ARCHER, CATHRO
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CONSULTING GEOLOGICAL ENGINEERS

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WERNECKE JOINT VENTURE (WJV)

GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL AND HAND TRENCHING REPORT

PIKE 1-51, 55-108 CLAIMS

DECEMBER, 1982

Claim Sheets 106E/1 and 106D/16

Latitude 65°00'N; Longitude 134°26'W

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

Work done between June 2 and August 18, 1982

091437

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This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work on the claim(s) of 41,559.13

for Regional Geologist, Geological Services for Commissioner of Yukon Territory.

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INTRODUCTION

The Pike 1-14 claims were staked by WJV in 1975 to cover brannerite occurrences in altered Wernecke Supergroup metasediments adjacent to a Helikian breccia body. Geochemical and radiometric surveys conducted that year outlined weak to moderate uranium, copper, gold and molybdenum soil anomalies but failed to locate significant zones of mineralization. The claims were transferred to Eldorado Nuclear Ltd. in 1976 under terms of an Eldorado-WJV option agreement but were returned to WJV in 1977 without receiving work. The Pike 1-7 claims, which were peripheral to the main area of interest, were allowed to expire in 1978.

In 1980, a reconnaissance program of prospecting and hand trenching discovered widespread, erratic gold anomalies associated with altered metasediments and resulted in enlargement of the property from 7 to 32 claims. A further 73 claims were staked in early 1981. Contour-controlled sampling and mapping conducted later that year outlined three areas of anomalous gold values on the periphery of breccia bodies and showed that the gold is significantly correlated with several other metals including copper, molybdenum, uranium and silver. Reconnaissance chip samples were collected and, although most returned near background to weakly anomalous gold values, one returned 3820 ppb Au.

The 1982 program emphasized gold exploration and included grid geochemical and geophysical (magnetics, IP, VLF and radiometrics) surveys over the largest of the grid soil anomalies outlined in 1981, plus detailed geological mapping, continued contour-controlled geochemical surveys, and limited hand trenching.

PROPERTY, LOCATION AND ACCESS

The Pike property consists of 105 contiguous mineral claims registered in the Mayo Mining district as follows:

Claim Name	Grant Numbers	Expiry Date
Pike 1-7	YA42090-YA42096	8 February, 1985
Pike 8-14	Y97523-Y97529	27 March, 1985
Pike 15-32	YA42097-YA42114	8 February, 1985
Pike 33-51	YA62439-YA62457	8 March, 1985
Pike 55-82	YA62458-YA62485	8 March, 1985
Pike 83	YA62916	8 March, 1985
Pike 84-92	YA62549-YA62557	8 March, 1985
Pike 93-108	YA62533-YA62548	8 March, 1985

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 closest lake suitable for float-equipped, fixed-wing aircraft is Kiwi Lake 25 km to the northwest, while the closest bush airstrip is on the Bear River, 21 km to the southeast. Access in 1982 was by Bell 206B helicopter from the WJV basecamp at the Igor property.

GEOLOGY

General

Figure WJV82-E1 in the pocket illustrates the geology underlying most of the property, while Figure WJV82-E2, also in pocket, shows detail geology in the main area of interest. The general geology consists of Helikian and older Wernecke Supergroup metasediments that are cut by a number of Helikian breccia bodies and a series of post-breccia, east-trending, north-dipping reverse faults, which can be traced many kilometres along strike and exhibit displacements of several hundreds of metres. These faults have divided the property geology into three blocks with Fairchild Lake Group to the north, Quartet Group in the centre and

Gillespie Lake Group to the south. The main area of interest for gold is confined to the central block.

Geomorphology

The property is drained by west-flowing tributaries of Slats Creek, a north-flowing branch of the Bonnet Plume River. Most tributary valleys and the Slats Creek valley are linear suggesting that streams follow major faults. The terrane is characterized by V-shaped valleys separated by sharp ridges and elevations range from 900 m in the bottom of Slats Creek to a maximum of 1500 m along ridges. Erosion is rapid thus outcrop is only abundant near ridge tops and in recent creek cuts, while hillsides are largely obscured by long, steep talus slopes. Vegetation includes buckbrush and scattered black spruce on the lower slopes with lichens and moss above 1100 m.

Stratigraphy

The oldest rocks belong to the Fairchild Lake Group F_3 formation which consists of a monotonous sequence of pale green and grey phyllites with occasional siltstone and dolomitic siltstone horizons. Although the F_3 is highly folded, original bedding is still visible and sedimentary structures such as flutes and ripple marks are preserved in the coarser units.

The Quartet Group is represented by the Q_2 formation, a sequence of pale to dark grey, fine- to medium-grained sandstones which are rhythmically interbedded with siltstones and mudstones. Q_2 outcrops are distinctively banded as the medium sandstones resist weathering.

The youngest rocks on the claims belong to the Gillespie Lake Group and include the G_3 formation, massive- to rhythmically-bedded, buff to orange weathering, silty dolomites, dolomitic siltstones and siltstones that grade upward into G_4 formation massive, stromatolitic dolomites.

Breccia Bodies and Intrusive Rocks

Two types of breccia are present on the property: homoclast (Hb_1) and heteroclast (Hb_2). The homoclast breccias exhibit gradational contacts with the country rocks and consist of 90 to 95 percent angular fragments in a medium- to coarse-grained, tan carbonate matrix. All fragments are derived from the adjacent wallrocks and show patchy to pervasive carbonate and red hematite alteration with 1 to 3 cm wide, pale green to pink, bleached and albitized alteration halos around 1 to 30 cm wide veins containing quartz, dolomite and, occasionally, red barite. These breccias occur peripheral to heteroclast breccias and are separated from them by sharp contacts. The heteroclast breccias consist of 70 to 80 percent, subangular to subrounded, variously altered fragments in a matrix of finely comminuted rock fragments cemented with carbonate, hematite, chlorite and feldspar (albite?).

A single 10 m wide and 300 m long lamprophyre dyke was found southeast of Slats Creek. The dyke has been offset by several small faults and consists of 10 to 15 percent fine- to medium-grained biotite phenocrysts in a green to blue grey carbonate groundmass. Dating of similar material elsewhere in the project area returned a K-Ar age of 612 ± 18 Ma.

Structure

The dominant structures in the area are north- to northwest-trending, vertically-dipping faults associated with the Richardson Fault Array and a series of younger, east-trending, steeply north-dipping reverse faults. Minimum displacements of 200 to 300 m have occurred on both fault sets. The north- to northwest-trending structures appear to curve and splay in the area of interest, and most breccia bodies occur in a block bounded on the east and west by faults associated with this system.

In addition to the major structures, numerous smaller high angle faults with displacements of 50 m or less have badly disrupted the breccia contact. These faults form a conjugate set trending north-south and northeast-southwest. Although these offset the major fault sets, their age is uncertain and slickensides indicate that they have reactivated several times.

The youngest structures in the area are low-angle thrust faults that dip gently to the north and form prominent linears on south-facing slopes. These faults have offsets in the order of several hundreds of metres and have thrust a block containing the main breccia bodies over unbrecciated and relatively unaltered Q_2 strata.

Folds in the Wernecke Supergroup sedimentary rocks range from open to overturned asymmetric and have wave lengths in the order of 10 m. A penetrative, axial planar cleavage is present and exhibits a northeasterly trend, suggesting that it is related to the late Proterozoic Hayhook Orogeny.

MINERALIZATION

Uranium, copper, cobalt and gold mineralization have all been observed on the property but no specific zones approaching economic dimensions have been identified.

Brannerite crystals are widely scattered across the property, usually occurring in quartz veins or open fractures surrounded by hematized and bleached alteration envelopes. Where observed in outcrop, the veins and fractures have north or east trends and steep dips. Minor pitchblende, yellow uranium secondary oxides and native gold are found with some brannerite occurrences.

In 1975, a five-kilogram subrounded boulder of red-stained barite containing about 20 percent brannerite, minor pitchblende and abundant disseminated gold

was found in coarse talus on the lower hillside. A portion of the boulder exhibiting no visible gold and approximately 10 percent brannerite assayed 4.66% U_3O_8, 0.57% ThO_2, 0.05 percent rare earth elements and 1.5 oz/ton gold. In 1980, a 3 m wide float train containing about 0.1 percent highly radioactive, vuggy quartz vein fragments was discovered 100 m southwest of the 1975 mineralization. This float can be traced over 150 m downhill and consists of up to 20 cm in diameter, angular quartz vein fragments containing coarse brannerite blebs up to 3 cm wide with minor yellow uranium oxides and often native gold. Specimens of the mineralized float have returned values ranging from 0.014 oz/ton gold with 0.005% U_3O_8 to 347.36 oz/ton gold with 6.57% U_3O_8. Intermixed, similar but unmineralized, quartz float assayed only 10 to 40 ppb gold and traces of uranium. Many of the mineralized float fragments also contain white to pink feldspar crystals and a purple micaceous mineral which may be lepidolite. Specific uranium minerals were not identified in eight other radioactive grab samples from various parts of the property which included chloritic breccia, hematized metasediment and massive hematite and produced assays ranging from 0.022% to 0.236% U_3O_8 and 40 to 500 ppb gold.

Elsewhere on the property, anomalous gold concentrations have been obtained from non-radioactive specimens, particularly those exhibiting quartz-carbonate-albite veins with hematized, sericitized and bleached alteration envelopes. In 1980, grab samples of altered argillite returned values ranging from 1 ppb to 5762 ppb gold, while gold assays of grab samples of unaltered argillite did not exceed 30 ppb and averaged 15 ppb. Although intensely altered argillites containing disseminated chalcopyrite return the highest gold values, their presence does not ensure high values. Reconnaissance chip sampling conducted in 1981 tested a variety of rock types and their altered equivalents and returned gold values in

the range of 1 to 71 ppb with one assay of 3820 ppb Au. The highest values were obtained from argillite and homoclast breccia on the periphery of heteroclast breccias. These rocks exhibited weak to intense, carbonate + hematite ± albite ± sericite alteration and were commonly cut by quartz veins.

Chalcopyrite with associated malachite staining is found in many parts of the property but rarely in concentrations exceeding 0.5 percent copper. It occurs in a number of geological environments including disseminations in breccia bodies and in narrow quartz-carbonate veins but is most abundant in fracture zones on the margins of breccia bodies and in shear zones associated with large faults.

Other minerals occurring on the property are: cobaltite and its oxide erythrite which are found in north-trending shear zones near the south end of the claim block; specular hematite which is disseminated throughout the breccia matrix and forms massive pods, up to 3 by 10 m, along breccia margins; and pyrite which is commonly disseminated in weak carbonate veins and their alteration envelopes and locally comprises up to 10 percent of intensely chloritized zones within the breccia bodies.

GEOCHEMISTRY

General

Grid soil sampling and extensive follow-up geochemical chip sampling of outcrops was conducted over the main area of anomalous gold values outlined in 1981 and contour soil sampling was done on the south side of Slats Creek to complete sample coverage of the property.

Grid soil samples were taken at 50 m intervals on compass- and topofil-controlled lines spaced 50 m apart at right angles from a slope-corrected baseline. The contour sampling was done at 100 m intervals on altimeter- and topofil-

controlled lines spaced 150 m vertically apart. Baseline stations were marked with 1 m lath pickets while soil sample locations were marked with 1/2 m pickets. Each picket has the grid co-ordinate location printed on it and soil sample pickets also have the soil sample bag number. Chip samples were taken at 5 to 15 m intervals along outcrop ridges in the main area of interest and were also marked with lath pickets.

Both soil and rock samples were sent to Chemex Labs of North Vancouver, B.C. and the analytical procedures used are summarized in Appendix III. All soil samples were analyzed for gold and soils from the grid were also assayed for copper and molybdenum. Chip samples were analyzed for gold only.

Grid Soil Sampling

Figures WJV82-E3 to WJV82-E5 in the pocket illustrate gold, copper and molybdenum results from the grid. Gold values cluster into three anomalous centres as follows.

Anomaly 1a is an 800 m by 200 m area of intermittently anomalous gold values on the east side of the grid with the long dimension paralleling the hillside. The highest values (105 to 950 ppb Au) occur on the uphill side of the anomaly and coincide with the projected trace of a thrust fault. The downhill portion of the anomaly overlies homoclast and heteroclast breccias and Q_2 argillites, all of which are badly disrupted by faulting and appear to be truncated by a second thrust fault. Both copper and molybdenum give coincident anomalous response up to 7800 ppm and 65 ppm respectively.

Anomaly 1b and 1c are elongated in a downhill direction and lie below the thrust fault which marks the lower boundary of Anomaly 1a. Both are found on a predominantly talus-covered slope and bedrock exposure is limited to occasional

small outcrops of Q_2 argillite. The argillite in the vicinity of Anomaly 1c exhibits weak chloritization and there is more quartz vein float in the surrounding talus than is common elsewhere on the property.

Anomaly 1b covers a 200 by 400 m area and includes values up to 465 ppb Au. Molybdenum exhibits coincident anomalous response to 35 ppm while copper response is near background. Anomaly 1c lies 300 m south of Anomaly 1b and is 250 by 100 m in size. It exhibits moderately anomalous values ranging from 56 to 159 ppb Au and overlies the gold-bearing float train. Like Anomaly 1b, this anomaly has a coincident anomalous response for molybdenum but only near background copper values. Results of a soil profile in this anomaly are discussed later in the report under Chip Sampling and Hand Trenching.

Contour Soil Sampling

This work was done on the portion of the claims south of Slats Creek where contour sampling was started in 1981 and had returned several anomalous values in the range of 101 to 625 ppb Au along an east-trending reverse fault on the periphery of a breccia body. The 1982 results are illustrated with the 1981 results on Figure WJV82-E1 in the pocket and indicate that downhill dispersion from these targets is limited. The sampling did not locate any other areas of interest on the lower slopes. The highest gold value obtained in 1982 was 110 ppb Au from a sample taken on the east side of the breccia body which produced the anomalous values in 1981.

GEOPHYSICS

In June, 1982, a Kidd Creek geophysical crew supervised by G. Hendrickson conducted magnetic, resistivity, chargeability and VLF surveys over most of the grid area, as illustrated on Figures WJV82-E6 to E9 in the pocket. Results of the surveys are discussed in "Report on 1982 Geophysical Work at Pike Claim Group" by G. Hendrickson, the text of which is in Appendix IV.

The WJV crew conducted radiometric surveys over the entire grid using the same lines as the other geophysical surveys. Radiometric readings were taken every 50 m at waist height using Scintrex BGS-1SL scintillometers and anomalous radioactivity noted between stations was also recorded. Results of these surveys are shown on Figure WJV82-E10 in the pocket.

No significant anomalous areas were located and most variations in readings are due to normally expected fluctuations in atmospheric radioactivity. Slightly higher readings were obtained over breccia bodies; however, the abundance of faults and mixing of breccia float in talus makes accurate determination of breccia contacts impossible by radiometric means. A few scattered point-source radiometric anomalies were found but all were related to either isolated brannerite crystals in narrow veins or 1 to 3 m wide pods of massive, weakly radioactive hematite.

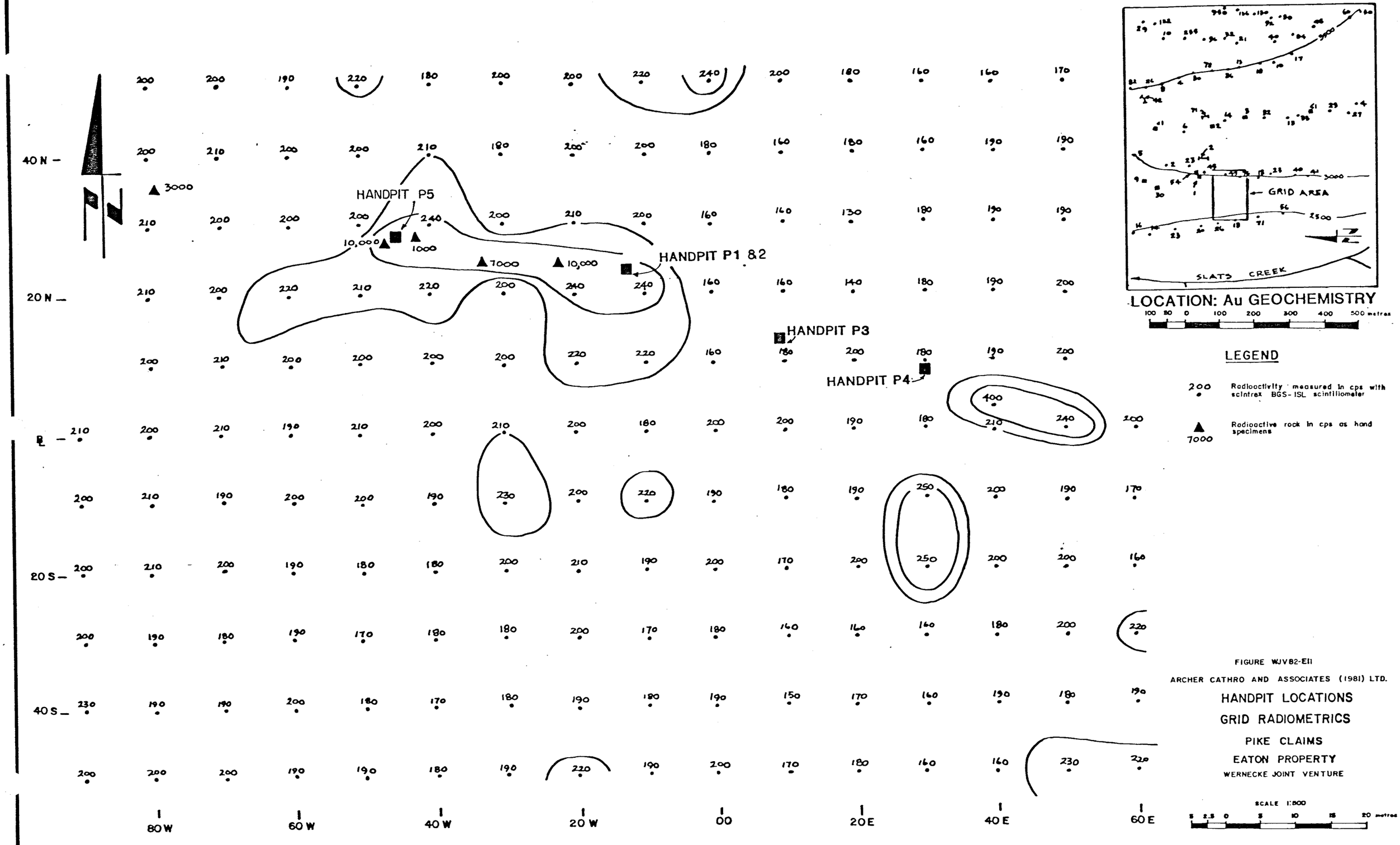
CHIP SAMPLING AND HAND TRENCHING

Geochemical chip sampling was limited to the area encompassing the best geophysical anomalies and geochemical Anomaly 1a. Both anomalies parallel the hillside and are bisected by five outcrop ridges which run perpendicular to the hillside and are spaced approximately 100 m apart. A total of 75 ten kg chip samples were taken at 5 to 15 m intervals along these ridges to provide sample

coverage across both the geophysical and geochemical anomalies. The highest value obtained was 177 ppb Au from a 10 m interval of carbonate- and hematite-altered homoclast breccia. All other samples, including resampling of the outcrop which yielded 3820 ppb Au in 1981, returned values of 56 ppb Au or less.

One trench, P5 (P1-4 were dug in 1980 and 1981), was dug on the radioactive quartz float train which has produced gold assays up to 347.36 oz/ton Au. Figure WJV82-E11 on the following page shows the location of the trench in relation to a 1980 detail radiometric grid, specific float locations and the earlier trenches, while Figure WJV82-E12, which follows the previous figure, illustrates the distribution of radioactive and non-radioactive quartz float and assay results for soil samples taken from the trenches.

The trench, which is centred within soil Anomaly 1c, did not reach bedrock but provides significant insights into gold dispersion in soils associated with the float train. First, the zone of strongly anomalous soils associated with the float train is remarkably narrow. Two soil samples taken directly below the surface trace of the float train returned greater than 10,000 ppb Au while soil samples taken 2 m on either side returned a maximum of 259 ppb Au. These results were confirmed when several coarse grains of native gold were panned from soil taken from the float train but no visible gold was observed in pan concentrates from soil taken adjacent to the float train. Second, although larger fragments (3 to 30 cm wide) of gold and brannerite-bearing quartz vein material are limited to the upper 30 cm of the soil profile, the anomalous soil extends to a depth of at least 1.5 m. Finally, the gold-bearing soil is only weakly radioactive below the layer containing the larger vein fragments. Thus, similar gold-rich dispersion trains would be difficult to detect if coarse radioactive vein fragments were absent, particularly if the soil were blanketed by a layer of non-mineralized talus.



LOCATION: Au GEOCHEMISTRY

100 50 0 100 200 300 400 500 metres

LEGEND

200 — Radioactivity measured in cps with scintrex BGS-ISL scintillometer

▲ 7000 — Radioactive rock in cps as hand specimens

FIGURE WJV82-E11

ARCHER CATHRO AND ASSOCIATES (1981) LTD.

HANDPIT LOCATIONS
GRID RADIOMETRICS

PIKE CLAIMS

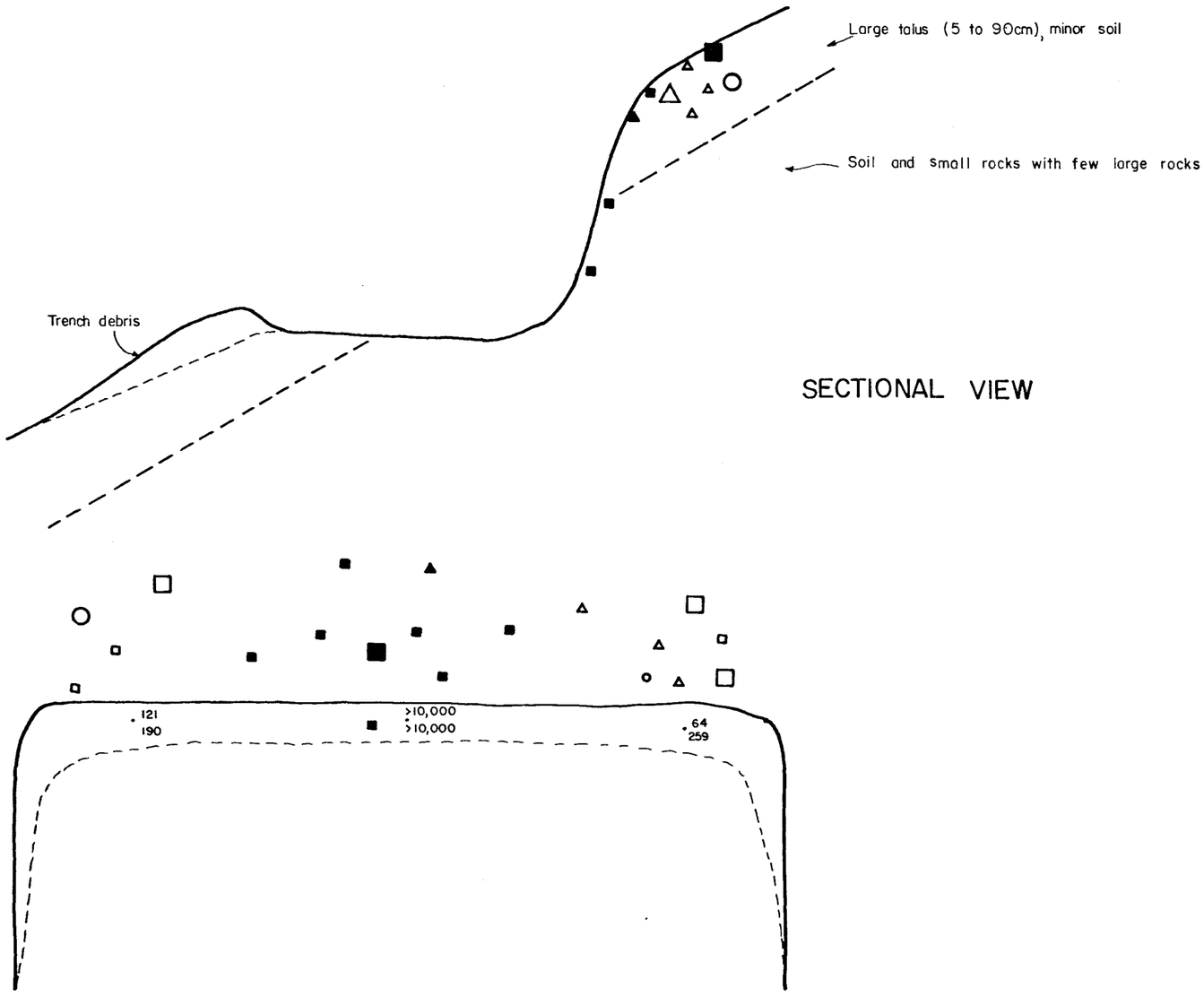
EATON PROPERTY

WERNECKE JOINT VENTURE

SCALE 1:500

5 2.5 0 5 10 15 20 metres

HANDPIT P5



SECTIONAL VIEW

PLAN VIEW

LEGEND

△ Rock <10cm in diameter containing quartz veins up to 3cm wide but background to 3 times backround radioactivity.

△ Rock >10cm in diameter containing quartz veins up to 3cm wide but background to 3 times background radioactivity.

▲ ▲ As above, but exhibiting > 3 times backround radioactivity.

○ Rock <10cm in diameter containing quartz veins 3 to 10cm wide but background to 3 times radioactivity.

○ Rock >10cm in diameter containing quartz veins 3 to 10cm wide but background to 3 times background radioactivity.

● ● As above, but exhibiting >3 times background radioactivity.

▫ Rock <10cm in diameter completely composed of quartz vein but exhibiting background to 3 times background radioactivity.

□ Rock 10cm in diameter containing quartz vein 10cm in diameter but background to 3 times background radioactivity.

■ ■ As above but exhibiting >3 times background radioactivity.

r Rock with no quartz veins exhibiting background to 3 times background radioactivity.

R As above but with >3 times background radioactivity.

• 64 ppb Au at top of pit
• 259 ppb Au at bottom of pit
) soils.

Figure WJV82 - E12

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

Au GEOCHEMISTRY

RADIOMETRICS

HANDPIT P5

PIKE CLAIMS

WERNECKE JOINT VENTURE

0 0.5 1.0 2.0m

SCALE 1 : 30

DISCUSSION AND CONCLUSION

There are two types of gold occurrences on the Pike property: (1) quartz and/or barite vein float in which free gold is intimately associated with brannerite and minor pitchblende; and, (2) alteration zones on the periphery of heteroclast breccia bodies where erratic gold values are obtained from country rocks exhibiting hairline fractures and narrow quartz, dolomite and albite veins with bleached, carbonatized and hematized alteration envelopes.

The first occurrence type produces unusually high-grade assays with individual brannerite-bearing specimens returning values up to 327.36 oz/ton. This mineralization has only been seen in float and is found in two areas. The first area exhibited only a single 10 cm in diameter, semi-rounded fragment while the second area exhibits scattered mineralized vein fragments (up to 20 by 40 cm in size) forming a narrow linear zone which can be followed 150 m directly down the slope. Both float areas are surrounded by a broader area of anomalous gold and molybdenum soil values and have no geophysical signature, other than weak radiometric response from individual float fragments. Hand pitting in the largest float train indicates that the gold-bearing material is restricted to a width of less than 2 m. An area of comparable geochemical response (Anomaly 1b) to the north may reflect a similar type of occurrence. Although the gold grades are spectacular, the tonnage potential of this occurrence type is too limited to be of interest.

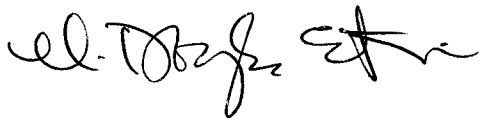
The second type of gold occurrence is restricted to a thrust-fault bounded block of highly fractured breccias and country rock which is allochthonous to the underlying block containing the vein float. The gold is erratically distributed

in talus with occasional grab samples returning assays in the 0.1 to 0.2 oz/ton Au range. However, extensive reconnaissance chip sampling of outcrop has failed to return assays in excess of 200 ppb Au. Soil geochemistry has outlined an 800 by 200 m area of anomalous gold, copper and molybdenum values (Anomaly 1a) and geophysical surveys produced coincident anomalous response. Three explanations are offered to explain these features: (1) the gold is occurring in recessive-weathering faults (either thrust or high-angle) which are obscured by talus; (2) the gold is occurring in fractures and is preferentially weathering out into soils, leaving relatively barren wallrock in outcrop and talus; or, (3) the gold is widely disseminated throughout the country rock and has been missed in chip sampling because samples were not large enough.

No potential appears to exist here for a bulk-tonnage operation.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



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

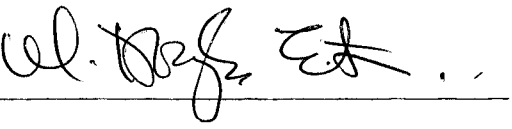
APPENDICES

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. and am currently enrolled in a M.Sc. majoring in Geological Sciences.
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 - PERSONNEL

Name	Address	Position
D. Eaton	6108 Burns, Burnaby, B.C.	Geologist
D. Heberlein	2206 Stephens Street, Vancouver, B.C.	Geologist
H. Oiye	301-1655 Chesterfield Street, North Vancouver, B.C.	Geologist
J. Dennett	5665 Toronto Road, Vancouver, B.C.	Student Assistant
B. Sinclair	314-10229 149th Street, Surrey, B.C.	Student Assistant
S. Shalansky	3359 Redfern Place, North Vancouver, B.C.	Student Assistant
S. Beckmann	490 Southborough Drive, West Vancouver, B.C.	Student Assistant
T. Carlson	118 Beechwood Avenue, Victoria, B.C.	Student Assistant

APPENDIX III - ANALYTICAL TECHNIQUES

PREPARATION

All soil samples were dried and sieved through an ASTM 35 mesh screen (0.50 mm). The minus 35 mesh fraction was then pulverized and homogenized in a ring grinder to approximately minus 100 mesh (0.15 mm). For drill core and grab and chip rock samples, the entire sample was crushed and split. A subsample was then pulverized in a ring grinder to approximately minus 100 mesh.

ANALYTICAL TECHNIQUES

Gold was analyzed by a "combo technique" consisting of a fire assay followed by neutron activation, while copper and molybdenum were analyzed using a perchloric-nitric acid extraction followed by atomic absorption spectrometry.

APPENDIX IV - GEOPHYSICAL REPORT

KIDD CREEK MINES LTD.

WERNECKE JOINT VENTURE

REPORT ON 1982 GEOPHYSICAL WORK

AT THE

PIKE PROPERTY

WERNECKE MOUNTAINS - NORTHERN YUKON

N.T.S. 106D

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INTRODUCTION

On behalf of the Wernecke Joint Venture, Kidd Creek Mines Ltd. conducted geophysical surveys on the Pike property during the period June 11 to 29, 1982.

The Pike property is located in the northern Yukon within the Wernecke Mountains. Access to the area is by air only. Fixed wing aircraft can land in the Bear River Valley on a graded Esker. Helicopters are required to get from Bear River to the property which is adjacent to Slats Creek.

The Pike property is largely a complicated Breccia body within the Quartet group of rocks that belong to the mid Proterozoic period.

The purpose of the geophysical surveys was:

a). To find a structure or structures that could host the source of the high grade gold float found on the lower part of the property.

b). Locate zones of disseminated sulfide.

The Pike grid totalled approx. 8.5 Km and received complete coverage with Induced Polarization, Resistivity, Magnetics and V.L.F. methods. The property is on a north west facing slope which averages 37 degrees or 75 percent, therefore, any work is difficult and frustrating to perform.

PERSONNEL

Scott Boerner -	2nd year student -	helper
David Flengte -	3rd year student -	helper
Darrew Frew -	Junior Geologist -	crew Chief
Grant Hendrickson -	Staff Geophysicist -	Supervisor

EQUIPMENT

1 - Scintrex I.P.R. - 10 Receiver

1 - Scintrex 250 watt Transmitter

1 - Phoenix V.L.F. - 2 Receiver

2 - Geometrics G-856 portable Proton Magnetometers.

SURVEY PROCEDURE

Grid preparation was the major difficulty encountered during this survey and a lot of time was lost over this problem. This problem is to be expected when working in this type of terrain. Initially we tried to "secant chain" the slope for accurate 20 meter horizontal intervals however the nature of the terrain made this very difficult and time consuming. We adopted the policy of chaining 25 meters to establish 20 meter horizontal intervals between stations. Note that for a 37 degree slope, the slope distance for 20 meter horizontal is 25.04m. The effects of this chaining method on the resistivity values are minimal.

The Schlumberger array was chosen for the Induced Polarization and Resistivity work. This array provides simple anomaly shape, good lateral resolution, good signal to noise ratio and is least affected by topography. Since the target is probably a vein system the array was kept small. Current electrode separation "AB" was 100 meters while potential electrode separation "MN" was 20 meters. The bulk of the signal is therefore representative of the 15 to 20 meter depth. The receiving line was offset a few meters from the potential line to ensure against electromagnetic coupling problems. Extra effort was also made to ensure that the potential electrodes made good contact with the ground. Three slices of the decay curve were measured to monitor the decay curve shape. This data indicated we had a normal decay curve. Readings were taken every 20 meters along the lines.

The grid lines were surveyed using the Hawaii V.L.F. station (LAULUALEI, 23.4 KHZ) to check for north south trending structures. In addition the baseline was surveyed with the Cutler Maine V.L.F. station (17.8 KHZ) to check for east west trending structures. Measurements of the "TILT ANGLE" were taken every 20 metres. The V.L.F. tilt angle data was filtered to transform zero-crossings (CROSSOVER) into peaks thus making the data contourable. This filter operation also is a low pass smoothing operator to reduce noise and topographic interference. Detail of this filter are discribed in a paper by D.C. Fraser in "Geophysics, Vol 34, December 1969. Note that the normal "CROSSOVER" technique will not work in mountainous terrain since often on a steep slope the tilt angle profile does not cross the zero tilt angle axis. On PIKE the tilt angle measurements were always

strongly west. The filter is effective in that it looks for crossovers along the average background. Long wave length anomalies are attenuated i.e. the slope.

The magnetic data was recorded every 10 meters and corrected for diurnal variation using the base station magnetmeter data.

DATA PRESENTATION

The V.L.F., Magnetic, Induced Polarization and Resistivity data is presented in contoured plans at a scale of 1 to 2000.

DISCUSSION OF THE DATA

A persual of the data indicates fairly consistent results with the various geophysical methods. There is good evidence for faulting particularly the intersection of N.E., N.W. and N. trending faults near the baseline at lines 6N and 5N. These fault zones appear to be quite wide and offsets along the faults are large. The fracturing produced by these faults may have provided the porosity and permeability necessary for sulfide mineralized veins to occur. It is important to note that this area is immediately upslope of the mineralized float. A specimen of this float was cut up with a rock saw to study the minerals present. Trace amounts of disseminated pyrite and perhaps chalcopyrite were observed in an intensely fractured quartz vein. Other minerals present were brannerite, lepidolite, specular hematite and native gold. Some carbonate and limonite, was developed in vugs within the vein material.

The V.L.F. data from the base line suggests E.W. trending faults at 3+80N and 6+20N. The lack of a V.L.F. crossover on the baseline at 5+20N is probably due to the proximity of the main N.W. trending V.L.F. anomaly. Crossovers in the V.L.F. data appear to occur on some fault zones and in areas of high resistivity contrast. Silification and carbonate flooding of veins and wall rock would create high resistivity zones. The apparent strike of a weak N.S. trending V.L.F. anomaly would cross line 5N. at approx. 2+40W which is just above the mineralized float. A small sulfide zone coincides with this anomaly.

The geology of the area below the baseline is unknown due to talus cover however geology can be inferred from the resistivity data. It is probable that the unaltered Quartet group comprises the low resistivity (700 ohm-m) and chargeability (8 millisecond) zone. If so, there is more of the unaltered quartet group than shown on the geological map. Perhaps the unit called the Homoclast breccia blends into the unaltered Quartet rocks. The effect of permafrost is to increase resistivity higher than normal for these type of rocks.

The chargeability anomaly on lines 4N and 5N and at 5+25N at the base line is a very interesting target. The fact that the chargeability stays high west of the baseline on line 5N. implies a mineralized fault or contact zone. This sulfide anomaly is flanked on the east side by a strong V.L.F. response trending N.W.

Trenching is recommended to test the hypothesis of mineralized fault intersections.

CONCLUSION

The geophysical surveys on Pike have classified the rocks in terms of:

a). magnetic susceptibility

b). sulfide content (chargeability)

c). resistivity

Clearly these relate to the geology thus the geophysical data should be used to enhance the geological map of the area.

The search for the source of the mineralized float can be narrowed down to a specific area. Trench locations are proposed below.

Trenching crews should have scintillometers to exploit the brannerite association with gold.

If successful trench results are obtained there are other structures particularly in the N.E. corner of the grid that may warrent further examination.

RECOMMENDED TRENCH LOCATIONS

	CENTERED AT		ORIENTATION
a).	4+80N	0+30E	grid E.W.
b).	4+80N	0+55E	grid E.W.
c).	4+10N	0+75E	grid E.W.
d).	5+00N	1+00W	grid N.S.
e).	4+90N	2+40W	grid E.W.

G. Hendrickson

GH/sd

ARCHER, CATHRO
& ASSOCIATES LIMITED
CONSULTING GEOLOGICAL ENGINEERS

VANCOUVER, B.C. (604) 688-2568

BOX 4127, WHITEHORSE, Y.T. Y1A 3S9 (403) 667-4415

1016 - 510 WEST HASTINGS STREET
VANCOUVER, B.C. V6B 1L8

AFFIDAVIT

I, Joan Mariacher, of Vancouver, B.C. make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Pike 1-7, 15-51 & 55-108 mineral claims on Claim Sheet 106D/16 & E/1 is accurate.

Joan Mariacher

Sworn before me at Vancouver, B.C.

this 2nd day of

February, 1983

Notary, Yukon Territory

091437

Statement of Expenditures
Geochemistry, Geophysics and Geological Mapping
Pike 1-7, 15-51 and 55-108 Claims
January 10, 1983

Geophysics

Contract work by Kidd Creek Mines Ltd.		$14,941.63
Expenses		
Helicopter - 50.7 hours Bell 206B contracted from Century Helicopters Ltd. at $400/hr	$20,280.00	
Helicopter fuel - 50.7 hrs at 25 gal/hr at $5/gal delivered to site	6,337.50	26,617.50
		$41,559.13

Kidd Creek Mines Ltd.
P.O. Box 175, Suite 5000
Commerce Court
Toronto, Ontario M5L 1E7
(416) 869-1200

IN ACCOUNT WITH:

Archer, Cathro & Associates Ltd.,
Post Office Box 4127,
WHITEHORSE,
Yukon Y1A 3S9.

INVOICE NO: X-07-882

DATE: July 29, 1982.

To charge you for geophysical work carried out at Wernecke Project:-

	CDN.
20 Days at $550.00 CDN. per Day	11,000.00
AMOUNT DUE KIDD CREEK MINES LTD:	$11,000.00 CDN. FUNDS

Final invoice will be forwarded after the completion of the report.

Ok ✓

✓ hwg 7/0v #9446

kidd

Kidd Creek Mines Ltd.
P.O. Box 870
700 Fourth Avenue S.W.
500 McFarlane Tower
Calgary, Alberta T2P 2J6
(403) 263-3520

Exploration Division

IN ACCOUNT WITH:

Archer, Cathro & Associates Ltd.
1016, 510 West Hastings Street
Vancouver, British Columbia
V6B 1L8

INVOICE NO: X-11-911

DATE: November 30, 1982

WSV

RE: Geophysical Work carried out for the Wernecke Project

To charge you for the following expenditures:

Report preparation costs	-	$2,500.00
Mob-Demob costs		1,441.63
		$3,941.63

C. Dendl
#109

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003332

CHARTERER
ARCHER/CATHRO (WJV)

ADDRESS
BOX 4127, WHITEHORSE, YUKON

DATE JUNE 5/87
A/C G IWW
TYPE 206B
BASE
CHEQUE | CASH | ~~CHARGE~~
P.O.

REMARKS	PASS	CARGO	TIME
GET-OUTS DOUG E. & DAVE HO			2.3
" " HEATHER, STEPHEN, STEVE			.
STAKE MISC. GEAR IN CAMP			.
" 2 DRUMS JP4 FROM BEAR			.
RIVER STRIP			.
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		2.3

FUEL COST $ _____.____

FLYING 2.3 HRS. AT $400.00 = $920.00

TOTAL $ 920.00

AUTHORIZED BY
PRINT D. HEBERLEIN SIGNATURE D. Heberlein

CONTRACT HRS.
DAY _____.____
MONTH _____.____
YEAR _____.____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE Tom Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003333

CHARTERER
ARCHER/CATHRO (WJV)

ADDRESS
Box 4127 WHITEHORSE YUKON

DATE JUNE 4/87
A/C C-IWJV
TYPE BELL 206B
BASE
CHEQUE | CASH | ~~CHARGE~~
P.O.

REMARKS	PASS	CARGO	TIME
CREW SET-OUTS 2 PAX KIWI LK.			1.8
" 3 " PIKE CLAIMS			.
SLING 2 DRUMS JP4 FROM B.R. STRIP			.
			.
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS — TOTALS			1.8

FUEL COST $.

FLYING 1.8 HRS. AT $400.00 = $ 720.00

TOTAL $ 720.00

AUTHORIZED BY
PRINT D. HEBERLEIN SIGNATURE D. Heberlein

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☒ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.

PILOTS NAME TOM LAYLOR
SIGNATURE T Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003334

CHARTERER
ARCHER / CATHRO

ADDRESS
Box 4127 WHITEHORSE, YUKON

DATE JUNE 7/92
A/C GIWU
TYPE BELL 206B
BASE
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
SIGHTSEERS DOUG E. & DALE H. DEMCK			1.9
" " HEATHER, STEPHAN, STEVIE			.
PIKE.			.
2 DRUMS JP4 RRS.			.
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		1.9

FUEL COST $ _____.

FLYING 1.9 HRS. AT $400.00 = $760.00

TOTAL $ 760.00

AUTHORIZED BY
PRINT D. HOEGERLEIN SIGNATURE

CONTRACT HRS.
DAY _____.
MONTH _____.
YEAR _____.

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE T. Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003338

CHARTERER: ARCHER/CATHRO (WSV)

ADDRESS: Box 4127, WHITEHORSE, YUKON

DATE: JUNE 11/88

A/C: N 1WU

TYPE: BELL 206B

BASE:

CHEQUE | CASH | CHARG

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT CHANGE	4		0.4
PUKE SET-OUTS/PICK-UPS	8		2.2
+ ## 2 DIESEL FROM B.R. STRIP			.
+ 2 JP-4			.
REGIONAL + SLICK & DRUMS TO KIWI LAKE	3		1.0
4 TRIPS TO BRS FOR 3 DIESEL,			2.9
PUMP, PLYWOOD, MUD & CORE BOXES			6.5
			.
			.
TOTALS			6.5

TERMS: NET 10 DAYS

FUEL COST $.

FLYING 6.5 HRS. AT $400.00 = $2600.00

TOTAL $ 2600.00

AUTHORIZED BY PRINT D KETTERLEIN SIGNATURE D Ketterlein

CONTRACT HRS.

DAY .

MONTH .

YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE T. Taylor

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 173, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003339

CHARTERER: ARCHER/CATHRO (WJL)

ADDRESS: Box 4127 / WHITEHORSE, YUKON

DATE: JUNE 12/E

A/C: 1WU

TYPE: R-44 2 B

BASE:

CHEQUE | CASH | CHARG

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT CHANGE	4		0.4
			.
PIKE SET-OUTS / PICK-UPS + 2 JPU	6		1.9
			2.3
			.
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		2.3

FUEL COST $ _____.____

FLYING 2.3 HRS. AT $400.00 = $920.00

TOTAL $ 920.00

AUTHORIZED BY PRINT DIEBERLEIN SIGNATURE D. Dieberlein

CONTRACT HRS.

DAY _____.____

MONTH _____.____

YEAR _____.____

FUEL SUPPLIED BY: CUST. ☒ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003340

CHARTERER: ARCHER | CATHRO (WSTV)

ADDRESS: Box 4127, WHITEHORSE, Yukon

DATE: JUNE 13/82

A/C: GIWO

TYPE: BELL 206B

BASE:

CHEQUE | CASH | CHARGE

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT CHANGE + SLING -	4	500 lb	0.8
PINE & +2 JP4	6		1.6
TOLLY CLAIMS + BEAR RIVER STRIP	3		0.9
			3.3
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		3.3

FUEL COST $ _____.

FLYING 3.3 HRS. AT $400.00 = $1320.00

TOTAL $ 1320.00

AUTHORIZED BY

PRINT D. HERSHEIN SIGNATURE D. Hershein

CONTRACT HRS.

DAY _____.

MONTH _____.

YEAR _____.

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM LATHER

SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003341

CHARTERER: ARCHER / CATHRO (WSW)

ADDRESS: BOX 4127 / WHITEHORSE, YUKON

DATE: JUNE 14/E

A/C: C-GWUO

TYPE: BELL 206B

BASE:

CHEQUE | CASH | ~~CHARGE~~

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT CHANGE + SLING / TRIPS			0.8
MISC LAKE DRILL PARTS			.
PIKE	4		0.5
1 TRIP MISC LAKE REQUIRES			0.5
			.
GEAR → MAYO + GEAR RETURN	4		2.9
REQUIRES			4.7
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		4.7

FUEL COST $ _____.____

FLYING 4.7 HRS. AT $400.00 = $ 1880.00

TOTAL $ 1880.00

AUTHORIZED BY

PRINT D WEBERIETIN SIGNATURE D Weberietin

CONTRACT HRS.

DAY _____.____

MONTH _____.____

YEAR _____.____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE T Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003343

CHARTERER
ARCHER/CATARC (WTW)

ADDRESS
BOX 412 7, WHITEHORSE, YUKON

DATE JUNE 16/82
A/C 2WJ
TYPE BELL 206
BASE
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
DRILL SHOT + SLUNG.			0.6
PICK 5 PAX + 4 JP4	5		1.7
			2.5

TERMS: NET 10 DAYS — TOTALS — 2.5

FUEL COST $.

FLYING 2.5 HRS. AT $400.00 = $1000.00 — TOTAL $ 1000.00

AUTHORIZED BY
PRINT D. HESSELEIN SIGNATURE D. Hesselein

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.

PILOTS NAME TOM HAIGH
SIGNATURE T Haigh

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003344

CHARTERER: ARCHER / CATHRO (WTV)

ADDRESS: Box 4127 WHITEHORSE, Yukon

DATE: June 17/82

A/C: C-GWSJ

TYPE: B.L.2.B

BASE:

CHEQUE | CASH | ~~CHARGE~~

P.O.:

REMARKS	PASS	CARGO	TIME
DRILL SHIFT + SLING			0.4
			.
PIKE + 2 JPY + 2 DIES	6		2.0
			.
			2.4
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		2.4

FUEL COST $ _____ .

FLYING 2.4 HRS. AT $400.00 = $960.00

TOTAL $ 960.00

AUTHORIZED BY

PRINT D. HEBERLEIN SIGNATURE D. Heberlein

CONTRACT HRS.

DAY _____ .

MONTH _____ .

YEAR _____ .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME: TOM TAYLOR

SIGNATURE: T Taylor

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No 003345

CHARTERER: ARCHER / CATHRO (WJV)

ADDRESS: BOX 4127 WHITEHORSE YUKON

DATE JUNE 1E/E2

A/C C-IWJV

TYPE BELL 206B

BASE

CHEQUE | CASH | CHARGE

P.O.

REMARKS	PASS	CARGO	TIME
DRILL SIGHT + DRILL MOVE			3.6
PIKE SCENIC ROUTE DUE TO POOR WEATHER.	5		1.4
3 TRIPS BIRCH RIVER STRIP SLING. CORE BOXES, 1 TP4, 2 DRS. + SLING QUESTIONS TO STRIP	1		1.5
			6.5

TERMS: NET 10 DAYS

TOTALS 6.5

FUEL COST $.

FLYING 6.5 HRS. AT $ 400.00 = $2600.00

TOTAL $2600.00

AUTHORIZED BY

PRINT D. MEBERLETIN SIGNATURE D. Meberletin

CONTRACT HRS.

DAY

MONTH

YEAR

FUEL SUPPLIED BY: CUST. ☒ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

PILOTS NAME TOM HAYLMORE

SIGNATURE T. Haylmore

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003347

CHARTERER
ARCHER / CATHRO (WSV)

ADDRESS
BOX 4127 / WHITEHORSE, YUKON

DATE JUNE 12/92
A/C C-GWSV
TYPE BELL 206 B
BASE
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
SHORT CHANGE			0.3
PIKE + 2 JP4 / 2 DIES	6		2.2
1 PAX TO D.R. STRIP + 2 JP4 TO CAMP	1		0.7
			3.2
TERMS: NET 10 DAYS	TOTALS		3.2

FUEL COST $ _____

FLYING 3.2 HRS. AT $400.00 = $1280.00

TOTAL $ 1280.00

AUTHORIZED BY
PRINT DAVE HEBERLEIN SIGNATURE D. Heberlein

CONTRACT HRS.
DAY _____
MONTH _____
YEAR _____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM CATHRO
SIGNATURE T. Cathro

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003348

CHARTERER: ARCHER / CATHRO (WTV)

ADDRESS: BOX 4127 WHITEHORSE YUKON

DATE: JUNE 21/82

A/C: GWJ

TYPE: BELL 206B

BASE:

CHEQUE | CASH | CHARGE

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT + DRILL MOVE			5.7
			.
DIXIE	4		0.6
			6.3
			.
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		6.3
FUEL COST $.			
FLYING 6.3 HRS. AT $400.00 = $2520.00	TOTAL		$ 2520.00

AUTHORIZED BY

PRINT DAVE HEBERLEIN SIGNATURE D Heberlein

CONTRACT HRS.

DAY .

MONTH .

YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003349

CHARTERER: ARCHER / EATHER (WJJ)

ADDRESS: BOX 4127 WHITEHORSE YUKON

DATE JUNE 22/82

A/C GIWJ

TYPE REL 206 B

BASE

CHEQUE | CASH | ~~CHARGE~~

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT			0.3
SLING FUEL / MISC. FOR DRILL			0.4
			.
PICK + 4 TRIPS TO	6		3.0
B.R. STRIP (4) TRIPS - TAKE-OUT			3.7
COMPLETE 6 PAX GEAR + 2			.
PASSNGR EMPTIES PICK-UP			.
(2 LOADS BAGGAGE)			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		3.7
FUEL COST $.			
FLYING 3.7 HRS. AT $400.00 = $1480.00	TOTAL	$	1480.00

AUTHORIZED BY PRINT DAVE HEBERLEIN SIGNATURE

CONTRACT HRS.

DAY .

MONTH .

YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003350

CHARTERER
ARCHER / CATHRO (WJW)

ADDRESS
Box 4127 WHITEHORSE YUKON

DATE JUNE 23/82
A/C (2) (WJW)
TYPE B.H. 206 B
BASE
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
SHIFT + SLING DIES + (1)			0.6
PROPANE TO DRILL			.
			.
PIKE + 18 BAGS MUD FROM			2.0
B.R. STRIP.			2.6
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		2.6

FUEL COST $ _____.

FLYING 2.6 HRS. AT $ 400.00 = $ 1040.00

TOTAL $ 1040.00

AUTHORIZED BY
PRINT DAVE NIEBERLEIN SIGNATURE D Nieberlein

CONTRACT HRS.

DAY _____.

MONTH _____.

YEAR _____.

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE T Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO. 1

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003301

CHARTERER: ARCHER / CATHRO (WTV)

ADDRESS:

DATE: June 04/85

A/C: GLOU

TYPE: BELL 206B

BASE:

CHEQUE | CASH | CHARG

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT + SLING DIES TO PUMP.			0.4
PIKE + 2 JP 4 + 2 DIES +	7		2.0
DROP OFF JOHN STEIG AT			2.4
R.R. STRIP			
(G.S.C.)			
PICK-UP BELL + ASSISTANT			2.6
MAYO — THIRD PROPERTY —			5.0
IGOR			
TERMS: NET 10 DAYS — TOTALS			5.0

FUEL COST $ _____

FLYING 5.0 HRS. AT $400.00 = $2000.00

TOTAL $ 2000.00

AUTHORIZED BY

PRINT DAVE HEBERLEIN SIGNATURE D Heberlein

CONTRACT HRS.

DAY _____

MONTH _____

YEAR _____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME Tom Taylor

SIGNATURE T Taylor

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003302

CHARTERER
ARCHER/CATHRO (WJV)

ADDRESS

DATE June 25/6
A/C C-IWJV
TYPE Bell 206B
BASE
CHEQUE | CASH | CHARG
P.O.

REMARKS	PASS	CARGO	TIME
DRILL MOVE			2.1
			.
			.
PIKE + 2 JP4 + 2 DIES	5		1.6
			3.7
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS — TOTALS			3.7

FUEL COST $ _____.____

FLYING 3.7 HRS. AT $400.00 = $1480.00

TOTAL $1480.00

AUTHORIZED BY
PRINT DAVE HEBERLEIN SIGNATURE D Heberlein

CONTRACT HRS.

DAY _____.____

MONTH _____.____

YEAR _____.____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE T Taylor

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604)-651-7569 No 003303

CHARTERER: ARCHER/CATHRO (WSV)

ADDRESS:

DATE: JUNE 96

A/C: C-GLNW

TYPE: BELL 206B

BASE:

CHEQUE | CASH | CHARG

P.O.

REMARKS	PASS	CARGO	TIME
DOWN DAY DUE TO MAINTENANCE			0.
COMPRESSOR CHANGE			.
			.
			.
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		0.

FUEL COST $ _____.____

FLYING _____ HRS. AT $ _____.____ = $ _____.____

TOTAL $.

AUTHORIZED BY PRINT DAVE HEBERLEIN SIGNATURE D. Heberlein

CONTRACT HRS.

DAY _____.____

MONTH _____.____

YEAR _____.____

FUEL SUPPLIED BY: CUST. ☐ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TIM TAYLOR

SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003304

CHARTERER: ARCHER / CATHRO (WTW)

ADDRESS:

DATE: July 2 /a

A/C: C-FWJ

TYPE: R44 II B

BASE:

CHEQUE | CASH | CHARG

P.O.

REMARKS	PASS	CARGO	TIME
SHUTT + SLING FUEL + MISC.			0.8
PICK	6		1.0
@ TRIP B.R. STRIP TAKE-OUT			.
8 DRUMS / 1 PROPANE PICK-UP			.
AT ARCHER			0.7
AL + DAVE H. (DETAIL)			0.4
			2.9
			.
TOTALS			2.9

TERMS: NET 10 DAYS

FUEL COST $.

FLYING 2.9 HRS. AT $ 400.00 = $ 1160.00

TOTAL $ 1160.00

AUTHORIZED BY

PRINT DAVE HEDRICK SIGNATURE

CONTRACT HRS.

DAY .

MONTH .

YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

PILOTS NAME TOM LAYLOR

SIGNATURE

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003305

CHARTERER: ARCHER / CATHRO (WTJV)

ADDRESS:

DATE: JUNE 24/[illegible]

A/C: [illegible]

TYPE: R.L. 206B3

BASE:

CHEQUE | CASH | CHARG

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT + SLING CORE + MISC.			0.8
			.
PIKE + 4 JP-4	6		2.3
SLING 7 DRUMS / 2 PROPANE TO			.
BR. STRIP + PICK-UP AL / HEATHER			1.0
FROM PIKE			4.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		4.1
FUEL COST $.			
FLYING 4.1 HRS. AT $400.00 = $1640.00	TOTAL	$	1640.00

AUTHORIZED BY PRINT: DAVE HERBERT SIGNATURE:

CONTRACT HRS.

DAY .

MONTH .

YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME: TOM TAYLOR

SIGNATURE:

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No 003306

CHARTERER: ARCHER/CATHRO (WTV)

ADDRESS:

DATE: June 2/96

A/C: C-GWJO

TYPE:

BASE:

CHEQUE | CASH | CHAR

P.O.

REMARKS	PASS	CARGO	TIME
DRILL MOVE			3.4
PIKE + 2 TP4	2		0.9
			.
BR. STRIP 3 PAX OUT (GEO PAX)			1.1
FOOD IN + TRIPS TO TK			.
			.
(SERO) PICK-UP BR. STRIP			0.9
2 PAX + IGOR → BLND			6.3
RETURN			.
			.
TERMS: NET 10 DAYS — TOTALS			6.3

FUEL COST $.

FLYING 6.3 HRS. AT $400.00 = $2520.00 — TOTAL $ 2520.00

AUTHORIZED BY

PRINT DAVE KERRIGAN SIGNATURE

CONTRACT HRS.

DAY .

MONTH .

YEAR .

FUEL SUPPLIED BY: CUST. ☒ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

PILOTS NAME TERRY ARCHER

SIGNATURE

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 NO 003307

CHARTERER
ARCHER/CATHRO (WJV)
ADDRESS

DATE June 30/87
A/C C-GLWO
TYPE 350B2
BASE
CHEQUE | CASH | CHAR
P.O.

REMARKS	PASS	CARGO	TIME
SHIFT CHANGE.			0.3
PICK + 2 JP4 + 2 DIES.	3		0.7
CAMP - SLING 9 DRUMS TO			.
B.R STRIP RETURN 2 JP4			0.1
DEMOB AL.A. + COLIN	2		0.2
			.
(SERV) IGR → M.S.T.	2		3.8
M.S.T. → SLATS CK. (KNUCKLES) →			5.7
SLATS MTN. → IGR → PTERD +			.
RECCE PTERD & CORBET.			.
TERMS: NET 10 DAYS	TOTALS		5.7
FUEL COST $.			
FLYING 5.7 HRS. AT $ 400.00 = $ 2280.00	TOTAL	$	2280.00

AUTHORIZED BY
PRINT DAVE KESSLER SIGNATURE

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No 003308

CHARTERER: ARCHER / CATHRO (WJV)
ADDRESS:

DATE: JULY 01/86
A/C: C-GWJC
TYPE: BELL 206B
BASE:
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
DRILL SHAFT + CORE BOXES.			0.4
			~~0.6~~
PIKE	2		0.6
			.
FLAT CREEK S. AL Fe, DAVIS Fe, COLM.	3		1.0
			2.0
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		2.0

FUEL COST $ _____ .
FLYING 2.0 HRS. AT $400.00 = $800.00

TOTAL $ 800.00

AUTHORIZED BY
PRINT DAVE HERZTEIN SIGNATURE [signature]

CONTRACT HRS.
DAY _____ .
MONTH _____ .
YEAR _____ .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME [illegible]
SIGNATURE [signature]

Arctic Star Printing Inc.

FLIGHT TICKET NO. 1

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003311

CHARTERER
ARCHER / CATHRO

ADDRESS

DATE July 04/81
A/C GLWO
TYPE BELL 206B
BASE
CHEQUE | CASH | ~~CHARG~~
P.O.

REMARKS	PASS	CARGO	TIME
SHIFT.			0.3
PIKE	3		0.6
			.
AL ARCHER, HELMUT, COLIN	3		4.3
IGOR → MAYO → MINTO → LILLY PAD			.
→ MINTO (PICK-UP PUMP MOTOR +			.
GROCERIES FOR IGOR) MAYO →			.
IGOR			.
(G. S. C.) IGOR → PIGEON → MAYO →	2		2.3
IGOR — 2 PAX + C-I-A (* CHARGE ① DROP FUEL IGOR)			7.5
TERMS: NET 10 DAYS	TOTALS		7.5
FUEL COST $.	TOTAL	$ 3000.00	
FLYING 7.5 HRS. AT $400.00 = $3000.00			

AUTHORIZED BY
PRINT DAVE HETHERSETH SIGNATURE D. Hetherseth

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003312

CHARTERER: ARCHER / CATHRO (WJV)

ADDRESS:

DATE: Jul 4/05/82

A/C: C-GDJJ

TYPE: Bell 206B

BASE:

CHEQUE | CASH | CHARGE

P.O.

REMARKS	PASS	CARGO	TIME
SHIFT + PICK-UP CORE +			1.4
B.R. STRIP FOR CORE BOXES +			0.5
#JPY (2 TRIPS TO B.R. STRIP)			.
PIKE + 2 JPY	3		0.8
			.
FLAT CLAIMS (ICE -> FLAT ->	2		0.8
HIGH CR)			.
CLAIMS HIGH 2K.			2.2
			4.7
			.
TERMS: NET 10 DAYS	TOTALS		4.7

FUEL COST $ ____.____

FLYING 4.7 HRS. AT $400.00 = $1880.00

TOTAL $1880.00

AUTHORIZED BY

PRINT: DISTRIBUTION

SIGNATURE:

CONTRACT HRS.

DAY ____.____

MONTH ____.____

YEAR ____.____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

____ GALS. FROM ____ AT ____ PER GAL.

____ GALS. FROM ____ AT ____ PER GAL.

____ GALS. FROM ____ AT ____ PER GAL.

____ GALS. FROM ____ AT ____ PER GAL.

PILOTS NAME: TOM TAYLOR

SIGNATURE: J. Taylor

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 003316

CHARTERER
ARCHER / CATHRO (WJV)
ADDRESS

DATE JULY 12/84
A/C GIUU
TYPE BELL 206B
BASE
CHEQUE | CASH | ~~CHARG~~
P.O.

REMARKS	PASS	CARGO	TIME
PIKE + 1 TREE TO B.R.S.	4		0.9
PICK-UP RIGLE / [redacted]			.
			.
SLING TIMBERS.			0.2
			1.1
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		1.1
FUEL COST $.			
FLYING 1.1 HRS. AT $400.00 = $440.00	TOTAL	$ 440.00	

AUTHORIZED BY
PRINT D. MERRILEES SIGNATURE D Merrilees

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE T Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO. 1

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 Nº 002317

CHARTERER
ARCHER/CATHRO (WTU)
ADDRESS

DATE JULY 13/82
A/C C-GWWJ
TYPE B=LL 2.63
BASE
CHEQUE | CASH | ~~CHARGE~~
P.O.

REMARKS	PASS	CARGO	TIME
PICK + 1 TRIP TO BASTRIP	4		0.8
WAIT FOR D. EATON			.
			.
SLING TIMBERS.			0.2
			1.0
			.
			.
			.
			.
			.

TERMS: NET 10 DAYS — TOTALS 1.0

FUEL COST $ ____.____

FLYING 1.0 HRS. AT $400.00 = $ 400.00 — TOTAL $ 400.00

AUTHORIZED BY
PRINT D. WEBERLEIN SIGNATURE D. Weberlein

CONTRACT HRS.
DAY ____.____
MONTH ____.____
YEAR ____.____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

____ GALS. FROM ____ AT ____ PER GAL.
____ GALS. FROM ____ AT ____ PER GAL.
____ GALS. FROM ____ AT ____ PER GAL.
____ GALS. FROM ____ AT ____ PER GAL.

PILOTS NAME T C M TAYLOR
SIGNATURE T. Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No. 003318

CHARTERER: ARCHER / CATHRO (WJV)

ADDRESS:

DATE: JULY 14/82

A/C: G-LWJ

TYPE: BELL 206B

BASE:

CHEQUE | CASH | CHARGE

P.O.

REMARKS	PASS	CARGO	TIME
PIKE	5		1.0
SLING 9 BARRELS TO MACCARTY LAKE (BACKHAUL ON SINGLE OTTER SUB)			0.5
ICOR → ATLIN (USE TEL. RADIO SIGNALS OUT FOR PAST 4 DAYS)	1		1.2
			2.7

TERMS: NET 10 DAYS

TOTALS: 2.7

FUEL COST $.

FLYING 2.7 HRS. AT $400.00 = $1080.00

TOTAL $ 1080.00

AUTHORIZED BY

PRINT P. WESSELIUS

SIGNATURE

CONTRACT HRS.

DAY .

MONTH .

YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

GALS. FROM AT PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin, B.C. V0W 1A0 Phone (604) 651-7569 Nº 003319

CHARTERER: ARCHER / CATHRO (WJV)

ADDRESS:

DATE: JULY 15/82

A/C: GLWO

TYPE: BELL 206B

BASE:

CHEQUE | CASH | ~~CHARGE~~

P.O.

REMARKS	PASS	CARGO	TIME
MAO - 16OR	1		1.0
PIKE	2		0.6
			1.6

TERMS: NET 10 DAYS

TOTALS 1.6

FUEL COST $ _____

FLYING 1.6 HRS. AT $400.00 = $640.00

TOTAL $ 640.00

AUTHORIZED BY

PRINT J. MERCIER SIGNATURE [signature]

CONTRACT HRS.

DAY _____

MONTH _____

YEAR _____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR

SIGNATURE [signature]

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No 003320

CHARTERER: ARCHER / CATHRO (WJV)

ADDRESS:

DATE: July 16/82

A/C: GJWV

TYPE: Bell 206B

BASE:

CHEQUE | CASH | CHARG

P.O.

REMARKS	PASS	CARGO	TIME
PIKE	5		1.0
			.
IGOR - 2 PAX RETURN			2.0
(MEDIVAC STEVE TO PR-10 FOR STITCHES ON WRIST			3.0
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		3.0
FUEL COST $ ____.	TOTAL	$ 1200	.00
FLYING 3.0 HRS. AT $400.00 = $1200.00			

AUTHORIZED BY

PRINT: D. NEBERGALL SIGNATURE: [signature]

CONTRACT HRS.

DAY ____.

MONTH ____.

YEAR ____.

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

____ GALS. FROM ____ AT ____ PER GAL.

____ GALS. FROM ____ AT ____ PER GAL.

____ GALS. FROM ____ AT ____ PER GAL.

____ GALS. FROM ____ AT ____ PER GAL.

PILOTS NAME: TOM TAYLOR

SIGNATURE: [signature]

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569

No. 4455

CHARTERER
ARCHER / CATHRO (WIV)

ADDRESS

DATE JULY 25/83
A/C C-IGOW
TYPE B.H. 206B
BASE
CHEQUE | CASH | ~~CHARGE~~
P.O.

REMARKS	PASS	CARGO	TIME
FLAT	2		1.3
PICK	2		0.6
IGOR - MAYO RETURN 2+2			2.0
2 PAX + GEAR + SUPPLIES - MAYO			.
2 PAX + GEAR + GROCERIES - IN-			.
BEAR RIVER STRIP - IGOR 25P-4			0.2
G.S.C. (DICK BELL + 1 PAX) + GEAR			1.0
IGOR - DELORIES CK. - BEAR			5.1
RIVER STRIP - IGOR (FERRY FROM IGOR)			.
			.
TERMS: NET 10 DAYS	TOTALS		5.1

FUEL COST $ _____ .

FLYING 5.1 HRS. AT $400.00 = $2040.00

TOTAL $ 2040.00

AUTHORIZED BY
PRINT EATON SIGNATURE

CONTRACT HRS.
DAY _____ .
MONTH _____ .
YEAR _____ .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No. 4456

CHARTERER
ARCHER / CATHRO

ADDRESS

DATE JULY 26/82
A/C CIWO
TYPE BELL 206B
BASE
CHEQUE | CASH | ~~CHARGE~~
P.O.

REMARKS	PASS	CARGO	TIME
FLRT	2		1.3
PIKE + 2 JP4	4		1.4
			.6
IGOR - BR. STRIP - RETURN + 2 JP4			3.3
TERMS: NET 10 DAYS	TOTALS		3.3
FUEL COST $.	TOTAL		$1320.00
FLYING 3.3 HRS. AT $400.00 = $1320.00			

AUTHORIZED BY
PRINT EATON SIGNATURE

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.

PILOTS NAME TOM PIKE
SIGNATURE

FLIGHT TICKET NO.

Arctic Star Printing Inc.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No 4511

CHARTERER
ARCHER | CATHRO (WJV)
ADDRESS

DATE AUG 11/87
A/C CGWJV
TYPE BELL 206 B
BASE
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
DEMO	2		0.5
PICK UP CORE → BRS.	4		1.2
+ 2 SP4			1.7
TERMS: NET 10 DAYS	TOTALS		1.7

FUEL COST $ _____
FLYING 1.7 HRS. AT $400.00 = $680.00

TOTAL $ 680.00

AUTHORIZED BY
PRINT NIEBERLEIN SIGNATURE

CONTRACT HRS.
DAY _____
MONTH _____
YEAR _____

FUEL SUPPLIED BY: CUST. ☐ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No. 4502

CHARTERER
ARCHER / CATHRO (WTV)
ADDRESS

DATE Aug 12/82
A/C GWO
TYPE B.H. 206
BASE
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
CLOW	2		0.8
PIKE 14 LAKE → BRS	3		1.3
+ 2 JP4			2.1
TERMS: NET 10 DAYS	TOTALS		2.1
FUEL COST $.	TOTAL	$ 840.00	
FLYING 2.1 HRS. AT $ 400.00 = $ 840.00			

AUTHORIZED BY PRINT D. WEBERLEIN SIGNATURE D. Weberlein

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE Tom Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO. 4

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No. 4513

CHARTERER
ARCHER / CATHRO (WTV

ADDRESS

DATE AUG 13/82
A/C GIWV
TYPE B-U 206B
BASE
CHEQUE | CASH | CHARGE
P.O.

REMARKS	PASS	CARGO	TIME
DEMON	2		0.7
PIKE + SLING - 12 LOADS - 7 BIRDS.	2		1.2
			.
1 LOAD - B.R.S. - MAYO	2		1.5
(DROP BIGEAT & DIAMOND IN MAYO)			3.4
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		3.4
FUEL COST $.	TOTAL	$ 1360.00	
FLYING 3.4 HRS. AT $ 400.00 = $ 1360.00			

AUTHORIZED BY
PRINT DIEBERGEN SIGNATURE

CONTRACT HRS.
DAY .
MONTH .
YEAR .

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.
GALS. FROM AT PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 179, Atlin B.C. V0W 1A0 Phone (604) 651-7569 No 4516

CHARTERER
ARCHER / CATHRO (WITV)
ADDRESS

DATE Aug 16/82
A/C C-IWJ
TYPE R.ELL 206B
BASE
CHEQUE | CASH | ~~CHARGE~~
P.O.

REMARKS	PASS	CARGO	TIME
PIKE + RECCE No.	4		1.0
			.
			.
			.
			.
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS — TOTALS			1.0

FUEL COST $ _____.____

FLYING 1.0 HRS. AT $ 400.00 = $ 400.00

TOTAL $ 400.00

AUTHORIZED BY
PRINT D. HABERLEIN SIGNATURE D. Haberlein

CONTRACT HRS.
DAY _____.____
MONTH _____.____
YEAR _____.____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.
_____ GALS. FROM _____ AT _____ PER GAL.

PILOTS NAME TOM TAYLOR
SIGNATURE T Taylor

Arctic Star Printing Inc.

FLIGHT TICKET NO.

FLIGHT TICKET / INVOICE

Keystone Helicopters Ltd.

P.O. Box 178, Atlin B.C. V0W 1A0 Phone (604) 651-7569

№ 4518

CHARTERER: ARCHER / CATHRO (WJV)

ADDRESS:

DATE: AUG 18/82

A/C: (4 WD)

TYPE: BELL 206B

BASE:

CHEQUE | CASH | ~~CHARGE~~

P.O.

REMARKS	PASS	CARGO	TIME
TGT	2		0.4
PIKE / BCMD (BR STRIP CORE)	3		1.3
			.
LOCK - BR STRIP - MH 4/0 -	2		2.7
HEAD HILL - LOCK			4.4
			.
			.
			.
			.
			.
TERMS: NET 10 DAYS	TOTALS		4.4

FUEL COST $ _____.____

FLYING 4.4 HRS. AT $400.00 = $1760.00

TOTAL $ 1760.00

AUTHORIZED BY

PRINT D. HERRLEIN SIGNATURE D. Herrlein

CONTRACT HRS.

DAY _____.____

MONTH _____.____

YEAR _____.____

FUEL SUPPLIED BY: CUST. ☑ KH ☐

KEYSTONE FUEL

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

_____ GALS. FROM _____ AT _____ PER GAL.

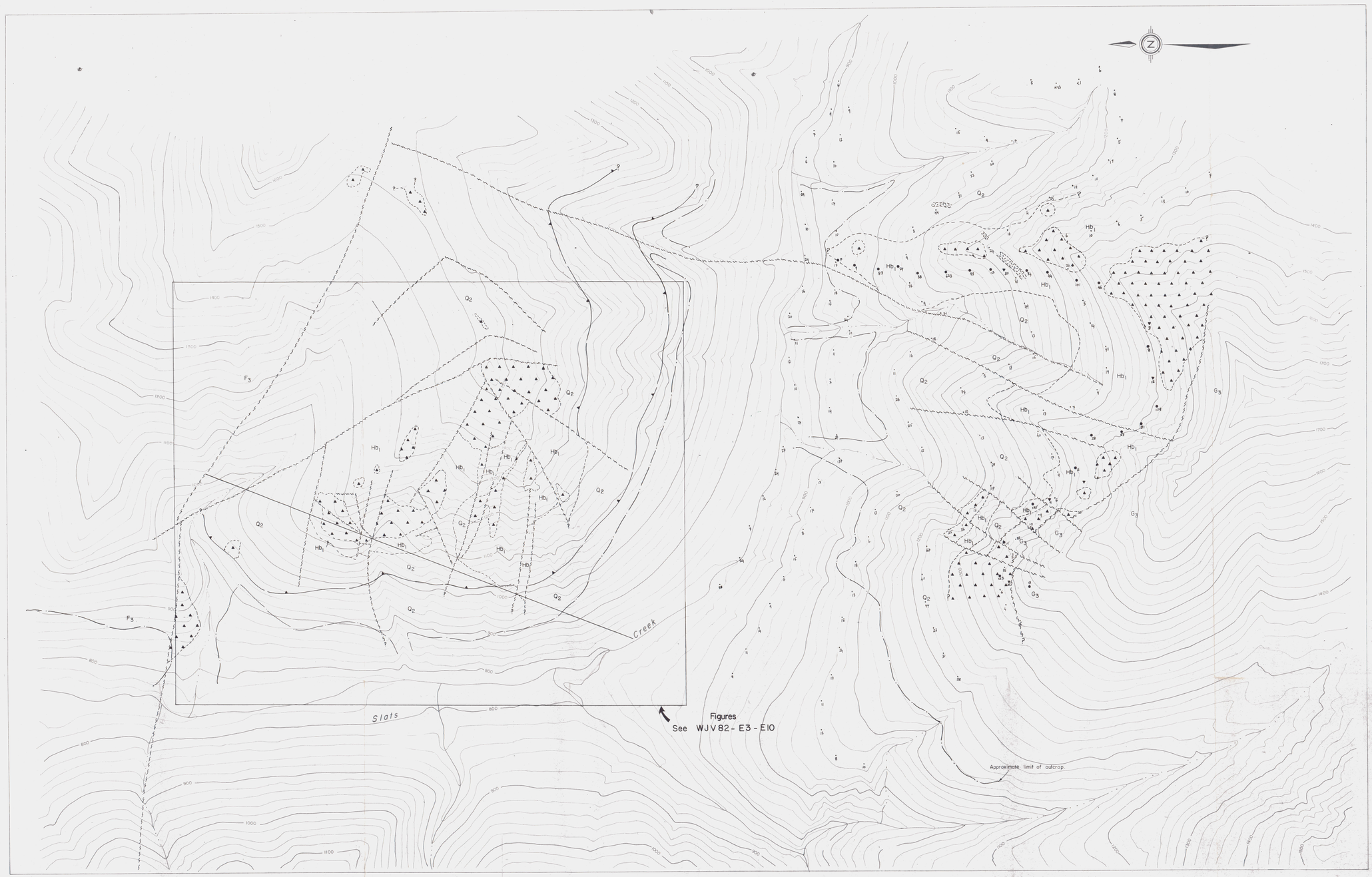
_____ GALS. FROM _____ AT _____ PER GAL.

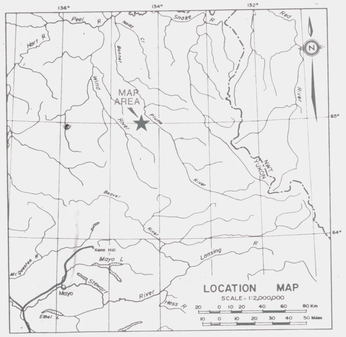
PILOTS NAME TOM HUGHES

SIGNATURE T. Hughes

Arctic Star Printing Inc.

FLIGHT TICKET NO.





LEGEND

Late Proterozic?

- Lamprophyre dyke.

Helikian.

- Heteroclast breccia.
- Hb_1 Homoclast breccia.

Helikian or older.

- G_3 Gillespie Lake Group - stromatolitic dolomites.
- Q_2 Quartet Group - interbedded siltstones, mudstones and sandstones.
- F_3 Fairchild Lake Group - pale green phyllites and siltstones.

- Geological contact.
- Thrust fault
- Fault
- Approximate limit of outcrop.
- WJV 1982 soil sample location. (Au values in ppb)
- WJV 1981 soil sample location "
- WJV 1981 rock sample location "

Figure WJV82-E1

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GEOLOGY & GOLD GEOCHEMISTRY

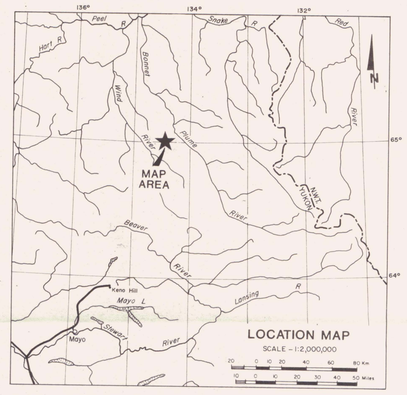
PIKE PROPERTY

WERNECKE JOINT VENTURE

SCALE - 1:5,000

091437

To accompany report dated December 1982



LEGEND

Helikian

- Hb_3 Clast deficient breccia.
- Hb_2 Heteroclast breccia.
- Hb_1 Homoclast breccia.
- Q_2 Quartet Group
- Fault.
- Thrust fault.
- Geological contact.
- Limit of outcrop.
- Sample location.

SLATS CREEK

BASELINE

Approximate limit of outcrop

Figure WJV82 - E2

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GEOLOGY

PIKE GRID

WERNECKE JOINT VENTURE

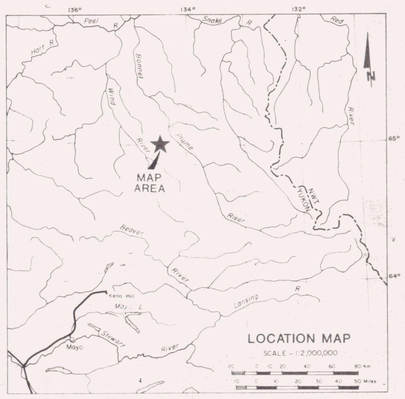
SCALE - 1:2,000

40 20 0 20 40 60 80 100 Metres

40 20 0 20 40 60 80 100 Yards

091437

To accompany report dated December, 1982.



LEGEND

Helikian.

- Hb_3 Clast deficient breccia.
- Hb_2 Heteroclast breccia.
- Hb_1 Homoclast beccia.
- Q_2 Quartet Group.
- Fault
- Thrust fault.
- Geological contact.
- Sample location.
- WJV 1981 contour sample.
- Chip sample location.
- Gold occurrence.

ANOMALY 1b

ANOMALY 1a

ANOMALY 1c

JENNY CREEK

SLATS CREEK

BASELINE

Figure WJV82 – E 3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GOLD GEOCHEMISTRY

PIKE GRID

091427

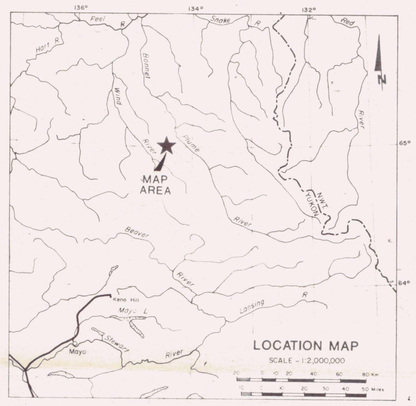
WERNECKE JOINT VENTURE

SCALE - 1:2,000

40 20 0 20 40 60 80 100 Metres

40 20 0 20 40 60 80 100 Yards

To accompany report dated December, 1982.



JENNY CREEK

SLATE CREEK

BASELINE

LEGEND

Helikian.

- Hb_3 Clast deficient breccia.
- Hb_2 Heteroclast breccia.
- Hb_1 Homoclast beccia.
- Q_2 Quartet Group.
- Fault
- Thrust fault.
- Geological contact.
- Sample location.

Figure WJV82 - E4

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

COPPER GEOCHEMISTRY

PIKE GRID

WERNECKE JOINT VENTURE

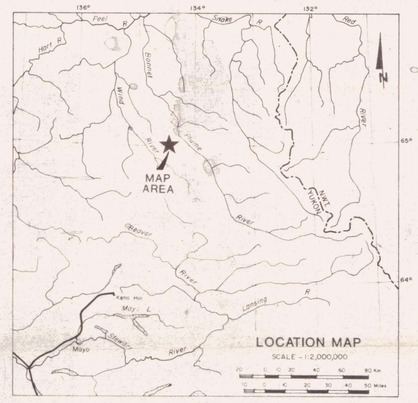
091437

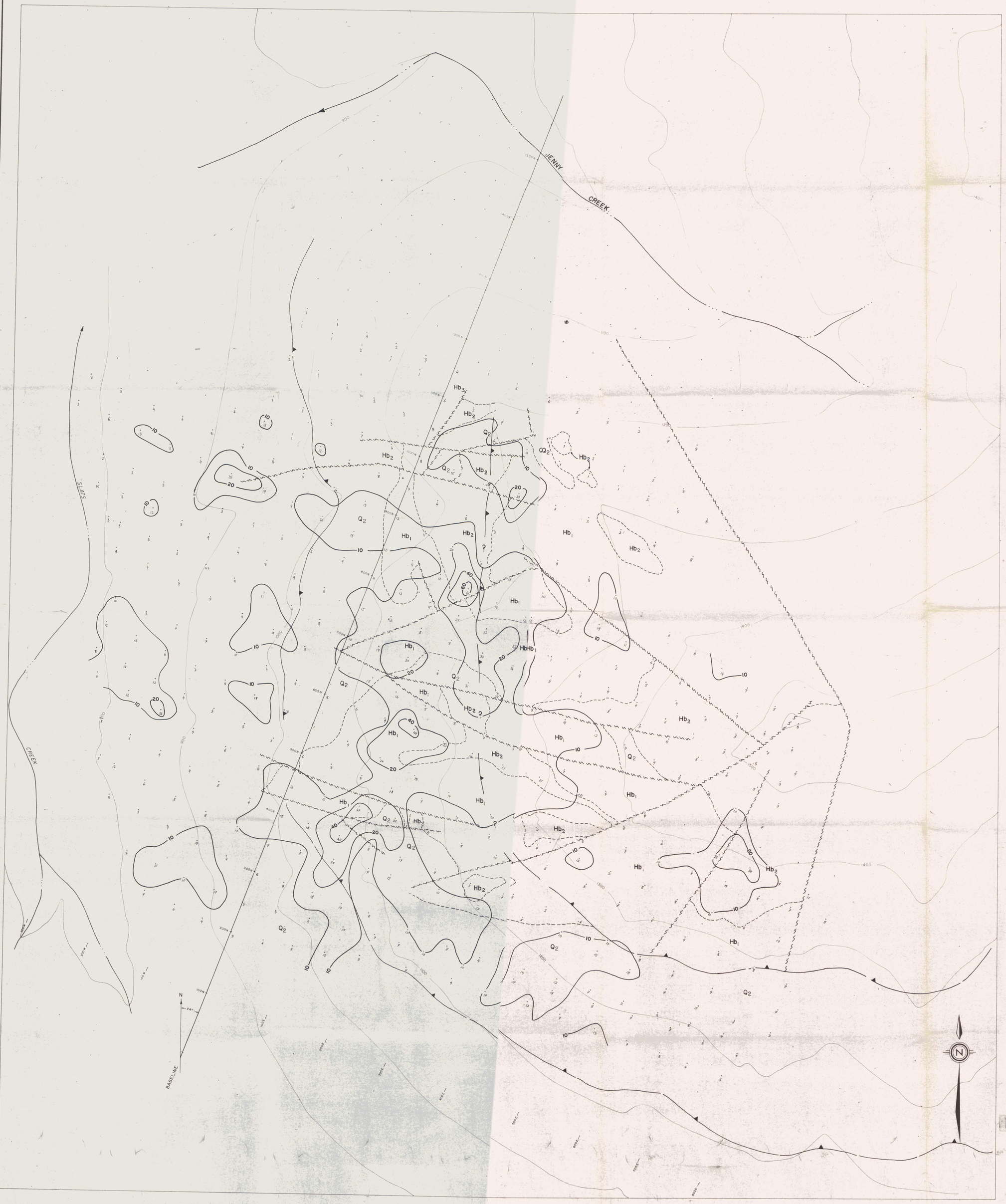
SCALE - 1:2,000

40 20 0 20 40 60 80 100 Metres

40 20 0 20 40 60 80 100 Yards

To accompany report dated December, 1982.





LEGEND

Helikian.

- Hb_3 Clast deficient breccia.
- Hb_2 Heteroclast breccia.
- Hb_1 Homoclast beccia.
- Q_2 Quartet Group.
- Fault
- Thrust fault.
- Geological contact.
- Sample location.

Figure WJV82 - E5

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

MOLYBDENUM GEOCHEMISTRY

PIKE GRID

WERNECKE JOINT VENTURE

W. Dyer Feb-1983

SCALE - 1:2,000

40 20 0 20 40 60 80 100 Metres

40 20 0 20 40 60 80 100 Yards

091437

To accompany report dated December, 1982.

LEGEND

Helikian.

- Hb_3 — Clast deficient breccia.
- Hb_2 — Heteroclast breccia.
- Hb_1 — Homoclast beccia.
- Q_2 — Quartet Group.
- Fault
- Thrust fault.
- Geological contact.

JENNY CREEK

SLATE CREEK

BASELINE

Figure WJV82 - E6

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

MAGNETICS

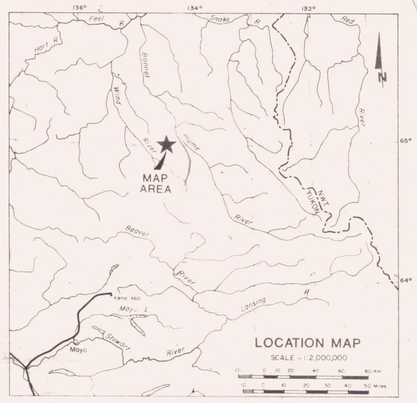
PIKE GRID

WERNECKE JOINT VENTURE

SCALE - 1:2,000

091437

To accompany report dated December, 1982



LEGEND

Helikian.

- Hb_3 Clast deficient breccia.
- Hb_2 Heteroclast breccia.
- Hb_1 Homoclast beccia.
- Q_2 Quartet Group.
- Fault
- Thrust fault.
- Geological contact.

Figure WJV82 - E7

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

RESISTIVITY

PIKE GRID

WERNECKE JOINT VENTURE

SCALE - 1:2,000

40 20 0 20 40 60 80 100 Metres

40 20 0 20 40 60 80 100 Yards

091437

To accompany report dated December, 1982.

LEGEND

Helikian.

- Hb_3 Clast deficient breccia.
- Hb_2 Heteroclast breccia.
- Hb_1 Homoclast beccia.
- Q_2 Quartet Group.
- Fault
- Thrust fault.
- Geological contact.

Figure WJV82 - E8

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

CHARGEABILITY

PIKE GRID

WERNECKE JOINT VENTURE

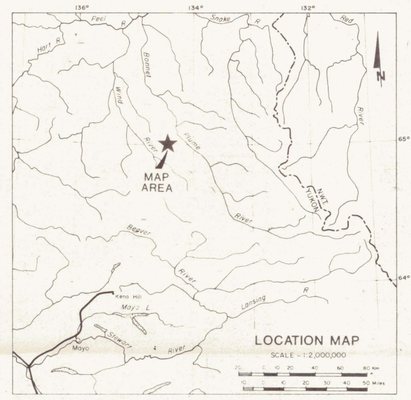
SCALE - 1:2,000

40 20 0 20 40 60 80 100 Metres

40 20 0 20 40 60 80 100 Yards

091437

To accompany report dated December, 1982



JENNY CREEK

SLATS CREEK

Hb3
Hb2
Hb1
Q2

BASELINE

N 24°

CULTER, MAINE DATA
ALONG BASELINE

LEGEND

Helikian.

- Hb_3 Clast deficient breccia.
- Hb_2 Heteroclast breccia.
- Hb_1 Homoclast beccia.
- Q_2 Quartet Group.
- Fault
- Thrust fault.
- Geological contact.

Figure WJV82 - E9

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

VLF

PIKE GRID

WERNECKE JOINT VENTURE

091 427

SCALE - 1:2,000

WDS & EAF Feb/83

To accompany report dated December, 1982.

LEGEND

Helikian.

- Hb_3 — Clast deficient breccia.
- Hb_2 — Heteroclast breccia.
- Hb_1 — Homoclast beccia.
- Q 2 — Quartet Group.
- Fault
- Thrust fault.
- Geological contact.
- 150 — Radiometric station and waist height reading in counts/second with Scintrex BGS-ISL scintillometer.

Figure WJV82 - E10

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

RADIOMETRICS

PIKE GRID

WERNECKE JOINT VENTURE

SCALE - 1:2,000

40 20 0 20 40 60 80 100 Metres

40 20 0 20 40 60 80 100 Feet

091437

To accompany report dated December, 1982.