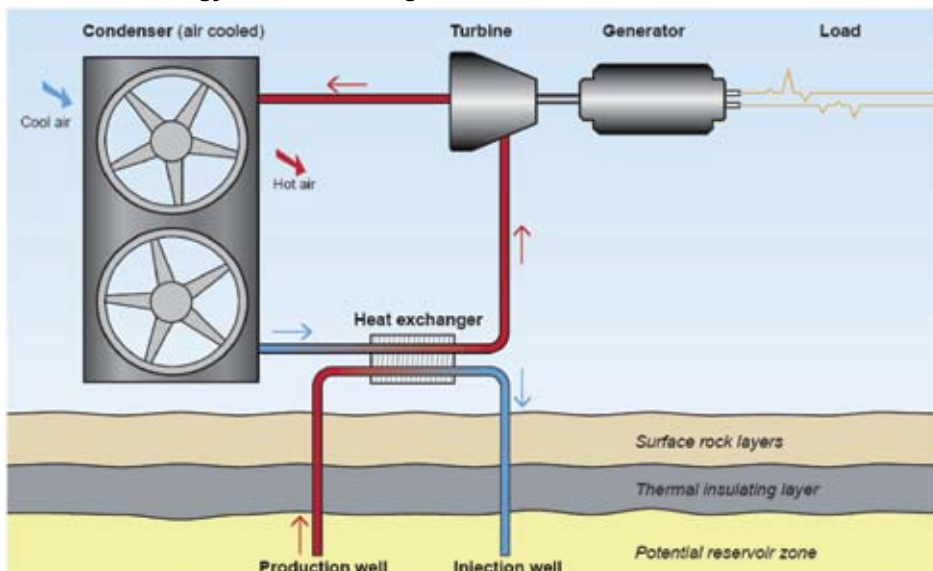
Kentor now has access to the records of this work. An area of 3,455 square kilometres incorporating where heat anomalies have been recorded forms the licence area.

Inylchek Area

While exploring for tin, Soviet geologists developed an adit which passed through a fault into hot granite 700 metres from the portal. Rock temperatures of over 70°C persisted until the adit was abandoned 1,000 metres further on. The implied geothermal gradient is 150°C /km. It is thought that these elevated temperatures are associated with the intersection of a north-south striking fault with the Inylchek suture line.

The prospecting licence covers an area of interest of 22 square kilometres.

Geothermal Energy Production Diagram



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