ASSESSMENT REPORT

on

PROSPECTING, GEOLOGICAL MAPPING, ROCK GEOCHEMISTRY
& VLF-EM GEOPHYSICS

# JACLEG PROPERTY

Lewis Creek / Wolf Creek Area
Fort Steele Mining Division

TRIM 82G.072 & 082
5520000N 597000E

for

National Gold Corporation
600-890 West Pender Street
Vancouver, B.C.
V6C 1J9

by

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# 1.00 INTRODUCTION

## 1.10 Location and Access

The JacLeg Property is located in southeastern British Columbia in the Fort Steele Mining Division along the lower western edge of the Rocky Mountains, on the eastern edge of the Rocky Mountain Trench and is centered immediately west of Lazy Lake, approximately at UTM coordinates 55,200,000N, 597,000E. It covers the area between Wolf Creek in the north and Lewis Creek in the south, as well as some immediately adjacent ground to the north and south. The property covers a number of old and newly discovered mineralized showings.

Access is via road from Wasa Lake, along either the Lewis Creek road or the Wolf Creek road. Numerous bush tracks also cross the property; as it is used for ranching and Christmas tree cutting.

## 1.20 Property

The Jacleg property includes the Jacleg 1 to 17, Jack Leg 30 to 35 and Goldylot 1 to 4 mineral claims, a contiguous block of 120 claim units in six 4-post and twenty-one 2-post mineral claims (Fig.2). The claims are all registered in the name of Super Group Holdings Ltd. of Cranbrook B.C. The property is currently under option to National Gold Corporation of Vancouver, B.C.

## 1.30 Physiography

The Jacleg property is situated on the immediate east side of the Rocky Mountain Trench, on the westernmost flank of the Hughes Range of the Rocky Mountains. Small segments of the property extend onto the steep western-most slopes of the Rocky Mountains to the east. Elevations range from 850 to 1300 meters with most of the property between 900 and 1100 meters. The narrow stream valleys of southwest flowing Wolf Creek and Lewis Creek both cross the property.

## 1.40 History

The Jacleg and Goldylot claims cover a small number of old workings that include small trenches, shallow shafts and short adits. In 1970 Texas Gulf Sulfur staked a 32 unit claim block in the area and conducted geological mapping and took 75 soil samples (Gifford, 1971, AR 3092). In 1992 INCO Exploration staked a larger claim block called the 'Lewis Creek Property', which covered part of the area of the present Jacleg property. INCO was interested in copper mineralization, particularly low sulfur copper mineralization such as chalcocite and bornite, and their work included geological mapping and a large soil sampling grid. They apparently did not analyze the soil samples for gold. INCO's work is reported on by Rawick and Rush, 1994 (Assessment Report 23,115).

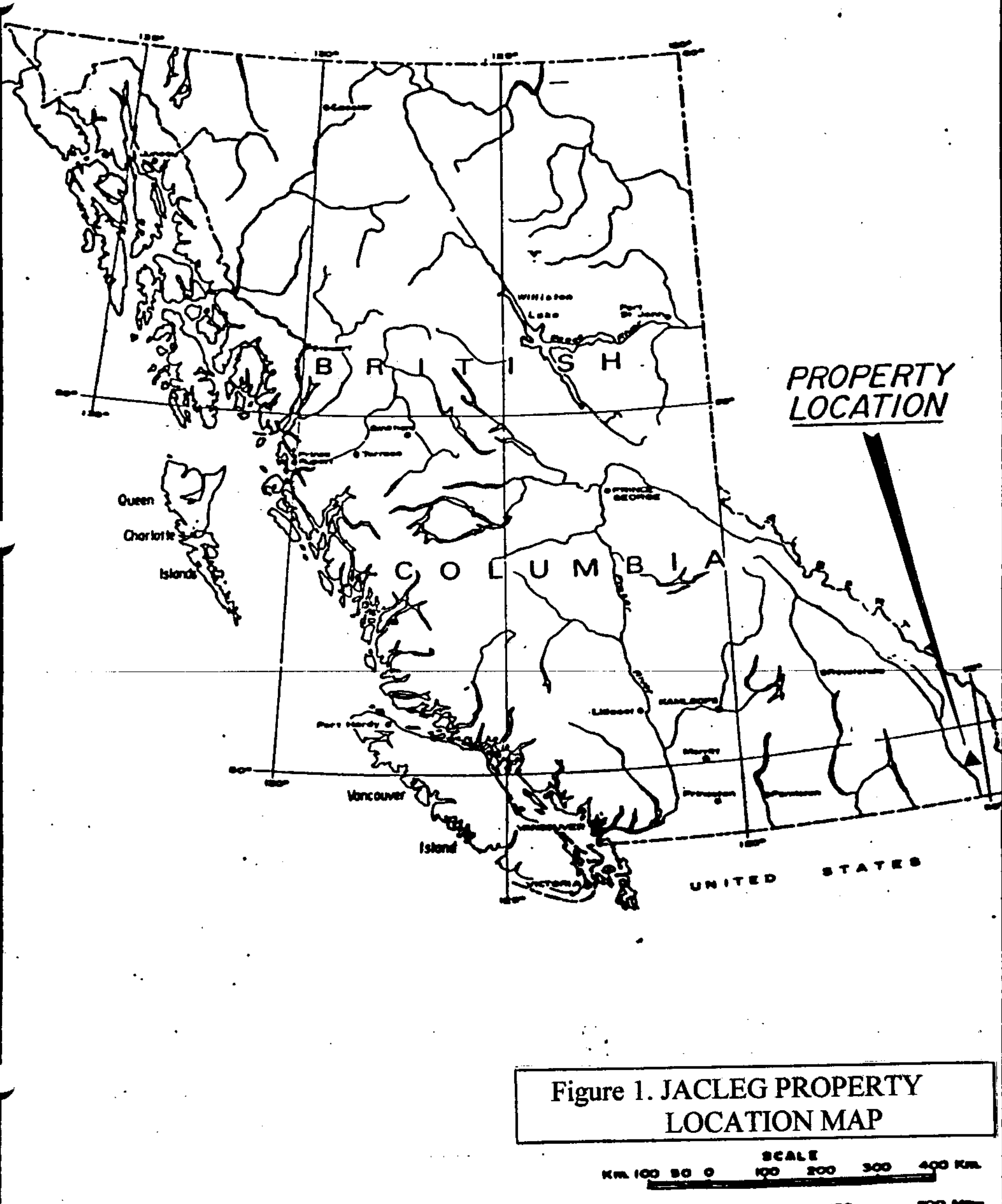


Figure 1. JACLEG PROPERTY LOCATION MAP

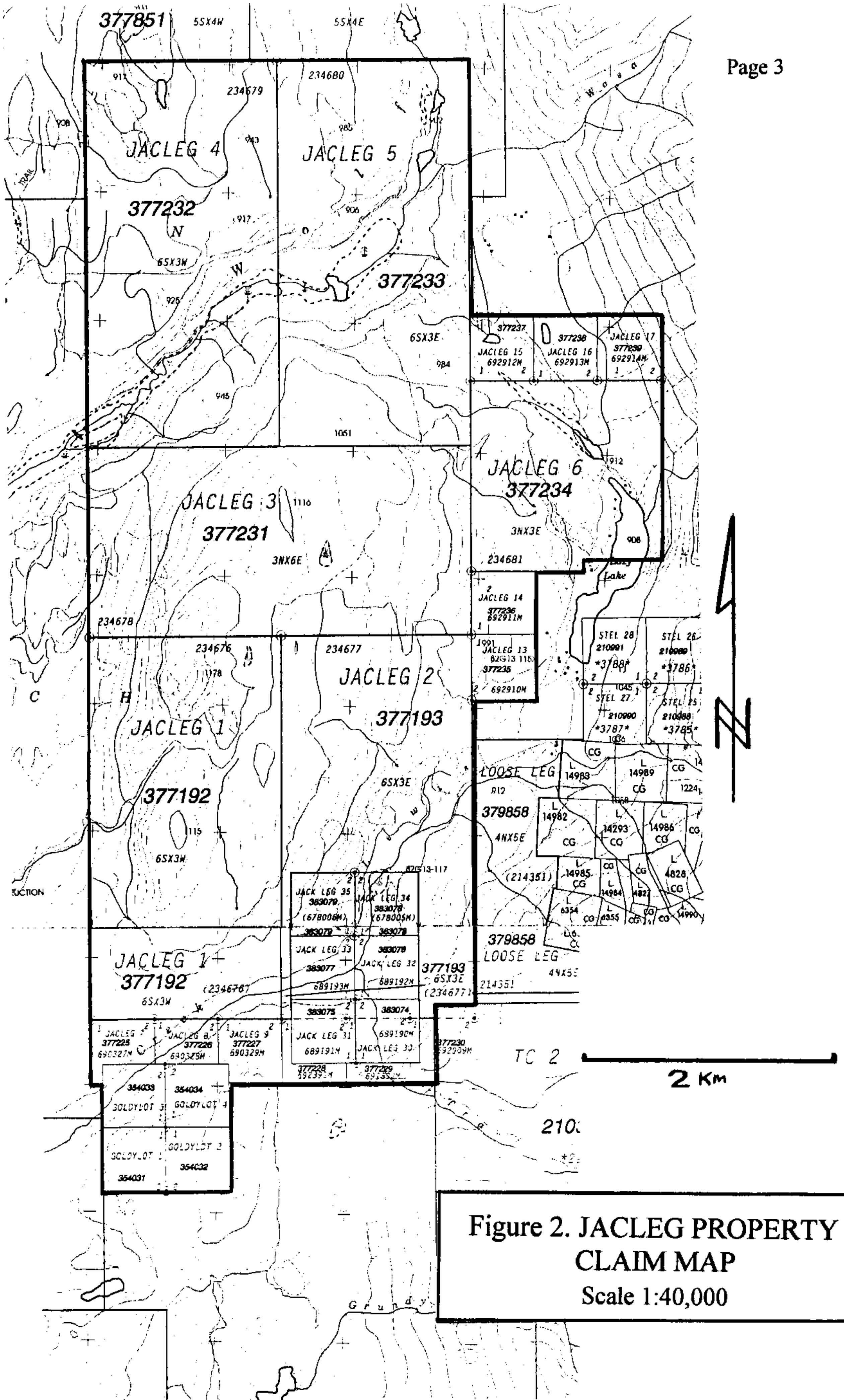


Figure 2. JACLEG PROPERTY CLAIM MAP
Scale 1:40,000

In 1997 the four unit Goldylot claim block, at the southern edge of the Jacleg claims, was staked to cover old workings developed on a zone of strong silicic alteration and associated gold-copper mineralization.

In the fall of 2000 and early in 2001 a program of prospecting was started across much of the claim block and detailed geologic mapping was completed on select areas of interest (Klewchuk and Kennedy, 2001; AR ).

### 1.50 Scope of Present Program

In 2002 additional prospecting was completed primarily as a follow up in areas where earlier work had identified significant gold and property-wide geologic mapping was completed using the earlier prospecting as a guide. Work was focused on defining structures that might be favorable for gold mineralization. VLF-EM surveying was utilized locally to locate buried fault zones and thus enhance the over-all geologic picture. A total of 70 rock samples were collected and analyzed as part of the prospecting and geological mapping programs.

## 2.00 GEOLOGY

### 2.10 Regional Geology

The JacLeg property occurs on the east side of the Rocky Mountain Trench, within the Fernie (West Half) map sheet (Leech, 1960) and is also included in BCMEMPR Preliminary Map 36 by Trygve Hoy: Geology of the Estella - Kootenay King Area, Hughes Range, Southeastern British Columbia (1979). A portion of this map which covers the area of the JacLeg claims is reproduced here as Figure 3.

### 2.20 Property Geology

#### Introduction

Geologic mapping on the JacLeg property was undertaken in early 2002 to follow up on favourable prospecting and rock geochemistry results obtained in 2001 and 2002. Mapping was conducted using a 1:5000 field base map and hand-held GPS for control. Field data has been compiled on a 1:10,000 final map which is provided as Figure 4.

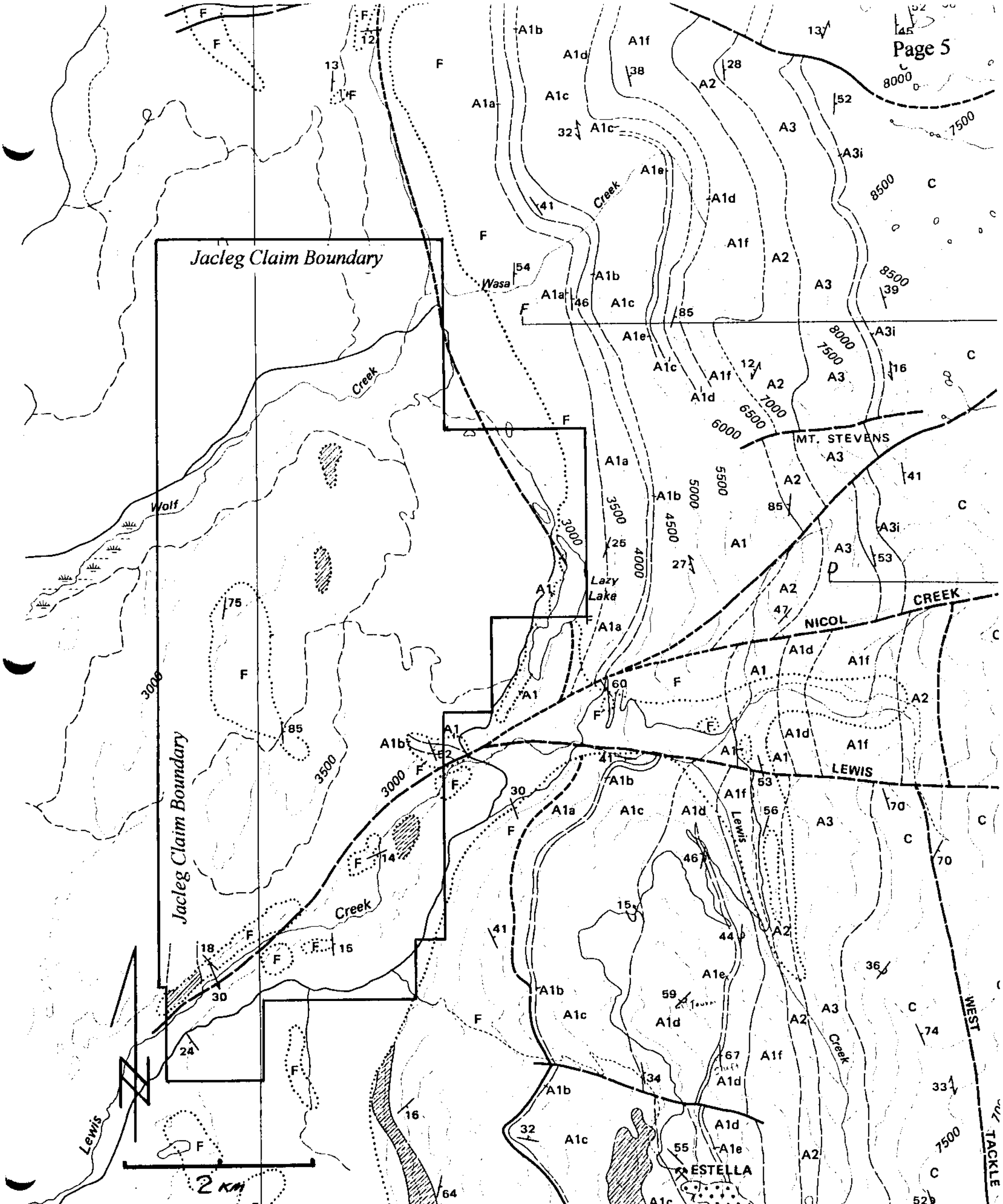


**Figure 3. Part of BCMEMPR Preliminary Map 36**
**Geology of the Estella-Kootenay King area,** T. Hoy, 1979
**Scale 1:50,000** For legend see page 5 a.

**Province of British Columbia**
Ministry of Energy, Mines and Petroleum Resources

PRELIMINARY MAP 36

# GEOLOGY OF THE ESTELLA–KOOTENAY KING AREA
# HUGHES RANGE
# SOUTHEASTERN BRITISH COLUMBIA

(NTS 82G/11, 12, 13, 14)

GEOLOGY BY TRYGVE HÖY, 1976–1978

## LEGEND

CRETACEOUS

QUARTZ MONZONITE, SYENITE

HADRYNIAN/HELIKIAN

PURCELL SUPERGROUP

PURCELL SILLS AND DYKES

C — CRESTON FORMATION: GREEN AND PURPLE ARGILLITE AND SILTSTONE, WHITE AND GREEN QUARTZITE; MINOR DARK ARGILLITE

ALDRIDGE FORMATION

A3 — DARK GREY FINELY LAMINATED ARGILLITE; MINOR SILTSTONE

A3i — DARK GREY ARGILLITE WITH LENTICULAR BEDDING

A2 — QUARTZITE, SILTSTONE; INTERLAYERED WITH DARK ARGILLITE

A1 — FINELY LAMINATED ARGILLITE, SILTSTONE; MINOR DOLOMITE, QUARTZITE

- f MEDIUM TO DARK GREY SILTSTONE, ARGILLITE
- e THICK-BEDDED QUARTZITE; MINOR CONGLOMERATE
- d BUFF-COLOURED DOLOMITIC SILTSTONE, DOLOMITIC ARGILLITE; ABUNDANT LENTICULAR BEDDING AND RIPPLE CROSSBEDDING
- c GREY SILTSTONE, ARGILLITE; TAN SILTSTONE, BLACK GRAPHITIC ARGILLITE
- b SILTY DOLOMITE, DOLOMITIC SILTSTONE; MINOR LIMESTONE
- a GREY TO BLACK SILTSTONE AND ARGILLITE

F — FORT STEELE FORMATION: WHITE CROSSBEDDED QUARTZITE, MUD-CRACKED SILTSTONE, ARGILLITE

## SYMBOLS

GEOLOGICAL CONTACT: DEFINED, APPROXIMATE, ASSUMED

FAULT: DEFINED, APPROXIMATE, ASSUMED

ANTICLINE – AXIAL SURFACE

BEDDING ($S_0$): VERTICAL, INCLINED, OVERTURNED

FOLIATION, CLEAVAGE ($S_1$)

LINEATION ($S_0 - S_1$ INTERSECTION)

FOLD AXIS

MINERAL DEPOSIT

LIMITS OF OUTCROP (OR MAPPING)

**Legend for Figure 3**

**Lithology**

The property is underlain by the Fort Steele Formation which is the oldest unit of the Purcell Supergroup exposed in Canada, as well as overlying Aldridge Formation. According to Hoy (1979):

> The total thickness of the exposed (*Fort Steele Formation*) section is in excess of 2000m; the base is not exposed. The formation comprises at least three upward-fining sequences, several hundred metres thick, that grade from coarse, massive to crossbedded quartzites at the base to thinly laminated siltstones at the top. Within each of these megacycles are numerous smaller scale upward-fining sequences, and some coarsening upward sequences.
>
> Orthoquartzites at the base of the megacycles are generally medium to coarse grained. They commonly form discontinuous beds up to a meter thick which may thin and die out laterally. They are commonly structureless or only crudely layered and they scour the underlying unit producing broad troughs. Trough, tangential, and planar/tabular crossbedded quartzite layers are common near the base of the megacycles. These layers are generally more laterally persistent than the massive quartzite beds and their thickness is less variable.
>
> Up-section within each of the megacycles, quartzites are finer grained, less pure, thinner bedded, and more persistent laterally. The relative proportion of the siltstone/argillite component at the top of smaller, upward-fining sequences increases. Beds consisting dominantly of planar/tabular crossbedded quartzite are also common within the central portion of the megacycles, and thick tangentially crossbedded planar beds with high angled (to 35 degrees) foreset laminae occur occasionally.
>
> The top of the megacycles consists of interlayered siltstone and argillite. The siltstone layers are thin (generally less than 5 centimetres thick) and horizontally laminated or ripple cross-laminated. Individual beds grade up to dark, laminated argillite that contains abundant dessication cracks. Lenticular bedding and silt scours are common. Near the top of the Fort Steele Formation the quartzite/siltstone component gradually decreases and medium to dark grey, finely laminated siltstone and argillite begin to predominate. Within this transition zone bedding is commonly defined by siltstone/argillite couplets up to several centimetres thick. Quartzites are uncommon, and dessication cracks are extremely rare. The Fort Steele/Aldridge boundary is gradational. On the map it is placed above the last occurrences of crossbedded quartzite or observed dessication cracks in argillite.

The Fort Steele Formation is overlain by the Aldridge Formation which regionally is a dominantly fine grained, thick succession of wackes and siltstones of turbidite affinity, but in the Rocky Mountains near the JacLeg property the lower portion of the Aldridge Formation includes more argillaceous units and distinctive carbonate units. Hoy (1979) further says:

> Rusty weathering argillite, siltstone, and shale of the Aldridge Formation conformably overlie the Fort Steele Formation. The Aldridge Formation has been divided into three main divisions. The lowest division, A1, comprises dominantly fine-grained clastic rocks and a prominent carbonate horizon. Previous mapping (Leech, 1960) has placed the units underlying and including the carbonate horizon within the Fort Steele Formation, but it has been proposed (Hoy, 1978) that these units be assigned to the Aldridge Formation which they more closely resemble. The middle division of the Aldridge, A2, includes interlayered argillite and wacke, and the upper division, A3, is dominantly dark, finely laminated argillite.

Aldridge Formation rocks exposed on the JacLeg property are restricted to the A1 division; Hoy further describes the lowermost units of the A1 division of the Aldridge Formation:

> The basal unit of A1 (A1a) consists of medium to dark grey to black, finely laminated argillite and siltstone. Flaser and lenticular bedding occur occasionally and siltstone/argillite couplets up to 3 centimetres thick may define bedding. A1b is a prominent carbonate unit that serves as a marker horizon within the lower division of the Aldridge Formation. It varies in thickness from less than 20 meters to greater than 100 meters. It is commonly a buff to grey-weathering silty dolomite unit that is interlayered on a 0.5 to 1.0-centimetre scale with fine-grained dolomitic siltstone, light green very siliceous dolomite, or chert. It may also consist of finely laminated, slightly crenulated dolomite or laminated dolomite pods in a more massive, silty dolomite. Finely laminated, grey-weathering limestone occurs at the top of the unit on the thick section north of Wasa Creek.
>
> South of the Lewis Creek fault, the succession immediately overlying the carbonate unit can be divided into three units (collectively termed A1c on the map). These include a massive to only faintly laminated black, graphitic argillite, overlain by a lighter coloured grey, greenish grey, or tan-coloured, finely laminated siltstone or silty argillite, and, finally, a medium to dark grey, rusty weathering massive to faintly laminated argillite. Carbonate pods and rare, thin, silty quartzite layers occur occasionally within the top two units of A1c. North of the Lewis Creek fault, the subdivision of A1c is not as apparent. It consists of massive to finely laminated, medium grey siltstone and rusty weathering, dark argillite.

A1a, A1b and A1c are present on the JacLeg property whereas the overlying A1 units have not been observed on the claim block. In general, lower Fort Steele Formation is exposed on the western and southern ~2/3 of the claim block with younger Aldridge Formation strata exposed to the north and east.

Both the Fort Steele and Aldridge Formations are intruded by gabbroic sills and dikes of the Moyie Intrusions. They consist mainly of medium grained amphibole and plagioclase. Regionally only a few gabbro intrusions are present within this stratigraphy in the Rocky

Mountains but on the JacLeg property there is an abundance of gabbro sills and dikes, particularly in proximity to the Lewis Creek Fault.

Hoy interprets the depositional environment of the Fort Steele and Aldridge Formation rocks as:

> The Fort Steele Formation at the base of the exposed Purcell sequence consists predominantly of braided fluvial deposits derived from a source area to the south. A marine transgression is apparent in early Aldridge time, and the alluvial fan deposits of the Fort Steele are overlapped by intertidal and subtidal mud flat deposits, which give way upward to slightly crenulated and laminated carbonates (A1b) that are similar to subtidal algal mat deposits. Overlying laminated siltstone and argillite of unit A1c represent continuing transgression.

The 'Transition Zone" rocks near the Fort Steele - Aldridge contact are considered favourable host lithologies for gold deposition. The range of lithologies presents opportunities for accumulation of epithermal or mesothermal gold due to chemical or physical differences in the rocks.

### Structure

Numerous small and larger scale faults cross the JacLeg property, producing a complex geologic picture. Relatively poor bedrock exposure over much of the claim block further hinders a good understanding of the geology. Previous work indicates that gold mineralization is structurally controlled thus a good understanding of structure is important.

Regionally the Rocky Mountain Trench Fault (Hoy, 1979) occurs near the western edge of the Rocky Mountains and separates Purcell Aldridge Formation stratigraphy in the west from Rocky Mountain Fort Steele and Aldridge Formation stratigraphy in the east, with west side down displacement in the order of 3000 meters or so. This is a major structure which has likely had considerable influence on the deformation of rocks within the JacLeg property area.

The northeast-striking Lewis Creek Fault is the dominant structural break on the property. On the south side of the Lewis Creek Fault on the Goldylot claims (southern portion of the JacLeg property) Fort Steele quartzites strike generally northwesterly with shallow to moderate southwest dips (Fig. 4). A series of gabbros with irregular contacts generally parallel the strike of the beds and are probably sills although they display extensive cross-cutting character locally. The profusion of gabbros on the immediate south side of the Lewis Creek Fault strongly suggests this structure was a feeder zone for the gabbros. Further to the northeast but still south of the Lewis Creek Fault (Immediately east of the 'Sand and Gravel' area; Fig. 4) Fort Steele quartzites are steeply east-dipping. This area may be a separate structural block or may be the east limb of an anticline.

Immediately north of the Lewis Creek Fault and in the west central portion of the claim block a broad anticline is present. The exposed western limb is quite shallow dipping while the more extensively exposed eastern limb displays very shallow to moderate dips. Within this broad anticline the eastern limb is cut by a series of northerly-striking minor faults. Bedding is typically steepened on the immediate west side of the N-S fault, then shallower-dipping on the east side. This style of deformation appears compatible with eastward-verging compressive tectonic stress.

North of this broad anticline an east-west fault structure has been partially defined by VLF-EM surveying (at ~ 5,518,700N). Fort Steele quartzite beds are shallow dipping south of the fault while to the north they are steep east-dipping to overturned. Within this structural block, Fort Steele quartzites are cut by apparently minor NW faults which host some quartz veining, brecciation and development of minor sulfides (limonitic weathering).

Moving further north the exposed bedrock is very limited. A central block of somewhat patchy exposure of middle Aldridge Formation lithologies - A1a to A1c - is evidently a down-dropped, fault-bounded block but the fault traces are not evident. An isolated block of gabbro to the west / northwest (at ~ 5,520,500 N, 596,600 E) has no host rocks exposed with it. Given the geology of the rest of the property, it seems likely that this gabbro is hosted by Fort Steele Formation.

Further north in the Wolf Creek area, stratigraphy exposed is near the Fort Steele - middle Aldridge transition contact. Fort Steele quartzites are exposed along with A1a and A1b strata, commonly in fault contact. Of interest in this area are NNW-trending quartz vein breccias which contain disseminated pyrite, although limited sampling to date has returned only very low gold values. Wolf Creek generally trends ENE, parallel to Lewis Creek, and is an obvious candidate for a fault structure. Four lines of VLF-EM surveying were completed across the valley bottom to check for a possible fault structure. A strong anomaly indicates the presence of a fault here in Wolf Creek.

The easternmost portion of the JacLeg claims covers part of Lazy Lake. Immediately to the east are the western slopes of the Rocky Mountains where relatively shallow-dipping Fort Steele quartzites are well exposed. Stratigraphy in the Lazy Lake area includes shallow to moderate-dipping Fort Steele quartzites and moderate to steep dipping middle Aldridge strata including units A1a, A1b and A1c. A complex array of fault structures is indicated by the surface geology. A strong northeast fault (the 'Lazy Lake Fault')follows the lower arm of Lazy Lake. This structure is a strong VLF-EM anomaly on the road SSW of the lake and may be a splay or a sub-parallel structure to the Lewis Creek Fault. The fault appears to curve along Lazy Lake and continues north at the base of the Rocky Mountains. A strong quartz breccia zone northwest of the north end of Lazy Lake suggests another structure trending in this direction. Furthermore, the Lazy Lake block must be separated from the A1b / A1c block to the immediate west by an as yet undefined fault structure. A series of minor east-west striking fault structures in the central part of the lake further complicate the structure.

**Intrusives**

The numerous intrusions which occur on the JacLeg property can in most cases be attributed to a structural control.

Gabbro

Gabbroic and dioritic composition sills and dikes of the Moyie Intrusions are present within the Fort Steele and Aldridge formations. They are present in the Fort Steele formation on the JacLeg claims and provide a contrasting lithology, both chemically and physically, to the Fort Steele quartzites and siltstones.and Aldridge argillites and dolomitic argillites. Gabbros are abundant on the immediate south side of the Lewis Creek Fault and suggest this structure was a control on emplacement of these intrusions. Elsewhere on the property the emplacement of gabbro dikes has been influenced by fault structures or by lithology. Locally gabbros tend to follow the 'Upper Cycle' portion of the Fort Steele Formation and are then refracted a a higher angle through the more brittle adjacent quartzites. A number of gabbro dikes also follow northwest trending fault and quartz breccia zones between Lewis Creek and the 'JacLeg Showing' area.

Fine-grained green mafic dikes are present on parts of the property. Some were mapped in detail on the Goldylot claims (Klewchuk, 1998); they cross-cut gabbros and are evidently young, possibly as young as Cretaceous. These narrow dikes are generally too small to show on the 1:10,000 geology map, Figure 4.

Green intrusive dikes and sills are present in the central part of the property north of Lewis Creek. These are strongly chloritic and appear mafic in composition. Strong carbonate alteration has affected significant portions of many of these dikes and sills, resulting in a lighter, cream yellow coloration, usually with fairly bright green, Cr-Ni -bearing micas. Weathering results in a strong brown color and the dikes are referred to as 'green-brown dikes'. Some of the better gold mineralization seen on the property is within quartz-dolomite veins developed proximal to these carbonate-altered intrusives. The 'JacLeg Showing' area hosts a number of these dikes and was mapped in detail in 2001 (Klewchuk & Kennedy, 2001).

During 2002 a few occurrences of felsic intrusive material were noted. Some of the quartz breccias west of the 'JacLeg Showing' contain felsic intrusive material and felsic intrusive material was recognized with carbonate veins and chalcopyrite mineralization near the Goldylot workings. The presence of felsic intrusive material in the vicinity of gold mineralization at the JacLeg property supports a genetic link to Cretaceous age quartz monzonite intrusions.

## 3.00 ROCK GEOCHEMISTRY

Follow-up prospecting and geologic mapping on the Jacleg property resulted in 70 rock samples being collected. Location of the samples is shown in Figure 5 with brief descriptions of the rock samples in Appendix 1. Rock samples were shipped to Acme Analytical Laboratories Ltd. at 852 East Hastings Street, Vancouver, B.C., and analyzed for a 30 element ICP package and geochemical gold by standard analytical techniques. Complete geochemical analyses are provided in Appendix 2.

### Results

Follow-up prospecting and rock geochemistry in the 'JacLeg Showing' area detected the most consistent high gold values, ranging up to 17,016 ppb. Gold occurs in flat lying veins and in quartz-dolomite vein / breccia systems, in association with a local concentration of carbonate-altered Cr and Ni -bearing mafic dikes. A moderately west-dipping northwest-trending fault (the 'JacLeg Fault'; Fig. 4) is projected to occur about 150 meters west of the best gold values. The flat, gold-bearing quartz veins at the JacLeg Showing may be splay structures related to this JacLeg Fault structure.

Another suite of higher gold values occurs in the south-facing cliffs of Fort Steele quartzites overlooking Lewis Creek, south of the JacLeg Showing and on strike with the JacLeg Fault. Some of the gold mineralization in the quartzite cliffs occurs in flat-lying quartz veins which may be related to the JacLeg Fault in the same manner as hypothesized for the JacLeg Showing area.

Northwest of the Goldylot claims, on the south side of Lewis Creek, a galena-bearing quartz vein within gabbro but associated with a northwest-striking, moderately southwest-dipping fault zone (gabbro juxtaposed on Fort Steele quartzites) returned almost 22g of gold / tonne (Sample JL-02-04; 21,347 ppb). This northwest fault is essentially on strike with the JacLeg Fault and may be the same structure.

In the northern part of the property, sample JK-40 was collected from an erosional remnant of a thick, bedding-(sub) parallel quartz vein which occurs regionally near the A1b unit. This sample returned almost 1 gram gold / tonne (939 ppb). The Aldridge - Fort Steele 'transition stratigraphy' which hosts this gold-bearing quartz ledge underlies much of the northeastern half of the JacLeg property.

# 4.00 VLF-EM GEOPHYSICS

## 4.10 Introduction

Two small grids and a few additional 'reconnaissance' VLF-EM lines were surveyed to identify the trace of inferred or postulated fault structures. Survey lines on the grids were run by compass and are oriented north-south; reconnaissance lines were surveyed along roads (Figure 4) Survey lines were measured with a hip-chain with VLF-EM readings taken at 25 meter spacings. Sufficient GPS readings were taken during VLF-EM surveying to provide confidence in plotting all survey lines on the base map. A total of 9.325 kilometers of line was surveyed.

## 4.20 VLF-EM Survey

### 4.21 Instrumentation and Survey Procedure

The VLF-EM (**V**ery **L**ow **F**requency **E**lectro**m**agnetics) method uses powerful radio transmitters set up in different parts of the world for military communication and navigation. In radio communication terminology, VLF means very low frequency, about 15 to 25 kHz. Relative to frequencies generally used in geophysical exploration, the VLF technique actually uses very high frequencies.

A Crone Radem VLF-EM receiver, manufactured by Crone Geophysics Ltd. of Mississauga, Ontario was used for the VLF-EM survey. Seattle, Washington, transmitting at 24.8 kHz and at an approximate azimuth of 247° from the survey area, was used as the transmitting station.

In all electromagnetic prospecting, a transmitter produces an alternating magnetic (primary) field by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulfide body is within this magnetic field, a secondary alternating current is induced within it, which in turn induces a secondary magnetic field that distorts the primary magnetic field. The VLF-EM receiver measures the resultant field of the primary and secondary fields, and measures this as the tilt or 'dip angle'. The Crone Radem VLF-EM receiver measures both the total field strength and the dip angle.

The VLF-EM uses a frequency range from about 15 to 28 kHz, whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can detect zones of relatively lower conductivity. This results in it being a useful tool for geologic mapping in areas of overburden but it also often results in detection of weak anomalies that are difficult to explain. However the VLF-EM can also detect sulfide bodies that have too low a conductivity for other EM methods to pick up.

Results were reduced by applying the Fraser Filter and, for the sake of clarity, only the Fraser Filter values greater than 5 are shown on the survey lines in Figure 4.

The Fraser Filter is essentially a 4-point difference operator which transforms zero crossings into peaks, and a low pass operator which induces the inherent high frequency noise in the data. Thus the noisy, often non-contourable data are transformed into less noisy, contourable data. Another advantage of this filter is that a conductor which does not show up as a zero crossover in the unfiltered data quite often shows up in the filtered data.

### 4.22 Discussion of Results

**Lewis Creek Area**

Initial exploration work on the Goldylot claims at the southwest edge of the property included a few VLF-EM survey lines across the Lewis Creek valley bottom to determine the location of the Lewis Creek Fault (Klewchuk, 2001). The Lewis Creek Fault was detected on 3 east-west lines as a moderate 'conductor' (Fraser Filter values of 14 to 25). In 2002, 2 roads were surveyed with VLF-EM to the east of the claim block to establish the trace of the Lewis Creek Fault. Weak anomalies (Fraser Filter values of 7 to 8) were detected approximately on strike of the Lewis Creek Fault; these probably represent the fault trace but suggest the intensity of the structure is diminished. This interpretation is compatible with the Lewis Creek Fault being reactivated during the Cretaceous as a subordinate high angle structure to the Rocky Mountain Trench Fault, with intensity of deformation diminishing eastward away from the Rocky Mountain Trench Fault.

**North of JacLeg and Copper King Showings**

A moderate topographic low exists about 600 meters north of the JacLeg and Copper King showings (Fig. 4) and the possibility of this being a buried fault structure was tested by a VLF-EM survey. Initially it was thought the structure may trend ENE, parallel to the Lewis Creek Fault and an inferred 'Wolf Creek Fault'. Eventually 10 north-south grid lines were surveyed and a moderate to strong east-west anomaly was detected. This fault generally separates shallow-dipping Fort Steele quartzites on the south from steep-dipping Fort Steele quartzites to the north (although unresolved structural complexity exists south of the eastern edge of the VLF-EM grid area). The east-west fault projects eastward into the area where Fort Steele quartzites on the south are in fault contact with younger (A1b) stratigraphy to the north.

**Lazy Lake Area**

One VLF-EM line was surveyed along the northeast shore of Lazy Lake, initially to determine if the Fort Steele quartzites at the northeast corner of the lake are in fault contact with the A1a unit to the south (Fig. 4). The Fort Steele quartzites at the contact are limonitic-altered and they carry small pyritic quartz veins. No anomaly was detected at the contact but a response was picked up farther north. Two additional east-west lines were run across the anomaly which is a broad response, apparently northerly-trending, and probably the 'Lazy Lake Fault'. This structure was also detected by a reconnaissance road VLF-EM survey across the Lewis Creek valley bottom about 1 km SSW of Lazy Lake. This Lazy Lake Fault appears to be a stronger break than the inferred eastward extension of the Lewis Creek Fault. Given their sub-parallel attitudes, these two structures are probably related. The Lazy Lake Fault probably curves north at the north end of Lazy Lake and continues along the base of the western slope of the Rocky Mountains.

**Wolf Creek Area**

The parallel linear nature of the Wolf Creek drainage to Lewis Creek indicates there is a fault in this valley. Four north-south VLF-EM lines were surveyed across the valley and detected a strong east-west trending response (Fig. 4). The Wolf Creek VLF-EM survey was limited in scope because of wet swampy ground in the valley bottom; further VLF-EM surveying would best be done in the winter when the ground is frozen.

**Northwest Structures**

Two short reconnaissance road lines were surveyed across the projection of one identified and one inferred northwest fault. A structure which hosts a quartz breccia zone and a gabbro dike near 596,800 E, 5,518,000 N was detected with VLF-EM on a road traverse a short distance northwest of the exposures. Fraser Filter values of 8 were obtained. Further to the north, near 596,700 E, 5,519,300 N a road traverse crossing an inferred northwest fault which separates Fort Steele quartzites from the dolomitic siltstone / argillite of Aldridge unit A1b failed to detect any anomaly, possibly because of thick overburden.

**Summary**

Because gold mineralization on the JacLeg property is controlled by structure, VLF-EM surveying was utilized as part of the 2002 exploration program to confirm the presence of inferred fault structures and to help locate the strike extent and trace of known fault structures. The technique has successfully identified east-west, northwest and northeast structures on the property.

## 5.00 CONCLUSIONS

The area of the JacLeg claims is structurally complex with numerous faults evident. The main structural fabric is east-northeast and northwest. The southwest half of the property is underlain by Fort Steele quartzites while the northeast half is underlain by younger, lowermost Aldridge strata.

An abundance of gabbros proximal to the Lewis Creek Fault supports this structure being active as a gabbro feeder zone during the Precambrian. The presence of significant gold associated with structures believed related to the Lewis Creek Fault further supports this structure being reactivated during the Cretaceous, when gold is believed to have been emplaced..

Gold on the Jacleg property is spatially associated with young green-brown carbonate-altered mafic dikes at the JacLeg Showing area and near carbonate-altered felsic intrusives at the Goldylot workings. Both these intrusive types are probably related to Cretaceous granitic intrusions. Gold appears best developed within quartz and quartz-dolomite veins hosted by thin bedded mixed lithology units which range from phyllitic argillite to quartzite. These mixed lithology units appear to have reacted to tectonic deformation in a fissile manner, developing local low pressure zones which were favorable for deposition of silica, dolomite and gold. The gold-bearing quartz veins may be splay structures emanating from nearby fault structures.

The presence of structurally-controlled gold and the abundance of structures provides ample opportunity to identify an economic concentration of gold on the property.

## 6.00 REFERENCES

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## 7.00 STATEMENT OF COSTS

| | |
|---|---|
| 8 days prospecting @ $330/day (includes truck) | $2640.00 |
| 18 days field mapping @ $330/day | 5940.00 |
| 18 days vehicle @ $75/day | 1350.00 |
| Report and drafting 3 days @ $330.00/day | 990.00 |
| Rock geochem analyses 70 samples @ 16.00/sample | 1120.00 |
| VLF-EM rental 5 days @ $30.00/day | 150.00 |
| Base map preparation | 130.00 |
| Field and report supplies | 77.00 |
| TOTAL COST | **$12,397.00** |

## 8.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk, certify that:

1. I am an independent consulting geologist with offices at 246 Moyie Street, Kimberley, B.C.
2. I am a graduate geologist with a B.Sc. degree (1969) from the University of British Columbia and an M.Sc. degree (1972) from the University of Calgary.
3. I am a Fellow of the Geological Association of Canada and a member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 25 years.
5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 10th day of August, 2002.

Peter Klewchuk
P. Geo.

PROFESSIONAL
PROVINCE OF
P. KLEWCHUK
BRITISH COLUMBIA
GEOSCIENTIST

**Appendix 1. Description of Rock Samples**

| Sample Number | Description |
|---|---|
| JK-01 | Narrow (1cm) quartz veins in Fort Steele Quartzites (FSQ). Rusty weathering with limonite from oxidized pyrite and Fe carbonate. Veins trend 330°/58°SW. FSQ are limonitically altered. |
| JK-02 | Sheared sediments with narrow quartz carbonate veinlets with py / limonite along margins. Some Cpy. ~0.5 m wide zone. |
| JK-03 | Quartz carbonate vein / blowout with limonite (rusty weathering), green clasts in quartz - 15 cm wide. |
| JK-04 | Quartzite / quartz breccia with green mica, some py / limonite - 3 m wide zone trending 310°. |
| JK-05 | Quartzite / quartz breccia with some pyrite & carbonate in quartz veinlets - strike 340°. Fault zone cuts off 066°-striking 4 m wide 'greenstone' dike. |
| JK-06 | 15 cm quartz vein with py / limonite and iron weathering vugs - strike 330°. |
| JK-07 | 1 m wide greenstone dyke - cleaved and cut by quartz carbonate veinlets with py / limonite, rare Cpy. |
| JK-08 | Chloritic brecciated quartzites with iron carbonate cut by narrow quartz veinlets with rare py / limonite. |
| JK-09 | Shearing cutting through gabbro - narrow quartz carbonate veins with some py / limonite. (Fault zone parallel to Lewis Creek Fault). |
| JK-10 | Narrow quartz vein in quartzites with limonite / pyrite (brown weathering limonite). Veins trend 036°/60°NW. |
| JK-11 | Narrow quartz vein in quartzite with limonite / py - brown limonite - trends 018°/68°NW. |
| JK-12 | 0.5 m wide zone with narrow quartz veins 2-4 cm wide with py / limonite, some carbonate - rusty weathering. Flat-lying zone. |
| | JK-13 to 15 are ~30 m on strike from JK-12 |
| JK-13 | 5 cm wide quartz vein with py / limonite and carbonate. |

| | |
|---|---|
| JK-14 | 10 cm wide quartz vein - rusty weathering with limonite / py and Cpy - vuggy. |



| | |
|---|---|
| JK-15 | 2 cm wide quartz vein with limonite / py and carbonate. |
| JK-16 | Narrow quartz vein with abundant py / limonite with sericite mica along margins. |
| JK-17 | Pod of massive py / limonite in quartzites along margin of a crush zone - similar to material of Goldylot workings. |
| JK-18 | Altered sediment blocks (fissile unit?) With narrow (0.5 cm) quartz veinlets with Cu, PbS, py. |
| JK-19 | Narrow quartz vein ~2 cm wide with limonite / py in crushed quartzites ~010° strike. |
| JK-20 | Narrow quartz vein (1-2 cm wide) with carbonate and rare py / limonite. Trends 005°/60°W. |
| JK-21 | Quartz carbonate vein with py / limonite and Cpy - extension of Copper King workings. |
| JK-22 | Quartz carbonate breccia with rare Cpy, abundant py / limonite, on strike of JK-21. |
| JK-23 | Zone of narrow quartz carbonate veinlets with py / limonite in 'banded unit'. |
| JK-24 | Quartz and sheared sediments with Cpy and limonite / py in quartz carbonate veins. |
| JK-25 | 25 - 30 cm wide quartz vein with py / limonite, Cpy and PbS. |
| JK-26 | 1 m wide felsite (?) Quartz breccia with py / limonite, carbonate and PbS. |
| JK-27 | Same as 26. |
| JK-28 | Flat-lying quartz vein ~30 cm wide with limonite / py, carbonate and PbS. |
| JK-29 | "JacLeg vein" - ribboned, rusty weathering limonite rich vuggy quartz vein - flat-lying, 1 m wide. |
| JK-30 | Same as 29, ~ 20 m along strike. |
| JK-31 | Quartz carbonate breccia on hangingwall of "JacLeg vein" with py / limonite and PbS. |

| | |
|---|---|
| JK-32 | "JacLeg vein" - footwall zone of vein ~15-30 cm wide with abundant py / limonite along sheared sediment inclusions - some visible gold.. |
| JK-33 | "JacLeg vein" - 1.5 m wide zone with lots of Fe rich vugs, limonite / py. |
| JK-34 | Quartz carbonate vein with Py / limonite, hematite in gabbro. |
| JK-35 | Quartz vein ~20 cm wide with py, Cpy and carbonate. |
| JK-36 | Quartz carbonate veinlets within quartzite / grit unit - some py / limonite in veinlets. |
| JK-37 | Quartz breccia zone. Bedding // with py / limonite and carbonate. Trends 010°/70°W. |
| JK-38 | Quartz carbonate vein / breccia zone with green inclusions (seds?). Sheared with py / limonite along margins. |
| JK-39 | Old workings - quartz veins with Cpy, massive limonite - malachite on fractures in quartzite. Composite of dump material. |
| JK-40 | 1.5 m wide quartz vein with py / limonite, carbonate. Pods of PbS / Cpy - Big Ledge vein on Dar Wolf. |
| JK-41 | Old working in gabbro - narrow quartz carbonate veinlets with some py / limonite. |
| JK-42 | Narrow quartz vein (1 cm wide) with large py / limonite cubes. Trends 105°/58°NE. |
| JK-43 | 10 cm wide quartz vein with carbonate pods and limonite / py with rare Cpy - strikes 080°. |
| JK-44 | 10 cm wide quartz vein with limonite / py, brown rusty vugs. |
| JK-45 | Sheared sediments / intrusive (green colored) with quartz carbonate veinlets - Fe stained. |
| JK-46 | Quartz veinlets in FSQ with Fe carbonate and Py / limonite. |
| JK-47 | Magnetite breccia zone in FSQ. |
| JK-48 | 0.5 m wide zone of quartz carbonate veinlets with py / limonite and rare Cpy. |

| | |
|---|---|
| JK-49 | Quartz brecciated green intrusive ~0.5 m wide with some py / limonite. Carbonate in veinlets. |
| JK-50 | Limonitic quartz veinlets. Bedding-// and cross-cutting (240°/70°NW). |
| JK-51 | 1 cm wide slip / crush zone with quartz and massive Cpy, limonite - trends 010°/45°W. |
| JK-52 | Quartz carbonate vein in breccia zone. Some limonite / py, carbonate. |
| JK-53 | Narrow slickensides with py / limonite and quartz. Trends ~360°/60°W. |
| JK-54 | Zone in quartzite with lots of limonite / py (massive) in quartz veinlets. |
| JK-55 | Same zone as above in (FSQ)cycle top. Py / limonite rich veinlets - trends 138°/80°SW. |
| JK-56 | Composite of quartz carbonate veinlet material with some py / limonite in quartzite breccia. Same area as JK-05. |
| JK-57 | On same structure as 56 - crushed quartzite, narrow quartz carbonate veinlets with py / limonite. |
| JK-58 | Quartz veinlets in subcrop with abundant limonite / py on strike of 54, 55. |
| JK-59 | Quartz veinlets. Lots of limonite, vugs - in fractured quartzite with Cu stain - fractures strike 340°. |
| JK-60 | Fracture zone in quartzite with Cu. Strike N-S and NW. |
| JK-61 | Old pit - Cu stain on fractures, some quartz carbonate veinlets, rare py / limonite. |
| JK-62 | Same structure as 61 - weak - narrow limonite / py veinlet. |
| JK-63 | Cu stain on fractured quartzite. Some quartz carbonate veinlets with py / limonite. |
| JK-64 | Flat-lying quartz vein ~4 cm wide with pods of limonitic vuggy py. |
| JK-65 | Quartz breccia zone in quartzite - quartz carbonate veinlets with rare py / limonite. |

| | |
|---|---|
| JL-02-1 | Grab of several small thin, limonitic quartz veins within quartzite. Strong limonitic spots may be weathered iron carbonate. |
| JL-02-2 | Composite of limonitic quartz veins from narrow band (1.5 to 2 m wide) of Upper Cycle mixed argillite-quartzite lithology. 1 to 5 cm wide quartz veins with argillites, dark angular hematite-oxidized spots. Minor pyrite. |
| JL-02-3 | Chips of thin (1 to 1.5 cm thick) limonitic quartz veins. In thinner bedded fissile 'Banded Unit'. Silts are micaceous, chloritic, weak to moderately limonitic, and host thin limonitic quartz veins. |
| JL-02-4 | Quartz vein float, within gabbro. Limonitic, vuggy with medium-grained PbS. |
| JL-02-5 | 2 to 3 m wide ribboned quartz vein. Some coarse oxidized iron carbonate, local abundant disseminated pyrite. Sheared, phyllitic, limonite-spotted seds on margins - probable northwest fault zone. |

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# GEOCHEMICAL ANALYSIS CERTIFICATE

Jack leg

**National Gold Corporation** File # A201265 Page 1
600 - 890 W. Pender St., Vancouver BC V6C 1K4 Submitted by: T. Kennedy

| SAMPLE# | Mo ppm | Cu ppm | Pb ppm | Zn ppm | Ag ppm | Ni ppm | Co ppm | Mn ppm | Fe % | As ppm | U ppm | Au ppm | Th ppm | Sr ppm | Cd ppm | Sb ppm | Bi ppm | V ppm | Ca % | P % | La ppm | Cr ppm | Mg % | Ba ppm | Ti % | B ppm | Al % | Na % | K % | W ppm | Au* ppb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SI | 1 | 2 | 4 | <1 | .3 | 3 | <1 | 12 | .07 | <2 | <8 | <2 | <2 | 2 | <.2 | <3 | <3 | <1 | .10 | <.001 | <1 | 4 | .02 | 2 | <.01 | <3 | .01 | .45 | <.01 | <2 | <.2 |
| JK-01 | 3 | 4 | 4 | 2 | .4 | 5 | 2 | 34 | .44 | <2 | <8 | <2 | <2 | 1 | <.2 | <3 | 3 | 1 | .01 | .001 | 3 | 21 | .01 | 6 | <.01 | <3 | .03 | .01 | .03 | 3 | 1.5 |
| JK-02 | 8 | 541 | 92 | 17 | 2.4 | 29 | 8 | 324 | 2.40 | <2 | <8 | <2 | 5 | 103 | <.2 | <3 | <3 | 5 | 1.59 | .023 | 7 | 14 | 1.23 | 30 | <.01 | <3 | .21 | .02 | .19 | 2 | 4477.8 |
| JK-03 | 4 | 13 | 11 | 4 | .6 | 18 | 9 | 70 | 1.01 | <2 | <8 | <2 | 2 | 5 | <.2 | <3 | <3 | 2 | .06 | .007 | 1 | 23 | .07 | 18 | <.01 | <3 | .06 | .01 | .05 | 4 | 68.7 |
| JK-04 | 4 | 7 | 4 | 3 | <.3 | 9 | 2 | 66 | .89 | <2 | <8 | <2 | <2 | 1 | <.2 | <3 | <3 | 3 | .02 | .004 | <1 | 23 | .02 | 7 | .01 | <3 | .02 | .02 | .02 | 2 | 5.1 |
| JK-05 | 3 | 3 | 5 | 11 | .5 | 21 | 14 | 392 | 1.80 | <2 | 8 | <2 | 2 | 313 | .5 | <3 | <3 | 9 | 3.60 | .012 | 2 | 18 | 1.76 | 11 | <.01 | <3 | .06 | .01 | .06 | 3 | 221.2 |
| JK-06 | 3 | 22 | 5 | 3 | .4 | 56 | 3 | 38 | .69 | 14 | <8 | <2 | <2 | 2 | <.2 | <3 | <3 | 1 | .02 | .002 | 1 | 24 | .01 | 3 | <.01 | <3 | .02 | .01 | .01 | 2 | 3.6 |
| JK-07 | 1 | 95 | <3 | 11 | .3 | 69 | 35 | 485 | 4.50 | <2 | 13 | <2 | <2 | 60 | <.2 | <3 | <3 | 46 | 5.54 | .015 | 1 | 106 | 3.31 | 21 | .01 | <3 | 1.40 | .03 | .15 | <2 | .9 |
| JK-08 | 2 | 3 | <3 | 8 | <.3 | 33 | 3 | 195 | 1.32 | <2 | <8 | <2 | 3 | 3 | <.2 | <3 | <3 | 8 | .21 | .011 | 1 | 23 | .51 | 18 | <.01 | <3 | .57 | .02 | .06 | <2 | .6 |
| JK-09 | 1 | 259 | 6 | 17 | .3 | 8 | 27 | 2730 | 7.09 | <2 | <8 | <2 | <2 | 146 | .5 | <3 | <3 | 51 | 14.17 | .012 | 1 | 4 | 5.15 | 26 | <.01 | <3 | .44 | .02 | .09 | 2 | .4 |
| JK-10 | 3 | 17 | <3 | 2 | <.3 | 10 | 7 | 39 | .38 | 7 | <8 | <2 | <2 | 1 | <.2 | <3 | <3 | 1 | .05 | .002 | 3 | 23 | .02 | 11 | <.01 | <3 | .04 | .01 | .03 | 2 | .5 |
| JK-11 | 3 | 12 | <3 | 3 | <.3 | 13 | 2 | 72 | .44 | 2 | <8 | <2 | <2 | 2 | <.2 | <3 | <3 | 2 | .15 | .006 | 2 | 21 | .03 | 7 | <.01 | <3 | .05 | .01 | .04 | 3 | .4 |
| JK-12 | 4 | 6 | 3 | 4 | <.3 | 11 | 2 | 86 | .65 | <2 | <8 | <2 | <2 | 9 | <.2 | <3 | <3 | 3 | .15 | .008 | 4 | 20 | .29 | 14 | <.01 | <3 | .09 | .02 | .10 | 2 | 26.2 |
| JK-13 | 4 | 4 | <3 | 2 | .3 | 6 | 1 | 37 | .34 | <2 | <8 | <2 | 2 | 2 | <.2 | <3 | <3 | 1 | .01 | .006 | 4 | 21 | .01 | 14 | <.01 | <3 | .06 | .01 | .06 | 3 | 27.4 |
| JK-14 | 4 | 1138 | <3 | 3 | 1.3 | 27 | 3 | 62 | .85 | <2 | <8 | <2 | <2 | 2 | <.2 | <3 | 3 | 5 | .02 | .001 | 3 | 23 | .02 | 14 | <.01 | <3 | .06 | <.01 | .06 | 2 | 660.4 |
| JK-15 | 5 | 8 | 116 | 13 | .9 | 26 | 6 | 389 | 1.69 | <2 | <8 | <2 | 2 | 409 | .6 | <3 | <3 | 7 | 3.18 | .005 | 4 | 29 | 1.62 | 17 | <.01 | <3 | .08 | .01 | .09 | 3 | 871.0 |
| JK-16 | 4 | 16 | <3 | <1 | <.3 | 36 | 9 | 32 | .94 | <2 | <8 | <2 | <2 | 3 | <.2 | <3 | 3 | <1 | .03 | .003 | 2 | 22 | .02 | 11 | <.01 | <3 | .05 | <.01 | .04 | <2 | 7.8 |
| JK-17 | 5 | 158 | 4 | 1 | .7 | 58 | 49 | 31 | 5.34 | 3 | <8 | <2 | 3 | 3 | <.2 | <3 | 7 | 2 | .03 | .016 | 5 | 50 | .03 | 53 | .01 | <3 | .05 | .01 | .09 | 4 | 7.7 |
| JK-18 | 1 | 404 | 1156 | 36 | 1.7 | 26 | 12 | 260 | 2.55 | 7 | <8 | <2 | 3 | 94 | .4 | <3 | 4 | 3 | 1.25 | .015 | 9 | 36 | .94 | 43 | <.01 | <3 | .23 | .09 | .27 | 2 | 3.0 |
| JK-19 | 2 | 10 | 6 | 1 | .3 | 18 | 13 | 27 | .93 | <2 | <8 | <2 | 2 | 2 | <.2 | <3 | <3 | 2 | .02 | .005 | 4 | 75 | .03 | 15 | <.01 | <3 | .08 | .01 | .06 | 4 | .6 |
| JK-20 | 1 | 7 | 3 | 5 | .4 | 26 | 4 | 88 | .87 | <2 | <8 | <2 | 8 | 1 | <.2 | <3 | <3 | 4 | .02 | .013 | 5 | 60 | .03 | 12 | <.01 | <3 | .09 | <.01 | .07 | 3 | .5 |
| RE JK-20 | 1 | 6 | 6 | 5 | .4 | 26 | 4 | 84 | .88 | 2 | <8 | <2 | 8 | 2 | <.2 | <3 | <3 | 3 | .02 | .012 | 6 | 61 | .03 | 14 | <.01 | <3 | .10 | .01 | .08 | 3 | .5 |
| JK-21 | 34 | 1874 | 6 | 11 | 2.2 | 28 | 31 | 348 | 2.30 | <2 | <8 | <2 | 5 | 24 | .2 | <3 | 4 | 4 | .93 | .021 | 5 | 64 | .38 | 100 | <.01 | <3 | .12 | .01 | .09 | 4 | 260.1 |
| JK-22 | 16 | 14 | 6 | 9 | .4 | 12 | 3 | 246 | 1.05 | <2 | <8 | <2 | 8 | 33 | .4 | <3 | 3 | 5 | 1.26 | .045 | 44 | 46 | .55 | 170 | <.01 | <3 | .12 | .04 | .09 | 2 | 279.8 |
| JK-23 | 2 | 60 | 5 | 9 | <.3 | 19 | 6 | 648 | 2.05 | <2 | <8 | <2 | 3 | 68 | <.2 | <3 | 3 | 4 | 1.78 | .044 | 9 | 54 | .77 | 38 | <.01 | <3 | .15 | .03 | .11 | 3 | 34.7 |
| JK-24 | 2 | 935 | 7 | 8 | .9 | 21 | 9 | 101 | 1.56 | <2 | <8 | <2 | 4 | 37 | <.2 | <3 | <3 | 4 | .45 | .021 | 9 | 44 | .33 | 64 | <.01 | <3 | .20 | <.01 | .18 | 2 | 3.8 |
| JK-25 | 86 | 19 | 31 | 7 | 1.0 | 26 | 21 | 135 | 1.55 | 21 | <8 | <2 | 3 | 22 | <.2 | <3 | 7 | 5 | .41 | .023 | 7 | 67 | .19 | 28 | <.01 | <3 | .14 | .02 | .11 | 3 | 714.8 |
| JK-26 | 9 | 4 | 256 | 7 | .4 | 12 | 31 | 309 | 1.10 | <2 | <8 | <2 | 5 | 63 | <.2 | <3 | 4 | 9 | 2.45 | .250 | 14 | 22 | .92 | 25 | <.01 | <3 | .26 | .05 | .13 | <2 | 5.4 |
| JK-27 | 3 | 737 | 565 | 15 | 4.4 | 13 | 54 | 271 | 1.84 | <2 | <8 | <2 | 2 | 36 | .3 | <3 | 11 | 6 | 1.56 | .198 | 4 | 35 | .39 | 33 | <.01 | <3 | .40 | .02 | .25 | <2 | 63.4 |
| JK-28 | 59 | 9 | 781 | 10 | 2.3 | 22 | 23 | 199 | 1.75 | <2 | <8 | <2 | 2 | 64 | .5 | <3 | 6 | 6 | 1.42 | .083 | 5 | 32 | .61 | 31 | .01 | <3 | .19 | .02 | .15 | <2 | 444.1 |
| JK-29 | 42 | 9 | 23 | 5 | .9 | 27 | 18 | 58 | 2.12 | 22 | <8 | .4 | 5 | 3 | <.2 | <3 | 6 | 8 | .02 | .013 | 12 | 62 | .03 | 26 | <.01 | <3 | .20 | <.01 | .19 | 2 | 1954.7 |
| JK-30 | 131 | 8 | 19 | 2 | .6 | 27 | 13 | 47 | 2.54 | 55 | <8 | <2 | 2 | 3 | <.2 | <3 | 5 | 4 | .02 | .005 | 7 | 49 | .02 | 37 | <.01 | <3 | .13 | <.01 | .12 | 3 | 302.1 |
| JK-31 | 13 | 9 | 151 | 50 | 1.4 | 27 | 8 | 755 | 3.13 | <2 | <8 | <2 | 2 | 312 | 3.9 | <3 | <3 | 12 | 8.71 | .040 | 5 | 41 | 3.99 | 23 | <.01 | <3 | .14 | .02 | .09 | <2 | 976.6 |
| JK-32 | 235 | 62 | 49 | 3 | 2.7 | 39 | 75 | 64 | 2.26 | 2 | <8 | 17 | <2 | 8 | <.2 | <3 | 6 | 4 | .11 | .010 | 3 | 56 | .06 | 17 | <.01 | <3 | .08 | .01 | .07 | 2 | 17015.9 |
| STANDARD DS3 | 10 | 120 | 33 | 144 | .3 | 38 | 11 | 809 | 3.10 | 32 | 10 | <2 | 4 | 27 | 5.6 | 5 | 6 | 76 | .53 | .091 | 16 | 175 | .59 | 140 | .09 | <3 | 1.65 | .04 | .15 | 4 | 21.3 |

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK R150 60C AU* IGNITION BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Jacleg

DATE RECEIVED: MAY 13 2002 DATE REPORT MAILED: May 21/02 SIGNED BY............D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

 Data ✓ FA ___

Appendix 2. Rock Geochemistry Analyses

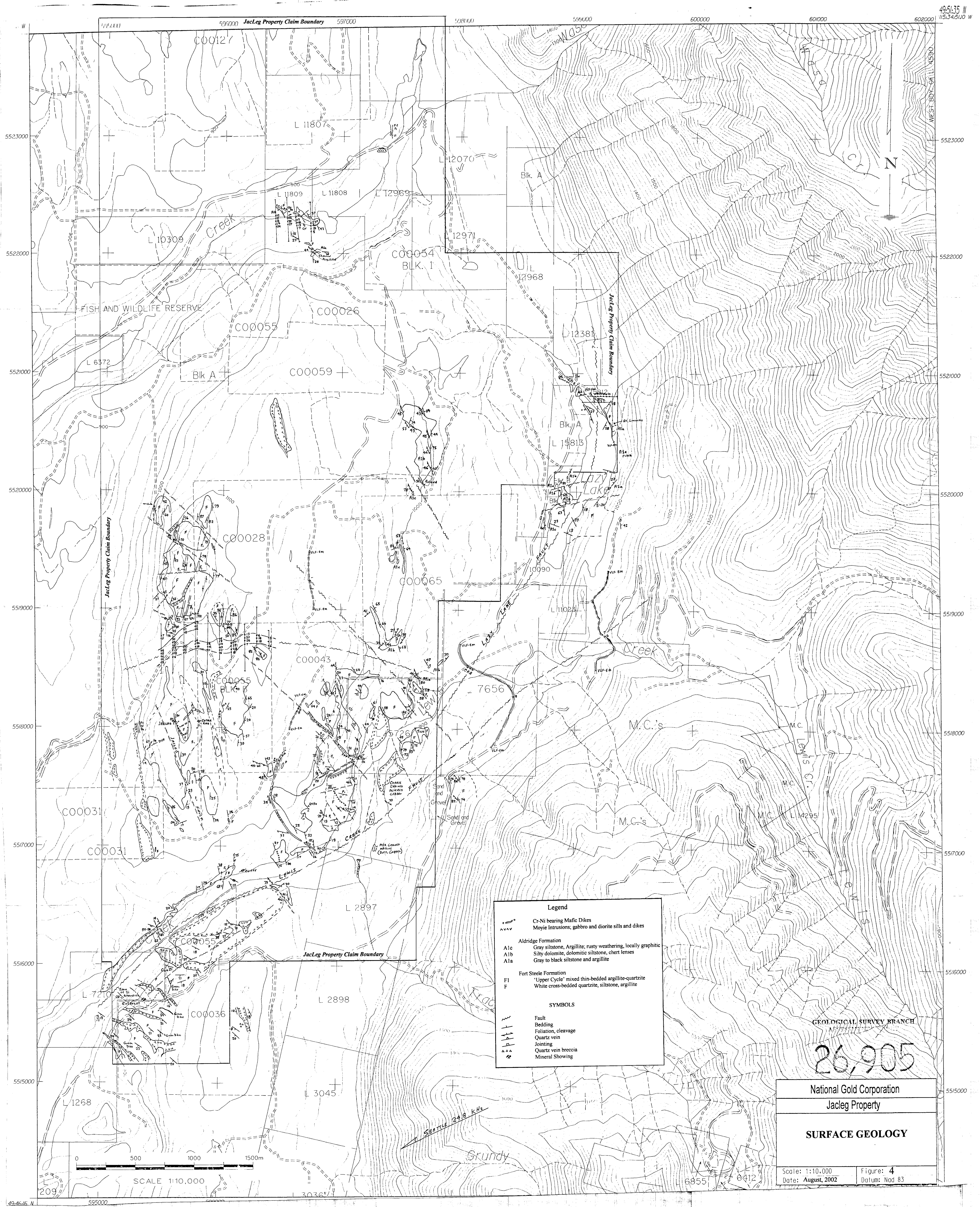
ACME ANALYTICAL

# National Gold Corporation FILE # A201265

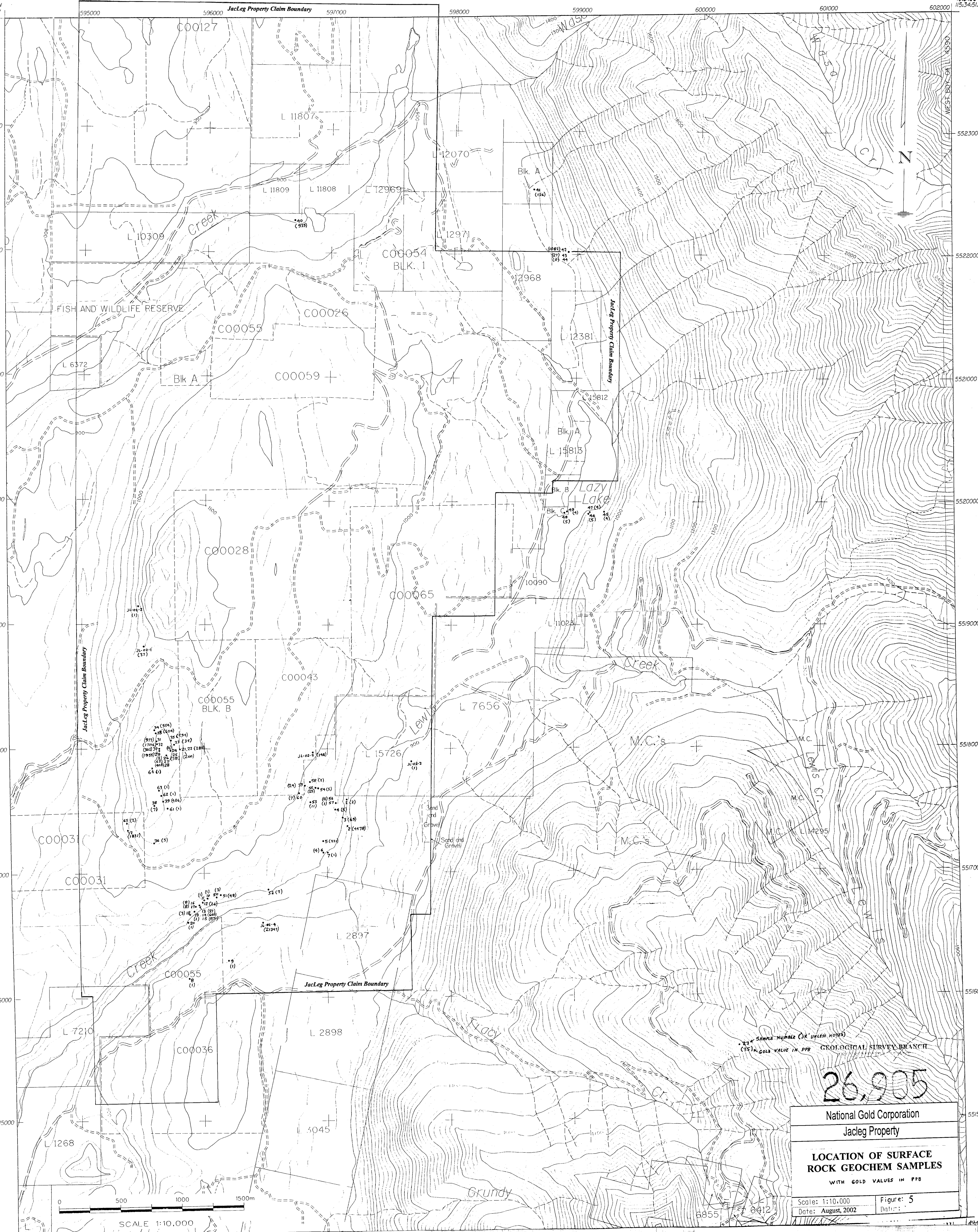


ACME ANALYTICAL

| SAMPLE# | Mo ppm | Cu ppm | Pb ppm | Zn ppm | Ag ppm | Ni ppm | Co ppm | Mn ppm | Fe % | As ppm | U ppm | Au ppm | Th ppm | Sr ppm | Cd ppm | Sb ppm | Bi ppm | V ppm | Ca % | P % | La ppm | Cr ppm | Mg % | Ba ppm | Ti % | B ppm | Al % | Na % | K % | W ppm | Au* ppb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JK-33 | 11 | 8 | 6 | 7 | .4 | 26 | 9 | 103 | 2.47 | 32 | <8 | <2 | <2 | 1 | <.2 | <3 | <3 | 3 | .02 | .008 | 3 | 26 | .03 | 21 | <.01 | <3 | .10 | .01 | .08 | 3 | 604.0 |
| JK-34 | 8 | 4 | 5 | 30 | .3 | 33 | 17 | 495 | 3.05 | 3 | <8 | <2 | <2 | 127 | 1.0 | <3 | <3 | 14 | 3.62 | .092 | 2 | 19 | 2.16 | 226 | .01 | <3 | .14 | .01 | .10 | <2 | 553.8 |
| JK-35 | 5 | 76 | 3 | 11 | <.3 | 34 | 58 | 442 | 2.13 | 3 | <8 | <2 | <2 | 55 | <.2 | <3 | <3 | 6 | .94 | .025 | 2 | 23 | .42 | 38 | .01 | <3 | .11 | .01 | .08 | 2 | 593.8 |
| JK-36 | 3 | 4 | <3 | 6 | <.3 | 9 | 2 | 136 | .80 | 2 | <8 | <2 | 6 | 1 | <.2 | <3 | <3 | 2 | .04 | .010 | 1 | 21 | .02 | 13 | <.01 | <3 | .08 | <.01 | .06 | <2 | 5.1 |
| JK-37 | 18 | 4 | 7 | 9 | .6 | 8 | 3 | 176 | 1.00 | <2 | <8 | <2 | <2 | 46 | .4 | <3 | <3 | 4 | 1.36 | .003 | 1 | 35 | .68 | 17 | <.01 | <3 | .12 | <.01 | .10 | 2 | 1831.1 |
| JK-38 | 3 | 2 | <3 | 14 | <.3 | 29 | 7 | 244 | 1.22 | 6 | <8 | <2 | 5 | 98 | .2 | <3 | <3 | 2 | 1.61 | .026 | 12 | 15 | .79 | 15 | <.01 | <3 | .10 | <.01 | .08 | <2 | 7.2 |
| JK-39 | 5 | 11564 | 146 | 58 | 7.5 | 81 | 43 | 323 | 4.45 | 258 | <8 | <2 | 5 | 2 | .9 | 11 | 49 | 5 | .04 | .012 | 3 | 24 | .06 | 17 | .01 | <3 | .06 | .01 | .04 | 4 | 486.2 |
| JK-40 | 5 | 1005 | 4084 | 4 | 30.2 | 5 | 3 | 98 | .86 | 7 | <8 | <2 | <2 | 46 | 1.0 | <3 | 46 | 1 | .22 | .011 | 1 | 23 | .10 | 7 | <.01 | <3 | .01 | <.01 | .01 | <2 | 939.2 |
| JK-41 | 2 | 67 | 47 | 39 | .8 | 12 | 7 | 2290 | 5.07 | 5 | <8 | <2 | <2 | 373 | 1.7 | <3 | <3 | 17 | 12.16 | .078 | 1 | 15 | 2.69 | 38 | .01 | <3 | .28 | <.01 | .04 | <2 | 125.9 |
| JK-42 | 2 | 17 | 44 | 3 | 1.4 | 7 | 12 | 65 | .63 | 4 | <8 | <2 | 2 | 2 | <.2 | <3 | <3 | 2 | .28 | .006 | 9 | 15 | .02 | 8 | <.01 | <3 | .12 | .01 | .11 | <2 | 1082.3 |
| JK-43 | 5 | 1379 | 4 | 9 | .6 | 111 | 182 | 371 | 3.88 | 22 | <8 | <2 | <2 | 8 | <.2 | <3 | 4 | 2 | 1.23 | .003 | 1 | 19 | .07 | 15 | .01 | <3 | .03 | .01 | .03 | 2 | 27.0 |
| JK-44 | 3 | 14 | 30 | 5 | <.3 | 22 | 3 | 53 | .89 | 8 | <8 | <2 | <2 | 2 | <.2 | <3 | <3 | <1 | .01 | .003 | 2 | 27 | .01 | 13 | <.01 | <3 | .06 | <.01 | .05 | <2 | 11.0 |
| JK-45 | 1 | 103 | <3 | 27 | .4 | 319 | 41 | 920 | 7.16 | 9 | <8 | <2 | <2 | 128 | .9 | <3 | <3 | 125 | 7.89 | .153 | 5 | 448 | 4.54 | 12 | .01 | <3 | 2.21 | <.01 | .09 | <2 | 3.7 |
| JK-46 | 4 | 4 | 3 | 4 | .3 | 8 | 1 | 127 | 1.71 | 3 | <8 | <2 | <2 | 2 | <.2 | <3 | <3 | 1 | .04 | .010 | 2 | 23 | .03 | 7 | <.01 | <3 | .04 | <.01 | .02 | 2 | 4.5 |
| JK-47 | 2 | <1 | 4 | 3 | <.3 | 20 | 10 | 381 | 17.83 | <2 | <8 | <2 | 3 | 27 | .6 | <3 | <3 | 306 | 1.11 | .013 | <1 | 28 | .36 | 15 | .02 | <3 | .09 | .01 | .01 | 2 | 4.4 |
| JK-48 | 3 | 890 | <3 | 1 | <.3 | 5 | 3 | 48 | .69 | 3 | <8 | <2 | <2 | 3 | <.2 | <3 | <3 | 1 | .05 | .006 | 3 | 20 | .02 | 5 | <.01 | <3 | .07 | <.01 | .05 | 2 | 5.1 |
| JK-49 | 2 | 10 | <3 | 5 | <.3 | 43 | 46 | 62 | 1.51 | 2 | <8 | <2 | <2 | 3 | <.2 | <3 | <3 | 26 | .11 | .048 | 17 | 133 | .42 | 7 | .01 | <3 | .57 | .01 | .03 | <2 | 3.6 |
| JK-50 | 2 | 178 | 5 | 6 | <.3 | 17 | 45 | 114 | .46 | 8 | <8 | <2 | 8 | 1 | <.2 | <3 | <3 | 4 | .03 | .015 | 5 | 61 | .02 | 21 | <.01 | <3 | .18 | .01 | .16 | <2 | 2.5 |
| JK-51 | 5 | 9295 | 9 | 12 | 4.4 | 21 | 28 | 55 | 1.27 | 39 | 9 | <2 | <2 | 1 | <.2 | 3 | <3 | 1 | .01 | .009 | 2 | 32 | <.01 | 7 | <.01 | <3 | .04 | .01 | .03 | 15 | 48.1 |
| JK-52 | 1 | 38 | 3 | <1 | <.3 | 6 | 8 | 122 | .49 | <2 | <8 | <2 | 8 | 8 | <.2 | <3 | <3 | 4 | 1.03 | .022 | 53 | 75 | .52 | 6 | <.01 | <3 | .10 | .02 | .04 | 2 | 6.8 |
| JK-53 | 4 | 97 | 7 | 1 | .4 | 33 | 25 | 59 | .69 | 219 | <8 | <2 | 5 | 2 | <.2 | <3 | 5 | 1 | .01 | .010 | 9 | 36 | .02 | 13 | <.01 | <3 | .09 | .01 | .06 | 13 | 10.6 |
| JK-54 | 1 | 11 | 3 | 7 | <.3 | 28 | 25 | 88 | 5.30 | <2 | <8 | <2 | 3 | 2 | <.2 | <3 | <3 | 6 | .01 | .012 | 2 | 66 | .04 | 29 | <.01 | <3 | .13 | .01 | .09 | 2 | 4.9 |
| JK-55 | 5 | 7 | 5 | 6 | <.3 | 32 | 7 | 111 | 2.96 | <2 | <8 | <2 | 2 | 1 | <.2 | <3 | <3 | 3 | .01 | .010 | 10 | 30 | .02 | 19 | <.01 | <3 | .13 | .02 | .08 | 14 | 25.0 |
| JK-56 | 4 | 5 | 4 | 4 | .3 | 12 | 3 | 165 | .98 | <2 | <8 | <2 | 3 | 6 | <.2 | <3 | <3 | 2 | .23 | .011 | 3 | 32 | .12 | 12 | <.01 | <3 | .12 | .02 | .03 | 13 | 3.5 |
| JK-57 | 1 | 5 | 5 | 9 | .3 | 19 | 4 | 103 | 1.18 | <2 | <8 | <2 | 2 | 2 | <.2 | <3 | <3 | 5 | .02 | .009 | 8 | 68 | .14 | 17 | .01 | <3 | .16 | .02 | .05 | 2 | 1.4 |
| JK-58 | 4 | 5 | 4 | 4 | <.3 | 19 | 6 | 63 | 1.46 | 5 | <8 | <2 | <2 | 1 | <.2 | <3 | <3 | 1 | <.01 | .010 | 3 | 34 | .02 | 14 | <.01 | <3 | .11 | .01 | .06 | 12 | 2.3 |
| SAMPLE# | Mo ppm | Cu ppm | Pb ppm | Zn ppm | Ag ppm | Ni ppm | Co ppm | Mn ppm | Fe % | As ppm | U ppm | Au ppm | Th ppm | Sr ppm | Cd ppm | Sb ppm | Bi ppm | V ppm | Ca % | P % | La ppm | Cr ppm | Mg % | Ba ppm | Ti % | B ppm | Al % | Na % | K % | W ppm | Au* ppb |
| JK-59 | 2 | 808 | 4 | 8 | 2.4 | 90 | 158 | 66 | 2.22 | 851 | 9 | <2 | 3 | 6 | <.2 | <3 | 19 | 4 | .16 | .087 | 24 | 71 | .70 | 22 | <.01 | <3 | .67 | .01 | .07 | 4 | 24.3 |
| JK-60 | 5 | 1015 | <3 | 3 | .4 | 17 | 21 | 65 | .74 | 42 | <8 | <2 | 3 | 1 | <.2 | <3 | <3 | 1 | .01 | .008 | 35 | 35 | .01 | 10 | <.01 | <3 | .09 | <.01 | .06 | 18 | 7.3 |
| JK-61 | 4 | 26 | <3 | 3 | <.3 | 8 | 2 | 62 | .45 | 5 | <8 | <2 | 5 | 1 | <.2 | <3 | <3 | 1 | .01 | .003 | 7 | 34 | .01 | 10 | <.01 | <3 | .09 | .01 | .07 | 15 | 1.0 |
| JK-62 | 2 | 19 | <3 | 6 | <.3 | 17 | 13 | 86 | 1.03 | 17 | <8 | <2 | 4 | 2 | <.2 | <3 | <3 | 5 | .02 | .012 | 13 | 75 | .02 | 15 | <.01 | <3 | .11 | .01 | .09 | 4 | .9 |
| JK-63 | 4 | 14 | 11 | 6 | <.3 | 14 | 3 | 94 | .63 | 14 | <8 | <2 | 32 | 1 | <.2 | <3 | <3 | 7 | .01 | .008 | 11 | 71 | .01 | 15 | <.01 | <3 | .10 | <.01 | .07 | 15 | 1.0 |
| JK-64 | 1 | 7 | <3 | 2 | <.3 | 5 | 2 | 36 | .50 | 3 | <8 | <2 | <2 | 1 | <.2 | <3 | <3 | 3 | <.01 | .003 | 3 | 90 | <.01 | 6 | <.01 | <3 | .05 | <.01 | .04 | 5 | 1.1 |
| JK-65 | 5 | 4 | <3 | 6 | <.3 | 9 | 2 | 96 | .73 | <2 | <8 | <2 | <2 | 2 | <.2 | <3 | <3 | 1 | .05 | .004 | 1 | 33 | .03 | 13 | <.01 | <3 | .08 | .01 | .06 | 15 | 1.6 |
| STANDARD DS3 | 10 | 117 | 36 | 153 | .3 | 36 | 11 | 810 | 3.02 | 32 | <8 | <2 | 3 | 29 | 5.4 | 5 | 5 | 71 | .53 | .087 | 16 | 181 | .56 | 147 | .10 | 3 | 1.66 | .04 | .16 | 6 | 21.2 |
| JL-02-1 | 5 | 5 | 6 | 12 | <.3 | 9 | 8 | 189 | 1.21 | 2 | <8 | <2 | <2 | 5 | <.2 | <3 | 3 | 2 | .09 | .004 | 1 | 25 | .06 | 18 | <.01 | <3 | .05 | <.01 | .05 | 4 | 37.3 |
| JL-02-2 | 4 | 4 | 24 | 27 | <.3 | 30 | 6 | 227 | 2.09 | 10 | <8 | <2 | 3 | 17 | <.2 | <3 | <3 | 1 | .10 | .049 | 4 | 21 | .03 | 30 | <.01 | <3 | .12 | .01 | .11 | <2 | .2 |
| JL-02-3 | 2 | 7 | 14 | 24 | <.3 | 12 | 9 | 318 | 1.59 | <2 | 15 | <2 | 7 | 7 | <.2 | <3 | <3 | 3 | .05 | .041 | 19 | 13 | .03 | 63 | <.01 | <3 | .22 | <.01 | .23 | <2 | .4 |
| SAMPLE# | Mo ppm | Cu ppm | Pb ppm | Zn ppm | Ag ppm | Ni ppm | Co ppm | Mn ppm | Fe % | As ppm | U ppm | Au ppm | Th ppm | Sr ppm | Cd ppm | Sb ppm | Bi ppm | V ppm | Ca % | P % | La ppm | Cr ppm | Mg % | Ba ppm | Ti % | B ppm | Al % | Na % | K % | W ppm | Au* ppb |
| JL-02-4 | 37 | 977 | 24982 | 7 | 157.7 | 6 | 4 | 113 | 7.40 | 119 | <8 | 23 | <2 | 12 | 1.5 | 3 | 352 | 11 | .02 | .012 | <1 | 23 | .01 | 7 | <.01 | <3 | .03 | .01 | .02 | 14 | 21346.7 |
| JL-02-5 | 1 | 9 | 132 | 1 | .6 | 17 | 37 | 36 | 1.29 | 5 | <8 | <2 | <2 | 1 | <.5 | <3 | <3 | 5 | <.01 | .005 | <1 | 81 | .01 | 7 | <.01 | <3 | .07 | .01 | .06 | 4 | 148.0 |



JacLeg Property Claim Boundary
Legend
Cr-Ni bearing Mafic Dikes
Moyie Intrusions; gabbro and diorite sills and dikes
Aldridge Formation
A1c Gray siltstone, Argillite; rusty weathering, locally graphitic
A1b Silty dolomite, dolomitic siltstone, chert lenses
A1a Gray to black siltstone and argillite
Fort Steele Formation
F1 'Upper Cycle' mixed thin-bedded argillite-quartzite
F White cross-bedded quartzite, siltstone, argillite
SYMBOLS
Fault
Bedding
Foliation, cleavage
Quartz vein
Jointing
Quartz vein breccia
Mineral Showing
GEOLOGICAL SURVEY BRANCH
26,905
National Gold Corporation
Jacleg Property
SURFACE GEOLOGY
Scale: 1:10,000
Date: August, 2002
Figure: 4
Datum: Nad 83
SCALE 1:10,000
N




National Gold Corporation

Jacleg Property

**LOCATION OF SURFACE ROCK GEOCHEM SAMPLES**

WITH GOLD VALUES IN PPB

Scale: 1:10,000 | Figure: 5

Date: August, 2002