

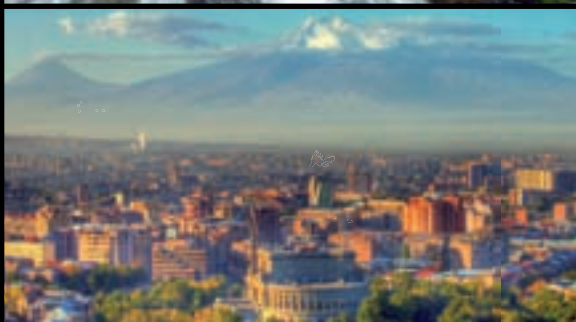
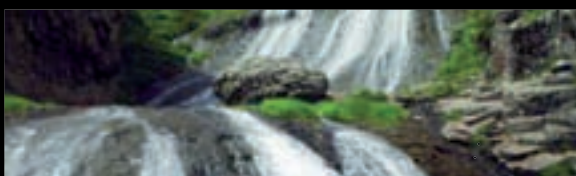
Armenia

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Mining Journal

A supplement to Mining Journal

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Zangezur Copper Molybdenum Combine



Mining exports central to economic success

A message from Armen Movsisyan,
Minister of Energy and Natural Resources



I would like to extend my greetings and thanks to you for this offer of co-operation. I am sure that our venture with *Mining Journal*, which is so authoritative and has a 175-year history, will be productive.

It is very important for us to be presented by the international media, which gives us an opportunity to represent to the world the economy, the development prospects, as well as the legislative and the investment sphere of Armenia.

I am especially glad that today we have an opportunity to represent the developing mining sphere, which plays an important role in Armenia's economy.



The Armenian mining sector forms a key part of the national economy. Ore, mineral, concentrates and metals (which together account for just over half of Armenia's exports) are the country's most important export products.

Armenia has a favourable geographical position for development of trade relations with different countries. This is especially so for Europe, the Middle East and the CIS.

The government of Armenia puts emphasis on foreign investors to develop new industrial activities, to modernise existing ones, as well as to invest new, efficient, ecologically clean and best technologies in Armenia.

Armenia is rich in mineral resources. More than 670 mines, including 30 metal mines, with confirmed resources, are currently registered in the state inventory of mineral resources. In addition to base metals, the country has rhenium, selenium, tellurium, cadmium, indium, helium, thallium and bismuth, among others.

The Republic of Armenia takes a lead in the world in the abundance and the diversity of its non-metallic minerals. Nearly all types of minerals can be found in the country. Mountainous rocks formed as a result of volcanic processes in the territory of Armenia are of special value and significance, the most important of which are light rocks (tufa, perlite, pumice-stone, zeolite, scoria, etc). Resources of various types of basalts, granites, nephelite syenite and marble are huge.

The highest-quality resources and most abundant swelling rocks (perlites, obsidians, other) in the world



exist in Armenia. More than 100 basalt, andesite mines are mapped throughout the entire territory of

"Armenia takes a lead in the world in abundance and diversity of its non-metallic minerals"

Armenia. Mines containing quartzite, carbonate, zeolite, scoria and pumice-stone, clay, bentonite, diatomite, gypsum are invaluable with their significance and qualitative indicators.

I hope that taking into account the diversity of the subsurface resources and the aforementioned potential for both metal and

non-metallic minerals, as well as the measures undertaken by the government, international enterprises will be interested in starting business in Armenia.

With regards

Armen Movsisyan
Minister of Energy and Natural Resources
of the Republic of Armenia

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Crossroads in the Caucasus

Mt Aragats, the highest peak in Armenia, at 4,090m

SITUATED on the southern side of the Caucasus massif, Armenia lies at the crossroads of Europe and Asia. A landlocked country situated between the Black and Caspian Seas, it is bordered by Turkey to the west, Georgia to the north, Azerbaijan to the east and southwest, and Iran to the south.

Armenia first emerged into history around 800 BC as part of the Kingdom of Urartu or Van, which flourished in the Caucasus and eastern Asia Minor until 600 BC. After the destruction of the Seleucid Empire, the first Armenian state was founded in 190 BC. At its zenith, from 95-65 BC, Armenia extended its rule over the entire Caucasus and the area that is now eastern Turkey, Syria and Lebanon.

For a time, Armenia was the strongest state in the Roman East. It became part of the Roman Empire in 64 BC, later adopting a Western political, philosophical and religious orientation.

In 301 AD, Armenia became the first nation to adopt Christianity as a state religion, establishing a church that still exists independently of both the Roman Catholic and the Eastern Orthodox churches. During its later political eclipses, Armenia depended on the church to preserve and protect its unique identity.

From around 1100-1350, the focus of Armenian nationalism moved south, and the Armenian Kingdom of Cilicia, which had close ties to European Crusader states, flourished in southeast Asia Minor until conquered by Muslim states.

Between the 4th and 19th centuries, Armenia was conquered and ruled by Persians, Byzantines, Arabs, Mongols and Turks, among others. For a brief period from 1918-20, it was an independent republic. In late 1920, however, a communist regime came to power following an invasion by Russia's Red Army. In 1922, Armenia became part of the Trans-Caucasian Soviet Socialist Republic, and in 1936 it became the Armenian Soviet Socialist Republic. Armenia declared



- | | | |
|----------------|-----------|---|
| 1. Aragatsotn | 5. Kotayk | 9. Tavush |
| 2. Ararat | 6. Lori | 10. Vayots Dzor |
| 3. Armavir | 7. Shirak | 11. Yerevan – special administrative status |
| 4. Gegharkunik | 8. Syunik | |



Map of Armenia by province

its independence from the Soviet Union on September 21, 1991.

Armenia has a highland continental climate with hot summers and cold winters. In terms of land utilisation, the countryside comprises 37% mountain terrain, 30% pasture, 21% arable land and 12% woodland. The country's highest peak is Mt Aragats, at 4,090m.

Mineral resources include iron, molybdenum, gold, lead, silver, clay and limestone, as well as semi-precious and ornamental stones.

The country is also rich in natural mineral waters, with hundreds of natural sources throughout the country. There are ten natural lakes, five canyons and numerous springs and streams. With an area of 1,400km², Lake Sevan is the world's largest highland freshwater lake.

Armenia relies mainly on aviation links to connect it with the rest of the world, and on land connections through Georgia and Iran. The nearest sea port is at



Noravank monastery near Amaghu in Yeghegnadzor district was founded by Bishop Hovhannes in 1205



Metal scrap heap operated by Cronimet

“Mineral resources include iron, molybdenum, gold, lead, silver, clay and limestone, as well as semi-precious and ornamental stones”



The town of Meghri in southeast Armenia



The 1st-century Garni temple built by King Tiridates

Poti in Georgia, through which Armenia gets access to the countries of the Black Sea region.

Armenia has a well-developed road network, serving all areas of the country's economy, with a road density of 3,360km per 1,000km². The network consists of 7,700km of interstate, inter-republican (regional) and local roads. More than US\$100 million has recently been invested in the reconstruction of the country's transport infrastructure with the assistance of the World Bank, the European Union's Transport Corridor Europe Central Asia, the United Nations, and the Armenian diaspora.

"Steady economic progress has earned Armenia increasing support from the major international institutions"

EXPANDING ECONOMIC BASE

Armenia is the second-most densely populated of the former Soviet republics. Until independence, the country's economy was based largely on industry (chemicals, electronic products, machinery, processed food, synthetic rubber and textiles) and was highly dependent on outside resources. Agriculture accounted for only 20% of the net material product and 10% of overall employment before the break-up of the Soviet Union in 1991.

The vast majority of the country's energy is produced using imported fuel. Russia remains the principal source of natural gas and nuclear fuel (for Armenia's sole nuclear power plant); the main domestic energy source is hydroelectricity.

Like other newly independent states of the former Soviet Union, Armenia's economy suffers from the legacy of a centrally-planned economy and the breakdown of former Soviet trading patterns. In addition, the effects of the 1988 earthquake, which killed more than 25,000 people and made 500,000 homeless, are still being felt.

The closure of both the Azerbaijani and Turkish borders has been a major hindrance to economic development, because of Armenia's dependence on outside supplies of energy and most raw materials. With land routes through Azerbaijan and Turkey closed, Armenia has to rely on inadequate and unreliable routes through Georgia and Iran.

In 1992-93, the country's gross domestic product

(GDP) fell by nearly 60% from its 1989 level, and the national currency, the dram, suffered hyperinflation for the first few years after its introduction in 1993.

Nevertheless, the Armenian government was able to carry out wide-ranging economic reforms that have paid off in terms of dramatically lower inflation and steady growth. Since 1995, Armenia has registered strong economic growth.

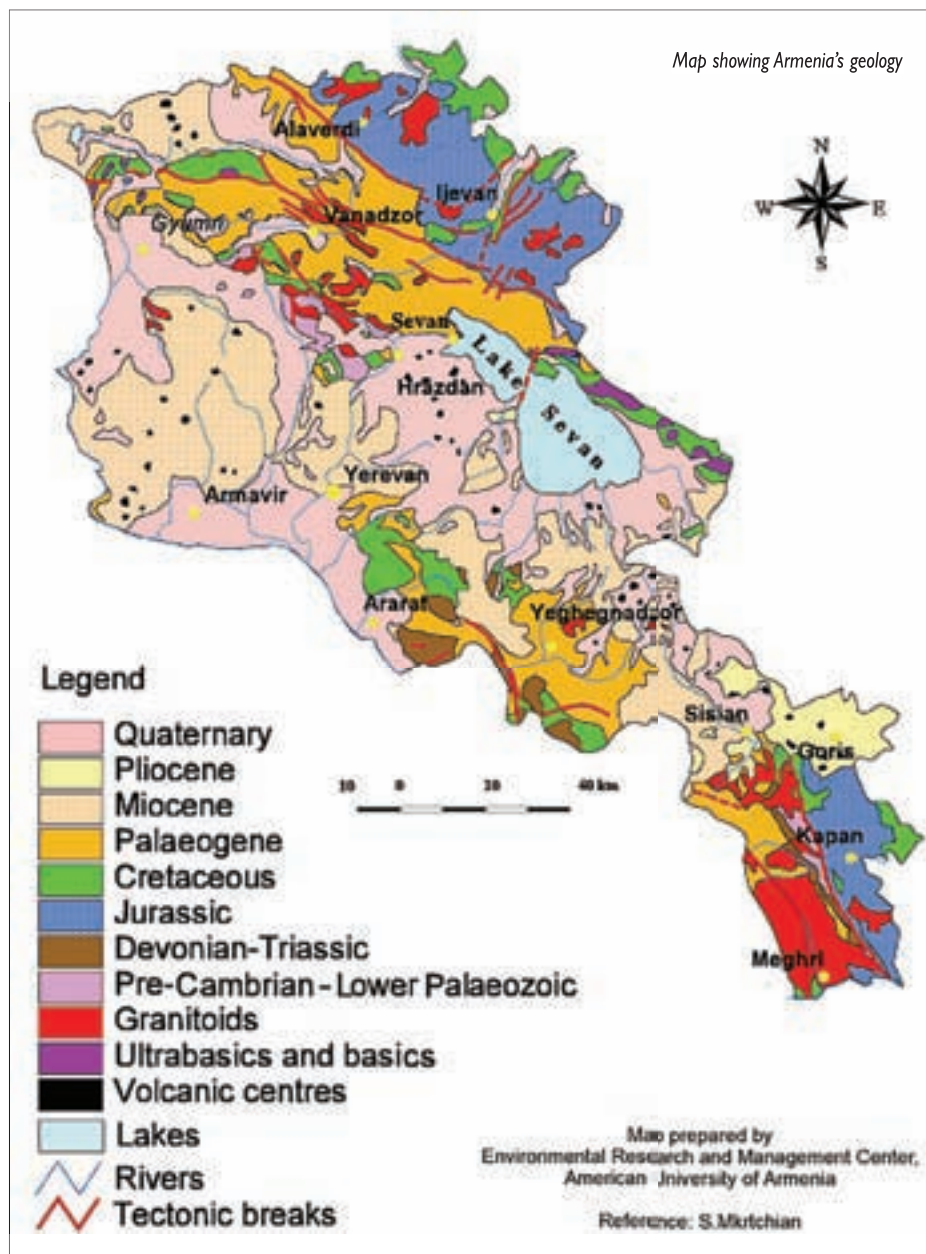
New sectors, such as precious-stone processing

and jewellery manufacture, information and communication technology, and even tourism, are beginning to supplement more traditional sectors of the economy, such as agriculture.

This steady economic progress has earned Armenia increasing support from the major international institutions. The International Monetary Fund, World Bank and European Bank for Reconstruction and Development, as well as other international financial institutions and foreign countries, have made substantial grants and loans available, with the total amount loaned to Armenia since 1993 exceeding US\$1.1 billion.

These loans are aimed at reducing the budget deficit, stabilising the local currency, developing private businesses, the energy, agricultural, food-processing, transport and health and education sectors, and continuing rehabilitation work in the earthquake zone.

Continued progress will depend on the government's ability to strengthen its macroeconomic management, including increasing revenue collection, further improving the investment climate, and making strides against corruption.



German giant Cronimet is one of key mining companies operating in Armenia, along with its subsidiary ZCMC

Axis of the national economy

THE mining industry, which is the axis of economy, is of great importance for Armenia. Ore concentrates and metals, are the country's most important exports, accounting for just over half.

More than 670 mines of solid minerals, including 30 metal mines, with confirmed resources are currently registered in the state inventory of mineral resources. Among these, around 400 mines, including 22 metal mines, are exploited.

The Republic of Armenia is rich in iron, copper, molybdenum, lead, zinc, gold, silver, antimony and bauxite, as well as a range of other metals.

Among metal minerals, there are seven copper-molybdenum mines, four copper mines, 14 gold and gold-polymetallic mines, two polymetallic mine, two iron-ore mines and one aluminum mine.

In addition to base metals, other metals include: rhenium, selenium, tellurium, cadmium, indium, helium, thallium and bismuth.

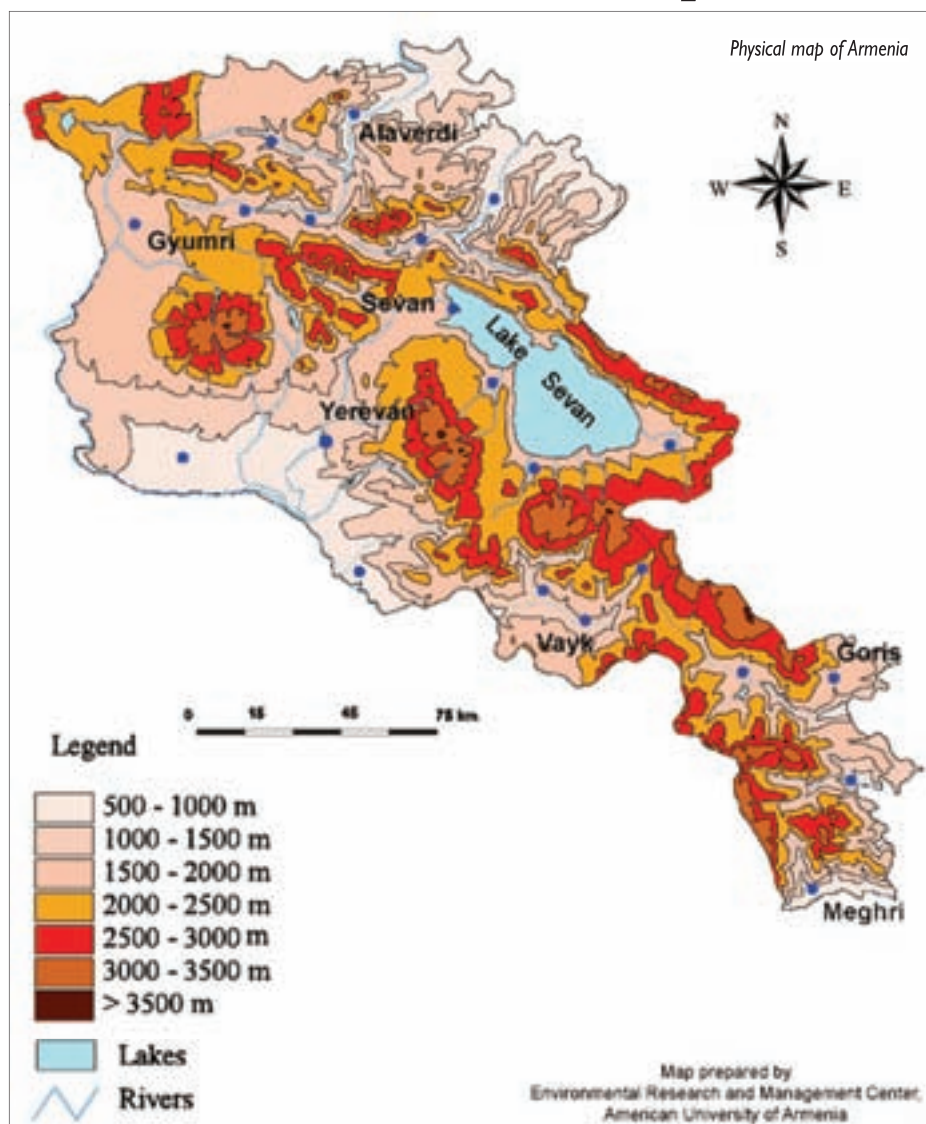
A total of 115 deposits have been discovered in the republic.

Careful consideration is being given to the beneficiation of concentrates, the final product for the moment for most of mining industry in Armenia. An improvement in the processing of minerals extracted in the country will provide an opportunity to generate high-value products, which, in turn, will ensure the growth of GDP.

There are 15 tailings sites in the country, the volumes of which exceed several million cubic metres and occupy a total area of around 700ha. Currently, the production waste generated as a result of extraction and processing of minerals accumulated in tailings is not utilised, despite the fact that they contain a significant amount of polymetals.

Armenia takes a global lead in abundance and diversity of non-metallic minerals. Nearly all types of minerals exist in the small country. Mountainous rocks formed as a result of volcanic processes in Armenia are of a special significance, the most important of which are light rocks (including tufa, perlite, pumice-stone, zeolite and scoria). There are huge resources of various types of basalts, granites, nephelite syenite and marble.

Armenia boasts some of the highest-quality resources and is most abundant in swelling rocks (eg perlites and obsidians). The confirmed resources of Aragats-perlite existing in Armenia amount to 150 million m³, whereas the total amount of projected resources reaches up to 3 billion m³. More than 100 basalt, andesite mines are mapped in the



whole of Armenia, some of which are unique in their composition (the content of Mg-O in basalt Khaladj mineral amounts to 11%). There are deposits of quartzite, carbonate, zeolite, scoria and pumice-stone, clay, bentonite, diatomite and gypsum in Armenia.

The global recession hit the Armenian mining sector in the second half of 2008, forcing some mining enterprises to lay off workers or halt production altogether. In spite of the crisis, however, the country's leading mining and metallurgical companies managed to end 2009 with significant production and

revenue gains thanks to a rally in global prices of copper and other base metals.

Although the nation's mining industry has overcome the worst of the world crisis, the difficulties are not yet fully overcome.

In the mining sphere, 18.7Mt of minerals were produced in 2010 – 16% more than in 2009. Some 144,300t of concentrate was produced, which is nearly 37% more than for the same period of 2009. The production of polymetals is three times that of 2009.

continues on p9

“Foreign investors in Armenia enjoy tariff-free access to a market of 250 million consumers”

CRONIMET's crowning achievements

CRONIMET is reaping the dividends of an Armenian acquisition as it eyes growth

CRONIMET, a family-owned business established in 1980 by Günter Pilarsky in Karlsruhe, Germany, is today a leading supplier of raw materials for industrial stainless-steel producers.

With 56 subsidiaries on four continents, the group has global presence in all important economic zones. Today its key clients are such giants as ThyssenKrupp, ArcelorMittal, Acerinox, Outocumpu, YUSCO, TISCO and others.

Since its inception CRONIMET has always looked for fresh and interesting investment projects in mining, metallurgy, recycling and metal trading. So it has ensured the full vertical integration of the value chain.

CRONIMET started its activities in Armenia in mid-1990s. By 1998, it had formed a joint venture with 'Plant of Pure Iron', which produces molybdenum and ferromolybdenum.

In 2004, CRONIMET started negotiating the acquisition of Zangezur Copper Molybdenum Combine (ZCMC) shares and, in early 2005, the final transaction to buy 60% of shares was implemented.

ZCMC is the largest producer of molybdenum and copper in the South Caucasus region. ZCMC is one of the largest employers in Armenia having more than 3,000 employees and the largest taxpayer as per Q1 2011 results.

The open-pit mine holds about 6% of world molybdenum reserves and extracts copper and molybdenum-rich ore, which is then processed into two separate concentrates.

As the main shareholder, Cronimet Mining has undertaken the obligations to modernise the company and increase the production volumes. Since 2005, a major expansion and modernisation programme has been under way. Production has risen by 75% since 2005, resulting in the annual production

volumes rising to 14Mt of ore.

The total amount invested to date exceeds US\$350 million. The production facilities of the ZCMC have been fully revamped. Both open-pit operation and processing plant are now equipped with modern and efficient machinery. The main infrastructure is also at its final upgrade stage: a large water dam, in-house power-transforming station and others.

Furthermore, all of ZCMC's molybdenum concentrates are processed in Armenia, by partner companies, namely the 'Plant of Pure Iron' OJSC (51% of shares belong to CRONIMET) and Armenian Molybdenum Production LLC. These companies produce the final product: ferromolybdenum and molybdenum, used mainly as a fusion element in steel production.

Besides the profitability factor, CRONIMET's investment policy defines criteria such as sustainable development and environmental protection and the possibility of the implementation of the project in the country.

Environmental management is a corporate priority and CRONIMET is fully committed to integrating environmental and social considerations at all levels of project development and operations. The CRONI-



MET Group of Companies and its subsidiaries are committed to economically-sustainable business development, ensuring the ability to provide long-term benefits to all stakeholders, shareholders, employees, the communities that support operations, affected communities and others. CRONIMET co-operates with a number of well-known Western companies, offering new technologies and carrying out projects on alternative solutions.

Like many other transnational companies, CRONIMET makes its own contribution to develop the country. Within the framework of the Good Neighborhood concept actively promoted by CRONIMET worldwide, a new project has been launched with Armenian partners. Since 2008 CRONIMET has invested about US\$25 million in a production of starter lead-acid batteries in Yerevan. The plant is fully operational, with state-of-the-art production facilities compliant to current ISO standards on technology and environmental tolerance. The production capacity is 300,000 batteries per year with a potential for up to 500,000 and currently employs about 150 people.

CRONIMET is tied to Armenia not only through business. Following successful economic co-operation in 2006, Günter Pilarsky, founder of CRONIMET, was named the Honorary Consul of the Republic of Armenia in Baden-Württemberg for his major contribution to economic co-operation between two countries. As such, the dynamic growth of CRONIMET's activities in Armenia is constantly recorded.



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ZCMC remains key moly producer

The CRONIMET subsidiary has posted some impressive output figures since 2005

ARMENIA'S largest industrial enterprise Zangezur Copper Molybdenum Combine CJSC (ZCMC), one of the world's leading molybdenum concentrate producers, was founded in 1951 and privatised in 2005.

The company is 60%-owned by leading German group CRONIMET, clearly demonstrating the successful foreign direct investment implemented in Armenia. The owners of the ZCMC are: CRONIMET Mining AG (60% of shares), 'The Plant of Pure Iron' OJSC (15% of shares), Armenian Molybdenum Production Ltd (12.5%) and Zangezur Mining Ltd (12.5%).

The company mines and processes the earth's mineral resources essential for making thousands of everyday products that meet society's needs and contribute to improved living standards.

Sustainable exploration, mining and processing molybdenum and copper – areas of expertise in which the company has a clear competitive advantage – allow it to deliver value to its stakeholders while operating in an ethically and socially responsible manner, and remaining committed to long-term sustainable development.

The company demonstrates proven expertise in technology and production methods, which consist of open-pit mining, and in-plant ore processing. The operations also comprise waste dumps, associated mine infrastructure and tailings. Mine size gives the advantage of greater profitability by means of volume and operating efficiency.

Being a part of CRONIMET group of companies allows ZCMC to successfully utilise experience and expert knowledge with reliability, competence and global partnership, and have access to global metal and financial markets. Group businesses also put sustainable development at the heart of their operations. For ZCMC, it is important that the environmental effects of its activities are kept to a minimum and that local communities benefit as much as possible from operations.

ZCMC exploits the Kajaran copper and molybdenum deposit as an open-pit mine and produces 14Mt/y of ore. This is processed and molybdenum and copper concentrates are produced, which are then roasted and smelted in and outside Armenia.

The mine benefits from natural advantages, such as the deposit's geographical location on a mountain side, large homogenous ore zones with generally visually recognisable ore and waste, as well as good

ZCMC pays 5% of profit to employees as a bonus

The issues of expansion of capacities were discussed at the Shareholders Meeting on May 25.

Since the company was privatised, individual projects were carried out and more than US\$350 million in investments were made. As such production capacity rose by around 75%.

Currently, ore-processing capacity is 14Mt/y. The company is going to launch the biggest in the region complex of ore crushers in September.

During the meeting, shareholders decided to launch the next stage of re-equipment to enlarge capacity to 20Mt. At the same time shareholders unanimously decided to pay 5% of its net profit to employees as a bonus each year, after summing up the economic results of the year. Work experience, position and features of the work will be taken into account. So each employee will have its own share from the profit of the combine.



management and technical knowledge within the company, such as highly skilled operators, well-established culture of mining, availability of spares, spare capacity of production drills and excavators, which enable it to produce the highest-quality products and to plan future increases in production. The mine utilises drill-and-blast techniques to mine the ore and wastes, followed by a truck and shovel operation with ore sent via in-pit ore pass and rail haulage to the primary crusher, or directly by truck. Waste is trucked to a remote waste dump.

LARGE FLEET

The ZCMC truck fleet comprises a large fleet of BelAz and Caterpillar trucks with load capacity of 55-140t. The main excavation equipment comprises 5m³ and 8m³ electric shovels. Several 11.6-13m³ CAT wheel loaders are also used for selective mining. Additionally, a wide range of auxiliary mine equipment is employed, particularly dozers for bench stripping and waste dump operations, multipurpose tractors, water bowsers and others.

ZCMC CJSC was the target of more than US\$350 million in investments between 2005 and 2011, and it boosted its production of copper concentrate by 75% over this time. The company

managed to boost its copper output by 50% and molybdenum by 3.2% in spite of the economic crisis, to reach totals which were almost double what the company achieved in the Soviet years. New technologies and methods are behind this strong increase. Zangezur is finishing the set-up of a multimillion-dollar facility which will be one of the biggest concentrating mills in the CIS countries.

For the future, ZCMC CJSC has ambitious goals. It aims to continue upgrading technologies, increasing production and reaching EU standards in all activities, including environmental protection and safety. The main strategy of ZCMC is to have treatment infrastructure for copper and molybdenum which meets Western standards. Along with its satellite companies, ZCMC CJSC employs more than 10,000 people.

Recently, Armenia's State Revenue Committee published the list of the 1,000 largest taxpayers in the first quarter in 2011; ZCMC headed the list. The company has during the first three months paid 7.45 billion Armenian drams in taxes which is a six-fold growth compared to the same period last year. These figures have shifted the company from the 11th in the ranking list last year to the top in 2011.

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Mining by region

Aragatsotn (western Armenia)

Capital: Ashtarak

Interesting fact: Name means 'foot of Aragats' (Armenia's highest mountain).

Mining sites: 68



Ararat (southwestern Armenia)

Capital: Artashat

Interesting fact: Named after Mount Ararat, the province borders Turkey to the west and Azerbaijan's Nakhchivan Autonomous Republic to the south.

Economy: Based on agriculture – growing wine, fruit and vegetables

Industry: Manufacture of food products, including beverages, and other non-metallic mineral products.

Mining sites: 41



Armavir (western Armenia)

Capital: Armavir

Interesting facts: Armavir lies in the Ararat valley between Mount Ararat and Mount Aragats. It shares a 80km border with Turkey to the south and west. The province is the location for the holy city of Echmiadzin, which serves as the centre for the Armenian Apostolic Church and the seat of the Catholicos of Armenian and All Armenians.

Mining sites: 59



Gegharkunik (eastern Armenia)

Capital: Gavar

Interesting facts: Gegharkunik borders Azerbaijan. At 5,348km², it is the largest province in Armenia by area.

However, about 1,280km² of its territory is covered by Lake Sevan, the largest lake in the Caucasus and a major tourist attraction in the region.

Mining sites: 47



Kotayk (central Armenia)

Capital: Hrazdan

Interesting facts: Best known for its world-renowned beer of the same name. It is also home to the highly frequented tourist destinations Garni and Geghard and the popular winter sports resort Tsakhkadzor. Kotayk is the only region ('marz') that does not border any foreign countries.

Economy: exclusive role in industry, particularly in the energy field.

Mining sites: 66

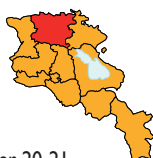


Lori (northern Armenia)

Capital: Vanadzor (Stepanavan is its second-largest city)

Interesting facts: Bordering Georgia, it is home to the UNESCO World Heritage Sites of Haghpat and Sanahin and the well-preserved Akhtala monastery, where Armenians, Georgians and Greeks make an annual pilgrimage on September 20-21.

Mining sites: 76



Site in Aragatsotn



Armavir and Shirak

Shirak (northwest Armenia)

Capital: Gyumri

Interesting facts: Borders Turkey in the west and Georgia in the north. The main railway and highway linking Armenia with Georgia pass through this territory. Shirak is known as the homeland of khash. It is as much semi-desert as it is mountain meadow or high alpine. In the south, the high steppes rise into mountain terrain, verdant green in the spring, hues of reddish brown in the summer. Shirak is served by Shirak international airport near Gyumri.

Industry: Manufacture of food products, including beverages, and other non-metallic mineral products. The tuff and pumice deposits of Artik and An are well-known.

Mining sites: 49



Syunik (southern Armenia)

Capital: Kapan (other important cities and towns include Goris, Sisian, Meghri, Agarak and Dastakert)

Interesting facts: Borders the Vayots Dzor marz to the north, Azerbaijan's Nakhchivan exclave to the west, Karabakh to the east, and Iran to the south. It is the richest marz, with useful minerals. The most important are non-ferrous metals (copper, molybdenum, zinc, lead) and noble metals (gold, silver) and also non-metallic minerals (constructive and decorative stones, basalt raw materials, limestone and burnt-shale marble and granite resources). It is home to many of Armenia's largest mining operations, including Kajaran, Kapan and Agarak.

Mining sites: 64



Tavush (northeastern Armenia)

Capital: Ijevan

Interesting facts: Borders Georgia to the north and Azerbaijan to the east. Mountainous and forested, Tavush is home to many historic Armenian monasteries, churches and castles. The noteworthy Goshavank, Makaravank and Haghartsin monasteries are all in this region.

Mining sites: 43



Vayots Dzor (southeastern Armenia)

Capital: Yeghgnadzor

Interesting facts: Borders the Nakhichevan exclave of Azerbaijan in the west and the Nagorno-Karabakh Republic in the east. The province covers an area of 2,308km² and is rich in historical and architectural sites, such as the Smbataberd fortress and the Tsakhats Kar and Noravank monasteries. The spa town of Jermuk, one of Armenia's premiere tourist attractions during Soviet times, is also located in the province.

Mining sites: 40

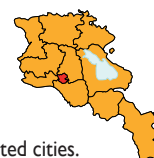


Yerevan City

Capital: Yerevan

Interesting facts: The national capital lies within its own territory and is one of the world's oldest continuously-inhabited cities. Situated along the Hrazdan River, Yerevan is the administrative, cultural and industrial centre of the country. It has been the capital since 1918.

Mining sites: 27





Drilling site operated by Lydian International

continued from p5

Armenia boasts a favourable geographical position for developing trade relations with different countries and a good partnership with Europe, the Middle East and the CIS for enlarging international co-operation.

The government puts emphasis on foreign investment as a means to develop new industrial activities as well as modernising existing ones.

GOOD CLIMATE

The favourable Armenian business climate, including its legislation and regulatory mechanisms, can help attract foreign investment. The government always encourages integration of foreign investments; the RA Law on Foreign Investments was adopted in 1998.

Armenia's taxation system is lenient compared with other former Soviet countries. For example, there are no restrictions on conversion or repatriation of capital and earnings, no limitations on wire transfers of money. In addition, Armenia has several strong competitive advantages for investors, such as skilled and available workforce and access to markets.

A high percentage of Armenia's population are between 17 and 59, and their level of education is high. Education continues to be a core value in Armenian society. There are about 100 scientific and technical institutes, which have always worked closely with industry, and their research and development activities favour the development of sophisticated industries.

Armenia offers a number of trade regimes. Particularly, due to its free-trade mechanism with the CIS countries, foreign investors in Armenia enjoy tariff-free access to a market of 250 million consumers. It also has free trade agreements with Belarus, Kazakhstan, Kyrgyzstan, Georgia, Moldova, Russia, Tajikistan, Turkmenistan and Ukraine.

Armenia became a full member of the World Trade Organisation in 2003. As a result, all rules and regulations of the Foreign Trade Policy of Armenia now conform to WTO requirements.

Trade relations are based on Most Favoured Nation (MFN) trade status that provides lower tariffs for WTO members. WTO requirements mean Armenia benefits from the Generalized System of Preferences (GSP) when trading with the US, Canada, the EU and Japan.

Besides, the EU also has significant share in Armenia's trade figures. Since January 2009, Armenia is one of only four CIS beneficiaries (the

others are Moldova, Georgia and Azerbaijan) of the new EU GSP+ trading regime, and one of only 16 beneficiaries worldwide. GSP+ status allows Armenia to export 7,000 products to the EU market duty-free.

So, with regard to business environment, Armenia

is firmly a market-orientated country, with the most liberal trade legislation among the newly independent states.

To confirm this, in 2010 Armenia was ranked by the *Wall Street Journal* and the Heritage Foundation in 38th place in the world according to the 'Index of Economic Freedom'.

As of 2010, Armenia was in 43rd place across 178 countries in terms of the ease of doing business.

Armenia has received this ranking based on three indicators, utilising 10 indicators:

- Ease of obtaining credit;
- Ease of trading across borders; and
- Ease of closing business.

"Armenia's taxation system is lenient compared with other former Soviet countries"

Due to another international assessment (by doingbusiness.org) it is much easier to start and conduct business in Armenia than in other former Soviet Union republics thanks to state reforms, such as the simplifying of tax filing, customs and licensing.

Stable economic conditions and an open-trade system means that, since 1999, exports has been growing each year, despite the end of 2008 and 2009 because of global economic crises. In 2010, exports totalled over US\$1 billion. In the past three years, the major export articles of Armenia were

software, foodstuff, non-precious metal, precious and semi-precious stones, and mineral products.

The government is upgrading the legislative framework for its mining sector with the help of the World Bank and European experts (see p13). This move will help to attract even more investments to a sector which is set to play an increasingly important role in Armenian's economic development.



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RIGHT SOLUTIONS RIGHT PARTNER

GeoProMining Group gains ground as

GeoProMining is one of the largest mining companies in the Caucasus region

GEOPROMINING is an international, privately-owned diversified mining company with five operating assets in Armenia, Georgia and Russia. The group intends to grow its business by investing in new technologies, making efficiency improvements as well as developing mines.

GPM's senior management team consists of international executives with global mining expertise and local professionals with longstanding on-the-ground experience in their regions of operation.

LONG-TERM PARTNER TO ARMENIA

GeoProMining has already made a major commitment to Armenia, and this is set to grow as the company invests and increases the scale of its operations.

GeoProMining's operations in Armenia include GPM Gold (operating the Zod Mine and the Ararat Gold-Processing Plant) and the Agarak Copper-Molybdenum Mine Complex, as well as exploration licences for numerous promising deposits.

GeoProMining acquired the assets of the Ararat Gold Extraction Company from Vedanta Resources in September 2007, and subsequently renamed the company to GPM Gold. The acquisition of the Agarak complex was completed in October 2007.

Since the acquisitions, GPM has focused on establishing sustainable, profitable and environmen-

tally safe operations at both companies by investing in new technologies and modernisation. Since 2007 GeoProMining has invested US\$260 million into GPM Gold and Agarak. This sum funded the acquisition of assets, repayment of debts owed by the former owners, payment of tax arrears to the Armenian government, as well as capital expenditure and operational expenses of over US\$20 million to relaunch operations at the GPM Gold and Agarak plants.

The company is also planning to invest over US\$120 million into Armenia over the next three years. These investments will upgrade the operations of GPM Gold and Agarak with modern equipment and technologies, with the aim of reducing operating costs and increase output, while minimising the environmental impact.



GeoProMining will upgrade the operations of GPM Gold and Agarak with modern equipment and technologies over the next three years

GPM GOLD

When GeoProMining acquired GPM Gold, the Zod gold deposit and the Ararat processing plant were mothballed, primarily due to a shortage of ore that could be processed at the plant. Mere months after the acquisition, GPM initiated a programme to overhaul the business, which included a significant investment in upgrading key production equipment. GPM has repaid debts owed by the former owners, including unpaid salaries and taxes. The plant restarted operations by the end of 2008, and the company was able to retain the experienced professionals employed there.

Background

- GeoProMining Gold includes the Zod gold mine and the Ararat processing facility;
- Zod is one of the region's largest deposits
- The company restarted production at the end of 2008, becoming cash-flow positive at end-2009
- A capital investment programme totalling US\$100 million is planned for constructing new processing facilities at the Ararat plant by employing new Albion technology from Xstrata Technology and optimising mining operations at the Zod mine

One of the main challenges that GPM Gold faces is that the extraction technology at the Ararat plant is not designed to process the sulphide ores remaining at the Zod deposit.

Today, GeoProMining is preparing to upgrade the Ararat gold plant with the innovative Albion gold extraction technology from Xstrata Technology (Australia), supported by Core Process Engineering (Australia). This unique method for gold extraction will enable the processing of sulphide ores,

"The company is also planning to invest over US\$120 million into Armenia over the next three years"

GPM key operating assets

Asset	Location	Ownership	Commodity				
			Au	Cu	Ag	Mo	Antimony
GPM Gold	Armenia	100%	X		X		
Agarak	Armenia	100%		X		X	
Quartzite	Georgia	100%	X		X		
Madneuli	Georgia	99.15%	X	X			
Zvezda/Sarylakh-Surma	Russia	100%					X

investment in Armenia grows



Map showing the location of GeoProMining's portfolio of assets in Armenia, Georgia and Russia



significantly increasing the gold recovery rate. The currently planned capacity of the new processing plant is 150,000oz/y of gold.

In addition to upgrades at the Ararat plant, GPM Gold plans to invest in a new mining fleet and stripping of the existing pit at the Zod gold mine. Preliminary project work is being carried out with special attention to the efficiency and environmental safety of operations. Both of the Zod mine and the Ararat plant projects should be completed in 2013.

AGARAK

The Agarak Copper-Molybdenum Mine Complex, acquired by GPM in 2007, is also undergoing major upgrades. Current capital expenditure is expected to be completed in early 2012 and involves modernisation of existing flotation machines fleet, personnel training and upgrades to the mine pit.

Background

- Agarak, originally established in 1958, is an open-pit copper-molybdenum deposit in the Syunik province of Armenia;
- Since acquisition, Agarak's new management has introduced significant value-added operational and organisational changes which has made a positive impact on operational and financial results;
- The pit is mined using conventional methods, and the adjacent plant can process 3Mt/y of ore.

GPM's planned investments for Agarak include installing new flotation machines and upgrades to existing equipment, which will help to increase the recovery rate for the metals. On completion, the plant's ore-processing capacity is expected to increase from 3.0Mt to 3.5Mt/y. This project is due to be completed by 2012, with planned investments of US\$18 million.

CORPORATE SOCIAL RESPONSIBILITY IN ARMENIA

GeoProMining is committed to sustainable growth in the regions where it operates. The Group regularly invests in social projects, including: development of social-economic infrastructure, fire safety, energy and water supplies, as well as renovations for hospitals and schools.

Adherence to labour laws and regulations are a high priority for GPM. GPM companies are often the primary source of direct and indirect employment for the communities within which they operate. The company estimates that it effectively supplies jobs to 70-80% of the working-age populations in Agarak, Vardenis and Ararat. Employees and their family members are given free medical care and are eligible to receive material assistance if needed.

In September 2010 GeoProMining and the administration of the Gegarkurinskaya region, along with the Armenian Government Fund for Social Investments, signed a deal for the social development of the region.

As part of this agreement, GeoProMining and the Fund for Social Investments, along with the World Bank, will finance a project for the reconstruction of the Vardenis city House of Culture.

As part of a project by the Russian Embassy in Armenia, GeoProMining provides equipment for computer classes where children can receive interactive lessons on Russian language. These computer labs are located in regional schools throughout the country, and help to increase the knowledge of Russian throughout Armenia. GeoProMining also supports the Stanislavskiy Russian Drama Theatre in Yerevan.

GeoProMining is proud of the contribution it has made to the Armenian economy since 2007, and believes that its substantial investment programme will reinforce this position over the next three years.

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 Simon Cleghorn, Chief Geologist



Toukhmanuk steers Global success



Digger at Toukhmanuk and exploration map

GLOBAL Gold Corp has been working in Armenia for over 15 years, with commitments to the country and its shareholders to build value while respecting safety, social, environmental, and related tenets needed to create a sustainable, profitable balance. Since 2005, the Toukhmanuk ('dark child') property has emerged as its core property, in the north-central mineralisation belt.

This is an area replete with ancient workings, which was substantially explored during the Soviet era for gold, silver, copper and molybdenum. Global's development plans for the property changed in late 2008 with the discovery of wide zones of mineralisation amenable to open-pit mining rather than the historically established narrow veins and underground mine plans. With consistent support from Firebird Management funds and a recent strategic investment from Consolidated Resources, Toukhmanuk's first quarter is witnessing mining, plant expansion, new exploration, increased local employment, and the opening of new horizons in Armenia.

The mine is producing gold and silver concentrate, and the plant is upgrading to 300,000t/y of ore (15,000oz of gold) production this year at an average cost of less than US\$400/oz. That will be followed by industrial production of 1.5Mt/y (77,000oz/y Au) in the next phase. An Armenian government-approved reserve of 2.27Moz of gold and 6.9Moz of silver now exists in C1, C2 and P1 categories, which, according to the certifying agency, correspond to international

standards (CRIRSCO) of measured, indicated and inferred categories. Total ore reserve approved was 21.9Mt with an average gold grade of 1.62g/t at a cut-off grade of 0.8g/t and an average silver grade of 4.88g/t.

Historic governmental reserve records on Toukhmanuk when Global first started in 2005 were based on quartz veins with gold and polymetallic mineralisation 1-1.5m wide. But the discovery in October 2008 and exploration showed much wider veins and mineralisation. Based on 20km of diamond drilling, test mining and surface sampling of the No 1 and 15 mineralised areas, at least 18 mineralised zones in a 150-200m-wide ENE-trending alteration zone in the property's central area.

These mineralised zones (5-25m wide), extend more than 300m along strike, and extend to more than 150m at depth. Assay results of surface sampling show values 1-280g/t Au, and 8-520g/t Ag. Gold mineralisation is associated with sulphide minerals, in places as distinct veins within the wider alteration zone. This is all in about a fifth of the mineralised trend in the Central Area, interpreted to extend to more than 1.5km along strike. This area at Toukhmanuk covers 2.2km² in a licence area of nearly 54km².

REPORT UPDATES

At the end of May, Behre Dolbear began an NI 43-101 report on Toukhmanuk as well as on Getik, which Global is advancing with Consolidated Resources. Global and Consolidated aim to develop Toukhmanuk and Getik under a joint venture.

Global acquired the 27km² Getik property, 80km east of Toukhmanuk, in 2006-07. Surface sampling discovered gold grades of 4-5g/t in bleached and crackle-brecciated rhyodacitic lavas, with disseminated pyrite, below a shallow oxidised near-surface zone. Mapping, sampling trenching, and some diamond drilling continued at Getik, and exploration there is growing this year. Soviet-era work indicated the presence of uranium oxide in one portion, but Global's early efforts to confirm this were inconclusive. The Soviet-era work in at least two places for gold and polymetallic mineralisation was encouraging, and the licence area is being systematically explored.

Global Gold first entered Armenia's mining industry through a JV with the government to develop the Zod and Meghradzor mines and reprocess 12Mt of tailings at the Ararat plant in 1995. It partnered with First Dynasty Mines, and the first Western

Local laboratory

A key investment Global made from 2008 was in a lab at Toukhmanuk. That lab now services Global's projects, as well as those for other companies in Armenia and throughout the region.

The lab has received international, ISO, certification, and the Armenian government also accredited the lab as one of those authorised to provide results for official submissions on reserve calculations and other purposes.



gold-processing plant built on time and on budget in the former Soviet Union began exporting gold in May 1998. Global no longer holds a stake in those properties or the companies that succeeded First Dynasty, except for a 20% right to participate in any exploration projects undertaken up to year-end 2009.

Global is also developing the Marjan property in southwestern Armenia, along the Nakichevan border. It obtained a 25-year licence there in 2008, but had to terminate an initially promising 2010 joint venture based on its partner's non-performance and non-payment. The 19.4km² area of the property is underlain by tertiary volcanic rocks, intruded by NNW-trending dioritic dykes. Most gold mineralisation is contained within polymetallic sulphide veins, associated with NNW-trending hydrothermal alteration zones, which can be seen on surface as rusty to grey zones on outcrops.

Two types of gold mineralisation have been observed: that associated with sulphide veins in volcanic rocks; and that adjacent to dioritic dykes, which intrude the volcanic rocks. There, the historic governmental reserve records indicate over 1Moz of gold with C1, C2, and P1 categories totalling 15.4Mt of ore at average grades of 2.31g/t of gold, 92.1g/t of silver, 0.8% of copper, 1.10% lead, and 1.21% zinc. Global has other interests in Armenia as well as in Chile and Canada. However, Armenia is a long-term commitment.

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Revising mineral law

THE Armenian government is reforming the administration of the country's minerals sector with revisions to the legislative framework that govern the sector.

The process of drafting a new Concession Law and new Mining Code began in 2001, with the involvement of international expertise.

The new legislation was adopted in late 2002, and the following year Armenia won an Outstanding Achievement Award at the inaugural Mines and Money conference in London (left) for its success in creating this greatly improved investment environment.

The Concession Law prescribes a number of licence types (see box).

A concession contract is a written agreement between the Republic of Armenia and the special mining licensee that regulates the parties' obligations as established by the Concession Law. A concession contract comes into force simultaneously with the corresponding special mining licence and is valid for the whole period that the licence remains in force.

A stabilisation contract, meanwhile, is a written



agreement between the Republic of Armenia and a special prospecting licensee, and regulates the parties' obligations as established by the Concession Law. If a stabilisation contract is concluded, the special prospecting licensee, if desired, is provided with protection and reimbursement for additional costs in compliance with the procedures set by the Concession Law.

A stabilisation contract comes into force simultaneously with the corresponding special prospecting licence and is valid for no more than 12 years from the start of mining the mineral.

Holders of mining licences and special mining licences are required to pay royalties of 1% of the aggregate net-back value of sales of metallic minerals, together with an additional royalty. This is levied at an incremental rate of 0.1% up to a maximum of 0.8% where an operation's profitability index exceeds 25%.

Types of mineral licence

- **Prospecting licence:** This entitles the holder to carry out sub-surface prospecting operations and is granted for a period of up to three years.
- **Special prospecting licence:** This also entitles the holder to carry out sub-surface prospecting operations, and is granted for a period of more than three but not exceeding five years. It entitles the holder to conclude, upon application, a stabilising contract as established by the Concession Law.
- **Mining licence:** This entitles the holder to carry out mining operations and is granted for a period not exceeding 12 years.
- **Special mining licence:** Also entitling the holder to carry out mining operations, this is granted for a period of more than 12 years but not exceeding 25 years, and entitles the holder to conclude, upon application, a concession contract as stipulated by the Concession Law.

The profitability index is calculated by the simple formula $(R-C)/R$, where R is the aggregate net-back value of the sales of extracted metallic minerals in any royalty-payment period, and C represents the operating costs incurred during mineral extraction within the same period.



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A land brimming with activity

MINING companies active in Armenia include Dundee Precious Metals Inc, Caldera Resources Inc, Cronimet Holding GmbH, GeoProMining Ltd (GMP), Global Gold Corp, Lydian International Ltd and RAK Minerals & Metals.

Dundee Precious Metals is a Canada-based company focused on Bulgaria, Serbia and Armenia. Interests in the latter include the wholly-owned Vatrén Investment Ltd, a private entity which holds 100% of Deno Gold Mining Co. The latter's principal asset in Armenia is the Kapan gold-copper-zinc-silver project (incorporating the underground Shahumyan mine), 320km southeast of Yerevan.

The Deno gold-mining area forms part of the Tethyan tectonic belt within the southeastern Syunik Region (close to the Azerbaijan border).

Montreal-based Caldera Resources has worked

at the Marjan gold-silver project licensed to Global Gold. The project lies in southern Armenia and has Soviet-era historical resources (C1 and C2, which is equivalent to measured and indicated resources), containing over 400,000oz gold and 14.2Moz silver. The project also contains a resource classified P1 (equivalent to inferred resources) containing a further 650,000oz gold and 37.1Moz silver.

Cronimet is a German, family-owned, business that was established in 1980 and is now a leading supplier of raw materials for industrial stainless-steel producers, with 56 subsidiaries on four continents.

The group started its activities in Armenia in the mid-1990s, and in 1998 formed a joint venture to produce molybdenum and ferromolybdenum. Cronimet subsequently acquired the Zangezur Copper Molybdenum Combine (ZCMC), which is the largest producer of molybdenum and copper in the South Caucasus region.

Since 2005, a major expansion and modernisation programme has been under way at ZCMC, and production has risen by 75%, resulting in ore output rising to 14Mt/y at a total investment to-date of US\$350 million. All of ZCMC's molybdenum concentrates are processed in Armenia.

GPM is a privately-owned diversified mining company with operating assets in Armenia, Georgia and Russia. GPM acquired the assets of Ararat Gold Extraction Co from Vedanta Resources in September 2007, and subsequently renamed the company GPM Gold (which operates the Zod mine and Ararat gold processing plant). The currently planned capacity of



GPM assets include the Agarak mining complex

the processing plant is 150,000oz/y.

The company's assets in Armenia also include the Agarak copper-molybdenum mining complex, as well as numerous exploration licences.

The acquisition of Agarak was competed in October 2007, and the complex is undergoing a major upgrade. Current capital expenditure is expected to be completed by early next year, and involves modernisation of existing equipment, staff training and an upgrade to the mine.

ESTABLISHED Foothold

Global Gold has been working in Armenia for over 15 years, with a focus on the Toukmanuk ('dark child') property in the north-central mineralisation belt.

Global's development plans for the property changed in late 2008 with the discovery of wide zones of mineralisation amenable to open-pit mining (rather than the historically established narrow veins and underground mine plans).

The mine is now producing gold and silver concentrate, and the plant is being upgraded to produce 15,000oz/y of gold from 300,000t/y of ore (at an average cost of less than US\$400/oz).

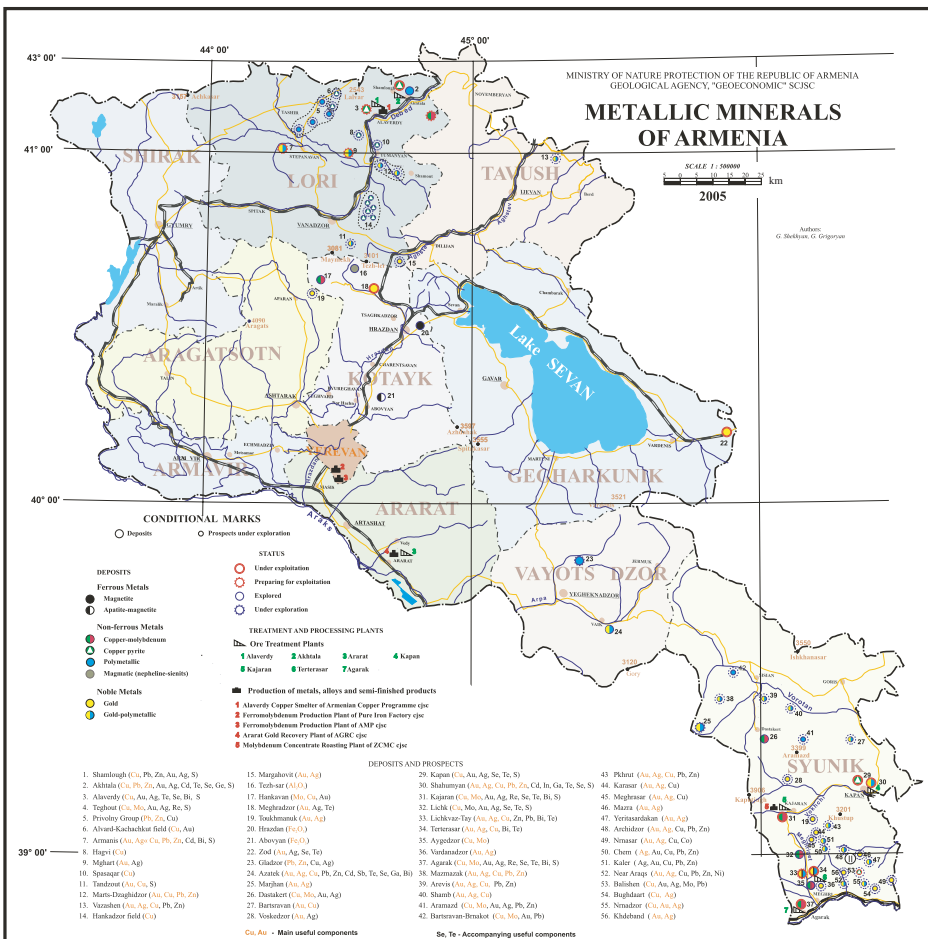
The next phase at Toukmanuk will lift output to 1.5Mt/y (77,000oz/y of gold) from a resource that is estimated to contain 2.27Moz of gold and 6.9Moz of silver (C1, C2 and P1 categories). Total resources are given as 21.9Mt at an average grade of 1.62g/t Au (using a cut-off of 0.8g/t), plus 4.88g/t Ag.

At the end of May, Behre Dolbear produced an NI 43-101 report on Toukmanuk (as well as on the Getik deposit, which Global is developing with Consolidated Resources). Global is also developing the Marjan property (see above).

Lydian International, via local subsidiary Geoteam CJSC, is focused on developing the exciting Amulsar gold discovery in southern Armenia. Lydian is, however, also exploring elsewhere in Armenia and in other prospective regions of Eastern Europe.

A preliminary study at Amulsar has suggested it could support ore production of 5-10Mt/y. The study, prepared by consultant CSA Global, was confined to the Tigranes and Atravades zones. The proposed open pit captured 31Mt of material (at 0.98g/t Au) of indicated-only resources, or 53.6Mt at 0.94g/t Au for indicated plus inferred resources. The company is conducting at least 30,000m of drilling this year, targeting infill, step-out and exploration holes.

RAK Minerals & Metals Armenia (a 100%-owned subsidiary of RAK Minerals & Metals Investments) was founded to pursue base-metal opportunities in the country. It has so far acquired exploration licences over three deposits (Karnut and Privolnoye in north Armenia, and Lernashen in the south).



Lydian: building on first-mover success

LYDIAN is a mineral exploration and development company with expertise in discovering and developing new gold projects in countries less familiar to the world's capital markets.

The company, via its local subsidiary, Geoteam CJSC (www.geoteam.am), is focused on developing its flagship Amulsar gold discovery in southern Armenia.

Lydian is, however, also exploring elsewhere in Armenia and in other prospective regions of Eastern Europe, where it is building and maintaining a promising portfolio of early-stage pipeline projects.

With a strong social agenda, Lydian is committed to developing its projects responsibly with a main emphasis on social and environmental awareness and care. The company takes the view that, along with the need to obtain mining licences and permits, it also requires a 'social licence'. It is proactive in minimising any environmental impact and engages with local communities from the start to deliver relevant and sustainable social development initiatives.



Exploration via helicopter

FLAGSHIP PROJECT: AMULSAR

The Amulsar project is a completely new grass-roots discovery, the first in 20 years in Armenia and has, as of June 2011, an NI 43-101-compliant global resource of 2.5Moz – 1.1Moz at 1.1g/t Au (indicated) and 1.4Moz at 0.9g/t Au (inferred). The resource remains open in all directions, including at depth, so it has the

potential to grow significantly.

Amulsar is a high-sulphidation, epithermal-type gold mineralisation system, in southern Armenia along a high ridge top between the Vayots Dzor and Syunik provinces, some 170km south of Yerevan, and was first identified by Lydian geologists in 2006. It is almost 100% oxidised and boasts excellent existing infrastructure such as main highway access, electricity sub-station, gas and water, all within the licence area.

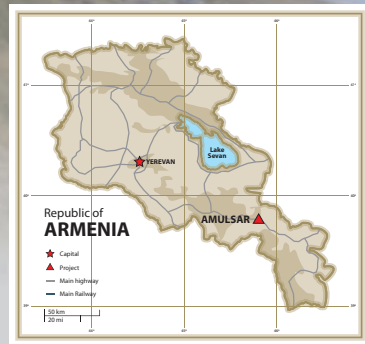
AMULSAR HISTORY

Amulsar has significantly advanced since its discovery; licenced in 2005 with the first gold in rock chips found in 2006. Initial scout drilling in late 2007 returned credible sub-surface results.

The 2008 drilling programme of 16,000m culminated in the first CIM-compliant inferred category resource of 1Moz at 1g/t Au. In 2009, 14,000m were drilled and the CIM-compliant inferred category resource increased to 1.4Moz at 0.9g/t Au.

In 2010, 24,000m were drilled. The presence and orientation of significant high-grade vein structures became evident and it was clear they cross-cut lower-grade faults and mineralised breccia bodies. One of these 'feeder zones' returned an impressive 84m at 4.9g/t Au. These zones may continue to depth and may present viable high-grade underground resources additional to the open-pit deposit.

Continued social and environmental work at Amulsar has included the completion of various building projects in local villages, irrigation initiatives, laying of a gas pipe, provision of medical equipment, construction of a local tree nursery and operation of a refuse collection and recycling system. An independent preliminary environmental and social impact assessment was also concluded; this found that everything Lydian had achieved to-date was of a high quality and met accepted international best practices.



Water testing

AMULSAR 2011 AND BEYOND

For 2011, significant further untested potential remains around the existing resource areas and over a largely undrilled area defined by surface geochemistry which exceeds some 9sq km along and across the 3.6km ridge top.

In January, the company released its latest metallurgical results. These showed that test gold recoveries were 93% with a 19mm crush size; up to 80% was recovered within seven days. These results are considered among the best (top 3%) recorded internationally.

Drilling of at least 30,000m with four drill rigs began in April, initially targeting further exploration areas at the lower southeastern slopes identified by soil geochemical data. With better weather, drilling moved to the main resource areas to complete further exploration, resource upgrade and extension.

Lydian aims to develop an exemplary gold mine at Amulsar. Environmental and social management are key priorities to both the company and its principal shareholders: the International Finance Corporation (part of the World Bank Group) and the European Bank for Reconstruction and Development, which help the company with influential in-country support and valuable advice in these areas.

This year, the company will complete a preliminary economic assessment study and also plans to release a new NI 43-101 CIM-compliant resource estimation by December. These will be dovetailed into the continued feasibility and engineering studies, to produce a comprehensive bankable feasibility study by around mid-2012 as Amulsar advances towards initial production in the first half of 2014.

In summary, Amulsar is a continually growing resource and putting all aspects together: the resource potential, proximity to infrastructure, great metallurgy and efficient mining methods, the company believes that Amulsar is remarkably economically robust and that it will produce gold at a low cost.

Drilling at Amulsar



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