WHITEHORSE M.D.

MAP No.	ASSESSMENT REPORT N. M. E. A. P. CONFIDENTIAL OPEN FILE	TYPE OF WORK:
105 D 3	☐ ☐ ☐ ☐	PROSPECTING, GEOCHEMICAL

REPORT FILED UNDER	Newhawk Gold Mines Ltd.	DOCUMENT NO.	091661
DATE PERFORMED	16 Sept. - 30 Oct. 1985	DATE FILED:	20 November 1985
LOCATION - LAT.	60°15'N	AREA:	
LONG.	135°19'W		
CLAIM NO.	SHEEP 1-12 YA86152-YA86163		
VALUE $			
WORK DONE BY	G.S. Davidson		
WORK DONE FOR	G. Macdonald and Associates Ltd.		

REMARKS

091661

The claims are located in the Wheaton River area and are underlain by Eocene volcanics and pyroclastics. The property is covered with alluvium and glacial till.

In 1985, prospecting and soil sampling were carried out in a reconnaissance manner by a three man crew. No mineralized outcrop was found and all 40 soil samples showed background values for Au, Hg, Cu, and Pb.

85 Yuk p. 102. ✓

G. MACDONALD AND ASSOCIATES LIMITED
Consulting Professional Geologists

4 Hyland Crescent
Whitehorse, Y.T.
Y1A 4P6

(403) 668-2044 (403) 667-7229

OFFICE OF THE REGIONAL MANAGER
MINERAL RIGHTS
NOV 22 1985
WHITEHORSE
YUKON TERRITORY

ASSESSMENT REPORT

Prospecting and Geochemical Sampling
SHEEP 1-12 MINERAL CLAIMS (YA 86152-YA 86163)

Wheaton River
NTS 105-D-3
Latitude: 60°15' N
Longitude: 135°19' W
Whitehorse Mining District
16 September to 30 October 1985

for:
Newhawk Gold Mines Ltd.
by:
G. S. Davidson, P.Geol.
G. Macdonald & Associates Ltd.
Whitehorse, Yukon.
4 November, 1985.

RECEIVED
20 NOV 1985
MINING
RECORDER'S OFFICE
WHITEHORSE, Y.T.

091661

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 1200.00 .

D A Emond

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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INTRODUCTION

This report describes a preliminary exploration program of prospecting and geochemical sampling carried out on the SHEEP 1-12 mineral claims by G. Macdonald and Associates Ltd., consulting geologists, on behalf of Newhawk Gold Mines Limited of Vancouver, B.C.

The general location of the Wheaton River district is shown on Figure 1.

PROPERTY

The SHEEP 1-12 claims were staked on 12 November 1984 and recorded on 22 November 1984 in the office of the Whitehorse District Mining Recorder under grant numbers YA 86152 - YA 86163, in accordance with the Yukon Quartz Mining Act. The claims have been transferred from the original staker to McCrory Holdings Ltd. of Whitehorse. Exploration of the property is financed by Newhawk Gold Mines Ltd. under the terms of an option agreement with McCrory Holdings.

The location of the SHEEP claims with respect to local topography and adjacent mineral claims is shown in Figure 2.

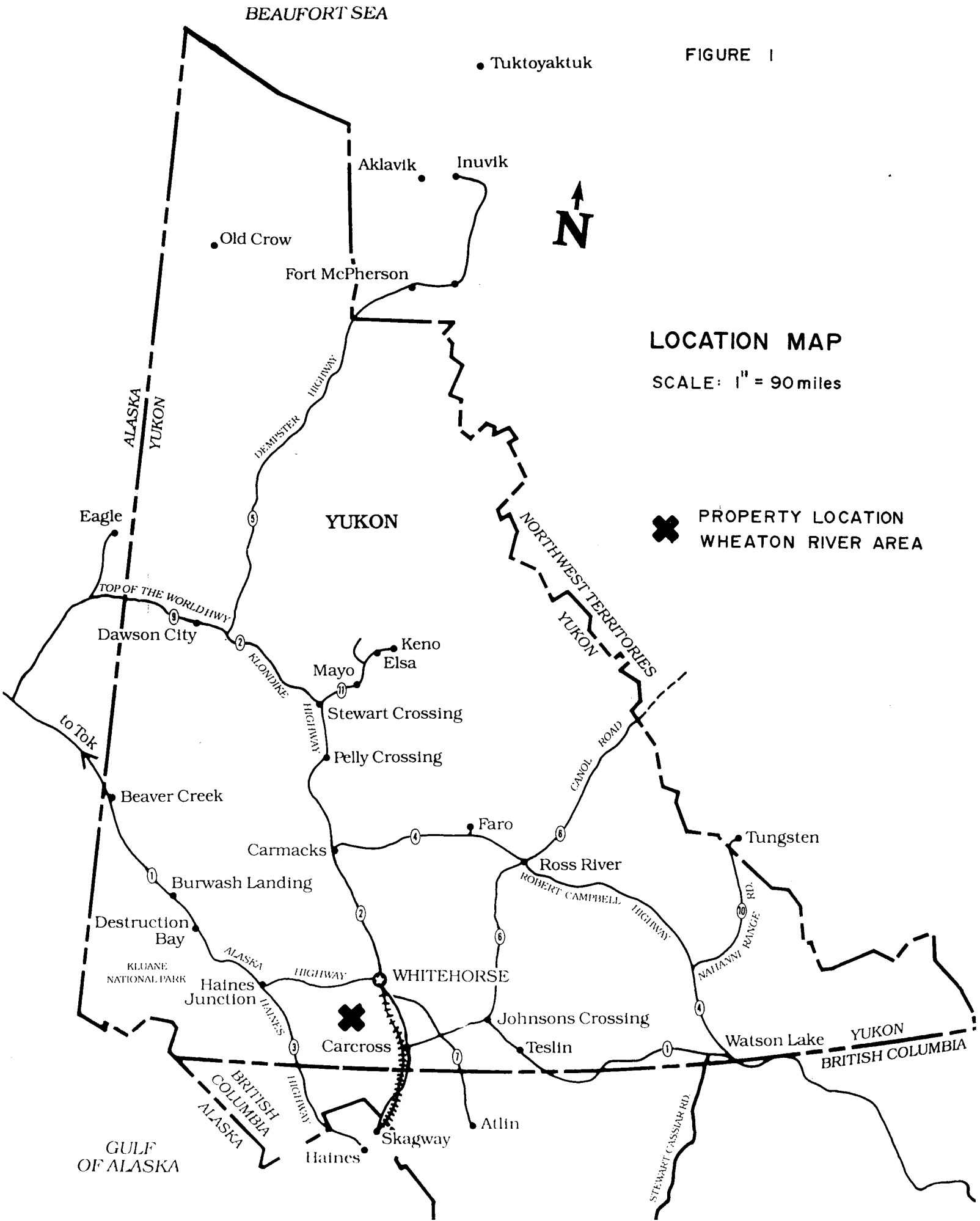
LOCATION AND ACCESS

The SHEEP claims are located about 52 km south of Whitehorse on Map Sheet NTS 105-D-3. Approximate geographical co-ordinates are 60°15' North and 135°19' West.

At present, there is no direct road access to the property although the camp and millsite of Mount Skukum Gold Mines Ltd., located only 3 km south of the SHEEP claims, are accessible from Whitehorse by all-weather road. From Whitehorse, the route follows the Alaska Highway and then the Klondike Highway (Carcross section) as far south as Robinson - a distance of 40 km. From Robinson, an all-weather gravel road (Annie Lake-Wheaton River Road) is followed for 40 km to the millsite. During the summer of 1985, major improvements to the Annie Lake Road were carried out by the Yukon Government Highways Department and Mount Skukum Gold Mines Ltd. (a subsidiary of Erickson Gold Mines Ltd.) as part of the development program at the Mount Skukum Gold Mine owned by Agip Canada Ltd. and Erickson Gold Mines Ltd. Production from this deposit is scheduled for February 1986.

Construction of a four-wheel-drive access trail from the millsite through the SHEEP claims is planned by companies holding mineral claims further north.

Exploration of the SHEEP property in 1985 was carried out from a tent and trailer camp located on the Wheaton River Road. Access to the claims was by helicopter, using a Bell 206-B Jetranger of Frontier Helicopters, based at Becker Creek, on the road approximately 7 km west of the exploration camp.


BEAUFORT SEA
Tuktoyaktuk
FIGURE 1
Aklavik
Inuvik
N
Old Crow
Fort McPherson
LOCATION MAP
SCALE: 1" = 90 miles
ALASKA
YUKON
DEMPSTER HIGHWAY
Eagle
YUKON
PROPERTY LOCATION
WHEATON RIVER AREA
NORTHWEST TERRITORIES
YUKON
TOP OF THE WORLD HWY.
Dawson City
KLONDIKE HIGHWAY
Keno
Elsa
Mayo
Stewart Crossing
to Tok
Pelly Crossing
CANOL ROAD
Beaver Creek
Faro
Tungsten
Carmacks
Ross River
Burwash Landing
ROBERT CAMPBELL HIGHWAY
NAHANNI RANGE RD.
Destruction Bay
KLUANE NATIONAL PARK
ALASKA HIGHWAY
Haines Junction
WHITEHORSE
HAINES
Johnsons Crossing
Carcross
Teslin
Watson Lake
YUKON
BRITISH COLUMBIA
BRITISH COLUMBIA
ALASKA
HIGHWAY
Atlin
Skagway
Haines
GULF OF ALASKA
STEWART CASSIAR RD.

PHYSIOGRAPHY, CLIMATE, VEGETATION

The SHEEP claims cover a wedge-shaped area bounded on the south by an unnamed stream draining the east side of Mount Kopje and extending almost to Summit Creek on the east. The eastern area of the property covers a moderately steep slope from 975 metres (3,200 feet) elevation up to a plateau area at 1220 metres (4,000 feet), while the narrower western portion of the claims extends up the slopes of Mount Kopje to 1,525 metres (5,000 feet) elevation. Local treeline is about 1,200 metres; slopes below this elevation are quite well-treed with some good stands of conifers and poplar, with alder, spruce or willow underbrush. Above treeline, the slopes have grass or moss with some bushes and stunted trees. Higher slopes (above about 1,350 metres) are talus-covered with occasional rock exposures.

Climatic conditions are generally those of similar elevations in the Carcross area, characterized by a northern interior climate modified by a warmer, moist influence of the nearby Pacific Ocean. Average annual precipitation is approximately 40 cm. Winters in the area are long, with temperature extremes to -40°C but commonly in the -10°C to -20°C range. Summers are pleasant with temperatures up to 25°C and long hours of daylight during May, June and July. The area is generally snowfree from mid-May to late September.

REGIONAL GEOLOGY

The Wheaton River district straddles the boundary between folded Mesozoic and Paleozoic volcanic and sedimentary rocks of the Whitehorse Trough and the granitic intrusive rocks of the Cretaceous Coast Crystalline Complex to the west. All of these units are locally overlain by volcanic rocks of the late Cretaceous/early Tertiary Skukum Group and intruded by rhyolite and andesite dykes of the same age.

The region has been mapped twice by the Geological Survey of Canada and the results published as Memoir 31 (D. D. Cairnes, 1912) and Memoir 312 (J. O. Wheeler, 1961). A reinterpretation of the regional geology formed part of the metallogenic map published as Open File EGS 1979-6 of the Department of Indian Affairs and Northern Development (G. W. Morrison).

A preliminary geological map of the Mount Skukum Volcanic Complex by Monica Pride was published as an open-file by the Exploration and Geological Services Division of Northern Affairs in 1985; this map includes the area of the SHEEP claims.

Table of Formations

QUATERNARY		Alluvium; glacial and fluvial deposits
QUATERNARY (?)	Miles Canyon volcanics	Basalt; minor pyroclastic rocks
TERTIARY	Skukum Group	Basalt, andesite, rhyolite flows, tuffs and breccias, dykes and sills
MID-CRETACEOUS	Coast Range intrusions	Medium-grained quartz-monzonite; granodiorite
JURASSIC/ CRETACEOUS	Hutshi Group (?)	Andesite, rhyolite flows and pyroclastic equivalents

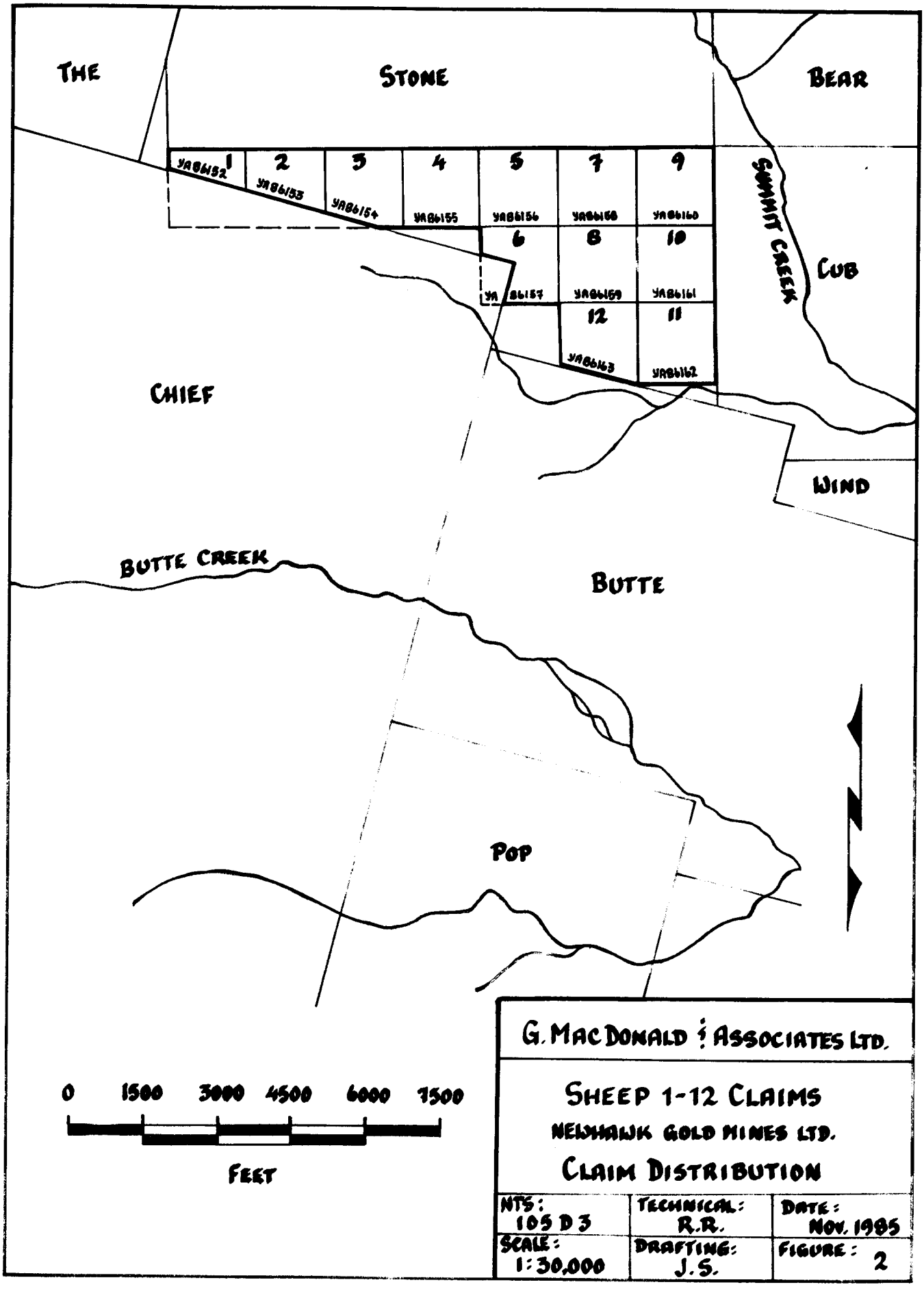

THE
STONE
BEAR
1
YA86152
2
YA86153
3
YA86154
4
YA86155
5
YA86156
7
YA86158
9
YA86160
6
YA86157
8
YA86159
10
YA86161
12
YA86163
11
YA86162
SUMMIT CREEK
CUB
CHIEF
WIND
BUTTE CREEK
BUTTE
POP
0 1500 3000 4500 6000 7500
FEET
G. MacDONALD & ASSOCIATES LTD.
SHEEP 1-12 CLAIMS
NEWHAWK GOLD MINES LTD.
CLAIM DISTRIBUTION
NTS: 105 D 3
TECHNICAL: R.R.
DATE: NOV. 1985
SCALE: 1:30,000
DRAFTING: J.S.
FIGURE: 2

Table of Formations (cont'd)

JURASSIC	Tantalus Group	Mainly conglomerate
LOWER JURASSIC	Laberge Group	Greywacke, arkose, quartzite, siltstone, argillite and conglomerate
TRIASSIC	Lewes River Group	Andesite, basalt flows and pyroclastic equivalents; limestone; minor rhyolite flows
LOWER PALEOZOIC	"Yukon Group"	Metamorphic terrain; quartz-biotite schist; micaceous quartzite; minor gneissic units

Older sedimentary and volcanic rocks are typically deformed and exhibit at least lower-greenschist facies regional metamorphism. These units generally trend north or northwest and appear to be separated by unconformities. Much of the deformation seen in these rocks relates to regional tectonic events associated with intrusion of large bodies of quartz monzonite and granodiorite of the Coast Range Complex about 100 m.y.

Major fault structures are associated with early Tertiary volcanic complexes at Montana Mountain, Mount Macauley and Mount Skukum, but older structures may also be present. Skukum Group volcanic rocks are equivalent to the Sloko Group of northern British Columbia and the Mount Nansen Group of central Yukon. Late stage features of Skukum Group volcanism include andesite, dacite and rhyolite dykes, small rhyolite porphyry stocks and quartz or quartz-carbonate veining with important precious metal mineralization.

HISTORY

The earliest exploration work in the Wheaton River area pre-dates the Klondike Gold Rush by several years. The first recorded claims staked in the region were located by Frank Corwin and Thomas Rickman on Carbon Hill, Chieftain Hill and Mt. Anderson(?) during the summer of 1893. Additional prospecting in the Wheaton River District continued intermittently until 1906 when the discovery of gold and gold telluride bearing quartz veins on Gold Hill led to a staking rush which resulted in over 700 claims being located near the discovery and on Carbon Hill where Corwin and Rickman's original claims had been found. Many of the claims were further developed until the outbreak of WWI - with adit entry underground drifts driven on shear zones or veins on Gold Hill, Tally Ho Mountain, Mt. Stevens and Carbon Hill. After the termination of the war, additional exploration was conducted on several of the more promising occurrences and limited production arose from high grade zones at Tally Ho Mountain, Gold Hill and Mt. Stevens.

Most of the Wheaton River District then lay idle from the mid-1920's until the late 1940's as most exploration efforts during this period were directed to silver-lead veins in the Keno Hill area of central Yukon. From the 1940's until the early 1980's, the Wheaton River District witnessed only sporadic exploration activity as specific commodities were sought. During the 1970's, exploration reconnaissance programs were conducted in the region for porphyry copper deposits. With the increasing price for gold during the late 1970's, interest again revived for precious metal exploration in southern Yukon.

HISTORY (cont'd)

A regional exploration program conducted by Agip Canada Ltd. in 1980 led to discovery of gold-bearing vein structures at Mount Skukum in 1981. Subsequent diamond drill programs in 1982-1984 defined a commercial ore body consisting of 165,000 tons grading 0.73 oz gold and 0.63 oz silver per ton as finely disseminated gold hosted by quartz-calcite veining. Development work by Mount Skukum Gold Mines Ltd. (a subsidiary of Erickson Gold Mines Ltd. of Vancouver) proceeded during 1984-1985 under a joint venture agreement with Agip; production is scheduled to commence early in 1986.

The significance of this discovery was realized in 1983 and exploration activity in the Wheaton River district showed a dynamic increase during 1983-1985.

There are no records of earlier claims staked in the area of the present SHEEP claims although it is known that reconnaissance exploration was carried out here in the late 1960's/early 1970's (for porphyry copper mineralization) and again in the late 1970's/early 1980's (for precious metal mineralization). Currently, all of the adjacent properties held by other companies are being actively explored.

GEOLOGY AND EXPLORATION - 1985

A preliminary examination of the SHEEP 1-12 claims was carried out by a three-man exploration crew consisting of G. Davidson (geologist) and J. Atkinson and M. Van Veen (field assistants), all of Whitehorse, Yukon, supervised by R. Robertson of G. Macdonald and Associates Ltd. This crew was based at a tent and trailer camp located on the Wheaton River Road. A Frontier Helicopters' Jetranger based nearby was used for access to the claims; access was also by vehicle to the Mount Skukum Gold Mines millsite and then on foot. Initial examination of the property in August 1985 was carried out by R. Robertson with F. Hewett (of Newhawk Gold Mines Ltd.)

Much of the bush and tree-covered lower eastern portion of the property is underlain by alluvium and glacial drift. Terraces or benches along the lower eastern slope of Mount Kopje may be moraine remnants or lakeshore features caused by glacial damming lower on the Wheaton River drainage system.

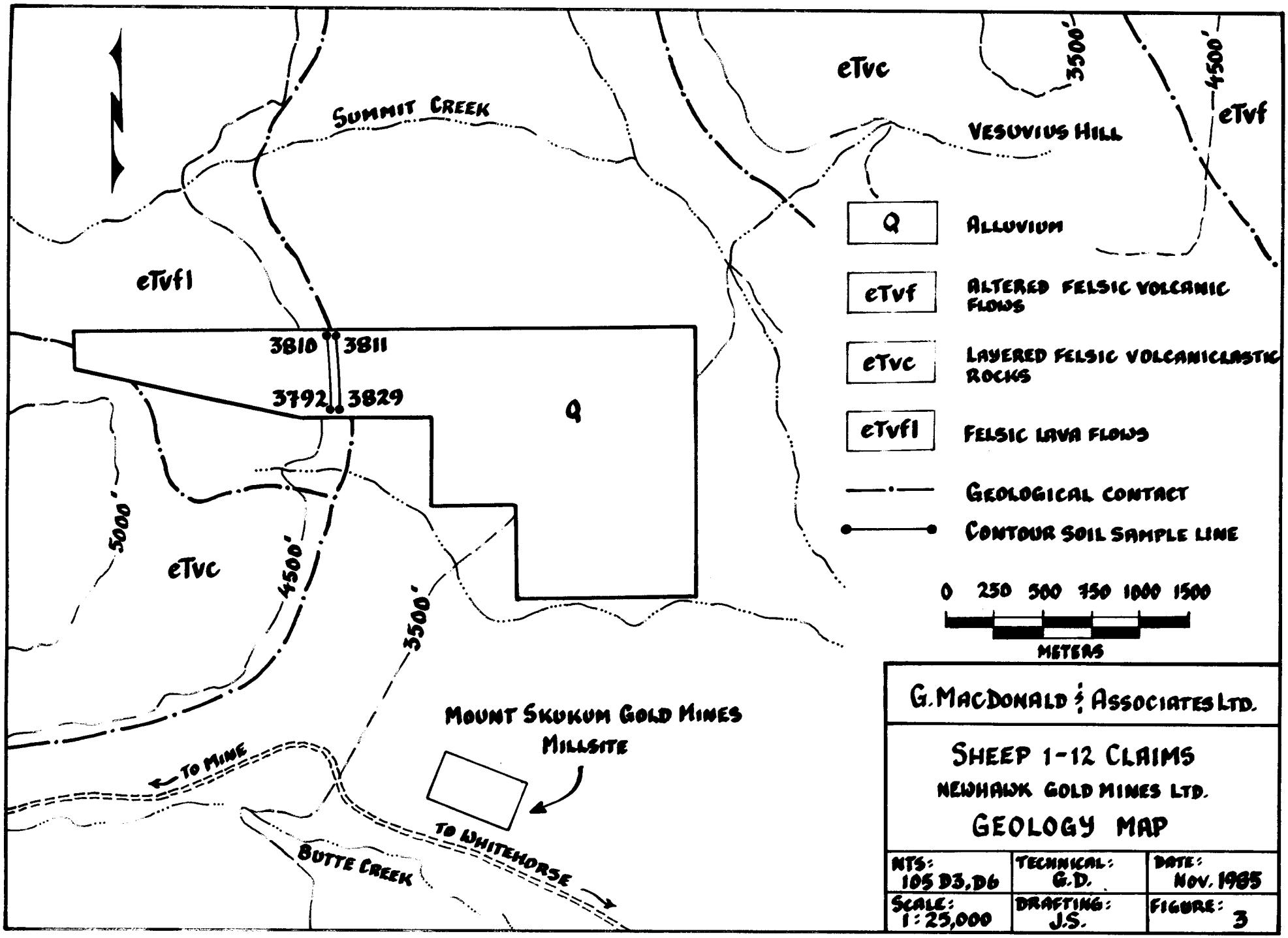
The upper western slopes of the property are underlain by a variety of volcanic and volcaniclastic rocks of the early Tertiary Mount Skukum Complex (Figure 3). These are primarily felsic flows and tuffs, locally brecciated. Rhyolite and andesite flows outcrop along a small valley at higher elevations.

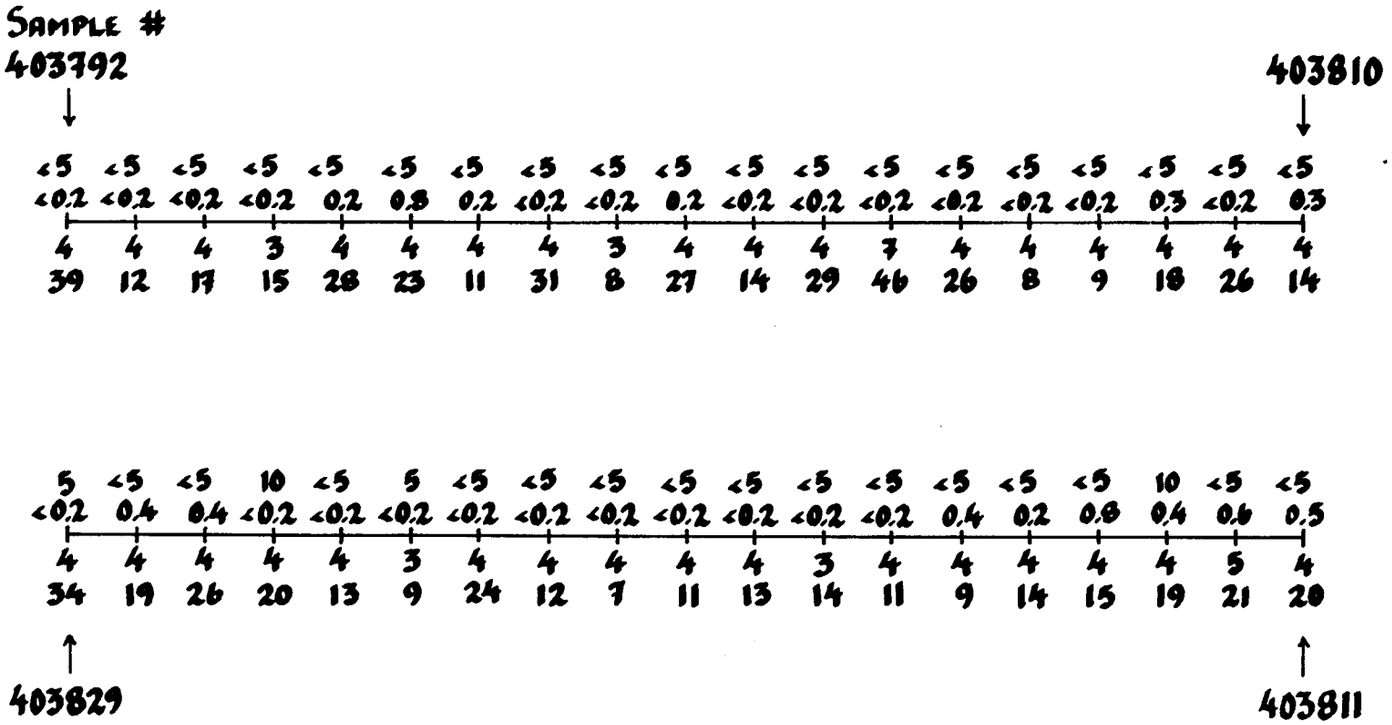
Pride (1985) has interpreted this sequence as part of an inferred "Mount Kopje-Vesuvius Hill Caldera".

Prospecting and soil sampling in 1985 were focussed on the western part of the property in SHEEP claims 1-4 (YA 86152-86155).

Prospecting did not locate any outcrop or float of vein material and no strong gossans or alteration zones were observed. No rock samples were collected.

Soil samples were collected at 25 metre intervals along two parallel contour lines, 450 metres in length,located close to the upper limit of alluvium (Figure 3).


N
SUMMIT CREEK
eTvc
3500'
4500'
eTvf
VESUVIUS HILL
eTvf1
3810
3811
3792
3829
Q
5000'
eTvc
4500'
3500'
MOUNT SKUKUM GOLD MINES
MILLSITE
TO MINE
TO WHITEHORSE
BUTTE CREEK
Q ALLUVIUM
eTvf ALTERED FELSIC VOLCANIC FLOWS
eTvc LAYERED FELSIC VOLCANICLASTIC ROCKS
eTvf1 FELSIC LAVA FLOWS
GEOLOGICAL CONTACT
CONTOUR SOIL SAMPLE LINE
0 250 500 750 1000 1500
METERS
G. MACDONALD & ASSOCIATES LTD.
SHEEP 1-12 CLAIMS
NEWHAWK GOLD MINES LTD.
GEOLOGY MAP
NTS: 105 D3, D6
TECHNICAL: G.D.
DATE: NOV. 1985
SCALE: 1:25,000
DRAFTING: J.S.
FIGURE: 3



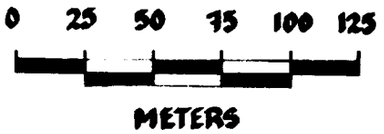
Au (ppb)
Ag (ppm)

Cu (ppm)
Pb (ppm)

LOCATION SHOWN ON FIGURE 3

CONTOUR SOIL SAMPLING

SAMPLE INTERVAL 25 METERS



G. MAC DONALD & ASSOCIATES LTD.

SHEEP 1-12 CLAIMS
NEWHAWK GOLD MINES LTD.
SOIL GEOCHEMISTRY

NTS: 105 D 3	TECHNICAL: R.R	DATE: NOV. 1985
SCALE: 1:2500	DRAFTING: J.S.	FIGURE: 4

GEOLOGY AND EXPLORATION (cont'd)

Samples were analyzed for gold, silver, copper and lead by Bondar-Clegg and Co. Ltd. (Vancouver). Copper, lead and silver were analyzed by standard atomic absorption methods. Gold analyses used a 10 g portion of the -80 mesh fraction with fire assay preconcentration (preparation of the dore bead) followed by digestion of the bead in acid and analysis by atomic absorption spectrophotometry.

Analytical results are shown in Figure 4. Most results are low; in particular, gold and copper values show background values typical of felsic units of the Mount Skukum Complex. The majority of silver and lead values are also at background levels normally found in unmineralized rocks of this sequence, but a few higher values (silver values of 0.5 ppm and above, and lead values of 30 ppm and greater) suggest the presence of a different rock unit with higher background contents of these two elements or a weak anomaly located distant from the area sampled.

CONCLUSIONS AND RECOMMENDATIONS

Only a brief reconnaissance exploration was carried out on the SHEEP claims. Results of prospecting and soil sampling show no significant anomalies.

Interpretation of the area as forming part of a caldera complex (Pride, 1985) suggests that the property warrants a more detailed investigation. A possible program would include air photo interpretation to locate possible fault structures and additional reconnaissance sampling at higher elevations where there is more extensive rock exposure. Any road cuts through the property should also be sampled.

Samples should be analyzed for mercury and arsenic in addition to the present suite of elements as these are useful pathfinders on some nearby properties.

APPENDIX I

STATEMENT OF EXPENDITURES

Geochemistry		
38 soil samples (Au, Ag, Cu, Pb) @ $11.65 each:		$ 442.70
Personnel		
R. Robertson	- ½ day @ $400/day	200.00
G. Davidson	- 1 day @ $262.50/day	262.50
J. Atkinson	- 1 day @ $135/day	135.00
M. Van Veen	- 1 day @$112.50/day	112.50
Other		
Vehicle and gas - 1 day		75.00
Camp and field equipment and supplies, food, expediting		75.00
Report preparation, drafting, secretarial		100.00
TOTAL		$1,402.70

G. MACDONALD AND ASSOCIATES LIMITED
Consulting Professional Geologists

4 Hyland Crescent
Whitehorse, Y.T.
Y1A 4P6

(403) 668-2044 (403) 667-7229

APPENDIX II

STATEMENT OF QUALIFICATIONS

I, **GRAHAM DAVIDSON**, of the City of Whitehorse in the Yukon Territory, HEREBY CERTIFY:

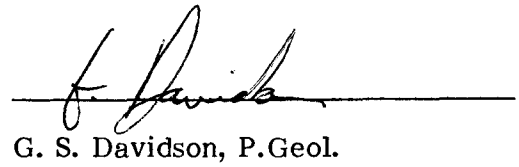
THAT I am a geologist employed by G. Macdonald and Associates Limited AND THAT I caused to be performed the work described in this report;

THAT I am a graduate of the University of Western Ontario (H.B.Sc., Geology, 1981);

THAT I am registered as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (No. 42308);

THAT I have been engaged in mineral exploration on a full-time and part-time basis for seven years, of which five have been in the Yukon and Northwest Territories.

SIGNED at Whitehorse, Yukon Territory, this 5th day of November, 1985.



G. S. Davidson, P.Geol.