TECHNICAL REPORT ON THE
LAERMA, DASHUI AND XIAHE PROPERTIES
GANNAN PREFECTURE,
GANSU PROVINCE
PEOPLE'S REPUBLIC OF CHINA
FOR
PARGAS ENTERPRISES LTD.

prepared by:

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SECTION A:
SUMMARY
A1. SUMMARY

Pargas Enterprises Ltd. ("PGA") holds an Option Agreement to acquire 100% of Cana-Trimax Investment Inc.’s ("Cana-Trimax") interest in the Laerma, Dashui and Xiahe Properties, collectively referred to as "the Properties", located in Gannan Prefecture, Gansu Province of the People's Republic of China.

Cana-Trimax has a Cooperation Agreement with the Gansu Bureau of Geology Mineral Exploration and Development ("BGMED") to earn a 70% interest in the Laerma Property, by conducting metallurgical testwork and providing ongoing funding for the project. Cana-Trimax has a separate Cooperation Agreement with the BGMED to earn a 70% interest in the Dashui and Xiahe Properties by spending US$5 million on exploration on these properties over a 3-year period.

At the time of the site visit by Watts, Griffis and McOuat Limited ("WGM"), PGA was reviewing the Laerma, Dashui and Xiahe Properties with the intention of acquiring all of Cana-Trimax’s interest in the Joint Venture with the BGMED.

The exploration targets are large-tonnage, low-grade sediment-hosted gold deposits and large-tonnage, low- and high-grade epithermal and possibly porphyry gold deposits.

Exploration was conducted on the Laerma and Dashui Properties by the Gansu Bureau of Geology and Mineral Resources ("BGMR") Brigade No. 3 and on the Xiahe Property by the BGMR Brigade No. 2. The BGMR is the former name of the BGMED.

WGM has been retained by PGA to carry out a technical review of Cana-Trimax’s properties and to produce a report on the Properties to National Instrument 43-101 ("NI 43-101") standards.
In preparing this report, WGM carried out a review of all the available data on the Properties. A site visit was made to the Laerma and Dashui Properties, and a number of rock chip grab samples was collected to independently confirm the fact that mineralization is present. Limited re-sampling of drill core from the Laerma Property was also undertaken, the drill core being collected from holes drilled by the BGMR Brigade No. 3. None of the core was drilled by PGA or Cana-Trimax. The Xiahe Property was not visited by WGM.

The Properties are all located in the West Qinling metallogenic belt, in the centre of China, which hosts numerous small gold mines and prospects.

Previous work on the Laerma Property by BGMR Brigade No. 3 included stream sediment sampling, soil sampling, geological mapping, trenching and sampling, 27 diamond drillholes (7,761 m) and underground exploration using adits (1,502 m). This exploration led to the estimation of a mineral resource by BGMR.

Exploration is still at a relatively early stage on the Dashui and Xiahe Properties. Field exploration work conducted by BGMR Brigades No. 2 (Xiahe) and No. 3 (Dashui) on these properties has been initiated and several gold targets defined. However, both these properties require further detailed evaluation and exploration before drill targets can be identified.

Laerma Property

The Laerma Property consists of a single exploration permit (No. 334620140) covering 16 quarter-minute sub-blocks for a total of 3.2 km² in southeastern Gannan Prefecture.

Exploration on the Laerma Property by BGMR Brigade No. 3 led to an estimate of mineral resources using the classification system of the Former Soviet Union. WGM reports these for historical purposes only and because they are relevant, but has not attempted to rationalize them to conform with the guidelines published by the council of the Canadian Institute of Mining,
Metallurgy and Petroleum ("CIM") standards. WGM has not audited the BGMR mineral resource estimates but considers that the methodology employed is sound and that the resulting calculations are accurate. BGMR has estimated a Category "C" resource (similar to an indicated mineral resource) of 1,133,557 t @ 5.65 g Au/t using a 3 g Au/t cutoff, equivalent to 6.409 t (or 206,077 oz) of contained gold. An additional Category "D" resource (similar to an inferred mineral resource) of 11,272,689 t @ 1.51 g Au/t was estimated, using a 1 g Au/t cutoff and a 3 g Au/t top cut, equivalent to 17.048 t (or 548,167 oz) of contained gold. At a 0.5 g Au/t cutoff, the Laerma gold deposit is estimated to contain 67.5 t of gold.

The Laerma gold deposit is classified as a sediment-hosted Carlin-type gold deposit. This deposit consists of two mineralized zones of 20 m and 35 m in width, contained within a 150 m wide interval, with a minimum strike length of at least 350 m. The steep dip and relatively large width of mineralization is considered favourable for large tonnage open pit mining.

Based on a very small sample set, WGM sampling has indicated a tendency by the atomic absorption analytical method, as used by the Gansu Laboratory, to under-report gold assays. This could have a significant effect on the Laerma mineral resource estimate and the issue should be investigated further.

Preliminary metallurgical tests by the BGMR of the Laerma gold deposit are encouraging. Several methods are capable of recovering >85% of the gold, but have high operating costs. Future metallurgical testing should consider modern low capital and operating cost techniques that have produced promising results with similar refractory and fine grained gold ores.
Most Chinese sediment-hosted gold deposits, such as Laerma, are in an undeveloped state or are being exploited by small-scale mining methods. This is because of the refractory nature of the ore, remote location and lack of infrastructure and capital. It is hoped that modern western bulk tonnage mining methods and advanced processing technology may offer applicable alternatives for the eventual exploitation of these deposits.

WGM considers that a prefeasibility study should be completed on the Laerma gold deposit in a first year program to better define, estimate and evaluate the mineral resource present. This prefeasibility study will include 8,500 m of reverse circulation drilling to define the size of the mineral resource and provide samples for metallurgical tests. The metallurgical tests will characterize the ore types, develop preliminary flow sheets and indicate economic parameters to determine cutoff grades for use in future mineral resource estimates.

Considerable potential for additional mineralization exists at Laerma, both along strike to the east and west, as well as following the mineralization at depth, down dip to the north. A ground IP-Resistivity geophysical survey and 2,000 m of reverse circulation drilling to investigate other targets is proposed for a second year program.

**Dashui Property**

The Dashui Property is comprised of two contiguous exploration permits (No.’s 6200000330197 and 6200000320202), covering a total of 602 quarter-minute sub-blocks, for a total of 105.65 km$^2$ in southwestern Gannan Prefecture.

Exploration to date on the Dashui Property by BGMR Brigade No. 3 is less advanced than at Laerma, but has identified a number of prospects containing low sulphidation epithermal style gold mineralization. Of these prospects, the Zhongqu prospect is considered to have excellent potential to host a significant epithermal gold deposit, contained within quartz-carbonate vein stockworks in
sediments and a rhyolite flow dome. Further exploration at the Gertou, Xingqu, Zhonggezhala and Qianuo gold prospects is warranted as only limited exploration has been undertaken on these areas.

Remote sensing techniques, including specialized processing of satellite imagery and a high resolution heliborne magnetic-radiometric survey are proposed in the first year exploration program for the Dashui Property. These techniques provide cost effective methods to define alteration and structures controlling gold mineralization. Reconnaissance geological surveys, soil sampling, trenching and geological mapping are recommended to follow up these surveys.

Ground IP-Resistivity geophysics and 3,000 m of reverse circulation drilling to test resulting targets are proposed for the second year exploration program on the Dashui Property.

A due diligence investigation of the adjacent Gerke gold mine, owned by Maqu County and BGMR Brigade No. 3, is recommended if PGA elects to earn into this property. This study should evaluate the potential for bulk tonnage, low grade open pit mining and the introduction of western processing technology to fully exploit the mineral resource.

**Xiahe Property**

The Xiahe Property is situated in the northern part of Gannan Prefecture and consists of 5 separate exploration permits (No.’s 6200000110259, 6200000130096, 620000130137, 620000320192, and 6200009960251) covering 638 quarter-minute sub-blocks for a total of 112.2 km².

Only limited exploration has been undertaken on the Xiahe Property by BGMR Brigade No. 2 because of lack of funds. However, small-scale heap leach processing of oxide ore being mined at the Zaqialebu and Sangduoke prospects is already established.
Exploration on the Xiahe Property has identified a number of prospects, containing quartz-sulphide vein stockwork hosted Au-As-Sb mineralization. Mineralization is tentatively interpreted as representative of exposed deep level, low sulphidation epithermal gold mineralized systems, which are probably genetically related to multi-phase porphyry-type Yanshanin intrusive activity.

The Zagialebu gold prospect is considered to be the largest and most prospective target on the Xiahe Property. This prospect has potential to host a significant epithermal gold deposit, contained within quartz-sulphide vein stockworks in altered and brecciated silty limestones, slate and diorite. Further exploration at the Sangduoke and Jiangqinaliang gold prospects is also warranted, as only limited exploration has been undertaken. In addition, there are numerous stream sediment and soil gold anomalies that have yet to be followed up.

Besides low sulphidation epithermal gold mineralization, the author considers the Xiahe Property has potential to host sediment-hosted gold mineralization, as favourably reactive carbonate sedimentary units underlie the property. Potential for porphyry-type gold mineralization also exists on the property.

Remote sensing techniques, including specialized processing of satellite imagery and a high resolution heliborne magnetic-radiometric survey are proposed in the first year exploration program for the Xiahe Property. Reconnaissance geological surveys, soil sampling, trenching and geological mapping are recommended to follow up targets generated by these surveys.

Potential targets defined by the first year exploration program should be followed up by ground IP-Resistivity geophysics and 3,000 m of reverse circulation drilling, proposed for the second year exploration program.
Overall Interpretation, Conclusions and Recommendations

WGM recommends that PGA proceed with the proposed exploration programs as described below. Proposed budgets for the next two years of work on the Properties total about US$3.37 million, as shown below.

<table>
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<th>Property</th>
<th>Year 1</th>
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<td>Laerma</td>
<td>$1,160,000</td>
<td>$305,000</td>
<td>$1,465,000</td>
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<tr>
<td>Dashui</td>
<td>390,000</td>
<td>560,000</td>
<td>950,000</td>
</tr>
<tr>
<td>Xiahe</td>
<td>390,000</td>
<td>560,000</td>
<td>950,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,940,000</strong></td>
<td><strong>$1,425,000</strong></td>
<td><strong>$3,365,000</strong></td>
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A2. INTRODUCTION AND TERMS OF REFERENCE

A2.1 GENERAL

Pargas Enterprises Ltd. ("PGA") has an Option Agreement to acquire 100% of Cana-Trimax’s interest in two separate Cooperation Agreements that Cana-Trimax has with the BGMED.

Previous exploration conducted by the Gansu Bureau of Geology and Mineral Resources ("BGMR") Brigade No. 3 is at an advanced stage on the Gansu Laerma Property to the extent that a prefeasibility study could be completed over the Laerma gold deposit.

Exploration is still at a relatively early stage on the Dashui and Xiahe Properties. Field exploration work conducted by BGMR Brigades No. 2 and No. 3 on these properties has been initiated and several gold targets defined. However, both these properties require further detailed evaluation and exploration in order to identify drill targets.

PGA, through its acquisition of Cana-Trimax’s interest in the two Cooperation Agreements with the BGMED, intends to complete a prefeasibility study on the Laerma gold deposit and undertake exploration on the Dashui and Xiahe Properties with the aim of discovering a significant gold deposit.

A2.2 TERMS OF REFERENCE

Watts, Griffis and McOuat Limited ("WGM") has been retained by PGA to carry out a technical review of the Laerma, Dashui and Xiahe Properties in Gannan Tibet Autonomous Prefecture, Gansu Province, western China and to produce a report on the Properties to National Instrument 43-101 ("NI 43-101") standards. This report will be filed with various regulatory authorities in Canada pertaining to a Change of Business Activities Status and in support of a subsequent Prospectus to raise additional capital for the Company.
PGA is an Alberta registered company that was established in 1998. The Company’s shares are publicly listed on the Toronto Venture Stock Exchange and trade under the symbol "PGA".

The Company wishes to change its business activities to mineral exploration and mining. As part of this process, PGA has entered into an Option Agreement with Cana-Trimax to acquire that company’s interest in two Cooperation Agreements with the BGMED.

This report is prepared in compliance with NI 43-101 guidelines and presents a review of the geology of the Laerma, Dashui and Xiahe Properties, their economic potential and recommendations for further work.

A2.3 SOURCES OF INFORMATION

In preparing this report, WGM carried out a review of all the available data and information on the Laerma, Dashui and Xiahe Properties as supplied by the Gansu BGMR Brigades No. 2 and No. 3. A site visit was made to the Laerma and Dashui Properties by WGM Senior Associate Geologist, Christopher M. Sennitt, from July 7 to 18, 2003 and a limited number of mineralized samples collected to independently verify the fact that mineralization is present. In addition, drill core from the Laerma deposit, from previous drill programs by BGMR Brigade No. 3, was examined and sampled to independently confirm the presence of mineralization.

A complete list of the material reviewed by the author is provided at the end of this report. It should be noted that it was not possible to obtain original or photostat copies of documents and maps until a formal Joint Venture Agreement on each property is completed. However, for the purposes of this NI 43-101 Report, relevant sections of each report cited have been viewed by the author and partially translated. In addition, the author was permitted to digitally photo documents and scan maps for use in preparing figures.
A2.4  UNITS AND CURRENCY

Metric units are used throughout this report. Assay and analytical results for precious metals such as gold ("Au"), silver ("Ag"), platinum ("Pt") and palladium ("Pd") are quoted in grams per metric tonne ("g Au/t", "g Ag/t", "g Pt/t", and "g Pd/t"). Analyses for other elements, such as arsenic ("As"), antimony ("Sb") and mercury ("Hg") are reported in parts per million ("ppm As", "ppm Sb", and "ppm Hg"), or percent for elements such as iron, manganese and calcium ("% Fe", "% Mn", and "% Ca").

Currency units are United States dollars ("US$`). In converting Chinese currency, known as Renminbi ("RMB") or yuan ("Y"), into United States funds an exchange rate of 8.3 Y to US$1.0 was used.

A2.5  DISCLAIMERS

WGM has not verified title to the mining rights of the Properties but relied on information provided by PGA. Neither has WGM investigated surface rights, water rights or non-technical issues related to the Properties.

This report or portions of this report are not to be reproduced or used for any purpose other than to support the above noted purpose, without WGM’s prior written permission in each specific instance. WGM does not assume any responsibility or liability for losses occasioned by any party as a result of the circulation, publication or reproduction or use of this report contrary to the provisions of this paragraph.
A3. BRIEF PROPERTY DESCRIPTION AND LOCATION

The Laerma, Dashui and Xiahe Properties are all located in Gannan Prefecture, situated in the southern part of Gansu Province, People's Republic of China (Figures 1 and 2).

Gansu Province is situated in the northern part of central-western China. The Province covers an area of around 450,000 km$^2$ and has a population estimated at 24.67 million. It is a rugged, barren province that consists mainly of mountains and deserts. It has played an important part in Chinese history as it lies on the famed Silk Road, the ancient highway along which camel caravans carried goods in and out of China. Traditionally the towns of Gansu have been established in the oases along this caravan route, particularly where agriculture is possible.

The capital of Gansu Province is Lanzhou. Lanzhou lies at 1,600 m above sea level and has been an important garrison town and transport centre since ancient times. Situated on the Huang He, or Yellow River, Lanzhou forms a 20 km long urban corridor, walled in by steep mountains of the Lan Shan range. With a current population of around 2.8 million, the city’s population has increased more than tenfold since the early 1980s. China’s economic reform policies have spurred further growth and construction of new housing blocks and office towers is evident throughout the city.

Gansu is home to a variety of minority peoples, including the Hui, Mongols, Tibetans and Kazaks, although the Chinese Han are now in the vast majority. Nomadic Tibetans are prominent in the rural parts of Gannan Prefecture.

Three daily flights by Air China Northwest using modern Airbus and Bombardier aircraft connect Lanzhou with Beijing. The airport is at Zhongchuan, situated almost 90 km north of Lanzhou. This airport is connected to Lanzhou by an excellent 4-lane sealed highway and toll road.
Laerma, Dashui and Xiahe Properties
Gannan Prefecture, Gansu Province, People's Republic of China

Gansu Province Prefecture Map

Figure 1.

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Kilometres
Projection: Lambert Conformal Conic, Clarke 1866
Map Sources: DCW, DC-China(CIESIN)
Figure 2.

Laerma, Dashui and Xiahe Properties
Gannan Prefecture, Gansu Province, People's Republic of China
Gannan Prefecture Map

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Gannan Tibet Autonomous Prefecture is situated in the southwestern tip of Gansu Province. Hezuo is the capital of Gannan Prefecture and is 231 km by road (4½ hour drive) south from Lanzhou along the sealed, all weather Trans China Highway (Route G213).

Situated 25 km northwest of Hezuo, the Xiahe Property lies near the town of Xiahe. Xiahe is accessed via a sealed road some 18 km from Ponggartang, a small village situated on Route G213, approximately 131 km south from Lanzhou. Xiahe is set in a mountain valley and is the leading Tibetan monastery town outside of Lhasa.

Luqu the next major town and capital of Luqu County, lies south along Route G213 some 76 km from Hezuo (2½ hours drive), but the road quality deteriorates and is currently in very poor condition. The Trans China Highway (G213) is currently being upgraded to a four-lane sealed highway between Luqu and Langmusi, on the border with Sichuan Province. Scheduled for completion in mid-2004, this highway will substantially improve travel times and access to the Laerma and Dashui Properties.

Access to the Laerma and Dashui properties is via Route G213, continuing south from Luqu to Gahai along 83 km of poor road (3½ hours drive). Dashui is accessed from Maqu, which is connected to Gahai via a 53 km long sealed two-lane road (45 minutes drive). Maqu is the capital of Maqu County, situated on the north bank of the Yellow River and is a small town of around 30,000 residents.

The Lanzhou-Urumqi Railway line, completed in 1963, stretches some 1,892 km and has substantially opened up this previously isolated region. This railway line continues to the east to Hohhot-Datong-Beijing, or another route via Xian-Zhengzhou-Beijing.
A4. PROPERTY AND OWNERSHIP STATUS

In China, the right of mineral exploration and mining is conferred through the issuance of permits. The holder of an exploration permit or mining permit shall fulfil its business and obligations in accordance with the Mineral Resources law of the People's Republic of China and other applicable laws and regulations.

On February 12, 1998, the Prime Minister of the People's Republic of China issued directives 240, 241 and 242 of the Mining Act which stipulate that the only agency authorised to issue mineral rights in China is the Provincial Ministry of Land and Resources ("MOLAR"). These mining and exploration rights are transferable. Foreign businesses can either solely invest in exploring and mining mineral resources or work under a cooperative agreement with a Chinese legal enterprise.

The Gansu Bureau of Geology, Minerals Exploration and Development ("BGMED") Brigade No. 3 holds the exclusive mineral rights and geological data pertaining to the Laerma and Dashui Properties. BGMED Brigade No. 2 holds the exclusive mineral rights and geological data pertaining to the Xiahe Property. The BGMED represents all Chinese parties who may have a financial interest in the Properties.

Cana-Trimax Investment Inc. signed two Cooperation Agreements with the BGMED on the May 22, 2003, with respect to exploration for gold and other metals.

Under the terms of the first agreement, Cana-Trimax will be Operator and has the right to earn a 70% interest in the Laerma Property during the exploration or development stage. The amount of investment and related details shall be determined after Cana-Trimax completes independent metallurgical studies and due diligence as part of this NI 43-101 Technical Report on the Project.
Under the terms of the second agreement, Cana-Trimax will be Operator and is to invest US$5.0 million in the Dashui and Xiahe Properties over a 3 year period. Upon expenditure of US$5.0 million, Cana-Trimax will have earned a 70% interest in the Dashui and Xiahe Properties, with the BGMED holding the 30% balance.

After Cana-Trimax has earned a 70% interest under the terms of either or both of the agreements, both parties shall continue investing in further development of the Properties pro rata according to their relative interests in the Properties. If either party elects not to contribute to approved programs on the Properties, then the non-contributing party’s interest in the Properties will be diluted on a pro rata basis.

The Sino-Foreign Joint Venture Law, introduced in 1976, governs all joint ventures in China, including mining. In order to facilitate the operations of the Cooperation Agreement, the two parties will form a Joint Venture Company to be registered in the Gansu Province of the People's Republic of China. A formal Cooperative Joint Venture contract will be executed between the parties and define the details of the operation, articles of association, obligations and responsibilities of the parties. This agreement is subject to due diligence and regulatory acceptance. As part of this joint venture contract, Cana-Trimax will have full access to government geological, geophysical and geochemical data covering the Properties.

The parties have acknowledged that there will be a “Period of Joint Studies” before the two Joint Venture Companies are fully established and operational. Cana-Trimax is responsible for the costs of such studies and will pay the BGMED US$2,000 per month for each Cooperative Agreement until completion, to defray the costs of the BGMED’s participating geologists.
A5. NATURE OF COMPANY’S INTEREST

On July 15, 2003 Cana-Trimax granted Pargas Enterprises Ltd. of #632 Crescent Boulevard S.W., Calgary, Alberta T2S 1L2, an option to acquire from Cana-Trimax all of its rights, with respect to exploration for gold and other metals in the Gannan Prefecture, under the Cooperation Agreements between itself and the BGMED, dated May 22, 2003.

Under the terms of the option agreement, Cana-Trimax has agreed to assign 100% of its rights in the Laerma, Dashui and Xiahe Properties in consideration of:

- PGA issuing up to a maximum of 3,000,000 of its common shares to Cana-Trimax; and
- PGA reimbursing Cana-Trimax’s expenses in connection with the Cooperation Agreements up to a maximum of US$20,000.

The assignment of up to a maximum of 3,000,000 of PGA’s common shares is subject to due diligence and, if required, requisite stock exchange approval. If the closing of the assignment of these shares has not occurred by December 31, 2003, either party may terminate this option agreement by notice in writing to the other party.

Under the assignment agreement, PGA has indicated that it is willing to provide funds and cooperate with the BGMED in carrying out mineral resource exploration and both parties have indicated their willingness to jointly invest and to share the risks and exploration results within the areas defined by the Properties.
A6. REGIONAL GEOLOGICAL SETTING

A6.1 TECTONIC SETTING

The Laerma, Dashui and Xiahe Properties are all situated within the western section of the Qinling fold belt system (Figure 3). The Qinling fold belt contains a large number of sediment-hosted gold deposits (Peters, Huang and Jing, 2002) and is one of the most important gold producing regions in China (Yang, 1996). It is a mobile zone that formed mainly in the Permian-Triassic, but has been active since the Archean.

To the southeast, the Qinling fold belt is in contact with the Yangtze Craton, a Precambrian basement block. To the northeast, the West Qinling fold belt connects to the North China (also known as the Sino-Korea Block or Huabei Craton) Precambrian cratonic basement block via the early Palaeozoic Qilian fold belt. Situated to the west of the Qinling fold system is the eastern sector of the late Palaeozoic Kunlun Variscan fold belt, which in turn lies on the southern margin of the Qaidam Tectonic Belt.

South of the West Qinling fold system is the Garze-Songpan Indo China fold belt and the Yidun collisional orogenic belt. This collisional zone forms the junction of the Eurasian and Indian Plates and represents a major suture that was sealed and then distorted by subsequent tectonic movements (Yang, 2000). West of this collisional zone, Precambrian rocks of the Indian Plate are exposed in the cores of folds in the Himalayan fold system and extend southerly from Myanmar into the Malaysian Peninsula. The succession of thrust slabs that form the Himalayan Range, consist mainly of sediments that were probably deposited on a continental shelf north of India.

The northern boundary between the Yangtze and North China Cratons is a deep-crustal suture or subduction zone known as the Lixian-Baiyun-Shanyang Suture. The West Qinling
Laerma, Dashui and Xiahe Properties
Gannan Prefecture, Gansu Province, People's Republic of China

Tectonic Elements of China

Figure 3.

Pargas Enterprises Ltd.
fold system lies to the south of this suture and is divided into a northern subzone, termed the Variscan fold belt, and the southern Indo China fold belt subzone (Yang, 2000). Since the end of the Triassic, the West Qinling fold belt has acted as a competent peel-off thrust belt, which developed ductile-brittle faults as a result of compression. The late Triassic-Jurassic Indo-China and Yanshanin igneous orogenic events took place within this fold belt, being dominated by the intrusion of S-type and I-type intermediate-acid magmas and associated volcanic eruptions along major fault structures.

The southern Indo China subzone of the West Qinling fold belt represents a mineral province that hosts several epithermal style sediment-hosted gold-mercury-antimony-arsenic and uranium deposits. These deposits are located in three gold-rich metallogenic belts (Figure 4):

1. The Zhouqu-Qingkeyan gold metallogenic belt lies to the north of the Bailongjiang composite anticline and south of the Danchang-Zequ mercury-antimony metallogenic belt. The belt extends some 300 km in a west-northwest direction. Gold mineralization occurs in the Xiawuna Formation and the Gudaoling Formation, comprising muddy limestones, calcareous slate, tuffaceous slate, silty slate and middle Carboniferous carbonates and siliciclastics. Included within this belt are the Jiuyuan, Heiduosi, Pingding and Chabu gold deposits.

2. The Lianghekou-Bohai gold metallogenic belt is distributed along the axis of the Bailongjiang composite anticline, coincident with a uranium belt. The belt extends 100 km in an east-west direction and gold mineralization occurs in the early Cambrian Edu Formation and the late Proterozoic Yaxiang, Xige and Laerma Formations. The larger gold deposits include Laerma, Jiuyuan and Qiongmo.

3. The Maqu-Nanping gold metallogenic belt is located south of the Bailongjiang composite anticline and terminates on the western margin of the Garze-Songpan fold
belt. This zone trends northwest to west-northwest, generally following the Maqu-Lueyang Fault structure for over 350 km. The main gold deposits are hosted within middle Triassic carbonate formations and include the Gerke, Zhongqu, Shijiba, Shuishengou, Gejiebisu, Lianhecun, Baxi and Jiawuchi gold deposits.

West-northwest striking reverse thrust faulting has controlled the distribution of gold mineralization. The reverse thrust faults occur in three fault corridors (see Figure 4); the Zecha-Jiumoliang, Maqu-Lueyang and the Wenquan-Yiwa, which together controlled the geological and structural development of the region.

The boundary of the northern Variscan subzone of the West Qinling Fold Belt is defined by the Zecha-Jiumoliang Fault (see Figure 4), which is a complex west-northwest striking reverse thrust fault system that dips to the north. Magmatism of an intermediate to acid-intermediate composition was a feature of the Variscan subzone during the late Triassic-Jurassic. The Xiahe Property is located within this subzone.

The Taohe composite anticline structure, developed within the Triassic sequence, has divided this northern subzone from the southern Indo China subzone, the margin of which is defined by the Wenquan-Yiwa Fault (see Figure 4). In marked contrast to the Zecha-Jiumoliang Fault, the arcuate Wenquan-Yiwa fault system dips to the south.

The southern sector of Gansu Province consists of a fault bounded Cambrian-Ordovician-Silurian age sequence, exposed as the Maqu-Diebu nappe structure in the core of the Bailongjiang composite anticline. The arcuate Bailongjiang anticline and its associated secondary antiform structures can be traced for some 300 km, extending from Wudu in the east to Gahai in the west and has been disrupted by numerous northeast striking transfer faults. The Laerma gold deposit is situated on the western nose of this anticline, 10 km east of Gongba.
Gold mineralization in southern Gansu Province is essentially restricted to the corridor bounded by the Wenquan-Yiwa and the Yangpenggou Faults.

The Maqu-Lueyang Fault forms an arcuate reverse thrust fault structure extending to the southeast. It marks the southern margin of the southern Gansu sector and is composed of a series of parallel reverse thrust faults. Extensional strike-slip movements have occurred at the western end, while the eastern sector is in a compressive state.

Numerous northeast striking transfer faults, with displacements recognised in a sinistral sense have disrupted the major west-northwest trending reverse thrust fault structures. Extensional directions are northeast-southwest, approximately orthogonal to the trend of late Palaeozoic arc, forearc and subduction complex strato-tectonic elements.

Deformation is evidenced by subparallel en-echelon folds that were probably associated with transpressional thrusting along the reverse thrust faults.

According to the BGMR (1991), geophysical evidence indicates the major reverse thrust faults are deep seated convergence structures that display features typical of listric faults. When combined, the structural pattern is typical for an extensional sinistral strike-slip duplex with a negative flower structure.

Since the end of the Triassic, the West Qinling Fold Belt has acted as a competent peel-off thrust belt, which developed ductile-brittle faults as a result of compression. The late Triassic-Jurassic Indo-China and Yanshanin Igneous Orogenic Events took place within this fold belt, being dominated by the intrusion of intermediate-acid magmas and associated volcanic eruptions along major fault structures.
WGM has not undertaken any geological mapping in this region and so relies on the numerous reports by the BGMR in describing the various geological settings.

A regional geological mapping program conducted by the Gansu BGMR (1991) during 1970-1972 identified the main stratigraphy, structure and mineral occurrences of Gannan Prefecture (see Figure 4). Recent geological mapping has been undertaken at 1:380,000 scale (BGMR, 2001a) and more detailed 1:200,000 scale (BGMR, 2000a and BGMR, 2003). The regional geology of the Luqu I-48-13 map sheet, covering the Laerma and Dashui Properties is presented in Figure 5.

**Late Proterozoic**

The oldest rocks exposed in southern Gansu Province are late Proterozoic-early Cambrian age turbidites, comprising terrigenous fluvial and lacustrine sediments which have been carried by gravity and geostrophic currents down the continental slope. This late Proterozoic sequence is represented by the Laerma Formation, best exposed at the Laerma gold deposit and is probably equivalent to the Xige Formation.

The lower member of the Laerma formation consists of grey-black carbonaceous-sericitic slate, while the middle member comprises grey-dark grey carbonaceous siliceous banded rocks with algal fossils. The upper member of the Laerma formation consists of purple-red, striped hematite-rich exhalite, siliceous exhalite, siliceous slates, grey slate and tuffaceous slate.

Sedimentary features observed in the Laerma Formation include varved and lamellar bedding, together with scour structures. The Laerma Formation is interpreted by the BGMR (1991) to represent an original sequence of limey mudstones and limestone.
Legend:

QUATERNARY
Alluvium, clay, sand, pebble conglomerate

NEogene
Gravel, sand & mudstone

CRETAceous
Lake
Lacustrine limestone, conglomerate, sandstone & mudstone

JURASSIC
Gravidiotite porphyry

Dendritic tuff, conglomerate, sandstone & mudstone

TRIASSIC
Limestone, dolostone, sandstone & shale

Limestone, slate & sandstone

Early
Limestone, dolostone, sandstone & shale

Early
Indo China IGNEOUS SERIES

Graanidiorite

PERMO-TRIASSIC
Limestone, sandy limestone, silty sandstone & shale

Carboniferous
Limestone, dolostone, sandy limestone, tonym conglomerate

Limestone, slate, sandstone, sandy conglomerate

DEVOonian
Slate, sandstone, limestone, siliucens conglomerate

SILURIan
Reverse thrust fault

Transfer fault

Mine

Prospect

NOTE: Dashui and Laerma properties outlines referenced to geology map after BGRM (2000a).

Figure 5.

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Laerma and Dashui Properties
Gannan Prefecture, Gansu Province, People's Republic of China

Regional Geology Map of the Laerma-Dashui Properties
**Cambrian**

Within southern Gansu Province, Cambrian sedimentation mainly consisted of limestone and carbonaceous pelite, volcanics and sandstone, being represented by the early Cambrian Edu Formation of the Taiyangding Group.

The basal section of the Edu Formation consists of thin, laminated dark carbonaceous and siliceous slates, tuffaceous slate and pyrite-bearing silty slate. Sedimentary textures observed in this section include cross stratification, horizontal bedding and laminated bioclastic structures. The upper part of the Edu Formation consists of dark grey, banded carbonaceous-sericitic slate, phyllitic sericitic slate and tuffaceous slate. Overlying the Edu Formation is an undivided middle-late Cambrian sequence consisting of light grey-green sericitic slate, phyllite and phyllitic carbonaceous sericitic slates.

Minor small shelly fossils of *cylindochites llaiznuangziensis* and *Hyolitithellusinheensis* have been identified (BGMR, 1991). Planar and soft sediment slump bedding structures are recognised within the Edu Formation, together with rhythmic stratification. This rhythmic stratification is attributed by the BGMR (1991) to the differing density of the sediments being deposited on a continental slope. The Cambrian sediments are interpreted by the BGMR (1991) to represent chasm-like channel turbidite deposits and restricted shelf depositional environments.

Rocks in the Taiyangdang Group contain high organic carbon up to 14.6% C (Li and Li, 1994). Lithogeochemical studies (BGMR, 1991) have indicated that the average abundance of gold in the Cambrian stratigraphy is 30.7 ppb Au, which is regarded as highly anomalous.

The late Proterozoic–Cambrian rocks were subsequently folded and metamorphosed during the Caledonian (570-405 Ma) orogeny (Peters, Huang, and Jing, 2002).
Ordovician
Ordovician stratigraphy is dominated by siliciclastics with minor intercalations of Ca-Mg-rich carbonates. Within the West Qinling fold belt, Ordovician stratigraphy is represented by the Sulimutang Group, composed of slate and phyllite, quartzite and shallow marine acid-intermediate volcanics are recognised.

Silurian
Silurian stratigraphy is represented by the Yangchanggou and Xiadi Formations (BGMR, 1991). Comprising marine clastics and mixed carbonate with volcanic rocks, this sequence is considered to represent a marine transgression.

The early Silurian Yangchanggou Formation consists of a lower sequence consisting of grey-green, thin bedded quartz greywacke, siltstone and carbonaceous slates, while the upper section comprises algal-rich siliclastics, intercalated with calcarenites, sericite altered silty slates and siltstones. The BGMR (1991) consider the formation represents lagoonal to neritic (shallow marine) depositional environments.

The middle Silurian Xiadi Formation consists of slate, schist and phyllite.

Devonian
During the Hercynian (405-230 Ma) orogeny, a complete late Palaeozoic stratigraphic section was deposited in a basin that developed between the Yangtze and North China Cratons. This sedimentation consisted of Devonian flysch and limestone, interlayered with volcanic rocks. These Devonian sediments host many of the sediment-hosted gold deposits of the Qinling fold belt.

The BGMR (1991) believe the Devonian represents an unstable transgressive depositional environment. Lithogeochemical studies (BGMR, 1991) have indicated that the average abundance of gold in the Devonian stratigraphy is 2.93 ppb Au.
Early Devonian stratigraphy (BGMR, 1991) consists of a basal bioclastic limestone unit, overlain by a sequence of interbedded calcareous slate, sandstone, limestone and argillaceous limestone. The upper section consists of sandstone, limestone and an evaporitic dolomite unit.

During the middle-late Devonian, platform facies carbonates were deposited, being represented by the Middle Devonian Gudaoling Formation (Liu, 1994). This formation consists of a lower sequence of medium-bedded micritic limestone and bioclastic limestone, interbedded with carbonaceous and calcareous slate. The upper sequence is comprised of calcareous sandstone and siltstone, with interbedded micritic limestone.

Late Devonian stratigraphy consists of limestone, argillaceous limestone, siltstone and slate (BGMR, 1991).

**Carboniferous**

The Devonian sequence is overlain by a Carboniferous littoral facies, comprising quartz sandstone, carbonaceous shale and platform carbonate sediments.

Early Carboniferous stratigraphy consists of quartzite, feldspar-quartz sandstone, containing minor pebble bands and siltstone interbeds. This is overlain by limestone and dolomite, followed by sandstone with limestone and conglomerate.

The middle Carboniferous sequence is composed of fine grained sandstone, siltstone, mudstone and limestone, with thin coal beds in the lower section. Dark limestone, sandy limestone, siltstone, silty shales and minor conglomerate occur in the upper section.

Composed of a lower section of sandstone and conglomerate, late Carboniferous stratigraphy is represented by limestone, crystalline limestone and limey conglomerate.
Permian
Permian sedimentation overlies the Carboniferous sequence and consists of limestone and argillaceous limestone, with interbedded silty shale and siltstone. Lithogeochemical studies (BGMR, 1991) have indicated that the average abundance of gold within limestones of the Permian stratigraphy is 10 ppb Au.

The early Permian sequence is composed of a lower section consisting of slate, sandstone, conglomerate and limestone. This is overlain by limestone, sandstone, silty shales and shales with occasional pebble bands. Localised volcanic activity is present in this section, consisting of andesite lavas and tuffs.

Middle Permian lithologies are composed of limestone, carbonaceous shales and calcareous mudstones.

Late Permian sediments consist of limestone, shale and silty sandstone, with some interbedded coal seams. This sequence represents a marked change from a platform carbonate environment to continental clastic sedimentation.

Triassic
An eastwards-directed tectonic cycle gradually evolved during the Devonian-Permian, involving progressive folding of the pre-Triassic rocks, which culminated in the deposition of early Triassic shale and limestone (Peters, Huang, and Jing, 2002). Geosynclinal sedimentation developed during the Triassic that was abruptly terminated by the late Triassic Indo-China Series igneous intrusive activity and associated collisional tectonism. This activity resulted in the Triassic and older rock units being metamorphosed and deformed.

The early Triassic sequence is represented by the Shangyan Formation (BGMR, 2000f), consisting of basal quartz sandstone and pebble conglomerate, which is overlain by grey argillaceous slate, silty slate and feldspar-quartz sandstone with dark grey thin bedded micritic limestone containing
Eumorphotos Sp and Eutolium discites (schloth) fossils (BGMR, 2000b). This sequence is overlain locally by acid-intermediate submarine volcanics and associated volcaniclastics.

The upper section of the early Triassic is composed of oolitic and pisolitic limestone, brecciated limestone, banded limestone, dolomite, jasperoidal silica exhalites, siltstone, grey calcareous slate and sandstone. Fossils identified within this section include Pleuronectites of difformis chen and Neritaria comensis M. Mornes (BGMR, 2000b). This early Triassic sequence is the host sequence at the Gerke gold mine (BGMR, 2000b and 2000f) adjacent to the Dashui Property.

The middle Triassic sequence is composed of a lower section of slate, feldspathic and feldspar-quartz sandstone with argillaceous slate, silty sandstone, shales and minor dolomite and grey-white thick bedded micritic-argillaceous limestone, with bioclastic textures (BGMR, 2000b). The upper section consists of quartzite, slate, shale with interbedded limestone and conglomerate. Localised extrusions of submarine porphyritic basalt lavas are also recognised in some areas.

Late Triassic-early Jurassic stratigraphy is dominated by quartzite, sandy slate, schist, purple-red limey conglomerates and calcarenite. Fossil assemblages identified include Clathropteris ofelegans oishi, cladophlebis Sp and Nilssonia Sp (BGMR, 2000b).

The end of the Triassic was influenced by the Indo China orogeny and its associated tectonism. Lithogeochemical studies (BGMR, 1991) have indicated that the average abundance of gold in the Triassic stratigraphy is 1.95 ppb Au, although Triassic limestones are considered highly anomalous and contain 30 ppb Au. The anomalous abundance of gold within these limestones is attributed by the BGMR (2002) to be caused by the presence of gold-bearing thermal fluids during sedimentation.
Late Triassic Indo-China Igneous Series

Since the end of the Triassic, the West Qinling Fold Belt has acted as a competent peel-off thrust belt, which developed ductile-brittle faults as a result of compression. The late Triassic-Jurassic Indo-China and Yanshanin Igneous Orogenic Events took place within this fold belt, being dominated by the intrusion of intermediate-acid magmas and associated volcanic eruptions along major fault structures.

During the Indo China orogeny, magmatic activity was widespread along the Qinling fold belt. Intrusive rocks consist of stocks and plutons of S-type geochemically intermediate composition, such as biotite granite and granodiorite, emplaced during the Triassic-Jurassic (149-230 Ma) (Liu, 1994). Magmatism was dominant in the Variscan subzone, but also sporadically developed in the Indo-China subzones of the West Qinling Fold Belt.

Magmatic activity evolved gradually from ultrabasic to acid-intermediate and alkaline to calc-alkaline composition along linear fault controlled belts. Pyroxene gabbro, diabase, granodiorite, adamellite, biotite quartz diorite, syenite and dacite occur as small batholiths, plutons, stocks, sills and dykes. Isotopic age dating provides ages of 214-368.5 Ma (late Devonian to early Triassic).

Lithogeochemical studies (BGMR, 1991) have indicated that the average abundance of gold in the Indo China series granodiorite is 17.6 ppb Au.

Yanshanin Jurassic Igneous Series

The Yanshanin stage magmatism (185-65 Ma age) is expressed as batholiths, hypabyssal porphyry stocks, sills and dykes of I-type alkali-rich or poor, intermediate to acid-intermediate composition, that are associated with regional faults.

Batholiths and stocks are composed of early stage granodiorite, tonalite, plagioclase granite porphyry, diorite, granodiorite-porphyry, diorite-porphyry, with later stage syenite, plagioclase
syenite porphyry and andesite porphyry. Zonation within individual intrusive bodies is also recognised, with variations in composition noted in the core and margin facies.

Most of the sediment-hosted gold deposits contain dykes of intermediate composition along their host structures (Peters, Huang, and Jing, 2002). Xie and others (1996) have suggested that the orogenic quartz gold deposits are spatially and temporally related to this intrusive activity. Lithogeochemical studies (BGMR, 1991) have indicated that the average abundance of gold in the Yanshanin age granodiorite porphyry is 11-33 ppb Au, which is regarded as significantly anomalous.

Zhu and others (1995) indicate the Yanshanin orogeny was the most important metallogenic epoch in China for Sn, Cu, Mo, Au, U, Pb, Zn and Fe resources. Yanshanin magmatism not only introduced these ore-forming minerals, but also created favourable conditions for mobilization and reconcentration of proto-ores of earlier geological ages.

**Jurassic**

Collision between the Yangtze and North China Cratons occurred during the Indo China orogeny. This tectonism resulted in further metamorphism of the Proterozoic rocks and deformation of the Devonian-Permian sequence in the West Qinling fold belt region. Sedimentation ceased during the early Jurassic, corresponding with the end of the Indo China (230-195 Ma) orogeny. It culminated in the intrusion of intermediate-felsic plutons of the Yanshanin age igneous series (185-65 Ma), accompanied by associated folding and faulting.

During the early Jurassic, the older stratigraphy was uplifted and then eroded. Extensional tectonism and block faulting followed this event and sedimentation resumed in the middle Triassic following the extrusion of andesite, andesite porphyry, andesite breccia, tuff and pumice. This sedimentation was of a minor nature and consisted of deposition of volcanioclastics, sandy mudstone, shale, siltstone, sandstone, conglomerate and coal seams within lacustrine environments developed in localized structural depressions.
Lithogeochemical studies (BGMR, 1991) have indicated that the average abundance of gold in the Jurassic stratigraphy is 0.48 ppb Au.

**Cretaceous**

Extensional tectonism and block faulting followed the Yanshanin orogenic event. During the Cretaceous, northeast striking transfer faults were activated in a sinistral sense, which produced extension orientated in a north-south direction (BGMR, 1991). This pull-apart extension generated a series of grabens along the west-northwest trending Bailongjiang and Maqu-Lueyang fracture zones. Red bed molasse-style alluvial fan and lacustrine sediments were deposited into and accumulated in these grabens.

Early Cretaceous sedimentation consists of a purple-red coloured sequence that is in faulted or unconformable contact with the older rock units. A basal pebble conglomerate is present, followed by sandstone, mudstone, limestone, with interbedded coal seams in the upper section. Grey-green andesite and tuff are locally developed, associated with the waning stages of Yanshanin igneous activity.

**Eocene**

Red bed molasse-style alluvial fan and lacustrine deposition continued sporadically during the Eocene, with deposition of pebble conglomerate, sand, gravel, sandstone, mudstone and gypsum (BGMR, 1991).

**Neogene**

Neogene sedimentation is poorly represented in southern Gansu Province (BGMR, 1991). Maroon-grey mudstone with a basal conglomerate is observed, indicating continuing red bed molasse-style alluvial fan and lacustrine deposition.
Quaternary sedimentation consists of sand dunes, flood plain, swamp and recent sand and gravel river alluvium. While extensively developed in northern areas of Gansu Province, loess blanket sand dune deposits are only occasionally developed in southern Gansu Province. It is believed the wind-blown loess blanket developed downwind of areas that were glaciated during the Pleistocene age.

The stratigraphic nomenclature used by the Gansu BGMR generally conforms to that proposed by the Ministry of Geology and Mineral Resources (1985) and updated periodically by the Committee for Determining and Approving Terminology in Geology (1993). However, the author considers that the correlation of individual rock units is not well understood by the BGMR, mainly because of the complex tectonic history, lithology and local variations in names of geological units.

The repetitive cyclic nature of the Devonian-Permian sequence, possibly induced by listric faulting, together with overprinting by metamorphism, deformational and hydrothermal alteration events has further added to this complexity.

A6.3 REGIONAL STREAM SEDIMENT GEOCHEMISTRY

A regional multi-element stream sediment sampling survey was completed during 1979-1983 over the Luqu I-48-13 map sheet (BGMR, 1983). This stream sediment survey involved the collection of a -80# sieved sample weighing 200 g and a panned concentrate sample at each site, at an approximate sample density of 1 sample per km$^2$. Samples were analysed at the Gansu Provincial Laboratory using atomic absorption techniques for Au, Ag, Cu, Pb, Zn, Hg, As, Sb and Mo, as well as W, Sn, U, V, Ni, Cr, Cd, Mn, Fe, Ca, Ba, and F. The heavy mineral fraction in the panned concentrate was also examined under a binocular microscope for mineral identification purposes.

Contour maps for each element were produced by averaging the four values on the corners of a 1 km square and plotting this value in the middle of the square. Figure 6 illustrates the contoured Au,
Ag, Cu, Pb, Zn, Hg, As, Sb and Mo geochemical maps of the Luqu I-48-13 map sheet, containing the Laerma and Dashui Properties.

Several anomalous areas were located by this regional stream sediment sampling survey, which were then subjected to closer spaced stream sediment follow up surveys at 1:50,000 scale during 1985-1986 (BGMR, 1991). These follow up surveys located the gold mineralization at the Laerma and Dashui Properties.
Figure 6.

Pargas Enterprises Ltd.

Larmera and Dashui Properties
Gannan Prefecture, Gansu Province, People’s Republic of China

Stream Geochemistry Map
of Larmera and Dashui Properties

Map modified after BGMR (1983)
SECTION B:
LAERMA PROPERTY
B1. LAERMA PROPERTY DESCRIPTION AND LOCATION

The Laerma Property consists of a single Exploration Permit that contains 16 quarter-minute sub-block units, covering approximately 3.2 km$^2$ (Table 1). The Exploration Permit is located in southern Luqu County of the Gannan Prefecture, Gansu Province (see Figure 2). The property is centred on Latitude 34°12'52.9"N and Longitude 102°41'47.7"E (see Figures 3, 4 and 5). The holder of the exploration permit is Gansu BGMR Brigade No. 3 under the project name Gansu Gannan Luqu Laerma Gold Mine Exploration.

The Laerma gold deposit covers an area about 4 km long east-west by 1 km north-south and partially extends to the east across the Gansu Provincal border into Sichuan Province.

<table>
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<th>Exploration Permit No.</th>
<th>Project Name</th>
<th>Quarter-Minute Units</th>
<th>Area (km$^2$)</th>
<th>Grant Date</th>
<th>Expiry Date</th>
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<td>334620140</td>
<td>Gansu Gannan Luqu Laerma Gold Mine Exploration</td>
<td>16</td>
<td>3.2</td>
<td>April 1, 2003</td>
<td>April 1, 2006</td>
</tr>
</tbody>
</table>

The Laerma Property has not been legally surveyed. A copy of the legal property description was provided to the author by the BGMR and subsequently translated.

The author is unaware of any environmental liabilities to which the Laerma Property is subject. However, it is possible the joint venture parties may assume responsibility for any environmental liabilities that may arise as a result of the removal of the illegal mining operation, currently active on the property.
B2. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND
PHYSIOGRAPHY

B2.1 ACCESS

The Laerma Property lies 48 km southeast of the town of Luqu, within the jurisdiction of Luqu County of Gannan Prefecture (see Figure 2).

Access to Laerma Property is via an 18 km long simple 4-WD vehicle track from the village of Gongba, taking about 30 minutes by vehicle. Gongba lies on the Trans China Highway Route G213 and is approximately 83 km by road from Luqu. Route G213 is currently under construction as a 4-lane sealed highway and is scheduled for completion in 2004. However, the current condition of this road is very poor and the journey between Luqu - Gongba takes at least 3½ hours.

B2.2 CLIMATE

Climatically the Laerma Property experiences cold winters and mild summers. Temperatures average 1°C during winter and can drop to as low as -17°C overnight in January. Snow can cover the property between September and May and the ground surface becomes frozen to about 3 m depth. During summer, daily temperatures average 17°C in July. Most of the region’s annual rainfall of 810 mm falls during the months of July and August. The prevailing wind direction is from the northwest.

B2.3 LOCAL RESOURCES

The east-west trending Laerma Range acts as a mountain divide. North of the divide is the Laan River, while the creeks draining south of the divide flow into the Shuitang River. The Laan River flows all year round, with seasonal variations in the flow rate of 1-8 m per second and is a suitable
water resource for mining and industrial purposes. However, the elevated uranium content of the water makes the water unsuitable for drinking purposes.

Infrastructure at the Laerma site consists of a BGMR exploration campsite and a recently established illegal mining operation, which is further discussed later in this report. A power line connects the BGMR exploration campsite to the national grid 25 km away and recently the illegal mining operation established at Laerma has connected a 3 km spur line direct to the property.

Experienced manpower for exploration activities is available through the BGMR and the village of Gongba. The property is covered by the Chinese national mobile phone network, so phone and internet communication services are available in most parts of the area.

**B2.4 INFRASTRUCTURE AND PHYSIOGRAPHY**

Topographically, the Laerma Property consists of gentle, undulating hilly terrain (Photo 1), with elevations ranging from 3600 to 3900 metres above sea level ("masl"). The Laerma Range rises gradually eastwards to a sharp spine-like ridge that rises up to Laerma Summit (4059.4 masl), situated just across the border in Sichuan Province.

Vegetation over the property is dominated by light prairie grass cover, with minor sunflower and weed growth. The local nomadic Tibetan population graze their Yak, sheep and goat herds on these plains.
Photo 1. **View looking northeast of the Laerma Property.**

Typical prairie grassland vegetation cover and the Laerma Range rising gradually eastwards up to Laerma Summit (4059.4masl) in Sichuan Province. Note the trench lines spaced approximately 100m apart over a 2.3km strike length, running perpendicular to the east-west striking trend of gold mineralization, with the illegal mining operation at the western end.
B3. HISTORY

The exploration history of the Laerma Property and surrounding region has been summarised by the BGMR (1991). Initial investigations of the region by the Gansu BGMR mapped the stratigraphy, structure and mineral occurrences during 1970-1972.

A multi-element regional stream sediment sampling survey was completed during 1979-1983 over the Luqu map sheet (BGMR, 1983). Several anomalous areas were located, which were then subjected to closer spaced stream sediment follow up surveys during 1985-1986. One of these follow up surveys indicated the presence of anomalous Au-Sb-Hg-As-U in creeks draining the western flanks of the Laerma Range. During this follow up program, gold mineralization at Laerma was discovered by subsequent grab rock chip sampling of outcropping quartz vein breccias, hosted in silicified carbonaceous siltstones.

Between 1986 and 1990, the BGMR (1991) completed a comprehensive, detailed prospect evaluation of the Laerma Property. Several geological papers have been written on subsequent research conducted on the Laerma deposit, including those by Zhang (1993), Li and Li (1994), Liu and others (2000) and Wang and others (2000).

A decision was made by the BGMR to mothball the Laerma Project after their heap leach trials proved unsuccessful in 1994.

Pargas has not conducted any exploration on the Laerma Property.
B4. GEOLOGICAL SETTING

B4.1 REGIONAL GEOLOGY

The geology of the Laerma Property is summarised in BGMR (1991 and 2000c) and Li and Li (1994) and illustrated in Figure 7.

The Laerma gold deposit is situated at the western margin of the Wenquan-Yiwa Fault, near the nose of the Bailongjiang composite anticline (see Figures 4, 5 and 7). It lies within a structurally complex area, with east-west structures playing an important role of introducing mineralization and deposition.

B4.2 LOCAL GEOLOGY

The Laerma gold deposit is mainly hosted within the late Proterozoic Laerma Formation.

The lower member of the Laerma formation is 25 m thick and consists of grey-black carbonaceous-sericitic slate. Comprising grey-dark grey carbonaceous siliceous banded rocks with algal fossils, the middle member is believed to be 119 m thick. The upper member of the Laerma formation is about 60 m thick and consists of purple-red, striped hematite-rich exhalite, siliceous exhalite, siliceous slates, grey slate and tuffaceous slate.

Sedimentary features observed within the Laerma Formation include varved and lamellar bedding, together with scour structures. The Laerma Formation is interpreted by the BGMR (1991) to represent an original sequence of limey mudstones and limestone.

Overlying the Laerma Formation, the Cambrian Edu Formation is approximately 130 m thick. The basal section consists of thin, laminated dark carbonaceous and siliceous slates,
tuffaceous slate and silty slate. Sedimentary textures observed in this section include cross stratification, horizontal bedding and laminated bioclastic structures.

The upper part of the Edu Formation consists of dark grey, banded carbonaceous-sericitic slate, phyllitic sericitic slate and tuffaceous slate. Minor small shelly fossils of *cylindochites*, *llaiznuangziensis* and *Hyolitithellusinheensis* have been identified (BGMR, 1991). Planar and soft sediment slump bedding structures are recognised, together with rhythmic stratification. This rhythmic stratification is attributed by the BGMR (1991) to the differing density of the sediments being deposited on a continental slope. Occasionally siliceous clots or nodules are observed within this unit at the Laerma gold deposit.

Overlying the Edu Formation is an undivided 25 m thick middle-late Cambrian sequence consisting of light grey-green sericitic slate, phyllite and phyllitic carbonaceous sericitic slates.

The Cambrian sequence is interpreted by the BGMR (1991) to represent chasm-like channel turbidite deposits and restricted shelf depositional environments.

Ordovician stratigraphy is represented by the Sulimutang Group, composed of slate and phyllite. At the Laerma gold deposit, it is exposed north of the hanging wall fault zone and contains minor thin limestone lenses.

The early Silurian Yangchanggou Formation consists of a lower 405 m thick sequence consisting of grey-green, thin bedded quartz greywacke, siltstone and carbonaceous slates. Comprising algal-rich siliciclastics, intercalated with calcarenites, sericite altered silty slates and siltstones, the upper sequence of the Yangchanggou Formation is estimated to be 289 m thick. The BGMR (1991) consider the formation represents lagoonal to neritic (shallow marine) depositional environments.
At the Laerma gold deposit, the middle Silurian Xiadi Formation consists of slate, schist and phyllite. It forms the footwall of the mineralized zone, being separated from the late Proterozoic Laerma Formation by a major east-west striking, north dipping fault structure.

B4.3 STRUCTURE

The Laerma gold deposit is localised by the east-west trending Bailongjiang anticline, the axis of which plunges gently to the west and is tilted steeply to the north. This anticline has a typical nose shape, being open to the east but convergent and gently plunging to the west. The Bailongjiang anticline terminates against the major east-west striking Wenquan-Yiwa fault structure to the south. Folding is intensely developed in proximity to this major fault structure, but gradually decreases or disappears away from the structure. Numerous secondary folds are also developed.

The Wenquan-Yiwa fault displays cataclastic breccia and slickenslide textures and has a dip of 60-65° to the north. It is a 100 m wide fracture zone with evidence of multiple reactivated movements.

A series of east-west trending subsidiary fault structures is developed in the hanging wall and subparallel to the major fault. These faults are generally narrow, smooth and of a single fault plane or slickenslide type, with reverse thrust fault movements evident. The attitude of these faults is steeply inclined to the north. Field evidence suggests the east-west faults have been reactivated by several tectonic episodes.

The various east-west trending fault structures are truncated by a series of slightly arcuate northeast to north-northeast striking transfer faults. Sinistral movements along these faults have been recognised. The intersection of these transfer faults with some of the east-west subsidiary reverse thrust faults has localized hydrothermal breccias as dilation structures, being infilled with silica-barite and sulphide and containing higher gold grades (Photo 2).
Photo 2. View looking west along a high grade hydrothermal breccia vein and gentle north dipping silica-pyrite altered carbonaceous siltstone
Well developed bedding, slickenslides and brecciation textures are common. Joints and small localized faults are developed within the silicified host rocks indicating north-south orientations. These structures probably represent subsidiary riedel shears, which developed in response to east-west directed compression during the late Cretaceous.

**B4.4 IGNEOUS ACTIVITY**

Narrow 1-2 m wide quartz-diorite and andesite-dacite porphyry dykes are occasionally observed infilling some of the reverse thrust fault structures. This intrusive activity has also probably contributed to the formation of the Bailongjiang composite anticline.

The dykes are altered and mineralized in places. Early dykes are identified as quartz diorite, which has been initially kaolinite-carbonate altered. These dykes have subsequently been overprinted by the later mineralization stage and associated tectonic movements.

Younger dykes of granodiorite are recognised, with locally developed porphyritic texture. Coarse grained phenocrysts of feldspar and quartz are set in a finer matrix of similar composition. Alteration within these late stage dykes consists of saussuritization (albite-zoisite-epidote) and kaolinite-muscovite. The age of the unaltered intrusive has been determined by K-Ar method as 129.7-137.4 Ma, which would be the oldest age limit for mineralization.

The largest intrusive body in proximity to the Laerma gold deposit is situated 4 km east of Laerma Summit, where a diorite porphyry stock of Yanshanin age is exposed.

The presence of a buried intrusive body is inferred from the dyke activity which could generate the heat for meteoric fluids to produce a hydrothermal gold mineralising system.
B4.5 METAMORPHISM

The late Proterozoic-Cambrian rocks were folded and metamorphosed during the Caledonian (570-405 Ma) orogeny (Peters, Huang, and Jing, 2002). Low-grade greenschist facies metamorphism has affected most of the rock units in the area, as a result of a regional dynamic metamorphism. This has resulted in the development of phyllite and sericite schist lithologies. Higher-grade thermal metamorphism has occurred surrounding the igneous body to the east.

Mylonitization, recrystallization and deformation are most pronounced where compressive structures and wrench deformation are best developed. The east-west Wenquan-Yīwa Fault displays well developed brecciation and cataclastic fault textures. It contains recrystallized organic material that has been transformed into graphite and then brecciated, indicating multiple tectonic movements.
B5. DEPOSIT TYPES

The Laerma gold deposit is considered by Li and Li (1994) to have been deposited near a hot spring vent-fault structure which has provided the silica and fault structures. Li and Li (1994) cited evidence for this hot spring such as iron and silica rich exhalative horizons and the increase in algal abundance towards the fault-vent structure. They inferred the hot spring was a pelagic (deep ocean sea floor) thermal-hydrothermal vent, based on the interpretation of rhythmic bedding to represent a turbidite depositional environment.

The author agrees with the conclusion that the deposit represents a hot spring environment, and further suggests the siliceous clots or nodules, observed within the Edu Formation, represent subaqueous geyserite balls of silica exhalations from a hot spring vent, that have gradually nucleated around organic material held in suspension in water and then been deposited on the lake floor.

However, the author disagrees with the interpreted depositional environment of Li and Li (1994). Varved and lamellar bedding is typical of rhythmic cyclic sedimentation developed in a cold freshwater lacustrine sedimentary environment, resulting from the melting of glacial ice. The rhythmic bedding is more consistent with a lacustrine depositional environment with periodic influx of sediment, as are the small shelly fossils noted in the Edu Formation. In addition, flysch-type sediments typical of a turbidite environment are absent from this unit.

The author also has considerable doubts about the interpreted age (BGMR, 1991) of the host rocks and considers the Laerma and Edu Formations are more akin to the Devonian-Carboniferous-Permian sequence. The small shelly fossils of cylindochites, llaiznuangziensis and Hyolitithellusinheensis are not age diagnostic, as they span the Cambrian-Permian (580-250 Ma).
The interpreted depositional environment at Laerma is therefore considered by the author to represent a sub-aqueous hot spring on a lake floor.

Alteration observed at the Laerma gold deposit is characteristic of both a low-sulphidation epithermal hydrothermal system and sediment-hosted gold mineralization. Alteration consists of a central core of silicification, associated with the gold mineralization, surrounded by an outer envelope of phyllic alteration. The chalcedony-comb quartz vein stockwork mineralization is identical to epithermal style veining.

A direct genetic association of gold mineralization to igneous activity is lacking, although both mineralized and unmineralized porphyry dykes have been identified within mineralized structures.

Stylolites observed on the margins of silica alteration are probably associated with the decalcification process and replacement of carbonate by silica. Carbonate is being removed and some organic and carbonaceous material within the host rock remobilised by the stylolites and then replaced by silica, sericite, barite and carbon. Decarbonatization can lead to significant volume loss, lower tensile strength and change in lithology shape and may be accompanied by tectonic strain, as evidenced by these pressure-dissolution stylolites. These decalcification processes are typically associated with Carlin-type sediment-hosted gold deposits.

Li and Li (1994) indicate the deposit contains high organic carbon that is related to gold content. The stratigraphic horizons hosting the Laerma gold deposit also contain high Au background concentrations. Carbonation is another characteristic feature of Carlin-type sediment-hosted gold deposits.

Alteration styles and mineralogy of gangue minerals and ores in sediment-hosted gold deposits in the Qinling fold belt have many similarities (Peters, Huang and Jing, 2002) to Carlin-type deposits (Hofstra and Cline, 2000). Sediment-hosted Carlin-type gold deposits have been considered economically significant and a geologically distinct style of mineralization since the early 1960s.
Besides the Great Basin district of Nevada, similar deposits are recognised in Australia, Dominican Republic, Spain, Russia, Indonesia, Malaysia, Philippines, Yugoslavia, Greece and China.

The geochemical signature, mineralogy and host rock type of the Laerma gold deposit have distinct similarities to Carlin-type sediment-hosted gold deposits. The author also considers the Laerma gold deposit has considerable affinity with the sediment-hosted, epithermal gold deposits of the Drummond Basin in North Queensland, Australia.

The mineralization at Laerma is slightly different however, in that it is contains weakly anomalous uranium and PGE minerals. Peters, Huang and Jing (2002) consider these differences may indicate the Laerma gold deposit represents either an evolved Carlin-type system, a mineralizing system that had access to additional minerals at depth, overprinting of two separate hydrothermal systems, or a hydrothermal process similar to, but distinct from, those which form Carlin-type deposits.

Age dates obtained provide ambiguous results, another common feature of Carlin-type deposits. Li and Li (1994) have dated the age of gold mineralization at Laerma at 49.5-12.7 Ma (Tertiary), on the basis of analysis of whole rock alteration and gold-bearing minerals. The author considers supergene weathering has probably had an age modifying influence on these results and they therefore represent the youngest age for the deposit. Age dating of unaltered intrusive has been determined by K-Ar method as 129.7-137.4 Ma (early Cretaceous), which probably represents the upper age limit for mineralization. In terms of a source bed genetic theory with the hot spring associated with the original sedimentary beds, the sequence has a potential age ranging from 580-250 Ma.

Elsewhere in the Qinling fold belt, Peters, Huang and Jing (2002) indicate similar conflicting wide age range dates for several sediment-hosted gold deposits. This wide range of ages is compatible with long, or multiple metallogenic gold events along the fold belt. Widely scattered age ranges are not uncommon from dating of Carlin-type sediment hosted gold deposits due to the problematic mineralogy of the dated ore minerals, and complex metallogenic history.
The author considers Laerma represents a version of a Carlin-type sediment-hosted gold deposit, with an epithermal hydrothermal system developed in a sub-aqueous lacustrine environment. This hydrothermal system probably was first initiated during deposition of the sediments. The Yanshanin age intrusive activity at depth probably provided the main heat engine to drive this hydrothermal system, with meteoric water input from the lake. The Yanshanin intrusives also probably introduced elevated gold into the hydrothermal system as a bisulphide complex $[\text{Au(HS)}]^2$, resulting in the migration of slightly acidic hydrothermal fluids along, and interaction with, permeable carbonate-rich reactive alkaline horizons.

The anticlinal structural setting and overlying finer grained sediments in a sub-aqueous setting, may have acted as a lithostatic and hydrostatic induced "pressure cooker" seal and lithological trap, which focussed and precipitated gold mineralization as equilibrium was disrupted in response to overpressuring during reverse thrust fault activity (hydrothermal breccias and stylolites) and fluid mixing (stylolite activity).
B6. MINERALIZATION

Apart from the BGMR (1991) work, several studies have been made of the gold mineralization at Laerma, including Zhang (1993), Li and Li (1994), Liu and others (2000) and Wang and others (2000).

Gold mineralization at Laerma is believed to have been introduced by the subsidiary reverse faults developed in the hanging wall of the Wenquan-Yiwa Fault. Higher grades of gold have been localised at the intersection of fault structures as pinch-swell bodies, surrounded by pervasive disseminated lower grade material.

Initial alteration consists of pervasive silicification, the distribution of which has been largely controlled by the host lithology’s original porosity, permeability and fracture density. Minor fine grained, disseminated pyrite is also associated with this alteration assemblage. Stylolites, containing carbonaceous material and pyrite, form the margins of this silicic alteration. Phyllic alteration, consisting of a sericite-illite-chlorite±pyrite alteration assemblage, forms an outer envelope surrounding the silica-pyrite zone.

Alteration assemblages associated with the early mineralizing phase consist of silica-dickite-pyrite-barite. Pyrite is present in this phase as well developed cubic and euhedral crystals infilling fracture planes. Dickite is well developed on the margins of the reverse thrust faults and within barite-quartz veins. This silica-dickite-pyrite-barite assemblage is associated with the early chalcedony±barite±realgar-arsenopyrite microveinlets (Photos 3 and 4). This phase is largely infilling breccia or developed around the margins of high grade veins. Early gold occurs as micron size grains within the quartz lattice or within pyrite crystals.

Stylolites containing carbonaceous material and pyrite (Photo 5) are also associated with the early mineralizing phase and indicate continuing decarbonation during this phase.
Photo 4. Close up of typical chalcedony-comb quartz veinlet stockwork in silicified carbonaceous siltstone, with cavities partially filled by barite and orpiment

Photo 3. View looking east along strike of mineralization trend Laerma Summit, with crosscutting trenches excavated by hand
The main ore mineralizing phase consists of chalcedony-comb quartz-barite veins with late stage stibnite-cinnabar infill. Ore mineralogy is complex, with over 80 minerals identified. Gold ranges in size from 1 µm to 100 µm, with 75% of the gold <35 µm in size. Electron microprobe analyses indicate gold occurs either as native gold (91%) or as gold encapsulated within pyrite and antimony selenides (9%). Native gold is particularly associated with stibnite, quartz, barite, marcasite and tiemannite. An overall gold:silver ratio of 1:1 is noted.

Stylolites are typically developed at the comb quartz-barite contact, with native gold usually developed in proximity to this zone (Photos 6, 7 and 8). Native gold appears to have formed in the pressure shadows of these stylolites and is sometimes accompanied by selenides, including tiemannite (Photo 8) and stibioselenium.

Two types of pyrite are recognised, As-poor and As-rich, with the As-rich species containing encapsulated gold. Growth rim zoning, typical of Carlin-type sediment hosted deposits, is also observed. Other sulphides accompanying the main mineralizing phase include arsenopyrite, sphalerite, galena, chalcopyrite, chalcocite, pyrrhotite, tetrahedrite and molybdenite.

Uranium is elevated in the deposit, up to 53.33 ppm (Li and Li, 1994), being associated with uraninite, which accompanied the main mineralizing phase. Platinum Group Elements (PGE) are also enriched, with some veins being regarded as "ore" grade on the eastern margin of the deposit (Liu and others, 2000). Values for PGE’s range from 0.01-0.02 g Pt/t, 0.001-0.024 g Pd/t, and 0.001-10 g Os/t, but are considered by the author to be only weakly anomalous.

A late mineralizing phase is present, consisting of micro quartz veinlet networks with white comb quartz and fine drusy quartz crystals developed infilling cavities. Stibnite occurs as
Photo 5. Close up of silicified carbonaceous siltstone cut by early orange realgar-chalcedony micro veinlets and later chalcedony-comb quartz-barite vein with cavity infilled by stibnite (silver colour) and cinnabar (dull red)(1.53 g Au/t; WGM sample #20)

Photo 6. High amplitude stylolite vein cutting silica-pyrite altered carbonaceous siltstone. The stylolite contains organic and carbonaceous material and barite and indicates pressure dissolution during decarbonization (x350 magnification)
Photo 7. Native gold (5-20\(\mu\) size) grains in quartz with stylolite margin in contact with barite. Note very fine 1\(\mu\) size gold grains at right within barite (x250 magnification)

Photo 8. Native gold grains (5\(\mu\) size) in quartz adjacent to stylolitic contact of barite (x450 magnification)
radiating needles partially infilling fractures. Barite also occurs as cavity infill with this stage, with tabular plates, granular aggregates, or rare polysynthetic twinning forms resulting from compression developed (see Photo 4).

Orpiment crystals are also present infilling cavities in this stage (Photo 4). Pyrite from earlier phases has been partly or wholly replaced by marcasite. Accompanying the late mineralizing stage is an alteration assemblage comprised of allophane, a hydrous aluminous silicate gel mineral.

Post-mineralization oxidation of the Laerma deposit has generated limonite and jarosite staining and alteration replacement of the sulphide minerals.

Gold grades within the Laerma deposit are considered proportional to the degree of silicification and quartz vein density. Liu and others (2000) also indicate gold concentration is closely related to high organic carbon content.

Li and Li (1994) dated the age of gold mineralization at Laerma at 49.5-12.7 Ma, on the basis of analysis of whole rock alteration and "ore" minerals.

Gold mineralization at Laerma (Figures 7 and 9) has been traced along strike for a length of 1,350 m over a 100 to 350 m wide zone. Using an arbitrary 1.00 g Au/t cutoff grade, steeply inclined individual drill core intercepts (Table 5) of 19 to 47 m correspond with horizontal adit intersections of 6 to 38 m (Table 4). Combined, the limited drilling and adit data (BGMR, 1991) indicate the presence of two subparallel, east-west striking mineralized zones, which dip at about 60° to the north. The author estimates these two mineralized zones have true thicknesses of around 20 m and 35 m respectively, contained within a 150 m wide interval and can be traced for at least 350 m between the four drill sections.

Evidence from longitudinal sections prepared by the BGMR (1991), but not presented in this report, suggests the "ore" shoots within these mineralized zones plunge consistently at approximately 15° to
20° to the west. This gentle plunge corresponds with the plunge of the axial plane of the Bailongjiang anticline.

The deepest significant drill intersection on the Laerma Property is at a depth of 117 m. Both of the mineralized zones remain open at depth, as well as being open to the west and east. The two mineralized zones dip to the north at 60° and the enclosed "ore" shoots have a shallow plunge of 15° to 20° to the west.

The gold mineralization at Laerma displays a relatively consistent, homogenous distribution. Most samples contain trace to 1.5 g Au/t, consistent with a widespread, pervasive disseminated style of mineralization. Higher grade intervals only rarely exceed the average grade of the entire mineralized zone by more than twice the value.

WGM collected 5 rock chip samples and 4 split core samples from the Laerma Property for mineralization characterization purposes, with results presented in Table 2. Results from these samples confirm the Au-Hg-Sb-As-Ba tenor of mineralization as described by the BGMR and indicate an overall gold:silver ratio of 1:1. Trace to weakly anomalous levels of PGEs (maximum 0.018 g Pd/t and 0.0119 g Pt/t), Mo (maximum 55 ppm Mo), U (maximum 64 ppm U) were also recorded (Appendix 1).
### TABLE 2

**WGM GRAB ROCK SAMPLES, LAERMA PROPERTY**

<table>
<thead>
<tr>
<th>WGM Sample #</th>
<th>Au (g/t)</th>
<th>Ag (ppm)</th>
<th>Sb (ppm)</th>
<th>As (ppm)</th>
<th>Hg (ppm)</th>
<th>Ba (ppm)</th>
<th>Geological Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>4.360</td>
<td>1.4</td>
<td>147</td>
<td>123</td>
<td>80.8</td>
<td>1,860</td>
<td>Jarosite-limonite stained, silicified carbonaceous slaty shales (5m channel sample).</td>
</tr>
<tr>
<td>19</td>
<td>1.940</td>
<td>2.5</td>
<td>336</td>
<td>301</td>
<td>311.0</td>
<td>1,650</td>
<td>Hard, black silicified carbonaceous siltstone, jarosite stained.</td>
</tr>
<tr>
<td>20</td>
<td>1.530</td>
<td>1.5</td>
<td>1,740</td>
<td>331</td>
<td>1,640.0</td>
<td>1,430</td>
<td>Stibnite needles infilling cavities in quartz veinlet stockwork in hydrothermal breccia, disseminated pyrite-realgar, jarosite stained.</td>
</tr>
<tr>
<td>21*</td>
<td>6.190</td>
<td>2.6</td>
<td>103</td>
<td>327</td>
<td>421.0</td>
<td>1,870</td>
<td>ZK 1071; 17-18m. Quartz microveinlet stockwork in silicified carbonaceous siltstone. Veins normal to core axis.</td>
</tr>
<tr>
<td>22*</td>
<td>9.560</td>
<td>2.1</td>
<td>8,300</td>
<td>295</td>
<td>258.0</td>
<td>65</td>
<td>ZK 1071; 30-31.5m. Quartz microveinlet stockwork in silicified carbonaceous siltstone.</td>
</tr>
<tr>
<td>23*</td>
<td>11.00</td>
<td>3.3</td>
<td>131</td>
<td>231</td>
<td>208.0</td>
<td>2,860</td>
<td>ZK 1072; 18-19.5m. Quartz microveinlet stockwork in silicified carbonaceous siltstone.</td>
</tr>
<tr>
<td>24*</td>
<td>1.430</td>
<td>1.1</td>
<td>252</td>
<td>389</td>
<td>65.9</td>
<td>3,580</td>
<td>ZK 1072; 55.9-57.49m. Quartz microveinlet stockwork in silicified carbonaceous siltstone.</td>
</tr>
<tr>
<td>27</td>
<td>0.496</td>
<td>2.6</td>
<td>122</td>
<td>126</td>
<td>4,890.0</td>
<td>3,280</td>
<td>Anastomosing quartz-chalcedony vein, stylolitic margins cutting dark grey-black carbonaceous shale. Late stage comb quartz cavity infill in vein core.</td>
</tr>
<tr>
<td>33</td>
<td>1.600</td>
<td>2.0</td>
<td>134</td>
<td>374</td>
<td>130.0</td>
<td>3,210</td>
<td>Anastomosing quartz-chalcedony vein, stylolitic margins cutting dark grey-black carbonaceous shale. Late stage calcite-barite-fluorite cavity infill in vein core. Kaolinite-dickite clay after adularia ? On vein margins.</td>
</tr>
</tbody>
</table>

WGM - samples assayed at ALS Chemex Laboratory, Brisbane, Queensland.

* - Drill core samples (from BGMR, 1991 program).
B7. EXPLORATION

Exploration conducted over the Laerma Property and surrounding region has been conducted solely by the Gansu Bureau of Geology and Mineral Resources, Brigade No. 3, and is summarised by the BGMR (1991).

Following the discovery by grab rock chip sampling of outcropping gold-bearing quartz vein breccias at Laerma, initial exploration on the property consisted of a 1:10,000 scale soil survey which highlighted the main anomalous areas (Figure 8). A total of 1,513 soil samples was collected during the course of this program.

Topographic and geological mapping at 1:10,000 and 1:1,000 scales followed the soil sampling program, in order to map out the mineralization and associated alteration zones.

A total of 19 hand trenches was then excavated for a combined length of 13,132 m, being orientated north-south, perpendicular to the strike of the mineralization at approximately 100 m spacing (Photo 9). A combination of bedrock and trench sampling, gathering some 1,130 samples, delineated an area 2 km long by 0.5 km wide, containing anomalous rock chips (>0.10 g Au/t). Table 3 highlights some of the results of this trenching program.

<table>
<thead>
<tr>
<th>Trench No</th>
<th>Length Interval (m)</th>
<th>Intersection (m)</th>
<th>Gold (g Au/t)</th>
<th>Mercury (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC3A</td>
<td>42.90 - 61.50</td>
<td>18.60</td>
<td>1.89</td>
<td>0.0066</td>
</tr>
<tr>
<td></td>
<td>69.10 - 77.37</td>
<td>8.27</td>
<td>1.45</td>
<td>0.0054</td>
</tr>
<tr>
<td></td>
<td>87.50 - 109.99</td>
<td>22.49</td>
<td>1.95</td>
<td>0.0099</td>
</tr>
<tr>
<td>TC3B</td>
<td>30.00 - 79.80</td>
<td>49.80</td>
<td>2.57</td>
<td>0.0209</td>
</tr>
<tr>
<td>TC8</td>
<td>84.52 - 232.00</td>
<td>14.74</td>
<td>2.52</td>
<td>0.0100</td>
</tr>
<tr>
<td>TC9</td>
<td>133.15 - 195.80</td>
<td>62.65</td>
<td>1.60</td>
<td>0.0056</td>
</tr>
<tr>
<td></td>
<td>207.90 - 272.15</td>
<td>64.25</td>
<td>4.78</td>
<td>0.0027</td>
</tr>
<tr>
<td>TC1071</td>
<td>128.30 - 132.2</td>
<td>3.90</td>
<td>1.36</td>
<td>0.0383</td>
</tr>
<tr>
<td></td>
<td>141.70 - 184.00</td>
<td>42.30</td>
<td>1.99</td>
<td>0.0097</td>
</tr>
<tr>
<td></td>
<td>201.00 - 246.20</td>
<td>45.20</td>
<td>1.12</td>
<td>0.0036</td>
</tr>
</tbody>
</table>
**Figure 8.**

**Pargas Enterprises Ltd.**

**Laerma Property**
Gannan Prefecture, Gansu Province, People's Republic of China

**Soil Geochemistry Map of the Laerma Property**

Map modified after BGMR (1991)
Photo 9. Native gold (1\(\mu\) size) intergrown with tiemannite (HgS) within pressure shadows of stylolite contact with quartz (left) and barite (right) (x430 magnification)
In order to obtain detailed underground geological information, five adits were driven by hand mainly into the northern flank of the Laerma ridge in a north-south orientation, for a total of 1,503.0 m (Figures 7, 9a, 9b, 9c and 9d). A single shaft was sunk to 50.2 m depth to connect with one of the adits. Table 4 highlights some of the results of the adit sampling program.

A total of 27 diamond core drillholes were drilled for a total of 7,760.6 m (Figures 7, 9a, 9b, 9c and 9d). These holes were drilled on an approximate 80 m x 60 m grid. Table 5 highlights some of the results of the sampling from the drilling program.

Preliminary baseline studies were completed on site, including climatic records and hydrogeological studies. The hydrological investigations of the Laerma Property indicate the standing water table level at the top of the hill (3,700 masl) is at 150 m depth, dropping to 60 m depth at the base of the hill at 3,625 masl.

Other samples collected included thin and polished thin sections for petrological studies, whole rock analysis, fluid inclusion and sulphur isotope studies and an age determination.

The exploration work carried on the Laerma Property by the BGMR has been carried out in a sound professional way, using conventional systematic exploration methods. The collection and presentation of data is in an unbiased manner. The results generated by the various work programs are considered to be representative of the observed mineralization.
Figure 9b.

Pargas Enterprises Ltd.

Laerma Property
Gannan Prefecture, Gansu Province, People's Republic of China

Drill Section Line 105, Laerma Property
(Looking East)
### TABLE 4
**HIGHLIGHTS FROM BGMR ADIT SAMPLING (1986-1990), LAERMA PROPERTY**

<table>
<thead>
<tr>
<th>Adit No</th>
<th>Length Interval (m)</th>
<th>Intersection (m)</th>
<th>Gold (g Au/t)</th>
<th>Mercury (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From To</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CM971</td>
<td>19.60 22.50</td>
<td>2.90</td>
<td>2.11</td>
<td>0.0084</td>
</tr>
<tr>
<td></td>
<td>31.50 37.20</td>
<td>5.70</td>
<td>1.39</td>
<td>0.0041</td>
</tr>
<tr>
<td></td>
<td>43.50 67.50</td>
<td>24.00</td>
<td>1.28</td>
<td>0.0049</td>
</tr>
<tr>
<td></td>
<td>109.30 124.50</td>
<td>15.20</td>
<td>0.63</td>
<td>0.0038</td>
</tr>
<tr>
<td></td>
<td>147.90 160.00</td>
<td>12.10</td>
<td>1.32</td>
<td>0.0051</td>
</tr>
<tr>
<td></td>
<td>164.50 203.00</td>
<td>38.50</td>
<td>1.30</td>
<td>0.0053</td>
</tr>
<tr>
<td>CM1051</td>
<td>112.00 128.50</td>
<td>16.50</td>
<td>0.88</td>
<td>0.0039</td>
</tr>
<tr>
<td></td>
<td>195.90 206.10</td>
<td>10.20</td>
<td>1.00</td>
<td>0.0115</td>
</tr>
<tr>
<td></td>
<td>211.00 244.50</td>
<td>33.50</td>
<td>1.08</td>
<td>0.0165</td>
</tr>
<tr>
<td>CM1091</td>
<td>183.00 189.00</td>
<td>6.00</td>
<td>1.50</td>
<td>0.0136</td>
</tr>
<tr>
<td></td>
<td>214.00 232.00</td>
<td>18.00</td>
<td>1.25</td>
<td>0.0198</td>
</tr>
<tr>
<td></td>
<td>235.10 250.50</td>
<td>15.40</td>
<td>1.60</td>
<td>0.0073</td>
</tr>
<tr>
<td></td>
<td>286.50 299.00</td>
<td>12.50</td>
<td>1.30</td>
<td>0.0025</td>
</tr>
</tbody>
</table>

### TABLE 5
**HIGHLIGHTS FROM BGMR DRILLING (1986-1990), LAERMA PROPERTY**

<table>
<thead>
<tr>
<th>Drillhole No</th>
<th>Interval (m)</th>
<th>Intersection (m)</th>
<th>Gold (g Au/t)</th>
<th>Mercury (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From To</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZK971</td>
<td>0.00 46.00</td>
<td>46.00</td>
<td>2.65</td>
<td>0.0258</td>
</tr>
<tr>
<td></td>
<td>54.12 78.00</td>
<td>23.88</td>
<td>1.27</td>
<td>0.0158</td>
</tr>
<tr>
<td>ZK972</td>
<td>15.95 41.50</td>
<td>25.55</td>
<td>1.70</td>
<td>0.0081</td>
</tr>
<tr>
<td></td>
<td>47.25 80.00</td>
<td>32.75</td>
<td>1.09</td>
<td>0.0036</td>
</tr>
<tr>
<td>ZK1051</td>
<td>10.08 56.90</td>
<td>46.82</td>
<td>3.81</td>
<td>0.0279</td>
</tr>
<tr>
<td></td>
<td>79.74 116.67</td>
<td>36.93</td>
<td>1.38</td>
<td>0.0035</td>
</tr>
<tr>
<td>ZK1071</td>
<td>0.00 46.00</td>
<td>46.00</td>
<td>2.65</td>
<td>0.0258</td>
</tr>
<tr>
<td></td>
<td>54.12 78.00</td>
<td>23.88</td>
<td>1.27</td>
<td>0.0158</td>
</tr>
<tr>
<td>ZK1072</td>
<td>3.64 50.65</td>
<td>47.01</td>
<td>2.14</td>
<td>0.0081</td>
</tr>
<tr>
<td>ZK1091</td>
<td>0.00 34.57</td>
<td>34.57</td>
<td>1.44</td>
<td>0.0056</td>
</tr>
<tr>
<td></td>
<td>43.76 63.00</td>
<td>19.24</td>
<td>1.93</td>
<td>0.0067</td>
</tr>
<tr>
<td>ZK1092</td>
<td>11.50 38.50</td>
<td>27.00</td>
<td>2.54</td>
<td>0.0167</td>
</tr>
</tbody>
</table>
B8. DRILLING

A total of 27 diamond core drillholes were drilled for 7,760.6 m. These holes were drilled on an approximate 80 m x 60 m grid and were designed to establish an indicated resource (using the Former Soviet Union classification system) at the Laerma gold deposit.

The BGMR (1991) drill program used a fixed mast top drive rig, capable of drilling approximately 6-10 m per day. Water was used to lubricate and cool the diamond-tipped drill bit. The Chinese drill rig is capable of drilling inclined holes to only a -80° dip, which considerably hampers the ability to intersect sub-vertically dipping mineralization and is considered unsatisfactory for gold exploration.

Core diameter is 36.5 mm, equivalent to BQ size, with a 1.5 m core barrel used with a wireline to collect the core barrel at the end of each run.

The drill holes were not capped or cased off, but drill sites are still evident on surface.

Drill core was split using a mechanical core splitting device and hammer or hand sorting. This can be regarded as an unsatisfactory sampling method, with a diamond core saw the much preferred sample splitting tool.

No systematic sampling of the core was undertaken and when sampled only Au and Hg were analysed for. The sample interval was not consistent and depended on the recovery and length of each drill run. According to the drill logs (BGMR, 1991), core recoveries ranged from 0-100%, averaging 85%. This can be regarded as unsatisfactory.

The diamond core drilling program did not use triple tube, or employ any means to collect sulphides washed out of cavities by drilling fluids during the drilling process. The core is heavily broken, with numerous cavities in the formations hosting the gold mineralization and there is a strong possibility
that some gold and gold-bearing sulphides were washed away and not recovered during the drilling process. Gold values may therefore be understated.

Each drill hole was surveyed using XJL-1 downhole tropari-type survey equipment. Based on the surface projections of each drillhole trace, several instances of serious deviations in drill hole orientation have occurred, particularly as drill holes approach the east-west striking silicified reverse thrust faults and the major Wenquan-Yiwa fault structure.

After a decision was made by the BGMR to mothball the Laerma Project, the drill core was stored either in stacked boxes in a core shed at Hezuo, or placed in a pit on site, covered by matting and then buried under topsoil. Only the most significant mineralized sections of drill core are available for inspection at the BGMR facility in Hezuo.

An overall unfavourable impression was gained from the drilling equipment and methods employed by the BGMR. The drilling equipment would be considered inefficient and unsuitable by modern western exploration standards.
B9. SAMPLING METHOD AND APPROACH

Exploration conducted by the BGMR (1991) has employed conventional and systematic, geochemically orientated exploration methods.

The multi-element regional and detailed stream sediment surveys involved the collection of a -80# sieved sample, weighing approximately 200 g and a panned concentrate sample at each site. An approximate sample density of 1 sample per km\(^2\) was used for the regional surveys. The stream sediment samples were analysed at the Gansu Provincial Laboratory, using atomic absorption techniques for Au, Ag, Cu, Pb, Zn, Hg, As, Sb and Mo, as well as W, Sn, U, V, Ni, Cr, Cd, Mn, Fe, Ca, Ba, and F. The heavy mineral fraction in the panned concentrate was also examined under a binocular microscope for mineral identification purposes.

Once an anomalous area was located by stream sediment sampling, the area was typically gridded for 1:10,000 scale soil surveying. At each soil sample site, the “B” soil horizon was sampled, sieved to -40# and approximately 200 g collected. The sample was analysed at the Gansu Provincial Laboratory, using atomic absorption techniques for Au, Ag, Cu, Pb, Zn, Hg, As, Sb and Mo.

Channel sampling of trench and adit walls was undertaken using a heavy hammer and rock chisel and a mat was employed to collect samples chipped off the wall face to avoid contamination. Sample intervals of 1.5 m were used, with each sample weighing approximately 2-5 kg. Each sample was analysed at the Gansu Provincial Laboratory, using atomic absorption techniques for Au and Hg.

Drill core was hand split and one half retained for future verification, testing and eventual metallurgical studies. Sample lengths of up to 1.5 m were used throughout, depending on the length of the drill run and core recovery, when lengths were adjusted as necessary. This method was chosen by the BGMR to best sample the disseminated mineralization and minimize potential for sample bias.
Split drill core samples were labelled and bagged under the supervision of a geologist. It is not known how the bags were forwarded to the lab for analysis, or what level of security was employed.
All samples collected by the BGMR No. 3 from Laerma were analysed at the Gansu Provincial Laboratory, of #1 Lan Gong Ping Road, Lanzhou City, Gansu Province. An inspection of this laboratory and its facilities was made by the author on the July 9, 2003. An overall favourable impression was gained of the laboratory and its various services, with a professional approach to quality control and analytical procedures observed in its staff. The sample security measures employed by the laboratory appear appropriate.

Since 1991, the Gansu Provincial Laboratory has been certified by Metrology accreditation certificates issued by the China National Certification and Inspection Committee. The current certificate is valid from December 11, 2001 through to December 11, 2006. Under this certificate, the laboratory is obliged to submit to standards checking on an annual basis. The laboratory is also subject to a series of Product Quality, Inspection and Accreditation Administration Regulations.

The Gansu Provincial Central Laboratory is currently undergoing International Standards criteria to obtain ISO 9001 accreditation, which it hopes to achieve by the end of 2003. The laboratory meets the criteria of being at "arms length" from BGMR Brigade No. 3.

Standard practice at the Gansu Laboratory, is for rock chip and drill core samples to be crushed to less than 1 cm then coned and split into samples weighing about 1.5 kg. Approximately 500 g is split from this sample and pulverised to -200#. The usual practice for gold analyses is to take a 20 g subsample and dissolve all the material in aqua regia. This solution is then adsorbed with kolar and released with thiourea to remove any dissolved iron present from the solution. Gold values are measured on an atomic absorption instrument against a series of gold standards. Occasionally samples containing high gold values are checked by fire assay with an atomic absorption finish.
WGM’s samples were analysed by ALS Chemex at #32 Shand Street, Stafford, Queensland, 4053, Australia. This laboratory is an ISO 9002 and NATA registered laboratory. These samples were hand carried in a securely locked bag and in the author’s possession at all times.

ALS Chemex sample preparation used the PREP-31 method involving the fine crushing of the entire sample and obtaining a 250 g split. A barren quartz wash of sample preparation equipment was undertaken between each sample.

All analyses by ALS Chemex for Au, Pt and Pd, in ppm were done by the PGM-MS23 method using Fire Assay with an ICP-MS finish on 30 g samples. Analyses for Ag, Sb, and As, in ppm were done by method ME-ICP41m as part of a 34-element aqua regia digestion package using ICP-AES finish. As part of this method, a cold vapour-AA finish was performed for Hg, in ppm.

Duplicate samples were submitted to the Gansu Provincial Laboratory to corroborate and also compare results from differing chemical analytical methods for gold employed by the two laboratories. These duplicate samples were prepared by cutting the rock perpendicular to the strike of observed mineralization using a diamond tipped saw at the Gansu Provincial Laboratory.
B11. DATA CORROBORATION

The author visited the site and personally examined drill collar, adit and trench locations at the Laerma Property. The core from several drillholes was examined and sections and descriptions correlated with the drill logs. Alteration and mineralized zones are readily discernable from visual inspection. Copies of drill logs, assay data and relevant sections are held on file with the author.

Several surface grab samples were collected from previously trenched areas (samples #18, 19, 20, 27 and 33) to check for mineralization (Appendix 1). In addition, four split core samples (samples #21, 22, 23 and 24) were collected from two drillholes, previously sampled by the BGMR and analysed by the Gansu Laboratory, and considered representative of the entire mineralized Laerma gold deposit.

Results from the corroborative check samples were comparable to original values recorded by the BGMR drilling (Table 6), confirming the presence of gold mineralization at depth. The check samples forwarded to ALS Chemex confirmed the presence of gold mineralization in previously trenched areas.

By way of comparison, although based on a very small sample set, the results recorded by the Gansu Laboratory have a general tendency to under-report gold values compared to those obtained by ALS Chemex (Table 6). The author considers the Fire Assay method for gold analysis employed by ALS Chemex to be superior to the atomic absorption analytical method used to analyse gold by the Gansu Laboratory. If there is an under-reporting of gold related to the atomic absorption analytical method as used by the Gansu Laboratory it could be due to arsenic, antimony and carbonaceous material associated with mineralization affecting the total digestion process. This issue should be studied further.
<table>
<thead>
<tr>
<th>Sample #</th>
<th>WGM Gansu</th>
<th>Au g/t</th>
<th>Hg ppm</th>
<th>Geological Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>18</td>
<td>4.360</td>
<td>2.60</td>
<td>80.8</td>
</tr>
<tr>
<td>19</td>
<td>19</td>
<td>1.940</td>
<td>1.35</td>
<td>311.0</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>1.530</td>
<td>1.08</td>
<td>1,640.0</td>
</tr>
<tr>
<td>21</td>
<td>ZK1071 (16.5-18.0m)</td>
<td>6.190</td>
<td>5.63*</td>
<td>421.0 350*</td>
</tr>
<tr>
<td>22</td>
<td>ZK1071 (30.0-31.5m)</td>
<td>9.560</td>
<td>10.00*</td>
<td>258.0 370*</td>
</tr>
<tr>
<td>23</td>
<td>ZK1072 (18.0-19.8m)</td>
<td>11.000</td>
<td>11.50*</td>
<td>208.0 150*</td>
</tr>
<tr>
<td>24</td>
<td>ZK1072 (56.5-58.0m)</td>
<td>1.430</td>
<td>1.63*</td>
<td>65.9 71*</td>
</tr>
<tr>
<td>27</td>
<td>0.496</td>
<td>0.05</td>
<td>4,890.0</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>1.600</td>
<td>1.60</td>
<td>130.0</td>
<td></td>
</tr>
</tbody>
</table>

WGM - samples assayed at ALS Chemex Laboratory, Brisbane, Queensland.

Gansu – samples assayed at Gansu Provincial Laboratory, Lanzhou City, Gansu Province.

* - Assay result obtained during the BGMR (1991) drilling program.

– Gansu Laboratory did not analyse recent samples for Hg.
B12. ADJACENT PROPERTIES

BGMR provided little or no information regarding adjacent properties during WGM's site visit.
Preliminary metallurgical tests and flow sheet design were undertaken at the Gansu Provincial Laboratory in 1990, using 8 bulk samples (BGMR, 1991). These tests indicated the ore consisted of fine grained disseminated gold associated with carbonaceous material and is partly refractory.

The Gansu Laboratory established that the optimum processing method to recover the gold involved a four-stage process:

1. Flotation circuit to recover a concentrate.
2. Roasting of the concentrate.
3. Cyanidation of the roasted concentrate.
4. Carbon absorption of gold from cyanide solution.

The Gansu Laboratory estimated this sequential flotation-roasting-cyanidation process recovered 88% of the gold.

Other methods investigated by the Gansu Central Laboratory included:

- Roasting;
- Cyanidation;
- Roasting and heap leaching;
- Carbon-In-Leach at 95°C;
- Flotation, followed by roasting of the concentrate, followed by cyanidation;
- Carbon-In-Pulp treatment of the tailings; and
- Flotation, followed by roasting of the concentrate, followed by CIP/CIL treatment.

Of 17 methods investigated by the Gansu Laboratory, only 4 methods gave theoretical recoveries >85%.
During 1991-1992, a second batch of 24 bulk samples was collected and submitted to the Ministry of Geology, Mineral Resource Comprehensive Utilization Institute in Beijing for metallurgical testwork.

This testwork by the Ministry of Geology, Mineral Resource Comprehensive Utilization Institute investigated several potential methods to recover gold, namely:

1. Direct roasting of ore, followed by cyanidation. This circuit obtained recoveries of 92.61% of gold.
2. Flotation, followed by roasting of the concentrate, followed by cyanidation. The tailings from the flotation circuit were then cyanided. These methods produced a combined recovery of 88.65%.
3. Direct Carbon-In-Pulp cyanidation. This method obtained a recovery of 0.00-43.18% gold, depending on sample grade.

Composition of the typical mineralization is tabulated below (Table 7).

<table>
<thead>
<tr>
<th>TABLE 7</th>
<th>AVERAGE COMPOSITION OF TYPICAL MINERALIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAERMA PROPERTY</td>
<td></td>
</tr>
<tr>
<td>Mineral</td>
<td>Composition (%)</td>
</tr>
<tr>
<td>Pyrite</td>
<td>0.57</td>
</tr>
<tr>
<td>Stibnite</td>
<td>0.38</td>
</tr>
<tr>
<td>Barite</td>
<td>3.50</td>
</tr>
<tr>
<td>Sericite</td>
<td>14.52</td>
</tr>
<tr>
<td>Quartz</td>
<td>66.47</td>
</tr>
<tr>
<td>Carbonaceous matter</td>
<td>12.00</td>
</tr>
<tr>
<td>Other</td>
<td>2.56</td>
</tr>
</tbody>
</table>

A preliminary feasibility study, including conceptual financial analysis was also completed by the BGMR (1991).
In 1994, three trial heap leach pads (Photo 10) were prepared on site using material excavated from adits and surface. These trials proved unsuccessful and further work on the Laerma deposit was abandoned.

During 2001, an illegal mining operation was established at the Laerma Property (Photo 10). This is apparently not unusual and is tolerated by authorities as it eases local unemployment problems. This small-scale operation uses a crushing plant and flotation mill to produce around 20 tpd of rock for sulphide concentrate. The concentrate, containing approximately 50-60 g Au/t, is bagged and then trucked to Hezuo for roasting and final recovery of the gold by cyanidation.

In response to questioning, the MOLAR representative accompanying the WGM field visit indicated that MOLAR would remove the illegal mining operation once the Joint Venture takes effect.

As part of the WGM inspection, four 12 kg samples were collected from trenches and submitted to SGS Lakefield Research Limited, Canada for bench scale metallurgical studies. These samples were freighted by DHL International courier services in wooden boxes, the author personally checking the samples and then sealing the box lids shut.

- Line 103 (TC-1031) 30 m;
- Line 105 (TC-8) 16 m;
- Line 105 (TC-8) 16 m; and
- Line 109 (TC-9).

These metallurgical tests are required to characterize the ore types, develop preliminary flow sheets and establish economic cutoff grades for mineral resource estimation.
Photo 10. View looking northwest of heap leach pad. Trials in 1994 proved unsuccessful in recovering gold from the hard, silicified carbonaceous siltstone hosted ore.
**B14. RESOURCE ESTIMATES**

To assist in mineral resource evaluation of the Laerma gold deposit, a total of 331 samples were collected by BGMR (1991) for specific gravity/bulk density determination, as well as 2 samples for rock mechanics testwork. From these samples, an average specific gravity of 2.64 was obtained for high grade veins and an average specific gravity of 2.47 was obtained for low grade material. A weighted average of 2.53 was obtained for the bulk density over the entire deposit.

The BGMR (1991) used the sectional area method for mineral resource estimates for the Laerma gold deposit. Both cross and longitudinal sections were employed, with mid points taken between trenches and drill holes, volumes and areas calculated and grades assigned to each interval. The mineral resource estimate was made by the BGMR (1991) using two categories “C” and “D” based on the classification system of the Former Soviet Union. It is apparent from the longitudinal sections, that the ore shoots plunge gently at 15° - 20° to the west.

The BGMR (1991) calculated a category “C” mineral resource (similar to an indicated mineral resource) of 1,133,557 t @ 5.65 g Au/t for the Laerma gold deposit, using a 3 g Au/t cutoff, equivalent to 6.409 t (or 206,077 oz) of contained gold. Using a 1 g Au/t cutoff and a 3 g Au/t top cut, an additional category “D” mineral resource (similar to an inferred mineral resource) of 11,272,689 t @ 1.51 g Au/t was calculated, equivalent to 17.048 t (or 548,167 oz) of contained gold. At a 0.5 g Au/t cutoff, the BGMR (1991) estimated the Laerma gold deposit contains 67.5 t of gold.
WGM reports these for historical purposes only and because they are relevant, but has not attempted to rationalize them to conform with the guidelines published by the council of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") standards. The author checked the methodology used for these mineral resource estimates and has no reason to dispute them. However, it is not known if the above estimates of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues.
B15. INTERPRETATION AND CONCLUSIONS

The BGMR exploration program completed to date has established the geology and overall geometry of the sediment-hosted gold mineralization at Laerma. Considerable potential for additional mineralization exists along strike to the east and west and following the mineralization at depth, down dip to the north.

Structural and lithological controls on mineralization appear poorly understood and could benefit from detailed investigation. Mineralization in sediment-hosted gold deposits is typically controlled by short-axial anticlines (local domes), stratabound and crosscutting breccias, unconformity surfaces, joints associated with faults and anticlines and bedding parallel shear zones with ductile-brittle deformation.

The limited drilling and adit data indicate the presence of two subparallel, east-west striking mineralized zones, which dip at about 60° to the north. The author estimates these two mineralized zones have true thicknesses of around 20 m and 35 m respectively. The two mineralized zones can be traced for more than 350 m along strike and down to a vertical depth of 117 m. Exploration has also confirmed the eastward and westward extensions of the zones beyond these limits for a strike length of 1,350 m. The zones remain open along strike to the west, east and down dip.

The average true width (to the degree of certainty that current limited work allows) of the two mineralized zones is 20 m and 35 m respectively, contained within a 150 m wide interval for at least 350 m in length. The steep dip and relatively large width of mineralization is favourable for bulk tonnage open pit mining.

A historical Category “C” mineral resource, based on the Former Soviet Union classification system (similar to an indicated mineral resource) of 1,133,557 t @ 5.65 g Au/t has been estimated for the Laerma gold zones, using a 3 g Au/t cutoff, equivalent to 6.409 t (or 206,077 oz) of contained gold.
An additional Category “D” mineral resource (similar to an inferred mineral resource) of 11,272,689 t @ 1.51 g Au/t was estimated, using a 1 g Au/t cutoff and a 3 g Au/t top cut, equivalent to 17.048 t (or 548,167 oz) of contained gold. At a 0.5 g Au/t cutoff, the Laerma gold zones is estimated to contain 67.5 t of gold. WGM reports these for historical purposes only and because they are relevant, but has not attempted to rationalize them to conform with the guidelines published by the council of the Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”) standards.

The author checked the methodology used for these mineral resource estimates and has no reason to dispute them. However, it is not known if the above estimates of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues.

Results from the corroborative and check sampling undertaken on the Gansu Laboratory, although based on a very small sample set, suggest the atomic absorption method as used by this laboratory may have under reported gold grades for the deposit.

The drilling technology used by the BGMR is considered unsuitable for modern exploration. Any future drilling on the Laerma Property should use a modern reverse circulation drill rig, truck mounted and fitted with a high capacity compressor, sample collection cyclone and drill bits designed for hard, silicified ground conditions. For disseminated bulk tonnage, low grade gold deposits, such as Laerma, the author considers reverse circulation drilling collects a superior and more representative sample than narrower diameter diamond core, as well as providing sufficient sample for bulk metallurgical tests. Modern reverse circulation drill rigs are cost effectively capable of drilling to >200 m depths in similar ground conditions to those at Laerma. Offset against this is the reduced level of geological information collected.
The relatively homogeneous distribution of mineralization mitigates the need to cut higher assays and should simplify future mineral resource estimations. The gradational nature of the mineralization implies the limits of the zone will be defined by assay cutoffs rather than geologic boundaries.

Preliminary metallurgical test results are encouraging, with several methods capable of recovering >85% of the gold. Direct roasting of ore, followed by cyanidation produced recoveries of 92.61% of gold, however, this method would have a high operating cost.

Traditional flotation producing a concentrate offers a more cost effective approach. Roasting of the concentrate, followed by cyanidation coupled with cyanidation of the tailings from the flotation circuit produced a combined recovery of 88.65%. The illegal mining operation currently operating on site has adopted this method.

Additional metallurgical tests are recommended during the next phase of exploration to further characterize the ore types, develop preliminary flow sheets, and develop economic parameters to determine economic cutoff grades for use in resource estimates and for further planning. Bio-oxidation, pressure oxidation and roasting methods, although likely to be capable of recovering this ore have high initial capital costs.

Future metallurgical testing should consider the following low operating cost techniques that have produced promising results with similar refractory and fine grained gold ores:

1. Fine grinding to liberate the fine native gold, coupled with modern, highly cost effective gravity separation systems to collect a fine grained gold and sulphide concentrate. This concentrate could then be potentially leached using a small CIL plant. This has the added advantage of low capital cost and minimal environmental issues.

2. MIM’s Albion ® process, combining MIM’s Isamill ultrafine grinding mill technology with atmospheric leaching.
3. Geobiotics Inc. GeoCoat ® bioleach process, involving the coating of a gold-sulphide concentrate onto coarse low grade ore and stacking and bio-oxidizing in a heap leach pad configuration. After oxidation, the concentrate is recovered, neutralized and leached using a small CIP plant.

4. Intec Ltd’s halide-based refractory gold process.

Identification of individual litho-tectonic zones is also considered important, because local control of sediment-hosted gold deposits is probably directly related to specific sedimentary horizons throughout the Qinling fold belt. Weights-of-evidence modelling of sediment-hosted gold deposits in the Qinling fold belt, undertaken by Leonard, Mihalasky and Peters (2002), indicated the Permian age carbonate sequence is the favoured host for these deposits.

Important exploration criteria for sediment-hosted gold deposits include:

- Regional-scale faults;
- Short-axial anticline dome structural setting;
- Favourable reactive host rocks such as dirty carbonate horizons;
- Silicification;
- Identification of exhalative facies, such as silica gels, jasper and chert and hematite beds;
- Intersections of transfer fault structures with regional-scale faults are zones of dilation. Such intersections have the potential to localise high grade hydrothermal breccia feeder structures; and
- Supporting Au-Ag-As-Sb-Hg stream and soil geochemistry.

Several promising stratigraphic and structural targets have been identified in the region with corresponding anomalous stream sediment geochemistry. These should be evaluated for future Joint Venture with a view to being developing satellite mining operations.
The following recommendations are made:

1. It is strongly advised to request that MOLAR remove the illegal mining operation.

2. All the available maps and reports on the Laerma Property should be copied and made available to PGA. All useful documents should be translated into English.

3. The available trench, adit and diamond drill data should be entered into a GIS database. These data can then be incorporated with data collected from future exploration to produce an integrated and robust database.

4. Preliminary block modelling should be undertaken on the trench, adit and drill data and a geostatistical mineral resource estimate prepared. This modelling and mineral resource estimate to NI 43-101 standards can then be used to confirm mineralization trends and assist in planning future drilling programs.

5. Evaluation of results of metallurgical studies conducted on samples collected by WGM and submitted to SGS Lakefield Research Limited, Canada.

6. Topographic map data should be digitised to produce a digital terrain model of the deposit.

7. The possible under reporting of gold assay values by the Gansu Laboratory should be further investigated.

Once the above recommendations are completed and should results warrant, it is recommended that a prefeasibility study be completed on the Laerma gold deposit. The mineralization at Laerma is contained in two zones of 20 m and 35 m in width respectively, within a 150 m wide interval that
extends for at least 350 m in length. The steep dip and relatively large width of mineralization is favourable for bulk tonnage open pit mining.

The objectives of the prefeasibility study would be resource estimation to NI 43-101 standards, to evaluate the possible metallurgical processing options and undertake a preliminary conceptual financial analysis. The prefeasibility study should include:

1. A reverse circulation drill program (6 holes per section x 14 sections, minimum of 8,400 m), using scissor sections drilled along N-S lines at 80 m x 60 m spacing. It is anticipated the results from the preliminary block modelling and geostatistical mineral resource estimate will be used to plan the locations of drill sites for this program. All holes should be angled at -60° and drilled to at least 100 m depth with some to 200 m. A modern truck or track mounted reverse circulation drill rig, fitted with a high capacity compressor and sample collection cyclone and drill bits suitable for hard, silicified ground conditions is recommended to drill out the Laerma deposit. This drill rig will provide a superior and more representative sample for gold analysis than narrower diamond core.

2. Samples from the drilling should be composited into bulk samples and freighted to various laboratories for pilot metallurgical testwork studies. The metallurgical testwork should be directed towards low capital and operating cost gold recovery processes, including:

- Fine grinding to liberate native gold, coupled with gravity separation systems to collect a fine grained gold and sulphide concentrate, followed by leaching of this concentrate using a small CIL plant;
- MIM’s Albion ® process;
- Geobiotics’ GeoCoat ® process; and
- Intec Ltd’s halide-based refractory gold process.
3. Ore block modelling and geostatistical mineral resource estimates.

Detailed geological and lithogeochemical surveys should be completed over both the main and projected strike extensions of the mineralized zone. These studies should pay special attention to structure, alteration assemblages, primary stratigraphy and other features that may identify controls to mineralization. Exploration over the remaining portions of the property should focus on looking for the parameters identified by these detailed studies to try and locate other mineralization.

Other recommendations include:

1. Investigate an exploration permit application for the eastern extension of the Laerma deposit in Sichuan Province.
2. Investigate an exploration permit application for a larger area around the Laerma deposit within Luqu County.
3. Investigate areas of sediment-hosted gold mineralization reported by Peters, Huang and Jing (2002) at Gongba. The author observed trenches excavated in hills south of this village, probably corresponding to this occurrence.

Once a larger exploration permit is secured, reconnaissance prospecting and geological mapping should be undertaken to follow up potential mineralization target areas such as antiforms, silicification, weak Au, Hg, Sb, As anomalies along the Wenquan-Yiwa Fault and Bailongjiang anticline structures.

The drill core currently stored on site in pits should be exhumed, cleaned, and placed in racks in a permanent shed on site. The remaining drill core, currently stored at the BGMR facility in Hezuo, should be returned to site and stored in the new facility. The core racks should be well protected for the winter season both from the elements and accidental spillage. This core should be photographed, relogged and preserved for reference, RQD measurements and other rock mechanic testing.
All future gold analyses should use the fire assay method with an AA finish. As this method is unavailable at the Gansu Provincial Laboratory it will have to be undertaken at an overseas laboratory. This method will avoid any potential under-reporting discrepancies which may be caused by the complex arsenic-antimony ores and host carbonaceous material affecting the analytical process.

During the prefeasibility drilling program, it is recommended that a small, but comfortable camp be established on site to support the drilling operation and associated logging and sampling. Small portable cabins should be considered for office and accommodation and mobile phone and e-mail communications fitted. Drinking water and food will need to be brought in from Gongba regularly. Consideration should be given to purchasing or hiring “Beijing Jeep” 4-WD vehicles to support the operation.

Prior to the drilling operation, drill sites should be marked up and a bulldozer hired to prepare access tracks and drill pads.

A sample preparation facility should be considered to prepare sample pulps for freighting to an overseas laboratory for analysis. Alternatively, the Gansu Provincial Laboratory could be used to prepare sample pulps. This will substantially reduce freight costs. A sample ticketing system should be introduced to ensure accurate and correct tracking of the sample throughout this system. Duplicate samples and a set of standards samples should be routinely submitted with the drill sample pulps to monitor the overseas laboratory’s precision and accuracy of the analysis.

The BGMR survey department uses differential GPS survey instruments, which can be used to accurately survey drill holes and other useful points after drilling is completed. This data can be used to update the digital elevation model for the deposit.
A ground IP-Resistivity geophysical survey is recommended to located ‘blind’ sediment-hosted mineralization, particularly along strike down the axial plane of the anticline. Silicification with sulphides should provide a good conductive source for this survey method.

Airborne EM is considered to be the most useful geophysical exploration tool to locate sediment-hosted gold deposits but is also the most expensive (Pitcher, 1994). If the low resistivity parts of a sediment-hosted gold deposit are at or near surface (<100 m depth) and of sufficient aerial extent they can be detected using airborne EM.

Consideration should be made to support a student to study aspects of the Laerma gold deposit as part of a post-graduate thesis. This research should be directed to studying aspects of the deposit that could provide useful information, such as metallurgy, mineral paragenesis, etc.

The proposed budget for the prefeasibility study to be carried out in Year 1 is presented in Table 8. It is anticipated that initial planning activities for this program would commence in January, 2004 and field activities in April, 2004. Contingent on positive results being obtained in Year 1 and assuming additional exploration permits are acquired by PGA surrounding the Laerma Property an additional exploration budget for Year 2, including 2,000 m of drilling and an IP-Resistivity survey is presented in Table 9.

It is WGM’s opinion that the character of the Laerma Property is of sufficient merit to justify the recommended program.
### TABLE 8
#### YEAR 1 - PROPOSED PREFEASIBILITY STUDY PROGRAM BUDGET ESTIMATE, LAERMA PROPERTY

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>No of Units</th>
<th>Cost per unit (US$)</th>
<th>Total Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC Drilling Program (100 m depth).</td>
<td>Metres</td>
<td>85x100</td>
<td>$50</td>
<td>$425,000</td>
</tr>
<tr>
<td>Geochemical Analysis of drill samples.</td>
<td>Samples</td>
<td>8,500</td>
<td>$20</td>
<td>$170,000</td>
</tr>
<tr>
<td>Geological Supervision.</td>
<td>Days</td>
<td>120</td>
<td>$500</td>
<td>$60,000</td>
</tr>
<tr>
<td>Field Support (3).</td>
<td>Days</td>
<td>120</td>
<td>$30</td>
<td>$3,600</td>
</tr>
<tr>
<td>Bulldozer hire and mobilization.</td>
<td>Hours</td>
<td>300</td>
<td>$100</td>
<td>$30,000</td>
</tr>
<tr>
<td>Field Consumables.</td>
<td>Metres</td>
<td>8,500</td>
<td>$2</td>
<td>$17,000</td>
</tr>
<tr>
<td>Camp.</td>
<td>Days</td>
<td>90</td>
<td>$150</td>
<td>$13,500</td>
</tr>
<tr>
<td>Vehicle Hire/Purchase and Fuel/Expenses.</td>
<td>Days</td>
<td>90</td>
<td>$120</td>
<td>$10,800</td>
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<tr>
<td>Meals.</td>
<td>Days</td>
<td>120</td>
<td>$50</td>
<td>$4,500</td>
</tr>
<tr>
<td>Metallurgical Studies.</td>
<td>Days</td>
<td>25</td>
<td>$2,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Computer modelling of deposit.</td>
<td>Days</td>
<td>15</td>
<td>$2,000</td>
<td>$30,000</td>
</tr>
<tr>
<td>Resource estimate (geostatistical).</td>
<td>Days</td>
<td>15</td>
<td>$2,000</td>
<td>$30,000</td>
</tr>
<tr>
<td>Preliminary mine plan and engineering.</td>
<td>Days</td>
<td>20</td>
<td>$2,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Conceptual financial analysis.</td>
<td>Days</td>
<td>3</td>
<td>$1,000</td>
<td>$3,000</td>
</tr>
<tr>
<td>Communications.</td>
<td>Days</td>
<td>90</td>
<td>$20</td>
<td>$1,800</td>
</tr>
<tr>
<td>Travel and Accommodation.</td>
<td>Days</td>
<td>10</td>
<td>$2,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Freight of drill and bulk samples.</td>
<td>Sample</td>
<td>8,500</td>
<td>$10</td>
<td>$85,000</td>
</tr>
<tr>
<td>Report compilation.</td>
<td>Days</td>
<td>30</td>
<td>$500</td>
<td>$15,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>$1,010,700</td>
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</tr>
<tr>
<td><strong>Contingency (15%)</strong></td>
<td></td>
<td></td>
<td>$151,605</td>
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</tr>
<tr>
<td><strong>Total Year 1</strong></td>
<td></td>
<td></td>
<td><strong>$1,162,305</strong></td>
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</tr>
</tbody>
</table>

### TABLE 9
#### YEAR 2 - PROPOSED EXPLORATION PROGRAM BUDGET ESTIMATE, LAERMA PROPERTY

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>No of Units</th>
<th>Cost per unit (US$)</th>
<th>Total Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC Drilling Program (200 m depth).</td>
<td>Metres</td>
<td>10x200</td>
<td>$50</td>
<td>$100,000</td>
</tr>
<tr>
<td>Geochemical Analysis of drill samples.</td>
<td>Samples</td>
<td>2,000</td>
<td>$20</td>
<td>$40,000</td>
</tr>
<tr>
<td>Geochemical Analysis of rock samples.</td>
<td>Samples</td>
<td>200</td>
<td>$20</td>
<td>$4,000</td>
</tr>
<tr>
<td>Geological Supervision.</td>
<td>Days</td>
<td>50</td>
<td>$500</td>
<td>$25,000</td>
</tr>
<tr>
<td>Field Support (3).</td>
<td>Days</td>
<td>50</td>
<td>$30</td>
<td>$1,500</td>
</tr>
<tr>
<td>Bulldozer hire and mobilization.</td>
<td>Hours</td>
<td>100</td>
<td>$100</td>
<td>$10,000</td>
</tr>
<tr>
<td>Field Consumables.</td>
<td>Metres</td>
<td>2,200</td>
<td>$2</td>
<td>$4,400</td>
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<td>Camp.</td>
<td>Days</td>
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<td>$150</td>
<td>$7,500</td>
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<tr>
<td>Vehicle Hire/Purchase and Fuel/Expenses.</td>
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<td>50</td>
<td>$120</td>
<td>$6,000</td>
</tr>
<tr>
<td>Meals.</td>
<td>Days</td>
<td>50</td>
<td>$50</td>
<td>$2,500</td>
</tr>
<tr>
<td>Communications.</td>
<td>Days</td>
<td>50</td>
<td>$20</td>
<td>$1,000</td>
</tr>
<tr>
<td>IP-Resistivity Geophysical Survey.</td>
<td>Kilometres</td>
<td>10</td>
<td>$2,500</td>
<td>$25,000</td>
</tr>
<tr>
<td>Travel and Accommodation.</td>
<td>Days</td>
<td>4</td>
<td>$2,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>Freight of drill and rock samples.</td>
<td>Sample</td>
<td>2,200</td>
<td>$10</td>
<td>$22,000</td>
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<tr>
<td>Report compilation.</td>
<td>Days</td>
<td>15</td>
<td>$500</td>
<td>$7,500</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>$264,400</strong></td>
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<tr>
<td><strong>Contingency (15%)</strong></td>
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<td><strong>$39,660</strong></td>
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<tr>
<td><strong>Total Year 2</strong></td>
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<td></td>
<td><strong>$304,060</strong></td>
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</tr>
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SECTION C:
DASHUI PROPERTY
C1. DASHUI PROPERTY DESCRIPTION AND LOCATION

The Dashui Property consists of two contiguous Exploration Permits that contain 602 quarter-minute sub-block units, covering approximately 105.65 km² (Table 10). The Exploration Permits are located in Maqu County of Gannan Prefecture, Gansu Province (Figure 2). The property is centred on Latitude 34°04'29.9"N and Longitude 102°09'58.9"E (Figures 5 and 6). The holder of the exploration permits is the Gansu BGMR Brigade No. 3 under the project name Gansu Maqu County Dashui Gold Mine Exploration.

TABLE 10
DASHUI PROPERTY DESCRIPTION

<table>
<thead>
<tr>
<th>Exploration Permit No.</th>
<th>Project Name</th>
<th>Quarter-Minute Units</th>
<th>Area (km²)</th>
<th>Grant Date</th>
<th>Expiry Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200000330197</td>
<td>Gansu Maqu County Dashui Gold Mine Exploration</td>
<td>170</td>
<td>28.82</td>
<td>February 13, 2003</td>
<td>February 12, 2005</td>
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<td>6200000320202</td>
<td>Gansu Maqu County Dashui Gold Mine Exploration</td>
<td>432</td>
<td>76.83</td>
<td>February 13, 2003</td>
<td>February 12, 2005</td>
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<tr>
<td>Totals</td>
<td></td>
<td>602</td>
<td>105.65</td>
<td></td>
<td></td>
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</tbody>
</table>

The Dashui Property covers an area about 20 km long east-west by 10 km in a north-south direction, with the central portion excised around an adjacent property covering the Gerke gold mine (Table 11).

The Dashui Property has not been legally surveyed. A copy of the legal property description was provided to the author by the BGMR and subsequently translated.

The author is unaware of any environmental liabilities to which the Dashui Property is subject. However, it is possible the joint venture parties may assume responsibility for any environmental liabilities incurred as a result of the subsequent illegal mining operations currently active on the property.
TABLE 11
ADJACENT PROPERTY DESCRIPTION, GERKE GOLD MINE

<table>
<thead>
<tr>
<th>Mining Permit No.</th>
<th>Project Name</th>
<th>Area (km²)</th>
<th>Grant Date</th>
<th>Expiry Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200000230239</td>
<td>Maqu Gold Mine Limited</td>
<td>1.4689</td>
<td>2002</td>
<td>2007</td>
</tr>
<tr>
<td>6200000230240</td>
<td>Maqu Gold Mine Limited</td>
<td>0.8718</td>
<td>2002</td>
<td>2006</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td><strong>2.3407</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Gerke gold mine is of potential interest to PGA and so information concerning it is presented in this and following sections, along with information on Dashui, rather than in a separate section dealing with adjacent properties only. Since there are no other significant adjacent properties there is therefore no such section in this report.

The Gerke gold mine is currently owned 55% by Maqu County and 45% by BGMR Brigade No. 3. Both these parties have indicated to PGA they would like an international partner to fund and supervise exploration over the mine property and adjacent buffer zone, as well as assisting in mine planning to earn equity in the Gerke gold mine.
C2. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

C2.1 ACCESS

The Dashui Property lies 10 km northeast of the town of Maqu, within the jurisdiction of Maqu County of Gannan Prefecture (see Figure 2).

Access to the Dashui Property is from Maqu, along a sealed two-lane road that continues on to Gahai, 53 km by road to the northeast (45 minutes drive). Gahai lies on the Trans China Highway Route G213 which connects to Lanzhou (10 hours drive).

The Dashui Property is situated at 3,600 -4,100 masl, being located on the southern flank of the Qinling Mountain belt, forming the eastern rim of the Qinghai-Tibet plateau. Terrain is mountainous, with slopes varying from gentle to rugged.

C2.2 CLIMATE

Climatically the Dashui Property experiences cold winters and warm summers. Temperatures average 1°C during winter and can drop to as low as -27°C overnight in January. Snow can cover the property between October and May, building up to 1.9 m thickness in April. The ground surface becomes frozen to about 3m depth from November-May. During summer, daily temperatures average 23.5°C in July. Most of the region’s annual rainfall of 500-850 mm falls during the months of July and September. The prevailing wind direction is from the northwest and west, averaging 2.5 m/s, but can reach 28 m/s during winter blizzards.
C2.3 LOCAL RESOURCES

The Qinling Mountain range acts as a mountain divide, with creeks draining the southern flanks of this range southwards into the Yellow River (Huang He). The Yellow River, which flows 12 km south of the property at Maqu, is a more than adequate source of water for any mining operation.

C2.4 INFRASTRUCTURE AND PHYSIOGRAPHY

Infrastructure at the Dashui Property is minimal apart from the sealed Maqu-Gahai Road traversing the centre of the property. The national grid powerline runs alongside this road through the middle of the Property, eventually connecting to Maqu.

Experienced manpower for exploration activities is available through the BGMR. The Property is covered by the Chinese national mobile phone network, so phone and internet communication services are available in most parts of the area.

The area is uninhabited apart from occasional nomadic Tibetan Yak and goat herders.

Maqu is the capital of Maqu County, situated on the north bank of the Yellow River and is a small town of around 30,000 residents. The local economy is dominated by meat, fur and leather goods processing, associated with Yak, sheep and goat grazing conducted by the nomadic Tibetan population. Since 1992, and the start of production at the Gerke gold mine, the economy of Maqu County has improved substantially.
C3. HISTORY

The exploration history of the Dashui Property and surrounding region has been summarised by the BGMR (1991, 2000d, 2001b and 2002).

A multi-element regional stream sediment sampling survey was completed during 1979-1983 over the Luqu 1:200,000 scale map sheet (BGMR, 1983). Several Au-Sb-Hg anomalous areas were located in the western portion of the Luqu map sheet (see Figure 6) and became a focus of follow up exploration activities.

Situated on an adjacent property, the Gerke gold mine, was discovered in 1990 as a result of a 1:10,000 scale soil sampling program (BGMR, 2000d) following up a coincident Au-As-Sb-Hg stream sediment anomaly.

Preliminary exploration at the Gerke gold mine was conducted during 1991-1993, with initial heap leach production commencing on the site in 1992. During 1994-1995, a State Grant funded development of the Gerke gold mine, including trenching at 80 m spacing, adits and drifting, drilling at 80 m x 80 m spacing and metallurgical tests.

Regional exploration of the Dashui area was carried out during 1999-2001, as part of a China Geological Survey funded project (BGMR, 2002). During the course of this program, several gold prospects were located within the Dashui Property, including Gertou, Zhongqu, Xingqu, Zhonggezhala and Qianuo, as well as Gongbei located on adjacent property close to the Gerke mine.

Pargas has not conducted any exploration on the Dashui Property.
C4. PROPERTY GEOLOGY

C4.1 REGIONAL GEOLOGY

The geology of the Dashui Property is summarised in BGMR (2000d, 2000e, 2001b, 2000c and 2002) and illustrated in Figures 5, 10 and 11.

The Dashui Property and adjacent Gerke gold mine property are situated at the western margin of the Yangpenggou Fault (Figures 4, 5, 10 and 11). They lie within a structurally complex area, with the arcuate west-northwest to east-west Yangpenggou fault system displaced by north-northwest striking transfer faults in a sinistral sense. Two subparallel anticlines and a syncline reflect the symmetry of the arcuate west-northwest to east-west structural corridor.

C4.2 LOCAL GEOLOGY

The Dashui Property is underlain by a broadly west-northwest striking Devonian-Carboniferous-Permian-Triassic-Jurassic sedimentary package which typically dips at about 60° to the south-southwest (BGMR, 1991 and 2000a).

Early Devonian stratigraphy (BGMR, 1991) consists of a basal bioclastic limestone unit, overlain by a sandstone, interbedded calcareous slate, limestone and argillaceous limestone. The upper section consists of sandstone, limestone and an evaporitic dolomite unit.

During the middle-late Devonian, platform facies carbonates were deposited, consisting of a lower sequence of medium-bedded micritic limestone and bioclastic limestone, interbedded with carbonaceous and calcareous slate. The upper sequence is comprised of calcareous
Pargas Enterprises Ltd.
Dashui Property
Gannan Prefecture, Gansu Province, People’s Republic of China
Geology Map of the Gerke Gold Mine
sandstone, with interbedded micritic limestone and siltstone overlain by late Devonian limestone, argillaceous limestone, siltstone and slate (BGMR, 1991).

Conformably overlying the Devonian sequence, early Carboniferous stratigraphy consists of quartzite and feldspar-quartz sandstone, containing minor pebble bands and siltstone interbeds. This is overlain by limestone and dolomite, followed by sandstone with limestone and conglomerate and a middle Carboniferous sequence composed of fine grained sandstone, siltstone, mudstone and limestone, with thin coal beds in the lower section. Dark limestone, sandy limestone, siltstone, silty shales and minor conglomerate occur in the upper section. Late Carboniferous stratigraphy consists of a lower section of sandstone and conglomerate and an upper section of limestone, crystalline limestone and limey conglomerate.

Permian sedimentation overlies the Carboniferous sequence and consists of a lower section of slate, sandstone, conglomerate and limestone. This is overlain by limestone, sandstone, silty shales and shales with occasional pebble bands. Localised volcanic activity consisting of andesite lavas and tuffs is present in this section.

Middle Permian sedimentation consists of limestone, carbonaceous shales and calcareous mudstones, while the late Permian sequence includes limestone, shale and silty sandstone, with some interbedded coal seams.

The early-middle Triassic sequence is represented by the Xiayan Formation (BGMR, 2000e). The lower section consists of brown-yellow and orange-red, medium bedded massive micritic dolomite, overlain by grey-dark grey medium bedded pisolithic limestone, oolitic and brecciated pisolithic hematitic limestone. This unit hosts gold mineralization at the Gerke gold mine.

Contemporaneous hot spring activity in the middle Triassic is indicated by the presence of jasperoidal exhalite facies, brown coloured and massive, with autobrecciated and cataclastic textured. The jasperoid is cemented by quartz, calcite and hematite. This unit is also host to gold
mineralization in the Dashui Property and Gerke gold mine. Brown-purple and green-yellow siliceous breccia and banded silica exhalite are observed at the Zhongqu gold prospect.

The upper member of the middle Triassic Xiayan Formation consists of yellow-brown, thinly bedded, laminated, pelitic argillaceous limestone that contains bioclastic structures and disseminated hematite. It is also host to gold mineralization in the Dashui Property. This unit is overlain by fine, grey-dark grey micritic limestone, which contains micro cross bedding and laminations.

Late Triassic-early Jurassic stratigraphy is dominated by quartzite, sandy slate, purple-red limey conglomerates and calcarenite. Fossil assemblages identified include *Clathropteris ofelegans oishi*, *cladophlebis Sp* and *Nilssonia Sp* (BGMR, 2000d). This sequence appears to rest unconformably on the older sequence, or could possibly be a manifestation of listric fault activity.

During the early Yanshanin stage, magmatic activity took place north of the Yangpenggou fault corridor. Granodiorite, granodiorite porphyry, diorite porphyry and syenite porphyry stocks and associated dykes have intruded the Triassic and older stratigraphy, producing localised contact thermal metamorphic effects in the country rock.

A concentrically zoned stock is situated immediately north of the Gerke gold mine, comprised of an inner granodiorite porphyry core and an outer andesite-diotite porphyry marginal facies. Differentiation into evolved species has occurred within this igneous suite. The chemical composition of the granodiorite is alkali-poor, Ca-Al-rich aluminosilicate hypabyssal facies, with marginal facies containing lower Na$_2$O and K$_2$O content. Accessory minerals identified (BGMR, 2000d) within the intrusive include zircon, apatite, magnetite, hematite and minor amounts of sulphides comprised of pyrite, galena, chalcopyrite and realgar were also noted.

Cretaceous outliers of maroon coloured limey conglomerate, calcarenite and mudstone are in unconformable or fault contact with the older rocks.
C4.3 STRUCTURE

The Dashui Property and adjacent Gerke gold mine lie between two southerly dipping, west-northwest trending reverse thrust faults, with the Yangpenggou fault to the south. In the field, these reverse thrust faults consist of 10-30 m wide highly fractured breccia zones containing subangular-subrounded breccia clasts, and cemented by a matrix of calcite-hematite-limonite and milled rock flour. Rebrecciation is evident indicating multiple episodes of tectonic movements along these fault planes. Massive calcite veins and granodiorite dykes are also developed along these structures.

The reverse thrust fault corridor system has been displaced by a series of subparallel north-northwest striking transfer-wrench faults, with displacements recognised in a sinistral sense. The faults dip steeply to the southeast. In places, calcite veins and granodiorite dykes have intruded along these fault structures. These faults have localised the gold mineralization at prospects within the Dashui Property and adjacent Gerke gold mine. Fault displacements have induced localised drag folding effects within the surrounding sequence.

Two subparallel anticlines and a syncline reflect the symmetry of the arcuate west-northwest to east-west structural corridor. The BGMR (2000d) geologists consider the major west-northwest faults were developed during the early Yanshanin stage igneous intrusive events and that the transfer faults developed as a result of east-west directed compression during the late Yanshanin stage tectonic activity.
C5. DEPOSIT TYPES

Alteration observed at the Gerke gold mine is consistent with a low sulphidation epithermal system that has been intensely and deeply oxidized and overprinted by a later carbonate alteration event. A direct genetic association of gold mineralization to igneous activity is believed to be evident with the recognition of both mineralized and unmineralized porphyry dykes along the same mineralized structure.

The author considers the presence of jasperoidal silica exhalite facies, observed at the Gerke gold mine and Zhongqu gold prospect, indicates contemporaneous subaqueous hot spring activity during deposition, probably related to thermal waters generated by a gradually advancing intrusive body at depth. This implies a relatively high level epithermal environment.

Paragenetic studies by BGMR (2002e) indicate 3 separate stages of carbonate alteration and veining, developed around the margins of the Yanshanin intrusive at the Gerke gold mine. The alteration paragenesis is interpreted as reflecting the gradual interaction of soluble country rocks with the igneous intrusion.

The author believes field evidence from the Zhongqu prospect indicates the presence of a previously unrecognised rhyolite flow dome complex being deposited contemporaneously in a subaqueous hot spring environment within the stratigraphic sequence. High grade gold mineralization is associated with the contact of rhyolite and sediment. Rhyolite intrusion breccia was also observed at the Gerke gold mine. The author interprets the rhyolite flow dome complex to represent a high level, volcanic extrusion genetically related to deep seated granodiorite porphyry intrusive activity.

Lithogeochemical studies (BGMR, 1991) indicate the Yanshanin intrusives are enriched with gold. Magmatic input into a hydrothermal system around these intrusives is also likely to become enriched. Fluid mixing probably provided the mechanism for gold deposition, involving mixing of near neutral-
acidic gold bearing (as a bisulphide complex \([\text{Au(HS)}]^{2-}\)) hydrothermal fluids mixing with alkaline, carbonated waters.

The overprinting carbonate alteration is probably a result of an evolving low sulphidation hydrothermal system generated by a gradually prograding granodiorite porphyry intrusive. The original meteoric waters of the hydrothermal system probably gradually became mixed with and eventually saturated in alkaline carbonated water as reaction with the host carbonate sequence took place.

The very unusual high gold:silver ratio observed at the Gerke gold mine is believed to be a manifestation of the more mobile silver element being leached, remobilized and removed from the system by this overprinting alteration event.
C6. MINERALIZATION

C6.1 GERKE GOLD MINE – ADJACENT PROPERTY

The Gerke gold mine is located at Latitude 33°03'12.0"N and Longitude 102°13'53.4"E (Figures 5, 6 and 11), situated 16 km northeast of Maqu. It is the leading gold producer in Gansu Province, and reportedly the fourth largest producer in China.

WGM visited this operating mine as a guest of the mining permit holder, Gansu BGMR Brigade No. 3, in order to better understand controls on gold mineralization on the Dashui Property. It should be noted that the gold mineralization observed at the adjacent Gerke gold mine property may not necessarily be indicative of mineralization on the Dashui Property.

Geologically, the Gerke gold mine consists of a series of west-northwest striking lodes hosted within a west-northwest striking middle Triassic age sequence that dips steeply to the south (BGMR, 2000). This middle Triassic carbonate sequence comprises dolomitic limestone, fine grained micritic-argillaceous limestone and siltstones and exhalative jasperoidal silica facies.

A Jurassic age, Yanshanin series granodiorite porphyry stock has intruded the carbonate sequence 1 km north of the mine, and associated dykes are intimately related with mineralized structures. The BGMR geologists consider that this porphyry is balloon-shaped and is internally zoned in a concentric pattern comprised of an inner granodiorite core and an outer andesite porphyry shell (WGM sample #28).

During the visit to the mine, the author identified at least 2 separate porphyry phases. A bleached, clay-sericite altered feldspar porphyry dyke is clearly mineralized and is in contact with mineralized carbonate sequence (WGM samples #1 and #6). A late stage, unmineralized biotite-plagioclase-quartz porphyry (WGM sample #3) has intruded the
Photo 11. View looking north, of high grade gold mineralized calcite-hematite vein in adit wall (18.0g Au/t; WGM sample #8). Note the small sinistral displacement of the vein at right, imitating movements along larger north-northeast trending transfer fault structures.

Photo 12. View looking south at the eastern end of the Gerke gold mine. The north-northeast striking transfer fault is exposed at the right end of open cut pit. This fault has localized high grade ore with the west-northwest reverse thrust fault running left to right.
mineralized dyke and altered carbonate-siltstone sequence (WGM samples #2 and #4) along the same structure. In addition, the author identified mineralized rhyolite intrusion breccia (WGM sample #5) which may not have been recognised by the BGMR mine geologists.

The lodes are composed of calcite veins (WGM sample #8) and gossanous breccias associated with carbonate-hematite±silica alteration and calcite veinlet stockworks (WGM sample #9), surrounded by an outer envelope of sericite-chlorite alteration.

Primary sulphides are rarely observed and the system has been deeply oxidized down to the deepest levels in the mine (210 m depth). Ore is typically localised at the contact of porphyry dykes, which are also mineralized. Most lodes dip to the north and occur in clusters of irregular, en-echelon, pinch-swell structures that range in width from 1 m to 40 m, with strike lengths up to 300 m.

Grades within the lodes range from 1 to 62 g Au/t, averaging 11.7 g Au/t. The lodes are composed of hematite, magnetite, limonite, native gold and electrum, and trace sulphides including pyrite, sphalerite and chalcopyrite. Most of the gold is free (95.6%), with less than 4% encapsulated in other minerals. Native gold ranges in size from 20 µm up to 1.3 mm size, but is mainly fine grained and is 99.394% purity. Silver content is extremely low, with an overall gold:silver ratio of about 150:1.

Gangue minerals consist of quartz, calcite, hematite, feldspar, dolomite and sericite mica. The calcite veins are zoned and banded, with stylolite boundaries observed at the margins of hematite, dolomite and calcite bands. Fluid inclusions in calcite (BGMR, 2002) indicate temperatures of 120 to 171°C. The core of calcite veins is a cavity partially infilled by crystals of barite, fluorite and quartz. The author believes the original primary mineralization contained sulphides but that these have subsequently been completely leached and removed by an overprinting carbonate alteration and veining event. Lodes appear to be gossanous structures that exhibit voids after pyrite grains that have been leached out (WGM sample #25).
A series of subparallel north-northeast striking transfer-wrench faults has localised gold mineralization at the intersection with a southerly dipping west-northwest striking reverse thrust fault. Reactivation along the transfer faults has subsequently disrupted and displaced the mineralized lode structures.

The mine uses a system of initial heap leaching (Photo 13) followed by CIP of the heap leach tailings (Photo 14). Initial gold recovery from the heap leach is in the order of 54-62%, with recovery from the tailings using CIP of >85%.

The grade of heap leach material after leaching averages 4.15 g Au/t. A vertical channel sample of heap leach tailings assayed 14.4 g Au/t (WGM sample #7) confirming significant amounts of gold remain in the heap leach tailings dumps.

Grab rock chip samples collected by WGM (Table 12) confirm the overall tenor of the Au-As-Sb-Ba-Hg mineralization at Gerke gold mine.

The original indicated and inferred mineral resources (according to the classification system of the Former Soviet Union) stated in 1995 for the Gerke mine are 1.341 Mt grading 12.29 g Au/t, using a 3.0 g Au/t cutoff (BGMR, 2001b). Data used in this resource estimate included 19,445 m of adits and drifts, 475 m of underground drilling, 323 m of declines and 3,160 m of trenching. Specific gravity of the ore was calculated as 2.40 to 2.75. The author has no reason to dispute this resource estimate.

Since 1999, production has averaged >1 tonne of gold per annum and is running at 2.4 tonnes gold per year (BGMR, 2001b). More than 13 t of gold has been produced in the 12 years of production. Despite this production, mine exploration has expanded resources and the current resource at the Gerke gold mine remains at more than 1 m oz of contained gold.
### TABLE 12

<table>
<thead>
<tr>
<th>Sample #</th>
<th>Au (g/t)</th>
<th>Ag (ppm)</th>
<th>Sb (ppm)</th>
<th>As (ppm)</th>
<th>Hg (ppm)</th>
<th>Ba (ppm)</th>
<th>Geological Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.284</td>
<td>&lt;0.001</td>
<td>26</td>
<td>474</td>
<td>0.17</td>
<td>60</td>
<td>Bleached, clay-sericite altered feldspar porphyry, limonite after sulphide.</td>
</tr>
<tr>
<td>2</td>
<td>0.366</td>
<td>0.001</td>
<td>23</td>
<td>383</td>
<td>0.76</td>
<td>100</td>
<td>Bleached, clay-sericite-limonite-hematite altered siltstone, calcite vein stockwork (1-2cm thick), limonite staining after sulphide.</td>
</tr>
<tr>
<td>3</td>
<td>0.007</td>
<td>&lt;0.001</td>
<td>&lt;2</td>
<td>14</td>
<td>0.07</td>
<td>384</td>
<td>Biotite-plagioclase-quartz porphyry, dickite? altered late stage dyke.</td>
</tr>
<tr>
<td>4</td>
<td>0.554</td>
<td>0.001</td>
<td>83</td>
<td>576</td>
<td>0.28</td>
<td>58</td>
<td>Bleached, clay-sericite-limonite-hematite altered siltstone, calcite-barite microveinlet stockwork, limonite staining after sulphide.</td>
</tr>
<tr>
<td>5</td>
<td>0.124</td>
<td>0.001</td>
<td>304</td>
<td>1,490</td>
<td>0.30</td>
<td>19</td>
<td>Bleached rhyolite intrusion breccia, clasts slightly milled and silicified, matrix composed of limonite-calcite.</td>
</tr>
<tr>
<td>6</td>
<td>0.063</td>
<td>&lt;0.001</td>
<td>24</td>
<td>388</td>
<td>0.12</td>
<td>34</td>
<td>Bleached, clay-sericite altered feldspar porphyry, limonite-manganese staining after sulphide, calcite veinlet stockwork.</td>
</tr>
<tr>
<td>7</td>
<td>14.400</td>
<td>&lt;0.001</td>
<td>106</td>
<td>732</td>
<td>3.76</td>
<td>73</td>
<td>Vertical profile (1.8m high) of heap leach dump tailings (clasts up to 10cm).</td>
</tr>
<tr>
<td>8</td>
<td>18.000</td>
<td>&lt;0.001</td>
<td>34</td>
<td>77</td>
<td>7.33</td>
<td>19</td>
<td>High grade calcite-sericite-quartz-hematite-limonite vein (20cm thick) in bleached, clay-sericite-limonite altered siltstone.</td>
</tr>
<tr>
<td>9</td>
<td>0.032</td>
<td>0.001</td>
<td>10</td>
<td>35</td>
<td>0.14</td>
<td>21</td>
<td>Calcite-sericite styloite veinlet stockwork in bleached, clay-sericite-limonite altered siltstone. Siderite margins on calcite veins (1-5cm thick).</td>
</tr>
<tr>
<td>25</td>
<td>35.200</td>
<td>0.400</td>
<td>131</td>
<td>705</td>
<td>10.70</td>
<td>93</td>
<td>Ankerite-calcite-sericite vein breccia cutting silicified crush brecciated and bleached gossan.</td>
</tr>
<tr>
<td>28</td>
<td>0.049</td>
<td>&lt;0.001</td>
<td>3</td>
<td>&lt;2</td>
<td>5.63</td>
<td>410</td>
<td>Plagioclase-biotite andesite porphyry, Hematite-chlorite-nontronite? rimming of crystal grains.</td>
</tr>
</tbody>
</table>

WGM - samples assayed at ALS Chemex Laboratory, Brisbane, Queensland.
After heap leaching, the tailings are carted to the mill for crushing and CIP treatment to recover remaining gold.

Photo 13. View looking west at open cut and adits developed on 4 levels, providing ore for heap leach pads at Gerke gold mine.

Photo 14. After heap leaching, the tailings are carted to the mill for crushing and CIP treatment to recover remaining gold.
Approximately 3 Mt of heap leach tailings material is estimated by the author to be stockpiled on site.

A carbon-in-pulp mill is used to retreat heap leach tailings after being ground to <25 mm size by a primary jaw crusher, secondary cone crusher and ball mill. The mill was designed by the Chongchun Institute of Metallurgy and reportedly commissioned at an unconfirmed cost of US$2.5 million. Mill capacity at the Gerke mine has been recently expanded to 1,000 tpd and mine production is running at 300,000 tpa. Mill tailings are pumped 1 km to the southeast to a tailings dam facility.

Gold in carbon is taken to Maqu, where electrowinning recovery and gold pour is undertaken in a high security environment.

Staff at the Gerke gold mine have indicated to the author that the cost structure of the mine is around US$6.02/t for mining, US$1.81/t for hauling and $34.34/t for milling. The milling cost is expected to drop to US$24.10/t by the end of the year.

In the past, mine practice has been to suspend heap leach operations for 4-5 months and then shut down the mill for 3-4 months during the harsh winter conditions. However, the mill staff indicated to the author they will attempt all year round CIP mill production this year. The mine staff also indicated that heap leaching will completely cease this year.

The Gerke mine currently has 390 employees for management of exploration, grade control, engineering, surveying, laboratory and heap leach operations. The mill employs a further 240 people.

Mining operations are undertaken by 3 contracting companies, which employ approximately 1,000 people. These teams mine approximately 1,200-1,400 tpd by hand in 6 shifts. Current mining practice involves ore being accessed using crosscut adits and drifts along the vein lode. The ore is drilled and then blasted. Ore is then removed by hand using wheel barrows and placed in a chute for
subsequent rehandling and stacking on heap leach pads. Dilution is around 20% and ore pillars are left behind for ground support.

Several other gold deposits have been identified by the BGMR in the vicinity of the Gerke gold mine. Mining is underway at the adjacent Gongbei gold deposit, held under mining permit by BGMR Brigade No. 3. The Gongbei gold deposit has a reported resource of 147,709 t grading 6.08 g Au/t (BGMR, 2001b). Further south, ore from the Gertou gold deposit was considered too hard for processing in the mill and only limited heap leaching has been undertaken.

### C6.2 ZHONGQU PROSPECT AREA

The Zhongqu gold prospect is located at Latitude 34°04′29.9″N and Longitude 102°09′58.9″E (see Figure 10). The prospect is located adjacent to the Maqu-Gahai Road as it passes through the top of the Xiqing Shan mountain range at an elevation of 4,000 masl.

The prospect was located by the BGMR (2002) in 1999, as part of a China Geological Survey (CGS) funded project following up Au-Hg-Sb anomalies located by the regional stream sediment sampling survey. Three diamond drill holes were drilled at the Zhongqu prospect (BGMR, 2002) to intersect mineralization exposed in trenches. These holes indicated mineralization continues at depth but narrows in width (4 m at 6.5 g Au/t).

BGMR (2001b) estimated that the Zhongqu prospect contains 13.685 t of gold based on trenching, adits and limited drilling data (BGMR, 2002). This estimate must be considered speculative given the limited work completed on the prospect.
An illegal mining operation (Photo 15) was established at Zhongqu in 2001 and is mining high grade quartz-carbonate vein mineralization using primitive vat leaching methods to recover the gold. Most vats are fed by hand and emptied by hand on a weekly or bi-weekly cycle.

Geologically, this prospect is very interesting. Flat lying, thinly bedded laminated, jasperoidal silica exhalite is intercalated with a waterlain rhyolite ignimbrite and autobreccia mudstone-carbonate-siltstone sequence (Photo 16), that has been intruded by silicified rhyolite intrusive breccia and associated quartz-calcite veining. The contact of rhyolite and sediment has produced a jasperoidal chill margin (Photo 17) and contains some spectacular gold grades up to 178 g Au/t (Photo 18; WGM sample #30).

Minerals of economic interest include native gold, electrum, native silver, pyrite, cinnabar, stibnite, arsenopyrite, realgar, orpiment, magnetite and galena (BGMR, 2002). The fineness of native gold is more than 90% and is micron sized. Gangue minerals consist of hematite, quartz calcite, barite, zircon, phosphate and brookite.

Flow banded rhyolite intrusive, probably in a flow dome setting, is exposed in road cuttings (Photo 19) along the Maqu-Gahai Road in the vicinity of this prospect. Epithermal-style banded quartz-calcite-hematite vein sheeting and stockworks are also well developed in these road exposures on the flanks of the flow banded rhyolite intrusive. The BGMR geologists have not previously mapped the presence of rhyolite in the stratigraphic sequence and the author is not aware of any rock chip sampling being undertaken of these road exposures.

Road cuttings along the Maqu-Gahai Road provide excellent exposures and the opportunity to inspect the geology of the prospect, as it traverses in switch-backs around the sides of hills in this prospect area. Future rock chip sampling of these exposures is highly recommended.
Photo 15. View looking east down onto illegal mining operation at Zhongqu. Note BGMR prospecting trenches, paved Maqu-Gahai Road and power line infrastructure in background.

Photo 16. Laminated, jasperoidal silica exhalite intercalated with a waterlain rhyolite ignimbrite and autobreccia mudstone-carbonate-siltstone sequence (2.39g Au/t; WGM sample #31)
Photo 17. Brecciated, mineralized jasperoidal chill margin contact of rhyolite at left with sediment (35.8g Au/t; WGM sample #26)

Photo 18. Close up of jasperoidal brecciated chill margin contact zone cut by calcite veinlet containing spectacular gold grades (178g Au/t; WGM sample #30)
Photo 19. Flow banded rhyolite intrusive exposed in a road cutting, with epithermal banded quartz-calcite-hematite vein stockwork developed on the margin at right.
Grab rock chip samples collected by WGM (Table 13) confirm the overall tenor of the Au-As-Sb-Hg mineralization at the Zhongqu prospect. The presence of both high grade mineralization, associated with rhyolite dyke contacts as well as the potential for bulk tonnage, lower grade stockwork and disseminated gold mineralization are confirmed by this sampling.

### TABLE 13

<table>
<thead>
<tr>
<th>WGM Sample #</th>
<th>Au (g/t)</th>
<th>Ag (ppm)</th>
<th>Sb (ppm)</th>
<th>As (ppm)</th>
<th>Hg (ppm)</th>
<th>Ba (ppm)</th>
<th>Geological Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>22.800</td>
<td>2.9</td>
<td>142</td>
<td>72</td>
<td>149.00</td>
<td>27</td>
<td>Grey silicified rhyolite dyke in chill margin contact with jasperoidal-silicified siltstone, trace disseminated pyrite.</td>
</tr>
<tr>
<td>14</td>
<td>0.397</td>
<td>&lt;0.2</td>
<td>8</td>
<td>9</td>
<td>1.10</td>
<td>&lt;10</td>
<td>Calcite veinlet stockwork in hematite altered siltstone (adjacent to rhyolite dyke contact).</td>
</tr>
<tr>
<td>15</td>
<td>1.660</td>
<td>0.5</td>
<td>35</td>
<td>25</td>
<td>1.78</td>
<td>18</td>
<td>Laminated rhyolite ignimbrite, waterlain tuff-muddy sandstone.</td>
</tr>
<tr>
<td>16</td>
<td>0.200</td>
<td>&lt;0.2</td>
<td>13</td>
<td>18</td>
<td>0.95</td>
<td>&lt;10</td>
<td>Rhyolite intrusion breccia, silica cemented with quartz microveinlet stockwork.</td>
</tr>
<tr>
<td>26</td>
<td>35.800</td>
<td>2.5</td>
<td>156</td>
<td>87</td>
<td>68.20</td>
<td>95</td>
<td>Silica-hematite altered siltstone, brecciated at chill margin contact with rhyolite dyke. Yellow fluorite ?</td>
</tr>
<tr>
<td>29</td>
<td>1.640</td>
<td>&lt;0.2</td>
<td>31</td>
<td>80</td>
<td>3.60</td>
<td>39</td>
<td>Silicified rhyolite dyke cutting Triassic pebble conglomerate and cut by calcite-hematite multiple banded vein.</td>
</tr>
<tr>
<td>30</td>
<td>178.000</td>
<td>0.8</td>
<td>1,450</td>
<td>2,030</td>
<td>69.2</td>
<td>34</td>
<td>Banded hematite-silica jasperoidal breccia cut by calcite vein, yellow nontronite clay.</td>
</tr>
<tr>
<td>31</td>
<td>2.390</td>
<td>0.3</td>
<td>42</td>
<td>26</td>
<td>2.37</td>
<td>26</td>
<td>Laminated rhyolite lava, waterlain, silicified and jasperoidal, almost subaqueous sinter, with crosscutting calcite veinlet stockwork. Minor spherulitic rhyolite and autobreccia sedimentary layering.</td>
</tr>
<tr>
<td>32</td>
<td>10.400</td>
<td>1.7</td>
<td>51</td>
<td>49</td>
<td>8.13</td>
<td>17</td>
<td>Jasperoidal silica-hematite hydrothermal breccia with rip-spall clasts, cut by coarse grained calcite. Cavities infilled by alunite-kaolinite-yellow nontronite clay and calcite.</td>
</tr>
</tbody>
</table>

WGM - samples assayed at ALS Chemex Laboratory, Brisbane, Queensland.
The observed geology, nature of veining, alteration and geochemical response of mineralization at the Zhongqu prospect is consistent with a high level, subaqueous hot spring epithermal gold-bearing environment. The author considers this prospect has excellent potential to host a significant epithermal gold deposit. It is a high priority exploration target warranting immediate follow up by PGA.

**C6.3 XINGQU PROSPECT AREA**

The Xingqu gold prospect is located at Latitude 34°05'04.3"N and Longitude 102°10'08.4"E (see Figure 10), only 1.2 km northeast of the Zhongqu gold prospect. The Xingqu prospect is located close to the Maqu-Gahai Road as it passes down the northern flank of the Xiqing Shan mountain range at an elevation of 3,700 masl.

Again, the Xingqu prospect was located by the BGMR (2002) in 1999, as part of a China Geological Survey funded project, following up Au-Hg-Sb anomalies located by the regional stream sediment sampling survey.

The BGMR drilled two diamond holes at this prospect under mineralization exposed by trenching. Rocks intersected in drilling included purple-maroon coloured, strongly silica-hematite altered brecciated bioclastic limestones. The drill core was very broken, but the deepest drill hole intersected several "blind" zones of mineralization not evident on surface, associated with breccias and intruded by granodiorite porphyry dykes. Assays of up to 13.74 g Au/t were obtained in these intersections at around 200 m depth.

The Xingqu prospect has an estimated resource of 5.88 t of gold (BGMR, 2001b), based on trenching, adits and limited drilling data. This estimate must be considered speculative given the limited work completed on the prospect.
An illegal mining operation was established at Xingqu in early 2003. Since March, a 400 m long decline has been driven (unconfirmed estimated cost of 700,000 RMB (US$85,000) into the side of a hill to reach the 5 m wide mineralized zone, indicated by the BGMR drilling. Although yet to reach this target, several narrow mineralized zones have been intersected by this decline. Random grab sampling by WGM (Table 14) of dump material obtained 18.90 g Au/t (WGM sample #17) from a grey, silica-hematite altered, jasperoidal siltstone cut by banded calcite vein stockworks.

<table>
<thead>
<tr>
<th>WGM Sample #</th>
<th>Au (g/t)</th>
<th>Ag (ppm)</th>
<th>Sb (ppm)</th>
<th>As (ppm)</th>
<th>Hg (ppm)</th>
<th>Ba (ppm)</th>
<th>Geological Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>18.900</td>
<td>&lt;0.2</td>
<td>132</td>
<td>329</td>
<td>1.53</td>
<td>21</td>
<td>Grey silica-hematite altered jasperoidal siltstone, banded calcite veins, hematite stained.</td>
</tr>
</tbody>
</table>

WGM - samples assayed at ALS Chemex Laboratory, Brisbane, Queensland.

The proximity of the Xingqu gold prospect to the nearby Zhongqu prospect suggests it is probably part of the same epithermal mineralized system.

C6.4 QIANUO PROSPECT AREA

The Qianuo gold prospect is located at Latitude 33°05′00.0″N and Longitude 102°08′40″E (see Figure 10) and is less accessible than the Zhongqu and Xingqu prospects.

This prospect was not visited by WGM so a brief report on the prospect by the BGMR (2002) is relied upon for a description.

The Qianuo prospect was located by the BGMR (2002) in 1999, as part of a China Geological Survey funded project, following up Au-Hg anomalies located by the regional stream sediment sampling survey. Geological mapping by the BGMR (2001c) at 1:10,000 scale (see Figure 10) indicates the deposit is hosted in middle Permian bioclastic limestones intruded by diorite and granodiorite porphyry dykes.
The BGMR has carried out 1:2,000 scale prospect geological mapping, excavated 14 prospecting trenches, driven 2 adits and drilled 2 diamond drillholes. Mineralization consists of hydrothermal quartz-carbonate vein breccias and jasperoidal breccias, which vary in thickness from 0.74 to 5.30 m, with grades ranging from 2.64 to 6.08 g Au/t (BGMR, 2002).

Using data from this work, the BGMR (2002) have estimated a mineral resource of 3.597 t gold. This estimate must be considered speculative given the limited work completed on the prospect.

C6.5  ZHONGGEZHALA PROSPECT AREA

The Zhonggezhala gold prospect is located at Latitude 34º04'40.0"N and Longitude 102º08'50.0"E (see Figure 10). Southern parts of this prospect are traversed by the Maqu-Gahai Road. It is situated in more steeper and rugged terrain than present on the other prospect areas of the Dashui Property.

This prospect was reportedly discovered as part of the China Geological Survey funded exploration program during 1999-2001 (BGMR, 2002). Mineralization consists of 2m wide silica-calcite-hematite filled breccias, averaging 4.01 g Au/t, developed at the contact with granodiorite dykes. The BGMR has estimated a mineral resource of 27.24 t of gold for this prospect but provided no further details. Accordingly, this resource estimate must be considered speculative.

WGM did not visit the Zhonggezhala prospect. However, the Maqu-Gahai Road traverses the southern part of this prospect area providing good exposures in road cuttings. Numerous sub-vertical breccias and fault structures cutting limestones and siltstones were observed in these road cuttings as the author transited this area. Sampling of these excellent road exposures is highly recommended as part of the exploration program proposed for the Dashui Property.
C6.6 GERTOU PROSPECT AREA

The Gertou gold prospect is located at Latitude 34º01'41.6"N and Longitude 102º13'04.9"E. Gertou is situated 2 km southwest of the Gerke gold mine. Mineralization at Gertou strikes north-northwest and consists of a sub-vertical 10 to 20 m wide zone of jasperoidal, intense hematite-silica alteration that has been brecciated and shattered (WGM sample #12) and subsequently infilled by calcite veinlets (WGM sample #11). Sampling by the BGMR (2000e) obtained 20 m at 6.0 g Au/t across the breccia zone exposed in the open cut. Grab sampling by WGM (Table 15) confirms the presence of gold mineralization at this prospect.

<table>
<thead>
<tr>
<th>WGM Sample #</th>
<th>Au (g/t)</th>
<th>Ag (ppm)</th>
<th>Sb (ppm)</th>
<th>As (ppm)</th>
<th>Hg (ppm)</th>
<th>Ba (ppm)</th>
<th>Geological Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0.025</td>
<td>&lt;0.2</td>
<td>8</td>
<td>37</td>
<td>0.56</td>
<td>&lt;10</td>
<td>Silicified limestone, quartz veinlet stockwork.</td>
</tr>
<tr>
<td>11</td>
<td>9.010</td>
<td>0.2</td>
<td>42</td>
<td>55</td>
<td>10.40</td>
<td>20</td>
<td>Calcite vein (25cm thick) cutting silica-hematite hydrothermal breccia (7.5m wide), siderite-hematite stained.</td>
</tr>
<tr>
<td>12</td>
<td>4.180</td>
<td>0.3</td>
<td>65</td>
<td>121</td>
<td>12.80</td>
<td>11</td>
<td>Vughy, silicified-jasperoidal hydrothermal breccia, jarosite-limonite stained after sulphides and bleached by late stage carbonate overprint.</td>
</tr>
</tbody>
</table>

WGM - samples assayed at ALS Chemex Laboratory, Brisbane, Queensland.

BGMR (2000e) estimated an inferred mineral resource (using the classification system of the Former Soviet Union) of 300,000 t grading 6.7 g Au/t for the Gertou deposit (equivalent to 2 t of contained gold), based on sampling of the trenches, open cut and 2 adits. The Gerke gold mine attempted a satellite mining operation at Gertou, but this ceased because the ore is too hard and silicified to heap leach successfully.

South of the Gertou prospect, a sequence is exposed consisting of steep north dipping, east-west striking, conglomeratic polymictic breccia interbedded with grey limestones. Clasts within the conglomerate are well rounded and include some mineralized clasts. The rocks have been intensely silicified and cut by banded calcite-hematite and chalcedony microveinlet stockworks.
A grab sample of silicified limestone with quartz microveinlet stockworks (WGM sample #10) recorded traces of gold. This sample was collected over 1 km away from the prospect but indicates the potential for additional gold mineralization at depth in this area. The widespread silicification and quartz and carbonate vein stockworks observed in the area around the Gertou prospect probably indicate a large epithermal system was active in this area.
C7. EXPLORATION

Exploration over the Dashui Property has been undertaken solely by the Gansu BGMR Brigade No. 3. Initial exploration involved a multi-element regional stream sediment sampling survey, completed during 1979-1983 (BGMR, 1983). Several coincidental Au-Sb-Hg anomalous areas were located in the area covered by the Dashui Property and became a focus of follow up exploration activities.

Situated on an adjacent property, the Gerke gold mine was discovered in 1990 as a result of a 1:10,000 scale soil sampling program (BGMR, 2000) following up a coincident Au-As-Sb-Hg stream sediment anomaly. The Gerke mine was highlighted by a peak 72 ppb Au anomaly, located within a 1,900 m by 400 m anomalous zone defined by the 8 ppb Au contour (BGMR, 2000).

During 1991-1995 exploration activities by the BGMR were focussed on evaluating and developing the Gerke gold mine, including geological mapping at 1:10,000 and 1:1,000 scale, trenching at 80 m spacing, adits and drifting, drilling at 80 m x 80 m spacing and metallurgical tests (BGMR, 2000e and 2001b).

As part of a China Geological Survey funded project, regional exploration of the Dashui area resumed during 1999-2001 (BGMR, 2002). This exploration program attempted to use the Gerke gold mine model to locate new areas of mineralization. As a result, several gold prospects were located within the Dashui Property, including Gertou, Zhongqu, Xingqu, Zhonggezhala and Qianuo, as well as Gongbei located on adjacent property close to the Gerke mine.

Typically, initial exploration involved geological mapping at 1:10,000 scale and 1:2,000 scale, followed up by trenching and driving of prospecting adits. In addition, three diamond drill holes were drilled at the Zhongqu prospect and two at the Xingqu prospect.
As part of the China Geological Survey funded exploration program, follow up of previously defined regional scale stream sediment anomalies was completed using a 1:50,000 scale stream sediment sampling survey. This program outlined 11 major gold anomalies and 5 silver anomalies, as well as numerous Hg and Sb anomalies. Only one anomaly well to the north of the property at Shaiyintan was followed up, and there a hematite altered breccia zone containing <1 g Au/t was discovered. No further follow up has been undertaken on the remaining anomalies since 2001.

Since 2001, no further exploration on the Dashui Property has been undertaken, probably due to funding priorities. The BGMR Brigade No. 3 continues to be primarily focussed on assisting the Gerke gold mine expand resources in order to replace those being mined.

The exploration work carried on the Dashui Property by the BGMR has been carried out in a sound professional way, using conventional systematic exploration methods. The results generated by the various work programs are considered to be representative of the observed mineralization.
C8. DRILLING

A total of 7 diamond core drillholes were drilled on the Dashui Property; 3 at Zhongqu, 2 at Xingqu and 2 at Qianuo. These holes were designed to intersect mineralization exposed in trenching and prospecting adits.

WGM has not inspected the drill core from these drilling programs.

The drilling program used a fixed mast, top drive rig, as previously described in Section 7.8. The drill rig is capable of drilling inclined holes to only a -80° dip and is therefore considered unsatisfactory for gold exploration. The drill holes were not capped or cased off, but drill sites are still evident on surface. The drill core is believed to be stored in stacked boxes in a core shed at the BGMR facility in Hezuo.

Drill core was split using a mechanical core splitting device and hammer or by hand sorting. This can be regarded as an unsatisfactory sampling method, with a diamond core saw the much preferred sample splitting tool.

The diamond core drilling program did not use triple tube, or employ any means to collect sulphides washed out of cavities by drilling fluids during the drilling process. According to the BGMR, broken ground conditions and numerous cavities were encountered in the formations hosting the gold mineralization and there is a strong possibility that some gold and gold-bearing sulphides were washed away and not recovered during the drilling process. Gold values may therefore be understated.

An overall unfavourable impression was gained from studying the drilling equipment and methods employed by the BGMR. The drilling equipment would be considered inefficient and unsuitable by modern western exploration standards.
C9. SAMPLING METHOD AND APPROACH

Exploration conducted by the BGMR (1991, 2000e, 2001b and 2002) on the Dashui Property has employed conventional and systematic, geochemically orientated exploration methods as previously described in Section B10.

Multi-element regional and detailed stream sediment surveys were the initial exploration method employed by the BGMR. Geochemical exploration, using regional-scale stream-sediment sampling has proven to be a successful technique in the discovery of sediment-hosted gold deposits.

Once an anomalous area was located by stream sediment sampling, the area was typically gridded for 1:10,000 scale soil surveying. At each soil sample site, the “B” soil horizon was sampled, sieved to -40# and approximately 200 g collected.

Deposit-scale exploration commonly concentrates on empirical methods of deposit sampling and measurement. Chief techniques employed are surface mapping, trenching, rock chip sampling and underground tunnelling by drift or cross cut and diamond drilling.

Drill core from all mineralized zones was split using a mechanical splitter. Half-core was sent for analysis to the Gansu Provincial Laboratory, and the remaining half was retained for future verification. No systematic sampling of the core was undertaken and when sampled only Au and Hg were analysed for. Sample interval was not consistent and depended upon the recovery and length of each drill run. Split drill core samples were labelled and bagged under the supervision of a geologist. It is not known how the bags were forwarded to the lab for analysis, or what level of security was employed.

All samples were analysed at the Gansu Provincial Laboratory, using atomic absorption techniques.
C10. SAMPLE PREPARATION AND SECURITY

All samples collected by the BGMR from the Dashui Property were analysed at the Gansu Provincial Laboratory, previously described in Section B10. The sample security measures employed by the laboratory appear appropriate.

WGM has no information on sample security measures employed by the BGMR exploration teams. However, every other aspect of their exploration programs is professional and so the author is confident that they ensure the samples analyzed are representative of the mineralization sampled.

WGM’s samples were tested by ALS Chemex at #32 Shand Street, Stafford, Queensland, 4053, Australia. This laboratory is an ISO 9002 and NATA registered laboratory. These samples were hand carried in a securely locked bag and in the author’s possession at all times.

ALS Chemex sample preparation used the PREP-31 method involving the fine crushing of the entire sample and obtaining a 250 g split. A barren quartz wash of sample preparation equipment was undertaken between each sample.

All analyses by ALS Chemex for Au, Pt and Pd, in ppm were done by the PGM-MS23 method using Fire Assay with ICP-MS finish on 30 g samples. Analyses for Ag, Sb, and As, in ppm were done by method ME-ICP41m as part of a 34-element aqua regia digestion package using ICP-AES finish. As part of this method, a cold vapour-AA finish was performed for Hg, in ppm.
Duplicate samples were submitted by WGM to the Gansu Provincial Laboratory to corroborate, as well as compare results from differing chemical analytical methods for gold employed by the two laboratories. These duplicate samples were prepared by cutting the rock perpendicular to the strike of observed mineralization using a diamond tipped core saw at the Gansu Provincial Laboratory.
C11. DATA CORROBORATION

The author visited the Zhongqu, Xingqu and Gertou gold prospects situated on the Dashui Property and the adjacent Gerke gold mine property.

Several surface grab samples were collected by WGM from previously trenched areas or areas being currently mined by illegal operations, for mineralization characterization purposes.

Results from the WGM corroborative check samples forwarded to ALS Chemex confirmed the presence of gold mineralization in previously trenched areas (Tables 12 to 15 and 16).

By way of comparison, the results recorded by the Gansu Laboratory, based on a very small sample set, have a general tendency to under-report gold values versus those obtained by ALS Chemex (Table 16). The author considers the Fire Assay method for gold analysis employed by ALS Chemex to be superior to the atomic absorption analytical method as used to analyse gold by the Gansu Laboratory.

Any under-reporting discrepancy by the atomic absorption analytical method as used by the Gansu Laboratory could be due to arsenic, antimony and carbonaceous material associated with mineralization affecting the total digestion process.
### TABLE 16
COMPARATIVE ASSAYS - (WGM) CONTROL SAMPLES, DASHUI PROPERTY

<table>
<thead>
<tr>
<th>WGM Sample #</th>
<th>Gansu Laboratory Sample #</th>
<th>WGM Au g/t</th>
<th>Gansu Au g/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0.284</td>
<td>0.18</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>0.366</td>
<td>0.25</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>0.007</td>
<td>0.10</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>0.554</td>
<td>0.39</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>0.124</td>
<td>0.20</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>0.063</td>
<td>0.20</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>14.400</td>
<td>3.15</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>18.000</td>
<td>26.00</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>0.032</td>
<td>0.25</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>0.025</td>
<td>0.20</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>9.010</td>
<td>5.37</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>4.180</td>
<td>1.78</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>22.800</td>
<td>13.38</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>0.397</td>
<td>0.35</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>1.660</td>
<td>0.60</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>0.200</td>
<td>0.05</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td>18.900</td>
<td>5.64</td>
</tr>
<tr>
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<td>25</td>
<td>35.200</td>
<td>57.33</td>
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<td>26</td>
<td>26</td>
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<td>11.12</td>
</tr>
<tr>
<td>28</td>
<td>28</td>
<td>0.049</td>
<td>0.10</td>
</tr>
<tr>
<td>29</td>
<td>29</td>
<td>1.640</td>
<td>1.25</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td>178.000</td>
<td>26.56</td>
</tr>
<tr>
<td>31</td>
<td>31</td>
<td>2.390</td>
<td>1.60</td>
</tr>
<tr>
<td>32</td>
<td>32</td>
<td>10.400</td>
<td>7.29</td>
</tr>
</tbody>
</table>

WGM - samples assayed at ALS Chemex Laboratory, Brisbane, Queensland.
Gansu – samples assayed at Gansu Provincial Laboratory, Lanzhou City, Gansu Province.
C12. ADJACENT PROPERTIES

BGMR provided little or no information regarding adjacent properties during WGM's site visit other than information concerning the Gerke gold mine, adjacent to the Dashui Property. This property is discussed in some detail in Section C6.1.
C13. INTERPRETATION AND CONCLUSIONS

Exploration to date on the Dashui Property by the BGMR has identified a number of prospects containing Au-Hg-As-Sb mineralization, jasperoidal silica subaqueous exhalative hot spring facies and rhyolite flow domes that are indicative of a high level, low sulphidation epithermal gold mineralized system. Alteration observed at the Gerke gold mine is consistent with a low sulphidation epithermal system that has been deeply oxidized and overprinted by late stage carbonate alteration.

Of the prospects discovered by BGMR Brigade No. 3 to date, the Zhongqu prospect is considered to be the most important. The author considers this prospect has excellent potential to host a significant epithermal gold deposit contained within quartz-carbonate vein stockworks in sediments and rhyolite flow dome. It is a high priority exploration target warranting immediate follow up by PGA.

Further exploration at the Gertou, Xingqu, Zhonggezhala and Qianuo gold prospects, previously located by a regional stream sediment sampling program, is warranted as only limited exploration has been undertaken on these areas by the BGMR. The presence of a large epithermal alteration system is interpreted at the Gertou prospect. The Xingqu prospect is considered to be part of the Zhongqu mineralized system.

A direct genetic link of the gold mineralization to granodiorite porphyry intrusive activity can probably be demonstrated at the Gerke gold mine. By implication, porphyry gold type mineralization associated with stockworks in an evolved subvolcanic porphyry stock is a potential significant exploration target for the Dashui Property. However, the interpreted exposed shallow-level epithermal environment of the Dashui Property would indicate this target is likely to be at depth.
The author also considers the Dashui Property has potential to host sediment-hosted gold mineralization, as favourable reactive and porous, permeable carbonate sedimentary units underlie the property.

Remote sensing exploration methods should be applied to the Dashui Property as they can cost effectively define areas of alteration and identify structures controlling gold mineralization. Specialized processing of satellite imagery can be used to identify areas of clay, silica and hematite alteration, as well as providing structural and topographic information. High resolution heliborne magnetic-radiometric surveys provide a reliable and cost effective method to define structures controlling mineralization. This survey will need to use a high performance helicopter (probably a Squirrel B3 or Lama), capable of flying safely at altitude over mountainous terrain.

Reconnaissance geological prospecting surveys provide a rapid method of evaluating and sampling targets generated by remote sensing and road cuttings and evaluate areas of known mineralization.

Gerke gold mine is currently owned 55% by Maqu County and 45% by BGMR Brigade No. 3. Both these parties have indicated to PGA they would like an international partner to fund and supervise exploration over the mine property, as well as assisting in mine planning. In return, PGA would be able to earn equity in the mine.

The overall impression gained of the Gerke gold mine is of a professionally managed mine by Chinese standards, but one which could benefit from the introduction of modern western-style mining practice. Cutoff grades at the mine are 3.0 g Au/t and the mine is now being run as a high grade underground mining operation. The author believes potential exists to develop a bulk tonnage, low grade open cut mining operation if western-style mining practice was introduced. Considerable improvement to the processing operation is also considered possible.
Numerous dilation zone structural targets for high grade feeder mineralization exist in proximity to the Gerke gold mine. A structural mapping program should be able to refine these targets for drilling and assist in locating additional resources for the mine.

Results from the corroborative and check sampling undertaken on the Gansu Laboratory, suggest the atomic absorption method as used by this laboratory may under-report gold grades.

Again, identification of individual litho-tectonic zones is considered important, because local control of sediment-hosted gold deposits is probably directly related to specific sedimentary horizons throughout the Qinling fold belt.

Several promising stratigraphic and structural targets have been identified in the region with corresponding anomalous stream sediment geochemistry. These should be evaluated for future Joint Venture.
C14. RECOMMENDATIONS

The following recommendations are made:

1. It is strongly advised to request the MOLAR remove the illegal mining operations at the Zhongqu and Xingqu gold prospects.

2. All the available maps and reports on the Dashui Property should be copied and made available to PGA. All useful documents should be translated into English.

3. The available trench, adit and diamond drill data should be entered into a GIS database. These data can then be incorporated with data collected from future exploration to produce an integrated and robust data set for the entire property.

4. Acquisition and scanning of any available aerial photograph flown over the property.

5. Consideration given to undertaking a due diligence study on the Gerke gold mine by a team comprising a geologist, mining engineer and metallurgist. This study has not been budgeted for.

6. The possible under reporting of gold assay values by the Gansu Laboratory should be further investigated.

Once the above recommendations are carried out and should results warrant, it is considered that a two-year exploration program should be completed on the Dashui Property. The Year 1 Exploration Program should include the following:

1. Purchase of detailed satellite imagery that has been specially processed to identify areas of clay, silica and hematite alteration. Interpretation should be undertaken by a consultant to generate
targets for follow up. This imagery can also be used to assist with topographic base map generation.

2. Drafting of digital topographic base maps.

3. Compilation of digital geological maps at 1:10,000 scale, using a combination of BGMR mapping, satellite imagery and aerial photo interpretation.

4. High resolution heliborne magnetic-radiometric survey. A flightline spacing of 200 m has been provided for in the budget, including tie lines. Flightlines should be orientated NW-SE in order to intersect known mineralized structures (NNE and WNW) in a near perpendicular manner. Because of the long lead time to organize permitting of such a program it is necessary to start planning this program at an early stage. This program could be coordinated with similar surveys being flown by unrelated companies in order to reduce helicopter mobilization costs.

5. Reconnaissance geological prospecting surveys. These surveys should ground check targets generated by the heli-mag survey and satellite image interpretation, as well as inspect geological type sections, sample road cuttings and evaluate areas of known mineralization. These surveys can be used to update or amend 1:10,000 scale digital geological maps.

6. Geological mapping at 1:5,000 scale of the Zhongqu, Xingqu, Gertou, Zhonggezhala and Qianuo prospects. This should map out alteration, geology and structures in order to define drill targets. Other prospects identified by reconnaissance geological prospecting surveys, heli-mag survey and satellite image interpretation, should also be geologically mapped at 1:5,000 scale.

7. Soil geochemical sampling of prospects using samples collected at 25 m intervals along lines spaced 100 m apart. The soil surveys can be used to better define targets for drilling. Soil sampling of ten prospects has been provided for in the Year 1 exploration program. Accurate grid surveying for each soil survey will also generate survey data for a digital elevation model.
8. Trenching of anomalous zones in soil surveys to expose geology and mineralization.

Other recommendations include:

- Drill core currently stored at the BGMR facility in Hezuo, should be photographed, relogged and preserved for reference, RQD measurements and other rock mechanics testing; and

- All future gold analyses should use the fire assay with AA finish method for gold analysis. This method will avoid any potential under-reporting discrepancies which may be caused by the complex arsenic-antimony mineralization and host carbonaceous material affecting the analytical process.

The proposed budget for the Year 1 Exploration Program is presented in Table 17. It is anticipated initial planning activities for this program would commence in January 2004, with field activities starting in April, 2004.

Contingent on positive results being obtained in the Year 1 program, a Year 2 program is proposed. In order to follow up targets generated by the above surveys, ground IP-Resistivity geophysical surveys are recommended. A total of 50 line kilometres of IP-Resistivity is budgeted for, sufficient for 10 prospects to be surveyed.
At this early exploration stage it is not possible to identify specific drill hole locations. Drill targets defined by the Year 1 program and Year 2 ground IP-Resistivity surveys should be tested using a reverse circulation drill program (15 holes at 200 m depth, minimum of 3,000 m), using holes angled at 60° and drilled to at least 100 m depth with some to 200 m. The proposed Year 2 program and budget is presented in Table 18.

It is WGM’s opinion that the property is of sufficient merit to justify the program recommended.
### TABLE 17
**YEAR 1 - PROPOSED EXPLORATION PROGRAM BUDGET ESTIMATE, DASHUI PROPERTY**

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>No of Units</th>
<th>Cost per unit (US$)</th>
<th>Total Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellite imagery purchase and processing</td>
<td>Scenes</td>
<td>2</td>
<td>$5,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Interpretation of satellite imagery</td>
<td>Days</td>
<td>5</td>
<td>$1,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>Digital map drafting</td>
<td>Days</td>
<td>20</td>
<td>$300</td>
<td>$6,000</td>
</tr>
<tr>
<td>Heliborne magnetic-radiometric survey</td>
<td>Kilometres</td>
<td>550</td>
<td>$50</td>
<td>$27,500</td>
</tr>
<tr>
<td>Mobilization of helicopter</td>
<td>Days</td>
<td>5</td>
<td>$5,000</td>
<td>$25,000</td>
</tr>
<tr>
<td>Processing of heli-mag survey data</td>
<td>Days</td>
<td>15</td>
<td>$1,000</td>
<td>$15,000</td>
</tr>
<tr>
<td>Reconnaissance geological prospecting</td>
<td>Days</td>
<td>30</td>
<td>$500</td>
<td>$15,000</td>
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<tr>
<td>Geological mapping of prospects</td>
<td>Days</td>
<td>60</td>
<td>$500</td>
<td>$30,000</td>
</tr>
<tr>
<td>Geochemical Analysis of rock samples</td>
<td>Samples</td>
<td>2,000</td>
<td>$20</td>
<td>$40,000</td>
</tr>
<tr>
<td>Geochemical Analysis of soil samples</td>
<td>Samples</td>
<td>2,000</td>
<td>$20</td>
<td>$40,000</td>
</tr>
<tr>
<td>Field Support (3)</td>
<td>Days</td>
<td>120</td>
<td>$30</td>
<td>$3,600</td>
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<tr>
<td>Field Consumables</td>
<td>Metres</td>
<td>4,000</td>
<td>$2</td>
<td>$8,000</td>
</tr>
<tr>
<td>Vehicle Hire/Purchase and Fuel/Expenses</td>
<td>Days</td>
<td>120</td>
<td>$120</td>
<td>$14,400</td>
</tr>
<tr>
<td>Meals and Accommodation Maqu Hotel</td>
<td>Days</td>
<td>120</td>
<td>$200</td>
<td>$24,000</td>
</tr>
<tr>
<td>Communications</td>
<td>Days</td>
<td>120</td>
<td>$20</td>
<td>$2,400</td>
</tr>
<tr>
<td>Travel and Accommodation</td>
<td>Days</td>
<td>10</td>
<td>$2,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Freight of rock and soil samples</td>
<td>Sample</td>
<td>4,000</td>
<td>$10</td>
<td>$40,000</td>
</tr>
<tr>
<td>Report compilation</td>
<td>Days</td>
<td>30</td>
<td>$500</td>
<td>$15,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$340,900</strong></td>
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<tr>
<td><strong>Contingency (15%)</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$51,135</strong></td>
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<tr>
<td><strong>Total Year 1</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$392,035</strong></td>
</tr>
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</table>

### TABLE 18
**YEAR 2 - PROPOSED EXPLORATION PROGRAM BUDGET ESTIMATE, DASHUI PROPERTY**

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>No of Units</th>
<th>Cost per unit (US$)</th>
<th>Total Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC Drilling Program (15 x 200 m depth)</td>
<td>Metres</td>
<td>15x200</td>
<td>$50</td>
<td>$150,000</td>
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<tr>
<td>Geochemical Analysis of drill samples</td>
<td>Samples</td>
<td>3,000</td>
<td>$20</td>
<td>$60,000</td>
</tr>
<tr>
<td>Geochemical Analysis of rock samples</td>
<td>Samples</td>
<td>1,000</td>
<td>$20</td>
<td>$20,000</td>
</tr>
<tr>
<td>Geological Supervision</td>
<td>Days</td>
<td>50</td>
<td>$500</td>
<td>$25,000</td>
</tr>
<tr>
<td>Field Support (3)</td>
<td>Days</td>
<td>50</td>
<td>$30</td>
<td>$1,500</td>
</tr>
<tr>
<td>Bulldozer hire and mobilization</td>
<td>Hours</td>
<td>200</td>
<td>$100</td>
<td>$20,000</td>
</tr>
<tr>
<td>Field Consumables</td>
<td>Metres</td>
<td>4,000</td>
<td>$2</td>
<td>$6,000</td>
</tr>
<tr>
<td>Vehicle Hire/Purchase and Fuel/Expenses</td>
<td>Days</td>
<td>50</td>
<td>$120</td>
<td>$6,000</td>
</tr>
<tr>
<td>Meals and Accommodation Maqu Hotel</td>
<td>Days</td>
<td>50</td>
<td>$200</td>
<td>$10,000</td>
</tr>
<tr>
<td>Communications</td>
<td>Days</td>
<td>50</td>
<td>$20</td>
<td>$1,000</td>
</tr>
<tr>
<td>IP-Resistivity Geophysical Survey</td>
<td>Kilometres</td>
<td>50</td>
<td>$2,500</td>
<td>$125,000</td>
</tr>
<tr>
<td>Travel and Accommodation</td>
<td>Days</td>
<td>4</td>
<td>$2,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>Freight of drill and rock samples</td>
<td>Sample</td>
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<td>$10</td>
<td>$40,000</td>
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<tr>
<td>Report compilation</td>
<td>Days</td>
<td>20</td>
<td>$500</td>
<td>$10,000</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$484,500</strong></td>
</tr>
<tr>
<td><strong>Contingency (15%)</strong></td>
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<td></td>
<td></td>
<td><strong>$72,675</strong></td>
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<tr>
<td><strong>Total Year 2</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$557,175</strong></td>
</tr>
</tbody>
</table>
SECTION D:
XIAHE PROPERTY
D1. XIAHE PROPERTY DESCRIPTION AND LOCATION

The Xiahe Property consists of five unconnected Exploration Permits that contain 638 quarter-minute sub-block units, covering approximately 112.2 km² (Table 19). The Exploration Permits are located in Xiahe County of Gannan Prefecture, Gansu Province (see Figure 2). The Property is centred on Latitude 35°04'00.0"N and Longitude 102°35'00.0"E (Figure 12).

The holder of the exploration permits is the Gansu BGMR Brigade No. 2 under various project names. Three of the Exploration Permits (6200009960251, 6200000130096 and 6200000130137) are not in good standing and are in the process of renewal.

<table>
<thead>
<tr>
<th>Exploration Permit No.</th>
<th>Project Name</th>
<th>Quarter-Minute Units</th>
<th>Area (km²)</th>
<th>Grant Date</th>
<th>Expiry Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200009960251</td>
<td>Gansu Xiahe</td>
<td>176</td>
<td>30.9</td>
<td>Being Renewed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nongwanuhuchon Gold Mine Exploration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6200000110259</td>
<td>Gansu Xiahe Zaqialebu Gold Mine Exploration</td>
<td>96</td>
<td>16.9</td>
<td>December 29, 2001</td>
<td>December 29, 2004</td>
</tr>
<tr>
<td>6200000130096</td>
<td>Gansu Xiahe Huareliang Gold Mine Exploration</td>
<td>140</td>
<td>24.6</td>
<td>Being Renewed</td>
<td></td>
</tr>
<tr>
<td>6200000130137</td>
<td>Gansu Xiahe Sangduoke Gold Mine Exploration</td>
<td>72</td>
<td>12.7</td>
<td>Being Renewed</td>
<td></td>
</tr>
<tr>
<td>6200000320192</td>
<td>Gansu Xiahe Jiamulonggou Gold Mine Exploration</td>
<td>154</td>
<td>27.1</td>
<td>February 13, 2003</td>
<td>February 12, 2005</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>638</td>
<td>112.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Xiahe Property has not been legally surveyed. A copy of the legal property description was provided to the author by the BGMR and subsequently translated.

The author is unaware of any environmental liabilities to which the Xiahe Property is subject.
D2. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND
PHYSIOGRAPHY

D2.1 ACCESS

The Xiahe Property lies 25 km northwest of the city of Hezuo, within the jurisdiction of Xiahe
County of Gannan Prefecture (see Figure 2). The Xiahe Property is situated roughly midway
between Hezuo and the town of Xiahe. Xiahe is accessed via a sealed road some 18 km from
Ponggartang, a small village situated on the Trans China Highway (Route G213), approximately
131 km south from Lanzhou. Xiahe is set in a mountain valley and is the leading Tibetan monastery
town outside of Lhasa.

The Xiahe Property is situated between 2,900 and 4,200 masl, being located in mountainous terrain,
with slopes varying from gentle to rugged.

D2.2 CLIMATE

Climatically the Xiahe Property experiences cold winters and mild summers. Temperatures average
1°C during winter and can drop to as low as -27°C overnight in January. Snow can cover the
property between October and May, building up to 1.9 m thickness in April. The ground surface
becomes frozen to a 3 m depth during November-May. During summer, daily temperatures average
20°C in July. Most of the region’s annual rainfall of 620 mm falls during the months of June and
September. The prevailing wind direction is from the northwest and west, averaging 2.5 m/s, but can
reach 28 m/s during winter blizzards.

D2.3 LOCAL RESOURCES
Creeks flow in a radial pattern away from the mountainous terrain in the centre of the Xiahe Property, but eventually turn and flow to the east into the Daxia He River, which flows northeasterly into the Yellow River at Lanzhou. The Daxia He River, which flows 15 km east of the property at Ponggartang, is a more than adequate source of water for any mining operation.

The area is dominated by prairie grassland, with some of the gentler slopes terraced for agriculture, including canola and sunflower. The area is largely uninhabited apart from occasional nomadic Tibetan Yak and goat herders.

D2.4 INFRASTRUCTURE AND PHYSIOGRAPHY

Infrastructure at the Xiahe Property is minimal apart from the sealed Xiahe-Ponggartang road. Experienced manpower for exploration activities is available through the BGMR. The property is covered by the Chinese national mobile phone network, so phone and internet communication services are available in most parts of the area.

The local economy is dominated by meat, fur and leather goods processing, associated with Yak, sheep and goat grazing conducted by the nomadic Tibetan population. Tourism is starting to become more significant to the local economy, as Xiahe is recognised as one of the more important Tibetan monastery towns outside of Lhasa.
D3. HISTORY

The first recorded investigation in the Xiahe region was that conducted in 1972 by regional teams of the Gansu BGMR, noting the occurrence of the Jiangqinaliang Pb-Zn deposit (BGMR, 2000f).

In 1984, a regional multi-element stream sediment survey was conducted over the 1:200,000 scale Xiahe map sheet (BGMR, 2000f). This survey highlighted a series of Au, As, Sb, Cu, Pb and Zn anomalies in the Huaerzhailiang area. In 1997, follow up grab rock chip sampling of the Huaerzhailiang gold prospect obtained up to 15 g Au/t.

Stream sediment sampling of the Sangduoke-Zaozigou area was undertaken at 1:50,000 scale in 2000, and defined 57 gold anomalies and 30 copper anomalies. These anomalies are distributed in groups south of the Xiahe - Hezuo fault (see Figure 4) and follow up investigations discovered mineralization at Nahedi, Zaorendao, Zaozigou, Jiangqinaliang, Nangejia and Wanken.

BGMR (2000f) indicates the Jiangqinaliang anomaly was followed up by 1:10,000 scale soil sampling. This survey identified the Zaqialebu, Sangduoke and Jiangqinaliang gold prospects and the Jiangqinaliang Pb-Zn prospect.

Since the discovery of these prospects, there has been little or no follow up work undertaken due to the lack of funds for exploration. Several gold anomalies have yet to be followed up, including the Sayimao and Huaerzhailiang anomalies.

Pargas has not conducted any exploration on the Xiahe Property.
D4. PROPERTY GEOLOGY

The Xiahe Property was not visited by WGM so we rely on the geological descriptions provided by BGMR Brigade No. 2 (2000f). Geological mapping of the region has included the 1:200,000 scale Xiahe map sheet (BGMR, 2003a) and 1:50,000 scale map sheet (BGMR, 2003b), as shown in Figure 12.

The Xiahe Property is situated in the northern Variscan subzone of the West Qinling fold belt (see Figures 3 and 4). The stratigraphy of the property is essentially composed of early Triassic Xiayan Formation and Shangyan Formation that have been intruded by a series of multi-phase Yanshanin stage stocks, dykes and sills.

The early Triassic Xiayan Formation consists of grey-green muddy slates, silty slates, fine grained feldspar-quartz sandstone, siltstone, limestone and marl. This unit is believed to be in fault contact with the overlying Shangyan Formation. Lithologies of the Shangyan Formation consist of grey, thinly bedded fine grained feldspar-quartz sandstones, muddy slates and thin bedded limestone.

Early Yanshanin stage magmatic activity consists of granodiorite batholith and quartz diorite and plagioclase granite porphyry stocks, sills and dykes.

Late stage Yanshanin igneous activity is comprised of diorite, diorite porphyry dykes and diabase dykes. Compositional zoning is observed within these intrusives, particularly inner core and outer marginal facies.
This igneous intrusive activity has produced hornfelsing in the Triassic sequence, as well as localized silicification. Hydrothermal alteration is also reported within the intrusives and is associated with polymetallic mineralization.

Structurally, the area is dominated by the northwest trending Gakengshan compound anticline, forming an elevated domed mountain range along which the main Yanshanin intrusive bodies are exposed. This anticline has intensely deformed strata in places and has numerous associated subparallel secondary anticline and synclinal folds.

Northwest striking faults are well developed, with north-northwest and northeast sinistral transfer faults also recognised. The BGMR (2000f) indicates several annular concentric circular drainage patterns are developed in the area, as a result of doming induced by igneous bodies.
D5. MINERALIZATION

Gold mineralization is hosted in cryptocrystalline quartz and chalcedony veins and stockworks. These veins are occasionally brecciated and display pseudomorph replacement textures of unknown origin.

Minerals of economic interest are native gold, pyrite, arsenopyrite, galena, chalcopyrite and stibnite. Typically, the lodes are deeply oxidized near surface, with abundant limonite replacement of sulphide minerals.

Structurally these lodes appear to have developed as tension-shears in response to east-west directed compression.
D6. DEPOSIT TYPES

Based on the descriptions of veining and ore mineralogy, the author interprets the mineralization identified on the Xiahe Property as typical of an exposed deeper level, low sulphidation epithermal system. Mineralization could also be interpreted as mesothermal in nature, but this is considered less likely.

Quartz-albite porphyry and diorite dykes have intruded the structures hosting the lodes and are also mineralized, with compositional zonation recognised. These porphyry-type igneous intrusions probably imply a genetic association with mineralization.
D7. EXPLORATION

D7.1 ZAQIALEBU PROSPECT AREA

The BGMR (2000f) have defined 4 northwest striking mineralized zones at the Zaqialebu gold prospect using 1:10,000 scale soil geochemistry.

Initial reports on the largest mineralized zone indicated a 400 m long by 4 to 7 m wide zone, with gold grades varying between 1.01 to 6.13 g Au/t but averaging 2.0 g Au/t (BGMR, 2000f). A northeast striking transfer fault has displaced this mineralized zone in a sinistral sense. Due to lack of exploration funds, no further exploration was carried out on this zone, but mining was commenced on this limited data.

The BGMR Brigade No. 2 is currently exploiting the oxide resource on this mineralized zone by heap leaching. BGMR Brigade No. 2 geologists (personal communication) now indicate the main mineralized zone is 400 m long by 70 m wide. Gold grades in the oxide zone average 4.00 g Au/t.

Mineralization consists of quartz vein stockworks accompanied by native gold, pyrite, stibnite and arsenopyrite. Host rocks consist of brecciated silty limestones, altered silty slate and muddy slate which have been intruded by diorite. Mineralization is mainly hosted within the sediments, but some is also contained within the intrusive.

Another mineralized zone is reported to be around 13 m wide, with gold grades averaging 1.01 g Au/t (BGMR, 2000f).
D7.2 SANGDUOKE PROSPECT AREA

Exploration by BGMR Brigade No. 2 has defined 17 zones of gold mineralization at the Sangduoke gold prospect (BGMR, 2000f). These zones trend northwest, north-northwest or east-west and are hosted in slates and sandstones of the early Triassic Shangyan Formation.

Mineralization consists of 0.5 to 5.0 m wide lodes that vary in length from 30 to 190 m. Lodes consist of pinch-swell banded and cryptocrystalline quartz and chalcedony veins with grades of 0.5 to 15.0 g Au/t reported (BGMR, 2000f). These veins are usually brecciated with pseudomorph replacement textures observed, although the original mineral type has not been identified.

Minerals of economic interest are native gold, pyrite, arsenopyrite, galena, chalcopyrite and stibnite. Typically, the lodes are deeply oxidized near surface, with abundant limonite replacement of sulphide minerals.

Structurally these lodes appear to have developed as tension-shears in response to east-west directed compression. Quartz-albite porphyry dykes have intruded the structures hosting the lodes and are mineralized, with grades of 3 to 5 g Au/t reported (BGMR, 2000f).

One of the lodes was mined during 1999-2002, but mining ceased as the gold grade and degree of oxidation decreased with primary sulphide ore encountered at depth.

Another lode is currently being mined and the ore heap leached, with a recovery of 80% claimed (personal communication, BGMR geologist). This lode is 4 m wide, with the oxide zone present down to 30 m depth. The lode averages 3 to 7 g Au/t in the oxide zone along a strike length of 200 m.
D7.3  JIANGQINALIANG PROSPECT AREA

Three zones of mineralization have been discovered at the Jiangqinaliang gold prospect (BGMR, 2000f). These zones consist of intensely oxidized, limonite filled fault and fracture-shear zones that strike east-west. The fault zones vary in width from 5 to 10 m, with the gold mineralized zones composed of 1.8 to 26.0 m wide quartz vein stockworks with strike lengths of 40 to 190 m. The quartz veins are typically banded and form pinch-swell structures along the fault zones.

Gold grades vary between 0.8 to 2.9 g Au/t, with minerals of economic interest being pyrite, magnetite, arsenopyrite, stibnite and galena (BGMR, 2000f). The mineralization is hosted in dolomitic limestone, brecciated calcareous slate, sandstone and brecciated dolomite.

The nearby Jiangqinaliang Pb-Zn prospect was first reported in 1972. The prospect consists of a quartz-sulphide vein hosted in hematite skarn. The quartz-sulphide vein is 100 m long and varies between 0.1 to 0.5 m in width. Grades within the vein are reported to average 6.35% Pb, 1.36% Zn, 0.7% As and 0.50% Sb. Mineralization consists of galena, sphalerite, arsenopyrite and chalcopyrite, with some malachite. The skarn is developed at the contact zone of early Yanshanin granodiorite intrusive with thinly bedded limestones and slates of the early Triassic Shangyan Formation and calcareous muddy slates, sandstone and marl of the Xiayan Formation.
D8. DRILLING

There has been no form of drilling undertaken by BGMR Brigade No. 2 on the Xiahe Property.
D9. SAMPLING METHOD AND APPROACH

Exploration conducted by BGMR Brigade No. 2 (2000f) on the Xiahe Property has employed conventional and systematic, geochemically orientated exploration methods as previously described in Section B10.

Multi-element regional and detailed stream sediment surveys were the initial exploration methods employed. These stream sediment surveys highlighted the gold mineralization on the Xiahe Property.

Once an anomalous area was located by stream sediment sampling, the area was typically gridded for 1:10,000 scale soil surveying. At each soil sample site, the “B” soil horizon was sampled, sieved to -40# and approximately 200 g collected.

Follow up exploration has relied on reconnaissance geological mapping and grab rock chip sampling. The lack of funds available for exploration has meant systematic exploration methods have not been applied on the Xiahe Property.

All samples were analysed at the Gansu Provincial Laboratory, using atomic absorption techniques.
All samples collected by BGMR Brigade No. 2 from the Xiahe Property were analysed at the Gansu Provincial Laboratory, previously described in Section B10. The sample security measures employed by the laboratory appear appropriate.

WGM has no information on sample security measures employed by the BGMR Brigade No. 2 exploration teams. However, taking into account the lack of funding, every other aspect of their exploration programs is professional and so the author is confident that they ensure the samples analyzed are representative of mineralization.
D11. DATA CORROBORATION

WGM did not visit the Xiahe Property and consequently no samples were collected for corroboration or checking of mineralization. In addition WGM has seen no information on duplicate samples from this property.
D12. ADJACENT PROPERTY

BGMR provided little or not information regarding adjacent properties during WGM's site visit.
D13. INTERPRETATION AND CONCLUSIONS

Exploration to date on the Xiahe Property by BGMR Brigade No. 2 has identified a number of prospects containing quartz-sulphide vein stockwork hosted Au-As-Sb mineralization. Mineralization is tentatively interpreted by the author as representative of exposed deep level, low sulphidation epithermal gold mineralized systems, which are probably genetically related to the abundant multi-phase porphyry-type Yanshanin intrusive activity noted in the area.

Of the prospects discovered by the BGMR Brigade No. 2 to date, the Zaqialebu prospect is considered to be the largest and most prospective. The author considers this prospect has potential to host a significant epithermal gold deposit, contained within quartz-sulphide vein stockworks in altered and brecciated silty limestones, slate and diorite. It is a priority exploration target warranting follow up by PGA.

Ongoing exploration at the Sangduoke and Jiangqinaliang gold prospects, previously located by regional stream sediment sampling program, is warranted as only limited exploration has been undertaken on these areas by the BGMR.

There are also numerous gold anomalies that have yet to be followed up, including the Sayimao and Huaerzhai liang anomalies. Several of these anomalies are coincident with Yanshanin intrusives. The author considers the Xiahe Property has potential to also host sediment-hosted gold mineralization, as favourably reactive carbonate sedimentary units underlie the property. The potential for porphyry-type gold mineralization also exists on the property.
D14. RECOMMENDATIONS

The following recommendations are made:

1. PGA is strongly advised to field check the Zaqialebu, Sangduoke and Jiangqinaliang gold prospects and confirm the presence of gold mineralization. The style of mineralization should be determined and potential for significant gold mineralization evaluated at these prospects.

2. All the available maps and reports on the Xiahe Property should be copied and made available to PGA. All useful documents should be translated into English.

3. The available data should be entered into a GIS database. These data can then be incorporated with data collected from future exploration to produce an integrated and robust data set.

4. Acquisition and scanning of any available aerial photography flown over the property.

Once the above recommendations are carried out and assuming results warrant, it is recommended that a two-year exploration program should be completed on the Xiahe Property. The Year 1 exploration program should include the following:

1. Purchase of detailed satellite imagery that has been specially processed and interpreted by a consultant to identify areas of clay, silica and hematite alteration. This imagery can also be used to assist with topographic base map generation.

2. Drafting of digital topographic basemaps.
3. Compilation of digital geological maps at 1:10,000 scale, using a combination of BGMR mapping, satellite imagery and aerial photo interpretation.

4. High resolution heliborne magnetic-radiometric survey. A flightline spacing of 200 m has been provided for in the budget, including tie lines. Flightlines should be orientated north-south in order to intersect known structures (NW, WNW, W and NE) at an optimum angle.

5. Reconnaissance geological prospecting surveys. These surveys should ground check targets generated by the heli-mag survey and satellite image interpretation, as well as inspect geological type sections, sample road cuttings and evaluate areas of known mineralization. These surveys can be used to update or amend the 1:10,000 scale digital geological maps.

6. Geological mapping at 1:5,000 scale of the Zaqialebu, Sangduoke and Jiangqinaliang prospects. This program should map out alteration, geology and structures in order to define drill targets. Other prospects identified by reconnaissance geological prospecting surveys, heli-mag survey and satellite image interpretation, should also be mapped at 1:5,000 scale.

7. Soil geochemical sampling of prospects using samples collected at 25 m intervals along lines spaced 100 m apart. The soil surveys can be used to better define targets for drilling. Soil sampling of ten prospects has been provided for in the Year 1 exploration program. Accurate grid surveying for each soil survey will also generate survey data for a digital elevation model.

8. Trenching of soil geochemical anomalies to expose geology and mineralization and enable accurate targeting for drilling.
Suitable accommodation to support the exploration program is available at Xiahe and Hezuo. Access on the property is unknown at this stage therefore it may be more convenient to use a mobile field camp arrangement.

The proposed budget for the Year 1 Exploration Program is presented in Table 20. It is anticipated initial planning activities for this program will commence in January 2004, with field activities starting in April 2004.

Contingent on positive results being obtained from the Year 1 program, a Year 2 exploration program is proposed and presented in Table 21.

It is WGM’s opinion that the property is of sufficient merit to justify the program recommended.

Follow up of targets should involve initial ground IP-Resistivity geophysical surveys. A total of 50 line kilometres of IP-Resistivity is budgeted for, sufficient for 10 prospects to be surveyed. Drill targets defined by the Year 1 and ground IP-Resistivity surveys should then be tested using a reverse circulation drill program (15 holes to 200 m depth, minimum of 3,000 m).
### TABLE 20
YEAR 1 - PROPOSED EXPLORATION PROGRAM BUDGET ESTIMATE, XIAHE PROPERTY

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>No of Units</th>
<th>Cost per unit (US$)</th>
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<td>2</td>
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<td>Days</td>
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<td>Days</td>
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<td>Kilometres</td>
<td>550</td>
<td>$50</td>
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<td>Mobilization of helicopter</td>
<td>Days</td>
<td>5</td>
<td>$5,000</td>
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<td>Days</td>
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<tr>
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<td>$500</td>
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<tr>
<td>Geological mapping of prospects</td>
<td>Days</td>
<td>60</td>
<td>$500</td>
<td>$30,000</td>
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<tr>
<td>Geochemical Analysis of rock samples</td>
<td>Samples</td>
<td>2,000</td>
<td>$20</td>
<td>$40,000</td>
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<tr>
<td>Geochemical Analysis of soil samples</td>
<td>Samples</td>
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<td>$20</td>
<td>$40,000</td>
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<tr>
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<td>120</td>
<td>$30</td>
<td>$3,600</td>
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<td>Field Consumables</td>
<td>Metres</td>
<td>4,000</td>
<td>$2</td>
<td>$8,000</td>
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<tr>
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<td>120</td>
<td>$120</td>
<td>$14,400</td>
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<tr>
<td>Meals and Accommodation Xiahe Hotel</td>
<td>Days</td>
<td>120</td>
<td>$200</td>
<td>$24,000</td>
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<tr>
<td>Communications</td>
<td>Days</td>
<td>120</td>
<td>$20</td>
<td>$2,400</td>
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<tr>
<td>Travel and Accommodation</td>
<td>Days</td>
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<td>$2,000</td>
<td>$20,000</td>
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<td>Freight of rock and soil samples</td>
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<td>$10</td>
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<tr>
<td>Report compilation</td>
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<td><strong>Subtotal</strong></td>
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<td>Contingency (15%)</td>
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<td></td>
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<td><strong>Total Year 1</strong></td>
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<td><strong>$392,035</strong></td>
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### TABLE 21
YEAR 2 - PROPOSED EXPLORATION PROGRAM BUDGET ESTIMATE, XIAHE PROPERTY

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>No of Units</th>
<th>Cost per unit (US$)</th>
<th>Total Cost (US$)</th>
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<td>15x200</td>
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<tr>
<td>Geochemical Analysis of rock samples</td>
<td>Samples</td>
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<td>$20</td>
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<tr>
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<td>50</td>
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<td>Days</td>
<td>50</td>
<td>$30</td>
<td>$1,500</td>
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<tr>
<td>Bulldozer hire and mobilization</td>
<td>Hours</td>
<td>200</td>
<td>$100</td>
<td>$20,000</td>
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<tr>
<td>Field Consumables</td>
<td>Metres</td>
<td>4,000</td>
<td>$2</td>
<td>$6,000</td>
</tr>
<tr>
<td>Vehicle Hire/Purchase and Fuel/Expenses</td>
<td>Days</td>
<td>50</td>
<td>$120</td>
<td>$6,000</td>
</tr>
<tr>
<td>Meals and Accommodation Xiahe Hotel</td>
<td>Days</td>
<td>50</td>
<td>$200</td>
<td>$10,000</td>
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<tr>
<td>Communications</td>
<td>Days</td>
<td>50</td>
<td>$20</td>
<td>$1,000</td>
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<tr>
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<td>50</td>
<td>$2,500</td>
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<tr>
<td>Travel and Accommodation</td>
<td>Days</td>
<td>4</td>
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<td>$8,000</td>
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<tr>
<td>Freight of drill and rock samples</td>
<td>Sample</td>
<td>4,000</td>
<td>$10</td>
<td>$40,000</td>
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<tr>
<td>Report compilation</td>
<td>Days</td>
<td>20</td>
<td>$500</td>
<td>$10,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
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<td><strong>$484,500</strong></td>
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<td>Contingency (15%)</td>
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<td><strong>Total Year 2</strong></td>
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<td><strong>$557,175</strong></td>
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SECTION E: CONCLUSIONS AND RECOMMENDATIONS
E1. OVERALL INTERPRETATION AND CONCLUSIONS

Laerma Property

Previous exploration on the Laerma Property by the BGMR Brigade No. 3 has delineated the Laerma sediment-hosted Carlin-type gold mineralization.

A historical Category “C” mineral resource, based on the former Soviet Union classification (similar to an indicated mineral resource) of 1,133,557 t @ 5.65 g Au/t has been estimated for the Laerma gold zones, using a 3 g Au/t cutoff, equivalent to 6.409 t (or 206,077 oz) of contained gold. An additional Category “D” resource (similar to an inferred mineral resource) (of 11,272,689 t @ 1.51 g Au/t was calculated, using a 1 g Au/t cutoff and a 3 g Au/t top cut, equivalent to 17.048 t (or 548,167 oz) of contained gold. At a 0.5 g Au/t cutoff, the Laerma gold zones is estimated to contain 67.5 t of gold. WGM reports these for historical purposes only and because they are relevant, but has not attempted to rationalize them to conform with the guidelines published by the council of the Canadian Institute of Mining, Metallurgy and Petroleum standards.

The author checked the methodology used for these mineral resource estimates and has no reason to dispute them. However, it is not known if the above estimates of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues.

The Laerma gold mineralization consists of two zones of 20 m and 35 m width, contained within a 150 m wide interval, with a minimum strike length of at least 350 m. The steep dip and relatively large width of mineralization is considered favourable for large tonnage open pit mining.

Considerable potential for additional mineralization exists at Laerma, both along strike to the east and west, as well as following the mineralization at depth, down dip to the north.
Most Chinese sediment-hosted gold deposits, such as Laerma, are in an undeveloped state or are being exploited by small-scale mining methods. This is because of the refractory nature of ore, remote location and lack of infrastructure and financial capital. It is hoped that modern western bulk tonnage mining methods and advanced processing technology may offer applicable alternatives for the eventual exploitation of these deposits.

Preliminary metallurgical tests of the Laerma gold deposit are encouraging. Several methods are capable of recovering >85% of the gold. Additional metallurgical tests are required to characterize the ore types, develop preliminary flow sheets, and develop economic parameters to determine economic cutoff grades for use in mineral resource estimates and for further planning. Future metallurgical testing should consider low capital cost and low operating cost techniques that have produced promising results with similar refractory and fine grained gold ores.

Identification of individual litho-tectonic zones is considered important at Laerma, because local control of sediment-hosted gold deposits is probably directly related to specific sedimentary horizons throughout the Qinling fold belt.

Weights-of-evidence modelling of sediment-hosted gold deposits in the Qinling fold belt, undertaken by Leonard, Mihalasky and Peters (2002), indicates the Permian age carbonate sequence is the favoured host for these deposits.

Important exploration criteria (applicable to all the Properties) for sediment-hosted gold deposits include:

- Regional-scale faults;
- Short-axial anticline dome structural setting;
- Favourable reactive host rocks such as dirty carbonate horizons;
- Silicification;
- Identification of exhalative facies, such as silica gels, jasper and chert and hematite beds;
• Intersection of transfer fault structures with regional-scale faults are zones of dilation. This intersection has potential to localise high grade hydrothermal breccia feeder structures; and
• Supporting Au-Ag-As-Sb-Hg stream and soil geochemistry.

Dashui Property

Exploration to date on the Dashui Property by BGMR has identified a number of prospects containing low sulphidation epithermal style gold mineralization. Of these prospects, the Zhongqu prospect is considered to have excellent potential to host a significant epithermal gold deposit, contained within quartz-carbonate vein stockworks in sediments and rhyolite flow dome. Further exploration at the Gertou, Xingqu, Zhonggezhala and Qianuo gold prospects is also warranted as only limited exploration has been undertaken on these areas.

The Gerke Mine adjacent to the property but not part of it represents a potentially attractive acquisition target and is available for joint venture. This should be further evaluated.

Xiahe Property

Exploration to date on the Xiahe Property by BGMR Brigade No. 2 has identified a number of prospects, containing quartz-sulphide vein stockwork hosted Au-As-Sb mineralization. Mineralization is tentatively interpreted as representative of exposed deep level, low sulphidation epithermal gold mineralized systems, which are probably genetically related to multi-phase porphyry-type Yanshanin intrusive activity.

The Zaqialebu gold prospect is considered to be the largest and most prospective target on the Xiahe Property. This prospect has potential to host a significant epithermal gold deposit, contained within quartz-sulphide vein stockworks in altered and brecciated silty limestones, slate and diorite. Further exploration at the Sangduoke and Jiangqinaliang gold prospects is also warranted, as only limited exploration has been undertaken on these areas. In addition, there are numerous stream sediment and soil gold anomalies that have yet to be followed up.
Besides low sulphidation epithermal gold mineralization, the author considers the Xiahe Property has potential to also host sediment-hosted gold mineralization, as favourably reactive carbonate sedimentary units underlie the property. Potential for porphyry-type gold mineralization also exists on the property.

**General**

The drilling technology and methods employed by the BGMR are considered unsuitable by modern exploration standards. For disseminated bulk tonnage, low grade gold deposits, the author considers reverse circulation collects a superior and more representative sample than narrower diameter diamond core, as well as providing sufficient sample for bulk metallurgical tests. Modern reverse circulation drill rigs are cost effectively capable of drilling rapidly to >200 m depths in difficult ground conditions.

In total WGM submitted 33 samples for analysis to ALS Chemex Laboratories in Brisbane. While 33 samples do not necessarily represent a statistically valid group, results do indicate a tendency by the atomic absorption analytical method as used by the Gansu Laboratory to under report gold values versus the more reliable Fire Assay method for gold analysis employed by ALS Chemex. This under reporting discrepancy is interpreted to be due to arsenic, antimony and carbonaceous material associated with mineralization affecting the atomic absorption total digestion process.
E2. OVERALL RECOMMENDATIONS

Prior to field activities commencing, PGA is strongly advised to request the MOLAR remove all the illegal mining operations at Laerma, Zhongqu and Xingqu. Although these operations will help expose the area for further exploration, they are focussed on extracting valuable higher grade ore.

A GIS database needs to be compiled for the Properties, with all past exploration data entered. Digital maps should be compiled from existing BGMR maps.

A modern truck or track mounted reverse circulation drill rig should be used on all future drill programs. It should be fitted with a high capacity compressor, sample collection cyclone and drill bits suitable for efficient penetration of hard, silicified ground conditions.

During the recommended Laerma prefeasibility study and subsequent drilling programs on the other properties, it is recommended that small portable cabins be considered for office and accommodation purposes. These cabins provide comfortable living quarters and can be transported by truck from site to site when required. Mobile phone and e-mail communications should also be provided as the Chinese National system is effective on all the properties.

A high priority should be placed on studying the possible under reporting of gold values by the Gansu Laboratory.

All future gold analyses should use the fire assay with AA finish method for gold analysis. As this method is unavailable at the Gansu Provincial Laboratory it will have to be undertaken at an overseas laboratory. This method will avoid any potential under-reporting discrepancies caused by the complex arsenic-antimony ores and host carbonaceous material which may be affecting the analytical process at Gansu.
A sample preparation facility should be considered to prepare sample pulps for freightng to an overseas laboratory for analysis by fire assay. Alternatively, the Gansu Provincial Laboratory could be used to prepare sample pulps and is suitably equipped and qualified to do so. This will substantially reduce freight costs for the exploration programs. A sample ticketing system should be introduced to ensure accurate and correct tracking of each sample throughout this system. Duplicate samples and a set of standards samples should be routinely submitted with the drill sample pulps to monitor the overseas laboratory’s precision and accuracy of the analysis.

Because of the harsh winter conditions, the field season in southern Gansu Province effectively lasts only 6 months between May and October, so careful planning of all programs is required to optimise the available field time.

WGM recommends that PGA proceed with the exploration programs as described in the sections of the report on the individual properties. The proposed budget for the next two years of work on the Properties totals about $3.37 million (Table 22).

<table>
<thead>
<tr>
<th>Property</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Total</th>
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</thead>
<tbody>
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<td>Laerma</td>
<td>$1,160,000</td>
<td>$305,000</td>
<td>$1,465,000</td>
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<tr>
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<td>390,000</td>
<td>560,000</td>
<td>950,000</td>
</tr>
<tr>
<td>Xiahe</td>
<td>390,000</td>
<td>560,000</td>
<td>950,000</td>
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<tr>
<td>Total</td>
<td>$1,940,000</td>
<td>$1,425,000</td>
<td>$3,365,000</td>
</tr>
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</table>
I, Christopher Morton Sennitt, do hereby certify that:

1. I reside at 21 Pandian Crescent, Bellbowrie, Queensland, Australia. 4070.

2. I am graduated from the Queensland Institute of Technology in 1981 with a B.Sc. in Applied Geology, and from the James Cook University of North Queensland in 1991 with a M.Sc. in Economic Geology and have been practicing my profession continuously since that time.

3. I am a member of the Australian Institute of Geoscientists (No. 2412) and the Society of Economic Geologists (No. 718910).

4. I am a Senior Associate Geologist with Watts Griffis and McOuat Limited, a firm of consulting geologists and engineers, which has been authorized to practice professional engineering by Professional Engineers Ontario since 1969.

5. I have experience working in sediment hosted gold deposits in North Queensland, Indonesia and Thailand, which are the exploration target on the Laerma and Dashui Properties. In addition I have a M.Sc. degree with a thesis that specifically investigated sediment hosted epithermal gold mineralization and have visited several of the sediment hosted gold deposits of the Carlin trend of Nevada.

6. I also have experience working with other epithermal gold and porphyry gold-copper projects in South Korea, Thailand, Myanmar, Indonesia, and Queensland, which are the exploration target on the Dashui and Xiahe Properties. In addition I have experience working on sediment hosted silver (Indonesia) and copper deposits (South Australia), volcanogenic massive sulphide deposits (Queensland) and unconformity-type uranium deposits in the Northern Territory.


8. I have not previously worked on these properties.
9. I visited the Laerma and Dashui Properties between July 7 and 18, 2003, and examined and reviewed the geology of the Properties in the company of Chinese Geologists from the Bureau of Geology and Mineral Resources Brigade No. 3, who carried out much of the field work on both these properties.

10. I prepared the entire report myself.

11. I have no personal knowledge as of the date of this certificate of any material fact or change, which is not reflected in this report.

12. Neither I nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Pargas Enterprises Ltd., or any associated or affiliated entities.

13. Neither I nor any affiliated entity of mine own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Pargas Enterprises Ltd., or any associated or affiliated companies.

14. Neither I nor any affiliated entity of mine, have earned any income from Pargas Enterprises Ltd., or any associated or affiliated companies during the past three years.

15. I have read the NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with this NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice.

Christopher Sennitt, M.Sc., P.Geo
October 30, 2003
REFERENCES

BGMR

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<th>Year</th>
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<td>2001c</td>
<td>Gansu Maqu Dashui Geology Map 1:10,000 scale, Gansu Bureau Geology and Mineral Resources, Brigade No. 3 (in Chinese).</td>
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<td>2000e</td>
<td>Gansu Maqu County Gerke Gold Mine Geology Map 1:10,000 scale, Gansu Bureau Geology and Mineral Resources, Brigade No. 3 (in Chinese).</td>
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Committee for Determining and Approving Terminology in Geology


Hofstra, A.H. and Cline, J.S.

Leonard, C.S., Mihalasky, M.J., and Peters, S.G.


Li, Y., and Li, Y.


Liu, J, Zhengm M., Liu, J., and Su, W.

2000 Geochemistry of the Laerma and Qiongmo Au-Se deposits in the western Qinling Mountains, Ore Geology Reviews, v. 17, pp. 91-111.

Liu, M.


Ministry of Geology and Mineral Resources

Peters, S.G., Huang, J., and Jing, C.


Peters, S.G., Huang, J., Wang, Y., Mihalasky, M., and Jing, C.


Pitcher, D.H.


Wang, K.R., Hong, J., and Zhou, Y.Q.

2000  Mineralogy and occurrence of gold in the Laerma Carlin-type deposit, Sichuan, China, Chronique de la Recherdue Miniere, 538, pp. 17-23.

Xie, Y., Fan, H., and Wang, Y.L.


Yang, K.

Yang, M.

Zhang, Z.

Zhu, J., Hu, S., Ni, P., Chen, P., and Xu, H.
APPENDIX 1:

ANALYTICAL RESULTS FOR WGM CHECK SAMPLES