

# KENO HILL PROPERTY (BELLEKENO)

## Alexco Resource Corp.

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Stock symbol: AXR  
(Toronto Stock  
Exchange)

## PROJECT STATUS

Active exploration



### Location

Elsa

### Ownership

Alexco Resources Corp.

### Commodities

Silver, lead, zinc

### Ore type

Sulphide

### Mineral resource\* (Bellekeno deposit; all resources are inferred)

99 Zone: 55 700 tonnes grading 1593 g/t Ag, 11.1% Pb, 5.5% Zn and 0.0 g/t Au

Southwest: 302 100 tonnes grading 1357 g/t Ag, 20.4% Pb, 5.5% Zn and 0.4 g/t Au

East: 179 600 tonnes grading 263 g/t Ag, 2.0% Pb, 21.3% Zn and 0.6 g/t Au

Total: 537 400 tonnes grading 1016 g/t Ag, 13.5% Pb, 10.7% Zn and 0.4 g/t Au

\*NI 43-101-compliant technical report by SRK Consulting, January, 2008

### Mining method

Underground, 365 days/year

### Processing method

Conventional mill, 365 days/year

## HISTORY

The Keno Hill mining camp area has a rich history of exploration and mining dating back to the beginning of the twentieth century. Early prospectors had been working the area around Mayo for gold, especially after the Klondike gold rush of 1898. The first silver was found in 1901 and small-scale silver mining finally commenced in 1913 with a first shipment of 55 tons (50 tonnes) of ore to a smelter in San Francisco. Due to a limited depth of the deposit and the first World War, interest in the area had dwindled by 1917. Higher silver prices at the end of World War I led to renewed exploration activity in the Keno Hill area with the Yukon Gold Company pioneering development in the district.

In 1921 the Treadwell Yukon Company, Ltd. (TYC), under the direction of Livingston Wernecke became interested in the Keno Hill area and acquired a number of claims and started mining. By 1941, TYC had produced 1381 tons (1253 tonnes) of silver and 43,772 tons (39 709 tonnes) of lead. Approximately 85% of the camp's production came from the Sadie-Ladue, Lucky Queen, Silver King, Elsa, and Hector-Calumet mines.

The continuation of the Second World War and the accidental death of Wernecke led to a sharp decline in activity in the Keno Hill camp until 1946. Keno Hill Mining Company, Ltd., later UKHM, purchased all TYC properties and increased production at the various mines. In 1972, the new Husky mine was commissioned, and in 1977

open-pit operations were introduced in the camp mainly for the purpose of recovering crown pillars.

A strike from September, 1980 to May, 1981 severely curtailed production. Low silver prices forced the mine to close from July, 1982 to August, 1983. In January, 1989, the mine was closed due to low silver prices. From 1946 to 1988 about 5.08 billion grams Ag were produced from the Hector-Calumet, Galkeno, Bellekeno, Elsa, Keno (No. 3 & 9), Lucky Queen, Silver King, Sadie-Ladue and Husky mines. In 1990, Archer, Cathro and Associates mined over 100 tonnes of high-grade ore from open-pits on the Lucky Queen, Keno #3 and Keno #9 veins.

In July, 1990, BLM Mines Inc., a unit of Bharti Laamanen Mining Inc. (BLM) of Sudbury, Ontario, purchased the 44.8% interest in United Keno Hill Mines Ltd. formerly held by Falconbridge Ltd. In 1991, Romith Investments and Stephen Powell each acquired directly or indirectly, 50% of the issued and outstanding common shares of BLM. In September, 1993, United Keno Hill retained mine engineers Watts, Griffis and McQuat Ltd. (WGM) of Toronto, Ontario to undertake a complete review of its Elsa area properties, geological reserves and mine plans. A surface percussion drilling program was completed in the Silver King, Husky SW and Bellekeno areas during the summer of 1994. From mid-October, 1994 to April, 1995, underground drilling and rehabilitation were conducted on the Bellekeno and Silver King mines. A feasibility study by Rescan Engineering on the property was completed in October, 1996.

United Keno Hill Mines was issued a Class A Water License in January, 1998, however, the company could not put the property into production. In September, 1999, the Supreme Court of the Yukon ordered that the mine assets and property be sold. On February 18, 2000, the company applied for creditor protection. On September 26, 2001, AMT Canada Inc. purchased the Elsa silver-lead-zinc property and assets from the court for \$3.6 million.

On November 6, 2001, Gretna Capital Corporation, a Canadian wholly owned subsidiary of Pacific Cart, purchased 100% of AMT Canada Inc. for a purchase price of \$2 882 092. The purchase price reflected the issuance of shares and the payable balance to the Yukon Supreme Court. On February 15, 2002, Pacific Cart changed its name to Maverick Minerals Corporation.

In November, 2001, AMT Canada Inc. applied for a Yukon Quartz Mining Production Licence. The company planned to reprocess tailings at Elsa. In January, 2003, AMT defaulted under the terms of its purchase

agreement. On February 14, 2003, the Supreme Court of the Yukon Territory ordered AMT divested of all of its mining claims and assets. Nevada Pacific Gold Ltd. carried out due diligence on the property, but returned it to the Supreme Court in June, 2003. In September, 2004, the Yukon Supreme Court approved a plan put forward by the court-appointed receiver to sell the bankrupt United Keno Hill Mines.

In June, 2005, Alexco was selected as the preferred purchaser of the assets of Keno Hill by PricewaterhouseCoopers Inc., the court-appointed interim receiver and receiver-manager of Keno Hill. In February, 2006, following lengthy negotiations with both federal and territorial governments, the Supreme Court of the Yukon Territory approved Alexco's purchase of Keno Hill's assets through Alexco's wholly owned subsidiary, Elsa Reclamation & Development Company Ltd. (ERDC).

Interim closing of the Keno Hill transaction was completed on April 18, 2006, and an agreement governing management and future reclamation of the Keno Hill district was signed. Under the Keno Hill Subsidiary Agreement, ERDC is indemnified against all historical liability, has property access for exploration and future development and is not required to post security against pre-existing liabilities. ERDC will also be reimbursed for its future environmental reclamation activities - estimated at more than CDN\$50 million – while itself contributing CDN\$10 million to cleanup of the Keno Hill district. ERDC has also assumed responsibility for ongoing environmental care and maintenance of the site under contract to the Yukon government, and is actively conducting a baseline environmental assessment and site characterization program.

To finalize the Keno Hill acquisition, ERDC has applied for a water license, a process which should be completed sometime in 2008. Upon receipt of the license, ERDC will have free and clear title to surface and subsurface claims, leases, free-hold land, buildings and equipment at Keno Hill. In addition, the company would be allowed to de-water historic working and begin underground drilling.

In anticipation of receiving the water license, Alexco initiated a district-wide exploration program in 2006. The program focused initially on a comprehensive database compilation of all existing relevant historic data, followed by an extensive field program of geology, geochemistry, geophysics and 11 180 m of drilling in 42 holes. Drilling focused on several targeted areas, including the Bellekeno, Lucky Queen, Ruby, Shamrock, Silver King

and Husky areas. A district-wide airborne geophysical survey was completed in late August. A regional district compilation map at 10:000 scale, with layered geological, geophysical and historical drill data, was to be completed late in the year.

Diamond drilling resumed in March of 2007 and by late September 2007, 73 holes had been drilled for a total of approximately 18 600 m with emphasis again being placed on Bellekeno, Husky SW and the Silver King/Silver King East areas.

In January, 2008, Alexco announced a new resource estimate prepared by SRK Consulting (Canada) Inc. for the Bellekeno deposit. The estimate, which is NI 43-101 compliant, reports a total Inferred resource of 537 400 tonnes grading 1016 g/t Ag, 13.5% Pb, 10.7% Zn and 0.4 g/t Au. The Bellekeno deposit is the first of several historic mines in the area to be targeted for rehabilitation and eventual production. Exploration work in 2008 included extensive diamond drilling, a new 650 m decline and approximately 2300 m of underground rehabilitation.

In May, 2008, Alexco and the First Nation of the Na-Cho Nyak Dun (NND) signed a cooperation agreement related to the activities of Alexco and its subsidiaries in the Keno Hill Silver District. The agreement outlines the social and environmental responsibilities of Alexco as they relate to the NND, and will ensure participation of the NND in all aspects of care and maintenance, reclamation, exploration and redevelopment of the Keno Hill property. The agreement provided for jobs, business and contracting opportunities for NND members. Scholarships and direct employment-related training will ensure a pool of qualified employees among the NND First Nation. NND members will also sit on the Project Review Committee to allow Alexco and the NND to form a united group, ensuring environmental permitting, risk assessments, community consultation and development of the Keno Hill property proceeds in a manner mutually beneficial to both parties.

In July, 2008, Alexco released a positive preliminary economic assessment report on the Bellekeno deposit. The report envisions average annual mine production of 3.3 million ounces of silver, 30.1 million pounds of lead and 24.5 million pounds of zinc over an initial five-year mine life. The total capital cost to bring the Bellekeno deposit into production is estimated to be CDN\$61.2 million, including initial working capital and a 25% contingency. This capital cost includes CDN\$10 million of development work that is already

being carried out as part of the current Bellekeno underground rehabilitation, preparatory to an underground advanced exploration and definition drilling program scheduled for the latter part of 2008.

On October 9, 2008, Alexco received the final water licence required for completion of underground development at its Bellekeno deposit. This licence allows the company to discharge water from historic workings and begin underground drilling and rehabilitation.

## PROJECT SUMMARY

The silver veins are located approximately 350 km north of Whitehorse, Yukon, in the vicinity of the villages of Elsa and Keno Hill. A 45-km, all-weather gravel road from the town of Mayo provides access. Total recorded production from the Keno Hill camp from 1913 to 1990 is 214 million oz. (6657 tonnes) Ag, 711 million lb. (322 698 tonnes) Pb and 437 million lb. (198 141 tonnes) of zinc.

This production from 1950 to 1990 was from a total of 5.34 million tons (4.84 million tonnes) of ore grading 40.1 oz./ton (1380 g/t) Ag, 6.7% Pb and 4.1% Zn. It must be noted, however, that reported production of zinc does not reflect actual amounts of zinc present in the mineralized rock (mined and un-mined) since zinc was recovered only from 1950 to 1977 and from 1986 to 1988.

Facilities on the property include a 500-ton (450-tonne)/day concentrator, numerous buildings, and machinery.

### Geology, mineralogy and ore reserves

More than 65 mineral deposits and prospects have been identified within the Keno Hill district. All of the mineable silver veins to date occur in an area 26 km long and 1 to 6.4 km wide. The deposits consist of mineralized vein-faults 0.3 to 30 m wide in the Mississippian Keno Hill Quartzite. Underground development and diamond drilling were completed at the Bellekeno and Silver King mines during 1995 and 1996, resulting in the calculation of geological reserves totaling 856 382 tonnes grading 1026 g/t Ag, 4.8% Pb and 3.9% Zn.

On a geological basis, drilling in 2006 has shown a distinct difference between zinc-rich deposits in the Bellekeno area, characterized by moderate-grade silver and economic concentrations of zinc and lead, and bonanza silver grades with low base metal signatures in the Silver King and Husky areas.