# GEOLOGICAL SURVEY BRANCH



26,714

ASSESSMENT REPORT

on

## ROCK GEOCHEMISTRY

## TAC PROPERTY

Tackle Creek / Wild Horse River Area Fort Steele Mining Division

## TRIM 82G.073 UTM 5512000N 603500E

For

National Gold Corp. 600 - 890 West Pender St. Vancouver, B.C. V6C 1J9

by

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November, 2001

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## 1.00 INTRODUCTION

## 1.10 Location and Access

The Tac Property is located in southeastern British Columbia in the Fort Steele Mining Division near the eastern edge of the Rocky Mountain Trench and is centered in the upper part of the Tackle Creek drainage, approximately at UTM coordinates 5.512.000N, 603.500E (Fig. 1).

Access is via the logging road up the west side of the Wild Horse River; an old logging / exploration road currently not passable by four wheel truck extends up the lower part of Tackle Creek. The northwestern corner of the property can be accessed on foot from the old Estella Mine workings which can be reached by road from Wasa Lake.

## 1.20 Property

The Tac property includes the Tac 1 to 15 mineral claims, a contiguous block of 32 claim units in one 4-post and fourteen 2-post mineral claims (Fig.2). The Tac claims are registered in the name of Supergroup Holdings Ltd. of Cranbrook B.C. and are currently under option to National Gold Corporation of Vancouver, B.C.

## 1.30 Physiography

The Tac property is situated near the eastern edge of the Rocky Mountain Trench, on the westernmost flank of the Hughes Range of the Rocky Mountains. The claims are centered in the upper part of Tackle Creek, an east-flowing tributary of the Wild Horse River. The property extends both north and south into adjacent tributary drainages. Topography is mostly steep and mountainous with elevation ranging from 1575 to 2360 meters. Vegetation is sparse on south facing slopes but thick on north and east facing slopes; it includes alder, spruce, pine and fir.

## 1.40 History

In the late 1980's, Placer Dome Inc. of Vancouver, B.C. conducted exploration in the Tackle Creek area. Their work included soil and rock geochemistry with encouraging values of gold. silver, lead and zinc (eg Fox, 1990; AR 20,202).





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## 1.50 Scope of Present Program

In 2001 a rock geochemistry program was conducted over much of the Tac claims as a follow-up program to Placer Domes's soil and rock geochemistry results. Samples were collected by Mike Kennedy, Sean Kennedy and Tom Kennedy of Kimberley and Cranbrook, B.C. A total of 30 rock samples were collected and analyzed during the course of the program.

## 2.00 GEOLOGY

## 2.10 Regional Geology

The Tac property occurs near the east side of the Rocky Mountain Trench, within the Fernie (West Halt) 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 Tac claims is reproduced here as Figure 3.

## 2.20 Property Geology

The Tac property is underlain by mesoproterozoic metasedimentary rocks of the middle and upper informal members of the Aldridge Formation and the overlying Creston Formation. Both consist of fine grained siliciclastic lithologies: the middle Aldridge Formation is comprised mainly of turbidites while the Creston Formation is of shallower water sediments. Beds strike northerly with generally steep westerly dips. For a more detailed description of the lithologic units and property geology see Hoy (1979) or Fox (1990: AR 20,202).

## 3.00 ROCK GEOCHEMISTRY

The rock geochemistry program on the Tac property resulted in 30 rock samples being collected Location of the samples is shown in Figure 4 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.





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

10.000 C

HADRYNIAN/HELIKIAN

PURCELL SUPERGROUP

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

ALDRIDGE FORMATION

SILLS AND DYKES

A3 DARK GREY FINELY LAMINATED ARGILLITE; MINOR SILTSTONE

A31 DARK GREY ARGILLITE WITH LENTICULAR BEDDING



a.	IARTZITE,	SILTSTONE;	INTERLAYERED	₩ІТН	DARK	ARGILLITE
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FINELY LAMINATED ARGILLITE, SILTSTONE; MINOR DOLOMITE, QUARTZITE

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

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

#### SYMBOLS

GEOLOGICAL CONTACT: DEFINED, APPROXIMATE, ASSUMED
FAULT: DEFINED, APPROXIMATE, ASSUMED
ANTICLINE - AXIAL SURFACE
BEDDING (S0): VERTICAL, INCLINED, OVERTURNED
FOLIATION, CLEAVAGE (S1)
LINEATION (S0 - S1 INTERSECTION)
FOLD AXIS
MINERAL DEPOSIT 🛠
LIMITS OF OUTCROP (OR MAPPING)

## Legend for Figure 4



### Results

Anomalous gold on the Tac claims is generally associated with silicification and pyrite alteration and is proximally associated with base metal mineralization and small syenitic intrusives.

Many of the rock samples collected during the 2001 sampling program returned anomalous values in copper, gold, silver, lead, zinc and molybdenum. The higher values detected by Placer Dome Inc. in their work was not replicated by the current program. The higher values in copper, lead and zinc of the current program are not correlative with higher gold values but intermediate values in these base metals do tend to be associated with anomalous gold. Higher silver values are correlative with higher base metal values. The highest molybdenum values tend to be associated with higher gold values.

## 4.00 CONCLUSIONS

Gold on the Tac property is associated with molybdenum and with intermediate values of silver and copper, lead and zinc. This association may reflect a relationship to young felsic intrusives which occur nearby.

## 5.00 REFERENCES

- Fox. P.E., 1990. Geological, geochemical and geophysical report on the Tackle 1 to 4 claims, Fort Steele Mining Division, B.C., BCMEMPR Assessment Report 20,202.
- Hoy, T., 1979, Geology of the Estella-Kootenay King area, Hughes Range, southeastern British Columbia; BCMEMPR, Preliminary Map 36, and Notes to accompany Preliminary Map 36.
- Leech, G.B., 1960, Geology, Fernie (West Halt), Kootenay District, British Columbia, Geol. Surv. Canada Map 11-1960.

## 6.00 STATEMENT OF COSTS

\$2475.00
375.00
480.00

TOTAL COST	<u>\$3,320.00</u>
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## 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 24 years.
- 5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 27th day of November, 2001.

Peter Klewchuk P. Geo.

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# Appendix 1. Description of Rock Samples

Sample Num	ber Description
TC-01	Quartz float with pyrite, galena and malachite - 30 cm wide blocks.
TC-02	1.5 m wide buff weathering intrusive with green clasts and quartz eyes (Judy Lew volcanic) some disseminated pyrite and cpy in quartz-calcite clots.
TC-03	$260^{\circ}$ trending quartz veins 3-4 cm wide with pyrite and galena over 50 cm wide zone - dipping south at ~50°.
TC-04	30 cm wide quartz vein with clots of galena and pyrite - strike $50^{\circ}$ , dip $15^{\circ}$ to SE within zone of syenite and felsic dikes and sills.
TC-05	Pyrite-rich quartz material with rare copper stain and galena - from old pit dump, associated with a gabbro dyke / sill (?).
TC-06	2-4 m wide sycnite dyke - manganese altered with rare pyrite $\sim$ 240° strike.
TC-07	Albitized / bleached sediments with quartz breccia zones - narrow quartz veinlets with iron carbonate and pyrite ~3-4 m wide zone.
TC-08	Limonite / pyrite rich quartz float - 30 cm wide blocks on edge of old pit.
TC-09	Quartz float with pyrite / limonite and bleached sediment inclusions.
TC-10	Subcrop of brecciated sediments cemented by narrow limonite stringers - sediments are bleached and limonitic.
TC-11	Quartz float with pyrite and rare galena - 15 cm wide pieces.
TC-12	Quartz breccia zone in hand trench - grab of material with pyrite / limonite - 1.5 m wide zone - bleached / albitized sediments.
TC-13	10-12 cm wide bedding parallel quartz vein - crystalline smokey gray colored with some pyrite near a syenite dike.
TC-14	Quartz float with pyrite / limonite.
TC-15	Albitized, brecciated sediments with narrow 2 to 5 mm wide quartz veinlets with iron carbonate and pyrite ~50 cm wide blocks. Also syenite subcrop.

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TC-16	Brecciated sediment subcrop - crushed quartzite with limonite staining on fractures.
TC-17	Syenite subcrop $\sim 2$ m wide blocks with manganese, limonite, pyrite.
TC-18	15 cm wide zone of narrow 1-3 cm wide quartz veinlets with pyrite and limonite. roughly bedding-parallel.
TC-19	Float of syenite with brecciated sediments, some pyrite and hematite.
TC-20	15 cm wide quartz vein with iron carbonate and pyrite on hangingwall contact of green intrusive sill with iron carbonate clots - 2 m wide.
TC-21	Liesegang weathering albitic quartzitic unit ~3 m wide cut by narrow 1-3 cm wide quartz veinlets with limonite, pyrite and iron carbonate.
TC-22	Zone of bedding-parallel quartz veins 1-15 cm wide with pyrite. limonite.
TC-23	Bedding-parallel quartz vein with limonite wad and black argillite clasts ~10 cm wide.
TC-24	Albitized, carbonate-altered sediments cut by narrow quartz veinlets up to 4 cm wide with limonite / pyrite and iron carbonate. ~2 m wide zone.
TC-25	Brecciated albitized / bleached sediments cut by 1-2 cm wide quartz veinlets with iron carbonate and pyrite.
TC-26	White coarse grained quartzite with quartz veinlets - rare disseminated cpy and malachite. 4 m wide zone.
TC-27	4 cm wide quartz veinn with limonite - in a 30 cm wide zone of albitized / bleached sheared sediments. Flat-lying.
TC-28	1 m wide quartz vein with iron carbonate and pyrite, trending 058/50 SE.
TC-29	Subcrop of albitized / bleached sediments with narrow 1-3 cm wide quartz veins with limonite. ~30 cm wide blocks.
TC-30	Narrow quartz veins up to 4 cm wide with limonite in albitic sediments (Upper Aldridge Fm.).

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