

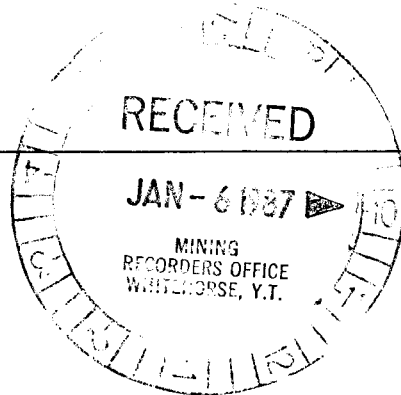
ARCHER, CATHRO

& ASSOCIATES (1981) LIMITED

CONSULTING GEOLOGICAL ENGINEERS

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REPORT ON GEOLOGICAL MAPPING AND GEOCHEMICAL SURVEYS

done on the

STODDART PROPERTY

(EYM 1F, 2-16, 17F-18F, 19-81; ACK 1-39; and, ORO 1-4 Claims)

located at

Latitude 62°20'N; Longitude 137°10'W

on

NTS 115I/6

between

July 16 and 28, 1986



W.D. Eaton, B.A., B.Sc.

December 5, 1986

091895

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 \$ 12,700.00.

DD Emend

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

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INTRODUCTION

The Stoddart property is located between the Big Creek properties (Revenue and Nucleus) to the west and the Mt. Freegold properties (Antoniuk, LaForma and Goldstar) to the east and was staked by Freegold Venture (FV) in 1985 to protect an area of favourable geology plus two previously identified soil gold anomalies. Work in 1985 consisted of geological mapping, grid soil sampling and minor reconnaissance chip sampling, which expanded and better defined the known geochemical anomalies on the east side of Seymour Creek and located a third weaker anomaly on the west side of the creek.

The 1986 program was limited to baseline surveys and minor soil sampling on the west side of Seymour Creek, plus tagging of 1985 claim posts during which four additional claims were staked to cover a small gap discovered between the Stoddart claims and the adjacent Goldstar property. The work was supervised by the author, whose Statement of Qualifications appears in Appendix I, and done by a three-man crew whose names and addresses are listed in Appendix II.

PROPERTY, LOCATION AND ACCESS

The Stoddart property consists of 81 EYM, 39 ACK, and 4 ORO mineral claims which form an irregular contiguous block as shown on Figure F-1 in the pocket. The claims are registered in the name of Archer, Cathro & Associates (1981) Limited with the Whitehorse Mining Recorder as follows.

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>
ACK 1-39	YA91836-YA91874	March 5, 1988
EYM 1F	YA86872	March 5, 1988
EYM 2-16	YA86873-YA86887	March 5, 1988
EYM 17F-18F	YA86888-YA86889	March 5, 1988
EYM 19-46	YA86890-YA86917	March 5, 1988
EYM 47-81	YA91801-YA91835	March 5, 1988
ORO 1-4	YA95202-YA95205	July 23, 1987

The western half of the ACK claims fall within the Nat Joint Venture (Nat) area of interest. Four claims held by an individual from Whitehorse are situated near the centre of the Stoddart property and have precedence over the FV claims.

The property is located at latitude 62°20'N and longitude 137°10'W on NTS map sheet 115I/6, some 54 km northwest of Carmacks. Access in 1986 was by truck using the Freegold Road and a network of four-wheel drive trails on the property.

PREVIOUS WORK

Exploration has been done in this area since the early 1900's when placer gold was discovered in Seymour Creek. Hardrock exploration has been conducted by many individuals and companies since 1930 when F. Guder discovered gold in veins on Mt. Freegold, 1 km southeast of the Stoddart property. Mineral occurrences on adjacent properties east of Seymour Creek include gold-bearing quartz veins (the most significant of which is the LaForma Vein which was briefly mined in 1939-40 and 1965-66); silver-lead veins; a gold-bearing stockwork on the Antoniuk property which Permian Resources Ltd. and Nordac Mining Corporation optioned and explored in 1985 and 1986; and, a low grade porphyry copper deposit with associated gold values which Yukon Revenue Mines Ltd. acquired in 1985. The major occurrences on the west side of Seymour Creek are gold zones on the Revenue and Nucleus properties. A silver-lead vein is rumoured to occur on the four Ken claims which are surrounded by EYM claims.

The southwestern portion of the EYM claims covers ground previously staked as the Seymour claims by Arctic Red Resources in 1981. Soil geochemistry conducted that year outlined a series of linear gold anomalies, called the Northwest Zone.

The northeastern part of the EYM claim block was previously staked by Montana Minerals as the Son claims in 1970 and by the Carmacks Syndicate (Castlemaine, Welcome North, W.M. Bath and Ventures West Capital) in 1974. Both groups explored for porphyry copper deposits using grid soil geochemistry and magnetic surveys. Their work outlined the Castle Zone which consists of weak copper mineralization associated with argillically altered intrusive rocks.

Archer, Cathro managed the Dawson Range and Klotassin Joint Ventures which conducted reconnaissance exploration in the area during the early to mid-1970's. Dawson Range JV stream sediment samples returned strongly anomalous arsenic values (exceeding 500 ppm) and scattered high gold values (up to 170 ppb) from tributaries on the east side of Seymour Creek. Several Klotassin JV soil sample splits were analyzed for gold by FV prior to the 1985 field season. Most returned background values but three samples from the Castle Zone returned moderate to strongly anomalous values up to 110 ppb.

The ACK claims on the west side of Seymour Creek were staked in June, 1985 when claims held by Shakwak Exploration Company Limited lapsed. There is no reported mineralization on the claims but they occupy strategically located ground between the EYM claims and the Revenue property.

PHYSIOGRAPHY AND GEOMORPHOLOGY

The property straddles Seymour Creek and is bounded on the east by Stoddart Creek. It covers gentle north- and west-facing slopes on a ridge extending west from Mt. Freegold and south-, east- and north-facing slopes on a ridge separating the Seymour Creek and Big Creek drainages. Local elevations range from 640 m in the Seymour Creek Valley to 1220 m on the crest of the western ridge.

Although the area escaped Pleistocene continental glaciation, a glaciofluvial outwash terrace blankets the northern half of the low ridge separating Seymour and Stoddart Creeks. Soils elsewhere on the property are locally derived except for a volcanic ash layer which ranges from a few centimetres to 2 m in thickness. South- and east-facing slopes are generally steep and well drained with 0 to 3 cm of A horizon organics, 0 to 20 cm of ash, 10 to 30 cm of B horizon soil and greater than 100 cm of C horizon decomposed bedrock. North- and west-facing slopes are gentle and permanently frozen with 10 to 30 cm of A horizon organics, 0 to 20 cm of ash, 10 to 30 cm of B horizon soil and over 100 cm of C horizon decomposed bedrock.

Most of the property is below treeline and typical vegetation consists of spruce, poplar and grasses on south- and east-facing slopes with stunted black spruce and thick moss on north- and west-facing slopes.

GEOLOGY AND MINERALIZATION

Figure F-1 in the pocket illustrates the geology of the entire property while Figure F-2, also in the pocket, is an outcrop map of the area on the east side of Seymour Creek.

The oldest rocks are Paleozoic or older Pelly Gneiss (Psn) schist and gneiss that are scattered across the property and occur as large rafts or roof pendants in younger plutons. Two phases of plutonic rocks are present, Jurassic Big Creek Syenite (Jy) and Mid-Cretaceous Casino Granodiorite (Kgd). The syenites are coarse grained and often porphyritic containing orthoclase and hornblende phenocrysts which are up to 3 cm long and occasionally display strong alignment. Granodiorites are typically equigranular and coarse grained, and contain biotite as well as hornblende. Mid-Cretaceous, light grey to cream weathering quartz porphyry and quartz-feldspar porphyry dykes (Kqp and Kqfp) cut all of the older rocks.

Alteration and/or mineralization occurs locally in all units except the syenite.

The schists are often pyritic, commonly exhibit manganese, hematite or limonite stain and contain grey, vuggy quartz veins up to 45 cm wide which parallel foliation. Two specimens of limonitic schist and vein float collected from old hand trenches in the vicinity of the Northwest Zone on the east side of Seymour Creek returned 0.022 and 0.030 oz/ton Au, as shown on Figure F-2.

Granodiorite is usually unaltered but two areas of interest do occur within it. At the Castle Zone a 400 m diameter area exhibits pervasive kaolinization and silicification which grades outward into propylitic

alteration. Quartz veins with traces of chalcopyrite occur in a halo surrounding the intensely altered core. The altered rocks are bounded on the east and west by north-flowing creeks which may be fault zones. The second area of interest is a 3 m wide pyritic and limonitic shear zone exposed in an isolated outcrop on the floor of the Seymour Creek Valley near the northern edge of the property. The zone trends 080 and dips 85 toward the south. A chip sample taken across it in 1985 assayed 103 ppb gold and a sample taken in 1986 assayed .016 oz/ton gold.

Most porphyry dykes are relatively unaltered except for one brecciated and quartz-veined outcrop on the south edge of the claim block. Several specimens of brecciated and unbrecciated porphyry from various parts of the property were analyzed for gold but all returned less than 10 ppb.

The Big Creek Fault projects onto the property from the west and appears to be offset to the north by two subparallel north-trending faults, one running down Seymour Creek and the other 1500 m to the west. If this interpretation is correct, the Big Creek Fault extends up Stoddart Creek rather than crossing Mt. Freegold. The fault traces are recessive and can only be inferred by connecting lineations and drainages.

GEOCHEMISTRY

General

The 1985 grid soil sampling covered all claims on the east side of Seymour Creek (EYM grid) and about 50% of those on the west side (ACK grid). The 1986 sampling increased the sample density and extended the coverage on the ACK grid so that approximately 75% of the claims on the west side of the creek are now sampled. Sampling on the EYM grid was described in the 1985 Freegold Venture Final Report.

There are four baselines on the ACK grid, three trending east-west and one northeast. The 1986 samples were taken at 50 m intervals on compass and topofil controlled lines spaced 100 m apart. Baselines are marked with 1 m wooden lath every 50 m, while sample locations are indicated by 0.5 m lath bearing aluminium tags inscribed with the sample number and grid coordinates.

Even numbered soil samples were sent to Chemex Labs of North Vancouver where they were screened to -35 mesh, crushed and geochemically analyzed for gold using a fire assay preparation and neutron activation analysis. Odd numbered samples are stored in Whitehorse and additional samples will be analyzed in early December to provide more detail in selected areas of interest.

Results

Generalized gold soil geochemical results for the entire property are compiled with geology on Figure F-1 while actual results obtained from the EYM and ACK grids are shown on Figures F-2 and 3 respectively, in the pockets.

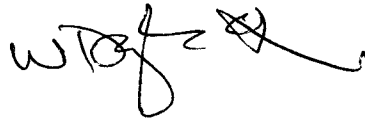
Background values are in the range of 1 to 5 ppb Au, while weak, moderate and strong anomalous thresholds are 25, 50 and 100 ppb Au, respectively. The 1986 sampling on the ACK grid produced numerous anomalous values that form a series of clusters, collectively called the ACK Zone. These clusters exhibit west-northwesterly trends and are subparallel to the Northwest Zone and anomalies on the nearby Revenue and Goldstar properties. The highest values (up to 330 ppb Au) occur in two adjacent clusters that form a 150 to 300 m wide, 1200 m long belt that appears to be the extension of a large gold soil anomaly reported on the Revenue property. Fill-in sampling has shown that the weak 1985 soil anomaly on the west side of Seymour Creek is just one of several small subsidiary clusters flanking the main belt. The somewhat erratic nature of the ACK Zone values is not surprising considering that most of the samples were taken on heavily vegetated and frozen north-facing slopes.

CONCLUSIONS

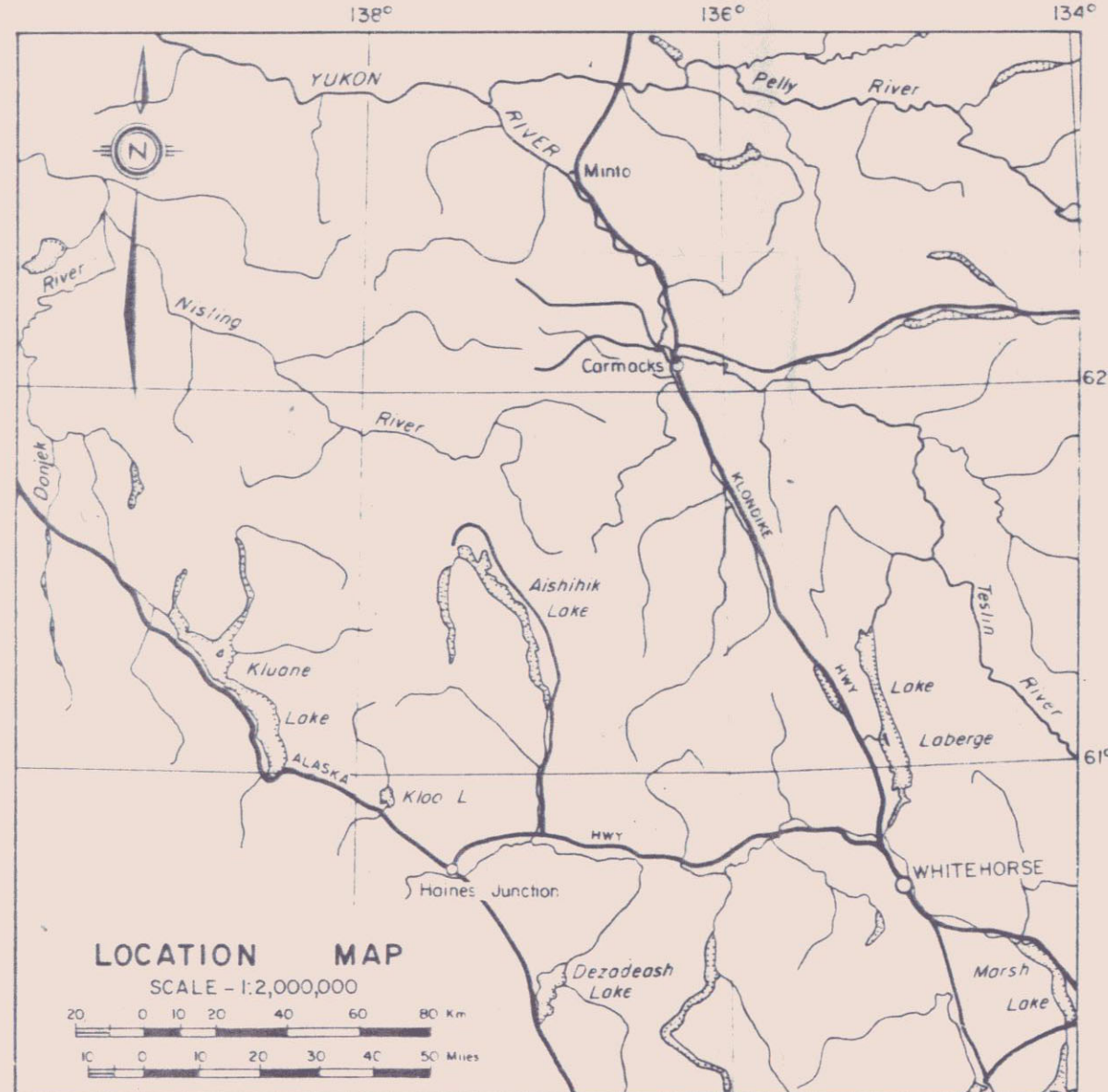
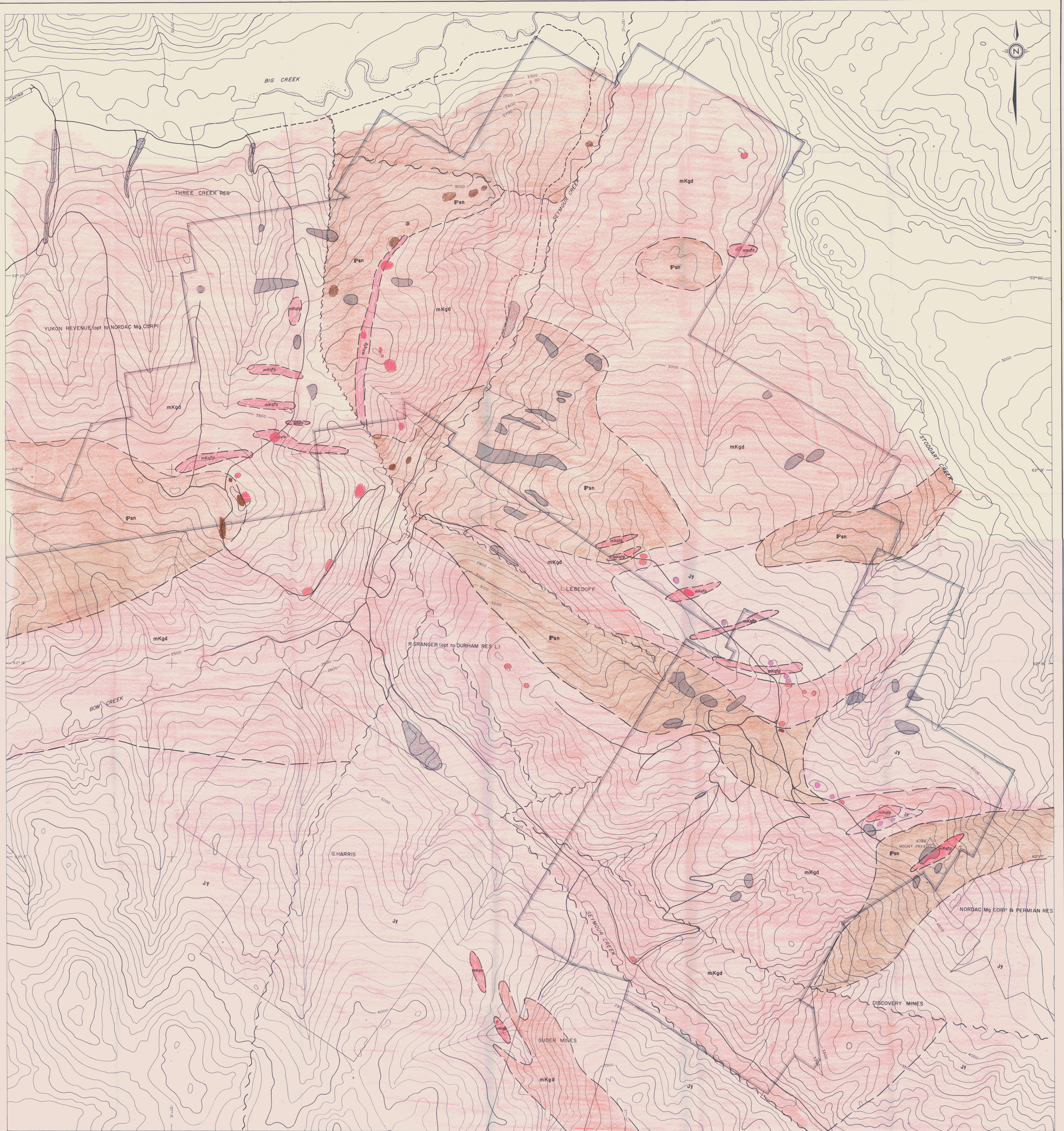
The 1985 and 1986 gold soil geochemistry on the Stoddart property has outlined three distinct areas of anomalous values (Northwest, Castle and ACK Zones). Although these targets are not as large or intense as those associated with nearby gold deposits (Nucleus, Revenue and Antoniuk), they do exhibit good continuity and are untested. All three targets are located on heavily vegetated frozen slopes with few or no outcrops and little or nothing is known about bedrock grade or controls on mineralization. Considering the property's strategic location and the continued high level of exploration activity in the area, the property is an attractive target that warrants further work.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

A handwritten signature in black ink, appearing to read 'W.D. Eaton', with a stylized flourish extending to the right.

W.D. Eaton, B.A., B.Sc.



- | | | | |
|--|--|--|--|
| | Outcrop | | Geochemical anomaly with Au values ≥ 50 ppb |
| | Fault | | Place operation |
| | Geological contact | | F.V. property boundary |
| | Middle Cretaceous quartz feldspar porphyry | | Property boundary |
| | Middle Cretaceous granodiorite | | Road |
| | Jurassic syenite | | |
| | Paleozoic or older metamorphic rocks | | |

Figure F-1
 ARCHER, CATIRO & ASSOCIATES (1981) LIMITED
**GEOLOGICAL & GEOCHEMICAL
 COMPILATION**
 STODDART & GOLDSTAR PROPERTIES
 FREEGOLD VENTURE

SCALE - 1:50,000
 0 100 200 300 400 500 METERS
 0 100 200 300 400 FEET
 091893



- LEGEND**
- CRETACEOUS**
- Kmi Andesite dykes
 - Kmr Quartz feldspar porphyry dykes and plugs
 - Kgd Casino Granodiorite
 - Kg Coffee Creek Granite
- JURASSIC**
- Jy Big Creek Syenite
- PALEOZOIC OR OLDER**
- Psn Pelly Gneiss: Undifferentiated schists, gneisses, amphibolites, marbles and/or quartzites
- SYMBOLS**
- Limit of outcrop
 - Shear with attitude
 - Geological contact: known, approximate
 - Reconnaissance chip sample location with gold value in ppb
 - Grab rock sample location with gold value in ppb
 - Soil sample location with gold value in ppb
 - Soil contour
 - Old hand trench
 - 4 wheel-drive road
 - 1972 DRJV Stream sediment sample location with Ag, As and Au values in ppm, ppb and ppb, respectively

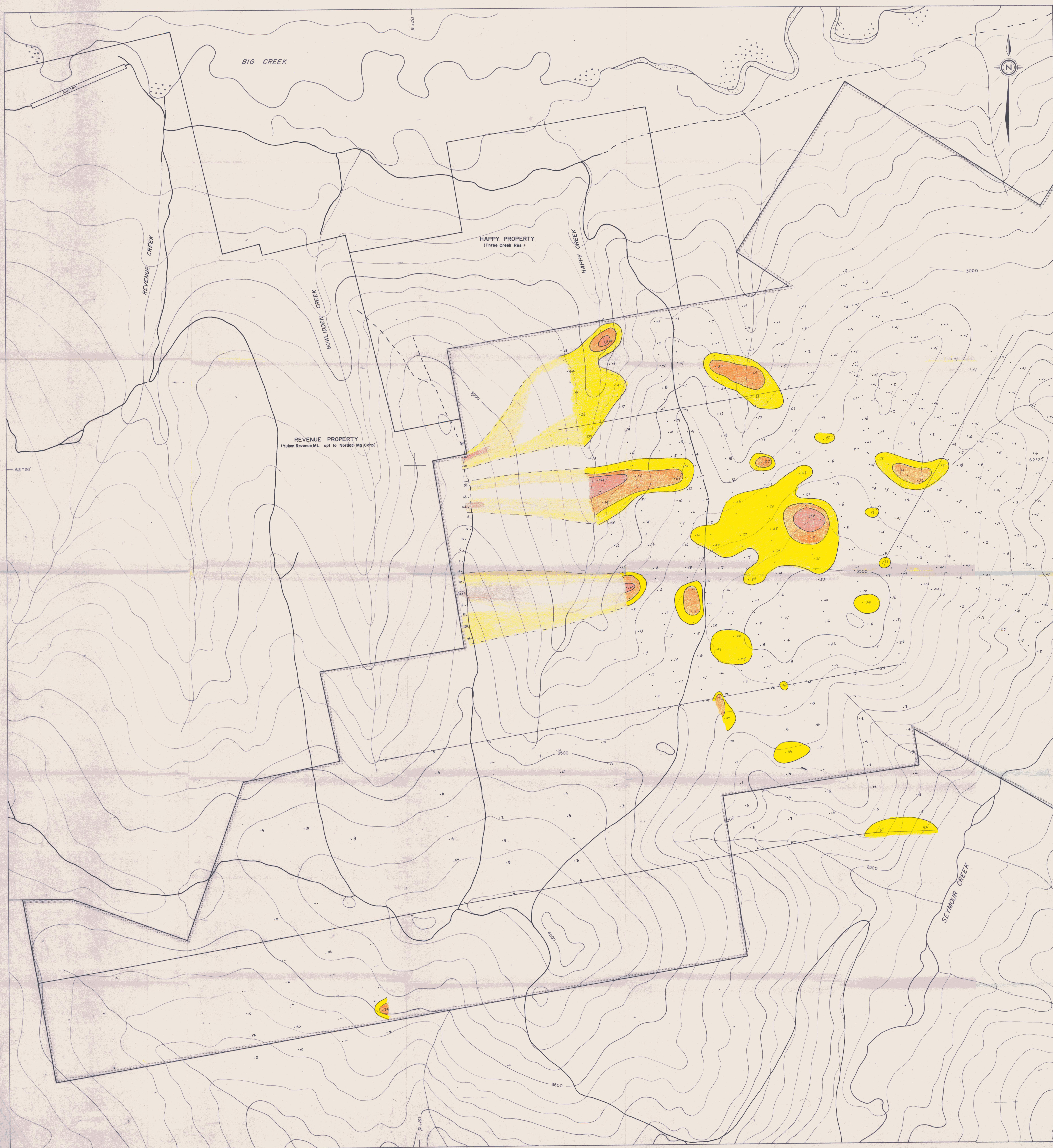
1981 sample results:
 -80 Mesh screen technique used rather than -30 mesh for rest of grid

W. J. ...

Figure F2
 ARCHER, CATIRO & ASSOCIATES (1981) LIMITED
GEOLOGY AND GOLD GEOCHEMISTRY
 STODDART PROPERTY
 FREEGOLD VENTURE

SCALE 1:5000

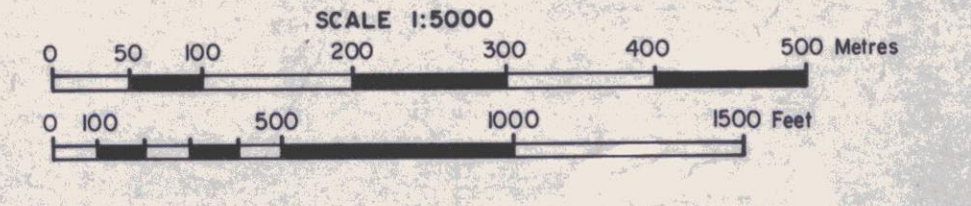
091895



- Claim boundary
- Road
- - - Trail
- • • • • Soil sample location with Au values in ppb
- Yellow box: $\geq 25 < 50$ ppb Au
- Orange box: $\geq 50 < 100$ ppb Au
- Red box: ≥ 100 ppb Au

2/2/10
WJH

Figure F-3
 ARCHER, CATRO & ASSOCIATES (1981) LIMITED
GOLD GEOCHEMISTRY
 ACK CLAIMS
 FREEGOLD VENTURE
 001895



APPENDIX I
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, W. Douglas Eaton, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in Burnaby, British Columbia, do hereby declare:

1. I graduated from the University of British Columbia in 1980 with a B.Sc.
2. From 1971 to the present, I have been actively engaged in mineral exploration in British Columbia and Yukon Territory and on June 1, 1981, became a partner in Archer, Cathro & Associates (1981) Limited.
3. I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



W. Douglas Eaton, B.A., B.Sc.

APPENDIX II
LIST OF EMPLOYEES

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D. Eaton	6108 Burns Street, Burnaby, B.C.
M. Walls	5770 McKinnon, Vancouver
T. Becker	#11 - 11031-88th Avenue, Edmonton
D. Kohlhaas	c/o 311-922.5 Alaska Highway, Whitehorse, Yukon
J. Gnucci	520-7th Street South, Cranbrook, B.C.
T. Knight	R.R. #2, Canyonview, Summerland, B.C.
D. Hrycun	14703-87 Street, Edmonton, Alberta