Ararat Gold Recovery Company

Mineral Resources

of the

Zod Gold Mine, Armenia

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1.0 SUMMARY

Micon International Co Limited (Micon) has been retained by Ararat Gold Recovery Company (AGRC), a wholly owned Armenian subsidiary of Sterlite Gold Limited, to audit the new mineral resource model created for the Zod Gold Mine. The mineral resource model has been updated following the definition drilling campaign that was conducted between October 2004 and August 2005.

The Zod deposit is located in the area of the Little Kaukasus in the Vardenis region of the Gegharkounik Province of the Republic of Armenia in Northwest Asia. This region lies on the northwest side of Sevan Lake and embraces the Sevan and Eastern Sevan ridges. From the north the Zone is bordered by the Sejdlar River, from the south by the Zod River. The central part of the deposit is located 2 km northwest from the Zod Pass at an altitude of 2,180 m to 2,550 m. Geographical coordinates of the deposit: range from latitude 40°13'30"N to 40°14'20"N, and from longitude 45°52'30"E to 45°58'30"E.

The site is accessed by an all weather asphalt road and railway and is serviced by a major high tension power transmission line capable of supporting a mine and processing complex.

In 1999 AGRC was granted land rights for total of 1,368 hectares in and around the Zod Mine. There have been changes to Armenian legislation concerning State Registration of Property and Land and AGRC is in the process of applying for State Registration of its Property and land as per legislation. The property is also in the process of being surveyed.

Mineral rights have been granted as follows:

- a) A Special Mining License for the Zod Deposit was issued to AGRC for a period of 25 years expiring on 10th September 2023.
- b) A Mining Agreement for the Zod deposit was signed between AGRC and the Ministry of Natural Protection of the Republic of Armenia on 13th March 1999 for a period of 20 years.
- c) Mineral Rights (Mine Allocation) are valid for Zod Deposit under the name of Armgold to which AGRC is the legal successor.

The mineral rights are subject a royalty payment to the Government of Armenia at 1.5% of gross revenue based on the average spot price of gold. This is calculated on gold mined rather than gold recovered. An additional royalty is payable if gross profits exceed 25% of revenue at the rate of 0.1% for each 0.8% of profit in excess of 25%.

The Zod deposits are hosted within sedimentary rocks and intrusive units related to a phase of regional volcanism which commenced during the early Tertiary. This volcanism relates to the closure of the Tethys Sea and the development of a major north-west striking suture zone through the Armenian land mass. Consequently there is a very strong regional structural fabric generated as a result of this tectonic margin.

This zone has been a regional focus for high-level intrusions which, in turn, have generated an extensive regional heat flow. The highly sheared environment has given rise to the ideal structural and depositional conditions for the epithermal and mesothermal mineralisation at



Zod. The intrusive and ultrabasic lithologies have provided the host materials for mineralisation, and may also have been source rocks at depth. Regional uplift and differential erosion have since led to extensive exposure of the deeper portions of these systems.

The northern border of the Zod deposit is near the axis of the Karaiman-Zod anticline and the southern border is defined by the occurrence of volcanic rocks. The anticline extends for more than 10 km in length and has a width of 4.5 km to 5 km. Its southern limb dips at angles between 50° and 65°. Basement Precambrian schists are present in the hinge of the anticline, and they are overlain by Upper Cretaceous (Turonian-Lower Senonian) volcanosedimentary rocks. Alluvium up to 10 m in thickness overlies the older materials.

Most of the deposit is hosted by intrusions, including ultrabasic (mostly peridotite and serpentinite) and gabbro. These are variably altered to carbonate and quartz-carbonate assemblages. The ultrabasic gabbro complex includes minor pyroxenite, as well as quartz-diorites and plagiogranite. Sheared zones where plagioclase is altered to epidote and carbonate are frequently observed.

Pre-dyke dislocations are characterised by approximately east-west trending shear and breccia zones which extend along the axis of the anticline. They dip steeply (65° to 85°) and cross-cut the volcano-sedimentary and intrusive rocks of Mesozoic age. Hydrothermal alteration is developed within these dislocations. Individually altered zones range in thickness from 10 m to 20 m and may coalesce at depth where total thickness may be tens or even hundreds of metres. The boundaries between altered and unaltered rock are variable, being sharp and sheared in some areas, to gradual in others. The latter is particularly true adjacent to gabbros.

There has been a long history of gold production from the vicinity of the Zod Mine. There is evidence in the mine area of early alluvial mining and old workings uncovered in the open pit which may be centuries old. The recent history of exploration and development of the Zod area dates back to 1951 when Soviet geologists re-discovered gold deposits in the vicinity of Zod. Exploration continued until 1955 when the Zod Geological Survey Expedition of the Administration of Armenia was established. In 1966 the Geological Survey Expedition of the Armenian SSR was formed to accelerate exploration and development activities.

Exploration work completed during the period 1955 to 1965 totalled 51 km of underground development and 13,500 m of percussion and core drilling. The data collected was used to generate mineral reserve estimates that were confirmed by the USSR State Commission on Mineral Reserves (GKZ) in 1965.

Following the confirmation of these mineral reserves, a decision was taken to build a mine at Zod. In 1972 mine construction and development commenced by a Soviet entity called Armgold. Initial plans called for production of 250,000 tpa of ore from an open pit and 500,000 tpa of ore from an underground mine. The ore was to be transported to a centrally located processing plant. The location of the plant was intended to facilitate the development of additional gold reserves within Armenia.

Mine production commenced in 1976 and ore was transported to a 1 Mtpa processing constructed at Ararat some 285 km distance from the mine. The Ararat plant produced flotation concentrate that was processed at smelters in Russia. Production continued from the



mine declining during the final years until 1997 when the infrastructure closed as a result of a lack maintenance and capital investment. A total of 7 Mt of ore were produced from the open pit and underground mines. Precious metal production reached approximately 650,000 oz of gold.

Exploration and development continued at Zod between 1965 and 1980 and an additional 74 km of underground drifting and 97,000 m of drilling were completed.

Following the collapse of the Soviet Union the Armenian government sought foreign investors to revitalise its mining industry. In 1996 Armgold and Global Gold Corporation, a subsidiary of First Dynasty Mines (FDM) signed a joint venture agreement. Armgold agreed to put the Ararat tailings pond and related infrastructure into a new company to be known as Ararat Gold Recovery Company (AGRC). A plant was designed and installed to treat the 11 Mt of tailings that had accumulated over the previous 20 years. In February of 1998 production began through a new \$12 million processing facility at a rate of 1.5 Mtpa.

In 1998 an amendment to the agreement was signed under which Armgold folded all its remaining assets into AGRC including the Zod Mine and related facilities. Concurrent with this new agreement, the Government signed various agreements recognising the AGRC joint venture and giving it authority to export gold.

At the same time the partners commissioned a feasibility study to determine if Zod could be brought into production. The study was completed in 1998 and concluded that the project was technically and economically attractive. It showed that an open pit at Zod could produce operate economically utilising the Ararat Treatment facility.

For a number of reasons, production at Zod did not commence immediately. In 2002 a small scale operation began. It processed 300,000 t of ore and produced 28,000 ounces of gold. Phase I was deemed a success and a Phase II pit was inaugurated in mid 2003. This Phase II pit was planned to mine approximately 2 Mt of ore at a grade of 5.2 g/t Au. It was expected that production from this pit would be completed by early 2005.

In 2002 an opportunity was afforded to FDM to purchase Armgold's remaining 50% stake in AGRC from the Government of Armenia thereby increasing its stake in the Zod mine and related facilities to 100%. An accompanying Implementation Agreement restated the guarantees given under the previous agreements and provided for additional guarantees. In particular FDM was given an exclusive right to explore, develop, mine and extract any mineral deposits discovered within a 20 km radius of Zod. In July 2002 First Dynasty Mines changed its name to Sterlite Gold Limited.

In August 2002, a review of the project was conducted by SRK Consulting, UK. SRK concurred with the mineral resource reported by AGRC for Zone 1A and endorsed the recommended exploration programme.

Exploration continued at Zod during the period 2002 to 2004 focussing on resources of the Central zone. The total amount of surface and underground drilling completed during the two year period exceeded 45 km. Exploration drilling by AGRC was carried out from surface as well as underground levels. Drilling was undertaken on a regular grid with north south cross sections at 40 m spacing. Drilling has been a mix of diamond and reverse



circulation methods utilising both company owned equipment and crews and local and international contractors.

Drilling so far has only tested part of the area for which Soviet era reserves have been defined. In addition only the main zones were tested together with a limited portion of the Gabbro Massif. Drilling is required to test the remaining areas of known mineralisation, firstly in the Central block and then adjoining areas to the south and west where Soviet era reserves have previously been indicated.

AGRC carried out a Pre-Feasibility Study to determine the most effective methods to potentially exploit the mineral resources so far defined. The study was completed in March 2005. Based on the results of the pre-feasibility study, AGRC continued exploration until end of 2005.

AGRC has revised Zod gold mineral resources as a result of additional drilling beyond the pre-feasibility study. The mineral resource model has been prepared to a high industry standard and mineral resources have been categorised following the guidelines provided in the JORC Code. Micon has been closely involved in the creation of the block model and endorses the mineral resources presented in Table 1. The Resource was reported at a cut off of 0.6~g/t Au.

Table 1: Zod Mineral Resources at 1st January 2006

| Meas | ured | Indicated | | Measured + | Indicated | Inferr | ed |
|---------|----------|-----------|----------|------------|-----------|---------|----------|
| Tonnage | Grade | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| (kt) | (g/t Au) | (kt) | (g/t Au) | (kt) | (g/t Au) | (kt) | (g/t Au) |
| 1,376 | 5.47 | 15,452 | 4.05 | 16,828 | 4.17 | 4,083 | 2.74 |

Micon has reviewed the exploration plans and the development concepts for the Zod area and believes that this further work is justified.



2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 Introduction

Micon International Co Limited (Micon) has been retained by Ararat Gold Recovery Company (AGRC), a wholly owned Armenian subsidiary of Sterlite Gold, to audit the new mineral resource model created for the Zod Gold Mine. The mineral resource model has been updated following the definition drilling campaign that was conducted between October 2004 and August 2005.

Micon has worked closely with AGRC personnel in the preparation of the current Zod mineral resource estimate and in the 2004 estimate. Stanley C. Bartlett, P.Geo., has visited the project three times; during the period 5th to 7th February 2004, 9th to 12th August 2004 and 25th to 28th April 2005. While at site open pit and underground operations were inspected, production control and reconciliation were reviewed and mineral resource estimation parameters were reviewed. In addition, Mr Karthik Rathnam, Exploration Geologist at Zod worked at Micon's Norwich, UK offices during 21st to 29th April 2006.

2.2 Abbreviations

All currency amounts are stated in US dollars (US\$), as specified, with costs typically expressed in US\$ and commodity prices in US dollars. Quantities are generally stated in SI units, the Canadian and international practice. Precious metal grades are expressed in grams per tonne (g/t) and their quantities may also be reported in troy ounces (oz), a common practice in the Western mining industry. Armenian practice is to report resources in terms of kilograms or tonnes of global contained metal. These numbers have been converted where necessary to ounces of gold.

Commonly used abbreviations are listed below.



Abbreviation Unit or Term

% percent

degree of longitude, latitude, compass bearing or gradient

> greater than < less than

AA atomic absorption

Ag silver Au gold

°C degree Celsius
2-D two dimensional
3-D three dimensional
CIL carbon in leach
cm centimetre(s)
cm³ cubic centimetre(s)

g grams Ga billion years

g/cm³ grams per cubic centimetre

g/t grams per tonne

GKZ Gosudarstvennaya Komissia po Zapasam (State Commission on Mineral Reserves)

GPS global positioning system

ha hectare(s)

ICP Inductively coupled plasma

in inch(es)
kg kilogram(s)
koz thousand ounces
kg/t kilograms per tonne

 $\begin{array}{lll} k & & kilometre(s) \\ kV & kilovolt \\ M & million(s) \\ m & metre(s) \end{array}$

m/s metres per second m³ cubic metre(s)

m³/sec Cubic metres per second masl metres above sea level

mm millimetres
Mt million tonnes

Mtpa million tonnes per annum

N north oz ounces

ppb parts per billion ppm parts per million RC reverse circulation

S south
s second
SG specific gravity
t tonne(s)

t/m³ tonnes per cubic metre

US United States

US\$ United States dollar(s)

US\$/oz United States dollars per ounce

W west



3.0 DISCLAIMER

Micon has reviewed and analysed data provided by AGRC, and has drawn its own conclusions there from, augmented by its direct field examination. Micon has not carried out any independent exploration work or drilled any holes. Micon was able to inspect gold mineralisation in the open pit and enter the adits which had been developed during the Soviet era exploration programme to sample and map certain deposits at Zod. Micon was also able to observe mineral processing operations at the Ararat gold plant and confirm that gold is currently produced.

While exercising all reasonable diligence in checking, confirming and testing it, Micon has relied upon the data presented by these parties in formulating its opinion.

The various agreements under which AGRC holds title to the mineral concessions for this project and the detailed terms of the Implementation Agreement have not been investigated or confirmed by Micon. While it has seen copies of the supporting legal documentation for the mining lease, Micon offers no opinion as to the validity of the mineral title claimed. A description of the property, and ownership thereof, is provided here for general information purposes only.

The geological, mineralisation and exploration descriptions used in this report are taken from reports prepared by AGRC or their contracted consultants, or from publicly available scientific literature.

Micon is pleased to acknowledge the helpful cooperation of the AGRC management, staff and technical consultants, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.



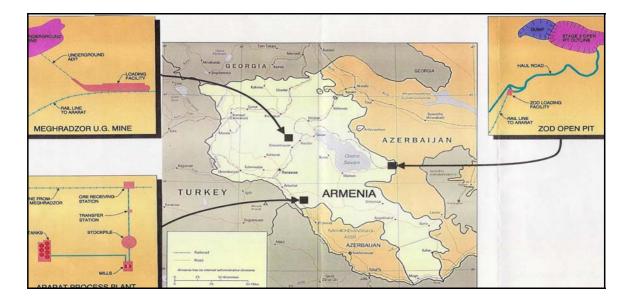
4.0 SITE DESCRIPTION AND LOCATION

The Sotk (Zod) gold deposit is located in the Vardenis District of the Marz (Province) of Gegharkounik, Armenia. Gegharkounik is one of the eleven provinces of the Republic of Armenia. Property coordinates are 40° north, 46° west. The mine site is some 150 km to the east from Yerevan, the state capital of the Republic of Armenia. Figure 4.1 indicates the geographical position of Armenia while Figure 4.2 shows the location of the Zod Gold Mine.

Figure 4.1: The Caucasus Region



Figure 4.2: Zod Property Location Map





4.1 Mineral Property

All mineral and surface rights belonging to "Armgold" (Armzoloto) were transferred to Ararat Gold Recovery Company (AGRC), now a wholly owned subsidiary of Sterlite Gold. The transfer of mineral and surface rights was reiterated in the implementation agreement signed by the government in 2002. Surface and mineral lease boundaries are presented in Figure 4.3

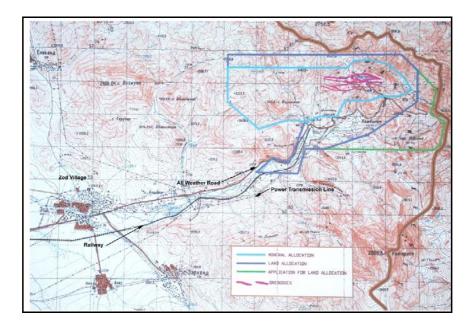


Figure 4.3: Land and Mineral Leases

4.2 Surface Rights

In 1999 AGRC was granted surface rights for total of 1,368 ha covering the Zod Mine. There have been changes to Armenian legislation concerning State registration of property and land and AGRC is in the process of applying for State registration of its property and land as per the legislation. A property survey is underway at the time of writing.

4.3 Mineral Rights

Mineral rights include a Special Mining License, a Mining Agreement, and an Allocation of Mineral Property (Mine Allocation) and are described below.

- 1. The Special Mining License for Zod deposit has been issued for duration of 25 years, expiring on 10th of September 2023.
- 2. The Mining Agreement for the Zod deposit was signed between AGRC and Republic of Armenia Ministry of Natural Protection on 13th of March 1999 for 20 years.
- 3. The Mineral Property agreement (Mine Allocation) is valid for the Zod deposit under the name of Armgold. This right has been transferred to AGRC within the boundaries previously allocated to Armgold State Enterprise, to which AGRC is legal successor. When the mineral reserves for the Phase 3 project are approved by the



State Commission for Mineral Reserves (GKZ), the Mineral Rights (Mine Allocation) will be amended and reissued based on new mineral reserve data.

4.4 Royalties

The licensed mining company is obliged to pay a royalty of 1.5% based on the average spot price of gold. This is based on the gold reserve mined and not the gold recovered. If the profit is more than 25% an additional bonus is payable to the government of 0.1% for each 0.8% of profit in excess of 25%.

4.5 Other

There are no back-in rights and the company is not subject to any other encumbrances. The company is not liable for any environmental damages caused by the previous mining activities of other operators (article 6.7a of the Implementation Agreement between the Government of the Republic of Armenia and First Dynasty Mines Armenia).



5.0 ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Zod mine site is located in an alpine valley east of Lake Sevan and adjacent to the former Armenia-Azerbaijan border. The topography is characterised by mountainous terrain with broad upland plains and isolated tundra areas. Mine elevations range from approximately 2150 m RL (above Black Sea Datum) in the valley where the existing mine office is situated to 2530 m RL at the highest point.

The mine site straddles the divide between Lake Sevan and the River Seidlar catchments. The majority of the site drains into the River Sotk and on then into Lake Sevan 18 km to the west. The northern drainage from the open pit enters the Seidlar River that eventually discharges into the Caspian Sea.

The site is accessed by an all weather asphalt road and railway and is serviced by a major high tension (110 Kv) power transmission line capable of supporting a mine and processing complex. Figure 5.1 provides a number of perspectives of the Zod Mine area.



Figure 5.1: Zod Property Mosaic

The climate of the region is highland continental, characterised by winters lasting 4 to 6 months, with temperatures averaging -4°C over that period. Summers are mild and sunny. The close proximity of Lake Sevan has a moderating effect on the microclimate of the site that tends to lessen the extremes in temperature and increase the amount of precipitation.



There are two broad soil types identified in the Zod area, flood plain meadow earths and mountain black humus. The flora of the region is species rich as a result of a variety of soil types, climatic conditions and relief. The study area lies within the Iranian-Turan floristic region and is characterised by typical upland or alpine species.



6.0 HISTORY

There has been a long history of gold production from the vicinity of the Zod Mine though there are no known formal production records. There is evidence in the mine area of early alluvial mining and old workings uncovered in the open pit may be centuries old. The recent history of exploration and development of the Zod area dates back to 1951 when soviet geologists from the Kavzolotoravedka Trust exploration survey expedition re-discovered gold deposits in the vicinity of Zod. Exploration continued to explore until 1955 when the Zod Geological Survey Expedition of the Administration of Armenia was established. In 1966 the Geological Survey Expedition of the Production Geological Survey Trust of the Administration of Nonferrous Metallurgy of the Armenian SSR was formed to accelerate exploration and development activities.

Exploration work completed during the period 1955 to 1965 totalled 51 km of underground development and 13,500 m of percussion and core drilling. The data collected was used to generate mineral reserve estimates that were confirmed by the USSR State Commission on Mineral Reserves (GKZ) in minutes 3007 dated 12/04/1960 and minutes 4718 dated 27/10/1965. Mineral reserves in the B, C₁ and C₂ categories contained 360 t (11.6 Moz) of gold. It is important to note that those reserves were calculated using Soviet methods that do not meet the JORC Code or CIM standards for mineral resources and reserves.

Following the confirmation of the 1965 mineral reserve statement by the USSR State Commission on Mineral Reserves (GKZ) the decision was taken to build the mine at Zod. In 1972 mine construction and development was assigned to the Armzoloto Corporation. Initial plans called for production of 250,000 tpa of ore from an open pit and 500,000 tpa of ore from an underground mine. The ore was to be transported to a centrally located processing plant. The location of the plant was intended to facilitate the development of additional gold reserves within Armenia.

Mine production commenced in 1976 and ore was transported to a 1 Mtpa processing constructed at Ararat some 285 km distance from the mine. The Ararat plant produced flotation concentrate that was processed at smelters in Russia. Production continued from the mine declining during the final years until 1997 when the infrastructure finally succumbed as a result of a lack maintenance and capital investment. A total of 7 Mt of ore were produced from the open pit and underground mines. Precious metal production reached approximately 20 t (0.65 Moz) of gold. The Ararat mill processed ore from Zod as well as ore from several other mines in the Former Soviet Union. The total amount of ore processed was approximately 11 Mt over the life of the operation.

Exploration and development continued at Zod between 1965 and 1980 and an additional 74 km of underground drifting and 97,000 m of drilling were completed. A new resource estimate was compiled that excluded all reserves outside the Central Zone as insufficient exploration had been conducted permit classification of the material in the C_1 or C_2 mineral reserve categories. The new reserves were confirmed by the USSR State Commission on Mineral Reserves (GKZ) in minutes 8635 dated 21/11/1980 and are presented in Table 6.1 of Section 6.2.

Following the collapse of the Soviet Union the Armenian government sought foreign investors to revitalise their failing mining industry. In 1996 "Armgold" and "Global Gold Corporation", a subsidiary of "First Dynasty Mines" (later renamed as First Dynasty Mines



Armenia Ltd. - FDMA) signed a multistage, 50/50, Joint Venture Agreement. "Armgold" agreed to put the Ararat tailings pond and related infrastructure into a new company to be known as Ararat Gold Recovery Company (AGRC). A plant was designed and installed to treat the 11 Mt of tailings that had accumulated over the previous 20 years. In February of 1998 production began through a new \$12 million processing facility at a rate of 1.5 Mtpa. The plant was reported to be the first constructed in the Former Soviet Union by a Western company that was completed on budget and on time.

At the same time the partners commissioned a joint venture of Kilborn-SNC and CMPS&F (Egis Consulting Australia Pty Ltd.) to conduct the KCMP Feasibility to determine if the Zod and Meghradzor mines could be brought into production. The study was completed in early 1998 and concluded that the project was technically feasible and economically attractive. It demonstrated that an open pit at Zod could produce 150,000 ozpa for seven years.

In 1998 another 50/50 Joint Venture Agreement was signed between Armgold and FDMA. In that agreement Armgold agreed to fold its' remaining assets into AGRC. These assets included the Zod mine property and related facilities. Concurrent with this the government also signed an Implementation Agreement with FDMA legitimising the Armgold / FDMA agreement. The government also issued a decree authorising various government agencies to recognise the agreement. In total there were two agreements in 1998 and one decree authorising the transfer of the Zod mine property and related infrastructure to AGRC. There was one agreement between Armgold and FDMA and one agreement between the Government of Armenia and FDMA. The 50/50 joint venture now had the right to deal with government agencies, export gold, hold off shore accounts and use expatriate personnel.

Due to a combination of corporate changes and technical variations, production at Zod did not commence immediately. In 2002 a small scale operation designated the "Test Pit" began. It processed 300,000 t or ore and produced 28,000 ounces of gold. It was deemed a success and a Phase II pit was inaugurated in mid 2003. This Phase II pit was planned to mine around 2 Mt of ore at a grade of 5.2 g/t Au. It was expected that production from this pit would be completed by early 2005.

In 2002 it became increasing apparent that the government was continuing in its efforts to privatise industry. That afforded FDMA an opportunity to purchase Armgold's 50% stake in Ararat Gold Recovery Company (AGRC). In The Implementation Agreement of 2002 FDMA purchased Armgold's stake in AGRC from the Government of Armenia thereby increasing FDMA's stake in the Zod mine and related facilities to 100%. The Implementation Agreement restated the guarantees given under the previous agreements and provided for additional guarantees. In particular FDMA was given an exclusive right to explore, develop, mine and extract any mineral deposits discovered within a 20 km radius of Zod. In July of 2002 First Dynasty Mines changed its name to Sterlite Gold Limited.

In August 2002, the project was reviewed by SRK Consulting, UK. This included a review of the mineral resource model for Zone 1A. SRK concurred with most of the methods of estimation and concluded that there might be a 5% change in grade as a result of refinement of the resource model. SRK also reviewed and concurred with the exploration plan prepared by AGRC to explore the mineral potential of the Zod deposit.



Exploration continued at Zod during the period 2002 to 2004 focussing on resources of the Central Zone. The total amount of surface and underground diamond core and surface reverse circulation drilling completed during the two year period exceeds 45 km. AGRC completed a new mineral resource estimate and open pit mine plan in October 2004.

Another 10,000 metres of drilling was carried out during 2005. The resource model was revised based on the additional information generated near surface.

Exploration is currently ongoing and is planned to continue throughout 2006-2007.

6.1 Soviet Era Discovery and Development

The Zod gold deposit was discovered by the Soviets in the early nineteen fifties. There was abundant evidence of earlier mining including relics from roman times.

Serious exploration including underground development began in 1954. Annual exploration reports prior to 1965 detailing the exploration conducted and resources located were summarised in a resource assessment in that year. The reserves of the deposit were confirmed three times by the USSR State Commission on Mineral Reserves (GKZ); in 1960 in minutes No 3007 dated 12.04.1960, in 1965 in minutes No 4718 dated 27.10.1965 and again in 1980 in minutes No 8635 dated 21.11.1980. The process of producing annual reports on exploration completed and approval of resources discovered continued on an annual basis until the last major review in 1979. This was three years after the commencement of mining in 1976.

Zod has been extensively explored by level development recorded on 1:200 and 1:1,000 scale level plans which show development outlines, geology and (on the 1:200 scale plans) assay and alteration/mineralisation envelope information. In general the exploration work in the Zod deposit area was documented at 1:50,000 and 1:10,000 scale. Detailed exploration work of the Zod orebodies was undertaken at 1:2,000 only on the area of the Central block, and included substantial underground development and sampling. Surface work included trenches and pits oriented across the strike of the orebodies at 20 m to 100 m spacing. Individual orebodies were also examined using along strike trenches. According to a soviet report from 1979 in addition to 51,062 m of exploratory development and 13,500 m of boreholes drilled before 1966 (total expenses amounted 16.7 million roubles), during 1966 to 1980 74.2 km of underground working were advanced, 96.9 km of boreholes were drilled, and 51.6 thousand samples were tested; the total expenses in the geological survey amounted 41.6 million roubles.

Drilling was not undertaken on a regular grid but was designed for particular local exploration tasks. Three types of exploration drilling were applied:

- 1. Percussion and tungsten carbide core drilling, both vertical and inclined from the surface, with hole lengths of 150 m to 920 m.
- 2. Underground inclined percussion and tungsten carbide core drilling, with lengths of 100 m to 450 m.
- 3. Underground horizontal and inclined diamond drilling, with lengths of up to 150 m and core diameter of 59 mm (which approximates NQ size).



The data from the above drilling, trenches and pits were compiled by Snowden for the First Dynasty Mines in the year 1998. Since the core recovery for all drilling methods were low, the core assays were not used in the resource estimate, apart from underground holes where samples were recorded on development plans. Typical recoveries are as follows:

- Gabbro, over 70%;
- Serpentinites, between 50% and 60%;
- Mineralised alteration zones, between 30% and 70%.

6.2 Previous Resource Estimates

Zod mineral reserves were estimated at the beginning of 1979 to be 37.4 Mt at 9.7 g/t Au containing some 363 t of gold. Mining from the previous three years had shown the grade to be significantly overstated and a complete revision of the resource was completed during 1979. The new estimate was approved in 1980. The new estimate was classified following the Soviet system as follows: category B where level development above and below the block has connecting raises, C₁ where development above and below is not connected by raises and C₂ for reserves below the development level, usually supported by drilling. This revision resulted in much of the previous C₂ category being excluded from the reserve and recalculation only in the Central block where mining was in progress or planned. Mineral reserves for Zod at 30.12.1980 are summarised in Table 6.1.

Table 6.1: Zod Mineral Reserves at 30th December 1980

| Category | Mineral Reserves (kt) | Grade (g/t Au) | Contained Gold (kg) |
|------------------------------|-----------------------|----------------|---------------------|
| Balanced B + C_1 + C_2 | 19,818.5 | 6.5 | 126,964 |
| Off Balance $B + C_1 + C_2$ | 7,988.4 | 3.2 | 25,586 |
| Total | 27,806.9 | 5.5 | 152,550 |
| Gabbro Massif C ₂ | 6,213.2 | 3.6 | 22,112 |

Note: Off Balanced material is not currently economic and therefore is not scheduled for exploitation.

The 1980 report speculated that the total potential reserves of gold for Zod deposit could be estimated as 300 t

For technical reasons the 1980 calculation of mineral reserves for the Gabbro Massif was not approved and it was left on the books at the previous figure of 39 t Au. The 1980 report acknowledged that this figure was too high and re-assessment was required. The annual update of mineral reserves has continued from 1980 through the breakdown of the Soviet system and subsequently under the Armenian authorities to the present. Armenian authorities currently record Zod mineral reserves at about 184 t of gold. Zod mineral reserves are currently being recalculated for GKZ approval as required by Armenia law.

Zod mineral reserves were recalculated by Australian consulting group, Snowden for the 1998 feasibility study using the Soviet era data. The results of this study are presented in Table 6.2 below.



Table 6.2: Zod Mineral Resources March 1998

| Cut-Off | Measured | | Indicated | | Infe | rred | Measu Indic | |
|----------|----------|----------|-----------|----------|--------|----------|----------------|----------|
| (g/t Au) | (kt) | (g/t Au) | (kt) | (g/t Au) | (kt) | (g/t Au) | (kt) | (g/t Au) |
| 0.5 | 5,400 | 3.1 | 61,900 | 1.8 | 25,000 | 2.6 | 67,300 | 1.9 |
| 1.0 | 4,150 | 3.8 | 33,500 | 2.7 | 20,050 | 3.1 | 37,650 | 2.8 |

During October 2004 the Zod mineral resource was re-estimated utilising exploration data acquired during the period 2002 to 2004. The resource was published at different cut-off grades, though the project was evaluated at a cut-off grade of 0.6 g/t Au.

Table 6.3: Zod Mineral Resources at 1st January 2005 (Corrected for Planned Mining to 31st December 2004)

| Cut-Off | Meası | ıred | Indica | ted | Inferi | ed | Measured + | Indicated |
|----------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|
| (g/t Au) | Tonnage (kt) | Grade (g/t Au) |
| 0.0 | 1,729 | 4.34 | 17,564 | 3.34 | 2,494 | 1.95 | 19,293 | 3.43 |
| 0.6 | 1,597 | 4.67 | 15,415 | 3.76 | 1,769 | 2.60 | 17,013 | 3.85 |
| 0.9 | 1,501 | 4.92 | 13,881 | 4.09 | 1,392 | 3.10 | 15,382 | 4.18 |
| 1.5 | 1,286 | 5.54 | 11,542 | 4.68 | 924 | 4.07 | 12,828 | 4.77 |

6.3 Historical Production

Soviet mining commenced in 1976 and continued with minor interruptions until 1997. The Zod Zone was exploited by open pit and underground mines. Total production prior to 1997 has been estimated as 6.6 Mt at 5 g/t Au containing 33 t of gold.

Details of Sterlite Gold mining are covered under exploration.

6.3.1 Open Pit

The open pit in the Central block exploited the deposit down to the 2350 m RL. Orthogonal trenches at approximately 10 m intervals were used for exploration and grade control sampling in the pit. Open pit ore production attained a maximum level of just over 200,000 tpa.

6.3.2 Underground Development and Stoping

Underground mining has been conducted in parts of Zones 4, 39, 1 (and satellites) and to a lesser extent, within Zone 23. The underground mine is reported to have attained a maximum production of almost 300,000 tpa.



7.0 GEOLOGICAL SETTING

7.1 Regional Geology

Armenia lies within a tectonically active zone, at the point of incidence of the Arabian and Eurasian plates. The northward migration of the Arabian plate, and its impact with the southern flank of the Eurasian plate, has resulted in the creation of the Caucasus Mountains at the region's northern border, with general structural trends throughout the region corresponding to the direction of these geotectonic forces.

The Caucasus region as a whole can be divided geologically into three principal terranes: the Greater Caucasus, Transcaucasus and Lesser Caucasus, which in turn are comprised of subterranes that accreted together at various stages since Middle Cenozoic times. Armenia lies principally within the Lesser Caucasus terrane, which extends into both Georgia and Azerbaijan. It would appear that in most cases, sub-terrane accretion took place before major terrane units were bonded on to the Eurasian plate with, at all times, the active front being at the north end of the mobile belt, in contrast to the southern edge that remained passive. The general WNW-ESE trend of these accretion zones is reflected in the direction taken by a number of major faults that can be traced across much of Armenia. Economic copper, molybdenum and gold mineralisation has been found associated with this regional-scale faulting that has been the focus of recent exploration.

The Lesser Caucasus can be divided into five metallogenic zones. The northernmost, the Somheto-Karabakh sub-zone, consisting mainly of rocks of Jurassic and Cretaceous age, hosts skarn deposits, porphyry copper and vein-type deposits associated with Late Cretaceous to Palaeogene intrusions. In the Sevan-Akera sub-zone, noted above, there are small-scale chromite and gold occurrences, while the Kapan sub-zone hosts vein-type copper and volcanogenic polymetallic sulphide deposits. Younger again, and further south and west, the Ankaban-Zangezur sub-zone contains the country's principal copper-molybdenum porphyry deposits, associated with Tertiary intrusions, together with vein systems containing both silver-gold and polymetallic mineralisation. Last, and the most recent of the sub-zones to be accreted within the regional structure, is the Peri-Araks sub-zone, which is known to host at least one small-scale copper-lead-zinc-mercury deposit.

While covering much of Armenia, the Lesser Caucasus is divided into two parts by the Sevan-Akera ophiolite zone, a narrow strip containing ultrabasic intrusive rocks of Cretaceous-Eocene age. Outcropping mainly along the north shore of Lake Sevan, the zone can be traced further to the northwest, although for much of this distance it is hidden beneath volcano-sedimentary rocks related to the extensive volcanism that subsequently affected the region.

The Zod deposits are hosted within sedimentary rocks and intrusive units related to a phase of regional volcanism which commenced during the early Tertiary. This volcanism relates to the closure of the Tethys Sea and the development of a major north-west striking suture zone through the Armenian land mass. Consequently, there is a very strong regional structural fabric generated as a result of this tectonic margin.



GEOLOGICAL MAP Legend Quaternary Pliocene Miocene Paleogene Cretaceous Jurassic Devonian-Triassic Pre-cambrian - lower paleozoic Granitoids Ultrabasites and basites Vulcanic centers Lakes Map prepared by Rivers Environemntal Rese arch and Management Center. American University of Armenia Tectonic breaks

Figure 7.1: Geology of Armenia

This zone has been a regional focus for high-level intrusions which, in turn, have generated an extensive regional heat flow. The highly sheared environment has given rise to the ideal structural and depositional conditions for the epithermal and mesothermal mineralisation at Zod. The intrusive and ultrabasic lithologies, which are thought to represent a typical ophiolite, have provided the host materials for mineralisation, and may also have been source rocks at depth. Regional uplift and differential erosion have since led to extensive exposure of the deeper portions of these systems.

Miocene-Pliocene rhyodacitic (quartz-porphyry) dykes have intruded this sequence and predate the mineralisation. The generalised geology of Armenia is presented in Figure 7.1. Geology east of the Savan Lake area is provided in Figure 7.2.

7.2 Local Geology

The Zod deposit is bounded to the north by the axis of the Karaiman-Zod anticline and the southern border is defined by the occurrence of younger volcanic rocks. The Karaiman-Zod anticline extends for more than 10 km in length and has a width of 4.5 km to 5 km. The southern limb dips at angles between 50° and 65°. Basement Precambrian schists are present in the hinge of the anticline, and they are overlain by ophiolite (gabbros, peridotites and serpentinites) and unconformably overlain by Upper Cretaceous (Turonian-Lower Senonian) conglomerate and limestone. Alluvium up to 10 m in thickness overlies the older materials.



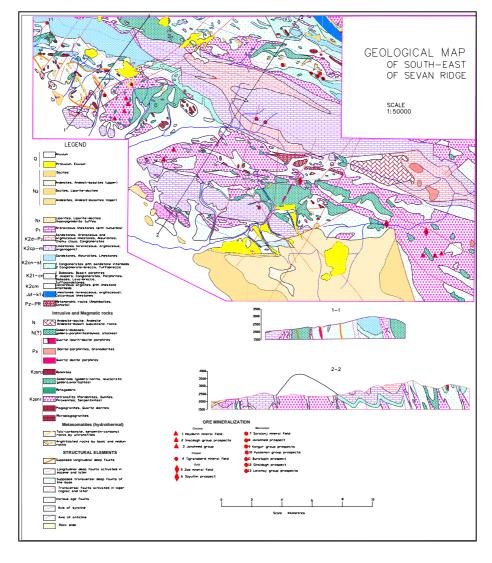


Figure 7.2: Geology of the Zod Area

The area is divided into blocks of east-west, northeast and northwest trending tectonic zones which (from west to east) have the following names: West Tigranasarsk, Tigranasarsk, Central block, and Eastern block

The tectonic dislocations essentially define the structural setting of the deposit with respect to three distinct ages relative to the intrusion of Miocene-Pliocene rhyodacitic (quartz-porphyry) dykes as follows:

- Pre-dyke;
- Post-dyke and pre-mineralisation;
- Post-dyke and post-mineralisation.

The pre-dyke dislocations are characterised by approximately east-west trending shear and breccia zones, which extend along the axis of the anticline. They dip steeply (65° to 85°) and crosscut the volcano-sedimentary and intrusive rocks of Mesozoic age.



7.3 Mine Geology

Older north-south, northwest and northeast trending faults crosscut and split various parts of the deposit. They are observed on the surface and in underground development. They are represented chiefly by shear zones filled with mylonitised material. The east-west shear zones have steep dips $(70^{\circ} \text{ to } 80^{\circ})$ towards east, whereas the northwest and northeast trending faults dip either east or west at 50° to 70° .

Both fault systems focused the intrusion of the Miocene-Pliocene dykes, which assumed the strikes and dips of the shear zones. Pre-dyke faults control the extent of the mineralisation, thus creating separate blocks of mineralisation and Zones. The rhyodacite dykes are important hosts to mineralisation as are the ultrabasic and gabbro protolith. In the Central block mineralisation occurs in an east-west-trending dyke and a north-south-trending dyke. The north-south-trending dyke, which hosts Zone 39, can be traced on the surface and on all underground levels. It strikes to the northeast (070° to 075°), dips 75° to 80° to the east-southeast and trends for more than 500 m. The dyke is linear and ranges in thickness from 5 m to 12 m. It can be traced from the surface to the lowest level of the underground mine. Below 2316 m RL the dyke coalesces with another one of identical composition, their strike gradually changing to approximately east-west and the total thickness ranging from 7 m to 12 m. This east-west dyke hosts Zone 4.

Mineralisation is hosted by hydrothermal alteration zones that are represented by talc-carbonate and quartz-carbonate assemblages. Throughout the deposit they form approximately east-west, parallel and en echelon belts, interlaced in places. The zones range in thickness from 1 m to 2 m to tens of metres.

Talc-carbonate metasomatites are yellow-green-grey in colour, and contain 40% to 60% carbonate and 40% to 50% talc. Magnetite and chrome-spinels are also present. Quartz-carbonate alteration zones are light-grey to dark-grey-brown in colour, and have a carbonate content varying from 10% to 60%. They have either a crystalline, granular or brecciated texture, and fine grained, frequently porous, quartz aggregates comprise up to 40% of these materials. Quartz is frequently accompanied by chalcedony, and the materials are intensively pyritised.



8.0 DEPOSIT TYPES

The Zod deposit comprises steeply dipping sub-parallel quartz-carbonate vein structures in a gabbroic host rock. Six of the larger Zones, namely, 1, 4, 16, 23, 23b and 39 host about 80% of the gold mineralisation. Zones 4 and 39 are the widest measuring up to 40 m, but typically varying between 10 m and 20 m wide, are associated with quartz stockwork veining predominantly within a rhyodacite dyke. These two Zones contain about 50% of the reserves reported during the Soviet era. Of these only 4 has been drilled and included in the current mineral resource estimate. The other four major zones are quartz vein structures, generally ranging up to 12 m wide that have formed along major east-west striking fault structures. These fault structures appear to be discontinuous and gaps have been identified in Zones 23b, 1, 16 and 23.

The majority of the Zod mineralised zones are hosted by intrusions, including ultrabasics (mostly peridotites and serpentinites) and gabbros. In the main mineralised zones these are completely altered to carbonate and quartz-carbonate assemblages. The ultrabasic gabbro complex includes minor pyroxenite, as well as quartz-diorite and plagiogranite. Sheared zones where plagioclase is altered to epidote and carbonates are frequently observed.

Petrological studies by Maxwell (1997) suggest that a low sulphidation system operated during the mineralisation process at Zod. Mineralogical characteristics are related to the multiple stages of hydrothermal processes and the paragenetic relation of the Au-bearing fluids to acid and intermediate rocks and Au deposition within basic and ultrabasic rocks. Dominant ore minerals include pyrite, arsenopyrite, sphalerite, marcasite, chalcopyrite, antimonite, galena, tennantite, lead and antimony sulpho-salts, and tellurides.

Gold occurs as native free gold, native finely dispersed gold, gold tellurides or secondary native gold (after oxidation of sulphides and tellurides). Silver occurs in its native form in quartz and in chalcopyrite and pyrite, and as silver tellurides.

The economic mineralisation is generally not continuous and a single vein/fault may carry several coplanar lenses, which may branch and curve. Previous and current mining provide a good understanding of the nature and continuity of the mineralisation and a basis for reconciliation with resource estimates based on drilling.



9.0 MINERALISATION

Hydrothermal alteration is developed within the pre-existing dislocations. Individually altered zones generally range in thickness from 10 m to 20 m and may coalesce at depth where total thickness may be tens or even hundreds of metres. The boundaries between altered and unaltered rock are variable, being sharp and sheared in some areas, to gradual in others. The latter occurrence is particularly true adjacent to gabbros.

9.1 Distribution of Mineralisation

The geometry and extent of hydrothermal alteration in the Central block is well understood as this is the area of detailed exploration and mining. There are two relatively thick and extensive alteration zones clearly visible on the surface. The first strikes east-west continuously through the southern portion of the block. Its thickness ranges from 10 m to 50 m. Zone 1 is located within this zone. The second zone occurs immediately to the north. For the first 150 m to 200 m, it is parallel to the first zone and then, towards the east, its strike changes to south-east and the distance between the two decreases to 50 m or 60 m. Zone 16 is located within the second zone.

Between these two main zones there are subordinate zones (less than 10 m in thickness) which strike east-west, partially northwest or northeast. Zone 2 is located within one of these zones.

South of the main alteration zones is a belt containing well developed fracturing within a gabbro block (referred to as "Gabbro Massif"). Between the Gabbro Massif and the main alteration zones there is a narrow metasomatic zone surrounding a quartz porphyry dyke. The thickness increases with depth and in places it coalesces with the main Au-bearing zone.

The mineralisation is controlled in a general sense by a set of post-dyke, pre-mineralisation tectonic dislocations. These shears and faults have various orientations and dimensions and, on the basis of the material within them, can be subdivided into the following two groups:

- 1. Au-bearing fractures (veins and stringers) filled with quartz-carbonate-sulphide material and characterised by displacement and sinuous outlines.
- 2. Tectonic fractures filled with mylonitised rock flour, and represented by shears with linear outlines and more-or-less consistent thickness and orientation. The dimensions vary and members of the group can be subdivided into categories: a) large and continuous, more than 50 cm wide; b) 0.1 m to 0.5 m wide and 10 m to 50 m long; and c) small, up to 0.1 m wide and several metres to several tens of metres long. They are developed mainly within less competent alteration zones.

Another structural feature is an east-west elongated zone of increased fracturing located within the Gabbro Massif. It is 20 m to 150 m wide and can be traced south of the major mineralised zones in the southern part of the Karaiman-Zod anticline. It is believed that this zone is structurally uniform and did not undergo any significant hydrothermal alteration. The fractures and fissures are filled with sub-parallel, steeply dipping quartz-sulphide veinlets with thicknesses ranging from less than a millimetre to 20 mm or more. They trend in a northeasterly direction (045° to 050°) over almost 1,000 m.



Structural analysis reveals that 75% of the quartz-sulphide veins are oriented approximately (060° to 120°), about 15% of veins strike between 030° and 060°, and less than 10% strike approximately north-south. A combination of mineralised structures and relatively extensive early structures has produced a mosaic of tectonic blocks with complex morphology.

Post-mineralisation dislocations generally reactivate earlier structures but may rarely form wrench faults which displace parts of the zones. The amplitude of these displacements ranges from $0.1\ m$ to $2\ m$.

Several types of mineralised bodies are defined within the deposit. They are represented by veins, stringers and veinlet-disseminated mineralisation developed in zones of hydrothermal alteration, rhyodacitic dykes and relatively fresh gabbros. The morphological type may change inside one delimited zone, and sometimes veins with sharp outlines are accompanied by small zones of veinlet-disseminated type or stringer zones. The different morphologies are discussed below.

9.2 Types of Mineralisation

9.2.1 Type 1 Vein Zones

These are developed exclusively inside talc-carbonate and quartz-carbonate alteration zones and are represented by a series of sub-parallel, en-echelon veins related mainly to approximately east-west shear zones and faults. Type 1 mineralisation is accompanied by numerous offshoots and veinlet-disseminated mineralisation. Tapering and pinching are a characteristic feature, and the veins are composed of a quartz-carbonate mass with sulphides. They extend from tens of metres to hundreds of metres in length, and their thickness ranges from a few centimetres to 2 m, sometimes swelling up 6 m. They dip at 65° to 85° towards the north and the south. The distance between separate veins varies from 0.4 m to 4 m. Sharp geological contacts are observed in places where the veins converge with mineralisation envelopes. In general the vein zones extend in strike length from 600 m to 800 m with variable thickness from 3 m to 6 m, and sometimes 10 m to 12 m. The mineralisation distribution is erratic, with high grade zones of 1 m to 20 m along dip and/or strike separated by barren material. Veins can be correlated over a distance of 50 m or more which is equivalent to the density of the exploration grid. In general, tectonic dislocations displace these zones by relatively small amounts (several centimetres to 2 m, and occasionally up to 6 m).

9.2.2 Type 2 Veins and Vein-Like Bodies

Type 2 mineralisation is also developed in the hydrothermal alteration and is represented by single quartz-sulphide veins, occasionally accompanied by thin zones (less than 2.5 m) of veinlet-disseminated mineralisation. In places the veins are discontinuous and represented by shattered zones. Veins are displaced by pre- and post- mineralisation transverse dislocations.

9.2.3 Type 3 Mineralised Dykes

On the whole these types of zones are equivalent to the rhyodacitic dykes described above, which are the hosts of the veinlet-disseminated mineralisation. There also exist massive sulphide concentrations with dimensions from tens of centimetres to 3 m. Distribution of mineralisation is irregular, and is particularly intensive along the contacts of dykes striking



approximately north-south and east-west. The continuity of mineralisation increases with depth. The length of economic mineralisation varies for particular levels from 60 m to 400 m, and thickness varies from 5 m to 45 m.

9.2.4 Type 4 Stockwork Zones in the Gabbro Massif

Distribution of gold mineralisation in this type is extremely erratic and structurally controlled by zones of increased fracturing within the gabbro. Detailed exploration work conducted during the Soviet era suggests that only isolated lenticular and irregular portions with higher gold grades (from 1.5 g/t Au to 5 g/t Au, and rarely more) can be delineated above a cut-off of 1 g/t Au within this zone. Such zones extend for 20 m to 100 m, at an average of 40 m to 50 m. Their thickness ranges from 1 m to 4 m and only occasionally attains 10 m or more. They are difficult to correlate up and down dip. There is some evidence that it is difficult to obtain reliable samples from the Gabbro Massif mineralisation. It is likely that some of the mineralised zones outlined during the Soviet era are unreliable while the gold content of other areas is understated. Large samples are required to attain reliably assess the mineral potential of the Gabbro Massif zone.

9.2.5 Type 5 Isolated Pockets of Stringers and Disseminated Mineralisation

This type predominates in hydrothermal alteration zones but is also observed outside these zones. The length of these bodies ranges from several metres to 20 m, rarely up to 40 m, with thickness in the range 1 m to 2 m and sometimes 5 m to 6 m. The majority of the lenticular bodies strike approximately east-west and their continuity is limited. Correlation of these units is very difficult, even with a dense exploration grid. Principal orebodies at Zod are shown in Figure 9.1

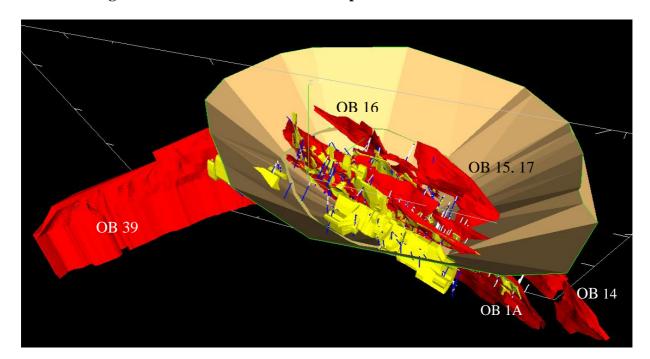


Figure 9.1: Distribution of the Principal Mineralised Zones at Zod



10.0 EXPLORATION

AGRC commenced mining underground and by open pit to assess the Zod mineralisation and the information generated during the Soviet era. This mining provided a cashflow, employment and training opportunities and an opportunity to gain an understanding of the zones that is far in excess of that which could be gained by further drilling alone.

10.1 Underground Development and Stopes

Exploration by Sterlite Gold consisted of limited underground development and mining of several zones, in particular Zones 1, 4, 16, 23 and 41, to confirm their estimated grade and continuity. This has been carried both by the company (AGRC) and a local contractor, Sotk Exploration. The majority of the production from this exploration has been processed at the companies processing facilities at Ararat.

Underground excavation was carried out both for drill chamber development and for zone geometry understanding. Around 1,000 m were developed on 7th level (2188 m RL) for drill chambers and another 600 m was developed in Zones 16A and 41 at different exploration levels. Exploratory mining was conducted in Zone 16A on 5th level (2275 m RL) and 20 m above 5th level (2295 m RL) over the complete length of the zone. Zone 41 was explored on 2375 m RL, 2367 m RL (3rd level), 2316 m RL (4th level) and 2275 m RL (5th Level).

10.2 Open Pit Mining

Open pit mining by Sterlite Gold's wholly owned subsidiary AGRC commenced with the test pit in 2002 and has continued to the present. Open pit mining confirmed the zones as outlined by Soviet era exploration but demonstrated the need for confirmatory drilling and resource assessment based on drilling. The mining experience identified that some of the Soviet era data was unaccepted and models based solely on Soviet era data tended to overestimate the grade. Mining of Zones 1A and 2B in the test pit and Phase 2 has been reconciled with the models from a mixture of Soviet era data and recent drilling and this has provided the background to designing the exploration programme for Phase 3.

Earlier models, which relied more on the Soviet era data, were found to overstate the tonnes and grade significantly in some areas. Enquiries regarding the reliability of the data indicated that some of the post-1980 data had not been thoroughly validated. As a result of its investigations AGRC decided to use only pre-1980 Soviet era data for resource estimates. The zone models for resource estimates are now primarily based on AGRC drill data. Reconciliation with later models is much improved. However, even with the present model for Zone 1A created in November 2003 the grade of the high grade ore in the model is higher than that achieved during production. The total tonnes of ore are significantly higher than estimated and the amount of contained gold is approximately correct. This is partly a reflection of problems with modelling and partly due to grade control, mining and dilution. More detailed reverse circulation drilling as mining proceeds will allow a grade control model to be produced for short term planning and grade control.

Ore production is processed at the company's processing plant at Ararat. The cost of transportation results in low grade material, which comprises a significant proportion of the mineralisation being uneconomic. Recently when low grade was sent for processing the grade was shown to equivalent or slightly higher than estimated from grade control sampling.



Open pit mining production for the period 2002 to 2005 is summarised in Table 10.1.

Table 10.1: Zod Open Pit Production 2002 to 2005

| Year | 2002 | 2003 | 2004 | 2005 | Total |
|---------------------|-----------|-----------|-----------|------------|------------|
| Waste Mined (t) | 4,648,496 | 8,755,750 | 8,905,958 | 11,860,775 | 34,170,979 |
| Ore Mined (t) | 195,271 | 325,662 | 624,507 | 391,359 | 1,536,799 |
| Total Mined (t) | 4,843,767 | 9,081,412 | 9,530,465 | 12,252,134 | 35,707,778 |
| Ore Grade (g/t Au) | 3.44 | 2.37 | 3.13 | 4.47 | 3.35 |
| Gold Contained (kg) | 672 | 773 | 1,955 | 1,749 | 5,148 |
| Gold Produced (kg) | 477 | 516 | 1,572 | 1,011 | 3,576 |

10.3 Topographic Survey

All data for use in mineral resource modelling is recorded on the same metric grid. This grid is oriented true north, parallel to the national grid but a local coordinate system has been adopted. The majority of data occurs between 881570 E and 883160 E, and between 555650 N and 556400 N.

Soviet era nomenclature is used to designate the underground exploration levels. The references used are summarised in Table 10.2 below.

Table 10.2: Nomenclature for Soviet Era Adit Levels

| Elevation (m RL) | Level | Elevation (m RL) | Level |
|------------------|-----------------|------------------|---------|
| 2500 | Nominal Surface | 2330 | |
| 2447 | Level 1 | 2326 | |
| 2440 | | 2318 | Level 4 |
| 2408 | Level 2 | 2306 | |
| 2380 | | 2275 | |
| 2375 | | 2272 | Level 5 |
| 2370 | Level 3 | 2225 | Level 6 |
| 2350 | | 2190 | Level 7 |

The topographic survey coverage of the Zod area has been enlarged to encompass all of the current exploration. This coverage, in digital format, was completed on site utilising total station theodolites. In addition, the topographic surface was updated to reflect the Soviet era mining and current mining operations. Digital models of Soviet era underground mining surfaces were prepared for earlier studies.



11.0 DRILLING

Exploration drilling by AGRC was carried out from surface as well as underground levels. Drilling was undertaken on a regular grid with north-south cross sections at 40 m spacing. These sections are orthogonal to the predominant strike of the mineralisation and drilling is usually in the plane of the section. The majority of the drilling is directed to the south as most of the mineralised zones dip to the north. The purpose of this is to obtain drill intersections that reflect true thickness as closely as possible. The drilling conducted to date has included both diamond and reverse circulation methods. The work was conducted by a combination of AGRC, utilising its own diamond drill rig and local and international contractors using diamond and RC rigs.

A set procedure was established for siting drill holes. Borehole collars and the directional alignment for drill holes are located in the field by a surveyor following the drilling plan developed by the geologist in charge. The geologist is responsible for checking the position of the hole. The final collar position of the hole is established by the mine surveyor.

The total drilling to the end of 2005 used in creating the mineral resource model is tabulated in Table 11.1.

| Type of Drilling | Metres |
|--------------------------|--------|
| Surface Diamond Core | 9,087 |
| Underground Diamond Core | 22,463 |
| Reverse Circulation | 26,091 |
| Total | 57,641 |

Table 11.1: Summary of Zod Drilling

11.1 Surface Diamond Drilling

Surface diamond drilling commenced on a limited basis in 2002. The initial surface drilling was directed at Zone 1A, the focus of the open pit mining. The company carried out drilling using Diamec drills on surface and underground and a Connors drill on surface. A local contractor Sotk Exploration also carried out part of the drilling on surface and underground using Russian drills utilising NQ rods.

Surface diamond core holes are inclined both vertically and at angles as flat as 11° from the horizontal. Hole lengths range from 50 m to 210 m. NQ and NQ3 sized equipment was generally only used in gabbro at the start of the drill hole where recovery was good. Diamond drilling from the surface was difficult due to the soft and broken ground and extensive underground workings, which caused loss of return water and build up of sludge. The majority of diamond drill holes from surface fail to achieve their target depth in areas where there is underground mining nearby. At the end of each hole a geologist completed a down hole survey using a Pajari gyroscopic instrument. A total of 104 diamond drill holes averaging almost 100 m were available and used in the mineral resource calculation.

11.2 Underground Diamond Drilling

Underground diamond core drilling commenced in 2003 to examine the continuity and grade of the mineralisation both within and below areas explored by underground development during the Soviet era. This drilling was completed using a combination of the AGRC's drills



and the local contractor, Sotk Exploration. NQ3 with some NQ diameter holes were inclined at all angles from near vertical upward to vertical downward and vary in length from 100 m to 300 m. A total of 18 drill holes were shorter than 100 m.

Down-hole surveys were recorded at 30 metre intervals using either a Pajari gyroscopic compass or an Eastman multi-shot camera under the direction of the geologist. Due to problems with the instruments only about 50 percent of the holes were surveyed. In general holes tended to steepen with depth with up to a maximum deviation of 8 degrees recorded for long flat holes. In most holes an alignment deviation of a few degrees to the east was observed. Each hole was terminated by a geologist when it had achieved the targeted depth unless ground and drilling conditions forced abandonment earlier than planned. Important holes that were abandoned were re-drilled.

Most of the underground drilling was from 7th level, the lowest level established during the Soviet era. Holes were drilled to test the downward extension of the mineralised zones located by mining on this level. The average drill section spacing on 7th level is approximately 40 m but the holes range from 27 m to 54 m apart. Ground condition dictated precisely where drill chambers could be excavated. Geological sections were constructed at 40 m intervals. The drill chambers were located to the north of the zones since they dip to the north. The nearest zone, Zone 16, is less than 20 m from the chambers and the most distant is zone 4, which ranges up to 300 m from the chambers. A total of 110 holes, totalling 20,939 m were drilled from the chambers. The average length of the holes was 190 m. Diamond drilling was also completed on 5th level where 11 holes totalling 1,474 m were completed. The average length of these holes was 134 m.

Core recovery for diamond drilling was maintained at a high standard and effort was made to achieve core recovery of greater than 90%. The length of core recovered was measured by the drillers and recorded for each run. Core recovery was specified in the drill contract and low recovery in the ore zones led to stringent penalties for the drilling contractor. Driller's blocks were inserted after each run and the supervising geologist also measured core recovery during logging to check against the recovery recorded by the drillers. All unsampled core has been retained as well as half cores from the intervals that were sampled. Core has been preserved in the core library. All drill core was routinely logged by a qualified geologist. The drill log records geological and geotechnical parameters and all core is photographed. A summary of core recovery by rock type is presented in Table 11.2.

Table 11.2: Summary of Core Recovery

| Rock Type | Recovery Range |
|----------------------------|----------------|
| Gabbro | >95% |
| Serpentinite | 85% to 95% |
| Altered, Mineralised Zones | 70% to 95% |

11.3 Surface Reverse Circulation Drilling

Surface reverse circulation (RC) drilling was completed by Spektra Jeotek, a Turkey-based drill contractor during May to August 2004. A second RC drilling programme was carried out in 2005 to explore the near surface mineralisation. A total of 227 holes were drilled utilising 125 mm equipment to lengths of up to 200 m. The Gabbro Massif area on surface was drilled at a spacing of approximately 20 m and other surface drilling was spaced at about 30 m, depending on available access. Reverse circulation drill holes were only surveyed at



the collar. A total of 227 RC holes were utilised in the mineral resource estimate. The total amount of drilling was 26,091 metres.



12.0 SAMPLING METHOD AND APPROACH

Sampling at Zod is conducted by a geologist or a sampler working under the direction of a geologist. Many of the geologists have more than ten years experience at the mine and some have more than 20 years experience. A sampling protocol was been established during the Soviet era for collecting open pit and underground samples that is both systematic and appropriate for the type of mineralisation at Zod. This protocol is still used for collecting channel and grade control samples in the present operations.

12.1 Core Sampling

Core samples are acquired from the mineralised alteration zones, mineralised quartz-porphyry dykes and surrounding host rocks (gabbro and serpentinites) where indications of hydrothermal alteration and mineralisation are observed. In addition, samples are also taken from the adjoining waste rock to confirm the grade of the waste. Normally, waste samples were collected 5 m on either side of the alteration zone. Homogenous material was sampled continuously to a maximum sample length of 1.5 m and distinct lithologies were sampled separately. Core was split in half with a chisel along the longitudinal axis of the core. The mineralised zones tend to be very broken and are usually soft. The weight of a 1 m core sample varied from 1.5 kg to 2 kg.

12.2 RC Drill Samples

RC Drill Samples were collected at 1 m intervals from the cyclone at the drill. Average weight of these samples was 25 kg to 30 kg. These were split in a riffle splitter down to 2 kg to 6 kg. In some instance these metre samples were sent for assay but in most cases 2 m composites were assayed although the samples were still available at the drill site as metre samples for duplicate assay if required. All of the reverse circulation samples were sent for assay.

12.3 Channel Chip And Face Sampling

Various sampling procedures were used during the course of exploration, underground and open pit mining. The sampling procedures used are:

12.3.1 Channel Sampling

Channel sampling was done in all the underground workings developed by AGRC. Standard dimensions of channel samples were 1 m long, 0.1 m wide and 0.05 m deep. When sampling clear geological features (such as quartz-sulphide veins, mineralised tectonic dislocations, lithological contacts, etc.) the various geological elements were sampled separately. In workings across the strike of the zones, channel samples were taken from development sidewalls at a height of 1.2 m. The weight of the 1 m long channel samples varied from 11 kg to 15 kg.

12.3.2 Face Sampling

Face sampling was undertaken across the underground exposures. Sample length depended on the thickness of the mineralised zones. However, height and depth were normally 1 m and 50 mm, respectively. The weight of 1 m^2 of face sample varied from 120 kg to 140 kg.



12.3.3 Open Pit Trench Samples

Open pit trench samples are used for grade control in the open pit. Trenches are dug with the excavator at 5 m to 10 m spacing across the open pit and cleaned by hand with a shovel. They are mapped and marked for sampling with spray paint. Samples, to a maximum length of 1 m are collected from each rock type by a quick chip channel combination. One metre samples range from 5 kg to 10 kg.



13.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY.

13.1 Sample Preparation

All samples were prepared and assayed at AGRC's laboratory facilities at the Zod mine site. Samples are delivered by the geologist or sampler to the laboratory on the same day that they are collected. Samples are numbered according to the type of sample and details are kept in a sample register by the geologist or sampler in charge. Sample numbers for drill core are also recorded on the drill log.

Samples received by the laboratory staff are placed in trays with a numbered tag and dried in an oven for 8 to 12 hours, before crushing pulverising and assaying as described below. The laboratory is a restricted area and only laboratory staff have access to the samples. From the time of collection until the time of assay samples are under secure control of the geologist or the assay laboratory.

13.1.1 Channel Samples

The channel samples collected underground by AGRC were used in resource estimation. The procedures used in the preparation of these samples are as follows:

An initial sample of 12.5 kg was taken, this was ground to 4 mm, sieved, mixed and divided into two 6.25 kg samples. One half of the material was kept as a field duplicate and the other half was used for further processing. The 6.25 kg sample splits were mixed and pulverised to more than 70% passing 70 μ m. The 6.25 kg pulverised samples were split into two parts; one part of 5.75 kg was kept as a duplicate and a 0.5 kg sub-sample was sent to the laboratory for assay

13.1.2 Diamond Drill Core Samples

Diamond core samples initially weighing around 2 kg were reduced to 4 mm and a 0.5 kg split was pulverised and sent to the laboratory for assay.

13.1.3 Reverse Circulation Drill Samples

RC samples were initially split at the drill site with the majority of the sample returned to the bag. A 2 kg to 6 kg sub-sample was sent to the laboratory. Samples were dried, crushed and if particles greater than 4 mm are noted a 500 g to 1 kg split was pulverised for assay.

13.2 Analysis

Gold content was obtained by the fire assay method at the Zod assay laboratory using the following procedure:

A 25 g sub-sample, flux and charcoal were mixed and heated to 1200°C in the furnace, lead buttons produced were added to cupels and the sample was subsequently reheating to between 800°C and 850°C. The resulting gold-silver alloy bead from the cupel was placed in a test tube and treated with HNO₃ (1:3 ratio) to separate gold from the silver. The gold was weighed on electronic scales and the sample assay calculated.



14.0 DATA VERIFICATION

14.1 Assay Data

14.1.1 Internal Quality Control

Samples at Zod are assayed in batches of 20 samples. Each batch includes one standard sample, one blank, one duplicate sample (assayed in duplicate from the pulverised sample) and one replicate sample (sample taken from the coarse reject). The results of the standard and duplicate are checked to confirm they are within ten percent and replicate samples are checked when the results are reported. The assay results from the samples are compared to the geologist's estimates and any spurious results are queried and checked.

Three certified reference materials were obtained from a supplier in Australia with well documented grades of 1.93 g/t Au, 1.98 g/t Au, 5.16 g/t Au and 9.7 g/t Au. The results of analysis of standard samples are presented in Table 14.1.

Mean Analysis Standard Relative Standard Minimum **Maximum** No of (g/t Au) **Difference** Deviation (g/t Au) (g/t Au) Analyses (g/t Au) 9.45 0.40 10.40 9.70 -3% 4.80 952 5.16 5.09 -1% 0.23 2.88 6.20 875 1.98 1.93 -3% 0.09 1.48 2.40 878 1% 0.07 2.10 1.93 1.94 1.80 131

Table 14.1: Quality Control Analyses for Standard Samples

The data shows that gold assays from the Zod laboratory are subject to a small negative bias. The laboratory also appears to generate some erroneous data that reinforces the need for continued close monitoring of assay results and maintenance of a rigorous quality control programme. Low gold assays, below 1 g/t Au are likely to be subject to larger relative errors than high assays. The standards data show that 95% of the 1.98 g/t Au Standard results, 98% of the 5.16 g/t Au Standard results and 98% of the 9.7 g/t Au Standard results were within 10% of the true value. Results for the four standards are presented in the following figures.

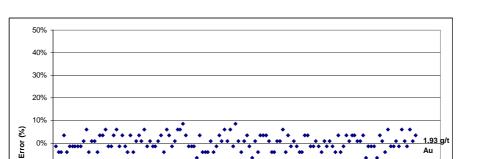


Figure 14.1: Gold Assay Precision of Zod Laboratory for 1.93 g/t Au Standard



Figure 14.2: Gold Assay Precision of Zod Laboratory for 1.98 g/t Au Standard

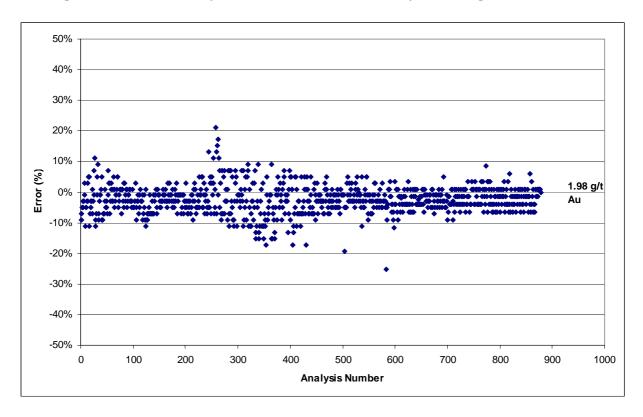


Figure 14.3: Gold Assay Precision of Zod Laboratory for 5.16 g/t Au Standard

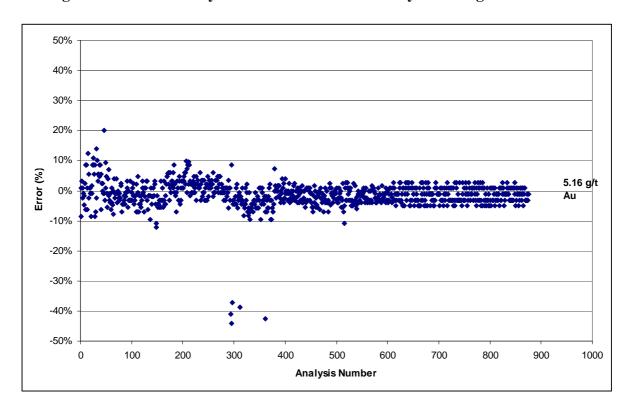
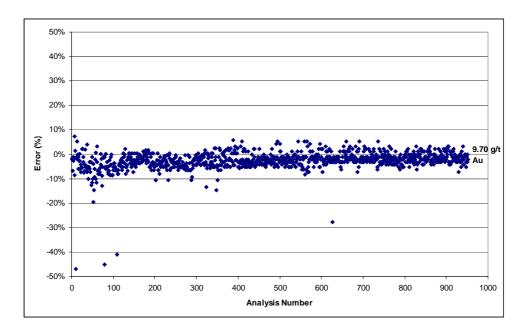




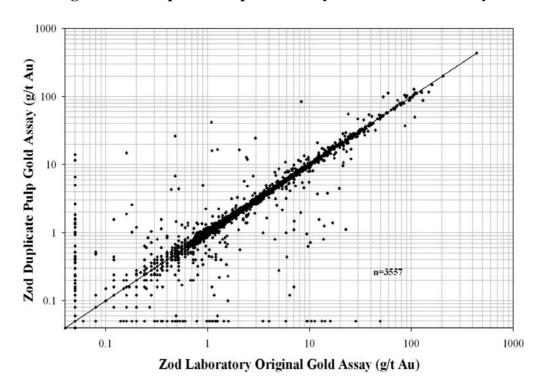
Figure 14.4: Gold Assay Precision of Zod Laboratory for 9.7 g/t Au Standard



Duplicate sample pulps were inserted in the sample stream at a rate of one in 20 samples. A total of 1,499 duplicate sample pulps were analysed.

Internal duplicates are duplicate splits of the same sample pulp that are re-assayed in the same batch. This study provides a measure of the precision of analysis and the variability of the samples related to the heterogeneity of the ore and sample preparation. A total of 3,577 samples were assayed as duplicates. Figure 14.5 shows a correlation plot of the analytical results.

Figure 14.5: Duplicate Pulp Gold Assays from Zod Laboratory





The correlation plot demonstrates that a number of outliers exist within the data. Outliers may be attributed to human errors within the laboratory, for example mixing sample numbers, or to problems related to sample preparation. In order to assess the precision of the Zod laboratory outliers were removed from the data set. Outliers were defined as sample pairs that varied by an order of magnitude. However, due the potential for large errors for samples that assay below 1 g/t Au, all sample pairs in which both samples were below 1 g/t Au were included in the data set. Using these criteria the data set contained 59 outliers, equivalent to 3.9% of the data.

Zod laboratory precision is demonstrated by the precision plot for 1,440 sample pulp duplicate pairs presented in Figure 14.6. The precision plot shows the relation between the mean of sample pairs and the absolute difference from the mean. Laboratory precision was determined by calculating relative absolute difference for the ninetieth percentile of the data. For the Zod laboratory there is a 90% probability that a sample pulp duplicate will assay within $\pm 15\%$ of the original assay.

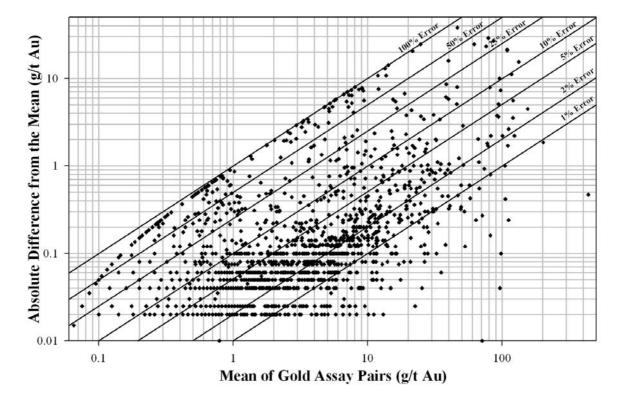


Figure 14.6: Precision Plot for Zod Laboratory Internal Pulp Duplicate Assays

14.1.1.1 Internal Replicate Assays

Coarse crushed reject sample material was re-sampled to produce a series of internal replicate samples in order to assess the heterogeneity of the coarse crushed material. A total of 852 replicate samples were prepared and fire assayed for gold. A correlation plot of gold assay pairs is presented in Figure 14.7. Again, the correlation plot demonstrates that a number of outliers exist within the data. Outliers were removed from the data set in order to facilitate the interpretation of the data. Outliers were defined as sample pairs that varied by an order of magnitude. However, due the potential for large errors for samples that assay below 1 g/t Au,



all sample pairs in which both samples were below 1 g/t Au were included in the data set. Using these criteria the data set contained 15 outliers, equivalent to 1.8% of the data.

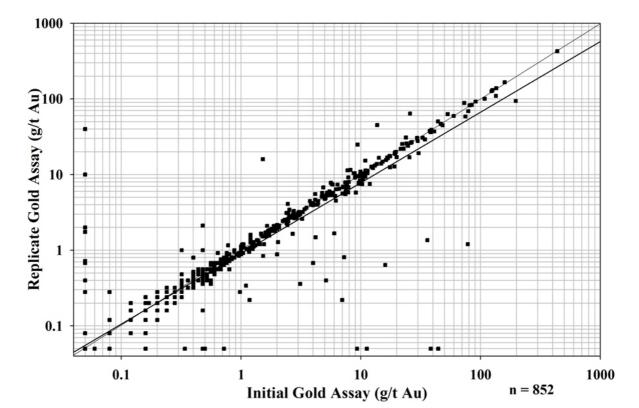


Figure 14.7: Correlation Plot for Zod Laboratory Internal Replicate Gold Assays

A precision plot was prepared using 837 sample pairs and is presented in Figure 14.8. The precision plot shows the relation between the mean of sample pairs and the absolute difference from the mean. Laboratory precision was determined by calculating relative absolute difference for the ninetieth percentile of the data. For the Zod laboratory there is a 90% probability that a sample pulp replicate will assay within $\pm 14\%$ of the original assay. Oddly, the Zod laboratory was able to repeat the assay result of replicate samples more closely than duplicate pulp samples. The implication is that rigorous quality control measures need to be maintained at the Zod laboratory and that the size of the sub-sample used for fire assay should be increased from 25 g to 50 g.

14.1.2 External Check Assays

External check assays were performed on a significant portion of the exploration data set to monitor accuracy and precision of Zod Assays. Samples were selected randomly by listing the results in sample number order and selecting every 20th sample. In addition, all samples in excess of 10 g/t were sent to external laboratory for check assay. A total of 1345 samples were analysed at ALS Chemex in Vancouver, Canada. A correlation plot of the paired data is presented in Figure 14.9 .

A number of outliers are evident in the data. Outliers were defined as those sample pairs that differed by an order of magnitude or more. A total of 107 sample pairs or 8% of the assay pairs were considered outliers. A precision plot of 1345 Zod and ALS Chemex assay pairs is



shown in Figure 14.10. The plot shows that there is 84% probability that the precision between the samples assayed at ALS Chemex and the Zod laboratory was \pm 50%.

Figure 14.8: Precision of Zod Laboratory Internal Replicate Gold Assays

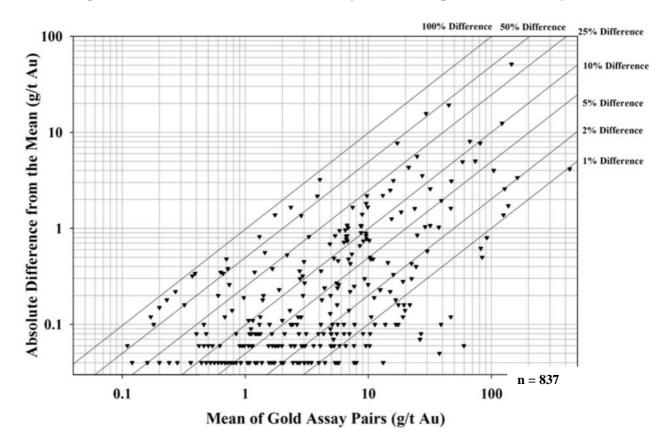


Figure 14.9: Correlation between Zod Laboratory and ALS Chemex

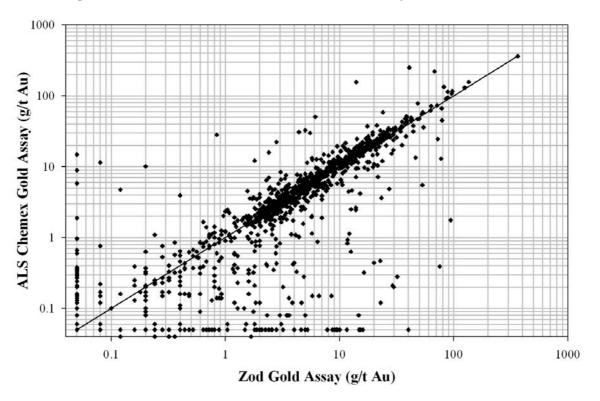
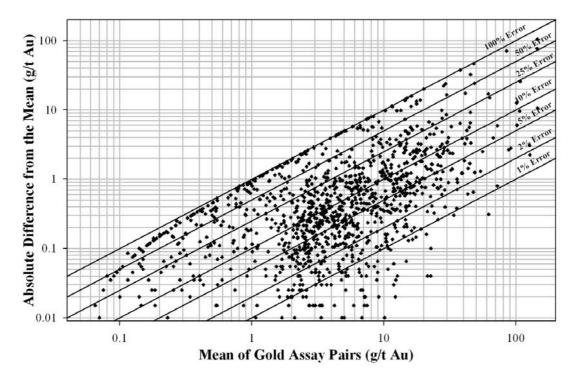




Figure 14.10: Precision Plot between Zod Laboratory and ALS Chemex



The problem of poor precision between Zod and ALS Chemex led to additional external check studies. A total of 191 pulps were forwarded to Assayers, Canada (formerly Min-En Labs) of Vancouver. Gold Assay results are compared with ALS Chemex results in Figure 14.11.

The precision Plots are shown in Figure 14.12. At a probability of 84%, both the external laboratories are within \pm 29%.

Figure 14.11: Correlation Plot between Assayers, Canada and ALS Chemex

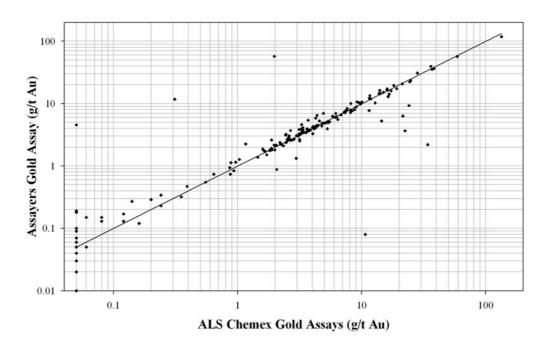




Figure 14.12: Precision Plots between Assayers, Canada and ALS Chemex

The external laboratory gold assays demonstrate reasonable correlation between both external laboratories but less with Zod assay results. The quality control data highlights the need to maintain diligent monitoring of assay results from the Zod laboratory. More diligence is required to reduce the proportion of outliers that result from sample handling errors. Zod laboratory precision could be improved by assaying larger sub-samples of pulverised material and by improving the sample weighting facilities.

A study was conducted to confirm whether or not there was an assay bias related to the use of "in-house" made cement cupels. A total of 244 samples were assayed with both ceramic cupels and cement cupels. Considering the precision associated with low gold assays at the Zod laboratory and the low number of assays above the detection limit it is not possible to justify using a factor to increase the value of Zod assays generated using cement cupels. However, the study does support the notion that ceramic cupels should be used as part of a "best practice" routine at the Zod laboratory.

14.2 Data Compilation

A Microsoft Access database is used to store all of the drill, assay and survey data.

14.2.1 Drill Logs

The senior geologist checked all drill logs before entry to the database. Original hand written logs are retained for data validation. These were written in Armenian script but the data entry and output from the database was in English. Core logging limits conformed to lithological intervals and sample intervals coincide with changes in geology or grade. A simple code is



used to record the lithology, alteration, mineralisation types and intensities. The completed drill logs can be printed along with graphic log using an interface to Autocad.

14.2.2 Assay Data

Initially the geology data entry clerk entered assay data from the hand written assay sheets provided by the assayer. In 2004 the laboratory commenced entering the data directly and this was imported into the database.

14.2.3 Drill Hole Survey Data

The geologist compiled the collar file that contained drill hole identification number, X-collar, Y-collar and Z-collar from information provided by the surveyor as well as the down hole survey file with drill hole identification number, measurement depth, azimuth and dip.

14.2.4 Bulk Density Data

In addition, bulk density data was collected and forms part of the data base. Bulk density values for approximately 500 samples were measured the hydrostatic displacement method in the Zod laboratory. The samples were weighed in air and water and their volume measured by displacement in water. None of the samples were porous requiring sealing. Results were recorded by mineralised zone number, rock type, elevation and sample number. These were grouped by zones and analysed statistically after inspecting for outliers. The average density was then calculated for each of the major rock types, zones in metasomatites, mineralised dykes and gabbro stockwork. In general, the transition from oxide to fresh sulphide zone occurs at an average elevation of 2300 m RL. Bulk density values used in the present mineral resource model are presented in Table 14.2.

Table 14.2: Bulk Densities Used for Block Modelling

| Zones | Z>2300 m | Z<2300 m |
|----------|----------|----------|
| OB 16 | 2.71 | 2.81 |
| OB23A | 2.71 | 2.81 |
| OB23B | 2.71 | 2.81 |
| OB23 | 2.75 | 2.85 |
| OB9A | 2.73 | 2.83 |
| OB1 | 2.69 | 2.79 |
| OB1A | 2.69 | 2.79 |
| OB4 | 2.55 | 2.55 |
| OB41 | 3.20 | 3.20 |
| OBGM | 2.74 | 2.74 |
| OBSML | 2.71 | 2.71 |
| Dilution | 2.74 | 2.74 |



15.0 ADJACENT PROPERTIES

The Mine Allocation and Land Allocation at Zod are surrounded by a 20 km diameter Exploration Licence as explained in Section 4.0. Sterlite Gold also has an underground gold mine at Megradhzor, approximately 120 km WNW of Zod, which also has a 20 km exploration Licence surrounding the mine. No data from this project has been used in the estimates presented here.



16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Several mineralised zones are contained within the resource, each of which has a refractory component. The three main zones 16/23, 4 and 1, represent the predominant mineralisation types, with low stibnite, coarse gold telluride and talc sulphide. The refractory component is generally associated with stibnite, pyrite, telluride and arsenopyrite.

The current programme of metallurgical testing has been conducted on composite samples of drill core, and bulk samples collected from the underground workings, which are considered to be representative of the main ore types. The results of chemical analysis and laboratory cyanide solubility tests on the drill-core composites have been used to indicate the metallurgical response of each mineralised zone, and to validate the bulk samples. As expected from previous work, the 16/23 Zone is the most refractory, whereas 4 and 1 are less so and also have a significant, readily leached component.

Standard laboratory procedures on the bulk samples have included, gravity, direct cyanide leach, flotation, pressure oxidation and cyanide leach of flotation concentrate; and scavenging of direct cyanide leach and flotation tailings using gravity and/or cyanide leach. The bulk of the test work has been conducted at the Armniprotsvetmet Institute in Yerevan, which has considerable experience of the Zod ores, with the pressure oxidation test work has been conducted by Hazen Research Inc. in Colorado.

Depending on the ore type, the laboratory results are as follows: direct cyanide leach gold recovery varies from 11% to 86%; gold recovery to flotation concentrate varies from 70% to 95%; additional gold recovery of 4% to 10% is obtained from the flotation tailings by cyanide leaching; gravity concentration of flotation tailings increases gold recovery by 2% to 15%; and flotation concentrate pressure oxidation and cyanide leach recovery varies from 87% to 99%.

The current laboratory results indicate the use of conventional grinding and direct cyanide leach on non-refractory ore, and flotation, pressure oxidation of flotation concentrate and cyanide leach for the refractory ore. Scavenging of tailing using gravity or cyanide leach, as appropriate, is also indicated. Depending on the ore type and the process route, the indicated overall metallurgical recovery is 84% to 93%. The results obtained from the current test programme show good agreement with a previous pre-feasibility study conducted in 1997 and 1998 by Kilborn SNC – Lavalin for First Dynasty Mines and a further study by Aker Kyaerner in 2003

Based on the encouraging results from the current laboratory test programme, AGRC has initiated a programme of confirmatory metallurgical test work. This programme will include pilot plant flotation and pressure oxidation testing of larger bulk samples and finalisation of process design criteria for all the ore types. Various process plant options have been considered: the current design is for a single line, 1 Mtpa plant at Zod, comprising each of the unit processes indicated by the test work, which will be capable of processing the various ore types on a campaign basis. A significant amount of equipment, including crushing, primary grinding, flotation and leaching, is available at AGRC's existing Ararat operation for relocation to Zod



17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES.

A total of 28,106 samples were generated and compiled and used in the database. In addition, samples from Zones 1 and 4 collected during Soviet era mining above 2188 m RL were used. Soviet era samples total around 2,000.

17.1 Geological Interpretation

There are two main rock types in the area of exploration, gabbro and serpentinite / peridotite. Two methods were tried to understand and construct the geological section, the first was to consider two broad mineralised zones one within gabbro and the other within serpentinite / peridotite. The second method was to outline the metasomatic zones separately, to study their continuity based on the geology and general description of the mineralogy and sequential occurrence of these zones from north to south. The first method led to an open wireframe with broad control on geology, while the second method resulted in a closed and tight wireframe with more control on grade and mineralogical differentiation of ore types. The broader wireframes resulted in poorer definition of the zones and this method was eliminated after early evaluation.

Mineralised areas were delineated using a cut off 0.9 g/t Au on the raw assay data. Geological sections were interpreted for each distinct zone separately because drill spacing was not always regular.

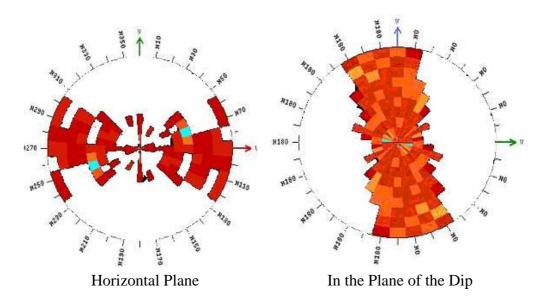
The identity of the individual mineralised zones was based on the earlier nomenclature developed during the Soviet era. In order from north to south Zones 16A, 23B, 23 and 9A lie within gabbro, Zone 1 is generally on the contact of gabbro and serpentinite / peridotite and has talc as part of the mineralogy and Zone 4 which is a porphyry dyke lies well within peridotite. For Zone 16A, exploratory mining data was also available from AGRC mining for 5th level (2275 m RL) and 20 m above 5th level (2295 m RL). Zones 23B, 23 and 9A were interpreted in a similar fashion within gabbro and considering mineralogy and grade.

Only exploratory mining data was available for Zone 41. Data was derived from levels 2375 m RL, 2367 m RL, 2316 m RL and 2275 m RL. Outlines were digitised on each of the planes and joined to form 3-D solid body.

Variogram maps were generated using samples within each Zone to characterise the spatial continuity of gold mineralisation in the XY and YZ Planes. The best correlation was found to occur in the dip direction. The continuity observed is attributed to the close proximity of drill holes in the dip direction and the general continuity of the mineralisation. Examples of variogram maps are presented in Figure 17.1 below.



Figure 17.1: Variogram Maps Showing Anisotropy of Zod Gold Mineralisation



A typical cross section is shown in Figure 17.2 below with all the zones. Grade zones are defined as less than or equal to 0.9 g/t Au in red and greater than 0.9g/t Au in green. It is evident that some of the grade plus 0.9 g/t Au has not been included in the mineral resource wireframes due to lack of continuity. These intersections have not been used for mineral resource modelling and interpolation of grade as continuity could not be established. Alteration and gold mineralisation was interpreted to be very localised, and in few examples the grades occur within unaltered gabbro.



2400 **OB 16A** OB 23B OB 4 2200 OB 1 OB 9 OB 16EX TYPICAL GEOLOGICAL SECTION 2000 AT X - 882188 SCALE 1: 1000 UG/N5-33 DRILLHOLE NO GRADE (AU=>0.9G/T GRADE (AU<0.9G/T) **OB 23EX** NOT SAMPLED

Figure 17.2: Cross Section 882188

17.2 3-D Wireframe Modelling

Mineralisation outlines on cross sections at using a resource cut-off grade of 0.9 g/t Au were linked to form 3-D wireframes. This method was used to develop wireframe models for all the zones except for zone 41 and part of zone 16. Data for these zones is derived from underground development that is plotted in plan. The level plan data was digitised and 3-D wireframes were created. Mineralised zones were projected 20 m beyond the last cross section at each end of the model in order to close the 3-D wireframes.



Table 17.1: Maximum Zone Limits

| Zones | X-Min | X-Max | Y-Min | Y-Max | Z-Min | Z-Max |
|--------|--------|--------|--------|--------|-------|-------|
| OB 16A | 882037 | 882590 | 556176 | 556319 | 1989 | 2425 |
| OB 23B | 882090 | 882308 | 556197 | 556297 | 1930 | 2327 |
| OB 23 | 882090 | 882505 | 556113 | 556282 | 1920 | 2413 |
| OB 9 | 882090 | 882365 | 556105 | 556256 | 1938 | 2402 |
| OB1 | 881846 | 882536 | 556024 | 556262 | 1919 | 2478 |
| OB 1A | 882377 | 882950 | 555980 | 556139 | 2120 | 2385 |
| OB 4 | 881936 | 882435 | 556951 | 556193 | 1929 | 2391 |
| OB 41 | 882022 | 882168 | 556131 | 556246 | 2228 | 2379 |
| OB GM | 881775 | 882770 | 555690 | 555878 | 2324 | 2515 |
| OBSML | 882035 | 882871 | 556083 | 556379 | 1942 | 2433 |

Table 17.2: Zone Dimensions

| Zones | Strike Length (m) | Depth (m) |
|--------|-------------------|-----------|
| OB16A | 553 | 436 |
| OB 23B | 218 | 397 |
| OB 23 | 415 | 493 |
| OB 9 | 275 | 464 |
| OB1 | 690 | 559 |
| OB 1A | 573 | 265 |
| OB 4 | 499 | 462 |
| OB 41 | 146 | 151 |
| OB GM | 995 | 191 |
| OBSML | 836 | 491 |

In addition to the major zones, 3-D wireframes were made for smaller splays, which form part of the major zones. Each of these zones was coded separately and a group code was assigned for each major zone group.



Table 17.3: Rock Codes for Block Modelling

| Zone | Rock Code | Group Rock Code |
|-----------|-----------|-----------------|
| OB 16A | 160 | |
| OB 16A EX | 162 | |
| OB 16AD | 161 | 16 |
| OB16E | 163 | |
| OB23A | 250 | |
| OB23B | 240 | 24 |
| OB23BEX | 241 | 24 |
| OB23 | 230 | 23 |
| OB23EX | 231 | 23 |
| OB9A | 900 | 9 |
| OB9AEX | 901 | 9 |
| OB1 | 100 | 1 |
| OB1EX | 101 | 1 |
| OB1A | 110 | 11 |
| OB1AEX | 111 | 11 |
| OB4 | 400 | 4 |
| OB41 | 410 | 41 |
| OBGM | 1000 | 1000 |
| OBSML | 1500 | 1500 |

In addition, underground stopes were modelled to form 3-D wireframes and these were used to deplete mined blocks from the mineral resource model.

17.3 Statistical Analysis

The wireframes were used to compile assay data to be used for grade interpolation. Sample data that fell within each zone wireframe were analysed separately at all stages of mineral resource estimation. Basic statistical parameters for gold were generated for each data set. The purpose of the statistical analysis was to characterise gold grade distribution and to identify the presence of mixed data populations. The information acquired from the statistical analyses was used to determine the most appropriate interpolation technique for grade modelling. Zone 16A is unique as two types of data are available and both have distinct statistical characteristics. Samples from underground development were treated separately from the drilling samples as was grade interpolation.



Table 17.4: Basic Statistical Parameters by Zone for Gold Assays

| Zone | Minimum | Maximum | Mean | Std. Dev. | No. of Samples | Coeff. Var. |
|-------------|---------|---------|-------|-----------|----------------|-------------|
| OB 16A | 0.05 | 95.92 | 5.23 | 8.45 | 1,102 | 1.62 |
| OB 16A DEV. | 0.05 | 196.80 | 12.58 | 24.48 | 321 | 1.95 |
| OB 16AEX | 0.05 | 62.84 | 4.55 | 8.66 | 147 | 1.90 |
| OB 23B | 0.05 | 216.56 | 5.95 | 15.75 | 276 | 2.65 |
| OB 23BEX | 0.05 | 106.04 | 23.69 | 31.64 | 15 | 1.34 |
| OB 23 | 0.05 | 156.50 | 4.78 | 13.30 | 323 | 2.78 |
| OB 23EX | 0.05 | 94.08 | 4.14 | 7.80 | 244 | 1.88 |
| OB 9A | 0.05 | 90.80 | 4.24 | 8.60 | 172 | 2.03 |
| OB 9AEX | 0.10 | 6.59 | 1.92 | 1.77 | 17 | 0.92 |
| OB 1 | 0.00 | 808.00 | 7.02 | 19.45 | 5,064 | 2.77 |
| OB 1EX | 0.05 | 88.60 | 4.80 | 10.99 | 111 | 2.29 |
| OB 1A | 0.01 | 192.44 | 8.55 | 22.32 | 475 | 2.61 |
| OB 1AEX | 0.01 | 64.00 | 4.65 | 8.92 | 133 | 1.92 |
| OB 4 | 0.05 | 436.78 | 6.15 | 16.10 | 3,199 | 2.62 |
| OB 4EX | 0.05 | 6.68 | 1.79 | 2.21 | 23 | 1.23 |
| OB 41 | 0.05 | 275.44 | 24.02 | 43.64 | 246 | 1.82 |
| OB GM | 0.05 | 74.80 | 1.18 | 3.67 | 976 | 3.11 |
| OB SML | 0.05 | 24.00 | 2.56 | 3.43 | 144 | 1.34 |

A basic statistical analysis of sample data derived from the Soviet era was made to determine if the data was suitable for use in mineral resource estimation. The results of this analysis were compared with the same statistical parameters compiled for AGRC exploration sample data. The quantile plots of Figures 17.3, 17.4 and 17.5 show that AGRC exploration data and the Soviet era data have similar distributions. Approximately 2,000 Soviet era samples were used in grade interpolation. Only Soviet era samples derived from above 7th level (2190 m RL) were used. Samples for Zones 1 and 4 were divided into two groups based on the 2190 m RL. Samples above the 2190 m RL were treated separately from samples derived from below 2190 m RL

Figure 17.3: Grade Distribution of Soviet and AGRC Drilling for Gabbro Massif

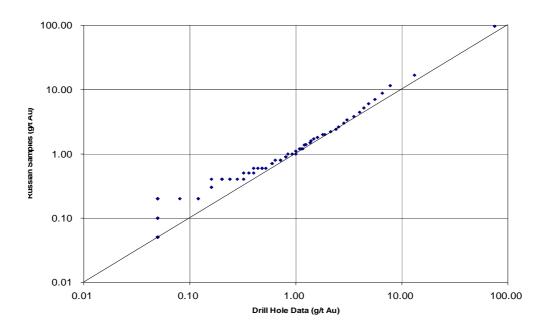




Figure 17.4: Grade Distribution of Soviet and AGRC Drilling for Zone 1

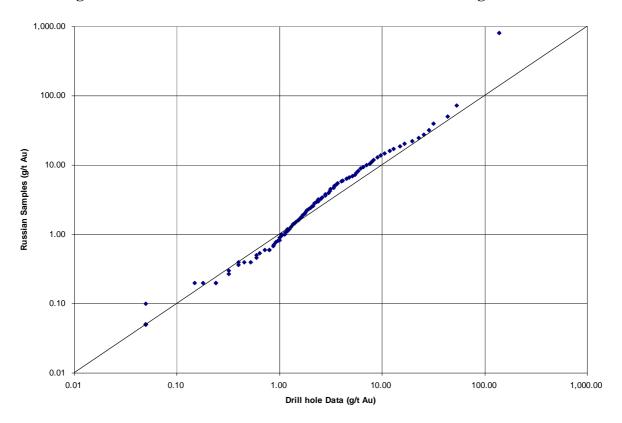
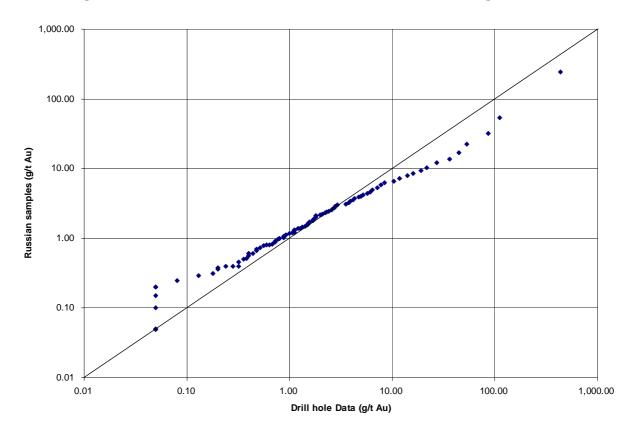


Figure 17.5: Grade Distribution of Soviet and AGRC Drilling for Zone 4





17.4 Top-Cutting High Assays

Basic statistical parameters developed for raw gold assays showed that the data is positively skewed. It was decided that it was necessary to limit the influence of high assays. The options available to limit the influence of high assays include compositing sample lengths, cutting high assays (outliers), applying an indicator kriging protocol or alternatively, a combination of all of these methods. The lack of sufficient data for individual zones precluded the use of indicator kriging. The preferred method was to top-cut high assays and to carry out ordinary kriging using composites within each zone. To determine appropriate top-cut levels for each zone lognormal probability plots were examined.

Table 17.5: Top-Cut Level for High Assays

| Zone | Top-Cut (g/t Au) | Percentile |
|----------|---------------------|------------|
| OB16A | 32 | 98 |
| OB16D | 73 | 96 |
| OB16EX | 15 | 94 |
| OB SML | 9 | 95 |
| OB 23 | 17 | 97 |
| OB 23EX | 9 | 90 |
| OB23B | 24 | 96 |
| OB 23BEX | 12 | 96 |
| OB 9A | 9 | 88 |
| OB 9AEX | | 100 |
| OB 1 | 32 | 97 |
| OB 1EX | 8 | 92 |
| OB 1A | 30 | 94 |
| OB 1AEX | 16 | 95 |
| OB 4 | 40 | 96 |
| OB 4EX | | 100 |
| GM | 12 | 99 |
| OB 41 | 100 | 95 |

17.5 Sample Composites

Core samples range from 0.3 m to 1.5 m and for most reverse circulation drill samples a 2 m composite sample was assayed. Thus the minimum sample length was 0.3 m the maximum sample length was 2 m. Prior to kriging all samples were composited in 2 m intervals. Composites were created using only samples that fell within the zoned wireframes.

Basic statistical parameters for 2 m gold assay composites are provided in Table 17.6 below. These composites were used to interpolate grade for each of the zones.



Table 17.6: Basic Statistic Parameters by Zone for Gold Assay Composites

| Zone | Min | Max | Mean | Std Dev | No. of samples | Coeff of Var |
|-------------|------|-------|-------|---------|----------------|--------------|
| OB 16A | 0.05 | 32.0 | 4.64 | 5.67 | 703 | 1.22 |
| OB 16A DEV. | 0.05 | 58.0 | 10.47 | 9.83 | 166 | 0.94 |
| OB 16AEX | 0.05 | 15.0 | 3.46 | 4.18 | 97 | 1.21 |
| OB 23B | 0.05 | 24.0 | 3.37 | 4.28 | 181 | 1.27 |
| OB 23BEX | 0.75 | 12.0 | 5.87 | 4.22 | 9 | 0.72 |
| OB 23 | 0.05 | 17.0 | 3.28 | 3.50 | 208 | 1.07 |
| OB 23EX | 0.05 | 9.0 | 2.29 | 2.31 | 183 | 1.01 |
| OB 9A | 0.05 | 9.0 | 2.83 | 2.05 | 100 | 0.72 |
| OB 9AEX | 0.1 | 6.6 | 1.92 | 1.82 | 16 | 0.95 |
| OB 1 | 0.05 | 32.0 | 5.48 | 7.16 | 2996 | 1.31 |
| OB 1EX | 0.05 | 8.0 | 2.63 | 2.13 | 74 | 0.81 |
| OB 1A | 0.01 | 30.0 | 5.02 | 6.21 | 274 | 1.24 |
| OB 1AEX | 0.01 | 16.0 | 3.38 | 4.17 | 98 | 1.23 |
| OB 4 | 0.05 | 40.0 | 3.55 | 6.06 | 2112 | 1.71 |
| OB 4EX | 0.05 | 6.7 | 1.79 | 2.21 | 23 | 1.23 |
| OB 41 | 0.36 | 100.0 | 18.85 | 25.27 | 141 | 1.34 |
| OB GM | 0.05 | 12.0 | 1.03 | 1.83 | 749 | 1.78 |
| OB SML | 0.05 | 9.0 | 2.34 | 2.34 | 121 | 1.00 |

17.6 Spatial Analysis

Variogram maps were generated for major zones to determine the spatial correlation of gold assay data and trends inherent in the mineralisation. Variograms summarise the variability of sample grades for specific intervals of separation and direction vectors in 3-D space. Variograms were calculated at 10° increments in the plane of investigation and were contoured to highlight the spatial relationships in a 2-D plane. Variogram maps were generated in the horizontal plane relative to the strike direction and in the plane of the structures in their plunge directions. At Zod the plunge direction of the mineralisation demonstrated the greatest degree of spatial correlation of the mineralisation.

Variograms were calculated for all major zones and the results obtained were used in splays of the same zone.

The search ellipse to be used for grade interpolation for each zone was developed from these variograms. The search ellipses used for grade interpolation are summarised in Tables 17.7 to 17.12 below.

Table 17.7: Variogram Parameters Zones OB 16A, OB16D, OB 16AEX, OB 16E, OB SML

| Parameter | Along Strike | Perpendicular to the Dip | Down the Hole |
|---------------------------------------|--------------|--------------------------|------------------------------|
| Azimuth | S80°E | $N10^{0}E$ | $\mathrm{S}10^{0}\mathrm{W}$ |
| Plunge | 0 | -75 | -15 |
| Spread | 15 | 25 | 25 |
| Spread limit | 15 | 20 | 5 |
| Lag | 35 | 20 | 2 |
| Nugget (C ₀) | 11 | 11 | 11 |
| Structural variance (C ₁) | 22 | 22 | 22 |
| Range | 80 | 32 | 8 |



Table 17.8: Variogram Parameters for Zones OB 23B, OB 23BEX, OB 23, OB 23EX

| Parameter | Along Strike | Perpendicular to the Dip | Down the Hole |
|---------------------------------------|------------------------------|------------------------------|------------------------------|
| Azimuth | $\mathrm{S}80^{0}\mathrm{E}$ | $\mathrm{N}10^{0}\mathrm{E}$ | $\mathrm{S}10^{0}\mathrm{W}$ |
| Plunge | 0 | -75 | -15 |
| Spread | 20 | 25 | 25 |
| Spread limit | 20 | 20 | 5 |
| Lag | 25 | 20 | 2 |
| Nugget (C ₀) | 0.35 | 0.35 | 0.35 |
| Structural variance (C ₁) | 4.1 | 4.1 | 4.1 |
| Range | 57 | 74 | 10 |

Table 17.9: Variogram Parameters for Zones OB 9A, OB 9AEX, OB 1, OB 1EX, OB 1A, OB 1AEX

| Parameter | Along Strike | Perpendicular to the Dip | Down the Hole |
|---------------------------------------|------------------------------|------------------------------|------------------------------|
| Azimuth | $\mathrm{S}80^{0}\mathrm{E}$ | $\mathrm{N}10^{0}\mathrm{E}$ | $\mathrm{S}10^{0}\mathrm{W}$ |
| Plunge | 0 | -65 | -25 |
| Spread | 15 | 25 | 30 |
| Spread limit | 15 | 15 | 20 |
| Lag | 50 | 35 | 3 |
| Nugget (C ₀) | 4 | 4 | 4 |
| Structural variance (C ₁) | 102 | 102 | 102 |
| Range | 130 | 65 | 5 |

Table 17.10: Variogram Parameters for Zone OB 4

| Parameter | Along Strike | Perpendicular to the Dip | Down the Hole |
|---------------------------------------|------------------------------|------------------------------|------------------------------|
| Azimuth | $\mathrm{S}80^{0}\mathrm{E}$ | $\mathrm{N}10^{0}\mathrm{E}$ | $\mathrm{S}10^{0}\mathrm{W}$ |
| Plunge | 0 | -65 | -25 |
| Spread | 25 | 25 | 30 |
| Spread limit | 5 | 30 | 20 |
| Lag | 40 | 35 | 3 |
| Nugget (C ₀) | 2.8 | 2.8 | 2.8 |
| Structural variance (C ₁) | 103 | 102 | 102 |
| Range | 65 | 52 | 9 |

Table 17.11: Variogram Parameters for Gabbro Massif

| Parameter | Along Strike | Perpendicular to the Dip | Down the Hole |
|---------------------------------------|--------------------|------------------------------|---------------|
| Azimuth | N70 ⁰ E | $\mathrm{S}20^{0}\mathrm{E}$ | $N20^{0}W$ |
| Plunge | 0 | -60 | -30 |
| Spread | 20 | 30 | 30 |
| Spread limit | 10 | 10 | 6 |
| Lag | 13 | 5 | 3 |
| Nugget (C ₀) | 0.35 | 0.35 | 0.35 |
| Structural variance (C ₁) | 1.33 | 1.33 | 1.33 |
| Range | 29 | 11 | 5 |



Table 17.12: Variogram Parameters for Zone OB 41

| Parameter | Along Strike | Perpendicular to the Dip | Down the Hole |
|---------------------------------------|--------------------|--------------------------|--------------------|
| Azimuth | N60 ⁰ E | $\mathrm{S25^0W}$ | N45 ⁰ W |
| Plunge | 0 | 0 | -90 |
| Spread | 10 | 30 | 30 |
| Spread limit | 5 | 10 | 6 |
| Lag | 3 | 5 | 30 |
| Nugget (C_0) | 31 | 31 | 31 |
| Structural variance (C ₁) | 130 | 130 | 130 |
| Range | 8 | 20 | 40 |

A minimum of three and a maximum of the ten nearest composites were used to interpolate block grades.

17.7 Mineral Resource Modelling

The gold mineral resource model was generated as a 3-D block model in Datamine mining software. The block model contains the following elements: zone code, block X, Y and Z coordinates, block dimensions, rock type, bulk density, gold grade (interpolated or assigned), volume factor (depleted by prior mining) and mineral resource category. The final digital model is named "FMOD06.DM".

17.7.1 Block Model Description

The Zod mineral resource block model was generated using a parent block size of 2 m (northing) by 15 m (easting) by 5 m (vertical). This block size was deemed appropriate relative to the geometry of the zones and for mine planning. It was considered inappropriate to use model blocks smaller than this considering the data spacing and the probability that estimation of gold grades for smaller blocks would likely result in conditional bias, whereby the high grade blocks are artificially downgraded and the low grade blocks are artificially upgraded. The result of conditional bias is excessive smoothing of block grade estimates and therefore lower reliability of local block grade estimates.

The dimensions of the Zod block model is summarised in Table 17.13 below.

Table 17.13: Zod Block Model Limits

| Coordinates or Elevation | Units | Dimensions (m) |
|--------------------------|-----------------------|----------------|
| 881300 E to 883700 E | 160 columns at 15 m E | 2,400 |
| 554500 N to 556000 N | 1,250 rows at 2 m N | 1,500 |
| 1,800 RL to 2,700 RL | 180 benches at 5 m RL | 900 |

The coordinates for the centroid of the bottom left hand block are: 881307.5 E, 554501 N, 1802.5 RL.

17.7.2 Rock Type Assignment, Grade Interpolation and Trimming.

Individual 3-D wireframes of each rock type were filled with blocks. Parent blocks were subblocked to fill the wireframe completely and to remove any volume discrepancy arising out of the difference between the wireframe volume and the block model volume. Bulk density,



rock code and group rock code were assigned to these individual blocks for each zone before grade interpolation.

Gold grades were interpolated into the model blocks using ordinary kriging. The choice of ordinary kriging was supported by the favourable reconciliation achieved using a previous kriged model and mining and grade control results obtained over a period in excess of a year. Gold grade for each zone was interpolated separately. After the first pass of grade interpolation some of the blocks remain unfilled. Grades were interpolated into the remaining unfilled blocks by increasing the range of search ellipsoid. Sub-blocks were not estimated separately but were assigned the grade of the parent block. To account for surface topography the model was cut by a 3-D topographic surface. Similarly, the block model was cut by the 3-D stope wireframes to remove previously mined volumes.

17.7.3 Block Model Validation

Basic statistical parameters were generated for gold grades in the mineral resource block model. The results of this analysis are presented in Table 17.14.

In addition to reviewing the statistical parameters of the mineral resource block model a variety of techniques were used to validate the model. A series of cross sections were generated showing drill hole assay data and block model grades. Plots were inspected for reasonableness of the block grade estimates. In another exercise 5 m bench composites were generated from the cut assay data and these were compared with the block grade in which the composite occurred. Scatter plots of block grade versus bench composite were generated for each zone to reveal the degree of correlation between the two values.

The blocks were regularised in a dimension of 20m window in X and Z direction. The Au values of those regularised blocks were compared with the mean of composite samples used for estimation of those blocks. Plots for Zone 1 are given below in Figures 17.6 and 17.7.

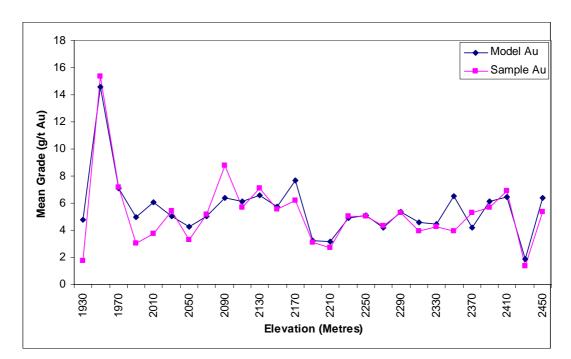


Figure 17.6: Model Validation Plot on Zone 1 in Elevation



- Model Au Sample Au Mean Grade (g/t Au) Strike Direction (Metres)

Figure 17.7: Model Validation Plot on Zone 1 in Strike

Table 17.14: Zod Block Model Basic Statistical Parameters

| Orebody | Min | Max | Mean | Std Dev | Coeff of Var |
|----------|-------|-------|-------|---------|--------------|
| OB 16A | 0.05 | 24.63 | 4.57 | 2.65 | 0.58 |
| OB 16A D | 0.05 | 38.72 | 10.27 | 7.13 | 0.69 |
| OB 16AEX | 0.05 | 13.78 | 3.06 | 1.93 | 0.63 |
| OB 23B | 0.003 | 20.53 | 4.02 | 3.07 | 0.76 |
| OB 23BEX | 1.71 | 10.48 | 5.86 | 2.38 | 0.41 |
| OB 23 | 0.05 | 15.5 | 3.41 | 2.04 | 0.60 |
| OB 23EX | 0.005 | 8.72 | 2.72 | 1.50 | 0.55 |
| OB 9A | 0.52 | 8.09 | 2.71 | 1.20 | 0.44 |
| OB 9AEX | 0.25 | 6.02 | 1.83 | 1.08 | 0.59 |
| OB 1 | 0.03 | 28.66 | 4.72 | 4.14 | 0.88 |
| OB 1EX | 0.66 | 7.21 | 3.09 | 1.21 | 0.39 |
| OB 1A | 0.01 | 23.79 | 3.36 | 3.25 | 0.97 |
| OB 1AEX | 0.05 | 14.32 | 4.05 | 3.28 | 0.81 |
| OB 4 | 0.01 | 38.38 | 4.35 | 5.02 | 1.15 |
| OB 4EX | 0.1 | 6.15 | 2.45 | 1.64 | 0.67 |
| OB 41 | 1.24 | 77.68 | 14.27 | 10.30 | 0.72 |
| OB GM | 0.04 | 8.32 | 0.91 | 0.84 | 0.92 |
| OB SML | 0.01 | 8.91 | 2.26 | 1.55 | 0.69 |



17.8 Mineral Resource Classification

Mineral resources were classified on the basis of the location of blocks relative to the data used to interpolate the block grade. The protocol for assignment of mineral resources to the appropriate category adhered to the Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). Mineral resources were categorised as follows:

- Measured: Blocks which lie 15 m above or below a mining level developed either by AGRC or during the Soviet era. Only blocks in Zones 1, 4 and 16A satisfied these criteria.
- Indicated: Blocks estimated in the first pass of grade interpolation, ie. blocks that satisfied the primary search criteria derived from the variogram analyses.
- Inferred: Blocks that did not satisfy the primary search criteria and therefore received grades in subsequent grade interpolation runs where the search radius was arbitrarily increased until a block grade was estimated.

The final mineral resource model was depleted for previously mined volumes, cut by the surface topography and adjusted using short term plans to reflect mineral resources at 31st December 2005. The resulting mineral resource statement is effective 1st January 2006.

A summary of block model tonnages and average gold grades for Measured, Indicated and Inferred mineral resources at 0.6 g/t cut-off grades is provided in Table 17.15.



Table 17.15: Zod Mineral Resources at 1st January 2006

| Meas | ured | Ind | icated | Measured + | Indicated | Inferr | ed |
|---------|----------|---------|----------|------------|-----------|---------|----------|
| Tonnage | Grade | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| (kt) | (g/t Au) | (kt) | (g/t Au) | (kt) | (g/t Au) | (kt) | (g/t Au) |
| 1,376 | 5.47 | 15,452 | 4.05 | 16,828 | 4.17 | 4,083 | 2.74 |

Thus, at a block cut-off grade of 0.6 g/t Au, the total remaining mineral resource at 1st January 2006 is estimated to be 16.8 Mt at a grade of 4.17 g/t Au. This Measured and Indicated portion of this mineral resource contains 70.1 t of gold or 2.25 Moz of gold. The Inferred portion of the mineral resource contains a further 11.2 t of gold or 0.36 Moz of gold.

17.9 Potential For Additional Mineral Resources

The potential for the development of additional mineral resources has been identified in three areas:

- 1. Central Area: The Central zone is under explored, particularly between the base of the current open pit and the underground levels explored by AGRC. The 1980 GKZ figures provide some insight into the further potential of the Central; the GKZ reported mineral reserves of 91 t of gold of which some 20 t was reported to have been mined.
- 2. Southern Zones: Only limited exploration work has been conducted by AGRC in this area. The GKZ reported some 20 t of gold in mineral resources in this area and therefore further investigation is warranted.
- 3. Deeper intersections: The Zod deposit remains open at depth below the 1950 m RL.

17.10 Future Exploration Programmes

Further exploration is required to fully assess the mineral resource potential of the Zod mine and surrounding area. Exploration plans for 2006- 2007 are currently under review.



18.0 OTHER RELEVEVANT DATA AND INFORMATION.

A comprehensive review of all relevant project data and requirements is currently underway. This includes legal, environmental, geotechnical, mining, metallurgical and processing information. Results of these studies will enable a comprehensive analysis of project economics, development options and preferred project development method, timetable and cost. This is proceeding concurrently with the development of an expanded exploration programme as indicated above.



19.0 INTERPRETATION AND CONCLUSIONS.

Exploration including mining and drilling has confirmed the overall reliability of data collected during the Soviet era. Past mineral resource estimates calculated from this data have probably overstated the gold grade and underestimated the tonnage. This has been confirmed by recent open pit mining. It is apparent that infill drilling is necessary to supplement and confirm data acquired during the Soviet era prior to mineral resource calculations.

Drilling to date at Zod has only tested part of the area for which Soviet era mineral reserves were calculated. AGRC's first priority was to delineate the mineral resources below 7th level, 2180 m RL. Only 700 m of strike length has been explored of a total potential length of over 1,000 m. In addition, only the main zones have been tested as well as a limited portion of the Gabbro Massif. Based on exploration results achieved to date it is evident that considerable potential remains to increase the mineral resources of the Zod Mine.

Additional drilling is required to test the remaining areas of known mineralisation and areas for which mineral reserves were calculated during the Soviet era. Figure 19.1 shows AGRC explored mineralised zones in yellow and mineralised zones unexplored by AGRC in red within the main area of the Central block.

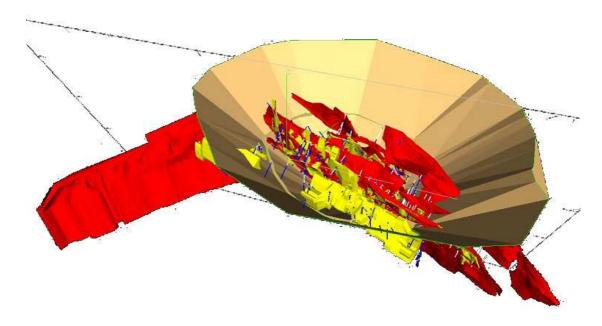


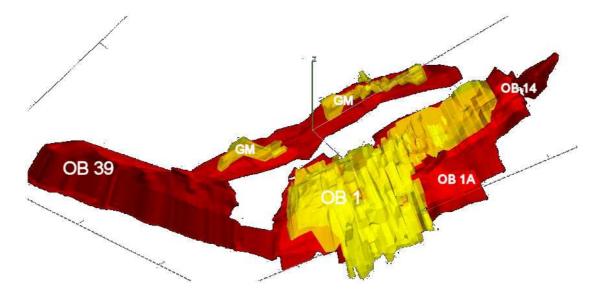
Figure 19.1: Exploration Potential of the Central Block

Figure 19.2 shows the limited extent to which the Gabbro Massif has been explored by AGRC. The figure also shows clearly that a significant proportion of Zone 1 and 1A remain to be explored by AGRC. The deeper part of 1A is also untested as is Zone 14. This image presented is an oblique view looking to the northwest from below.

B



Figure 19.2: Exploration Potential of Gabbro Massif and Zones 1A, !4 and 39





20.0 RECOMMENDATIONS

Drilling is required to identify and quantify the additional mineral resources at Zod. Zones identified by exploration and mining during the Soviet era remain to be confirmed by AGRC.

20.1 Central Block

The first priority is to extend the drilling programme in the Central block. This will be accomplished utilising combination of RC and diamond drilling. All of the RC drilling will be from surface. Surface drilling will test known zones and areas of potential down to a depth of 200 m and provide pre-collars for deeper diamond drilling. Diamond drilling will be conducted from underground openings to intersect mineralisation below existing development. Some surface diamond drilling will be utilised to extend the information acquired from the RC holes. Where possible RC pre-collars will be used to maximise the drilling budget and take advantage of the improved coring conditions experienced beneath the zone of surface weathering. A limited amount of surface drilling will be conducted in areas primarily tested by reverse circulation to collect structural and geotechnical information and provide a comparison between diamond and RC drilling.

A total of 76000m of drilling is planned in the Central block (both Reverse Circulation -RC and Core) from surface and Underground. Core drilling from underground is planned for mineralised zones of 4, 39 and 1. The drilling will be carried out on the western extensions of these zones.

Reverse Circulation drilling of 60,000m is planned from the surface of which approximately 36000m is for Gabbro massive. Drilling will be carried out in 20m sections to get the resources categorised to enough confidence

.

The other mineralised zones that will be explored are the extension of 1A, 14, 15 and the 2 series of mineralised zones in the Eastern part. Limited part of the drilling will also be carried out to identify the pillars left out by underground mining in mineralised zones of 4 and 39. Further drilling is also planned in mineralised zones of 28 and Vein 1. Limited amount of core drilling is planned from surface to collect structural and geotechnical information and provide a comparison between diamond and RC drilling.

The drilling activity has already started in the form of Surface and Underground Core drilling.

20.2 Western Block

The area located immediately to the west of the Central block is referred to as the Western block. The Western area is locally known as Tigranasarsk. Exploration of this area will primarily utilise drilling as a large amount of sampling and underground development has already been completed on many of the deposits. Several shafts have been sunk in the Western block and the deepest shaft extends to below 1980 m RL. Drilling in this area will include both RC and diamond drilling with deeper holes drilled by extending RC pre-collars by diamond drilling.



Figure 20.1 shows the location of the Western block relative to the main Central block. The map was created during the Soviet era and highlights the location of some of the more prominent mineralised zones that have yet to be explored by AGRC. The grid lines on the map represent 500 m.

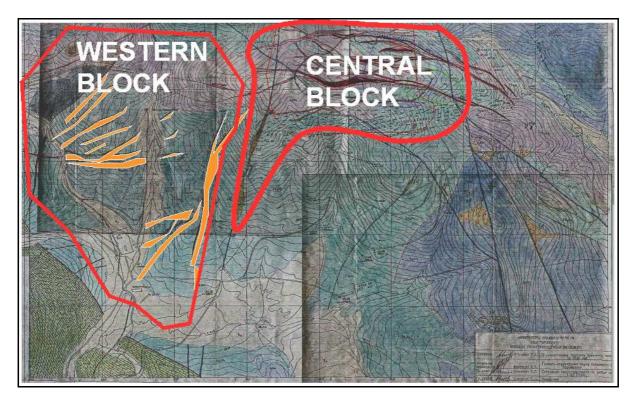


Figure 20.1: Exploration Potential of the Western Block

20.3 Regional Exploration

A regional bulk cyanide leach stream sediment sampling programme is also recommended to identify areas of favourable mineral potential further away from the mine site. A number of mineral prospects in the area have been subject to some surface sampling and trenching and a regional sampling programme will serve to determine priorities. Regional sampling programmes previously completed will also be obtained from the government archives.



21.0 SIGNATURE

Signed -

Stanley C. Bartlett, PGeo. Managing Director, Micon International Co Limited 23rd May 2006



CERTIFICATE OF STANLEY C. BARTLETT, P.GEO.

As the principal author of this report entitled "Mineral Resources of the Zod Mine, Armenia" dated 23rd May 2006, I hereby make the following statements:

- 1. My name is Stanley C. Bartlett and I hold the position of Managing Director at Micon International Co Limited, Mineral Industry Consultants. My office address is Suite 10, Keswick Hall, Keswick, Norwich, Norfolk, United Kingdom, NR4 6TJ.
- 2. (a) I have the following degrees:
 - BSc. Geological Sciences, University of British Columbia, Vancouver, British Columbia, Canada.
 - MSc. Mining Geology, Camborne School of Mines, Redruth, Cornwall, United Kingdom.
 - (b) I hold the following membership:
 - Member of the Association of Professional Engineers and Geoscientists of British Columbia (No. 19698).
 - (c) I have been practising as a professional geologist for 27 years.
- 3. By reason of experience and education, I fulfil the requirements of a Qualified Person as set out in National Instrument 43-101, as regards the geological, exploration planning, resource and reserve aspects of the report.
- 4. I visited the Zod Mine in February and August 2004 and in April 2005 for a total period of 11 days.
- 5. I have read National Instrument 43-101 and Form 43-101Fl. This report has been prepared in accordance with generally accepted Canadian mining industry practice and is in compliance with National Instrument 43-101, and Form 43-101Fl. It is based on an examination and analysis of data and records provided by "Ararat Gold Recovery Company" a subsidiary of Sterlite Gold Limited and personal observation. It is a statement of material facts and opinion and may be used by "Sterlite Gold Limited" and its advisors in support of their public announcement.
- 6. As of the date of this Certificate, I am not aware of any material fact or material change in regard to the subject matter of this report, which is not reflected in this report, the omission to disclose, which makes the report misleading.
- 7. I am independent of Sterlite Gold Limited applying all the tests in Section 1.5 of National Instrument 43-101.
- 8. I have not had prior involvement with the property that is the subject of this report.

| Norwich, United Kingdom | (Signed by) |
|------------------------------------|-----------------------------|
| 23 rd day of May, 2006, | Stanley C. Bartlett, P.Geo. |



CONSENT OF AUTHOR

TO: BRITISH COLUMBIA, ALBERTA AND ONTARIO SECURITIES COMMISSIONS; THE REGISTRAR OF SECURITIES, GOVERNMENT OF THE YUKON TERRITORY; AND THE TSX VENTURE EXCHANGE

I, Stanley C. Bartlett, do hereby consent to the filing, with the regulatory authorities referred to above, of the technical report titled "Mineral Resources of the Zod Gold Mine, Armenia" dated 23^{rd} day of May, 2006.

Dated this 23rd day of May, 2006

| (Signed by) | |
|-------------|-----------------------------|
| | Stanley C. Bartlett, P.Geo. |