

ARCHER, CATHRO

& ASSOCIATES (1981) LIMITED

CONSULTING GEOLOGICAL ENGINEERS

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091880

Report on

HAND TRENCHING PROGRAM

Pike 8-14 Claims - Grant Nos. Y97523-Y97529

NTS 106D/16 and 106E/1

Latitude 65°00'N; Longitude 134°26'W



by

Alan R. Archer, B.A.Sc., P.Eng.

October, 1986

Work done between August 8 and August 28, 1986

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INTRODUCTION

The Pike 8-14 claim property was staked in 1975 by Wernecke Joint Venture (Chevron Canada Limited, Aquitaine Co. of Canada Ltd. and Messrs. Landon and Harris Clay) to cover brannerite occurrences found by prospecting. The claims were optioned to Eldorado Nuclear Ltd. in 1976 and returned to Wernecke Joint Venture (WJV) in 1977 without receiving work.

WJV explored the claims with reconnaissance prospecting and geochemistry in 1980 and 1981 and by grid soil sampling, geological mapping, geophysical surveys (IP, VLF, magnetic and radiometric) and minor hand trenching in 1982. In 1986 the claims were optioned to Archer, Cathro & Associates (1981) Limited and explored with surface stripping and hand trenching during the period August 8 to 28 using a two-man field crew under the writer's supervision. The field crew consisted of prospector B. Wengzynowski and geology student T. Becker.

The 1986 exploration was directed toward an area on the Pike 9 claim where float containing visible gold associated with brannerite was found in 1975.

PROPERTY, LOCATION AND ACCESS

The Pike property consists of seven contiguous mineral claims registered in the Mayo Mining District as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Pike 8-14	Y97523-Y97529	March 2, 1987

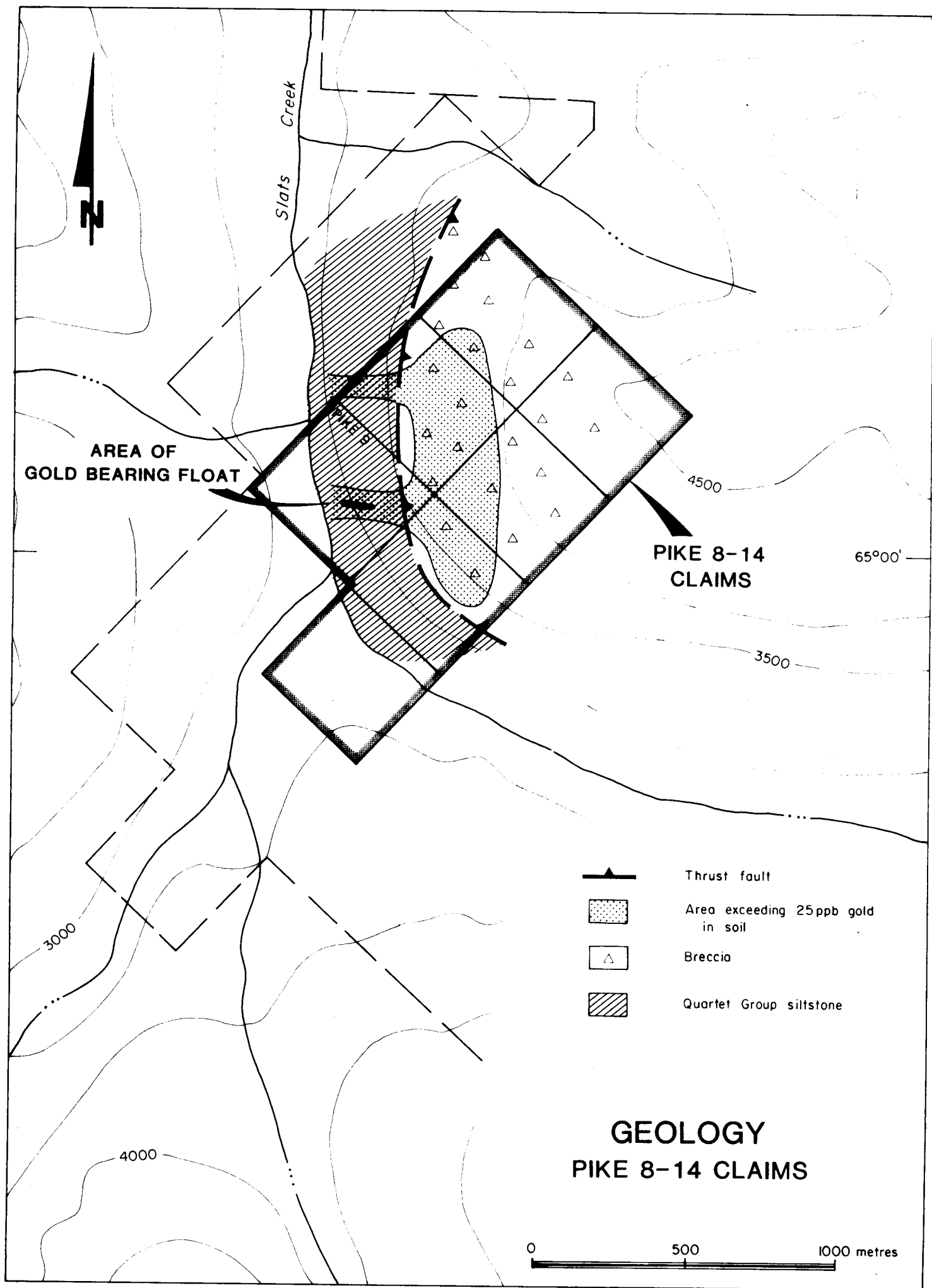
The property is located at latitude 65°00'N and longitude 134°26'W, straddling the boundary between NTS claim sheets 106D/16 and 106E/1. The nearest lake suitable for float-equipped, fixed-wing aircraft is Kiwi Lake, 25 km to the northwest, while the closest bush airstrip is near the Bear River, 21 km to the southeast. Access in 1986 was by Beech 18 aircraft to the Bear River airstrip from Mayo (156 km) and Bell 206B helicopter from there to the claims.

GEOLOGY

The claims lie on the east side of Slats Creek, a north-flowing branch of the Bonnet Plume River. Slats Creek occupies an unglaciated V-shaped valley and at its lowest summer level has a flow that is approximately 5 m wide and 0.5 m deep. The surrounding hill slopes are steep (about 38°) and 75% obscured by talus up to several metres in depth. Vegetation is scrub alder and willow (buckbrush) with scattered black spruce up to 25 cm in diameter near the valley floor.

At creek level, the claims are underlain by Helikian or older Quartet Group fine- to medium-grained sandstones with interbedded siltstone and mudstone. Steep-dipping quartz veins ranging from 1 to 30 cm wide cut the Quartet Group rocks at 10 to 15 m intervals and strike directly into the hillside. These veins contain traces of hematite and exhibit several centimetres of chlorite alteration along their boundaries.

A low angle thrust fault about 200 m vertically above the creek brings the Quartet Group sedimentary rocks into contact with a large body of heteroclast breccia, also considered to be Helikian or older. Breccia fragments are mainly Quartet Group sandstones and exhibit patchy to pervasive carbonate and red hematite alteration with 1 to 3 cm wide, pale green to pink, bleached and albitized halos around 1 to 30 cm wide veins containing quartz, dolomite, specular hematite and occasionally red barite. Breccia fragments range up to 30 cm across, but average less than fist size, and are cemented with a mixture of carbonate, hematite, chlorite and feldspar (albite?).



Slats Creek

AREA OF GOLD BEARING FLOAT

PIKE 8-14 CLAIMS

65°00'

4500

3500

3000

4000



Thrust fault



Area exceeding 25ppb gold in soil

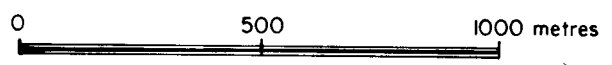


Breccia



Quartet Group siltstone

GEOLOGY
PIKE 8-14 CLAIMS



MINERALIZATION

The portion of the breccia body on the claims immediately above the unconformity is pervasively mineralized with copper, uranium and gold.

The copper occurs as randomly disseminated chalcopyrite in breccia fragments and matrix and as small blebs in narrow discontinuous quartz-carbonate veins. Concentrations exceeding 0.5% copper are rare. Grid soil sampling in 1982 returned greater than 200 ppm copper (over a background of 50 ppm) with peak values to 7800 ppm copper over an area of 700 m long and 300 m wide.

The uranium occurs as brannerite, often in crystals up to 1 cm across, in quartz veins and open fractures in the breccia. Although the 1982 soils were not analyzed for uranium, prospecting indicates that it is most abundant in areas of copper enrichment. Most brannerite concentrations are surrounded by a hematized and bleached alteration halo and selected specimens return gold values up to 1.2 oz/ton.

Other than the brannerite-gold association, no specific area of gold enrichment has been located in the breccia. However, gold geochemistry outlines an area 960 m long and 300 m wide, generally coincident with the copper anomaly that returns greater than 25 ppb gold with peak values to 950 ppb.

Two areas of visible gold mineralization in float have been found about 350 m apart in the underlying Quartet Group rocks. In both areas, native gold occurs in quartz vein float mineralized with brannerite, hematite, white to pink feldspar and a purple micaceous mineral, which may be lepidolite. Copper geochemistry over the float returns only background values while gold geochemistry returns weakly anomalous values in the 25 to 50 ppb range. The southernmost of the two float areas was explored by five hand trenches in 1982 and specimens containing abundant gold (up to 10% gold by volume) were found within a float train 100 m long and 5 m wide. The hand trenches all failed to reach bedrock.

1986 EXPLORATION

Work in 1986 was directed toward the southernmost gold float train that had been explored by hand trenching in 1982. During the period August 8 to 28 the field crew stripped surface vegetation and soil from the float train, collected rock specimens for assay and followed the float containing visible gold farther uphill with three hand trenches. Prior to trenching, a baseline marked with 1 m lath pickets at true horizontal intervals of 10 m was established down the centre of the float train for mapping purposes.

Figure 3 in the pocket illustrates the extent of the gold-bearing float train and the location of hand pits dug in 1982 and 1986. Table 1 on the following pages describes various float specimens that were collected and assayed during the 1986 program.

At least 100 fist sized or larger specimens of quartz float containing visible gold have been collected from the float train at various times over the period 1975 to 1986. Most of these exhibit spectacular gold concentration that would return gold values in the low thousands of ounces per ton range if assayed. One such specimen assayed in 1986 returned a value of 2078.64 oz/ton gold. Other than this specimen, only float without visible gold was assayed in 1986.

Trenches dug prior to 1986 (trenches A to E) reached depths ranging from 1 to 2 m without reaching bedrock and float with visible gold was only found in the top 30 cm of overburden. The 1986 trenches (trenches F to H) were dug uphill from the gold-bearing float train with the following results.

TABLE I
SAMPLE DESCRIPTION AND ASSAYS OF SPECIMENS
COLLECTED IN 1986 FROM PIKE 9 CLAIM

<u>SAMPLE NO.</u>	<u>GOLD ASSAY</u> <u>oz/ton</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
1526A	.020	Trench G	Unmineralized quartz float with trace hematite and chlorite, vein est. to be 7 cm wide.
1527A	.006	Trench G	Unmineralized quartz float with 10% carbonate and several percent chlorite.
1528A	.004	Trench G	Unmineralized, weakly chloritic, Quartet Group siltstone float, traces hematite.
1529A	.964	57W,2N	Quartz float (possibly vein up to 25 cm wide) with 3% brannerite; sample from brannerite-rich portion.
1530A	.130	Trench E	Quartz float with 5% brannerite and minor hematite 0.3 m deep in pit.
1531A	.034	Trench F	Unmineralized quartz float with minor hematite and chlorite.
1532A	.010	30W,0N	Boulder of quartz float about 80 kg (vein up to 45 cm wide?) with coarse gold on one edge. Sample from unmineralized portion.
1533A	.051	Trench H	Boulder of siltstone float (from bottom of trench) with several weakly radioactive 3-4 mm wide quartz veins.
1534A	.010	Trench H	Similar to above but more folded and chloritic and less radioactive.
1535A	.002	Trench H	Unmineralized quartz float, vuggy with traces hematite and chlorite.
1536A	.002	58W,2.3N	Unmineralized quartz float.
1537A	.408	58W,2.3N	80 kg quartz float boulder (vein 25 cm wide?), minor barite, brannerite and massive fine-grained hematite. Sample from brannerite-rich portion.

TABLE I (cont'd)

<u>SAMPLE NO.</u>	<u>GOLD ASSAY oz/ton</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
1508A	2078.64	67W,1N	Quartz float with 20% brannerite and abundant visible gold.
6005R	.012	33W,0N	Quartz float with trace brannerite.
6007R	.002	108W,5N	Chloritic siltstone float with several 1-2 mm wide unmineralized quartz veins.
6010R	.002	Trench F	Quartz float with abundant specular hematite.
6011R	.005	Trench F	Unmineralized quartz float, minor hematite.
6012R	.003	Trench F	Weakly radioactive massive specular hematite float.
6013R	.292	Trench B	Quartz float with minor brannerite and hematite. Purple mineral in vugs (lepidolite?).
6026R	.019	Trench H	Quartz float with minor brannerite 2.1 m below surface.
6031R	.124	97W,0N	Quartz float with several percent brannerite.
6032R	2.004	132W,2N	Quartz float with several percent brannerite and no visible gold.

Trench F - dug to a depth of 1.7 m without reaching bedrock. Overburden was comprised of siltstone with occasional thin quartz veinlets, breccia and minor unmineralized vein quartz. Several pieces of quartz float mineralized with brannerite and visible gold were found in the upper 30 cm. Sixty kilograms of fine overburden was panned and produced 72.8 gm of concentrate composed of hematite with several percent magnetite and minor visible gold. The concentrate assayed 3.45 oz/ton gold.

Trench G - dug to a depth of 1.5 about 8 m uphill from Trench F without reaching bedrock. Panning overburden obtained gold from 1 m below surface to the bottom of the trench. Several pieces of quartz float mineralized with brannerite and visible gold was found at 1 m below surface. Large overburden fragments were similar to those in Trench F.

Trench H - dug to a depth of 2.5 m some 12 m uphill from Trench F without reaching bedrock. Mineralized vein float is more abundant in this trench, particularly in the bottom 0.5 m. Several fragments of brannerite-rich quartz about 3 by 2 cm in size containing some 30% gold by volume were found at the bottom of the trench which could not be deepened due to permafrost. Fifty kilograms of fine overburden panned from the upper 1.5 m of the trench produced 46.35 gm of concentrate with no visible gold that assayed 0.206 oz/ton gold. Thirty kilograms of fine overburden panned from the bottom 1.0 m of the trench produced 35.3 gm of concentrate that assayed 76.57 oz/ton gold. Concentrates consisted mainly of specular hematite.

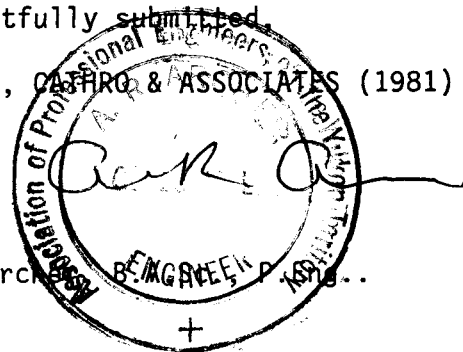
CONCLUSIONS AND RECOMMENDATIONS

The source of the gold float on the Pike 9 claim appears to be near or slightly uphill from 1986 Trench H. Examination of the gold-bearing float and its orientation suggests that it is being derived from a quartz vein about 15 cm wide that is cutting Helikian or older Quartet Group siltstone and striking directly up the hill. The abundance of gold in individual fragments is more or less proportional to the abundance of brannerite. The mineralization in the quartz vein is increasing as the vein approaches a thrust fault separating the siltstone from overlying breccia and a gold geochemical anomaly in the breccia immediately above this fault further suggests that proximity to the fault is important.

Further work should be diverted uphill from Trench H toward the thrust fault which lies about 60 m away. Exploration on this steep slope would be best accomplished by using a small monitor to excavate overburden to bedrock. Consideration should be given to recovering gold from the overburden if this method is used.

Respectfully submitted,

ARCHER, CAHRO & ASSOCIATES (1981) LIMITED



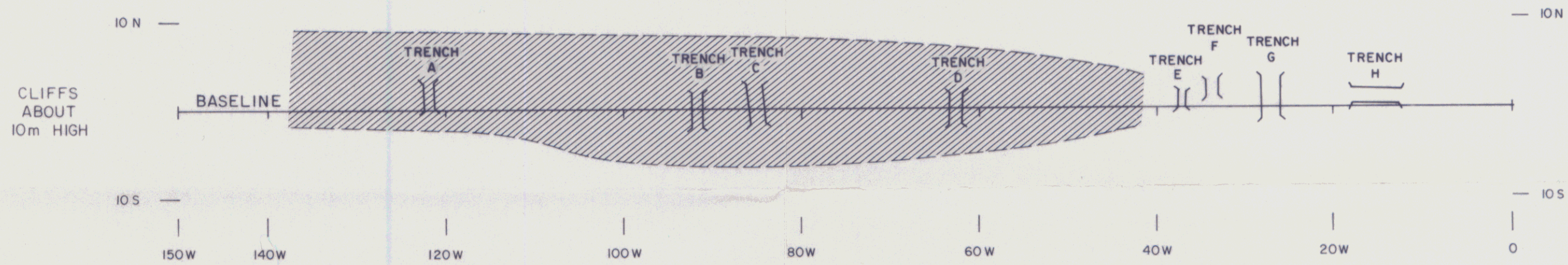
A.R. Archer


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EASTERN SIDE OF SLATS CREEK VALLEY BOTTOM



HILLSLOPE ABOUT 38°



 Area in which visible gold is found in float

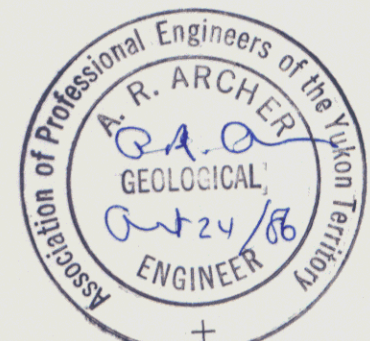
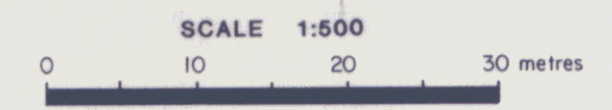


Figure 3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

TRENCH LOCATION MAP

PIKE 9 CLAIM

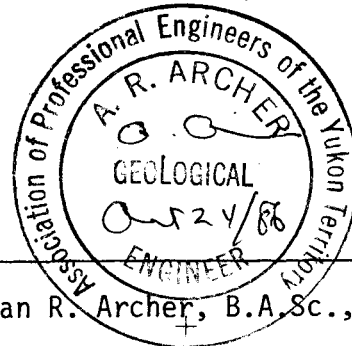


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STATEMENT OF QUALIFICATIONS

I, Alan R. Archer, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in Burnaby, British Columbia, do hereby declare:

1. I am a 1957 graduate of the University of British Columbia in geological engineering.
2. I have been engaged in geological engineering for over twenty-five years, the past twenty of which have been as a consultant.
3. I am a registered professional engineer in British Columbia and in Yukon Territory.
4. I have supervised the work described in this report.



Alan R. Archer, B.A.Sc., P.Eng.