860436

MEGABUCK

A

SYNVOLCANIC ALKALINE INTRUSIVE ASSOCIATED

GOLD

PROSPECT

NTS 93-A/6W

C.M. REBAGLIATI, P.ENG.

CONCLUSIONS

A synvolcanic alkaline intrusive associated gold prospect is present at Deerhorn Lake. The ultimate size and grade of the auriferous intrusion breccia has not been ascertained and potential for identification of a large bulk tonnage gold deposit is high. In addition, IP and soil geochemical surveys have located other areas with potential that have yet to be assessed.

An aggressive program to assemble the individual claim holdings into a single group is a priority to be followed immediately by an intensive exploration program.

This easily accessible precious metal prospect is an attractive exploration target with excellent potential.

RECOMMENDATIONS

1. Option the various claims to assemble a workable land position.

2. Assess the auriferous intrusion breccia by drilling.

3. Cross-section drill the two IP anomalies at more than one location.

4. Expand the soil geochemical survey utilizing multi-element analyses.

5. Engage a geologist with extensive knowledge of synvolcanic alkaline intrusive associated gold deposits to re-map the entire claim block and to manage the exploration program.

C. Mark Rebagliati, P.Eng.

LOCATION AND ACCESS

The Megabuck claim is located at Latitude 52°15'N Longitude 121°23'W in the Cariboo region of British Columbia, 9 km south-southeast of Horsefly on NTS Sheets 93-A/3W, 6W (Map 1).

Access from Horsefly is via the 108-Corner Lake logging road and then along the Deerhorn Creek logging road to Deerhorn Lake, a total road distance of 12 km (Map 2). The logging road has a good gravel surface and provides easy two-wheel drive access to the western side of the claim from mid-May through November. A narrow bush road, requiring a four-wheel drive vehicle, branching off the logging road at the north claim boundary, leads to the prospect at the southwest end of Deerhorn Lake.

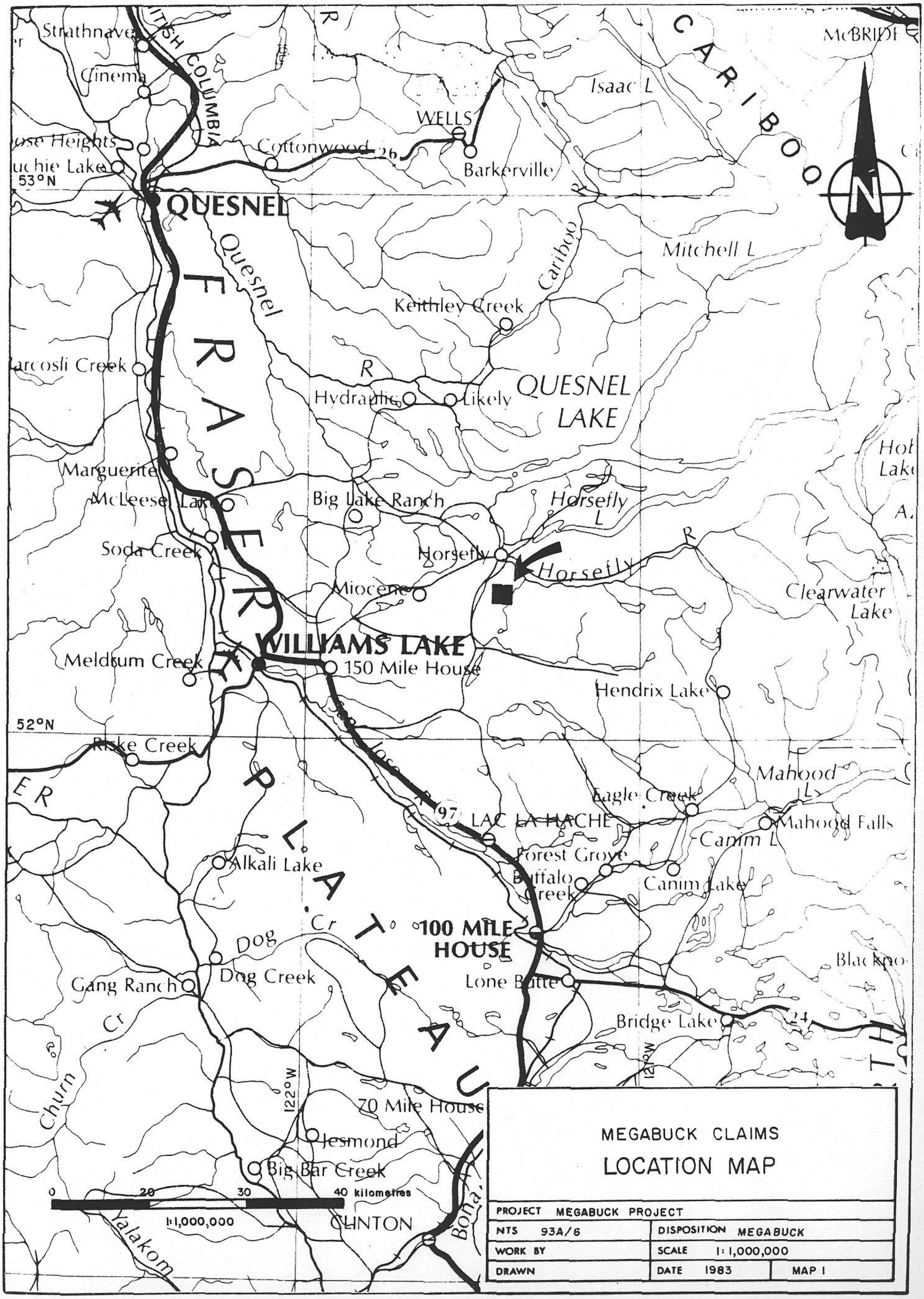
PROPERTY

Four mineral claims owned by other parties are encompassed by the 20-unit Megabuck claim as shown on Map 3. All are located in the Cariboo Mining Division. Their record data are as follows:

Claim Name	Owner	Date Staked	Record Date	Record Number	Units
MEGABUCK	C.M. Rebagliati (Purchased January 1983)	Nov 13/82	Nov 22/82	4588	20
LS#1	B. Pryce	July 10/79	July 11/79	1067	2
AB#3	A. Babiy	July 11/79	July 18/79	1072	1-2 post claim
AB#4	A. Babiy	July 11/79	July 18/79	1073	1-2 post claim
LP	E. Scholtes	Sept 14/80	Oct 6/80	2021	2

PROPERTY HISTORY

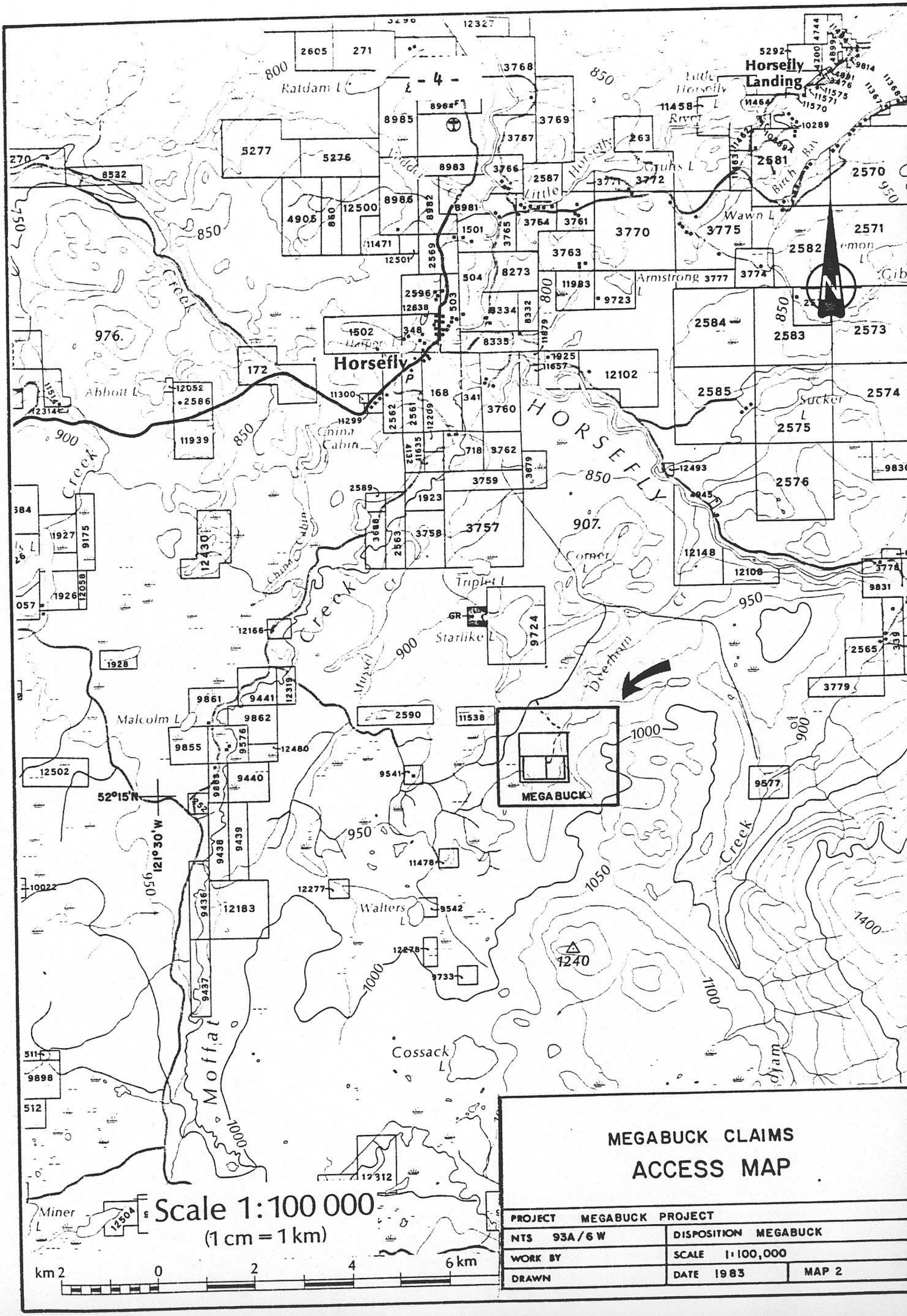
The earliest recorded claims staked within the Megabuck claim area were the CE #197-200 two-post claims staked on February 22, 1967 and centered near the 4

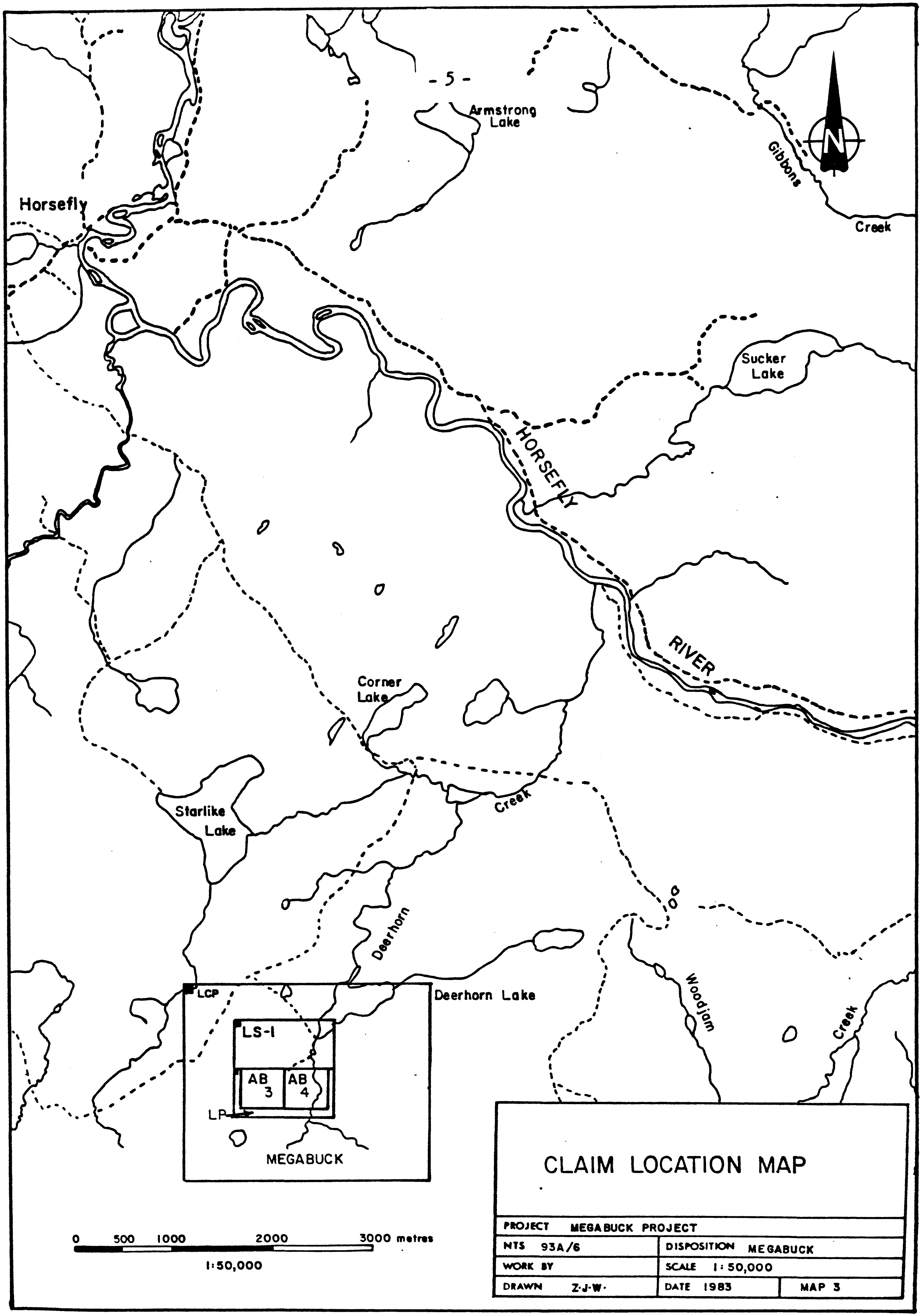


MEGABUCK CLAIMS

LOCATION MAP

PROJECT MEGABUCK PROJECT			
NTS 93A/6	DISPOSITION MEGABUCK		
WORK BY	SCALE 1:1,000,000		
DRAWN	DATE 1983	MAP 1	


Horsefly Landing
Horsefly
HORSEFLY
Little Horsefly River
Ratdam L
Abbott L
China Cabin
Triplet L
Starlike L
Corner L
Malcolm L
Walters L
Cossack L
Miner L
Moffat Creek
Sucker L
Wawn L
Armstrong L
MEGABUCK
52°15'N
121°30'W
Scale 1:100 000
(1 cm = 1 km)
km 2
0
2
4
6 km
MEGABUCK CLAIMS
ACCESS MAP
PROJECT MEGABUCK PROJECT
NTS 93A/6W
DISPOSITION MEGABUCK
WORK BY
SCALE 1:100,000
DRAWN
DATE 1983
MAP 2


Armstrong Lake
Horsefly
Gibbons Creek
Sucker Lake
HORSEFLY RIVER
Corner Lake
Starlike Lake
Creek
Deerhorn
Deerhorn Lake
Woodjam Creek
LCP
LS-1
AB 3
AB 4
LP
MEGABUCK
0 500 1000 2000 3000 metres
1:50,000
CLAIM LOCATION MAP
PROJECT MEGABUCK PROJECT
NTS 93A/6
DISPOSITION MEGABUCK
WORK BY
SCALE 1:50,000
DRAWN Z.J.W.
DATE 1983
MAP 3

east, 4 south Identification Post of the Megabuck claim. No work was recorded on the CE claims.

The area was next staked as the HS Group in June 1973 by Exploram Minerals Ltd. who conducted geological, magnetic, induced polarization and soil geochemical surveys in 1973-75. In 1974 Exploram sunk two diamond drill holes comprising 408 m to apparently test the southern flank of an IP anomaly where a southeasterly trending zone of weakly anomalous copper and gold values is disrupted. Results from these surveys were replotted from Exploram's assessment reports onto Maps 4 - 9. A cross-section has been reconstructed from the old drill logs and is shown in Figure 3.

Following the expiry of the HS claims in 1979, B. Pryce and A. Babiy independently staked the LS#1 and AB#3, 4 claims respectively. In September 1980, E. Scholtes overstaked the AB claims with his two-unit LP claim. None of these parties have undertaken any meaningful exploration.

REGIONAL GEOLOGICAL SETTING

The Megabuck claim is situated in the Quesnel Trough, a linear belt of Upper Triassic and Lower Jurassic basic volcanics and sediments extending 2000 km from the U.S. border to the Stikine River (see Figure 1). The volcanic lithofacies consists of calc-alkaline and alkaline basalt and andesite. These lavas are subaqueous fissure eruptions associated with regional faults. At a late stage in the volcanic cycle large sub-aerial volcanic centers developed. These features consist largely of pyroclastic and epiclastic rocks, complex intrusive breccias, and small plutons or necks of diorite, monzonite and syenite. These plutons are intrusive into the overlying volcanic material which is, in part, of common parentage. Commonly associated with these plutons is a late fumarolic or hydrothermal stage in which large volumes of volcanic rocks are extensively altered to albite, K-feldspar, biotite, chlorite, epidote and various sulphides. The late metasomatic period involves introduction of volatiles and various metals in the vent areas and is a typical and important feature of the final stages of the volcanic cycle. The Copper Mountain, Afton, Cariboo Bell and Quesnel River deposits and many other prospects are directly associated with this late fumarolic stage.

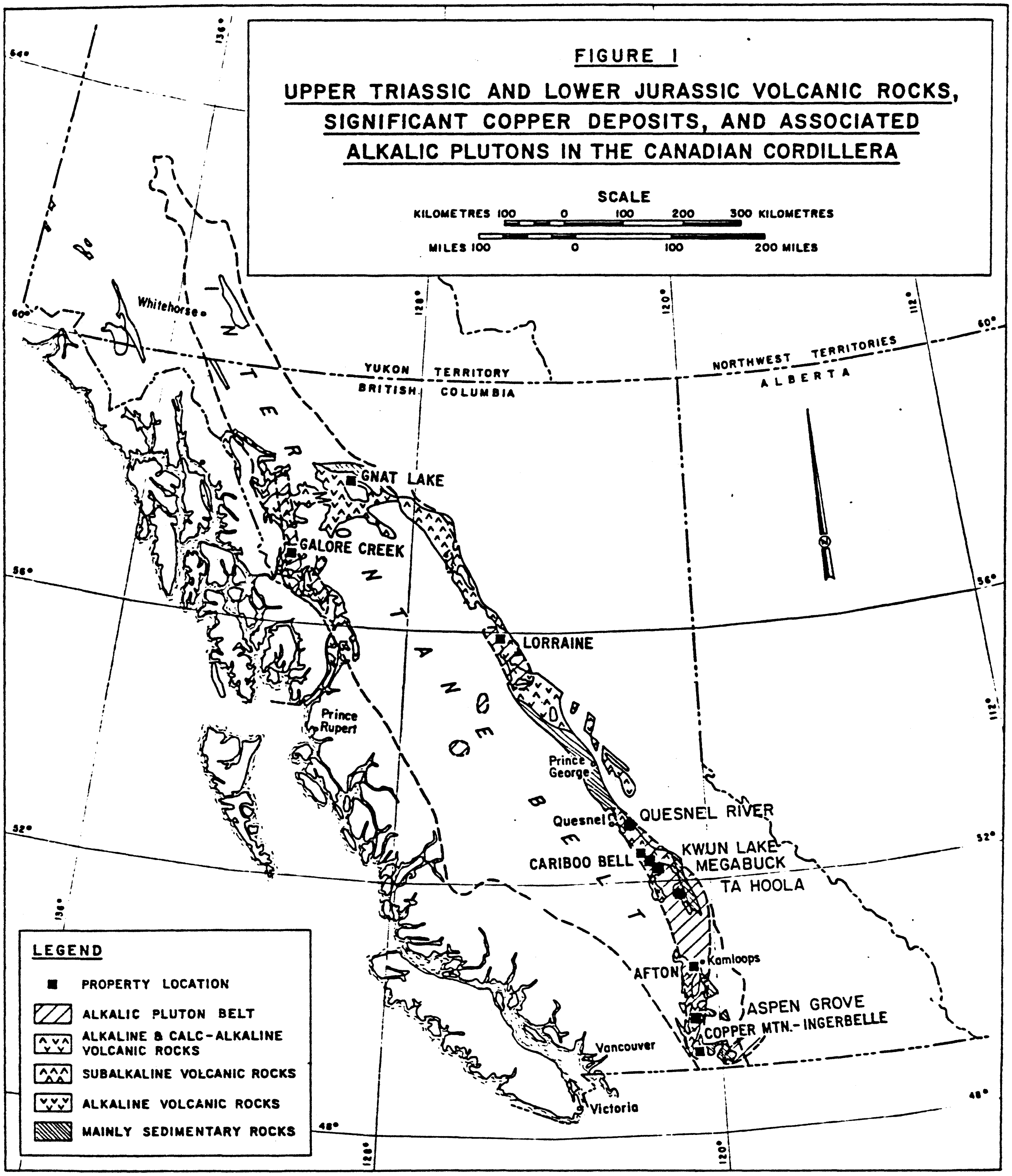


FIGURE 1 — Upper Triassic and Lower Jurassic volcanic rocks, significant copper deposits and associated alkalic plutons in the Canadian Cordillera.

Mineral Deposits

Deposits associated with the volcanic lithofacies occur in basalts and andesitic flows, fragmental rocks and alkalic intrusive complexes. They are generally gold-rich copper deposits consisting of chalcopyrite-pyrite and minor bornite. The deposits are disseminated or stockwork vein networks. Typical deposits are associated with a large pyritic zone peripheral to a stockwork core zone of chalcopyrite and bornite. These sulphide zones are developed adjacent to concentrically-zoned alkaline plutons which are themselves seldom sulphide-bearing.

Recently in the Quesnel Trough, a number of gold discoveries have been made. Widespread low to medium-grade gold mineralization occurs in pyritic zones associated with zoned alkaline diorite-monzonite-syenite stocks. At Quesnel River, the most important discovery, Dome Mines Ltd. has outlined a 950,000 tonne deposit grading 6.8 g/t Au (0.21 oz)[1] contained in a much larger body grading about 0.6 g/t Au (0.02 oz). This bulk tonnage, medium-grade deposit is ideally suited for low cost open pit mining.

To provide a better geological understanding of the Megabuck prospect, a brief description and genetic model for the Quesnel River gold deposit follows:

---

[1] George Cross Newsletter, No. 1980, October 4, 1982.

A DESCRIPTION AND GENETIC MODEL
for the
SYNVOLCANIC ALKALINE INTRUSIVE ASSOCIATED QUESNEL RIVER GOLD DEPOSIT
Cariboo Region, British Columbia

The Quesnel River gold deposit is located in the Upper Triassic Quesnel Trough, a linear belt of alkaline and calc-alkaline volcanic rocks and derived sediments that extends from the U.S. border to the Yukon.

At Quesnel River (QR in Figure 2), the volcanic Pile is comprised of a thick assemblage of interbedded augite (±hornblende) porphyry basalts and their autobrecciated and pyroclastic equivalents. This volcanic assemblage is overlain by or interdigitated with flanking siltstone, greywacke and various volcanic sandstones. A few augite porphyry basalt flows are interbedded with the siltstones near the base of the sedimentary assemblage. The youngest unit in the area is an inwardly zoned diorite-monzonite-syenite alkalic stock. The stock is comagmatic with the volcanic pile, but in the vicinity of the gold deposit has intruded all units. Although they do not intrude the stock, a number of basalt dykes occur in the area, and are the most prevalent within the augite porphyry basalts. These dykes are probably high-level equivalents of the stock, and are pre-, syn- and post- gold mineralization. Narrow hornblende porphyry dykes intrude all units including the stock. The period of mineralization appears to have taken place at the culmination of volcanic activity simultaneous to the onset of deposition of the overlying siltstones. The superimposition of typical porphyry alteration assemblages upon the deposit and altered host rock indicates that gold deposition took place before the stock rose through the volcanic pile and intruded the sediments.

The augite (±hornblende) porphyry basalt flows and breccias host the mineralization. In the footwall of the deposit, the basalts are pervasively carbonitized and are essentially a carbonate rock cut by calcite veinlets. Only a few primary textures and relic augite phenocrysts are preserved. The intensity of the carbonitization and the pervasive finely disseminated pyrite decreases gradually away from the deposit. Conversely the intensity of the carbonitization increases upsection until it terminates abruptly against a propylitic zone. It is this propylitic zone that hosts the gold. The intensity of the epidote-pyrite alteration

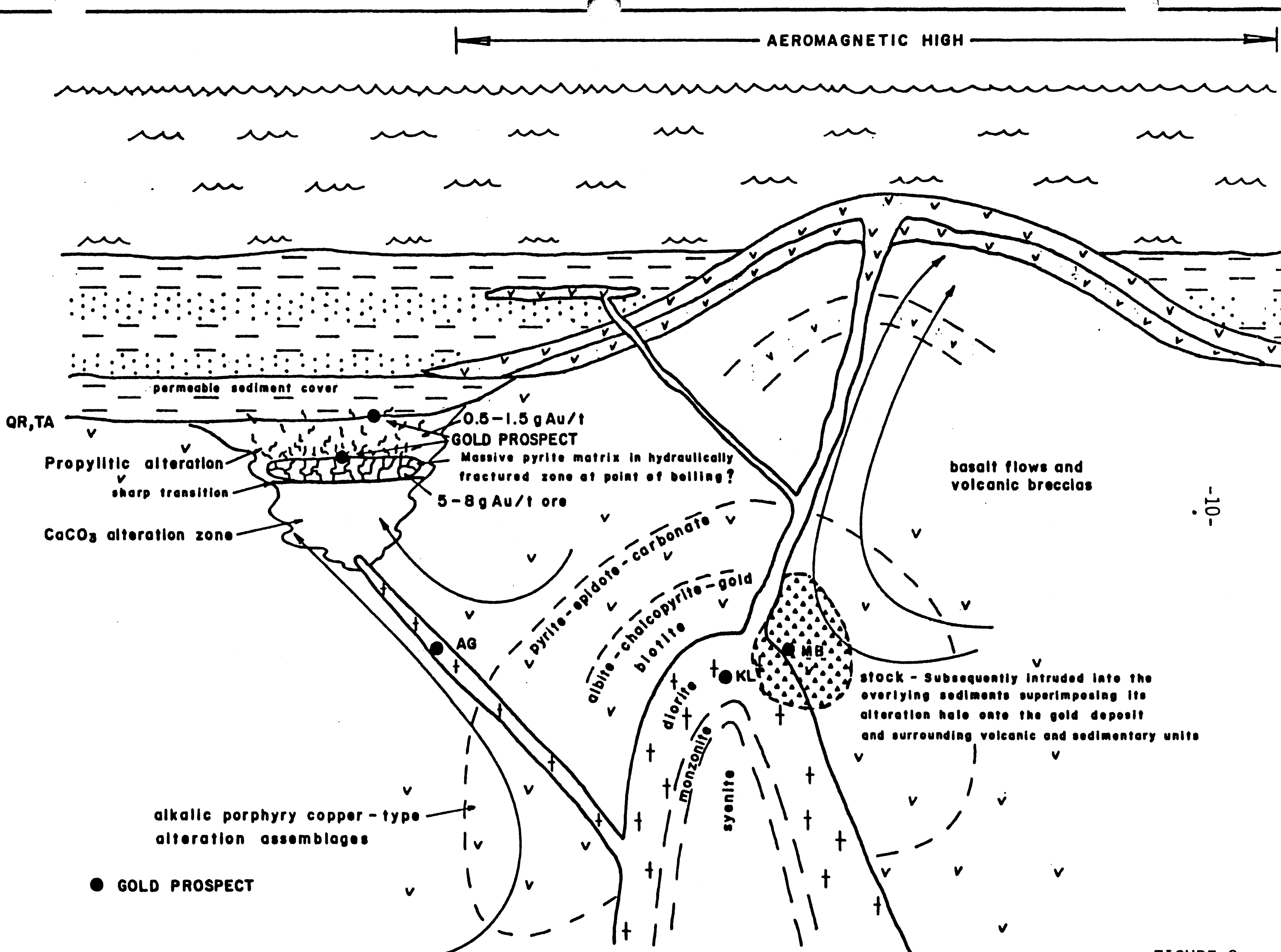


FIGURE 2

THE QUESNEL RIVER GOLD DEPOSIT - A GENETIC MODEL & GEOLOGICAL CARTOON is so strong that the rock can be called a propylite. The propylite is comprised of 20-80% epidote and 10-70% pyrite. The epidotization of the silicate minerals is pervasive and is consistent in its nature, whereas pyrite occurs in three forms, namely as very finely-disseminated grains, coarse aggregates and as coarse-grained veinlets. It is the very finely disseminated "dusty" pyrite that is thought to be auriferous. In the propylite, at or very near the transition between the carbonate and propylite alteration zones, massive to semi-massive pyrite occurs as a matrix in brecciated augite porphyry flows and pyroclastics. Upwards from the contact the intensity of the fracturing decreases as does the intensity of the epidotization and pyritization. The gold content near the carbonate-propylite contact averages about 7 ppm, and ranges from 2 to 45 ppm. The overlying propylite contains in the order of 0.50 to 1.50 ppm gold. It appears that the hydrothermal fumarolic system deposited the gold slightly below the volcanic-sedimentary interface while the overlying siltstones were being deposited. This is evidenced by weak epidote and pyrite alteration and anomalous gold contents in the lowermost siltstone beds overlying the deposit. Immediately adjacent to the deposit the siltstones contain in the order of 200 ppb gold but grades diminish rapidly away from the contact. In the basalts, away from the deposit, minor epidote-pyrite veinlets or epidote-pyrite coated joints occasionally contain anomalous concentrations of gold.

The auriferous propylite zone is approximately 500 m long and up to 200 m wide. The ore zone adjacent to the carbonate-propylite contact is approximately 300 m long and up to 30 wide. To date reserves in the order of 1 million tonnes grading 6.8 grams of gold have been identified within a larger body of approximately 10 million tonnes grading in the order of 1 gram. The deposit is terminated by faults at depth and in both directions along strike. Reserves will undoubtedly be extended once the fault riddle has been solved.

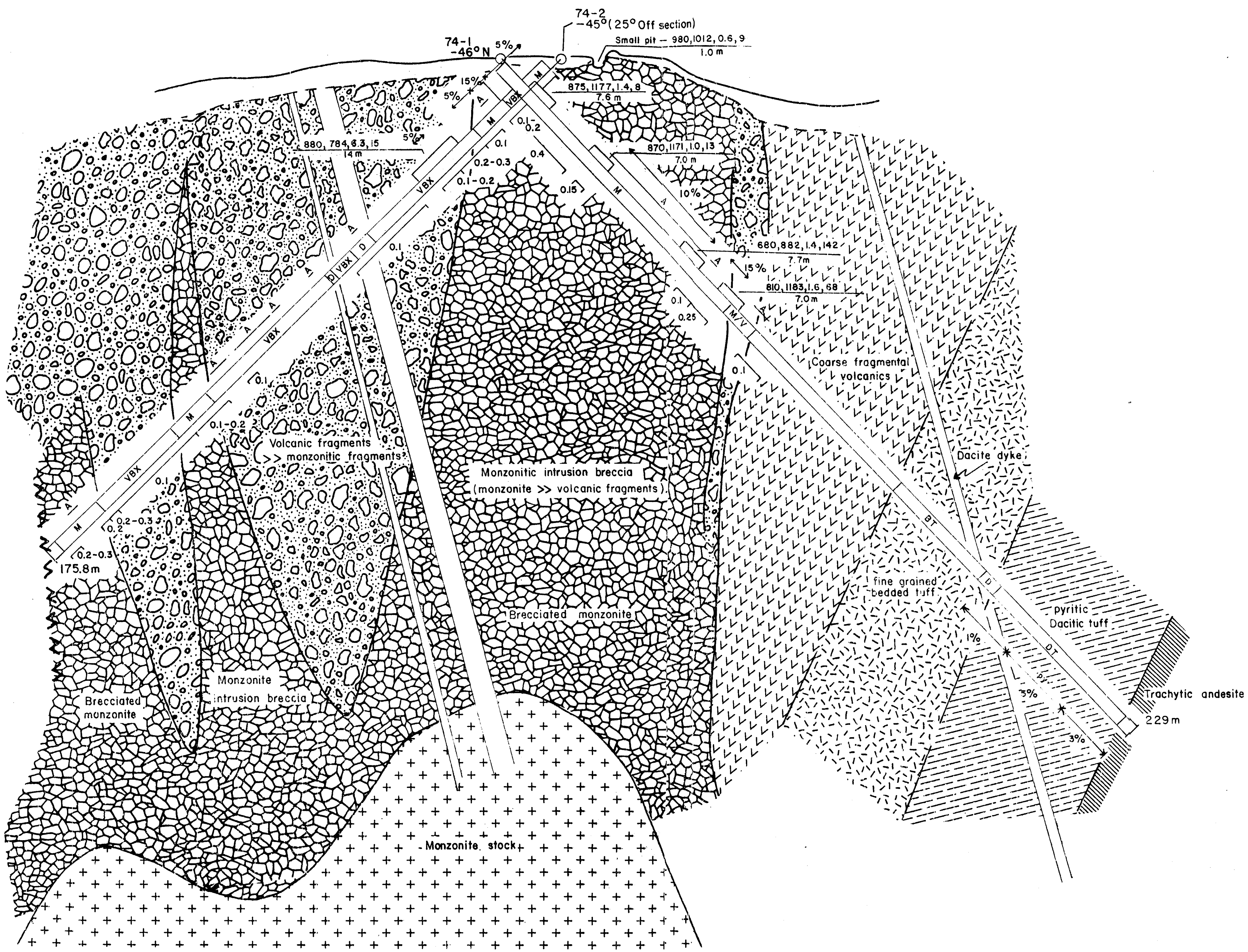
The ore has a specific gravity of 3.2. Metallurgical work indicates that, with cyanidation of a pyrite floatation concentrate, a high recovery rate can be achieved. The associated chalcopyrite is coarse-grained, but may not be sufficiently abundant to economically recover.

Results from exploration undertaken in other areas of the Quesnel Trough, principally near Ta Hoola Lake (TA) suggest that (semi) conformable gold-bearing zones may be underlain by discordant zones of epithermal mineralization. Whereas, at Kwun Lake (KL) a complex syenodiorite-monzonite stock hosts a significant stockwork prospect of auriferous anhydrite-pyrite veinlets.

Types and setting for gold deposition that have been identified include:

- Stockwork vein systems in the subvolcanic intrusives (KL)
- High level intrusive or contact breccias (MB)
- Discordant zones in the overlying volcanic assemblage (TA)
- Semi-conformable accumulations deposited in coarse-grained permeable pyroclastic units at or near the sea floor (QR)
- Syngenetic mineralization in siltstones and volcaniclastic sediments deposited contemporaneously with geothermal exhalative hotspring activity (TA)

Thus as illustrated in Figure 2, in the synvolcanic alkaline intrusive environment gold deposition can take place over a broad vertical range in diverse geological settings.



LEGEND

- Volcanic fragments >> monzonite fragments
- Monzonitic intrusion breccia (monzonite >> volcanic fragments)
- Coarse fragmental volcanics
- Fine grained bedded tuff
- Pyritic dacitic tuff
- Trachytic andesite
- Monzonite stock
- Dacite dyke
- Sampled interval: ppb Au, ppm Cu, ppm Ag, ppm As / sample length in metres
- 0.2 Estimated % Chalcopyrite
- A Argillite alteration
- % epidote
- % pyrite

0 20 40 60 metres
1:1000

DIAMOND DRILL HOLES 74-1, 74-2
SECTION LOOKING WEST

PROJECT MEGABUCK PROJECT	
NTS 93A/6	DISPOSITION MEGABUCK
WORK BY M. REBAGLIATI	SCALE 1:1000
DRAWN Z-J-W-	DATE 1983 FIG. 3

PROPERTY GEOLOGY

Within the Megabuck claim area a sequence of alkaline flows, tuffs and volcaniclastic sediments have been intruded by a porphyritic monzonite intrusive. The existing property data was reanalysed, using the few outcrops present, a petrographic study of core samples, and reinterpretation of the old drill logs, to formulate the following proposed geological setting, (as illustrated in the reconstructed cross-section of Figure 3).

In a high level synvolcanic environment an intrusion breccia has formed peripherally to a porphyritic monzonite stock which has intruded a sequence of massive latite (crystal) tuffs, bedded tuffs and tuffaceous siltstones. The composition of the breccia is variable. Near its margins the breccia is comprised of 70 - 90% volcanic fragments (latite tuff) and 10 - 30% monzonite fragments. Internally it ranges from monzonite to a monzonitic breccia with 70 - 90% plutonic fragments and 10 - 30% fragments of volcanic origin in a predominantly monzonitic matrix. Zones where the ratio of fragment types is reversed are common. Contacts are irregular, abrupt or gradational. The breccias are flooded with potassium feldspar, variably saussuritized and host pervasive patches of chlorite, carbonate, epidote and magnetite. Widely spaced chalcopyrite-bearing microquartz veinlets postdate the period of brecciation. Strong K-spar alteration is also associated with the microveinlets. The total sulphide content of the intrusive and breccias is low, rarely exceeding one percent. Unfortunately no copper assays accompany the drill logs but visual estimates of chalcopyrite content are generally in the minor or the 0.15% range with the exception of the bottom of hole 74-2 where grades increase to the 0.3% level. Dacitic (?) tuffs and trachytic andesite away from the contact contain from 1 - 5% pyrite. Late stage post mineral dacite (?) dykes intrude all units.

The core from holes 74-1 and 74-2 which is stored near the collar of hole 74-1 (along with core from holes 74-3, 4 and 5, which are from different property) has been vandalized. Samples from four sections of 74-1 and one sample from 74-2, all of which could be positively identified by hole numbers and by drill run intervals, were analyzed along with one sample from a small blasted pit located near the collar of hole 74-2. All returned geochemically important concentrations of gold which further substantiate the potential for the Megabuck prospect to host a large bulk tonnage gold deposit. A minimum mineralized width of 80 m is indicated but the zone is open for extension in all directions. Results are tabulated below along with analyses from two other prospects for comparison.

Sample No. or Interval	Length in metres	Au ppb	As ppm	Ag ppm	Cu ppm	Mo ppm
Megabuck Prospect						
Pit sample	1.0	980	9	0.6	1012	14
74-1 32-57	7.62	875	8	1.4	1177	25
74-1 102-125	7.01	870	13	1.0	1171	13
74-1 212-237	7.62	680	142	1.4	882	15
74-1 260-283	7.01	810	68	1.6	1183	31
74-2 104-150	14.02	880	15	6.3	784	24
Quesnel River Deposit						
QR	2.0	40	78	0.7	247	4
QR-1	2.0	480	176	1.8	818	12
QR-2	2.0	170	501	2.6	1105	13
Ta Hoola Lake Prospect						
TA 8171	1.0	600	247	1.2	267	37
TA 8172	1.0	480	237	1.4	178	89
TA 8173	1.0	370	180	1.1	182	24
TA 8174	1.0	320	227	1.2	257	43
TA 8175	1.0	160	146	0.7	194	8

The QR samples were collected from a trench excavated across the low-grade envelope at the Quesnel River deposit and are underlain at a depth of three metres by material grading 6-9 gpt. The TA samples from one of the zones near Ta Hoola Lake are comprised of pyritic carbonate altered basalt.

SUMMARY AND DISCUSSION

The petrographic study confirmed the Megabuck prospect occurs in alkaline volcanic rocks and is associated with a high level synvolcanic porphyritic monzonite stock and intrusion breccia. Six intervals of monzonite and intrusion breccia, with a cumulative sample length of 44 m across 80 m of section, averaged 834 ppb gold, confirming the potential of the prospect to host synvolcanic alkaline intrusive associated gold mineralization. The limits of the stock and the intrusion breccia have not been determined and are open to the east, west and south. The zone of gold mineralization may extend into the enclosing volcanics well beyond the breccia or intrusive contacts, as indicated by the copper-gold soil anomaly extending to the northwest from the drill holes. In addition to the gold identified in the stock and breccia, the two untested IP anomalies lying to the north and east of the drill holes may indicate pyrite associated gold hosted by bedded volcanic rocks, such as at Quesnel River and Ta Hoola Lake. Further geophysical surveys over the soil geochemical copper-gold anomaly located southeast of the drill holes may outline another area with potential. In addition, consideration should be given to conducting a detailed multi-element soil survey over the entire claim area. At Ta Hoola Lake detailed multi-element analyses identified anomalous concentrations of lead, zinc, arsenic and to a lesser extent, copper, molybdenum and silver coincident with the gold anomalies. This multi-element association proved useful in identifying potential source areas for gold mineralization.

Grades identified in the prospect are well within the range of grades in the alteration envelope at Quesnel River and substantially above those at Ta Hoola Lake. When taken in conjuction with the favourable geological environment, these grades indicate that the Megabuck prospect has the potential to host a substanial bulk tonnage gold deposit.

An aggressive exploration program under the direction of a geologist well experienced with synvolcanic alkaline intrusive associated gold deposits is required to assess this high potential prospect.

PETROGRAPHIC STUDY

COMMENTS ON THIN SECTIONS FROM THE MEGABUCK PROSPECT

Summary

All samples represent a suite of strongly altered monzonitic to dioritic tuffaceous and intrusive rocks. Strong saussuritization is common to all of these rocks together with variable alteration to carbonate (74-1 212-237) or orthoclase (PIT, 74-1 108-125, 74-1 32-57). Tourmaline occurs associated with a barite (?) veinlet in 74-1 152-175.

Samples

PIT <u>K-feldspar flooded monzonite</u>

- 60% 1-2 mm subhedral andesine crystals which are weakly to strongly saussuritized.
- 2-3% anhedral quartz grains.
- Matrix is an extensively recrystalled mosaic of orthoclase, quartz, apatite.
- Pervasive patches of chlorite, carbonate, epidote and magnetite.
- Rock cut by microveinlet of quartz-pyrite.
- Pinkish areas represent intense K-spar flooding.
- Rock is definitely intrusive-textured in some areas, however these may represent intrusive fragments in a tuff.

<u>74-1 32-57 Hornblende plag. crystal tuff (latite?)</u>

- 2 to 5 mm euhedral hornblende crystals (some poikilitic) which are partly altered to chlorite + carbonate + magnetite.
- 0.2 to 1 mm strongly saussuritized subhedral plagioclase crystals in a granular mosaic of feldspar, epidote, chlorite and magnetite.
- Minor apatite.
- Few microveinlets of quartz.

74-1 108-125 Latite tuff (?)

- Darker, fresher areas consist of 1-3 mm long euhedral andesine crystals in a matrix of plagioclase microlites and orthoclase.
- Pink rock consists of strongly saussuritized plagioclase crystals in a matrix of orthoclase.
- Intensely altered areas have 3% epidote, chlorite and carbonate plus 5% disseminated magnetite.
- Rock appears to be fragmental in nature with 2-4 mm fragments of intensely saussuritized and orthoclase flooded intrusive rock in a fresher recrystallized matrix.
- Rock cut by several subparallel quartz-pyrite-epidote veinlets.

74-1 212-237 Intermediate tuff (?)

- Scattered 0.5-2.0 mm sericite pseudomorphs after feldspar in an allotriomorphic matrix of orthoclase.
- Rock is cut by a 3 mm wide quartz-pyrite-(carb.) veinlet and by several other subparallel quartz-py microveinlets.
- Quartz vein is cut by a 1.5 mm wide carbonate veinlet.
- Granular brown carbonate (siderite?) has formed a selvage along the carbonate veinlet and pervasively alters the rock.

74-1 260-283 Latite tuff (?)

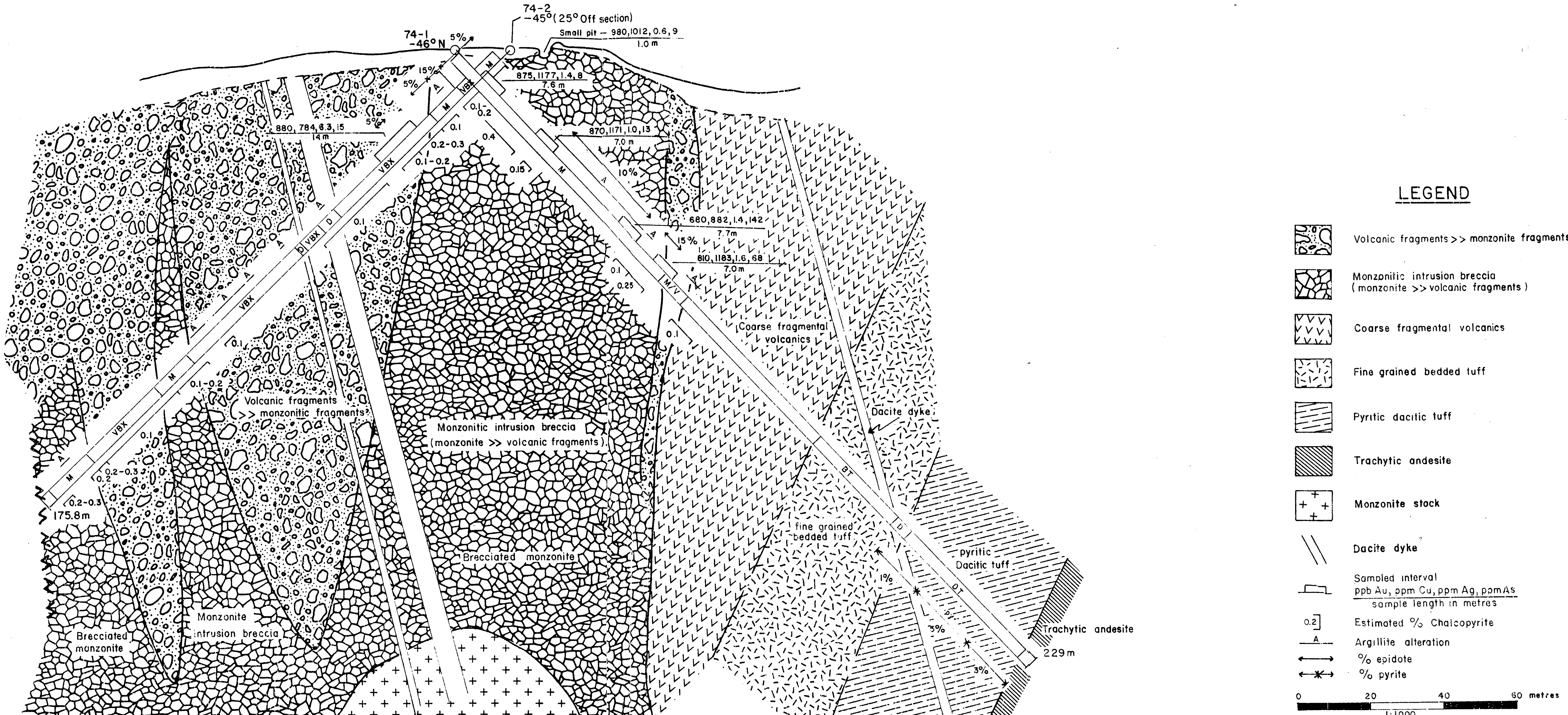
- 85% strongly saussuritized, 0.2-0.6 mm,subhedral feldspar crystals in a cloudy matrix of indeterminant alteration products plus granular magnetite.
- Cut by 0.5 mm, subparallel, quartz-chalcopyrite stringers which are cut by carbonate veinlets.

74-1 695-750 Bedded tuff or taffaceous siltstone

- Anhedral feldspar and trace quartz in a carbonate + chlorite matrix.
- Framboidal pyrite occurs in a fine-grained lamination.

74-2 104-150 Latite tuff (?)

- 0.2 to 0.5 mm saussuritized feldspar crystals in a matrix of chlorite, carbonate, granular magnetite and orthoclase.
- Fragments to 6 x 8 mm in size of dioritic rock
- Cut by carbonate-epidote veinlets.



DIAMOND DRILL HOLES 74-1, 74-2
SECTION LOOKING WEST

PROJECT MEGABUCK PROJECT	
NTS 93A/6	DISPOSITION MEGABUCK
WORK BY M. REBAGLIATI	SCALE 1:1000
DRAWN Z.J.W.	DATE 1983 FIG. 3