

87-500-15959
7/88

PRELIMINARY GEOLOGICAL REPORT
ON THE
DC-1, 3, 4, 5, AND 6 MINERAL CLAIMS
Lat. 50°, 43'
Long. 120°, 39'
NTS - 921/10W
Kamloops Mining District, British Columbia

by

Allan P. Juhas, Ph. D.

for

Mercator Resource Corporation
6 - 3530 11A Street N. E.
Calgary, Alberta, Canada T2E 6M7

July 7, 1987

15,959

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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Map: Geology of Claims DC-1, 3, 4, 5,, and 6.....in pocket

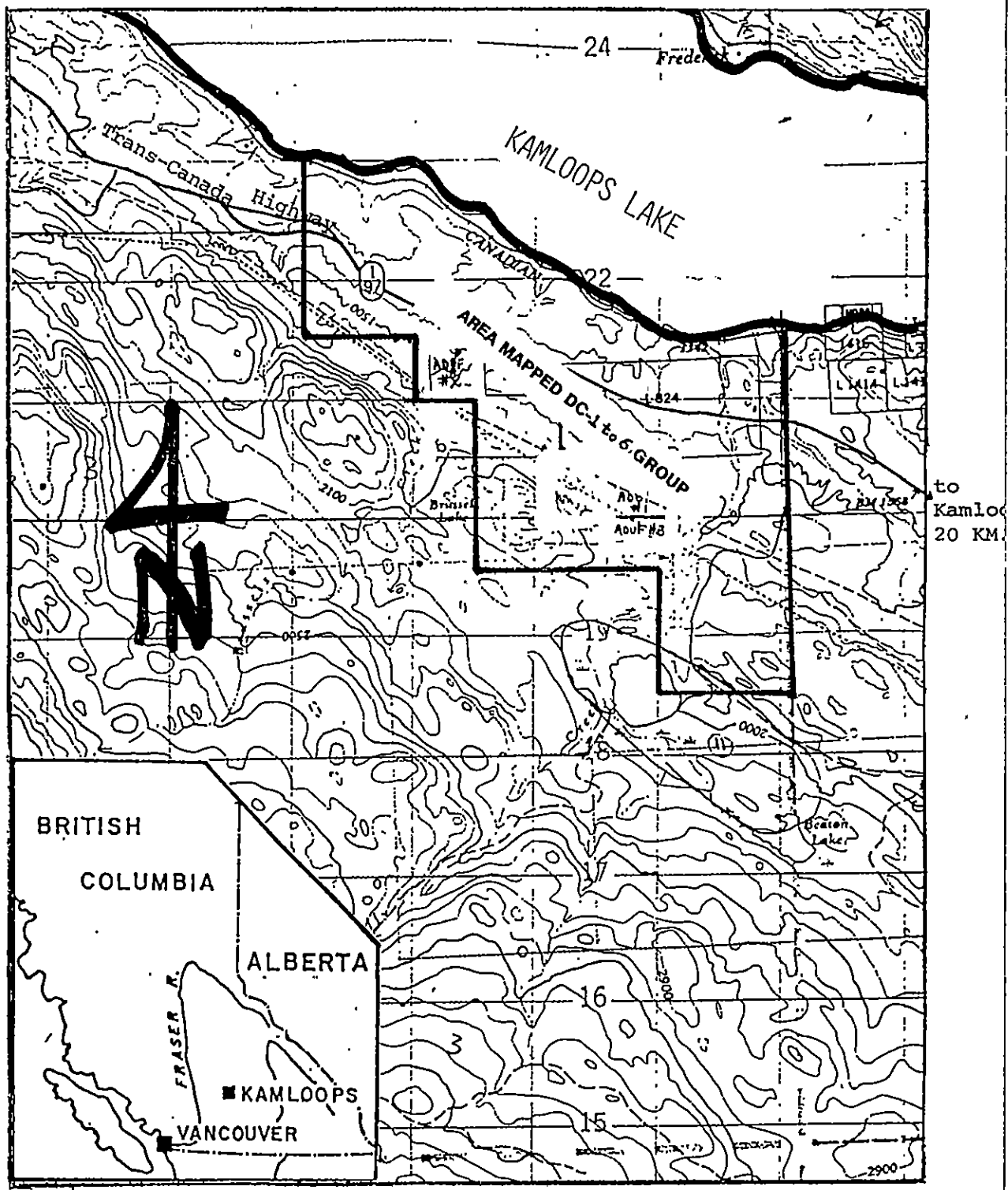
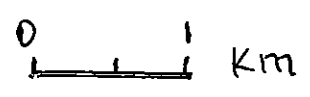


Figure 1: Location Map



Access:

The claims are accessible from the Trans-Canada Highway by taking dirt roads that follow section lines and a pipeline that crosses the property, on the northwest side of Duffy Creek.

Climate and Physiography:

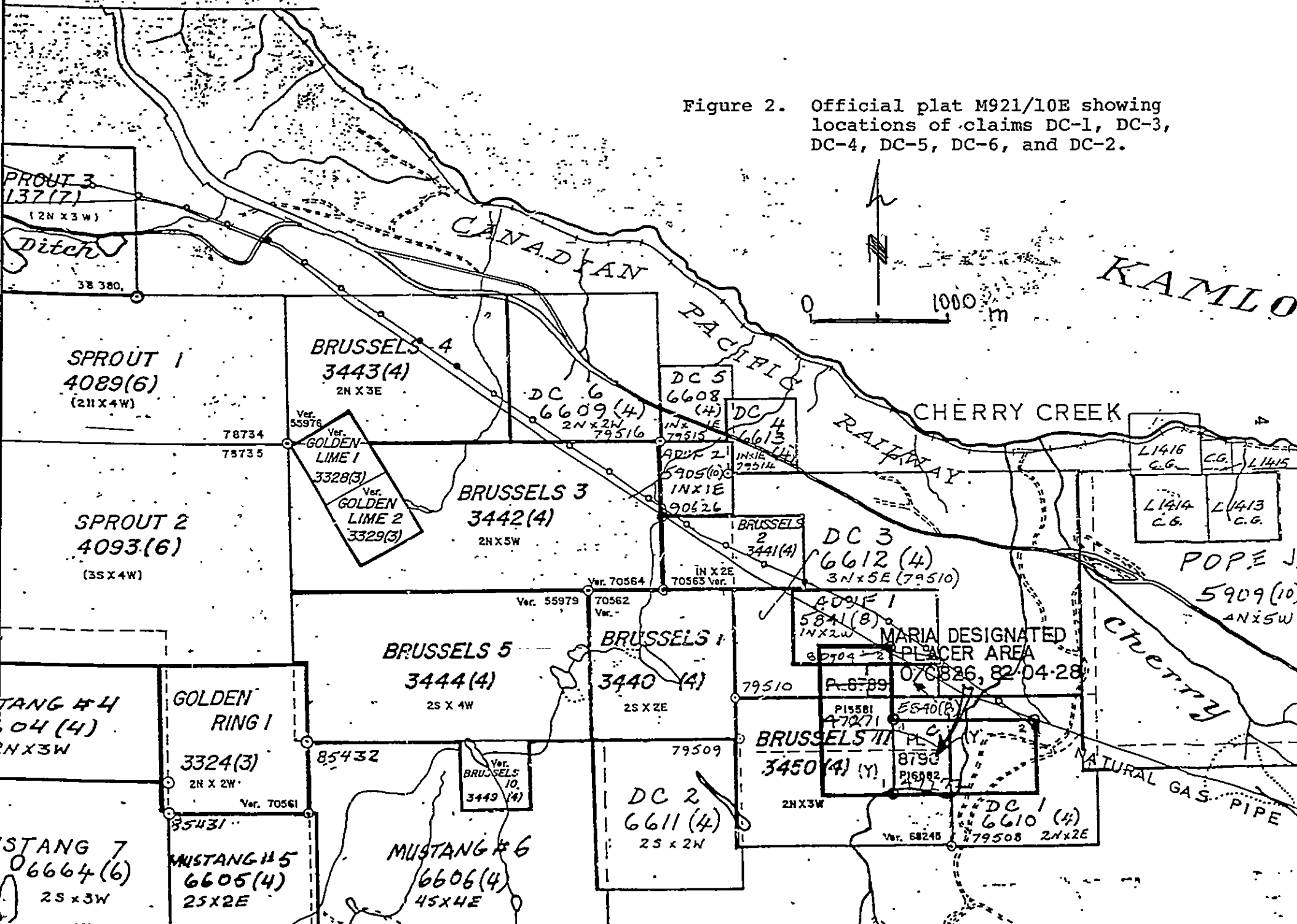
The physiography and climate are characteristic of the Interior Plateau. Outcrops are found in northwest trending ridges separated by glacial alluvium. The climate is semi-arid with hot summers and cold winters. Vegetation is sparse, consisting of various grasses, weeds and small bushes. Pine forests commence higher up slope on the southwest side of the pipeline that cuts through the claim group.

The Property:

The claims are known as DC-1, DC-3, DC-4, DC-5, and DC-6 and are composed of 25 units comprising approximately 625 hectares. Their official locations and relationships to other claims are shown in Figure 2.

The claims were staked by John Ablett in April, 1986. Mercator Resource Corporation, #6 - 3530 11A St. N. E., Calgary, Alberta, T2E 6M7 is expected to exercise its rights to acquire title to the property.

Figure 2. Official plat M921/10E showing locations of claims DC-1, DC-3, DC-4, DC-5, DC-6, and DC-2.



Mercator is a public company and intends to explore, and if warranted, to develop and operate the claims.

Previous Work:

The area of the DC claims was originally worked as a part of the Maria gold/placer area. During the staking rush associated with the discovery of the Afton gold/copper deposit 8 Km. to the southeast, the area of the Aduf claims was briefly held for its copper potential. Despite this interest, there are no buildings or habitations on the property and there is no evidence of old diggings or old mine workings on the property. Also, there is no evidence of such modern physical exploration works as trenching or drilling on the property. (A pipeline has been excavated across the property in recent times and rock material with anomalous gold values was detected in this material during earlier work on the Aduf 1 claim, also owned by Mercator Resource Corporation.)

Background on Mercator's Program:

Mercator Resource Corporation has acquired the rights of AVF Minerals Ltd. in the Kamloops District as they relate to the DC-1 - 6 claim group and the Aduf 1 and 2 claims.

In the Spring of 1984, AVF crews identified favorable host rocks west of Kamloops and prospecting and reconnaissance stream sediment and litho-geochemistry demonstrated local gold-silver-arsenic-mercury anomalies. Consequently, the Aduf 1, and 2 claims were staked and a more detailed exploration program was conducted in the claim area. The program consisted of:

1. General prospecting;
2. Marking out a grid system on the claims for control of geological and geochemical surveys;
3. Geological mapping of approximately 100 hectares at a scale of 1:2000; and
4. Rock chip geochemistry (obviously restricted to outcrop areas). Seventy-three representative samples of outcrop materials were assayed for gold, silver and arsenic.

The results of the geological and geochemical surveys indicated that gold and arsenic anomalies are associated with silica-carbonate altered Mesozoic and Cenozoic volcanic rocks on the property. These anomalies constituted gold targets worthy of more detailed exploration and evaluation. It was also recognized that favorable rock types existed along strike of the Aduf claims to the northwest and southeast. Accordingly, the DC-1, 3, 4, 5, and 6 claims were acquired.

The Present Survey:

The present geological survey is the first step in what is expected to be a progressively more detailed exploration program on the claim group. This survey has involved preliminary reconnaissance mapping of the claim group at a nominal scale of 1/5376. Mapping was done on a photo enlargement of a standard British Columbia government aerial photograph series BC84023, #105 (uncorrected for distortion). The purpose of the survey was to ascertain the geological infrastructure and potential ore controls on the claim group to be used as a basis for planning follow-up exploration. The method was to pick optimal traverse routes following roads, claim lines, ridges, streams, etc., on and near the claims where the greatest number of outcrop and geological relationships could be observed. The mapping concentrated on lithological and structural relationships. Nevertheless, such topographical features as streams, lakes, swamps, etc. were also mapped as were such cultural features as claim lines and posts, roads, pipelines, fences, and power lines.

GEOLOGY:Regional Geology:

The DC claim group occurs on the western edge of a major zone of tectonic disturbance about 10 Km. wide and about 35 Km. long, known as the Cherry Creek Fault Complex that cuts across Nicola Group volcanic rocks in a northwesterly direction. The fault zone separates Triassic Nicola Group volcanic rocks from younger, Mesozoic and Tertiary (Kamloops Group) volcanic and sedimentary rocks, and has served as the locus of Triassic and Tertiary intrusive rocks. The intrusives impart a strong magnetic signature to the area, and are of direct economic importance as the host rocks of copper-gold mineralization at Afton. General relationships are shown in Figure 3.

Local Geology:

The claims lie within the drainages of Brussels and Duffy Creeks on the lower flank of a northwest trending range of hills sloping northeasterly towards Kamloops Lake. Maximum relief on the property is about 200 meters. Areas between outcrops are filled with glacial alluvium in places at least 30 m. thick, as exposed in stream cuts. Actual outcrops constitute about 5% to 10% of the area of the claims.

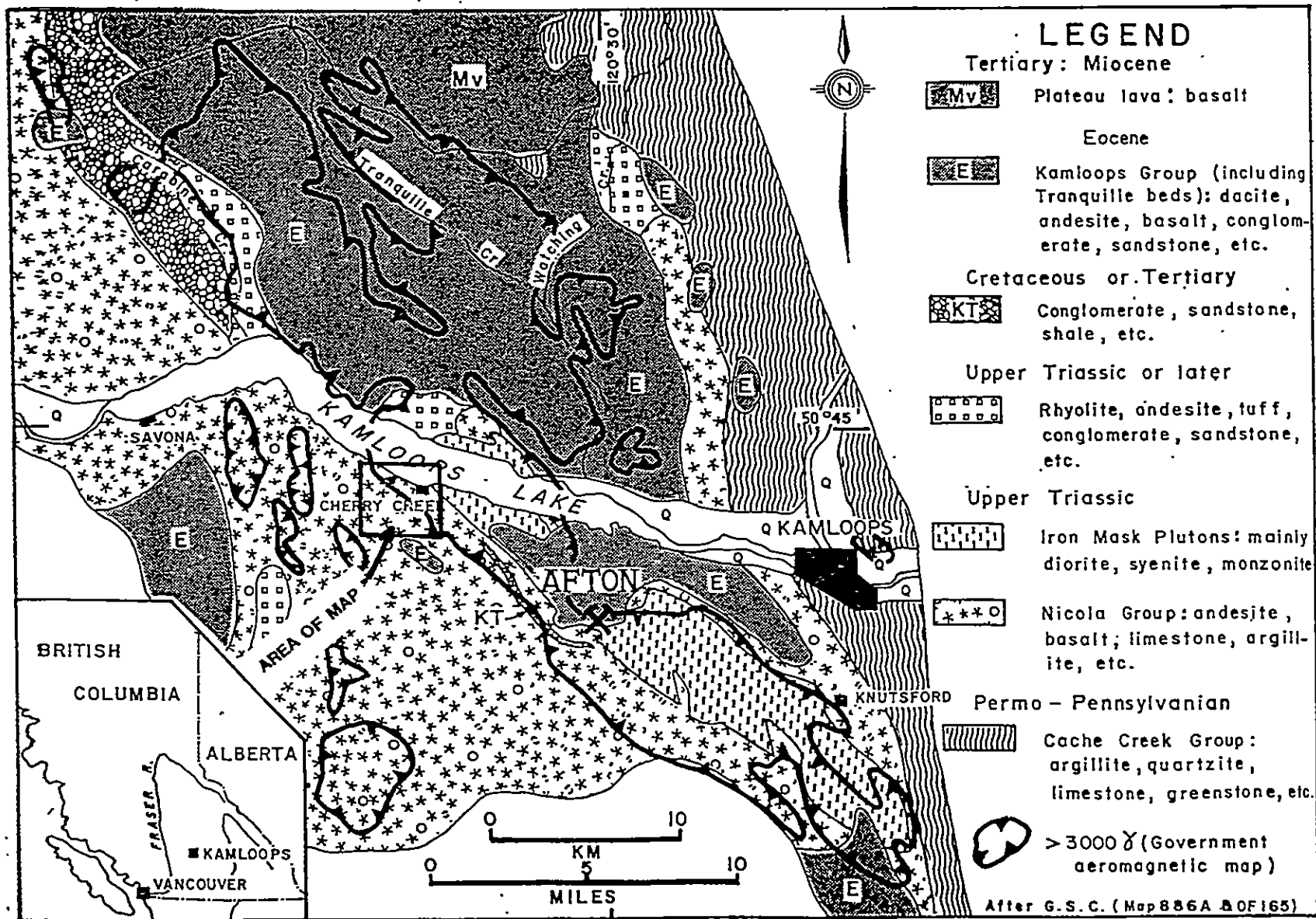


Figure 3. Regional Geology (from J. M. Carr and A. J. Reed, 1976, p. 376, CIM Spec. Vol. No. 15) also showing area of geological mapping of this report.

The DC claims occur on the west side of the Cherry Creek Fault and are largely underlain by northwest trending, modestly southwest dipping mafic-intermediate volcanic rocks, and related sedimentary rocks interpreted as belonging to the Triassic Nicola Group. These are cut by dikes, sills, and plugs of rhyolitic rocks believed to be of Tertiary age and assigned herein to the Kamloops Group. All of these units, particularly in low areas are overlain by extensive blankets of glacial deposits and alluvium. Outcrops mapped in this survey plus interpreted relationships are shown on the geological map in the pocket.

Sedimentary Rocks: The oldest units mapped are epiclastic sedimentary rocks of largely volcanoclastic origin. They are comprised of sandstone, siltstone, and argillite phases. The units are massive to poorly thick bedded to delicately laminated. Composition seems to depend on particle size. The coarsest and thickest units are medium greenish grey to yellowish green in color and are composed of feldspar, chlorite, and epidote. In gross appearance, they are similar to the mafic volcanic units but can be distinguished by the lack of magnetite in the sedimentary rocks.

Siltstones and argillites tend to be thinly bedded and are darker grey to black in color. They are composed of variable proportion of feldspar, chlorite, quartz, and biotite. Bedding is contorted. In general, however, the beds tend to strike

northwesterly with steep southwesterly to vertical dips.

The sedimentary rocks commonly weather rusty brown.

Basalt, Andesite: Excepting the Quaternary deposits, the most prevalent rock types in the area are greenstones of the Nicola Group. These units, where fresh, are generally massive, and tend to form the highest and most resistant ridges that strike northwesterly. The rock is generally medium to dark green, and fine to medium grained. Where freshest and most resistant, the rocks are composed of plagioclase and pyroxene variably altered to chlorite. Depending on proximity to felsic intrusives, the mafic volcanic rocks are progressively altered to assemblages of plagioclase-chlorite-epidote, plagioclase-chlorite-K feldspar, plagioclase-K feldspar-carbonate ±quartz ±hematite, carbonate-quartz ±fuschite ±malachite. The non-carbonate bearing varieties are characteristically magnetic.

The Nicola volcanic rocks are generally massive flows or sills, but locally consist of flow breccias and coarse agglomerates.

Locally some of the fresh volcanics contain sparse quartz phenocrysts suggesting a dacite composition. Most, however, lack quartz and are andesite or basalt in composition.

Felsic Porphyries: Dikes, sills, and irregular plugs of porphyritic felsic Tertiary rocks cut all of the preceding rock types. The felsic intrusives are characteristically light grey to buff and contain medium to coarse phenocrysts of orthoclase and quartz in a very fine grained to aphanitic silicic matrix. Actually a number of different types of porphyries are found but their relationships are not yet clearly established. For example, some porphyries contain only feldspar phenocrysts, others in addition to quartz and feldspar contain books of muscovite, others have blebs of chlorite after biotite or hornblende phenocrysts, and in some the quartz eyes are round whereas in others they are square. Obviously a number of intrusive episodes are indicated.

The largest porphyry body occurs on the DC-3, DC-4, Aduf 2 and Brussels 2 claims. It is more than a kilometer long and at least 200 meters wide. It appears to intrude Nicoli Group sedimentary rocks on its southwest side and is buried under boulder clay to the northeast. Contact relationships (except for a small internal fault-bound block of Nicola sedimentary rocks) are not clear. Although interpreted as an intrusive, this body could also be a felsic flow or ash flow.

A large dike or sill of quartz-feldspar-muscovite porphyry as much as 200 meters wide had been mapped over a length of about 2 kilometers in a southeasterly direction from the DC-6 claim to the DC-3 claim.

Numerous dikes,, from 2 feet to more than 50 feet wide are found on the DC-1 and DC-3 claims. These dikes trend north-northwesterly and northeasterly. Most appear to dip very steeply. The dikes are controlled by tensional fractures and jointing. At times they take nearly right angle turns for short distances before continuing along their main trends. Dike margins are commonly chilled, and country rocks nearby commonly show alteration to assemblages containing quartz-carbonate-±sericite ±fuschite ± hematite ±chlorite. The alteration zones are commonly only $\frac{1}{4}$ to $\frac{1}{2}$ as wide as the dikes themselves.

Quaternary and Recent Lithologies: The youngest lithologies in the area are also the most extensive. They occupy a belt 1 to 2 kilometers wide and at least 6 kilometers in length extending from the toe of the range to Kamloops Lake. They are composed primarily of thick, poorly indurated beds of silt and clay containing large erratic boulders of variable composition separated by gravelly beds. The sequence is at least 100 meters thick and could be thicker. This sequence of boulder clay, till and alluvium is considered to represent outwash deposits associated with Quaternary glaciation. At the top of the above sequence, near modern drainages occur alluvial deposits now being exploited for gravel.

Structural Geology: The dominant mappable structures in the area are essentially vertical, northwest trending fractures and

joints, that parallel the main lithological patterns and the physiography presumably mimicking major fault directions. Conjugate, essentially vertical fractures trend northeasterly and have controlled some dikes and most of the streams cutting through the northwesterly trending ranges. Another conjugate set of vertical joints and fractures strikes north-northwesterly and essentially east-west. These are important in controlling some felsic dikes, and quartz-carbonate-sulphide type alteration and mineralization. Numerous other fracture and joint attitudes are present, as plotted on the geological map but do not appear to be systematically related to mineralization or alteration.

Bedding attitudes in the metasedimentary units are inconsistent and highly variable suggesting intense folding. In general, however, the bedding strikes northwesterly with nearly vertical dips but takes swings to the south with moderate to steep dips to the west.

Bedding in Quaternary and Recent deposits is nearly horizontal with a slight dip towards Kamloops Lake.

Alteration and Mineralization: Previous work on the Aduf claims indicates that gold mineralization is associated with the felsic Tertiary dikes and plugs and adjacent altered wallrocks. This survey has for the first time outlined the general location and extent of these dikes and altered rocks on the DC-claim

group. The follow-up detailed geological and geochemical studies necessary to quantify and evaluate the extent and quality of mineralization has not yet been performed. It is expected that this will be done subsequently.

As mentioned previously the dikes and nearby wallrocks are variably altered. The dikes themselves locally demonstrate alteration to a quartz-sericite aggregate or to a mixture of quartz and ferruginous carbonate. Disseminated pyrite and trace malachite presumably after copper sulphides are associated with some of the dikes. Country rocks bordering the dikes and in the same structures along strike of projections of some dikes are commonly intensely altered to pinkish or buff assemblages of quartz, adularia and pyrite or more commonly quartz, carbonate, sericite or fuschite and hematite. Bordering this zone the wall rocks contain chlorite and minor epidote. Within the dikes and altered zones the joints are commonly filled with quartz-carbonate veinlets to 5 mm wide also containing limonite presumably after sulphides. Hematite, where present generally occurs as dusty disseminated impregnations on the hangingwall side of dikes and/or apophysies. It generally fringes the zone of most intense quartz-carbonate-sericite or fuschite development.

CONCLUSIONS:

It is expected that any gold mineralization present will be associated with the dikes and immediately adjacent altered areas. Future exploration involving detailed mapping and geochemical sampling (gold-copper-mercury-arsenic-antimony) should be concentrated in areas of dikes as indicated by this survey.

STATEMENT OF EXPENSES

Following are the expenses incurred by Mercator Resource Corporation with respect to the DC-1, 2, 3, 4, 5, and 6 claims in the Kamloops Mining District between April 17, 1987 and July 8, 1987. Claims DC-1, 3, 4, 5, and 6 form a contiguous group but DC-2 is separate. Although AC-2 represents only about 14% of the total area of the claims, it is estimated that 20% of the expenses have been incurred for the benefit of that claim and is apportioned below accordingly. Of expenses incurred to April 24, 1987, \$2500 was applied to the claims DC-1, 3, 4, 5, and 6, and \$400.00 was applied to claim DC-2. (Credits for greater dollar amounts would have been claimed when the assessment work was filed in the Kamloops Gold Commissioner's April 24th, but the writer didn't have enough cash on hand at the time.) To date, credits have been granted for \$2900.00 of expenditures. Additional credits in the amount of \$5110.22 should be applied to the claim group comprised of DC-1, 3, 4, 5, and 6 and \$1502.55 should be applied to claim DC-2.

1. Expenses incurred (\$ - Canadian) in the preliminary geological survey of claims DC-1, 2, 3, 4, 5, and 6 and between April 17 and 26th, 1987:

	<u>Total:</u>	<u>Group Claims:</u>	<u>DC-2:</u>
7 days consulting fees.....	\$2947.37	\$2357.90	\$589.47
Airfare.....	756.57	606.26	151.31
Auto.....	479.47	383.58	95.89
Parking and Taxi.....	94.74	75.79	18.95
Lodging.....	484.74	387.79	96.95
Meals.....	148.09	118.47	24.68
Misc. Supplies & Fees.....	<u>241.88</u>	<u>217.20</u>	<u>24.68</u>
Total.....	\$5152.86	\$4122.29	\$1030.57

2. Expenses incurred between June 23rd and July 8, 1987 in preparation of project report, assessment reports, accounting and filing:

9 days consulting fees.....	\$3789.47	\$3031.58	\$ 757.89
Personal Vehicle.....	42.11	33.69	8.42
Blueprints.....	48.53	38.82	9.71
Xerox.....	55.26	44.21	11.05
Geochemical Analyses.....	63.16	50.53	12.63
Courier.....	105.26	84.21	21.05
Secretarial.....	<u>256.59</u>	<u>\$ 205.27</u>	<u>\$ 51.32</u>
Total.....	\$4359.91	\$3487.93	\$ 871.98
<u>Grand Totals:</u>	<u>\$9512.77</u>	<u>\$7610.22</u>	<u>\$1902.55</u>

CERTIFICATE

As author of this report on the DC 1- 6 claims for Mercator Resource Corporation, I hereby make the following statements:

1a. My name is Allan Paul Juhas and I am a Consulting Economic Geologist. My address is 4221 S. Yukon Way, Lakewood, Colorado 80235.

1b. I am a Canadian citizen.

1c. I hold a valid British Columbia Free Miner's Certificate (#250468).

2a. I have received the following degrees in the geological sciences:

B. Sc. Hons., 1962: University of Manitoba, Winnipeg, Manitoba, Canada, and

Ph. D., 1973: University of Manitoba, Winnipeg, Manitoba, Canada.

2b. I am a Certified Professional Geologist Scientist of the American Institute of Professional Geologists. I am also a member in good standing in the following societies:

Geological Society of America
Society of Mining Engineers (AIME)
The Canadian Institute of Mining and Metallurgy
Society of Economic Geologists, and
Society of Geology Applied to Mineral Deposits

2c. I have been practicing as a Professional geologist for over 25 years in Canada, the USA, Mexico and various Latin American countries.

3. This report is based on original mapping by the author, excepting some details concerning the Aduf 1 claim which were derived from mapping by T. P. Gallagher in 1984 for AVF Minerals Ltd., a predecessor of Mercator resource Corporation.

4. I am a Director and shareholder of Mercator Resource Corporation. However, I have neither received nor do I expect to receive a separate interest in the claims that are the subject of this report.

Lakewood, Colorado, USA
July 8, 1987

Allan Paul Juhas
Allan P. Juhas
Ph. D.,



MERCATOR RESOURCE CORPORATION

GEOLOGICAL BRANCH
ASSESSMENT REPORT

GEOLOGY OF THE ADUF PROPERTY

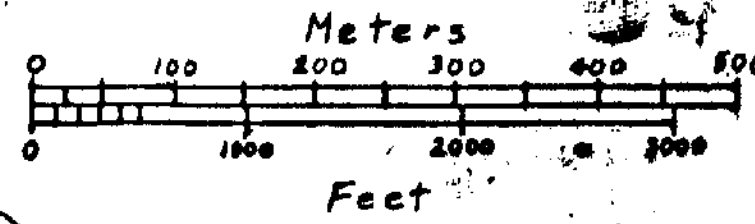
CLAIMS: DC-1, DC-3, DC-4, DC-5, DC-6

KAMLOOPS DISTRICT B.C.

ALLAN P. JUHAS

JUNE, 1987

15,959



- Tertiary Deposits: boulder clay, alluvium
- Carbonate Alteration: silica, thematite, ifuchsite
- K-Feldspar Alteration of Basalt: carbonate, thematite
- Felsic Intrusives: Feldspar, quartz porphyry
- Basalt, Andesite, Minor Dacite: flows, flow breccias and agglomerate
- Epiclastic Sediments: greywacke, argillite
- Joints and Fractures: vertical, inclined
- Bedding and Foliation
- Claim Boundary: with posts surveyed, not surveyed
- Outcrops: station number
- Geological Contact: known, interpreted
- Road
- Stream

