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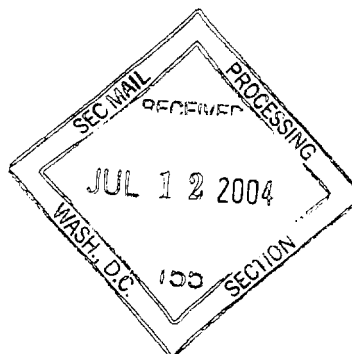
**SUL-TSX VENTURE**



July 8, 2004

**VIA FEDERAL EXPRESS**

United States Securities and Exchange Commission  
Office of International Corporate Finance  
450 5<sup>th</sup> Street, N.W.  
Judiciary Plaza  
Washington, D.C. U.S.A. 20549



Dear Sirs/Mesdames:

**SUPPL**

Re: **Sultan Minerals Inc.** (the "Company")  
Rule 12(g)3-2(b) Exemptions - File #82-4741

***Under the United States Securities Exchange Act of 1934***

Please find enclosed for 12(g) Exemption status the documents required to be filed with the British Columbia Securities Commission and the TSX Venture Exchange. Please note that the Company is a foreign issuer and its securities are neither traded in the United States nor quoted on NASDAQ.

We trust that the information included in this package is complete. However, should you have any questions regarding the foregoing, please do not hesitate to contact the writer.

Sincerely,

**SULTAN MINERALS INC.**

Shannon M. Ross,  
Corporate Secretary

**PROCESSED**

JUL 16 2004 E

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FINANCIAL

Enclosures

**Sultan Minerals Inc.**  
**12(g)3-2(b) Exemption Application**  
**Schedule "A"**

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PART I – Documents *Required to be Made Public* pursuant to the laws of the Province of British Columbia and the TSX Venture Exchange in connection with:

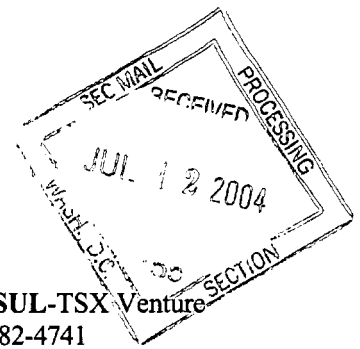
**News Release**

1. Sultan Releases Initial Resource Calculations for the Kena Gold Property, B.C. – dated June 7, 2007
2. Sultan Minerals Announces Increase to Brokered Private Placement – dated June 15, 2004
3. Sultan Minerals Closed Brokered Private Placement – dated June 30, 2004

**Correspondence with Securities Commissions**

4. Technical Report – dated June 3, 2004
5. Material Change Report – dated June 8, 2004
6. Material Change Report – dated June 30, 2004

**SULTAN MINERALS INC.**  
Suite 1400 – 570 Granville Street  
Vancouver, B.C. V6C 3P1  
[www.sultanminerals.com](http://www.sultanminerals.com) / [www.langmining.com](http://www.langmining.com)



June 7, 2004

Ticker Symbol: **SUL-TSX Venture**  
SEC 12g3-2(b): 82-4741

**SULTAN RELEASES INITIAL RESOURCE CALCULATIONS  
FOR THE KENA GOLD PROPERTY, B.C.**

**Sultan Minerals Inc.** (SUL-TSX Venture) is pleased to announce that it has now received the completed initial resource calculations on the Gold Mountain and Kena Gold Zones of its Kena Property, in the Kootenay District of British Columbia. Modeling, QAQC evaluations and resource calculations were done by Independent Qualified Person Gary Giroux, P.Eng., MASc., and the accompanying 43-101 Technical Report was co-authored by Gary Giroux, P.Eng. and Linda Dandy, P.Geo.

Over both gold zones, resource calculations have been determined using cut off grades ranging from 0.0 to 4.0 g Au/t (see Tables I & II). Management believes that a cut off grade of 0.5 g/t gold is realistic for an open pit mining operation at current gold prices. Using a 0.5 g/t gold cut-off the results of this initial resource calculation may be summarised as follows:

**Gold Mountain Zone:**

**Measured + Indicated = 5,490,000 tonnes at 1.04 g/t (184,000 ounces gold)**  
**Inferred = 10,710,000 tonnes at 0.967 g/t (333,000 ounces gold)**

**Kena Gold Zone:**

**Measured + Indicated = 6,330,000 tonnes at 0.969 g/t (197,000 ounces gold)**  
**Inferred = 1,440,000 tonnes at 1.216 g/t (56,000 ounces gold)**

Computer modeling done as part of the resource study indicates numerous untested areas adjacent to mineralized blocks. The report recommends that a \$1.27 million diamond drill program be conducted in order to significantly expand resources in the Gold Mountain and Kena Gold Zones.

Both the Gold Mountain and Kena Gold Zones contain bimodal gold mineralization where the entire lengths of the drill holes often average between 0.3 g Au/t to greater than 1.0 g Au/t, and may contain one or more 1-2 metre intercepts of greater than 10 g Au/t (see previous news releases from 2001-2003). The high-grade gold intervals have an important positive impact on the overall grade of the surrounding lower grade porphyry style mineralization. The parameters of the study are discussed in detail below.

**Gold Mountain Zone**

A total of 6,269 drill core sections have been assayed for gold on the Gold Mountain Zone. The gold assay values form a positively skewed distribution. Partitioning of lognormal cumulative probability plots produces statistics for 6 overlapping lognormal populations.

On the Gold Mountain Zone there are 7 assays which are substantially above normal. A data cap is therefore necessary to reduce the effects of the two upper erratic populations representing a very small portion of the data. A cap level of two standard deviations past the mean of population 3 was selected resulting in a total of 7 samples being capped at 23.0 g Au/t. The seven samples capped had values as follows: 240.07, 172.1, 40.66, 34.44, 33.87, 32.36 and 29.84 g Au/t. While these samples might well

represent some bonanza style of mineralization in narrow structures, at this time there is insufficient data to model or to possibly predict the orientation or magnitude of these structures.

A rotated block model with block dimensions 20 x 20 x 10 metres was placed over solids with the proportion of each block below the topographic surface and inside the solid recorded. The block model parameters are listed below.

|                            |                  |            |
|----------------------------|------------------|------------|
| Minimum Easting 479000 E   | blocks 20 m wide | 75 columns |
| Minimum Northing 5474400 N | blocks 20 m long | 125 rows   |
| Maximum elevation 1650     | blocks 10 m high | 55 levels  |

Search ellipses to constrain the ordinary kriging runs were based on the ranges of the semivariograms along the three principal directions; along strike, down dip and across dip. The blocks were estimated in 4 separate passes with the dimensions of the search ellipse a function of the semivariogram ranges. A minimum of 3 composites and maximum of 8 composites were required to estimate a block. If more than 8 composites were found within the search ellipse, the closest 8 were used. If the minimum 3 composites were not found the block was not estimated during that particular pass.

The Gold Mountain mineralized zone is contained within a mixture of intrusive and volcanic rocks. Specific gravity was measured in 6 intrusive samples and four volcanic samples. The highest value of 3.28 was removed from the calculation and the remaining 9 samples averaged at 2.82.

TABLE I: SUMMARY OF GOLD RESOURCE FOR THE GOLD MOUNTAIN ZONE

| Au Cutoff<br>(g/t) | CLASSED MEASURED            |                |               | CLASSED INDICATED           |                |                |
|--------------------|-----------------------------|----------------|---------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au     |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 2,140,000                   | 0.797          | 55,000        | 23,350,000                  | 0.344          | 258,000        |
| 0.10               | 2,120,000                   | 0.807          | 55,000        | 18,880,000                  | 0.410          | 249,000        |
| 0.20               | 2,000,000                   | 0.843          | 54,000        | 11,980,000                  | 0.563          | 217,000        |
| 0.30               | 1,760,000                   | 0.923          | 52,000        | 8,420,000                   | 0.697          | 189,000        |
| <b>0.40</b>        | <b>1,450,000</b>            | <b>1.046</b>   | <b>49,000</b> | <b>5,720,000</b>            | <b>0.863</b>   | <b>159,000</b> |
| <b>0.50</b>        | <b>1,250,000</b>            | <b>1.145</b>   | <b>46,000</b> | <b>4,240,000</b>            | <b>1.009</b>   | <b>138,000</b> |
| <b>0.60</b>        | <b>1,010,000</b>            | <b>1.286</b>   | <b>42,000</b> | <b>3,190,000</b>            | <b>1.160</b>   | <b>119,000</b> |
| <b>0.70</b>        | <b>780,000</b>              | <b>1.481</b>   | <b>37,000</b> | <b>2,630,000</b>            | <b>1.271</b>   | <b>107,000</b> |
| 0.80               | 690,000                     | 1.576          | 35,000        | 2,120,000                   | 1.396          | 95,000         |
| 0.90               | 560,000                     | 1.738          | 31,000        | 1,710,000                   | 1.525          | 84,000         |
| 1.00               | 540,000                     | 1.774          | 31,000        | 1,430,000                   | 1.636          | 75,000         |
| 1.20               | 390,000                     | 2.028          | 25,000        | 1,060,000                   | 1.833          | 62,000         |
| 1.40               | 320,000                     | 2.203          | 23,000        | 870,000                     | 1.951          | 55,000         |
| 1.60               | 260,000                     | 2.352          | 20,000        | 580,000                     | 2.184          | 41,000         |
| 1.80               | 240,000                     | 2.410          | 19,000        | 380,000                     | 2.430          | 30,000         |
| 2.00               | 170,000                     | 2.619          | 14,000        | 260,000                     | 2.666          | 22,000         |
| 2.50               | 60,000                      | 3.410          | 7,000         | 110,000                     | 3.381          | 12,000         |
| 3.00               | 20,000                      | 4.473          | 3,000         | 60,000                      | 3.778          | 7,000          |
| 3.50               | 20,000                      | 4.473          | 3,000         | 30,000                      | 4.321          | 4,000          |
| 4.00               | 10,000                      | 5.054          | 2,000         | 20,000                      | 4.657          | 3,000          |

| Au Cutoff<br>(g/t) | MEASURED PLUS INDICATED     |                |           | CLASSIFIED INFERRED         |                |           |
|--------------------|-----------------------------|----------------|-----------|-----------------------------|----------------|-----------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |           | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |           |
|                    |                             | Au (g/t)       | Ounces Au |                             | Au (g/t)       | Ounces Au |
| 0.00               | 25,490,000                  | 0.382          | 313,000   | 95,220,000                  | 0.270          | 827,000   |
| 0.10               | 21,000,000                  | 0.450          | 304,000   | 76,010,000                  | 0.321          | 784,000   |
| 0.20               | 13,980,000                  | 0.603          | 271,000   | 40,270,000                  | 0.475          | 615,000   |
| 0.30               | 10,180,000                  | 0.736          | 241,000   | 22,000,000                  | 0.668          | 472,000   |
| 0.40               | 7,170,000                   | 0.900          | 207,000   | 15,160,000                  | 0.815          | 397,000   |
| 0.50               | 5,490,000                   | 1.040          | 184,000   | 10,710,000                  | 0.967          | 333,000   |
| 0.60               | 4,210,000                   | 1.190          | 161,000   | 7,900,000                   | 1.117          | 284,000   |
| 0.70               | 3,400,000                   | 1.319          | 144,000   | 6,390,000                   | 1.228          | 252,000   |
| 0.80               | 2,800,000                   | 1.440          | 130,000   | 5,340,000                   | 1.324          | 227,000   |
| 0.90               | 2,280,000                   | 1.578          | 116,000   | 4,550,000                   | 1.407          | 206,000   |
| 1.00               | 1,970,000                   | 1.674          | 106,000   | 3,790,000                   | 1.498          | 183,000   |
| 1.20               | 1,450,000                   | 1.886          | 88,000    | 2,790,000                   | 1.643          | 147,000   |
| 1.40               | 1,190,000                   | 2.018          | 77,000    | 1,680,000                   | 1.871          | 101,000   |
| 1.60               | 840,000                     | 2.236          | 60,000    | 1,190,000                   | 2.026          | 78,000    |
| 1.80               | 620,000                     | 2.422          | 48,000    | 630,000                     | 2.292          | 46,000    |
| 2.00               | 430,000                     | 2.648          | 37,000    | 430,000                     | 2.488          | 34,000    |
| 2.50               | 160,000                     | 3.391          | 17,000    | 140,000                     | 2.988          | 13,000    |
| 3.00               | 80,000                      | 3.963          | 10,000    | 50,000                      | 3.477          | 6,000     |
| 3.50               | 50,000                      | 4.385          | 7,000     | 30,000                      | 3.718          | 4,000     |
| 4.00               | 30,000                      | 4.801          | 5,000     | 2,000                       | 4.279          | 300       |

### **Kena Gold Zone**

A lognormal cumulative frequency plot was produced for 3,613 gold assays from the Kena Gold Zone. A total of 5 overlapping lognormal gold populations were partitioned from the total data set. The mineralization present at Kena consists of higher-grade narrow veins and structures superimposed on a lower-grade disseminated mineralization in the intrusives.

The higher-grade mineralization is not erratic in nature, rather it represents narrow veins and mineralized structures that cut the mineralized intrusion and may represent remobilization of gold or a later phase of gold mineralization. The 26 high-grade samples average 0.92 g/t and range from 0.03 g/t to 2.1 g/t in length. To allow these values to be smeared around in grade interpolation would not be correct. To cut or cap them to match the lower grade populations would also not be correct as they do represent a mineralized event that will contribute to the overall recoverable gold when mined.

The approach taken for this resource evaluation was to remove the high-grade samples from the data base, composite and model the lower grade mineralization. The lower-grade mineralization is interpolated into a block model. The high-grade mineralization is then modeled using an indicator approach with the proportion of the high-grade style of mineralization present in any block estimated. Once the proportion of high-grade is established a weighted average grade for the block is calculated as follows:

$$\text{Wt. Av. Au} = (\text{AHG} * \text{PHG}) + (\text{KLG} * (1 - \text{PHG}))$$

Where AHG = Average gold grade for High-Grade Population

PHG = Proportion of High-Grade in Block (from indicator kriging)

KLG = Kriged gold grade for Lower-Grade Population

For the Kena deposit, 5 metre down hole composites were produced. A value of 0.005 g Au/t was inserted in areas not sampled as it was assumed these areas were unmineralized. The 26 high-grade samples were ignored for this exercise.

A rotated block model with block dimensions 20 x 20 x 10 metres was placed over the 3D solid with the proportion of each block below the topographic surface and inside the solid recorded. The block model parameters are listed below.

|                            |                  |            |
|----------------------------|------------------|------------|
| Minimum Easting 480700 E   | blocks 20 m wide | 43 columns |
| Minimum Northing 5473900 N | blocks 20 m long | 71 rows    |
| Maximum elevation 1540     | blocks 10 m high | 44 rows    |

A minimum of 3 composites and maximum of 8 composites were required to estimate a block. If more than 8 composites were found within the search ellipse, the closest 8 were used. The blocks were estimated in 4 separate passes with the dimensions of the search ellipse a function of the semivariogram ranges. If the minimum 3 composites were not found the block was not estimated during that particular pass.

For Kena, six samples of volcanic rock were measured for specific gravity. Two samples, with 30 and 15 percent pyrite, were removed from the calculation and the remaining four samples averaged to give a specific gravity of 2.86. Obviously, pyrite content is important and the higher gold values are probably related to high sulphide content.

TABLE II: SUMMARY OF GOLD RESOURCE FOR THE KENA GOLD ZONE

| Au Cutoff<br>(g/t) | CLASSED MEASURED            |                |               | CLASSED INDICATED           |                |                |
|--------------------|-----------------------------|----------------|---------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au     |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 5,410,000                   | 0.502          | 87,000        | 48,931,888                  | 0.246          | 387,000        |
| 0.10               | 5,030,000                   | 0.536          | 87,000        | 35,152,956                  | 0.325          | 367,000        |
| 0.20               | 4,100,000                   | 0.622          | 82,000        | 21,131,452                  | 0.442          | 300,000        |
| 0.30               | 2,910,000                   | 0.774          | 72,000        | 11,773,973                  | 0.601          | 228,000        |
| <b>0.40</b>        | <b>2,050,000</b>            | <b>0.952</b>   | <b>63,000</b> | <b>7,362,650</b>            | <b>0.755</b>   | <b>179,000</b> |
| <b>0.50</b>        | <b>1,390,000</b>            | <b>1.189</b>   | <b>53,000</b> | <b>4,946,787</b>            | <b>0.907</b>   | <b>144,000</b> |
| <b>0.60</b>        | <b>1,040,000</b>            | <b>1.407</b>   | <b>47,000</b> | <b>3,499,762</b>            | <b>1.055</b>   | <b>119,000</b> |
| <b>0.70</b>        | <b>770,000</b>              | <b>1.667</b>   | <b>41,000</b> | <b>2,460,866</b>            | <b>1.226</b>   | <b>97,000</b>  |
| 0.80               | 600,000                     | 1.925          | 37,000        | 1,635,885                   | 1.466          | 77,000         |
| 0.90               | 480,000                     | 2.197          | 34,000        | 1,217,271                   | 1.679          | 66,000         |
| 1.00               | 450,000                     | 2.282          | 33,000        | 953,117                     | 1.881          | 58,000         |
| 1.20               | 360,000                     | 2.582          | 30,000        | 654,299                     | 2.239          | 47,000         |
| 1.40               | 280,000                     | 2.948          | 27,000        | 534,088                     | 2.457          | 42,000         |
| 1.60               | 270,000                     | 3.012          | 26,000        | 423,837                     | 2.710          | 37,000         |
| 1.80               | 250,000                     | 3.133          | 25,000        | 387,203                     | 2.804          | 35,000         |
| 2.00               | 220,000                     | 3.254          | 23,000        | 378,305                     | 2.826          | 34,000         |
| 2.50               | 160,000                     | 3.649          | 19,000        | 220,633                     | 3.293          | 23,000         |
| 3.00               | 80,000                      | 4.528          | 12,000        | 144,620                     | 3.620          | 17,000         |
| 3.50               | 60,000                      | 5.109          | 10,000        | 62,949                      | 4.156          | 8,000          |
| 4.00               | 50,000                      | 5.512          | 9,000         | 38,941                      | 4.297          | 5,000          |

# **SULTAN MINERALS INC.**

**Suite 1400 – 570 Granville Street  
Vancouver, B.C. V6C 3P1  
[www.sultanminerals.com](http://www.sultanminerals.com)**

June 15, 2004

Ticker Symbol: **SUL-TSX Venture**  
SEC 12g3-2(b): 82-4741

## **SULTAN MINERALS ANNOUNCES INCREASE TO BROKERED PRIVATE PLACEMENT FINANCING**

**Sultan Minerals Inc.** (SUL-TSX Venture) ("Sultan") is pleased to announce that it has increased its brokered private placement financing previously announced May 28, 2004, from 1,700,000 units (the "Units") at a price of \$0.15 per Unit, to 2,400,000 Units at a price of \$0.15 per Unit for gross proceeds of \$360,000. Each Unit is comprised of one common share in the capital of Sultan and one non-transferable share purchase warrant. Each share purchase warrant will entitle the holder to purchase one additional common share of Sultan for a period of 12 months from closing, at an exercise price of \$0.20 per share.

Upon closing Canaccord will receive a cash commission equal to 8% of the gross proceeds and that number of non-transferable agent's warrants equal to 20% of the total number of Units sold. Canaccord may elect to take up to one-half of the 8% commission in Units. Each non-transferable compensation warrant is exercisable to acquire one additional common share of the Company at an exercise price of \$0.20 per share for a period of 12 months from the date of closing of the private placement.

All shares, warrants and any shares issued upon exercise of the warrants with respect to the private placement and agent's compensation are subject to a hold period and may not be traded for four months from the date of issuance. The private placement is subject to regulatory approval.

Proceeds from the private placement will be used to fund exploration programs on the Company's Coripampa 1 and 2 properties situated in Peru, the Kena property in British Columbia and for general working capital.

**Arthur G. Troup, P. Eng., Geol.**  
President & CEO

For further information please contact:  
**Investor Relations** at the Lang Mining Group  
Tel: (604) 687-4622 Fax: (604) 687-4212  
Toll Free: 1-888-267-1400 Email: [IR@langmining.com](mailto:IR@langmining.com)

*No regulatory authority has approved or disapproved the information contained in this news release*

# **SULTAN MINERALS INC.**

**Suite 1400 – 570 Granville Street**

**Vancouver, B.C. V6C 3P1**

**[www.sultanminerals.com](http://www.sultanminerals.com)**

June 30, 2004

Ticker Symbol: **SUL-TSX Venture**

SEC 12g3-2(b): 82-4741

## **SULTAN MINERALS CLOSES BROKERED PRIVATE PLACEMENT FINANCING**

**Sultan Minerals Inc.** (SUL-TSX Venture) (“Sultan”) is pleased to announce that it has closed its brokered private placement financing previously announced May 28, 2004, as amended June 15, 2004, of 2,400,000 units (the “Units”) at a price of \$0.15 per Unit for gross proceeds of \$360,000. Each Unit is comprised of one common share in the capital of Sultan and one non-transferable share purchase warrant. Each share purchase warrant entitles the holder to purchase one additional common share of Sultan at an exercise price of \$0.20 per share, expiring June 25, 2005.

In consideration for arranging the private placement, Canaccord Capital Corporation received an administration fee of \$3,000, a cash finder’s fee equal to 7.85% of the gross proceeds raised, non-transferable agent’s finder’s fee warrants, having the same terms as described above, equal to 20% of the total number of Unit sold, and 3,500 agent’s finder’s fee units, having the same terms as the Units described above.

All shares, warrants and any shares issued upon exercise of the warrants with respect to the private placement and agent’s compensation are subject to a hold period and may not be traded for a four months period ending October 26, 2004.

Proceeds from the private placement will be used to fund exploration programs on the Company’s Coripampa 1 and 2 silver and gold properties situated in Peru, the Kena gold property in British Columbia and for general working capital.

**Arthur G. Troup, P. Eng., Geol.**

**President & CEO**

For further information please contact:

**Investor Relations** at the Lang Mining Group

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*No regulatory authority has approved or disapproved the information contained in this news release*

**TECHNICAL REPORT**

using

**BRITISH COLUMBIA SECURITIES COMMISSION  
NATIONAL INSTRUMENT 43-101 GUIDELINES**

**PRELIMINARY RESOURCE CALCULATIONS FOR GOLD  
MOUNTAIN AND KENA GOLD ZONES,  
KENA PROPERTY, BC**

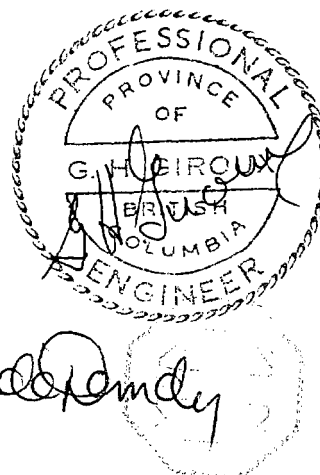
**NELSON MINING DIVISION, BC  
MAPSHEETS: 082F.034/044/035/045  
LATITUDE 49°26'N LONGITUDE 117°17'E**

for

**SULTAN MINERALS INC.  
1400 - 570 GRANVILLE STREET  
VANCOUVER, BC  
V6C 3P1**

by

**GARY GIROUX, P.Eng., MAsc.  
and  
LINDA DANDY, P.Geo.  
Consulting Geologists**



**June 3, 2004**

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## **1) SUMMARY**

From 1999 to 2003, Sultan Minerals Inc. ("Sultan") entered into option agreements with Otto and Otakar Janout, Robert Bourdon, Lloyd and Gordon Addie, Tom Cherry, Arbutus Resources, Wirth et al, Mike Hudock and Jack Denny to acquire 100% interest in the Kena Property. Sultan has expanded its ground holdings by staking open ground surrounding the original property and now holds mineral rights to 390 claim units totalling approximately 8200 hectares. The property contains several gold and gold-copper prospects and is located seven kilometres south of the town of Nelson in southeastern British Columbia. The property lies predominantly within lower Jurassic Elise Formation (Rossland Group) mafic volcanics and associated mid Jurassic Silver King intrusive rocks.

The Kena Property has been worked by a number of exploration companies from 1974 to 1991. No work had been done on the property since that time, until Sultan Minerals acquired it in late 1999. Previous work on the property includes geology, geochemistry, geophysics, trenching and drilling. Prior drilling concentrated on the Kena Gold Zone, with smaller programs carried out on the Kena Copper Zone, the Dighem Zone and the Shaft showing.

### **Kena Gold Zone**

In 1999 and 2000, Sultan Minerals sampled existing diamond drill core that was previously unsampled. Results from the core sampling program led to definition of large widths of gold mineralization in the Kena Gold Zone, with grades similar to those obtained historically (i.e. 0.3 to 2.0 g/t gold). The best previous drill hole in this zone is LK86-20, which returned 1.55 g/t gold over a 53.5 metre length.

In 2003, 14 short diamond drill holes were completed on the Kena Gold Zone. These holes were located to give additional shallow assay information prior to completing this resource calculation.

### **Gold Mountain Zone**

Significant new results of the 2000 to 2003 work programs came from geochemical and geophysical surveys, trenching and drilling done over the Silver King intrusive north of Gold Creek, in an area termed the Gold Mountain Zone. Soil geochemistry identified a 3300 x 1400 metre zone containing high gold values. The geophysical surveys picked up chargeability, resistivity and magnetic anomalies trending roughly parallel to the gold soil anomalies.

In 2000, six initial trenches were excavated near the centre of the Gold Mountain Zone. These "discovery trenches" uncovered a significant new style of gold porphyry mineralization within the Silver King intrusive. The trenches, covering an area of about 120 x 95 metres, averaged 1.43 g/t gold over their entire 182 metres combined length. Assays ranged up to 11.38 g/t gold for a 3 metre chip sample.

In 2001 to 2003, diamond and reverse circulation drilling was done on the Gold Mountain Zone. Drill results confirm the depth extension of widespread, porphyry style gold mineralization

within the Silver King intrusive unit and across the contact into the Elise Volcanics for a short distance. Wide zones of low grade gold mineralization were found in many of the drill holes, with widths of greater than 100 metres grading better than 1 g/t gold. Also, narrower, very high grade intervals were intersected, such as 172 g/t gold over 2 metres in hole 01GM-08 and 240 g/t gold over 1.23 metres in hole 01GM-03. This bi-modal gold system in the Gold Mountain Zone requires follow up of both the large tonnage porphyry style mineralization and the narrower high grade gold shoots.

Detailed geological work was carried out coincident with drilling on the Gold Mountain Zone. Work concentrated on identifying alteration assemblages, mineralogy and structural controls in the Silver King intrusive, in order to obtain a signature for the gold mineralization to use as a model for further exploration. Gold mineralization occurs predominantly as finely disseminated free grains in both the intrusive and volcanic groundmass. Photomicrograph work indicates that deposition of the porphyry style gold is pre or syn-kinematic. Higher grades appear to be related to a series of late cross structures along which the gold mineralization has been concentrated.

During the 2001 field program on the Kena Property, several major mining companies visited the property. Two of the companies obtained samples in order to conduct metallurgical tests. The preliminary metallurgical results were favourable for both gravity and cyanide leach tests.

### **South Gold Zone**

During 2002, four diamond drill holes were completed on the South Gold Zone. This zone has been outlined by a strong, 1000 x 250 metre, gold soil geochemical anomaly. Drill results indicate the South Gold Zone has the potential to host a third large area of bulk tonnage style gold mineralization on the Kena Property. Hole 02SG-04 returned 90 metres of 0.9 g/t gold, including a narrower high grade shoot which assayed 12.86 g/t gold over 2 metres. The alteration and mineralization seen at the South Gold Zone is similar in style and intensity to that seen in the Gold Mountain and Kena Gold Zones.

### **Additional Showings**

The large Kena Property hosts a number of historic past producers (see BC Minfile). The largest of these is the former Silver King Mine which produced 243,000 tonnes grading 665 g/t silver and 3.3% copper. The remainder of the past producers were high grade gold vein type deposits and their production records state: Athabasca – 20,000 tonnes of 31.2 g/t Au and 10 g/t Ag; Euphrates – 307 tonnes of 46.9 g/t Au and 249 g/t Ag; Great Western – 34 tonnes of 52.2 g/t Au; and Starlight – 21 tonnes of 27.7 g/t Au.

Good exploration targets exist along strike and to depth of all of these historic workings.

### **Kena and Gold Mountain Zone Resource Estimates**

Based on the results from diamond drilling, a resource estimate was completed for both the Kena Gold and Gold Mountain Zones. For Gold Mountain a three dimensional geologic block model was created encompassing the mineralized intrusive and the mineralized contact zone with the

underlying volcanics. Ordinary kriging was used to interpolate gold grades into large 20 x 20 x 10 metre blocks. The estimated resource for Gold Mountain at a 0.50 g Au/t cutoff was 5.49 million tonnes averaging 1.04 g Au/t classed as measured plus indicated and an additional 10.7 million tonnes averaging 0.97 g Au/t classed as inferred.

A geological block model was created for Kena that contained the mineralized zone as indicated by diamond drilling. Two styles of mineralization are present within the Kena Gold zone. A high grade narrow structurally controlled gold mineralization can be separated from the more pervasive lower grade porphyry gold mineralization using a threshold of 5.3 g Au/t. The resource estimation used ordinary kriging to interpolate the low grade component and indicator kriging to determine the proportion of high grade present in blocks 20 x 20 x 10 metres in dimension. The two styles of gold mineralization were recombined in each block as a weighted average. The estimated resource at a 0.50 g Au/t cutoff was 6.3 million tonnes averaging 0.97 g Au/t classed as measured plus indicated and an additional 1.4 million tonnes averaging 1.22 g Au/t classed as inferred.

### **Recommendations**

Due to the success of the exploration programs to date, and the completion of the resource calculations for the Gold Mountain and Kena Gold Zones, an expanded exploration program is recommended for 2004. The two phase program will consist of an initial phase of detailed geological mapping and sampling and infill diamond drill core sampling. Phase II will include excavator trenching at the Gold Mountain, South Gold and Starlight Zones and diamond drilling at the Gold Mountain, South Gold and Kena Gold Zones. Small preliminary drill programs are also recommended for the Toughnut, Euphrates, Silver King and Athabasca Zones. The estimated cost for Phase I is \$99,500 and Phase II is \$1.17 million.

## **2) INTRODUCTION AND TERMS OF REFERENCE**

Sultan Minerals Inc. optioned the Kena Property after examination of diamond drill core and logs from previous exploration programs, and noting that in many instances well mineralized sections had never been assayed. Sultan entered into option agreements with vendors Otto and Otakar Janout and Robert Bourdon in October 1999 and in 2001 with Robert Bourdon, Lloyd and Gordon Addie and Tom Cherry, in early 2002 with Arbutus Resources, Wirth et al and Jack Denny, and in early 2003 with Mike Hudock to acquire 100% interest in the property. Also, Sultan Minerals Inc. has acquired 100% ownership in surrounding ground by staking. Once the property was under agreement, Sultan conducted exploration programs with the intent of expanding previously reported mineralized intercepts.

The authors of this report were retained by Sultan Minerals Inc. to review and assess the results of exploration work conducted on the claim group in the past, to complete a preliminary resource calculation and to recommend further exploration programs. Author Linda Dandy, P.Geo. has directly supervised all work carried out by Sultan Minerals Inc. on the property to date. Author Gary Giroux, P.Eng., is an independent qualified person contracted to complete modeling and resource calculations on the Kena Property data, collected by Sultan Minerals Inc.

This technical report is prepared in compliance with the requirements of National Instrument 43 – 101 and is intended to be used as a supporting document to be filed with the British Columbia Securities Commission and the TSX Venture Exchange.

## **3) DISCLAIMER**

For information pertaining to ownership of claims on the property, we have relied on information provided by the property vendors and Sultan Minerals Inc., which to the best of our knowledge and experience is correct. However, we disclaim responsibility for such information.

## **4) PROPERTY DESCRIPTION AND LOCATION**

The Kena Property is located within the Nelson Mining Division and consists of 10 modified grid, 36 Crown Grants and 205 two post and fractional claims to total 390 units (Figures 1 and 2). The claims cover an area of approximately 8,200 hectares and are centered at latitude 49°26'N and longitude 117°17'E within mapsheets 82F.034, 044, 035, 045.

Staked claims (modified grid and two post) are listed in Table I, and Crown Granted claims are listed in Table II. The staked claims have been common dated to an anniversary date of February 28, and all claims have ten years work applied to them, making the next expiry year 2013. The Crown Grants require annual taxes to be paid, and all taxes are currently up to date. The claims have not been surveyed.

**TABLE I**  
**CLAIM INFORMATION**

| Claim Name    | Units | Record# | Owner<br>or Optioner | Claim Name | Units | Record# | Owner<br>or Optioner |
|---------------|-------|---------|----------------------|------------|-------|---------|----------------------|
| GM 1          | 1     | 390584  | Sultan               | SK 12      | 1     | 382810  | Sultan               |
| GM 2          | 1     | 390585  | Sultan               | SK 13      | 1     | 382811  | Sultan               |
| GOLD MOUNTAIN | 20    | 389877  | Sultan               | SK 14      | 1     | 382812  | Sultan               |
| TAMARAC       | 9     | 389878  | Sultan               | SK 15      | 1     | 382813  | Sultan               |
| TAM           | 1     | 389879  | Sultan               | SK 16      | 1     | 382814  | Sultan               |
| GC 1          | 1     | 382801  | Sultan               | SK 17      | 1     | 382815  | Sultan               |
| GC 2          | 1     | 382802  | Sultan               | SK 18      | 1     | 382816  | Sultan               |
| GC 3          | 1     | 382803  | Sultan               | SK 19      | 1     | 384262  | Sultan               |
| GC 4          | 1     | 382804  | Sultan               | SK 20      | 1     | 384263  | Sultan               |
| GOLD MTN      | 1     | 232760  | Janouts/Bourdon      | SK 21      | 1     | 384264  | Sultan               |
| GOLD MTN 2    | 1     | 232761  | Janouts/Bourdon      | SK 22      | 1     | 384265  | Sultan               |
| GOLD MTN 9FR  | 1     | 232763  | Janouts/Bourdon      | SK 23      | 1     | 384266  | Sultan               |
| MAC 1         | 20    | 232794  | Janouts/Bourdon      | SK 24      | 1     | 384267  | Sultan               |
| COT           | 1     | 233177  | Janouts/Bourdon      | SK 25      | 1     | 384268  | Sultan               |
| ROAD SIDE FR  | 1     | 233178  | Janouts/Bourdon      | SK 26      | 1     | 384269  | Sultan               |
| COT FR        | 1     | 233179  | Janouts/Bourdon      | SK 27      | 1     | 384270  | Sultan               |
| MAS FR        | 1     | 233180  | Janouts/Bourdon      | SK 28      | 1     | 384271  | Sultan               |
| TEE FR        | 1     | 233181  | Janouts/Bourdon      | SK 29      | 1     | 391009  | Sultan               |
| FLAT FR       | 1     | 233182  | Janouts/Bourdon      | SK 30      | 1     | 391010  | Sultan               |
| AU 2          | 1     | 233231  | Janouts/Bourdon      | SK 31      | 1     | 391011  | Sultan               |
| AU 4          | 1     | 233232  | Janouts/Bourdon      | SK 32      | 1     | 391012  | Sultan               |
| LINDE 2       | 1     | 233261  | Janouts/Bourdon      | GC 5       | 20    | 387621  | Sultan               |
| LINDE 1       | 1     | 233262  | Janouts/Bourdon      | GC 6       | 18    | 387622  | Sultan               |
| KENA FR       | 1     | 233294  | Janouts/Bourdon      | GC 7       | 1     | 387623  | Sultan               |
| MAGPIE        | 1     | 233606  | Janouts/Bourdon      | GC 8       | 1     | 387624  | Sultan               |
| ELDORADO      | 1     | 233607  | Janouts/Bourdon      | GC 9       | 1     | 387625  | Sultan               |
| PACTOLUS FR   | 1     | 233608  | Janouts/Bourdon      | GC 10      | 1     | 387634  | Sultan               |
| SHAFT FR      | 1     | 233609  | Janouts/Bourdon      | GC 11      | 1     | 387635  | Sultan               |
| DEER FR       | 1     | 233610  | Janouts/Bourdon      | GC 12      | 1     | 387636  | Sultan               |
| MIDNITE FR    | 1     | 233611  | Janouts/Bourdon      | GC 13      | 1     | 387637  | Sultan               |
| KENA 18       | 1     | 235349  | Janouts/Bourdon      | GC 14      | 1     | 387638  | Sultan               |
| KENA 19       | 1     | 235350  | Janouts/Bourdon      | GC 15      | 1     | 387639  | Sultan               |
| KENA 20       | 1     | 235351  | Janouts/Bourdon      | GC 16      | 1     | 387640  | Sultan               |
| KENA 21       | 1     | 235352  | Janouts/Bourdon      | GC 17      | 1     | 387641  | Sultan               |
| KENA 22       | 1     | 235353  | Janouts/Bourdon      | JUNE 1     | 20    | 387642  | Sultan               |
| KENA 23       | 1     | 235354  | Janouts/Bourdon      | JUNE 2     | 1     | 387643  | Sultan               |
| KENA 24       | 1     | 235355  | Janouts/Bourdon      | JUNE 3     | 1     | 387644  | Sultan               |
| KENA 25       | 1     | 235356  | Janouts/Bourdon      | JUNE 4     | 1     | 387645  | Sultan               |
| SHAFT W1      | 1     | 362976  | Janouts/Bourdon      | JUNE 5     | 1     | 387646  | Sultan               |
| SHAFT W2      | 1     | 362977  | Janouts/Bourdon      | JUNE 6     | 1     | 387647  | Sultan               |
| CAT 1         | 1     | 372729  | Sultan               | JUNE 7     | 1     | 387648  | Sultan               |
| CAT 2         | 1     | 372730  | Sultan               | JUNE 8     | 1     | 387649  | Sultan               |
| CAT 3         | 1     | 372731  | Sultan               | JUNE 9     | 1     | 387650  | Sultan               |
| CAT 4         | 1     | 372732  | Sultan               | SAND 1     | 1     | 392165  | Sultan               |
| CAT 5         | 1     | 373750  | Sultan               | SAND 2     | 1     | 392166  | Sultan               |
| CAT 6         | 1     | 373751  | Sultan               | SAND 3     | 1     | 392167  | Sultan               |
| CAT 7         | 1     | 373752  | Sultan               | SAND 4     | 1     | 392168  | Sultan               |
| CAT 8         | 1     | 373753  | Sultan               | SAND 5     | 1     | 392169  | Sultan               |
| CAT 9         | 1     | 373754  | Sultan               | SAND 6     | 1     | 392170  | Sultan               |
| CAT 10        | 1     | 373755  | Sultan               | GA 8       | 1     | 392532  | Sultan               |

**TABLE I - continued**  
**CLAIM INFORMATION**

| Claim Name | Units | Record# | Owner<br>or Optioner | Claim Name     | Units | Record# | Owner<br>or Optioner |
|------------|-------|---------|----------------------|----------------|-------|---------|----------------------|
| CAT 11     | 1     | 373756  | Sultan               | GA 7           | 1     | 392533  | Sultan               |
| CAT 12     | 1     | 373757  | Sultan               | GA 6           | 1     | 392534  | Sultan               |
| CAT 13     | 1     | 373758  | Sultan               | GA 5           | 1     | 392535  | Sultan               |
| CAT 14     | 1     | 373759  | Sultan               | GA 4           | 1     | 392536  | Sultan               |
| CAT 15     | 1     | 373760  | Sultan               | GA 3           | 1     | 392537  | Sultan               |
| CAT 16     | 1     | 373761  | Sultan               | GA 2           | 1     | 392538  | Sultan               |
| CAT 17     | 1     | 373762  | Sultan               | GA 1           | 1     | 392539  | Sultan               |
| CAT 18     | 1     | 373763  | Sultan               | ST 1           | 6     | 233240  | Addies               |
| CAT 19     | 1     | 373764  | Sultan               | AG 1           | 1     | 233249  | Addies               |
| CAT 20     | 1     | 373765  | Sultan               | AG 2           | 1     | 233250  | Addies               |
| CAT 21     | 1     | 373766  | Sultan               | AG 3           | 1     | 233251  | Addies               |
| CAT 22     | 1     | 373767  | Sultan               | AG 4           | 1     | 233252  | Addies               |
| CAT 23     | 1     | 374197  | Sultan               | AG 5           | 1     | 233253  | Addies               |
| CAT 24     | 1     | 374198  | Sultan               | AG 6           | 1     | 233254  | Addies               |
| CAT 25     | 1     | 374199  | Sultan               | ST 2           | 2     | 233255  | Addies               |
| CAT 26     | 1     | 374200  | Sultan               | WHISKERS 1     | 1     | 233278  | Addies               |
| CAT 27     | 1     | 374201  | Sultan               | WHISKERS 2     | 1     | 233279  | Addies               |
| CAT 28     | 1     | 374202  | Sultan               | WHISKERS 3     | 1     | 233280  | Addies               |
| CAT 29     | 1     | 374203  | Sultan               | WHISKERS 4     | 1     | 233281  | Addies               |
| CAT 30     | 1     | 374204  | Sultan               | AG             | 1     | 233375  | Addies               |
| CAT 31     | 1     | 374205  | Sultan               | DELIGHT        | 1     | 234603  | Addies               |
| CAT 32     | 1     | 374206  | Sultan               | ATLANTIC       | 1     | 234605  | Addies               |
| CAT 33     | 1     | 374207  | Sultan               | GOLDEN STAR 1  | 1     | 350277  | Addies               |
| CAT 34     | 1     | 374208  | Sultan               | GOLDEN STAR 2  | 1     | 350278  | Addies               |
| CAT 35     | 1     | 374209  | Sultan               | GOLDEN STAR 3  | 1     | 350279  | Addies               |
| CAT 36     | 1     | 374210  | Sultan               | GOLDBED 1      | 1     | 350280  | Addies               |
| CAT 37     | 1     | 380091  | Sultan               | GOLDBED 2      | 1     | 350281  | Addies               |
| CAT 38     | 1     | 380092  | Sultan               | GOLDBED 3      | 1     | 350282  | Addies               |
| CAT 39     | 1     | 380093  | Sultan               | GOLDBED 4      | 1     | 350283  | Addies               |
| CAT 40     | 1     | 380707  | Sultan               | GOLDBED 5      | 1     | 350284  | Addies               |
| CAT 41     | 1     | 380708  | Sultan               | GOLDBED 6      | 1     | 350285  | Addies               |
| CAT 42     | 1     | 380709  | Sultan               | SK             | 1     | 350286  | Addies               |
| CAT 43     | 1     | 380710  | Sultan               | EP             | 1     | 350287  | Addies               |
| CAT 44     | 1     | 380711  | Sultan               | PY             | 1     | 350288  | Addies               |
| CAT 45     | 1     | 380712  | Sultan               | K              | 1     | 350289  | Addies               |
| CAT 46     | 1     | 382323  | Sultan               | SANDY 1        | 1     | 366379  | Addies               |
| CAT 47     | 1     | 382324  | Sultan               | SANDY 2        | 1     | 366380  | Addies               |
| STAR 1     | 1     | 374211  | Janouts/Bourdon      | SANDY 3        | 1     | 366381  | Addies               |
| STAR 2     | 1     | 374212  | Janouts/Bourdon      | SANDY 4        | 1     | 366416  | Addies               |
| NOMAN      | 20    | 378493  | Sultan               | SILVER STAR 1  | 1     | 387291  | Addies               |
| SAKE       | 1     | 379797  | Sultan               | SILVER STAR 2  | 1     | 387292  | Addies               |
| SK 1       | 20    | 382325  | Sultan               | GREAT WESTERN  | 1     | 232860  | Bourdon              |
| SK 2       | 1     | 382326  | Sultan               | IRENE          | 1     | 232861  | Bourdon              |
| SK 3       | 1     | 382327  | Sultan               | GREAT EASTERN  | 1     | 232862  | Bourdon              |
| SK 4       | 1     | 382328  | Sultan               | CARIBOO L5265  | 1     | 232846  | Cherry               |
| SK 5       | 1     | 382329  | Sultan               | PRINCESS L2023 | 1     | 232990  | Cherry               |
| SK 6       | 1     | 382330  | Sultan               | EAST SIDE      | 1     | 370251  | Cherry               |
| SK 7       | 1     | 382805  | Sultan               | SUNNYSIDE      | 1     | 370252  | Cherry               |
| SK 8       | 1     | 382806  | Sultan               | CLEOPATRA      | 1     | 386469  | Cherry               |
| SK 9       | 1     | 382807  | Sultan               | IROQUOIS FR    | 1     | 304198  | Arbutus              |

**TABLE I - continued  
CLAIM INFORMATION**

| Claim Name  | Units | Record# | Owner<br>or Optioner | Claim Name      | Units | Record# | Owner<br>or Optioner |
|-------------|-------|---------|----------------------|-----------------|-------|---------|----------------------|
| SK 10       | 1     | 382819  | Sultan               | IVANHOE 3       | 1     | 321250  | Arbutus              |
| SK 11       | 1     | 382809  | Sultan               | GRAND           | 1     | 373681  | Denny                |
| LONG TOM    | 1     | 233489  | Hudock               | RUBY FR.        | 1     | 233490  | Hudock               |
| GOOD HOPE   |       |         | Hudock               | GOOD ENOUGH     |       |         | Hudock               |
| ALGOMA      | 1     | 233491  | Hudock               | TRIANGLE FR.    |       |         | Hudock               |
| ATHABASCA   | 1     | 233492  | Hudock               | ALBERTA         |       |         | Hudock               |
| MANITOBA    | 1     | 233493  | Hudock               | HANKY PANKY FR. |       |         | Hudock               |
| ANT FR.     | 1     | 233498  | Hudock               | MILL FR.        | 1     | 233499  | Hudock               |
| OLD HAT FR. | 1     | 233437  | Hudock               |                 |       |         |                      |

Table I shows the claims staked and owned 100% by Sultan Minerals Inc. Sultan has the right to acquire 100% ownership in the remainder of the claims, optioned from Janouts/Bourdon, Addies, Bourdon, Cherry, Arbutus, Hudock and Denny, subject to underlying NSR agreements.

**TABLE II  
CROWN GRANTED MINERAL CLAIMS**

| <u>CLAIM NAME</u> | <u>LOT NUMBER</u> | <u>OPTIONER</u> |
|-------------------|-------------------|-----------------|
| TOUGH NUT         | L199              | Addies          |
| GRIZZLY BEAR      | L105              | Arbutus         |
| SILVER QUEEN      | L105A             | Arbutus         |
| KOOTENAI BONANZA  | L140              | Arbutus         |
| SILVER KING       | L141              | Arbutus         |
| AMERICAN FLAG     | L142              | Arbutus         |
| DANDY             | L231              | Arbutus         |
| FOREST            | L233              | Arbutus         |
| NEW MARKET        | L235              | Arbutus         |
| DEMOCRAT          | L236              | Arbutus         |
| UNION JACK        | L244              | Arbutus         |
| KOH-I-NOOR        | L245              | Arbutus         |
| LULU              | L247              | Arbutus         |
| HANNAH            | L371              | Arbutus         |
| HIDDEN TREASURE   | L411              | Arbutus         |
| OLLIE             | L412              | Arbutus         |
| ETNA              | L414              | Arbutus         |
| COPPER KING       | L417              | Arbutus         |
| GRAND VIEW        | L685              | Arbutus         |
| YOUNG DOMINION    | L2541             | Arbutus         |
| MONEY MARKET      | L3252             | Arbutus         |
| O.V.G.            | L3254             | Arbutus         |
| EUREKA            | L3255             | Arbutus         |
| VICTORIA FR       | L12273            | Arbutus         |
| STARLIGHT FR      | L12274            | Arbutus         |
| STARLIGHT         | L684              | Denny           |
| BLACKWITCH        | L4146             | Denny           |
| GOLD BELL         | L4155             | Denny           |
| VICTORIA          | L248              | Wirth, et al    |
| JESSIE            | L686              | Wirth, et al    |
| BID               | L901              | Wirth, et al    |
| JMB               | L902              | Wirth, et al    |

**TABLE II - continued**  
**CROWN GRANTED MINERAL CLAIMS**

| <b>CLAIM NAME</b> | <b>LOT NUMBER</b> | <b>OPTIONER</b> |
|-------------------|-------------------|-----------------|
| DAYLIGHT          | L907              | Wirth, et al    |
| GOLD KING FR      | L14699            | Wirth, et al    |
| BERLIN            | L3251             | Wirth, et al    |
| MILLSITE FR       | L14700            | Wirth, et al    |

The above listed Crown Granted claims all have mineral rights and lot numbers 140, 141, 142, 231, 244, 245, and 412 also have surface rights included. All of the remaining Crown Granted claims and all the staked claims are located on Crown lands.

The claims optioned from Otto (40%) and Otakar (40%) Janout and Robert Bourdon (20%) comprise the original Kena Property. The Kena 18 to 24 claims cover the Kena Copper and South Gold Zones. The remainder of the claims cover the Kena Gold Zone, the Cat and Shaft showings and the eastern portion of the Gold Mountain Zone. In 2003, after making payments of \$110,000 cash and 200,000 shares to the optioners, these claims became held 100% by Sultan subject to an NSR. Upon commencement of production, Sultan must also make an additional 100,000 share payment. The NSR is 3% for gold and silver and 1.5% for other metals, of which Sultan can purchase one half for \$2,000,000 or 7,000 ounces of gold whichever is greater.

The Tough Nut claim group was optioned from Lloyd and Gordon Addie for payments of \$120,000 cash and 200,000 shares. In 2004, upon completion of payments, Sultan will have 100% interest in this claim group, subject to an NSR. The NSR, on claims other than ST 1 and 2 and Sandy 2, is 3% for gold and 1.5% for other metals, of which Sultan can purchase  $\frac{2}{3}$  for \$2,000,000. On ST 1 and 2 and Sandy 2, the NSR is 2% on gold and 0.5% on other metals up to a \$1,000,000 cap that goes to Pallaum Minerals and Globenet Resources.

The three units comprising the Great Western Group were optioned from Robert Bourdon for payments totalling \$45,000 cash and 200,000 shares. In 2004, upon completion of payments, Sultan will have 100% interest in these claims subject to an NSR. Upon positive feasibility an additional 200,000 shares will be paid. The NSR is 3% on gold and 1.5% on other metals, of which Sultan can purchase two thirds for \$1,000,000.

The Cariboo, Princess and Cleopatra properties consist of 5 claim units (115 hectares) optioned from Tom Cherry. The terms of the option are that Sultan must make total cash payments of \$52,500 and issue 200,000 common shares to the vendor over a four-year period. In exchange for the above cash and share payments, in 2005 Sultan will earn 100% interest in the properties, subject only to royalties payable to the vendor, of 3.0% net smelter returns from production of gold and silver, 1.5% NSR from production of other metals and a further 200,000 common shares of Sultan due upon receipt of a positive feasibility study. Sultan will have the right to purchase two thirds of the above NSR from the vendor for \$1,000,000 upon commencement of commercial production.

In 2003, Sultan renegotiated its option agreement to earn 100% in the Silver King Mine Property comprised of 24 crown grants and two claims optioned from Arbutus Resources. The terms of the option are that Sultan must make total cash payments of \$140,000 and issue 250,000

common shares to the vendor over a four-year period. Sultan must also make a cash payment to the vendor in 2007 equal to the greater of (a) \$240,000 or (b) 120% of the 2007 assessed value of the surface rights for seven Crown granted claims. A further 200,000 common shares of the Company are to be issued upon receipt of a positive feasibility study on commencement of commercial production. An NSR of 3.0% from production is payable to the vendor with a minimum annual royalty payment of \$40,000 (indexed to Statistics Canada Consumer Price Index using 2003 as a base year). Sultan has the right to purchase 50% of the above NSR for \$1,000,000 upon commencement of commercial production.

In July 2002, Sultan optioned the Daylight Claim Group, consisting of 8 crown grants (L248, L686, L901, L902, L907, L3251, L14699, L14700) from Janet Wirth, Richard White, Norma Schiller, Estate of Frances M. Fraser and Estate of Caroline R. Baillie (collectively the "Optionors"). The terms of the option are that Sultan must make total cash payments of \$52,500 and issue 175,000 common shares to the Optionors over a three year period. In exchange for the above cash and share payments, in 2005 Sultan will earn an 87.5% interest in the properties, subject to royalties payable to the vendors of 3% NSR from the production of gold and silver and 1.5% NSR from the production of other metals, and a further 175,000 shares upon completion of a positive feasibility study. Sultan has the right to purchase two thirds of the NSR from the vendors for \$875,000 upon or prior to commercial production.

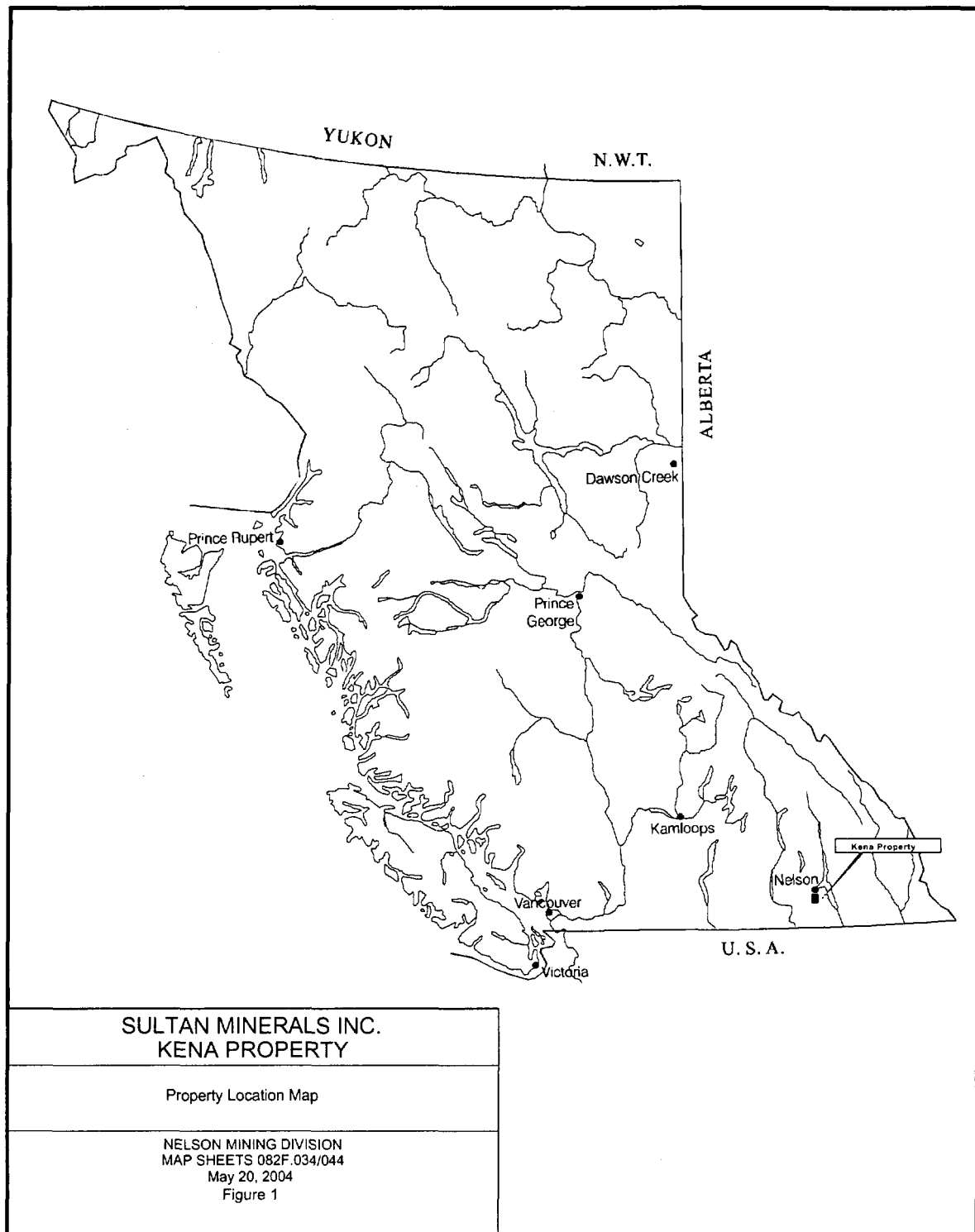
The Athabasca Property consisting of 13 claims was optioned from Mike Hudock in February 2003. The terms of the option are that Sultan must make total cash payments of \$50,000 and issue 200,000 common shares to the vendor over a four-year period. In exchange for the above cash and share payments, in 2006 Sultan will earn 100% interest in the properties, subject only to royalties payable to the vendor, of 3.0% net smelter returns from production of gold and silver, 1.5% NSR from production of other metals. Sultan has the right to purchase two thirds of the above NSR from the vendor for \$1,000,000.

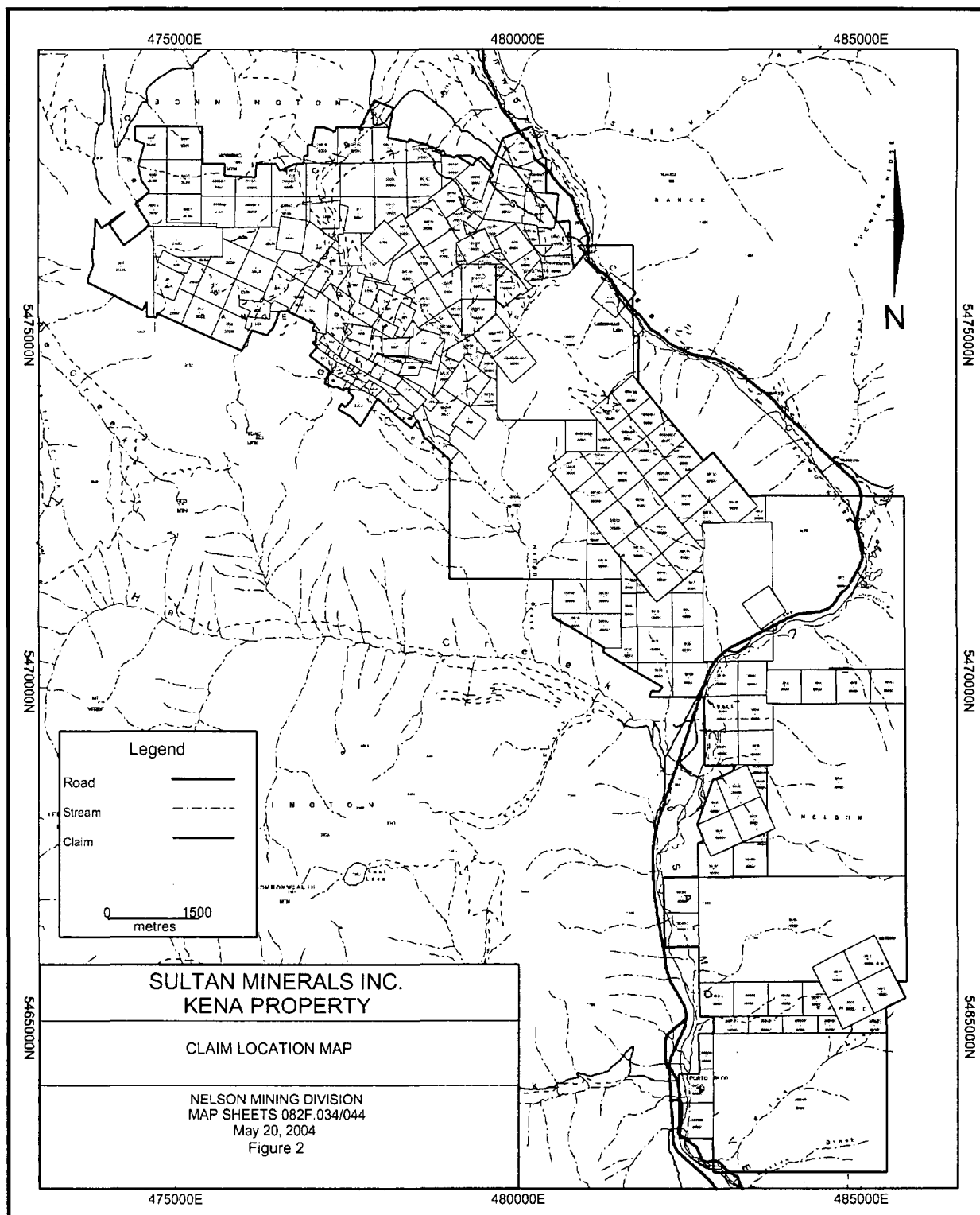
There are no pre-production royalties, back-in rights or other agreements or encumbrances to these claims with respect to Sultan's option right to them known to the author. There are no environmental liabilities existing on the property.

The authors foresees no permitting obstacles for a year round drill program as prior drill programs have been permitted and conducted throughout the property in the past.

##### **5) ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

Access to the Kena Property is via Highway 6, south from Nelson for 7 kilometres then west and south along the Giveout and Gold Creek Forest Service Roads. The Giveout and Gold Creek Roads and a number of 4x4 roads run through the claims. The southern portion of the claim block is accessed off Highway 6. A new logging spur road leaves Highway 6 about 10 kilometres south of Nelson, off the Clearwater Creek Forest Service Road at kilometre 8. This new logging road, currently under construction, will soon provide access into the Euphrates and Gold Cup areas.





Climate is typical of the southern interior of British Columbia with freezing temperatures from 0° to -20° C from November to March (averaging -5° C) and mild temperatures ranging from 10° to 30° C from April to October (averaging 15.7° C). Precipitation averages 790 millimetres per year, with a substantial portion in the form of snow, averaging 225 centimetres per year.

The Highway 6 corridor, which runs along the eastern margin of the claim block, also carries a power line and rail bed. TeckCominco Trail Smelter facility is located about 45 minutes drive to southwest of the property. Crew lodgings are available in Nelson or Salmo. A skilled labour force for mining and exploration is available in Nelson, Salmo, Trail and Castlegar. Trail, Nelson and Castlegar are also major supply and service centres for resource industries.

The Kena Property is located in an area of rugged terrain. Topography on the property is steep with elevations ranging from 895 metres at Cottonwood Lake to 1,795 metres on the southwestern portion of the claim area. Outcrop is somewhat limited on the property, generally confined to creek gullies and road cuts, with more prevalent outcrops on steeper slopes. The Gold Mountain Zone lies at an elevation of about 1,400 metres, along a relatively flat bench area above the steep topography leading to the Cottonwood valley.

Several portions of the claim area have been recently logged, with the remainder being covered with first and second growth forest consisting of balsam, fir, spruce, hemlock, cedar and occasional white pine. Thick growths of alder and devil's club are found along creek gullies.

## 6) HISTORY

The Kena Property was first described by G.M. Dawson in the Geological Survey of Canada Summary Report for 1888-1889. Dawson stated that gold mineralization is located within a "...quantity of pyritized material which...appears to be practically unlimited..." in size.

No further information on exploration appears in either the Geological Survey of Canada records or the Provincial Government records within the Ministry of Mines, thus little is known about exploration on the claim area prior to 1973. Post 1973 exploration, however, has identified numerous old prospect pits and trenches, as well as several old adits indicating periods of exploration activity in the early part of the century.

### 6.1 Kena Claims

Prospector Otto Janout staked the original Kena claims in 1973. Since then the property has been optioned and worked by various companies. The exploration work completed since 1973 is summarized below:

1974                      DUCANEX RESOURCES LTD.

The company collected soil samples and drilled four percussion holes in the Kena Gold Zone. Chip sampling of the Main Trench in 1973 yielded 2.38 g/t gold over 9.85 metres. The soil sample results showed high copper and gold values, ranging up to 1,100 ppm copper and 4,600 ppb gold, with background gold values around

350 ppb. The company drilled four percussion holes aggregating 250 metres on the gold prospect. The results of the drilling suggested the presence of a mineralized zone from 6 to 12 metres thick of about 1.36 to 1.70 g/t gold. The zone strikes at about 290°, dips 60° to the southwest, and has a projected strike length of 230 metres. Prospecting also resulted in the discovery of a large zone of copper mineralization in the southeastern section of the claims.

1975 LACANEX MINING COMPANY LTD.

A program of geological mapping and geochemical sampling was carried out over wide spaced (120 to 250 metre) grid lines in the southern portion of the claim block resulted in identifying a series of large linear copper anomalies which follow the regional foliation. 27 chip samples were taken at 3 metre intervals along the entire 82 metres of an old adit located within the Kena Copper Zone, with the samples averaging 0.16% copper over the entire length. This adit was probably driven to intersect a two foot wide quartz vein at depth. A grab sample from the quartz vein assayed 1.1% copper and 2.6 g/t gold.

1976-77 QUINTANA MINERALS CORP.

The program consisted of geological and geochemical surveys based on the hypothesis that visible sulphide mineralization within the Kena Copper Zone represented the upward extent of a porphyry copper sulphide system. In 1977, the Company carried out a wide spaced IP survey along lines 240 metres apart with a dipole spacing of 100 metres. The work resulted in a chargeability anomaly parallel to the strike of the volcanics and approximately coincident with the copper geochemical anomaly. Lithogeochemical sampling ranged as high as 21 metres of 0.53% copper cut along an outcrop of sericite schist.

1981-82 KERR ADDISON MINES LTD.

Kerr Addison's exploration program consisted of both geological and geochemical surveys conducted over the entire property followed by six diamond drill holes. Three drill holes aggregating 528.5 metres were completed on the Kena Gold Zone. The best intercept from this work was 2.18 g/t gold over 15 metres in hole 81-KK-2. Three wide spaced holes aggregating 635.2 metres were completed in the Copper Zone. The top 51 metres of drill hole 88-KK-4 assayed 0.27% copper. Samples representing 63 metres of the underlying 85 metres average 0.16% copper. Sampled intervals in drill hole 81-KK-6, near the previously sampled copper adit, yielded 0.18% copper over a 45 metre section. Gold content in these copper zone holes ranged up to 0.3 g/t locally.

1985 LACANA MINING CORPORATION

Lacana Mining Corporation carried out a program of backhoe trenching and drilled 13 holes aggregating 1,315.8 metres. Twelve of the holes were in the

Kena Gold Zone with one hole, LK85-12, drilled approximately 175 metres south of the Kerr Addison hole 81-KK-4, at the northern end of the Kena Copper Zone.

The best drill intercept, located beneath the Kena Gold Zone Main Trench, yielded 6.05 g/t gold over 4.8 metres in hole LK85-7. While a step-out hole LK85-18 drilled about 100 metres southeast of LK85-7, yielded 1.86 metres grading 6.32 g/t gold. Other work carried out in this period included an airborne geophysical survey that measured magnetics, resistivity, electromagnetics and VLF-EM.

1986

#### LACANA MINING CORPORATION

Lacana's program consisted of an extensive grid covering an area about 1.70 kilometres by 0.70 kilometres northwest of the Kena Copper Zone. The company carried out geological and geochemical surveys as well as magnetic and VLF-Em surveys. The soil samples were run for gold, with select lines analyzed for 30 elements by ICP. The company drilled 22 holes in the area of the Kena Gold Zone and its postulated extension. Hole LK86-20 yielded 9.03 metres grading 4.76 g/t gold. Numerous intersections of auriferous and barren silicified and pyritized fracture zones were identified in the drilling. Many of these zones tend to be aligned along a broad northwest trend. Most of the individual higher grade zones were narrow with sub-economic grade, and the general conclusion was that their spotty and discontinuous characteristics made them difficult targets to chase to depth.

It is important to note that Lacana's program was designed to locate a relatively narrow but higher grade gold intercept, where the infill core sampling by Sultan Minerals indicates that, in fact, a large tonnage of lower grade gold mineralization exists at the Kena Gold Zone.

1987

#### TOURNIGAN MINING EXPLORATION LTD.

Tournigan drilled six holes aggregating 918.93 metres. The core from this program was selectively split with only 89 samples aggregating 134.61 metres analyzed for gold, silver and copper. Drill hole TK-87-42 was collared between previous holes KK-81-4 and LK85-12, within the Kena Copper Zone, in order to test anomalous gold and copper soil geochemistry and where there appeared to be a gap in previous drill coverage. Hole TK-87-42 was selectively sampled with 25 samples taken of which the best copper intersection was 0.175% copper over 9.72 metres.

Drill hole TK-87-43 was drilled to test Lacana's geological interpretation of section 48+50N. Five intervals of 1.5 metre widths grading better than 1 g/t gold were returned. These grades were taken to suggest a continuation in depth of narrow zones intercepted in hole LK85-14 on Section 48+50N. Only 43.50 metres of this 139.60 metre deep hole were sampled, and Sultan's infill core sampling program has extended the widths of many of these reported "narrow"

zones. For example, in three of Tournigan's reported gold intercepts, samples were not collected from the adjacent core segments.

The last four holes TK-87-44 to TK-87-47 were located in order to intersect the possible southern extension of a mineralized fracture zone approximately 500 metres north of the property, known as the Shaft showing. However, no structure or mineralized zone was interpreted as the southern extension of the Shaft mineralization. Again, this conclusion is based on incomplete diamond drill core sampling. It is important to note that Sultan Minerals' 1999 infill sampling program obtained results up to 50.8 g/t gold over a 1.0 metre interval in hole TK-87-46 within a 60 metre segment of drill core that had never been sampled.

1989

#### GOLDEN LAKE RESOURCES LTD.

Golden Lake Resources Ltd. optioned the property in late August 1989. Personnel for Noramco Explorations Inc., operator for Golden Lake Resources Ltd., spent several days at the Kena Property in October 1989. A preliminary work program was undertaken to locate and tie in claim posts and several old grids over which much of the previous work had been completed. The results of this work were used to compile technical data with the objective of formulating a detailed exploration plan for the property. Noramco Mining Corporation optioned the property from Golden Lake in June 1990 and assumed the option agreement obligations to the prospector vendors.

1990-91

#### NORAMCO MINING CORPORATION

The exploration program from July to September 1990 consisted of geological mapping, soil sampling and geophysical surveys. Work was restricted to the Kena Copper Zone in the southern portion of the property and to an area encompassing Gold Creek north of the old Lacana grid. In October of 1990, four NQ diamond drill holes totalling 1,055 metres were completed on the property. Two of the holes were in the Gold Creek area (at the very south edge of what is now known as the Gold Mountain Zone) and the other two were within the Kena Copper Zone. One of the holes into the south end of the Gold Mountain Zone returned 0.4 g/t gold over its entire 235.5 metre length, including 24 metres of 1.1 g/t gold and 9 metres of 2.3 g/t gold.

In 1991, additional geochemical, geological and geophysical surveys plus diamond drilling were carried out on the property. Work concentrated on the Kena Gold Zone in the north section of the property and in the Kena Copper Zone in the southeast section of the property. Three diamond drill holes aggregating 1,074 metres were completed. Holes NK91-1 and 2 were drilled in the south and north ends of the Kena Copper Zone respectively, and NK91-3 was drilled into the Kena Gold Zone. The most significant results of this final historic exploration program were returned from NK91-3 which was the deepest hole ever drilled into the Kena Gold Zone. This hole returned values at depth (from 212 to 352 metres)

of >0.5 g/t gold over 140 metres width, including 10 metres of >1.5 g/t gold. Earlier diamond drill holes in this area averaged 100 to 150 metres depth.

## 6.2 Shaft Claims

From 1984 to 1999 the SHAFT claims were worked as a separate property from the KENA claims.

### 1984 LACANA MINING CORPORATION

Lacana completed geochemical surveys, trenching and sampling and an airborne magnetic-electromagnetic survey.

### 1987-88 SOUTH PACIFIC GOLD

South Pacific Gold carried out a program of line cutting, geological mapping, geochemical soil sampling, magnetic and induced polarization surveys, and six NQ diamond drill holes aggregating 762 metres. Drilling was confined to a copper-gold occurrence referred to as the Shaft showing.

### 1989 GOLDEN NEWS RESOURCES INC./NORAMCO EXPLORATIONS

Golden News Resources Inc. optioned the property in 1989. Noramco Explorations, on behalf of Golden News Resources, completed a program including line cutting, magnetic – VLF-Em surveying, induced polarization geophysical surveying, geochemical sampling and detailed geological mapping. Results of this work, combined with those of previous exploration companies indicated three drill targets were present; the Dighem, Princess and Silver King Porphyry Contact (now called Gold Mountain) Zones.

### 1990 NORAMCO MINING CORPORATION

Noramco optioned the property from Golden News in June 1990 and drilled four holes across the Dighem geochemical and geophysical anomaly. No results of any significance were obtained from this zone. Two additional holes were drilled, one at the Princess showing and one to the west of the Dighem anomaly over a second geochemical and geophysical target.

## 6.3 Previous Work by Sultan Minerals Inc.

After 1991, no further work was done on either the Kena or Shaft claims until 1999 when Sultan Minerals Inc. optioned the now amalgamated Kena Property. From 1999 to 2003, Sultan Minerals completed significant exploration programs as summarized below.

### **Kena Gold Zone**

Initial work in the Kena Gold Zone concentrated primarily on re-logging and assaying of previously drilled but unsampled diamond drill core. Re-logging of core included close examination of structural features, alterations and mineral assemblages in order to better define mineralization controls. In the field, three sections across the Kena Gold Zone were mapped in detail with special emphasis on structures and mineralization. Results indicate that wide zones of low grade gold mineralization exist throughout the 1,000 x 300 metre Kena Gold Zone.

In 2003, 14 short diamond drill holes were completed on the Kena Gold Zone. These holes were located to give shallow assay information required prior to completing the resource calculation.

### **Gold Mountain Zone**

Work done by previous companies, in what is now known as the Gold Mountain Zone, consisted of soil geochemical and geophysical surveys over the Elise volcanic rocks and ended near the eastern contact of the Silver King intrusive. Notably high gold values in soil samples and high chargeabilities at the ends of the previous grid lines led to Sultan extending the grid lines to the southwest over the Silver King intrusive.

Initially, soil geochemistry identified a 3,300 x 1,400 metre zone containing high gold values. Geophysical surveys picked up chargeability, resistivity and magnetic anomalies trending roughly parallel to the gold soil anomalies. An initial trenching program, near the centre of the Gold Mountain Zone where surface rock samples assayed up to 2.7 g/t gold, led to the identification of the Discovery area. Trenches outlined an area of 120 metres by 90 metres, centred on L11+00N, 3+00E, where chip samples averaged 1.43 g/t gold.

Due to the encouraging soil geochemical and trenching results over the Gold Mountain Zone, in 2001 to 2003, diamond and reverse circulation drilling programs were conducted. A total of 11,075.73 metres in 72 diamond holes, plus 385.1 metres in 4 reverse circulation holes were drilled over an area of 2.2 x 0.7 kilometres. Drill results confirmed the depth extension of the widespread, porphyry style gold mineralization within the Silver King intrusive unit and across the contact into the Elise volcanics for a short distance. Also, the drill program found numerous "high grade" gold intervals with one or more 2 metre samples running greater than 5 g/t gold in many of the drill holes.

### **South Gold Zone**

In fall of 2002, four diamond drill holes were put in at approximately 100 metre spacings across the central portion of the South Gold Zone. Drill results indicate the potential for a third large area of bulk tonnage style gold mineralization on the Kena Property. The alteration and mineralization seen at the South Gold Zone is similar in style and intensity to that seen in the Gold Mountain and Kena Gold Zones.

## **7) GEOLOGICAL SETTING**

### **7.1 Regional Geology (after Hoy and Dunne, 1997)**

The Rossland Group is in the southern Omineca Crystalline Belt, an uplifted zone of variably metamorphosed and deformed Proterozoic to Tertiary rocks that straddles the boundary between accreted terranes and ancestral North America. The belt includes a series of structural culminations, typically cored by Paleoproterozoic crystalline rocks, and flanked in the intervening depressions by rocks similar to those in the Foreland Belt to the east. These rocks are structurally overlain by accreted rocks of the Slide Mountain and Quesnell terranes.

The Omineca Crystalline Belt comprises an imbricated succession of thrust sheets that were transported eastward in Mesozoic time. This tectonism was accompanied by intrusion of granitic bodies and localization of a variety of structurally controlled vein deposits. In early Tertiary time, regional extension resulted in local uplift of core complexes as cover rocks were displaced along low angle normal faults. This extension was associated with widespread mafic volcanism, intrusion of alkalic rocks and, locally, vein and shear-hosted mineralization.

The Rossland Group is traditionally regarded as the most eastern belt of volcanic rocks within Quesnellia, a terrane that comprises dominantly arc volcanics and associated sediments that were accreted to North America in Middle Jurassic time. These rocks tectonically overlie pericratonic rocks of the Kootenay Terrane or miogeoclinal Proterozoic to lower Paleozoic rocks that were deposited on the western ancestral margin of North America. The tectonic boundary between Quesnellia and pericratonic or cratonic rocks is locally marked by mafic volcanic rocks and associated ultramafics of the Slide Mountain Terrane, interpreted to record deposition in a marginal basin or back-arc setting that separated Quesnellia from North America. Overlap assemblages, rocks deposited after collision of accreted rocks with North America, include (in the Rossland-Nelson area) the Cretaceous Sophie Mountain Formation and Eocene Marron Formation.

### **7.2 Local and Property Geology**

In Part I – Stratigraphy and Tectonics of the Early Jurassic Rossland Group (Bulletin 102) by Hoy and Dunne, the Elise Formation volcanics on the Kena Property are described under the subheading “Highway 6 Section, South of Nelson” (which bisects the Kena Property). The following is extracted from the above referred to publication:

#### **Elise Formation**

A complete section of the Elise Formation is exposed in the east limb of the Hall Creek syncline along Highway 6 south of Nelson (Figure 3). It has been subdivided into a lower and upper division. The lower Elise lies with apparent conformity on sedimentary rocks of the Ymir Group; a few argillite beds persist through the lower part of the lower Elise. It is a sequence of dominantly mafic flows and flow breccias, minor lahars and tuffs up to one kilometre thick.

A coarse grained augite porphyry flow breccia is the dominant lithology of the lower Elise. Clasts and matrix are essentially augite porphyry with euhedral to subhedral augite or augite pseudomorphs up to one centimetre in diameter in a finer grained matrix of secondary plagioclase, biotite, chlorite, epidote and carbonate. Massive augite porphyry flows, with little evidence of brecciation, are not common.

The upper Elise in the Highway 6 section is a sequence of mafic to intermediate flows, tuffs and minor epiclastic deposits up to 2,500 metres thick. A number of cyclical sequences of pyroclastic rocks that typically grade upward from lapilli tuff to crystal tuff or fine tuff are common. Augite porphyry flows and flow breccias are a minor constituent.

The dominant lithology of the upper Elise in the Highway 6 section is a plagioclase-augite lapilli tuff of andesitic to shoshonitic composition. Clasts are generally darker than their matrix due to the preferential alteration of the fine-grained matrix to calcite, epidote and secondary plagioclase.

Crystal tuffs are commonly a lateral or vertical facies of the lapilli tuffs and are similar in composition. They are characterized by up to 20 percent plagioclase and typically only a few percent augite. The crystal tuffs are generally massive; only rarely is layering noted. However, a penetrative foliation, conspicuous in most outcrops, may mask many primary features.

Fine mafic tuff occurs as dark green, fine-grained layers commonly associated with augite porphyry units. Several percent broken, commonly sausseritized plagioclase phenocrysts, less than one millimetre in diameter, and rare quartz crystals are the only primary textures preserved in the tuff. A penetrative foliation is defined by aligned biotite.

### Silver King Intrusions

A number of generally highly deformed feldspar porphyries, referred to as the Silver King intrusions occur within the Elise Formation south of Nelson. They have been dated as Aalenian to Toarcian and are interpreted to be collisional granitoids. Many are associated with copper, gold and silver mineralization.

The main Silver King intrusive body can be traced southeast from Giveout Creek, one kilometre south of Nelson. Several smaller lenses border this intrusion and others occur on the western slopes of Mount Elise. Outcrops of Silver King intrusions are typically cream-coloured and form resistant ridges. Contacts with Rossland Group rocks are either sharp and discordant or intensely sheared. The Silver King pluton is sheared along its margins. Commonly, smaller lenses form sericite phyllites that resemble, and have been mapped as, foliated felsic volcanic rocks. These contact relationships and the foliated to massive nature suggest that the Silver King intrusions are a pre to synkinematic suite.

The Silver King plutonic rocks are porphyritic, characterized by 30 to 60 percent euhedral to subhedral plagioclase phenocrysts, 5-10 millimetres in size in a fine-grained greenish grey groundmass. Quartz content ranges from 1 to 2 percent; grains are commonly resorbed which may indicate a high-level of intrusion. Generally, primary mafic minerals are not preserved although acicular secondary hornblende needles are locally observed. Accessory sphene and ilmenite are common; apatite is rare.

The Silver King intrusion has been strongly altered and sheared. Plagioclase twinning is commonly obscured by intense saussuritization and the inner zones of the phenocrysts are replaced by clusters of sericite needles. Mafic minerals are almost totally replaced by chlorite and calcite. The groundmass comprises abundant secondary albite(?), epidote, carbonate and often 10 to 50 percent interlocking aggregates of quartz grains and sericite "mats".

Based on major element chemistry, Silver King intrusive samples are dominantly quartz monzodiorites and granodiorites. Some samples plot in the tonalite and quartz diorite fields. Most Silver King samples plot in the calcalkaline field on a total alkali-silica plot, in contrast with high-K or alkaline character of many synvolcanic Early Jurassic plutons.

### Gold Mountain Zone

The Silver King intrusive outcrops along much of the western margin of the property, as a topographically significant ridge. In the Gold Mountain Zone, the eastern margin of this large body of Silver King intrusive is in contact with the adjacent Elise Volcanics on a relatively flat plateau area at about 1,400 metres elevation, where poor outcrop exposure occurs.

In the Gold Mountain Zone, the Silver King unit is a coarse to medium-grained plagioclase-hornblende porphyry. This unit is locally siliceous and in places weakly to strongly flooded with secondary potash feldspar. The plagioclase is weak to moderately sericitized, and hornblende is weak to locally highly chloritized. Epidote alteration is evident in many areas. The porphyry is locally mineralized with 1 to 5% disseminated pyrite, traces of molybdenite, chalcopyrite and malachite, and stringers and disseminations of magnetite and specular hematite.

Alteration patterns can be seen in the intrusive rocks in the Gold Mountain Zone. Alterations include K-spar (potassic), epidote, pyrite, magnetite, pyrite+magnetite, with tourmaline, pyrrhotite, hematite and chalcopyrite also being noted.

### **7.3 Structural Analysis**

A portion of a detailed structural geology study on the Gold Mountain Zone, by consultant David Rhys, P.Geo., for Sultan Minerals Inc is summarized here:

*"Lithologies in the vicinity of the Gold Mountain zone are affected by 120-160° striking azimuth, moderate to steep southwest dipping phyllitic penetrative to spaced foliation (S1) that is defined by the platy alignment of phyllosilicate minerals, and the flattening of clasts and phenocrysts. Foliation intensity is greatest, and generally penetrative, in the volcanic sequence. The Silver King porphyry is frequently unstrained or affected by spaced S1 cleavage surfaces with sericite or chlorite coatings. Local highly cleaved domains of spaced S1 foliation that are developed over intervals of several metres in some trenches define distributed zones of higher strain that may represent weak shear zones. A second, spaced cleavage, possibly corresponding with S2 locally occurs in some areas; it usually has a more northerly strike than the earlier S1 surfaces*

in the Gold Mountain trenches. A composite elongation and crenulation lineation (L1) plunges shallowly to the southeast within the plane of S1; the lineation is frequently visible on spaced foliation surfaces in the Silver King porphyry and may aid in re-orientation of drill core.

Several shear zones comprising discrete areas of penetrative foliation development and grain size reduction are present in the Silver King porphyry. Where most intense, porphyry textures are obliterated and a weak compositional lamination is developed; foliation is defined mainly by fine-grained sericite/muscovite +/- chlorite after feldspars and amphibole. The shear zones trend north with moderate to steep west dips, oblique to the northwest trend of S1 foliation, but subparallel to S2 spaced cleavage surfaces. The largest of these identified during this study is exposed in outcrop along line 1400N between 320-330E, where the shear zone is at least 10 metres thick, before outcrop exposures terminate in overburden. Possible strike extensions of this structure may be represented by a shear zone outcrop present in a road cut just north of line 1100N at approximately 150E, and anastomosing, distributed shear zones developed in road exposures between 395E and 405E at approximately 1615N. All of these exposures occur along a linear, coincident apparent chargeability and resistivity low that may reflect the alteration of feldspars to phyllosilicate minerals in the structure, and the lack of, or low pyrite content in this structure when compared to adjacent porphyry exposures. Narrower shear zones of this type are also present near and/or along the Silver King porphyry contact in outcrop between 1280-1320N and approximately 450E, in trench TR-4 at 11m (10-30 cm thick; also intersected near the top of holes 01GM-01-03) and in trench TR-2 at 14 metres (5-25 cm thick); the latter is associated with a highly fractured, friable porphyry developed for 0.5 metres above this structure in outcrop that may represent late, brittle remobilization of this feature, although the structure was not identifiable in drill core.

Asymmetric foliation in lithons and pressure shadows surrounding plagioclase phenocrysts in the large shear zone on line 1400N, and in a weak shear zone in the porphyry near its eastern contact at approximately 870N suggest a sinistral shear sense on these structures. Shallow to subhorizontal elongation lineation defined by altered, elongated phenocrysts and chlorite blebs on shear zone foliation surfaces suggest primarily strike slip displacement with little vertical component. However, conflicting shear sense indicators obtained in the large shear zone where it is exposed at line 1600N suggest displacement may be multi-phase, and further work may be necessary to confirm absolute shear sense. Local, post-mineral sinistral-reverse displacement is indicated by oblique cleavage developed along some pyrite veinlets in trench 01TR-03.

Apart from minor structures defined by closely spaced sets of joints and fractures, and possible faults in rare areas of ground core, no brittle faults were observed in trenches or drill core.

*To assess the potential morphology of mineralized zones, planar features including fractures, joints, cleavage, pyrite +/- quartz veinlets, and Fe-oxide veinlets and joint coatings probably after pyrite were measured in trench exposures. Fractures and veinlets display similar orientations, and have predominantly steep to moderate southerly dips, with strikes ranging from 330-150°, although some veinlets, particularly in trench 01TR-02, have shallow northeast and southwest dips. A cluster of steep northeast to north dipping orientations is also apparent, but not as abundant as the southerly dipping sets. Shallow dipping features and those with north to north-northeast trends are rare. When veinlets of all thicknesses are plotted independently, the same patterns are apparent, with the majority of veins having moderate to steep southwest to south dips; the same orientations are also apparent in mineralized portions of the Elise volcanic rocks adjacent to the porphyry. When only veinlets measured in intervals grading >2 g/t Au are plotted separately, orientations are similar, indicating consistent veinlet and fracture orientations in areas of all Au grades, alteration styles and lithologies.*

*The orientation of veinlets was also assessed through the use of veinlet core axis angles, and veinlet/cleavage angular relationships in drill core. Veinlet core axis angles vary systematically with drill hole orientation: holes drilled northeast (grid east = azimuth 060° from true north) most frequently range from 50-70°, while angles of 30-60° are most common in hole 01GM-03, drilled grid southeast (azimuth 073°), and angles of <20° are most common in hole 01GM-04, drilled grid west (azimuth 240°). The core axis angles are consistent with the moderate to steep southerly dips of veinlets obtained from direct measurements in trench exposures; the range of other less frequent orientations reflects the scatter in veinlet orientation and presence of a subsidiary steep northeast-dipping population. Lower core axis angles most frequently obtained in hole 01GM-03 (30-60°) than in holes 01GM-01 and 01GM-02 reflect the shallower strike angle that this drill hole makes with the common vein orientations. Where spaced S1 cleavage is developed in drill core, which is known to have moderate to steep southwest dips, veinlets most commonly form acute angles with, or are subparallel to, the cleavage, also consistent with these relationships."*

#### **7.4 Structural Geology**

In 2003, Dr. Trygve Hoy completed a structural mapping program over the mineralized trends on the Kena Property (Figure 4). His work has led to the following conclusions.

##### **"Structure Summary**

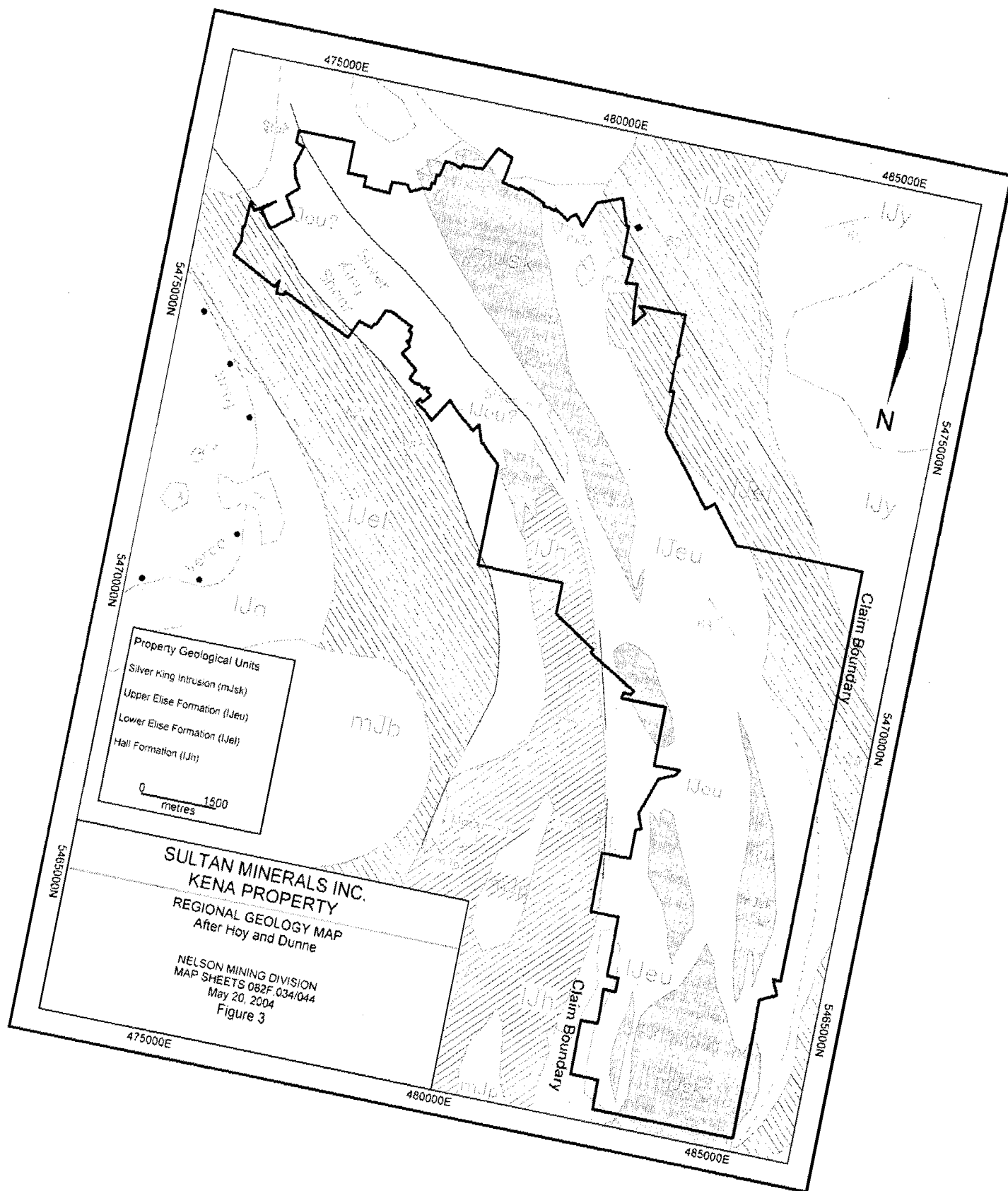
*At least 3, and possibly 4, distinct phases of folding and faulting can be recognized on the Kena property. The earliest is a penetrative foliation and stretching lineation that is well developed in the Elise Formation, but less obvious in the Silver King intrusion. It is related to tight folding and structural*

*elongation of all units. The most obvious structure is the south-plunging Hall Creek syncline; the Kena area is on the eastern upright limb of this fold.*

*North-trending Phase 2 shears clearly cut the early folds and related foliation. Three wide shear zones cross the northern part of the Silver King intrusion, and continue south into the Elise Formation. These shears are associated with breakdown of magnetite and therefore on a regional scale are marked by a magnetic low. Shears range from brittle zones, to ductile shears and into mylonites. They result in north-south extension and are therefore associated with conspicuous tension gashes, extensional veins and joints that trend more east-west.*

*Late faults, referred to as Phase 3 structures, trend northerly approximately parallel to the main structural grain. They are marked locally by zones of shattering or intense fracturing; they commonly parallel Phase 2 shears and some may, therefore, be a late (or less intense) Phase 2 structure. However, in the L1100 N area (Gold Mountain Zone discovery), they deform late (Tertiary?) dykes, and therefore formed after the Phase 2 shears.*

*Northeast-trending faults cross and offset the margins of the Silver King intrusion and dykes and sills within the Elise Formation. They have been mapped in three areas: north of the South Gold zone, south of the L200 N zone where they mark a conspicuous change in attitude of the Silver King, and north of the L1100 N zone. They clearly offset late Tertiary dykes.*



*Insert figure 4*

### **North Gold Zone**

*Gold within the North Gold zone appears to mainly reflect higher gold content within the upper part of the Silver King intrusion. However, it appears to have been upgraded locally by brittle, northwest trending Phase 2 structures that are associated with magnetite reduction and pyrite introduction. These Phase 2 structures project southward, to the L1100 N zone.*

### **L1100 N zone**

*Examination of mineralization in the trenches suggest that gold here mainly reflects an original pyrite-K-feldspar-Au zone within a porphyry system that has been somewhat attenuated by the intense regional Phase 1 flattening and elongation. It occurs along the margin of the Silver King, and may locally be upgraded by brittle, north-trending (Phase 2?) structures. The zone may be truncated (or offset?) by a prominent north-trending shear (noted on an IP survey). Late northeast trending faults do not appear to have played an important role in gold upgrading or redistribution.*

### **Cat and Shaft zones**

*These zones may record gold-copper mineralization that is unrelated to the Silver King porphyry system. Gold appears early, is associated with chalcopyrite and magnetite, and is concentrated in a fractured, diorite intrusive phase of the Elise Formation.*

### **South Gold Zone**

*Gold mineralization within the Elise Formation is within a magnetic low, associated with pyrite, and is therefore distinct from earlier mineralization of the Cat/Shaft zones. It is probably related to porphyry style mineralization of the Silver King intrusion, even though it is concentrated in "country rock". Several Silver King dykes, and a plagioclase porphyry dyke that may be a phase of the Silver King, occur in the area. A local high grade zone appears to be enhanced in brittle north-trending structures.*

### **Summary**

*On a regional scale, gold appears to be mainly concentrated in the northern part of the Silver King intrusion, in fairly close proximity to the Elise Formation contact. Original gold mineralization can probably be related to a Au porphyry system, with associated potassic (K-feldspar) and variable magnetite content. The preferential distribution of magnetite, and possibly gold, in the north may reflect originally higher levels in the Silver King intrusion. The distribution of locally higher grade gold zones along the eastern margin of the Silver King and in the Elise Formation appears to be, at least in part, also structurally controlled.*

*The pronounced northerly orientation of units, including the Silver King, dykes, alteration assemblages and many of the magnetic linears is due mainly to flattening and attenuation during Phase 1 deformation. This flattening would also have attenuated zones within the upper levels of a porphyry system that contained variable but locally higher gold zones. It appears to be more pronounced in less competent (phyllitic) units, but virtually all phases of the Silver King, and even competent, virtually massive K-feldspar and gold enriched zones have a weak penetrative fabric, and early fractures appear to have rotated into a more northerly trend. Hence, it is believed that the main role of Phase 1 deformation is reorientation of early porphyry style gold mineralization and related alteration.*

*Phase 2 shearing appears to have locally upgraded gold content in the northern part of the Silver King intrusion. On a regional scale, Phase 2 shears are magnetite destructive and coincide, at least in part, with the prominent regional magnetic low. This low is associated, in general, with zones of elevated gold content and locally with higher pyrite content. In the L2100 N area, the more western of these zones is fractured and veined, and contains higher gold content. In trenches here it appears as a northwest-trending zone of brittle shearing, with veins that may contain elevated gold, that trends at a slight angle westward from the regional foliation and a late mafic dyke. Farther south, in trenches near L200 N, north-trending brittle fracturing and shearing, with magnetite removed or replaced by pyrite?, contains higher gold content. In intensely sheared (ductile) zones, and in areas of mylonite, gold content is typically lower.*

*Late northeast-trending faults appear to coincide with areas that also have elevated gold content. However, these structures appear to be mainly post-Tertiary in age, and cannot be directly related to these increased gold values. It is possible, however, that more north-trending late structures, as occur in the South Gold Zone, (and possibly L200 N area) may remobilize and upgrade gold content."*

## **7.5 Alteration Assemblages**

Alteration assemblages found throughout the Silver King intrusive appear to have important relationships to the gold mineralization. Conclusions from an alteration mapping study, conducted by Kathryn Dunne, P.Ge., 2001, are as follows:

*"Alteration mineral assemblages at the Gold Mountain Zone include:*

- |                                     |                                                                                   |
|-------------------------------------|-----------------------------------------------------------------------------------|
| <i>1) tourmaline stockwork</i>      | <i>tourmaline+quartz+K-spar+pyrite</i>                                            |
| <i>2) magnetite+quartz dominant</i> | <i>magnetite+quartz+chlorite+sericite<br/>+/-epidote+/-pyrite+/-carbonate</i>     |
| <i>3) magnetite dominant</i>        | <i>magnetite+K-spar+biotite+/-chlorite<br/>+/-epidote+/-hematite+/-tourmaline</i> |

- |                              |                                    |
|------------------------------|------------------------------------|
|                              | +/-pyrrhotite                      |
| 4) magnetite+pyrite dominant | magnetite+pyrite+K-spar+biotite    |
|                              | +/-chlorite+epidote+/-carbonate    |
|                              | +/-sericite+/-quartz               |
| 5) pyrite dominant           | pyrite+sericite+K-spar+chlorite    |
|                              | +/-quartz+/-carbonate+/-tourmaline |
| 6) quartz stockwork          | quartz+pyrite+sericite+K-spar      |
|                              | +chlorite+/-hematite+/-malachite   |
|                              | +/-chalcopyrite+/-tourmaline       |
|                              | +/-gypsum (after anhydrite)        |

*Host rock composition (diorite), Au grades (avg. >1 g/t?), sulphide mineralogy (hydrothermal magnetite, pyrite), alteration distribution (K-silicate: magnetite-K-spar-biotite and sericitic: sericite-quartz-pyrite +/- gypsum), quartz veinlet stockworks and low silver content (<3 ppm) are consistent with a porphyry gold depositional setting [see for example: Marte, Lobo, and Refugio (Sillitoe, 1995)]. The distribution of magnetite, magnetite + pyrite and pyrite dominated zones may reflect depth of alteration with magnetite dominant possibly at deeper levels. The sericitic alteration may be an overprint on the K-silicate alteration. The sericitic alteration (pyrite dominant) contains quartz +/- tourmaline veinlet stockworks that host the bulk of the gold mineralization. Sillitoe (1997) notes that the presence or absence of sericite overprint does not seem to exert any control on gold content in porphyry gold deposits."*

## **8) DEPOSIT TYPES**

A genetic connection between some of the satellitic phases of the Silver King intrusions and a number of mineral deposits has been suggested. Deposit types spatially associated with the Silver King intrusions include gold porphyry, "conformable" gold, shear-related copper-gold and copper-zinc-silver, and vein lead-zinc-silver-gold.

## **9) MINERALIZATION**

Mineralization in the Gold Mountain Zone appears to be associated with classic porphyry style alterations, disseminated sulphides and fracture coating sulphide and oxides. In the area of the 2000 "discovery" trenches, the feldspar porphyry is intensely fractured and altered. Sulphide mineralization consists of 1 to 5% disseminated and fracture coating pyrite, trace chalcopyrite (with accompanying malachite) and molybdenite. Heavy limonite and/or goethite and occasional pyrolusite occur on many of the fractures in the "discovery" area. Throughout the Silver King intrusive, although not abundant in the trench area, disseminated and fracture filling magnetite and specular hematite occur, up to 10% locally.

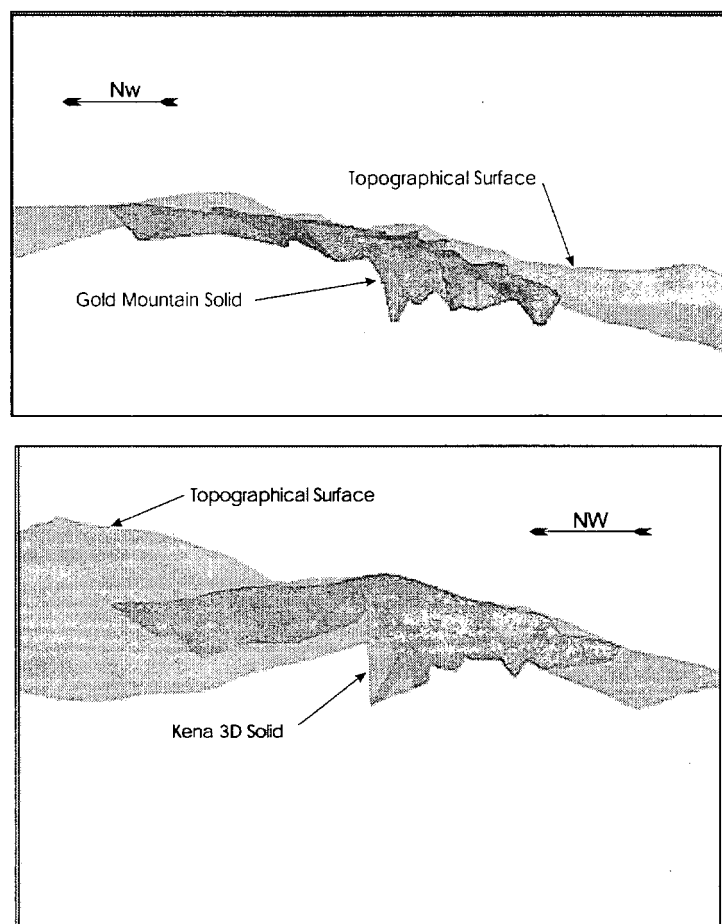
For information on mineral assemblages see the section on ALTERATION ASSEMBLAGES under the GEOLOGICAL SETTING heading.

Gold mineralization occurs predominantly as finely disseminated free gold grains within both the intrusive and volcanic rocks in the vicinity of their eastern contact. The gold grains often occur adjacent to pyrite grains or within narrow quartz veinlets, both of which show deformational characteristics, indicating that gold emplacement is either pre or syn-kinematic. Thin sections examined during petrographic studies show that very minor amounts of gold also occur as tiny inclusions in pyrite grains, indicating an older gold phase (Wells, R.C., 2001). As well, minor amounts of gold can be seen along narrow fractures, indicating a younger gold phase or late remobilization of the earlier gold.

# 10) GEOLOGIC MODEL

A three dimensional solids model was produced for each of the Gold Mountain and Kena Zones. The mineralized zone in each case was interpreted from cross sections constructed roughly perpendicular to the strike of the zones. Solids were constrained by the drill holes and shapes of mineralized zones were maintained between cross sections. The top of the solids was constrained by the supplied topographic surface. The solids constructed for the Gold Mountain and Kena Zones along with the topographic surfaces are shown as cartoons below in Figure 5.

**Figure 5: Cartoon showing 3D solid models for Gold Mountain and Kena**



## **11) ADJACENT PROPERTIES**

Several different mineralization types occur in the vicinity of Sultan's property and the most significant of these can be summarized as follows:

The California prospect is a vein deposit in the Elise Formation between the Silver King intrusion and the Nelson batholith. Quartz veins at the California deposit contain pyrite, galena, sphalerite and free gold.

The Great Western and Kena Gold occurrences and Silver King mine are examples of shear-related or "conformable" deposits.

The largest past producer "associated with" the Silver King intrusions is the Silver King mine (recently optioned by Sultan). The mine began production in 1896 and attracted a wide variety of attention to the Nelson area. The previously mined Silver King ore body comprises three main shear-controlled veins, with galena, chalcopyrite, pyrite and tetrahedrite and minor sphalerite, bornite and stromeyerite within highly sheared Elise Formation mafic volcanic flows near the eastern contact of the Silver King intrusion. The gangue is quartz, carbonate and siderite in sericite schist, a highly sericitized and sheared Silver King intrusion.

## **12) EXPLORATION**

### **12.1 Rock Sampling Techniques**

Rock samples were collected during the course of mapping, predominantly in the vicinity of historic workings. Chip samples were taken as continuous samples collected perpendicular to bedding or mineralizing structures wherever identifiable and consist of numerous 2 to 3 centimetre rock chips. Grab samples consist of 2 or 3 fist size pieces of rock representing a certain rock or mineralization type. All sample sites were marked with fluorescent flagging labelled with the sample number.

Samples were placed in poly bags labelled with the corresponding sample number and were shipped to ACME Labs Ltd. in Vancouver for analyses. In the laboratory, samples were crushed to minus 200 mesh and fire assayed for gold, plus geochemically analyzed for 30 additional elements by the ICP geochemical method.

### **12.2 Rock Sampling Results**

For tabulated results of prior rock sampling programs, see Dandy, L., 2002 Technical Report and various assessment reports dated 1999 to 2003. A brief discussion of the results will be given here for completion.

#### **Gold Mountain Zone**

Of relevance to the current report topic, several surface grab and chip samples collected from the Silver King intrusive in the Gold Mountain Zone returned significant gold assays, up to 7.75 g/t.

During both the 2000 and 2001 programs, grab and chip samples have returned elevated gold values over an area of 1,500 x 500 metres. It is important to note that the 2000 “discovery” trench area was located in the vicinity of rock samples that ran between 0.5 g/t and 2.7 g/t gold. The 7.75 g/t gold sample is located 500 metres grid north and 400 metres grid west from the “discovery area”, and occurs in very similar appearing intrusive rock containing minor narrow quartz stockwork. Samples collected throughout the Silver King unit confirm the consistency of gold mineralization and the homogeneous nature of the intrusive in the Gold Mountain Zone.

### **Kena Gold Zone**

Sampling by Sultan Minerals in the Kena Gold Zone was confined to confirming chip sampling results from previously sampled trenches. At the Neil showing, assays returned gold values of 43.22 g/t and 0.44 g/t Au. The high grade gold mineralization was found in a 50 centimetre wide ferrocrete layer which overlies portions of the Kena Gold Zone, and the 0.44 g/t gold value comes from a 5 metre chip sample collected across the Neil showing. The high grade ferrocrete layer has undergone limited historical production (as evidenced by several old pits, trenches and caved adits), but no documented historical results have been found.

### **Other Showings**

Exploration programs have concentrated on the Kena Gold and Gold Mountain Zones with only limited prospecting and sampling conducted elsewhere on the property.

At the Kena Copper Zone, a rock grab sample collected from an old shaft assayed 2.87 g/t gold along with 3.99% copper. The highest previous values obtained from surface sampling in this zone are 2.6 g/t gold and 1.1% copper.

Late in 2000, new ground to the south of the initial claim holdings was acquired by staking. During the course of the staking program, three historic showings were discovered. These appear in BC government Minfile descriptions and are labelled the Three Friends, Euphrates and Gold Cup. The Three Friends and Gold Cup lie within the Silver King intrusive and consist of sheared, altered and mineralized porphyry with quartz-sulphide veining. The Euphrates occurs along a shear structure in the Elise volcanic package adjacent to the Silver King intrusive, and consists of shear and vein style sulphide mineralization. Grab samples collected from the workings returned values up to 0.74 g/t gold from the Three Friends. The Gold Cup gave gold values in grab samples of 5.54 g/t and 16.72 g/t with significant copper (up to 0.21%) and silver (up to 84 g/t). The Euphrates returned gold values up to 9.82 g/t from grab samples, and also had sub-economic but elevated zinc, silver and arsenic values.

In 2001, additional ground acquisition and prospecting in the southern portion of the Silver King intrusive trend, discovered additional mineralized zones. A grab sample consisting of quartz veining with arsenopyrite, located near the very south end of the property, returned a gold assay of 20.7 g/t. Another series of very old pits and adits showed quartz stockworks containing bornite and returned assays of 0.88 g/t and 0.49 g/t gold accompanied by 2.1% and 2.6% copper, respectively.

Rock sample results for the Great Western area show widespread elevated gold mineralization, which correlates to the high gold soil values found within the Silver King intrusive. There are some very high gold values from the historic workings, as well as occasional elevated silver and copper values.

Along the Starlight Trend, from north to south, the following workings were sampled: the Starlight, Victoria-Jessie, Daylight-Berlin and Cariboo. Several samples were collected from old trenches along the Starlight vein. Interestingly, a 1 metre chip sample across the main Starlight vein in an area of "bull" looking quartz returned a slightly higher gold assay (23 g/t) than a sample taken from the "best-looking" (sulphide rich) dump material (21 g/t), indicating that the gold is not necessarily tied up with the sulphides. Chip samples from the Cariboo workings returned values up to 24 g/t gold, within the mineralized replacement zone and altered chlorite-sericite schist wall rock containing finely disseminated pyrite, chalcopyrite, galena, sphalerite and molybdenite.

A few rock chip samples collected in 2003, on the newly acquired Athabasca claims, returned variable gold assay results from the surface exposure of the main Athabasca vein. Assay results range from 0.94 g/t gold over 20 centimetres to 82.11 g/t gold over 57 centimetres.

### **12.3 Geochemistry**

During the 2000 to 2003 exploration programs, soil samples were collected from three grid areas: Gold Mountain, Kena and South Grids. Soil samples were collected from the Gold Mountain and Kena Grids on lines run at 100 metre spacings with samples collected at 25 metre intervals along the lines. These grids were extended to the west to cover the newly acquired Starlight and Cariboo trends. On the South Grid, 100 metre spaced lines were extended to grid west to cover the southern extent of the Silver King intrusive unit. Also, the South Grid has been extended from the south end of the original Kena property for 9.6 kilometres to cover the trace of the Silver King intrusive. Lines in this southern extension grid were put in at 200 metre spacings and soil samples were collected at 50 metre intervals along these lines.

Samples were taken from the 'B' soil horizon whenever possible, and were collected using a mattock or shovel. Sample sites were labelled with fluorescent flagging with the station number recorded on it, and soil was placed in correspondingly labelled Kraft soil bags. All soil samples were shipped to ACME Labs Ltd. in Vancouver for analyses. In the laboratory, samples were dried, sieved to -80 mesh and the fine fraction analyzed for gold by the wet geochemistry method and for 30 elements by the ICP method.

The northern portion of the Kena Property is termed the Gold Mountain Zone and is covered by the Gold Mountain Grid. The eastern portion of this grid has 50 metre spaced soil lines which were run in 1990 by Noramco, and the western portion of the grid has 100 metre spaced soil lines run by Sultan Minerals. The Gold Mountain Grid has been extended to the west to cover the Great Western Zone and the Starlight Trend. The Starlight Trend continues south onto the Kena Grid where it runs through the Cariboo workings.

In the Gold Mountain Grid area, gold in soil values over the Silver King Porphyry and contact area are considerably higher than those within the adjacent volcanics. A 600 to 1,400 metre wide band of gold soil values of greater than 50 ppb trends at 130° for the length of the Gold Mountain Grid (nearly 3 kilometres). To the west, a strong gold soil anomaly also occurs over the Great Western Zone, with this portion of the gold soil anomaly being the strongest and most cohesive in the large Gold Mountain Grid.

The Kena Gold Zone shows up very well with gold soil geochemistry as an average 300 metre wide anomaly trending for about 1 kilometre. Along the west side of the Kena Grid are outcrops of Silver King intrusive with spotty high gold soil values relating to the intrusive. Several lines have been extended to the west to cross the intrusive cover the historic Cariboo workings. A linear, single station gold soil anomaly trends through the Cariboo workings and for the length of the grid approximately perpendicular to the grid lines, showing the mineralized trend that hosts the Cariboo. This mineralized trend is the southern extension of the Starlight Trend seen on the Gold Mountain Grid to the north.

The South Gold Zone shows up very well by gold soil geochemistry as a strong, cohesive 800 x 250 metre anomaly. The South Gold Zone is located entirely within the volcanic unit to the east of the Silver King intrusive. In 2002, the grid lines were extended to the west to cross the intrusive unit. Only occasional single station gold soil anomalies were found over this grid extension.

A moderate copper soil geochemical anomaly coincides with the South Gold Zone gold soil anomaly. To the east of the South Gold Zone is a much stronger copper anomaly which defines the Kena Copper Zone. This copper geochemistry trends for over 2 kilometres, averages 400 metres in width, and has several stations of >1,000 ppm copper.

## **12.4 Geophysics**

### **Induced Polarization Survey**

Induced polarization surveys have been completed over much of the grid areas on the Kena Property. For results and conclusions of these surveys see report by P.E. Walcott, 2001, and various assessment reports by L. Dandy 2001-2003.

### **Airborne Magnetism and Radiometric Survey**

Late in 2003, a Fugro helicopter assisted airborne radiometrics and magnetism survey was flown over the northern portion of the Kena Property. An area of 7 by 3 kilometres was surveyed with 100 metre spaced flight lines.

The regional magnetic map shows a large magnetic low some 18 kilometres in length trending north-westwards through the property. Its eastern extent appears to be spatially related to the Cottonwood Creek and Salmo River stream beds. Two east-west offsets are visible, one in its centre region in the Great Western - Gold Mountain - Shaft area, and the other in the south along

a bend in the Salmo River. Fourteen known showings and former small producers (information from BC Government Minfile) lie within this low.

This regional magnetic low and other magnetic features appear to have little to do with the surface geological units as seen by comparison with the regional geology after Hoy & Dunne. This is well illustrated by comparing the geology with the vertical gradient results from the low level heliborne survey where shallow source magnetic features can be seen trending northwesterly through both rock units.

The large magnetic low feature appears to represent a down faulted block that has undergone subsequent intense alteration with the destruction of most of the magnetic material, and as a consequence exhibiting zero magnetic susceptibility. Gold mineralization occupies this low, as suggested by the geochemical results.

The helicopter borne magnetic survey shows good correlation with the regional survey, with respect to the stronger and larger magnetic features. The large (area) magnetic high in the northeast corner is better defined by the 100 metre flight line spacing, and thus has a somewhat different shape and strike direction. It should be mentioned here that, as expected, the heliborne magnetic results showed excellent correlation with those from the previous Dighem survey (1980s).

A narrow, shallow, 6 kilometre long, positive magnetic feature can be observed trending across the eastern part of the survey area. This feature strikes north northwesterly in its northern part, where it is better defined and northwesterly to the south where its magnitude tails off. This steeply dipping dyke-like magnetic intrusive corresponds to the dioritic dyke described by Hoy & Dunne. Its contact with the volcanics is not recognizable in holes drilled across the same in the vicinity of the Cat and Shaft showing except on the basis of magnetic susceptibility, so the regional metamorphism must have been intense, or it was only magnetite intruded into the volcanic package and not a different rock. The Cat, Shaft, Kena and South Copper-Gold Zones all lie along or are spatially related to this feature, the mineralization of which was presumably brought in by hydrothermal solutions along the same conduit(s) before or after those that brought in the magnetite.

Similar sub parallel and more subtle positive magnetic features are discernible in the underlying Silver King rocks in the northeastern part of the survey area on the plot of the vertical gradient. These are better defined on the plot of the high frequency magnetics, a plot of the short wave length responses of shallow narrow sources. These could also be attributable to magnetite brought in by hydrothermal solutions, as aforementioned.

Drill holes 01GM-20, 02GM-53, 02GM-62, 03GM-65 and 03GM-71, widely spaced holes drilled into and across one of these northwest trending features, all intersected narrow high grade gold mineralization in the hanging wall in close proximity to intrusive dykes and/or zones of higher magnetic susceptibility. This could suggest that the gold mineralization came in along the same conduits before or after the dykes and/or magnetic intrusions.

The radiometric survey appeared to be adversely effected by the overburden and did not make any additional contribution to the understanding of geology and mineralization.

#### Ground Magnetometer Survey

In 2003, a ground magnetic survey was completed in order to extend to the north, across the newly acquired Athabasca claims, the strong magnetic low feature identified by the airborne magnetic survey. This survey shows the magnetic low feature extending to the Giveout Creek valley, where it is offset to the east by approximately 200 metres, then continues north trending through the centre of the Athabasca workings. It therefore appears that the gold mineralization at Athabasca is controlled by the same magnetic low shear structure that controls the majority of the gold mineralization on the Kena Property.

### **12.5 Trenching**

During the 2000 and 2001 exploration programs, 21 trenches were excavated in the Gold Mountain Zone of the Kena Property. During 2003 an additional 15 trenches were excavated over the Gold Mountain and South Gold Zones. Trenches were put in using a Hitachi EX100 excavator to an average depth of 2 to 3 metres. Trenches were mapped and chip sampled along continuous 2 or 3 metre intervals for the length of each trench.

Chip samples were collected by hammer and chisel, and are a continuous sample of golf ball size rock chips. The 3 metre samples each represent about 10 kilograms of material. The chip samples were placed in poly bags labelled with the trench number and sample interval, and were shipped to ACME Labs Ltd. in Vancouver for analyses. In the laboratory the samples were crushed and screened to -200 mesh, and in some instances the coarse fraction examined for metallics, and the fine fraction analyzed for gold by fire assay. All samples were also analyzed for 30 additional elements by the ICP method.

For trench results and locations see assessment reports by L. Dandy, 2000-2003. Of note, in 2000, trenches TR-1 to TR-6 were initially excavated and define the "discovery" area of the Gold Mountain porphyry mineralization. They are centred on L11N, 3+00E and cover an area of approximately 120 metres by 90 metres and gave a combined assay value of 1.43 g/t gold over the entire 187.2 metre trenched length.

Sulphide mineralization found in the trenches consists of disseminated blebs and fracture fillings of pyrite with occasional weak chalcopyrite. The fracture filling pyrite is often accompanied by (or entirely replaced with) limonite and/or goethite. The disseminated pyrite is very shiny and fresh appearing, with the irregular shaped blebs tending to be coarser in the fresher appearing (less altered) Silver King porphyry. Total sulphide content varies from 1 to 5%, with local narrow widths of up to 20%. Gold content does not always vary with sulphide content.

The 2003 trenches were excavated along the magnetic low corridor (identified by the airborne geophysical survey). These trenches were put in to trace the structures seen following and crossing this corridor and were used for structural interpretation purposes. One trench, 03TR-7,

intersected narrow quartz veinlets with coarse visible gold and returned a gold assay of 66.83 g/t from a 2 metre chip sample.

### **13) DRILLING**

For drill hole listings and locations see Appendix I and Figures 6 and 7. For full discussion of drill results and tabulated assays see assessment reports by L. Dandy, dated 2001 to 2003.

#### **Gold Mountain Zone**

From 2001 to 2003, 11,075.73 metres of diamond drilling in 72 holes, plus 385.1 metres of reverse circulation drilling in 4 holes was completed on the Gold Mountain Zone over an area of 2.2 x 0.7 kilometres.

The initial diamond drilling program on the Gold Mountain Zone was designed to test at depth the gold mineralization first identified in the 2000 “discovery” trenches.

Gold assay results, when plotted along section lines, show the widespread nature of the gold mineralization throughout the Gold Mountain Zone. Many of the drill holes contain one or more 2 metre intercepts of high grade gold mineralization surrounded by 100 metres or more of lower grade gold values. Often the entire drill hole averages >0.3 g/t gold, indicating that the low grade halo is open in two or more directions. Of the 72 holes drilled in the Gold Mountain Zone, 48 of them averaged >0.3 g/t gold over their entire lengths. Many of these intersections start at or near surface and represent entire hole widths, indicating that the mineralization has not yet been tested to its full depth.

High gold assay values include 172.10 g/t gold over 2.0 metres in hole 01GM-08 and 240.07 g/t gold over 1.23 metres in hole 01GM-03. The high-grade intercepts appear to line up in a number of sub parallel “shoots” which dip slightly steeper than the regional geologic contacts. Half of the holes drilled to date encountered visible gold.

By plotting drill sections, it can be concluded that the gold mineralization (most notably the higher grade) in the Gold Mountain Zone has come in along vertical (or near vertical) structures. These same structures are seen to host a series of mafic dykes that often trend sub-parallel and adjacent to the higher grade gold mineralization. Where gold intercepts seen in the drill sections appear to be dipping closer to the regional trend (50-60°), it is assumed that the mineralization has in fact strayed from its original vertical “shoot” and spread out along the foliation in areas of weakness. One of the most notable of these areas of weakness is along the intrusive-volcanic contact.

Late in 2002, after compiling the plotted drill sections with the airborne magnetic survey results a corridor was identified lying west of the Gold Mountain Zone discovery area. This corridor contains a broad total field magnetic low signature, but within the broad low are narrow high magnetic features. These narrow magnetic highs correlate with higher grade gold drill intercepts in five holes (01GM-20, 02GM-53, 02GM-62, 03GM-65 and 03GM-71) that cross this magnetic corridor.

### **Kena Gold Zone**

In 2002 and 2003, Sultan diamond drilled 1009.28 metres in 16 holes on the Kena Gold Zone. The 2003 drilling program consisted of 14 shallow holes drilled to define the near surface mineralization, in an area requiring this information prior to completion of computer modeling. All holes contained elevated gold mineralization for their entire lengths and drill casing were left in the holes in order for them to be extending during the next phase of exploration.

Sultan's drilling, combined with drilling by Lacana, Kerr Addison and Tournigan in 1980s and Noramco in 1991, provides a good data base for producing this resource estimate and will assist in directing future drilling of areas with potential for generating additional resources.

### **South Gold Zone**

A third bulk tonnage type target area on the Kena Property is the South Gold Zone. In fall of 2002, four diamond drill holes totalling 1,066.5 metres were put in at approximately 100 metre spacings across the central portion of the South Gold Zone.

Hole 02SG-04 contained a consistent zone of elevated gold mineralization from the top of the hole to about 120 metres depth. This zone averaged 0.67 g/t gold (or 0.87 g/t gold up to 90 metres depth), with a rusty, broken, pyritic section containing higher gold grades. Over 5 metres this section averaged 8.10 g/t gold including a 2 metre interval that assayed 12.63 g/t gold. Interestingly, elevated copper and silver values also occur in holes 02SG-03 and 02SG-04. In the area of better gold mineralization in hole 02SG-04, copper values tend to range from 500 to 1,100 ppm and silver values from 1 to 8 ppm.

The South Gold Zone gold mineralization (along with copper and silver) increases and becomes more widespread toward grid south. The gold grades from hole 02SG-04 are similar to those encountered in the Gold Mountain Zone discovery area, although the South Gold Zone drilling lies entirely within the Elise volcanic package. The high grade mineralization occurs in a rusty, pyritic, broken section of core while the lower grade halo appears to be related to silica/potassium alteration.

### **Great Western and Starlight Zones**

During 2002 a total of 843.69 metres in 6 holes was drilled in the Great Western Zone and 866.12 metres in 6 holes drilled along the Starlight Trend. These areas are not included in the current resource calculations.

Broad widths of gold mineralization in the Great Western Zone are associated with areas of increased quartz and quartz-sulphide veining or adjacent to lamprophyre dykes within the Silver King intrusive. Both the veins and the dykes are readily visible in core.

Figure 6 – Drill Hole Locations for Gold Mountain Zone

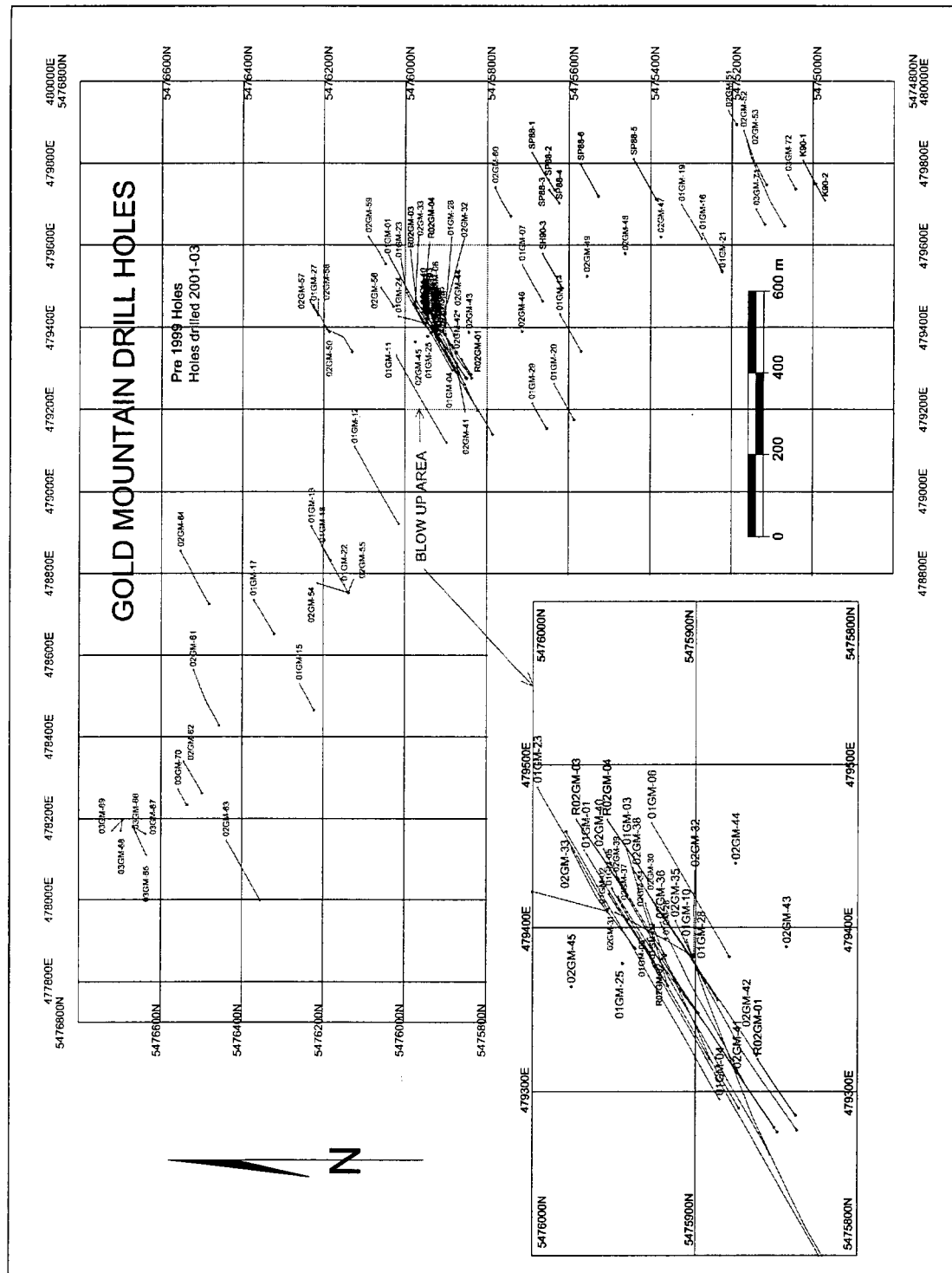
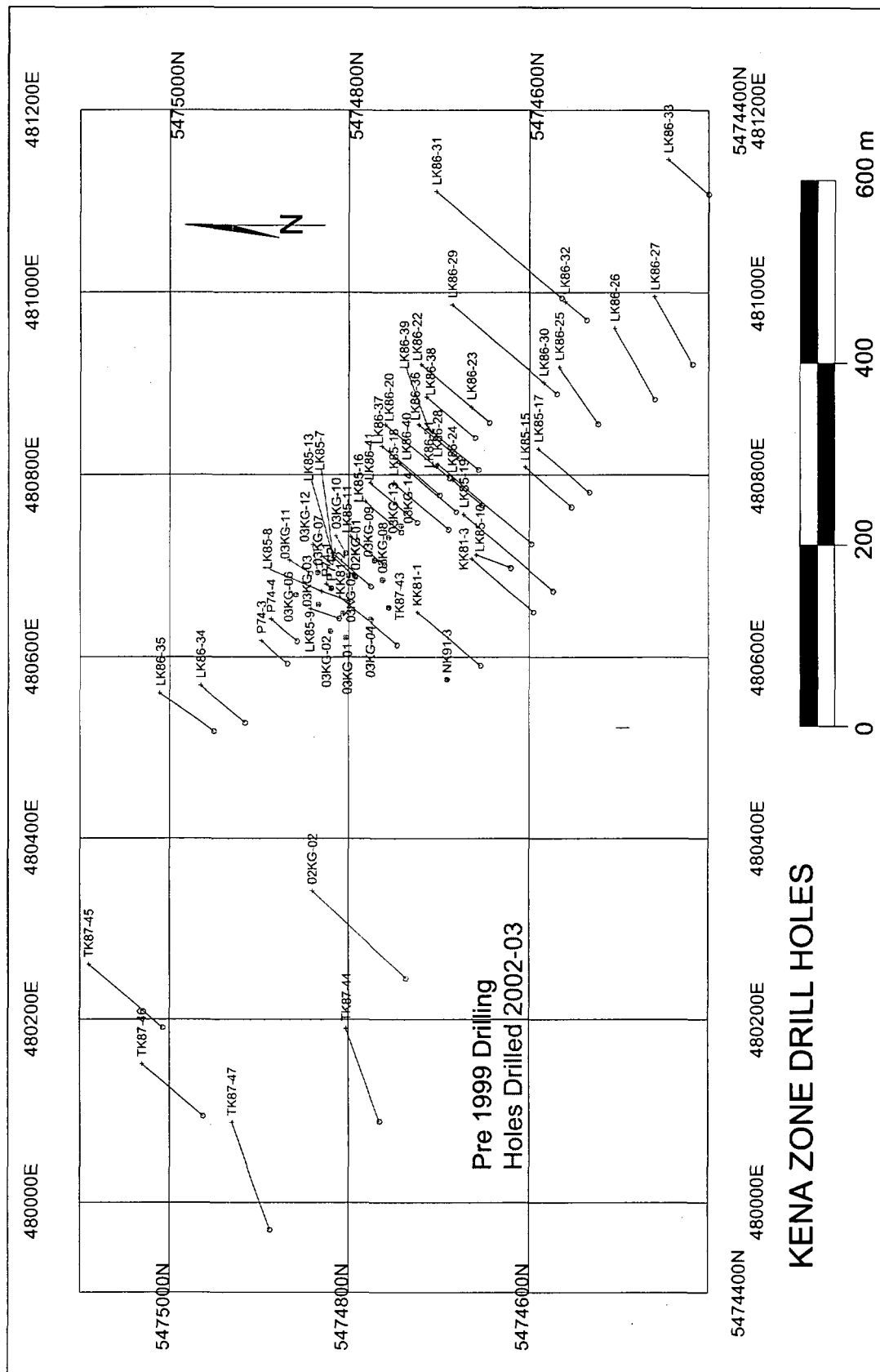


Figure 7 – Drill Hole Locations Kena Gold Zone



The Starlight Trend contains a gold and silver bearing vein system surrounded by lower grade stockwork mineralization hosted within a strong northwest trending shear structure. The main vein has the potential to host gold mineralization of economic size and grade, but its pinch and swell nature and inconsistent gold values (possibly due to the coarse nature of the free gold grains) make systematic exploration difficult.

#### **14) SAMPLING METHOD AND APPROACH**

Sample preparation procedures used by Sultan Minerals follow standard industry practice and professional guidelines. For surface rock and soil sample collection methods see the section titled "EXPLORATION". For drill core, after logging, the core was split using a standard manual core splitter or for some intervals by using a diamond saw. One half of the core was then placed in a labelled sample bag and the second half returned to the core box with its location marked with the same assay tag number.

Due to the nature of the gold mineralization, the entire length of the diamond drill core was split and assayed for all holes drilled by Sultan. Sample intervals were generally 2 metres unless lithological changes warranted different interval widths.

#### **15) SAMPLE PREPARATION, ANALYSES AND SECURITY**

The core to be assayed was shipped by trucking company from site directly to ACME Labs Ltd. in Vancouver, BC. All sample preparation was done at the laboratory by their staff.

In the laboratory, core samples were initially jaw crushed and two 250 gram sub samples were riffle split out of the original sample. One of the sub samples was further crushed to -200 mesh, sieved and fire assayed for gold and analysed for 30 additional elements by the ICP method.

#### **16) DATA VERIFICATION**

Data used in the preparation of this report were predominantly generated by Sultan Minerals Inc., during the past 4 years exploration programs. As well, a portion of the data used was generated by several exploration companies that worked the property previously. All data is stored in Sultan's office in Vancouver and in a site office located in Salmo, BC. There appears to be no reason to doubt the accuracy or veracity of the considerable amount of geological exploration data that is presented as written material and as illustrations on maps, sections or diagrams.

Documentation of prior exploration work, primarily by Noramco and Lacana, show that this work was carried out to a good standard of competency and completion. Paper records such as assay sheets and drill logs, geophysical maps and geological sections are properly archived and readily available for inspection. Drill core from prior exploration programs is well stored on site in an orderly way, and new core drilled by Sultan is stored in a secure facility in Salmo, BC. Assayed sections of the core have been split and retained in properly marked core boxes. It is easy to refer to a drilled and assayed intercept in a report or cross section and view the same core interval in the box at either of the storage sites.

In the field, grid lines and drill collars are easily identified. All drill collar locations have been surveyed by GPS unit, as have several specific points along the grid lines.

A series of computer checks were run on the data as supplied by Sultan. A number of missing or overlapping assays were identified and the errors corrected. Samples not assayed or samples missing assays were assigned a value of 0.005 g Au/t.

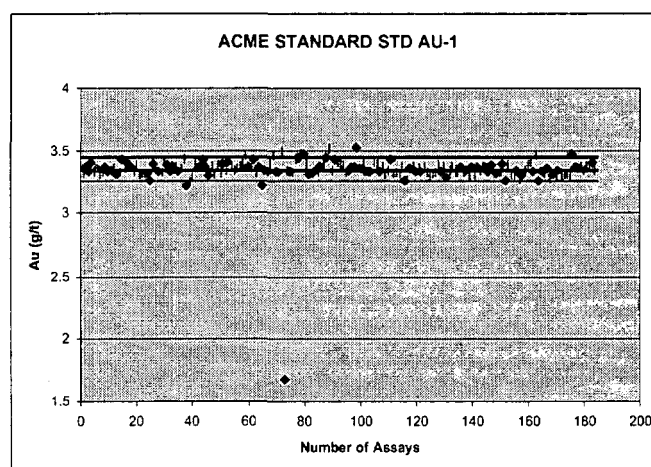
### 16.1 Quality Assurance and Quality Control

The QA/QC work completed on the Kena Property consists of Laboratory introduced Standards at a frequency of about 1 in 20, laboratory reruns on 2<sup>nd</sup> split from pulps, laboratory reruns on 2<sup>nd</sup> split from coarse rejects, duplicate samples sent to a second lab and blind duplicate samples sent back to primary laboratory. Data sets are evaluated using scatter plots to evaluate for sampling or analytical bias and to measure reproducibility or precision. The standards are evaluated to determine analytical accuracy.

#### Standards

As part of Acme's internal QA/QC program every batch of samples that are analysed must contain one or more splits of a solid reference material of known concentration that is weighted, digested and analysed in conjunction with the client's samples. This reference material (standard) is used to monitor the accuracy of the analytical method and is reported to the client. For the Kena Property a Standard labelled STD AU-1 was included and assayed a total of 184 times. The expected value for this standard, as supplied by Acme, was 3.35 g Au/t with an upper limit of 3.45 g Au/t and lower limit of 3.25 g Au/t. Figure 8 shows the results. One sample returned a value of 1.68 g Au/t and should be investigated. The remaining 184 fall more or less between the expectable limits.

Figure 8: Plot showing results for Acme Standard STD AU-1



### **Acme Reruns on Pulps**

Acme routinely takes about 1 in 20 assays and checks a second split from the pulverized material against the original. Results from 213 sample pairs are shown as a scatter plot in Appendix II. There is excellent agreement with no indication of bias and a correlation coefficient of 0.9857. The average dispersion about the best fit regression line is 0.110 and the average sampling precision is 50%.

### **Acme Reruns on Rejects**

At about the same frequency as pulp rejects, Acme selected a second split of the coarse rejects, pulverized to -150 mesh and assayed for gold. The results compared to the original assay are shown on a scatter plot in Appendix II. The second split from rejects shows more scatter than the checks on pulps, as would be expected with the correlation coefficient dropping to 0.9616, dispersion rising to 0.152 and sampling precision increasing to 72%.

### **Blind Duplicates at Acme**

During the drill programs on the Kena Property it was standard practice to have Acme crush and split out two 250 g samples - one for analysis and a second one for storage. Periodically a representative from Sultan would pick up some of these splits and re-tag them and submit selected blind samples to Acme (and Chemex).

### **Acme Checks with Chemex**

A scatter plot for the 144 samples sent to Chemex is shown in Appendix II. While there is no analytical bias indicated there is a very large scatter about the equal value line with a correlation coefficient of 0.8899 and a sampling precision of 161 %. When the high values above 0.5 g Au/t are removed a second plot for 122 samples shows a better correlation of 0.9057 and a lower sampling precision of 85%. The high sampling precision and large amount of scatter points to a problem estimating higher gold values, commonly called nugget effect.

## **17) DATA ANALYSIS**

### **17.1 Statistics and Grade Capping**

#### **Kena Gold Zone Statistics**

A lognormal cumulative frequency plot was produced from the 3,613 gold assays at the Kena Gold Zone. A total of 5 overlapping lognormal gold populations were partitioned from the total data set. The cumulative probability plot is shown below as Figure 9.

Table III - Individual Overlapping Populations for Gold in Kena Zone

| Population | Mean Au (g/t) | Proportion of Total Data Set | Number of Samples |
|------------|---------------|------------------------------|-------------------|
| 1          | 20.25         | 0.29 %                       | 11                |
| 2          | 8.23          | 0.47 %                       | 17                |
| 3          | 3.08          | 1.64 %                       | 59                |
| 4          | 0.26          | 77.27 %                      | 2793              |
| 5          | 0.04          | 20.32 %                      | 734               |

The mineralization present at Kena consists of higher grade narrow veins and structures (Populations 1 and 2) superimposed on a lower grade disseminated mineralization in the intrusives (Populations 3 and 4). Population 5 probably represents post mineral dykes and unmineralized background. The statistics for the total and each mineralized events are presented below in Table IV. A threshold of two standard deviations past the mean of Population 3 or 5.3 g/t Au would separate these two styles of mineralization.

Figure 9: Lognormal cumulative probability plot for gold with 5 populations (shown by open circles - numbered 1 to 5 from top to bottom)

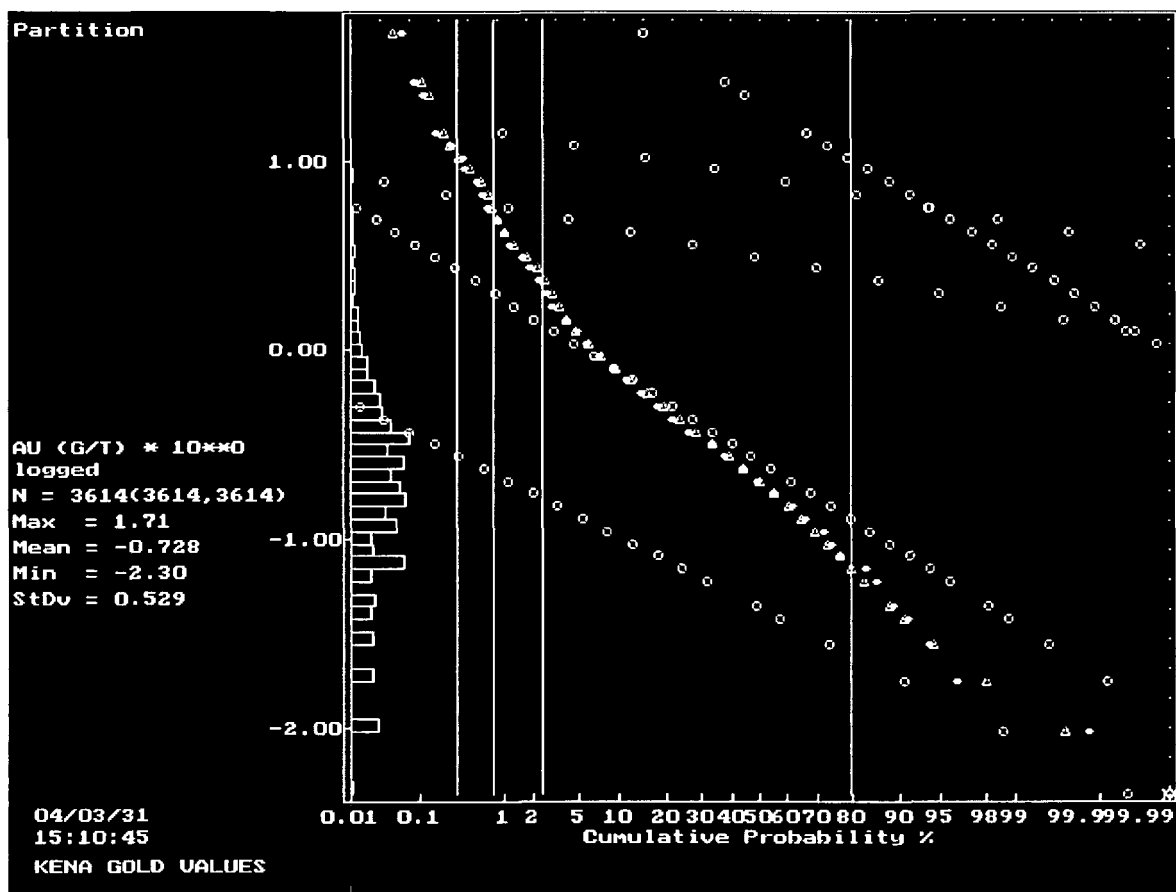


Table IV: Statistics for Gold grades Kena Gold Zone

|                    | All Assays | Lower Grade Mineralization | Higher Grade Mineralization |
|--------------------|------------|----------------------------|-----------------------------|
| Number             | 3614       | 3821                       | 26                          |
| Mean Au (g/t)      | 0.439      | 0.320                      | 13.93                       |
| S.D. (g/t)         | 1.605      | 0.491                      | 11.83                       |
| Minimum (g/t)      | 0.005      | 0.005                      | 5.48                        |
| Maximum (g/t)      | 50.80      | 5.270                      | 50.80                       |
| Coef. Of Variation | 3.66       | 1.53                       | 0.85                        |

The higher grade mineralization is not erratic in nature, rather it represents narrow veins and mineralized structures that cut the mineralized intrusion and may represent remobilization of gold or a later phase of gold mineralization. The 26 high grade samples average 0.92 m and range from 0.03 m to 2.1 m in length. To allow these values to be smeared around in grade interpolation would not be correct. To cut or cap them to match the lower grade populations would also not be correct as they do represent a mineralized event that will contribute to the overall recoverable gold when mined.

The approach taken for this resource evaluation is to remove the high grade samples from the data base, composite and model the lower grade mineralization. The lower grade mineralization is interpolated into a block model. The high grade mineralization is then modeled using an indicator approach with the proportion of the high grade style of mineralization present in any block estimated. Once the proportion of high grade is established a weighted average grade for the block is calculated as follows:

$$\text{Wt. Av. Au} = (\text{AHG} \times \text{PHG}) + (\text{KLG} \times (1 - \text{PHG}))$$

Where AHG = Average gold grade for High Grade Population

PHG = Proportion of High Grade in Block (from indicator kriging)

KLG = Kriged gold grade for Lower Grade Population

### **Gold Mountain Zone Statistics**

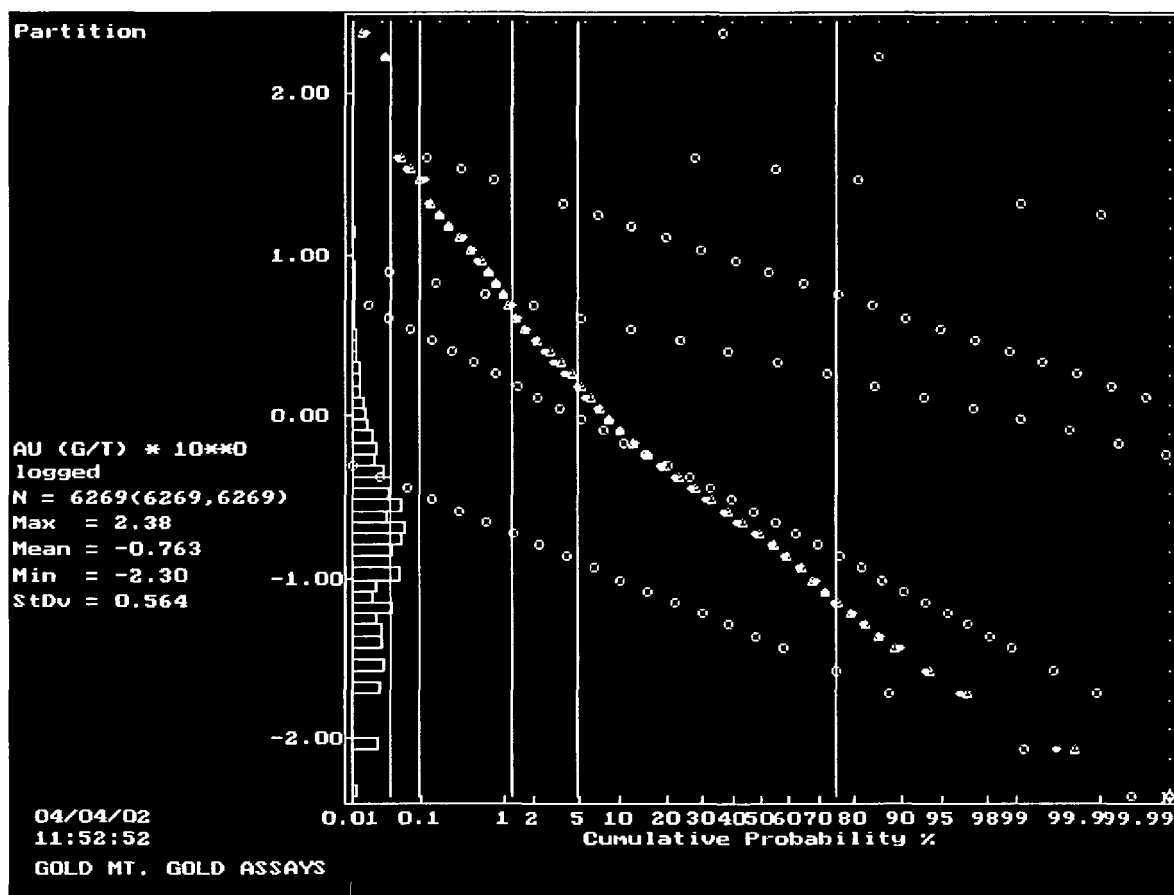
A total of 6,269 samples have been assayed for gold on the Gold Mountain Zone. The assay gold values form a positively skewed distribution. A log transform shows multiple overlapping lognormal populations on a lognormal cumulative probability plot (see Figure 10). Partitioning this plot produces statistics for 6 overlapping lognormal populations.

Table V - Individual Overlapping Populations for Gold in Gold Mountain Zone

| Population | Mean Au (g/t) | Proportion of Total Data Set | Number of Samples |
|------------|---------------|------------------------------|-------------------|
| 1          | 219.4         | 0.04 %                       | 3                 |
| 2          | 34.94         | 0.06 %                       | 4                 |
| 3          | 8.16          | 1.10 %                       | 69                |
| 4          | 2.26          | 3.65 %                       | 229               |
| 5          | 0.24          | 70.35 %                      | 4410              |
| 6          | 0.04          | 24.80 %                      | 1554              |

For Gold Mountain data a cap is necessary to reduce the effects of the two upper erratic populations representing a very small proportion of the data. A cap level of two standard deviations past the mean of population 3 was selected with a total of 7 samples capped at 23 g Au/t. The seven samples capped had values as follows: 240.07, 172.1, 40.66, 34.44, 33.87, 32.36 and 29.84 g Au/t. While these samples might well represent some bonanza style of mineralization in narrow structures, at this time there is insufficient data to model or to possibly predict the orientation or magnitude of these structures.

Figure 10: Lognormal cumulative probability plot for gold at Gold Mountain Zone with 6 populations (shown by open circles - numbered 1 to 6 from top to bottom)



## 17.2 Compositing

### Kena Gold Zone Composites

For the Kena Gold Zone, 5 metre down hole composites were produced. A value of 0.005 g Au/t was inserted in areas not sampled as it was assumed these areas were unmineralized. Only values from populations 3, 4 and 5 were used to make composites. The 26 high grade samples were ignored for this exercise. Statistics for 5 metre composites are shown in Table VI.

Table VI: Statistics for Kena Gold Zone 5 metre Gold Composites

|                          |       |
|--------------------------|-------|
| Number of Composites     | 1,428 |
| Mean Gold (g/t)          | 0.293 |
| Standard Deviation       | 0.336 |
| Minimum Value            | 0.005 |
| Maximum Value            | 2.843 |
| Coefficient of Variation | 1.15  |

### Gold Mountain Composites

Drill holes were 'passed' through the three dimensional solid, that defined the Gold Mountain mineralized zone. The point at which each hole entered and exited the solid was noted and uniform down hole 5 metre composites were produced that honoured these boundaries. Intervals less than 2.5 metres at the boundaries were combined with the previous composite to produce a uniform support of  $5 \pm 2.5$  metres. Sections of missing or un-sampled core were assigned a value of 0.005 g Au/t prior to compositing. The statistics for the 5 metre composites are tabulated below.

Table VII: Statistics for Gold Mountain 5 metre Gold Composites

|                          |       |
|--------------------------|-------|
| Number of Composites     | 2,076 |
| Mean Gold (g/t)          | 0.497 |
| Standard Deviation       | 0.935 |
| Minimum Value            | 0.005 |
| Maximum Value            | 13.57 |
| Coefficient of Variation | 1.88  |

## 17.3 Variography

### **Kena Gold Zone**

Kena 5 metre composites for lower grade material were examined using pairwise relative semivariograms. A nested anisotropic spherical model was fit to the three major directions of continuity, namely; along strike azimuth  $135^\circ$  dip  $0^\circ$ , down dip azimuth  $225^\circ$  dip  $-45^\circ$  and across dip azimuth  $045^\circ$  dip  $-45^\circ$ . The semivariogram parameters are summarized in Table VIII.

The higher grade population was modeled using indicator variograms. The indicator was set at 1 if the gold grade was below 5.3 g/t and at 0 if greater than or equal to 5.3 g/t. The 0-1's were then modeled and a spherical anisotropic model fit to the data.

## Gold Mountain Zone

Composites, 5 metres in length were used to produce pairwise relative semivariograms for gold. A nested spherical anisotropic model was fit with the three major directions of continuity; along strike azimuth 150° dip 0, down dip azimuth 240° dip -50° and across dip azimuth 060° dip -40°.

The semivariogram parameters are shown below in Table VIII.

Table VIII: Semivariogram Parameters

| Zone           | Variable     | Azimuth | Dip | Nugget Effect | Short Structure | Long Structure | Short Range (m) | Long Range (m) |
|----------------|--------------|---------|-----|---------------|-----------------|----------------|-----------------|----------------|
| Kena Low Grade | Au           | 135     | 0   | 0.20          | 0.12            | 0.18           | 30              | 60             |
|                |              | 225     | -45 | 0.20          | 0.12            | 0.18           | 20              | 80             |
|                |              | 045     | -45 | 0.20          | 0.12            | 0.18           | 10              | 60             |
| Kena Indicator | Au Indicator | 135     | 0   | 0.20          | 2.0             |                | 20              |                |
|                |              | 225     | -50 | 0.20          | 2.0             |                | 50              |                |
|                |              | 045     | -40 | 0.20          | 2.0             |                | 5               |                |
| Gold Mountain  | Au           | 150     | 0   | 0.10          | 0.20            | 0.20           | 5               | 40             |
|                |              | 240     | -50 | 0.10          | 0.20            | 0.20           | 5               | 65             |
|                |              | 60      | -40 | 0.10          | 0.20            | 0.20           | 8               | 28             |

## 18) GRADE INTERPOLATION

### 18.1 Block Models

Rotated block models with block dimensions 20 x 20 x 10 metres were placed over both solids with the proportion of each block below the topographic surface and inside the solid recorded. The block model parameters are listed below.

#### Gold Mountain Block Model (See Figure 11)

|                            |                  |            |
|----------------------------|------------------|------------|
| Minimum Easting 479000 E   | blocks 20 m wide | 75 columns |
| Minimum Northing 5474400 N | blocks 20 m long | 125 rows   |
| Maximum elevation 1650     | blocks 10 m high | 55 levels  |

Model rotated 30 degrees north around Z axis.

#### Kena Block Model (See Figure 12)

|                            |                  |            |
|----------------------------|------------------|------------|
| Minimum Easting 480700 E   | blocks 20 m wide | 43 columns |
| Minimum Northing 5473900 N | blocks 20 m long | 71 rows    |
| Maximum elevation 1540     | blocks 10 m high | 44 rows    |

Model rotated 45 degrees north around Z axis.

Figure 11: Plan View Showing Gold Mountain Block Model, Drill Holes and Example Cross Section

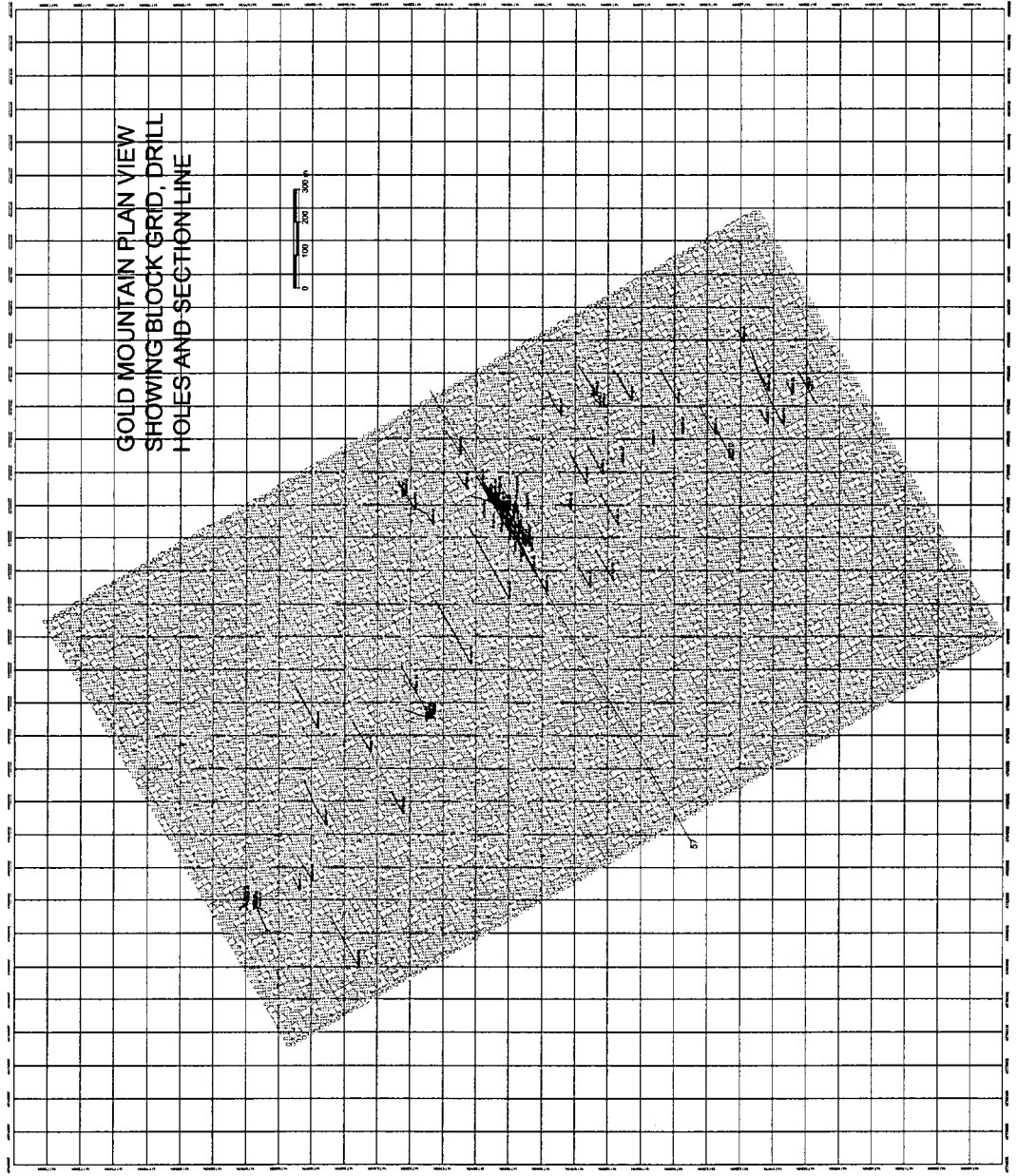
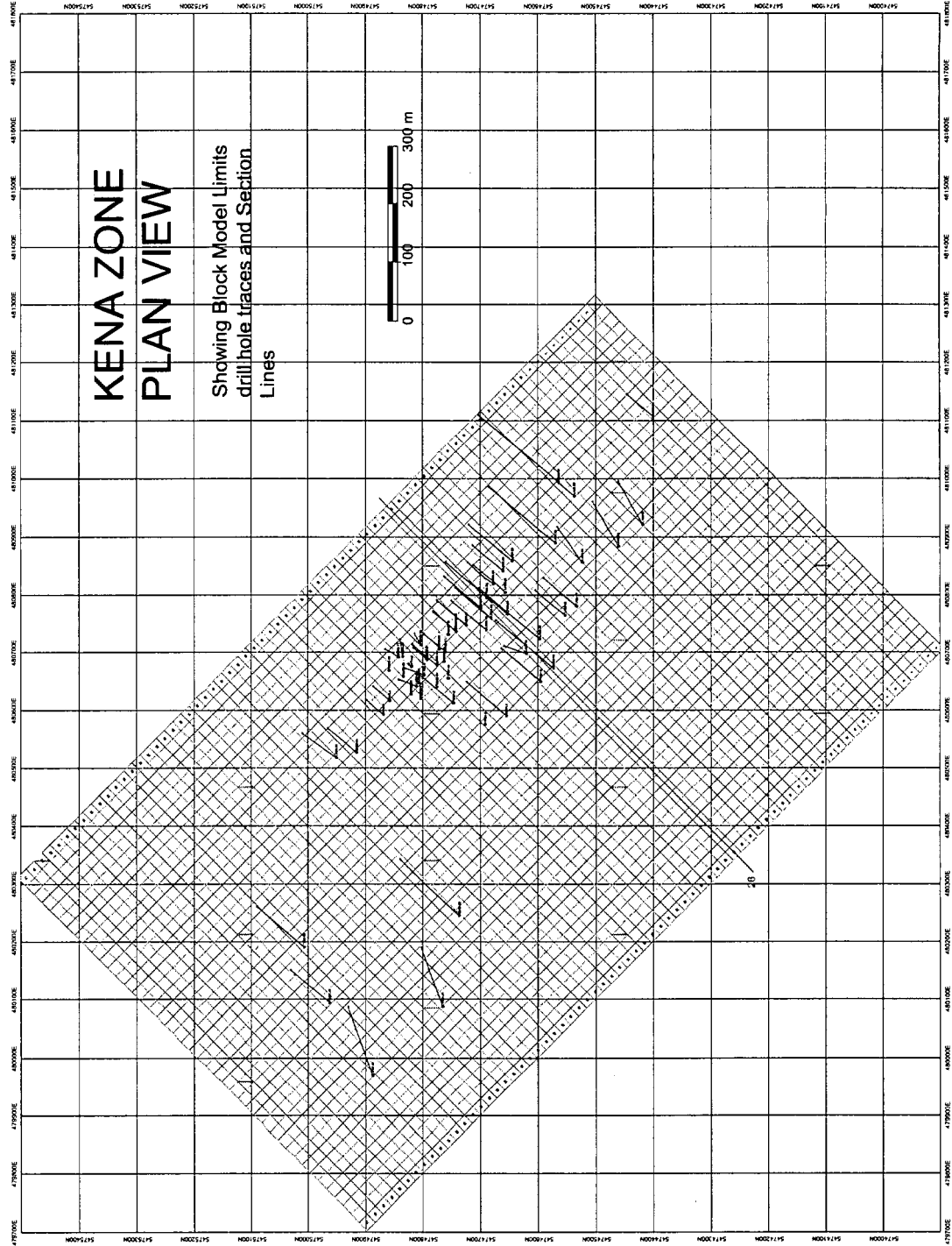


Figure 12: Plan View Showing Kena Block Model, Drill Holes and Example Cross Section



### 18.2 Search Ellipse

Search ellipses to constrain the ordinary kriging runs were based on the ranges of the semivariograms along the three principal directions; along strike, down dip and across dip.

Table IX: Search Parameters for 3 Dimensional Kriging Runs for Gold

| Zone                    | Pass | Number Estimated | Direction       | Dist. (m) | Direction        | Dist. (m) | Direction         | Dist. (m) |
|-------------------------|------|------------------|-----------------|-----------|------------------|-----------|-------------------|-----------|
| Gold Mountain Gold Zone | 1    | 324              | Az 150<br>Dip 0 | 10        | Az 60<br>Dip -40 | 7         | Az 240<br>Dip -50 | 16.25     |
|                         | 2    | 2,323            | Az 150<br>Dip 0 | 20        | Az 60<br>Dip -40 | 14        | Az 240<br>Dip -50 | 32.5      |
|                         | 3    | 5,088            | Az 150<br>Dip 0 | 40        | Az 60<br>Dip -40 | 28        | Az 240<br>Dip -50 | 65        |
|                         | 4    | 6,657            | Az 150<br>Dip 0 | 80        | Az 60<br>Dip -40 | 56        | Az 240<br>Dip -50 | 130       |
| Kena Gold Zone          | 1    | 1,172            | Az 135<br>Dip 0 | 15        | Az 45<br>Dip -45 | 15        | Az 225<br>Dip -45 | 20        |
|                         | 2    | 4,677            | Az 135<br>Dip 0 | 30        | Az 45<br>Dip -45 | 30        | Az 225<br>Dip -45 | 40        |
|                         | 3    | 2,723            | Az 135<br>Dip 0 | 60        | Az 45<br>Dip -45 | 60        | Az 225<br>Dip -45 | 80        |
|                         | 4    | 1,698            | Az 135<br>Dip 0 | 120       | Az 45<br>Dip -45 | 120       | Az 225<br>Dip -45 | 160       |

A minimum of 3 composites and maximum of 8 composites were required to estimate a block. If more than 8 composites were found within the search ellipse, the closest 8 were used. If the minimum 3 composites were not found the block was not estimated during that particular pass.

### 18.3 Specific Gravity

A selected number of specific gravity determinations were made on drill core samples from the Kena Gold Zone and the Gold Mountain Zone. Table X shows the results with hole numbers, intervals sampled, rock type, pyrite content and gold assay.

Table X: Specific Gravity Determinations

| Hole                          | Interval  | Rock     | pyrite % | Au g/t | Specific Gravity |
|-------------------------------|-----------|----------|----------|--------|------------------|
| 03KG-01                       | 30.4-30.7 | volcanic | 30       | 2.90   | 3.29             |
| 03KG-04                       | 7.0-7.3   | volcanic | 15       | 0.82   | 3.66             |
| 03KG-01                       | 37-39     | volcanic | 2-5      | 1.22   | 3.00             |
| 03KG-02                       | 14-16     | volcanic | 7        | 2.85   | 2.75             |
| 03KG-12                       | 32-34     | volcanic | 3        | 0.86   | 2.73             |
| 03KG-05                       | 32-34     | volcanic | 8        | 5.65   | 2.94             |
| <b>Average Kena Volcanics</b> |           |          |          |        | 2.86             |
| 01GM-05                       | 136.1-136 | volcanic | 20       | 12.07  | 2.88             |
| 01GM-05                       | 138-140   | volcanic | 10-20    | 2.12   | 2.87             |
| 01GM-23                       | 33-35     | Jsk      | 2-4      | 6.83   | 2.77             |

|                                                  |           |          |          |       |             |
|--------------------------------------------------|-----------|----------|----------|-------|-------------|
| 01GM-23                                          | 35-37     | Jsk      | 2-4      | 2.38  | 2.75        |
| 01GM-24                                          | 28-30     | Jsk      | 3-5      | 2.88  | 2.94        |
| 01GM-24                                          | 30-32     | Jsk      | 3-5      | 2.05  | 2.55        |
| 02GM-10Ext                                       | 257.14    | Jsk      | 1-3      | 32.36 | 2.84        |
| 02GM-10Ext                                       | 333.5-334 | Jsk      | 1-3      | 4.94  | 2.75        |
| 02GM-48                                          | 165.5     | volcanic | abundant | 1.80  | 3.02        |
| 02GM-48                                          | 184-186   | volcanic | 2-4      | 5.22  | 3.28        |
| <b>Average Gold Mt. Volcanics and Intrusives</b> |           |          |          |       | <b>2.82</b> |

For Kena the two samples with 30 and 15 percent pyrite were removed from the calculation and the remaining four samples averaged to give a specific gravity of 2.86. Obviously, pyrite content is important and the higher gold values are probably related to high sulphide content. It is important that future drill programs obtain more specific gravity measurements so that perhaps SG can be related to mineral content in the resource estimate.

The Gold Mountain mineralized zone is contained within a mixture of intrusive and volcanic rocks. Specific gravity was measured in 6 intrusive samples and four volcanic samples. The highest value of 3.28 was removed from the calculation and the remaining 9 samples averaged at 2.82.

For the resource estimate a specific gravity value of 2.86 was used for Kena and 2.82 for Gold Mountain.

## 19) CLASSIFICATION

### 19.1 Introduction

Based on the study herein reported, delineated mineralization of the Kena Gold Zone and Gold Mountain Zone is classified as a resource according to the following definition from National Instrument 43-101:

*"In this Instrument, the terms "mineral resource", "inferred mineral resource", "indicated mineral resource" and "measured mineral resource" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on August 20, 2000, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy, and Petroleum."*

*"A **Mineral Resource** is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge."*

The terms Measured, Indicated and Inferred are defined in 43-101 as follows:

*“A '**Measured Mineral Resource**' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.”*

*“An '**Indicated Mineral Resource**' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.”*

*“An '**Inferred Mineral Resource**' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.”*

## **19.2 Results**

For both the Kena Gold Zone and the Gold Mountain Zone, geologic continuity was well established from the drill density. Each zone contains a well drilled core with drill hole density dropping off on each end. Grade continuity was established from the semi-variogram models. In each case the semi-variogram ranges were used to control the interpolation of grades into blocks. The classification was established as follows:

Measured – Estimated during Pass 1 with search ellipses equal to  $\frac{1}{4}$  the semi-variogram range in all directions and within a core of close spaced drilling

Indicated – Estimated during Pass 2 with search ellipses equal to  $\frac{1}{2}$  the semi-variogram range in all directions

Inferred – All other blocks estimated during Pass 3 or 4

Two example cross sections are shown as Figure 13 for Gold Mountain and Figure 14 for Kena. The size of the figures does not allow for the reading of individual grades, rather they are

presented simply to demonstrate the distribution of block gold grades through the colour coding. The locations of the cross sections are shown on Figures 11 and 12 respectively.

**TABLE XI: SUMMARY OF GOLD RESOURCE FOR GOLD MOUNTAIN ZONE**

| Au Cutoff<br>(g/t) | CLASSED MEASURED            |                |               | CLASSED INDICATED           |                |                |
|--------------------|-----------------------------|----------------|---------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au     |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 2,140,000                   | 0.797          | 55,000        | 23,350,000                  | 0.344          | 258,000        |
| 0.10               | 2,120,000                   | 0.807          | 55,000        | 18,880,000                  | 0.410          | 249,000        |
| 0.20               | 2,000,000                   | 0.843          | 54,000        | 11,980,000                  | 0.563          | 217,000        |
| 0.30               | 1,760,000                   | 0.923          | 52,000        | 8,420,000                   | 0.697          | 189,000        |
| 0.40               | 1,450,000                   | 1.046          | 49,000        | 5,720,000                   | 0.863          | 159,000        |
| <b>0.50</b>        | <b>1,250,000</b>            | <b>1.145</b>   | <b>46,000</b> | <b>4,240,000</b>            | <b>1.009</b>   | <b>138,000</b> |
| <b>0.60</b>        | <b>1,010,000</b>            | <b>1.286</b>   | <b>42,000</b> | <b>3,190,000</b>            | <b>1.160</b>   | <b>119,000</b> |
| <b>0.70</b>        | <b>780,000</b>              | <b>1.481</b>   | <b>37,000</b> | <b>2,630,000</b>            | <b>1.271</b>   | <b>107,000</b> |
| 0.80               | 690,000                     | 1.576          | 35,000        | 2,120,000                   | 1.396          | 95,000         |
| 0.90               | 560,000                     | 1.738          | 31,000        | 1,710,000                   | 1.525          | 84,000         |
| 1.00               | 540,000                     | 1.774          | 31,000        | 1,430,000                   | 1.636          | 75,000         |
| 1.20               | 390,000                     | 2.028          | 25,000        | 1,060,000                   | 1.833          | 62,000         |
| 1.40               | 320,000                     | 2.203          | 23,000        | 870,000                     | 1.951          | 55,000         |
| 1.60               | 260,000                     | 2.352          | 20,000        | 580,000                     | 2.184          | 41,000         |
| 1.80               | 240,000                     | 2.410          | 19,000        | 380,000                     | 2.430          | 30,000         |
| 2.00               | 170,000                     | 2.619          | 14,000        | 260,000                     | 2.666          | 22,000         |
| 2.50               | 60,000                      | 3.410          | 7,000         | 110,000                     | 3.381          | 12,000         |
| 3.00               | 20,000                      | 4.473          | 3,000         | 60,000                      | 3.778          | 7,000          |
| 3.50               | 20,000                      | 4.473          | 3,000         | 30,000                      | 4.321          | 4,000          |
| 4.00               | 10,000                      | 5.054          | 2,000         | 20,000                      | 4.657          | 3,000          |

| Au Cutoff<br>(g/t) | MEASURED PLUS INDICATED     |                |                | CLASSED INFERRED            |                |                |
|--------------------|-----------------------------|----------------|----------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au      |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 25,490,000                  | 0.382          | 313,000        | 95,220,000                  | 0.270          | 827,000        |
| 0.10               | 21,000,000                  | 0.450          | 304,000        | 76,010,000                  | 0.321          | 784,000        |
| 0.20               | 13,980,000                  | 0.603          | 271,000        | 40,270,000                  | 0.475          | 615,000        |
| 0.30               | 10,180,000                  | 0.736          | 241,000        | 22,000,000                  | 0.668          | 472,000        |
| 0.40               | 7,170,000                   | 0.900          | 207,000        | 15,160,000                  | 0.815          | 397,000        |
| <b>0.50</b>        | <b>5,490,000</b>            | <b>1.040</b>   | <b>184,000</b> | <b>10,710,000</b>           | <b>0.967</b>   | <b>333,000</b> |
| <b>0.60</b>        | <b>4,210,000</b>            | <b>1.190</b>   | <b>161,000</b> | <b>7,900,000</b>            | <b>1.117</b>   | <b>284,000</b> |
| <b>0.70</b>        | <b>3,400,000</b>            | <b>1.319</b>   | <b>144,000</b> | <b>6,390,000</b>            | <b>1.228</b>   | <b>252,000</b> |
| 0.80               | 2,800,000                   | 1.440          | 130,000        | 5,340,000                   | 1.324          | 227,000        |
| 0.90               | 2,280,000                   | 1.578          | 116,000        | 4,550,000                   | 1.407          | 206,000        |
| 1.00               | 1,970,000                   | 1.674          | 106,000        | 3,790,000                   | 1.498          | 183,000        |
| 1.20               | 1,450,000                   | 1.886          | 88,000         | 2,790,000                   | 1.643          | 147,000        |
| 1.40               | 1,190,000                   | 2.018          | 77,000         | 1,680,000                   | 1.871          | 101,000        |
| 1.60               | 840,000                     | 2.236          | 60,000         | 1,190,000                   | 2.026          | 78,000         |
| 1.80               | 620,000                     | 2.422          | 48,000         | 630,000                     | 2.292          | 46,000         |
| 2.00               | 430,000                     | 2.648          | 37,000         | 430,000                     | 2.488          | 34,000         |
| 2.50               | 160,000                     | 3.391          | 17,000         | 140,000                     | 2.988          | 13,000         |
| 3.00               | 80,000                      | 3.963          | 10,000         | 50,000                      | 3.477          | 6,000          |
| 3.50               | 50,000                      | 4.385          | 7,000          | 30,000                      | 3.718          | 4,000          |
| 4.00               | 30,000                      | 4.801          | 5,000          | 2,000                       | 4.279          | 300            |

TABLE XII: SUMMARY OF GOLD RESOURCE FOR KENA GOLD ZONE

| Au Cutoff<br>(g/t) | CLASSED MEASURED            |                |               | CLASSED INDICATED           |                |                |
|--------------------|-----------------------------|----------------|---------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au     |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 5,410,000                   | 0.502          | 87,000        | 48,931,888                  | 0.246          | 387,000        |
| 0.10               | 5,030,000                   | 0.536          | 87,000        | 35,152,956                  | 0.325          | 367,000        |
| 0.20               | 4,100,000                   | 0.622          | 82,000        | 21,131,452                  | 0.442          | 300,000        |
| 0.30               | 2,910,000                   | 0.774          | 72,000        | 11,773,973                  | 0.601          | 228,000        |
| 0.40               | 2,050,000                   | 0.952          | 63,000        | 7,362,650                   | 0.755          | 179,000        |
| <b>0.50</b>        | <b>1,390,000</b>            | <b>1.189</b>   | <b>53,000</b> | <b>4,946,787</b>            | <b>0.907</b>   | <b>144,000</b> |
| <b>0.60</b>        | <b>1,040,000</b>            | <b>1.407</b>   | <b>47,000</b> | <b>3,499,762</b>            | <b>1.055</b>   | <b>119,000</b> |
| <b>0.70</b>        | <b>770,000</b>              | <b>1.667</b>   | <b>41,000</b> | <b>2,460,866</b>            | <b>1.226</b>   | <b>97,000</b>  |
| 0.80               | 600,000                     | 1.925          | 37,000        | 1,635,885                   | 1.466          | 77,000         |
| 0.90               | 480,000                     | 2.197          | 34,000        | 1,217,271                   | 1.679          | 66,000         |
| 1.00               | 450,000                     | 2.282          | 33,000        | 953,117                     | 1.881          | 58,000         |
| 1.20               | 360,000                     | 2.582          | 30,000        | 654,299                     | 2.239          | 47,000         |
| 1.40               | 280,000                     | 2.948          | 27,000        | 534,088                     | 2.457          | 42,000         |
| 1.60               | 270,000                     | 3.012          | 26,000        | 423,837                     | 2.710          | 37,000         |
| 1.80               | 250,000                     | 3.133          | 25,000        | 387,203                     | 2.804          | 35,000         |
| 2.00               | 220,000                     | 3.254          | 23,000        | 378,305                     | 2.826          | 34,000         |
| 2.50               | 160,000                     | 3.649          | 19,000        | 220,633                     | 3.293          | 23,000         |
| 3.00               | 80,000                      | 4.528          | 12,000        | 144,620                     | 3.620          | 17,000         |
| 3.50               | 60,000                      | 5.109          | 10,000        | 62,949                      | 4.156          | 8,000          |
| 4.00               | 50,000                      | 5.512          | 9,000         | 38,941                      | 4.297          | 5,000          |

| Au Cutoff<br>(g/t) | MEASURED PLUS INDICATED     |                |                | CLASSED INFERRED            |                |               |
|--------------------|-----------------------------|----------------|----------------|-----------------------------|----------------|---------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               |
|                    |                             | Au (g/t)       | Ounces Au      |                             | Au (g/t)       | Ounces Au     |
| 0.00               | 54,350,000                  | 0.271          | 474,000        | 32,070,000                  | 0.175          | 180,000       |
| 0.10               | 40,190,000                  | 0.351          | 454,000        | 18,930,000                  | 0.268          | 163,000       |
| 0.20               | 25,230,000                  | 0.471          | 382,000        | 6,940,000                   | 0.492          | 110,000       |
| 0.30               | 14,680,000                  | 0.635          | 300,000        | 3,800,000                   | 0.699          | 85,000        |
| 0.40               | 9,410,000                   | 0.798          | 241,000        | 2,330,000                   | 0.922          | 69,000        |
| <b>0.50</b>        | <b>6,330,000</b>            | <b>0.969</b>   | <b>197,000</b> | <b>1,440,000</b>            | <b>1.216</b>   | <b>56,000</b> |
| <b>0.60</b>        | <b>4,540,000</b>            | <b>1.135</b>   | <b>166,000</b> | <b>1,120,000</b>            | <b>1.402</b>   | <b>50,000</b> |
| <b>0.70</b>        | <b>3,230,000</b>            | <b>1.331</b>   | <b>138,000</b> | <b>870,000</b>              | <b>1.626</b>   | <b>45,000</b> |
| 0.80               | 2,240,000                   | 1.590          | 115,000        | 720,000                     | 1.805          | 42,000        |
| 0.90               | 1,700,000                   | 1.826          | 100,000        | 620,000                     | 1.972          | 39,000        |
| 1.00               | 1,410,000                   | 2.010          | 91,000         | 550,000                     | 2.089          | 37,000        |
| 1.20               | 1,010,000                   | 2.361          | 77,000         | 420,000                     | 2.417          | 33,000        |
| 1.40               | 820,000                     | 2.626          | 69,000         | 310,000                     | 2.819          | 28,000        |
| 1.60               | 690,000                     | 2.828          | 63,000         | 240,000                     | 3.222          | 25,000        |
| 1.80               | 630,000                     | 2.932          | 59,000         | 240,000                     | 3.222          | 25,000        |
| 2.00               | 600,000                     | 2.985          | 58,000         | 240,000                     | 3.222          | 25,000        |
| 2.50               | 380,000                     | 3.444          | 42,000         | 170,000                     | 3.545          | 19,000        |
| 3.00               | 230,000                     | 3.953          | 29,000         | 120,000                     | 3.808          | 15,000        |
| 3.50               | 120,000                     | 4.610          | 18,000         | 60,000                      | 4.532          | 9,000         |
| 4.00               | 80,000                      | 4.953          | 13,000         | 48,000                      | 4.705          | 7,000         |

Figure 13: Gold Mountain Section 57 Showing Kriged Blocks and Drill Hole Composites

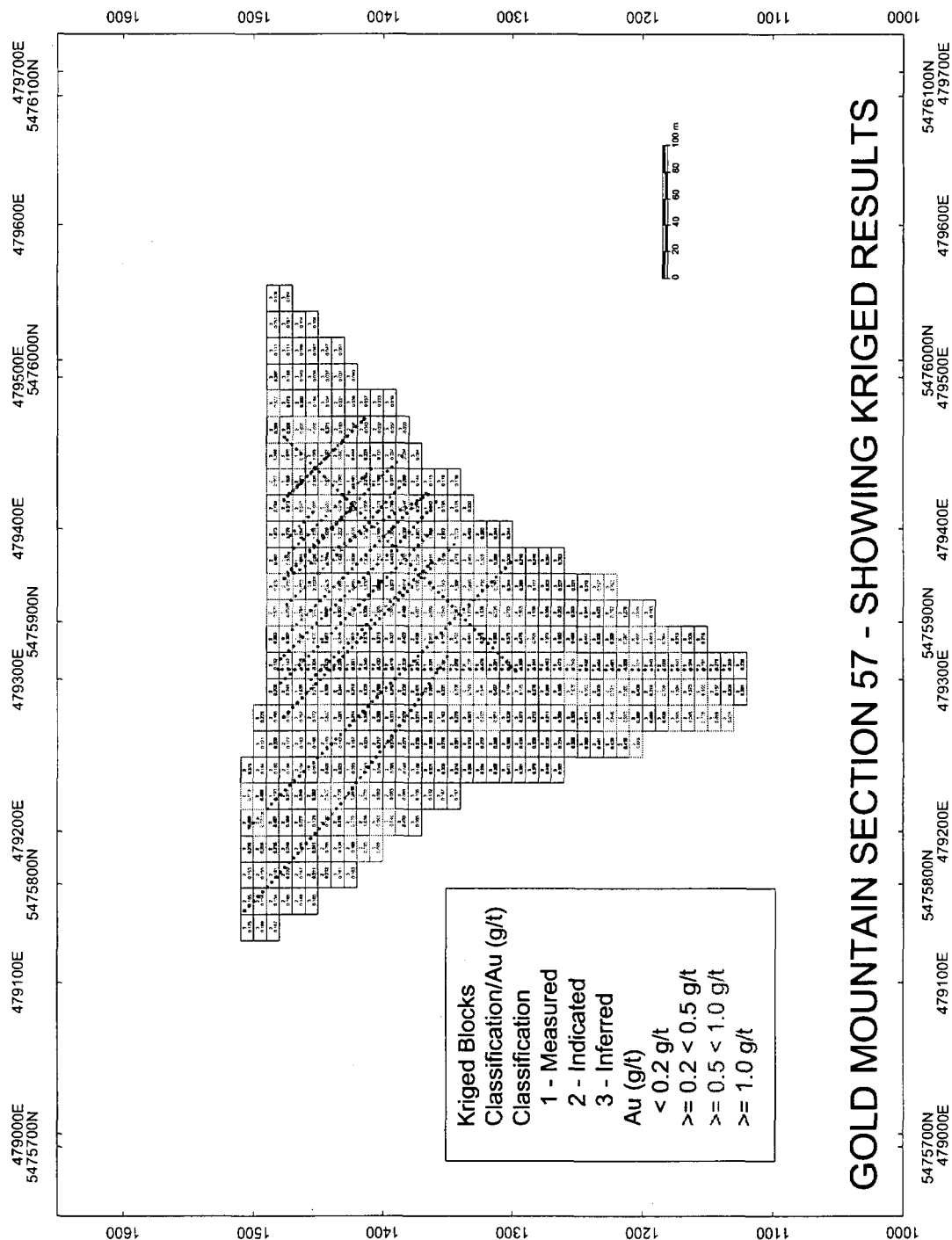
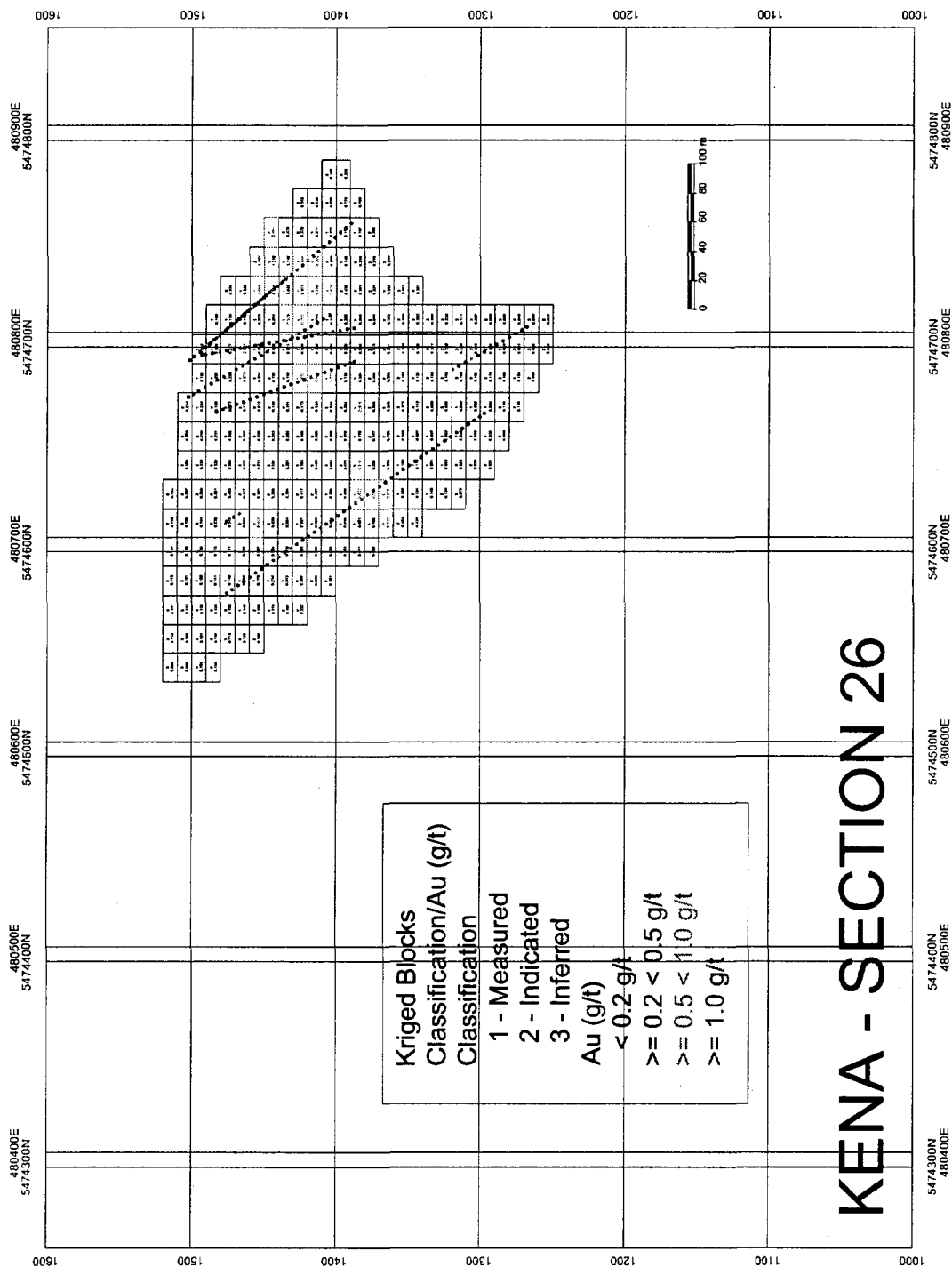


Figure 14: Kena Section 57 Showing Kriged Blocks and Drill Hole Composites



### **19.3 Preliminary Cutoff Grade Analysis**

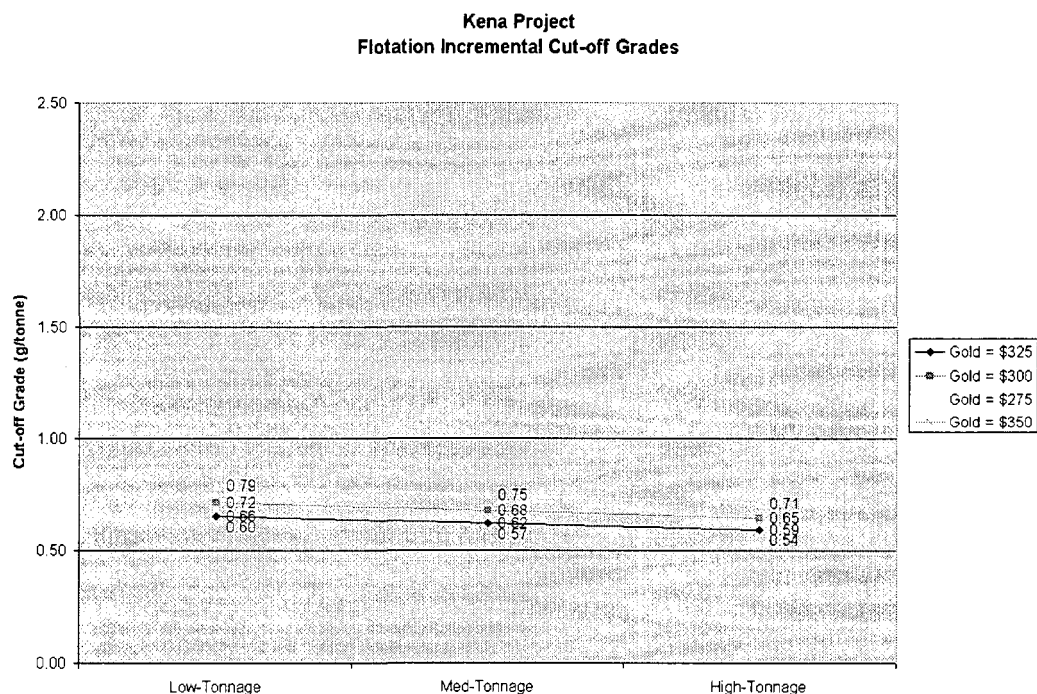
Snowden Mining Industry Consultants completed a preliminary cutoff grade analysis for the Kena Property in May 2002 (Van Brunt, 2002). During this study the following mining and recovery aspects were considered.

- *“Ore processing options and recoveries are derived from two independent reports addressing processing alternatives for the Kena ore (see following section on Metallurgy). In addition, processing cost structures for comparable operations were considered in developing costs assumed in this memorandum.*
- *Ore processing unit costs have been developed using preliminary cost estimation guidelines from the USGS (Singer, 1998) and O'Hara (1980). Mining costs are strictly unit costs with no accounting for increased haulage cost related to depth or increased mining cost related to overburden handling.*
- *The calculation of cut-off grade is limited to the incremental or in-pit determination of ore due to the lack of information on waste to ore strip ratio. The incremental cut-off grade is a function of the overhead costs (G&A), processing cost, average head grade, mill recovery, and price. The mining cost does not factor into this value.*
- *No capital expenditures have been estimated or considered in any portion of this analysis.”*

The conclusions from this study were as follows:

*“Figure 15 shows the incremental cutoff grades and tonnage and head grade requirements for the three processing rates across a range of gold prices. The results indicate that flotation would be preferable over heap leaching or whole ore leaching if the ore continues to respond favourably to flotation testing. Although flotation would require permitting and construction of a tailings pond, this option would not require permitting of the use of cyanide. Considering the gold grades identified at Kena to date, a whole ore leaching process such as CIL does not appear to be economically viable.”*

Figure 15: Flotation Incremental Cutoff Grades (from Van Brunt, 2002)



For a medium tonnage operation and gold prices between \$300 - \$350 per ounce, cutoff grades are likely to be between 0.57 to 0.68 g Au/t.

## 20) MINERAL PROCESSING AND METALLURGICAL TESTING

Several major international mining companies have expressed interest in the project and have visited the property. The companies have all taken independent samples for analysis and two have requested core samples for metallurgical studies. Results of a metallurgical study completed by Newmont Mining Corporation on the Gold Mountain Zone mineralization gave the following results:

- Two composite samples prepared from two separate 8 metre continuous intervals from diamond drill hole 01GM-02 were used in the preliminary metallurgical study.
- The composites contained 1.15-2.87 g Au/t and about 1.50 g Au/t. (Repeat assays varied widely due to the presence of coarse free gold.)
- The composites also contained 2.5-2.6% sulphide sulphur corresponding to approximately 5% pyrite.
- Bottle roll cyanidation and CIL test results showed that the gold in these two composites was not refractory and they were cyanide leachable to the extend of 92 to 97% in 24 hours.
- Gravity test results, involving passing a 100% minus 48 mesh particle size across a Gemeni table and hand panning the concentrates, gave gold recoveries of 36.1 to 43.2%

Core pieces from the upper portion of drill hole 01GM-03 were independently taken for metallurgical testing by a second major international gold mining company. The sample was crushed to minus ½ inches and gold recoveries were investigated by preliminary agitated cyanidation leach testing (bottle roll) by McClelland Laboratories Inc. of Sparks, Nevada. The results of the study are tabulated below:

Table XIII: Overall Metallurgical Results, Bottle Roll Test,  
Sample 01GM03-31-48, P<sub>80</sub>1/2" Feed Size

| <b>METALLURGICAL RESULTS</b>                    | <b>01GM03-31-48</b>  |
|-------------------------------------------------|----------------------|
| Extraction: pct. Total Au                       | P <sub>80</sub> 1/2" |
| In 2 hours                                      | 20.4                 |
| In 6 hours                                      | 29.6                 |
| In 24 hours                                     | 42.1                 |
| In 48 hours                                     | 49.6                 |
| In 72 hours                                     | 52.5                 |
| In 96 hours                                     | 57.1                 |
| Extracted, oz Au/ton ore                        | 0.016                |
| Tail Assay, ozAu/ton <sup>1)</sup>              | 0.012                |
| Calculated Head, oz Au/ton ore                  | 0.028                |
| Assayed Head, oz Au/ton ore <sup>2)</sup>       | 0.027                |
| NaCN Consumed, lb/ton ore                       | 0.15                 |
| Lime Added, lb/ton ore                          | 3.2                  |
| Final pH                                        | 11.0                 |
| Natural pH (40% solids)                         | 7.8                  |
| Ag Extracted, oz Ag/ton ore                     | 0.01                 |
| Ag Tail, oz Ag/ton ore <sup>1)</sup>            | <0.03                |
| Ag Calculated Head, oz Ag/ton ore <sup>2)</sup> | <0.04                |
| Ag Recovery, percent                            | >25                  |
| Ag Assayed Head, oz Ag/ton ore <sup>1)</sup>    | 0.38                 |

1) Average of triplicate tail assays

2) Single head assay

The results of this metallurgical study suggest that the Gold Mountain Zone rock is amenable to cyanidation treatment at the ½ inch feed size. McLelland Laboratories conclude that "a linear extrapolation of extraction between 24 and 96 hours (avg. 5.0%/24 hours) indicates that a gold recovery of over 70 percent could be achieved with 72 hours additional leaching". The results confirm that good gold recoveries can be achieved with only minimal cyanide consumption.

## **21) INTERPRETATION AND CONCLUSIONS**

The Kena Property lies on the eastern limb of the Hall Creek Syncline, a south plunging fold associated with intense shearing that dominates the structure of the Nelson map area. The syncline incorporates volcanic and lesser sedimentary rocks of the lower Jurassic Rossland Group and is intruded by stocks of mid Jurassic Silver King intrusive.

The Kena mineralization was first mentioned by G.M. Dawson in 1888-89. Very little was known about the property until systematic exploration began on it in 1974. Numerous exploration companies carried out geological, geochemical, geophysical surveys, trenching and drilling on the property from 1974 until 1991. These companies, exploring the Elise volcanic rocks for gold and copper mineralization, discovered the Kena Gold Zone, Kena Copper Zone, and Shaft/Cat Zone. The Kena Gold Zone underwent the most thorough exploration with the Kena Copper and Shaft/Cat Zones only being tested minimally. No additional work was done on the property until 1999 when Sultan Minerals Inc. optioned the property.

Work done by Sultan Minerals Inc. has led to the following conclusions:

### **Gold Mountain Zone**

During exploration programs completed over the past three years, Sultan Minerals has discovered a large area of gold mineralization associated with the Silver King intrusive and its contact areas. Narrow high grade gold shoots occur within broad envelopes of lower grade gold mineralization within this system. Geology, gold soil geochemistry, surface and trench rock samples, and geophysical surveying all indicate the presence of a zone, some 3,000 metres in length and up to 1,400 metres in width that hosts significant gold mineralization. This zone is termed the Gold Mountain Zone.

Diamond drilling completed to date has found four different styles of gold mineralization over this large mineralized area. All four gold mineralization types have the potential to host economically significant gold deposits. The four styles are referred to as 1) the high grade gold magnetic corridor; 2) the intrusive-volcanic contact; 3) the bulk tonnage zone; and 4) the bonanza shoots.

A preliminary resource estimation using ordinary kriging to interpolate gold grades into blocks 20 x 20 x 10 metres in dimension shows that for Gold Mountain Zone, at a 0.50 g Au/t cutoff, a total of 5.49 million tonnes averaging 1.04 g Au/t classed as measured plus indicated and an additional 10.7 million tonnes averaging 0.97 g Au/t classed as inferred.

Due to the uniqueness of this bi-modal gold system, containing bulk tonnage porphyry style gold mineralization and narrower, very high grade gold shoots, and the large size potential, as inferred from the resource calculations, additional work is warranted in the Gold Mountain Zone.

### **Kena Gold Zone**

Geology and gold soil geochemistry indicate the presence of a zone, trending for over 1,000 metres in length and up to 300 metres in width that hosts significant gold mineralization. Diamond drilling by Sultan and previous property owners on the Kena Gold Zone, shows that like the Gold Mountain Zone, high grade gold intervals are found within wide zones of lower grade gold mineralization.

A preliminary resource estimation using a combination of ordinary kriging and indicator kriging to interpolate gold grades into blocks 20 x 20 x 10 metres in dimension shows that for Kena Gold

Zone, at a 0.50 g Au/t cutoff, a total of 6.3 million tonnes averaging 0.97 g Au/t classed as measured plus indicated and an additional 1.4 million tonnes averaging 1.22 g Au/t classed as inferred.

The two styles of gold mineralization, both low grade bulk tonnage porphyry style and narrower high grade structurally controlled style need additional drilling to establish a resource model suitable for an economic scoping study. Infill and step out drilling is warranted to increase the confidence and overall tonnage of this zone.

### **South Gold Zone**

In the South Gold zone, gold mineralization (along with copper and silver), as seen from drill core assays, increases and becomes more widespread toward grid south. A prominent magnetic low feature seen in the Gold Mountain Zone trends south through the Kena Gold Zone to the South Gold Zone (for a distance of over 5 kilometres) and may be important in controlling the gold mineralization regionally.

The gold grades from hole 02SG-04 are not very different from those encountered in the Gold Mountain Zone discovery area, although the South Gold Zone drilling lies entirely within the Elise volcanic package. This area has the potential to host a third large bulk tonnage gold zone similar to the Kena and Gold Mountain zones.

### **Other Showings**

Broad widths of gold mineralization in the Great Western Zone are located within the Silver King intrusive and are associated with areas of increased quartz and quartz-sulphide veining or adjacent to magnetic lamprophyre dykes. Both the veins and the dykes are readily visible in core and a systematic drill program is required to determine their strike, dip and continuity.

Mineralization at the Starlight trend follows a strongly chargeable shear feature that is traceable by geophysics and by the presence of numerous historic workings for over 3 kilometres. The gold mineralization within this structure consists of both high grade quartz veins and broader lower grade stockwork zones. From the small amount of drilling done along this trend it appears that the gold mineralization is confined to about a 50 metre wide interval located between a series of mafic dykes.

In late 2000, after the discovery of significant gold mineralization within the Silver King intrusive rocks of the Gold Mountain Zone, Sultan Minerals researched the regional geological setting of this unit. Additional ground was obtained in 2000 and 2001 by staking to the south of the original claim block to cover extensions of this favourable intrusive. During the course of the staking program, several historic workings were discovered and sampled. Grab samples assayed up to 20.7 g/t gold and 2.59% copper from samples collected from 8 to 15 kilometres south of the Gold Mountain Zone.

Also, since Sultan's original discovery several option agreements have been reached with surrounding claim holders, expanding Sultan's claim holdings to the north and west. These new claims include the Toughnut Group, Great Western Group, Cariboo Group, Starlight Group and

Silver King Mine Group. All of these properties have known gold occurrences and will be part of the expanded Gold Mountain Zone exploration program for 2004.

## **22) RECOMMENDATIONS**

Due to the success of the exploration programs to date, and the completion of the resource calculations for the Gold Mountain and Kena Gold Zones, an expanded exploration program is recommended. The two phase program will consist of an initial phase of detailed geological mapping and sampling. Phase II will include excavator trenching at the Gold Mountain, South Gold and Starlight Zones and diamond drilling at the Gold Mountain, South Gold and Kena Gold Zones. Small preliminary drill programs are recommended for the Toughnut, Euphrates, Silver King and Athabasca Zones. The estimated cost for Phase I is \$99,500 and Phase II is \$1.17 million.

Phase I of the 2004 exploration program on the Kena Property will consist of detailed structural and alteration mapping and lithogeochemical sampling conducted over the Silver King intrusive unit north of Gold Creek (Gold Mountain Zone) and over the Elise Volcanic rocks in the South Gold Zone. A more general mapping and sampling program will take place at the Athabasca, Starlight and Euphrates-Gold Cup areas. Unsourced historic drill core (predominantly from the Kena Gold Zone) will be assayed in order to add these segments to future resource calculations.

Phase II of the 2004 exploration program on the Kena Property will proceed upon completion of Phase I. This phase will include excavator trenching of targets in the Gold Mountain Zone, Kena Gold Zone, South Gold Zone and Starlight Trend in areas where overburden and/or terrain conditions will allow. Diamond drilling will commence coincident with the excavator trenching program and will be done on the Gold Mountain, Kena Gold and South Gold Zones.

Infill and expansion drilling is to be completed on both the Kena Gold and Gold Mountain Zones. Holes drilled between existing sections will fill in gaps and convert inferred resources to indicated resources. Allowance has been made for 3,000 metres of drilling in 18 holes on the Kena Gold Zone and 5,000 metres in 16 holes on the Gold Mountain Zone. Holes are to be drilled to the northeast at dips of 45° to 50°, except for an initial 2 holes in each zone being drilled north-northwest in order to test for continuity of higher grade mineralizing structures. Upon completion of the drill program, 3D modeling and resource calculations will be re-done.

On the South Gold Zone, drilling will be conducted in order to expand the known porphyry style mineralization. At total of 1,500 metres in 6 holes is recommended. Small, preliminary drill programs will also be undertaken on the Toughnut, Athabasca, Silver King and Euphrates Zones (500 metres on each target).

The QA/QC program established in 2003 should be continued with blanks, independently prepared standards and field duplicates added to the drill samples at regular intervals. Specific gravity determinations should be routinely completed as well with both mineralized and unmineralized samples from each zone measured.

## 23) COST ESTIMATE

### PHASE I

|                                                                         |               |
|-------------------------------------------------------------------------|---------------|
| 1) Detailed mapping and sampling of Gold Mountain Zone                  | \$ 33,000     |
| 2) Detailed mapping and sampling of South Gold Zone                     | 22,500        |
| 3) General mapping of Athabasca, Starlight Trend,<br>Euphrates-Gold Cup | 15,000        |
| 4) Ground magnetic survey                                               | 7,000         |
| 5) Historic drill core sampling                                         | <u>22,000</u> |

**TOTAL FOR PHASE I** **\$ 99,500**

### PHASE II

|                                                                           |                |
|---------------------------------------------------------------------------|----------------|
| 1) Excavator trenching                                                    | \$ 92,000      |
| 2) Diamond drilling of Gold Mountain Zone                                 | 386,500        |
| 3) Diamond drilling of Kena Gold Zone                                     | 194,000        |
| 4) Diamond drilling of South Gold Zone                                    | 259,000        |
| 5) Resource calculations                                                  | 22,500         |
| 6) Diamond drilling of Toughnut, Athabasca, Euphrates,<br>and Silver King | <u>216,000</u> |

**TOTAL FOR PHASE II** **\$1,170,000**

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## **25) QUALIFICATIONS**

I, **Linda Dandy**, hereby certify that:

1. I am an independent Consulting Geologist with P&L Geological Services having an office at 3728 Ridgemont Road, Lac Le Jeune, British Columbia, V1S 1Y8.
2. I am a graduate of the University of British Columbia with the degree of Bachelor of Science in Geology (1981).
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (Registration No. 19236) and a Fellow of the Geological Association of Canada (Membership No. F5201).
4. I have practiced my profession in North America since 1981, having worked as an employee and consultant for Major Mining Corporations and Junior Resource Companies.
5. As a result of my experience and qualification I am a Qualified Person as defined in National Instrument 43 – 101.
6. This report is based upon a personal examination of all available company and government reports pertinent to the subject property, and upon fieldwork undertaken on the property between October 1999 and December, 2003.
7. I have prepared individually or jointly all sections of this report except 16) Data Verification, 17) Data Analysis, 18) Grade Interpolation and 19) Classification. Sources of information are noted on the illustrations.
8. In the disclosure of information relating to title of the optioned claims I have relied on the information provided to me by Sultan Minerals Inc. and the property vendors. I disclaim responsibility for such information.
9. As of the date of the certificate, I am not aware of any material fact or material change with respect to the subject matter of this technical report that is not reflected in this report, the omission to disclose which would make this report misleading.
10. I have read National Instrument 43 – 101 and the foregoing technical report has been prepared in conformity with this instrument and generally accepted Canadian mining industry practice.

June 1, 2004  
Lac Le Jeune, B.C.

Linda Dandy, P.Geo.  
Consulting Geologist

## CERTIFICATE G.H. Giroux

I, G.H. Giroux, of 982 Broadview Drive, North Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer with an office at #513 - 675 West Hastings Street, Vancouver, British Columbia.
- 2) I am a graduate of the University of British Columbia in 1970 with a B.A. Sc. and in 1984 with a M.A. Sc., both in Geological Engineering.
- 3) I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4) I have practiced my profession continuously since 1970.
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Policy 43-101.
- 6) This report is based on a study of the data and literature available on the Kena Project. I am responsible for the resource estimations completed in Vancouver during 2004.
- 7) I have had no prior involvement with the property.
- 8) I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report.
- 9) I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
- 10) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 11) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public files on their websites accessible by the public.

Dated this     day of June, 2004

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G. H. Giroux, P.Eng., MASc.

## 26) APPENDICIES

### 26.1 Appendix I - Drill hole listing

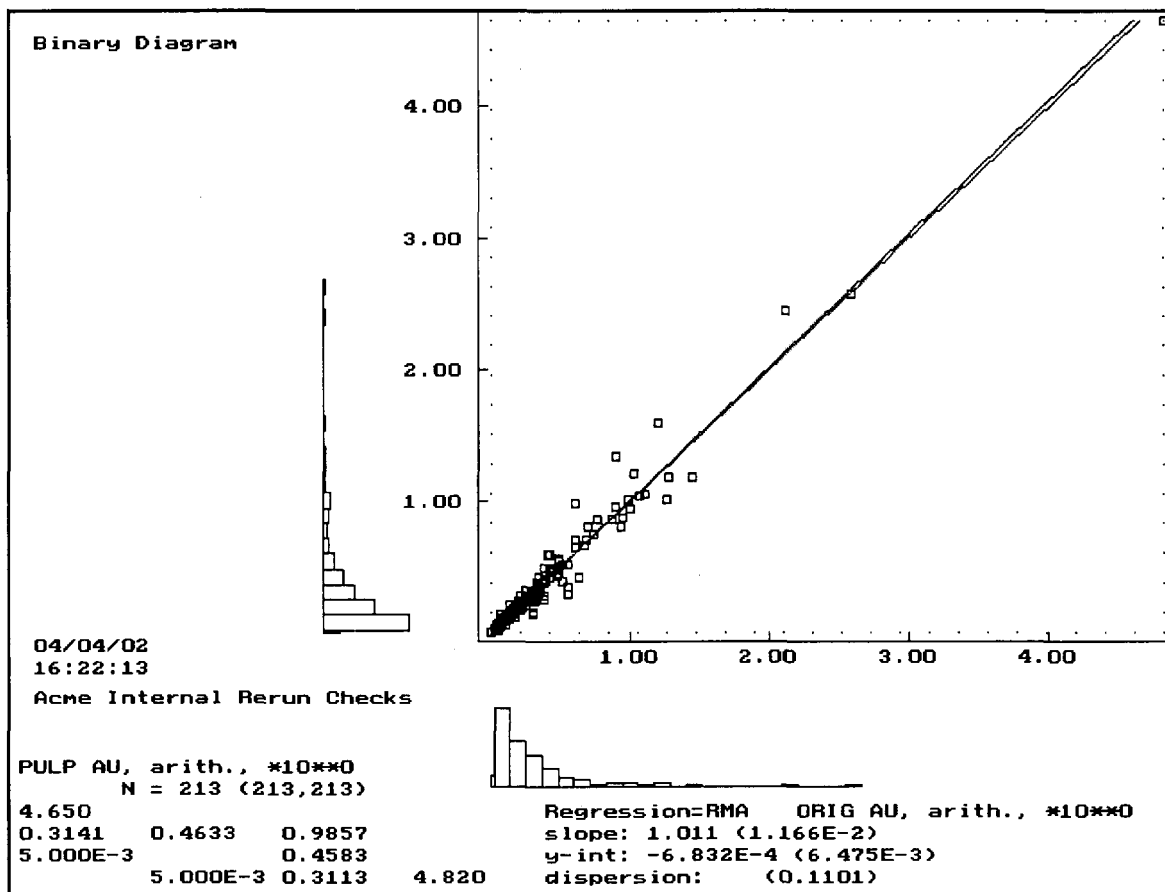
| Hole #              | Grid Northing | Grid Easting | UTM Northing | UTM Easting | Elevation (m) | Azimuth | Dip  | Length (m)         |
|---------------------|---------------|--------------|--------------|-------------|---------------|---------|------|--------------------|
| 01GM-01             | 10+96N        | 2+69E        |              |             | 1484          | 058°    | -45° | 137.16             |
| 01GM-02             | 10+96N        | 2+68E        |              |             | 1484          | 057°    | -60° | 134.26             |
| 01GM-03             | 10+95N        | 2+69E        |              |             | 1484          | 073°    | -45° | 124.05             |
| 01GM-04             | 10+97N        | 3+85E        |              |             | 1483          | 240°    | -45° | 267.61             |
| 01GM-05             | 11+00N        | 2+19E        |              |             | 1486          | 060°    | -45° | 170.08             |
| 01GM-06             | 10+50N        | 2+40E        |              |             | 1483          | 060°    | -45° | 135.33             |
| 01GM-07             | 8+15N         | 2+22E        |              |             | 1472          | 060°    | -45° | 142.04             |
| 01GM-08             | 11+00N        | 1+45E        |              |             | 1499          | 060°    | -45° | 214.27             |
| 01GM-09             | 11+00N        | 0+70E        |              |             | 1518          | 060°    | -45° | 295.96             |
| 01GM-10             | 11+00N        | 0+05W        |              |             | 1527          | 060°    | -45° | 185.32             |
| 01GM-11             | 12+00N        | 0+40E        |              |             | 1536          | 060°    | -45° | 349.30             |
| 01GM-12             | 14+00N        | 0+75W        |              |             | 1566          | 060°    | -45° | 305.78             |
| 01GM-13             | 16+00N        | 0+80W        |              |             | 1572          | 060°    | -45° | 132.89             |
| 01GM-14             | 8+00N         | 0+50E        |              |             | 1499          | 060°    | -45° | 151.49             |
| 01GM-15             | 18+00N        | 3+80W        |              |             | 1648          | 060°    | -45° | 105.46             |
| 01GM-16             | 4+00N         | 0+27E        |              |             | 1521          | 062°    | -45° | 144.78             |
| 01GM-17             | 18+00N        | 1+55W        |              |             | 1592          | 058°    | -45° | 138.99             |
| 01GM-18             | 16+00N        | 1+75W        |              |             | 1595          | 060°    | -45° | 185.62             |
| 01GM-19             | 4+00N         | 1+25E        |              |             | 1499          | 060°    | -45° | 138.38             |
| 01GM-20             | 9+00N         | 0+75W        |              |             | 1557          | 060°    | -55° | 178.31             |
| 01GM-21             | 4+00N         | 1+25E        |              |             | 1499          |         | -90° | 59.74              |
| 01GM-22             | 16+00N        | 1+75W        |              |             | 1595          | 060°    | -65° | 55.47              |
| 01GM-23             | 11+00N        | 3+27E        |              |             | 1484          | 060°    | -45° | 121.92             |
| 01GM-24             | 11+00N        | 3+27E        |              |             | 1484          | 015°    | -45° | 91.7               |
| 01GM-25             | 11+11N        | 2+93E        |              |             | 1484          |         | -90° | 186.23             |
| 01GM-26             | 10+81N        | 2+93E        |              |             | 1484          |         | -90° | 177.4              |
| 01GM-27             | 13+10N        | 4+32E        |              |             | 1482          | 060°    | -45° | 110.61             |
| 01GM-28             | 10+66N        | 2+93E        |              |             | 1482          |         | -90° | 184.05             |
| 01GM-29             | 10+00N        | 0+15E        |              |             | 1592          | 347°    | -45° | 103.17             |
| 02GM-30             | 10+70N        | 2+03E        | 5475862      | 479319      | 1485          | 056°    | -47° | 178.92             |
| 02GM-31             | 10+75N        | 2+74E        | 5475903      | 479382      | 1477          | 030°    | -46° | 76.5               |
| 02GM-32             | 10+75N        | 2+74E        | 5475902      | 479382      | 1477          | 090°    | -46° | 71.93              |
| 02GM-33             | 11+00N        | 2+96E        | 5475936      | 479386      | 1477          | 056°    | -46° | 101.8              |
| 02GM-34             | 11+00N        | 1+84E        | 5475874      | 479290      | 1487          | 060°    | -46° | 195.07             |
| 02GM-35             | 10+70N        | 1+55E        | 5475839      | 479282      | 1490          | 056°    | -46° | 207.47             |
| 02GM-36             | 10+85N        | 1+55E        | 5475849      | 479270      | 1490          | 056°    | -46° | 206.65             |
| 02GM-37             | 10+85N        | 1+97E        | 5475875      | 479313      | 1485.5        | 056°    | -46° | 181.66             |
| 02GM-38             | 10+70N        | 2+42E        | 5475891      | 479354      | 1484.5        | 056°    | -46° | 133.2              |
| 02GM-39             | 10+85N        | 2+39E        | 5475900      | 479352      | 1483.5        | 056°    | -46° | 137.35             |
| 02GM-40             | 10+85N        | 2+86E        | 5475918      | 479383      | 1477          | 056°    | -46° | 106.73             |
| 02GM-10 (extension) | 11+00N        | 0+07W        | 5475784      | 479137      | 1519          | 058°    | -45° | 359.05 (173.73ext) |
| 02GM-41             | 10+90N        | 2+02E        | 5475875      | 479313      | 1483          |         | -90° | 354.83             |
| 02GM-42             | 10+76N        | 2+23E        | 5475873      | 479341      | 1484          |         | -90° | 251.00             |
| 02GM-43             | 10+17N        | 2+50E        | 5475843      | 479386      | 1480          |         | -90° | 195.07             |
| 02GM-44             | 10+21N        | 3+12E        | 5475879      | 479439      | 1474          |         | -90° | 122.53             |
| 02GM-45             | 11+50N        | 3+00E        | 5475974      | 479375      | 1479          |         | -90° | 168.55             |
| 02GM-46             | 9+00N         | 1+86E        | 5475717      | 479387      | 1485          |         | -90° | 254.20             |

| Hole #   | Grid Northing | Grid Easting | UTM Northing | UTM Easting | Elevation (m) | Azimuth | Dip  | Length (m) |
|----------|---------------|--------------|--------------|-------------|---------------|---------|------|------------|
| 02GM-47  | 5+00N         | 1+91E        | 5475381      | 479614      | 1472          |         | -90° | 207.26     |
| 02GM-48  | 6+00N         | 2+09E        | 5475466      | 479580      | 1470          | 235°    | -89° | 195.07     |
| 02GM-49  | 6+95N         | 2+09E        | 5475561      | 479524      | 1463          |         | -90° | 156.06     |
| 02GM-50  | 12+86N        | 3+56E        | 5476132      | 479342      | 1496          | 060°    | -51° | 128.63     |
| 02GM-51  | 2+02N         | 3+33E        | 5475208      | 479890      | 1412          | 060°    | -50° | 61.26      |
| 02GM-52  | 2+00N         | 1+44E        | 5475114      | 479748      | 1470          | 062°    | -51° | 216.41     |
| 02GM-53  | 2+00N         | 0+26E        | 5475069      | 479646      | 1507          | 060°    | -51° | 335.28     |
| 02GM-54  | 16+00N        | 1+75W        | 5476137      | 478752      | 1587          | 017°    | -51° | 128.63     |
| 02GM-55  | 16+00N        | 1+75W        | 5476137      | 478752      | 1587          | 110°    | -50° | 55.17      |
| 02GM-56  | 11+50N        | 4+00E        | 5476028      | 479452      | 1488          | 055°    | -51° | 87.17      |
| 02GM-57  | 13+21N        | 4+81E        | 5476214      | 479430      | 1495          | 060°    | -50° | 65.23      |
| 02GM-58  | 13+21N        | 4+81E        | 5476214      | 479430      | 1495          | 090°    | -51° | 62.79      |
| 02GM-59  | 11+10N        | 5+04E        | 5476048      | 479555      | 1482          | 060°    | -50° | 115.52     |
| 02GM-60  | 7+92N         | 4+53E        | 5475742      | 479672      | 1458          | 060°    | -50° | 118.87     |
| 02GM-61  | 20+06N        | 2+81W        | 5476455      | 478428      | 1575          | 060°    | -50° | 220.98     |
| 02GM-62  | 21+01N        | 3+98W        | 5476498      | 478261      | 1573          | 060°    | -50° | 133.20     |
| 02GM-63  | 21+00N        | 7+04W        | 5476354      | 477999      | 1623          | 060°    | -50° | 261.52     |
| 02GM-64  | 19+00N        | 0+01E        | 5476481      | 478724      | 1533          | 060°    | -50° | 211.53     |
| 03GM-65  | 23+30N        | 4+05W        | 5476667      | 478179      | 1528          | 246°    | -45° | 110.64     |
| 03GM-66  | 23+30N        | 4+05W        | 5476667      | 478179      | 1528          | 246°    | -65° | 38.10      |
| 03GM-67  | 23+30N        | 4+05W        | 5476667      | 478179      | 1528          | 210°    | -45° | 49.68      |
| 03GM-68  | 23+50N        | 3+77W        | 5476693      | 478196      | 1523          | 280°    | -45° | 38.40      |
| 03GM-69  | 23+50N        | 3+77W        | 5476693      | 478196      | 1523          | 315°    | -45° | 53.34      |
| 03GM-70  | 21+55N        | 4+00W        | 5476535      | 478233      | 1557          | 060°    | -45° | 61.87      |
| 03GM-71  | 2+55N         | 0+60E        | 5475118      | 479650      | 1471          | 061°    | -45° | 63.70      |
| 03GM-72  | 1+48N         | 1+05E        | 5475042      | 479738      | 1462          | 060°    | -45° | 54.86      |
| R02GM-01 | 10+70N        | 1+57E        | 5475844      | 479285      | 1490          | 056°    | -46° | 60         |
| R02GM-02 | 10+85N        | 1+57E        | 5475852      | 479276      | 1490          | 056°    | -46° | 179        |
| R02GM-03 | 10+85N        | 3+28E        | 5475942      | 479420      | 1477          | 056°    | -46° | 80.77      |
| R02GM-04 | 10+70N        | 3+30E        | 5475927      | 479430      | 1475          | 056°    | -46° | 65.33      |
| 02KG-01  | 11+11N        | 2+93E        | 5474792      | 480688      | 1504          |         | -90° | 177.40     |
| 02KG-02  | 51+73N        | 52+25W       | 5474736      | 480245      | 1505          | 042°    | -52° | 220.98     |
| 03KG-01  |               |              | 5474803      | 480621      | 1496          |         | -90° | 43.60      |
| 03KG-02  |               |              | 5474820      | 480628      | 1496          |         | -90° | 44.50      |
| 03KG-03  |               |              | 5474833      | 480658      | 1507          |         | -90° | 49.70      |
| 03KG-04  |               |              | 5474775      | 480641      | 1496          |         | -90° | 30.50      |
| 03KG-05  |               |              | 5474806      | 480648      | 1501          |         | -90° | 53.30      |
| 03KG-06  |               |              | 5474858      | 480669      | 1490          |         | -90° | 34.10      |
| 03KG-07  |               |              | 5474834      | 480693      | 1506          |         | -90° | 46.60      |
| 03KG-08  |               |              | 5474762      | 480685      | 1508          |         | -90° | 64.30      |
| 03KG-09  |               |              | 5474771      | 480706      | 1501          |         | -90° | 54.90      |
| 03KG-10  |               |              | 5474803      | 480714      | 1483          | 060°    | -58° | 41.10      |
| 03KG-11  |               |              | 5474842      | 480692      | 1507          | 031°    | -56° | 48.80      |
| 03KG-12  |               |              | 5474834      | 480693      | 1506          | 080°    | -46° | 44.20      |
| 03KG-13  |               |              | 5474755      | 480731      | 1505          |         | -90° | 32.00      |
| 03KG-14  |               |              | 5474742      | 480744      | 1505          |         | -90° | 23.30      |
| 02SG-01  | 93+05N        | 5+25W        | 5472802      | 481865      | 1650          | 040°    | -51° | 289.56     |
| 02SG-02  | 92+00N        | 6+35W        | 5472653      | 481860      | 1640          | 038°    | -46° | 300.23     |
| 02SG-03  | 91+16N        | 6+06W        | 5472622      | 481942      | 1605          | 040°    | -52° | 258.17     |
| 02SG-04  | 90+11N        | 6+15W        | 5472548      | 482032      | 1572          | 037°    | -50° | 218.54     |
| 02GW-01  | 22+55N        | 11+89W       | 5476212      | 477582      | 1468          | 150°    | -50° | 121.92     |
| 02GW-02  | 17+31N        | 9+75W        | 5475871      | 477984      | 1638          | 010°    | -50° | 129.54     |
| 02GW-03  | 19+10N        | 9+71W        | 5476026      | 477880      | 1618          | 000°    | -50° | 153.92     |
| 02GW-04  | 19+63N        | 10+75W       | 5476060      | 477741      | 1555          | 328°    | -45° | 135.64     |

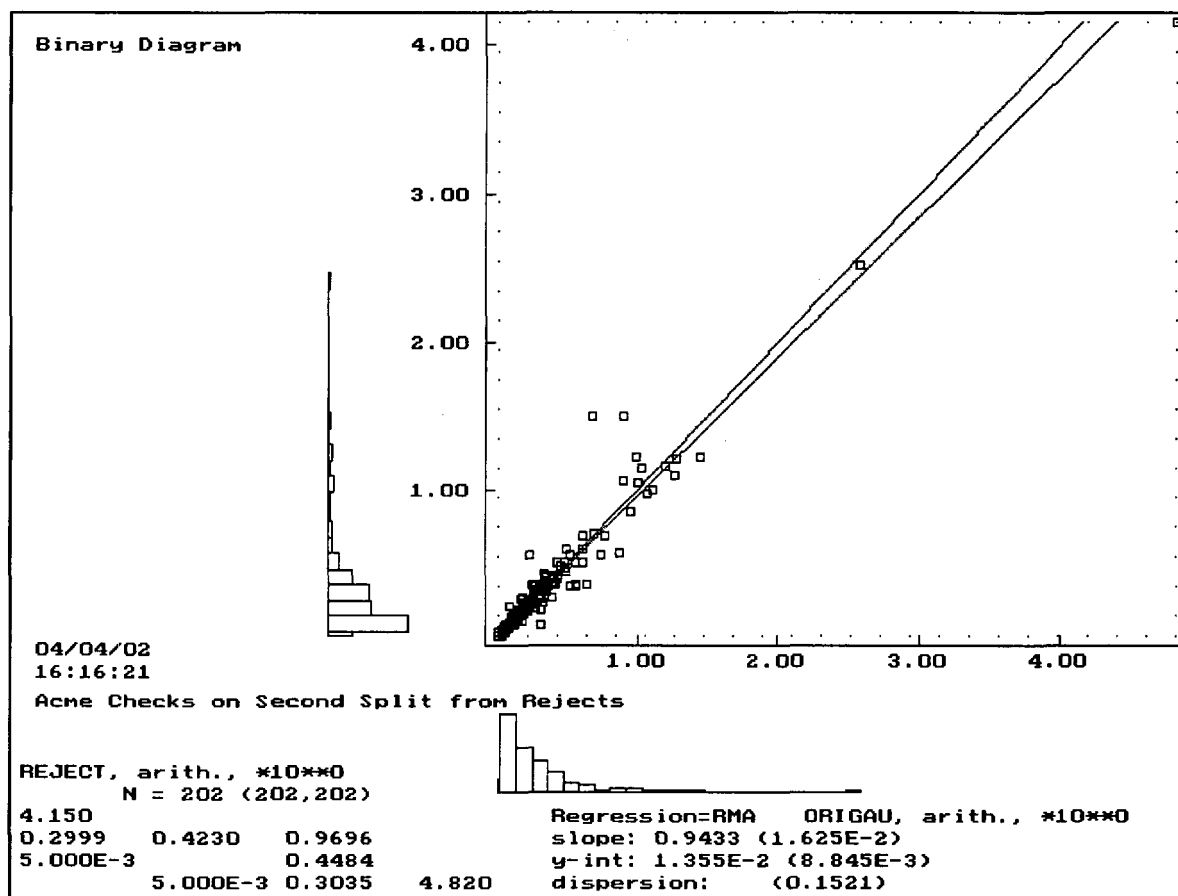
| Hole #  | Grid Northing | Grid Easting | UTM Northing | UTM Easting | Elevation (m) | Azimuth | Dip  | Length (m) |
|---------|---------------|--------------|--------------|-------------|---------------|---------|------|------------|
| 02GW-05 | 24+01N        | 7+45W        | 5476559      | 477832      | 1540          | 045°    | -50° | 135.33     |
| 02GW-06 | 13+69N        | 11+59W       | 5475482      | 478018      | 1675          | 015°    | -52° | 167.34     |
| 01CB-01 | 51+96N        | 66+20W       |              |             |               | 050°    | -45° | 122.53     |
| 02SL-01 | 16+56N        | 17+44W       | 5475436      | 477392      | 1562          | 060°    | -50° | 87.30      |
| 02SL-02 | 16+45N        | 17+73W       | 5475408      | 477363      | 1567          | 060°    | -50° | 113.75     |
| 02SL-03 | 16+31N        | 17+75W       | 5475381      | 477385      | 1565          | 060°    | -50° | 152.40     |
| 02SL-04 | 6+48N         | 11+90W       | 5474837      | 478388      | 1773          | 060°    | -50° | 122.83     |
| 02SL-05 | 8+98N         | 12+58W       | 5475015      | 478183      | 1785          | 040°    | -50° | 300.23     |
| 02SL-06 | 13+81N        | 16+38W       | 5475270      | 477628      | 1555          | 040°    | -50° | 89.61      |

## 26.2 Appendix II - QA/QC SCATTER PLOTS

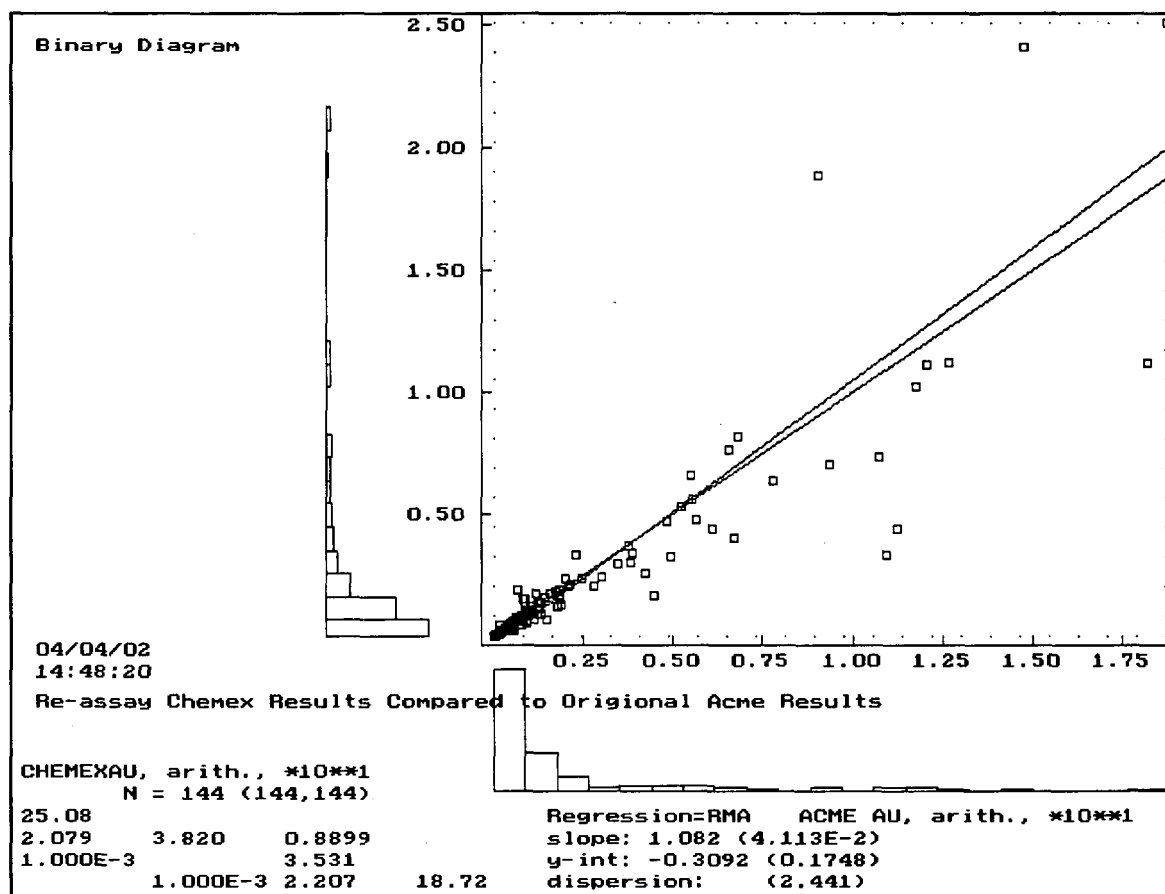
Scatter Plot of Acme Original Au (x-axis) versus Acme check on 2<sup>nd</sup> Split from Pulp (y-axis)



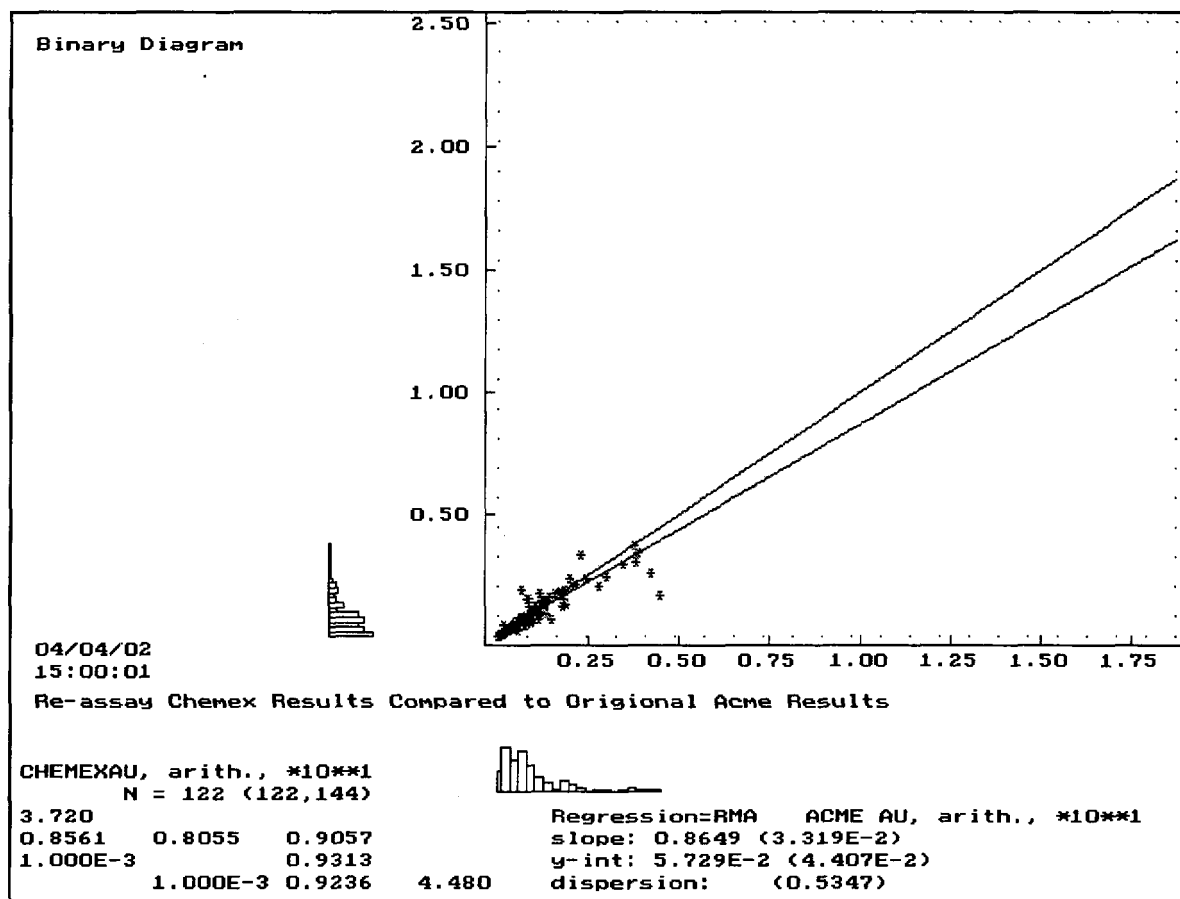
Scatter Plot for Acme Original Au (x-axis) versus Acme recheck on 2<sup>nd</sup> Split from Reject (y-axis)



Acme Original Gold Assay (x-axis) versus Chemex Check Gold Assay (y-axis)



Scatter Plot for Acme Original (x-axis) versus Chemex Check (y-axis) for Gold assays < 0.5 g/t

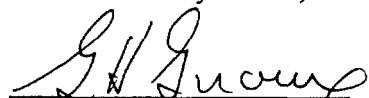


## CERTIFICATE G.H. Giroux

I, G.H. Giroux, of 982 Broadview Drive, North Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer with an office at #513 - 675 West Hastings Street, Vancouver, British Columbia.
- 2) I am a graduate of the University of British Columbia in 1970 with a B.A. Sc. and in 1984 with a M.A. Sc., both in Geological Engineering.
- 3) I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4) I have practiced my profession continuously since 1970.
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Policy 43-101.
- 6) This report is based on a study of the data and literature available on the Kena Project. I am responsible for the resource estimations completed in Vancouver during 2004.
- 7) I have had no prior involvement with the property.
- 8) I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report.
- 9) I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
- 10) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 11) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public files on their websites accessible by the public.

Dated this 8 day of June, 2004

  
G. H. Giroux, P.Eng., MASc.



LINDA DANDY  
P&L GEOLOGICAL SERVICES  
BOX 5036, LAC LE JEUNE, BC, V1S 1Y8  
Telephone: 250-828-0522  
Fax: 250-828-0512  
Email: plgeo@telus.net

### **CERTIFICATE of AUTHOR**

I, Linda Dandy, P.Geo., do hereby certify that:

1. I am a geological consultant contracted by:  
  
Sultan Minerals Inc.  
1400-570 Granville Street  
Vancouver, BC, Canada  
V6C 3P1
2. I graduated with a Bachelor of Science (Geology) degree from the University of British Columbia in 1981.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia. I am a fellow of the Geological Association of Canada.
4. I have worked as a geologist for a total of 23 years since my graduation from university.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I have prepared individually or jointly of all sections of the technical report titled "Preliminary Resource Calculation for Gold Mountain and Kena Gold Zones, Kena Property, BC" and dated June 3, 2004 (the "Technical Report"), except for sections titled Data Verification, Data Analysis, Grade Interpolation and Classification. I visited the Kena property several times from October 1999 to December 2003 for more than 500 days.
7. Other than what is listed in section 6 above, I have not had prior involvement with the property that is the subject of the Technical Report.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am not independent of the issuer as stated in National Instrument 43-101 Section 1.5 (4) (c) I own securities of the issuer and (d) have received the majority of my income in the 3 years preceding the dated of the technical report from the issuer and affiliated entities of the issuer.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 10th day of June, 2004.

"Linda Dandy"

\_\_\_\_\_  
Signature of Qualified Person

Linda Dandy, P.Ge.

\_\_\_\_\_  
Print name of Qualified Person

[Seal or Stamp  
of Qualified Person]

Giroux Consultants Ltd.  
513 – 675 West Hastings St.  
Vancouver, B.C. V6B 1N2  
Telephone: 604 684-0899  
Email: [gclmail@telus.net](mailto:gclmail@telus.net)

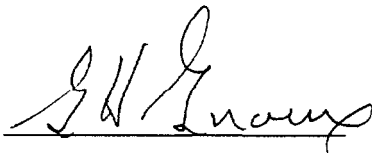
### CONSENT of AUTHOR

**TO: The securities regulatory authorities of each of the provinces and territories of Canada**

I, Gary H. Giroux, do hereby consent to the filing of the written disclosure of the technical report titled Preliminary Resource Calculations for Gold Mountain and Kena Gold Zones, Kena Property, B.C. and dated June 3, 2004 (the "Technical Report") and any extracts from or a summary of the Technical Report in the news release of Sultan Minerals Ltd., and to the filing of the Technical Report with the securities regulatory authorities referred to above.

I also certify that I have read the written disclosure being filed and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the news release of Sultan Minerals Ltd. contains any misrepresentation of the information contained in the Technical Report.

Dated this 11th Day of June, 2004.



G.H. Giroux, MASC., PEng.



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Telephone: 250-828-0522  
Fax: 250-828-0512  
Email: plgeo@telus.net

### **CONSENT of AUTHOR**

**TO: British Columbia Securities Commission and Alberta Securities Commission**

I, Linda Dandy, do hereby consent to the filing, with the regulatory authorities referred to above, of the technical report titled "Preliminary Resource Calculation for Gold Mountain and Kena Gold Zones, Kena Property, BC" and dated June 3, 2004 (the "Technical Report") and to the written disclosure of the Technical Report and of extracts from or a summary of the Technical Report in the written disclosure in the News Release dated June 7, 2004 of Sultan Minerals Inc. being filed.

I also certify that I have read the written disclosure being filed and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the News Release dated June 7, 2004 of Sultan Minerals Inc. contains any misrepresentation of the information contained in the Technical Report.

Dated this 10th Day of June, 2004

"Linda Dandy"

\_\_\_\_\_  
Signature of Qualified Person

[Seal or Stamp  
of Qualified Person]

Linda Dandy

\_\_\_\_\_  
Print name of Qualified Person

**Form 51-102F3**  
***Material Change Report***

**Item 1**      **Name and Address of Company**

Sultan Minerals Inc.  
1400 - 570 Granville Street  
Vancouver, BC V6C 3P1

(the "Company")

Telephone: (604) 687-4622

**Item 2.**      **Date of Material Change**

June 7, 2004.

**Item 3.**      **News Release**

The press release was issued on June 7, 2004 via news wire services.

**Item 4.**      **Summary of Material Change**

See attached press release.

**Item 5.**      **Full Description of Material Change**

See attached press release.

**Item 6.**      **Reliance on Section 7.1(2) or (3) of NI 51-102**

N/A

**Item 7.**      **Omitted Information**

N/A

**Item 8.**      **Executive Officers**

The following executive officer of the Issuer is knowledgeable about the material change and may be contacted by the Commission at the address and telephone number:

Arthur G. Troup  
President & CEO  
1400 – 570 Granville Street  
Vancouver, BC V6C 3P1

Telephone: (604) 687-4622

**Item 9.      Date of Report**

June 8, 2004.

**SULTAN MINERALS INC.**

Suite 1400 – 570 Granville Street  
Vancouver, B.C. V6C 3P1

[www.sultanminerals.com](http://www.sultanminerals.com) / [www.langmining.com](http://www.langmining.com)

June 7, 2004

Ticker Symbol: **SUL-TSX Venture**

SEC 12g3-2(b): 82-4741

**SULTAN RELEASES INITIAL RESOURCE CALCULATIONS  
FOR THE KENA GOLD PROPERTY, B.C.**

**Sultan Minerals Inc.** (SUL-TSX Venture) is pleased to announce that it has now received the completed initial resource calculations on the Gold Mountain and Kena Gold Zones of its Kena Property, in the Kootenay District of British Columbia. Modeling, QAQC evaluations and resource calculations were done by Independent Qualified Person Gary Giroux, P.Eng., MASC., and the accompanying 43-101 Technical Report was co-authored by Gary Giroux, P.Eng. and Linda Dandy, P.Geo.

Over both gold zones, resource calculations have been determined using cut off grades ranging from 0.0 to 4.0 g Au/t (see Tables I & II). Management believes that a cut off grade of 0.5 g/t gold is realistic for an open pit mining operation at current gold prices. Using a 0.5 g/t gold cut-off the results of this initial resource calculation may be summarised as follows:

**Gold Mountain Zone:**

|                             |                                         |                              |
|-----------------------------|-----------------------------------------|------------------------------|
| <b>Measured + Indicated</b> | <b>= 5,490,000 tonnes at 1.04 g/t</b>   | <b>(184,000 ounces gold)</b> |
| <b>Inferred</b>             | <b>= 10,710,000 tonnes at 0.967 g/t</b> | <b>(333,000 ounces gold)</b> |

**Kena Gold Zone:**

|                             |                                        |                              |
|-----------------------------|----------------------------------------|------------------------------|
| <b>Measured + Indicated</b> | <b>= 6,330,000 tonnes at 0.969 g/t</b> | <b>(197,000 ounces gold)</b> |
| <b>Inferred</b>             | <b>= 1,440,000 tonnes at 1.216 g/t</b> | <b>(56,000 ounces gold)</b>  |

Computer modeling done as part of the resource study indicates numerous untested areas adjacent to mineralized blocks. The report recommends that a \$1.27 million diamond drill program be conducted in order to significantly expand resources in the Gold Mountain and Kena Gold Zones.

Both the Gold Mountain and Kena Gold Zones contain bimodal gold mineralization where the entire lengths of the drill holes often average between 0.3 g Au/t to greater than 1.0 g Au/t, and may contain one or more 1-2 metre intercepts of greater than 10 g Au/t (see previous news releases from 2001-2003). The high-grade gold intervals have an important positive impact on the overall grade of the surrounding lower grade porphyry style mineralization. The parameters of the study are discussed in detail below.

**Gold Mountain Zone**

A total of 6,269 drill core sections have been assayed for gold on the Gold Mountain Zone. The gold assay values form a positively skewed distribution. Partitioning of lognormal cumulative probability plots produces statistics for 6 overlapping lognormal populations.

On the Gold Mountain Zone there are 7 assays which are substantially above normal. A data cap is therefore necessary to reduce the effects of the two upper erratic populations representing a very small

portion of the data. A cap level of two standard deviations past the mean of population 3 was selected resulting in a total of 7 samples being capped at 23.0 g Au/t. The seven samples capped had values as follows: 240.07, 172.1, 40.66, 34.44, 33.87, 32.36 and 29.84 g Au/t. While these samples might well represent some bonanza style of mineralization in narrow structures, at this time there is insufficient data to model or to possibly predict the orientation or magnitude of these structures.

A rotated block model with block dimensions 20 x 20 x 10 metres was placed over solids with the proportion of each block below the topographic surface and inside the solid recorded. The block model parameters are listed below.

|                            |                  |            |
|----------------------------|------------------|------------|
| Minimum Easting 479000 E   | blocks 20 m wide | 75 columns |
| Minimum Northing 5474400 N | blocks 20 m long | 125 rows   |
| Maximum elevation 1650     | blocks 10 m high | 55 levels  |

Search ellipses to constrain the ordinary kriging runs were based on the ranges of the semivariograms along the three principal directions; along strike, down dip and across dip. The blocks were estimated in 4 separate passes with the dimensions of the search ellipse a function of the semivariogram ranges. A minimum of 3 composites and maximum of 8 composites were required to estimate a block. If more than 8 composites were found within the search ellipse, the closest 8 were used. If the minimum 3 composites were not found the block was not estimated during that particular pass.

The Gold Mountain mineralized zone is contained within a mixture of intrusive and volcanic rocks. Specific gravity was measured in 6 intrusive samples and four volcanic samples. The highest value of 3.28 was removed from the calculation and the remaining 9 samples averaged at 2.82.

TABLE I: SUMMARY OF GOLD RESOURCE FOR THE GOLD MOUNTAIN ZONE

| Au Cutoff<br>(g/t) | CLASSED MEASURED            |                |               | CLASSED INDICATED           |                |                |
|--------------------|-----------------------------|----------------|---------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au     |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 2,140,000                   | 0.797          | 55,000        | 23,350,000                  | 0.344          | 258,000        |
| 0.10               | 2,120,000                   | 0.807          | 55,000        | 18,880,000                  | 0.410          | 249,000        |
| 0.20               | 2,000,000                   | 0.843          | 54,000        | 11,980,000                  | 0.563          | 217,000        |
| 0.30               | 1,760,000                   | 0.923          | 52,000        | 8,420,000                   | 0.697          | 189,000        |
| <b>0.40</b>        | <b>1,450,000</b>            | <b>1.046</b>   | <b>49,000</b> | <b>5,720,000</b>            | <b>0.863</b>   | <b>159,000</b> |
| <b>0.50</b>        | <b>1,250,000</b>            | <b>1.145</b>   | <b>46,000</b> | <b>4,240,000</b>            | <b>1.009</b>   | <b>138,000</b> |
| <b>0.60</b>        | <b>1,010,000</b>            | <b>1.286</b>   | <b>42,000</b> | <b>3,190,000</b>            | <b>1.160</b>   | <b>119,000</b> |
| <b>0.70</b>        | <b>780,000</b>              | <b>1.481</b>   | <b>37,000</b> | <b>2,630,000</b>            | <b>1.271</b>   | <b>107,000</b> |
| 0.80               | 690,000                     | 1.576          | 35,000        | 2,120,000                   | 1.396          | 95,000         |
| 0.90               | 560,000                     | 1.738          | 31,000        | 1,710,000                   | 1.525          | 84,000         |
| 1.00               | 540,000                     | 1.774          | 31,000        | 1,430,000                   | 1.636          | 75,000         |
| 1.20               | 390,000                     | 2.028          | 25,000        | 1,060,000                   | 1.833          | 62,000         |
| 1.40               | 320,000                     | 2.203          | 23,000        | 870,000                     | 1.951          | 55,000         |
| 1.60               | 260,000                     | 2.352          | 20,000        | 580,000                     | 2.184          | 41,000         |
| 1.80               | 240,000                     | 2.410          | 19,000        | 380,000                     | 2.430          | 30,000         |
| 2.00               | 170,000                     | 2.619          | 14,000        | 260,000                     | 2.666          | 22,000         |
| 2.50               | 60,000                      | 3.410          | 7,000         | 110,000                     | 3.381          | 12,000         |
| 3.00               | 20,000                      | 4.473          | 3,000         | 60,000                      | 3.778          | 7,000          |
| 3.50               | 20,000                      | 4.473          | 3,000         | 30,000                      | 4.321          | 4,000          |
| 4.00               | 10,000                      | 5.054          | 2,000         | 20,000                      | 4.657          | 3,000          |

| Au Cutoff<br>(g/t) | MEASURED PLUS INDICATED     |                |                | CLASSIFIED INFERRED         |                |                |
|--------------------|-----------------------------|----------------|----------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au      |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 25,490,000                  | 0.382          | 313,000        | 95,220,000                  | 0.270          | 827,000        |
| 0.10               | 21,000,000                  | 0.450          | 304,000        | 76,010,000                  | 0.321          | 784,000        |
| 0.20               | 13,980,000                  | 0.603          | 271,000        | 40,270,000                  | 0.475          | 615,000        |
| 0.30               | 10,180,000                  | 0.736          | 241,000        | 22,000,000                  | 0.668          | 472,000        |
| <b>0.40</b>        | <b>7,170,000</b>            | <b>0.900</b>   | <b>207,000</b> | <b>15,160,000</b>           | <b>0.815</b>   | <b>397,000</b> |
| <b>0.50</b>        | <b>5,490,000</b>            | <b>1.040</b>   | <b>184,000</b> | <b>10,710,000</b>           | <b>0.967</b>   | <b>333,000</b> |
| <b>0.60</b>        | <b>4,210,000</b>            | <b>1.190</b>   | <b>161,000</b> | <b>7,900,000</b>            | <b>1.117</b>   | <b>284,000</b> |
| <b>0.70</b>        | <b>3,400,000</b>            | <b>1.319</b>   | <b>144,000</b> | <b>6,390,000</b>            | <b>1.228</b>   | <b>252,000</b> |
| 0.80               | 2,800,000                   | 1.440          | 130,000        | 5,340,000                   | 1.324          | 227,000        |
| 0.90               | 2,280,000                   | 1.578          | 116,000        | 4,550,000                   | 1.407          | 206,000        |
| 1.00               | 1,970,000                   | 1.674          | 106,000        | 3,790,000                   | 1.498          | 183,000        |
| 1.20               | 1,450,000                   | 1.886          | 88,000         | 2,790,000                   | 1.643          | 147,000        |
| 1.40               | 1,190,000                   | 2.018          | 77,000         | 1,680,000                   | 1.871          | 101,000        |
| 1.60               | 840,000                     | 2.236          | 60,000         | 1,190,000                   | 2.026          | 78,000         |
| 1.80               | 620,000                     | 2.422          | 48,000         | 630,000                     | 2.292          | 46,000         |
| 2.00               | 430,000                     | 2.648          | 37,000         | 430,000                     | 2.488          | 34,000         |
| 2.50               | 160,000                     | 3.391          | 17,000         | 140,000                     | 2.988          | 13,000         |
| 3.00               | 80,000                      | 3.963          | 10,000         | 50,000                      | 3.477          | 6,000          |
| 3.50               | 50,000                      | 4.385          | 7,000          | 30,000                      | 3.718          | 4,000          |
| 4.00               | 30,000                      | 4.801          | 5,000          | 2,000                       | 4.279          | 300            |

### Kena Gold Zone

A lognormal cumulative frequency plot was produced for 3,613 gold assays from the Kena Gold Zone. A total of 5 overlapping lognormal gold populations were partitioned from the total data set. The mineralization present at Kena consists of higher-grade narrow veins and structures superimposed on a lower-grade disseminated mineralization in the intrusives.

The higher-grade mineralization is not erratic in nature, rather it represents narrow veins and mineralized structures that cut the mineralized intrusion and may represent remobilization of gold or a later phase of gold mineralization. The 26 high-grade samples average 0.92 m and range from 0.03 m to 2.1 m in length. To allow these values to be smeared around in grade interpolation would not be correct. To cut or cap them to match the lower grade populations would also not be correct as they do represent a mineralized event that will contribute to the overall recoverable gold when mined.

The approach taken for this resource evaluation was to remove the high-grade samples from the data base, composite and model the lower grade mineralization. The lower-grade mineralization is interpolated into a block model. The high-grade mineralization is then modeled using an indicator approach with the proportion of the high-grade style of mineralization present in any block estimated. Once the proportion of high-grade is established a weighted average grade for the block is calculated as follows:

$$\text{Wt. Av. Au} = (\text{AHG} \times \text{PHG}) + (\text{KLG} \times (1 - \text{PHG}))$$

Where AHG = Average gold grade for High-Grade Population

PHG = Proportion of High-Grade in Block (from indicator kriging)

KLG = Kriged gold grade for Lower-Grade Population

For the Kena deposit, 5 metre down hole composites were produced. A value of 0.005 g Au/t was inserted in areas not sampled as it was assumed these areas were unmineralized. The 26 high-grade samples were ignored for this exercise.

A rotated block model with block dimensions 20 x 20 x 10 metres was placed over the 3D solid with the proportion of each block below the topographic surface and inside the solid recorded. The block model parameters are listed below.

|                            |                  |            |
|----------------------------|------------------|------------|
| Minimum Easting 480700 E   | blocks 20 m wide | 43 columns |
| Minimum Northing 5473900 N | blocks 20 m long | 71 rows    |
| Maximum elevation 1540     | blocks 10 m high | 44 rows    |

A minimum of 3 composites and maximum of 8 composites were required to estimate a block. If more than 8 composites were found within the search ellipse, the closest 8 were used. The blocks were estimated in 4 separate passes with the dimensions of the search ellipse a function of the semivariogram ranges. If the minimum 3 composites were not found the block was not estimated during that particular pass.

For Kena, six samples of volcanic rock were measured for specific gravity. Two samples, with 30 and 15 percent pyrite, were removed from the calculation and the remaining four samples averaged to give a specific gravity of 2.86. Obviously, pyrite content is important and the higher gold values are probably related to high sulphide content.

TABLE II: SUMMARY OF GOLD RESOURCE FOR THE KENA GOLD ZONE

| Au Cutoff<br>(g/t) | CLASSED MEASURED            |                |               | CLASSED INDICATED           |                |                |
|--------------------|-----------------------------|----------------|---------------|-----------------------------|----------------|----------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                |
|                    |                             | Au (g/t)       | Ounces Au     |                             | Au (g/t)       | Ounces Au      |
| 0.00               | 5,410,000                   | 0.502          | 87,000        | 48,931,888                  | 0.246          | 387,000        |
| 0.10               | 5,030,000                   | 0.536          | 87,000        | 35,152,956                  | 0.325          | 367,000        |
| 0.20               | 4,100,000                   | 0.622          | 82,000        | 21,131,452                  | 0.442          | 300,000        |
| 0.30               | 2,910,000                   | 0.774          | 72,000        | 11,773,973                  | 0.601          | 228,000        |
| <b>0.40</b>        | <b>2,050,000</b>            | <b>0.952</b>   | <b>63,000</b> | <b>7,362,650</b>            | <b>0.755</b>   | <b>179,000</b> |
| <b>0.50</b>        | <b>1,390,000</b>            | <b>1.189</b>   | <b>53,000</b> | <b>4,946,787</b>            | <b>0.907</b>   | <b>144,000</b> |
| <b>0.60</b>        | <b>1,040,000</b>            | <b>1.407</b>   | <b>47,000</b> | <b>3,499,762</b>            | <b>1.055</b>   | <b>119,000</b> |
| <b>0.70</b>        | <b>770,000</b>              | <b>1.667</b>   | <b>41,000</b> | <b>2,460,866</b>            | <b>1.226</b>   | <b>97,000</b>  |
| 0.80               | 600,000                     | 1.925          | 37,000        | 1,635,885                   | 1.466          | 77,000         |
| 0.90               | 480,000                     | 2.197          | 34,000        | 1,217,271                   | 1.679          | 66,000         |
| 1.00               | 450,000                     | 2.282          | 33,000        | 953,117                     | 1.881          | 58,000         |
| 1.20               | 360,000                     | 2.582          | 30,000        | 654,299                     | 2.239          | 47,000         |
| 1.40               | 280,000                     | 2.948          | 27,000        | 534,088                     | 2.457          | 42,000         |
| 1.60               | 270,000                     | 3.012          | 26,000        | 423,837                     | 2.710          | 37,000         |
| 1.80               | 250,000                     | 3.133          | 25,000        | 387,203                     | 2.804          | 35,000         |
| 2.00               | 220,000                     | 3.254          | 23,000        | 378,305                     | 2.826          | 34,000         |
| 2.50               | 160,000                     | 3.649          | 19,000        | 220,633                     | 3.293          | 23,000         |
| 3.00               | 80,000                      | 4.528          | 12,000        | 144,620                     | 3.620          | 17,000         |
| 3.50               | 60,000                      | 5.109          | 10,000        | 62,949                      | 4.156          | 8,000          |
| 4.00               | 50,000                      | 5.512          | 9,000         | 38,941                      | 4.297          | 5,000          |

| Au Cutoff<br>(g/t) | MEASURED PLUS INDICATED     |                |                | CLASSIFIED INFERRED         |                |               |
|--------------------|-----------------------------|----------------|----------------|-----------------------------|----------------|---------------|
|                    | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |                | Tonnes > Cutoff<br>(tonnes) | Grade > Cutoff |               |
|                    |                             | Au (g/t)       | Ounces Au      |                             | Au (g/t)       | Ounces Au     |
| 0.00               | 54,350,000                  | 0.271          | 474,000        | 32,070,000                  | 0.175          | 180,000       |
| 0.10               | 40,190,000                  | 0.351          | 454,000        | 18,930,000                  | 0.268          | 163,000       |
| 0.20               | 25,230,000                  | 0.471          | 382,000        | 6,940,000                   | 0.492          | 110,000       |
| 0.30               | 14,680,000                  | 0.635          | 300,000        | 3,800,000                   | 0.699          | 85,000        |
| <b>0.40</b>        | <b>9,410,000</b>            | <b>0.798</b>   | <b>241,000</b> | <b>2,330,000</b>            | <b>0.922</b>   | <b>69,000</b> |
| <b>0.50</b>        | <b>6,330,000</b>            | <b>0.969</b>   | <b>197,000</b> | <b>1,440,000</b>            | <b>1.216</b>   | <b>56,000</b> |
| <b>0.60</b>        | <b>4,540,000</b>            | <b>1.135</b>   | <b>166,000</b> | <b>1,120,000</b>            | <b>1.402</b>   | <b>50,000</b> |
| <b>0.70</b>        | <b>3,230,000</b>            | <b>1.331</b>   | <b>138,000</b> | <b>870,000</b>              | <b>1.626</b>   | <b>45,000</b> |
| 0.80               | 2,240,000                   | 1.590          | 115,000        | 720,000                     | 1.805          | 42,000        |
| 0.90               | 1,700,000                   | 1.826          | 100,000        | 620,000                     | 1.972          | 39,000        |
| 1.00               | 1,410,000                   | 2.010          | 91,000         | 550,000                     | 2.089          | 37,000        |
| 1.20               | 1,010,000                   | 2.361          | 77,000         | 420,000                     | 2.417          | 33,000        |
| 1.40               | 820,000                     | 2.626          | 69,000         | 310,000                     | 2.819          | 28,000        |
| 1.60               | 690,000                     | 2.828          | 63,000         | 240,000                     | 3.222          | 25,000        |
| 1.80               | 630,000                     | 2.932          | 59,000         | 240,000                     | 3.222          | 25,000        |
| 2.00               | 600,000                     | 2.985          | 58,000         | 240,000                     | 3.222          | 25,000        |
| 2.50               | 380,000                     | 3.444          | 42,000         | 170,000                     | 3.545          | 19,000        |
| 3.00               | 230,000                     | 3.953          | 29,000         | 120,000                     | 3.808          | 15,000        |
| 3.50               | 120,000                     | 4.610          | 18,000         | 60,000                      | 4.532          | 9,000         |
| 4.00               | 80,000                      | 4.953          | 13,000         | 48,000                      | 4.705          | 7,000         |

As part of the resource calculation, computer modeling and generation of block level plans and sections have been completed for the Gold Mountain and Kena Gold Zones. The models indicate numerous untested areas adjacent to mineralized blocks.

It is important to note that the Kena and Gold Mountain Zones lie along a single structural feature. The south end of the Gold Mountain zone and north end of the Kena zone are located 400 metres apart along this structure. No drilling has taken place distance between these two zones and there is no reason to believe that the mineralization is not continuous along this structural feature.

It is recommended for 2004, that a \$1.27 million diamond drill program be conducted in order to significantly expand resources in the Gold Mountain and Kena Gold Zones. As well, directional drilling to test for increased grade will be conducted in both zones. Diamond drilling is also recommended for several other target areas on the large Kena Property, most significantly on the South Gold Zone where a third porphyry gold mineralized zone (similar to Kena and Gold Mountain) has been identified.

Commencement of the 2004 exploration program is dependent upon financing.

**Arthur G. Troup, P.Eng., Geol.**  
President

For further information please contact:  
**Investor Relations** at the Lang Mining Group  
Tel: (604) 687-4622 Fax: (604) 687-4212  
Toll Free: 1-888-267-1400 Email: [IR@langmining.com](mailto:IR@langmining.com)

No regulatory authority has approved or disapproved the information contained in this news release

**Form 51-102F3**  
***Material Change Report***

**Item 1      Name and Address of Company**

Sultan Minerals Inc.  
1400 - 570 Granville Street  
Vancouver, BC V6C 3P1

(the "Company")

Telephone: (604) 687-4622

**Item 2.      Date of Material Change**

June 25, 2004.

**Item 3.      News Release**

The press release was issued on June 30, 2004 via news wire services.

**Item 4.      Summary of Material Change**

See attached press release.

**Item 5.      Full Description of Material Change**

See attached press release.

**Item 6.      Reliance on Section 7.1(2) or (3) of NI 51-102**

N/A

**Item 7.      Omitted Information**

N/A

**Item 8.        Executive Officers**

The following executive officer of the Issuer is knowledgeable about the material change and may be contacted by the Commission at the address and telephone number:

Arthur G. Troup  
President & CEO  
1400 – 570 Granville Street  
Vancouver, BC V6C 3P1

Telephone: (604) 687-4622

**Item 9.        Date of Report**

June 30, 2004.

**SULTAN MINERALS INC.**

Suite 1400 – 570 Granville Street  
Vancouver, B.C. V6C 3P1  
**www.sultanminerals.com**

June 30, 2004

Ticker Symbol: **SUL**-TSX Venture  
SEC 12g3-2(b): 82-4741

**SULTAN MINERALS CLOSES BROKERED PRIVATE PLACEMENT FINANCING**

**Sultan Minerals Inc.** (SUL-TSX Venture) (“Sultan”) is pleased to announce that it has closed its brokered private placement financing previously announced May 28, 2004, as amended June 15, 2004, of 2,400,000 units (the “Units”) at a price of \$0.15 per Unit for gross proceeds of \$360,000. Each Unit is comprised of one common share in the capital of Sultan and one non-transferable share purchase warrant. Each share purchase warrant entitles the holder to purchase one additional common share of Sultan at an exercise price of \$0.20 per share, expiring June 25, 2005.

In consideration for arranging the private placement, Canaccord Capital Corporation received an administration fee of \$3,000, a cash finder’s fee equal to 7.85% of the gross proceeds raised, non-transferable agent’s finder’s fee warrants, having the same terms as described above, equal to 20% of the total number of Unit sold, and 3,500 agent’s finder’s fee units, having the same terms as the Units described above.

All shares, warrants and any shares issued upon exercise of the warrants with respect to the private placement and agent’s compensation are subject to a hold period and may not be traded for a four months period ending October 26, 2004.

Proceeds from the private placement will be used to fund exploration programs on the Company’s Coripampa 1 and 2 silver and gold properties situated in Peru, the Kena gold property in British Columbia and for general working capital.

**Arthur G. Troup, P. Eng., Geol.**  
President & CEO

For further information please contact:  
**Investor Relations** at the Lang Mining Group  
Tel: (604) 687-4622 Fax: (604) 687-4212  
Toll Free: 1-888-267-1400 Email: [info@sultanminerals.com](mailto:info@sultanminerals.com)

No regulatory authority has approved or disapproved the information contained in this news release