830845 Scott Sandy

#### **GEOLOGICAL REPORT**

on the

#### WILLIAM'S GOLD PROPERTY

Toodoggone – Stikine River Area Liard Mining Division **British Columbia** 

Latitude: 57°11.7' – 54°15.5' North Longitude: 127°11.1' – 127°20.3' West NTS Map-Area 94E/13

#### Prepared for

#### STIKINE GOLD CORPORATION

By

N.C. CARTER, Ph.D. P.Eng. March 3, 2003

#### TABLE OF CONTENTS

| SUMMARY   | 1  |
|---|----|
| INTRODUCTION AND TERMS OF REFERENCE                     | 1  |
| PROPERTY DESCRIPTION and LOCATION                       | 1  |
| ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE |    |
| and PHYSIOGRAPHY  | 4  |
| HISTORY   | 5  |
| GEOLOGICAL SETTING                                      |    |
| Regional Setting  | 7  |
| Property Geology  | 8  |
| MINERALIZATION  | 9  |
| EXPLORATION   | 11 |
| DRILLING  | 14 |
| SAMPLING METHODS AND ANALYSES                           | 15 |
| DATA VERIFICATION                                       | 16 |
| INTERPRETATION AND CONCLUSIONS                          | 16 |
| RECOMMENDATIONS   | 17 |
| COST ESTIMATE   | 18 |
| REFERENCES  | 19 |
| CERTIFICATE   | 21 |
|   |    |

APPENDIX I - T-Bill Prospect Diamond Drilling

\*

•

Following text

**.** 

Page

#### List of Figures

|   | Following Page |
|---|----------------|
| Figure 1 - Location   | Frontispiece   |
| Figure 2 – William's Property – Mineral Claims                              | 2              |
| Figure 3 – William's Property Location Map                                  |                |
| Figure 4 – William's Property – Regional geological Setting                 | 7              |
| Figure 5 – William's Property – Geological Setting                          | 8              |
| Figure 6 – William's Property – T-Bill Prospect Soil Geochemistry           | 11             |
| Figure 7 – William's Property – Park prospect Geochemistry                  | 12             |
| Figure 8 – William's Property – IP Survey                                   | 13             |
| Figure 9 – William's Property – IP Survey                                   | 13             |
| Figure 10 – William's Property – IP Survey                                  | 13             |
| Figure 11 – William's Property – IP Survey                                  | 13             |
| Figure 12 – William's Property – 1983/84 Diamond Drilling – T-Bill Prospect | 14             |
| Figure 13 – William's property – T-Bill Prospect Compilation                | 16             |



Figure 1: Location

25

05

.

#### SUMMARY

20

Stikine Gold Corporation has entered into an option agreement to earn a majority interest in the William's gold property which is situated in the northern part of the Toodoggone mining district in northern British Columbia The property consists of 11 contiguous four-post mineral claims covering an area of 4200 immediately north of the Stikine River some 140 kilometres southeast of Dease Lake. Access to the property is by aircraft from Dease Lake or Smithers This report, prepared at the request of Stikine Gold Corporation, is based in part on a This report, prepared at the request of Stikine Contemport 14, 2002, on records of

This report, prepared at the request of Stikine Gold Corporation, is based in part on a personal examination of the subject property undertaken September 14, 2002, on records of recent exploratory work provided by the company and on information readily available in the public domain.

Initial mineral claims covering the area of the current William's property were located in 1980. Exploratory work over the subsequent 15 years included geological mapping, geochemical surveys and 3023 metres of diamond drilling. More recent work has included geochemical sampling in 2001 and an Induced Polarization survey in 2002.

The William's property, situated in Stikine terrane of the northern Intermontane tectonic belt, is underlain by late Paleozoic to late Triassic volcanic and sedimentary rocks which have been intruded by early Jurassic granitic rocks. Work to date has identified two distinct styles of gold mineralization. The T-Bill prospect, in the central property area, which has received the most attention to date, includes gold mineralization related to narrow quartz-arsenopyrite veins and stringers developed in intensely deformed, late Paleozoic, schistose volcanic rocks. The distribution of the known gold-bearing veins, largely based on drilling evidence, is within a broad area of carbonate-muscovite-quartz alteration which is central to a 3 x 2 km area of anomalous gold and arsenic in soils. Several drill holes contained >2 metres intervals of +10 grams/tonne gold and most holes contained intervals of up to tens of metres grading more than 0.5 grams/tonne. Bedrock exposures in the area of the T-Bill prospect are few and the orientation of the gold-bearing veins and quartz stringers is not precisely known. The T-Bill gold-bearing quartz veins are thought to have formed in a mesothermal environment.

mentions;

2. breccias

ehargezbility highs(2)

vains

Most of the better gold grades encountered in drill core contained some visible gold. Recent metallic screen assaying of samples of sections of drill core returned significantly higher values than those obtained from earlier sampling.

A recent Induced Polarization survey centred on the T-Bill prospect identified broad zones of higher chargeability coincident with graphitic phyllites and a pronounced resistivity high immediately north of the area of previous drilling which may be reflecting more intense silicification. This resistivity anomaly has an overall east-northeast trend which is possibly indicative of the principal trend of the gold-bearing veins.

# Intrusion-related gold mineralization at the less well known Park prospect in the northern port of the property is reflected by 500 x 900 metres open, gold-copper-arsenic soil geochemical anomaly which overlies homfelsed, silicified and pyritized volcanics. Similar styles of mineralization are exposed in the southern property area.

The Williams' gold property warrants additional exploratory work. The writer recommends a two-phase program estimated to cost \$942,425.00 and consisting of an initial phase of diamond drilling to test the resistivity anomaly north of the area of previous drilling. Additional surface investigations of lesser explored areas of the property would also be part of first phase work. The nature and scope of second phase work, which is recommended to include additional diamond drilling, would be based on the results obtained from the initial phase.

#### INTRODUCTION and TERMS OF REFERENCE

Stikine Gold Corporation has entered into an option agreement to earn a majority interest in the William's gold property situated in the northern part of the Toodoggone mining district in northern British Columbia. Previous work on this property has disclosed the presence of widespread gold mineralization in at least two distinct geological environments.

The author of this report has been retained by Stikine Gold Corporation to review and comment on the results of exploratory work completed to date on the subject property, to prepare preliminary comments regarding the potential of the property and to provide recommendations regarding the nature and scope of further exploratory work programs.

This technical report has been prepared in compliance with the requirements of National Instrument 43-101 and Form 43-101F1 and is intended to be used as supporting documentation to be filed with the British Columbia Securities Commission and the TSX Venture Exchange.

Information used in the preparation of this report includes a number of technical reports detailing work on the subject property since 1980. These reports, filed in support of assessment work requirements, are readily available in the BC Ministry of Energy and Mines public files. Published reports and maps also provided useful information and citations for these and the various assessment reports are contained in the Reference section of this report. Results of a geophysical survey, undertaken in 2002 over the central property area on behalf of Stikine Gold Corporation, are also summarized in this report.

A personal examination of parts of the William's property was carried out September 14, 2002. The writer, the "qualified porsop" for purposes of this report, has a good working knowledge of the geological settings and styles of mineralization in the Toodoggone mining district derivad by way of numerous mineral property examinations, geological mapping programs and supervision of exploration programs over the past 30 years.

Units of measure in this report are metric; monetary amounts referred to are in Canadian dollars.

#### **PROPERTY DESCRIPTION and LOCATION**

The William's gold property consists of eleven four-post, opntiguous mineral claims situated in the Liard Mining Division of northern British Columbia 140 km southeast of Dease Lake and 340 km north of Smithers (Figure 1). The mineral claims comprise 178 mineral claim units which collectively cover an area of 4200 hectares between latitudes  $57^{0}44.1'$  and  $57^{0}49.4'$  North and longitudes  $127^{0}42.2'$  and  $127^{0}48.7'$  West in NTS map-area 94E/13. (UTM coordinates (Zone 9) 6399950 - 6409950 North, 576800 - 577000 East).

The configuration of the various mineral claims is illustrated on Figure 2 and details are as follows:



Figure 2: William's Property - Mineral Claims

1

#### Table 1

| Claim Name | Record No. | Units | Record Date    | Expiry Date   | Recorded Owner                      |
|------------|------------|-------|----------------|---------------|-------------------------------------|
| BT         | 385785     | 20    | April 21, 2001 | Dec. 31, 2004 | <b>Rimfire Minerals Corporation</b> |
| BT 1       | 386612     | 20    | May 16, 2001   | Dec. 31, 2004 | Rimfire Minerals Corporation        |
| BT 2       | 386613     | 20    | May 16, 2001   | Dec. 31, 2004 | <b>Rimfire Minerals Corporation</b> |
| BT 3       | 386614     | 8     | May 16, 2001   | Dec. 31, 2004 | Rimfire Minerals Corporation        |
| GOS        | 386611     | 20    | May 17, 2001   | May 17, 2003  | Rimfire Minerals Corporation        |
| WILL 1     | 393892     | 9     | June 5, 2002   | June 5, 2003  | Stikine Gold Corporation            |
| WILL 2     | 393893     | 9     | June 5, 2002   | June 5, 2003  | Stikine Gold Corporation            |
| WILL 3     | 393894     | 18    | June 5, 2002   | June 5, 2003  | Stikine Gold Corporation            |
| WILL 4     | 393895     | 18    | June 5, 2002   | June 5, 2003  | Stikine Gold Corporation            |
| ROK 1      | 400282     | 18    | Feb.11, 2003   | Feb.11, 2004  | Stikine Gold Corporation            |
| ROK 2      | 400283     | 18    | Feb.11, 2003   | Feb.11, 2004  | Stikine Gold Corporation            |

The BT, BT 1-3 and GOS mineral claims, located in 2001 by two individuals, were subsequently optioned to Rimfire Minerals Corporation. The option agreement gave Rimfire the right to earn a 100% interest in the mineral claims in exchange for staged cash payments and issuances of common shares amounting to \$90,000 and 200,000 shares prior to December 31, 2004. The vendors retained a 2.5% net smelter royalty interest in any commercial production with Rimfire having the right to purchase 60% of the royalty for \$ 2 million.

In July of 2002, Rimfire entered into an option agreement granting Stikine Gold Corporation the right to earn a 70% interest in the claims by funding exploration expenditures of \$1.5 million over a four year period and making staged cash payments and issuances of common shares amounting to \$175,000 and 150,000 shares over the same time frame. Subsequent to earning the 70% interest, Stikine must fund annual exploration and development programs of not less than \$500,000 until completion of a positive feasibility study. Rimfire may elect to have Stikine arrange financing to fund Rimfire's share of development costs; this election would allow Stikine to earn an additional 5% interest in the property.

#### outright

Rimfire has also purchased the property interest of one of the original vendors with the result being that Rimfire can now earn a 100% interest in the mineral claims by making staged cash and shares payments of \$32,500 and 75,000 common shares to the remaining vendor by December 31, 2004. Two-thirds of the vendor's 1.5% net smelter royalty interest may be purchased for \$1 million and an additional 50,000 shares would be issued to the vendor upon commercial production.

The WILL 1,2,3,4 and ROK 1 and 2 mineral claims, located on behalf of Stikine Gold Corporation in June of 2002 and February of 2003 respectively, are subject to the Rimfire – Stikine agreement.

The mineral claims comprising the Williams's gold property are thought to have been located pursuant to procedures specified by regulations of the Mineral Tenure Act of the Province of British Columbia. No claim posts or lines were inspected during the writer's examination of the property September 14, 2002. The mineral claims have not been surveyed.

The BT and BT 1-3 mineral claims cover previously identified gold-bearing mineralized zones; the GOS, ROK 1 and 2 and WILL 1-4 mineral claims were located to cover geochemical anomalies and areas of geological interest.

Mineral claims in British Columbia may be kept in good standing by incurring assessment work or by paying cash-in-lieu of assessment work in the amount of \$100 per mineral claim unit

per year during the first three years following location of the mineral claim. This amount increases to \$200 per mineral claim unit in the fourth and succeeding years.

The writer is not aware of any specific environmental liabilities to which the various mineral claims are subject. The claims are immediately north of the Stikine River Provincial Park, but to the extent known, there are no apparent problems in terms of access or in carrying out mineral exploration and development. The William's property is in the northern part of the Toodoggone district where mining-related activities have been underway for more than 75 years.

Exploration work on mineral properties in British Columbia requires the filing of A Notice of Work and Reclamation with the Ministry of Energy and Mines. The issuance of a permit facilitating such work may involve the posting of a reclamation bond.

## ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY

The Williams' gold property is situated west of Park Creek between 5 and 10 km north of its confluence with Stikine River (Figure 3). The property is near the headwaters of Stikine River and the closest community, Dease Lake, is 160 km northwest (Figure 1). Access to the central part of the property is by helicopter from either Dease Lake or Kemess mine some 100 km south (Figure 4).

Forfer Lake, 20 km west of the property (Figure 4), can accommodate floatplanes which offer a means of transport of personnel and supplies into the general area from Smithers, which is 350 km south, or alternatively, from Tatogga Lake on provincial highway 37 some 150 km west of the property.

Supplies and personnel can also be transported into the area by way of a secondary road linking Kemess mine with Mackenzie (Figure 1). This road extends 35 km further northwest to the Sturdee airstrip (Figure 4) which is capable of handling large aircraft, thus providing an alternate means of access into the general area. A smaller airstrip at Hyland Post, 25 km southwest of the William's property (Figure 4) is also serviceable.

Another access route into the area is by boat up the Stikine River from the bridge on provincial highway 37 midway between Tatogga Lake and Dease Lake. River distance to the confluence of Park Creek is about 150 km.

The communities of Smithers and Prince George, both several hundred km south of the William's property, offer the best range of supplies and services which can be trucked or flown into the general area. ere than 10,000 and offer most supplies and services. Other than water, which is abundant, there is no infrastructure in the immediate area of the property. Kemess mine, 100 km south, is connected to the provincial power grid.

The William's property is situated near the boundary between the Spatsizi Plateau to the west and the Stikine Ranges of the southern Cassiar Mountains to the east. The immediate area features wide, drift-filled valleys of Stikine River and tributaries, the gently rolling upland surface of the Spatsizi Plateau and steep-sided, maturely dissected mountains. Scattered tree cover is present in valley areas up to elevations of 1600 metres above sea level above which is typical alpine terrain featuring short grasses and lichen. Bedrock is reasonably well exposed in the areas above tree line and along drainages.



4

Figure 3

## William's Property Location Map

NTS Maps 94E/12, 13



Much of the William's property is in alpine terrain featuring moderately rugged topography. Elevations range from about 1200 metres above sea level in the southeastern part of the GOS mineral claim and the eastern part of the WILL 4 claim (Figure 2) to more than 2000 metres in the northem part of the BT claim.

The climate is typical of the northern regions of British Columbia with cold temperatures and abundant snow cover during the winter months which extend from mid-October through early May. Field work is best carried out between mid-June and late September when daytime temperatures average 10 to 15 degrees Celsius.

#### HISTORY

Table 2

As previously noted, the William's property is in the northern part of the Toodoggone mining district. Earliest mihing-related work in this area was directed to placer gold occurrences along McClair Creek, a south-flowing tributary of Toodoggone River, between 1925 and 1935. This operation, one of the first in Canada to be entirely air-supported, recovered only modest amounts of gold (3270 grams = 115 ounces).

Consolidated Mining and Smelting Company discovered base metals mineralization in several areas in the southern part of the district in the early 1930s but other than sporadic investigations of the McClair Creek placer occurrences, the area was virtually domant until the 1960s. A number of companies, including Canadian Superior Exploration, Cominco, Cordilleran Engineering and Kennco Explorations, conducted regional exploration programs in the search for porphyry copper mineralization. Work by Kennco Explorations lead to the recognition of significant gold-silver mineralization at what were to become the Baker mine (Chappelle) and Lawyers (Cheni mine) deposits south of Toodoggone River (Figure 4). This company also discovered porphyry-style copper-gold mineralization at several sites north and south of Finlay River including the currently producing Kemess mine.

Continued exploration in the 1980s and 1990s resulted in the discovery of a number of additional gold-silver deposits and occurrences throughout the area. The more significant of these are shown on Figure 4.

Production from the Toodoggone district began with the Baker mine operation in 1981 and continues with the current South Kemess mine of Northgate Exploration Ltd. Gold production to the end of 2002. District production through 2002 amounts to more than 1.4 million ounces gold which has been derived from three past producers and one current producer. As indicated on Table 2, more than two-thirds of the production has been from the South Kemess mine.

|                      |                 |                |                |                | Recover         | ed Grades       | 6             |
|----------------------|-----------------|----------------|----------------|----------------|-----------------|-----------------|---------------|
| Deposit Name         | Tonnes Milled   | <u>Au (kg)</u> | <u>Ag (kg)</u> | <u>Cu (kg)</u> | <u>Au (g/t)</u> | <u>Ag (g/t)</u> | <u>Cu (%)</u> |
| McClair Creek Placer |                 | 3.3            |                |                |                 |                 |               |
| (1935)<br>Delve Mine | 04070           | 4004           | 00040          | 40070          | 45.00           | 000.04          | 0.00          |
| Baker Mine           | 81878           | 1284           | 23813          | 13076          | 15.68           | 290.84          | 0.02          |
| (1981-83, 1996-97)   | 040000          | F 100          | 440404         | N1/A           | 0.74            | 400 50          | N//A          |
| Lawyers (Cheni)      | 619869          | 5402           | 113184         | N/A            | 8.71            | 182.59          | N/A           |
| (1989-1992)          | 440440          |                | 22040          | <b>N1/A</b>    | E 00            | 004.04          | N//A          |
| Shas                 | 113113          | 603            | 33019          | N/A            | 5.33            | 291.91          | N/A           |
| (1989-91, 2000)      | 440,400.07      | 00004          | 4704           | 05544          | 0.07            | 4.40            | 0.00          |
| South Kerness        | <u>41249087</u> | <u>26381</u>   | <u>4781</u>    | <u>95544</u>   | 0.97            | 4.13            | 0.23          |
| (1998-present)       | 42063947        | 40962          | 173797         | 108630         |                 |                 |               |
|                      |                 | (1,444,8       | 89 oz. Au;     | 6,130,49       | boz. Ag)        |                 |               |

The earliest record of work in the area of the present William's property dates back to 1976 when Cominco Ltd. undertook stream sediment sampling as part of a base metals exploration program. A number of the samples collected were subsequently analyzed for gold and silver which lead to the staking of the Bill property in early 1980. The current BT, BT1 and the southern part of BT2 mineral claims cover part of the area of the previous Bill claims.

DuPont of Canada Exploration Limited carried out a heavy mineral concentrate stream sediment sampling program in the same general area in 1980. Several samples returned anomalous gold values and the Park claims were located contiguous with the Cominco claims on the north and east or the area is now covered by the northern half of BT2, BT3 and the WILL 1-4 mineral claims. DuPont's Ark claims were located contiguous with Cominco's property on the south to cover additional areas with anomalous gold values in stream sediments. The area of these claims is currently covered by the ROK 1 and 2 and GOS claims.

Work by both companies in 1980 and 1981 included the collection and analyses of soil, stream sediment and rock samples plus some hand trenching (Sharp, 1981, 1982; Eccles, 1981; Strain, 1981, Drown, 1982).

In early 1982, Cominco and DuPont entered into an agreement to combine the separate property interests with DuPont acting as the operator for continuing exploratory work. Through 1984, most of the additional work was directed to the Bill property and consisted of additional hand trenching, grid construction, magnetometer, VLF-EM and Induced Polarization surveys, geological mapping and 3023 metres of NQ-sized diamond drilling in 15 inclined holes (Drown, 1983, Copland, 1982, Kowalchuk, 1984, Paterson, 1985).

DuPont's original Park claims were allowed to lapse and were subsequently staked by Comox Resources Ltd. in 1987. Skylark Resources Ltd., by way of an option agreement, undertook prospecting, soil sampling and a VLF-EM survey later that year (McAtee and Burns, 1988). These claims were essentially relocated by AGC Americas Gold Corp. in 1995 and over the next two years this company completed soil sampling, an airborne magnetometer survey and a remote sensing study (Krause, 1996, Hawkins, 1998).

The current BT and BT1-3 mineral claims were staked in early 2001 to cover most of the areas of interest identified by previous Cominco and DuPont work. Rimfire Minerals Corporation entered into an option agreement and a comprehensive program completed in 2001 consisted of a compilation of previous work, the collection of 10 stream sediment samples, 117 soil samples and 49 rock samples, prospecting and geological mapping. Some of the 1980s diamond drill core was retrieved and certain sections of core were re-sampled (Awmack, 2001).

Stikine Gold Corporation negotiated an option agreement with Rimfire in mid-2002 and the WILL 1-4 and ROK 1 and 2 mineral claims were staked on behalf of Stikine Gold. A September, 2002 exploration program included 38 line kilometres of Induced Polarization survey 2,451.37 29 NOVO2 plus the collection and analyses of 25 rock samples. Results of the 2002 program are described in subsequent sections of this report.

Expenditures incurred though 2001 within the boundaries of the current William's property, as documented by assessment reports filed with the BC Ministry of Energy and Mines, total \$978,775.40 or \$1,650,238.60 in 2002 dollars. The majority (90%) of these expenditures were incurred between 1981 and 1984. The 2001 program involved expenditures of \$47,749.12 (Awmack, 2001); costs of conducting / 2002 geophysical program are estimated to be \$60,000.00 the plane like's 24 outor 5719.95 24 outor

Paio Sknong Serns 3711.74 25 SEP 02 7500.753 21 007 02 2429.83 28 Nov Nic. CARTER, Ph.D. P.Eng. Consulting Geologist 40,000 AUG 27 02 4741.80 25 SEP 02 4741.80 25 SEP 02 1063.10 30 022 0 CMNIMM 210<sup>To2</sup> 3745.7 210<sup>To2</sup> 3745.7 210<sup>To2</sup> 3745.7 210<sup>To2</sup> 3745.7 210<sup>To2</sup> 9298.88 13 FeB 03 CMREM 1050

CJL

166.72

28 NOV 1348.20 13 FEB

#### **GEOLOGICAL SETTING**

#### **Regional Setting**

The William's gold property, situated in the northeastern part of the Intermontane tectonic belt of the Canadian Cordillera, is immediately west of a fault contact between Quesnel terrane of the Omineca crystalline belt on the east and Stikine terrane on the west (Figure 4). Stikine terrane includes Devonian to Jurassic volcanic and sedimentary rocks which are intruded by coeval and younger plutonic rocks and are locally overlain by younger volcanic and sedimentary units.

Oldest rocks in the area illustrated by Figure 4 are intensely deformed, Devonian to Permian Asitka Group volcanic and sedimentary rocks. These have their greatest distribution north of Stikine River where they consist of mafic to felsic volcanic rocks which are mainly converted to chlorite and sericite schists, phyllites derived from clastic sedimentary rocks and younger rhyolites, cherts and carbonate sediments. At least two phases of deformation are evident and isoclinal fold axes have two dominant trends including north-south and an apparently younger, west-northwest trend (Thorstad, 1980).

Remnants of Asitka Group carbonates and cherts, too small to be shown on Figure 4, are present in the vicinity of Baker Mine and north and south of Finlay River.

ot

Volcanic rocks of the late Triassic, Takla (Stuhini) Group, which form mountainous terrain south of Chukachida and Finlay Rivers, are comprised mainly augite basalt, and esitic flows, tuffs and breccias and subordinate interflow clastic sedimentary rocks and some limestone. Smaller areas underlain by Takla Group rocks include those east and west of the William's property in the northern part of the area shown on Figure 1 and remnants marginal to a granitic stock in the southern part of the area. The volcanic rocks marginal to such plutons feature limonite-rich alteration zones.

Coeval with Takla Group volcanic rocks is the Lunar Creek mafic-ultramafic body along the faulted western boundary of Quesnel terrane 20 km northeast of the William's property (Figure 4). This elongate intrusion, which intrudes both Takla Group volcanic rocks and older Asitka Group volcanic and sediments, is composed of dunites, pyroxenites and gabbros (Hammack et al, 1991).

Younger, early Jurassic andesite and dacite flows and volcaniclastic rocks of the Hazelton Group underlie the eastern part of the area between Chuakchida and Finlay Rivers. Of similar age, but comprised of different (and distinctive) lithologies, is the Toodoggone Formation which is contained in a northwest-trending, 90 by 10-15 km belt centred on Toodoggone River. Toodoggone subaerial volcanic rocks unconformably overlie, or are in fault contact with older rocks and consist principally of high potassium, calcalkaline latites and dacites (Daikow et al,1993). Two eruptive cycles have been recognized and Jurassic plutons, numerous throughout the district, are comagmatic with the earlier volcanic cycle.

Cretaceous clastic sedimentary rocks, part of the Sustut Group, unconformably overlie older rocks and form the western boundary of the area illustrated on Figure 4.

The Pitman River fault, part of a 500 km east-west lineament, is 30 km north of the William's property. This structure, which features 3 km left lateral offsets of northwest-trending faults and only minor vertical displacement, is thought to be of Tertiary age (Alldrick, 2000).

The numerous gold-silver deposits of the district are related to the early Jurassic, Toodoggone magmatic event. Extensional tectonics, in the form of regional northwest faults, provided channelways for the circulation of precious metals-rich hydrothermmal fluids.



Figure 4: William's Property - Regional Geological Setting

ŵ.

Several styles of mineralization are present in the district including volcanic-hosted epithermal gold-silver deposits, porphyry copper-gold deposits and some precious metals-bearing skarns. Epithermal deposits and occurrences are typical of the district and include two principal types of which the low sulphidation, adularia-sericite type is the best known. The Baker Mine, Lawyers and Shas deposits, plus numerous other prospects, are examples of this type and all feature quartz veins emplaced along faults and fracture zones in volcanic host rocks which feature adularia-sericite alteration marginal to the precious metals-bearing veins. Host rocks are Toodoggone Formation latite flows and dacite tuffs with the exception of Baker mine where veins are developed in Takla Group volcanics.

The second type of epithermal mineralization is represented by high sulphidation, acid sulphate gold-silver deposits which feature alunite and barite alteration zones which formed near surface or above the alunite-sericite types. Examples include the BV (Al) north of Toodoggone River (Figure 4) and the Silver Pond prospect adjacent to the Lawyers deposit.

Porphyry copper-gold mineralization, within and marginal to early Jurassic granitic plutons, has been recognized at a number of localities in the southern part of the district. The best example of this style of mineralization is the currently producing South Kemess mine where chalcopyrite, pyrite, magnetite and minor molybdenite occcur as disseminations and in quartz stockwork veinlets both within a gently-dipping, tabular monzonite sill and bordering Takla Group volcanic rock. This deposit features a 25 metres thick supergene zone containing enhanced copper and gold values. The Kemess north deposit, currently being explored, features pyrite, chalcopyrite and minor molybdenite in quartz-K-feldspar stockwork veinlets and as disseminations related to quartz monzonite dykes which cut Takla Group volcanic rocks. A reported inferred resource of 170 million tonnes has average grades of 0.50 gram/tonne gold and 0.29% copper at a cutoff grade of 0.80 gram/tonne gold equivalent.

#### **Property Geology**

The geological setting of the William's property is illustrated on Figure 5. Underlying much of the claims area are intensely deformed schists and phyllitic sedimentary rocks of the late Paleozoic Asitka Group. The schistose rocks, are thought to have been derived from felsic to mafic volcanic rocks and lesser sediments; primary textures are virtually obliterated.

Asitka Group rocks in the property area have been divided into three general stratigraphic units (Paterson,1985) in the central property area but structural complexities preclude determination of age relationships between them. A lower volcanic unit, underlying the higher areas south of the camp (Figure 5), consists of calcareous chlorite schist, chlorite-muscovite-feldspar schist and sericitic quartzite. This unit is thought (Paterson,1985) to have been derived from at least 1500 metres of intermediate tuffaceous volcaniclastics and cherts. A middle sedimentary unit, west of the camp (Pap unit – Figure 5), is composed of buff-weathering limestone, argillaceous phyllite, graphite schist and calcareous greywacke. An upper volcanic unit, which hosts much of the quartz-related mineralization identified to date, includes a sequence of chlorite schists and quartz-chlorite-feldspar schists which have undergone extensive carbonatization and sericitization. This upper volcanic unit is thought to be a metamorphosed and deformed sequence of original andesitic to rhyolitic tuffs and volcaniclastics and lesser mafic volcanics.

In the vicinity of the T-Bill prospect, Paterson (1985) recognized two phases of triassic (2) penetrative deformation of possible Triassic age and a younger (Mesozoic or Tertiary) episode of kink folding accompanied by a northeasterly-elongated doming of foliation which is centred on the T-Bill prospect in the central property area (Figure 5).

In the northeastern property area, the Asitka Group is dominated by dark grey chert units



with lesser tuffaceous sediments and andesitic volcanics (Drown, 1982). Late Triassic, Takla Group andesitic volcanic rocks and siliceous tuffs underlie the northern claims area. The contact between Asitka and Takla Group rocks, which is obscured by valley overburden cover, may be an east-west fault.

Non foliated quartz monzonites and granodiorites intrude Asitka Group schists in the southern claims area. These are generally medium-grained and equigranular, and locally feature pegmatitic and aplitic phases (Awmack,2001). These granitic rocks may be part of 10 km diameter stock which is reflected by a pronounced airborne magnetic low. The granitic intrusions in the northern property area include fine- to medium-grained granodiorites and aplites cutting Asitka Group rocks and medium-grained diorites intruding Takla Group volcanics (Drown,1982). . A crowded feldspar porphyry intrusive has been identified in the area of the Park prospect. The area of the granitic intrusions in the northern property area is characterized by a broad airborne magnetic high.

The age of these granitic intrusions is thought to range from late Triassic to early Jurassic. Precise dating of similar granitic rocks throughout the main part of the Toodoggone district (Diakow et al, 1993) has returned isotopic ages ranging from 182 to 207 Ma.

#### MINERALIZATION

Exploratory work to date indicates that the William's property hosts two principal styles of alteration and gold-bearing mineralization including mesothermal arsenopyrite-bearing veins and disseminations at the T-Bill prospect in the central property area and intrusive-related veining and silicification or a possible porphyry environment at the Park and Gos prospects in the northern and southern property areas respectively.

Asitka Group chlorite schists in the T-Bill prospect area have been extensively altered to muscovite-carbonate-quartz schists within a northeasterly-trending 2300 x 1,200 metres area (Figure 5). This alteration appears to be controlled by foliation and by steeply-dipping northeast-southwest fractures within and adjacent to the core of the previously mentioned structural dome. The muscovite-carbonate-quartz alteration appears to pre-date the period of quartz veining and attendant gold mineralization. Cominco Ltd. obtained a potassium-argon age of 136+5 Ma from a muscovite sample from a 1984 drill hole. This early Cretaceous age, which is significantly younger than the early Jurassic age of alteration and mineralization recognized throughout the main Toodoggone district, may well be a reflection of argon loss in the original sample. and you well a submitted for analysis.

The distribution of gold mineralization within the T-Bill prospect is crudely coincident with the limits of muscovite-carbonate-quartz alteration. A number of mineralized zones within and adjacent to this altered zone are indicated on Figure 5. It should be noted that bedrock exposures in this area are few. Felsenmeer and rock rubble predominate and hand trenches blasted to 3 metres depths did not expose true bedrock (Sharp, 1982).

Three styles of alteration and mineralization were reported by Paterson (1985) including disseminated and vein pyrite-arsenopyrite in carbonatized rock adjacent to mineralized veins, for example, mineralized zone D (Figure 5) where up to 20% sulphides in quartz-carbonatemuscovite schist is accompanied by greater than 1 gram/tonne gold. Brecciated quartz veins and carbonatized rocks related to post-carbonatization and pre-mineralization faulting represent a second style of alternation and mineralization. Mineralized zones A and F (Figure 5) are examples; breccia matrices are composed of quartz-arsenopyrite-pyrite-carbonate+chalcopyrite which contain moderate gold values.

The third style includes quartz-carbonate-arsenopyrite-pyrite veins which host all of the high-grade gold values encountered to date in surface and diamond drill cores. These are planar tensional veins which range in width from 0.20 to 30 centimetres and occur in swarms. The veins commonly cross-cut foliation in both chlorite schists and muscovite-carbonate-quartz alteration zones. Although some of these veins lie outside of the pervasive carbonate-muscovite-quartz alteration zone, the best distribution of these is broadly coincident with the zone. Quartz veins cutting chlorite schists are enveloped by narrow bleached zones of carbonate-pyrite alteration.

Based on a study of the orientation of quartz veins relative to foliation in drill cores, Paterson (1985) was of the opinion that most of these veins strike 100-120° and dip 60-90° to the north. Shear zones parallel to foliation locally offset the veins. Visible gold is present in some of the higher-grade veins which contain values exceeding 100 grams/tonne gold.

Most of the mineralization at the T-Bill prospect is characterized by elevated gold and arsenic and only background levels of antimony, silver, copper, lead and zinc. The gold:silver ratio is about 1:1 and the arsenic: antimony ratio is commonly greater than 100:1. On the periphery of the T-Bill prospect, mineralized zone C, the most northerly zone, and zones H, J and K to the south suggest the possibility of a zonation from the gold-arsenic core outwards to higher silver, barium, lead, zinc and antimony contents (Awmack, 2001).

The following descriptions of individual mineralized zones within the T-Bill prospect are based on those of Paterson (1985). Mineralized zones A and B, on the eastern and northeastern periphery of the muscovite-carbonate-quartz alteration zone respectively, are brecciated, quartz-rich zones containing arsenopyrite. Surface samples returned gold grades ranging from 5 parts per billion (ppb) to 21.7 grams/tonne; arsenic contents ranged from 10 parts per million (ppm) to more than 10000 ppm.

Mineralized zone C, several hundred metres northwest of zone B (Figure 5), consists of a 40 cm wide vein of sphalerite, galena and pyrite in an ankerite-quartz matrix which occupies a fault zone in carbonate-muscovite schist. Values include 1.28% lead, 18.55% zinc and 58.0 ppm silver. Gold and arsenic values are low.

Zones D and I, near the northern limits of muscovite-carbonate-quartz alteration, consist of boulders containing quartz-arsenopyrite veining and arsenopyrite associated with quartz-ankerite. Gold values range from 35 to 15000 ppb; arsenic ranges from 208 ppm to 12.0%.

Zones E and F, on the southern periphery of the T-Bill alteration zone and consisting of a series of 10 cm quartz-arsenopyrite veins and lenses of pyrite-arsenopyrite in altered schists respectively, returned gold values of between 5 ppb and 105.4 grams/tonne while arsenic values ranged from 14 ppm to 1.86%.

Mineralized zones G, H, J and K are situated 1 km southwest of the camp (Figure 5). Zones G and H include bedrock and float containing quartz-arsenopyrite veins containing between 605 ppm and 110.0 grams/tonne gold and 684 ppm to 5.52% arsenic. Zone J consists of two boulders containing barite-chalcopyrite and quartz-arsenopyrite; two samples contained gold values of 250 and 4700 ppb. Zone K is a steeply-dipping, easterly-striking quartz-carbonate-pyrite vein containing relatively high silver (142 grams/tonne) and elevated lead and zinc.

The Park prospect, in the northern property area, is near the western limits of a multiple phase granitic stock which extends easterly through the BT2 and 3 and WILL 1-4 mineral claims (Figure 5). Takla Group volcanic rocks along the granitic contact have been hornfelsed, resulting in bleaching, silification and pyritization. These contact zones are marked by prominent gossans

which contain anomalous gold and copper values.

The gossan associated with the Park prospect features intense goethite and jarosite marginal to the contact between a crowded feldspar porphyry and siliceous tuff. A few hundred metres away from the contact, the siliceous tuff is remains homfelsed and is variably chloritic but within a few tens of metres of the contact. Takla Group volcanics are intensely silicified and leached. Locally, the silicification is consists of drusy quartz lining some of the abundant voids, typical of an epithemal environment. Float from the area of most intense silicification returned values of up to 2960 ppb gold (Awmack,2001). Weakly developed gossans extend a few tens of metres into the feldspar porphyry which features only minor silicification and sulphide content. Copland (1982) reported 4 metres of massive magnetite in one of DuPont's trenches downslope from area of most intense silicification. Ferricrete is also locally developed in this area.

A more subtle, less well exposed gossanous area is below tree line 500 metres southeast of the main Park prospect gossan. Bedrock exposures are few and of five rock samples collected in 2001, two samples, 300 metres apart, returned 1405 and 3590 ppb Au plus elevated copper and molybdenum values of up to 731 ppm and 93 ppm respectively (Awmack, 2001).

Similar gossans throughout the northern claims area are indicative of the potential for extensive low-grade gold (plus copper) mineralization in this area.

The Gos prospect, in the central part of the southernmost mineral claim of the William's property, is centred on a prominent 40 to 50 metres wide gossan on the south-facing slope of a northwesterly-trending drainage which probably follows a fault zone in equigranular, mediumgrained granite. A variety of rock types are evident in float including siliceous, buff volcanic(?) fragments set in a quartz-chlorite-pyrite matrix; clay-altered fault gouge; and fault breccia with plus 1 cm milled quartz fragments and disseminated specularite(?) in a rock flour matrix. A float sample of intensely silicified rock similar to that seen in the Park prospect main gossan returned 170 ppb gold. Quartz veinlet stockworks noted in a granitic rock 600 metres to the northwest returned only low metal values (Awmack,2001).

#### **EXPLORATION**

only

This section includes a discussion of results of surface exploration conducted within the boundaries of the current William's property. Programs completed in 2001 and 2002 were undertaken on behalf of the issuer and related parties. Included in this section for purposes of clarity are summary results of historic work completed between 1980 and 1984.

As previously noted, anomalous gold values in stream sediments collected from Camp Creek lead Cominco Ltd. to locate initial claims in the current property area. Early exploratory work (Sharp, 1980, 1982) included the collection of soil samples along 200 metres spaced topographic contours in the area of the T-Bill prospect. Samples collected from 15-25 cm depths in this area of felsenmeer and talus consisted of apparent B horizon soils plus talus fines and disintegrated rock particles. Hand trenches, excavated to depths of 3 metres in less resistant zones of intense carbonate-muscovite alteration, were entirely in weathered and disintegrated bedrock. Early sampling identified a 600 metres diameter area containing anomalous values of more than 365 ppb gold, 1000 ppm arsenic and 0.8 ppm silver. Base metal values were low. Samples of rock rubble containing quartz veins returned gold values of between 10 and 15800 ppb.

1982 work expanded the area of geochemical coverage and included the establishment of a small grid over the area of highest geochemical response on the T-Bill prospect (Copland





\*

topiel flote boardions Connect?

and Drown,1983). Coincident, anomalous gold (>100 ppb) and arsenic (>100 ppm) values in soils were found to occur over a northerly-trending, 3100 x 2300 metres area shown on Figure 6. This anomalous zone corresponds well with the zone of carbonate-muscovite-quartz alteration developed in Asitka group schists.

identified several north-south conductors and two fault zones apparently bracketing the area of higher geochemical response. 1984 drilling (detailed in a subsequent section of this matrix) east-west azimuths suggested that these holes were supparallel to observed quartz veining. Additional VLF-EM surveys, conducted along north-south lines, identified weak east-west conductive zones.

Other areas investigated within the present property area in the 1980s and 1990s included the Park prospect in the northern claims area. This mineralized zone was found as a follow-up of anomalous gold values in heavy mineral concentrates of stream sediment samples collected from the drainage upstream from the confluence of Camp Creek (Figure 5). A program of contour soil sampling returned gold values of up to 1670 ppb coincident with elevated copper, arsenic, silver and antimony (Drown, 1982). Eleven hand trenches within a 200 x 200 metres area of anomalous soil geochemistry yielded modest gold values; the source of the anomalous gold values in soils was determined to be silicified rocks uphill from the anomaly (Copland, 1982).

A 1987 soil sampling program essentially confirmed earlier DuPont work and provided higher gold values in the 9610 to 12120 ppb range (McAtee and Burns, 1988). A VLF-EM survey failed to identify any conductors. A program centred on the Park prospect gossan in 1995 (Krause, 1996) identified copper values in the several percent range in several samples.

The southern part of the current William's property was also investigated in the early 1980s by way of DuPont stream sediment sampling along Bill Creek and tributaries (Figure 5). Soil samples and heavy mineral concentrates of stream sediments returned gold values of up to 500 ppb (Strain, 1981).

A 2001 program, conducted on behalf of Rimfire Minerals Corporation by Equity Engineering Ltd. (Awmack, 2001), included the collection 8 stream sediments and 39 soil samples within and adjacent to drainages on the current GOS and ROK 2 mineral claims. Three stream sediment samples collected from South Creek on the ROK 2 claim (Figure 5) returned values of between 29 and 95 ppb gold and 20 to 46 ppm arsenic; 19 soil samples collected along a contour west of the creek yielded weakly elevated gold and arsenic values (Awmack, 2001).

Most of the 23 contour soil samples collected below a prominent gossan in the western part of the GOS claim returned low gold values. Two samples directly below the gossan contained 165 and 220 ppb gold (Awmack, 2001).

The majority of the 2001 work was directed to the strong gold-arsenic soil geochemical anomaly covering a 3 x 2 km area and centred on the T-Bill prospect (Figure 6). Most of the area of this anomaly lies above tree-line on gentle to moderate grassy slopes; solifluction lobes are common. As previously noted, outcrop is sparse throughout most of this area although float is present in frost boils and areas of talus. Additional soil sampling was carried out to better define the northern and western limits of this anomaly. Two contour soil lines, run at 1700 and 1790 metres elevation near the western limits, returned values of up to 930 ppb gold and 1350 ppm arsenic. Much of the "soil" was derived from talus and the anomalous results most likely reflect downslope dispersion (Awmack.2001). The highest values, however, are directly below bedrock and extend the T-Bill geochemical anomaly 500 metres to the west.

Soil samples were also collected from two grid lines run in a cirgue area between 200 and 300 metres north of previous sampling. Samples near the midpoint of the southern line were



collected from residual soils and returned values up to 160 ppb gold and 170 ppm arsenic, thus extending the T-Bill soil anomaly some 200 metres north.

Eleven rock samples, collected from the northern part of the BT2 claim south and southeast of the Park prospect, included three samples containing gold values ranging from 1405 to 3590 ppb Locations of these samples are shown on Figure 7 which also shoes, in a summary way, the limits of anomalous values in soils. A good correlation between anomalous gold and copper values is evident.

A 2002 exploration program, conducted on behalf of Stikine Gold Corporation between August 30 and September 14 by staff of Equity Engineering Ltd., involved a 3D Induced Polarization survey which was carried out by contractor SJ Geophysics Ltd. Much of the following is based on a recent report prepared for Stikine Gold Corporation by S.J. Visser, P.Geo.

The survey was conducted over 38 km of grid consisting of 100 metres spaced lines oriented at 035<sup>0</sup>-215<sup>0</sup> which was established over the T-Bill prospect area (Figure 6). Nine of the survey lines, at 200 meter intervals, served as Rx lines and the remaining 10 lines served as Tx lines thus giving an effective line separation of 100m. Resistivity and IP readings were measured for 10 dipoles along the Rx lines with the current transmitted at 50 meter intervals from both of the adjacent lines.

A VIP 4000 IP transmitter and an Elrec 10 IP receiver were used to conduct this survey. A 10 dipole "expanded" array was employed. At the commencement of each line the array configuration was: 50m, 50m, 50m, 50m, 50m, 50m, 100m, 100m, 100m, 100m. As the current advanced along the adjacent lines the array was shifted to a symmetrical 6 – 50's bounded by 2 – 100's which advanced forward along the Rx line as the currents advanced. Each Rx line closed off with 4 – 100's and 6 – 50's, a reversal of the starting array. In some areas of difficult contact conditions the array was adjusted to compensate.

The array employed for the IP survey was a 3D modification to the pole-dipole survey. This configuration was developed by SJ Geophysics Ltd. to optimize the data collection for use with the UBC 3D inversion routines and to locate anomalies both along the survey lines and between the lines as well.

Precise station locations were determined by a hand held GPS instrument. Control points were obtained at ends of lines, the baseline and a number of intermediate points. Slopes between stations and chained distances were merged with these data to provide locations and elevations for all of the Rx and Tx points along the grid. All of the IP data was entered into a database and merged with the location and topographic data.

The data was inverted using the 3D inversion software developed by University of British Columbia Geophysical Inversion facility and modified by the SJ Geophysics Group. These "Inversion" programs, which have only recently become available, allow for a more definitive interpretation, although the process remains subjective. The purpose of the inversion process is to convert surface IP/Resistivity measurements into a realistic "Interpreted 3D volumetric map." However, note that the term is left in quotation marks. The use of the inversion routine is a subjective one because the input into the inversion process involves a number of user selectable variables which can greatly influence the output. While the output from the inversion routines can assist in providing a more reliable interpretation of IP/Resistivity data, they are relatively new to the exploration industry and in may ways are still in the experimental stage.

The inversion programs are generally applied iteratively to, 1) evaluate the output with respect to what is geologically known, 2) to estimate the depth of detection, and 3) to



Figure 8: William's Property - IP Survey

4

**Chargeability** 50m below surface Contour interval: 4



Figure 9: William's Property - IP Survey

60

Chargeability 150m below surface Contour interval: 4



Figure 10: William's Property - IP Survey

.

1

Resistivity 50m below surface Contour interval: 200 (ohm-m)



150m below surface Contour interval: 200 (ohm-m) determine the viability of specific measurements. The Inversion Program (DCINV3D) used by the SJ Geophysical Group was developed by a consortium of major mining companies under the auspices of the UBC Geophysical Inversion Facility. The source code was purchased by the SJ Geophysical Group and modified to run in parallel on a 16 node Linux cluster. The inversion solves two inverse problems. The DC potentials are first inverted to recover the spatial distribution of electrical resistivities, and, secondly, the chargeability data (IP) are inverted to recover the spatial distribution of IP polarizable particles in the rocks.

The geophysical data from this survey was collected on one grid and can be displayed in the following formats, including pseudosections displaying the chargeability and apparent resistivity data for individual survey lines, volumetric maps displaying 3D inverted resistivity and chargeability data and plan maps showing 3D inverted resistivity and chargeability data which has been converted to constant depth slices at 20, 50, 150 and 200 metres below the surface. Figures 8, 9, 10 and 11 are plan maps illustrating chargeability and resistivity responses at depth slices of 50 and 150 metres below surface.

The time domain IP technique energizes the ground surface with an alternating square wave pulse via a pair of current electrodes. In most surveys, such as this one for the William's property, the IP/Resistivity measurements are made on a regular grid of stations along survey lines. After the transmitter (Tx) pulse has been transmitted into the ground via the current electrodes, the IP effect is measured as a time diminishing voltage at the receiver electrodes. The IP effect is a measure of the amount of IP polarizable materials in the subsurface rock. Under ideal circumstances, IP chargeability responses are a measure of the amount of disseminated metallic sulfides in the subsurface rocks. Other lithologic features, including graphitic sediments, clay and some metamorphic rocks, can also produce IP effects necessitating proper interpretations. The apparent resistivity of the subsurface is calculated from the input current and the measured primary voltage. With regard to precision, IP/Resistivity measurements are generally considered to be repeatable within about five percent. However, they will exceed that figure if field conditions change due to variable water content or variable electrode contact.

The geophysical data indicate the presence of two distinct areas of geophysical responses within the survey area. The southern part of the grid is less resistive and has a higher chargeability background than the northern grid area. This can be explained in large part by underlying geology. Phyllitic sedimentary rocks, with a graphite component, underlie the area of high chargeability – low resistivity (Figures 8 and 9). Higher resistivities, and correspondingly lower chargeabilities, occur over areas underlain by carbonate-muscovite- quartz altered schists in the northern part of the grid (Figures 10 and 11). Some local features include an area of lower resistivities between two areas of higher responses which correspond in part with elevated chargeabilities which may be significant.

CUNTREASUN CUNTREAST PERSON DECENSION V 600 h

One of these is a 100 metres diameter, circular chargeability high at the 150 metres level (Figure 9) which is coincident with the southern part of the main resistivity high on the same level (Figure 11). The second area of high resistivity, a 200 metres diameter, circular area of >300 ohm-m in -?the southeastern part of the grid area (Figures 10,11), is also crudely coincident with higher chargeabilities.

#### DRILLING

Diamond drilling completed in 1983 and 1984 consisted of 3023 metres in 15 inclined holes which tested the T-Bill prospect in the central part of the current William's property. Tables listing drill hole locations, hole depths, etc. plus significant intercepts are contained in Appendix I of this report. Hole locations and summary results are also illustrated on Figure 12.



Drilling contractor was D.W. Coates Enterprises Ltd. and NQ-size core was recovered. Core recoveries ranged from 90 to 97% except for local areas of fault gouge and brecciation. Sampling of drill core was undertaken at 2 metres intervals or less (Drown, 1984).

Four of the six 1983 holes were drilled on east-west azimuths; the remaining two were drilled on north azimuths (Figure 12). Discrete veins, not exceeding 2.5 metres of core length, consisted of milky white quartz in carbonatized and sericitized schistose rhyolite tuffs (Drown, 1984). Three episodes of quartz veining were evident and locally numerous, 1mm to 1 cm quartz-carbonate stringers were noted as cross-cutting foliation planes but parallel or subparallel to core axes. Very fine-grained pyrite and arsenopyrite were the principal sulphide minerals. Oxidation, in the form of limonite-stained fractures, extended to hole depths of between 30 and 60 metres.

Oriented core measurements of 1983 drill holes suggested that the principal quartzarsenopyrite veins had an easterly to east-southeasterly strike and dipped steeply north. Based on these determinations, the 1984 holes were drilled mainly on north-south azimuths (Kowalchuk, 1984). While Paterson (1985) was also of the opinion that the principal orientation of the veins was 100 to 120 degrees, many of the quartz veins and stringers intercepted in 1984 drilling were noted as being oblique or subparallel to core axes. This was evident in drill core examined by the writer during a property visit in September of 2003. However, one well mineralized (24 grams/tonne gold over 2 metres) quartz vein interval seen in hole 84-8 was normal to the core axis.

Principal observations of 1984 drilling (Kowalchuk, 1984) included the fact that visible gold was noted in hole intervals grading greater than 10 grams/tonne and that gold mineralization was consistently associated with quartz-arsenopyrite veining. The correlation between gold and arsenic, first identified by soil sampling, was confirmed by drilling results. Intervals grading more than 5 grams/tonne gold contained values greater than 2000 ppm arsenic.

Some of the better gold grades encountered in drill holes are shown on Figure 12 which also shows some of the broader intervals containing values of greater than 0.5 grams/tonne which in some holes extend over hole lengths of up to 30 metres (Appendix I). The continuity of some of the better gold grades remains unknown. The higher grade intersections in holes 84-5 and 84-8 may be part of the same east-west vein system.

Many of the holes drilled contained at least weak gold mineralization throughout much of their lengths and two holes (83-2,84-2) were terminated in mineralization.

#### SAMPLING METHODS AND ANALYSES

As noted, historic exploratory work within the boundaries of the current William's property was carried out by Cominco Ltd. and DuPont of Canada Exploration Ltd. Cominco's stream sediment, soil and rock samples were analyzed by the company's internal laboratory while DuPont's initial samples were submitted to Min-En Laboratories, a well recognized facility at that time.

Drill cores recovered in 1983 and 1984 were sampled at 2 metres intervals or less and samples were halved by use of a core splitter. Only some of the original half core stored on site is accessible. Original core samples were analyzed by CDN Laboratories of Delta, B.C. and samples containing >1.7 grams/tonne gold were checked by Chemex Labs Ltd. (Forbes and Drown,1984). Gold contents were determined by fire assay.

Soil, stream sediment and rock samples, collected by Equity Engineering Ltd. on behalf of Rimfire Minerals Corporation in 2001, were submitted to ALS Chemex in North Vancouver for determination of major and trace elements by ICP methods. Gold was determined by fire assay with atomic absorption finish: higher values were more precisely determined by fire assay.

The writer is of the opinion that sampling methods and analytical procedures employed over the past 20 years are in accordance with industry standards.

#### DATA VERIFICATION

Virtually all of the information used in the preparation of this report is on public record in the form of assessment reports filed with the BC Ministry of Energy and Mines. The writer has no reason to doubt the quality or veracity of these data. All of the exploration work and subsequent reporting was performed by competent, gualified persons.

The writer did not collect any samples for analyses during the course of the September 14, 2002 property examination. As noted elsewhere in this report, bedrock is not well exposed in the area of the T-Bill prospect and only limited drill core remains intact on the property. Some selected sections of drill core, selected by Equity Engineering in 2001, provided analyses in keeping with original results with some exceptions as detailed in the following section of this report.

#### INTERPRETATION AND CONCLUSIONS

The William's property includes at least two distinct styles of gold mineralization.

The T-Bill prospect, in the central property area, which has received the most attention to date, includes gold mineralization related to narrow quartz-arsenopyrite veins and stringers developed in intensely deformed, late Paleozoic, schistose volcanic rocks. The distribution of the known gold-bearing veins, largely based on drilling evidence, is within a broad area of carbonatemuscovite-quartz alteration which is central to a 3 x 2 km area of anomalous gold and arsenic in White Hoort soils. Several drill holes contained >2 metres intervals of +10 grams/tonne gold and most holes contained intervals of up to tens of metres grading more than 0.5 grams/tonne.

Precise orientation of the gold-bearing veins and quartz stringers remains to be determined. As noted, bedrock exposures are few and many of the drill holes showed them to be oblique or subparallel to core axes.

Most of the better grade intervals in drill core contained some visible gold. Metallic screen assaying, conducted on samples from some of these sections collected by Equity Engineering in 2001, provided significantly higher values than those obtained from earlier sampling. As such, some of the initial gold grades may be understated.

The T-Bill gold-bearing quartz veins are thought to have formed in a mesothermal environment. No apparent vertical zoning, typical of epithermal systems, is evident in drill cores.

Cordilleran mesothermal gold deposits, which include those deposits in the Bridge River, Rossland and Cariboo mining camps, have been described by Panteleyev(1991) as occupying shear zones near faulted terrane boundaries. In this regard, the William's property is 20 km southwest of the fault boundary between Stikine and Quesnel terranes. Mesothermal vein systems exhibit vertical continuity as compared with epithermal systems, a low sulphide content and are commonly enveloped by carbonate-rich alteration zones. The William's property features



Figure 13: William's Property - T-Bill Prospect Compilation

4è

widespread carbonate (+muscovite+quartz) alteration and sulphide content within the quartz veins averages only a few percent.

A recent Induced Polarization survey centred on the T-Bill prospect identified broad zones of higher chargeability coincident with graphitic phyllites in the southern part of the grid. Of more immediate interest are the areas of higher resistivity immediately north of the area of previous drilling (Figure 13) which may be indicative of a greater degree of silicification. Only one of the previous holes (83-5) was drilled into the south margin of this anomaly.

Of possible significance is the fact that this resistivity anomaly has an overall eastnortheast trend, similar to the direction of many of the schistosities mapped by Paterson (1985) who considered them to be a reflection of apparent doming in the central property area. As such, this direction may provide some indication of the principal trend of the gold-bearing veins.

The significance of other, isolated zones of higher resistivities northwest and southeast of the principal anomaly (Figure 13) are not known but it is worthy of note that both are within the broad zone of anomalous gold and arsenic in soils.

The apparent intrusion-related gold mineralization at the Park prospect has not been thoroughly investigated. Here, a 500 x 900 metres open, gold-copper-arsenic soil geochemical anomaly overlies homfelsed, silicified and pyritized volcanics. Limited prospecting within this area in 2001 returned gold values of up to 3590 ppb gold suggesting the potential for extensive lowgrade mineralization. The GOS claim in the southern property area, which has undergone only Aledenadevele limited investigation, has similarities to the Park prospect.

#### RECOMMENDATIONS

The writer is of the opinion that the William's property is of sufficient merit to warrant further exploratory work. It is recommended that this additional work be conducted in two phases in order to gain a better understanding of the property. The undertaking of second phase will not be contingent on results obtained from the initial phase; rather, a timely compilation of first phase results will allow for better planning of second phase work.

The first priority for additional work should be diamond drilling of the resistivity anomaly identified immediately north of previous drilling of the T-Bill prospect. This program is recommended to consist of 6 or 7 inclined holes drilled to depths of 200 metres; initial holes should be oriented in a north-northwest direction to test the concept of a possible east-northeast trend of quartz-arsenopyrite veins and stringers within the resistivity anomaly. All of the core recovered should be sampled and metallic screen assaying is recommended.

The first phase program is also designed to include additional geological mapping, prospecting and surface sampling of less well known areas of the property most notably the area of the Park prospect.

Results obtained from first phase work will assist in identifying priority areas for testing by way of 2000 metres of additional drilling. Some follow up of first phase prospecting and sampling may also be required.

Total costs for the two-phase program are estimated to be in the order of \$950,000.00

#### COST ESTIMATE

#### Phase I

| Diamond drilling - 1300 metres @ \$100/metre                  | \$130,000.00 |
|---|--------------|
| Geological mapping, prospecting, surface sampling -           |              |
| - 50 mandays  | \$25,000.00  |
| Analytical costs ,1000 samples @ \$26 + freight               | \$35,000.00  |
| Mobilization to highway 37                                    | \$5,000.00   |
| River freighting - 18 trips - Stikine bridge to property area |              |
| @ \$1,500/trip  | \$27,000.00  |
| Air support – fixed wing and rotary                           | \$80,000.00  |
| Equipment rentals, supplies                                   | \$10,000.00  |
| Supervision, reporting  | \$30,000.00  |
| Miscellaneous travel costs                                    | \$20,000.00  |
| Room and board - 270 mandays @ \$110/day                      | \$27,000.00  |
| Contingencies @ 15%   | \$58,350.00  |
| Total, Phase I  | \$447,350.00 |
| Phase II  |              |
| Diamond drilling – 2000 metres @ \$100/metre                  | \$200,000.00 |
| Prospecting, geological mapping                               | \$20,000.00  |
| Analytical costs 1300 samples @ \$26 + freight                | \$40,000.00  |
| Mobilization to highway 37                                    | \$5,000.00   |
| River freighting – 15 trips – Stikine bridge to property area | 5            |
| @ \$1,500/trip  | \$22,500.00  |
| Air support- fixed wing and rotary                            | \$70,000.00  |
| Supervision, reporting  | \$40,000.00  |
| Room and board 300 man days @ \$110/day                       | \$33,000.00  |
| Contingencies @ 15%   | \$64,575.00  |
| Total, Phase II   | \$495,075.00 |
|   |              |

Total, Phases I and II

\$942,425.00

BRITISH

Klaete Phis P. Eng. 12 OF N.C. Carter, Ph.D. P.Eng. C. CARTER N.

#### REFERENCES

4

Alldrick, D.J. (2000): Exploration Significance of the Iskut River Fault in Geological Fieldwork 1999, BC Ministry of Energy and Mines Paper 2000-1, p.237-247

Awmack, Henry J. (2001): 2001 Geological and Geochemical Report on the Bill Property, BCMEM Assessment Report 26366

Copland, H.J. (1982): Geological and Geochemical Report on the Park 1-5 Claims; British Columbia, BCMEMPR Assessment Report 11148

Copland, H.J. and T.J. Drown (1983): Geological, Geochemical and Geophysical Report on the Bill Claims, BCMEMPR Assessment Report 11075

Diakow, L.J., A. Panteleyev and T.G. Schroeter (1993): Geology of the Early Jurassic Toodoggone Formation and Gold-Silver Deposits in the Toodoggone River Map area, Northern British Columbia; British Columbia Geological Survey Bulletin 86

Drown, T. (1982): Geological and Geochemical Report on the Park 1-5 Claims; British Columbia, BCMEMPR Assessment Report 10485

Eccles, L. (1981): Geological and Geochemical Report on the Park 1-3 Claims; British Columbia, BCMEMPR Assessment Report 9288

Forbes, J.R. and T.J. Drown (1984): Geological, Geochernical, Geophysical and Dlamond Drill Report on the Bill Claim Group, BCMEMPR Assessment Report 11493

Hammack, J.L., Nixon, G.T., Paterson, W.P.E. and Nuttall, C. (1991): Geology and Noble Metal Geochemistry of the Lunar Creek Alaskan-type Complex, North-Central British Columbia in Geological Fieldwork 1990, BCMEMPR Paper 1991-1

Hawkins, P.A. (1998): Interpretation of Regional Airborne and Remote Sensing Studies, ARC Mineral Claims. BCMEMPR Assessment Report 25573

Kowalchuk (1984): Geological, Geochemical, Geophysical and Diamond Drill Report on the Bill Claims, BCMEMPR Assessment Report 12559

Krause, R.G. (1996): Geochemical and Prospecting Report on the ARC 1, 2, 3, 4 Claims; British Columbia, BCMEMPR Assessment Report 24366

McAtee, C.L. and P.J. Burns (1988): Geological and Geophysical Report on the Chuc 1, 2, 3 & 4 Claims, BCMEMPR Assessment Report 17322

Panteleyev, Andrejs (1991): Gold in the Canadian Cordillera – A Focus on Epithermal and Deeper Environments in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, BCMEMPR Paper 1991-4, p.167-212

Paterson, I.A. (1985): Structural Control of Gold Mineralization on the Bill Property; Private report for Cominco Ltd.

Sharp, R.J. (1981): 1980 Geological and Geochemical Report on the Bill 1, 2 and 3 Mineral Claims, BCMEMPR Assessment Report 8973

,

ŧ

Sharp, R.J. (1982): 1981 Geological, Geochemical and Trenching Report on the Bill 1, 2, 3 and T-Bird 1, BCMEMPR Assessment Report 10245

Strain, D.M. (1981): Geological and Geochemical Report on the Ark 1 & 2 Claims; British Columbia, BCMEMPR Assessment Report 9398

Thorstad, L. (1980): Upper Paleozoic Volcanic and Volcaniclastic rocks in Northwest Toodoggone Map Area, British Columbia; Geologieal Survey of Canada Paper 80-1B, p. 207-211.

.

### N.C. CARTER, Ph.D., P.Eng. Consulting Geologist

1410 Wende Road Victoria, B.C V8P 3T5 Canada

Phone 250-477-0419 Fax 250-477-0429 Email nccarter@shaw.ca

#### **CERTIFICATE of AUTHOR**

I, NICHOLAS C. CARTER, Ph.D., P.Eng., do hereby certify that:

- 1. I am a Consulting Geologist, with residence and business address at 1410 Wende Road, Victoria, British Columbia.
- I graduated with a B.Sc. degree in geology from the University of New Brunswick in 1960. In addition, I obtained a M.S. degree in geology from Michigan Technological University in 1962 and a Ph.D. degree in geology from the University of British Columbia in 1974.
- 3. I have been registered with the Association of Professional Engineers and Geoscientists of British Columbia since 1966. I am a Fellow of both the Canadian Institute of Mining, Metallurgy and Petroleum and the Geological Association of Canada and am a past director of The Prospectors and Developers Association of Canada and a past president of the British Columbia and Yukon Chamber of Mines.
- 4. I have practiced my profession as a geologist, both within government and the private sector, in eastern and western Canada and in parts of the United States, Mexico and Latin America for more than 35 years. Work has included detailed geological investigations of mineral districts, examination and reporting on a broad spectrum of mineral prospects and producing mines, supervision of mineral exploration projects and comprehensive mineral property evaluations.
- 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 requirement to be a "qualified person" for the purposes of NI 43-101.
- 6. I am responsible for the preparation of all sections of the technical report titled Geological Report on the Williams' Gold Property, Toodoggone-Stikine River Area, Liard Mining Division, British Columbia, dated March 3, 2003. I visited the William's property September 14, 2002 for one day.
- 7. 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.

N.C. CARTER, Ph.D. P.Eng. Consulting Geologist

21

- 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 company files on their websites accessible by the public, of the Technical Report.

Dated this 3rd day of March, 2003

the Mr. J. Karq.

N.C. Carter, Ph.D. P.Eng.



APPENDIX I

ì

•

T-BILL PROSPECT DIAMOND DRILLING

۰.

#### **Hole Locations**

4

.

|                    |         |                 | <b>-</b>     |             | 8              |          |
|--------------------|---------|-----------------|--------------|-------------|----------------|----------|
| <u>Hole Number</u> | Easting | Northing        | Elevation(m) | Inclination | <u>Azimuth</u> | Depth(m) |
| 83-1               | 572975  | 6404985         | 1910.0       | -45         | 180            | 209.10   |
| 83-2               | 572880  | 6404815         | 1850.0       | -45         | 090            | 198.73   |
| 83-3               | 572820  | 6404520         | 1760.0       | -45         | 090            | 189.89   |
| 83-4               | 572350  | <b>640497</b> 0 | 1800.0       | -45         | 090            | 167.94   |
| 83-5               | 572975  | 6405010         | 1910.0       | -45         | 000            | 112.17   |
| 83-6               | 572830  | 6404915         | 1885.0       | -45         | 090            | 296.88   |
| 84-1               | 572830  | 6404925         | 1888.5       | -70         | 090            | 196.60   |
| 84-2               | 573040  | 6404905         | 1862.9       | -45         | 270            | 218.20   |
| 84-3               | 572880  | 6404815         | 1847.3       | -45         | 000            | 184.10   |
| 84-4               | 572830  | 6404630         | 1802.2       | -45         | 000            | 207.00   |
| 84-5               | 572940  | 6404680         | 1774.4       | -45         | 000            | 314.90   |
| 84-6               | 573010  | 6404810         | 1814.2       | -45         | 000            | 214.58   |
| 84-7               | 572955  | 6404930         | 1881.8       | -60         | 180            | 160.30   |
| 84-8               | 573090  | 6404675         | 1737.9       | -45         | 000            | 186.84   |
| 84-9               | 572530  | 6404860         | 1815.2       | -45         | 000            | 165.80   |

•

#### Significant Intersections:

0.000

\* 8

(Intervals of >5 grams/tonne gold highlighted)

| <u>Hole Nu</u><br>83-1 | mber.      | Interval(metres)<br>60.0-64.0 | Length(metres)<br>4.0 | <u>Gold (grams/tonne)</u><br>0.58 |                                 |
|------------------------|------------|-------------------------------|-----------------------|-----------------------------------|---------------------------------|
| 03-1                   |            | 76.0-78.0                     | 2.0                   | 4.30                              |                                 |
|                        |            | 102.0-112.0                   | 12.0                  | 2.92                              |                                 |
|                        | (including | 102.0-104.0                   | 2.0                   |                                   |                                 |
|                        | (morading  | 132.0-134.0                   | 2.0                   | 2.90                              | 1 m                             |
|                        |            | 102.0-104.0                   | 2.0                   | 2.00                              | : 08.                           |
| 83-2                   |            | 50.0-62.0                     | 12.0                  | 6.66 7 505                        | 198.7 m<br>1.17 9/2<br>1.17 9/2 |
|                        | (including | 52.0-54.0                     | 2.0                   | 35.0                              |                                 |
|                        | (          | 92.0-122.0                    | 30.0 —                | 1.86                              | IV IK                           |
|                        | (including | 92.0-98.0                     | 8.0                   | 5.00 148                          |                                 |
|                        | (and       | 94.0-96.0                     | 2.0                   | 11.90                             | 1.113                           |
|                        | (and       | 120.0-122.0                   | 2.0                   | 5.10                              |                                 |
|                        |            | 130.0-136.0                   | 6.0 - N               | 1.20                              |                                 |
|                        |            | 166.0-168.0                   | 2.0 - 10              | 1.27                              |                                 |
|                        |            | 180.0-196.0                   | 16.0 JAN              | 0.70                              |                                 |
|                        | (including | 186.0-190.0                   | 4.0                   | 1.00                              |                                 |
| 83-3                   |            | 12.0-24.0                     | 12.0                  | 0.56                              | 38                              |
|                        | (including | 14.0-16.0                     | 2.0                   | 1.20                              |                                 |
|                        |            | 58.0-70.0                     | 12.0                  | 0.94                              |                                 |
|                        | (including | 58.0-62.0                     | 4.0                   | 1.60                              |                                 |
|                        | (and       | 64.0-66.0                     | 2.0                   | 1.10                              | 2                               |
| 83-4                   |            | 16.0-20.0                     | 4.0                   | 0.86                              |                                 |
|                        | (including | 16.0-18.0                     | 2.0                   | 1.20                              |                                 |
| 83-6                   |            | 60.0-62.0                     | 2.0                   | 13.80                             | A                               |
|                        |            | 116.0-128.0                   | 12.0                  | 6.15                              |                                 |
|                        | (including | 116.0-120.0                   | 4.0                   | 11.00                             |                                 |
|                        | (and       | 126.0-128.0                   | 2.0                   | 12.00                             |                                 |
|                        |            | 208.0-210.0                   | 2.0                   | 2.50                              |                                 |
|                        |            | 222.0-224.0                   | 2.0                   | 1.30                              |                                 |
| 84-1                   |            | 76.4-78.4                     | 2.0                   | 1.60                              |                                 |
| 84-2                   |            | 51.8-53.8                     | 2.0                   | 1.00                              |                                 |
|                        |            | 88.2-90.2                     | 2.0                   | 1.40                              |                                 |
|                        |            | 130.0-139.2                   | 9.2                   | 1.52                              | 16.10                           |
|                        | (including | 133.2-139.2                   | 6.0                   | 1.80                              | (n. 1 m                         |
|                        |            | 145.9-148.1                   | 2.2                   | 2.60                              |                                 |
|                        |            | 179.2-186.7                   | 7.5                   | 7.56                              | Q                               |
|                        | (including | 183.2-186.7                   | 3.5                   | 10.3                              | E D A                           |
|                        | (and       | 183.2-185.2                   | 2.0                   | 16.50                             | 0.00                            |
|                        |            | 208.4-214.4                   | 6.0                   | 5.91                              | 12 Um                           |
|                        | (including | 212.4-214.4                   | 2.0 40.4              | 15.60                             | 6.4m<br>C.62<br>- 73.4m=0.      |
| 84-3                   |            | 63.3-73.3                     | 10.0                  | 1.85                              |                                 |
| 9027 - 1994 EV         |            | 105.5-113.5                   | 8.0                   | 1.95                              |                                 |
|                        | (including | 105.5-107.5                   | 2.0                   | 5.50                              |                                 |
|                        | (and       | 111.5-113.5                   | 2.0                   | 2.00                              |                                 |
|                        |            |                               |                       |                                   |                                 |

| <u>Hole Ni</u><br>84-4 | umber.     | <u>Interval(metres)</u><br>9.14-14.0<br>1 <b>72.5-173.0</b> | <u>Length(metres)</u><br>4.86<br><b>0.5</b> | <u>Gold (grams/tonne)</u><br>2.40<br><b>25.60</b> |
|------------------------|------------|---|---|---|
| 84-5                   |            | 48.5-51.5   | 3.0   | 12.73   |
|                        | (including | 48.5-50.0   | 1.5   | 24.70   |
|                        | (          | 130.8-135.5   | 4.7   | 2.06  |
|                        | (including | 130.8-132.9   | 2.1   | 4.10  |
|                        |            | 179.9-184.7   | 4.8   | 1.24  |
|                        | (including | 179.9-181.9   | 2.0   | 1.50  |
|                        |            | 233.7-234.7   | 1.0   | 3.50  |
|                        |            | 268.5-270.5   | 2.0   | 1.10  |
| 84-6                   |            | 114.6-120.7   | 6.1   | 0.76  |
|                        | (including | 114.6-116.6   | 2.0   | 1.30  |
| 84-7                   |            | 65.8-66.1   | 0.3   | 21.10   |
|                        |            | 91.1-99.1   | 8.0   | 1.06  |
|                        |            | 102.3-104.3   | 2.0   | 5.00  |
|                        |            | 111.8-114.9   | 3.1   | 7.77  |
|                        | (including | 111.8-113.3   | 1.50  | 15.50   |
|                        |            | 125.2-129.2   | 4.0   | 3.58  |
|                        | (including | 127.2-129.2   | 2.0   | 6.50  |
| 84-8                   |            | 11.9-18.2   | 6.3   | 0.97  |
|                        | (including | 16.1-18.2   | 2.1   | 1.90  |
|                        |            | 29.0-36.1   | 7.1   | 7.93  |
|                        | (including | 31.9-33.9   | 2.0   | 24.8  |
|                        |            | 48.2-50.6   | 2.4   | 4.5   |
|                        |            | 63.7-65.7   | 2.0   | 2.9   |
| 84-9                   |            | 113.6-115.6   | 2.0   | 1.90  |
|                        |            | 152.6-154.6   | 2.0   | 2.00  |

•

.

\*